

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

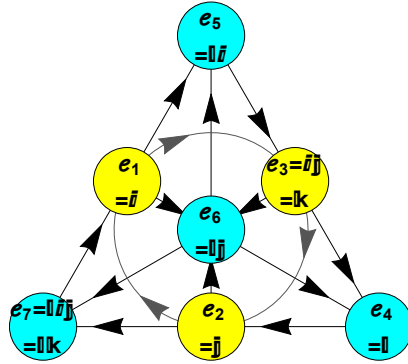
1 $\nu_{e_1}^0 R$  0apggsscc Be
001010100₂ 4

flip=False

Triad fpi=4 BC₈ R fp_sm=3→1BH flat triad/mask bits
{ {1, 3, 2}, {1, 6, 4}, {1, 5, 7}, {1, 3, 2, 6, 4, 5, 7}
{2, 7, 4}, {2, 6, 5}, {3, 4, 5}, {3, 6, 7}} {1, 1, 0, 1, 1, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & -e_6 & e_7 & e_4 & -e_5 \\ e_2 & e_3 & -1 & -e_1 & -e_7 & -e_6 & e_5 & e_4 \\ e_3 & -e_2 & e_1 & -1 & e_5 & -e_4 & e_7 & -e_6 \\ e_4 & e_6 & e_7 & -e_5 & -1 & e_3 & -e_1 & -e_2 \\ e_5 & -e_7 & e_6 & e_4 & -e_3 & -1 & -e_2 & e_1 \\ e_6 & -e_4 & -e_5 & -e_7 & e_1 & e_2 & -1 & e_3 \\ e_7 & e_5 & -e_4 & e_6 & e_2 & -e_1 & -e_3 & -1 \end{pmatrix}$$

Fano plane

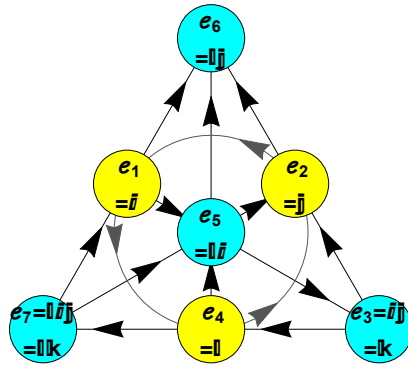


flip=True

Triad fpi=7 BC₈ R fp_sm=3→1BH flat triad/mask bits
{ {1, 4, 2}, {1, 5, 3}, {1, 6, 7}, {1, 2, 4, 5, 3, 6, 7}
{2, 6, 3}, {2, 7, 5}, {3, 4, 7}, {4, 5, 6}} {1, 1, 0, 1, 1, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & -e_5 & e_2 & e_3 & e_7 & -e_6 \\ e_2 & e_4 & -1 & -e_6 & -e_1 & -e_7 & e_3 & e_5 \\ e_3 & e_5 & e_6 & -1 & e_7 & -e_1 & -e_2 & -e_4 \\ e_4 & -e_2 & e_1 & -e_7 & -1 & e_6 & -e_5 & e_3 \\ e_5 & -e_3 & e_7 & e_1 & -e_6 & -1 & e_4 & -e_2 \\ e_6 & -e_7 & -e_3 & e_2 & e_5 & -e_4 & -1 & e_1 \\ e_7 & e_6 & -e_5 & e_4 & -e_3 & e_2 & -e_1 & -1 \end{pmatrix}$$

Fano plane



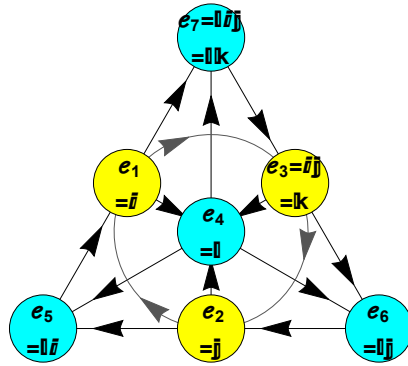
Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #
10 $\nabla_{\text{e}}^0 \text{L}$ $\blacktriangle$ $\blacktriangle$ 0apggsscc Au
001010000₂ 79

flip=False

Triad fpi=4 BC₈ R fp_sm=3→05H flat triad/mask bits
{ {1, 3, 2}, {1, 4, 6}, {1, 7, 5}, {1, 3, 2, 4, 6, 7, 5}
{2, 4, 7}, {2, 5, 6}, {3, 4, 5}, {3, 6, 7} } {1, 0, 1, 0, 0, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & e_6 & -e_7 & -e_4 & e_5 \\ e_2 & e_3 & -1 & -e_1 & e_7 & e_6 & -e_5 & -e_4 \\ e_3 & -e_2 & e_1 & -1 & e_5 & -e_4 & e_7 & -e_6 \\ e_4 & -e_6 & -e_7 & -e_5 & -1 & e_3 & e_1 & e_2 \\ e_5 & e_7 & -e_6 & e_4 & -e_3 & -1 & e_2 & -e_1 \\ e_6 & e_4 & e_5 & -e_7 & -e_1 & -e_2 & -1 & e_3 \\ e_7 & -e_5 & e_4 & e_6 & -e_2 & e_1 & -e_3 & -1 \end{pmatrix}$$

Fano plane

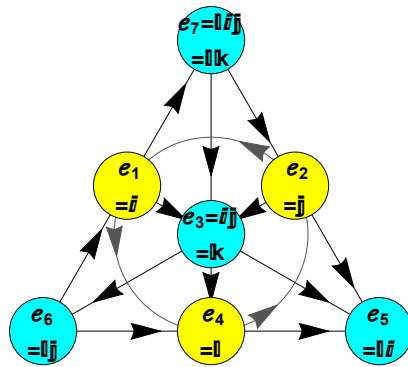


flip=True

Triad fpi=7 BC₈ R fp_sm=3→05H flat triad/mask bits
{ {1, 4, 2}, {1, 3, 5}, {1, 7, 6}, {1, 2, 4, 3, 5, 7, 6}
{2, 3, 6}, {2, 5, 7}, {3, 4, 7}, {4, 5, 6} } {1, 0, 1, 0, 0, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & e_5 & e_2 & -e_3 & -e_7 & e_6 \\ e_2 & e_4 & -1 & e_6 & -e_1 & e_7 & -e_3 & -e_5 \\ e_3 & -e_5 & -e_6 & -1 & e_7 & e_1 & e_2 & -e_4 \\ e_4 & -e_2 & e_1 & -e_7 & -1 & e_6 & -e_5 & e_3 \\ e_5 & e_3 & -e_7 & -e_1 & -e_6 & -1 & e_4 & e_2 \\ e_6 & e_7 & e_3 & -e_2 & e_5 & -e_4 & -1 & -e_1 \\ e_7 & -e_6 & e_5 & e_4 & -e_3 & -e_2 & e_1 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

11

 $\nabla_{\mathbf{W}_m} \mathbf{e}_R^0$


0apggsscc Ta
001011100₂ 73

flip=False

Triad fpi=4 BC₈ R fp_sm=3→36H

flat triad/mask bits

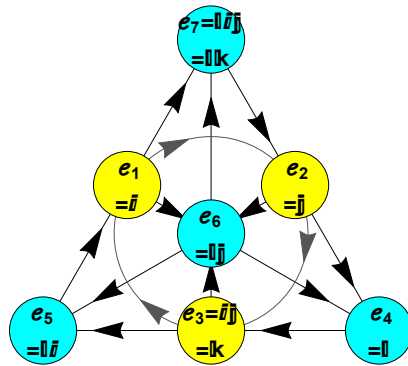
{{1, 2, 3}, {1, 6, 4}, {1, 7, 5},

{1, 2, 3, 6, 4, 7, 5}

{2, 4, 7}, {2, 6, 5}, {3, 5, 4}, {3, 6, 7}}

{0, 1, 1, 0, 1, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & -e_6 & -e_7 & e_4 & e_5 \\ e_2 & -e_3 & -1 & e_1 & e_7 & -e_6 & e_5 & -e_4 \\ e_3 & e_2 & -e_1 & -1 & -e_5 & e_4 & e_7 & -e_6 \\ e_4 & e_6 & -e_7 & e_5 & -1 & -e_3 & -e_1 & e_2 \\ e_5 & e_7 & e_6 & -e_4 & e_3 & -1 & -e_2 & -e_1 \\ e_6 & -e_4 & -e_5 & -e_7 & e_1 & e_2 & -1 & e_3 \\ e_7 & -e_5 & e_4 & e_6 & -e_2 & e_1 & -e_3 & -1 \end{pmatrix}$$

flip=True

Triad fpi=7 BC₈ R fp_sm=3→36H

flat triad/mask bits

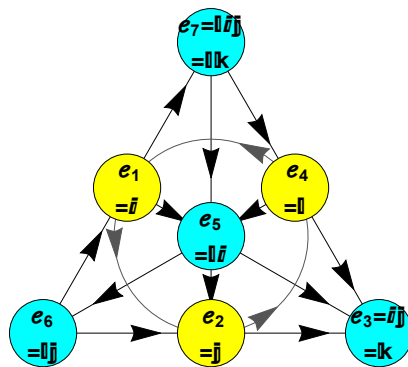
{{1, 2, 4}, {1, 5, 3}, {1, 7, 6},

{1, 4, 2, 5, 3, 7, 6}

{2, 3, 6}, {2, 7, 5}, {3, 7, 4}, {4, 5, 6}}

{0, 1, 1, 0, 1, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & -e_5 & -e_2 & e_3 & -e_7 & e_6 \\ e_2 & -e_4 & -1 & e_6 & e_1 & -e_7 & -e_3 & e_5 \\ e_3 & e_5 & -e_6 & -1 & -e_7 & -e_1 & e_2 & e_4 \\ e_4 & e_2 & -e_1 & e_7 & -1 & e_6 & -e_5 & -e_3 \\ e_5 & -e_3 & e_7 & e_1 & -e_6 & -1 & e_4 & -e_2 \\ e_6 & e_7 & e_3 & -e_2 & e_5 & -e_4 & -1 & -e_1 \\ e_7 & -e_6 & -e_5 & -e_4 & e_3 & e_2 & e_1 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

12

 $e_{y_m} \vec{R}$ 

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000011100₂ 67

flip=False

Triad fpi=7 BC₈ L fp_sm=3→31H

flat triad/mask bits

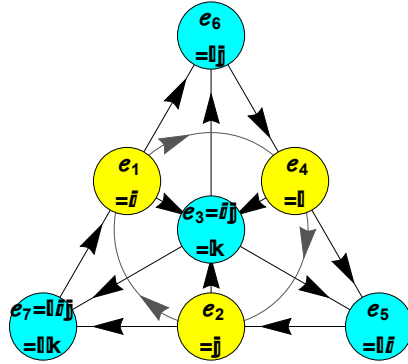
{ {1, 4, 2}, {1, 3, 5}, {1, 6, 7},

{1, 4, 2, 3, 5, 6, 7}

{2, 3, 6}, {2, 7, 5}, {3, 7, 4}, {4, 5, 6}}

{1, 0, 0, 0, 1, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & e_5 & e_2 & -e_3 & e_7 & -e_6 \\ e_2 & e_4 & -1 & e_6 & -e_1 & -e_7 & -e_3 & e_5 \\ e_3 & -e_5 & -e_6 & -1 & -e_7 & e_1 & e_2 & e_4 \\ e_4 & -e_2 & e_1 & e_7 & -1 & e_6 & -e_5 & -e_3 \\ e_5 & e_3 & e_7 & -e_1 & -e_6 & -1 & e_4 & -e_2 \\ e_6 & -e_7 & e_3 & -e_2 & e_5 & -e_4 & -1 & e_1 \\ e_7 & e_6 & -e_5 & -e_4 & e_3 & e_2 & -e_1 & -1 \end{pmatrix}$$

flip=True

Triad fpi=4 BC₈ L fp_sm=3→31H

flat triad/mask bits

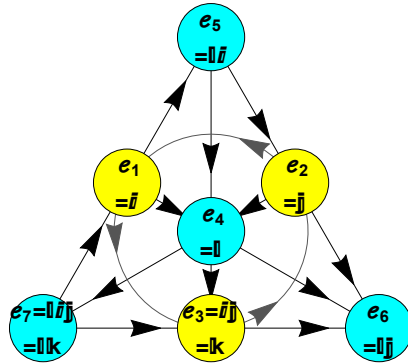
{ {1, 3, 2}, {1, 4, 6}, {1, 5, 7},

{1, 2, 3, 4, 6, 5, 7}

{2, 4, 7}, {2, 6, 5}, {3, 5, 4}, {3, 6, 7}}

{1, 0, 0, 0, 1, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & e_6 & e_7 & -e_4 & -e_5 \\ e_2 & e_3 & -1 & -e_1 & e_7 & -e_6 & e_5 & -e_4 \\ e_3 & -e_2 & e_1 & -1 & -e_5 & e_4 & e_7 & -e_6 \\ e_4 & -e_6 & -e_7 & e_5 & -1 & -e_3 & e_1 & e_2 \\ e_5 & -e_7 & e_6 & -e_4 & e_3 & -1 & -e_2 & e_1 \\ e_6 & e_4 & -e_5 & -e_7 & -e_1 & e_2 & -1 & e_3 \\ e_7 & e_5 & e_4 & e_6 & -e_2 & -e_1 & -e_3 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

13

 $\nabla_{w_1}^T \mathbf{R}$


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001110100₂ 61

flip=False

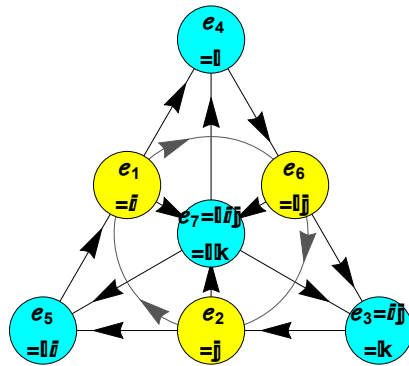
Triad fpi=24 BC₈ R fp_sm=3→1BH

flat triad/mask bits

{{1, 6, 2}, {1, 7, 3}, {1, 4, 5},
{2, 5, 3}, {2, 7, 4}, {3, 4, 6}, {5, 6, 7}}

{1, 6, 2, 7, 3, 4, 5}
{1, 1, 0, 1, 1, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & -e_7 & e_5 & -e_4 & e_2 & e_3 \\ e_2 & e_6 & -1 & -e_5 & -e_7 & e_3 & -e_1 & e_4 \\ e_3 & e_7 & e_5 & -1 & e_6 & -e_2 & -e_4 & -e_1 \\ e_4 & -e_5 & e_7 & -e_6 & -1 & e_1 & e_3 & -e_2 \\ e_5 & e_4 & -e_3 & e_2 & -e_1 & -1 & e_7 & -e_6 \\ e_6 & -e_2 & e_1 & e_4 & -e_3 & -e_7 & -1 & e_5 \\ e_7 & -e_3 & -e_4 & e_1 & e_2 & e_6 & -e_5 & -1 \end{pmatrix}$$

flip=True

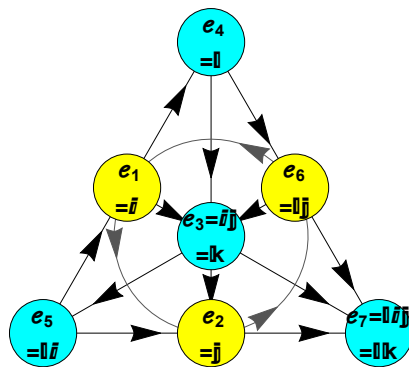
Triad fpi=23 BC₈ R fp_sm=2→18H

flat triad/mask bits

{{1, 2, 6}, {1, 3, 7}, {1, 4, 5},
{2, 4, 3}, {2, 7, 5}, {3, 5, 6}, {4, 6, 7}}

{1, 6, 2, 3, 7, 4, 5}
{0, 0, 0, 1, 1, 0, 0}

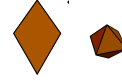
Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & e_7 & e_5 & -e_4 & -e_2 & -e_3 \\ e_2 & -e_6 & -1 & -e_4 & e_3 & -e_7 & e_1 & e_5 \\ e_3 & -e_7 & e_4 & -1 & -e_2 & e_6 & -e_5 & e_1 \\ e_4 & -e_5 & -e_3 & e_2 & -1 & e_1 & e_7 & -e_6 \\ e_5 & e_4 & e_7 & -e_6 & -e_1 & -1 & e_3 & -e_2 \\ e_6 & e_2 & -e_1 & e_5 & -e_7 & -e_3 & -1 & e_4 \\ e_7 & e_3 & -e_5 & -e_1 & e_6 & e_2 & -e_4 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

14 $\overline{b}_{\text{od}} \xrightarrow{+1/3} \text{L}$



0apggsscc Ba
010110001₂ 56

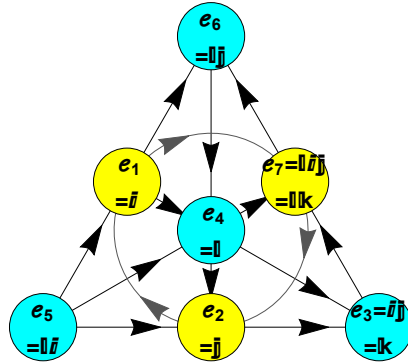
flip=False

Triad fpi=25 BC₈ L fp_sm=5→77H
{ {1, 7, 2}, {1, 4, 3}, {1, 6, 5},
{2, 3, 5}, {2, 6, 4}, {3, 7, 6}, {4, 7, 5} }

flat triad/mask bits
{1, 7, 2, 4, 3, 6, 5}
{1, 1, 1, 0, 1, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & -e_4 & e_3 & -e_6 & e_5 & e_2 \\ e_2 & e_7 & -1 & e_5 & -e_6 & -e_3 & e_4 & -e_1 \\ e_3 & e_4 & -e_5 & -1 & -e_1 & e_2 & -e_7 & e_6 \\ e_4 & -e_3 & e_6 & e_1 & -1 & -e_7 & -e_2 & e_5 \\ e_5 & e_6 & e_3 & -e_2 & e_7 & -1 & -e_1 & -e_4 \\ e_6 & -e_5 & -e_4 & e_7 & e_2 & e_1 & -1 & -e_3 \\ e_7 & -e_2 & e_1 & -e_6 & -e_5 & e_4 & e_3 & -1 \end{pmatrix}$$

Fano plane



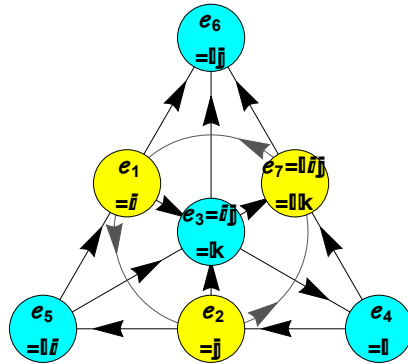
flip=True

Triad fpi=26 BC₈ L fp_sm=8→74H
{ {1, 2, 7}, {1, 3, 4}, {1, 6, 5},
{2, 3, 6}, {2, 5, 4}, {3, 7, 5}, {4, 7, 6} }

flat triad/mask bits
{1, 7, 2, 3, 4, 6, 5}
{0, 0, 1, 0, 1, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & e_4 & -e_3 & -e_6 & e_5 & -e_2 \\ e_2 & -e_7 & -1 & e_6 & -e_5 & e_4 & -e_3 & e_1 \\ e_3 & -e_4 & -e_6 & -1 & e_1 & -e_7 & e_2 & e_5 \\ e_4 & e_3 & e_5 & -e_1 & -1 & -e_2 & -e_7 & e_6 \\ e_5 & e_6 & -e_4 & e_7 & e_2 & -1 & -e_1 & -e_3 \\ e_6 & -e_5 & e_3 & -e_2 & e_7 & e_1 & -1 & -e_4 \\ e_7 & e_2 & -e_1 & -e_5 & -e_6 & e_3 & e_4 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

15 $\bar{b}_{Cd} \xrightarrow{+1/3} L$



0apggsscc Sn
010110010₂ 50

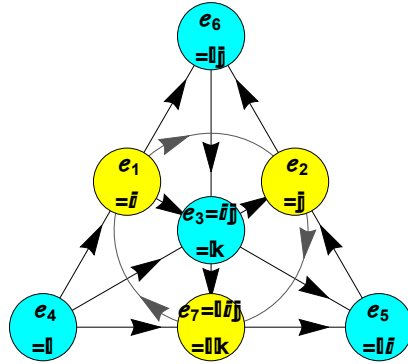
flip=False

Triad fpi=27 BC₈ L fp_sm=4→7CH
{ {1, 2, 7}, {1, 3, 5}, {1, 6, 4},
{2, 4, 3}, {2, 6, 5}, {3, 7, 6}, {4, 7, 5} }

flat triad/mask bits
{1, 2, 7, 3, 5, 6, 4}
{0, 0, 1, 1, 1, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & e_5 & -e_6 & -e_3 & e_4 & -e_2 \\ e_2 & -e_7 & -1 & -e_4 & e_3 & -e_6 & e_5 & e_1 \\ e_3 & -e_5 & e_4 & -1 & -e_2 & e_1 & -e_7 & e_6 \\ e_4 & e_6 & -e_3 & e_2 & -1 & -e_7 & -e_1 & e_5 \\ e_5 & e_3 & e_6 & -e_1 & e_7 & -1 & -e_2 & -e_4 \\ e_6 & -e_4 & -e_5 & e_7 & e_1 & e_2 & -1 & -e_3 \\ e_7 & e_2 & -e_1 & -e_6 & -e_5 & e_4 & e_3 & -1 \end{pmatrix}$$

Fano plane



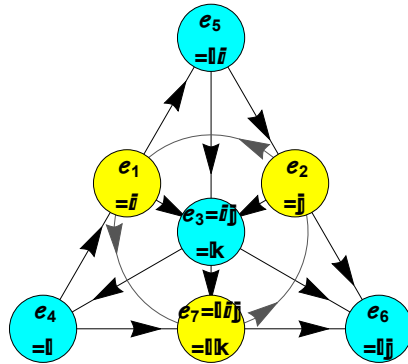
flip=True

Triad fpi=29 BC₈ L fp_sm=7→75H
{ {1, 7, 2}, {1, 3, 6}, {1, 5, 4},
{2, 3, 4}, {2, 6, 5}, {3, 7, 5}, {4, 7, 6} }

flat triad/mask bits
{1, 2, 7, 3, 6, 5, 4}
{1, 0, 1, 0, 1, 1, 1}

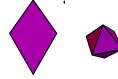
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & e_6 & -e_5 & e_4 & -e_3 & e_2 \\ e_2 & e_7 & -1 & e_4 & -e_3 & -e_6 & e_5 & -e_1 \\ e_3 & -e_6 & -e_4 & -1 & e_2 & -e_7 & e_1 & e_5 \\ e_4 & e_5 & e_3 & -e_2 & -1 & -e_1 & -e_7 & e_6 \\ e_5 & -e_4 & e_6 & e_7 & e_1 & -1 & -e_2 & -e_3 \\ e_6 & e_3 & -e_5 & -e_1 & e_7 & e_2 & -1 & -e_4 \\ e_7 & -e_2 & e_1 & -e_5 & -e_6 & e_3 & e_4 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

16 $\overline{b}_{md}^{1/3} L$



0apggsscc $\overline{Np}$
010110011₂ 93

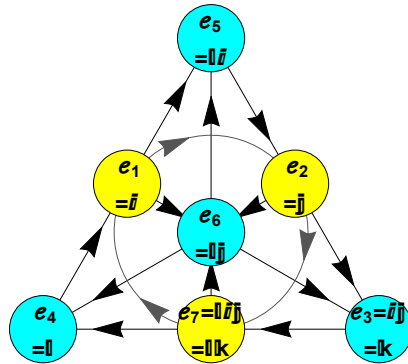
flip=False

Triad fpi=30 BC₈ L fp_sm=6→76H
{ {1, 2, 7}, {1, 6, 3}, {1, 5, 4},
{2, 3, 5}, {2, 6, 4}, {3, 7, 4}, {5, 7, 6} }

flat triad/mask bits
{1, 2, 7, 6, 3, 5, 4}
{0, 1, 1, 0, 1, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & -e_6 & -e_5 & e_4 & e_3 & -e_2 \\ e_2 & -e_7 & -1 & e_5 & -e_6 & -e_3 & e_4 & e_1 \\ e_3 & e_6 & -e_5 & -1 & -e_7 & e_2 & -e_1 & e_4 \\ e_4 & e_5 & e_6 & e_7 & -1 & -e_1 & -e_2 & -e_3 \\ e_5 & -e_4 & e_3 & -e_2 & e_1 & -1 & -e_7 & e_6 \\ e_6 & -e_3 & -e_4 & e_1 & e_2 & e_7 & -1 & -e_5 \\ e_7 & e_2 & -e_1 & -e_4 & e_3 & -e_6 & e_5 & -1 \end{pmatrix}$$

Fano plane



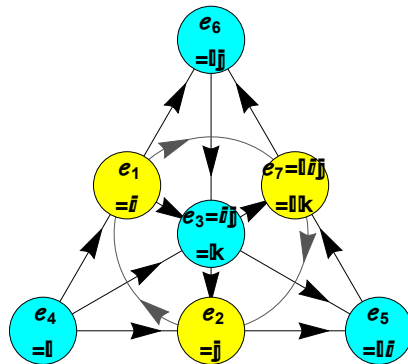
flip=True

Triad fpi=28 BC₈ L fp_sm=3→7DH
{ {1, 7, 2}, {1, 3, 5}, {1, 6, 4},
{2, 6, 3}, {2, 5, 4}, {3, 7, 4}, {5, 7, 6} }

flat triad/mask bits
{1, 7, 2, 3, 5, 6, 4}
{1, 0, 1, 1, 1, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & e_5 & -e_6 & -e_3 & e_4 & e_2 \\ e_2 & e_7 & -1 & -e_6 & -e_5 & e_4 & e_3 & -e_1 \\ e_3 & -e_5 & e_6 & -1 & -e_7 & e_1 & -e_2 & e_4 \\ e_4 & e_6 & e_5 & e_7 & -1 & -e_2 & -e_1 & -e_3 \\ e_5 & e_3 & -e_4 & -e_1 & e_2 & -1 & -e_7 & e_6 \\ e_6 & -e_4 & -e_3 & e_2 & e_1 & e_7 & -1 & -e_5 \\ e_7 & -e_2 & e_1 & -e_4 & e_3 & -e_6 & e_5 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

17

 ν_e^0
 w_m^1


0apggsscc Tb
001011000₂ 65

flip=False

Triad fpi=4 BC₈ R fp_sm=3→28H

flat triad/mask bits

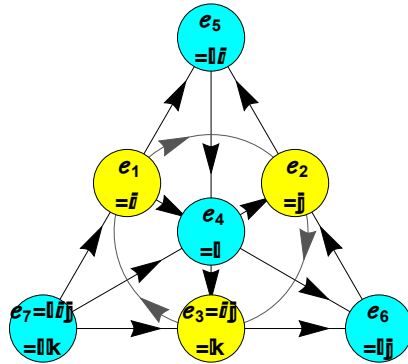
{ {1, 2, 3}, {1, 4, 6}, {1, 5, 7},

{1, 2, 3, 4, 6, 5, 7}

{2, 7, 4}, {2, 5, 6}, {3, 5, 4}, {3, 6, 7}}

{0, 0, 0, 1, 0, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & e_6 & e_7 & -e_4 & -e_5 \\ e_2 & -e_3 & -1 & e_1 & -e_7 & e_6 & -e_5 & e_4 \\ e_3 & e_2 & -e_1 & -1 & -e_5 & e_4 & e_7 & -e_6 \\ e_4 & -e_6 & e_7 & e_5 & -1 & -e_3 & e_1 & -e_2 \\ e_5 & -e_7 & -e_6 & -e_4 & e_3 & -1 & e_2 & e_1 \\ e_6 & e_4 & e_5 & -e_7 & -e_1 & -e_2 & -1 & e_3 \\ e_7 & e_5 & -e_4 & e_6 & e_2 & -e_1 & -e_3 & -1 \end{pmatrix}$$

flip=True

Triad fpi=7 BC₈ R fp_sm=3→28H

flat triad/mask bits

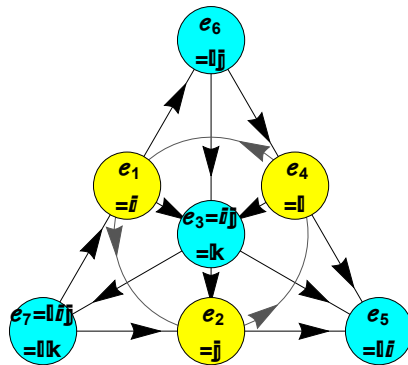
{ {1, 2, 4}, {1, 3, 5}, {1, 6, 7},

{1, 4, 2, 3, 5, 6, 7}

{2, 6, 3}, {2, 5, 7}, {3, 7, 4}, {4, 5, 6}}

{0, 0, 0, 1, 0, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & e_5 & -e_2 & -e_3 & e_7 & -e_6 \\ e_2 & -e_4 & -1 & -e_6 & e_1 & e_7 & e_3 & -e_5 \\ e_3 & -e_5 & e_6 & -1 & -e_7 & e_1 & -e_2 & e_4 \\ e_4 & e_2 & -e_1 & e_7 & -1 & e_6 & -e_5 & -e_3 \\ e_5 & e_3 & -e_7 & -e_1 & -e_6 & -1 & e_4 & e_2 \\ e_6 & -e_7 & -e_3 & e_2 & e_5 & -e_4 & -1 & e_1 \\ e_7 & e_6 & e_5 & -e_4 & e_3 & -e_2 & -e_1 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

18

 $e_{\gamma_m} \bar{L}$


0apggsscc Pr
000011000₂ 59

flip=False

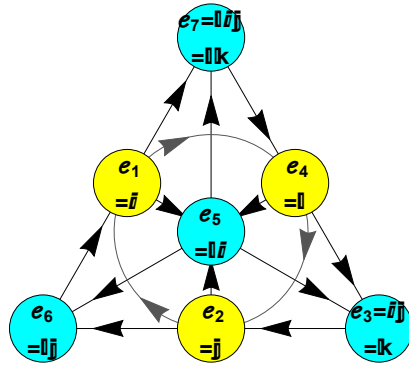
Triad fpi=7 BC₈ L fp_sm=3→2FH

flat triad/mask bits

 $\{\{1, 4, 2\}, \{1, 5, 3\}, \{1, 7, 6\},$
 $\{1, 4, 2, 5, 3, 7, 6\}$
 $\{2, 6, 3\}, \{2, 5, 7\}, \{3, 7, 4\}, \{4, 5, 6\}\}$
 $\{1, 1, 1, 1, 0, 1, 0\}$

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & -e_5 & e_2 & e_3 & -e_7 & e_6 \\ e_2 & e_4 & -1 & -e_6 & -e_1 & e_7 & e_3 & -e_5 \\ e_3 & e_5 & e_6 & -1 & -e_7 & -e_1 & -e_2 & e_4 \\ e_4 & -e_2 & e_1 & e_7 & -1 & e_6 & -e_5 & -e_3 \\ e_5 & -e_3 & -e_7 & e_1 & -e_6 & -1 & e_4 & e_2 \\ e_6 & e_7 & -e_3 & e_2 & e_5 & -e_4 & -1 & -e_1 \\ e_7 & -e_6 & e_5 & -e_4 & e_3 & -e_2 & e_1 & -1 \end{pmatrix}$$

Fano plane



flip=True

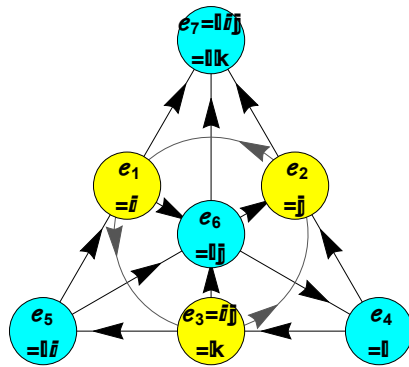
Triad fpi=4 BC₈ L fp_sm=3→2FH

flat triad/mask bits

 $\{\{1, 3, 2\}, \{1, 6, 4\}, \{1, 7, 5\},$
 $\{1, 2, 3, 6, 4, 7, 5\}$
 $\{2, 7, 4\}, \{2, 5, 6\}, \{3, 5, 4\}, \{3, 6, 7\}\}$
 $\{1, 1, 1, 1, 0, 1, 0\}$

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & -e_6 & -e_7 & e_4 & e_5 \\ e_2 & e_3 & -1 & -e_1 & -e_7 & e_6 & -e_5 & e_4 \\ e_3 & -e_2 & e_1 & -1 & -e_5 & e_4 & e_7 & -e_6 \\ e_4 & e_6 & e_7 & e_5 & -1 & -e_3 & -e_1 & -e_2 \\ e_5 & e_7 & -e_6 & -e_4 & e_3 & -1 & e_2 & -e_1 \\ e_6 & -e_4 & e_5 & -e_7 & e_1 & -e_2 & -1 & e_3 \\ e_7 & -e_5 & -e_4 & e_6 & e_2 & e_1 & -e_3 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

19

 $\nabla_{\tau} \frac{0}{w_d} \frac{L}{L}$


0apggsscc I
001110000₂ 53

flip=False

Triad fpi=24 BC₈ R fp_sm=3→05H

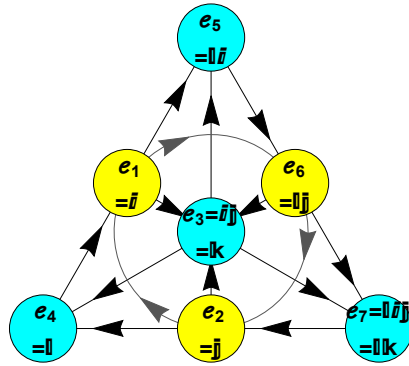
flat triad/mask bits

{{1, 6, 2}, {1, 3, 7}, {1, 5, 4},
{2, 3, 5}, {2, 4, 7}, {3, 4, 6}, {5, 6, 7}}

{1, 6, 2, 3, 7, 5, 4}
{1, 0, 1, 0, 0, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & e_7 & -e_5 & e_4 & e_2 & -e_3 \\ e_2 & e_6 & -1 & e_5 & e_7 & -e_3 & -e_1 & -e_4 \\ e_3 & -e_7 & -e_5 & -1 & e_6 & e_2 & -e_4 & e_1 \\ e_4 & e_5 & -e_7 & -e_6 & -1 & -e_1 & e_3 & e_2 \\ e_5 & -e_4 & e_3 & -e_2 & e_1 & -1 & e_7 & -e_6 \\ e_6 & -e_2 & e_1 & e_4 & -e_3 & -e_7 & -1 & e_5 \\ e_7 & e_3 & e_4 & -e_1 & -e_2 & e_6 & -e_5 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=23 BC₈ R fp_sm=2→06H

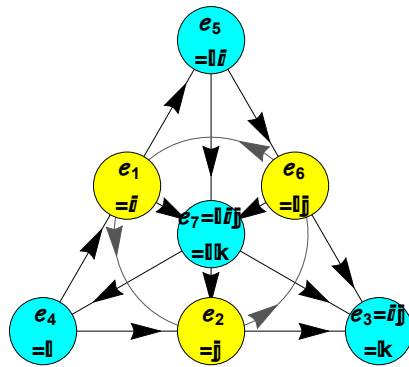
flat triad/mask bits

{{1, 2, 6}, {1, 7, 3}, {1, 5, 4},
{2, 3, 4}, {2, 5, 7}, {3, 5, 6}, {4, 6, 7}}

{1, 6, 2, 7, 3, 5, 4}
{0, 1, 1, 0, 0, 0, 0}

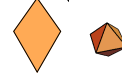
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & -e_7 & -e_5 & e_4 & -e_2 & e_3 \\ e_2 & -e_6 & -1 & e_4 & -e_3 & e_7 & e_1 & -e_5 \\ e_3 & e_7 & -e_4 & -1 & e_2 & e_6 & -e_5 & -e_1 \\ e_4 & e_5 & e_3 & -e_2 & -1 & -e_1 & e_7 & -e_6 \\ e_5 & -e_4 & -e_7 & -e_6 & e_1 & -1 & e_3 & e_2 \\ e_6 & e_2 & -e_1 & e_5 & -e_7 & -e_3 & -1 & e_4 \\ e_7 & -e_3 & e_5 & e_1 & e_6 & -e_2 & -e_4 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

20

 $\bar{b}_{01} \xrightarrow{+1/3} R$ 0apggsscc
010110101₂Cd
48

flip=False

Triad fpi=25 BC₈ L fp_sm=5→69H

flat triad/mask bits

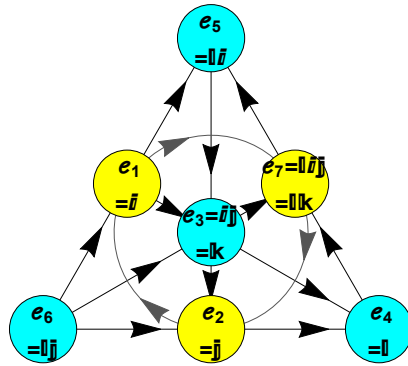
{ {1, 7, 2}, {1, 3, 4}, {1, 5, 6},

{1, 7, 2, 3, 4, 5, 6}

{2, 5, 3}, {2, 4, 6}, {3, 7, 6}, {4, 7, 5}}

{1, 0, 0, 1, 0, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & e_4 & -e_3 & e_6 & -e_5 & e_2 \\ e_2 & e_7 & -1 & -e_5 & e_6 & e_3 & -e_4 & -e_1 \\ e_3 & -e_4 & e_5 & -1 & e_1 & -e_2 & -e_7 & e_6 \\ e_4 & e_3 & -e_6 & -e_1 & -1 & -e_7 & e_2 & e_5 \\ e_5 & -e_6 & -e_3 & e_2 & e_7 & -1 & e_1 & -e_4 \\ e_6 & e_5 & e_4 & e_7 & -e_2 & -e_1 & -1 & -e_3 \\ e_7 & -e_2 & e_1 & -e_6 & -e_5 & e_4 & e_3 & -1 \end{pmatrix}$$

flip=True

Triad fpi=26 BC₈ L fp_sm=8→6AH

flat triad/mask bits

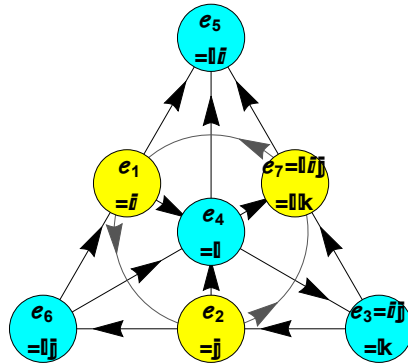
{ {1, 2, 7}, {1, 4, 3}, {1, 5, 6},

{1, 7, 2, 4, 3, 5, 6}

{2, 6, 3}, {2, 4, 5}, {3, 7, 5}, {4, 7, 6}}

{0, 1, 0, 1, 0, 1, 1}

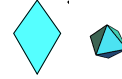
Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & -e_4 & e_3 & e_6 & -e_5 & -e_2 \\ e_2 & -e_7 & -1 & -e_6 & e_5 & -e_4 & e_3 & e_1 \\ e_3 & e_4 & e_6 & -1 & -e_1 & -e_7 & -e_2 & e_5 \\ e_4 & -e_3 & -e_5 & e_1 & -1 & e_2 & -e_7 & e_6 \\ e_5 & -e_6 & e_4 & e_7 & -e_2 & -1 & e_1 & -e_3 \\ e_6 & e_5 & -e_3 & e_2 & e_7 & -e_1 & -1 & -e_4 \\ e_7 & e_2 & -e_1 & -e_5 & -e_6 & e_3 & e_4 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

21

 $\bar{b}_{c_1 R}^{+ \rightarrow 1/3}$


0apggsscc Nb
010110110₂ 41

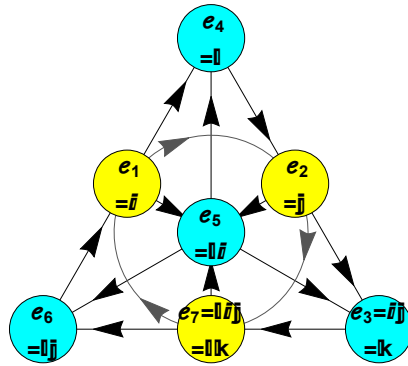
flip=False

Triad fpi=27 BC₈ L fp_sm=4→62H
{ {1, 2, 7}, {1, 5, 3}, {1, 4, 6},
{2, 3, 4}, {2, 5, 6}, {3, 7, 6}, {4, 7, 5} }

flat triad/mask bits
{1, 2, 7, 5, 3, 4, 6}
{0, 1, 0, 0, 0, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & -e_5 & e_6 & e_3 & -e_4 & -e_2 \\ e_2 & -e_7 & -1 & e_4 & -e_3 & e_6 & -e_5 & e_1 \\ e_3 & e_5 & -e_4 & -1 & e_2 & -e_1 & -e_7 & e_6 \\ e_4 & -e_6 & e_3 & -e_2 & -1 & -e_7 & e_1 & e_5 \\ e_5 & -e_3 & -e_6 & e_1 & e_7 & -1 & e_2 & -e_4 \\ e_6 & e_4 & e_5 & e_7 & -e_1 & -e_2 & -1 & -e_3 \\ e_7 & e_2 & -e_1 & -e_6 & -e_5 & e_4 & e_3 & -1 \end{pmatrix}$$

Fano plane



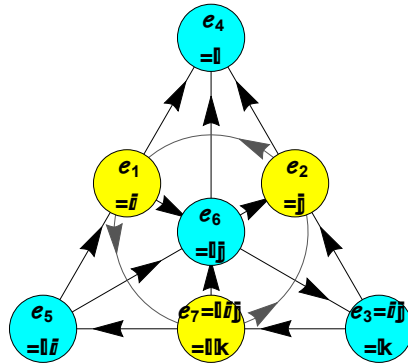
flip=True

Triad fpi=29 BC₈ L fp_sm=7→6BH
{ {1, 7, 2}, {1, 6, 3}, {1, 4, 5},
{2, 4, 3}, {2, 5, 6}, {3, 7, 5}, {4, 7, 6} }

flat triad/mask bits
{1, 2, 7, 6, 3, 4, 5}
{1, 1, 0, 1, 0, 1, 1}

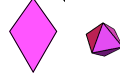
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & -e_6 & e_5 & -e_4 & e_3 & e_2 \\ e_2 & e_7 & -1 & -e_4 & e_3 & e_6 & -e_5 & -e_1 \\ e_3 & e_6 & e_4 & -1 & -e_2 & -e_7 & -e_1 & e_5 \\ e_4 & -e_5 & -e_3 & e_2 & -1 & e_1 & -e_7 & e_6 \\ e_5 & e_4 & -e_6 & e_7 & -e_1 & -1 & e_2 & -e_3 \\ e_6 & -e_3 & e_5 & e_1 & e_7 & -e_2 & -1 & -e_4 \\ e_7 & -e_2 & e_1 & -e_5 & -e_6 & e_3 & e_4 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

22 $\overline{b}_m^{1/3} \overline{R}$



0apggsscc $\overline{Cf}$
010110111₂ 98

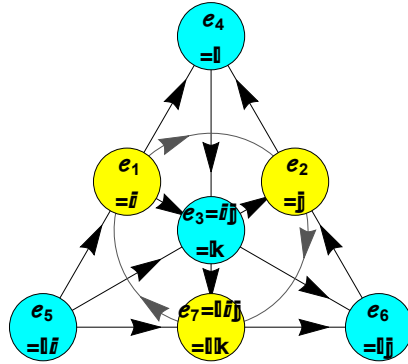
flip=False

Triad fpi=30 BC₈ L fp_sm=6→68H
{ {1, 2, 7}, {1, 3, 6}, {1, 4, 5},
{2, 5, 3}, {2, 4, 6}, {3, 7, 4}, {5, 7, 6} }

flat triad/mask bits
{1, 2, 7, 3, 6, 4, 5}
{0, 0, 0, 1, 0, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & e_6 & e_5 & -e_4 & -e_3 & -e_2 \\ e_2 & -e_7 & -1 & -e_5 & e_6 & e_3 & -e_4 & e_1 \\ e_3 & -e_6 & e_5 & -1 & -e_7 & -e_2 & e_1 & e_4 \\ e_4 & -e_5 & -e_6 & e_7 & -1 & e_1 & e_2 & -e_3 \\ e_5 & e_4 & -e_3 & e_2 & -e_1 & -1 & -e_7 & e_6 \\ e_6 & e_3 & e_4 & -e_1 & -e_2 & e_7 & -1 & -e_5 \\ e_7 & e_2 & -e_1 & -e_4 & e_3 & -e_6 & e_5 & -1 \end{pmatrix}$$

Fano plane



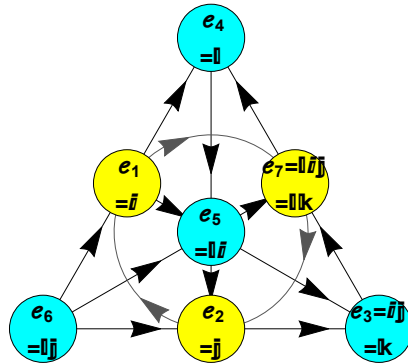
flip=True

Triad fpi=28 BC₈ L fp_sm=3→63H
{ {1, 7, 2}, {1, 5, 3}, {1, 4, 6},
{2, 3, 6}, {2, 4, 5}, {3, 7, 4}, {5, 7, 6} }

flat triad/mask bits
{1, 7, 2, 5, 3, 4, 6}
{1, 1, 0, 0, 0, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & -e_5 & e_6 & e_3 & -e_4 & e_2 \\ e_2 & e_7 & -1 & e_6 & e_5 & -e_4 & -e_3 & -e_1 \\ e_3 & e_5 & -e_6 & -1 & -e_7 & -e_1 & e_2 & e_4 \\ e_4 & -e_6 & -e_5 & e_7 & -1 & e_2 & e_1 & -e_3 \\ e_5 & -e_3 & e_4 & e_1 & -e_2 & -1 & -e_7 & e_6 \\ e_6 & e_4 & e_3 & -e_2 & -e_1 & e_7 & -1 & -e_5 \\ e_7 & -e_2 & e_1 & -e_4 & e_3 & -e_6 & e_5 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

23

 $e_{y_1} \bar{R}$ 

0apggsscc Te
000010100₂ 52

flip=False

Triad fpi=7 BC₈ L fp_sm=3→1CH

flat triad/mask bits

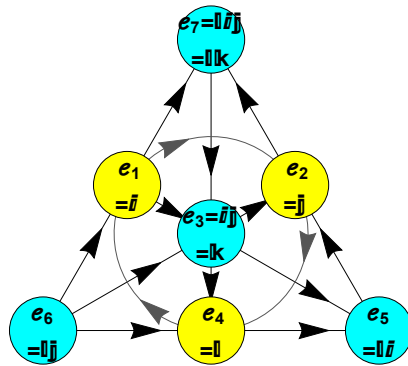
{ {1, 2, 4}, {1, 3, 5}, {1, 7, 6},

{1, 2, 4, 3, 5, 7, 6}

{2, 6, 3}, {2, 7, 5}, {3, 4, 7}, {4, 5, 6}}

{0, 0, 1, 1, 1, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & e_5 & -e_2 & -e_3 & -e_7 & e_6 \\ e_2 & -e_4 & -1 & -e_6 & e_1 & -e_7 & e_3 & e_5 \\ e_3 & -e_5 & e_6 & -1 & e_7 & e_1 & -e_2 & -e_4 \\ e_4 & e_2 & -e_1 & -e_7 & -1 & e_6 & -e_5 & e_3 \\ e_5 & e_3 & e_7 & -e_1 & -e_6 & -1 & e_4 & -e_2 \\ e_6 & e_7 & -e_3 & e_2 & e_5 & -e_4 & -1 & -e_1 \\ e_7 & -e_6 & -e_5 & e_4 & -e_3 & e_2 & e_1 & -1 \end{pmatrix}$$

flip=True

Triad fpi=4 BC₈ L fp_sm=3→1CH

flat triad/mask bits

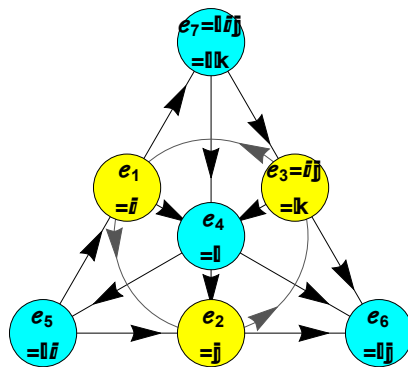
{ {1, 2, 3}, {1, 4, 6}, {1, 7, 5},

{1, 3, 2, 4, 6, 7, 5}

{2, 7, 4}, {2, 6, 5}, {3, 4, 5}, {3, 6, 7}}

{0, 0, 1, 1, 1, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & e_6 & -e_7 & -e_4 & e_5 \\ e_2 & -e_3 & -1 & e_1 & -e_7 & -e_6 & e_5 & e_4 \\ e_3 & e_2 & -e_1 & -1 & e_5 & -e_4 & e_7 & -e_6 \\ e_4 & -e_6 & e_7 & -e_5 & -1 & e_3 & e_1 & -e_2 \\ e_5 & e_7 & e_6 & e_4 & -e_3 & -1 & -e_2 & -e_1 \\ e_6 & e_4 & -e_5 & -e_7 & -e_1 & e_2 & -1 & e_3 \\ e_7 & -e_5 & -e_4 & e_6 & e_2 & e_1 & -e_3 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

24

 ∇_{τ}^0
 $W_m R$


0apggsscc Rh
001111100₂ 45

flip=False

Triad fpi=24 BC₈ R fp_sm=3→36H

flat triad/mask bits

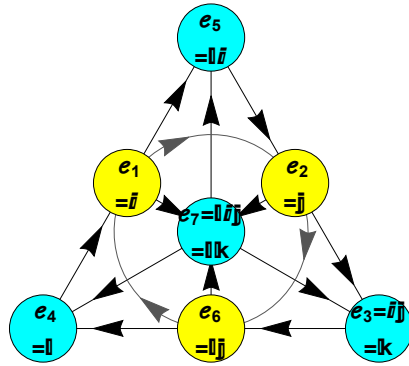
{ {1, 2, 6}, {1, 7, 3}, {1, 5, 4},

{1, 2, 6, 7, 3, 5, 4}

{2, 3, 5}, {2, 7, 4}, {3, 6, 4}, {5, 6, 7}}

{0, 1, 1, 0, 1, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & -e_7 & -e_5 & e_4 & -e_2 & e_3 \\ e_2 & -e_6 & -1 & e_5 & -e_7 & -e_3 & e_1 & e_4 \\ e_3 & e_7 & -e_5 & -1 & -e_6 & e_2 & e_4 & -e_1 \\ e_4 & e_5 & e_7 & e_6 & -1 & -e_1 & -e_3 & -e_2 \\ e_5 & -e_4 & e_3 & -e_2 & e_1 & -1 & e_7 & -e_6 \\ e_6 & e_2 & -e_1 & -e_4 & e_3 & -e_7 & -1 & e_5 \\ e_7 & -e_3 & -e_4 & e_1 & e_2 & e_6 & -e_5 & -1 \end{pmatrix}$$

flip=True

Triad fpi=23 BC₈ R fp_sm=2→35H

flat triad/mask bits

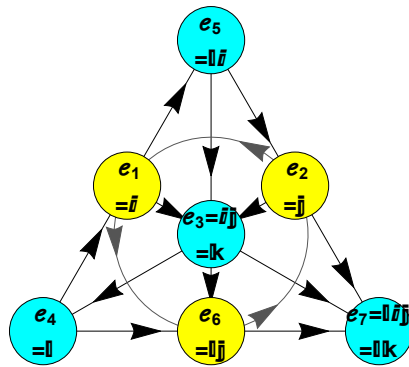
{ {1, 6, 2}, {1, 3, 7}, {1, 5, 4},

{1, 2, 6, 3, 7, 5, 4}

{2, 3, 4}, {2, 7, 5}, {3, 6, 5}, {4, 6, 7}}

{1, 0, 1, 0, 1, 1, 0}

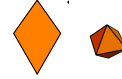
Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & e_7 & -e_5 & e_4 & e_2 & -e_3 \\ e_2 & e_6 & -1 & e_4 & -e_3 & -e_7 & -e_1 & e_5 \\ e_3 & -e_7 & -e_4 & -1 & e_2 & -e_6 & e_5 & e_1 \\ e_4 & e_5 & e_3 & -e_2 & -1 & -e_1 & e_7 & -e_6 \\ e_5 & -e_4 & e_7 & e_6 & e_1 & -1 & -e_3 & -e_2 \\ e_6 & -e_2 & e_1 & -e_5 & -e_7 & e_3 & -1 & e_4 \\ e_7 & e_3 & -e_5 & -e_1 & e_6 & e_2 & -e_4 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

25

 $\bar{b}_{om} \xrightarrow{+1/3}$ 

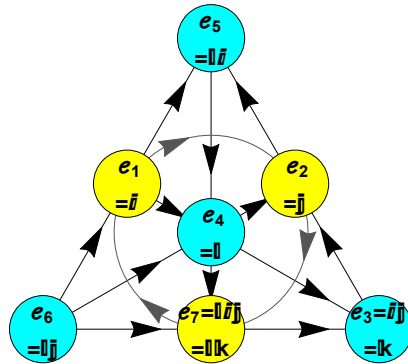
0apggsscc Y
010111001₂ 39

flip=False

Triad fpi=25 BC₈ L fp_sm=5→5AH
{ {1, 2, 7}, {1, 4, 3}, {1, 5, 6},
{2, 5, 3}, {2, 6, 4}, {3, 6, 7}, {4, 7, 5} }

flat triad/mask bits
{1, 2, 7, 4, 3, 5, 6}
{0, 1, 0, 1, 1, 0, 1}

Fano plane



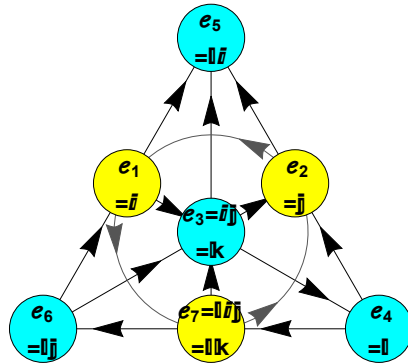
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & -e_4 & e_3 & e_6 & -e_5 & -e_2 \\ e_2 & -e_7 & -1 & -e_5 & -e_6 & e_3 & e_4 & e_1 \\ e_3 & e_4 & e_5 & -1 & -e_1 & -e_2 & e_7 & -e_6 \\ e_4 & -e_3 & e_6 & e_1 & -1 & -e_7 & -e_2 & e_5 \\ e_5 & -e_6 & -e_3 & e_2 & e_7 & -1 & e_1 & -e_4 \\ e_6 & e_5 & -e_4 & -e_7 & e_2 & -e_1 & -1 & e_3 \\ e_7 & e_2 & -e_1 & e_6 & -e_5 & e_4 & -e_3 & -1 \end{pmatrix}$$

flip=True

Triad fpi=26 BC₈ L fp_sm=8→59H
{ {1, 7, 2}, {1, 3, 4}, {1, 5, 6},
{2, 6, 3}, {2, 5, 4}, {3, 5, 7}, {4, 7, 6} }

flat triad/mask bits
{1, 2, 7, 3, 4, 5, 6}
{1, 0, 0, 1, 1, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & e_4 & -e_3 & e_6 & -e_5 & e_2 \\ e_2 & e_7 & -1 & -e_6 & -e_5 & e_4 & e_3 & -e_1 \\ e_3 & -e_4 & e_6 & -1 & e_1 & e_7 & -e_2 & -e_5 \\ e_4 & e_3 & e_5 & -e_1 & -1 & -e_2 & -e_7 & e_6 \\ e_5 & -e_6 & -e_4 & -e_7 & e_2 & -1 & e_1 & e_3 \\ e_6 & e_5 & -e_3 & e_2 & e_7 & -e_1 & -1 & -e_4 \\ e_7 & -e_2 & e_1 & e_5 & -e_6 & -e_3 & e_4 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

26

 $\bar{b}_{C_m} \xrightarrow{+1/3} L$


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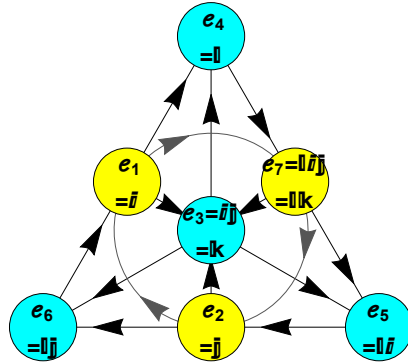
flip=False

Triad fpi=27 BC₈ L fp_sm=4→51H
{ {1, 7, 2}, {1, 3, 5}, {1, 4, 6},
{2, 3, 4}, {2, 6, 5}, {3, 6, 7}, {4, 7, 5} }

flat triad/mask bits
{1, 7, 2, 3, 5, 4, 6}
{1, 0, 0, 0, 1, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & e_5 & e_6 & -e_3 & -e_4 & e_2 \\ e_2 & e_7 & -1 & e_4 & -e_3 & -e_6 & e_5 & -e_1 \\ e_3 & -e_5 & -e_4 & -1 & e_2 & e_1 & e_7 & -e_6 \\ e_4 & -e_6 & e_3 & -e_2 & -1 & -e_7 & e_1 & e_5 \\ e_5 & e_3 & e_6 & -e_1 & e_7 & -1 & -e_2 & -e_4 \\ e_6 & e_4 & -e_5 & -e_7 & -e_1 & e_2 & -1 & e_3 \\ e_7 & -e_2 & e_1 & e_6 & -e_5 & e_4 & -e_3 & -1 \end{pmatrix}$$

Fano plane



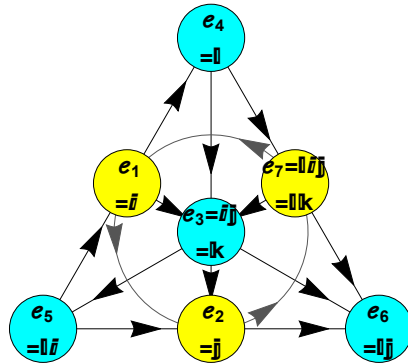
flip=True

Triad fpi=29 BC₈ L fp_sm=7→58H
{ {1, 2, 7}, {1, 3, 6}, {1, 4, 5},
{2, 4, 3}, {2, 6, 5}, {3, 5, 7}, {4, 7, 6} }

flat triad/mask bits
{1, 7, 2, 3, 6, 4, 5}
{0, 0, 0, 1, 1, 0, 1}

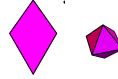
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & e_6 & e_5 & -e_4 & -e_3 & -e_2 \\ e_2 & -e_7 & -1 & -e_4 & e_3 & -e_6 & e_5 & e_1 \\ e_3 & -e_6 & e_4 & -1 & -e_2 & e_7 & e_1 & -e_5 \\ e_4 & -e_5 & -e_3 & e_2 & -1 & e_1 & -e_7 & e_6 \\ e_5 & e_4 & e_6 & -e_7 & -e_1 & -1 & -e_2 & e_3 \\ e_6 & e_3 & -e_5 & -e_1 & e_7 & e_2 & -1 & -e_4 \\ e_7 & e_2 & -e_1 & e_5 & -e_6 & -e_3 & e_4 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

27 $\overline{b}_{mm}^{1/3} \overline{L}$



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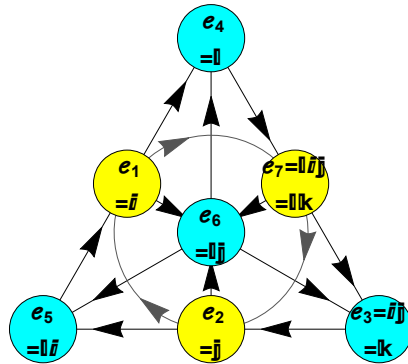
flip=False

Triad fpi=30 BC₈ L fp_sm=6→5BH
{ {1, 7, 2}, {1, 6, 3}, {1, 4, 5},
{2, 5, 3}, {2, 6, 4}, {3, 4, 7}, {5, 7, 6} }

flat triad/mask bits
{1, 7, 2, 6, 3, 4, 5}
{1, 1, 0, 1, 1, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & -e_6 & e_5 & -e_4 & e_3 & e_2 \\ e_2 & e_7 & -1 & -e_5 & -e_6 & e_3 & e_4 & -e_1 \\ e_3 & e_6 & e_5 & -1 & e_7 & -e_2 & -e_1 & -e_4 \\ e_4 & -e_5 & e_6 & -e_7 & -1 & e_1 & -e_2 & e_3 \\ e_5 & e_4 & -e_3 & e_2 & -e_1 & -1 & -e_7 & e_6 \\ e_6 & -e_3 & -e_4 & e_1 & e_2 & e_7 & -1 & -e_5 \\ e_7 & -e_2 & e_1 & e_4 & -e_3 & -e_6 & e_5 & -1 \end{pmatrix}$$

Fano plane



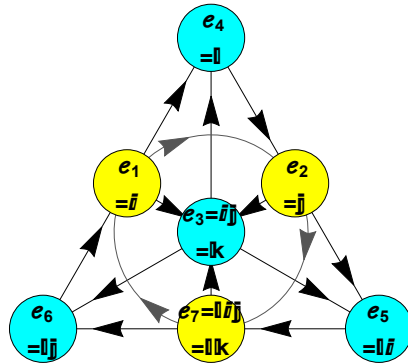
flip=True

Triad fpi=28 BC₈ L fp_sm=3→50H
{ {1, 2, 7}, {1, 3, 5}, {1, 4, 6},
{2, 3, 6}, {2, 5, 4}, {3, 4, 7}, {5, 7, 6} }

flat triad/mask bits
{1, 2, 7, 3, 5, 4, 6}
{0, 0, 0, 0, 1, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & e_5 & e_6 & -e_3 & -e_4 & -e_2 \\ e_2 & -e_7 & -1 & e_6 & -e_5 & e_4 & -e_3 & e_1 \\ e_3 & -e_5 & -e_6 & -1 & e_7 & e_1 & e_2 & -e_4 \\ e_4 & -e_6 & e_5 & -e_7 & -1 & -e_2 & e_1 & e_3 \\ e_5 & e_3 & -e_4 & -e_1 & e_2 & -1 & -e_7 & e_6 \\ e_6 & e_4 & e_3 & -e_2 & -e_1 & e_7 & -1 & -e_5 \\ e_7 & e_2 & -e_1 & e_4 & -e_3 & -e_6 & e_5 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

28

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000111100₂ 37

flip=False

Triad fpi=23 BC₈ L fp_sm=2→32H

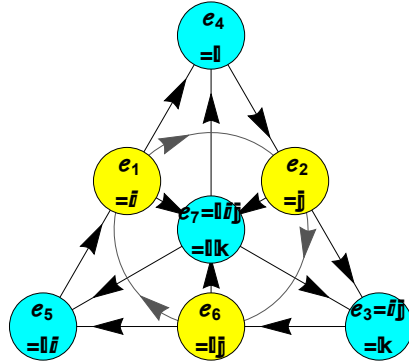
flat triad/mask bits

{{1, 2, 6}, {1, 7, 3}, {1, 4, 5},
{2, 3, 4}, {2, 7, 5}, {3, 6, 5}, {4, 6, 7}}

{1, 2, 6, 7, 3, 4, 5}
{0, 1, 0, 0, 1, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & -e_7 & e_5 & -e_4 & -e_2 & e_3 \\ e_2 & -e_6 & -1 & e_4 & -e_3 & -e_7 & e_1 & e_5 \\ e_3 & e_7 & -e_4 & -1 & e_2 & -e_6 & e_5 & -e_1 \\ e_4 & -e_5 & e_3 & -e_2 & -1 & e_1 & e_7 & -e_6 \\ e_5 & e_4 & e_7 & e_6 & -e_1 & -1 & -e_3 & -e_2 \\ e_6 & e_2 & -e_1 & -e_5 & -e_7 & e_3 & -1 & e_4 \\ e_7 & -e_3 & -e_5 & e_1 & e_6 & e_2 & -e_4 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=24 BC₈ L fp_sm=3→31H

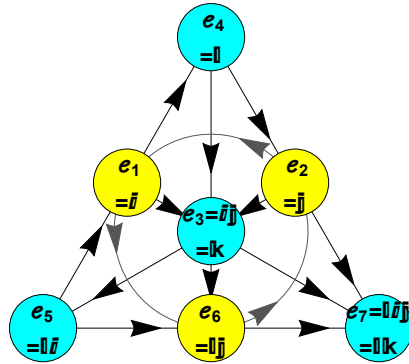
flat triad/mask bits

{{1, 6, 2}, {1, 3, 7}, {1, 4, 5},
{2, 3, 5}, {2, 7, 4}, {3, 6, 4}, {5, 6, 7}}

{1, 2, 6, 3, 7, 4, 5}
{1, 0, 0, 0, 1, 1, 0}

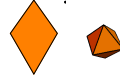
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & e_7 & e_5 & -e_4 & e_2 & -e_3 \\ e_2 & e_6 & -1 & e_5 & -e_7 & -e_3 & -e_1 & e_4 \\ e_3 & -e_7 & -e_5 & -1 & -e_6 & e_2 & e_4 & e_1 \\ e_4 & -e_5 & e_7 & e_6 & -1 & e_1 & -e_3 & -e_2 \\ e_5 & e_4 & e_3 & -e_2 & -e_1 & -1 & e_7 & -e_6 \\ e_6 & -e_2 & e_1 & -e_4 & e_3 & -e_7 & -1 & e_5 \\ e_7 & e_3 & -e_4 & -e_1 & e_2 & e_6 & -e_5 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

29

 $\bar{b}_{om} \xrightarrow{R} -2/3$


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010111101₂ 31

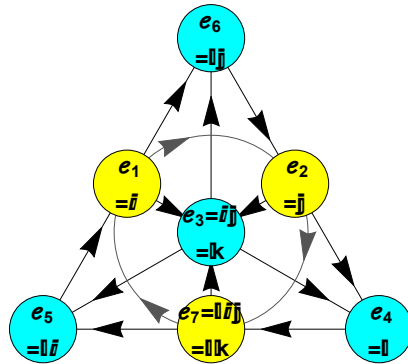
flip=False

Triad fpi=25 BC₈ L fp_sm=5→44H
{ {1, 2, 7}, {1, 3, 4}, {1, 6, 5},
{2, 3, 5}, {2, 4, 6}, {3, 6, 7}, {4, 7, 5} }

flat triad/mask bits
{1, 2, 7, 3, 4, 6, 5}
{0, 0, 1, 0, 0, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & e_4 & -e_3 & -e_6 & e_5 & -e_2 \\ e_2 & -e_7 & -1 & e_5 & e_6 & -e_3 & -e_4 & e_1 \\ e_3 & -e_4 & -e_5 & -1 & e_1 & e_2 & e_7 & -e_6 \\ e_4 & e_3 & -e_6 & -e_1 & -1 & -e_7 & e_2 & e_5 \\ e_5 & e_6 & e_3 & -e_2 & e_7 & -1 & -e_1 & -e_4 \\ e_6 & -e_5 & e_4 & -e_7 & -e_2 & e_1 & -1 & e_3 \\ e_7 & e_2 & -e_1 & e_6 & -e_5 & e_4 & -e_3 & -1 \end{pmatrix}$$

Fano plane



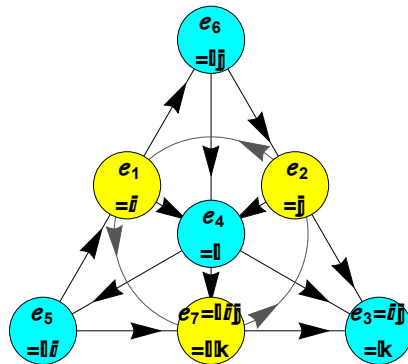
flip=True

Triad fpi=26 BC₈ L fp_sm=8→47H
{ {1, 7, 2}, {1, 4, 3}, {1, 6, 5},
{2, 3, 6}, {2, 4, 5}, {3, 5, 7}, {4, 7, 6} }

flat triad/mask bits
{1, 2, 7, 4, 3, 6, 5}
{1, 1, 1, 0, 0, 0, 1}

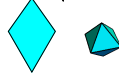
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & -e_4 & e_3 & -e_6 & e_5 & e_2 \\ e_2 & e_7 & -1 & e_6 & e_5 & -e_4 & -e_3 & -e_1 \\ e_3 & e_4 & -e_6 & -1 & -e_1 & e_7 & e_2 & -e_5 \\ e_4 & -e_3 & -e_5 & e_1 & -1 & e_2 & -e_7 & e_6 \\ e_5 & e_6 & e_4 & -e_7 & -e_2 & -1 & -e_1 & e_3 \\ e_6 & -e_5 & e_3 & -e_2 & e_7 & e_1 & -1 & -e_4 \\ e_7 & -e_2 & e_1 & e_5 & -e_6 & -e_3 & e_4 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

30

 $\bar{b}_{cm} \xrightarrow{+} -2/3 \bar{R}$ 0apggsscc
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25

flip=False

Triad fpi=27 BC₈ L fp_sm=4→4FH

flat triad/mask bits

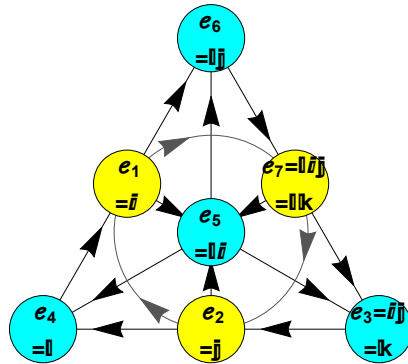
{ {1, 7, 2}, {1, 5, 3}, {1, 6, 4},

{1, 7, 2, 5, 3, 6, 4}

{2, 4, 3}, {2, 5, 6}, {3, 6, 7}, {4, 7, 5}}

{1, 1, 1, 1, 0, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & -e_5 & -e_6 & e_3 & e_4 & e_2 \\ e_2 & e_7 & -1 & -e_4 & e_3 & e_6 & -e_5 & -e_1 \\ e_3 & e_5 & e_4 & -1 & -e_2 & -e_1 & e_7 & -e_6 \\ e_4 & e_6 & -e_3 & e_2 & -1 & -e_7 & -e_1 & e_5 \\ e_5 & -e_3 & -e_6 & e_1 & e_7 & -1 & e_2 & -e_4 \\ e_6 & -e_4 & e_5 & -e_7 & e_1 & -e_2 & -1 & e_3 \\ e_7 & -e_2 & e_1 & e_6 & -e_5 & e_4 & -e_3 & -1 \end{pmatrix}$$

flip=True

Triad fpi=29 BC₈ L fp_sm=7→46H

flat triad/mask bits

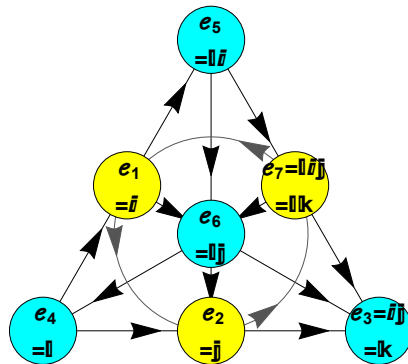
{ {1, 2, 7}, {1, 6, 3}, {1, 5, 4},

{1, 7, 2, 6, 3, 5, 4}

{2, 3, 4}, {2, 5, 6}, {3, 5, 7}, {4, 7, 6}}

{0, 1, 1, 0, 0, 0, 1}

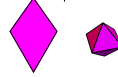
Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & -e_6 & -e_5 & e_4 & e_3 & -e_2 \\ e_2 & -e_7 & -1 & e_4 & -e_3 & e_6 & -e_5 & e_1 \\ e_3 & e_6 & -e_4 & -1 & e_2 & e_7 & -e_1 & -e_5 \\ e_4 & e_5 & e_3 & -e_2 & -1 & -e_1 & -e_7 & e_6 \\ e_5 & -e_4 & -e_6 & -e_7 & e_1 & -1 & e_2 & e_3 \\ e_6 & -e_3 & e_5 & e_1 & e_7 & -e_2 & -1 & -e_4 \\ e_7 & e_2 & -e_1 & e_5 & -e_6 & -e_3 & e_4 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

31 $\overline{b}_{mR}^{1/3 \rightarrow -2/3}$



0apggsscc $\overline{Db}$
010111111₂ 105

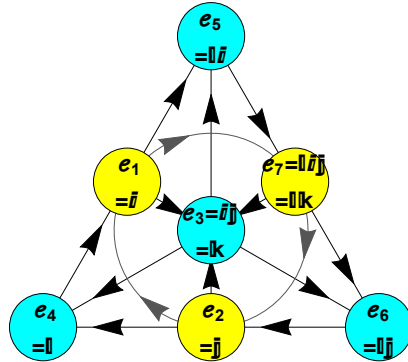
flip=False

Triad fpi=30 BC₈ L fp_sm=6→45H
{ {1, 7, 2}, {1, 3, 6}, {1, 5, 4},
{2, 3, 5}, {2, 4, 6}, {3, 4, 7}, {5, 7, 6} }

flat triad/mask bits
{1, 7, 2, 3, 6, 5, 4}
{1, 0, 1, 0, 0, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & e_6 & -e_5 & e_4 & -e_3 & e_2 \\ e_2 & e_7 & -1 & e_5 & e_6 & -e_3 & -e_4 & -e_1 \\ e_3 & -e_6 & -e_5 & -1 & e_7 & e_2 & e_1 & -e_4 \\ e_4 & e_5 & -e_6 & -e_7 & -1 & -e_1 & e_2 & e_3 \\ e_5 & -e_4 & e_3 & -e_2 & e_1 & -1 & -e_7 & e_6 \\ e_6 & e_3 & e_4 & -e_1 & -e_2 & e_7 & -1 & -e_5 \\ e_7 & -e_2 & e_1 & e_4 & -e_3 & -e_6 & e_5 & -1 \end{pmatrix}$$

Fano plane



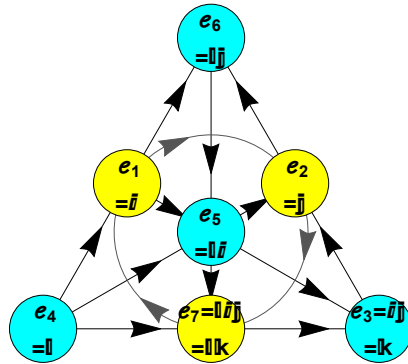
flip=True

Triad fpi=28 BC₈ L fp_sm=3→4EH
{ {1, 2, 7}, {1, 5, 3}, {1, 6, 4},
{2, 6, 3}, {2, 4, 5}, {3, 4, 7}, {5, 7, 6} }

flat triad/mask bits
{1, 2, 7, 5, 3, 6, 4}
{0, 1, 1, 1, 0, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & -e_5 & -e_6 & e_3 & e_4 & -e_2 \\ e_2 & -e_7 & -1 & -e_6 & e_5 & -e_4 & e_3 & e_1 \\ e_3 & e_5 & e_6 & -1 & e_7 & -e_1 & -e_2 & -e_4 \\ e_4 & e_6 & -e_5 & -e_7 & -1 & e_2 & -e_1 & e_3 \\ e_5 & -e_3 & e_4 & e_1 & -e_2 & -1 & -e_7 & e_6 \\ e_6 & -e_4 & -e_3 & e_2 & e_1 & e_7 & -1 & -e_5 \\ e_7 & e_2 & -e_1 & e_4 & -e_3 & -e_6 & e_5 & -1 \end{pmatrix}$$

Fano plane

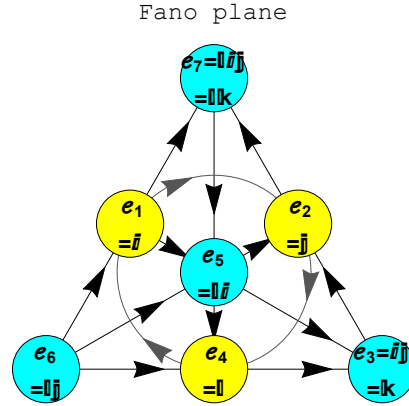


Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

32 $\overline{d}_{od} \xrightarrow{+1/3} L$  0apggsscc V
010010001₂ 23

flip=False

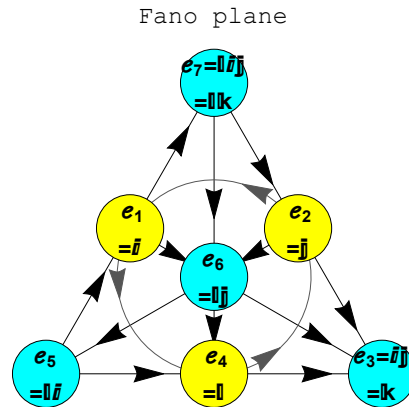
Triad fpi=8 BC₈ L fp_sm=2→7EH flat triad/mask bits
 {{1, 2, 4}, {1, 5, 3}, {1, 7, 6}, {1, 2, 4, 5, 3, 7, 6}}
 {{2, 7, 3}, {2, 6, 5}, {3, 6, 4}, {4, 7, 5}} {0, 1, 1, 1, 1, 1, 1}



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & -e_5 & -e_2 & e_3 & -e_7 & e_6 \\ e_2 & -e_4 & -1 & -e_7 & e_1 & -e_6 & e_5 & e_3 \\ e_3 & e_5 & e_7 & -1 & -e_6 & -e_1 & e_4 & -e_2 \\ e_4 & e_2 & -e_1 & e_6 & -1 & -e_7 & -e_3 & e_5 \\ e_5 & -e_3 & e_6 & e_1 & e_7 & -1 & -e_2 & -e_4 \\ e_6 & e_7 & -e_5 & -e_4 & e_3 & e_2 & -1 & -e_1 \\ e_7 & -e_6 & -e_3 & e_2 & -e_5 & e_4 & e_1 & -1 \end{pmatrix}$$

flip=True

Triad fpi=10 BC₈ L fp_sm=5→77H flat triad/mask bits
 {{1, 4, 2}, {1, 6, 3}, {1, 7, 5}, {1, 2, 4, 6, 3, 7, 5}}
 {{2, 3, 7}, {2, 6, 5}, {3, 5, 4}, {4, 7, 6}} {1, 1, 1, 0, 1, 1, 1}



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & -e_6 & e_2 & -e_7 & e_3 & e_5 \\ e_2 & e_4 & -1 & e_7 & -e_1 & -e_6 & e_5 & -e_3 \\ e_3 & e_6 & -e_7 & -1 & -e_5 & e_4 & -e_1 & e_2 \\ e_4 & -e_2 & e_1 & e_5 & -1 & -e_3 & -e_7 & e_6 \\ e_5 & e_7 & e_6 & -e_4 & e_3 & -1 & -e_2 & -e_1 \\ e_6 & -e_3 & -e_5 & e_1 & e_7 & e_2 & -1 & -e_4 \\ e_7 & -e_5 & e_3 & -e_2 & -e_6 & e_1 & e_4 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

33 $\overline{d}_{Cd} \xrightarrow{+1/3} L$



0apggsscc Cl
010010010₂ 17

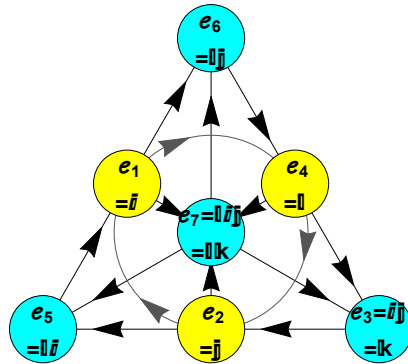
flip=False

Triad fpi=11 BC₈ L fp_sm=1→7FH
{ {1, 4, 2}, {1, 7, 3}, {1, 6, 5},
{2, 5, 3}, {2, 7, 6}, {3, 6, 4}, {4, 7, 5} }

flat triad/mask bits
{1, 4, 2, 7, 3, 6, 5}
{1, 1, 1, 1, 1, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & -e_7 & e_2 & -e_6 & e_5 & e_3 \\ e_2 & e_4 & -1 & -e_5 & -e_1 & e_3 & -e_7 & e_6 \\ e_3 & e_7 & e_5 & -1 & -e_6 & -e_2 & e_4 & -e_1 \\ e_4 & -e_2 & e_1 & e_6 & -1 & -e_7 & -e_3 & e_5 \\ e_5 & e_6 & -e_3 & e_2 & e_7 & -1 & -e_1 & -e_4 \\ e_6 & -e_5 & e_7 & -e_4 & e_3 & e_1 & -1 & -e_2 \\ e_7 & -e_3 & -e_6 & e_1 & -e_5 & e_4 & e_2 & -1 \end{pmatrix}$$

Fano plane



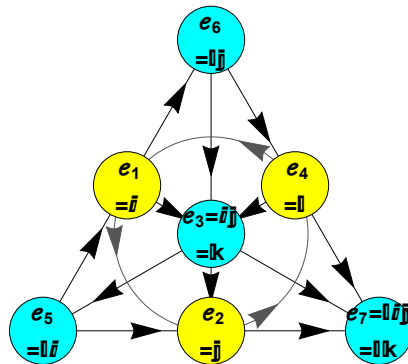
flip=True

Triad fpi=12 BC₈ L fp_sm=4→7CH
{ {1, 2, 4}, {1, 3, 7}, {1, 6, 5},
{2, 6, 3}, {2, 7, 5}, {3, 5, 4}, {4, 7, 6} }

flat triad/mask bits
{1, 4, 2, 3, 7, 6, 5}
{0, 0, 1, 1, 1, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & e_7 & -e_2 & -e_6 & e_5 & -e_3 \\ e_2 & -e_4 & -1 & -e_6 & e_1 & -e_7 & e_3 & e_5 \\ e_3 & -e_7 & e_6 & -1 & -e_5 & e_4 & -e_2 & e_1 \\ e_4 & e_2 & -e_1 & e_5 & -1 & -e_3 & -e_7 & e_6 \\ e_5 & e_6 & e_7 & -e_4 & e_3 & -1 & -e_1 & -e_2 \\ e_6 & -e_5 & -e_3 & e_2 & e_7 & e_1 & -1 & -e_4 \\ e_7 & e_3 & -e_5 & -e_1 & -e_6 & e_2 & e_4 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

34 $\overline{d}_{md}^{1/3} L$



0apggsscc $\overline{Hs}$
010010011₂ 108

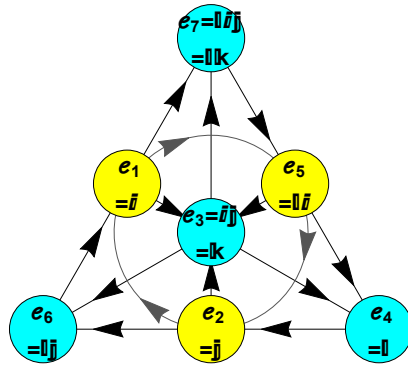
flip=False

Triad fpi=14 BC₈ L fp_sm=7→75H
{ {1, 5, 2}, {1, 3, 4}, {1, 7, 6},
{2, 3, 7}, {2, 6, 4}, {3, 6, 5}, {4, 7, 5} }

flat triad/mask bits
{1, 5, 2, 3, 4, 7, 6}
{1, 0, 1, 0, 1, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & e_4 & -e_3 & e_2 & -e_7 & e_6 \\ e_2 & e_5 & -1 & e_7 & -e_6 & -e_1 & e_4 & -e_3 \\ e_3 & -e_4 & -e_7 & -1 & e_1 & -e_6 & e_5 & e_2 \\ e_4 & e_3 & e_6 & -e_1 & -1 & -e_7 & -e_2 & e_5 \\ e_5 & -e_2 & e_1 & e_6 & e_7 & -1 & -e_3 & -e_4 \\ e_6 & e_7 & -e_4 & -e_5 & e_2 & e_3 & -1 & -e_1 \\ e_7 & -e_6 & e_3 & -e_2 & -e_5 & e_4 & e_1 & -1 \end{pmatrix}$$

Fano plane



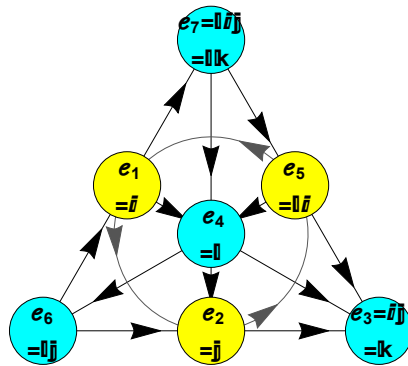
flip=True

Triad fpi=13 BC₈ L fp_sm=6→76H
{ {1, 2, 5}, {1, 4, 3}, {1, 7, 6},
{2, 3, 6}, {2, 7, 4}, {3, 7, 5}, {4, 6, 5} }

flat triad/mask bits
{1, 5, 2, 4, 3, 7, 6}
{0, 1, 1, 0, 1, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & -e_4 & e_3 & -e_2 & -e_7 & e_6 \\ e_2 & -e_5 & -1 & e_6 & -e_7 & e_1 & -e_3 & e_4 \\ e_3 & e_4 & -e_6 & -1 & -e_1 & -e_7 & e_2 & e_5 \\ e_4 & -e_3 & e_7 & e_1 & -1 & -e_6 & e_5 & -e_2 \\ e_5 & e_2 & -e_1 & e_7 & e_6 & -1 & -e_4 & -e_3 \\ e_6 & e_7 & e_3 & -e_2 & -e_5 & e_4 & -1 & -e_1 \\ e_7 & -e_6 & -e_4 & -e_5 & e_2 & e_3 & e_1 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

35

 $u_{b1}^{2/3} R$


0apggsscc Na
001010111₂ 11

flip=False

Triad fpi=14 BC₈ R fp_sm=7→13H

flat triad/mask bits

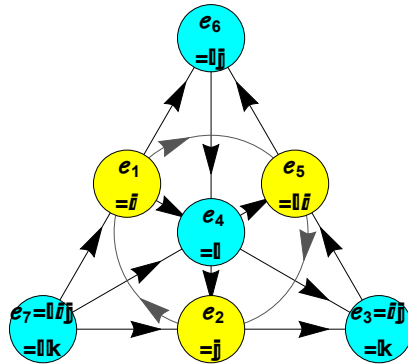
{ {1, 5, 2}, {1, 4, 3}, {1, 6, 7},

{1, 5, 2, 4, 3, 6, 7}

{2, 3, 7}, {2, 6, 4}, {3, 5, 6}, {4, 5, 7}}

{1, 1, 0, 0, 1, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & -e_4 & e_3 & e_2 & e_7 & -e_6 \\ e_2 & e_5 & -1 & e_7 & -e_6 & -e_1 & e_4 & -e_3 \\ e_3 & e_4 & -e_7 & -1 & -e_1 & e_6 & -e_5 & e_2 \\ e_4 & -e_3 & e_6 & e_1 & -1 & e_7 & -e_2 & -e_5 \\ e_5 & -e_2 & e_1 & -e_6 & -e_7 & -1 & e_3 & e_4 \\ e_6 & -e_7 & -e_4 & e_5 & e_2 & -e_3 & -1 & e_1 \\ e_7 & e_6 & e_3 & -e_2 & e_5 & -e_4 & -e_1 & -1 \end{pmatrix}$$

flip=True

Triad fpi=13 BC₈ R fp_sm=6→10H

flat triad/mask bits

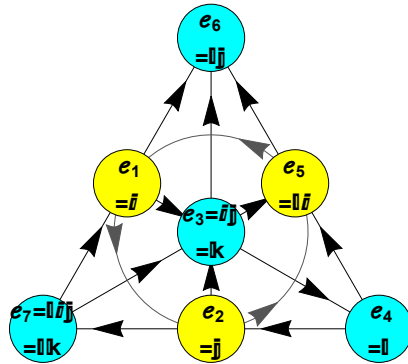
{ {1, 2, 5}, {1, 3, 4}, {1, 6, 7},

{1, 5, 2, 3, 4, 6, 7}

{2, 3, 6}, {2, 7, 4}, {3, 5, 7}, {4, 5, 6}}

{0, 0, 0, 0, 1, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & e_4 & -e_3 & -e_2 & e_7 & -e_6 \\ e_2 & -e_5 & -1 & e_6 & -e_7 & e_1 & -e_3 & e_4 \\ e_3 & -e_4 & -e_6 & -1 & e_1 & e_7 & e_2 & -e_5 \\ e_4 & e_3 & e_7 & -e_1 & -1 & e_6 & -e_5 & -e_2 \\ e_5 & e_2 & -e_1 & -e_7 & -e_6 & -1 & e_4 & e_3 \\ e_6 & -e_7 & e_3 & -e_2 & e_5 & -e_4 & -1 & e_1 \\ e_7 & e_6 & -e_4 & e_5 & e_2 & -e_3 & -e_1 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

36 $u_{g1}^{0 \rightarrow 2/3}$



0apggsscc $\overline{M}t$
001010110₂ 109

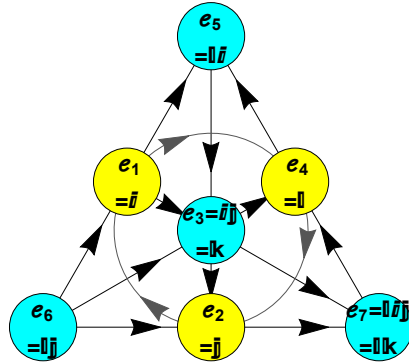
flip=False

Triad fpi=11 BC₈ R fp_sm=1→19H
{ {1, 4, 2}, {1, 3, 7}, {1, 5, 6},
{2, 5, 3}, {2, 7, 6}, {3, 4, 6}, {4, 5, 7} }

flat triad/mask bits
{1, 4, 2, 3, 7, 5, 6}
{1, 0, 0, 1, 1, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & e_7 & e_2 & e_6 & -e_5 & -e_3 \\ e_2 & e_4 & -1 & -e_5 & -e_1 & e_3 & -e_7 & e_6 \\ e_3 & -e_7 & e_5 & -1 & e_6 & -e_2 & -e_4 & e_1 \\ e_4 & -e_2 & e_1 & -e_6 & -1 & e_7 & e_3 & -e_5 \\ e_5 & -e_6 & -e_3 & e_2 & -e_7 & -1 & e_1 & e_4 \\ e_6 & e_5 & e_7 & e_4 & -e_3 & -e_1 & -1 & -e_2 \\ e_7 & e_3 & -e_6 & -e_1 & e_5 & -e_4 & e_2 & -1 \end{pmatrix}$$

Fano plane



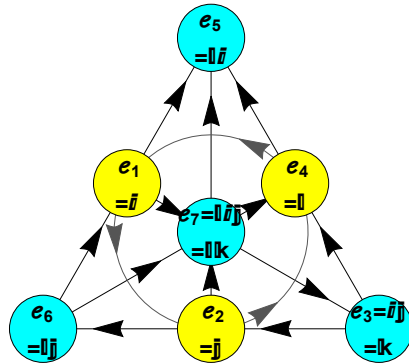
flip=True

Triad fpi=12 BC₈ R fp_sm=4→1AH
{ {1, 2, 4}, {1, 7, 3}, {1, 5, 6},
{2, 6, 3}, {2, 7, 5}, {3, 4, 5}, {4, 6, 7} }

flat triad/mask bits
{1, 4, 2, 7, 3, 5, 6}
{0, 1, 0, 1, 1, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & -e_7 & -e_2 & e_6 & -e_5 & e_3 \\ e_2 & -e_4 & -1 & -e_6 & e_1 & -e_7 & e_3 & e_5 \\ e_3 & e_7 & e_6 & -1 & e_5 & -e_4 & -e_2 & -e_1 \\ e_4 & e_2 & -e_1 & -e_5 & -1 & e_3 & e_7 & -e_6 \\ e_5 & -e_6 & e_7 & e_4 & -e_3 & -1 & e_1 & -e_2 \\ e_6 & e_5 & -e_3 & e_2 & -e_7 & -e_1 & -1 & e_4 \\ e_7 & -e_3 & -e_5 & e_1 & e_6 & e_2 & -e_4 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

37 $\begin{smallmatrix} u \\ r_1 \end{smallmatrix} \begin{smallmatrix} 0 \rightarrow 2/3 \\ R \end{smallmatrix}$



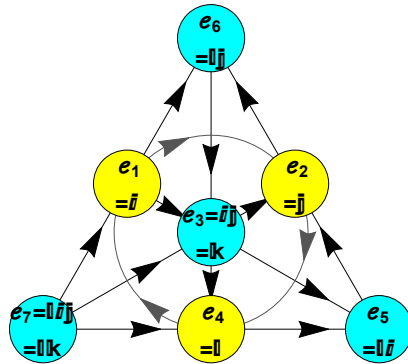
0apggsscc $\overline{Rg}$
001010101₂ 111

flip=False

Triad fpi=8 BC₈ R fp_sm=2→18H
{ {1, 2, 4}, {1, 3, 5}, {1, 6, 7},
{2, 7, 3}, {2, 6, 5}, {3, 4, 6}, {4, 5, 7} }

flat triad/mask bits
{1, 2, 4, 3, 5, 6, 7}
{0, 0, 0, 1, 1, 0, 0}

Fano plane



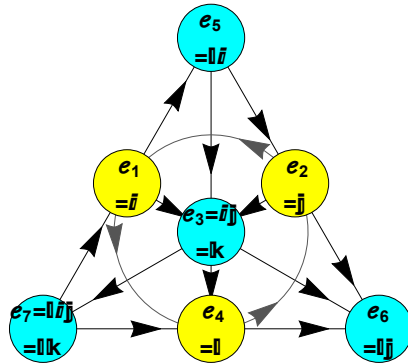
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & e_5 & -e_2 & -e_3 & e_7 & -e_6 \\ e_2 & -e_4 & -1 & -e_7 & e_1 & -e_6 & e_5 & e_3 \\ e_3 & -e_5 & e_7 & -1 & e_6 & e_1 & -e_4 & -e_2 \\ e_4 & e_2 & -e_1 & -e_6 & -1 & e_7 & e_3 & -e_5 \\ e_5 & e_3 & e_6 & -e_1 & -e_7 & -1 & -e_2 & e_4 \\ e_6 & -e_7 & -e_5 & e_4 & -e_3 & e_2 & -1 & e_1 \\ e_7 & e_6 & -e_3 & e_2 & e_5 & -e_4 & -e_1 & -1 \end{pmatrix}$$

flip=True

Triad fpi=10 BC₈ R fp_sm=5→11H
{ {1, 4, 2}, {1, 3, 6}, {1, 5, 7},
{2, 3, 7}, {2, 6, 5}, {3, 4, 5}, {4, 6, 7} }

flat triad/mask bits
{1, 2, 4, 3, 6, 5, 7}
{1, 0, 0, 0, 1, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & e_6 & e_2 & e_7 & -e_3 & -e_5 \\ e_2 & e_4 & -1 & e_7 & -e_1 & -e_6 & e_5 & -e_3 \\ e_3 & -e_6 & -e_7 & -1 & e_5 & -e_4 & e_1 & e_2 \\ e_4 & -e_2 & e_1 & -e_5 & -1 & e_3 & e_7 & -e_6 \\ e_5 & -e_7 & e_6 & e_4 & -e_3 & -1 & -e_2 & e_1 \\ e_6 & e_3 & -e_5 & -e_1 & -e_7 & e_2 & -1 & e_4 \\ e_7 & e_5 & e_3 & -e_2 & e_6 & -e_1 & -e_4 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

38

 $\overline{W}_m^0$ 

0apggsscc
011001111₂ $\overline{W}$
74

flip=False

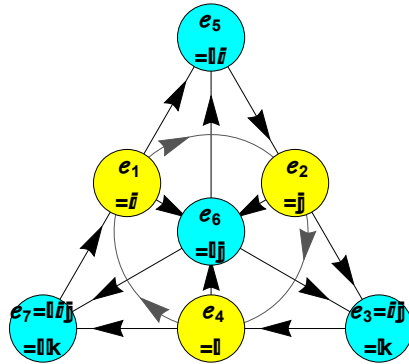
Triad fpi=9 D₈ R fp_sm=6→42H

flat triad/mask bits

{{1, 2, 4}, {1, 6, 3}, {1, 5, 7},
{2, 3, 5}, {2, 6, 7}, {3, 4, 7}, {4, 6, 5}}

{1, 2, 4, 6, 3, 5, 7}
{0, 1, 0, 0, 0, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & -e_6 & -e_2 & e_7 & e_3 & -e_5 \\ e_2 & -e_4 & -1 & e_5 & e_1 & -e_3 & e_7 & -e_6 \\ e_3 & e_6 & -e_5 & -1 & e_7 & e_2 & -e_1 & -e_4 \\ e_4 & e_2 & -e_1 & -e_7 & -1 & -e_6 & e_5 & e_3 \\ e_5 & -e_7 & e_3 & -e_2 & e_6 & -1 & -e_4 & e_1 \\ e_6 & -e_3 & -e_7 & e_1 & -e_5 & e_4 & -1 & e_2 \\ e_7 & e_5 & e_6 & e_4 & -e_3 & -e_1 & -e_2 & -1 \end{pmatrix}$$

flip=True

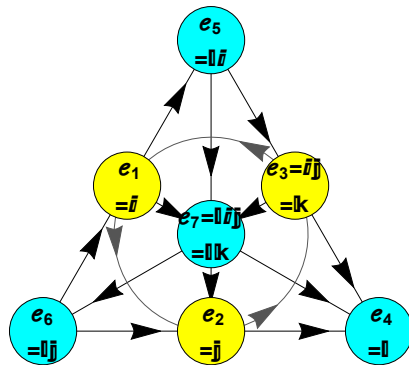
Triad fpi=6 D₈ R fp_sm=6→42H

flat triad/mask bits

{{1, 2, 3}, {1, 7, 4}, {1, 5, 6},
{2, 4, 6}, {2, 5, 7}, {3, 4, 5}, {3, 7, 6}}

{1, **3**, **2**, 7, 4, 5, 6}
{0, 1, 0, 0, 0, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & -e_7 & e_6 & -e_5 & e_4 \\ e_2 & -e_3 & -1 & e_1 & e_6 & e_7 & -e_4 & -e_5 \\ e_3 & e_2 & -e_1 & -1 & e_5 & -e_4 & -e_7 & e_6 \\ e_4 & e_7 & -e_6 & -e_5 & -1 & e_3 & e_2 & -e_1 \\ e_5 & -e_6 & -e_7 & e_4 & -e_3 & -1 & e_1 & e_2 \\ e_6 & e_5 & e_4 & e_7 & -e_2 & -e_1 & -1 & -e_3 \\ e_7 & -e_4 & e_5 & -e_6 & e_1 & -e_2 & e_3 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

39

 $\overline{e_s \phi}_{r_m}^0$ 0apggsscc
011001001₂ $\overline{Er}$
68

flip=False

Triad fpi=2 D₈ R fp_sm=8→5EH

flat triad/mask bits

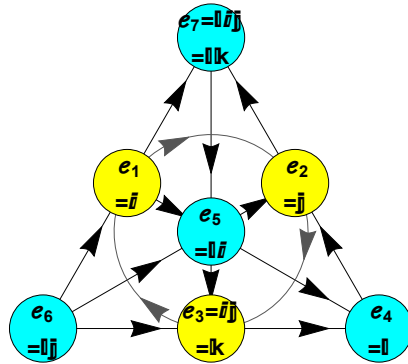
{ {1, 2, 3}, {1, 5, 4}, {1, 7, 6},

{1, 2, 3, 5, 4, 7, 6}

{2, 7, 4}, {2, 6, 5}, {3, 4, 6}, {3, 7, 5}}

{0, 1, 1, 1, 1, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & -e_5 & e_4 & -e_7 & e_6 \\ e_2 & -e_3 & -1 & e_1 & -e_7 & -e_6 & e_5 & e_4 \\ e_3 & e_2 & -e_1 & -1 & e_6 & -e_7 & -e_4 & e_5 \\ e_4 & e_5 & e_7 & -e_6 & -1 & -e_1 & e_3 & -e_2 \\ e_5 & -e_4 & e_6 & e_7 & e_1 & -1 & -e_2 & -e_3 \\ e_6 & e_7 & -e_5 & e_4 & -e_3 & e_2 & -1 & -e_1 \\ e_7 & -e_6 & -e_4 & -e_5 & e_2 & e_3 & e_1 & -1 \end{pmatrix}$$

flip=True

Triad fpi=1 D₈ R fp_sm=5→5DH

flat triad/mask bits

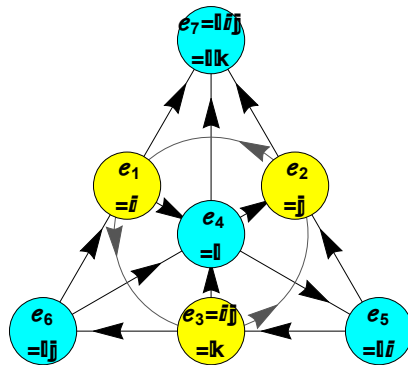
{ {1, 3, 2}, {1, 4, 5}, {1, 7, 6},

{1, 2, 3, 4, 5, 7, 6}

{2, 6, 4}, {2, 7, 5}, {3, 4, 7}, {3, 6, 5}}

{1, 0, 1, 1, 1, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & e_5 & -e_4 & -e_7 & e_6 \\ e_2 & e_3 & -1 & -e_1 & -e_6 & -e_7 & e_4 & e_5 \\ e_3 & -e_2 & e_1 & -1 & e_7 & -e_6 & e_5 & -e_4 \\ e_4 & -e_5 & e_6 & -e_7 & -1 & e_1 & -e_2 & e_3 \\ e_5 & e_4 & e_7 & e_6 & -e_1 & -1 & -e_3 & -e_2 \\ e_6 & e_7 & -e_4 & -e_5 & e_2 & e_3 & -1 & -e_1 \\ e_7 & -e_6 & -e_5 & e_4 & -e_3 & e_2 & e_1 & -1 \end{pmatrix}$$

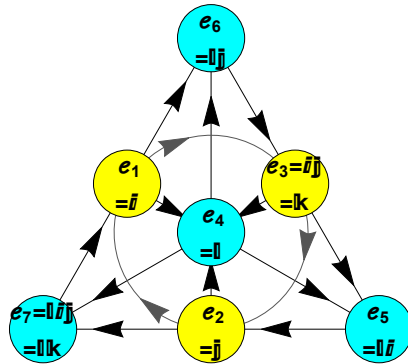
Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

40 $e_s \phi_{r_1}^{0 \rightarrow 1}$  0apggsscc $\overline{Sm}$
001000101₂ 62

flip=False

Triad fpi=1 D₈ R fp_sm=5→11H flat triad/mask bits
{ {1, 3, 2}, {1, 4, 5}, {1, 6, 7}, {1, 3, 2, 4, 5, 6, 7}
{2, 4, 6}, {2, 7, 5}, {3, 4, 7}, {3, 5, 6} } {1, 0, 0, 0, 1, 0, 0}

Fano plane

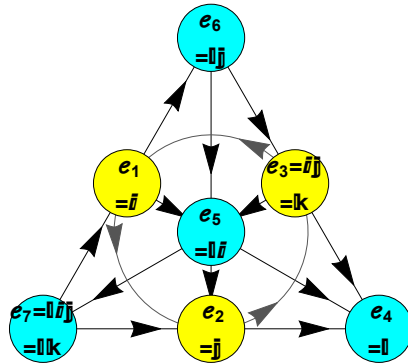


$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & e_5 & -e_4 & e_7 & -e_6 \\ e_2 & e_3 & -1 & -e_1 & e_6 & -e_7 & -e_4 & e_5 \\ e_3 & -e_2 & e_1 & -1 & e_7 & e_6 & -e_5 & -e_4 \\ e_4 & -e_5 & -e_6 & -e_7 & -1 & e_1 & e_2 & e_3 \\ e_5 & e_4 & e_7 & -e_6 & -e_1 & -1 & e_3 & -e_2 \\ e_6 & -e_7 & e_4 & e_5 & -e_2 & -e_3 & -1 & e_1 \\ e_7 & e_6 & -e_5 & e_4 & -e_3 & e_2 & -e_1 & -1 \end{pmatrix}$$

flip=True

Triad fpi=2 D₈ R fp_sm=8→12H flat triad/mask bits
{ {1, 2, 3}, {1, 5, 4}, {1, 6, 7}, {1, 3, 2, 5, 4, 6, 7}
{2, 4, 7}, {2, 6, 5}, {3, 4, 6}, {3, 5, 7} } {0, 1, 0, 0, 1, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & -e_5 & e_4 & e_7 & -e_6 \\ e_2 & -e_3 & -1 & e_1 & e_7 & -e_6 & e_5 & -e_4 \\ e_3 & e_2 & -e_1 & -1 & e_6 & e_7 & -e_4 & -e_5 \\ e_4 & e_5 & -e_7 & -e_6 & -1 & -e_1 & e_3 & e_2 \\ e_5 & -e_4 & e_6 & -e_7 & e_1 & -1 & -e_2 & e_3 \\ e_6 & -e_7 & -e_5 & e_4 & -e_3 & e_2 & -1 & e_1 \\ e_7 & e_6 & e_4 & e_5 & -e_2 & -e_3 & -e_1 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

41

 $\overline{\nabla_{\mu}^0 L_{\text{wm}}}$


0apggsscc $\overline{\text{Cs}}$
011101000₂ 55

flip=False

Triad fpi=15 D₈ R fp_sm=3→57H

flat triad/mask bits

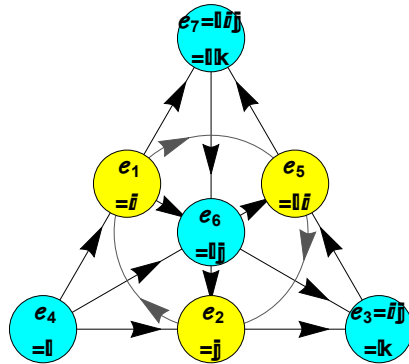
{ {1, 5, 2}, {1, 6, 3}, {1, 7, 4},

{1, 5, 2, 6, 3, 7, 4}

{2, 3, 4}, {2, 7, 6}, {3, 5, 7}, {4, 6, 5}}

{1, 1, 1, 0, 1, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & -e_6 & -e_7 & e_2 & e_3 & e_4 \\ e_2 & e_5 & -1 & e_4 & -e_3 & -e_1 & -e_7 & e_6 \\ e_3 & e_6 & -e_4 & -1 & e_2 & e_7 & -e_1 & -e_5 \\ e_4 & e_7 & e_3 & -e_2 & -1 & -e_6 & e_5 & -e_1 \\ e_5 & -e_2 & e_1 & -e_7 & e_6 & -1 & -e_4 & e_3 \\ e_6 & -e_3 & e_7 & e_1 & -e_5 & e_4 & -1 & -e_2 \\ e_7 & -e_4 & -e_6 & e_5 & e_1 & -e_3 & e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=16 D₈ R fp_sm=3→57H

flat triad/mask bits

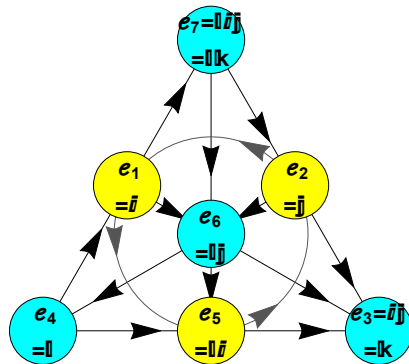
{ {1, 5, 2}, {1, 6, 3}, {1, 7, 4},

{1, **2**, **5**, 6, 3, 7, 4}

{2, 3, 7}, {2, 6, 4}, {3, 4, 5}, {5, 7, 6}}

{1, 1, 1, 0, 1, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & -e_6 & -e_7 & e_2 & e_3 & e_4 \\ e_2 & e_5 & -1 & e_7 & -e_6 & -e_1 & e_4 & -e_3 \\ e_3 & e_6 & -e_7 & -1 & e_5 & -e_4 & -e_1 & e_2 \\ e_4 & e_7 & e_6 & -e_5 & -1 & e_3 & -e_2 & -e_1 \\ e_5 & -e_2 & e_1 & e_4 & -e_3 & -1 & -e_7 & e_6 \\ e_6 & -e_3 & -e_4 & e_1 & e_2 & e_7 & -1 & -e_5 \\ e_7 & -e_4 & e_3 & -e_2 & e_1 & -e_6 & e_5 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

42 $S_{Om} \xrightarrow{R} -1/3$



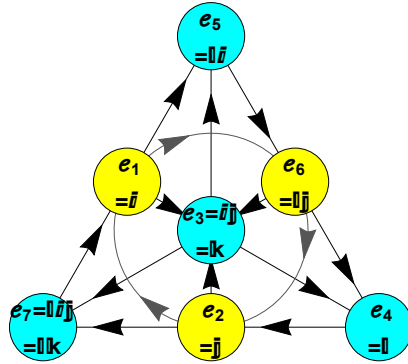
0apggsscc $\overline{\text{In}}$
000101101₂ 49

flip=False

Triad fpi=19 D₈ L fp_sm=3→31H
{ {1, 6, 2}, {1, 3, 4}, {1, 5, 7},
{2, 3, 5}, {2, 7, 4}, {3, 7, 6}, {4, 5, 6} }

flat triad/mask bits
{1, 6, 2, 3, 4, 5, 7}
{1, 0, 0, 0, 1, 1, 0}

Fano plane



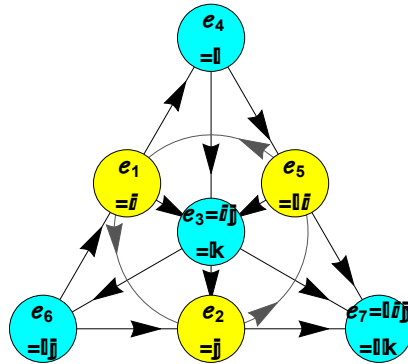
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & e_4 & -e_3 & e_7 & e_2 & -e_5 \\ e_2 & e_6 & -1 & e_5 & -e_7 & -e_3 & -e_1 & e_4 \\ e_3 & -e_4 & -e_5 & -1 & e_1 & e_2 & -e_7 & e_6 \\ e_4 & e_3 & e_7 & -e_1 & -1 & e_6 & -e_5 & -e_2 \\ e_5 & -e_7 & e_3 & -e_2 & -e_6 & -1 & e_4 & e_1 \\ e_6 & -e_2 & e_1 & e_7 & e_5 & -e_4 & -1 & -e_3 \\ e_7 & e_5 & -e_4 & -e_6 & e_2 & -e_1 & e_3 & -1 \end{pmatrix}$$

flip=True

Triad fpi=17 D₈ L fp_sm=8→38H
{ {1, 2, 5}, {1, 3, 7}, {1, 4, 6},
{2, 4, 3}, {2, 7, 6}, {3, 6, 5}, {4, 5, 7} }

flat triad/mask bits
{1, **5**, **2**, 3, 7, 4, 6}
{0, 0, 0, 1, 1, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & e_7 & e_6 & -e_2 & -e_4 & -e_3 \\ e_2 & -e_5 & -1 & -e_4 & e_3 & e_1 & -e_7 & e_6 \\ e_3 & -e_7 & e_4 & -1 & -e_2 & -e_6 & e_5 & e_1 \\ e_4 & -e_6 & -e_3 & e_2 & -1 & e_7 & e_1 & -e_5 \\ e_5 & e_2 & -e_1 & e_6 & -e_7 & -1 & -e_3 & e_4 \\ e_6 & e_4 & e_7 & -e_5 & -e_1 & e_3 & -1 & -e_2 \\ e_7 & e_3 & -e_6 & -e_1 & e_5 & -e_4 & e_2 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

43

 $S_{cm} \xrightarrow{R} -1/3$


0apggsscc $\overline{Tc}$
000101110₂ 43

flip=False

Triad fpi=20 D₈ L fp_sm=1→33H

flat triad/mask bits

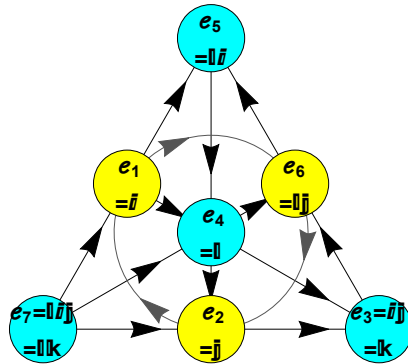
{ {1, 6, 2}, {1, 4, 3}, {1, 5, 7},

{1, 6, 2, 4, 3, 5, 7}

{2, 3, 7}, {2, 5, 4}, {3, 6, 5}, {4, 6, 7}}

{1, 1, 0, 0, 1, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & -e_4 & e_3 & e_7 & e_2 & -e_5 \\ e_2 & e_6 & -1 & e_7 & -e_5 & e_4 & -e_1 & -e_3 \\ e_3 & e_4 & -e_7 & -1 & -e_1 & -e_6 & e_5 & e_2 \\ e_4 & -e_3 & e_5 & e_1 & -1 & -e_2 & e_7 & -e_6 \\ e_5 & -e_7 & -e_4 & e_6 & e_2 & -1 & -e_3 & e_1 \\ e_6 & -e_2 & e_1 & -e_5 & -e_7 & e_3 & -1 & e_4 \\ e_7 & e_5 & e_3 & -e_2 & e_6 & -e_1 & -e_4 & -1 \end{pmatrix}$$

flip=True

Triad fpi=18 D₈ L fp_sm=6→3AH

flat triad/mask bits

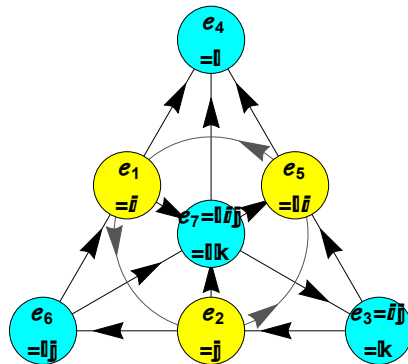
{ {1, 2, 5}, {1, 7, 3}, {1, 4, 6},

{1, 5, 2, 7, 3, 4, 6}

{2, 6, 3}, {2, 7, 4}, {3, 5, 4}, {5, 6, 7}}

{0, 1, 0, 1, 1, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & -e_7 & e_6 & -e_2 & -e_4 & e_3 \\ e_2 & -e_5 & -1 & -e_6 & -e_7 & e_1 & e_3 & e_4 \\ e_3 & e_7 & e_6 & -1 & -e_5 & e_4 & -e_2 & -e_1 \\ e_4 & -e_6 & e_7 & e_5 & -1 & -e_3 & e_1 & -e_2 \\ e_5 & e_2 & -e_1 & -e_4 & e_3 & -1 & e_7 & -e_6 \\ e_6 & e_4 & -e_3 & e_2 & -e_1 & -e_7 & -1 & e_5 \\ e_7 & -e_3 & -e_4 & e_1 & e_2 & e_6 & -e_5 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

44

 $S_{mR}^{-1/3}$


0apggsscc Bk
000101111₂ 97

flip=False

Triad fpi=21 D₈ L fp_sm=6→3AH

flat triad/mask bits

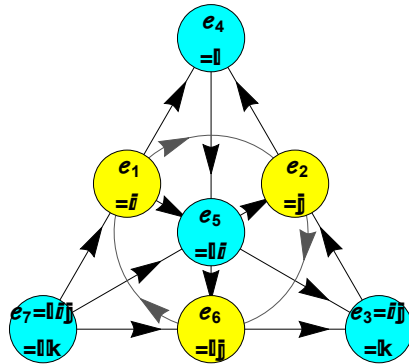
{ {1, 2, 6}, {1, 5, 3}, {1, 4, 7},

{1, 2, 6, 5, 3, 4, 7}

{2, 4, 3}, {2, 7, 5}, {3, 7, 6}, {4, 5, 6}}

{0, 1, 0, 1, 1, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & -e_5 & e_7 & e_3 & -e_2 & -e_4 \\ e_2 & -e_6 & -1 & -e_4 & e_3 & -e_7 & e_1 & e_5 \\ e_3 & e_5 & e_4 & -1 & -e_2 & -e_1 & -e_7 & e_6 \\ e_4 & -e_7 & -e_3 & e_2 & -1 & e_6 & -e_5 & e_1 \\ e_5 & -e_3 & e_7 & e_1 & -e_6 & -1 & e_4 & -e_2 \\ e_6 & e_2 & -e_1 & e_7 & e_5 & -e_4 & -1 & -e_3 \\ e_7 & e_4 & -e_5 & -e_6 & -e_1 & e_2 & e_3 & -1 \end{pmatrix}$$

flip=True

Triad fpi=22 D₈ L fp_sm=6→3AH

flat triad/mask bits

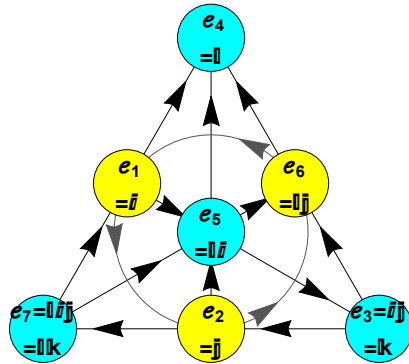
{ {1, 2, 6}, {1, 5, 3}, {1, 4, 7},

{1, 6, 2, 5, 3, 4, 7}

{2, 7, 3}, {2, 5, 4}, {3, 6, 4}, {5, 6, 7}}

{0, 1, 0, 1, 1, 1, 0}

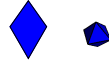
Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & -e_5 & e_7 & e_3 & -e_2 & -e_4 \\ e_2 & -e_6 & -1 & -e_7 & -e_5 & e_4 & e_1 & e_3 \\ e_3 & e_5 & e_7 & -1 & -e_6 & -e_1 & e_4 & -e_2 \\ e_4 & -e_7 & e_5 & e_6 & -1 & -e_2 & -e_3 & e_1 \\ e_5 & -e_3 & -e_4 & e_1 & e_2 & -1 & e_7 & -e_6 \\ e_6 & e_2 & -e_1 & -e_4 & e_3 & -e_7 & -1 & e_5 \\ e_7 & e_4 & -e_3 & e_2 & -e_1 & e_6 & -e_5 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

45 $\overline{C}_{b_m}^{-2/3 \rightarrow 1/3}$



0apggsscc $\overline{U}bn$
011101011₂ 120

flip=False

Triad fpi=21 D₈ R fp_sm=6→5CH

flat triad/mask bits

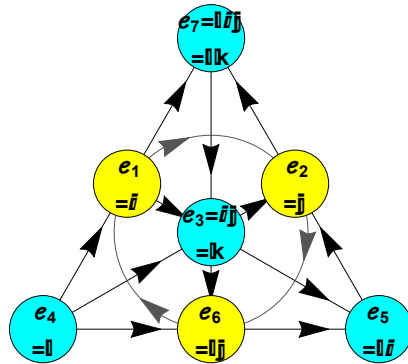
{ {1, 2, 6}, {1, 3, 5}, {1, 7, 4},

{1, 2, 6, 3, 5, 7, 4}

{2, 4, 3}, {2, 7, 5}, {3, 6, 7}, {4, 6, 5}}

{0, 0, 1, 1, 1, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & e_5 & -e_7 & -e_3 & -e_2 & e_4 \\ e_2 & -e_6 & -1 & -e_4 & e_3 & -e_7 & e_1 & e_5 \\ e_3 & -e_5 & e_4 & -1 & -e_2 & e_1 & e_7 & -e_6 \\ e_4 & e_7 & -e_3 & e_2 & -1 & -e_6 & e_5 & -e_1 \\ e_5 & e_3 & e_7 & -e_1 & e_6 & -1 & -e_4 & -e_2 \\ e_6 & e_2 & -e_1 & -e_7 & -e_5 & e_4 & -1 & e_3 \\ e_7 & -e_4 & -e_5 & e_6 & e_1 & e_2 & -e_3 & -1 \end{pmatrix}$$

flip=True

Triad fpi=22 D₈ R fp_sm=6→5CH

flat triad/mask bits

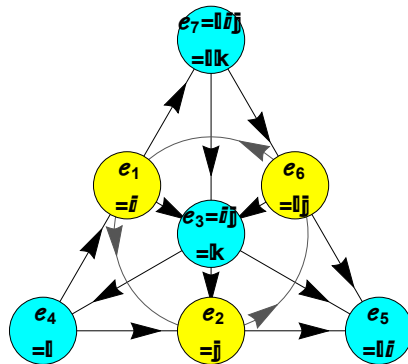
{ {1, 2, 6}, {1, 3, 5}, {1, 7, 4},

{1, **6**, **2**, 3, 5, 7, 4}

{2, 7, 3}, {2, 5, 4}, {3, 4, 6}, {5, 7, 6}}

{0, 0, 1, 1, 1, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & e_5 & -e_7 & -e_3 & -e_2 & e_4 \\ e_2 & -e_6 & -1 & -e_7 & -e_5 & e_4 & e_1 & e_3 \\ e_3 & -e_5 & e_7 & -1 & e_6 & e_1 & -e_4 & -e_2 \\ e_4 & e_7 & e_5 & -e_6 & -1 & -e_2 & e_3 & -e_1 \\ e_5 & e_3 & -e_4 & -e_1 & e_2 & -1 & -e_7 & e_6 \\ e_6 & e_2 & -e_1 & e_4 & -e_3 & e_7 & -1 & -e_5 \\ e_7 & -e_4 & -e_3 & e_2 & e_1 & -e_6 & e_5 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

46 $\overline{C}_{g_m}^{0 \rightarrow 1/3}$



0apggsscc $\overline{Mo}$
011101010₂ 42

flip=False

Triad fpi=20 D₈ R fp_sm=1→55H

flat triad/mask bits

{{1, 6, 2}, {1, 3, 4}, {1, 7, 5},

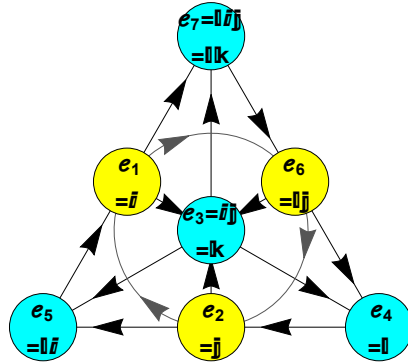
{1, 6, 2, 3, 4, 7, 5}

{2, 3, 7}, {2, 5, 4}, {3, 5, 6}, {4, 7, 6}}

{1, 0, 1, 0, 1, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & e_4 & -e_3 & -e_7 & e_2 & e_5 \\ e_2 & e_6 & -1 & e_7 & -e_5 & e_4 & -e_1 & -e_3 \\ e_3 & -e_4 & -e_7 & -1 & e_1 & e_6 & -e_5 & e_2 \\ e_4 & e_3 & e_5 & -e_1 & -1 & -e_2 & -e_7 & e_6 \\ e_5 & e_7 & -e_4 & -e_6 & e_2 & -1 & e_3 & -e_1 \\ e_6 & -e_2 & e_1 & e_5 & e_7 & -e_3 & -1 & -e_4 \\ e_7 & -e_5 & e_3 & -e_2 & -e_6 & e_1 & e_4 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=18 D₈ R fp_sm=6→5CH

flat triad/mask bits

{{1, 2, 5}, {1, 3, 7}, {1, 6, 4},

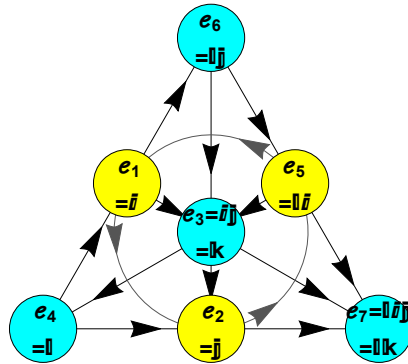
{1, 5, 2, 3, 7, 6, 4}

{2, 6, 3}, {2, 7, 4}, {3, 4, 5}, {5, 7, 6}}

{0, 0, 1, 1, 1, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & e_7 & -e_6 & -e_2 & e_4 & -e_3 \\ e_2 & -e_5 & -1 & -e_6 & -e_7 & e_1 & e_3 & e_4 \\ e_3 & -e_7 & e_6 & -1 & e_5 & -e_4 & -e_2 & e_1 \\ e_4 & e_6 & e_7 & -e_5 & -1 & e_3 & -e_1 & -e_2 \\ e_5 & e_2 & -e_1 & e_4 & -e_3 & -1 & -e_7 & e_6 \\ e_6 & -e_4 & -e_3 & e_2 & e_1 & e_7 & -1 & -e_5 \\ e_7 & e_3 & -e_4 & -e_1 & e_2 & -e_6 & e_5 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

47 $\overline{C}_{x_m}^{0 \rightarrow 1/3}$



0apggsscc $\overline{Kr}$
011101001₂ 36

flip=False

Triad fpi=19 D₈ R fp_sm=3→57H

flat triad/mask bits

{{1, 6, 2}, {1, 4, 3}, {1, 7, 5},

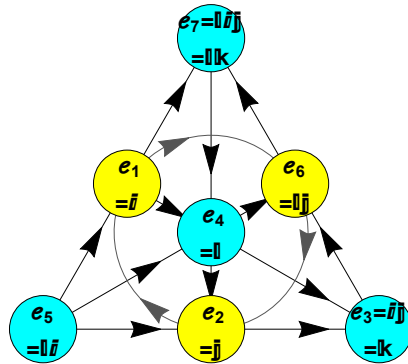
{1, 6, 2, 4, 3, 7, 5}

{2, 3, 5}, {2, 7, 4}, {3, 6, 7}, {4, 6, 5}}

{1, 1, 1, 0, 1, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & -e_4 & e_3 & -e_7 & e_2 & e_5 \\ e_2 & e_6 & -1 & e_5 & -e_7 & -e_3 & -e_1 & e_4 \\ e_3 & e_4 & -e_5 & -1 & -e_1 & e_2 & e_7 & -e_6 \\ e_4 & -e_3 & e_7 & e_1 & -1 & -e_6 & e_5 & -e_2 \\ e_5 & e_7 & e_3 & -e_2 & e_6 & -1 & -e_4 & -e_1 \\ e_6 & -e_2 & e_1 & -e_7 & -e_5 & e_4 & -1 & e_3 \\ e_7 & -e_5 & -e_4 & e_6 & e_2 & e_1 & -e_3 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=17 D₈ R fp_sm=8→5EH

flat triad/mask bits

{{1, 2, 5}, {1, 7, 3}, {1, 6, 4},

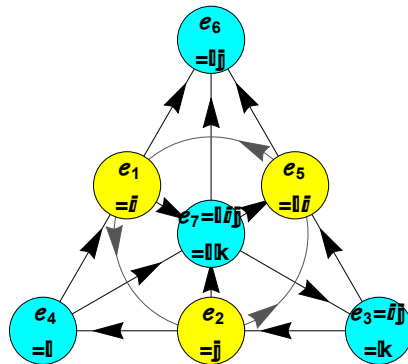
{1, 5, 2, 7, 3, 6, 4}

{2, 4, 3}, {2, 7, 6}, {3, 5, 6}, {4, 7, 5}}

{0, 1, 1, 1, 1, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & -e_7 & -e_6 & -e_2 & e_4 & e_3 \\ e_2 & -e_5 & -1 & -e_4 & e_3 & e_1 & -e_7 & e_6 \\ e_3 & e_7 & e_4 & -1 & -e_2 & e_6 & -e_5 & -e_1 \\ e_4 & e_6 & -e_3 & e_2 & -1 & -e_7 & -e_1 & e_5 \\ e_5 & e_2 & -e_1 & -e_6 & e_7 & -1 & e_3 & -e_4 \\ e_6 & -e_4 & e_7 & e_5 & e_1 & -e_3 & -1 & -e_2 \\ e_7 & -e_3 & -e_6 & e_1 & -e_5 & e_4 & e_2 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

48 $\mu_{y_m} \xrightarrow{R} 0$



0apggsscc $\overline{\text{Cu}}$
000101100₂ 29

flip=False

Triad fpi=15 D₈ L fp_sm=3→31H

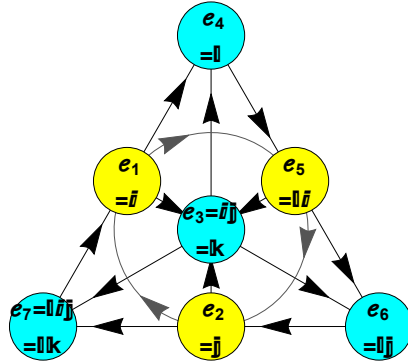
flat triad/mask bits

{{1, 5, 2}, {1, 3, 6}, {1, 4, 7},
{2, 3, 4}, {2, 7, 6}, {3, 7, 5}, {4, 5, 6}}

{1, 5, 2, 3, 6, 4, 7}
{1, 0, 0, 0, 1, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & e_6 & e_7 & e_2 & -e_3 & -e_4 \\ e_2 & e_5 & -1 & e_4 & -e_3 & -e_1 & -e_7 & e_6 \\ e_3 & -e_6 & -e_4 & -1 & e_2 & -e_7 & e_1 & e_5 \\ e_4 & -e_7 & e_3 & -e_2 & -1 & e_6 & -e_5 & e_1 \\ e_5 & -e_2 & e_1 & e_7 & -e_6 & -1 & e_4 & -e_3 \\ e_6 & e_3 & e_7 & -e_1 & e_5 & -e_4 & -1 & -e_2 \\ e_7 & e_4 & -e_6 & -e_5 & -e_1 & e_3 & e_2 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=16 D₈ L fp_sm=3→31H

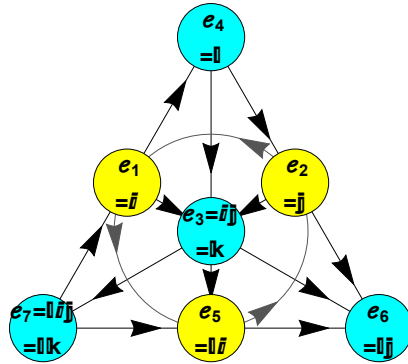
flat triad/mask bits

{{1, 5, 2}, {1, 3, 6}, {1, 4, 7},
{2, 3, 7}, {2, 6, 4}, {3, 5, 4}, {5, 6, 7}}

{1, **2**, **5**, 3, 6, 4, 7}
{1, 0, 0, 0, 1, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & e_6 & e_7 & e_2 & -e_3 & -e_4 \\ e_2 & e_5 & -1 & e_7 & -e_6 & -e_1 & e_4 & -e_3 \\ e_3 & -e_6 & -e_7 & -1 & -e_5 & e_4 & e_1 & e_2 \\ e_4 & -e_7 & e_6 & e_5 & -1 & -e_3 & -e_2 & e_1 \\ e_5 & -e_2 & e_1 & -e_4 & e_3 & -1 & e_7 & -e_6 \\ e_6 & e_3 & -e_4 & -e_1 & e_2 & -e_7 & -1 & e_5 \\ e_7 & e_4 & e_3 & -e_2 & -e_1 & e_6 & -e_5 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

49 $\overline{e_T \phi}_{g_d} \xrightarrow{0 \rightarrow -1} L$



0apggsscc $\overline{Ti}$
011000010₂ 22

flip=False

Triad fpi=5 D₈ R fp_sm=7→72H

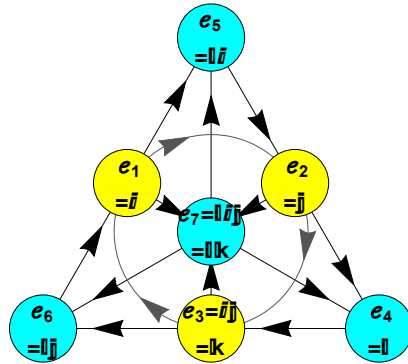
flat triad/mask bits

{{1, 2, 3}, {1, 7, 4}, {1, 5, 6},
{2, 4, 5}, {2, 7, 6}, {3, 6, 4}, {3, 7, 5}}

{1, 2, 3, 7, 4, 5, 6}
{0, 1, 0, 0, 1, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & -e_7 & e_6 & -e_5 & e_4 \\ e_2 & -e_3 & -1 & e_1 & e_5 & -e_4 & -e_7 & e_6 \\ e_3 & e_2 & -e_1 & -1 & -e_6 & -e_7 & e_4 & e_5 \\ e_4 & e_7 & -e_5 & e_6 & -1 & e_2 & -e_3 & -e_1 \\ e_5 & -e_6 & e_4 & e_7 & -e_2 & -1 & e_1 & -e_3 \\ e_6 & e_5 & e_7 & -e_4 & e_3 & -e_1 & -1 & -e_2 \\ e_7 & -e_4 & -e_6 & -e_5 & e_1 & e_3 & e_2 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=3 D₈ R fp_sm=4→7BH

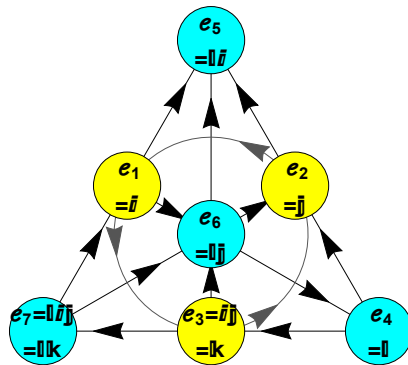
flat triad/mask bits

{{1, 3, 2}, {1, 6, 4}, {1, 5, 7},
{2, 5, 4}, {2, 7, 6}, {3, 7, 4}, {3, 6, 5}}

{1, 2, 3, 6, 4, 5, 7}
{1, 1, 0, 1, 1, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & -e_6 & e_7 & e_4 & -e_5 \\ e_2 & e_3 & -1 & -e_1 & -e_5 & e_4 & -e_7 & e_6 \\ e_3 & -e_2 & e_1 & -1 & -e_7 & -e_6 & e_5 & e_4 \\ e_4 & e_6 & e_5 & e_7 & -1 & -e_2 & -e_1 & -e_3 \\ e_5 & -e_7 & -e_4 & e_6 & e_2 & -1 & -e_3 & e_1 \\ e_6 & -e_4 & e_7 & -e_5 & e_1 & e_3 & -1 & -e_2 \\ e_7 & e_5 & -e_6 & -e_4 & e_3 & -e_1 & e_2 & -1 \end{pmatrix}$$

Fano plane



Seq #	Symbol	2D/3D Shape	Particle	Ele
			Quantum Bits	#

$$e_T \phi_{b_1} \quad \begin{matrix} 0 \\ \hat{R} \end{matrix}$$


0apggsscc	$\overline{P}$
001000111 ₂	15

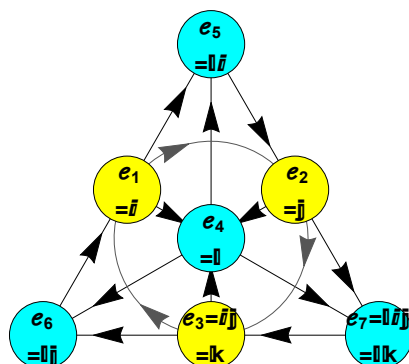
```
flip=False
```

Triad fpi=6 D₈ R fp_sm=6→10H

```
flat triad/mask bits
```

$$\{\{1, 2, 3\}, \{1, 4, 7\}, \{1, 5, 6\}, \\ \{2, 4, 6\}, \{2, 7, 5\}, \{3, 4, 5\}, \{3, 6, 7\}\}$$
$$\begin{aligned} &\{1, 2, 3, 4, 7, 5, 6\} \\ &\{0, 0, 0, 0, 1, 0, 0\} \end{aligned}$$

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & e_7 & e_6 & -e_5 & -e_4 \\ e_2 & -e_3 & -1 & e_1 & e_6 & -e_7 & -e_4 & e_5 \\ e_3 & e_2 & -e_1 & -1 & e_5 & -e_4 & e_7 & -e_6 \\ e_4 & -e_7 & -e_6 & -e_5 & -1 & e_3 & e_2 & e_1 \\ e_5 & -e_6 & e_7 & e_4 & -e_3 & -1 & e_1 & -e_2 \\ e_6 & e_5 & e_4 & -e_7 & -e_2 & -e_1 & -1 & e_3 \\ e_7 & e_4 & -e_5 & e_6 & -e_1 & e_2 & -e_3 & -1 \end{pmatrix}$$

```
flip=True
```

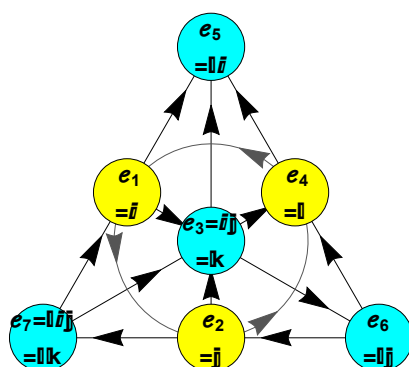
Triad $\text{fpi}=9$ D_8 R $\text{fp_sm}=6 \rightarrow 10H$

flat triad/mask bits

$$\{\{1, 2, 4\}, \{1, 3, 6\}, \{1, 5, 7\}, \\ \{2, 3, 5\}, \{2, 7, 6\}, \{3, 4, 7\}, \{4, 5, 6\}\}$$

$\{1, 4, 2, 3, 6, 5, 7\}$
 $\{0, 0, 0, 0, 1, 0, 0\}$

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & e_6 & -e_2 & e_7 & -e_3 & -e_5 \\ e_2 & -e_4 & -1 & e_5 & e_1 & -e_3 & -e_7 & e_6 \\ e_3 & -e_6 & -e_5 & -1 & e_7 & e_2 & e_1 & -e_4 \\ e_4 & e_2 & -e_1 & -e_7 & -1 & e_6 & -e_5 & e_3 \\ e_5 & -e_7 & e_3 & -e_2 & -e_6 & -1 & e_4 & e_1 \\ e_6 & e_3 & e_7 & -e_1 & e_5 & -e_4 & -1 & -e_2 \\ e_7 & e_5 & -e_6 & e_4 & -e_3 & -e_1 & e_2 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

51

 ω_R^0
 $g_m R$ 0apggsscc
001001110₂ $\bar{0}$
8

flip=False

Triad fpi=3 D₈ R fp_sm=4→37H

flat triad/mask bits

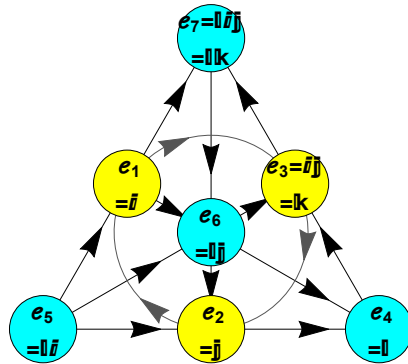
{ {1, 3, 2}, {1, 6, 4}, {1, 7, 5},

{1, 3, 2, 6, 4, 7, 5}

{2, 4, 5}, {2, 7, 6}, {3, 7, 4}, {3, 5, 6}}

{1, 1, 1, 0, 1, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & -e_6 & -e_7 & e_4 & e_5 \\ e_2 & e_3 & -1 & -e_1 & e_5 & -e_4 & -e_7 & e_6 \\ e_3 & -e_2 & e_1 & -1 & -e_7 & e_6 & -e_5 & e_4 \\ e_4 & e_6 & -e_5 & e_7 & -1 & e_2 & -e_1 & -e_3 \\ e_5 & e_7 & e_4 & -e_6 & -e_2 & -1 & e_3 & -e_1 \\ e_6 & -e_4 & e_7 & e_5 & e_1 & -e_3 & -1 & -e_2 \\ e_7 & -e_5 & -e_6 & -e_4 & e_3 & e_1 & e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=5 D₈ R fp_sm=7→3EH

flat triad/mask bits

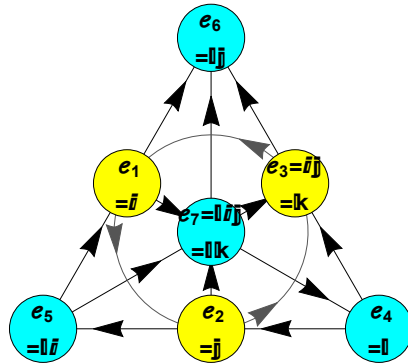
{ {1, 2, 3}, {1, 7, 4}, {1, 6, 5},

{1, 3, 2, 7, 4, 6, 5}

{2, 5, 4}, {2, 7, 6}, {3, 6, 4}, {3, 5, 7}}

{0, 1, 1, 1, 1, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & -e_7 & -e_6 & e_5 & e_4 \\ e_2 & -e_3 & -1 & e_1 & -e_5 & e_4 & -e_7 & e_6 \\ e_3 & e_2 & -e_1 & -1 & -e_6 & e_7 & e_4 & -e_5 \\ e_4 & e_7 & e_5 & e_6 & -1 & -e_2 & -e_3 & -e_1 \\ e_5 & e_6 & -e_4 & -e_7 & e_2 & -1 & -e_1 & e_3 \\ e_6 & -e_5 & e_7 & -e_4 & e_3 & e_1 & -1 & -e_2 \\ e_7 & -e_4 & -e_6 & e_5 & e_1 & -e_3 & e_2 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

52

 $e_s \phi_{bd}^0$ 0apggsscc
001000011₂ $\overline{\text{Nd}}$
60

flip=False

Triad fpi=6 D₈ R fp_sm=6→0EH

flat triad/mask bits

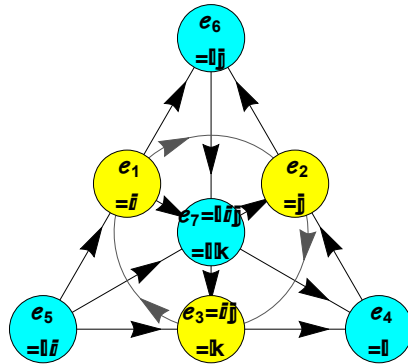
{ {1, 2, 3}, {1, 7, 4}, {1, 6, 5},

{1, 2, 3, 7, 4, 6, 5}

{2, 6, 4}, {2, 5, 7}, {3, 4, 5}, {3, 6, 7}}

{0, 1, 1, 1, 0, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & -e_7 & -e_6 & e_5 & e_4 \\ e_2 & -e_3 & -1 & e_1 & -e_6 & e_7 & e_4 & -e_5 \\ e_3 & e_2 & -e_1 & -1 & e_5 & -e_4 & e_7 & -e_6 \\ e_4 & e_7 & e_6 & -e_5 & -1 & e_3 & -e_2 & -e_1 \\ e_5 & e_6 & -e_7 & e_4 & -e_3 & -1 & -e_1 & e_2 \\ e_6 & -e_5 & -e_4 & -e_7 & e_2 & e_1 & -1 & e_3 \\ e_7 & -e_4 & e_5 & e_6 & e_1 & -e_2 & -e_3 & -1 \end{pmatrix}$$

flip=True

Triad fpi=9 D₈ R fp_sm=6→0EH

flat triad/mask bits

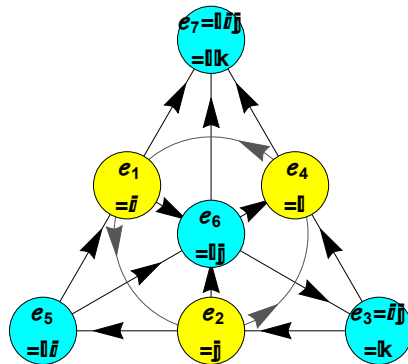
{ {1, 2, 4}, {1, 6, 3}, {1, 7, 5},

{1, 4, 2, 6, 3, 7, 5}

{2, 5, 3}, {2, 6, 7}, {3, 4, 7}, {4, 5, 6}}

{0, 1, 1, 1, 0, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & -e_6 & -e_2 & -e_7 & e_3 & e_5 \\ e_2 & -e_4 & -1 & -e_5 & e_1 & e_3 & e_7 & -e_6 \\ e_3 & e_6 & e_5 & -1 & e_7 & -e_2 & -e_1 & -e_4 \\ e_4 & e_2 & -e_1 & -e_7 & -1 & e_6 & -e_5 & e_3 \\ e_5 & e_7 & -e_3 & e_2 & -e_6 & -1 & e_4 & -e_1 \\ e_6 & -e_3 & -e_7 & e_1 & e_5 & -e_4 & -1 & e_2 \\ e_7 & -e_5 & e_6 & e_4 & -e_3 & e_1 & -e_2 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

53

 $\overline{B}_{bm}^{0 \rightarrow 1}$


0apggsscc $\overline{X_e}$
011001011₂ 54

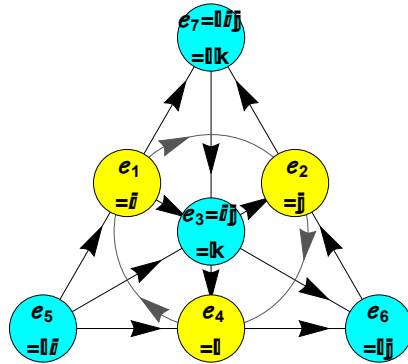
flip=False

Triad fpi=9 D₈ R fp_sm=6→5CH

flat triad/mask bits

 $\{\{1, 2, 4\}, \{1, 3, 6\}, \{1, 7, 5\},$
 $\{1, 2, 4, 3, 6, 7, 5\}$
 $\{2, 5, 3\}, \{2, 7, 6\}, \{3, 4, 7\}, \{4, 6, 5\}\}$
 $\{0, 0, 1, 1, 1, 0, 1\}$

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & e_6 & -e_2 & -e_7 & -e_3 & e_5 \\ e_2 & -e_4 & -1 & -e_5 & e_1 & e_3 & -e_7 & e_6 \\ e_3 & -e_6 & e_5 & -1 & e_7 & -e_2 & e_1 & -e_4 \\ e_4 & e_2 & -e_1 & -e_7 & -1 & -e_6 & e_5 & e_3 \\ e_5 & e_7 & -e_3 & e_2 & e_6 & -1 & -e_4 & -e_1 \\ e_6 & e_3 & e_7 & -e_1 & -e_5 & e_4 & -1 & -e_2 \\ e_7 & -e_5 & -e_6 & e_4 & -e_3 & e_1 & e_2 & -1 \end{pmatrix}$$

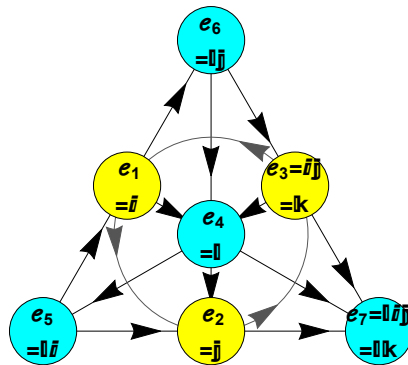
flip=True

Triad fpi=6 D₈ R fp_sm=6→5CH

flat triad/mask bits

 $\{\{1, 2, 3\}, \{1, 4, 7\}, \{1, 6, 5\},$
 $\{1, \mathbf{3}, \mathbf{2}, 4, 7, 6, 5\}$
 $\{2, 6, 4\}, \{2, 7, 5\}, \{3, 4, 5\}, \{3, 7, 6\}\}$
 $\{0, 0, 1, 1, 1, 0, 1\}$

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & e_7 & -e_6 & e_5 & -e_4 \\ e_2 & -e_3 & -1 & e_1 & -e_6 & -e_7 & e_4 & e_5 \\ e_3 & e_2 & -e_1 & -1 & e_5 & -e_4 & -e_7 & e_6 \\ e_4 & -e_7 & e_6 & -e_5 & -1 & e_3 & -e_2 & e_1 \\ e_5 & e_6 & e_7 & e_4 & -e_3 & -1 & -e_1 & -e_2 \\ e_6 & -e_5 & -e_4 & e_7 & e_2 & e_1 & -1 & -e_3 \\ e_7 & e_4 & -e_5 & -e_6 & -e_1 & e_2 & e_3 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

54

 $\overline{\mu}_{y_m} \xrightarrow{L} 0$


0apggsscc
010101000₂

$\overline{Ag}$
47

flip=False

Triad fpi=16 D₈ L fp_sm=3→50H

flat triad/mask bits

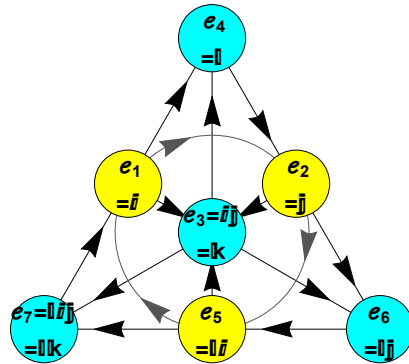
{ {1, 2, 5}, {1, 3, 6}, {1, 4, 7},

{1, 2, 5, 3, 6, 4, 7}

{2, 3, 7}, {2, 6, 4}, {3, 4, 5}, {5, 7, 6}}

{0, 0, 0, 0, 1, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & e_6 & e_7 & -e_2 & -e_3 & -e_4 \\ e_2 & -e_5 & -1 & e_7 & -e_6 & e_1 & e_4 & -e_3 \\ e_3 & -e_6 & -e_7 & -1 & e_5 & -e_4 & e_1 & e_2 \\ e_4 & -e_7 & e_6 & -e_5 & -1 & e_3 & -e_2 & e_1 \\ e_5 & e_2 & -e_1 & e_4 & -e_3 & -1 & -e_7 & e_6 \\ e_6 & e_3 & -e_4 & -e_1 & e_2 & e_7 & -1 & -e_5 \\ e_7 & e_4 & e_3 & -e_2 & -e_1 & -e_6 & e_5 & -1 \end{pmatrix}$$

flip=True

Triad fpi=15 D₈ L fp_sm=3→50H

flat triad/mask bits

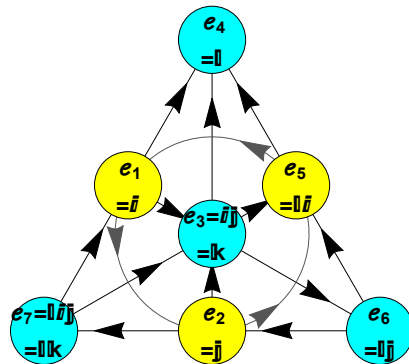
{ {1, 2, 5}, {1, 3, 6}, {1, 4, 7},

{1, 5, 2, 3, 6, 4, 7}

{2, 3, 4}, {2, 7, 6}, {3, 5, 7}, {4, 6, 5}}

{0, 0, 0, 0, 1, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & e_6 & e_7 & -e_2 & -e_3 & -e_4 \\ e_2 & -e_5 & -1 & e_4 & -e_3 & e_1 & -e_7 & e_6 \\ e_3 & -e_6 & -e_4 & -1 & e_2 & e_7 & e_1 & -e_5 \\ e_4 & -e_7 & e_3 & -e_2 & -1 & -e_6 & e_5 & e_1 \\ e_5 & e_2 & -e_1 & -e_7 & e_6 & -1 & -e_4 & e_3 \\ e_6 & e_3 & e_7 & -e_1 & -e_5 & e_4 & -1 & -e_2 \\ e_7 & e_4 & -e_6 & e_5 & -e_1 & -e_3 & e_2 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

55 $C_{\text{rm}}^{0 \rightarrow -1/3}$



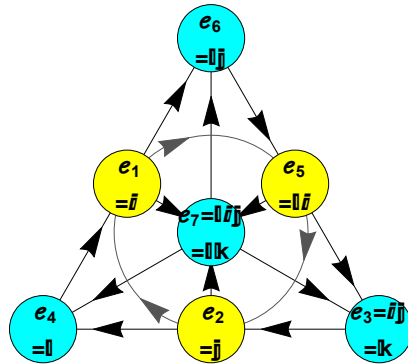
0apggsscc $\overline{Zr}$
001101101₂ 40

flip=False

Triad fpi=17 D_8 R fp_sm=8→3FH
{ {1, 5, 2}, {1, 7, 3}, {1, 6, 4},
{2, 4, 3}, {2, 7, 6}, {3, 6, 5}, {4, 5, 7} }

flat triad/mask bits
{1, 5, 2, 7, 3, 6, 4}
{1, 1, 1, 1, 1, 1, 0}

Fano plane



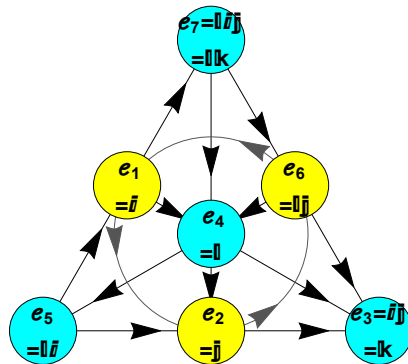
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & -e_7 & -e_6 & e_2 & e_4 & e_3 \\ e_2 & e_5 & -1 & -e_4 & e_3 & -e_1 & -e_7 & e_6 \\ e_3 & e_7 & e_4 & -1 & -e_2 & -e_6 & e_5 & -e_1 \\ e_4 & e_6 & -e_3 & e_2 & -1 & e_7 & -e_1 & -e_5 \\ e_5 & -e_2 & e_1 & e_6 & -e_7 & -1 & -e_3 & e_4 \\ e_6 & -e_4 & e_7 & -e_5 & e_1 & e_3 & -1 & -e_2 \\ e_7 & -e_3 & -e_6 & e_1 & e_5 & -e_4 & e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=19 D_8 R fp_sm=3→36H
{ {1, 2, 6}, {1, 4, 3}, {1, 7, 5},
{2, 3, 5}, {2, 7, 4}, {3, 7, 6}, {4, 5, 6} }

flat triad/mask bits
{1, **6**, **2**, 4, 3, 7, 5}
{0, 1, 1, 0, 1, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & -e_4 & e_3 & -e_7 & -e_2 & e_5 \\ e_2 & -e_6 & -1 & e_5 & -e_7 & -e_3 & e_1 & e_4 \\ e_3 & e_4 & -e_5 & -1 & -e_1 & e_2 & -e_7 & e_6 \\ e_4 & -e_3 & e_7 & e_1 & -1 & e_6 & -e_5 & -e_2 \\ e_5 & e_7 & e_3 & -e_2 & -e_6 & -1 & e_4 & -e_1 \\ e_6 & e_2 & -e_1 & e_7 & e_5 & -e_4 & -1 & -e_3 \\ e_7 & -e_5 & -e_4 & -e_6 & e_2 & e_1 & e_3 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

56

 $C_{gm}^{0 \rightarrow -1/3}$


0apggsscc Br
001101110₂ 35

flip=False

Triad fpi=18 D₈ R fp_sm=6→3DH

flat triad/mask bits

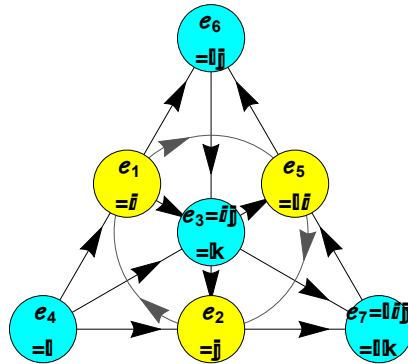
{ {1, 5, 2}, {1, 3, 7}, {1, 6, 4},

{1, 5, 2, 3, 7, 6, 4}

{2, 6, 3}, {2, 7, 4}, {3, 5, 4}, {5, 6, 7}}

{1, 0, 1, 1, 1, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & e_7 & -e_6 & e_2 & e_4 & -e_3 \\ e_2 & e_5 & -1 & -e_6 & -e_7 & -e_1 & e_3 & e_4 \\ e_3 & -e_7 & e_6 & -1 & -e_5 & e_4 & -e_2 & e_1 \\ e_4 & e_6 & e_7 & e_5 & -1 & -e_3 & -e_1 & -e_2 \\ e_5 & -e_2 & e_1 & -e_4 & e_3 & -1 & e_7 & -e_6 \\ e_6 & -e_4 & -e_3 & e_2 & e_1 & -e_7 & -1 & e_5 \\ e_7 & e_3 & -e_4 & -e_1 & e_2 & e_6 & -e_5 & -1 \end{pmatrix}$$

flip=True

Triad fpi=20 D₈ R fp_sm=1→34H

flat triad/mask bits

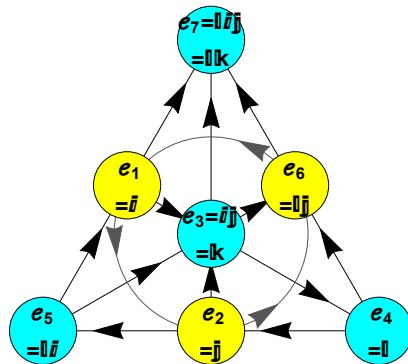
{ {1, 2, 6}, {1, 3, 4}, {1, 7, 5},

{1, 6, 2, 3, 4, 7, 5}

{2, 3, 7}, {2, 5, 4}, {3, 6, 5}, {4, 6, 7}}

{0, 0, 1, 0, 1, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & e_4 & -e_3 & -e_7 & -e_2 & e_5 \\ e_2 & -e_6 & -1 & e_7 & -e_5 & e_4 & e_1 & -e_3 \\ e_3 & -e_4 & -e_7 & -1 & e_1 & -e_6 & e_5 & e_2 \\ e_4 & e_3 & e_5 & -e_1 & -1 & -e_2 & e_7 & -e_6 \\ e_5 & e_7 & -e_4 & e_6 & e_2 & -1 & -e_3 & -e_1 \\ e_6 & e_2 & -e_1 & -e_5 & -e_7 & e_3 & -1 & e_4 \\ e_7 & -e_5 & e_3 & -e_2 & e_6 & e_1 & -e_4 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

57 $\begin{smallmatrix} C \\ D_m \end{smallmatrix} \begin{smallmatrix} 2/3 \rightarrow -1/3 \\ R \end{smallmatrix}$



0apggsscc Md
001101111₂ 101

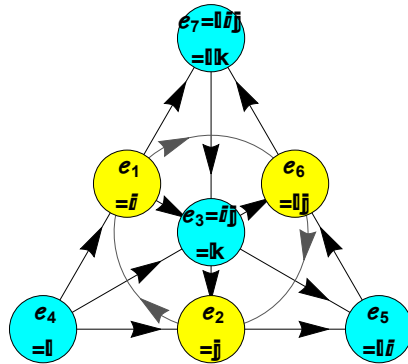
flip=False

Triad fpi=22 D_8 R fp_sm=6→3DH
{ {1, 6, 2}, {1, 3, 5}, {1, 7, 4},
{2, 7, 3}, {2, 5, 4}, {3, 6, 4}, {5, 6, 7} }

flat triad/mask bits
{1, 6, 2, 3, 5, 7, 4}
{1, 0, 1, 1, 1, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & e_5 & -e_7 & -e_3 & e_2 & e_4 \\ e_2 & e_6 & -1 & -e_7 & -e_5 & e_4 & -e_1 & e_3 \\ e_3 & -e_5 & e_7 & -1 & -e_6 & e_1 & e_4 & -e_2 \\ e_4 & e_7 & e_5 & e_6 & -1 & -e_2 & -e_3 & -e_1 \\ e_5 & e_3 & -e_4 & -e_1 & e_2 & -1 & e_7 & -e_6 \\ e_6 & -e_2 & e_1 & -e_4 & e_3 & -e_7 & -1 & e_5 \\ e_7 & -e_4 & -e_3 & e_2 & e_1 & e_6 & -e_5 & -1 \end{pmatrix}$$

Fano plane



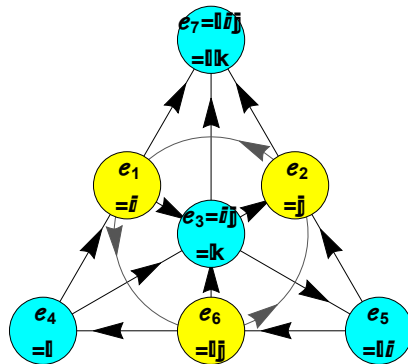
flip=True

Triad fpi=21 D_8 R fp_sm=6→3DH
{ {1, 6, 2}, {1, 3, 5}, {1, 7, 4},
{2, 4, 3}, {2, 7, 5}, {3, 7, 6}, {4, 5, 6} }

flat triad/mask bits
{1, **2**, **6**, 3, 5, 7, 4}
{1, 0, 1, 1, 1, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & e_5 & -e_7 & -e_3 & e_2 & e_4 \\ e_2 & e_6 & -1 & -e_4 & e_3 & -e_7 & -e_1 & e_5 \\ e_3 & -e_5 & e_4 & -1 & -e_2 & e_1 & -e_7 & e_6 \\ e_4 & e_7 & -e_3 & e_2 & -1 & e_6 & -e_5 & -e_1 \\ e_5 & e_3 & e_7 & -e_1 & -e_6 & -1 & e_4 & -e_2 \\ e_6 & -e_2 & e_1 & e_7 & e_5 & -e_4 & -1 & -e_3 \\ e_7 & -e_4 & -e_5 & -e_6 & e_1 & e_2 & e_3 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

58 $\overline{s}_{mm}^{1/3} L$



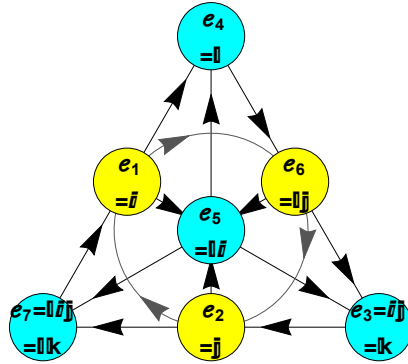
0apggsscc $\overline{Uue}$
010101011₂ 119

flip=False

Triad fpi=22 D₈ L fp_sm=6→5BH
{ {1, 6, 2}, {1, 5, 3}, {1, 4, 7},
{2, 7, 3}, {2, 5, 4}, {3, 4, 6}, {5, 7, 6} }

flat triad/mask bits
{1, 6, 2, 5, 3, 4, 7}
{1, 1, 0, 1, 1, 0, 1}

Fano plane



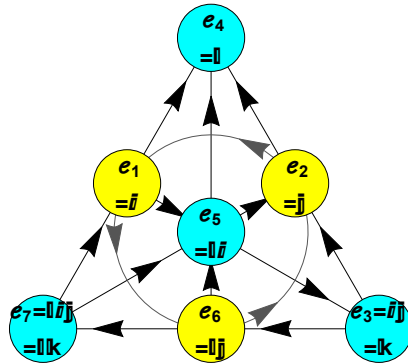
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & -e_5 & e_7 & e_3 & e_2 & -e_4 \\ e_2 & e_6 & -1 & -e_7 & -e_5 & e_4 & -e_1 & e_3 \\ e_3 & e_5 & e_7 & -1 & e_6 & -e_1 & -e_4 & -e_2 \\ e_4 & -e_7 & e_5 & -e_6 & -1 & -e_2 & e_3 & e_1 \\ e_5 & -e_3 & -e_4 & e_1 & e_2 & -1 & -e_7 & e_6 \\ e_6 & -e_2 & e_1 & e_4 & -e_3 & e_7 & -1 & -e_5 \\ e_7 & e_4 & -e_3 & e_2 & -e_1 & -e_6 & e_5 & -1 \end{pmatrix}$$

flip=True

Triad fpi=21 D₈ L fp_sm=6→5BH
{ {1, 6, 2}, {1, 5, 3}, {1, 4, 7},
{2, 4, 3}, {2, 7, 5}, {3, 6, 7}, {4, 6, 5} }

flat triad/mask bits
{1, **2**, **6**, 5, 3, 4, 7}
{1, 1, 0, 1, 1, 0, 1}

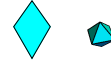
Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & -e_5 & e_7 & e_3 & e_2 & -e_4 \\ e_2 & e_6 & -1 & -e_4 & e_3 & -e_7 & -e_1 & e_5 \\ e_3 & e_5 & e_4 & -1 & -e_2 & -e_1 & e_7 & -e_6 \\ e_4 & -e_7 & -e_3 & e_2 & -1 & -e_6 & e_5 & e_1 \\ e_5 & -e_3 & e_7 & e_1 & e_6 & -1 & -e_4 & -e_2 \\ e_6 & -e_2 & e_1 & -e_7 & -e_5 & e_4 & -1 & e_3 \\ e_7 & e_4 & -e_5 & e_6 & -e_1 & e_2 & -e_3 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

59

 $\overline{S}_{C_m} \xrightarrow{+1/3} \overline{L}$


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010101010₂

$\overline{Se}$
34

flip=False

Triad fpi=18 D₈ L fp_sm=6→5BH

flat triad/mask bits

{{1, 5, 2}, {1, 7, 3}, {1, 4, 6},

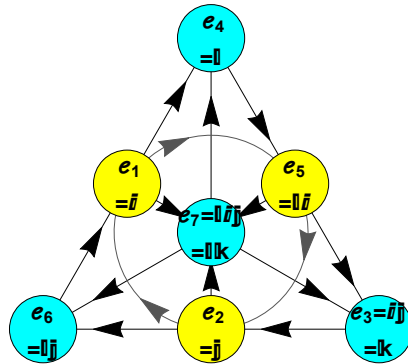
{1, 5, 2, 7, 3, 4, 6}

{2, 6, 3}, {2, 7, 4}, {3, 4, 5}, {5, 7, 6}}

{1, 1, 0, 1, 1, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & -e_7 & e_6 & e_2 & -e_4 & e_3 \\ e_2 & e_5 & -1 & -e_6 & -e_7 & -e_1 & e_3 & e_4 \\ e_3 & e_7 & e_6 & -1 & e_5 & -e_4 & -e_2 & -e_1 \\ e_4 & -e_6 & e_7 & -e_5 & -1 & e_3 & e_1 & -e_2 \\ e_5 & -e_2 & e_1 & e_4 & -e_3 & -1 & -e_7 & e_6 \\ e_6 & e_4 & -e_3 & e_2 & -e_1 & e_7 & -1 & -e_5 \\ e_7 & -e_3 & -e_4 & e_1 & e_2 & -e_6 & e_5 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=20 D₈ L fp_sm=1→52H

flat triad/mask bits

{{1, 2, 6}, {1, 4, 3}, {1, 5, 7},

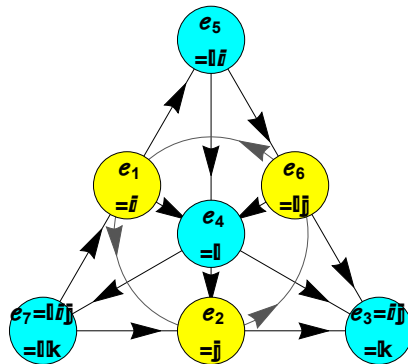
{1, **6**, **2**, 4, 3, 5, 7}

{2, 3, 7}, {2, 5, 4}, {3, 5, 6}, {4, 7, 6}}

{0, 1, 0, 0, 1, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & -e_4 & e_3 & e_7 & -e_2 & -e_5 \\ e_2 & -e_6 & -1 & e_7 & -e_5 & e_4 & e_1 & -e_3 \\ e_3 & e_4 & -e_7 & -1 & -e_1 & e_6 & -e_5 & e_2 \\ e_4 & -e_3 & e_5 & e_1 & -1 & -e_2 & -e_7 & e_6 \\ e_5 & -e_7 & -e_4 & -e_6 & e_2 & -1 & e_3 & e_1 \\ e_6 & e_2 & -e_1 & e_5 & e_7 & -e_3 & -1 & -e_4 \\ e_7 & e_5 & e_3 & -e_2 & -e_6 & -e_1 & e_4 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

60

 $\overline{S} \xrightarrow{+1/3}$
 $O_m \quad L$


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010101001₂

$\overline{N}1$
28

flip=False

Triad fpi=17 D₈ L fp_sm=8→59H

flat triad/mask bits

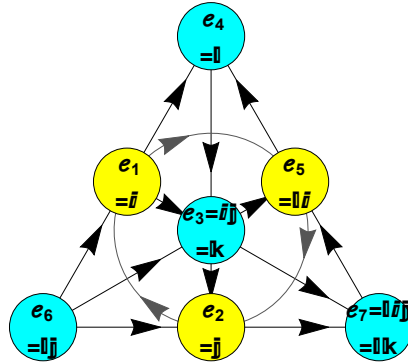
{ {1, 5, 2}, {1, 3, 7}, {1, 4, 6},

{1, 5, 2, 3, 7, 4, 6}

{2, 4, 3}, {2, 7, 6}, {3, 5, 6}, {4, 7, 5}}

{1, 0, 0, 1, 1, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & e_7 & e_6 & e_2 & -e_4 & -e_3 \\ e_2 & e_5 & -1 & -e_4 & e_3 & -e_1 & -e_7 & e_6 \\ e_3 & -e_7 & e_4 & -1 & -e_2 & e_6 & -e_5 & e_1 \\ e_4 & -e_6 & -e_3 & e_2 & -1 & -e_7 & e_1 & e_5 \\ e_5 & -e_2 & e_1 & -e_6 & e_7 & -1 & e_3 & -e_4 \\ e_6 & e_4 & e_7 & e_5 & -e_1 & -e_3 & -1 & -e_2 \\ e_7 & e_3 & -e_6 & -e_1 & -e_5 & e_4 & e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=19 D₈ L fp_sm=3→50H

flat triad/mask bits

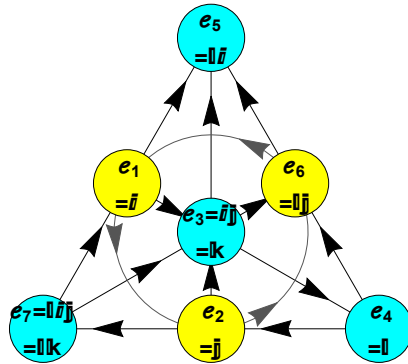
{ {1, 2, 6}, {1, 3, 4}, {1, 5, 7},

{1, 6, 2, 3, 4, 5, 7}

{2, 3, 5}, {2, 7, 4}, {3, 6, 7}, {4, 6, 5}}

{0, 0, 0, 0, 1, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & e_4 & -e_3 & e_7 & -e_2 & -e_5 \\ e_2 & -e_6 & -1 & e_5 & -e_7 & -e_3 & e_1 & e_4 \\ e_3 & -e_4 & -e_5 & -1 & e_1 & e_2 & e_7 & -e_6 \\ e_4 & e_3 & e_7 & -e_1 & -1 & -e_6 & e_5 & -e_2 \\ e_5 & -e_7 & e_3 & -e_2 & e_6 & -1 & -e_4 & e_1 \\ e_6 & e_2 & -e_1 & -e_7 & -e_5 & e_4 & -1 & e_3 \\ e_7 & e_5 & -e_4 & e_6 & e_2 & -e_1 & -e_3 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

61

 $\mathcal{V}_{\text{wm}}^{\mu} \text{ R}$


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001101100₂

$\overline{\text{Sc}}$
21

flip=False

Triad fpi=16 D₈ R fp_sm=3→36H

flat triad/mask bits

{{1, 2, 5}, {1, 6, 3}, {1, 7, 4},

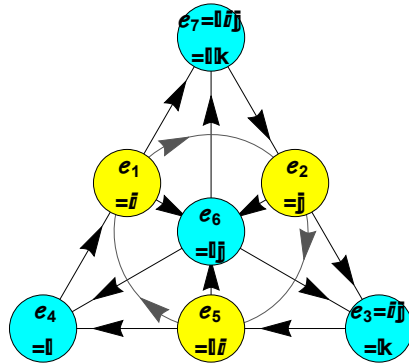
{1, 2, 5, 6, 3, 7, 4}

{2, 3, 7}, {2, 6, 4}, {3, 5, 4}, {5, 6, 7}}

{0, 1, 1, 0, 1, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & -e_6 & -e_7 & -e_2 & e_3 & e_4 \\ e_2 & -e_5 & -1 & e_7 & -e_6 & e_1 & e_4 & -e_3 \\ e_3 & e_6 & -e_7 & -1 & -e_5 & e_4 & -e_1 & e_2 \\ e_4 & e_7 & e_6 & e_5 & -1 & -e_3 & -e_2 & -e_1 \\ e_5 & e_2 & -e_1 & -e_4 & e_3 & -1 & e_7 & -e_6 \\ e_6 & -e_3 & -e_4 & e_1 & e_2 & -e_7 & -1 & e_5 \\ e_7 & -e_4 & e_3 & -e_2 & e_1 & e_6 & -e_5 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=15 D₈ R fp_sm=3→36H

flat triad/mask bits

{{1, 2, 5}, {1, 6, 3}, {1, 7, 4},

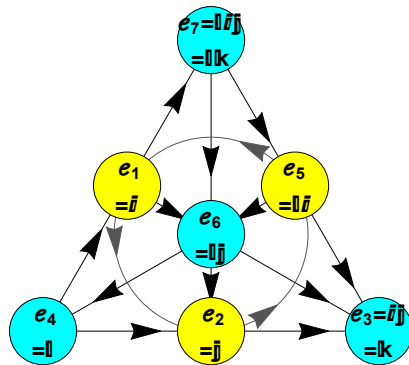
{1, 5, 2, 6, 3, 7, 4}

{2, 3, 4}, {2, 7, 6}, {3, 7, 5}, {4, 5, 6}}

{0, 1, 1, 0, 1, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & -e_6 & -e_7 & -e_2 & e_3 & e_4 \\ e_2 & -e_5 & -1 & e_4 & -e_3 & e_1 & -e_7 & e_6 \\ e_3 & e_6 & -e_4 & -1 & e_2 & -e_7 & -e_1 & e_5 \\ e_4 & e_7 & e_3 & -e_2 & -1 & e_6 & -e_5 & -e_1 \\ e_5 & e_2 & -e_1 & e_7 & -e_6 & -1 & e_4 & -e_3 \\ e_6 & -e_3 & e_7 & e_1 & e_5 & -e_4 & -1 & -e_2 \\ e_7 & -e_4 & -e_6 & -e_5 & e_1 & e_3 & e_2 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

62 $e_{S\phi} \begin{smallmatrix} 0 \rightarrow -1 \\ R \end{smallmatrix}$



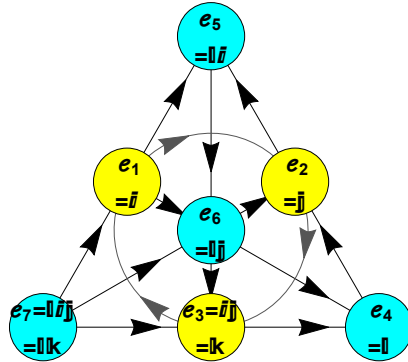
0apggsscc $\overline{\text{Si}}$
001000110₂ 14

flip=False

Triad fpi=3 D₈ R fp_sm=4→1AH
{ {1, 2, 3}, {1, 6, 4}, {1, 5, 7},
{2, 5, 4}, {2, 7, 6}, {3, 4, 7}, {3, 5, 6} }

flat triad/mask bits
{1, 2, 3, 6, 4, 5, 7}
{0, 1, 0, 1, 1, 0, 0}

Fano plane



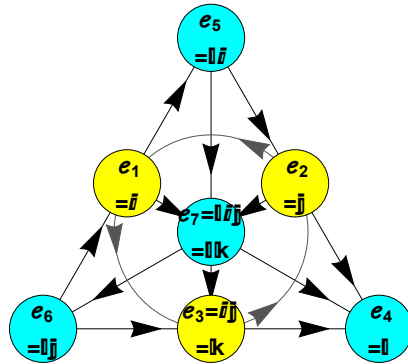
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & -e_6 & e_7 & e_4 & -e_5 \\ e_2 & -e_3 & -1 & e_1 & -e_5 & e_4 & -e_7 & e_6 \\ e_3 & e_2 & -e_1 & -1 & e_7 & e_6 & -e_5 & -e_4 \\ e_4 & e_6 & e_5 & -e_7 & -1 & -e_2 & -e_1 & e_3 \\ e_5 & -e_7 & -e_4 & -e_6 & e_2 & -1 & e_3 & e_1 \\ e_6 & -e_4 & e_7 & e_5 & e_1 & -e_3 & -1 & -e_2 \\ e_7 & e_5 & -e_6 & e_4 & -e_3 & -e_1 & e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=5 D₈ R fp_sm=7→13H
{ {1, 3, 2}, {1, 7, 4}, {1, 5, 6},
{2, 4, 5}, {2, 7, 6}, {3, 4, 6}, {3, 5, 7} }

flat triad/mask bits
{1, **2**, **3**, 7, 4, 5, 6}
{1, 1, 0, 0, 1, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & -e_7 & e_6 & -e_5 & e_4 \\ e_2 & e_3 & -1 & -e_1 & e_5 & -e_4 & -e_7 & e_6 \\ e_3 & -e_2 & e_1 & -1 & e_6 & e_7 & -e_4 & -e_5 \\ e_4 & e_7 & -e_5 & -e_6 & -1 & e_2 & e_3 & -e_1 \\ e_5 & -e_6 & e_4 & -e_7 & -e_2 & -1 & e_1 & e_3 \\ e_6 & e_5 & e_7 & e_4 & -e_3 & -e_1 & -1 & -e_2 \\ e_7 & -e_4 & -e_6 & e_5 & e_1 & -e_3 & e_2 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

63

 $e_{\pi} \phi_{g_m}^0$


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001001010₂

$\bar{N}$
7

flip=False

Triad fpi=3 D₈ R fp_sm=4→29H

flat triad/mask bits

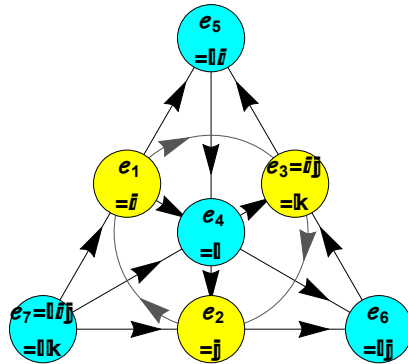
{1, 3, 2}, {1, 4, 6}, {1, 5, 7},

{1, 3, 2, 4, 6, 5, 7}

{2, 5, 4}, {2, 6, 7}, {3, 7, 4}, {3, 5, 6}}

{1, 0, 0, 1, 0, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & e_6 & e_7 & -e_4 & -e_5 \\ e_2 & e_3 & -1 & -e_1 & -e_5 & e_4 & e_7 & -e_6 \\ e_3 & -e_2 & e_1 & -1 & -e_7 & e_6 & -e_5 & e_4 \\ e_4 & -e_6 & e_5 & e_7 & -1 & -e_2 & e_1 & -e_3 \\ e_5 & -e_7 & -e_4 & -e_6 & e_2 & -1 & e_3 & e_1 \\ e_6 & e_4 & -e_7 & e_5 & -e_1 & -e_3 & -1 & e_2 \\ e_7 & e_5 & e_6 & -e_4 & e_3 & -e_1 & -e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=5 D₈ R fp_sm=7→20H

flat triad/mask bits

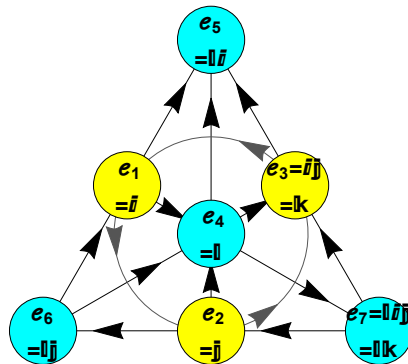
{1, 2, 3}, {1, 4, 7}, {1, 5, 6},

{1, 3, 2, 4, 7, 5, 6}

{2, 4, 5}, {2, 6, 7}, {3, 6, 4}, {3, 5, 7}}

{0, 0, 0, 0, 0, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & e_7 & e_6 & -e_5 & -e_4 \\ e_2 & -e_3 & -1 & e_1 & e_5 & -e_4 & e_7 & -e_6 \\ e_3 & e_2 & -e_1 & -1 & -e_6 & e_7 & e_4 & -e_5 \\ e_4 & -e_7 & -e_5 & e_6 & -1 & e_2 & -e_3 & e_1 \\ e_5 & -e_6 & e_4 & -e_7 & -e_2 & -1 & e_1 & e_3 \\ e_6 & e_5 & -e_7 & -e_4 & e_3 & -e_1 & -1 & e_2 \\ e_7 & e_4 & e_6 & e_5 & -e_1 & -e_3 & -e_2 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

64 $\omega_{\text{rm}}^{\text{L}} \xrightarrow{0 \rightarrow 1} \text{R}$



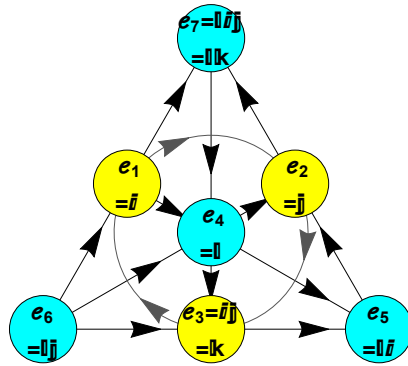
0apggsscc $\overline{\text{Pd}}$
001001101₂ 46

flip=False

Triad fpi=1 D₈ R fp_sm=5→3CH
{ {1, 2, 3}, {1, 4, 5}, {1, 7, 6},
{2, 6, 4}, {2, 7, 5}, {3, 7, 4}, {3, 5, 6} }

flat triad/mask bits
{1, 2, 3, 4, 5, 7, 6}
{0, 0, 1, 1, 1, 1, 0}

Fano plane



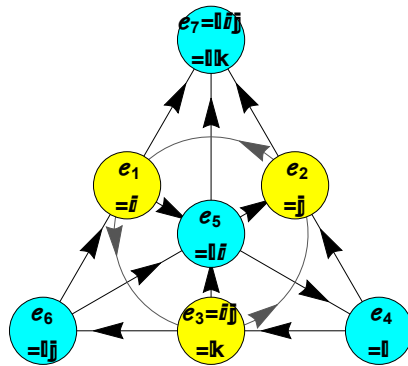
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & e_5 & -e_4 & -e_7 & e_6 \\ e_2 & -e_3 & -1 & e_1 & -e_6 & -e_7 & e_4 & e_5 \\ e_3 & e_2 & -e_1 & -1 & -e_7 & e_6 & -e_5 & e_4 \\ e_4 & -e_5 & e_6 & e_7 & -1 & e_1 & -e_2 & -e_3 \\ e_5 & e_4 & e_7 & -e_6 & -e_1 & -1 & e_3 & -e_2 \\ e_6 & e_7 & -e_4 & e_5 & e_2 & -e_3 & -1 & -e_1 \\ e_7 & -e_6 & -e_5 & -e_4 & e_3 & e_2 & e_1 & -1 \end{pmatrix}$$

flip=True

Triad fpi=2 D₈ R fp_sm=8→3FH
{ {1, 3, 2}, {1, 5, 4}, {1, 7, 6},
{2, 7, 4}, {2, 6, 5}, {3, 6, 4}, {3, 5, 7} }

flat triad/mask bits
{1, **2**, **3**, 5, 4, 7, 6}
{1, 1, 1, 1, 1, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & -e_5 & e_4 & -e_7 & e_6 \\ e_2 & e_3 & -1 & -e_1 & -e_7 & -e_6 & e_5 & e_4 \\ e_3 & -e_2 & e_1 & -1 & -e_6 & e_7 & e_4 & -e_5 \\ e_4 & e_5 & e_7 & e_6 & -1 & -e_1 & -e_3 & -e_2 \\ e_5 & -e_4 & e_6 & -e_7 & e_1 & -1 & -e_2 & e_3 \\ e_6 & e_7 & -e_5 & -e_4 & e_3 & e_2 & -1 & -e_1 \\ e_7 & -e_6 & -e_4 & e_5 & e_2 & -e_3 & e_1 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

65

 $\overline{\mu}_{y1} \xrightarrow{R} 0$


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010100100₂

$\overline{\text{Sr}}$
38

flip=False

Triad fpi=16 D₈ L fp_sm=3→63H

flat triad/mask bits

{1, 5, 2}, {1, 6, 3}, {1, 4, 7},

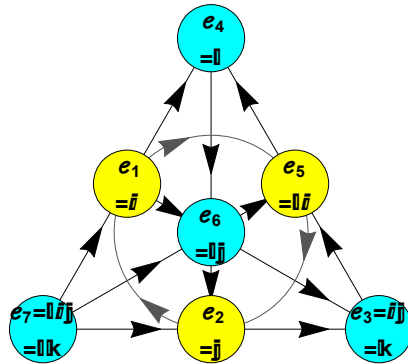
{1, 5, 2, 6, 3, 4, 7}

{2, 3, 7}, {2, 4, 6}, {3, 5, 4}, {5, 7, 6}}

{1, 1, 0, 0, 0, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & -e_6 & e_7 & e_2 & e_3 & -e_4 \\ e_2 & e_5 & -1 & e_7 & e_6 & -e_1 & -e_4 & -e_3 \\ e_3 & e_6 & -e_7 & -1 & -e_5 & e_4 & -e_1 & e_2 \\ e_4 & -e_7 & -e_6 & e_5 & -1 & -e_3 & e_2 & e_1 \\ e_5 & -e_2 & e_1 & -e_4 & e_3 & -1 & -e_7 & e_6 \\ e_6 & -e_3 & e_4 & e_1 & -e_2 & e_7 & -1 & -e_5 \\ e_7 & e_4 & e_3 & -e_2 & -e_1 & -e_6 & e_5 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=15 D₈ L fp_sm=3→63H

flat triad/mask bits

{1, 5, 2}, {1, 6, 3}, {1, 4, 7},

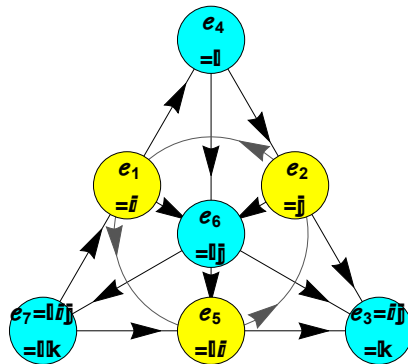
{1, **2**, **5**, 6, 3, 4, 7}

{2, 3, 4}, {2, 6, 7}, {3, 7, 5}, {4, 6, 5}}

{1, 1, 0, 0, 0, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & -e_6 & e_7 & e_2 & e_3 & -e_4 \\ e_2 & e_5 & -1 & e_4 & -e_3 & -e_1 & e_7 & -e_6 \\ e_3 & e_6 & -e_4 & -1 & e_2 & -e_7 & -e_1 & e_5 \\ e_4 & -e_7 & e_3 & -e_2 & -1 & -e_6 & e_5 & e_1 \\ e_5 & -e_2 & e_1 & e_7 & e_6 & -1 & -e_4 & -e_3 \\ e_6 & -e_3 & -e_7 & e_1 & -e_5 & e_4 & -1 & e_2 \\ e_7 & e_4 & e_6 & -e_5 & -e_1 & e_3 & -e_2 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

66 $C_{rd}^{0 \rightarrow -1/3}$



0apggsscc $\overline{Ge}$
001100001₂ 32

flip=False

Triad fpi=17 D₈ R fp_sm=8→0CH

flat triad/mask bits

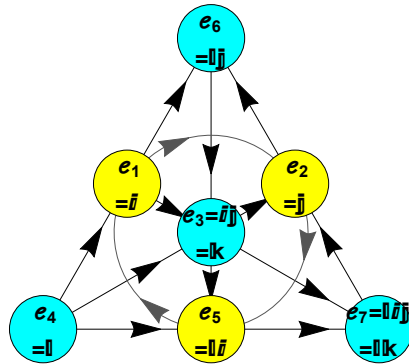
{{1, 2, 5}, {1, 3, 7}, {1, 6, 4},

{1, 2, 5, 3, 7, 6, 4}

{2, 4, 3}, {2, 6, 7}, {3, 5, 6}, {4, 5, 7}}

{0, 0, 1, 1, 0, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & e_7 & -e_6 & -e_2 & e_4 & -e_3 \\ e_2 & -e_5 & -1 & -e_4 & e_3 & e_1 & e_7 & -e_6 \\ e_3 & -e_7 & e_4 & -1 & -e_2 & e_6 & -e_5 & e_1 \\ e_4 & e_6 & -e_3 & e_2 & -1 & e_7 & -e_1 & -e_5 \\ e_5 & e_2 & -e_1 & -e_6 & -e_7 & -1 & e_3 & e_4 \\ e_6 & -e_4 & -e_7 & e_5 & e_1 & -e_3 & -1 & e_2 \\ e_7 & e_3 & e_6 & -e_1 & e_5 & -e_4 & -e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=19 D₈ R fp_sm=3→05H

flat triad/mask bits

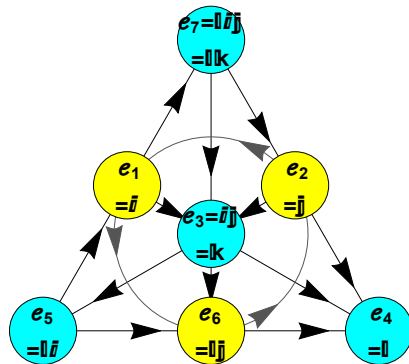
{{1, 6, 2}, {1, 3, 4}, {1, 7, 5},

{1, 2, 6, 3, 4, 7, 5}

{2, 3, 5}, {2, 4, 7}, {3, 6, 7}, {4, 5, 6}}

{1, 0, 1, 0, 0, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & e_4 & -e_3 & -e_7 & e_2 & e_5 \\ e_2 & e_6 & -1 & e_5 & e_7 & -e_3 & -e_1 & -e_4 \\ e_3 & -e_4 & -e_5 & -1 & e_1 & e_2 & e_7 & -e_6 \\ e_4 & e_3 & -e_7 & -e_1 & -1 & e_6 & -e_5 & e_2 \\ e_5 & e_7 & e_3 & -e_2 & -e_6 & -1 & e_4 & -e_1 \\ e_6 & -e_2 & e_1 & -e_7 & e_5 & -e_4 & -1 & e_3 \\ e_7 & -e_5 & e_4 & e_6 & -e_2 & e_1 & -e_3 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

67 $C_{gd}^{0 \rightarrow -1/3}$



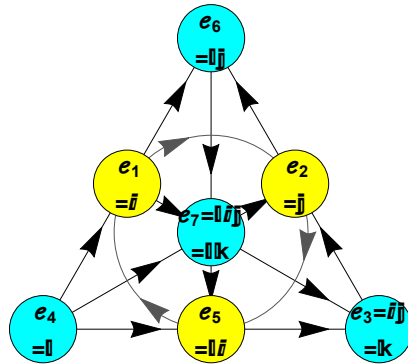
0apggsscc $\overline{Co}$
001100010₂ 27

flip=False

Triad fpi=18 D₈ R fp_sm=6→0EH
{ {1, 2, 5}, {1, 7, 3}, {1, 6, 4},
{2, 6, 3}, {2, 4, 7}, {3, 4, 5}, {5, 6, 7} }

flat triad/mask bits
{1, 2, 5, 7, 3, 6, 4}
{0, 1, 1, 1, 0, 0, 0}

Fano plane



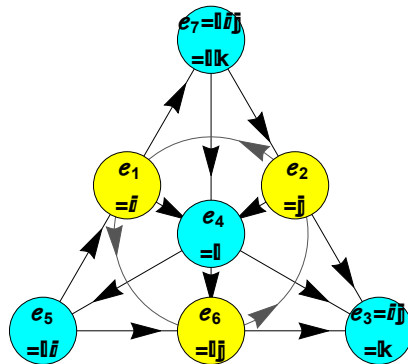
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & -e_7 & -e_6 & -e_2 & e_4 & e_3 \\ e_2 & -e_5 & -1 & -e_6 & e_7 & e_1 & e_3 & -e_4 \\ e_3 & e_7 & e_6 & -1 & e_5 & -e_4 & -e_2 & -e_1 \\ e_4 & e_6 & -e_7 & -e_5 & -1 & e_3 & -e_1 & e_2 \\ e_5 & e_2 & -e_1 & e_4 & -e_3 & -1 & e_7 & -e_6 \\ e_6 & -e_4 & -e_3 & e_2 & e_1 & -e_7 & -1 & e_5 \\ e_7 & -e_3 & e_4 & e_1 & -e_2 & e_6 & -e_5 & -1 \end{pmatrix}$$

flip=True

Triad fpi=20 D₈ R fp_sm=1→07H
{ {1, 6, 2}, {1, 4, 3}, {1, 7, 5},
{2, 3, 7}, {2, 4, 5}, {3, 5, 6}, {4, 6, 7} }

flat triad/mask bits
{1, **2**, **6**, 4, 3, 7, 5}
{1, 1, 1, 0, 0, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & -e_4 & e_3 & -e_7 & e_2 & e_5 \\ e_2 & e_6 & -1 & e_7 & e_5 & -e_4 & -e_1 & -e_3 \\ e_3 & e_4 & -e_7 & -1 & -e_1 & e_6 & -e_5 & e_2 \\ e_4 & -e_3 & -e_5 & e_1 & -1 & e_2 & e_7 & -e_6 \\ e_5 & e_7 & e_4 & -e_6 & -e_2 & -1 & e_3 & -e_1 \\ e_6 & -e_2 & e_1 & e_5 & -e_7 & -e_3 & -1 & e_4 \\ e_7 & -e_5 & e_3 & -e_2 & e_6 & e_1 & -e_4 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

68 $C_{bd}^{2/3 \rightarrow -1/3}$



0apggsscc Rf
001100011₂ 104

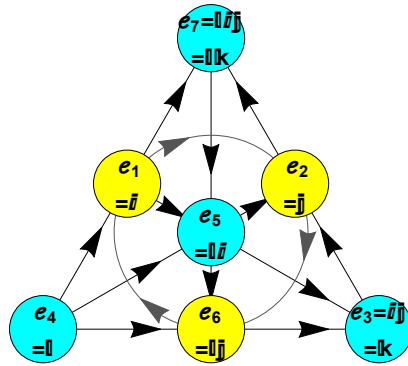
flip=False

Triad fpi=22 D₈ R fp_sm=6→0EH
{ {1, 2, 6}, {1, 5, 3}, {1, 7, 4},
{2, 7, 3}, {2, 4, 5}, {3, 4, 6}, {5, 6, 7} }

flat triad/mask bits
{1, 2, 6, 5, 3, 7, 4}
{0, 1, 1, 1, 0, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & -e_5 & -e_7 & e_3 & -e_2 & e_4 \\ e_2 & -e_6 & -1 & -e_7 & e_5 & -e_4 & e_1 & e_3 \\ e_3 & e_5 & e_7 & -1 & e_6 & -e_1 & -e_4 & -e_2 \\ e_4 & e_7 & -e_5 & -e_6 & -1 & e_2 & e_3 & -e_1 \\ e_5 & -e_3 & e_4 & e_1 & -e_2 & -1 & e_7 & -e_6 \\ e_6 & e_2 & -e_1 & e_4 & -e_3 & -e_7 & -1 & e_5 \\ e_7 & -e_4 & -e_3 & e_2 & e_1 & e_6 & -e_5 & -1 \end{pmatrix}$$

Fano plane



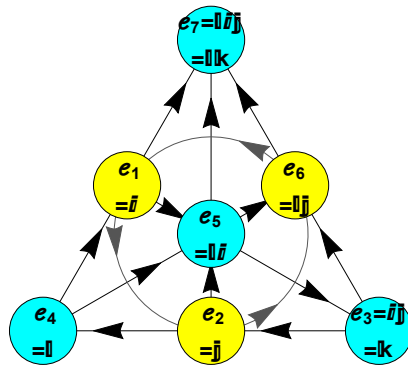
flip=True

Triad fpi=21 D₈ R fp_sm=6→0EH
{ {1, 2, 6}, {1, 5, 3}, {1, 7, 4},
{2, 4, 3}, {2, 5, 7}, {3, 6, 7}, {4, 5, 6} }

flat triad/mask bits
{1, **6**, **2**, 5, 3, 7, 4}
{0, 1, 1, 1, 0, 0, 0}

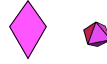
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & -e_5 & -e_7 & e_3 & -e_2 & e_4 \\ e_2 & -e_6 & -1 & -e_4 & e_3 & e_7 & e_1 & -e_5 \\ e_3 & e_5 & e_4 & -1 & -e_2 & -e_1 & e_7 & -e_6 \\ e_4 & e_7 & -e_3 & e_2 & -1 & e_6 & -e_5 & -e_1 \\ e_5 & -e_3 & -e_7 & e_1 & -e_6 & -1 & e_4 & e_2 \\ e_6 & e_2 & -e_1 & -e_7 & e_5 & -e_4 & -1 & e_3 \\ e_7 & -e_4 & e_5 & e_6 & e_1 & -e_2 & -e_3 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

69 $\overline{s}_{m1}^{1/3} \overline{R}$



0apggsscc $\overline{Uuo}$
010100111₂ 118

flip=False

Triad fpi=22 D₈ L fp_sm=6→68H

flat triad/mask bits

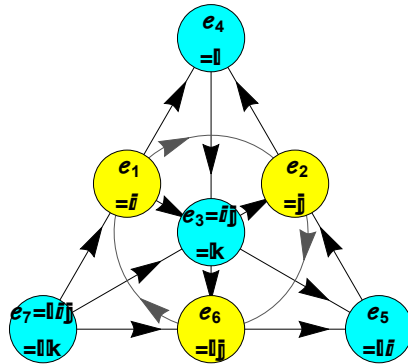
{ {1, 2, 6}, {1, 3, 5}, {1, 4, 7},

{1, 2, 6, 3, 5, 4, 7}

{2, 7, 3}, {2, 4, 5}, {3, 6, 4}, {5, 7, 6}}

{0, 0, 0, 1, 0, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & e_5 & e_7 & -e_3 & -e_2 & -e_4 \\ e_2 & -e_6 & -1 & -e_7 & e_5 & -e_4 & e_1 & e_3 \\ e_3 & -e_5 & e_7 & -1 & -e_6 & e_1 & e_4 & -e_2 \\ e_4 & -e_7 & -e_5 & e_6 & -1 & e_2 & -e_3 & e_1 \\ e_5 & e_3 & e_4 & -e_1 & -e_2 & -1 & -e_7 & e_6 \\ e_6 & e_2 & -e_1 & -e_4 & e_3 & e_7 & -1 & -e_5 \\ e_7 & e_4 & -e_3 & e_2 & -e_1 & -e_6 & e_5 & -1 \end{pmatrix}$$

flip=True

Triad fpi=21 D₈ L fp_sm=6→68H

flat triad/mask bits

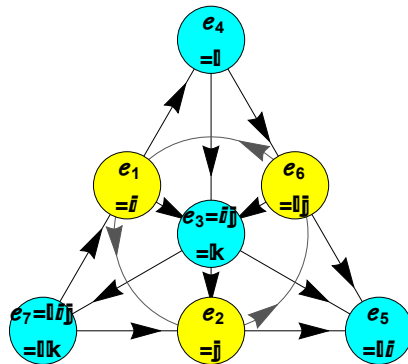
{ {1, 2, 6}, {1, 3, 5}, {1, 4, 7},

{1, **6**, **2**, 3, 5, 4, 7}

{2, 4, 3}, {2, 5, 7}, {3, 7, 6}, {4, 6, 5}}

{0, 0, 0, 1, 0, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & e_5 & e_7 & -e_3 & -e_2 & -e_4 \\ e_2 & -e_6 & -1 & -e_4 & e_3 & e_7 & e_1 & -e_5 \\ e_3 & -e_5 & e_4 & -1 & -e_2 & e_1 & -e_7 & e_6 \\ e_4 & -e_7 & -e_3 & e_2 & -1 & -e_6 & e_5 & e_1 \\ e_5 & e_3 & -e_7 & -e_1 & e_6 & -1 & -e_4 & e_2 \\ e_6 & e_2 & -e_1 & e_7 & -e_5 & e_4 & -1 & -e_3 \\ e_7 & e_4 & e_5 & -e_6 & -e_1 & -e_2 & e_3 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

70

 $\overline{S}_{c1} \xrightarrow{+1/3} R$ 

0apggsscc $\overline{Fe}$
010100110₂ 26

flip=False

Triad fpi=18 D₈ L fp_sm=6→68H

flat triad/mask bits

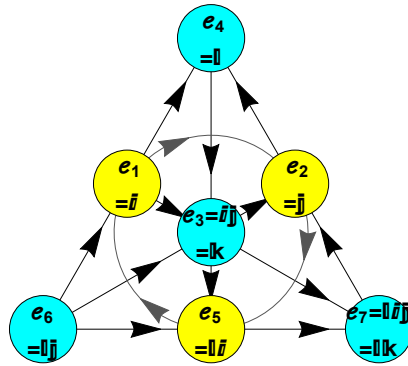
{ {1, 2, 5}, {1, 3, 7}, {1, 4, 6},

{1, 2, 5, 3, 7, 4, 6}

{2, 6, 3}, {2, 4, 7}, {3, 5, 4}, {5, 7, 6}}

{0, 0, 0, 1, 0, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & e_7 & e_6 & -e_2 & -e_4 & -e_3 \\ e_2 & -e_5 & -1 & -e_6 & e_7 & e_1 & e_3 & -e_4 \\ e_3 & -e_7 & e_6 & -1 & -e_5 & e_4 & -e_2 & e_1 \\ e_4 & -e_6 & -e_7 & e_5 & -1 & -e_3 & e_1 & e_2 \\ e_5 & e_2 & -e_1 & -e_4 & e_3 & -1 & -e_7 & e_6 \\ e_6 & e_4 & -e_3 & e_2 & -e_1 & e_7 & -1 & -e_5 \\ e_7 & e_3 & e_4 & -e_1 & -e_2 & -e_6 & e_5 & -1 \end{pmatrix}$$

flip=True

Triad fpi=20 D₈ L fp_sm=1→61H

flat triad/mask bits

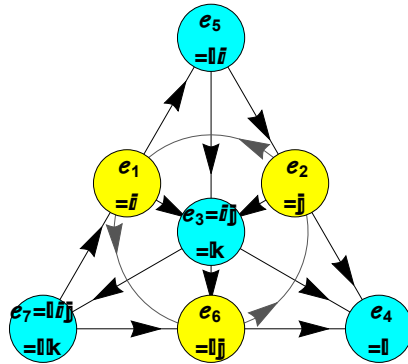
{ {1, 6, 2}, {1, 3, 4}, {1, 5, 7},

{1, 2, 6, 3, 4, 5, 7}

{2, 3, 7}, {2, 4, 5}, {3, 6, 5}, {4, 7, 6}}

{1, 0, 0, 0, 0, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & e_4 & -e_3 & e_7 & e_2 & -e_5 \\ e_2 & e_6 & -1 & e_7 & e_5 & -e_4 & -e_1 & -e_3 \\ e_3 & -e_4 & -e_7 & -1 & e_1 & -e_6 & e_5 & e_2 \\ e_4 & e_3 & -e_5 & -e_1 & -1 & e_2 & -e_7 & e_6 \\ e_5 & -e_7 & e_4 & e_6 & -e_2 & -1 & -e_3 & e_1 \\ e_6 & -e_2 & e_1 & -e_5 & e_7 & e_3 & -1 & -e_4 \\ e_7 & e_5 & e_3 & -e_2 & -e_6 & -e_1 & e_4 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

71 $\overline{S}_{01} \xrightarrow{+1/3} R$



0apggsscc $\overline{Ca}$
010100101₂ 20

flip=False

Triad fpi=17 D₈ L fp_sm=8→6AH

flat triad/mask bits

{{1, 2, 5}, {1, 7, 3}, {1, 4, 6},

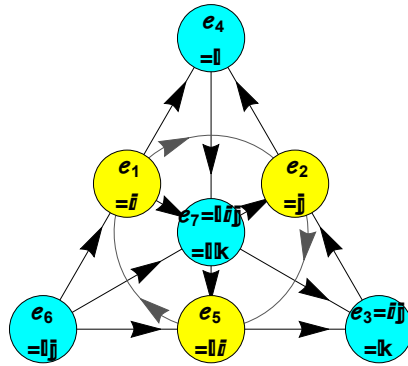
{1, 2, 5, 7, 3, 4, 6}

{2, 4, 3}, {2, 6, 7}, {3, 6, 5}, {4, 7, 5}}

{0, 1, 0, 1, 0, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & -e_7 & e_6 & -e_2 & -e_4 & e_3 \\ e_2 & -e_5 & -1 & -e_4 & e_3 & e_1 & e_7 & -e_6 \\ e_3 & e_7 & e_4 & -1 & -e_2 & -e_6 & e_5 & -e_1 \\ e_4 & -e_6 & -e_3 & e_2 & -1 & -e_7 & e_1 & e_5 \\ e_5 & e_2 & -e_1 & e_6 & e_7 & -1 & -e_3 & -e_4 \\ e_6 & e_4 & -e_7 & -e_5 & -e_1 & e_3 & -1 & e_2 \\ e_7 & -e_3 & e_6 & e_1 & -e_5 & e_4 & -e_2 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=19 D₈ L fp_sm=3→63H

flat triad/mask bits

{{1, 6, 2}, {1, 4, 3}, {1, 5, 7},

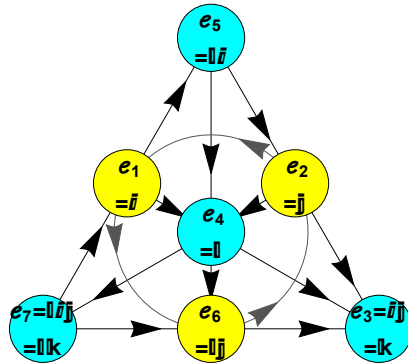
{1, **2**, **6**, 4, 3, 5, 7}

{2, 3, 5}, {2, 4, 7}, {3, 7, 6}, {4, 6, 5}}

{1, 1, 0, 0, 0, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & -e_4 & e_3 & e_7 & e_2 & -e_5 \\ e_2 & e_6 & -1 & e_5 & e_7 & -e_3 & -e_1 & -e_4 \\ e_3 & e_4 & -e_5 & -1 & -e_1 & e_2 & -e_7 & e_6 \\ e_4 & -e_3 & -e_7 & e_1 & -1 & -e_6 & e_5 & e_2 \\ e_5 & -e_7 & e_3 & -e_2 & e_6 & -1 & -e_4 & e_1 \\ e_6 & -e_2 & e_1 & e_7 & -e_5 & e_4 & -1 & -e_3 \\ e_7 & e_5 & e_4 & -e_6 & -e_2 & -e_1 & e_3 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

72

 $\mathcal{V}_{\text{wd}}^{\mu} \overset{0}{L}$


0apggsscc $\overline{A1}$
001100000₂ 13

flip=False

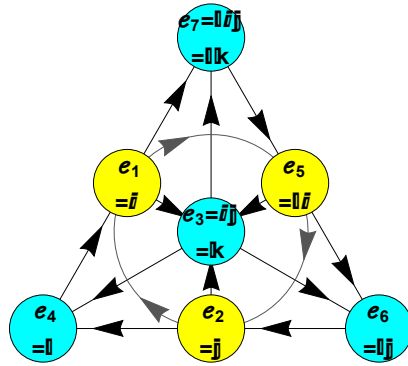
Triad fpi=16 D₈ R fp_sm=3→05H

flat triad/mask bits

 $\{\{1, 5, 2\}, \{1, 3, 6\}, \{1, 7, 4\},$
 $\{1, 5, 2, 3, 6, 7, 4\}$
 $\{2, 3, 7\}, \{2, 4, 6\}, \{3, 4, 5\}, \{5, 6, 7\}\}$
 $\{1, 0, 1, 0, 0, 0, 0\}$

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & e_6 & -e_7 & e_2 & -e_3 & e_4 \\ e_2 & e_5 & -1 & e_7 & e_6 & -e_1 & -e_4 & -e_3 \\ e_3 & -e_6 & -e_7 & -1 & e_5 & -e_4 & e_1 & e_2 \\ e_4 & e_7 & -e_6 & -e_5 & -1 & e_3 & e_2 & -e_1 \\ e_5 & -e_2 & e_1 & e_4 & -e_3 & -1 & e_7 & -e_6 \\ e_6 & e_3 & e_4 & -e_1 & -e_2 & -e_7 & -1 & e_5 \\ e_7 & -e_4 & e_3 & -e_2 & e_1 & e_6 & -e_5 & -1 \end{pmatrix}$$

Fano plane



flip=True

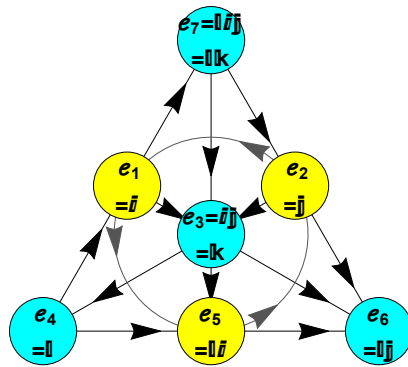
Triad fpi=15 D₈ R fp_sm=3→05H

flat triad/mask bits

 $\{\{1, 5, 2\}, \{1, 3, 6\}, \{1, 7, 4\},$
 $\{1, \mathbf{2}, \mathbf{5}, 3, 6, 7, 4\}$
 $\{2, 3, 4\}, \{2, 6, 7\}, \{3, 5, 7\}, \{4, 5, 6\}\}$
 $\{1, 0, 1, 0, 0, 0, 0\}$

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & e_6 & -e_7 & e_2 & -e_3 & e_4 \\ e_2 & e_5 & -1 & e_4 & -e_3 & -e_1 & e_7 & -e_6 \\ e_3 & -e_6 & -e_4 & -1 & e_2 & e_7 & e_1 & -e_5 \\ e_4 & e_7 & e_3 & -e_2 & -1 & e_6 & -e_5 & -e_1 \\ e_5 & -e_2 & e_1 & -e_7 & -e_6 & -1 & e_4 & e_3 \\ e_6 & e_3 & -e_7 & -e_1 & e_5 & -e_4 & -1 & e_2 \\ e_7 & -e_4 & e_6 & e_5 & e_1 & -e_3 & -e_2 & -1 \end{pmatrix}$$

Fano plane



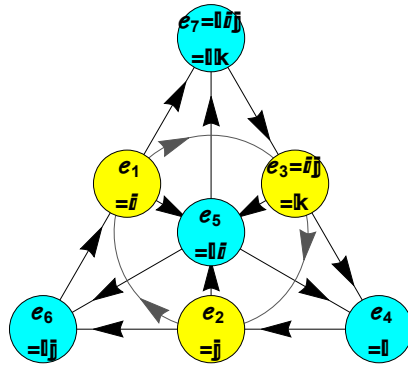
Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

73 $e_{\text{T}}\phi_{\text{L}}^{0 \rightarrow -1}$  0apggsscc $\bar{C}$
001000001₂ 6

flip=False

Triad fpi=1 D₈ R fp_sm=5→0FH flat triad/mask bits
{ {1, 3, 2}, {1, 5, 4}, {1, 7, 6}, {1, 3, 2, 5, 4, 7, 6}
{2, 6, 4}, {2, 5, 7}, {3, 4, 7}, {3, 5, 6} } {1, 1, 1, 1, 0, 0, 0}

Fano plane

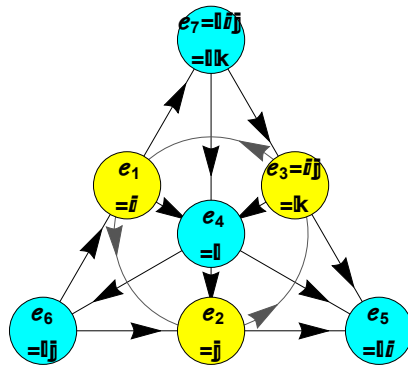


$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & -e_5 & e_4 & -e_7 & e_6 \\ e_2 & e_3 & -1 & -e_1 & -e_6 & e_7 & e_4 & -e_5 \\ e_3 & -e_2 & e_1 & -1 & e_7 & e_6 & -e_5 & -e_4 \\ e_4 & e_5 & e_6 & -e_7 & -1 & -e_1 & -e_2 & e_3 \\ e_5 & -e_4 & -e_7 & -e_6 & e_1 & -1 & e_3 & e_2 \\ e_6 & e_7 & -e_4 & e_5 & e_2 & -e_3 & -1 & -e_1 \\ e_7 & -e_6 & e_5 & e_4 & -e_3 & -e_2 & e_1 & -1 \end{pmatrix}$$

flip=True

Triad fpi=2 D₈ R fp_sm=8→0CH flat triad/mask bits
{ {1, 2, 3}, {1, 4, 5}, {1, 7, 6}, {1, 3, 2, 4, 5, 7, 6}
{2, 7, 4}, {2, 5, 6}, {3, 4, 6}, {3, 5, 7} } {0, 0, 1, 1, 0, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & e_5 & -e_4 & -e_7 & e_6 \\ e_2 & -e_3 & -1 & e_1 & -e_7 & e_6 & -e_5 & e_4 \\ e_3 & e_2 & -e_1 & -1 & e_6 & e_7 & -e_4 & -e_5 \\ e_4 & -e_5 & e_7 & -e_6 & -1 & e_1 & e_3 & -e_2 \\ e_5 & e_4 & -e_6 & -e_7 & -e_1 & -1 & e_2 & e_3 \\ e_6 & e_7 & e_5 & e_4 & -e_3 & -e_2 & -1 & -e_1 \\ e_7 & -e_6 & -e_4 & e_5 & e_2 & -e_3 & e_1 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

74

 $\overline{\mu}_{yd}^{\dagger} L$ 

0apggsscc $\overline{Zn}$
010100000₂ 30

flip=False

Triad fpi=16 D₈ L fp_sm=3→7DH

flat triad/mask bits

{ {1, 5, 2}, {1, 3, 6}, {1, 7, 4},

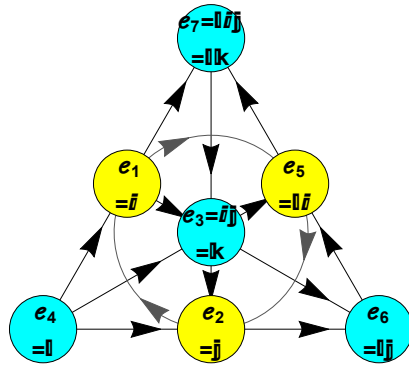
{1, 5, 2, 3, 6, 7, 4}

{2, 7, 3}, {2, 6, 4}, {3, 5, 4}, {5, 7, 6}}

{1, 0, 1, 1, 1, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & e_6 & -e_7 & e_2 & -e_3 & e_4 \\ e_2 & e_5 & -1 & -e_7 & -e_6 & -e_1 & e_4 & e_3 \\ e_3 & -e_6 & e_7 & -1 & -e_5 & e_4 & e_1 & -e_2 \\ e_4 & e_7 & e_6 & e_5 & -1 & -e_3 & -e_2 & -e_1 \\ e_5 & -e_2 & e_1 & -e_4 & e_3 & -1 & -e_7 & e_6 \\ e_6 & e_3 & -e_4 & -e_1 & e_2 & e_7 & -1 & -e_5 \\ e_7 & -e_4 & -e_3 & e_2 & e_1 & -e_6 & e_5 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=15 D₈ L fp_sm=3→7DH

flat triad/mask bits

{ {1, 5, 2}, {1, 3, 6}, {1, 7, 4},

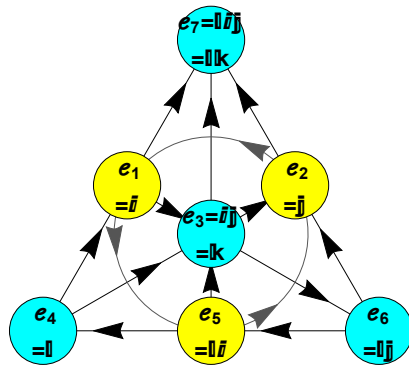
{1, 2, 5, 3, 6, 7, 4}

{2, 4, 3}, {2, 7, 6}, {3, 7, 5}, {4, 6, 5}}

{1, 0, 1, 1, 1, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & e_6 & -e_7 & e_2 & -e_3 & e_4 \\ e_2 & e_5 & -1 & -e_4 & e_3 & -e_1 & -e_7 & e_6 \\ e_3 & -e_6 & e_4 & -1 & -e_2 & -e_7 & e_1 & e_5 \\ e_4 & e_7 & -e_3 & e_2 & -1 & -e_6 & e_5 & -e_1 \\ e_5 & -e_2 & e_1 & e_7 & e_6 & -1 & -e_4 & -e_3 \\ e_6 & e_3 & e_7 & -e_1 & -e_5 & e_4 & -1 & -e_2 \\ e_7 & -e_4 & -e_6 & -e_5 & e_1 & e_3 & e_2 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

75 $\begin{smallmatrix} C \\ r_1 \end{smallmatrix} \begin{smallmatrix} 0 \rightarrow 2/3 \\ R \end{smallmatrix}$



0apggsscc $\overline{\text{Cr}}$
001100101₂ 24

flip=False

Triad fpi=17 D₈ R fp_sm=8→12H

flat triad/mask bits

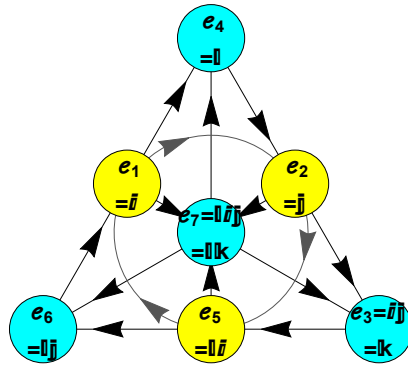
{{1, 2, 5}, {1, 7, 3}, {1, 4, 6},

{1, 2, 5, 7, 3, 4, 6}

{2, 3, 4}, {2, 7, 6}, {3, 5, 6}, {4, 5, 7}}

{0, 1, 0, 0, 1, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & -e_7 & e_6 & -e_2 & -e_4 & e_3 \\ e_2 & -e_5 & -1 & e_4 & -e_3 & e_1 & -e_7 & e_6 \\ e_3 & e_7 & -e_4 & -1 & e_2 & e_6 & -e_5 & -e_1 \\ e_4 & -e_6 & e_3 & -e_2 & -1 & e_7 & e_1 & -e_5 \\ e_5 & e_2 & -e_1 & -e_6 & -e_7 & -1 & e_3 & e_4 \\ e_6 & e_4 & e_7 & e_5 & -e_1 & -e_3 & -1 & -e_2 \\ e_7 & -e_3 & -e_6 & e_1 & e_5 & -e_4 & e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=19 D₈ R fp_sm=3→1BH

flat triad/mask bits

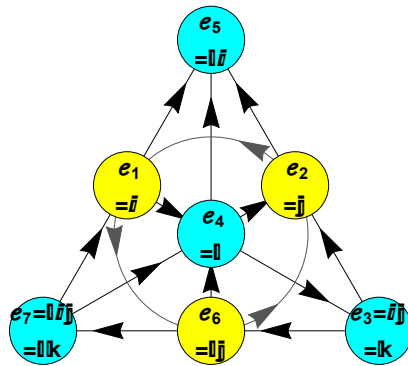
{{1, 6, 2}, {1, 4, 3}, {1, 5, 7},

{1, **2**, **6**, 4, 3, 5, 7}

{2, 5, 3}, {2, 7, 4}, {3, 6, 7}, {4, 5, 6}}

{1, 1, 0, 1, 1, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & -e_4 & e_3 & e_7 & e_2 & -e_5 \\ e_2 & e_6 & -1 & -e_5 & -e_7 & e_3 & -e_1 & e_4 \\ e_3 & e_4 & e_5 & -1 & -e_1 & -e_2 & e_7 & -e_6 \\ e_4 & -e_3 & e_7 & e_1 & -1 & e_6 & -e_5 & -e_2 \\ e_5 & -e_7 & -e_3 & e_2 & -e_6 & -1 & e_4 & e_1 \\ e_6 & -e_2 & e_1 & -e_7 & e_5 & -e_4 & -1 & e_3 \\ e_7 & e_5 & -e_4 & e_6 & e_2 & -e_1 & -e_3 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

76

 $\begin{matrix} C & 0 \rightarrow 2/3 \\ g_1 & R \end{matrix}$


0apggsscc $\bar{K}$
001100110₂ 19

flip=False

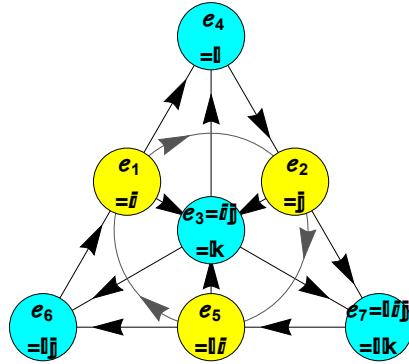
Triad fpi=18 D₈ R fp_sm=6→10H

flat triad/mask bits

 $\{\{1, 2, 5\}, \{1, 3, 7\}, \{1, 4, 6\},$
 $\{1, 2, 5, 3, 7, 4, 6\}$
 $\{2, 3, 6\}, \{2, 7, 4\}, \{3, 4, 5\}, \{5, 6, 7\}\}$
 $\{0, 0, 0, 0, 1, 0, 0\}$

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & e_7 & e_6 & -e_2 & -e_4 & -e_3 \\ e_2 & -e_5 & -1 & e_6 & -e_7 & e_1 & -e_3 & e_4 \\ e_3 & -e_7 & -e_6 & -1 & e_5 & -e_4 & e_2 & e_1 \\ e_4 & -e_6 & e_7 & -e_5 & -1 & e_3 & e_1 & -e_2 \\ e_5 & e_2 & -e_1 & e_4 & -e_3 & -1 & e_7 & -e_6 \\ e_6 & e_4 & e_3 & -e_2 & -e_1 & -e_7 & -1 & e_5 \\ e_7 & e_3 & -e_4 & -e_1 & e_2 & e_6 & -e_5 & -1 \end{pmatrix}$$

Fano plane



flip=True

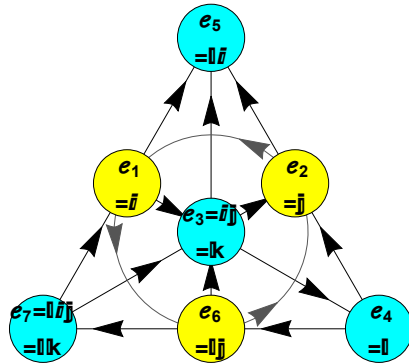
Triad fpi=20 D₈ R fp_sm=1→19H

flat triad/mask bits

 $\{\{1, 6, 2\}, \{1, 3, 4\}, \{1, 5, 7\},$
 $\{1, \mathbf{2}, \mathbf{6}, 3, 4, 5, 7\}$
 $\{2, 7, 3\}, \{2, 5, 4\}, \{3, 5, 6\}, \{4, 6, 7\}\}$
 $\{1, 0, 0, 1, 1, 0, 0\}$

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & e_4 & -e_3 & e_7 & e_2 & -e_5 \\ e_2 & e_6 & -1 & -e_7 & -e_5 & e_4 & -e_1 & e_3 \\ e_3 & -e_4 & e_7 & -1 & e_1 & e_6 & -e_5 & -e_2 \\ e_4 & e_3 & e_5 & -e_1 & -1 & -e_2 & e_7 & -e_6 \\ e_5 & -e_7 & -e_4 & -e_6 & e_2 & -1 & e_3 & e_1 \\ e_6 & -e_2 & e_1 & e_5 & -e_7 & -e_3 & -1 & e_4 \\ e_7 & e_5 & -e_3 & e_2 & e_6 & -e_1 & -e_4 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

77

C_{b1}^{2/3}_R

0apggsscc Bh
001100111₂ 107

flip=False

Triad fpi=22 D₈ R fp_sm=6→10H

flat triad/mask bits

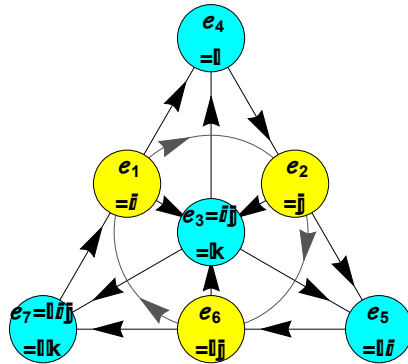
{ {1, 2, 6}, {1, 3, 5}, {1, 4, 7},

{1, 2, 6, 3, 5, 4, 7}

{2, 3, 7}, {2, 5, 4}, {3, 4, 6}, {5, 6, 7}}

{0, 0, 0, 0, 1, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & e_5 & e_7 & -e_3 & -e_2 & -e_4 \\ e_2 & -e_6 & -1 & e_7 & -e_5 & e_4 & e_1 & -e_3 \\ e_3 & -e_5 & -e_7 & -1 & e_6 & e_1 & -e_4 & e_2 \\ e_4 & -e_7 & e_5 & -e_6 & -1 & -e_2 & e_3 & e_1 \\ e_5 & e_3 & -e_4 & -e_1 & e_2 & -1 & e_7 & -e_6 \\ e_6 & e_2 & -e_1 & e_4 & -e_3 & -e_7 & -1 & e_5 \\ e_7 & e_4 & e_3 & -e_2 & -e_1 & e_6 & -e_5 & -1 \end{pmatrix}$$

flip=True

Triad fpi=21 D₈ R fp_sm=6→10H

flat triad/mask bits

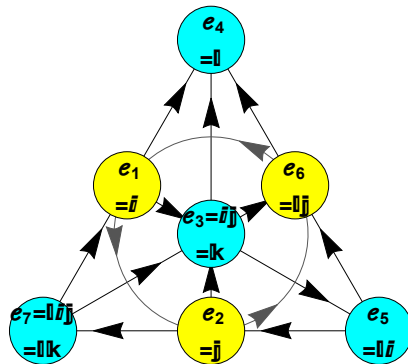
{ {1, 2, 6}, {1, 3, 5}, {1, 4, 7},

{1, 6, 2, 3, 5, 4, 7}

{2, 3, 4}, {2, 7, 5}, {3, 6, 7}, {4, 5, 6}}

{0, 0, 0, 0, 1, 0, 0}

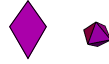
Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & e_5 & e_7 & -e_3 & -e_2 & -e_4 \\ e_2 & -e_6 & -1 & e_4 & -e_3 & -e_7 & e_1 & e_5 \\ e_3 & -e_5 & -e_4 & -1 & e_2 & e_1 & e_7 & -e_6 \\ e_4 & -e_7 & e_3 & -e_2 & -1 & e_6 & -e_5 & e_1 \\ e_5 & e_3 & e_7 & -e_1 & -e_6 & -1 & e_4 & -e_2 \\ e_6 & e_2 & -e_1 & -e_7 & e_5 & -e_4 & -1 & e_3 \\ e_7 & e_4 & -e_5 & e_6 & -e_1 & e_2 & -e_3 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

78

 $\overline{s}_{m_d} \frac{1}{L} \rightarrow 4/3$


0apggsscc $\overline{Uus}$
010100011₂ 117

flip=False

Triad fpi=22 D₈ L fp_sm=6→76H

flat triad/mask bits

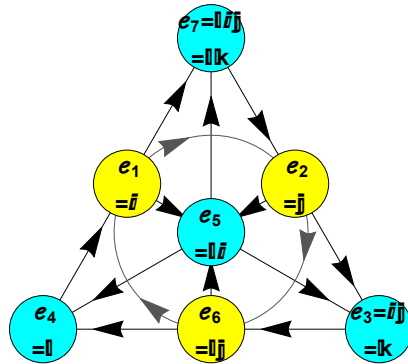
{ {1, 2, 6}, {1, 5, 3}, {1, 7, 4},

{1, 2, 6, 5, 3, 7, 4}

{2, 3, 7}, {2, 5, 4}, {3, 6, 4}, {5, 7, 6}}

{0, 1, 1, 0, 1, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & -e_5 & -e_7 & e_3 & -e_2 & e_4 \\ e_2 & -e_6 & -1 & e_7 & -e_5 & e_4 & e_1 & -e_3 \\ e_3 & e_5 & -e_7 & -1 & -e_6 & -e_1 & e_4 & e_2 \\ e_4 & e_7 & e_5 & e_6 & -1 & -e_2 & -e_3 & -e_1 \\ e_5 & -e_3 & -e_4 & e_1 & e_2 & -1 & -e_7 & e_6 \\ e_6 & e_2 & -e_1 & -e_4 & e_3 & e_7 & -1 & -e_5 \\ e_7 & -e_4 & e_3 & -e_2 & e_1 & -e_6 & e_5 & -1 \end{pmatrix}$$

flip=True

Triad fpi=21 D₈ L fp_sm=6→76H

flat triad/mask bits

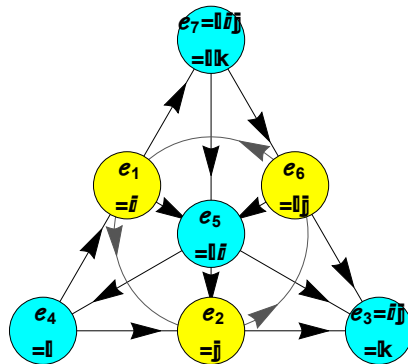
{ {1, 2, 6}, {1, 5, 3}, {1, 7, 4},

{1, 6, 2, 5, 3, 7, 4}

{2, 3, 4}, {2, 7, 5}, {3, 7, 6}, {4, 6, 5}}

{0, 1, 1, 0, 1, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & -e_5 & -e_7 & e_3 & -e_2 & e_4 \\ e_2 & -e_6 & -1 & e_4 & -e_3 & -e_7 & e_1 & e_5 \\ e_3 & e_5 & -e_4 & -1 & e_2 & -e_1 & -e_7 & e_6 \\ e_4 & e_7 & e_3 & -e_2 & -1 & -e_6 & e_5 & -e_1 \\ e_5 & -e_3 & e_7 & e_1 & e_6 & -1 & -e_4 & -e_2 \\ e_6 & e_2 & -e_1 & e_7 & -e_5 & e_4 & -1 & -e_3 \\ e_7 & -e_4 & -e_5 & -e_6 & e_1 & e_2 & e_3 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

79 $\overline{S}_{Cd} \xrightarrow{+4/3} L$



0apggsscc $\overline{Ar}$
010100010₂ 18

flip=False

Triad fpi=18 D₈ L fp_sm=6→76H

flat triad/mask bits

{{1, 2, 5}, {1, 7, 3}, {1, 6, 4},

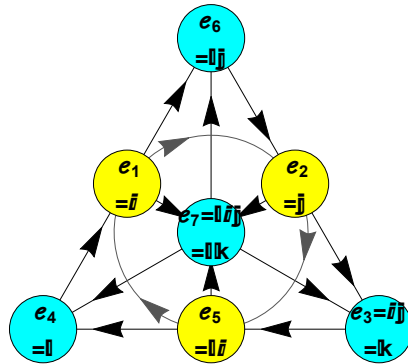
{1, 2, 5, 7, 3, 6, 4}

{2, 3, 6}, {2, 7, 4}, {3, 5, 4}, {5, 7, 6}}

{0, 1, 1, 0, 1, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & -e_7 & -e_6 & -e_2 & e_4 & e_3 \\ e_2 & -e_5 & -1 & e_6 & -e_7 & e_1 & -e_3 & e_4 \\ e_3 & e_7 & -e_6 & -1 & -e_5 & e_4 & e_2 & -e_1 \\ e_4 & e_6 & e_7 & e_5 & -1 & -e_3 & -e_1 & -e_2 \\ e_5 & e_2 & -e_1 & -e_4 & e_3 & -1 & -e_7 & e_6 \\ e_6 & -e_4 & e_3 & -e_2 & e_1 & e_7 & -1 & -e_5 \\ e_7 & -e_3 & -e_4 & e_1 & e_2 & -e_6 & e_5 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=20 D₈ L fp_sm=1→7FH

flat triad/mask bits

{{1, 6, 2}, {1, 4, 3}, {1, 7, 5},

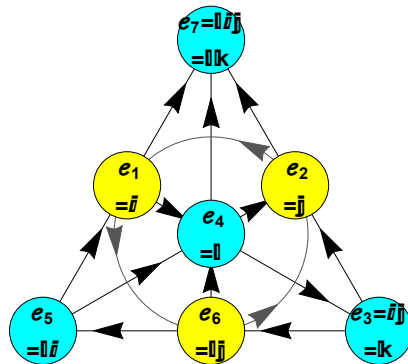
{1, **2**, **6**, 4, 3, 7, 5}

{2, 7, 3}, {2, 5, 4}, {3, 6, 5}, {4, 7, 6}}

{1, 1, 1, 1, 1, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & -e_4 & e_3 & -e_7 & e_2 & e_5 \\ e_2 & e_6 & -1 & -e_7 & -e_5 & e_4 & -e_1 & e_3 \\ e_3 & e_4 & e_7 & -1 & -e_1 & -e_6 & e_5 & -e_2 \\ e_4 & -e_3 & e_5 & e_1 & -1 & -e_2 & -e_7 & e_6 \\ e_5 & e_7 & -e_4 & e_6 & e_2 & -1 & -e_3 & -e_1 \\ e_6 & -e_2 & e_1 & -e_5 & e_7 & e_3 & -1 & -e_4 \\ e_7 & -e_5 & -e_3 & e_2 & -e_6 & e_1 & e_4 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

80

 $\overline{S}_{O_d} \xrightarrow{+4/3} L$ 0apggsscc
010100001₂ $\overline{Mg}$
12

flip=False

Triad fpi=17 D₈ L fp_sm=8→74H

flat triad/mask bits

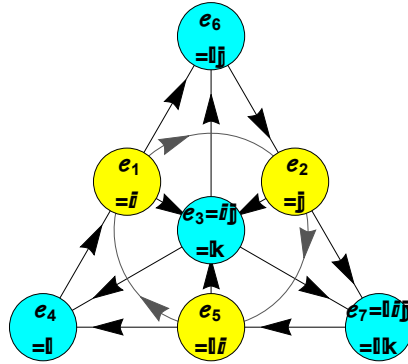
{ {1, 2, 5}, {1, 3, 7}, {1, 6, 4},

{1, 2, 5, 3, 7, 6, 4}

{2, 3, 4}, {2, 7, 6}, {3, 6, 5}, {4, 7, 5}}

{0, 0, 1, 0, 1, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & e_7 & -e_6 & -e_2 & e_4 & -e_3 \\ e_2 & -e_5 & -1 & e_4 & -e_3 & e_1 & -e_7 & e_6 \\ e_3 & -e_7 & -e_4 & -1 & e_2 & -e_6 & e_5 & e_1 \\ e_4 & e_6 & e_3 & -e_2 & -1 & -e_7 & -e_1 & e_5 \\ e_5 & e_2 & -e_1 & e_6 & e_7 & -1 & -e_3 & -e_4 \\ e_6 & -e_4 & e_7 & -e_5 & e_1 & e_3 & -1 & -e_2 \\ e_7 & e_3 & -e_6 & -e_1 & -e_5 & e_4 & e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=19 D₈ L fp_sm=3→7DH

flat triad/mask bits

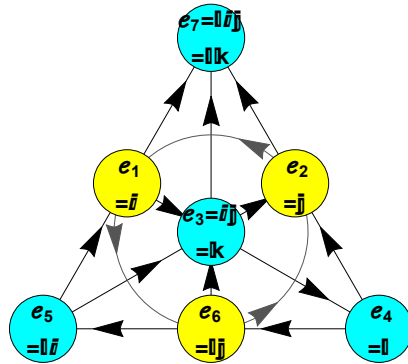
{ {1, 6, 2}, {1, 3, 4}, {1, 7, 5},

{1, 2, 6, 3, 4, 7, 5}

{2, 5, 3}, {2, 7, 4}, {3, 7, 6}, {4, 6, 5}}

{1, 0, 1, 1, 1, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & e_4 & -e_3 & -e_7 & e_2 & e_5 \\ e_2 & e_6 & -1 & -e_5 & -e_7 & e_3 & -e_1 & e_4 \\ e_3 & -e_4 & e_5 & -1 & e_1 & -e_2 & -e_7 & e_6 \\ e_4 & e_3 & e_7 & -e_1 & -1 & -e_6 & e_5 & -e_2 \\ e_5 & e_7 & -e_3 & e_2 & e_6 & -1 & -e_4 & -e_1 \\ e_6 & -e_2 & e_1 & e_7 & -e_5 & e_4 & -1 & -e_3 \\ e_7 & -e_5 & -e_4 & -e_6 & e_2 & e_1 & e_3 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

81 $\gamma_{w_1}^{\mu} \overset{0 \rightarrow 1}{R}$



0apggsscc $\bar{B}$
001100100₂ 5

flip=False

Triad fpi=16 D₈ R fp_sm=3→1BH

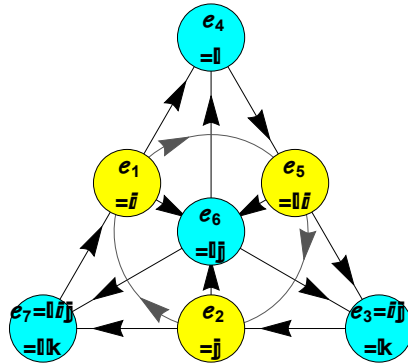
flat triad/mask bits

{{1, 5, 2}, {1, 6, 3}, {1, 4, 7},
{2, 7, 3}, {2, 6, 4}, {3, 4, 5}, {5, 6, 7}}

{1, 5, 2, 6, 3, 4, 7}
{1, 1, 0, 1, 1, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & -e_6 & e_7 & e_2 & e_3 & -e_4 \\ e_2 & e_5 & -1 & -e_7 & -e_6 & -e_1 & e_4 & e_3 \\ e_3 & e_6 & e_7 & -1 & e_5 & -e_4 & -e_1 & -e_2 \\ e_4 & -e_7 & e_6 & -e_5 & -1 & e_3 & -e_2 & e_1 \\ e_5 & -e_2 & e_1 & e_4 & -e_3 & -1 & e_7 & -e_6 \\ e_6 & -e_3 & -e_4 & e_1 & e_2 & -e_7 & -1 & e_5 \\ e_7 & e_4 & -e_3 & e_2 & -e_1 & e_6 & -e_5 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=15 D₈ R fp_sm=3→1BH

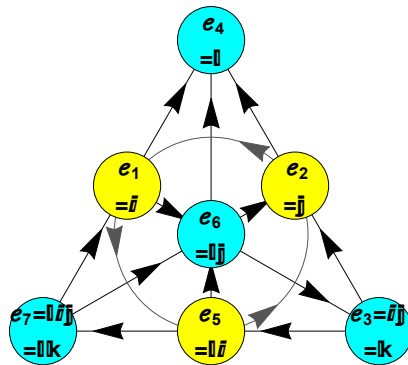
flat triad/mask bits

{{1, 5, 2}, {1, 6, 3}, {1, 4, 7},
{2, 4, 3}, {2, 7, 6}, {3, 5, 7}, {4, 5, 6}}

{1, 2, 5, 6, 3, 4, 7}
{1, 1, 0, 1, 1, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & -e_6 & e_7 & e_2 & e_3 & -e_4 \\ e_2 & e_5 & -1 & -e_4 & e_3 & -e_1 & -e_7 & e_6 \\ e_3 & e_6 & e_4 & -1 & -e_2 & e_7 & -e_1 & -e_5 \\ e_4 & -e_7 & -e_3 & e_2 & -1 & e_6 & -e_5 & e_1 \\ e_5 & -e_2 & e_1 & -e_7 & -e_6 & -1 & e_4 & e_3 \\ e_6 & -e_3 & e_7 & e_1 & e_5 & -e_4 & -1 & -e_2 \\ e_7 & e_4 & -e_6 & e_5 & -e_1 & -e_3 & e_2 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

82 $\overline{\Phi x_1}$ $\begin{smallmatrix} 0 \rightarrow -1/3 \\ \text{L} \\ \text{O}_m \end{smallmatrix}$



0apggsscc $\bar{5}$
010001001₂ 16

flip=False

Triad fpi=1 D₈ L fp_sm=5→5AH

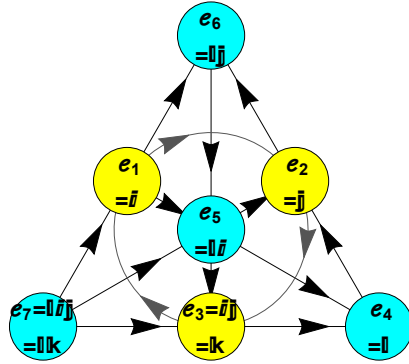
flat triad/mask bits

{{1, 2, 3}, {1, 5, 4}, {1, 6, 7},
{2, 6, 4}, {2, 7, 5}, {3, 4, 7}, {3, 6, 5}}

{1, 2, 3, 5, 4, 6, 7}
{0, 1, 0, 1, 1, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & -e_5 & e_4 & e_7 & -e_6 \\ e_2 & -e_3 & -1 & e_1 & -e_6 & -e_7 & e_4 & e_5 \\ e_3 & e_2 & -e_1 & -1 & e_7 & -e_6 & e_5 & -e_4 \\ e_4 & e_5 & e_6 & -e_7 & -1 & -e_1 & -e_2 & e_3 \\ e_5 & -e_4 & e_7 & e_6 & e_1 & -1 & -e_3 & -e_2 \\ e_6 & -e_7 & -e_4 & -e_5 & e_2 & e_3 & -1 & e_1 \\ e_7 & e_6 & -e_5 & e_4 & -e_3 & e_2 & -e_1 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=2 D₈ L fp_sm=8→59H

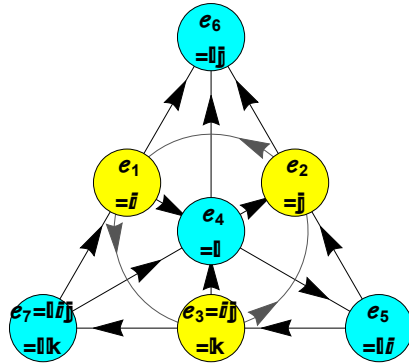
flat triad/mask bits

{{1, 3, 2}, {1, 4, 5}, {1, 6, 7},
{2, 7, 4}, {2, 6, 5}, {3, 4, 6}, {3, 7, 5}}

{1, 2, 3, 4, 5, 6, 7}
{1, 0, 0, 1, 1, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & e_5 & -e_4 & e_7 & -e_6 \\ e_2 & e_3 & -1 & -e_1 & -e_7 & -e_6 & e_5 & e_4 \\ e_3 & -e_2 & e_1 & -1 & e_6 & -e_7 & -e_4 & e_5 \\ e_4 & -e_5 & e_7 & -e_6 & -1 & e_1 & e_3 & -e_2 \\ e_5 & e_4 & e_6 & e_7 & -e_1 & -1 & -e_2 & -e_3 \\ e_6 & -e_7 & -e_5 & e_4 & -e_3 & e_2 & -1 & e_1 \\ e_7 & e_6 & -e_4 & -e_5 & e_2 & e_3 & -e_1 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

83 $\overline{\Phi x_2}_{c_m} \xrightarrow{0 \rightarrow -1/3} \bar{L}$



0apggsscc $\overline{Ne}$
010001010₂ 10

flip=False

Triad fpi=3 D₈ L fp_sm=4→51H

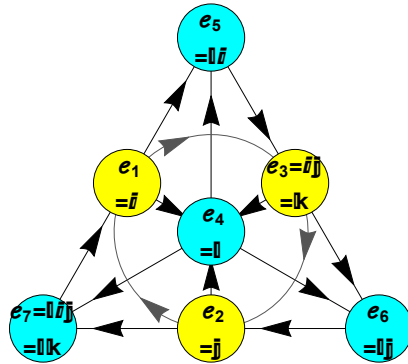
flat triad/mask bits

{{1, 3, 2}, {1, 4, 6}, {1, 5, 7},
{2, 4, 5}, {2, 7, 6}, {3, 4, 7}, {3, 6, 5}}

{1, 3, 2, 4, 6, 5, 7}
{1, 0, 0, 0, 1, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & e_6 & e_7 & -e_4 & -e_5 \\ e_2 & e_3 & -1 & -e_1 & e_5 & -e_4 & -e_7 & e_6 \\ e_3 & -e_2 & e_1 & -1 & e_7 & -e_6 & e_5 & -e_4 \\ e_4 & -e_6 & -e_5 & -e_7 & -1 & e_2 & e_1 & e_3 \\ e_5 & -e_7 & e_4 & e_6 & -e_2 & -1 & -e_3 & e_1 \\ e_6 & e_4 & e_7 & -e_5 & -e_1 & e_3 & -1 & -e_2 \\ e_7 & e_5 & -e_6 & e_4 & -e_3 & -e_1 & e_2 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=5 D₈ L fp_sm=7→58H

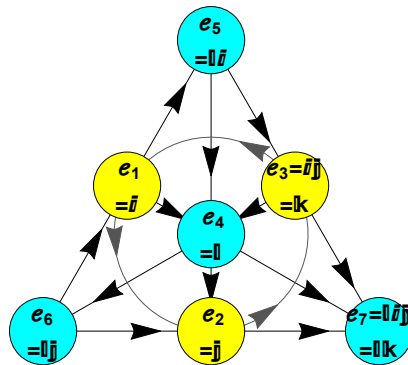
flat triad/mask bits

{{1, 2, 3}, {1, 4, 7}, {1, 5, 6},
{2, 5, 4}, {2, 7, 6}, {3, 4, 6}, {3, 7, 5}}

{1, 3, 2, 4, 7, 5, 6}
{0, 0, 0, 1, 1, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & e_7 & e_6 & -e_5 & -e_4 \\ e_2 & -e_3 & -1 & e_1 & -e_5 & e_4 & -e_7 & e_6 \\ e_3 & e_2 & -e_1 & -1 & e_6 & -e_7 & -e_4 & e_5 \\ e_4 & -e_7 & e_5 & -e_6 & -1 & -e_2 & e_3 & e_1 \\ e_5 & -e_6 & -e_4 & e_7 & e_2 & -1 & e_1 & -e_3 \\ e_6 & e_5 & e_7 & e_4 & -e_3 & -e_1 & -1 & -e_2 \\ e_7 & e_4 & -e_6 & -e_5 & -e_1 & e_3 & e_2 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

84 $\overline{\Phi \times_3} \xrightarrow{0 \rightarrow -1/3} \frac{m_m}{L}$



0apggsscc Ds
010001011₂ 110

flip=False

Triad fpi=6 D₈ L fp_sm=6→5BH

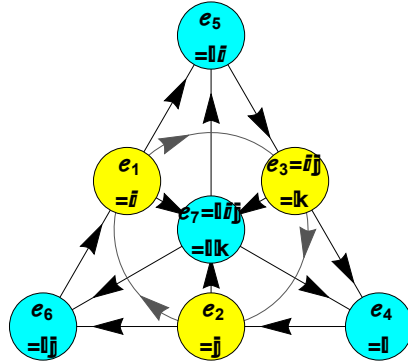
flat triad/mask bits

{{1, 3, 2}, {1, 7, 4}, {1, 5, 6},
{2, 6, 4}, {2, 7, 5}, {3, 4, 5}, {3, 7, 6}}

{1, 3, 2, 7, 4, 5, 6}
{1, 1, 0, 1, 1, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & -e_7 & e_6 & -e_5 & e_4 \\ e_2 & e_3 & -1 & -e_1 & -e_6 & -e_7 & e_4 & e_5 \\ e_3 & -e_2 & e_1 & -1 & e_5 & -e_4 & -e_7 & e_6 \\ e_4 & e_7 & e_6 & -e_5 & -1 & e_3 & -e_2 & -e_1 \\ e_5 & -e_6 & e_7 & e_4 & -e_3 & -1 & e_1 & -e_2 \\ e_6 & e_5 & -e_4 & e_7 & e_2 & -e_1 & -1 & -e_3 \\ e_7 & -e_4 & -e_5 & -e_6 & e_1 & e_2 & e_3 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=9 D₈ L fp_sm=6→5BH

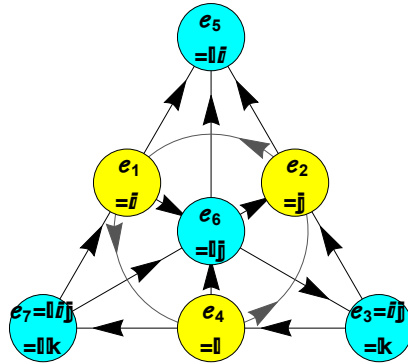
flat triad/mask bits

{{1, 4, 2}, {1, 6, 3}, {1, 5, 7},
{2, 5, 3}, {2, 7, 6}, {3, 4, 7}, {4, 6, 5}}

{1, 2, 4, 6, 3, 5, 7}
{1, 1, 0, 1, 1, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & -e_6 & e_2 & e_7 & e_3 & -e_5 \\ e_2 & e_4 & -1 & -e_5 & -e_1 & e_3 & -e_7 & e_6 \\ e_3 & e_6 & e_5 & -1 & e_7 & -e_2 & -e_1 & -e_4 \\ e_4 & -e_2 & e_1 & -e_7 & -1 & -e_6 & e_5 & e_3 \\ e_5 & -e_7 & -e_3 & e_2 & e_6 & -1 & -e_4 & e_1 \\ e_6 & -e_3 & e_7 & e_1 & -e_5 & e_4 & -1 & -e_2 \\ e_7 & e_5 & -e_6 & e_4 & -e_3 & -e_1 & e_2 & -1 \end{pmatrix}$$

Fano plane



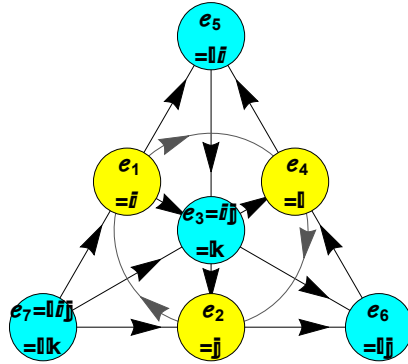
Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

85 Φx_3 $\overset{0 \rightarrow 1/3}{L}$ m_d  0apggsscc $\overline{Lv}$
000000011₂ 116

flip=False

Triad fpi=9 D₈ L fp_sm=6→09H flat triad/mask bits
{ {1, 4, 2}, {1, 3, 6}, {1, 5, 7}, {1, 4, 2, 3, 6, 5, 7}
{2, 5, 3}, {2, 6, 7}, {3, 4, 7}, {4, 5, 6} } {1, 0, 0, 1, 0, 0, 0}

Fano plane

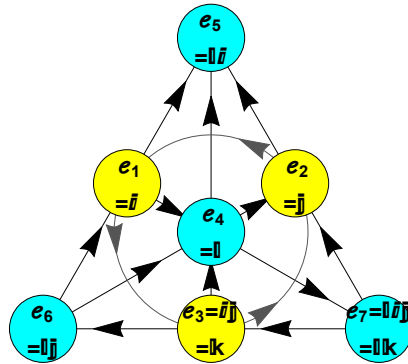


$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & e_6 & e_2 & e_7 & -e_3 & -e_5 \\ e_2 & e_4 & -1 & -e_5 & -e_1 & e_3 & e_7 & -e_6 \\ e_3 & -e_6 & e_5 & -1 & e_7 & -e_2 & e_1 & -e_4 \\ e_4 & -e_2 & e_1 & -e_7 & -1 & e_6 & -e_5 & e_3 \\ e_5 & -e_7 & -e_3 & e_2 & -e_6 & -1 & e_4 & e_1 \\ e_6 & e_3 & -e_7 & -e_1 & e_5 & -e_4 & -1 & e_2 \\ e_7 & e_5 & e_6 & e_4 & -e_3 & -e_1 & -e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=6 D₈ L fp_sm=6→09H flat triad/mask bits
{ {1, 3, 2}, {1, 4, 7}, {1, 5, 6}, {1, 2, 3, 4, 7, 5, 6}
{2, 6, 4}, {2, 5, 7}, {3, 4, 5}, {3, 6, 7} } {1, 0, 0, 1, 0, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & e_7 & e_6 & -e_5 & -e_4 \\ e_2 & e_3 & -1 & -e_1 & -e_6 & e_7 & e_4 & -e_5 \\ e_3 & -e_2 & e_1 & -1 & e_5 & -e_4 & e_7 & -e_6 \\ e_4 & -e_7 & e_6 & -e_5 & -1 & e_3 & -e_2 & e_1 \\ e_5 & -e_6 & -e_7 & e_4 & -e_3 & -1 & e_1 & e_2 \\ e_6 & e_5 & -e_4 & -e_7 & e_2 & -e_1 & -1 & e_3 \\ e_7 & e_4 & e_5 & e_6 & -e_1 & -e_2 & -e_3 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

86 $\Phi \mathbf{x}_2$ $0 \rightarrow 1/3$
 c_d L



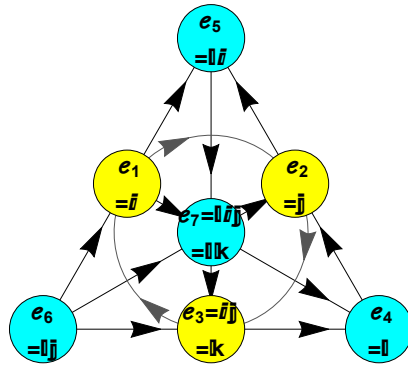
0apggsscc $\bar{F}$
000000010₂ 9

flip=False

Triad fpi=5 D₈ L fp_sm=7→0AH
{ {1, 2, 3}, {1, 7, 4}, {1, 5, 6},
{2, 5, 4}, {2, 6, 7}, {3, 4, 6}, {3, 5, 7} }

flat triad/mask bits
{1, 2, 3, 7, 4, 5, 6}
{0, 1, 0, 1, 0, 0, 0}

Fano plane



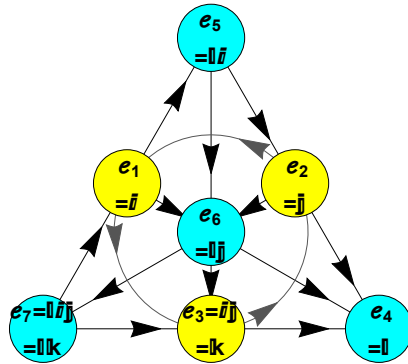
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & -e_7 & e_6 & -e_5 & e_4 \\ e_2 & -e_3 & -1 & e_1 & -e_5 & e_4 & e_7 & -e_6 \\ e_3 & e_2 & -e_1 & -1 & e_6 & e_7 & -e_4 & -e_5 \\ e_4 & e_7 & e_5 & -e_6 & -1 & -e_2 & e_3 & -e_1 \\ e_5 & -e_6 & -e_4 & -e_7 & e_2 & -1 & e_1 & e_3 \\ e_6 & e_5 & -e_7 & e_4 & -e_3 & -e_1 & -1 & e_2 \\ e_7 & -e_4 & e_6 & e_5 & e_1 & -e_3 & -e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=3 D₈ L fp_sm=4→03H
{ {1, 3, 2}, {1, 6, 4}, {1, 5, 7},
{2, 4, 5}, {2, 6, 7}, {3, 4, 7}, {3, 5, 6} }

flat triad/mask bits
{1, 2, 3, 6, 4, 5, 7}
{1, 1, 0, 0, 0, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & -e_6 & e_7 & e_4 & -e_5 \\ e_2 & e_3 & -1 & -e_1 & e_5 & -e_4 & e_7 & -e_6 \\ e_3 & -e_2 & e_1 & -1 & e_7 & e_6 & -e_5 & -e_4 \\ e_4 & e_6 & -e_5 & -e_7 & -1 & e_2 & -e_1 & e_3 \\ e_5 & -e_7 & e_4 & -e_6 & -e_2 & -1 & e_3 & e_1 \\ e_6 & -e_4 & -e_7 & e_5 & e_1 & -e_3 & -1 & e_2 \\ e_7 & e_5 & e_6 & e_4 & -e_3 & -e_1 & -e_2 & -1 \end{pmatrix}$$

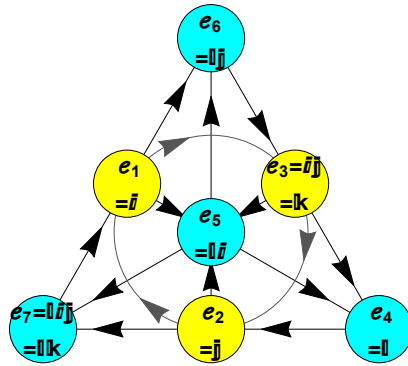
Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

87 Φx_1 $0 \rightarrow 1/3$  0apggsscc $\overline{\text{He}}$
 o_d L 000000001₂ 2

flip=False

Triad fpi=2 D₈ L fp_sm=8→0BH flat triad/mask bits
{ {1, 3, 2}, {1, 5, 4}, {1, 6, 7}, {1, 3, 2, 5, 4, 6, 7}
{2, 7, 4}, {2, 5, 6}, {3, 4, 6}, {3, 5, 7}} {1, 1, 0, 1, 0, 0, 0}

Fano plane

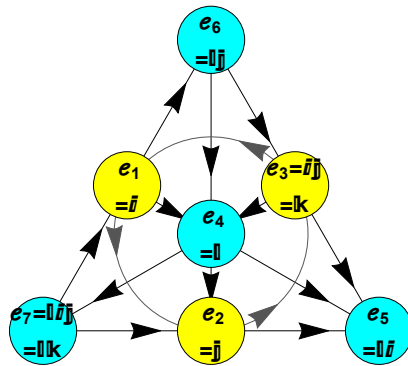


$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & -e_5 & e_4 & e_7 & -e_6 \\ e_2 & e_3 & -1 & -e_1 & -e_7 & e_6 & -e_5 & e_4 \\ e_3 & -e_2 & e_1 & -1 & e_6 & e_7 & -e_4 & -e_5 \\ e_4 & e_5 & e_7 & -e_6 & -1 & -e_1 & e_3 & -e_2 \\ e_5 & -e_4 & -e_6 & -e_7 & e_1 & -1 & e_2 & e_3 \\ e_6 & -e_7 & e_5 & e_4 & -e_3 & -e_2 & -1 & e_1 \\ e_7 & e_6 & -e_4 & e_5 & e_2 & -e_3 & -e_1 & -1 \end{pmatrix}$$

flip=True

Triad fpi=1 D₈ L fp_sm=5→08H flat triad/mask bits
{ {1, 2, 3}, {1, 4, 5}, {1, 6, 7}, {1, 3, 2, 4, 5, 6, 7}
{2, 6, 4}, {2, 5, 7}, {3, 4, 7}, {3, 5, 6}} {0, 0, 0, 1, 0, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & e_5 & -e_4 & e_7 & -e_6 \\ e_2 & -e_3 & -1 & e_1 & -e_6 & e_7 & e_4 & -e_5 \\ e_3 & e_2 & -e_1 & -1 & e_7 & e_6 & -e_5 & -e_4 \\ e_4 & -e_5 & e_6 & -e_7 & -1 & e_1 & -e_2 & e_3 \\ e_5 & e_4 & -e_7 & -e_6 & -e_1 & -1 & e_3 & e_2 \\ e_6 & -e_7 & -e_4 & e_5 & e_2 & -e_3 & -1 & e_1 \\ e_7 & e_6 & e_5 & e_4 & -e_3 & -e_2 & -e_1 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

88 Φx_3 $0 \rightarrow -2/3$
 m_1 R

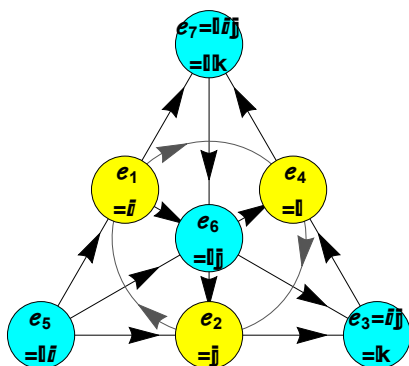


0apggsscc $\overline{Li}$
000000111₂ 3

flip=False

Triad fpi=9 D₈ L fp_sm=6→17H flat triad/mask bits
{ {1, 4, 2}, {1, 6, 3}, {1, 7, 5}, {1, 4, 2, 6, 3, 7, 5}
{2, 3, 5}, {2, 7, 6}, {3, 4, 7}, {4, 5, 6} } {1, 1, 1, 0, 1, 0, 0}

Fano plane

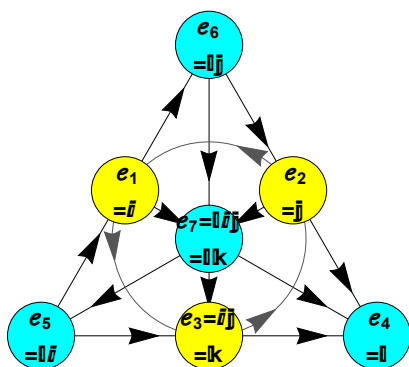


$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & -e_6 & e_2 & -e_7 & e_3 & e_5 \\ e_2 & e_4 & -1 & e_5 & -e_1 & -e_3 & -e_7 & e_6 \\ e_3 & e_6 & -e_5 & -1 & e_7 & e_2 & -e_1 & -e_4 \\ e_4 & -e_2 & e_1 & -e_7 & -1 & e_6 & -e_5 & e_3 \\ e_5 & e_7 & e_3 & -e_2 & -e_6 & -1 & e_4 & -e_1 \\ e_6 & -e_3 & e_7 & e_1 & e_5 & -e_4 & -1 & -e_2 \\ e_7 & -e_5 & -e_6 & e_4 & -e_3 & e_1 & e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=6 D₈ L fp_sm=6→17H flat triad/mask bits
{ {1, 3, 2}, {1, 7, 4}, {1, 6, 5}, {1, 2, 3, 7, 4, 6, 5}
{2, 4, 6}, {2, 7, 5}, {3, 4, 5}, {3, 6, 7} } {1, 1, 1, 0, 1, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & -e_7 & -e_6 & e_5 & e_4 \\ e_2 & e_3 & -1 & -e_1 & e_6 & -e_7 & -e_4 & e_5 \\ e_3 & -e_2 & e_1 & -1 & e_5 & -e_4 & e_7 & -e_6 \\ e_4 & e_7 & -e_6 & -e_5 & -1 & e_3 & e_2 & -e_1 \\ e_5 & e_6 & e_7 & e_4 & -e_3 & -1 & -e_1 & -e_2 \\ e_6 & -e_5 & e_4 & -e_7 & -e_2 & e_1 & -1 & e_3 \\ e_7 & -e_4 & -e_5 & e_6 & e_1 & e_2 & -e_3 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

89 Φx_2 $0 \rightarrow -2/3$
 c_1 R



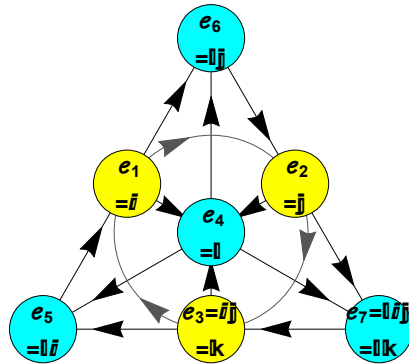
0apggsscc Cn
000000110₂ 112

flip=False

Triad fpi=5 D₈ L fp_sm=7→14H
{ {1, 2, 3}, {1, 4, 7}, {1, 6, 5},
{2, 4, 5}, {2, 7, 6}, {3, 4, 6}, {3, 5, 7} }

flat triad/mask bits
{1, 2, 3, 4, 7, 6, 5}
{0, 0, 1, 0, 1, 0, 0}

Fano plane



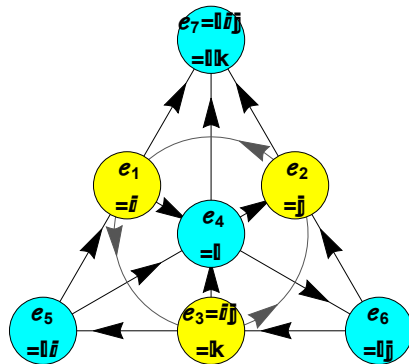
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & e_7 & -e_6 & e_5 & -e_4 \\ e_2 & -e_3 & -1 & e_1 & e_5 & -e_4 & -e_7 & e_6 \\ e_3 & e_2 & -e_1 & -1 & e_6 & e_7 & -e_4 & -e_5 \\ e_4 & -e_7 & -e_5 & -e_6 & -1 & e_2 & e_3 & e_1 \\ e_5 & e_6 & e_4 & -e_7 & -e_2 & -1 & -e_1 & e_3 \\ e_6 & -e_5 & e_7 & e_4 & -e_3 & e_1 & -1 & -e_2 \\ e_7 & e_4 & -e_6 & e_5 & -e_1 & -e_3 & e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=3 D₈ L fp_sm=4→1DH
{ {1, 3, 2}, {1, 4, 6}, {1, 7, 5},
{2, 5, 4}, {2, 7, 6}, {3, 4, 7}, {3, 5, 6} }

flat triad/mask bits
{1, 2, 3, 4, 6, 7, 5}
{1, 0, 1, 1, 1, 0, 0}

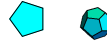
Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & e_6 & -e_7 & -e_4 & e_5 \\ e_2 & e_3 & -1 & -e_1 & -e_5 & e_4 & -e_7 & e_6 \\ e_3 & -e_2 & e_1 & -1 & e_7 & e_6 & -e_5 & -e_4 \\ e_4 & -e_6 & e_5 & -e_7 & -1 & -e_2 & e_1 & e_3 \\ e_5 & e_7 & -e_4 & -e_6 & e_2 & -1 & e_3 & -e_1 \\ e_6 & e_4 & e_7 & e_5 & -e_1 & -e_3 & -1 & -e_2 \\ e_7 & -e_5 & -e_6 & e_4 & -e_3 & e_1 & e_2 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

90

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 C_m 0 R


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 010001110₂ 115

flip=False

Triad fpi=3 D₈ L fp_sm=4→4FH

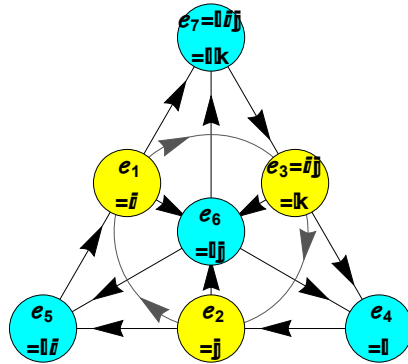
flat triad/mask bits

{{1, 3, 2}, {1, 6, 4}, {1, 7, 5},
 {2, 5, 4}, {2, 6, 7}, {3, 4, 7}, {3, 6, 5}}

{1, 3, 2, 6, 4, 7, 5}
 {1, 1, 1, 1, 0, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & -e_6 & -e_7 & e_4 & e_5 \\ e_2 & e_3 & -1 & -e_1 & -e_5 & e_4 & e_7 & -e_6 \\ e_3 & -e_2 & e_1 & -1 & e_7 & -e_6 & e_5 & -e_4 \\ e_4 & e_6 & e_5 & -e_7 & -1 & -e_2 & -e_1 & e_3 \\ e_5 & e_7 & -e_4 & e_6 & e_2 & -1 & -e_3 & -e_1 \\ e_6 & -e_4 & -e_7 & -e_5 & e_1 & e_3 & -1 & e_2 \\ e_7 & -e_5 & e_6 & e_4 & -e_3 & e_1 & -e_2 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=5 D₈ L fp_sm=7→46H

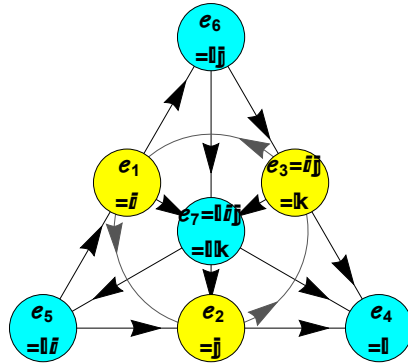
flat triad/mask bits

{{1, 2, 3}, {1, 7, 4}, {1, 6, 5},
 {2, 4, 5}, {2, 6, 7}, {3, 4, 6}, {3, 7, 5}}

{1, 3, 2, 7, 4, 6, 5}
 {0, 1, 1, 0, 0, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & -e_7 & -e_6 & e_5 & e_4 \\ e_2 & -e_3 & -1 & e_1 & e_5 & -e_4 & e_7 & -e_6 \\ e_3 & e_2 & -e_1 & -1 & e_6 & -e_7 & -e_4 & e_5 \\ e_4 & e_7 & -e_5 & -e_6 & -1 & e_2 & e_3 & -e_1 \\ e_5 & e_6 & e_4 & e_7 & -e_2 & -1 & -e_1 & -e_3 \\ e_6 & -e_5 & -e_7 & e_4 & -e_3 & e_1 & -1 & e_2 \\ e_7 & -e_4 & e_6 & -e_5 & e_1 & e_3 & -e_2 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

91

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$\bar{\text{H}}$
1

flip=False

Triad fpi=9 D₈ L fp_sm=6→3AH

flat triad/mask bits

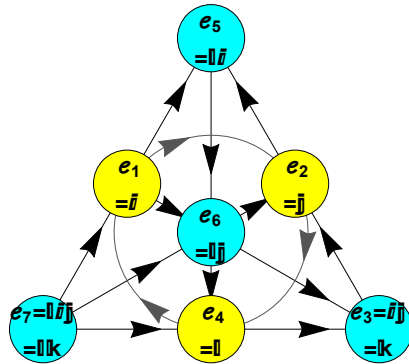
{ {1, 2, 4}, {1, 6, 3}, {1, 5, 7},

{1, 2, 4, 6, 3, 5, 7}

{2, 5, 3}, {2, 7, 6}, {3, 7, 4}, {4, 5, 6}}

{0, 1, 0, 1, 1, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & -e_6 & -e_2 & e_7 & e_3 & -e_5 \\ e_2 & -e_4 & -1 & -e_5 & e_1 & e_3 & -e_7 & e_6 \\ e_3 & e_6 & e_5 & -1 & -e_7 & -e_2 & -e_1 & e_4 \\ e_4 & e_2 & -e_1 & e_7 & -1 & e_6 & -e_5 & -e_3 \\ e_5 & -e_7 & -e_3 & e_2 & -e_6 & -1 & e_4 & e_1 \\ e_6 & -e_3 & e_7 & e_1 & e_5 & -e_4 & -1 & -e_2 \\ e_7 & e_5 & -e_6 & -e_4 & e_3 & -e_1 & e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=6 D₈ L fp_sm=6→3AH

flat triad/mask bits

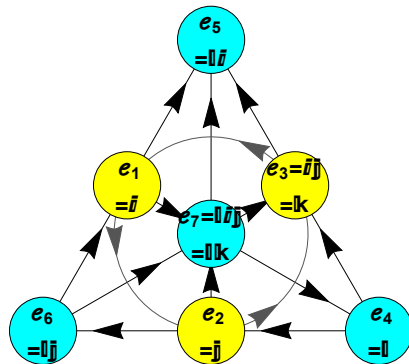
{ {1, 2, 3}, {1, 7, 4}, {1, 5, 6},

{1, 3, 2, 7, 4, 5, 6}

{2, 6, 4}, {2, 7, 5}, {3, 5, 4}, {3, 6, 7}}

{0, 1, 0, 1, 1, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & -e_7 & e_6 & -e_5 & e_4 \\ e_2 & -e_3 & -1 & e_1 & -e_6 & -e_7 & e_4 & e_5 \\ e_3 & e_2 & -e_1 & -1 & -e_5 & e_4 & e_7 & -e_6 \\ e_4 & e_7 & e_6 & e_5 & -1 & -e_3 & -e_2 & -e_1 \\ e_5 & -e_6 & e_7 & -e_4 & e_3 & -1 & e_1 & -e_2 \\ e_6 & e_5 & -e_4 & -e_7 & e_2 & -e_1 & -1 & e_3 \\ e_7 & -e_4 & -e_5 & e_6 & e_1 & e_2 & -e_3 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

92 Φx_1 $\begin{smallmatrix} 0 \rightarrow -2/3 \\ \text{R} \\ o_1 \end{smallmatrix}$



0apggsscc Uut
000000101₂ 113

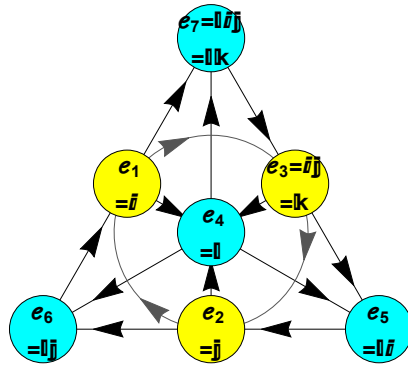
flip=False

Triad fpi=2 D₈ L fp_sm=8→15H
{ {1, 3, 2}, {1, 4, 5}, {1, 7, 6},
{2, 4, 7}, {2, 6, 5}, {3, 4, 6}, {3, 5, 7} }

flat triad/mask bits
{1, 3, 2, 4, 5, 7, 6}
{1, 0, 1, 0, 1, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & e_5 & -e_4 & -e_7 & e_6 \\ e_2 & e_3 & -1 & -e_1 & e_7 & -e_6 & e_5 & -e_4 \\ e_3 & -e_2 & e_1 & -1 & e_6 & e_7 & -e_4 & -e_5 \\ e_4 & -e_5 & -e_7 & -e_6 & -1 & e_1 & e_3 & e_2 \\ e_5 & e_4 & e_6 & -e_7 & -e_1 & -1 & -e_2 & e_3 \\ e_6 & e_7 & -e_5 & e_4 & -e_3 & e_2 & -1 & -e_1 \\ e_7 & -e_6 & e_4 & e_5 & -e_2 & -e_3 & e_1 & -1 \end{pmatrix}$$

Fano plane



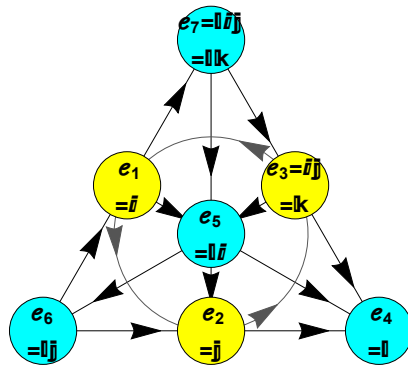
flip=True

Triad fpi=1 D₈ L fp_sm=5→16H
{ {1, 2, 3}, {1, 5, 4}, {1, 7, 6},
{2, 4, 6}, {2, 7, 5}, {3, 4, 7}, {3, 5, 6} }

flat triad/mask bits
{1, **3**, **2**, 5, 4, 7, 6}
{0, 1, 1, 0, 1, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & -e_5 & e_4 & -e_7 & e_6 \\ e_2 & -e_3 & -1 & e_1 & e_6 & -e_7 & -e_4 & e_5 \\ e_3 & e_2 & -e_1 & -1 & e_7 & e_6 & -e_5 & -e_4 \\ e_4 & e_5 & -e_6 & -e_7 & -1 & -e_1 & e_2 & e_3 \\ e_5 & -e_4 & e_7 & -e_6 & e_1 & -1 & e_3 & -e_2 \\ e_6 & e_7 & e_4 & e_5 & -e_2 & -e_3 & -1 & -e_1 \\ e_7 & -e_6 & -e_5 & e_4 & -e_3 & e_2 & e_1 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

93

 $g_{Om}^{gB} \begin{smallmatrix} 0 \\ R \end{smallmatrix}$ 

0apggsscc $\overline{F1}$
000001101₂ 114

flip=False

Triad fpi=2 D₈ L fp_sm=8→38H

flat triad/mask bits

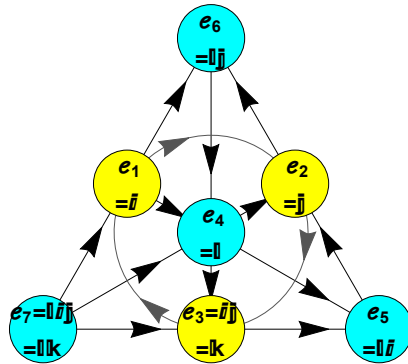
{ {1, 2, 3}, {1, 4, 5}, {1, 6, 7},

{1, 2, 3, 4, 5, 6, 7}

{2, 7, 4}, {2, 6, 5}, {3, 6, 4}, {3, 5, 7}}

{0, 0, 0, 1, 1, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & e_5 & -e_4 & e_7 & -e_6 \\ e_2 & -e_3 & -1 & e_1 & -e_7 & -e_6 & e_5 & e_4 \\ e_3 & e_2 & -e_1 & -1 & -e_6 & e_7 & e_4 & -e_5 \\ e_4 & -e_5 & e_7 & e_6 & -1 & e_1 & -e_3 & -e_2 \\ e_5 & e_4 & e_6 & -e_7 & -e_1 & -1 & -e_2 & e_3 \\ e_6 & -e_7 & -e_5 & -e_4 & e_3 & e_2 & -1 & e_1 \\ e_7 & e_6 & -e_4 & e_5 & e_2 & -e_3 & -e_1 & -1 \end{pmatrix}$$

flip=True

Triad fpi=1 D₈ L fp_sm=5→3BH

flat triad/mask bits

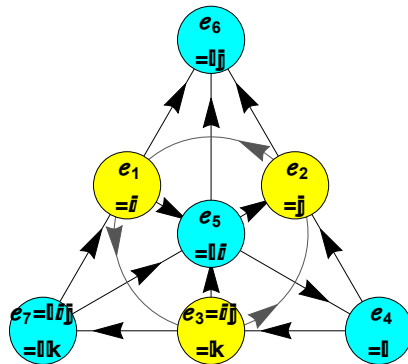
{ {1, 3, 2}, {1, 5, 4}, {1, 6, 7},

{1, 2, 3, 5, 4, 6, 7}

{2, 6, 4}, {2, 7, 5}, {3, 7, 4}, {3, 5, 6}}

{1, 1, 0, 1, 1, 1, 0}

Fano plane

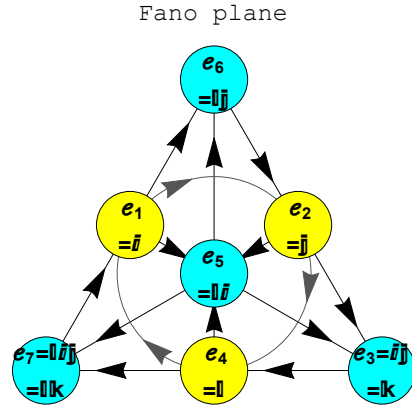


$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & -e_5 & e_4 & e_7 & -e_6 \\ e_2 & e_3 & -1 & -e_1 & -e_6 & -e_7 & e_4 & e_5 \\ e_3 & -e_2 & e_1 & -1 & -e_7 & e_6 & -e_5 & e_4 \\ e_4 & e_5 & e_6 & e_7 & -1 & -e_1 & -e_2 & -e_3 \\ e_5 & -e_4 & e_7 & -e_6 & e_1 & -1 & e_3 & -e_2 \\ e_6 & -e_7 & -e_4 & e_5 & e_2 & -e_3 & -1 & e_1 \\ e_7 & e_6 & -e_5 & -e_4 & e_3 & e_2 & -e_1 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
 Quantum Bits #
 94 $e_{yd} \bar{L}$  0apggsscc Sg
 000010000₂ 106

flip=False

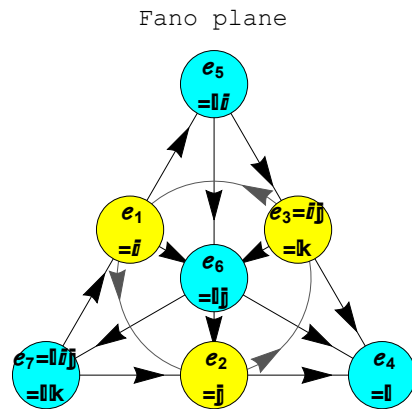
Triad fpi=7 BC₈ L fp_sm=3→02H flat triad/mask bits
 {{1, 2, 4}, {1, 5, 3}, {1, 6, 7}, {1, 2, 4, 5, 3, 6, 7}}
 {{2, 3, 6}, {2, 5, 7}, {3, 4, 7}, {4, 5, 6}} {0, 1, 0, 0, 0, 0, 0}



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & -e_5 & -e_2 & e_3 & e_7 & -e_6 \\ e_2 & -e_4 & -1 & e_6 & e_1 & e_7 & -e_3 & -e_5 \\ e_3 & e_5 & -e_6 & -1 & e_7 & -e_1 & e_2 & -e_4 \\ e_4 & e_2 & -e_1 & -e_7 & -1 & e_6 & -e_5 & e_3 \\ e_5 & -e_3 & -e_7 & e_1 & -e_6 & -1 & e_4 & e_2 \\ e_6 & -e_7 & e_3 & -e_2 & e_5 & -e_4 & -1 & e_1 \\ e_7 & e_6 & e_5 & e_4 & -e_3 & -e_2 & -e_1 & -1 \end{pmatrix}$$

flip=True

Triad fpi=4 BC₈ L fp_sm=3→02H flat triad/mask bits
 {{1, 2, 3}, {1, 6, 4}, {1, 5, 7}, {1, 3, 2, 6, 4, 5, 7}}
 {{2, 4, 7}, {2, 5, 6}, {3, 4, 5}, {3, 6, 7}} {0, 1, 0, 0, 0, 0, 0}



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & -e_6 & e_7 & e_4 & -e_5 \\ e_2 & -e_3 & -1 & e_1 & e_7 & e_6 & -e_5 & -e_4 \\ e_3 & e_2 & -e_1 & -1 & e_5 & -e_4 & e_7 & -e_6 \\ e_4 & e_6 & -e_7 & -e_5 & -1 & e_3 & -e_1 & e_2 \\ e_5 & -e_7 & -e_6 & e_4 & -e_3 & -1 & e_2 & e_1 \\ e_6 & -e_4 & e_5 & -e_7 & e_1 & -e_2 & -1 & e_3 \\ e_7 & e_5 & e_4 & e_6 & -e_2 & -e_1 & -e_3 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

95

 $\nabla_{\tau} \frac{0}{W_m} \frac{L}{L}$


0apggsscc Lr
0011111000₂ 103

flip=False

Triad fpi=24 BC₈ R fp_sm=3→28H

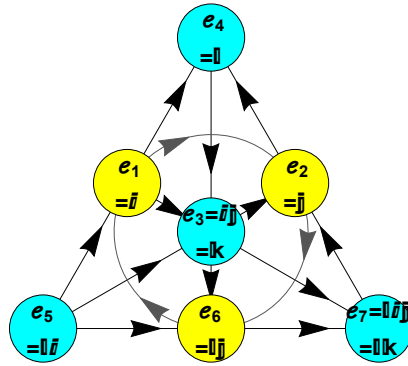
flat triad/mask bits

{{1, 2, 6}, {1, 3, 7}, {1, 4, 5},
{2, 5, 3}, {2, 4, 7}, {3, 6, 4}, {5, 6, 7}}

{1, 2, 6, 3, 7, 4, 5}
{0, 0, 0, 1, 0, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & e_7 & e_5 & -e_4 & -e_2 & -e_3 \\ e_2 & -e_6 & -1 & -e_5 & e_7 & e_3 & e_1 & -e_4 \\ e_3 & -e_7 & e_5 & -1 & -e_6 & -e_2 & e_4 & e_1 \\ e_4 & -e_5 & -e_7 & e_6 & -1 & e_1 & -e_3 & e_2 \\ e_5 & e_4 & -e_3 & e_2 & -e_1 & -1 & e_7 & -e_6 \\ e_6 & e_2 & -e_1 & -e_4 & e_3 & -e_7 & -1 & e_5 \\ e_7 & e_3 & e_4 & -e_1 & -e_2 & e_6 & -e_5 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=23 BC₈ R fp_sm=2→2BH

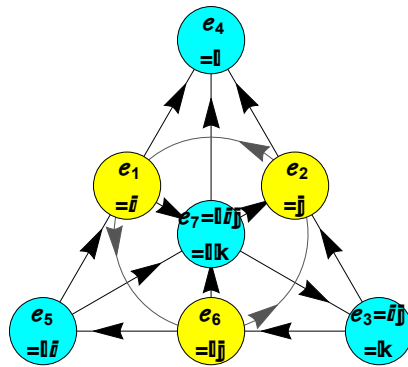
flat triad/mask bits

{{1, 6, 2}, {1, 7, 3}, {1, 4, 5},
{2, 4, 3}, {2, 5, 7}, {3, 6, 5}, {4, 6, 7}}

{1, 2, 6, 7, 3, 4, 5}
{1, 1, 0, 1, 0, 1, 0}

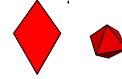
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & -e_7 & e_5 & -e_4 & e_2 & e_3 \\ e_2 & e_6 & -1 & -e_4 & e_3 & e_7 & -e_1 & -e_5 \\ e_3 & e_7 & e_4 & -1 & -e_2 & -e_6 & e_5 & -e_1 \\ e_4 & -e_5 & -e_3 & e_2 & -1 & e_1 & e_7 & -e_6 \\ e_5 & e_4 & -e_7 & e_6 & -e_1 & -1 & -e_3 & e_2 \\ e_6 & -e_2 & e_1 & -e_5 & -e_7 & e_3 & -1 & e_4 \\ e_7 & -e_3 & e_5 & e_1 & e_6 & -e_2 & -e_4 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

96

 $\overline{t}_{r_m}^{0 \rightarrow 1/3}$


0apggsscc Fm
011111001₂ 100

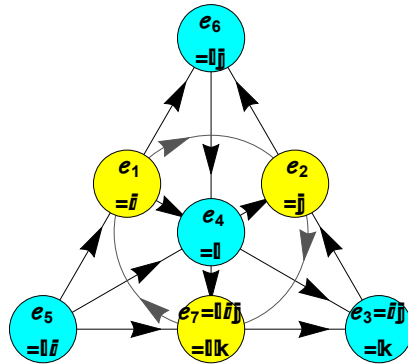
flip=False

Triad fpi=26 BC₈ R fp_sm=8→5EH
{ {1, 2, 7}, {1, 4, 3}, {1, 6, 5},
{2, 6, 3}, {2, 5, 4}, {3, 5, 7}, {4, 7, 6} }

flat triad/mask bits
{1, 2, 7, 4, 3, 6, 5}
{0, 1, 1, 1, 1, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & -e_4 & e_3 & -e_6 & e_5 & -e_2 \\ e_2 & -e_7 & -1 & -e_6 & -e_5 & e_4 & e_3 & e_1 \\ e_3 & e_4 & e_6 & -1 & -e_1 & e_7 & -e_2 & -e_5 \\ e_4 & -e_3 & e_5 & e_1 & -1 & -e_2 & -e_7 & e_6 \\ e_5 & e_6 & -e_4 & -e_7 & e_2 & -1 & -e_1 & e_3 \\ e_6 & -e_5 & -e_3 & e_2 & e_7 & e_1 & -1 & -e_4 \\ e_7 & e_2 & -e_1 & e_5 & -e_6 & -e_3 & e_4 & -1 \end{pmatrix}$$

Fano plane



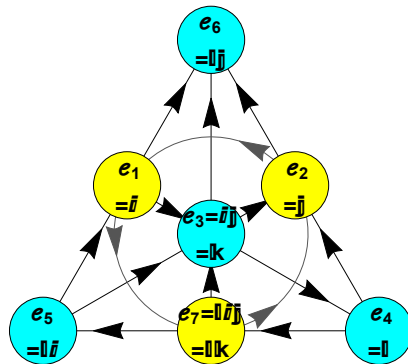
flip=True

Triad fpi=25 BC₈ R fp_sm=5→5DH
{ {1, 7, 2}, {1, 3, 4}, {1, 6, 5},
{2, 5, 3}, {2, 6, 4}, {3, 6, 7}, {4, 7, 5} }

flat triad/mask bits
{1, 2, 7, 3, 4, 6, 5}
{1, 0, 1, 1, 1, 0, 1}

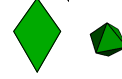
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & e_4 & -e_3 & -e_6 & e_5 & e_2 \\ e_2 & e_7 & -1 & -e_5 & -e_6 & e_3 & e_4 & -e_1 \\ e_3 & -e_4 & e_5 & -1 & e_1 & -e_2 & e_7 & -e_6 \\ e_4 & e_3 & e_6 & -e_1 & -1 & -e_7 & -e_2 & e_5 \\ e_5 & e_6 & -e_3 & e_2 & e_7 & -1 & -e_1 & -e_4 \\ e_6 & -e_5 & -e_4 & -e_7 & e_2 & e_1 & -1 & e_3 \\ e_7 & -e_2 & e_1 & e_6 & -e_5 & e_4 & -e_3 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

97

 $\overline{t}_{g_m}^{0 \rightarrow 1/3}$


0apggsscc
011111010₂

Cm
96

flip=False

Triad fpi=29 BC₈ R fp_sm=7→5FH

flat triad/mask bits

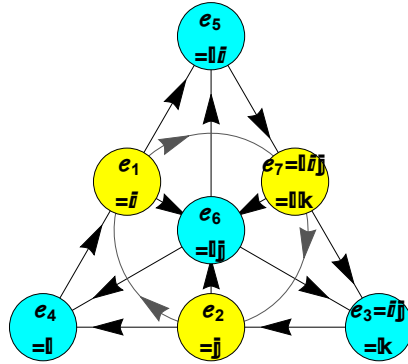
{ {1, 7, 2}, {1, 6, 3}, {1, 5, 4},

{1, 7, 2, 6, 3, 5, 4}

{2, 4, 3}, {2, 6, 5}, {3, 5, 7}, {4, 7, 6}}

{1, 1, 1, 1, 1, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & -e_6 & -e_5 & e_4 & e_3 & e_2 \\ e_2 & e_7 & -1 & -e_4 & e_3 & -e_6 & e_5 & -e_1 \\ e_3 & e_6 & e_4 & -1 & -e_2 & e_7 & -e_1 & -e_5 \\ e_4 & e_5 & -e_3 & e_2 & -1 & -e_1 & -e_7 & e_6 \\ e_5 & -e_4 & e_6 & -e_7 & e_1 & -1 & -e_2 & e_3 \\ e_6 & -e_3 & -e_5 & e_1 & e_7 & e_2 & -1 & -e_4 \\ e_7 & -e_2 & e_1 & e_5 & -e_6 & -e_3 & e_4 & -1 \end{pmatrix}$$

flip=True

Triad fpi=27 BC₈ R fp_sm=4→56H

flat triad/mask bits

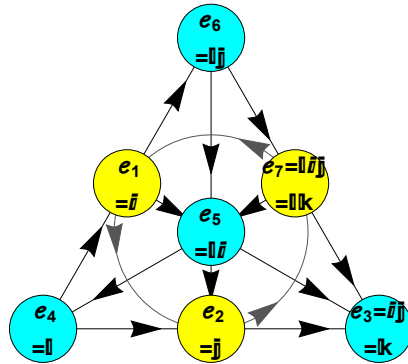
{ {1, 2, 7}, {1, 5, 3}, {1, 6, 4},

{1, 7, 2, 5, 3, 6, 4}

{2, 3, 4}, {2, 6, 5}, {3, 6, 7}, {4, 7, 5}}

{0, 1, 1, 0, 1, 0, 1}

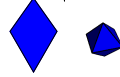
Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & -e_5 & -e_6 & e_3 & e_4 & -e_2 \\ e_2 & -e_7 & -1 & e_4 & -e_3 & -e_6 & e_5 & e_1 \\ e_3 & e_5 & -e_4 & -1 & e_2 & -e_1 & e_7 & -e_6 \\ e_4 & e_6 & e_3 & -e_2 & -1 & -e_7 & -e_1 & e_5 \\ e_5 & -e_3 & e_6 & e_1 & e_7 & -1 & -e_2 & -e_4 \\ e_6 & -e_4 & -e_5 & -e_7 & e_1 & e_2 & -1 & e_3 \\ e_7 & e_2 & -e_1 & e_6 & -e_5 & e_4 & -e_3 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

98

 $\overline{t}_{b_m}^{-2/3 \rightarrow 1/3}$


0apggsscc Ru
011111011₂ 44

flip=False

Triad fpi=28 BC₈ R fp_sm=3→57H

flat triad/mask bits

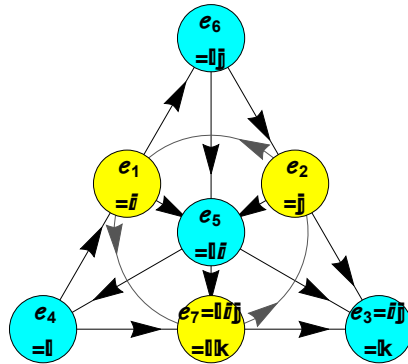
{ {1, 7, 2}, {1, 5, 3}, {1, 6, 4},

{1, 2, 7, 5, 3, 6, 4}

{2, 3, 6}, {2, 5, 4}, {3, 4, 7}, {5, 7, 6}}

{1, 1, 1, 0, 1, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & -e_5 & -e_6 & e_3 & e_4 & e_2 \\ e_2 & e_7 & -1 & e_6 & -e_5 & e_4 & -e_3 & -e_1 \\ e_3 & e_5 & -e_6 & -1 & e_7 & -e_1 & e_2 & -e_4 \\ e_4 & e_6 & e_5 & -e_7 & -1 & -e_2 & -e_1 & e_3 \\ e_5 & -e_3 & -e_4 & e_1 & e_2 & -1 & -e_7 & e_6 \\ e_6 & -e_4 & e_3 & -e_2 & e_1 & e_7 & -1 & -e_5 \\ e_7 & -e_2 & e_1 & e_4 & -e_3 & -e_6 & e_5 & -1 \end{pmatrix}$$

flip=True

Triad fpi=30 BC₈ R fp_sm=6→5CH

flat triad/mask bits

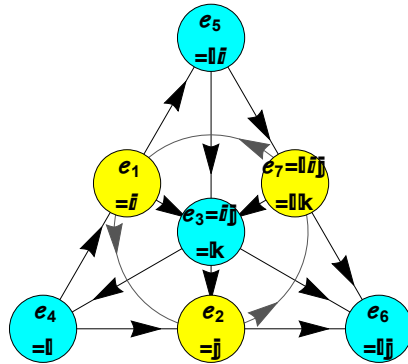
{ {1, 2, 7}, {1, 3, 6}, {1, 5, 4},

{1, 7, 2, 3, 6, 5, 4}

{2, 5, 3}, {2, 6, 4}, {3, 4, 7}, {5, 7, 6}}

{0, 0, 1, 1, 1, 0, 1}

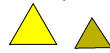
Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & e_6 & -e_5 & e_4 & -e_3 & -e_2 \\ e_2 & -e_7 & -1 & -e_5 & -e_6 & e_3 & e_4 & e_1 \\ e_3 & -e_6 & e_5 & -1 & e_7 & -e_2 & e_1 & -e_4 \\ e_4 & e_5 & e_6 & -e_7 & -1 & -e_1 & -e_2 & e_3 \\ e_5 & -e_4 & -e_3 & e_2 & e_1 & -1 & -e_7 & e_6 \\ e_6 & e_3 & -e_4 & -e_1 & e_2 & e_7 & -1 & -e_5 \\ e_7 & e_2 & -e_1 & e_4 & -e_3 & -e_6 & e_5 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

99

 $\tau_{ym} \bar{L}$ 

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000111000₂ 99

flip=False

Triad fpi=23 BC₈ L fp_sm=2→2CH

flat triad/mask bits

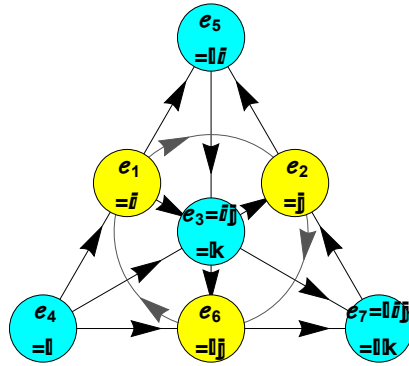
{ {1, 2, 6}, {1, 3, 7}, {1, 5, 4},

{1, 2, 6, 3, 7, 5, 4}

{2, 4, 3}, {2, 5, 7}, {3, 6, 5}, {4, 6, 7}}

{0, 0, 1, 1, 0, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & e_7 & -e_5 & e_4 & -e_2 & -e_3 \\ e_2 & -e_6 & -1 & -e_4 & e_3 & e_7 & e_1 & -e_5 \\ e_3 & -e_7 & e_4 & -1 & -e_2 & -e_6 & e_5 & e_1 \\ e_4 & e_5 & -e_3 & e_2 & -1 & -e_1 & e_7 & -e_6 \\ e_5 & -e_4 & -e_7 & e_6 & e_1 & -1 & -e_3 & e_2 \\ e_6 & e_2 & -e_1 & -e_5 & -e_7 & e_3 & -1 & e_4 \\ e_7 & e_3 & e_5 & -e_1 & e_6 & -e_2 & -e_4 & -1 \end{pmatrix}$$

flip=True

Triad fpi=24 BC₈ L fp_sm=3→2FH

flat triad/mask bits

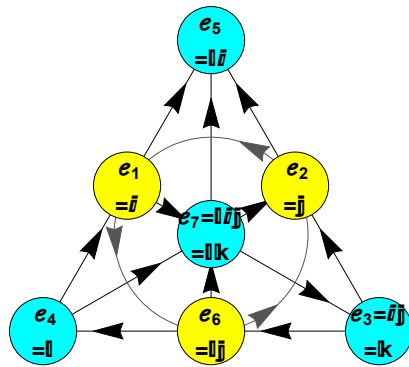
{ {1, 6, 2}, {1, 7, 3}, {1, 5, 4},

{1, 2, 6, 7, 3, 5, 4}

{2, 5, 3}, {2, 4, 7}, {3, 6, 4}, {5, 6, 7}}

{1, 1, 1, 1, 0, 1, 0}

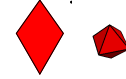
Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & -e_7 & -e_5 & e_4 & e_2 & e_3 \\ e_2 & e_6 & -1 & -e_5 & e_7 & e_3 & -e_1 & -e_4 \\ e_3 & e_7 & e_5 & -1 & -e_6 & -e_2 & e_4 & -e_1 \\ e_4 & e_5 & -e_7 & e_6 & -1 & -e_1 & -e_3 & e_2 \\ e_5 & -e_4 & -e_3 & e_2 & e_1 & -1 & e_7 & -e_6 \\ e_6 & -e_2 & e_1 & -e_4 & e_3 & -e_7 & -1 & e_5 \\ e_7 & -e_3 & e_4 & e_1 & -e_2 & e_6 & -e_5 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

100 $\overline{t}_{rm} \xrightarrow{0 \rightarrow -2/3} R$



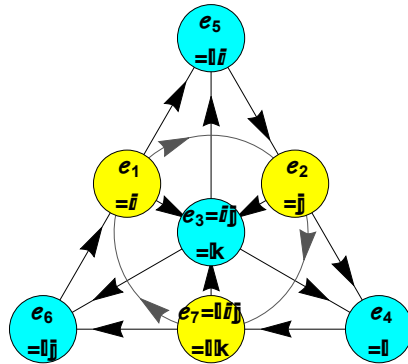
0apggsscc Am
011111101₂ 95

flip=False

Triad fpi=26 BC₈ R fp_sm=8→40H
{ {1, 2, 7}, {1, 3, 4}, {1, 5, 6},
{2, 3, 6}, {2, 4, 5}, {3, 5, 7}, {4, 7, 6} }

flat triad/mask bits
{1, 2, 7, 3, 4, 5, 6}
{0, 0, 0, 0, 0, 0, 1}

Fano plane



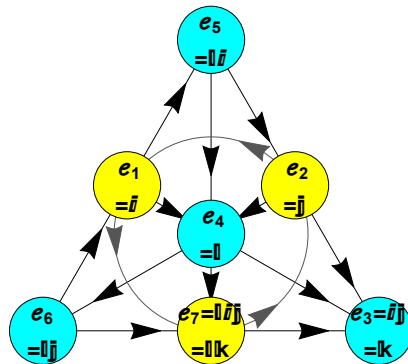
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & e_4 & -e_3 & e_6 & -e_5 & -e_2 \\ e_2 & -e_7 & -1 & e_6 & e_5 & -e_4 & -e_3 & e_1 \\ e_3 & -e_4 & -e_6 & -1 & e_1 & e_7 & e_2 & -e_5 \\ e_4 & e_3 & -e_5 & -e_1 & -1 & e_2 & -e_7 & e_6 \\ e_5 & -e_6 & e_4 & -e_7 & -e_2 & -1 & e_1 & e_3 \\ e_6 & e_5 & e_3 & -e_2 & e_7 & -e_1 & -1 & -e_4 \\ e_7 & e_2 & -e_1 & e_5 & -e_6 & -e_3 & e_4 & -1 \end{pmatrix}$$

flip=True

Triad fpi=25 BC₈ R fp_sm=5→43H
{ {1, 7, 2}, {1, 4, 3}, {1, 5, 6},
{2, 3, 5}, {2, 4, 6}, {3, 6, 7}, {4, 7, 5} }

flat triad/mask bits
{1, 2, 7, 4, 3, 5, 6}
{1, 1, 0, 0, 0, 0, 1}

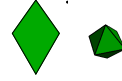
Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & -e_4 & e_3 & e_6 & -e_5 & e_2 \\ e_2 & e_7 & -1 & e_5 & e_6 & -e_3 & -e_4 & -e_1 \\ e_3 & e_4 & -e_5 & -1 & -e_1 & e_2 & e_7 & -e_6 \\ e_4 & -e_3 & -e_6 & e_1 & -1 & -e_7 & e_2 & e_5 \\ e_5 & -e_6 & e_3 & -e_2 & e_7 & -1 & e_1 & -e_4 \\ e_6 & e_5 & e_4 & -e_7 & -e_2 & -e_1 & -1 & e_3 \\ e_7 & -e_2 & e_1 & e_6 & -e_5 & e_4 & -e_3 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

101

 $\overline{t}_{gm}^{0 \rightarrow -2/3}$


0apggsscc U
011111110₂ 92

flip=False

Triad fpi=29 BC₈ R fp_sm=7→41H

flat triad/mask bits

{ {1, 7, 2}, {1, 3, 6}, {1, 4, 5},

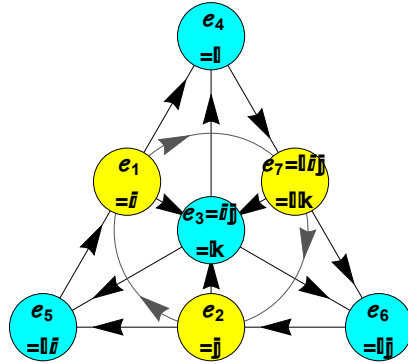
{1, 7, 2, 3, 6, 4, 5}

{2, 3, 4}, {2, 5, 6}, {3, 5, 7}, {4, 7, 6}}

{1, 0, 0, 0, 0, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & e_6 & e_5 & -e_4 & -e_3 & e_2 \\ e_2 & e_7 & -1 & e_4 & -e_3 & e_6 & -e_5 & -e_1 \\ e_3 & -e_6 & -e_4 & -1 & e_2 & e_7 & e_1 & -e_5 \\ e_4 & -e_5 & e_3 & -e_2 & -1 & e_1 & -e_7 & e_6 \\ e_5 & e_4 & -e_6 & -e_7 & -e_1 & -1 & e_2 & e_3 \\ e_6 & e_3 & e_5 & -e_1 & e_7 & -e_2 & -1 & -e_4 \\ e_7 & -e_2 & e_1 & e_5 & -e_6 & -e_3 & e_4 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=27 BC₈ R fp_sm=4→48H

flat triad/mask bits

{ {1, 2, 7}, {1, 3, 5}, {1, 4, 6},

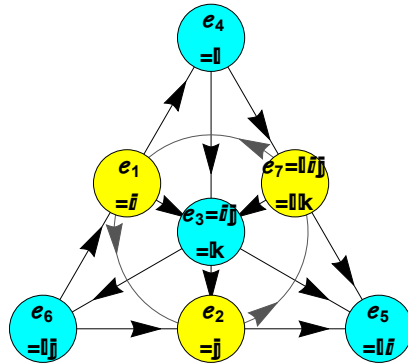
{1, 7, 2, 3, 5, 4, 6}

{2, 4, 3}, {2, 5, 6}, {3, 6, 7}, {4, 7, 5}}

{0, 0, 0, 1, 0, 0, 1}

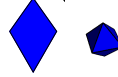
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & e_5 & e_6 & -e_3 & -e_4 & -e_2 \\ e_2 & -e_7 & -1 & -e_4 & e_3 & e_6 & -e_5 & e_1 \\ e_3 & -e_5 & e_4 & -1 & -e_2 & e_1 & e_7 & -e_6 \\ e_4 & -e_6 & -e_3 & e_2 & -1 & -e_7 & e_1 & e_5 \\ e_5 & e_3 & -e_6 & -e_1 & e_7 & -1 & e_2 & -e_4 \\ e_6 & e_4 & e_5 & -e_7 & -e_1 & -e_2 & -1 & e_3 \\ e_7 & e_2 & -e_1 & e_6 & -e_5 & e_4 & -e_3 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

102 $\overline{t}_{b_m}^{-2/3} \overline{R}$



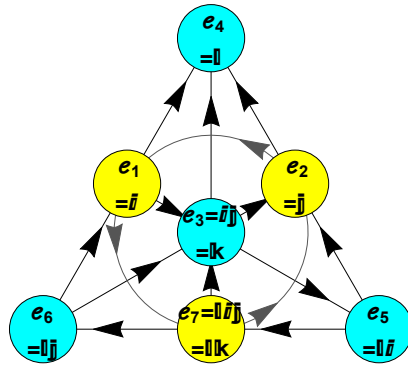
0apggsscc $\overline{SB}$
011111111₂ 51

flip=False

Triad fpi=28 BC₈ R fp_sm=3→49H
{ {1, 7, 2}, {1, 3, 5}, {1, 4, 6},
{2, 6, 3}, {2, 4, 5}, {3, 4, 7}, {5, 7, 6} }

flat triad/mask bits
{1, **2**, **7**, 3, 5, 4, 6}
{1, 0, 0, 1, 0, 0, 1}

Fano plane



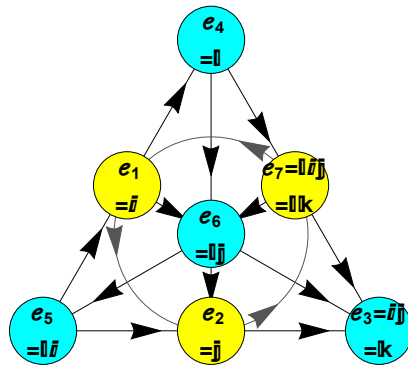
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & e_5 & e_6 & -e_3 & -e_4 & e_2 \\ e_2 & e_7 & -1 & -e_6 & e_5 & -e_4 & e_3 & -e_1 \\ e_3 & -e_5 & e_6 & -1 & e_7 & e_1 & -e_2 & -e_4 \\ e_4 & -e_6 & -e_5 & -e_7 & -1 & e_2 & e_1 & e_3 \\ e_5 & e_3 & e_4 & -e_1 & -e_2 & -1 & -e_7 & e_6 \\ e_6 & e_4 & -e_3 & e_2 & -e_1 & e_7 & -1 & -e_5 \\ e_7 & -e_2 & e_1 & e_4 & -e_3 & -e_6 & e_5 & -1 \end{pmatrix}$$

flip=True

Triad fpi=30 BC₈ R fp_sm=6→42H
{ {1, 2, 7}, {1, 6, 3}, {1, 4, 5},
{2, 3, 5}, {2, 4, 6}, {3, 4, 7}, {5, 7, 6} }

flat triad/mask bits
{1, **7**, **2**, 6, 3, 4, 5}
{0, 1, 0, 0, 0, 0, 1}

Fano plane



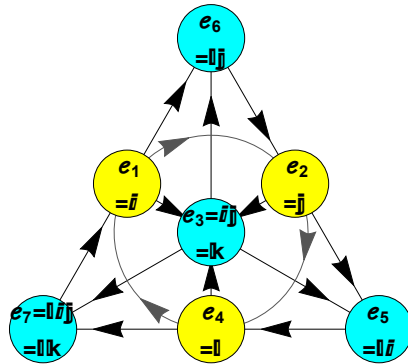
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & -e_6 & e_5 & -e_4 & e_3 & -e_2 \\ e_2 & -e_7 & -1 & e_5 & e_6 & -e_3 & -e_4 & e_1 \\ e_3 & e_6 & -e_5 & -1 & e_7 & e_2 & -e_1 & -e_4 \\ e_4 & -e_5 & -e_6 & -e_7 & -1 & e_1 & e_2 & e_3 \\ e_5 & e_4 & e_3 & -e_2 & -e_1 & -1 & -e_7 & e_6 \\ e_6 & -e_3 & e_4 & e_1 & -e_2 & e_7 & -1 & -e_5 \\ e_7 & e_2 & -e_1 & e_4 & -e_3 & -e_6 & e_5 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #
103 $\overline{d}_{01R} \xrightarrow{+1/3}$  0apggsscc Pa
010010101₂ 91

flip=False

Triad fpi=8 BC₈ L fp_sm=2→60H flat triad/mask bits
{ {1, 2, 4}, {1, 3, 5}, {1, 6, 7}, {1, 2, 4, 3, 5, 6, 7}
{2, 3, 7}, {2, 5, 6}, {3, 6, 4}, {4, 7, 5}} {0, 0, 0, 0, 0, 1, 1}

Fano plane

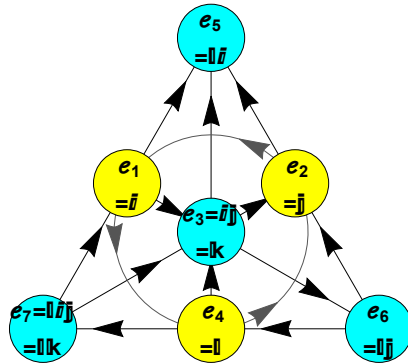


$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & e_5 & -e_2 & -e_3 & e_7 & -e_6 \\ e_2 & -e_4 & -1 & e_7 & e_1 & e_6 & -e_5 & -e_3 \\ e_3 & -e_5 & -e_7 & -1 & -e_6 & e_1 & e_4 & e_2 \\ e_4 & e_2 & -e_1 & e_6 & -1 & -e_7 & -e_3 & e_5 \\ e_5 & e_3 & -e_6 & -e_1 & e_7 & -1 & e_2 & -e_4 \\ e_6 & -e_7 & e_5 & -e_4 & e_3 & -e_2 & -1 & e_1 \\ e_7 & e_6 & e_3 & -e_2 & -e_5 & e_4 & -e_1 & -1 \end{pmatrix}$$

flip=True

Triad fpi=10 BC₈ L fp_sm=5→69H flat triad/mask bits
{ {1, 4, 2}, {1, 3, 6}, {1, 5, 7}, {1, 2, 4, 3, 6, 5, 7}
{2, 7, 3}, {2, 5, 6}, {3, 5, 4}, {4, 7, 6}} {1, 0, 0, 1, 0, 1, 1}

Fano plane

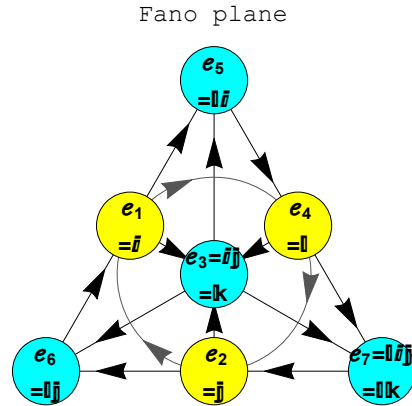


$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & e_6 & e_2 & e_7 & -e_3 & -e_5 \\ e_2 & e_4 & -1 & -e_7 & -e_1 & e_6 & -e_5 & e_3 \\ e_3 & -e_6 & e_7 & -1 & -e_5 & e_4 & e_1 & -e_2 \\ e_4 & -e_2 & e_1 & e_5 & -1 & -e_3 & -e_7 & e_6 \\ e_5 & -e_7 & -e_6 & -e_4 & e_3 & -1 & e_2 & e_1 \\ e_6 & e_3 & e_5 & -e_1 & e_7 & -e_2 & -1 & -e_4 \\ e_7 & e_5 & -e_3 & e_2 & -e_6 & -e_1 & e_4 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #
104 $\overline{d}_{c1} \xrightarrow{+1/3} R$  0apggsscc Ra
010010110₂ 88

flip=False

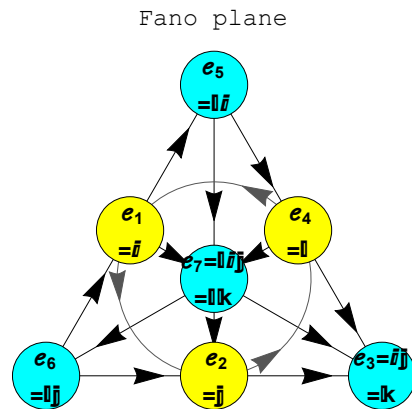
Triad fpi=11 BC₈ L fp_sm=1→61H flat triad/mask bits
{ {1, 4, 2}, {1, 3, 7}, {1, 5, 6}, {1, 4, 2, 3, 7, 5, 6}
{2, 3, 5}, {2, 6, 7}, {3, 6, 4}, {4, 7, 5}} {1, 0, 0, 0, 0, 1, 1}



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & e_7 & e_2 & e_6 & -e_5 & -e_3 \\ e_2 & e_4 & -1 & e_5 & -e_1 & -e_3 & e_7 & -e_6 \\ e_3 & -e_7 & -e_5 & -1 & -e_6 & e_2 & e_4 & e_1 \\ e_4 & -e_2 & e_1 & e_6 & -1 & -e_7 & -e_3 & e_5 \\ e_5 & -e_6 & e_3 & -e_2 & e_7 & -1 & e_1 & -e_4 \\ e_6 & e_5 & -e_7 & -e_4 & e_3 & -e_1 & -1 & e_2 \\ e_7 & e_3 & e_6 & -e_1 & -e_5 & e_4 & -e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=12 BC₈ L fp_sm=4→62H flat triad/mask bits
{ {1, 2, 4}, {1, 7, 3}, {1, 5, 6}, {1, 4, 2, 7, 3, 5, 6}
{2, 3, 6}, {2, 5, 7}, {3, 5, 4}, {4, 7, 6}} {0, 1, 0, 0, 0, 1, 1}



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & -e_7 & -e_2 & e_6 & -e_5 & e_3 \\ e_2 & -e_4 & -1 & e_6 & e_1 & e_7 & -e_3 & -e_5 \\ e_3 & e_7 & -e_6 & -1 & -e_5 & e_4 & e_2 & -e_1 \\ e_4 & e_2 & -e_1 & e_5 & -1 & -e_3 & -e_7 & e_6 \\ e_5 & -e_6 & -e_7 & -e_4 & e_3 & -1 & e_1 & e_2 \\ e_6 & e_5 & e_3 & -e_2 & e_7 & -e_1 & -1 & -e_4 \\ e_7 & -e_3 & e_5 & e_1 & -e_6 & -e_2 & e_4 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

105 $\overline{d}_{m1}^{1/3} \overline{R}$



0apggsscc $\overline{La}$
010010111₂ 57

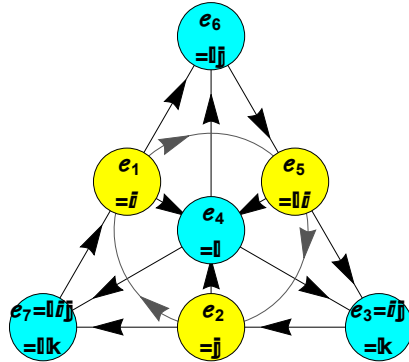
flip=False

Triad fpi=14 BC₈ L fp_sm=7→6BH
{ {1, 5, 2}, {1, 4, 3}, {1, 6, 7},
{2, 7, 3}, {2, 4, 6}, {3, 6, 5}, {4, 7, 5} }

flat triad/mask bits
{1, 5, 2, 4, 3, 6, 7}
{1, 1, 0, 1, 0, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & -e_4 & e_3 & e_2 & e_7 & -e_6 \\ e_2 & e_5 & -1 & -e_7 & e_6 & -e_1 & -e_4 & e_3 \\ e_3 & e_4 & e_7 & -1 & -e_1 & -e_6 & e_5 & -e_2 \\ e_4 & -e_3 & -e_6 & e_1 & -1 & -e_7 & e_2 & e_5 \\ e_5 & -e_2 & e_1 & e_6 & e_7 & -1 & -e_3 & -e_4 \\ e_6 & -e_7 & e_4 & -e_5 & -e_2 & e_3 & -1 & e_1 \\ e_7 & e_6 & -e_3 & e_2 & -e_5 & e_4 & -e_1 & -1 \end{pmatrix}$$

Fano plane



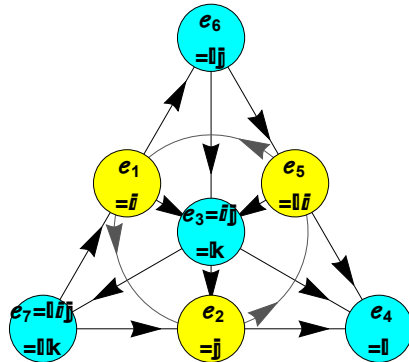
flip=True

Triad fpi=13 BC₈ L fp_sm=6→68H
{ {1, 2, 5}, {1, 3, 4}, {1, 6, 7},
{2, 6, 3}, {2, 4, 7}, {3, 7, 5}, {4, 6, 5} }

flat triad/mask bits
{1, 5, 2, 3, 4, 6, 7}
{0, 0, 0, 1, 0, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & e_4 & -e_3 & -e_2 & e_7 & -e_6 \\ e_2 & -e_5 & -1 & -e_6 & e_7 & e_1 & e_3 & -e_4 \\ e_3 & -e_4 & e_6 & -1 & e_1 & -e_7 & -e_2 & e_5 \\ e_4 & e_3 & -e_7 & -e_1 & -1 & -e_6 & e_5 & e_2 \\ e_5 & e_2 & -e_1 & e_7 & e_6 & -1 & -e_4 & -e_3 \\ e_6 & -e_7 & -e_3 & e_2 & -e_5 & e_4 & -1 & e_1 \\ e_7 & e_6 & e_4 & -e_5 & -e_2 & e_3 & -e_1 & -1 \end{pmatrix}$$

Fano plane

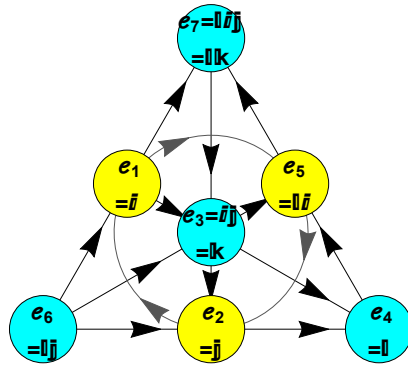


Seq # Symbol 2D/3D Shape Particle Ele
 Quantum Bits #
 106 $u_{bd}^{2/3}$   0apggsscc Po
 001010011₂ 84

flip=False

Triad fpi=14 BC₈ R fp_sm=7→0DH flat triad/mask bits
 {{1, 5, 2}, {1, 3, 4}, {1, 7, 6}, {1, 5, 2, 3, 4, 7, 6}
 {2, 7, 3}, {2, 4, 6}, {3, 5, 6}, {4, 5, 7}} {1, 0, 1, 1, 0, 0, 0}

Fano plane

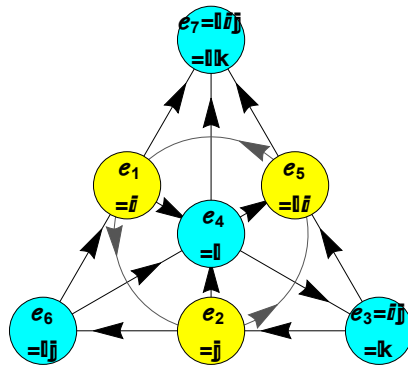


$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & e_4 & -e_3 & e_2 & -e_7 & e_6 \\ e_2 & e_5 & -1 & -e_7 & e_6 & -e_1 & -e_4 & e_3 \\ e_3 & -e_4 & e_7 & -1 & e_1 & e_6 & -e_5 & -e_2 \\ e_4 & e_3 & -e_6 & -e_1 & -1 & e_7 & e_2 & -e_5 \\ e_5 & -e_2 & e_1 & -e_6 & -e_7 & -1 & e_3 & e_4 \\ e_6 & e_7 & e_4 & e_5 & -e_2 & -e_3 & -1 & -e_1 \\ e_7 & -e_6 & -e_3 & e_2 & e_5 & -e_4 & e_1 & -1 \end{pmatrix}$$

flip=True

Triad fpi=13 BC₈ R fp_sm=6→0EH flat triad/mask bits
 {{1, 2, 5}, {1, 4, 3}, {1, 7, 6}, {1, 5, 2, 4, 3, 7, 6}
 {2, 6, 3}, {2, 4, 7}, {3, 5, 7}, {4, 5, 6}} {0, 1, 1, 1, 0, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & -e_4 & e_3 & -e_2 & -e_7 & e_6 \\ e_2 & -e_5 & -1 & -e_6 & e_7 & e_1 & e_3 & -e_4 \\ e_3 & e_4 & e_6 & -1 & -e_1 & e_7 & -e_2 & -e_5 \\ e_4 & -e_3 & -e_7 & e_1 & -1 & e_6 & -e_5 & e_2 \\ e_5 & e_2 & -e_1 & -e_7 & -e_6 & -1 & e_4 & e_3 \\ e_6 & e_7 & -e_3 & e_2 & e_5 & -e_4 & -1 & -e_1 \\ e_7 & -e_6 & e_4 & e_5 & -e_2 & -e_3 & e_1 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

107 $\begin{smallmatrix} u \\ g_d \end{smallmatrix} \begin{smallmatrix} 0 \rightarrow 2/3 \\ L \end{smallmatrix}$



0apggsscc $\overline{\text{Eu}}$
001010010₂ 63

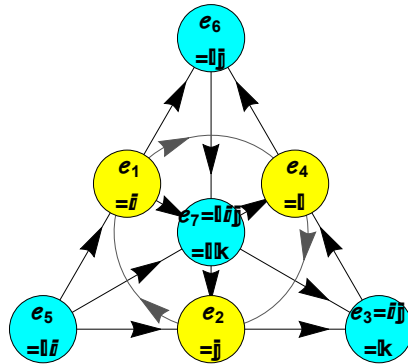
flip=False

Triad fpi=11 BC₈ R fp_sm=1→07H
{ {1, 4, 2}, {1, 7, 3}, {1, 6, 5},
{2, 3, 5}, {2, 6, 7}, {3, 4, 6}, {4, 5, 7} }

flat triad/mask bits
{1, 4, 2, 7, 3, 6, 5}
{1, 1, 1, 0, 0, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & -e_7 & e_2 & -e_6 & e_5 & e_3 \\ e_2 & e_4 & -1 & e_5 & -e_1 & -e_3 & e_7 & -e_6 \\ e_3 & e_7 & -e_5 & -1 & e_6 & e_2 & -e_4 & -e_1 \\ e_4 & -e_2 & e_1 & -e_6 & -1 & e_7 & e_3 & -e_5 \\ e_5 & e_6 & e_3 & -e_2 & -e_7 & -1 & -e_1 & e_4 \\ e_6 & -e_5 & -e_7 & e_4 & -e_3 & e_1 & -1 & e_2 \\ e_7 & -e_3 & e_6 & e_1 & e_5 & -e_4 & -e_2 & -1 \end{pmatrix}$$

Fano plane



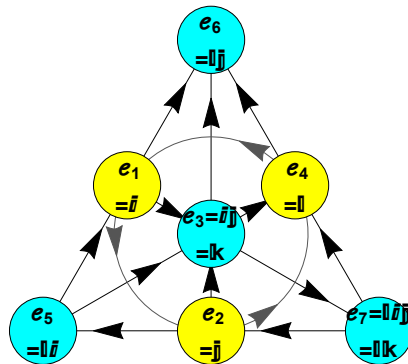
flip=True

Triad fpi=12 BC₈ R fp_sm=4→04H
{ {1, 2, 4}, {1, 3, 7}, {1, 6, 5},
{2, 3, 6}, {2, 5, 7}, {3, 4, 5}, {4, 6, 7} }

flat triad/mask bits
{1, 4, 2, 3, 7, 6, 5}
{0, 0, 1, 0, 0, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & e_7 & -e_2 & -e_6 & e_5 & -e_3 \\ e_2 & -e_4 & -1 & e_6 & e_1 & e_7 & -e_3 & -e_5 \\ e_3 & -e_7 & -e_6 & -1 & e_5 & -e_4 & e_2 & e_1 \\ e_4 & e_2 & -e_1 & -e_5 & -1 & e_3 & e_7 & -e_6 \\ e_5 & e_6 & -e_7 & e_4 & -e_3 & -1 & -e_1 & e_2 \\ e_6 & -e_5 & e_3 & -e_2 & -e_7 & e_1 & -1 & e_4 \\ e_7 & e_3 & e_5 & -e_1 & e_6 & -e_2 & -e_4 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

108 $\begin{smallmatrix} u & 0 \rightarrow 2/3 \\ r_d & L \end{smallmatrix}$



0apggsscc $\overline{Tm}$
001010001₂ 69

flip=False

Triad fpi=8 BC₈ R fp_sm=2→06H

flat triad/mask bits

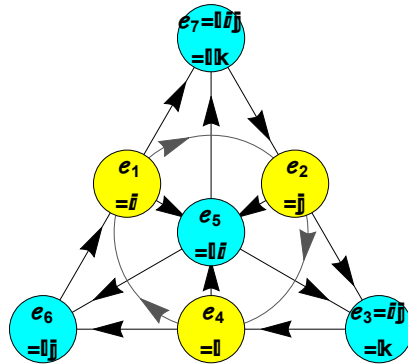
{{1, 2, 4}, {1, 5, 3}, {1, 7, 6},

{1, 2, 4, 5, 3, 7, 6}

{2, 3, 7}, {2, 5, 6}, {3, 4, 6}, {4, 5, 7}}

{0, 1, 1, 0, 0, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & -e_5 & -e_2 & e_3 & -e_7 & e_6 \\ e_2 & -e_4 & -1 & e_7 & e_1 & e_6 & -e_5 & -e_3 \\ e_3 & e_5 & -e_7 & -1 & e_6 & -e_1 & -e_4 & e_2 \\ e_4 & e_2 & -e_1 & -e_6 & -1 & e_7 & e_3 & -e_5 \\ e_5 & -e_3 & -e_6 & e_1 & -e_7 & -1 & e_2 & e_4 \\ e_6 & e_7 & e_5 & e_4 & -e_3 & -e_2 & -1 & -e_1 \\ e_7 & -e_6 & e_3 & -e_2 & e_5 & -e_4 & e_1 & -1 \end{pmatrix}$$

flip=True

Triad fpi=10 BC₈ R fp_sm=5→0FH

flat triad/mask bits

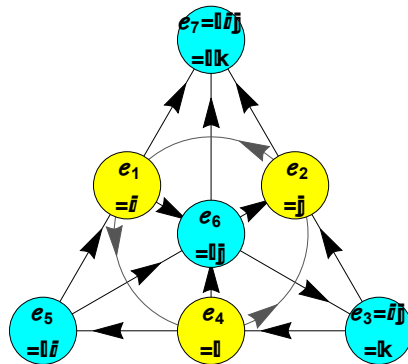
{{1, 4, 2}, {1, 6, 3}, {1, 7, 5},

{1, 2, 4, 6, 3, 7, 5}

{2, 7, 3}, {2, 5, 6}, {3, 4, 5}, {4, 6, 7}}

{1, 1, 1, 1, 0, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & -e_6 & e_2 & -e_7 & e_3 & e_5 \\ e_2 & e_4 & -1 & -e_7 & -e_1 & e_6 & -e_5 & e_3 \\ e_3 & e_6 & e_7 & -1 & e_5 & -e_4 & -e_1 & -e_2 \\ e_4 & -e_2 & e_1 & -e_5 & -1 & e_3 & e_7 & -e_6 \\ e_5 & e_7 & -e_6 & e_4 & -e_3 & -1 & e_2 & -e_1 \\ e_6 & -e_3 & e_5 & e_1 & -e_7 & -e_2 & -1 & e_4 \\ e_7 & -e_5 & -e_3 & e_2 & e_6 & e_1 & -e_4 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

109

 $\tau_{y1} \bar{R}$ 

0apggsscc Pu
000110100₂ 94

flip=False

Triad fpi=23 BC₈ L fp_sm=2→1FH

flat triad/mask bits

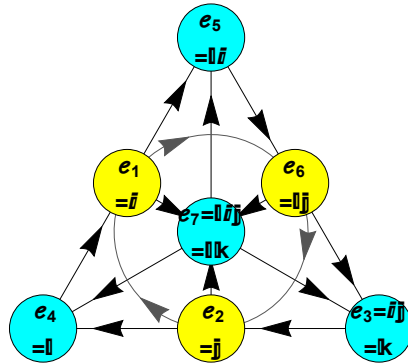
{ {1, 6, 2}, {1, 7, 3}, {1, 5, 4},

{1, 6, 2, 7, 3, 5, 4}

{2, 4, 3}, {2, 7, 5}, {3, 5, 6}, {4, 6, 7}}

{1, 1, 1, 1, 1, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & -e_7 & -e_5 & e_4 & e_2 & e_3 \\ e_2 & e_6 & -1 & -e_4 & e_3 & -e_7 & -e_1 & e_5 \\ e_3 & e_7 & e_4 & -1 & -e_2 & e_6 & -e_5 & -e_1 \\ e_4 & e_5 & -e_3 & e_2 & -1 & -e_1 & e_7 & -e_6 \\ e_5 & -e_4 & e_7 & -e_6 & e_1 & -1 & e_3 & -e_2 \\ e_6 & -e_2 & e_1 & e_5 & -e_7 & -e_3 & -1 & e_4 \\ e_7 & -e_3 & -e_5 & e_1 & e_6 & e_2 & -e_4 & -1 \end{pmatrix}$$

flip=True

Triad fpi=24 BC₈ L fp_sm=3→1CH

flat triad/mask bits

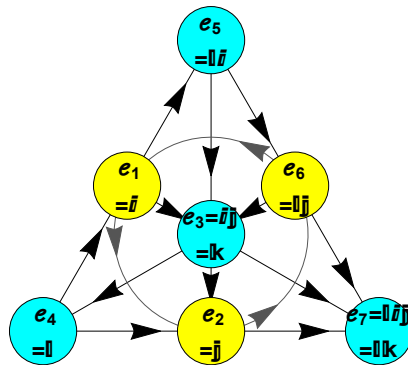
{ {1, 2, 6}, {1, 3, 7}, {1, 5, 4},

{1, 6, 2, 3, 7, 5, 4}

{2, 5, 3}, {2, 7, 4}, {3, 4, 6}, {5, 6, 7}}

{0, 0, 1, 1, 1, 0, 0}

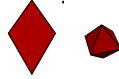
Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & e_7 & -e_5 & e_4 & -e_2 & -e_3 \\ e_2 & -e_6 & -1 & -e_5 & -e_7 & e_3 & e_1 & e_4 \\ e_3 & -e_7 & e_5 & -1 & e_6 & -e_2 & -e_4 & e_1 \\ e_4 & e_5 & e_7 & -e_6 & -1 & -e_1 & e_3 & -e_2 \\ e_5 & -e_4 & -e_3 & e_2 & e_1 & -1 & e_7 & -e_6 \\ e_6 & e_2 & -e_1 & e_4 & -e_3 & -e_7 & -1 & e_5 \\ e_7 & e_3 & -e_4 & -e_1 & e_2 & e_6 & -e_5 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

110

 $\overline{t}_{rd} \xrightarrow{0 \rightarrow -2/3} \overline{L}$


0apggsscc Th
011110001₂ 90

flip=False

Triad fpi=26 BC₈ R fp_sm=8→73H

flat triad/mask bits

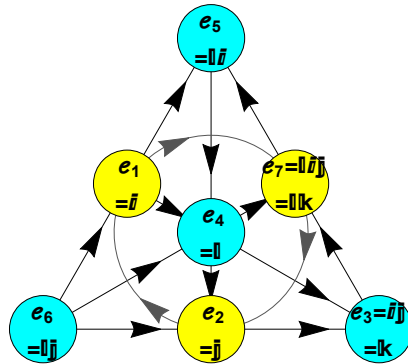
{ {1, 7, 2}, {1, 4, 3}, {1, 5, 6},

{1, 7, 2, 4, 3, 5, 6}

{2, 3, 6}, {2, 5, 4}, {3, 7, 5}, {4, 7, 6}}

{1, 1, 0, 0, 1, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & -e_4 & e_3 & e_6 & -e_5 & e_2 \\ e_2 & e_7 & -1 & e_6 & -e_5 & e_4 & -e_3 & -e_1 \\ e_3 & e_4 & -e_6 & -1 & -e_1 & -e_7 & e_2 & e_5 \\ e_4 & -e_3 & e_5 & e_1 & -1 & -e_2 & -e_7 & e_6 \\ e_5 & -e_6 & -e_4 & e_7 & e_2 & -1 & e_1 & -e_3 \\ e_6 & e_5 & e_3 & -e_2 & e_7 & -e_1 & -1 & -e_4 \\ e_7 & -e_2 & e_1 & -e_5 & -e_6 & e_3 & e_4 & -1 \end{pmatrix}$$

flip=True

Triad fpi=25 BC₈ R fp_sm=5→70H

flat triad/mask bits

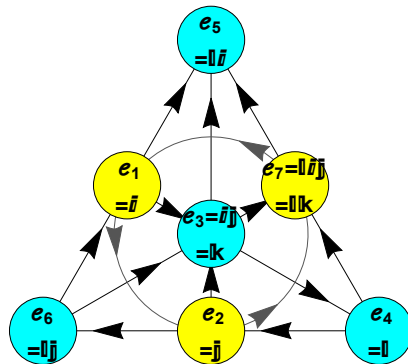
{ {1, 2, 7}, {1, 3, 4}, {1, 5, 6},

{1, 7, 2, 3, 4, 5, 6}

{2, 3, 5}, {2, 6, 4}, {3, 7, 6}, {4, 7, 5}}

{0, 0, 0, 0, 1, 1, 1}

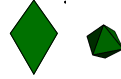
Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & e_4 & -e_3 & e_6 & -e_5 & -e_2 \\ e_2 & -e_7 & -1 & e_5 & -e_6 & -e_3 & e_4 & e_1 \\ e_3 & -e_4 & -e_5 & -1 & e_1 & e_2 & -e_7 & e_6 \\ e_4 & e_3 & e_6 & -e_1 & -1 & -e_7 & -e_2 & e_5 \\ e_5 & -e_6 & e_3 & -e_2 & e_7 & -1 & e_1 & -e_4 \\ e_6 & e_5 & -e_4 & e_7 & e_2 & -e_1 & -1 & -e_3 \\ e_7 & e_2 & -e_1 & -e_6 & -e_5 & e_4 & e_3 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

111

 $\overline{L} \xrightarrow{0 \rightarrow -2/3} L$


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011110010₂

Fr
87

flip=False

Triad fpi=29 BC₈ R fp_sm=7→72H

flat triad/mask bits

{{1, 2, 7}, {1, 6, 3}, {1, 4, 5},

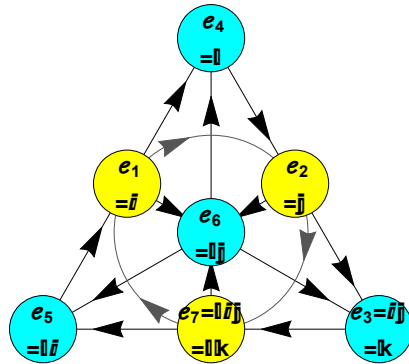
{1, 2, 7, 6, 3, 4, 5}

{2, 3, 4}, {2, 6, 5}, {3, 7, 5}, {4, 7, 6}}

{0, 1, 0, 0, 1, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & -e_6 & e_5 & -e_4 & e_3 & -e_2 \\ e_2 & -e_7 & -1 & e_4 & -e_3 & -e_6 & e_5 & e_1 \\ e_3 & e_6 & -e_4 & -1 & e_2 & -e_7 & -e_1 & e_5 \\ e_4 & -e_5 & e_3 & -e_2 & -1 & e_1 & -e_7 & e_6 \\ e_5 & e_4 & e_6 & e_7 & -e_1 & -1 & -e_2 & -e_3 \\ e_6 & -e_3 & -e_5 & e_1 & e_7 & e_2 & -1 & -e_4 \\ e_7 & e_2 & -e_1 & -e_5 & -e_6 & e_3 & e_4 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=27 BC₈ R fp_sm=4→7BH

flat triad/mask bits

{{1, 7, 2}, {1, 5, 3}, {1, 4, 6},

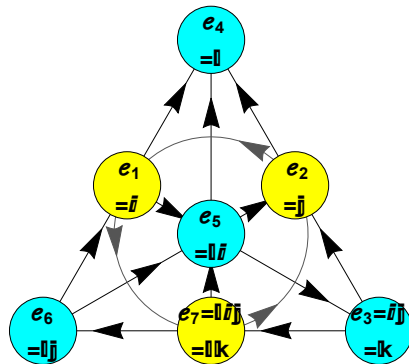
{1, 2, 7, 5, 3, 4, 6}

{2, 4, 3}, {2, 6, 5}, {3, 7, 6}, {4, 7, 5}}

{1, 1, 0, 1, 1, 1, 1}

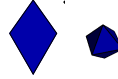
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & -e_5 & e_6 & e_3 & -e_4 & e_2 \\ e_2 & e_7 & -1 & -e_4 & e_3 & -e_6 & e_5 & -e_1 \\ e_3 & e_5 & e_4 & -1 & -e_2 & -e_1 & -e_7 & e_6 \\ e_4 & -e_6 & -e_3 & e_2 & -1 & -e_7 & e_1 & e_5 \\ e_5 & -e_3 & e_6 & e_1 & e_7 & -1 & -e_2 & -e_4 \\ e_6 & e_4 & -e_5 & e_7 & -e_1 & e_2 & -1 & -e_3 \\ e_7 & -e_2 & e_1 & -e_6 & -e_5 & e_4 & e_3 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

112 $\overline{t}_{bd}^{-2/3}$



0apggsscc $\overline{Ce}$
011110011₂ 58

flip=False

Triad fpi=28 BC₈ R fp_sm=3→7AH

flat triad/mask bits

{{1, 2, 7}, {1, 5, 3}, {1, 4, 6},

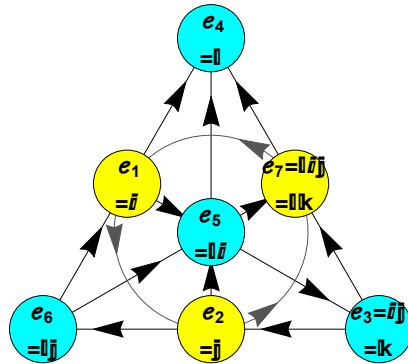
{1, 7, 2, 5, 3, 4, 6}

{2, 6, 3}, {2, 5, 4}, {3, 7, 4}, {5, 7, 6}}

{0, 1, 0, 1, 1, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & -e_5 & e_6 & e_3 & -e_4 & -e_2 \\ e_2 & -e_7 & -1 & -e_6 & -e_5 & e_4 & e_3 & e_1 \\ e_3 & e_5 & e_6 & -1 & -e_7 & -e_1 & -e_2 & e_4 \\ e_4 & -e_6 & e_5 & e_7 & -1 & -e_2 & e_1 & -e_3 \\ e_5 & -e_3 & -e_4 & e_1 & e_2 & -1 & -e_7 & e_6 \\ e_6 & e_4 & -e_3 & e_2 & -e_1 & e_7 & -1 & -e_5 \\ e_7 & e_2 & -e_1 & -e_4 & e_3 & -e_6 & e_5 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=30 BC₈ R fp_sm=6→71H

flat triad/mask bits

{{1, 7, 2}, {1, 3, 6}, {1, 4, 5},

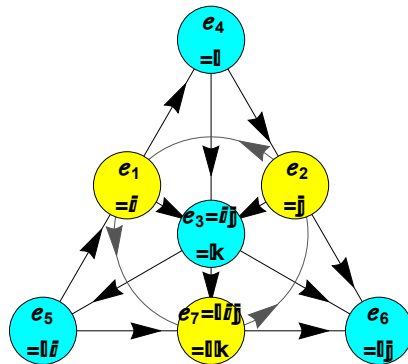
{1, 2, 7, 3, 6, 4, 5}

{2, 3, 5}, {2, 6, 4}, {3, 7, 4}, {5, 7, 6}}

{1, 0, 0, 0, 1, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & e_6 & e_5 & -e_4 & -e_3 & e_2 \\ e_2 & e_7 & -1 & e_5 & -e_6 & -e_3 & e_4 & -e_1 \\ e_3 & -e_6 & -e_5 & -1 & -e_7 & e_2 & e_1 & e_4 \\ e_4 & -e_5 & e_6 & e_7 & -1 & e_1 & -e_2 & -e_3 \\ e_5 & e_4 & e_3 & -e_2 & -e_1 & -1 & -e_7 & e_6 \\ e_6 & e_3 & -e_4 & -e_1 & e_2 & e_7 & -1 & -e_5 \\ e_7 & -e_2 & e_1 & -e_4 & e_3 & -e_6 & e_5 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

113 $\overline{d}_{O_m L}^{+ \rightarrow 1/3}$



0apggsscc Rn
010011001₂ 86

flip=False

Triad fpi=8 BC₈ L fp_sm=2→53H

flat triad/mask bits

{{1, 4, 2}, {1, 5, 3}, {1, 6, 7},

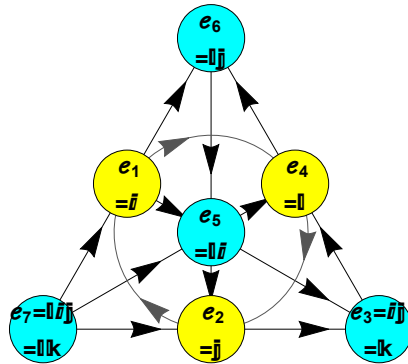
{1, 4, 2, 5, 3, 6, 7}

{2, 3, 7}, {2, 6, 5}, {3, 4, 6}, {4, 7, 5}}

{1, 1, 0, 0, 1, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & -e_5 & e_2 & e_3 & e_7 & -e_6 \\ e_2 & e_4 & -1 & e_7 & -e_1 & -e_6 & e_5 & -e_3 \\ e_3 & e_5 & -e_7 & -1 & e_6 & -e_1 & -e_4 & e_2 \\ e_4 & -e_2 & e_1 & -e_6 & -1 & -e_7 & e_3 & e_5 \\ e_5 & -e_3 & e_6 & e_1 & e_7 & -1 & -e_2 & -e_4 \\ e_6 & -e_7 & -e_5 & e_4 & -e_3 & e_2 & -1 & e_1 \\ e_7 & e_6 & e_3 & -e_2 & -e_5 & e_4 & -e_1 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=10 BC₈ L fp_sm=5→5AH

flat triad/mask bits

{{1, 2, 4}, {1, 6, 3}, {1, 5, 7},

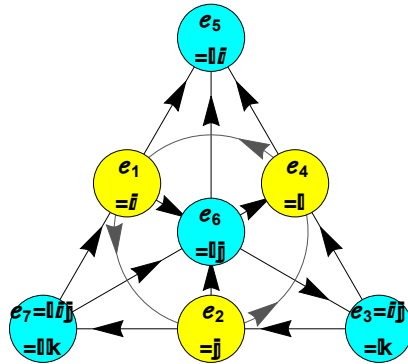
{1, 4, 2, 6, 3, 5, 7}

{2, 7, 3}, {2, 6, 5}, {3, 4, 5}, {4, 7, 6}}

{0, 1, 0, 1, 1, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & -e_6 & -e_2 & e_7 & e_3 & -e_5 \\ e_2 & -e_4 & -1 & -e_7 & e_1 & -e_6 & e_5 & e_3 \\ e_3 & e_6 & e_7 & -1 & e_5 & -e_4 & -e_1 & -e_2 \\ e_4 & e_2 & -e_1 & -e_5 & -1 & e_3 & -e_7 & e_6 \\ e_5 & -e_7 & e_6 & e_4 & -e_3 & -1 & -e_2 & e_1 \\ e_6 & -e_3 & -e_5 & e_1 & e_7 & e_2 & -1 & -e_4 \\ e_7 & e_5 & -e_3 & e_2 & -e_6 & -e_1 & e_4 & -1 \end{pmatrix}$$

Fano plane

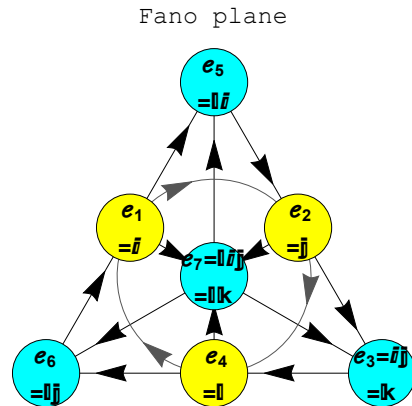


Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

114 $\overline{d}_{C_m} \xrightarrow{+1/3} L$  0apggsscc Bi
010011010₂ 83

flip=False

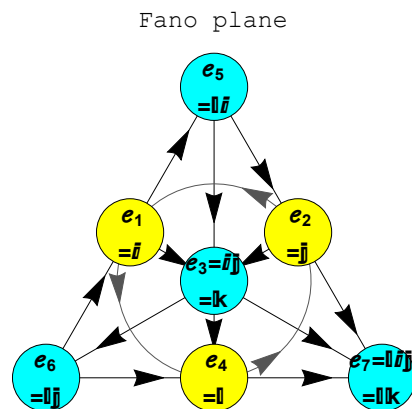
Triad fpi=11 BC₈ L fp_sm=1→52H flat triad/mask bits
 {{1, 2, 4}, {1, 7, 3}, {1, 5, 6}, {1, 2, 4, 7, 3, 5, 6}}
 {{2, 3, 5}, {2, 7, 6}, {3, 4, 6}, {4, 7, 5}} {0, 1, 0, 0, 1, 0, 1}



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & -e_7 & -e_2 & e_6 & -e_5 & e_3 \\ e_2 & -e_4 & -1 & e_5 & e_1 & -e_3 & -e_7 & e_6 \\ e_3 & e_7 & -e_5 & -1 & e_6 & e_2 & -e_4 & -e_1 \\ e_4 & e_2 & -e_1 & -e_6 & -1 & -e_7 & e_3 & e_5 \\ e_5 & -e_6 & e_3 & -e_2 & e_7 & -1 & e_1 & -e_4 \\ e_6 & e_5 & e_7 & e_4 & -e_3 & -e_1 & -1 & -e_2 \\ e_7 & -e_3 & -e_6 & e_1 & -e_5 & e_4 & e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=12 BC₈ L fp_sm=4→51H flat triad/mask bits
 {{1, 4, 2}, {1, 3, 7}, {1, 5, 6}, {1, 2, 4, 3, 7, 5, 6}}
 {{2, 3, 6}, {2, 7, 5}, {3, 4, 5}, {4, 7, 6}} {1, 0, 0, 0, 1, 0, 1}



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & e_7 & e_2 & e_6 & -e_5 & -e_3 \\ e_2 & e_4 & -1 & e_6 & -e_1 & -e_7 & -e_3 & e_5 \\ e_3 & -e_7 & -e_6 & -1 & e_5 & -e_4 & e_2 & e_1 \\ e_4 & -e_2 & e_1 & -e_5 & -1 & e_3 & -e_7 & e_6 \\ e_5 & -e_6 & e_7 & e_4 & -e_3 & -1 & e_1 & -e_2 \\ e_6 & e_5 & e_3 & -e_2 & e_7 & -e_1 & -1 & -e_4 \\ e_7 & e_3 & -e_5 & -e_1 & -e_6 & e_2 & e_4 & -1 \end{pmatrix}$$

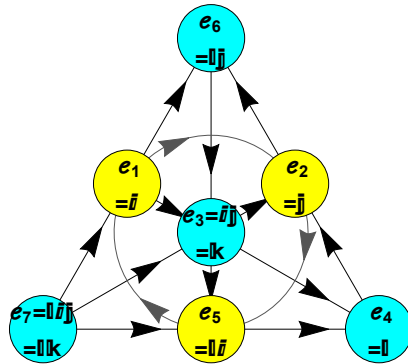
Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

115 $\overline{d}_{mm}^{1/3} \overline{L}$   0apggsscc $\overline{Gd}$
010011011₂ 64

flip=False

Triad fpi=14 BC₈ L fp_sm=7→58H flat triad/mask bits
{ {1, 2, 5}, {1, 3, 4}, {1, 6, 7}, {1, 2, 5, 3, 4, 6, 7}
{2, 7, 3}, {2, 6, 4}, {3, 5, 6}, {4, 7, 5}} {0, 0, 0, 1, 1, 0, 1}

Fano plane

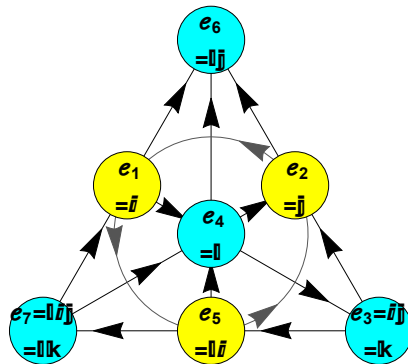


$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & e_4 & -e_3 & -e_2 & e_7 & -e_6 \\ e_2 & -e_5 & -1 & -e_7 & -e_6 & e_1 & e_4 & e_3 \\ e_3 & -e_4 & e_7 & -1 & e_1 & e_6 & -e_5 & -e_2 \\ e_4 & e_3 & e_6 & -e_1 & -1 & -e_7 & -e_2 & e_5 \\ e_5 & e_2 & -e_1 & -e_6 & e_7 & -1 & e_3 & -e_4 \\ e_6 & -e_7 & -e_4 & e_5 & e_2 & -e_3 & -1 & e_1 \\ e_7 & e_6 & -e_3 & e_2 & -e_5 & e_4 & -e_1 & -1 \end{pmatrix}$$

flip=True

Triad fpi=13 BC₈ L fp_sm=6→5BH flat triad/mask bits
{ {1, 5, 2}, {1, 4, 3}, {1, 6, 7}, {1, 2, 5, 4, 3, 6, 7}
{2, 6, 3}, {2, 7, 4}, {3, 5, 7}, {4, 6, 5}} {1, 1, 0, 1, 1, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & -e_4 & e_3 & e_2 & e_7 & -e_6 \\ e_2 & e_5 & -1 & -e_6 & -e_7 & -e_1 & e_3 & e_4 \\ e_3 & e_4 & e_6 & -1 & -e_1 & e_7 & -e_2 & -e_5 \\ e_4 & -e_3 & e_7 & e_1 & -1 & -e_6 & e_5 & -e_2 \\ e_5 & -e_2 & e_1 & -e_7 & e_6 & -1 & -e_4 & e_3 \\ e_6 & -e_7 & -e_3 & e_2 & -e_5 & e_4 & -1 & e_1 \\ e_7 & e_6 & -e_4 & e_5 & e_2 & -e_3 & -e_1 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

116 $u_{bm}^{2/3}$



0apggsscc Pt
001011111₂ 78

flip=False

Triad fpi=14 BC₈ R fp_sm=7→3EH

flat triad/mask bits

{ {1, 2, 5}, {1, 4, 3}, {1, 7, 6},

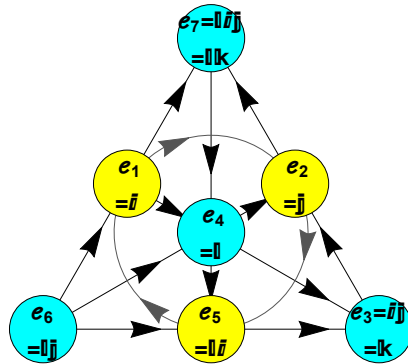
{1, 2, 5, 4, 3, 7, 6}

{2, 7, 3}, {2, 6, 4}, {3, 6, 5}, {4, 5, 7}}

{0, 1, 1, 1, 1, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & -e_4 & e_3 & -e_2 & -e_7 & e_6 \\ e_2 & -e_5 & -1 & -e_7 & -e_6 & e_1 & e_4 & e_3 \\ e_3 & e_4 & e_7 & -1 & -e_1 & -e_6 & e_5 & -e_2 \\ e_4 & -e_3 & e_6 & e_1 & -1 & e_7 & -e_2 & -e_5 \\ e_5 & e_2 & -e_1 & e_6 & -e_7 & -1 & -e_3 & e_4 \\ e_6 & e_7 & -e_4 & -e_5 & e_2 & e_3 & -1 & -e_1 \\ e_7 & -e_6 & -e_3 & e_2 & e_5 & -e_4 & e_1 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=13 BC₈ R fp_sm=6→3DH

flat triad/mask bits

{ {1, 5, 2}, {1, 3, 4}, {1, 7, 6},

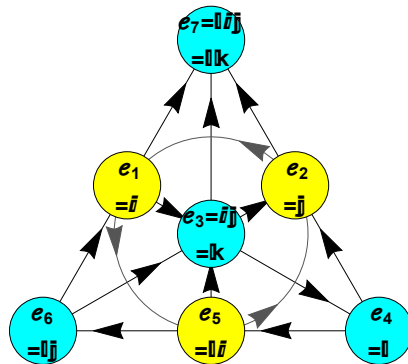
{1, 2, 5, 3, 4, 7, 6}

{2, 6, 3}, {2, 7, 4}, {3, 7, 5}, {4, 5, 6}}

{1, 0, 1, 1, 1, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & e_4 & -e_3 & e_2 & -e_7 & e_6 \\ e_2 & e_5 & -1 & -e_6 & -e_7 & -e_1 & e_3 & e_4 \\ e_3 & -e_4 & e_6 & -1 & e_1 & -e_7 & -e_2 & e_5 \\ e_4 & e_3 & e_7 & -e_1 & -1 & e_6 & -e_5 & -e_2 \\ e_5 & -e_2 & e_1 & e_7 & -e_6 & -1 & e_4 & -e_3 \\ e_6 & e_7 & -e_3 & e_2 & e_5 & -e_4 & -1 & -e_1 \\ e_7 & -e_6 & -e_4 & -e_5 & e_2 & e_3 & e_1 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

117 $u_{gm}^{0 \rightarrow 2/3}$



0apggsscc $\overline{Yb}$
001011110₂ 70

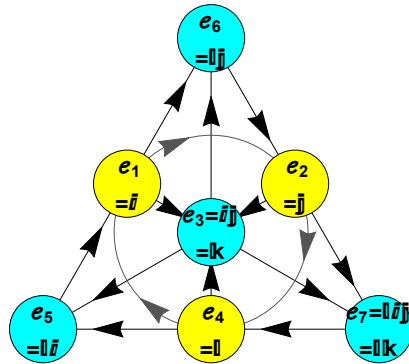
flip=False

Triad fpi=11 BC₈ R fp_sm=1→34H
{ {1, 2, 4}, {1, 3, 7}, {1, 6, 5},
{2, 3, 5}, {2, 7, 6}, {3, 6, 4}, {4, 5, 7} }

flat triad/mask bits
{1, 2, 4, 3, 7, 6, 5}
{0, 0, 1, 0, 1, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & e_7 & -e_2 & -e_6 & e_5 & -e_3 \\ e_2 & -e_4 & -1 & e_5 & e_1 & -e_3 & -e_7 & e_6 \\ e_3 & -e_7 & -e_5 & -1 & -e_6 & e_2 & e_4 & e_1 \\ e_4 & e_2 & -e_1 & e_6 & -1 & e_7 & -e_3 & -e_5 \\ e_5 & e_6 & e_3 & -e_2 & -e_7 & -1 & -e_1 & e_4 \\ e_6 & -e_5 & e_7 & -e_4 & e_3 & e_1 & -1 & -e_2 \\ e_7 & e_3 & -e_6 & -e_1 & e_5 & -e_4 & e_2 & -1 \end{pmatrix}$$

Fano plane



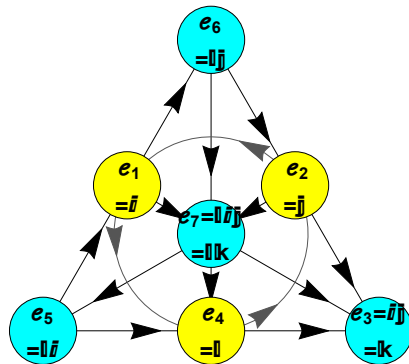
flip=True

Triad fpi=12 BC₈ R fp_sm=4→37H
{ {1, 4, 2}, {1, 7, 3}, {1, 6, 5},
{2, 3, 6}, {2, 7, 5}, {3, 5, 4}, {4, 6, 7} }

flat triad/mask bits
{1, 2, 4, 7, 3, 6, 5}
{1, 1, 1, 0, 1, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & -e_7 & e_2 & -e_6 & e_5 & e_3 \\ e_2 & e_4 & -1 & e_6 & -e_1 & -e_7 & -e_3 & e_5 \\ e_3 & e_7 & -e_6 & -1 & -e_5 & e_4 & e_2 & -e_1 \\ e_4 & -e_2 & e_1 & e_5 & -1 & -e_3 & e_7 & -e_6 \\ e_5 & e_6 & e_7 & -e_4 & e_3 & -1 & -e_1 & -e_2 \\ e_6 & -e_5 & e_3 & -e_2 & -e_7 & e_1 & -1 & e_4 \\ e_7 & -e_3 & -e_5 & e_1 & e_6 & e_2 & -e_4 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

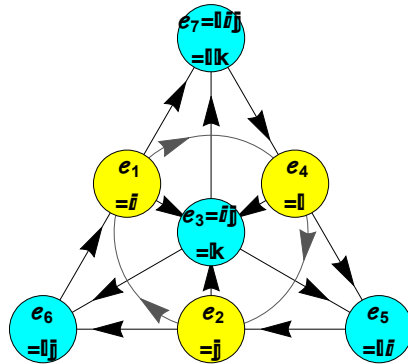
118 $\begin{matrix} u \\ r_m \end{matrix} \begin{matrix} 0 \rightarrow 2/3 \\ R \end{matrix}$  0apggsscc $\overline{Re}$
001011101₂ 75

flip=False

Triad fpi=8 BC₈ R fp_sm=2→35H flat triad/mask bits
 $\{\{1, 4, 2\}, \{1, 3, 5\}, \{1, 7, 6\},$
 $\{2, 3, 7\}, \{2, 6, 5\}, \{3, 6, 4\}, \{4, 5, 7\}\}$
 $\{1, 4, 2, 3, 5, 7, 6\}$
 $\{1, 0, 1, 0, 1, 1, 0\}$

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & e_5 & e_2 & -e_3 & -e_7 & e_6 \\ e_2 & e_4 & -1 & e_7 & -e_1 & -e_6 & e_5 & -e_3 \\ e_3 & -e_5 & -e_7 & -1 & -e_6 & e_1 & e_4 & e_2 \\ e_4 & -e_2 & e_1 & e_6 & -1 & e_7 & -e_3 & -e_5 \\ e_5 & e_3 & e_6 & -e_1 & -e_7 & -1 & -e_2 & e_4 \\ e_6 & e_7 & -e_5 & -e_4 & e_3 & e_2 & -1 & -e_1 \\ e_7 & -e_6 & e_3 & -e_2 & e_5 & -e_4 & e_1 & -1 \end{pmatrix}$$

Fano plane

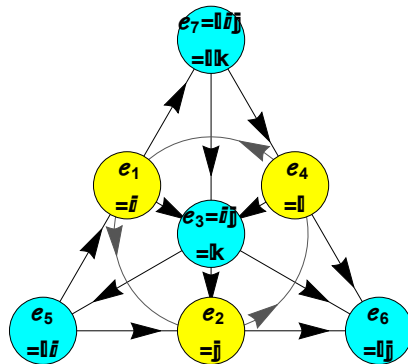


flip=True

Triad fpi=10 BC₈ R fp_sm=5→3CH flat triad/mask bits
 $\{\{1, 2, 4\}, \{1, 3, 6\}, \{1, 7, 5\},$
 $\{2, 7, 3\}, \{2, 6, 5\}, \{3, 5, 4\}, \{4, 6, 7\}\}$
 $\{1, 4, 2, 3, 6, 7, 5\}$
 $\{0, 0, 1, 1, 1, 1, 0\}$

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & e_6 & -e_2 & -e_7 & -e_3 & e_5 \\ e_2 & -e_4 & -1 & -e_7 & e_1 & -e_6 & e_5 & e_3 \\ e_3 & -e_6 & e_7 & -1 & -e_5 & e_4 & e_1 & -e_2 \\ e_4 & e_2 & -e_1 & e_5 & -1 & -e_3 & e_7 & -e_6 \\ e_5 & e_7 & e_6 & -e_4 & e_3 & -1 & -e_2 & -e_1 \\ e_6 & e_3 & -e_5 & -e_1 & -e_7 & e_2 & -1 & e_4 \\ e_7 & -e_5 & -e_3 & e_2 & e_6 & e_1 & -e_4 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

119 $\overline{U}_{rm}^{0 \rightarrow -2/3}$



0apggsscc Pb
011011001₂ 82

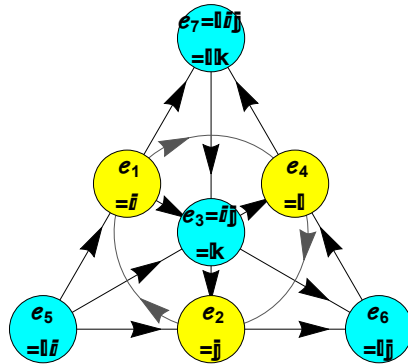
flip=False

Triad fpi=10 BC₈ R fp_sm=5→5DH
{ {1, 4, 2}, {1, 3, 6}, {1, 7, 5},
{2, 7, 3}, {2, 6, 5}, {3, 4, 5}, {4, 7, 6} }

flat triad/mask bits
{1, 4, 2, 3, 6, 7, 5}
{1, 0, 1, 1, 1, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & e_6 & e_2 & -e_7 & -e_3 & e_5 \\ e_2 & e_4 & -1 & -e_7 & -e_1 & -e_6 & e_5 & e_3 \\ e_3 & -e_6 & e_7 & -1 & e_5 & -e_4 & e_1 & -e_2 \\ e_4 & -e_2 & e_1 & -e_5 & -1 & e_3 & -e_7 & e_6 \\ e_5 & e_7 & e_6 & e_4 & -e_3 & -1 & -e_2 & -e_1 \\ e_6 & e_3 & -e_5 & -e_1 & e_7 & e_2 & -1 & -e_4 \\ e_7 & -e_5 & -e_3 & e_2 & -e_6 & e_1 & e_4 & -1 \end{pmatrix}$$

Fano plane



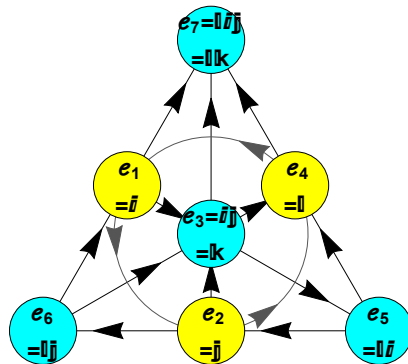
flip=True

Triad fpi=8 BC₈ R fp_sm=2→54H
{ {1, 2, 4}, {1, 3, 5}, {1, 7, 6},
{2, 3, 7}, {2, 6, 5}, {3, 4, 6}, {4, 7, 5} }

flat triad/mask bits
{1, 4, 2, 3, 5, 7, 6}
{0, 0, 1, 0, 1, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & e_5 & -e_2 & -e_3 & -e_7 & e_6 \\ e_2 & -e_4 & -1 & e_7 & e_1 & -e_6 & e_5 & -e_3 \\ e_3 & -e_5 & -e_7 & -1 & e_6 & e_1 & -e_4 & e_2 \\ e_4 & e_2 & -e_1 & -e_6 & -1 & -e_7 & e_3 & e_5 \\ e_5 & e_3 & e_6 & -e_1 & e_7 & -1 & -e_2 & -e_4 \\ e_6 & e_7 & -e_5 & e_4 & -e_3 & e_2 & -1 & -e_1 \\ e_7 & -e_6 & e_3 & -e_2 & -e_5 & e_4 & e_1 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

120 $\overline{U}_{gm}^{0 \rightarrow -2/3}$



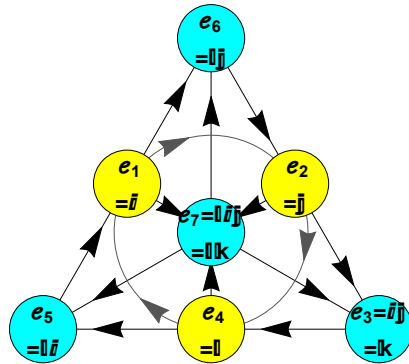
0apggsscc Ir
011011010₂ 77

flip=False

Triad fpi=12 BC₈ R fp_sm=4→56H
{ {1, 2, 4}, {1, 7, 3}, {1, 6, 5},
{2, 3, 6}, {2, 7, 5}, {3, 4, 5}, {4, 7, 6} }

flat triad/mask bits
{1, 2, 4, 7, 3, 6, 5}
{0, 1, 1, 0, 1, 0, 1}

Fano plane



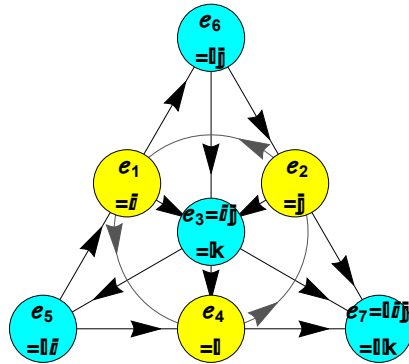
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & -e_7 & -e_2 & -e_6 & e_5 & e_3 \\ e_2 & -e_4 & -1 & e_6 & e_1 & -e_7 & -e_3 & e_5 \\ e_3 & e_7 & -e_6 & -1 & e_5 & -e_4 & e_2 & -e_1 \\ e_4 & e_2 & -e_1 & -e_5 & -1 & e_3 & -e_7 & e_6 \\ e_5 & e_6 & e_7 & e_4 & -e_3 & -1 & -e_1 & -e_2 \\ e_6 & -e_5 & e_3 & -e_2 & e_7 & e_1 & -1 & -e_4 \\ e_7 & -e_3 & -e_5 & e_1 & -e_6 & e_2 & e_4 & -1 \end{pmatrix}$$

flip=True

Triad fpi=11 BC₈ R fp_sm=1→55H
{ {1, 4, 2}, {1, 3, 7}, {1, 6, 5},
{2, 3, 5}, {2, 7, 6}, {3, 4, 6}, {4, 7, 5} }

flat triad/mask bits
{1, 2, 4, 3, 7, 6, 5}
{1, 0, 1, 0, 1, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & e_7 & e_2 & -e_6 & e_5 & -e_3 \\ e_2 & e_4 & -1 & e_5 & -e_1 & -e_3 & -e_7 & e_6 \\ e_3 & -e_7 & -e_5 & -1 & e_6 & e_2 & -e_4 & e_1 \\ e_4 & -e_2 & e_1 & -e_6 & -1 & -e_7 & e_3 & e_5 \\ e_5 & e_6 & e_3 & -e_2 & e_7 & -1 & -e_1 & -e_4 \\ e_6 & -e_5 & e_7 & e_4 & -e_3 & e_1 & -1 & -e_2 \\ e_7 & e_3 & -e_6 & -e_1 & -e_5 & e_4 & e_2 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

121 $\bar{U}_{bm}^{-2/3} \bar{L}$



0apggsscc $\bar{Lu}$
011011011₂ 71

flip=False

Triad fpi=13 BC₈ R fp_sm=6→5CH

flat triad/mask bits

{{1, 2, 5}, {1, 3, 4}, {1, 7, 6},

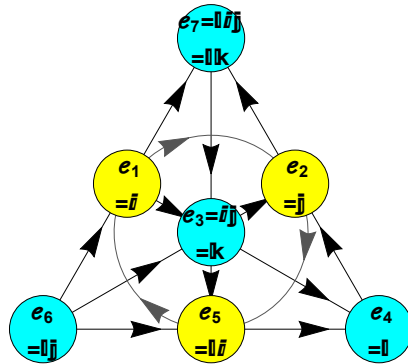
{1, 2, 5, 3, 4, 7, 6}

{2, 6, 3}, {2, 7, 4}, {3, 5, 7}, {4, 6, 5}}

{0, 0, 1, 1, 1, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & e_4 & -e_3 & -e_2 & -e_7 & e_6 \\ e_2 & -e_5 & -1 & -e_6 & -e_7 & e_1 & e_3 & e_4 \\ e_3 & -e_4 & e_6 & -1 & e_1 & e_7 & -e_2 & -e_5 \\ e_4 & e_3 & e_7 & -e_1 & -1 & -e_6 & e_5 & -e_2 \\ e_5 & e_2 & -e_1 & -e_7 & e_6 & -1 & -e_4 & e_3 \\ e_6 & e_7 & -e_3 & e_2 & -e_5 & e_4 & -1 & -e_1 \\ e_7 & -e_6 & -e_4 & e_5 & e_2 & -e_3 & e_1 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=14 BC₈ R fp_sm=7→5FH

flat triad/mask bits

{{1, 5, 2}, {1, 4, 3}, {1, 7, 6},

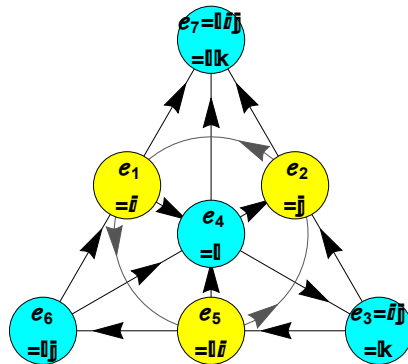
{1, 2, 5, 4, 3, 7, 6}

{2, 7, 3}, {2, 6, 4}, {3, 5, 6}, {4, 7, 5}}

{1, 1, 1, 1, 1, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & -e_4 & e_3 & e_2 & -e_7 & e_6 \\ e_2 & e_5 & -1 & -e_7 & -e_6 & -e_1 & e_4 & e_3 \\ e_3 & e_4 & e_7 & -1 & -e_1 & e_6 & -e_5 & -e_2 \\ e_4 & -e_3 & e_6 & e_1 & -1 & -e_7 & -e_2 & e_5 \\ e_5 & -e_2 & e_1 & -e_6 & e_7 & -1 & e_3 & -e_4 \\ e_6 & e_7 & -e_4 & e_5 & e_2 & -e_3 & -1 & -e_1 \\ e_7 & -e_6 & -e_3 & e_2 & -e_5 & e_4 & e_1 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

122 $d_{mR}^{-1/3}$



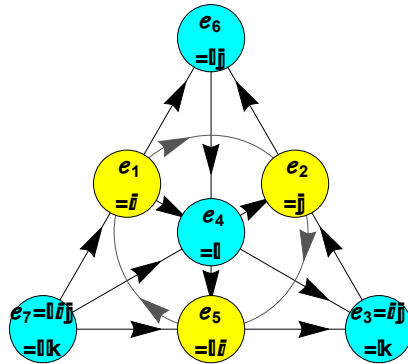
0apggsscc Hf
000011111₂ 72

flip=False

Triad fpi=13 BC₈ L fp_sm=6→3AH
{ {1, 2, 5}, {1, 4, 3}, {1, 6, 7},
{2, 6, 3}, {2, 7, 4}, {3, 7, 5}, {4, 5, 6} }

flat triad/mask bits
{1, 2, 5, 4, 3, 6, 7}
{0, 1, 0, 1, 1, 1, 0}

Fano plane



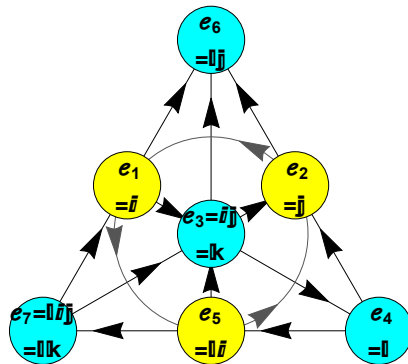
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & -e_4 & e_3 & -e_2 & e_7 & -e_6 \\ e_2 & -e_5 & -1 & -e_6 & -e_7 & e_1 & e_3 & e_4 \\ e_3 & e_4 & e_6 & -1 & -e_1 & -e_7 & -e_2 & e_5 \\ e_4 & -e_3 & e_7 & e_1 & -1 & e_6 & -e_5 & -e_2 \\ e_5 & e_2 & -e_1 & e_7 & -e_6 & -1 & e_4 & -e_3 \\ e_6 & -e_7 & -e_3 & e_2 & e_5 & -e_4 & -1 & e_1 \\ e_7 & e_6 & -e_4 & -e_5 & e_2 & e_3 & -e_1 & -1 \end{pmatrix}$$

flip=True

Triad fpi=14 BC₈ L fp_sm=7→39H
{ {1, 5, 2}, {1, 3, 4}, {1, 6, 7},
{2, 7, 3}, {2, 6, 4}, {3, 6, 5}, {4, 5, 7} }

flat triad/mask bits
{1, 2, 5, 3, 4, 6, 7}
{1, 0, 0, 1, 1, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & e_4 & -e_3 & e_2 & e_7 & -e_6 \\ e_2 & e_5 & -1 & -e_7 & -e_6 & -e_1 & e_4 & e_3 \\ e_3 & -e_4 & e_7 & -1 & e_1 & -e_6 & e_5 & -e_2 \\ e_4 & e_3 & e_6 & -e_1 & -1 & e_7 & -e_2 & -e_5 \\ e_5 & -e_2 & e_1 & e_6 & -e_7 & -1 & -e_3 & e_4 \\ e_6 & -e_7 & -e_4 & -e_5 & e_2 & e_3 & -1 & e_1 \\ e_7 & e_6 & -e_3 & e_2 & e_5 & -e_4 & -e_1 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

123 $d \xrightarrow{R} -1/3$
 c_m



0apggsscc $\overline{0s}$
000011110₂ 76

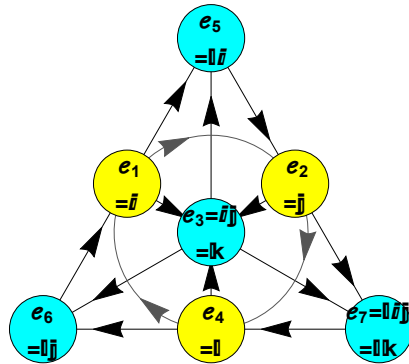
flip=False

Triad fpi=12 BC₈ L fp_sm=4→30H
{ {1, 2, 4}, {1, 3, 7}, {1, 5, 6},
{2, 3, 6}, {2, 7, 5}, {3, 5, 4}, {4, 6, 7} }

flat triad/mask bits
{1, 2, 4, 3, 7, 5, 6}
{0, 0, 0, 0, 1, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & e_7 & -e_2 & e_6 & -e_5 & -e_3 \\ e_2 & -e_4 & -1 & e_6 & e_1 & -e_7 & -e_3 & e_5 \\ e_3 & -e_7 & -e_6 & -1 & -e_5 & e_4 & e_2 & e_1 \\ e_4 & e_2 & -e_1 & e_5 & -1 & -e_3 & e_7 & -e_6 \\ e_5 & -e_6 & e_7 & -e_4 & e_3 & -1 & e_1 & -e_2 \\ e_6 & e_5 & e_3 & -e_2 & -e_7 & -e_1 & -1 & e_4 \\ e_7 & e_3 & -e_5 & -e_1 & e_6 & e_2 & -e_4 & -1 \end{pmatrix}$$

Fano plane



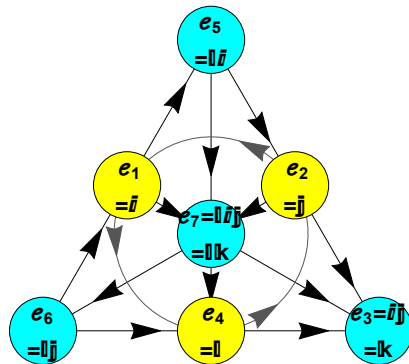
flip=True

Triad fpi=11 BC₈ L fp_sm=1→33H
{ {1, 4, 2}, {1, 7, 3}, {1, 5, 6},
{2, 3, 5}, {2, 7, 6}, {3, 6, 4}, {4, 5, 7} }

flat triad/mask bits
{1, 2, 4, 7, 3, 5, 6}
{1, 1, 0, 0, 1, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & -e_7 & e_2 & e_6 & -e_5 & e_3 \\ e_2 & e_4 & -1 & e_5 & -e_1 & -e_3 & -e_7 & e_6 \\ e_3 & e_7 & -e_5 & -1 & -e_6 & e_2 & e_4 & -e_1 \\ e_4 & -e_2 & e_1 & e_6 & -1 & e_7 & -e_3 & -e_5 \\ e_5 & -e_6 & e_3 & -e_2 & -e_7 & -1 & e_1 & e_4 \\ e_6 & e_5 & e_7 & -e_4 & e_3 & -e_1 & -1 & -e_2 \\ e_7 & -e_3 & -e_6 & e_1 & e_5 & -e_4 & e_2 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

124 $d_{om} \xrightarrow{-1/3} R$



0apggsscc $\overline{Hg}$
000011101₂ 80

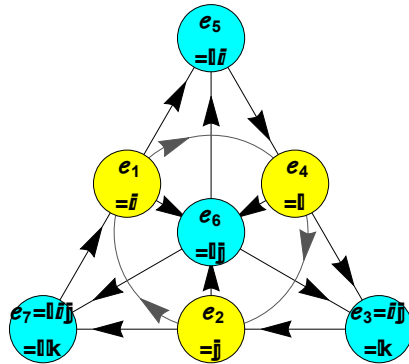
flip=False

Triad fpi=10 BC₈ L fp_sm=5→3BH
{ {1, 4, 2}, {1, 6, 3}, {1, 5, 7},
{2, 7, 3}, {2, 6, 5}, {3, 5, 4}, {4, 6, 7} }

flat triad/mask bits
{1, 4, 2, 6, 3, 5, 7}
{1, 1, 0, 1, 1, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & -e_6 & e_2 & e_7 & e_3 & -e_5 \\ e_2 & e_4 & -1 & -e_7 & -e_1 & -e_6 & e_5 & e_3 \\ e_3 & e_6 & e_7 & -1 & -e_5 & e_4 & -e_1 & -e_2 \\ e_4 & -e_2 & e_1 & e_5 & -1 & -e_3 & e_7 & -e_6 \\ e_5 & -e_7 & e_6 & -e_4 & e_3 & -1 & -e_2 & e_1 \\ e_6 & -e_3 & -e_5 & e_1 & -e_7 & e_2 & -1 & e_4 \\ e_7 & e_5 & -e_3 & e_2 & e_6 & -e_1 & -e_4 & -1 \end{pmatrix}$$

Fano plane



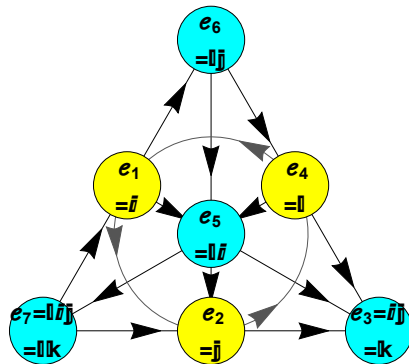
flip=True

Triad fpi=8 BC₈ L fp_sm=2→32H
{ {1, 2, 4}, {1, 5, 3}, {1, 6, 7},
{2, 3, 7}, {2, 6, 5}, {3, 6, 4}, {4, 5, 7} }

flat triad/mask bits
{1, 4, 2, 5, 3, 6, 7}
{0, 1, 0, 0, 1, 1, 0}

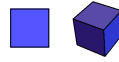
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & -e_5 & -e_2 & e_3 & e_7 & -e_6 \\ e_2 & -e_4 & -1 & e_7 & e_1 & -e_6 & e_5 & -e_3 \\ e_3 & e_5 & -e_7 & -1 & -e_6 & -e_1 & e_4 & e_2 \\ e_4 & e_2 & -e_1 & e_6 & -1 & e_7 & -e_3 & -e_5 \\ e_5 & -e_3 & e_6 & e_1 & -e_7 & -1 & -e_2 & e_4 \\ e_6 & -e_7 & -e_5 & -e_4 & e_3 & e_2 & -1 & e_1 \\ e_7 & e_6 & e_3 & -e_2 & e_5 & -e_4 & -e_1 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

125 $t_{b1}^{2/3} R$



0apggsscc Dy
001110111₂ 66

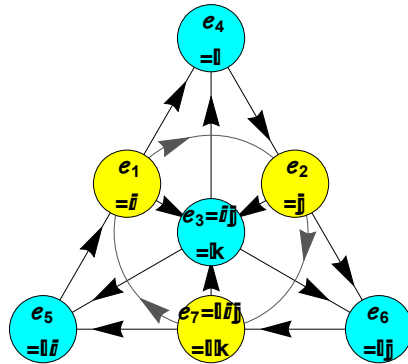
flip=False

Triad fpi=30 BC₈ R fp_sm=6→10H
{ {1, 2, 7}, {1, 3, 6}, {1, 4, 5},
{2, 3, 5}, {2, 6, 4}, {3, 4, 7}, {5, 6, 7} }

flat triad/mask bits
{1, 2, 7, 3, 6, 4, 5}
{0, 0, 0, 0, 1, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & e_6 & e_5 & -e_4 & -e_3 & -e_2 \\ e_2 & -e_7 & -1 & e_5 & -e_6 & -e_3 & e_4 & e_1 \\ e_3 & -e_6 & -e_5 & -1 & e_7 & e_2 & e_1 & -e_4 \\ e_4 & -e_5 & e_6 & -e_7 & -1 & e_1 & -e_2 & e_3 \\ e_5 & e_4 & e_3 & -e_2 & -e_1 & -1 & e_7 & -e_6 \\ e_6 & e_3 & -e_4 & -e_1 & e_2 & -e_7 & -1 & e_5 \\ e_7 & e_2 & -e_1 & e_4 & -e_3 & e_6 & -e_5 & -1 \end{pmatrix}$$

Fano plane



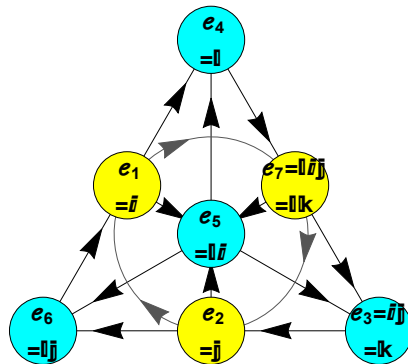
flip=True

Triad fpi=28 BC₈ R fp_sm=3→1BH
{ {1, 7, 2}, {1, 5, 3}, {1, 4, 6},
{2, 6, 3}, {2, 5, 4}, {3, 4, 7}, {5, 6, 7} }

flat triad/mask bits
{1, 7, 2, 5, 3, 4, 6}
{1, 1, 0, 1, 1, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & -e_5 & e_6 & e_3 & -e_4 & e_2 \\ e_2 & e_7 & -1 & -e_6 & -e_5 & e_4 & e_3 & -e_1 \\ e_3 & e_5 & e_6 & -1 & e_7 & -e_1 & -e_2 & -e_4 \\ e_4 & -e_6 & e_5 & -e_7 & -1 & -e_2 & e_1 & e_3 \\ e_5 & -e_3 & -e_4 & e_1 & e_2 & -1 & e_7 & -e_6 \\ e_6 & e_4 & -e_3 & e_2 & -e_1 & -e_7 & -1 & e_5 \\ e_7 & -e_2 & e_1 & e_4 & -e_3 & e_6 & -e_5 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

126 $t_{g1}^{0 \rightarrow 2/3}$



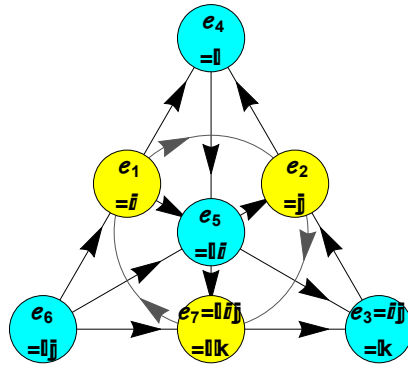
0apggsscc $\overline{\text{TI}}$
001110110₂ 81

flip=False

Triad fpi=27 BC₈ R fp_sm=4→1AH
{ {1, 2, 7}, {1, 5, 3}, {1, 4, 6},
{2, 4, 3}, {2, 6, 5}, {3, 6, 7}, {4, 5, 7} }

flat triad/mask bits
{1, 2, 7, 5, 3, 4, 6}
{0, 1, 0, 1, 1, 0, 0}

Fano plane



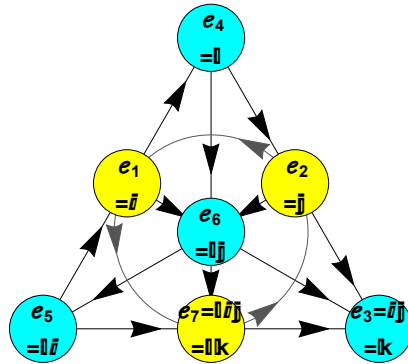
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & -e_5 & e_6 & e_3 & -e_4 & -e_2 \\ e_2 & -e_7 & -1 & -e_4 & e_3 & -e_6 & e_5 & e_1 \\ e_3 & e_5 & e_4 & -1 & -e_2 & -e_1 & e_7 & -e_6 \\ e_4 & -e_6 & -e_3 & e_2 & -1 & e_7 & e_1 & -e_5 \\ e_5 & -e_3 & e_6 & e_1 & -e_7 & -1 & -e_2 & e_4 \\ e_6 & e_4 & -e_5 & -e_7 & -e_1 & e_2 & -1 & e_3 \\ e_7 & e_2 & -e_1 & e_6 & e_5 & -e_4 & -e_3 & -1 \end{pmatrix}$$

flip=True

Triad fpi=29 BC₈ R fp_sm=7→13H
{ {1, 7, 2}, {1, 6, 3}, {1, 4, 5},
{2, 3, 4}, {2, 6, 5}, {3, 5, 7}, {4, 6, 7} }

flat triad/mask bits
{1, 2, 7, 6, 3, 4, 5}
{1, 1, 0, 0, 1, 0, 0}

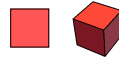
Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & -e_6 & e_5 & -e_4 & e_3 & e_2 \\ e_2 & e_7 & -1 & e_4 & -e_3 & -e_6 & e_5 & -e_1 \\ e_3 & e_6 & -e_4 & -1 & e_2 & e_7 & -e_1 & -e_5 \\ e_4 & -e_5 & e_3 & -e_2 & -1 & e_1 & e_7 & -e_6 \\ e_5 & e_4 & e_6 & -e_7 & -e_1 & -1 & -e_2 & e_3 \\ e_6 & -e_3 & -e_5 & e_1 & -e_7 & e_2 & -1 & e_4 \\ e_7 & -e_2 & e_1 & e_5 & e_6 & -e_3 & -e_4 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

127 $t_{r1}^{0 \rightarrow 2/3}$



0apggsscc $\overline{At}$
001110101₂ 85

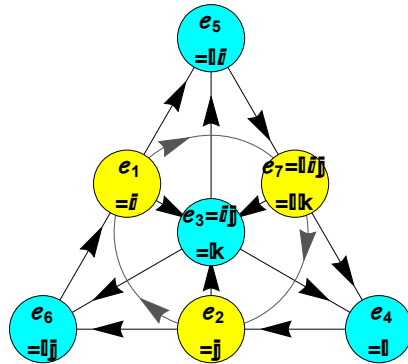
flip=False

Triad fpi=25 BC₈ R fp_sm=5→11H
{ {1, 7, 2}, {1, 3, 4}, {1, 5, 6},
{2, 3, 5}, {2, 6, 4}, {3, 6, 7}, {4, 5, 7} }

flat triad/mask bits
{1, 7, 2, 3, 4, 5, 6}
{1, 0, 0, 0, 1, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & e_4 & -e_3 & e_6 & -e_5 & e_2 \\ e_2 & e_7 & -1 & e_5 & -e_6 & -e_3 & e_4 & -e_1 \\ e_3 & -e_4 & -e_5 & -1 & e_1 & e_2 & e_7 & -e_6 \\ e_4 & e_3 & e_6 & -e_1 & -1 & e_7 & -e_2 & -e_5 \\ e_5 & -e_6 & e_3 & -e_2 & -e_7 & -1 & e_1 & e_4 \\ e_6 & e_5 & -e_4 & -e_7 & e_2 & -e_1 & -1 & e_3 \\ e_7 & -e_2 & e_1 & e_6 & e_5 & -e_4 & -e_3 & -1 \end{pmatrix}$$

Fano plane



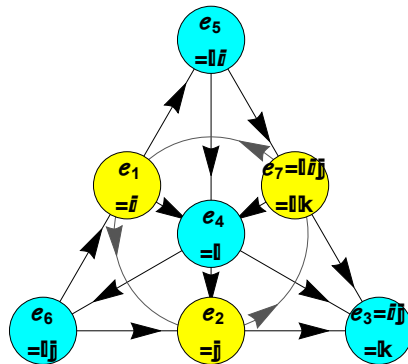
flip=True

Triad fpi=26 BC₈ R fp_sm=8→12H
{ {1, 2, 7}, {1, 4, 3}, {1, 5, 6},
{2, 3, 6}, {2, 5, 4}, {3, 5, 7}, {4, 6, 7} }

flat triad/mask bits
{1, 7, 2, 4, 3, 5, 6}
{0, 1, 0, 0, 1, 0, 0}

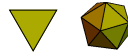
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & -e_4 & e_3 & e_6 & -e_5 & -e_2 \\ e_2 & -e_7 & -1 & e_6 & -e_5 & e_4 & -e_3 & e_1 \\ e_3 & e_4 & -e_6 & -1 & -e_1 & e_7 & e_2 & -e_5 \\ e_4 & -e_3 & e_5 & e_1 & -1 & -e_2 & e_7 & -e_6 \\ e_5 & -e_6 & -e_4 & -e_7 & e_2 & -1 & e_1 & e_3 \\ e_6 & e_5 & e_3 & -e_2 & -e_7 & -e_1 & -1 & e_4 \\ e_7 & e_2 & -e_1 & e_5 & e_6 & -e_3 & -e_4 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

128

 $\overline{L}^+_{yd}$ 0apggsscc
010110000₂ $\overline{Ac}$
89

flip=False

Triad fpi=24 BC₈ L fp_sm=3→7DH

flat triad/mask bits

{ {1, 6, 2}, {1, 3, 7}, {1, 5, 4},

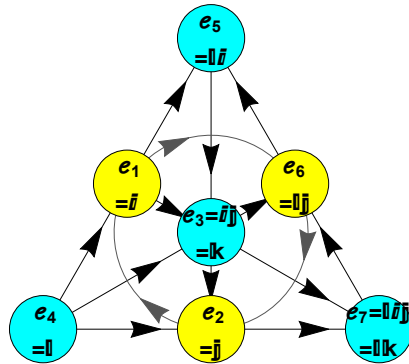
{1, 6, 2, 3, 7, 5, 4}

{2, 5, 3}, {2, 7, 4}, {3, 6, 4}, {5, 7, 6}}

{1, 0, 1, 1, 1, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & e_7 & -e_5 & e_4 & e_2 & -e_3 \\ e_2 & e_6 & -1 & -e_5 & -e_7 & e_3 & -e_1 & e_4 \\ e_3 & -e_7 & e_5 & -1 & -e_6 & -e_2 & e_4 & e_1 \\ e_4 & e_5 & e_7 & e_6 & -1 & -e_1 & -e_3 & -e_2 \\ e_5 & -e_4 & -e_3 & e_2 & e_1 & -1 & -e_7 & e_6 \\ e_6 & -e_2 & e_1 & -e_4 & e_3 & e_7 & -1 & -e_5 \\ e_7 & e_3 & -e_4 & -e_1 & e_2 & -e_6 & e_5 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=23 BC₈ L fp_sm=2→7EH

flat triad/mask bits

{ {1, 2, 6}, {1, 7, 3}, {1, 5, 4},

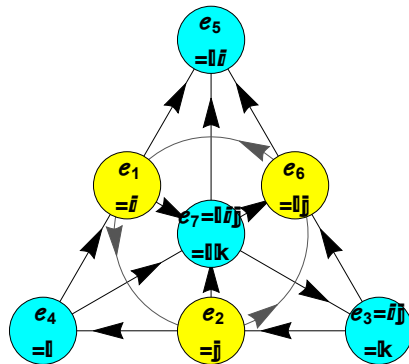
{1, 6, 2, 7, 3, 5, 4}

{2, 4, 3}, {2, 7, 5}, {3, 6, 5}, {4, 7, 6}}

{0, 1, 1, 1, 1, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & -e_7 & -e_5 & e_4 & -e_2 & e_3 \\ e_2 & -e_6 & -1 & -e_4 & e_3 & -e_7 & e_1 & e_5 \\ e_3 & e_7 & e_4 & -1 & -e_2 & -e_6 & e_5 & -e_1 \\ e_4 & e_5 & -e_3 & e_2 & -1 & -e_1 & -e_7 & e_6 \\ e_5 & -e_4 & e_7 & e_6 & e_1 & -1 & -e_3 & -e_2 \\ e_6 & e_2 & -e_1 & -e_5 & e_7 & e_3 & -1 & -e_4 \\ e_7 & -e_3 & -e_5 & e_1 & -e_6 & e_2 & e_4 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

129

 $\tau_{yd} \bar{L}$ 

0apggsscc Ac
000110000₂ 89

flip=False

Triad fpi=23 BC₈ L fp_sm=2→01H

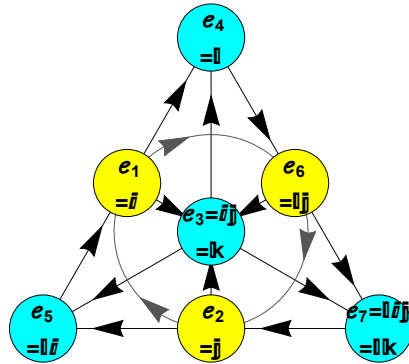
flat triad/mask bits

{{1, 6, 2}, {1, 3, 7}, {1, 4, 5},
{2, 3, 4}, {2, 5, 7}, {3, 5, 6}, {4, 6, 7}}

{1, 6, 2, 3, 7, 4, 5}
{1, 0, 0, 0, 0, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & e_7 & e_5 & -e_4 & e_2 & -e_3 \\ e_2 & e_6 & -1 & e_4 & -e_3 & e_7 & -e_1 & -e_5 \\ e_3 & -e_7 & -e_4 & -1 & e_2 & e_6 & -e_5 & e_1 \\ e_4 & -e_5 & e_3 & -e_2 & -1 & e_1 & e_7 & -e_6 \\ e_5 & e_4 & -e_7 & -e_6 & -e_1 & -1 & e_3 & e_2 \\ e_6 & -e_2 & e_1 & e_5 & -e_7 & -e_3 & -1 & e_4 \\ e_7 & e_3 & e_5 & -e_1 & e_6 & -e_2 & -e_4 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=24 BC₈ L fp_sm=3→02H

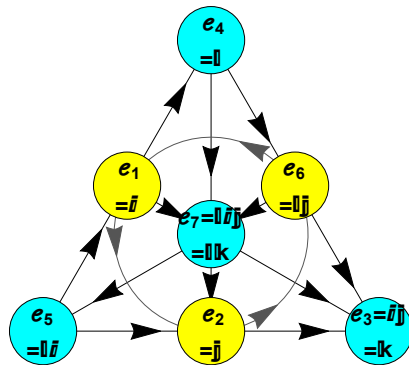
flat triad/mask bits

{{1, 2, 6}, {1, 7, 3}, {1, 4, 5},
{2, 3, 5}, {2, 4, 7}, {3, 4, 6}, {5, 6, 7}}

{1, 6, 2, 7, 3, 4, 5}
{0, 1, 0, 0, 0, 0, 0}

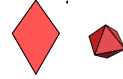
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & -e_7 & e_5 & -e_4 & -e_2 & e_3 \\ e_2 & -e_6 & -1 & e_5 & e_7 & -e_3 & e_1 & -e_4 \\ e_3 & e_7 & -e_5 & -1 & e_6 & e_2 & -e_4 & -e_1 \\ e_4 & -e_5 & -e_7 & -e_6 & -1 & e_1 & e_3 & e_2 \\ e_5 & e_4 & e_3 & -e_2 & -e_1 & -1 & e_7 & -e_6 \\ e_6 & e_2 & -e_1 & e_4 & -e_3 & -e_7 & -1 & e_5 \\ e_7 & -e_3 & e_4 & e_1 & -e_2 & e_6 & -e_5 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

130 $\overline{t}_{r1}^{0 \rightarrow -2/3} \overline{R}$



0apggsscc At
011110101₂ 85

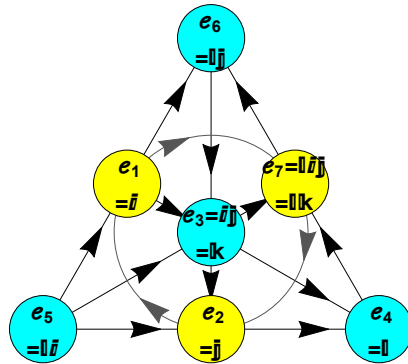
flip=False

Triad fpi=26 BC₈ R fp_sm=8→6DH
{ {1, 7, 2}, {1, 3, 4}, {1, 6, 5},
{2, 6, 3}, {2, 4, 5}, {3, 7, 5}, {4, 7, 6} }

flat triad/mask bits
{1, 7, 2, 3, 4, 6, 5}
{1, 0, 1, 1, 0, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & e_4 & -e_3 & -e_6 & e_5 & e_2 \\ e_2 & e_7 & -1 & -e_6 & e_5 & -e_4 & e_3 & -e_1 \\ e_3 & -e_4 & e_6 & -1 & e_1 & -e_7 & -e_2 & e_5 \\ e_4 & e_3 & -e_5 & -e_1 & -1 & e_2 & -e_7 & e_6 \\ e_5 & e_6 & e_4 & e_7 & -e_2 & -1 & -e_1 & -e_3 \\ e_6 & -e_5 & -e_3 & e_2 & e_7 & e_1 & -1 & -e_4 \\ e_7 & -e_2 & e_1 & -e_5 & -e_6 & e_3 & e_4 & -1 \end{pmatrix}$$

Fano plane



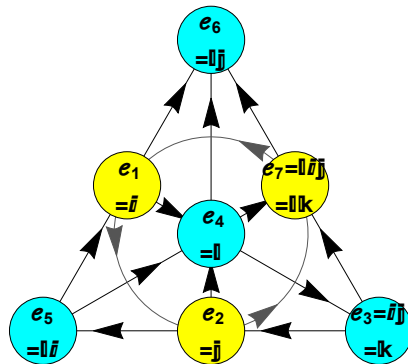
flip=True

Triad fpi=25 BC₈ R fp_sm=5→6EH
{ {1, 2, 7}, {1, 4, 3}, {1, 6, 5},
{2, 5, 3}, {2, 4, 6}, {3, 7, 6}, {4, 7, 5} }

flat triad/mask bits
{1, 7, 2, 4, 3, 6, 5}
{0, 1, 1, 1, 0, 1, 1}

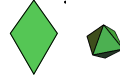
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & -e_4 & e_3 & -e_6 & e_5 & -e_2 \\ e_2 & -e_7 & -1 & -e_5 & e_6 & e_3 & -e_4 & e_1 \\ e_3 & e_4 & e_5 & -1 & -e_1 & -e_2 & -e_7 & e_6 \\ e_4 & -e_3 & -e_6 & e_1 & -1 & -e_7 & e_2 & e_5 \\ e_5 & e_6 & -e_3 & e_2 & e_7 & -1 & -e_1 & -e_4 \\ e_6 & -e_5 & e_4 & e_7 & -e_2 & e_1 & -1 & -e_3 \\ e_7 & e_2 & -e_1 & -e_6 & -e_5 & e_4 & e_3 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

131

 $\overline{\tau}_{g1}^{0 \rightarrow -2/3} \mathbb{R}$


0apggsscc
011110110₂

T1
81

flip=False

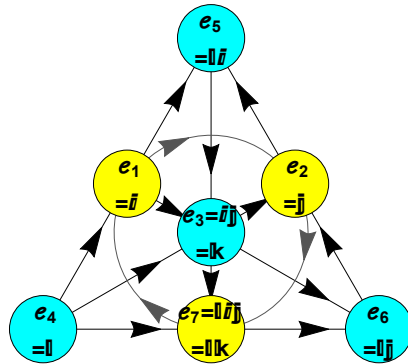
Triad fpi=29 BC₈ R fp_sm=7→6CH

flat triad/mask bits

 $\{\{1, 2, 7\}, \{1, 3, 6\}, \{1, 5, 4\},$
 $\{1, 2, 7, 3, 6, 5, 4\}$
 $\{2, 4, 3\}, \{2, 5, 6\}, \{3, 7, 5\}, \{4, 7, 6\}\}$
 $\{0, 0, 1, 1, 0, 1, 1\}$

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & e_6 & -e_5 & e_4 & -e_3 & -e_2 \\ e_2 & -e_7 & -1 & -e_4 & e_3 & e_6 & -e_5 & e_1 \\ e_3 & -e_6 & e_4 & -1 & -e_2 & -e_7 & e_1 & e_5 \\ e_4 & e_5 & -e_3 & e_2 & -1 & -e_1 & -e_7 & e_6 \\ e_5 & -e_4 & -e_6 & e_7 & e_1 & -1 & e_2 & -e_3 \\ e_6 & e_3 & e_5 & -e_1 & e_7 & -e_2 & -1 & -e_4 \\ e_7 & e_2 & -e_1 & -e_5 & -e_6 & e_3 & e_4 & -1 \end{pmatrix}$$

Fano plane



flip=True

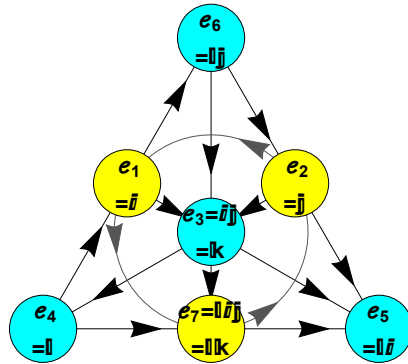
Triad fpi=27 BC₈ R fp_sm=4→65H

flat triad/mask bits

 $\{\{1, 7, 2\}, \{1, 3, 5\}, \{1, 6, 4\},$
 $\{1, 2, 7, 3, 5, 6, 4\}$
 $\{2, 3, 4\}, \{2, 5, 6\}, \{3, 7, 6\}, \{4, 7, 5\}\}$
 $\{1, 0, 1, 0, 0, 1, 1\}$

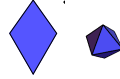
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & e_5 & -e_6 & -e_3 & e_4 & e_2 \\ e_2 & e_7 & -1 & e_4 & -e_3 & e_6 & -e_5 & -e_1 \\ e_3 & -e_5 & -e_4 & -1 & e_2 & e_1 & -e_7 & e_6 \\ e_4 & e_6 & e_3 & -e_2 & -1 & -e_7 & -e_1 & e_5 \\ e_5 & e_3 & -e_6 & -e_1 & e_7 & -1 & e_2 & -e_4 \\ e_6 & -e_4 & e_5 & e_7 & e_1 & -e_2 & -1 & -e_3 \\ e_7 & -e_2 & e_1 & -e_6 & -e_5 & e_4 & e_3 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

132 $\overline{t}_{b_1}^{-2/3} \overline{R}$



0apggsscc $\overline{Dy}$
011110111₂ 66

flip=False

Triad fpi=28 BC₈ R fp_sm=3→64H

flat triad/mask bits

{ {1, 2, 7}, {1, 3, 5}, {1, 6, 4},

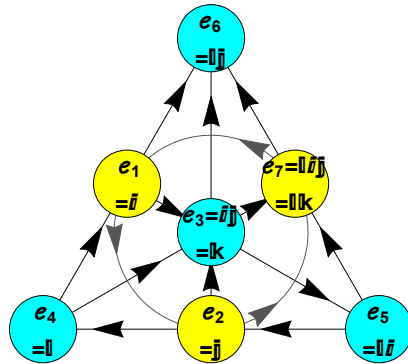
{1, 7, 2, 3, 5, 6, 4}

{2, 3, 6}, {2, 4, 5}, {3, 7, 4}, {5, 7, 6}}

{0, 0, 1, 0, 0, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & e_5 & -e_6 & -e_3 & e_4 & -e_2 \\ e_2 & -e_7 & -1 & e_6 & e_5 & -e_4 & -e_3 & e_1 \\ e_3 & -e_5 & -e_6 & -1 & -e_7 & e_1 & e_2 & e_4 \\ e_4 & e_6 & -e_5 & e_7 & -1 & e_2 & -e_1 & -e_3 \\ e_5 & e_3 & e_4 & -e_1 & -e_2 & -1 & -e_7 & e_6 \\ e_6 & -e_4 & e_3 & -e_2 & e_1 & e_7 & -1 & -e_5 \\ e_7 & e_2 & -e_1 & -e_4 & e_3 & -e_6 & e_5 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=30 BC₈ R fp_sm=6→6FH

flat triad/mask bits

{ {1, 7, 2}, {1, 6, 3}, {1, 5, 4},

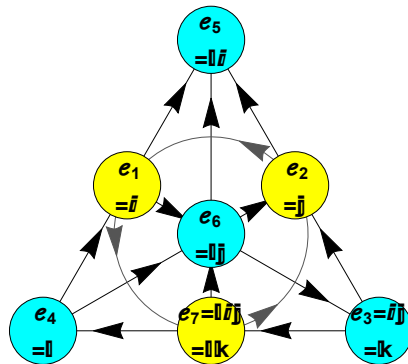
{1, 2, 7, 6, 3, 5, 4}

{2, 5, 3}, {2, 4, 6}, {3, 7, 4}, {5, 7, 6}}

{1, 1, 1, 1, 0, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & -e_6 & -e_5 & e_4 & e_3 & e_2 \\ e_2 & e_7 & -1 & -e_5 & e_6 & e_3 & -e_4 & -e_1 \\ e_3 & e_6 & e_5 & -1 & -e_7 & -e_2 & -e_1 & e_4 \\ e_4 & e_5 & -e_6 & e_7 & -1 & -e_1 & e_2 & -e_3 \\ e_5 & -e_4 & -e_3 & e_2 & e_1 & -1 & -e_7 & e_6 \\ e_6 & -e_3 & e_4 & e_1 & -e_2 & e_7 & -1 & -e_5 \\ e_7 & -e_2 & e_1 & -e_4 & e_3 & -e_6 & e_5 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

133 $\overline{d}_{Om} \xrightarrow{+1/3} R$



0apggsscc Hg
010011101₂ 80

flip=False

Triad fpi=8 BC₈ L fp_sm=2→4DH

flat triad/mask bits

{{1, 4, 2}, {1, 3, 5}, {1, 7, 6},

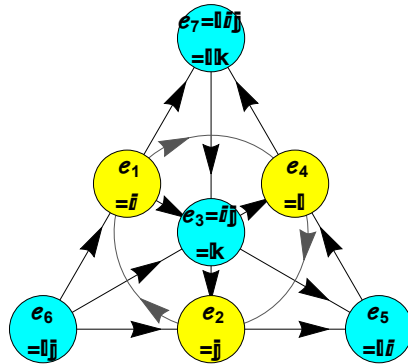
{1, 4, 2, 3, 5, 7, 6}

{2, 7, 3}, {2, 5, 6}, {3, 4, 6}, {4, 7, 5}}

{1, 0, 1, 1, 0, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & e_5 & e_2 & -e_3 & -e_7 & e_6 \\ e_2 & e_4 & -1 & -e_7 & -e_1 & e_6 & -e_5 & e_3 \\ e_3 & -e_5 & e_7 & -1 & e_6 & e_1 & -e_4 & -e_2 \\ e_4 & -e_2 & e_1 & -e_6 & -1 & -e_7 & e_3 & e_5 \\ e_5 & e_3 & -e_6 & -e_1 & e_7 & -1 & e_2 & -e_4 \\ e_6 & e_7 & e_5 & e_4 & -e_3 & -e_2 & -1 & -e_1 \\ e_7 & -e_6 & -e_3 & e_2 & -e_5 & e_4 & e_1 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=10 BC₈ L fp_sm=5→44H

flat triad/mask bits

{{1, 2, 4}, {1, 3, 6}, {1, 7, 5},

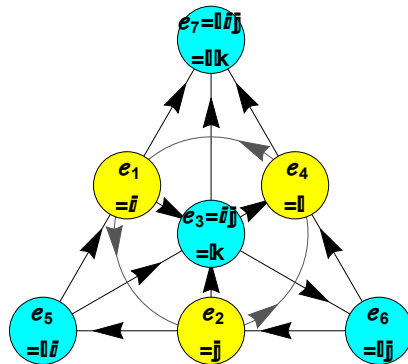
{1, 4, 2, 3, 6, 7, 5}

{2, 3, 7}, {2, 5, 6}, {3, 4, 5}, {4, 7, 6}}

{0, 0, 1, 0, 0, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & e_6 & -e_2 & -e_7 & -e_3 & e_5 \\ e_2 & -e_4 & -1 & e_7 & e_1 & e_6 & -e_5 & -e_3 \\ e_3 & -e_6 & -e_7 & -1 & e_5 & -e_4 & e_1 & e_2 \\ e_4 & e_2 & -e_1 & -e_5 & -1 & e_3 & -e_7 & e_6 \\ e_5 & e_7 & -e_6 & e_4 & -e_3 & -1 & e_2 & -e_1 \\ e_6 & e_3 & e_5 & -e_1 & e_7 & -e_2 & -1 & -e_4 \\ e_7 & -e_5 & e_3 & -e_2 & -e_6 & e_1 & e_4 & -1 \end{pmatrix}$$

Fano plane

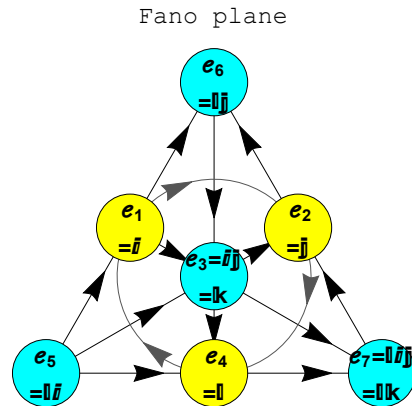


Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

134 $\overline{d}_{C_m R}^{+ \rightarrow 1/3}$  0apggsscc Os
010011110₂ 76

flip=False

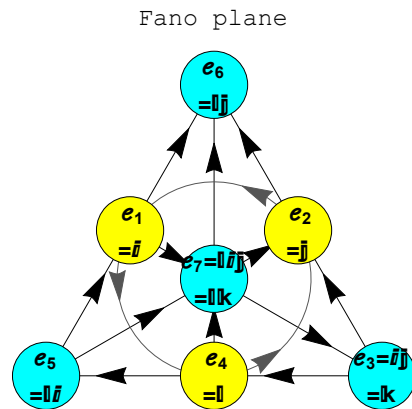
Triad fpi=11 BC₈ L fp_sm=1→4CH flat triad/mask bits
 {{1, 2, 4}, {1, 3, 7}, {1, 6, 5}, {1, 2, 4, 3, 7, 6, 5}}
 {{2, 5, 3}, {2, 6, 7}, {3, 4, 6}, {4, 7, 5}} {0, 0, 1, 1, 0, 0, 1}



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & e_7 & -e_2 & -e_6 & e_5 & -e_3 \\ e_2 & -e_4 & -1 & -e_5 & e_1 & e_3 & e_7 & -e_6 \\ e_3 & -e_7 & e_5 & -1 & e_6 & -e_2 & -e_4 & e_1 \\ e_4 & e_2 & -e_1 & -e_6 & -1 & -e_7 & e_3 & e_5 \\ e_5 & e_6 & -e_3 & e_2 & e_7 & -1 & -e_1 & -e_4 \\ e_6 & -e_5 & -e_7 & e_4 & -e_3 & e_1 & -1 & e_2 \\ e_7 & e_3 & e_6 & -e_1 & -e_5 & e_4 & -e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=12 BC₈ L fp_sm=4→4FH flat triad/mask bits
 {{1, 4, 2}, {1, 7, 3}, {1, 6, 5}, {1, 2, 4, 7, 3, 6, 5}}
 {{2, 6, 3}, {2, 5, 7}, {3, 4, 5}, {4, 7, 6}} {1, 1, 1, 1, 0, 0, 1}



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & -e_7 & e_2 & -e_6 & e_5 & e_3 \\ e_2 & e_4 & -1 & -e_6 & -e_1 & e_7 & e_3 & -e_5 \\ e_3 & e_7 & e_6 & -1 & e_5 & -e_4 & -e_2 & -e_1 \\ e_4 & -e_2 & e_1 & -e_5 & -1 & e_3 & -e_7 & e_6 \\ e_5 & e_6 & -e_7 & e_4 & -e_3 & -1 & -e_1 & e_2 \\ e_6 & -e_5 & -e_3 & e_2 & e_7 & e_1 & -1 & -e_4 \\ e_7 & -e_3 & e_5 & e_1 & -e_6 & -e_2 & e_4 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

135 $\overline{d}_{mm}^{1/3} R$



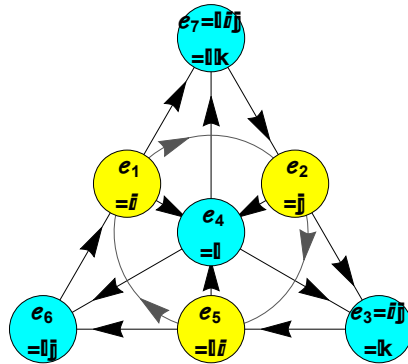
0apggsscc $\overline{Hf}$
010011111₂ 72

flip=False

Triad fpi=14 BC₈ L fp_sm=7→46H
{ {1, 2, 5}, {1, 4, 3}, {1, 7, 6},
{2, 3, 7}, {2, 4, 6}, {3, 5, 6}, {4, 7, 5} }

flat triad/mask bits
{1, 2, 5, 4, 3, 7, 6}
{0, 1, 1, 0, 0, 0, 1}

Fano plane



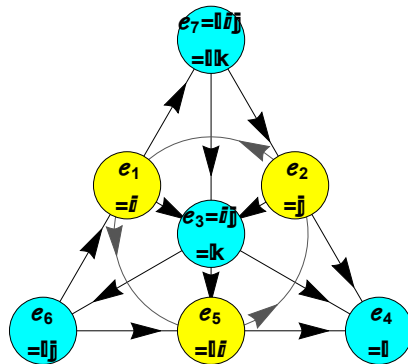
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & -e_4 & e_3 & -e_2 & -e_7 & e_6 \\ e_2 & -e_5 & -1 & e_7 & e_6 & e_1 & -e_4 & -e_3 \\ e_3 & e_4 & -e_7 & -1 & -e_1 & e_6 & -e_5 & e_2 \\ e_4 & -e_3 & -e_6 & e_1 & -1 & -e_7 & e_2 & e_5 \\ e_5 & e_2 & -e_1 & -e_6 & e_7 & -1 & e_3 & -e_4 \\ e_6 & e_7 & e_4 & e_5 & -e_2 & -e_3 & -1 & -e_1 \\ e_7 & -e_6 & e_3 & -e_2 & -e_5 & e_4 & e_1 & -1 \end{pmatrix}$$

flip=True

Triad fpi=13 BC₈ L fp_sm=6→45H
{ {1, 5, 2}, {1, 3, 4}, {1, 7, 6},
{2, 3, 6}, {2, 4, 7}, {3, 5, 7}, {4, 6, 5} }

flat triad/mask bits
{1, 2, 5, 3, 4, 7, 6}
{1, 0, 1, 0, 0, 0, 1}

Fano plane



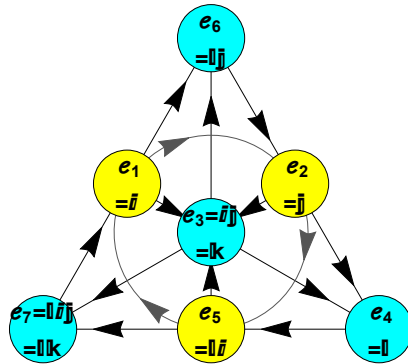
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & e_4 & -e_3 & e_2 & -e_7 & e_6 \\ e_2 & e_5 & -1 & e_6 & e_7 & -e_1 & -e_3 & -e_4 \\ e_3 & -e_4 & -e_6 & -1 & e_1 & e_7 & e_2 & -e_5 \\ e_4 & e_3 & -e_7 & -e_1 & -1 & -e_6 & e_5 & e_2 \\ e_5 & -e_2 & e_1 & -e_7 & e_6 & -1 & -e_4 & e_3 \\ e_6 & e_7 & e_3 & -e_2 & -e_5 & e_4 & -1 & -e_1 \\ e_7 & -e_6 & e_4 & e_5 & -e_2 & -e_3 & e_1 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
 Quantum Bits #
 136 $u_{bm}^{2/3}$   0apggsscc Lu
 001011011₂ 71

flip=False

Triad fpi=14 BC₈ R fp_sm=7→20H flat triad/mask bits
 {{1, 2, 5}, {1, 3, 4}, {1, 6, 7}, {1, 2, 5, 3, 4, 6, 7}
 {2, 3, 7}, {2, 4, 6}, {3, 6, 5}, {4, 5, 7}} {0, 0, 0, 0, 0, 1, 0}

Fano plane

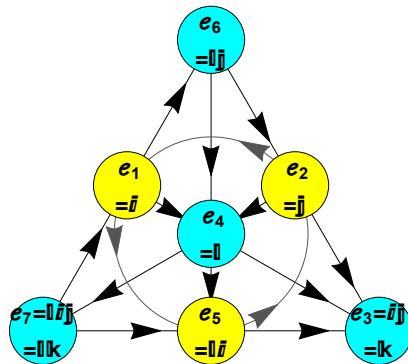


$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & e_4 & -e_3 & -e_2 & e_7 & -e_6 \\ e_2 & -e_5 & -1 & e_7 & e_6 & e_1 & -e_4 & -e_3 \\ e_3 & -e_4 & -e_7 & -1 & e_1 & -e_6 & e_5 & e_2 \\ e_4 & e_3 & -e_6 & -e_1 & -1 & e_7 & e_2 & -e_5 \\ e_5 & e_2 & -e_1 & e_6 & -e_7 & -1 & -e_3 & e_4 \\ e_6 & -e_7 & e_4 & -e_5 & -e_2 & e_3 & -1 & e_1 \\ e_7 & e_6 & e_3 & -e_2 & e_5 & -e_4 & -e_1 & -1 \end{pmatrix}$$

flip=True

Triad fpi=13 BC₈ R fp_sm=6→23H flat triad/mask bits
 {{1, 5, 2}, {1, 4, 3}, {1, 6, 7}, {1, 2, 5, 4, 3, 6, 7}
 {2, 3, 6}, {2, 4, 7}, {3, 7, 5}, {4, 5, 6}} {1, 1, 0, 0, 0, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & -e_4 & e_3 & e_2 & e_7 & -e_6 \\ e_2 & e_5 & -1 & e_6 & e_7 & -e_1 & -e_3 & -e_4 \\ e_3 & e_4 & -e_6 & -1 & -e_1 & -e_7 & e_2 & e_5 \\ e_4 & -e_3 & -e_7 & e_1 & -1 & e_6 & -e_5 & e_2 \\ e_5 & -e_2 & e_1 & e_7 & -e_6 & -1 & e_4 & -e_3 \\ e_6 & -e_7 & e_3 & -e_2 & e_5 & -e_4 & -1 & e_1 \\ e_7 & e_6 & e_4 & -e_5 & -e_2 & e_3 & -e_1 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

137 $u_{gm}^{0 \rightarrow 2/3}$



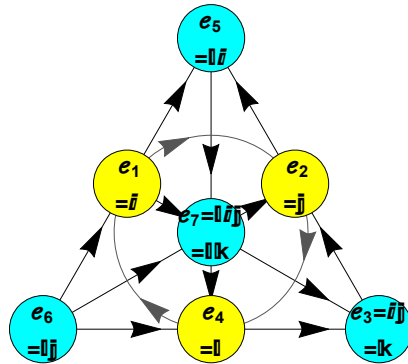
0apggsscc $\overline{\text{Ir}}$
001011010₂ 77

flip=False

Triad fpi=11 BC₈ R fp_sm=1→2AH
{ {1, 2, 4}, {1, 7, 3}, {1, 5, 6},
{2, 5, 3}, {2, 6, 7}, {3, 6, 4}, {4, 5, 7} }

flat triad/mask bits
{1, 2, 4, 7, 3, 5, 6}
{0, 1, 0, 1, 0, 1, 0}

Fano plane



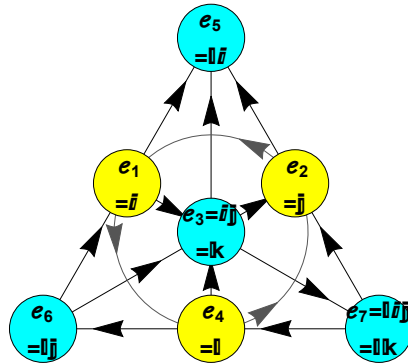
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & -e_7 & -e_2 & e_6 & -e_5 & e_3 \\ e_2 & -e_4 & -1 & -e_5 & e_1 & e_3 & e_7 & -e_6 \\ e_3 & e_7 & e_5 & -1 & -e_6 & -e_2 & e_4 & -e_1 \\ e_4 & e_2 & -e_1 & e_6 & -1 & e_7 & -e_3 & -e_5 \\ e_5 & -e_6 & -e_3 & e_2 & -e_7 & -1 & e_1 & e_4 \\ e_6 & e_5 & -e_7 & -e_4 & e_3 & -e_1 & -1 & e_2 \\ e_7 & -e_3 & e_6 & e_1 & e_5 & -e_4 & -e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=12 BC₈ R fp_sm=4→29H
{ {1, 4, 2}, {1, 3, 7}, {1, 5, 6},
{2, 6, 3}, {2, 5, 7}, {3, 5, 4}, {4, 6, 7} }

flat triad/mask bits
{1, 2, 4, 3, 7, 5, 6}
{1, 0, 0, 1, 0, 1, 0}

Fano plane

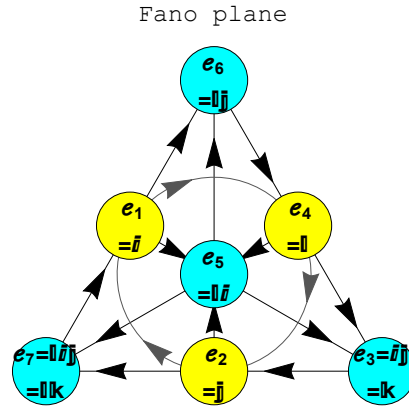


$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & e_7 & e_2 & e_6 & -e_5 & -e_3 \\ e_2 & e_4 & -1 & -e_6 & -e_1 & e_7 & e_3 & -e_5 \\ e_3 & -e_7 & e_6 & -1 & -e_5 & e_4 & -e_2 & e_1 \\ e_4 & -e_2 & e_1 & e_5 & -1 & -e_3 & e_7 & -e_6 \\ e_5 & -e_6 & -e_7 & -e_4 & e_3 & -1 & e_1 & e_2 \\ e_6 & e_5 & -e_3 & e_2 & -e_7 & -e_1 & -1 & e_4 \\ e_7 & e_3 & e_5 & -e_1 & e_6 & -e_2 & -e_4 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
 Quantum Bits #
 138 $\begin{smallmatrix} u & 0 \rightarrow 2/3 \\ r_m & L \end{smallmatrix}$  0apggsscc $\overline{Pb}$
 001011001₂ 82

flip=False

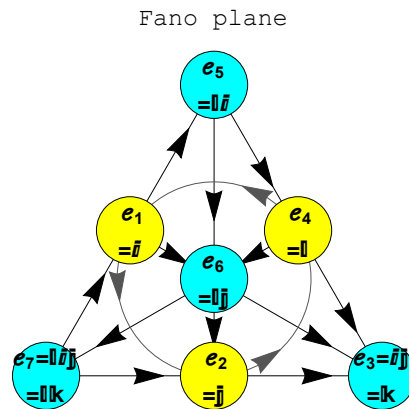
Triad fpi=8 BC₈ R fp_sm=2→2BH flat triad/mask bits
 {{1, 4, 2}, {1, 5, 3}, {1, 6, 7}, {1, 4, 2, 5, 3, 6, 7}
 {2, 7, 3}, {2, 5, 6}, {3, 6, 4}, {4, 5, 7}} {1, 1, 0, 1, 0, 1, 0}



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & -e_5 & e_2 & e_3 & e_7 & -e_6 \\ e_2 & e_4 & -1 & -e_7 & -e_1 & e_6 & -e_5 & e_3 \\ e_3 & e_5 & e_7 & -1 & -e_6 & -e_1 & e_4 & -e_2 \\ e_4 & -e_2 & e_1 & e_6 & -1 & e_7 & -e_3 & -e_5 \\ e_5 & -e_3 & -e_6 & e_1 & -e_7 & -1 & e_2 & e_4 \\ e_6 & -e_7 & e_5 & -e_4 & e_3 & -e_2 & -1 & e_1 \\ e_7 & e_6 & -e_3 & e_2 & e_5 & -e_4 & -e_1 & -1 \end{pmatrix}$$

flip=True

Triad fpi=10 BC₈ R fp_sm=5→22H flat triad/mask bits
 {{1, 2, 4}, {1, 6, 3}, {1, 5, 7}, {1, 4, 2, 6, 3, 5, 7}
 {2, 3, 7}, {2, 5, 6}, {3, 5, 4}, {4, 6, 7}} {0, 1, 0, 0, 0, 1, 0}



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & -e_6 & -e_2 & e_7 & e_3 & -e_5 \\ e_2 & -e_4 & -1 & e_7 & e_1 & e_6 & -e_5 & -e_3 \\ e_3 & e_6 & -e_7 & -1 & -e_5 & e_4 & -e_1 & e_2 \\ e_4 & e_2 & -e_1 & e_5 & -1 & -e_3 & e_7 & -e_6 \\ e_5 & -e_7 & -e_6 & -e_4 & e_3 & -1 & e_2 & e_1 \\ e_6 & -e_3 & e_5 & e_1 & -e_7 & -e_2 & -1 & e_4 \\ e_7 & e_5 & e_3 & -e_2 & e_6 & -e_1 & -e_4 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

139 $\overline{U}_{rm}^{0 \rightarrow -2/3}$



0apggsscc Re
011011101₂ 75

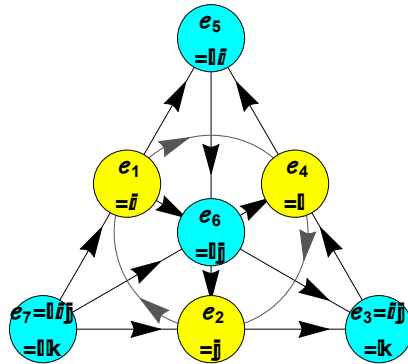
flip=False

Triad fpi=10 BC₈ R fp_sm=5→43H
{ {1, 4, 2}, {1, 6, 3}, {1, 5, 7},
{2, 3, 7}, {2, 5, 6}, {3, 4, 5}, {4, 7, 6} }

flat triad/mask bits
{1, 4, 2, 6, 3, 5, 7}
{1, 1, 0, 0, 0, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & -e_6 & e_2 & e_7 & e_3 & -e_5 \\ e_2 & e_4 & -1 & e_7 & -e_1 & e_6 & -e_5 & -e_3 \\ e_3 & e_6 & -e_7 & -1 & e_5 & -e_4 & -e_1 & e_2 \\ e_4 & -e_2 & e_1 & -e_5 & -1 & e_3 & -e_7 & e_6 \\ e_5 & -e_7 & -e_6 & e_4 & -e_3 & -1 & e_2 & e_1 \\ e_6 & -e_3 & e_5 & e_1 & e_7 & -e_2 & -1 & -e_4 \\ e_7 & e_5 & e_3 & -e_2 & -e_6 & -e_1 & e_4 & -1 \end{pmatrix}$$

Fano plane



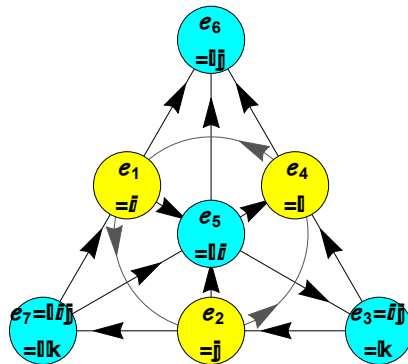
flip=True

Triad fpi=8 BC₈ R fp_sm=2→4AH
{ {1, 2, 4}, {1, 5, 3}, {1, 6, 7},
{2, 7, 3}, {2, 5, 6}, {3, 4, 6}, {4, 7, 5} }

flat triad/mask bits
{1, 4, 2, 5, 3, 6, 7}
{0, 1, 0, 1, 0, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & -e_5 & -e_2 & e_3 & e_7 & -e_6 \\ e_2 & -e_4 & -1 & -e_7 & e_1 & e_6 & -e_5 & e_3 \\ e_3 & e_5 & e_7 & -1 & e_6 & -e_1 & -e_4 & -e_2 \\ e_4 & e_2 & -e_1 & -e_6 & -1 & -e_7 & e_3 & e_5 \\ e_5 & -e_3 & -e_6 & e_1 & e_7 & -1 & e_2 & -e_4 \\ e_6 & -e_7 & e_5 & e_4 & -e_3 & -e_2 & -1 & e_1 \\ e_7 & e_6 & -e_3 & e_2 & -e_5 & e_4 & -e_1 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

140 $\overline{U}_{gm}^{0 \rightarrow -2/3}$



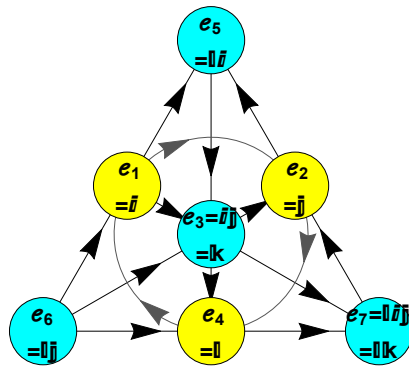
0apggsscc Yb
011011110₂ 70

flip=False

Triad fpi=12 BC₈ R fp_sm=4→48H
{ {1, 2, 4}, {1, 3, 7}, {1, 5, 6},
{2, 6, 3}, {2, 5, 7}, {3, 4, 5}, {4, 7, 6} }

flat triad/mask bits
{1, 2, 4, 3, 7, 5, 6}
{0, 0, 0, 1, 0, 0, 1}

Fano plane



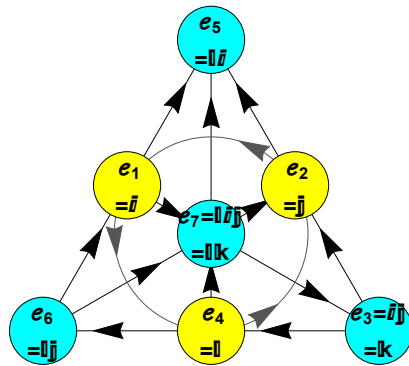
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & e_7 & -e_2 & e_6 & -e_5 & -e_3 \\ e_2 & -e_4 & -1 & -e_6 & e_1 & e_7 & e_3 & -e_5 \\ e_3 & -e_7 & e_6 & -1 & e_5 & -e_4 & -e_2 & e_1 \\ e_4 & e_2 & -e_1 & -e_5 & -1 & e_3 & -e_7 & e_6 \\ e_5 & -e_6 & -e_7 & e_4 & -e_3 & -1 & e_1 & e_2 \\ e_6 & e_5 & -e_3 & e_2 & e_7 & -e_1 & -1 & -e_4 \\ e_7 & e_3 & e_5 & -e_1 & -e_6 & -e_2 & e_4 & -1 \end{pmatrix}$$

flip=True

Triad fpi=11 BC₈ R fp_sm=1→4BH
{ {1, 4, 2}, {1, 7, 3}, {1, 5, 6},
{2, 5, 3}, {2, 6, 7}, {3, 4, 6}, {4, 7, 5} }

flat triad/mask bits
{1, 2, 4, 7, 3, 5, 6}
{1, 1, 0, 1, 0, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & -e_7 & e_2 & e_6 & -e_5 & e_3 \\ e_2 & e_4 & -1 & -e_5 & -e_1 & e_3 & e_7 & -e_6 \\ e_3 & e_7 & e_5 & -1 & e_6 & -e_2 & -e_4 & -e_1 \\ e_4 & -e_2 & e_1 & -e_6 & -1 & -e_7 & e_3 & e_5 \\ e_5 & -e_6 & -e_3 & e_2 & e_7 & -1 & e_1 & -e_4 \\ e_6 & e_5 & -e_7 & e_4 & -e_3 & -e_1 & -1 & e_2 \\ e_7 & -e_3 & e_6 & e_1 & -e_5 & e_4 & -e_2 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

141 $\bar{U}_{b_m}^{-2/3} \bar{R}$



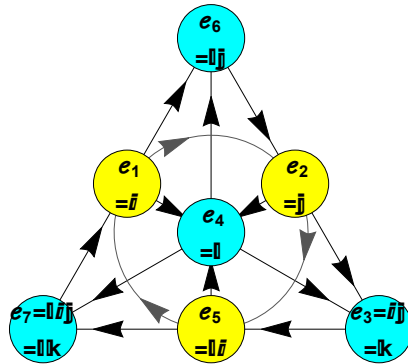
0apggsscc $\bar{P}$
011011111₂ 78

flip=False

Triad fpi=13 BC₈ R fp_sm=6→42H
{ {1, 2, 5}, {1, 4, 3}, {1, 6, 7},
{2, 3, 6}, {2, 4, 7}, {3, 5, 7}, {4, 6, 5} }

flat triad/mask bits
{1, 2, 5, 4, 3, 6, 7}
{0, 1, 0, 0, 0, 0, 1}

Fano plane



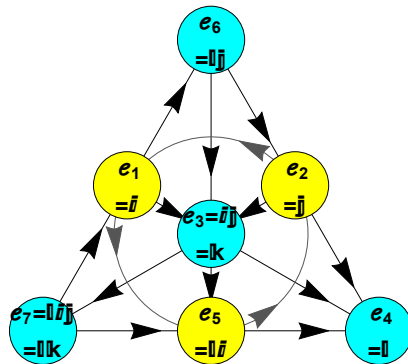
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & -e_4 & e_3 & -e_2 & e_7 & -e_6 \\ e_2 & -e_5 & -1 & e_6 & e_7 & e_1 & -e_3 & -e_4 \\ e_3 & e_4 & -e_6 & -1 & -e_1 & e_7 & e_2 & -e_5 \\ e_4 & -e_3 & -e_7 & e_1 & -1 & -e_6 & e_5 & e_2 \\ e_5 & e_2 & -e_1 & -e_7 & e_6 & -1 & -e_4 & e_3 \\ e_6 & -e_7 & e_3 & -e_2 & -e_5 & e_4 & -1 & e_1 \\ e_7 & e_6 & e_4 & e_5 & -e_2 & -e_3 & -e_1 & -1 \end{pmatrix}$$

flip=True

Triad fpi=14 BC₈ R fp_sm=7→41H
{ {1, 5, 2}, {1, 3, 4}, {1, 6, 7},
{2, 3, 7}, {2, 4, 6}, {3, 5, 6}, {4, 7, 5} }

flat triad/mask bits
{1, 2, 5, 3, 4, 6, 7}
{1, 0, 0, 0, 0, 0, 1}

Fano plane



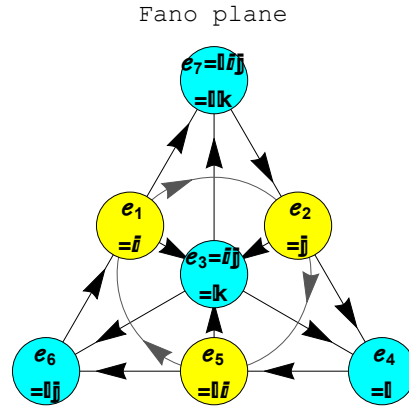
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & e_4 & -e_3 & e_2 & e_7 & -e_6 \\ e_2 & e_5 & -1 & e_7 & e_6 & -e_1 & -e_4 & -e_3 \\ e_3 & -e_4 & -e_7 & -1 & e_1 & e_6 & -e_5 & e_2 \\ e_4 & e_3 & -e_6 & -e_1 & -1 & -e_7 & e_2 & e_5 \\ e_5 & -e_2 & e_1 & -e_6 & e_7 & -1 & e_3 & -e_4 \\ e_6 & -e_7 & e_4 & e_5 & -e_2 & -e_3 & -1 & e_1 \\ e_7 & e_6 & e_3 & -e_2 & -e_5 & e_4 & -e_1 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
 Quantum Bits #
 142 $d_m^{-1/3}$   0apggsscc Gd
 000011011₂ 64

flip=False

Triad fpi=13 BC₈ L fp_sm=6→24H
 {{1, 2, 5}, {1, 3, 4}, {1, 7, 6},
 {2, 3, 6}, {2, 4, 7}, {3, 7, 5}, {4, 5, 6}}

flat triad/mask bits
 {1, 2, 5, 3, 4, 7, 6}
 {0, 0, 1, 0, 0, 1, 0}

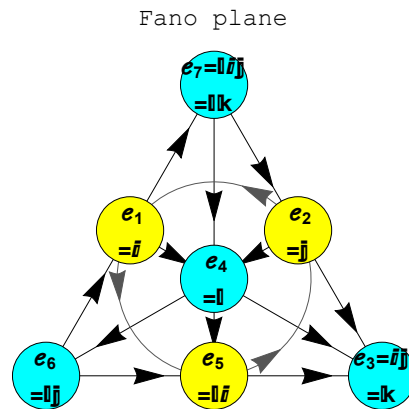


$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & e_4 & -e_3 & -e_2 & -e_7 & e_6 \\ e_2 & -e_5 & -1 & e_6 & e_7 & e_1 & -e_3 & -e_4 \\ e_3 & -e_4 & -e_6 & -1 & e_1 & -e_7 & e_2 & e_5 \\ e_4 & e_3 & -e_7 & -e_1 & -1 & e_6 & -e_5 & e_2 \\ e_5 & e_2 & -e_1 & e_7 & -e_6 & -1 & e_4 & -e_3 \\ e_6 & e_7 & e_3 & -e_2 & e_5 & -e_4 & -1 & -e_1 \\ e_7 & -e_6 & e_4 & -e_5 & -e_2 & e_3 & e_1 & -1 \end{pmatrix}$$

flip=True

Triad fpi=14 BC₈ L fp_sm=7→27H
 {{1, 5, 2}, {1, 4, 3}, {1, 7, 6},
 {2, 3, 7}, {2, 4, 6}, {3, 6, 5}, {4, 5, 7}}

flat triad/mask bits
 {1, 2, 5, 4, 3, 7, 6}
 {1, 1, 1, 0, 0, 1, 0}



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & -e_4 & e_3 & e_2 & -e_7 & e_6 \\ e_2 & e_5 & -1 & e_7 & e_6 & -e_1 & -e_4 & -e_3 \\ e_3 & e_4 & -e_7 & -1 & -e_1 & -e_6 & e_5 & e_2 \\ e_4 & -e_3 & -e_6 & e_1 & -1 & e_7 & e_2 & -e_5 \\ e_5 & -e_2 & e_1 & e_6 & -e_7 & -1 & -e_3 & e_4 \\ e_6 & e_7 & e_4 & -e_5 & -e_2 & e_3 & -1 & -e_1 \\ e_7 & -e_6 & e_3 & -e_2 & e_5 & -e_4 & e_1 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

143 $d_{cm} \xrightarrow{-1/3} \bar{l}$



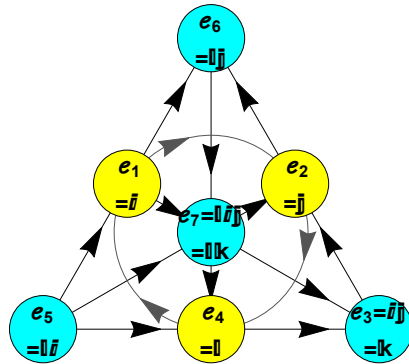
0apggsscc $\overline{Bi}$
000011010₂ 83

flip=False

Triad fpi=12 BC₈ L fp_sm=4→2EH flat triad/mask bits
 {{1, 2, 4}, {1, 7, 3}, {1, 6, 5}, {1, 2, 4, 7, 3, 6, 5}}
 {{2, 6, 3}, {2, 5, 7}, {3, 5, 4}, {4, 6, 7}} {0, 1, 1, 1, 0, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & -e_7 & -e_2 & -e_6 & e_5 & e_3 \\ e_2 & -e_4 & -1 & -e_6 & e_1 & e_7 & e_3 & -e_5 \\ e_3 & e_7 & e_6 & -1 & -e_5 & e_4 & -e_2 & -e_1 \\ e_4 & e_2 & -e_1 & e_5 & -1 & -e_3 & e_7 & -e_6 \\ e_5 & e_6 & -e_7 & -e_4 & e_3 & -1 & -e_1 & e_2 \\ e_6 & -e_5 & -e_3 & e_2 & -e_7 & e_1 & -1 & e_4 \\ e_7 & -e_3 & e_5 & e_1 & e_6 & -e_2 & -e_4 & -1 \end{pmatrix}$$

Fano plane

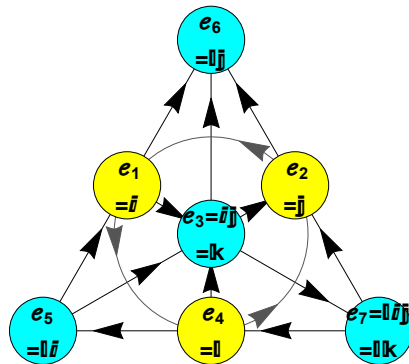


flip=True

Triad fpi=11 BC₈ L fp_sm=1→2DH flat triad/mask bits
 {{1, 4, 2}, {1, 3, 7}, {1, 6, 5}, {1, 2, 4, 3, 7, 6, 5}}
 {{2, 5, 3}, {2, 6, 7}, {3, 6, 4}, {4, 5, 7}} {1, 0, 1, 1, 0, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & e_7 & e_2 & -e_6 & e_5 & -e_3 \\ e_2 & e_4 & -1 & -e_5 & -e_1 & e_3 & e_7 & -e_6 \\ e_3 & -e_7 & e_5 & -1 & -e_6 & -e_2 & e_4 & e_1 \\ e_4 & -e_2 & e_1 & e_6 & -1 & e_7 & -e_3 & -e_5 \\ e_5 & e_6 & -e_3 & e_2 & -e_7 & -1 & -e_1 & e_4 \\ e_6 & -e_5 & -e_7 & -e_4 & e_3 & e_1 & -1 & e_2 \\ e_7 & e_3 & e_6 & -e_1 & e_5 & -e_4 & -e_2 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

144 $d_{om} \xrightarrow{-1/3} \bar{L}$



0apggsscc $\overline{Rn}$
000011001₂ 86

flip=False

Triad fpi=10 BC₈ L fp_sm=5→25H

flat triad/mask bits

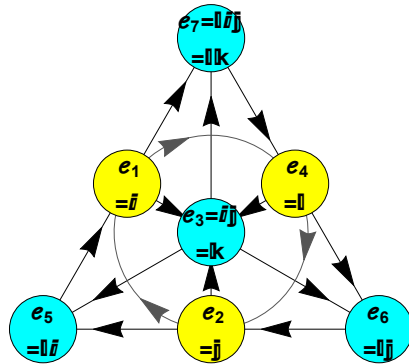
{{1, 4, 2}, {1, 3, 6}, {1, 7, 5},

{1, 4, 2, 3, 6, 7, 5}

{2, 3, 7}, {2, 5, 6}, {3, 5, 4}, {4, 6, 7}}

{1, 0, 1, 0, 0, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & e_6 & e_2 & -e_7 & -e_3 & e_5 \\ e_2 & e_4 & -1 & e_7 & -e_1 & e_6 & -e_5 & -e_3 \\ e_3 & -e_6 & -e_7 & -1 & -e_5 & e_4 & e_1 & e_2 \\ e_4 & -e_2 & e_1 & e_5 & -1 & -e_3 & e_7 & -e_6 \\ e_5 & e_7 & -e_6 & -e_4 & e_3 & -1 & e_2 & -e_1 \\ e_6 & e_3 & e_5 & -e_1 & -e_7 & -e_2 & -1 & e_4 \\ e_7 & -e_5 & e_3 & -e_2 & e_6 & e_1 & -e_4 & -1 \end{pmatrix}$$

flip=True

Triad fpi=8 BC₈ L fp_sm=2→2CH

flat triad/mask bits

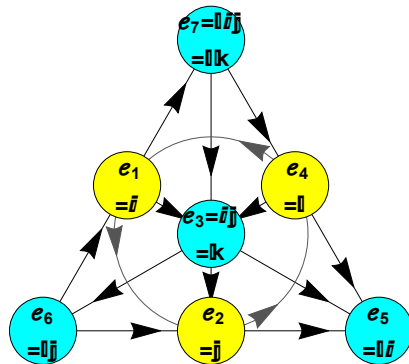
{{1, 2, 4}, {1, 3, 5}, {1, 7, 6},

{1, 4, 2, 3, 5, 7, 6}

{2, 7, 3}, {2, 5, 6}, {3, 6, 4}, {4, 5, 7}}

{0, 0, 1, 1, 0, 1, 0}

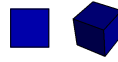
Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & e_5 & -e_2 & -e_3 & -e_7 & e_6 \\ e_2 & -e_4 & -1 & -e_7 & e_1 & e_6 & -e_5 & e_3 \\ e_3 & -e_5 & e_7 & -1 & -e_6 & e_1 & e_4 & -e_2 \\ e_4 & e_2 & -e_1 & e_6 & -1 & e_7 & -e_3 & -e_5 \\ e_5 & e_3 & -e_6 & -e_1 & -e_7 & -1 & e_2 & e_4 \\ e_6 & e_7 & e_5 & -e_4 & e_3 & -e_2 & -1 & -e_1 \\ e_7 & -e_6 & -e_3 & e_2 & e_5 & -e_4 & e_1 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

145 $t_{bd}^{2/3}$



0apggsscc Ce
001110011₂ 58

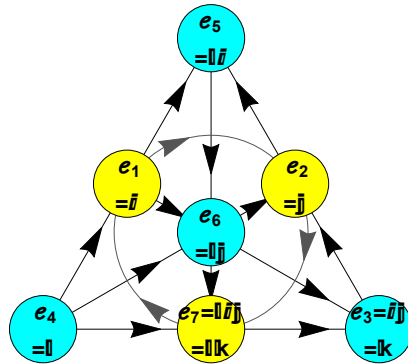
flip=False

Triad fpi=30 BC₈ R fp_sm=6→0EH
{ {1, 2, 7}, {1, 6, 3}, {1, 5, 4},
{2, 5, 3}, {2, 4, 6}, {3, 4, 7}, {5, 6, 7} }

flat triad/mask bits
{1, 2, 7, 6, 3, 5, 4}
{0, 1, 1, 1, 0, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & -e_6 & -e_5 & e_4 & e_3 & -e_2 \\ e_2 & -e_7 & -1 & -e_5 & e_6 & e_3 & -e_4 & e_1 \\ e_3 & e_6 & e_5 & -1 & e_7 & -e_2 & -e_1 & -e_4 \\ e_4 & e_5 & -e_6 & -e_7 & -1 & -e_1 & e_2 & e_3 \\ e_5 & -e_4 & -e_3 & e_2 & e_1 & -1 & e_7 & -e_6 \\ e_6 & -e_3 & e_4 & e_1 & -e_2 & -e_7 & -1 & e_5 \\ e_7 & e_2 & -e_1 & e_4 & -e_3 & e_6 & -e_5 & -1 \end{pmatrix}$$

Fano plane



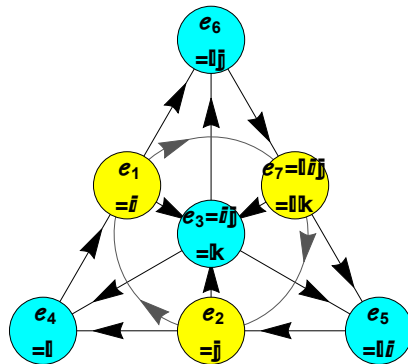
flip=True

Triad fpi=28 BC₈ R fp_sm=3→05H
{ {1, 7, 2}, {1, 3, 5}, {1, 6, 4},
{2, 3, 6}, {2, 4, 5}, {3, 4, 7}, {5, 6, 7} }

flat triad/mask bits
{1, 7, 2, 3, 5, 6, 4}
{1, 0, 1, 0, 0, 0, 0}

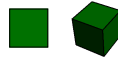
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & e_5 & -e_6 & -e_3 & e_4 & e_2 \\ e_2 & e_7 & -1 & e_6 & e_5 & -e_4 & -e_3 & -e_1 \\ e_3 & -e_5 & -e_6 & -1 & e_7 & e_1 & e_2 & -e_4 \\ e_4 & e_6 & -e_5 & -e_7 & -1 & e_2 & -e_1 & e_3 \\ e_5 & e_3 & e_4 & -e_1 & -e_2 & -1 & e_7 & -e_6 \\ e_6 & -e_4 & e_3 & -e_2 & e_1 & -e_7 & -1 & e_5 \\ e_7 & -e_2 & e_1 & e_4 & -e_3 & e_6 & -e_5 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

146 $t_{gd}^{0 \rightarrow 2/3}$



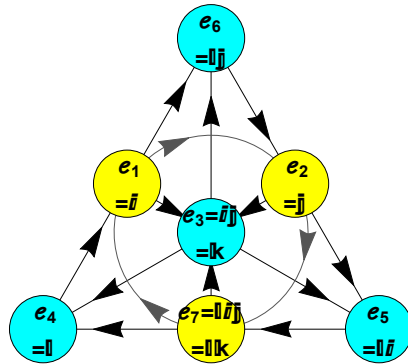
0apggsscc $\overline{\text{Fr}}$
001110010₂ 87

flip=False

Triad fpi=27 BC₈ R fp_sm=4→04H
{ {1, 2, 7}, {1, 3, 5}, {1, 6, 4},
{2, 3, 4}, {2, 5, 6}, {3, 6, 7}, {4, 5, 7} }

flat triad/mask bits
{1, 2, 7, 3, 5, 6, 4}
{0, 0, 1, 0, 0, 0, 0}

Fano plane



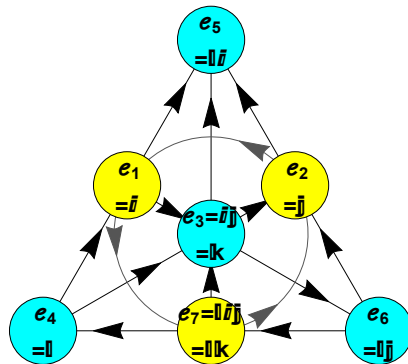
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & e_5 & -e_6 & -e_3 & e_4 & -e_2 \\ e_2 & -e_7 & -1 & e_4 & -e_3 & e_6 & -e_5 & e_1 \\ e_3 & -e_5 & -e_4 & -1 & e_2 & e_1 & e_7 & -e_6 \\ e_4 & e_6 & e_3 & -e_2 & -1 & e_7 & -e_1 & -e_5 \\ e_5 & e_3 & -e_6 & -e_1 & -e_7 & -1 & e_2 & e_4 \\ e_6 & -e_4 & e_5 & -e_7 & e_1 & -e_2 & -1 & e_3 \\ e_7 & e_2 & -e_1 & e_6 & e_5 & -e_4 & -e_3 & -1 \end{pmatrix}$$

flip=True

Triad fpi=29 BC₈ R fp_sm=7→0DH
{ {1, 7, 2}, {1, 3, 6}, {1, 5, 4},
{2, 4, 3}, {2, 5, 6}, {3, 5, 7}, {4, 6, 7} }

flat triad/mask bits
{1, 2, 7, 3, 6, 5, 4}
{1, 0, 1, 1, 0, 0, 0}

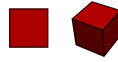
Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & e_6 & -e_5 & e_4 & -e_3 & e_2 \\ e_2 & e_7 & -1 & -e_4 & e_3 & e_6 & -e_5 & -e_1 \\ e_3 & -e_6 & e_4 & -1 & -e_2 & e_7 & e_1 & -e_5 \\ e_4 & e_5 & -e_3 & e_2 & -1 & -e_1 & e_7 & -e_6 \\ e_5 & -e_4 & -e_6 & -e_7 & e_1 & -1 & e_2 & e_3 \\ e_6 & e_3 & e_5 & -e_1 & -e_7 & -e_2 & -1 & e_4 \\ e_7 & -e_2 & e_1 & e_5 & e_6 & -e_3 & -e_4 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

147 $t_{rd}^{0 \rightarrow 2/3}$



0apggsscc $\overline{\text{Th}}$
0011110001₂ 90

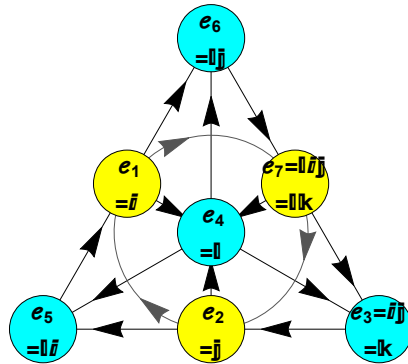
flip=False

Triad fpi=25 BC₈ R fp_sm=5→0FH
{ {1, 7, 2}, {1, 4, 3}, {1, 6, 5},
{2, 5, 3}, {2, 4, 6}, {3, 6, 7}, {4, 5, 7} }

flat triad/mask bits
{1, 7, 2, 4, 3, 6, 5}
{1, 1, 1, 1, 0, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & -e_4 & e_3 & -e_6 & e_5 & e_2 \\ e_2 & e_7 & -1 & -e_5 & e_6 & e_3 & -e_4 & -e_1 \\ e_3 & e_4 & e_5 & -1 & -e_1 & -e_2 & e_7 & -e_6 \\ e_4 & -e_3 & -e_6 & e_1 & -1 & e_7 & e_2 & -e_5 \\ e_5 & e_6 & -e_3 & e_2 & -e_7 & -1 & -e_1 & e_4 \\ e_6 & -e_5 & e_4 & -e_7 & -e_2 & e_1 & -1 & e_3 \\ e_7 & -e_2 & e_1 & e_6 & e_5 & -e_4 & -e_3 & -1 \end{pmatrix}$$

Fano plane



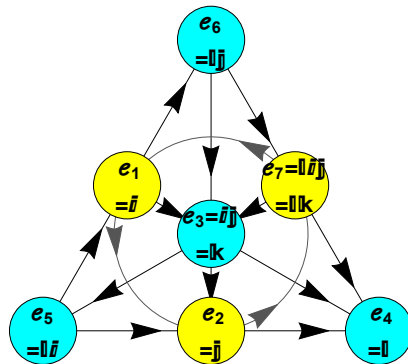
flip=True

Triad fpi=26 BC₈ R fp_sm=8→0CH
{ {1, 2, 7}, {1, 3, 4}, {1, 6, 5},
{2, 6, 3}, {2, 4, 5}, {3, 5, 7}, {4, 6, 7} }

flat triad/mask bits
{1, 7, 2, 3, 4, 6, 5}
{0, 0, 1, 1, 0, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & e_4 & -e_3 & -e_6 & e_5 & -e_2 \\ e_2 & -e_7 & -1 & -e_6 & e_5 & -e_4 & e_3 & e_1 \\ e_3 & -e_4 & e_6 & -1 & e_1 & e_7 & -e_2 & -e_5 \\ e_4 & e_3 & -e_5 & -e_1 & -1 & e_2 & e_7 & -e_6 \\ e_5 & e_6 & e_4 & -e_7 & -e_2 & -1 & -e_1 & e_3 \\ e_6 & -e_5 & -e_3 & e_2 & -e_7 & e_1 & -1 & e_4 \\ e_7 & e_2 & -e_1 & e_5 & e_6 & -e_3 & -e_4 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

148

 $\overline{\mathcal{U}}_{y_1}^+ \mathbb{R}$ 0apggsscc
010110100₂ $\overline{\text{Pu}}$
94

flip=False

Triad fpi=24 BC₈ L fp_sm=3→63H

flat triad/mask bits

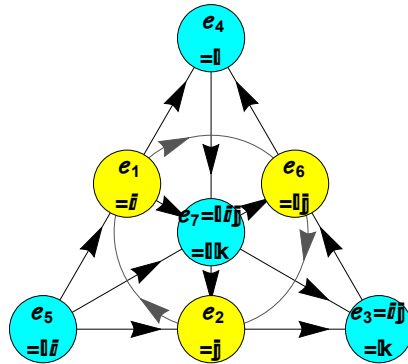
{ {1, 6, 2}, {1, 7, 3}, {1, 4, 5},

{1, 6, 2, 7, 3, 4, 5}

{2, 3, 5}, {2, 4, 7}, {3, 6, 4}, {5, 7, 6}}

{1, 1, 0, 0, 0, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & -e_7 & e_5 & -e_4 & e_2 & e_3 \\ e_2 & e_6 & -1 & e_5 & e_7 & -e_3 & -e_1 & -e_4 \\ e_3 & e_7 & -e_5 & -1 & -e_6 & e_2 & e_4 & -e_1 \\ e_4 & -e_5 & -e_7 & e_6 & -1 & e_1 & -e_3 & e_2 \\ e_5 & e_4 & e_3 & -e_2 & -e_1 & -1 & -e_7 & e_6 \\ e_6 & -e_2 & e_1 & -e_4 & e_3 & e_7 & -1 & -e_5 \\ e_7 & -e_3 & e_4 & e_1 & -e_2 & -e_6 & e_5 & -1 \end{pmatrix}$$

flip=True

Triad fpi=23 BC₈ L fp_sm=2→60H

flat triad/mask bits

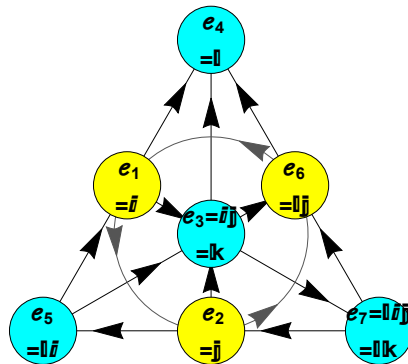
{ {1, 2, 6}, {1, 3, 7}, {1, 4, 5},

{1, 6, 2, 3, 7, 4, 5}

{2, 3, 4}, {2, 5, 7}, {3, 6, 5}, {4, 7, 6}}

{0, 0, 0, 0, 0, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & e_7 & e_5 & -e_4 & -e_2 & -e_3 \\ e_2 & -e_6 & -1 & e_4 & -e_3 & e_7 & e_1 & -e_5 \\ e_3 & -e_7 & -e_4 & -1 & e_2 & -e_6 & e_5 & e_1 \\ e_4 & -e_5 & e_3 & -e_2 & -1 & e_1 & -e_7 & e_6 \\ e_5 & e_4 & -e_7 & e_6 & -e_1 & -1 & -e_3 & e_2 \\ e_6 & e_2 & -e_1 & -e_5 & e_7 & e_3 & -1 & -e_4 \\ e_7 & e_3 & e_5 & -e_1 & -e_6 & -e_2 & e_4 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

149 $\overline{U}_{rd}^{0 \rightarrow -2/3}$



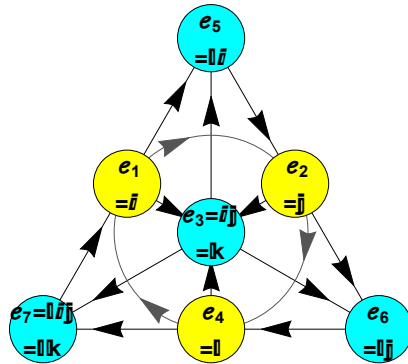
0apggsscc Tm
011010001₂ 69

flip=False

Triad fpi=10 BC₈ R fp_sm=5→70H
{ {1, 2, 4}, {1, 3, 6}, {1, 5, 7},
{2, 3, 7}, {2, 6, 5}, {3, 5, 4}, {4, 7, 6} }

flat triad/mask bits
{1, 2, 4, 3, 6, 5, 7}
{0, 0, 0, 0, 1, 1, 1}

Fano plane



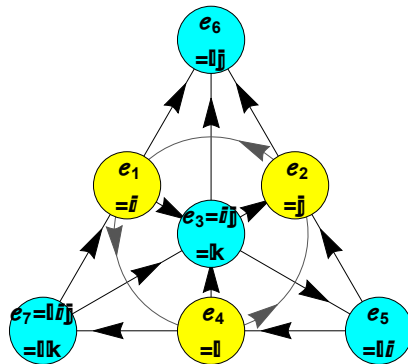
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & e_6 & -e_2 & e_7 & -e_3 & -e_5 \\ e_2 & -e_4 & -1 & e_7 & e_1 & -e_6 & e_5 & -e_3 \\ e_3 & -e_6 & -e_7 & -1 & -e_5 & e_4 & e_1 & e_2 \\ e_4 & e_2 & -e_1 & e_5 & -1 & -e_3 & -e_7 & e_6 \\ e_5 & -e_7 & e_6 & -e_4 & e_3 & -1 & -e_2 & e_1 \\ e_6 & e_3 & -e_5 & -e_1 & e_7 & e_2 & -1 & -e_4 \\ e_7 & e_5 & e_3 & -e_2 & -e_6 & -e_1 & e_4 & -1 \end{pmatrix}$$

flip=True

Triad fpi=8 BC₈ R fp_sm=2→79H
{ {1, 4, 2}, {1, 3, 5}, {1, 6, 7},
{2, 7, 3}, {2, 6, 5}, {3, 6, 4}, {4, 7, 5} }

flat triad/mask bits
{1, 2, 4, 3, 5, 6, 7}
{1, 0, 0, 1, 1, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & e_5 & e_2 & -e_3 & e_7 & -e_6 \\ e_2 & e_4 & -1 & -e_7 & -e_1 & -e_6 & e_5 & e_3 \\ e_3 & -e_5 & e_7 & -1 & -e_6 & e_1 & e_4 & -e_2 \\ e_4 & -e_2 & e_1 & e_6 & -1 & -e_7 & -e_3 & e_5 \\ e_5 & e_3 & e_6 & -e_1 & e_7 & -1 & -e_2 & -e_4 \\ e_6 & -e_7 & -e_5 & -e_4 & e_3 & e_2 & -1 & e_1 \\ e_7 & e_6 & -e_3 & e_2 & -e_5 & e_4 & -e_1 & -1 \end{pmatrix}$$

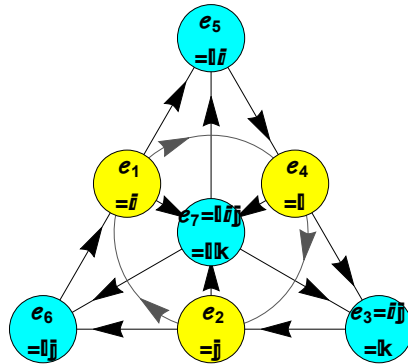
Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

150 $\overline{U}_{gd}^{0 \rightarrow -2/3}$  0apggsscc Eu
011010010₂ 63

flip=False

Triad fpi=12 BC₈ R fp_sm=4→7BH flat triad/mask bits
 {{1, 4, 2}, {1, 7, 3}, {1, 5, 6}, {1, 4, 2, 7, 3, 5, 6}}
 {{2, 6, 3}, {2, 7, 5}, {3, 5, 4}, {4, 7, 6}} {1, 1, 0, 1, 1, 1, 1}

Fano plane

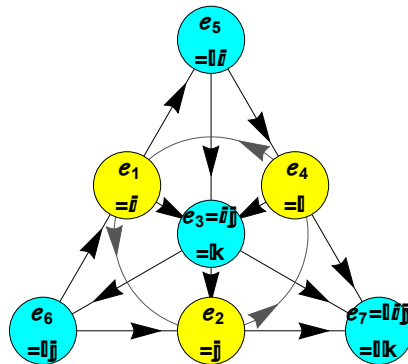


$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & -e_7 & e_2 & e_6 & -e_5 & e_3 \\ e_2 & e_4 & -1 & -e_6 & -e_1 & -e_7 & e_3 & e_5 \\ e_3 & e_7 & e_6 & -1 & -e_5 & e_4 & -e_2 & -e_1 \\ e_4 & -e_2 & e_1 & e_5 & -1 & -e_3 & -e_7 & e_6 \\ e_5 & -e_6 & e_7 & -e_4 & e_3 & -1 & e_1 & -e_2 \\ e_6 & e_5 & -e_3 & e_2 & e_7 & -e_1 & -1 & -e_4 \\ e_7 & -e_3 & -e_5 & e_1 & -e_6 & e_2 & e_4 & -1 \end{pmatrix}$$

flip=True

Triad fpi=11 BC₈ R fp_sm=1→78H flat triad/mask bits
 {{1, 2, 4}, {1, 3, 7}, {1, 5, 6}, {1, 4, 2, 3, 7, 5, 6}}
 {{2, 5, 3}, {2, 7, 6}, {3, 6, 4}, {4, 7, 5}} {0, 0, 0, 1, 1, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & e_7 & -e_2 & e_6 & -e_5 & -e_3 \\ e_2 & -e_4 & -1 & -e_5 & e_1 & e_3 & -e_7 & e_6 \\ e_3 & -e_7 & e_5 & -1 & -e_6 & -e_2 & e_4 & e_1 \\ e_4 & e_2 & -e_1 & e_6 & -1 & -e_7 & -e_3 & e_5 \\ e_5 & -e_6 & -e_3 & e_2 & e_7 & -1 & e_1 & -e_4 \\ e_6 & e_5 & e_7 & -e_4 & e_3 & -e_1 & -1 & -e_2 \\ e_7 & e_3 & -e_6 & -e_1 & -e_5 & e_4 & e_2 & -1 \end{pmatrix}$$

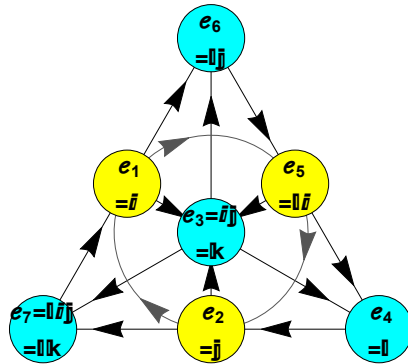
Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

151 $\overline{U}_{bd}^{-2/3} L$  0apggsscc $\overline{Po}$
011010011₂ 84

flip=False

Triad fpi=13 BC₈ R fp_sm=6→71H flat triad/mask bits
{ {1, 5, 2}, {1, 3, 4}, {1, 6, 7}, {1, 5, 2, 3, 4, 6, 7}
{2, 3, 6}, {2, 7, 4}, {3, 7, 5}, {4, 6, 5}} {1, 0, 0, 0, 1, 1, 1}

Fano plane

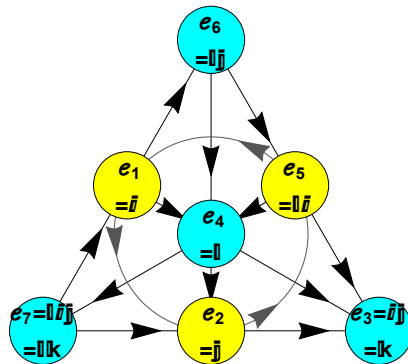


$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & e_4 & -e_3 & e_2 & e_7 & -e_6 \\ e_2 & e_5 & -1 & e_6 & -e_7 & -e_1 & -e_3 & e_4 \\ e_3 & -e_4 & -e_6 & -1 & e_1 & -e_7 & e_2 & e_5 \\ e_4 & e_3 & e_7 & -e_1 & -1 & -e_6 & e_5 & -e_2 \\ e_5 & -e_2 & e_1 & e_7 & e_6 & -1 & -e_4 & -e_3 \\ e_6 & -e_7 & e_3 & -e_2 & -e_5 & e_4 & -1 & e_1 \\ e_7 & e_6 & -e_4 & -e_5 & e_2 & e_3 & -e_1 & -1 \end{pmatrix}$$

flip=True

Triad fpi=14 BC₈ R fp_sm=7→72H flat triad/mask bits
{ {1, 2, 5}, {1, 4, 3}, {1, 6, 7}, {1, 5, 2, 4, 3, 6, 7}
{2, 3, 7}, {2, 6, 4}, {3, 6, 5}, {4, 7, 5}} {0, 1, 0, 0, 1, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & -e_4 & e_3 & -e_2 & e_7 & -e_6 \\ e_2 & -e_5 & -1 & e_7 & -e_6 & e_1 & e_4 & -e_3 \\ e_3 & e_4 & -e_7 & -1 & -e_1 & -e_6 & e_5 & e_2 \\ e_4 & -e_3 & e_6 & e_1 & -1 & -e_7 & -e_2 & e_5 \\ e_5 & e_2 & -e_1 & e_6 & e_7 & -1 & -e_3 & -e_4 \\ e_6 & -e_7 & -e_4 & -e_5 & e_2 & e_3 & -1 & e_1 \\ e_7 & e_6 & e_3 & -e_2 & -e_5 & e_4 & -e_1 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

152 $d_{m_1}^{-1/3}$



0apggsscc La
000010111₂ 57

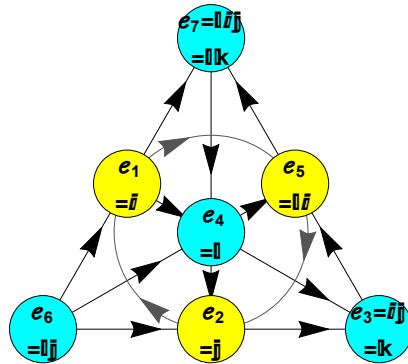
flip=False

Triad fpi=13 BC₈ L fp_sm=6→17H
{ {1, 5, 2}, {1, 4, 3}, {1, 7, 6},
{2, 3, 6}, {2, 7, 4}, {3, 5, 7}, {4, 5, 6} }

flat triad/mask bits
{1, 5, 2, 4, 3, 7, 6}
{1, 1, 1, 0, 1, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & -e_4 & e_3 & e_2 & -e_7 & e_6 \\ e_2 & e_5 & -1 & e_6 & -e_7 & -e_1 & -e_3 & e_4 \\ e_3 & e_4 & -e_6 & -1 & -e_1 & e_7 & e_2 & -e_5 \\ e_4 & -e_3 & e_7 & e_1 & -1 & e_6 & -e_5 & -e_2 \\ e_5 & -e_2 & e_1 & -e_7 & -e_6 & -1 & e_4 & e_3 \\ e_6 & e_7 & e_3 & -e_2 & e_5 & -e_4 & -1 & -e_1 \\ e_7 & -e_6 & -e_4 & e_5 & e_2 & -e_3 & e_1 & -1 \end{pmatrix}$$

Fano plane



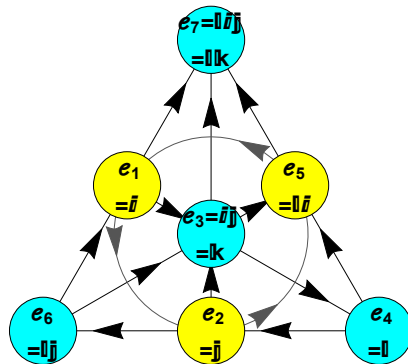
flip=True

Triad fpi=14 BC₈ L fp_sm=7→14H
{ {1, 2, 5}, {1, 3, 4}, {1, 7, 6},
{2, 3, 7}, {2, 6, 4}, {3, 5, 6}, {4, 5, 7} }

flat triad/mask bits
{1, 5, 2, 3, 4, 7, 6}
{0, 0, 1, 0, 1, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & e_4 & -e_3 & -e_2 & -e_7 & e_6 \\ e_2 & -e_5 & -1 & e_7 & -e_6 & e_1 & e_4 & -e_3 \\ e_3 & -e_4 & -e_7 & -1 & e_1 & e_6 & -e_5 & e_2 \\ e_4 & e_3 & e_6 & -e_1 & -1 & e_7 & -e_2 & -e_5 \\ e_5 & e_2 & -e_1 & -e_6 & -e_7 & -1 & e_3 & e_4 \\ e_6 & e_7 & -e_4 & e_5 & e_2 & -e_3 & -1 & -e_1 \\ e_7 & -e_6 & e_3 & -e_2 & e_5 & -e_4 & e_1 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

153 $d_{c1} \xrightarrow{R} -1/3$



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000010110₂ 88

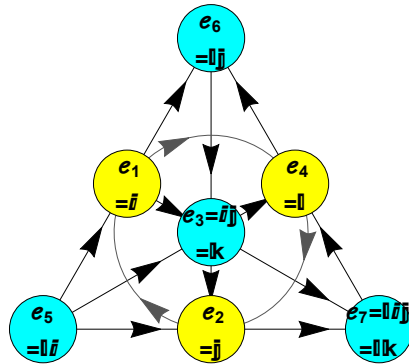
flip=False

Triad fpi=12 BC₈ L fp_sm=4→1DH
{ {1, 4, 2}, {1, 3, 7}, {1, 6, 5},
{2, 6, 3}, {2, 7, 5}, {3, 4, 5}, {4, 6, 7} }

flat triad/mask bits
{1, 4, 2, 3, 7, 6, 5}
{1, 0, 1, 1, 1, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & e_7 & e_2 & -e_6 & e_5 & -e_3 \\ e_2 & e_4 & -1 & -e_6 & -e_1 & -e_7 & e_3 & e_5 \\ e_3 & -e_7 & e_6 & -1 & e_5 & -e_4 & -e_2 & e_1 \\ e_4 & -e_2 & e_1 & -e_5 & -1 & e_3 & e_7 & -e_6 \\ e_5 & e_6 & e_7 & e_4 & -e_3 & -1 & -e_1 & -e_2 \\ e_6 & -e_5 & -e_3 & e_2 & -e_7 & e_1 & -1 & e_4 \\ e_7 & e_3 & -e_5 & -e_1 & e_6 & e_2 & -e_4 & -1 \end{pmatrix}$$

Fano plane



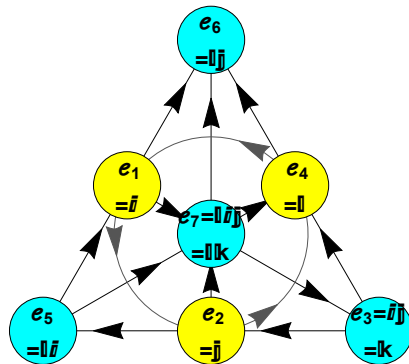
flip=True

Triad fpi=11 BC₈ L fp_sm=1→1EH
{ {1, 2, 4}, {1, 7, 3}, {1, 6, 5},
{2, 5, 3}, {2, 7, 6}, {3, 4, 6}, {4, 5, 7} }

flat triad/mask bits
{1, 4, 2, 7, 3, 6, 5}
{0, 1, 1, 1, 1, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & -e_7 & -e_2 & -e_6 & e_5 & e_3 \\ e_2 & -e_4 & -1 & -e_5 & e_1 & e_3 & -e_7 & e_6 \\ e_3 & e_7 & e_5 & -1 & e_6 & -e_2 & -e_4 & -e_1 \\ e_4 & e_2 & -e_1 & -e_6 & -1 & e_7 & e_3 & -e_5 \\ e_5 & e_6 & -e_3 & e_2 & -e_7 & -1 & -e_1 & e_4 \\ e_6 & -e_5 & e_7 & e_4 & -e_3 & e_1 & -1 & -e_2 \\ e_7 & -e_3 & -e_6 & e_1 & e_5 & -e_4 & e_2 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

154 $d_{01} \xrightarrow{-1/3} \bar{R}$



0apggsscc $\overline{Pa}$
000010101₂ 91

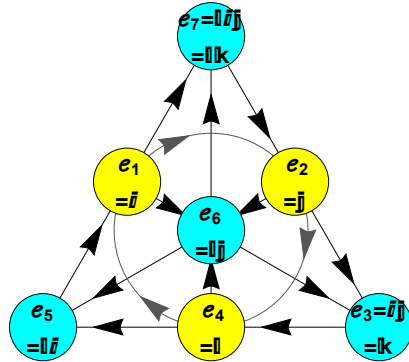
flip=False

Triad fpi=10 BC₈ L fp_sm=5→16H
{ {1, 2, 4}, {1, 6, 3}, {1, 7, 5},
{2, 3, 7}, {2, 6, 5}, {3, 4, 5}, {4, 6, 7} }

flat triad/mask bits
{1, 2, 4, 6, 3, 7, 5}
{0, 1, 1, 0, 1, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & -e_6 & -e_2 & -e_7 & e_3 & e_5 \\ e_2 & -e_4 & -1 & e_7 & e_1 & -e_6 & e_5 & -e_3 \\ e_3 & e_6 & -e_7 & -1 & e_5 & -e_4 & -e_1 & e_2 \\ e_4 & e_2 & -e_1 & -e_5 & -1 & e_3 & e_7 & -e_6 \\ e_5 & e_7 & e_6 & e_4 & -e_3 & -1 & -e_2 & -e_1 \\ e_6 & -e_3 & -e_5 & e_1 & -e_7 & e_2 & -1 & e_4 \\ e_7 & -e_5 & e_3 & -e_2 & e_6 & e_1 & -e_4 & -1 \end{pmatrix}$$

Fano plane



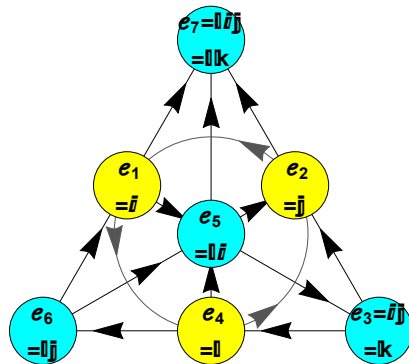
flip=True

Triad fpi=8 BC₈ L fp_sm=2→1FH
{ {1, 4, 2}, {1, 5, 3}, {1, 7, 6},
{2, 7, 3}, {2, 6, 5}, {3, 4, 6}, {4, 5, 7} }

flat triad/mask bits
{1, 2, 4, 5, 3, 7, 6}
{1, 1, 1, 1, 1, 0, 0}

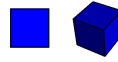
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & -e_5 & e_2 & e_3 & -e_7 & e_6 \\ e_2 & e_4 & -1 & -e_7 & -e_1 & -e_6 & e_5 & e_3 \\ e_3 & e_5 & e_7 & -1 & e_6 & -e_1 & -e_4 & -e_2 \\ e_4 & -e_2 & e_1 & -e_6 & -1 & e_7 & e_3 & -e_5 \\ e_5 & -e_3 & e_6 & e_1 & -e_7 & -1 & -e_2 & e_4 \\ e_6 & e_7 & -e_5 & e_4 & -e_3 & e_2 & -1 & -e_1 \\ e_7 & -e_6 & -e_3 & e_2 & e_5 & -e_4 & e_1 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

155 $t_{bm}^{2/3}$



0apggsscc Sb
001111111₂ 51

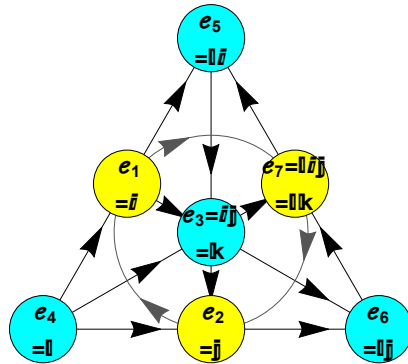
flip=False

Triad fpi=30 BC₈ R fp_sm=6→3DH
{ {1, 7, 2}, {1, 3, 6}, {1, 5, 4},
{2, 5, 3}, {2, 6, 4}, {3, 7, 4}, {5, 6, 7} }

flat triad/mask bits
{1, 7, 2, 3, 6, 5, 4}
{1, 0, 1, 1, 1, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & e_6 & -e_5 & e_4 & -e_3 & e_2 \\ e_2 & e_7 & -1 & -e_5 & -e_6 & e_3 & e_4 & -e_1 \\ e_3 & -e_6 & e_5 & -1 & -e_7 & -e_2 & e_1 & e_4 \\ e_4 & e_5 & e_6 & e_7 & -1 & -e_1 & -e_2 & -e_3 \\ e_5 & -e_4 & -e_3 & e_2 & e_1 & -1 & e_7 & -e_6 \\ e_6 & e_3 & -e_4 & -e_1 & e_2 & -e_7 & -1 & e_5 \\ e_7 & -e_2 & e_1 & -e_4 & e_3 & e_6 & -e_5 & -1 \end{pmatrix}$$

Fano plane



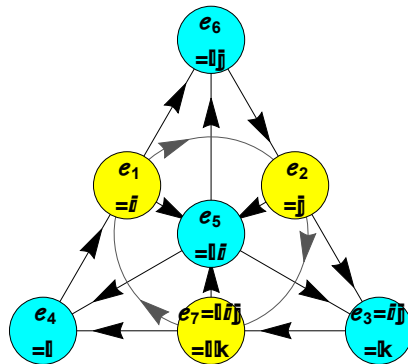
flip=True

Triad fpi=28 BC₈ R fp_sm=3→36H
{ {1, 2, 7}, {1, 5, 3}, {1, 6, 4},
{2, 3, 6}, {2, 5, 4}, {3, 7, 4}, {5, 6, 7} }

flat triad/mask bits
{1, 2, 7, 5, 3, 6, 4}
{0, 1, 1, 0, 1, 1, 0}

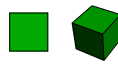
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & -e_5 & -e_6 & e_3 & e_4 & -e_2 \\ e_2 & -e_7 & -1 & e_6 & -e_5 & e_4 & -e_3 & e_1 \\ e_3 & e_5 & -e_6 & -1 & -e_7 & -e_1 & e_2 & e_4 \\ e_4 & e_6 & e_5 & e_7 & -1 & -e_2 & -e_1 & -e_3 \\ e_5 & -e_3 & -e_4 & e_1 & e_2 & -1 & e_7 & -e_6 \\ e_6 & -e_4 & e_3 & -e_2 & e_1 & -e_7 & -1 & e_5 \\ e_7 & e_2 & -e_1 & -e_4 & e_3 & e_6 & -e_5 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

156 $t_{g_m}^{0 \rightarrow 2/3}$



0apggsscc $\bar{U}$
001111110₂ 92

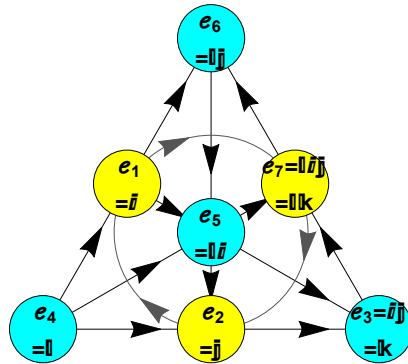
flip=False

Triad fpi=27 BC₈ R fp_sm=4→37H
{ {1, 7, 2}, {1, 5, 3}, {1, 6, 4},
{2, 3, 4}, {2, 6, 5}, {3, 7, 6}, {4, 5, 7} }

flat triad/mask bits
{1, 7, 2, 5, 3, 6, 4}
{1, 1, 1, 0, 1, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & -e_5 & -e_6 & e_3 & e_4 & e_2 \\ e_2 & e_7 & -1 & e_4 & -e_3 & -e_6 & e_5 & -e_1 \\ e_3 & e_5 & -e_4 & -1 & e_2 & -e_1 & -e_7 & e_6 \\ e_4 & e_6 & e_3 & -e_2 & -1 & e_7 & -e_1 & -e_5 \\ e_5 & -e_3 & e_6 & e_1 & -e_7 & -1 & -e_2 & e_4 \\ e_6 & -e_4 & -e_5 & e_7 & e_1 & e_2 & -1 & -e_3 \\ e_7 & -e_2 & e_1 & -e_6 & e_5 & -e_4 & e_3 & -1 \end{pmatrix}$$

Fano plane



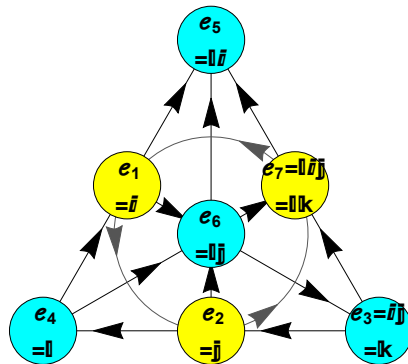
flip=True

Triad fpi=29 BC₈ R fp_sm=7→3EH
{ {1, 2, 7}, {1, 6, 3}, {1, 5, 4},
{2, 4, 3}, {2, 6, 5}, {3, 7, 5}, {4, 6, 7} }

flat triad/mask bits
{1, 7, 2, 6, 3, 5, 4}
{0, 1, 1, 1, 1, 1, 0}

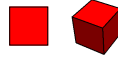
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & -e_6 & -e_5 & e_4 & e_3 & -e_2 \\ e_2 & -e_7 & -1 & -e_4 & e_3 & -e_6 & e_5 & e_1 \\ e_3 & e_6 & e_4 & -1 & -e_2 & -e_7 & -e_1 & e_5 \\ e_4 & e_5 & -e_3 & e_2 & -1 & -e_1 & e_7 & -e_6 \\ e_5 & -e_4 & e_6 & e_7 & e_1 & -1 & -e_2 & -e_3 \\ e_6 & -e_3 & -e_5 & e_1 & -e_7 & e_2 & -1 & e_4 \\ e_7 & e_2 & -e_1 & -e_5 & e_6 & e_3 & -e_4 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

157 $t_{x_m}^{0 \rightarrow 2/3}$



0apggsscc $\overline{\text{Am}}$
001111101₂ 95

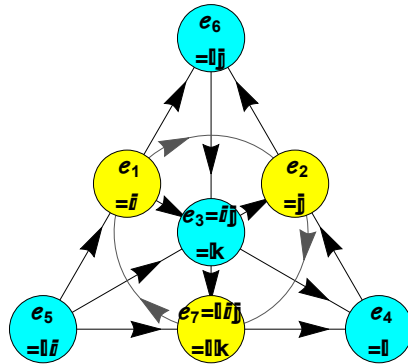
flip=False

Triad fpi=25 BC₈ R fp_sm=5→3CH
{ {1, 2, 7}, {1, 3, 4}, {1, 6, 5},
{2, 5, 3}, {2, 6, 4}, {3, 7, 6}, {4, 5, 7} }

flat triad/mask bits
{1, 2, 7, 3, 4, 6, 5}
{0, 0, 1, 1, 1, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & e_4 & -e_3 & -e_6 & e_5 & -e_2 \\ e_2 & -e_7 & -1 & -e_5 & -e_6 & e_3 & e_4 & e_1 \\ e_3 & -e_4 & e_5 & -1 & e_1 & -e_2 & -e_7 & e_6 \\ e_4 & e_3 & e_6 & -e_1 & -1 & e_7 & -e_2 & -e_5 \\ e_5 & e_6 & -e_3 & e_2 & -e_7 & -1 & -e_1 & e_4 \\ e_6 & -e_5 & -e_4 & e_7 & e_2 & e_1 & -1 & -e_3 \\ e_7 & e_2 & -e_1 & -e_6 & e_5 & -e_4 & e_3 & -1 \end{pmatrix}$$

Fano plane



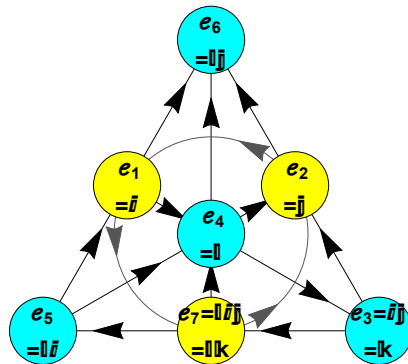
flip=True

Triad fpi=26 BC₈ R fp_sm=8→3FH
{ {1, 7, 2}, {1, 4, 3}, {1, 6, 5},
{2, 6, 3}, {2, 5, 4}, {3, 7, 5}, {4, 6, 7} }

flat triad/mask bits
{1, 2, 7, 4, 3, 6, 5}
{1, 1, 1, 1, 1, 1, 0}

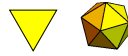
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & -e_4 & e_3 & -e_6 & e_5 & e_2 \\ e_2 & e_7 & -1 & -e_6 & -e_5 & e_4 & e_3 & -e_1 \\ e_3 & e_4 & e_6 & -1 & -e_1 & -e_7 & -e_2 & e_5 \\ e_4 & -e_3 & e_5 & e_1 & -1 & -e_2 & e_7 & -e_6 \\ e_5 & e_6 & -e_4 & e_7 & e_2 & -1 & -e_1 & -e_3 \\ e_6 & -e_5 & -e_3 & e_2 & -e_7 & e_1 & -1 & e_4 \\ e_7 & -e_2 & e_1 & -e_5 & e_6 & e_3 & -e_4 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

158

 $\overline{L}_y^+ L$ 0apggsscc
010111000₂ $\overline{Es}$
99

flip=False

Triad fpi=24 BC₈ L fp_sm=3→50H

flat triad/mask bits

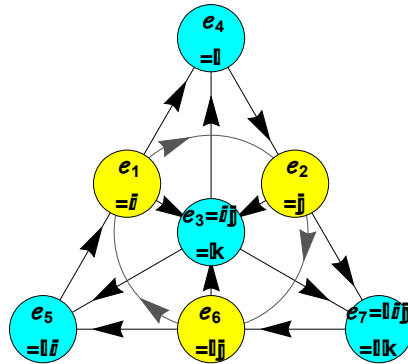
{ {1, 2, 6}, {1, 3, 7}, {1, 4, 5},

{1, 2, 6, 3, 7, 4, 5}

{2, 3, 5}, {2, 7, 4}, {3, 4, 6}, {5, 7, 6}}

{0, 0, 0, 0, 1, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & e_7 & e_5 & -e_4 & -e_2 & -e_3 \\ e_2 & -e_6 & -1 & e_5 & -e_7 & -e_3 & e_1 & e_4 \\ e_3 & -e_7 & -e_5 & -1 & e_6 & e_2 & -e_4 & e_1 \\ e_4 & -e_5 & e_7 & -e_6 & -1 & e_1 & e_3 & -e_2 \\ e_5 & e_4 & e_3 & -e_2 & -e_1 & -1 & -e_7 & e_6 \\ e_6 & e_2 & -e_1 & e_4 & -e_3 & e_7 & -1 & -e_5 \\ e_7 & e_3 & -e_4 & -e_1 & e_2 & -e_6 & e_5 & -1 \end{pmatrix}$$

flip=True

Triad fpi=23 BC₈ L fp_sm=2→53H

flat triad/mask bits

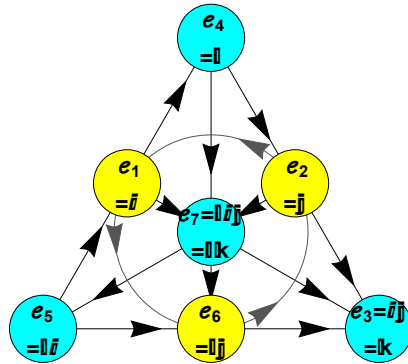
{ {1, 6, 2}, {1, 7, 3}, {1, 4, 5},

{1, 2, 6, 7, 3, 4, 5}

{2, 3, 4}, {2, 7, 5}, {3, 5, 6}, {4, 7, 6}}

{1, 1, 0, 0, 1, 0, 1}

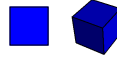
Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & -e_7 & e_5 & -e_4 & e_2 & e_3 \\ e_2 & e_6 & -1 & e_4 & -e_3 & -e_7 & -e_1 & e_5 \\ e_3 & e_7 & -e_4 & -1 & e_2 & e_6 & -e_5 & -e_1 \\ e_4 & -e_5 & e_3 & -e_2 & -1 & e_1 & -e_7 & e_6 \\ e_5 & e_4 & e_7 & -e_6 & -e_1 & -1 & e_3 & -e_2 \\ e_6 & -e_2 & e_1 & e_5 & e_7 & -e_3 & -1 & -e_4 \\ e_7 & -e_3 & -e_5 & e_1 & -e_6 & e_2 & e_4 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

159 $t_{b_m}^{2/3 \rightarrow 1/3}$



0apggsscc Ru
001111011₂ 44

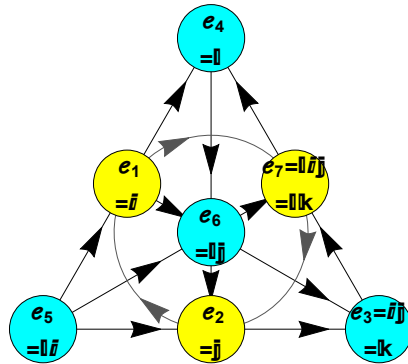
flip=False

Triad fpi=30 BC₈ R fp_sm=6→23H
{ {1, 7, 2}, {1, 6, 3}, {1, 4, 5},
{2, 3, 5}, {2, 4, 6}, {3, 7, 4}, {5, 6, 7} }

flat triad/mask bits
{1, 7, 2, 6, 3, 4, 5}
{1, 1, 0, 0, 0, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & -e_6 & e_5 & -e_4 & e_3 & e_2 \\ e_2 & e_7 & -1 & e_5 & e_6 & -e_3 & -e_4 & -e_1 \\ e_3 & e_6 & -e_5 & -1 & -e_7 & e_2 & -e_1 & e_4 \\ e_4 & -e_5 & -e_6 & e_7 & -1 & e_1 & e_2 & -e_3 \\ e_5 & e_4 & e_3 & -e_2 & -e_1 & -1 & e_7 & -e_6 \\ e_6 & -e_3 & e_4 & e_1 & -e_2 & -e_7 & -1 & e_5 \\ e_7 & -e_2 & e_1 & -e_4 & e_3 & e_6 & -e_5 & -1 \end{pmatrix}$$

Fano plane



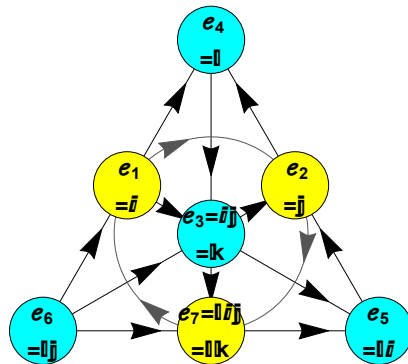
flip=True

Triad fpi=28 BC₈ R fp_sm=3→28H
{ {1, 2, 7}, {1, 3, 5}, {1, 4, 6},
{2, 6, 3}, {2, 4, 5}, {3, 7, 4}, {5, 6, 7} }

flat triad/mask bits
{1, 2, 7, 3, 5, 4, 6}
{0, 0, 0, 1, 0, 1, 0}

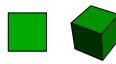
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & e_5 & e_6 & -e_3 & -e_4 & -e_2 \\ e_2 & -e_7 & -1 & -e_6 & e_5 & -e_4 & e_3 & e_1 \\ e_3 & -e_5 & e_6 & -1 & -e_7 & e_1 & -e_2 & e_4 \\ e_4 & -e_6 & -e_5 & e_7 & -1 & e_2 & e_1 & -e_3 \\ e_5 & e_3 & e_4 & -e_1 & -e_2 & -1 & e_7 & -e_6 \\ e_6 & e_4 & -e_3 & e_2 & -e_1 & -e_7 & -1 & e_5 \\ e_7 & e_2 & -e_1 & -e_4 & e_3 & e_6 & -e_5 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

160 $t_{gm}^{0 \rightarrow -1/3}$



0apggsscc $\overline{Cm}$
001111010₂ 96

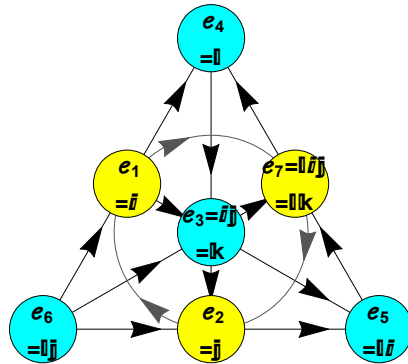
flip=False

Triad fpi=27 BC₈ R fp_sm=4→29H
{ {1, 7, 2}, {1, 3, 5}, {1, 4, 6},
{2, 4, 3}, {2, 5, 6}, {3, 7, 6}, {4, 5, 7} }

flat triad/mask bits
{1, 7, 2, 3, 5, 4, 6}
{1, 0, 0, 1, 0, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & e_5 & e_6 & -e_3 & -e_4 & e_2 \\ e_2 & e_7 & -1 & -e_4 & e_3 & e_6 & -e_5 & -e_1 \\ e_3 & -e_5 & e_4 & -1 & -e_2 & e_1 & -e_7 & e_6 \\ e_4 & -e_6 & -e_3 & e_2 & -1 & e_7 & e_1 & -e_5 \\ e_5 & e_3 & -e_6 & -e_1 & -e_7 & -1 & e_2 & e_4 \\ e_6 & e_4 & e_5 & e_7 & -e_1 & -e_2 & -1 & -e_3 \\ e_7 & -e_2 & e_1 & -e_6 & e_5 & -e_4 & e_3 & -1 \end{pmatrix}$$

Fano plane



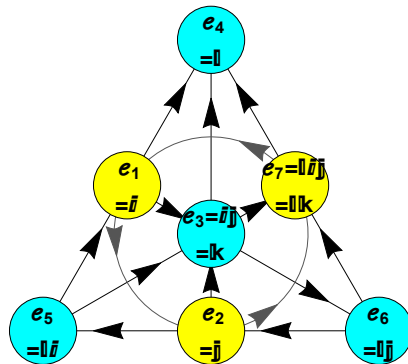
flip=True

Triad fpi=29 BC₈ R fp_sm=7→20H
{ {1, 2, 7}, {1, 3, 6}, {1, 4, 5},
{2, 3, 4}, {2, 5, 6}, {3, 7, 5}, {4, 6, 7} }

flat triad/mask bits
{1, 7, 2, 3, 6, 4, 5}
{0, 0, 0, 0, 0, 1, 0}

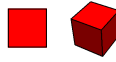
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & e_6 & e_5 & -e_4 & -e_3 & -e_2 \\ e_2 & -e_7 & -1 & e_4 & -e_3 & e_6 & -e_5 & e_1 \\ e_3 & -e_6 & -e_4 & -1 & e_2 & -e_7 & e_1 & e_5 \\ e_4 & -e_5 & e_3 & -e_2 & -1 & e_1 & e_7 & -e_6 \\ e_5 & e_4 & -e_6 & e_7 & -e_1 & -1 & e_2 & -e_3 \\ e_6 & e_3 & e_5 & -e_1 & -e_7 & -e_2 & -1 & e_4 \\ e_7 & e_2 & -e_1 & -e_5 & e_6 & e_3 & -e_4 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

161 $t_{rm}^{0 \rightarrow -1/3}$



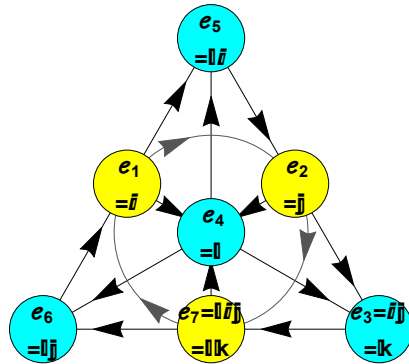
0apggsscc $\overline{Fm}$
001111001₂ 100

flip=False

Triad fpi=25 BC₈ R fp_sm=5→22H
{ {1, 2, 7}, {1, 4, 3}, {1, 5, 6},
{2, 3, 5}, {2, 4, 6}, {3, 7, 6}, {4, 5, 7} }

flat triad/mask bits
{1, 2, 7, 4, 3, 5, 6}
{0, 1, 0, 0, 0, 1, 0}

Fano plane



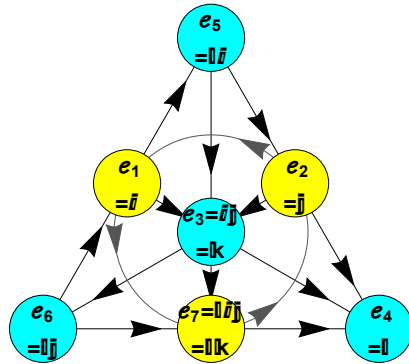
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & -e_4 & e_3 & e_6 & -e_5 & -e_2 \\ e_2 & -e_7 & -1 & e_5 & e_6 & -e_3 & -e_4 & e_1 \\ e_3 & e_4 & -e_5 & -1 & -e_1 & e_2 & -e_7 & e_6 \\ e_4 & -e_3 & -e_6 & e_1 & -1 & e_7 & e_2 & -e_5 \\ e_5 & -e_6 & e_3 & -e_2 & -e_7 & -1 & e_1 & e_4 \\ e_6 & e_5 & e_4 & e_7 & -e_2 & -e_1 & -1 & -e_3 \\ e_7 & e_2 & -e_1 & -e_6 & e_5 & -e_4 & e_3 & -1 \end{pmatrix}$$

flip=True

Triad fpi=26 BC₈ R fp_sm=8→21H
{ {1, 7, 2}, {1, 3, 4}, {1, 5, 6},
{2, 3, 6}, {2, 4, 5}, {3, 7, 5}, {4, 6, 7} }

flat triad/mask bits
{1, 2, 7, 3, 4, 5, 6}
{1, 0, 0, 0, 0, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & e_4 & -e_3 & e_6 & -e_5 & e_2 \\ e_2 & e_7 & -1 & e_6 & e_5 & -e_4 & -e_3 & -e_1 \\ e_3 & -e_4 & -e_6 & -1 & e_1 & -e_7 & e_2 & e_5 \\ e_4 & e_3 & -e_5 & -e_1 & -1 & e_2 & e_7 & -e_6 \\ e_5 & -e_6 & e_4 & e_7 & -e_2 & -1 & e_1 & -e_3 \\ e_6 & e_5 & e_3 & -e_2 & -e_7 & -e_1 & -1 & e_4 \\ e_7 & -e_2 & e_1 & -e_5 & e_6 & e_3 & -e_4 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

162

$$\overline{V_L}^0 \overline{L}$$



0apggsscc $\overline{Lr}$
011111000₂ 103

flip=False

Triad fpi=23 BC₈ R fp_sm=2→54H

flat triad/mask bits

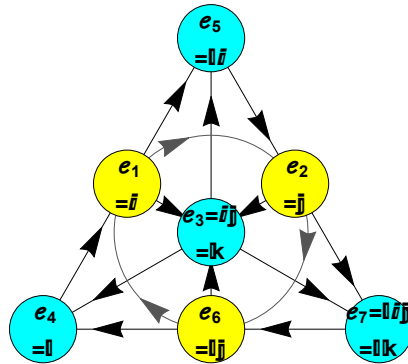
{ {1, 2, 6}, {1, 3, 7}, {1, 5, 4},

{1, 2, 6, 3, 7, 5, 4}

{2, 3, 4}, {2, 7, 5}, {3, 5, 6}, {4, 7, 6}}

{0, 0, 1, 0, 1, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & e_7 & -e_5 & e_4 & -e_2 & -e_3 \\ e_2 & -e_6 & -1 & e_4 & -e_3 & -e_7 & e_1 & e_5 \\ e_3 & -e_7 & -e_4 & -1 & e_2 & e_6 & -e_5 & e_1 \\ e_4 & e_5 & e_3 & -e_2 & -1 & -e_1 & -e_7 & e_6 \\ e_5 & -e_4 & e_7 & -e_6 & e_1 & -1 & e_3 & -e_2 \\ e_6 & e_2 & -e_1 & e_5 & e_7 & -e_3 & -1 & -e_4 \\ e_7 & e_3 & -e_5 & -e_1 & -e_6 & e_2 & e_4 & -1 \end{pmatrix}$$

flip=True

Triad fpi=24 BC₈ R fp_sm=3→57H

flat triad/mask bits

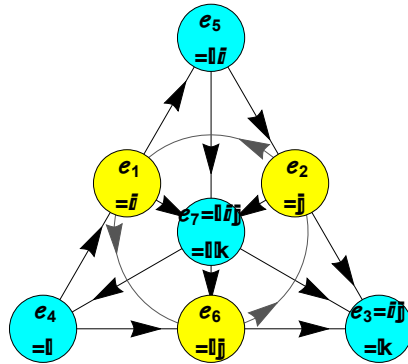
{ {1, 6, 2}, {1, 7, 3}, {1, 5, 4},

{1, 2, 6, 7, 3, 5, 4}

{2, 3, 5}, {2, 7, 4}, {3, 4, 6}, {5, 7, 6}}

{1, 1, 1, 0, 1, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & -e_7 & -e_5 & e_4 & e_2 & e_3 \\ e_2 & e_6 & -1 & e_5 & -e_7 & -e_3 & -e_1 & e_4 \\ e_3 & e_7 & -e_5 & -1 & e_6 & e_2 & -e_4 & -e_1 \\ e_4 & e_5 & e_7 & -e_6 & -1 & -e_1 & e_3 & -e_2 \\ e_5 & -e_4 & e_3 & -e_2 & e_1 & -1 & -e_7 & e_6 \\ e_6 & -e_2 & e_1 & e_4 & -e_3 & e_7 & -1 & -e_5 \\ e_7 & -e_3 & -e_4 & e_1 & e_2 & -e_6 & e_5 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

163

 $\bar{e}_{yd}^{\dagger} L$ 

0apggsscc $\overline{Sg}$
010010000₂ 106

flip=False

Triad fpi=4 BC₈ L fp_sm=3→7DH

flat triad/mask bits

{ {1, 3, 2}, {1, 4, 6}, {1, 7, 5},

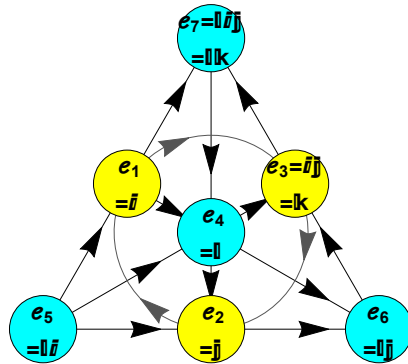
{1, 3, 2, 4, 6, 7, 5}

{2, 7, 4}, {2, 6, 5}, {3, 5, 4}, {3, 7, 6}}

{1, 0, 1, 1, 1, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & e_6 & -e_7 & -e_4 & e_5 \\ e_2 & e_3 & -1 & -e_1 & -e_7 & -e_6 & e_5 & e_4 \\ e_3 & -e_2 & e_1 & -1 & -e_5 & e_4 & -e_7 & e_6 \\ e_4 & -e_6 & e_7 & e_5 & -1 & -e_3 & e_1 & -e_2 \\ e_5 & e_7 & e_6 & -e_4 & e_3 & -1 & -e_2 & -e_1 \\ e_6 & e_4 & -e_5 & e_7 & -e_1 & e_2 & -1 & -e_3 \\ e_7 & -e_5 & -e_4 & -e_6 & e_2 & e_1 & e_3 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=7 BC₈ L fp_sm=3→7DH

flat triad/mask bits

{ {1, 4, 2}, {1, 3, 5}, {1, 7, 6},

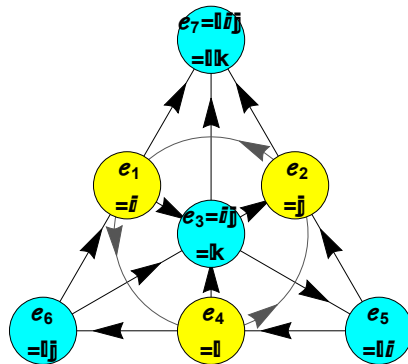
{1, 2, 4, 3, 5, 7, 6}

{2, 6, 3}, {2, 7, 5}, {3, 7, 4}, {4, 6, 5}}

{1, 0, 1, 1, 1, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & e_5 & e_2 & -e_3 & -e_7 & e_6 \\ e_2 & e_4 & -1 & -e_6 & -e_1 & -e_7 & e_3 & e_5 \\ e_3 & -e_5 & e_6 & -1 & -e_7 & e_1 & -e_2 & e_4 \\ e_4 & -e_2 & e_1 & e_7 & -1 & -e_6 & e_5 & -e_3 \\ e_5 & e_3 & e_7 & -e_1 & e_6 & -1 & -e_4 & -e_2 \\ e_6 & e_7 & -e_3 & e_2 & -e_5 & e_4 & -1 & -e_1 \\ e_7 & -e_6 & -e_5 & -e_4 & e_3 & e_2 & e_1 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

164

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010001101₂ 114

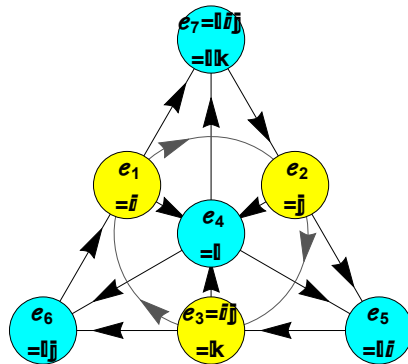
flip=False

Triad fpi=1 D₈ L fp_sm=5→44H

flat triad/mask bits

 $\{\{1, 2, 3\}, \{1, 4, 5\}, \{1, 7, 6\},$
 $\{1, 2, 3, 4, 5, 7, 6\}$
 $\{2, 4, 6\}, \{2, 5, 7\}, \{3, 4, 7\}, \{3, 6, 5\}\}$
 $\{0, 0, 1, 0, 0, 0, 1\}$

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & e_5 & -e_4 & -e_7 & e_6 \\ e_2 & -e_3 & -1 & e_1 & e_6 & e_7 & -e_4 & -e_5 \\ e_3 & e_2 & -e_1 & -1 & e_7 & -e_6 & e_5 & -e_4 \\ e_4 & -e_5 & -e_6 & -e_7 & -1 & e_1 & e_2 & e_3 \\ e_5 & e_4 & -e_7 & e_6 & -e_1 & -1 & -e_3 & e_2 \\ e_6 & e_7 & e_4 & -e_5 & -e_2 & e_3 & -1 & -e_1 \\ e_7 & -e_6 & e_5 & e_4 & -e_3 & -e_2 & e_1 & -1 \end{pmatrix}$$

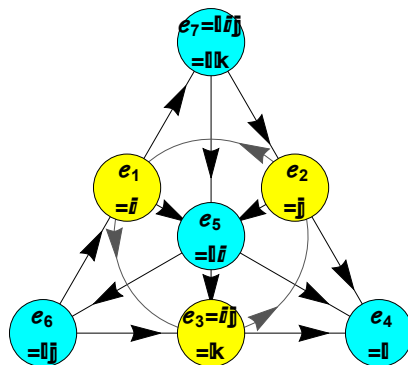
flip=True

Triad fpi=2 D₈ L fp_sm=8→47H

flat triad/mask bits

 $\{\{1, 3, 2\}, \{1, 5, 4\}, \{1, 7, 6\},$
 $\{1, 2, 3, 5, 4, 7, 6\}$
 $\{2, 4, 7\}, \{2, 5, 6\}, \{3, 4, 6\}, \{3, 7, 5\}\}$
 $\{1, 1, 1, 0, 0, 0, 1\}$

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & -e_5 & e_4 & -e_7 & e_6 \\ e_2 & e_3 & -1 & -e_1 & e_7 & e_6 & -e_5 & -e_4 \\ e_3 & -e_2 & e_1 & -1 & e_6 & -e_7 & -e_4 & e_5 \\ e_4 & e_5 & -e_7 & -e_6 & -1 & -e_1 & e_3 & e_2 \\ e_5 & -e_4 & -e_6 & e_7 & e_1 & -1 & e_2 & -e_3 \\ e_6 & e_7 & e_5 & e_4 & -e_3 & -e_2 & -1 & -e_1 \\ e_7 & -e_6 & e_4 & -e_5 & -e_2 & e_3 & e_1 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

165 $\overline{\Phi x_1}$ $\begin{smallmatrix} 0 \rightarrow 2/3 \\ R \\ o_1 \end{smallmatrix}$



0apggsscc $\overline{Uut}$
010000101₂ 113

flip=False

Triad fpi=1 D₈ L fp_sm=5→69H

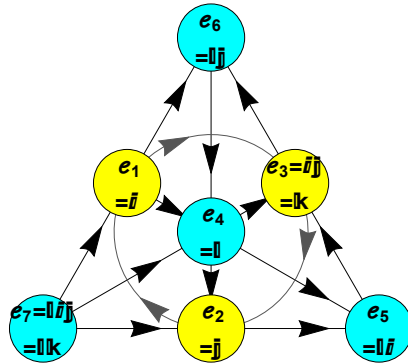
flat triad/mask bits

{{1, 3, 2}, {1, 4, 5}, {1, 6, 7},
{2, 6, 4}, {2, 5, 7}, {3, 7, 4}, {3, 6, 5}}

{1, 3, 2, 4, 5, 6, 7}
{1, 0, 0, 1, 0, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & e_5 & -e_4 & e_7 & -e_6 \\ e_2 & e_3 & -1 & -e_1 & -e_6 & e_7 & e_4 & -e_5 \\ e_3 & -e_2 & e_1 & -1 & -e_7 & -e_6 & e_5 & e_4 \\ e_4 & -e_5 & e_6 & e_7 & -1 & e_1 & -e_2 & -e_3 \\ e_5 & e_4 & -e_7 & e_6 & -e_1 & -1 & -e_3 & e_2 \\ e_6 & -e_7 & -e_4 & -e_5 & e_2 & e_3 & -1 & e_1 \\ e_7 & e_6 & e_5 & -e_4 & e_3 & -e_2 & -e_1 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=2 D₈ L fp_sm=8→6AH

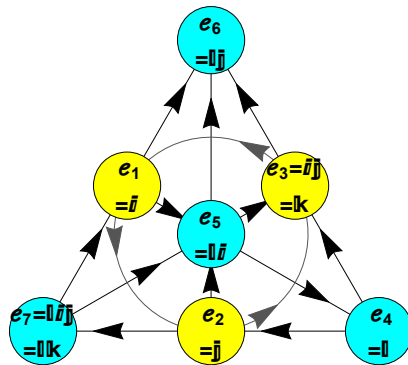
flat triad/mask bits

{{1, 2, 3}, {1, 5, 4}, {1, 6, 7},
{2, 7, 4}, {2, 5, 6}, {3, 6, 4}, {3, 7, 5}}

{1, 3, 2, 5, 4, 6, 7}
{0, 1, 0, 1, 0, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & -e_5 & e_4 & e_7 & -e_6 \\ e_2 & -e_3 & -1 & e_1 & -e_7 & e_6 & -e_5 & e_4 \\ e_3 & e_2 & -e_1 & -1 & -e_6 & -e_7 & e_4 & e_5 \\ e_4 & e_5 & e_7 & e_6 & -1 & -e_1 & -e_3 & -e_2 \\ e_5 & -e_4 & -e_6 & e_7 & e_1 & -1 & e_2 & -e_3 \\ e_6 & -e_7 & e_5 & -e_4 & e_3 & -e_2 & -1 & e_1 \\ e_7 & e_6 & -e_4 & -e_5 & e_2 & e_3 & -e_1 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

166

 $\overline{g_{m,n}^{+9}}$

0

R



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010001111₂

H
1

flip=False

Triad fpi=6 D₈ L fp_sm=6→45H

flat triad/mask bits

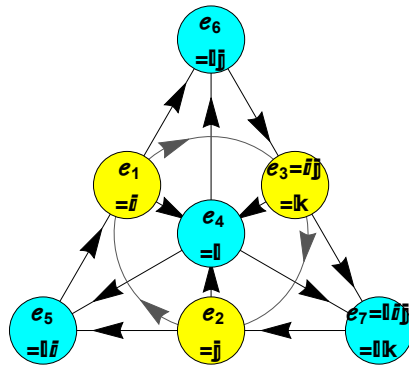
{{1, 3, 2}, {1, 4, 7}, {1, 6, 5},

{1, 3, 2, 4, 7, 6, 5}

{2, 4, 6}, {2, 5, 7}, {3, 4, 5}, {3, 7, 6}}

{1, 0, 1, 0, 0, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & e_7 & -e_6 & e_5 & -e_4 \\ e_2 & e_3 & -1 & -e_1 & e_6 & e_7 & -e_4 & -e_5 \\ e_3 & -e_2 & e_1 & -1 & e_5 & -e_4 & -e_7 & e_6 \\ e_4 & -e_7 & -e_6 & -e_5 & -1 & e_3 & e_2 & e_1 \\ e_5 & e_6 & -e_7 & e_4 & -e_3 & -1 & -e_1 & e_2 \\ e_6 & -e_5 & e_4 & e_7 & -e_2 & e_1 & -1 & -e_3 \\ e_7 & e_4 & e_5 & -e_6 & -e_1 & -e_2 & e_3 & -1 \end{pmatrix}$$

flip=True

Triad fpi=9 D₈ L fp_sm=6→45H

flat triad/mask bits

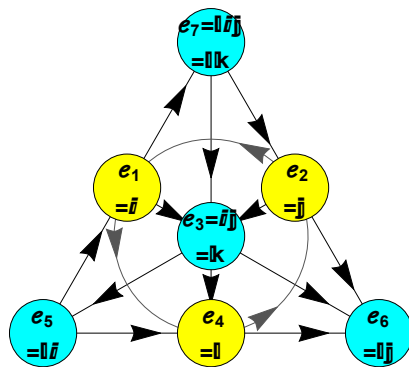
{{1, 4, 2}, {1, 3, 6}, {1, 7, 5},

{1, **2**, **4**, 3, 6, 7, 5}

{2, 3, 5}, {2, 6, 7}, {3, 4, 7}, {4, 6, 5}}

{1, 0, 1, 0, 0, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & e_6 & e_2 & -e_7 & -e_3 & e_5 \\ e_2 & e_4 & -1 & e_5 & -e_1 & -e_3 & e_7 & -e_6 \\ e_3 & -e_6 & -e_5 & -1 & e_7 & e_2 & e_1 & -e_4 \\ e_4 & -e_2 & e_1 & -e_7 & -1 & -e_6 & e_5 & e_3 \\ e_5 & e_7 & e_3 & -e_2 & e_6 & -1 & -e_4 & -e_1 \\ e_6 & e_3 & -e_7 & -e_1 & -e_5 & e_4 & -1 & e_2 \\ e_7 & -e_5 & e_6 & e_4 & -e_3 & e_1 & -e_2 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

167

 $g_{C_m}^{+B} \begin{matrix} 0 \\ R \end{matrix}$

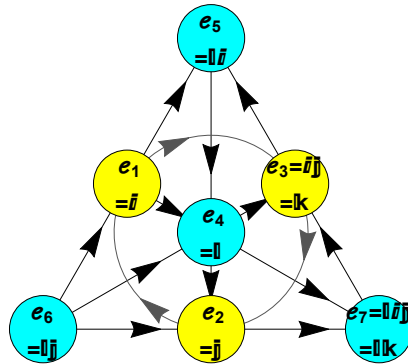

0apggsscc Uup
000001110₂ 115

flip=False

Triad fpi=5 D₈ L fp_sm=7→39H
{ {1, 3, 2}, {1, 4, 7}, {1, 5, 6},
{2, 5, 4}, {2, 7, 6}, {3, 6, 4}, {3, 5, 7} }

flat triad/mask bits
{1, 3, 2, 4, 7, 5, 6}
{1, 0, 0, 1, 1, 1, 0}

Fano plane



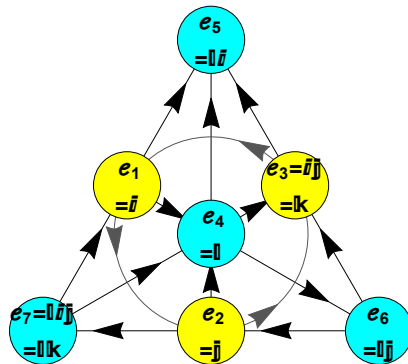
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & e_7 & e_6 & -e_5 & -e_4 \\ e_2 & e_3 & -1 & -e_1 & -e_5 & e_4 & -e_7 & e_6 \\ e_3 & -e_2 & e_1 & -1 & -e_6 & e_7 & e_4 & -e_5 \\ e_4 & -e_7 & e_5 & e_6 & -1 & -e_2 & -e_3 & e_1 \\ e_5 & -e_6 & -e_4 & -e_7 & e_2 & -1 & e_1 & e_3 \\ e_6 & e_5 & e_7 & -e_4 & e_3 & -e_1 & -1 & -e_2 \\ e_7 & e_4 & -e_6 & e_5 & -e_1 & -e_3 & e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=3 D₈ L fp_sm=4→30H
{ {1, 2, 3}, {1, 4, 6}, {1, 5, 7},
{2, 4, 5}, {2, 7, 6}, {3, 7, 4}, {3, 5, 6} }

flat triad/mask bits
{1, **3**, **2**, 4, 6, 5, 7}
{0, 0, 0, 0, 1, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & e_6 & e_7 & -e_4 & -e_5 \\ e_2 & -e_3 & -1 & e_1 & e_5 & -e_4 & -e_7 & e_6 \\ e_3 & e_2 & -e_1 & -1 & -e_7 & e_6 & -e_5 & e_4 \\ e_4 & -e_6 & -e_5 & e_7 & -1 & e_2 & e_1 & -e_3 \\ e_5 & -e_7 & e_4 & -e_6 & -e_2 & -1 & e_3 & e_1 \\ e_6 & e_4 & e_7 & e_5 & -e_1 & -e_3 & -1 & -e_2 \\ e_7 & e_5 & -e_6 & -e_4 & e_3 & -e_1 & e_2 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

168 $\overline{\Phi x_2}$ $\xrightarrow{0 \rightarrow 2/3}$
 c_1 $\mathbb{R}$



0apggsscc $\overline{Cn}$
010000110₂ 112

flip=False

Triad fpi=3 D₈ L fp_sm=4→62H

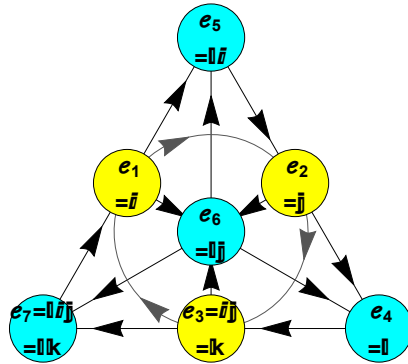
flat triad/mask bits

{{1, 2, 3}, {1, 6, 4}, {1, 5, 7},
{2, 4, 5}, {2, 6, 7}, {3, 7, 4}, {3, 6, 5}}

{1, 2, 3, 6, 4, 5, 7}
{0, 1, 0, 0, 0, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & -e_6 & e_7 & e_4 & -e_5 \\ e_2 & -e_3 & -1 & e_1 & e_5 & -e_4 & e_7 & -e_6 \\ e_3 & e_2 & -e_1 & -1 & -e_7 & -e_6 & e_5 & e_4 \\ e_4 & e_6 & -e_5 & e_7 & -1 & e_2 & -e_1 & -e_3 \\ e_5 & -e_7 & e_4 & e_6 & -e_2 & -1 & -e_3 & e_1 \\ e_6 & -e_4 & -e_7 & -e_5 & e_1 & e_3 & -1 & e_2 \\ e_7 & e_5 & e_6 & -e_4 & e_3 & -e_1 & -e_2 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=5 D₈ L fp_sm=7→6BH

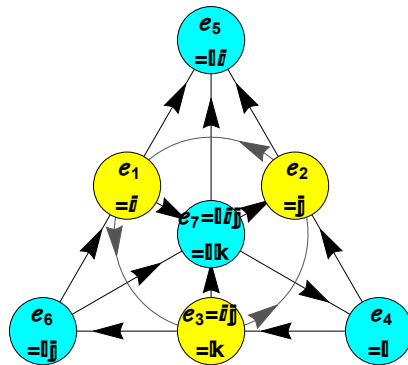
flat triad/mask bits

{{1, 3, 2}, {1, 7, 4}, {1, 5, 6},
{2, 5, 4}, {2, 6, 7}, {3, 6, 4}, {3, 7, 5}}

{1, 2, 3, 7, 4, 5, 6}
{1, 1, 0, 1, 0, 1, 1}

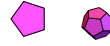
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & -e_7 & e_6 & -e_5 & e_4 \\ e_2 & e_3 & -1 & -e_1 & -e_5 & e_4 & e_7 & -e_6 \\ e_3 & -e_2 & e_1 & -1 & -e_6 & -e_7 & e_4 & e_5 \\ e_4 & e_7 & e_5 & e_6 & -1 & -e_2 & -e_3 & -e_1 \\ e_5 & -e_6 & -e_4 & e_7 & e_2 & -1 & e_1 & -e_3 \\ e_6 & e_5 & -e_7 & -e_4 & e_3 & -e_1 & -1 & e_2 \\ e_7 & -e_4 & e_6 & -e_5 & e_1 & e_3 & -e_2 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

169 $\overline{\Phi x_3}$ $\begin{smallmatrix} 0 \rightarrow 2/3 \\ R \\ m_1 \end{smallmatrix}$



0apggsscc Li
010000111₂ 3

flip=False

Triad fpi=6 D₈ L fp_sm=6→68H

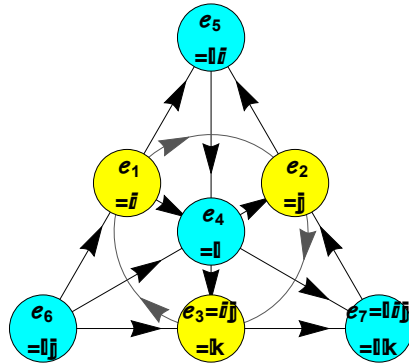
flat triad/mask bits

{{1, 2, 3}, {1, 4, 7}, {1, 5, 6},
{2, 6, 4}, {2, 5, 7}, {3, 5, 4}, {3, 7, 6}}

{1, 2, 3, 4, 7, 5, 6}
{0, 0, 0, 1, 0, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & e_7 & e_6 & -e_5 & -e_4 \\ e_2 & -e_3 & -1 & e_1 & -e_6 & e_7 & e_4 & -e_5 \\ e_3 & e_2 & -e_1 & -1 & -e_5 & e_4 & -e_7 & e_6 \\ e_4 & -e_7 & e_6 & e_5 & -1 & -e_3 & -e_2 & e_1 \\ e_5 & -e_6 & -e_7 & -e_4 & e_3 & -1 & e_1 & e_2 \\ e_6 & e_5 & -e_4 & e_7 & e_2 & -e_1 & -1 & -e_3 \\ e_7 & e_4 & e_5 & -e_6 & -e_1 & -e_2 & e_3 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=9 D₈ L fp_sm=6→68H

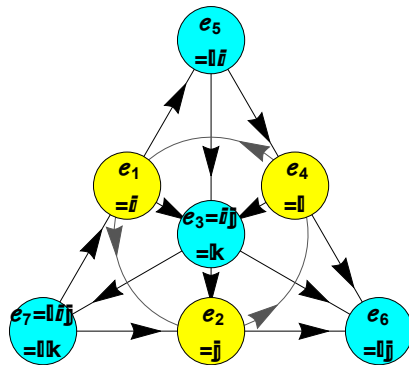
flat triad/mask bits

{{1, 2, 4}, {1, 3, 6}, {1, 5, 7},
{2, 5, 3}, {2, 6, 7}, {3, 7, 4}, {4, 6, 5}}

{1, 4, 2, 3, 6, 5, 7}
{0, 0, 0, 1, 0, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & e_6 & -e_2 & e_7 & -e_3 & -e_5 \\ e_2 & -e_4 & -1 & -e_5 & e_1 & e_3 & e_7 & -e_6 \\ e_3 & -e_6 & e_5 & -1 & -e_7 & -e_2 & e_1 & e_4 \\ e_4 & e_2 & -e_1 & e_7 & -1 & -e_6 & e_5 & -e_3 \\ e_5 & -e_7 & -e_3 & e_2 & e_6 & -1 & -e_4 & e_1 \\ e_6 & e_3 & -e_7 & -e_1 & -e_5 & e_4 & -1 & e_2 \\ e_7 & e_5 & e_6 & -e_4 & e_3 & -e_1 & -e_2 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

170 $\overline{\Phi x_1}_{\text{od}}^{0 \rightarrow -1/3}$



0apggsscc He
010000001₂ 2

flip=False

Triad fpi=1 D₈ L fp_sm=5→77H

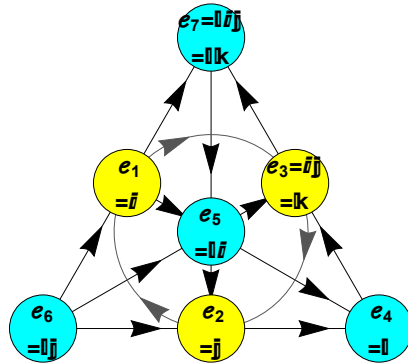
flat triad/mask bits

{{1, 3, 2}, {1, 5, 4}, {1, 7, 6},
{2, 4, 6}, {2, 7, 5}, {3, 7, 4}, {3, 6, 5}}

{1, 3, 2, 5, 4, 7, 6}
{1, 1, 1, 0, 1, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & -e_5 & e_4 & -e_7 & e_6 \\ e_2 & e_3 & -1 & -e_1 & e_6 & -e_7 & -e_4 & e_5 \\ e_3 & -e_2 & e_1 & -1 & -e_7 & -e_6 & e_5 & e_4 \\ e_4 & e_5 & -e_6 & e_7 & -1 & -e_1 & e_2 & -e_3 \\ e_5 & -e_4 & e_7 & e_6 & e_1 & -1 & -e_3 & -e_2 \\ e_6 & e_7 & e_4 & -e_5 & -e_2 & e_3 & -1 & -e_1 \\ e_7 & -e_6 & -e_5 & -e_4 & e_3 & e_2 & e_1 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=2 D₈ L fp_sm=8→74H

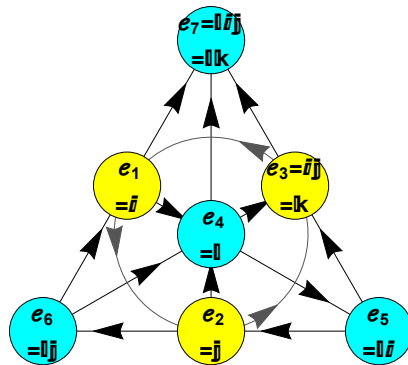
flat triad/mask bits

{{1, 2, 3}, {1, 4, 5}, {1, 7, 6},
{2, 4, 7}, {2, 6, 5}, {3, 6, 4}, {3, 7, 5}}

{1, **3**, **2**, 4, 5, 7, 6}
{0, 0, 1, 0, 1, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & e_5 & -e_4 & -e_7 & e_6 \\ e_2 & -e_3 & -1 & e_1 & e_7 & -e_6 & e_5 & -e_4 \\ e_3 & e_2 & -e_1 & -1 & -e_6 & -e_7 & e_4 & e_5 \\ e_4 & -e_5 & -e_7 & e_6 & -1 & e_1 & -e_3 & e_2 \\ e_5 & e_4 & e_6 & e_7 & -e_1 & -1 & -e_2 & -e_3 \\ e_6 & e_7 & -e_5 & -e_4 & e_3 & e_2 & -1 & -e_1 \\ e_7 & -e_6 & e_4 & -e_5 & -e_2 & e_3 & e_1 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

171 $\overline{\Phi x_2}_{Cd} \xrightarrow{0 \rightarrow -1/3} L$



0apggsscc F
010000010₂ 9

flip=False

Triad fpi=3 D₈ L fp_sm=4→7CH

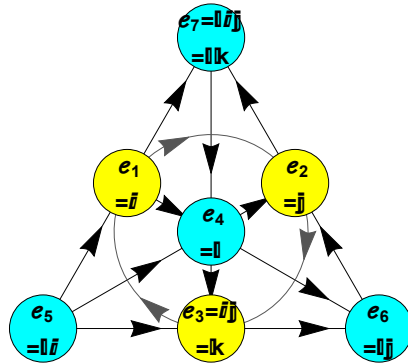
flat triad/mask bits

{{1, 2, 3}, {1, 4, 6}, {1, 7, 5},
{2, 5, 4}, {2, 7, 6}, {3, 7, 4}, {3, 6, 5}}

{1, 2, 3, 4, 6, 7, 5}
{0, 0, 1, 1, 1, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & e_6 & -e_7 & -e_4 & e_5 \\ e_2 & -e_3 & -1 & e_1 & -e_5 & e_4 & -e_7 & e_6 \\ e_3 & e_2 & -e_1 & -1 & -e_7 & -e_6 & e_5 & e_4 \\ e_4 & -e_6 & e_5 & e_7 & -1 & -e_2 & e_1 & -e_3 \\ e_5 & e_7 & -e_4 & e_6 & e_2 & -1 & -e_3 & -e_1 \\ e_6 & e_4 & e_7 & -e_5 & -e_1 & e_3 & -1 & -e_2 \\ e_7 & -e_5 & -e_6 & -e_4 & e_3 & e_1 & e_2 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=5 D₈ L fp_sm=7→75H

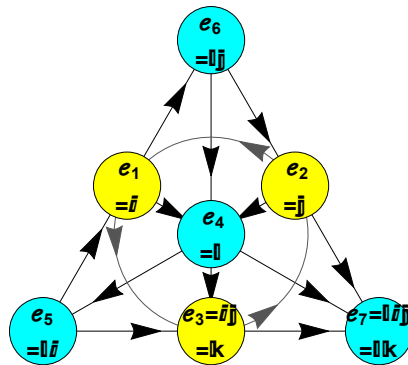
flat triad/mask bits

{{1, 3, 2}, {1, 4, 7}, {1, 6, 5},
{2, 4, 5}, {2, 7, 6}, {3, 6, 4}, {3, 7, 5}}

{1, 2, 3, 4, 7, 6, 5}
{1, 0, 1, 0, 1, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & e_7 & -e_6 & e_5 & -e_4 \\ e_2 & e_3 & -1 & -e_1 & e_5 & -e_4 & -e_7 & e_6 \\ e_3 & -e_2 & e_1 & -1 & -e_6 & -e_7 & e_4 & e_5 \\ e_4 & -e_7 & -e_5 & e_6 & -1 & e_2 & -e_3 & e_1 \\ e_5 & e_6 & e_4 & e_7 & -e_2 & -1 & -e_1 & -e_3 \\ e_6 & -e_5 & e_7 & -e_4 & e_3 & e_1 & -1 & -e_2 \\ e_7 & e_4 & -e_6 & -e_5 & -e_1 & e_3 & e_2 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

172 $\overline{\Phi \times_3}_{m_d} \xrightarrow{0 \rightarrow -1/3} L$



0apggsscc Lv
010000011₂ 116

flip=False

Triad fpi=6 D₈ L fp_sm=6→76H

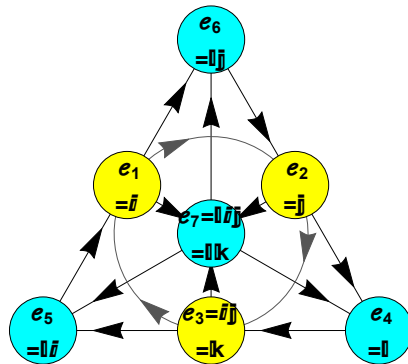
flat triad/mask bits

{{1, 2, 3}, {1, 7, 4}, {1, 6, 5},
{2, 4, 6}, {2, 7, 5}, {3, 5, 4}, {3, 7, 6}}

{1, 2, 3, 7, 4, 6, 5}
{0, 1, 1, 0, 1, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & -e_7 & -e_6 & e_5 & e_4 \\ e_2 & -e_3 & -1 & e_1 & e_6 & -e_7 & -e_4 & e_5 \\ e_3 & e_2 & -e_1 & -1 & -e_5 & e_4 & -e_7 & e_6 \\ e_4 & e_7 & -e_6 & e_5 & -1 & -e_3 & e_2 & -e_1 \\ e_5 & e_6 & e_7 & -e_4 & e_3 & -1 & -e_1 & -e_2 \\ e_6 & -e_5 & e_4 & e_7 & -e_2 & e_1 & -1 & -e_3 \\ e_7 & -e_4 & -e_5 & -e_6 & e_1 & e_2 & e_3 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=9 D₈ L fp_sm=6→76H

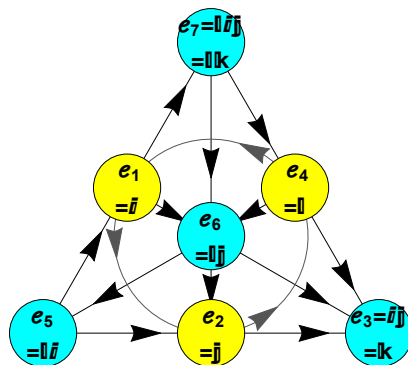
flat triad/mask bits

{{1, 2, 4}, {1, 6, 3}, {1, 7, 5},
{2, 3, 5}, {2, 7, 6}, {3, 7, 4}, {4, 6, 5}}

{1, 4, 2, 6, 3, 7, 5}
{0, 1, 1, 0, 1, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & -e_6 & -e_2 & -e_7 & e_3 & e_5 \\ e_2 & -e_4 & -1 & e_5 & e_1 & -e_3 & -e_7 & e_6 \\ e_3 & e_6 & -e_5 & -1 & -e_7 & e_2 & -e_1 & e_4 \\ e_4 & e_2 & -e_1 & e_7 & -1 & -e_6 & e_5 & -e_3 \\ e_5 & e_7 & e_3 & -e_2 & e_6 & -1 & -e_4 & -e_1 \\ e_6 & -e_3 & e_7 & e_1 & -e_5 & e_4 & -1 & -e_2 \\ e_7 & -e_5 & -e_6 & -e_4 & e_3 & e_1 & e_2 & -1 \end{pmatrix}$$

Fano plane

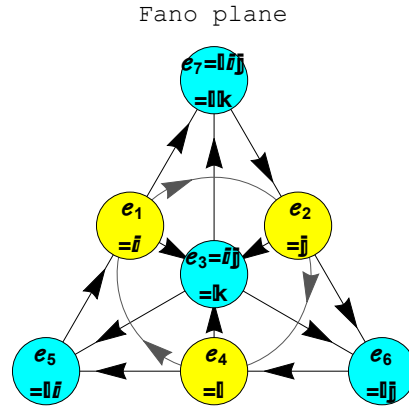


Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

173 Φx_3 $\overset{0 \rightarrow 1/3}{L}$ $\overset{m_m}{L}$ 0apggsscc $\overline{Ds}$
000001011₂ 110

flip=False

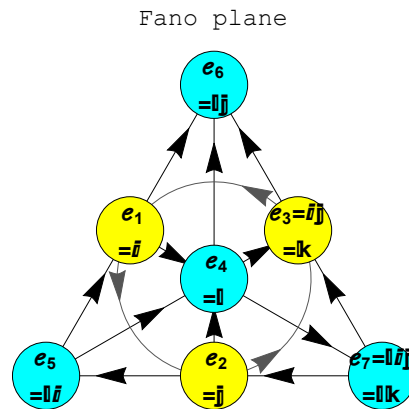
Triad fpi=9 D₈ L fp_sm=6→24H flat triad/mask bits
{ {1, 2, 4}, {1, 3, 6}, {1, 7, 5}, {1, 2, 4, 3, 6, 7, 5}
{2, 3, 5}, {2, 6, 7}, {3, 7, 4}, {4, 5, 6} } {0, 0, 1, 0, 0, 1, 0}



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & e_6 & -e_2 & -e_7 & -e_3 & e_5 \\ e_2 & -e_4 & -1 & e_5 & e_1 & -e_3 & e_7 & -e_6 \\ e_3 & -e_6 & -e_5 & -1 & -e_7 & e_2 & e_1 & e_4 \\ e_4 & e_2 & -e_1 & e_7 & -1 & e_6 & -e_5 & -e_3 \\ e_5 & e_7 & e_3 & -e_2 & -e_6 & -1 & e_4 & -e_1 \\ e_6 & e_3 & -e_7 & -e_1 & e_5 & -e_4 & -1 & e_2 \\ e_7 & -e_5 & e_6 & -e_4 & e_3 & e_1 & -e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=6 D₈ L fp_sm=6→24H flat triad/mask bits
{ {1, 2, 3}, {1, 4, 7}, {1, 6, 5}, {1, 3, 2, 4, 7, 6, 5}
{2, 4, 6}, {2, 5, 7}, {3, 5, 4}, {3, 6, 7} } {0, 0, 1, 0, 0, 1, 0}



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & e_7 & -e_6 & e_5 & -e_4 \\ e_2 & -e_3 & -1 & e_1 & e_6 & e_7 & -e_4 & -e_5 \\ e_3 & e_2 & -e_1 & -1 & -e_5 & e_4 & e_7 & -e_6 \\ e_4 & -e_7 & -e_6 & e_5 & -1 & -e_3 & e_2 & e_1 \\ e_5 & e_6 & -e_7 & -e_4 & e_3 & -1 & -e_1 & e_2 \\ e_6 & -e_5 & e_4 & -e_7 & -e_2 & e_1 & -1 & e_3 \\ e_7 & e_4 & e_5 & e_6 & -e_1 & -e_2 & -e_3 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

174 $\Phi \mathbf{x}_2$ $\overset{0 \rightarrow 1/3}{\underset{c_m}{L}}$



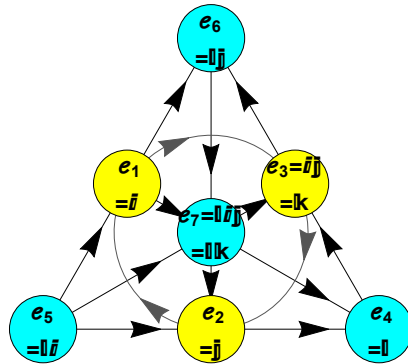
0apggsscc Ne
000001010₂ 10

flip=False

Triad fpi=5 D₈ L fp_sm=7→27H
{ {1, 3, 2}, {1, 7, 4}, {1, 6, 5},
{2, 4, 5}, {2, 6, 7}, {3, 6, 4}, {3, 5, 7} }

flat triad/mask bits
{1, 3, 2, 7, 4, 6, 5}
{1, 1, 1, 0, 0, 1, 0}

Fano plane



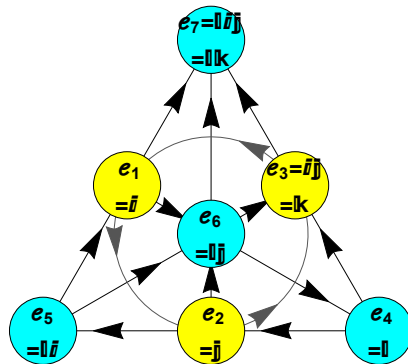
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & -e_7 & -e_6 & e_5 & e_4 \\ e_2 & e_3 & -1 & -e_1 & e_5 & -e_4 & e_7 & -e_6 \\ e_3 & -e_2 & e_1 & -1 & -e_6 & e_7 & e_4 & -e_5 \\ e_4 & e_7 & -e_5 & e_6 & -1 & e_2 & -e_3 & -e_1 \\ e_5 & e_6 & e_4 & -e_7 & -e_2 & -1 & -e_1 & e_3 \\ e_6 & -e_5 & -e_7 & -e_4 & e_3 & e_1 & -1 & e_2 \\ e_7 & -e_4 & e_6 & e_5 & e_1 & -e_3 & -e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=3 D₈ L fp_sm=4→2EH
{ {1, 2, 3}, {1, 6, 4}, {1, 7, 5},
{2, 5, 4}, {2, 6, 7}, {3, 7, 4}, {3, 5, 6} }

flat triad/mask bits
{1, 3, 2, 6, 4, 7, 5}
{0, 1, 1, 1, 0, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & -e_6 & -e_7 & e_4 & e_5 \\ e_2 & -e_3 & -1 & e_1 & -e_5 & e_4 & e_7 & -e_6 \\ e_3 & e_2 & -e_1 & -1 & -e_7 & e_6 & -e_5 & e_4 \\ e_4 & e_6 & e_5 & e_7 & -1 & -e_2 & -e_1 & -e_3 \\ e_5 & e_7 & -e_4 & -e_6 & e_2 & -1 & e_3 & -e_1 \\ e_6 & -e_4 & -e_7 & e_5 & e_1 & -e_3 & -1 & e_2 \\ e_7 & -e_5 & e_6 & -e_4 & e_3 & e_1 & -e_2 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

175 Φx_1 $\overset{0 \rightarrow 1/3}{L}$
 $\ominus_m$



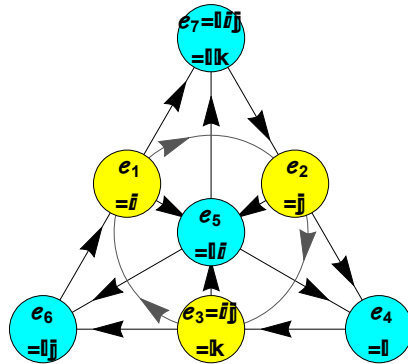
0apggsscc S
000001001₂ 16

flip=False

Triad fpi=2 D₈ L fp_sm=8→26H
{ {1, 2, 3}, {1, 5, 4}, {1, 7, 6},
{2, 4, 7}, {2, 5, 6}, {3, 6, 4}, {3, 5, 7} }

flat triad/mask bits
{1, 2, 3, 5, 4, 7, 6}
{0, 1, 1, 0, 0, 1, 0}

Fano plane



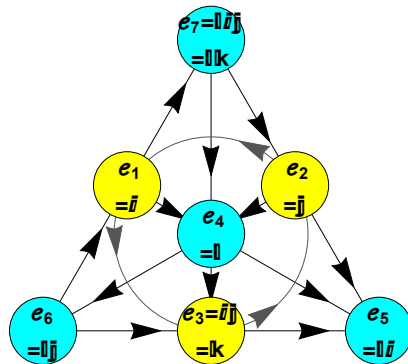
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & -e_5 & e_4 & -e_7 & e_6 \\ e_2 & -e_3 & -1 & e_1 & e_7 & e_6 & -e_5 & -e_4 \\ e_3 & e_2 & -e_1 & -1 & -e_6 & e_7 & e_4 & -e_5 \\ e_4 & e_5 & -e_7 & e_6 & -1 & -e_1 & -e_3 & e_2 \\ e_5 & -e_4 & -e_6 & -e_7 & e_1 & -1 & e_2 & e_3 \\ e_6 & e_7 & e_5 & -e_4 & e_3 & -e_2 & -1 & -e_1 \\ e_7 & -e_6 & e_4 & e_5 & -e_2 & -e_3 & e_1 & -1 \end{pmatrix}$$

flip=True

Triad fpi=1 D₈ L fp_sm=5→25H
{ {1, 3, 2}, {1, 4, 5}, {1, 7, 6},
{2, 4, 6}, {2, 5, 7}, {3, 7, 4}, {3, 5, 6} }

flat triad/mask bits
{1, 2, 3, 4, 5, 7, 6}
{1, 0, 1, 0, 0, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & e_5 & -e_4 & -e_7 & e_6 \\ e_2 & e_3 & -1 & -e_1 & e_6 & e_7 & -e_4 & -e_5 \\ e_3 & -e_2 & e_1 & -1 & -e_7 & e_6 & -e_5 & e_4 \\ e_4 & -e_5 & -e_6 & e_7 & -1 & e_1 & e_2 & -e_3 \\ e_5 & e_4 & -e_7 & -e_6 & -e_1 & -1 & e_3 & e_2 \\ e_6 & e_7 & e_4 & e_5 & -e_2 & -e_3 & -1 & -e_1 \\ e_7 & -e_6 & e_5 & -e_4 & e_3 & -e_2 & e_1 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

176 $\overline{V_{\mu}}_{w_1}^{0 \rightarrow -1} \text{R}$



0apggsscc B
011100100₂ 5

flip=False

Triad fpi=15 D₈ R fp_sm=3→64H

flat triad/mask bits

{{1, 2, 5}, {1, 3, 6}, {1, 7, 4},

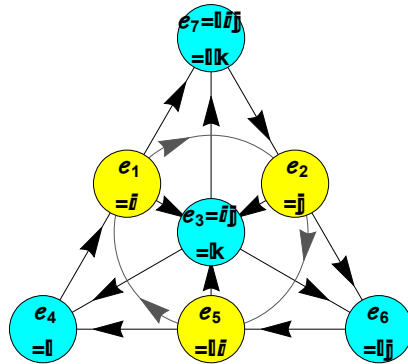
{1, 2, 5, 3, 6, 7, 4}

{2, 3, 4}, {2, 6, 7}, {3, 7, 5}, {4, 6, 5}}

{0, 0, 1, 0, 0, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & e_6 & -e_7 & -e_2 & -e_3 & e_4 \\ e_2 & -e_5 & -1 & e_4 & -e_3 & e_1 & e_7 & -e_6 \\ e_3 & -e_6 & -e_4 & -1 & e_2 & -e_7 & e_1 & e_5 \\ e_4 & e_7 & e_3 & -e_2 & -1 & -e_6 & e_5 & -e_1 \\ e_5 & e_2 & -e_1 & e_7 & e_6 & -1 & -e_4 & -e_3 \\ e_6 & e_3 & -e_7 & -e_1 & -e_5 & e_4 & -1 & e_2 \\ e_7 & -e_4 & e_6 & -e_5 & e_1 & e_3 & -e_2 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=16 D₈ R fp_sm=3→64H

flat triad/mask bits

{{1, 2, 5}, {1, 3, 6}, {1, 7, 4},

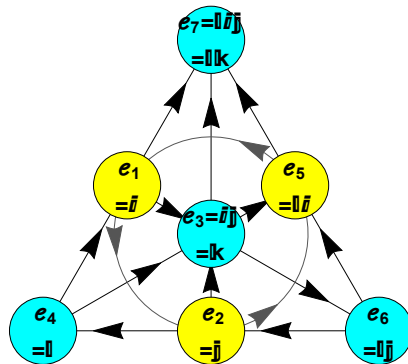
{1, 5, 2, 3, 6, 7, 4}

{2, 3, 7}, {2, 4, 6}, {3, 5, 4}, {5, 7, 6}}

{0, 0, 1, 0, 0, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & e_6 & -e_7 & -e_2 & -e_3 & e_4 \\ e_2 & -e_5 & -1 & e_7 & e_6 & e_1 & -e_4 & -e_3 \\ e_3 & -e_6 & -e_7 & -1 & -e_5 & e_4 & e_1 & e_2 \\ e_4 & e_7 & -e_6 & e_5 & -1 & -e_3 & e_2 & -e_1 \\ e_5 & e_2 & -e_1 & -e_4 & e_3 & -1 & -e_7 & e_6 \\ e_6 & e_3 & e_4 & -e_1 & -e_2 & e_7 & -1 & -e_5 \\ e_7 & -e_4 & e_3 & -e_2 & e_1 & -e_6 & e_5 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

177 $S_{\text{od}} \xrightarrow{L} -4/3$



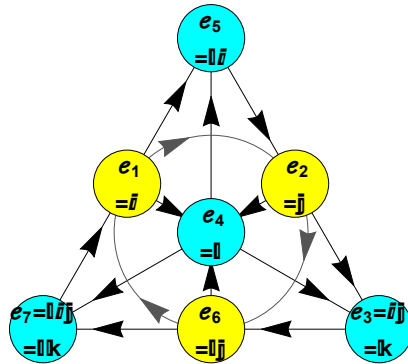
0apggsscc Mg
000100001₂ 12

flip=False

Triad fpi=19 D₈ L fp_sm=3→02H
{ {1, 2, 6}, {1, 4, 3}, {1, 5, 7},
{2, 3, 5}, {2, 4, 7}, {3, 6, 7}, {4, 5, 6} }

flat triad/mask bits
{1, 2, 6, 4, 3, 5, 7}
{0, 1, 0, 0, 0, 0, 0}

Fano plane



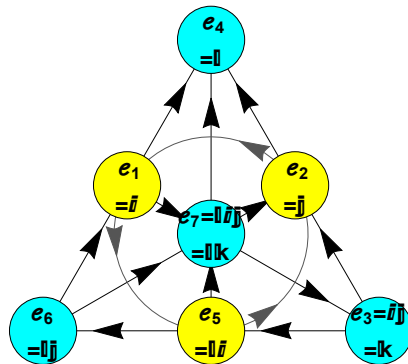
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & -e_4 & e_3 & e_7 & -e_2 & -e_5 \\ e_2 & -e_6 & -1 & e_5 & e_7 & -e_3 & e_1 & -e_4 \\ e_3 & e_4 & -e_5 & -1 & -e_1 & e_2 & e_7 & -e_6 \\ e_4 & -e_3 & -e_7 & e_1 & -1 & e_6 & -e_5 & e_2 \\ e_5 & -e_7 & e_3 & -e_2 & -e_6 & -1 & e_4 & e_1 \\ e_6 & e_2 & -e_1 & -e_7 & e_5 & -e_4 & -1 & e_3 \\ e_7 & e_5 & e_4 & e_6 & -e_2 & -e_1 & -e_3 & -1 \end{pmatrix}$$

flip=True

Triad fpi=17 D₈ L fp_sm=8→0BH
{ {1, 5, 2}, {1, 7, 3}, {1, 4, 6},
{2, 4, 3}, {2, 6, 7}, {3, 5, 6}, {4, 5, 7} }

flat triad/mask bits
{1, 2, 5, 7, 3, 4, 6}
{1, 1, 0, 1, 0, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & -e_7 & e_6 & e_2 & -e_4 & e_3 \\ e_2 & e_5 & -1 & -e_4 & e_3 & -e_1 & e_7 & -e_6 \\ e_3 & e_7 & e_4 & -1 & -e_2 & e_6 & -e_5 & -e_1 \\ e_4 & -e_6 & -e_3 & e_2 & -1 & e_7 & e_1 & -e_5 \\ e_5 & -e_2 & e_1 & -e_6 & -e_7 & -1 & e_3 & e_4 \\ e_6 & e_4 & -e_7 & e_5 & -e_1 & -e_3 & -1 & e_2 \\ e_7 & -e_3 & e_6 & e_1 & e_5 & -e_4 & -e_2 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

178 $S_{Cd} \xrightarrow{L} -4/3$



0apggsscc Ar
000100010₂ 18

flip=False

Triad fpi=20 D₈ L fp_sm=1→00H

flat triad/mask bits

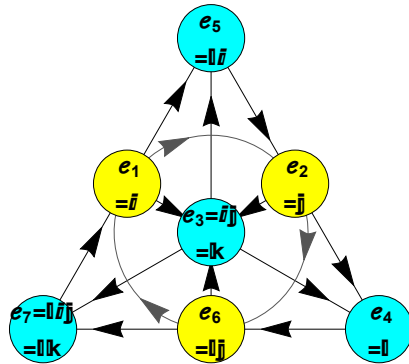
{{1, 2, 6}, {1, 3, 4}, {1, 5, 7},

{1, 2, 6, 3, 4, 5, 7}

{2, 3, 7}, {2, 4, 5}, {3, 5, 6}, {4, 6, 7}}

{0, 0, 0, 0, 0, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & e_4 & -e_3 & e_7 & -e_2 & -e_5 \\ e_2 & -e_6 & -1 & e_7 & e_5 & -e_4 & e_1 & -e_3 \\ e_3 & -e_4 & -e_7 & -1 & e_1 & e_6 & -e_5 & e_2 \\ e_4 & e_3 & -e_5 & -e_1 & -1 & e_2 & e_7 & -e_6 \\ e_5 & -e_7 & e_4 & -e_6 & -e_2 & -1 & e_3 & e_1 \\ e_6 & e_2 & -e_1 & e_5 & -e_7 & -e_3 & -1 & e_4 \\ e_7 & e_5 & e_3 & -e_2 & e_6 & -e_1 & -e_4 & -1 \end{pmatrix}$$

flip=True

Triad fpi=18 D₈ L fp_sm=6→09H

flat triad/mask bits

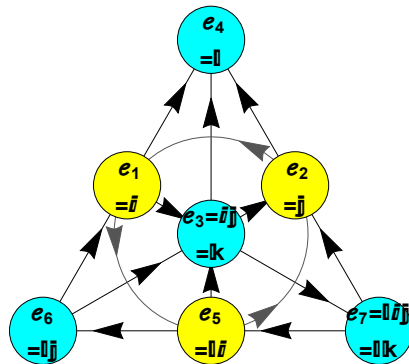
{{1, 5, 2}, {1, 3, 7}, {1, 4, 6},

{1, 2, 5, 3, 7, 4, 6}

{2, 6, 3}, {2, 4, 7}, {3, 4, 5}, {5, 6, 7}}

{1, 0, 0, 1, 0, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & e_7 & e_6 & e_2 & -e_4 & -e_3 \\ e_2 & e_5 & -1 & -e_6 & e_7 & -e_1 & e_3 & -e_4 \\ e_3 & -e_7 & e_6 & -1 & e_5 & -e_4 & -e_2 & e_1 \\ e_4 & -e_6 & -e_7 & -e_5 & -1 & e_3 & e_1 & e_2 \\ e_5 & -e_2 & e_1 & e_4 & -e_3 & -1 & e_7 & -e_6 \\ e_6 & e_4 & -e_3 & e_2 & -e_1 & -e_7 & -1 & e_5 \\ e_7 & e_3 & e_4 & -e_1 & -e_2 & e_6 & -e_5 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

179 $S_{md}^{-1/3 \rightarrow -4/3}$



0apggsscc Uus
000100011₂ 117

flip=False

Triad fpi=21 D₈ L fp_sm=6→09H

flat triad/mask bits

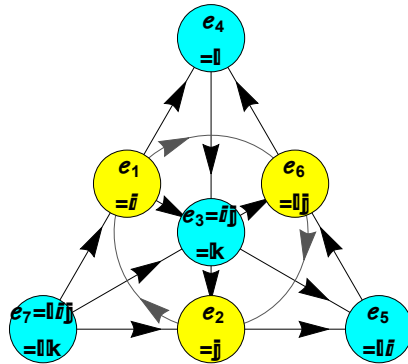
{{1, 6, 2}, {1, 3, 5}, {1, 4, 7},

{1, 6, 2, 3, 5, 4, 7}

{2, 4, 3}, {2, 5, 7}, {3, 6, 7}, {4, 5, 6}}

{1, 0, 0, 1, 0, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & e_5 & e_7 & -e_3 & e_2 & -e_4 \\ e_2 & e_6 & -1 & -e_4 & e_3 & e_7 & -e_1 & -e_5 \\ e_3 & -e_5 & e_4 & -1 & -e_2 & e_1 & e_7 & -e_6 \\ e_4 & -e_7 & -e_3 & e_2 & -1 & e_6 & -e_5 & e_1 \\ e_5 & e_3 & -e_7 & -e_1 & -e_6 & -1 & e_4 & e_2 \\ e_6 & -e_2 & e_1 & -e_7 & e_5 & -e_4 & -1 & e_3 \\ e_7 & e_4 & e_5 & e_6 & -e_1 & -e_2 & -e_3 & -1 \end{pmatrix}$$

flip=True

Triad fpi=22 D₈ L fp_sm=6→09H

flat triad/mask bits

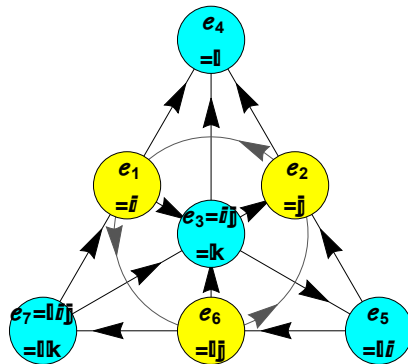
{{1, 6, 2}, {1, 3, 5}, {1, 4, 7},

{1, **2**, **6**, 3, 5, 4, 7}

{2, 7, 3}, {2, 4, 5}, {3, 4, 6}, {5, 6, 7}}

{1, 0, 0, 1, 0, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & e_5 & e_7 & -e_3 & e_2 & -e_4 \\ e_2 & e_6 & -1 & -e_7 & e_5 & -e_4 & -e_1 & e_3 \\ e_3 & -e_5 & e_7 & -1 & e_6 & e_1 & -e_4 & -e_2 \\ e_4 & -e_7 & -e_5 & -e_6 & -1 & e_2 & e_3 & e_1 \\ e_5 & e_3 & e_4 & -e_1 & -e_2 & -1 & e_7 & -e_6 \\ e_6 & -e_2 & e_1 & e_4 & -e_3 & -e_7 & -1 & e_5 \\ e_7 & e_4 & -e_3 & e_2 & -e_1 & e_6 & -e_5 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

180

 $\overline{C}_{b_1}^{-2/3} \overline{R}$ 

0apggsscc $\overline{Bh}$
011100111₂ 107

flip=False

Triad fpi=21 D_8 R fp_sm=6→6FH

flat triad/mask bits

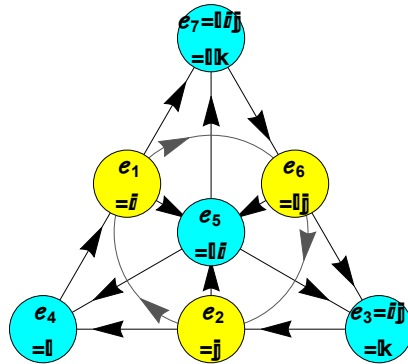
{ {1, 6, 2}, {1, 5, 3}, {1, 7, 4},

{1, 6, 2, 5, 3, 7, 4}

{2, 4, 3}, {2, 5, 7}, {3, 7, 6}, {4, 6, 5}}

{1, 1, 1, 1, 0, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & -e_5 & -e_7 & e_3 & e_2 & e_4 \\ e_2 & e_6 & -1 & -e_4 & e_3 & e_7 & -e_1 & -e_5 \\ e_3 & e_5 & e_4 & -1 & -e_2 & -e_1 & -e_7 & e_6 \\ e_4 & e_7 & -e_3 & e_2 & -1 & -e_6 & e_5 & -e_1 \\ e_5 & -e_3 & -e_7 & e_1 & e_6 & -1 & -e_4 & e_2 \\ e_6 & -e_2 & e_1 & e_7 & -e_5 & e_4 & -1 & -e_3 \\ e_7 & -e_4 & e_5 & -e_6 & e_1 & -e_2 & e_3 & -1 \end{pmatrix}$$

flip=True

Triad fpi=22 D_8 R fp_sm=6→6FH

flat triad/mask bits

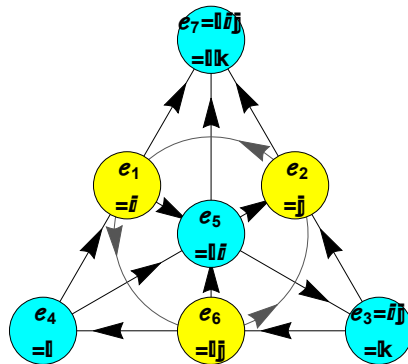
{ {1, 6, 2}, {1, 5, 3}, {1, 7, 4},

{1, **2**, **6**, 5, 3, 7, 4}

{2, 7, 3}, {2, 4, 5}, {3, 6, 4}, {5, 7, 6}}

{1, 1, 1, 1, 0, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & -e_5 & -e_7 & e_3 & e_2 & e_4 \\ e_2 & e_6 & -1 & -e_7 & e_5 & -e_4 & -e_1 & e_3 \\ e_3 & e_5 & e_7 & -1 & -e_6 & -e_1 & e_4 & -e_2 \\ e_4 & e_7 & -e_5 & e_6 & -1 & e_2 & -e_3 & -e_1 \\ e_5 & -e_3 & e_4 & e_1 & -e_2 & -1 & -e_7 & e_6 \\ e_6 & -e_2 & e_1 & -e_4 & e_3 & e_7 & -1 & -e_5 \\ e_7 & -e_4 & -e_3 & e_2 & e_1 & -e_6 & e_5 & -1 \end{pmatrix}$$

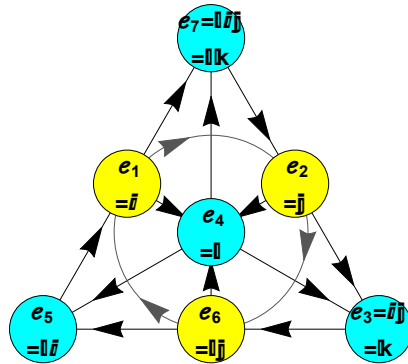
Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

181 $\overline{C}_{g1}^{0 \rightarrow -2/3} R$  0apggsscc K
011100110₂ 19

flip=False

Triad fpi=20 D₈ R fp_sm=1→66H flat triad/mask bits
{ {1, 2, 6}, {1, 4, 3}, {1, 7, 5}, {1, 2, 6, 4, 3, 7, 5} }
{ {2, 3, 7}, {2, 4, 5}, {3, 6, 5}, {4, 7, 6} } {0, 1, 1, 0, 0, 1, 1}

Fano plane

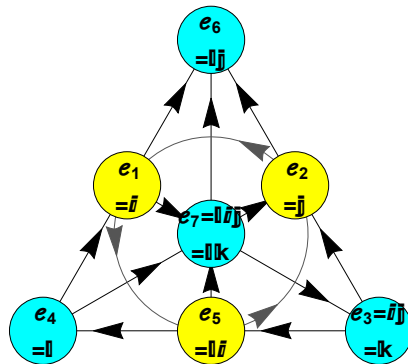


$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & -e_4 & e_3 & -e_7 & -e_2 & e_5 \\ e_2 & -e_6 & -1 & e_7 & e_5 & -e_4 & e_1 & -e_3 \\ e_3 & e_4 & -e_7 & -1 & -e_1 & -e_6 & e_5 & e_2 \\ e_4 & -e_3 & -e_5 & e_1 & -1 & e_2 & -e_7 & e_6 \\ e_5 & e_7 & e_4 & e_6 & -e_2 & -1 & -e_3 & -e_1 \\ e_6 & e_2 & -e_1 & -e_5 & e_7 & e_3 & -1 & -e_4 \\ e_7 & -e_5 & e_3 & -e_2 & -e_6 & e_1 & e_4 & -1 \end{pmatrix}$$

flip=True

Triad fpi=18 D₈ R fp_sm=6→6FH flat triad/mask bits
{ {1, 5, 2}, {1, 7, 3}, {1, 6, 4}, {1, 2, 5, 7, 3, 6, 4} }
{ {2, 6, 3}, {2, 4, 7}, {3, 5, 4}, {5, 7, 6} } {1, 1, 1, 1, 0, 1, 1}

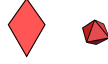
Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & -e_7 & -e_6 & e_2 & e_4 & e_3 \\ e_2 & e_5 & -1 & -e_6 & e_7 & -e_1 & e_3 & -e_4 \\ e_3 & e_7 & e_6 & -1 & -e_5 & e_4 & -e_2 & -e_1 \\ e_4 & e_6 & -e_7 & e_5 & -1 & -e_3 & -e_1 & e_2 \\ e_5 & -e_2 & e_1 & -e_4 & e_3 & -1 & -e_7 & e_6 \\ e_6 & -e_4 & -e_3 & e_2 & e_1 & e_7 & -1 & -e_5 \\ e_7 & -e_3 & e_4 & e_1 & -e_2 & -e_6 & e_5 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

182 $\overline{C}_{r1}^{0 \rightarrow -2/3} R$



0apggsscc Cr
011100101₂ 24

flip=False

Triad fpi=19 D₈ R fp_sm=3→64H

flat triad/mask bits

{{1, 2, 6}, {1, 3, 4}, {1, 7, 5},

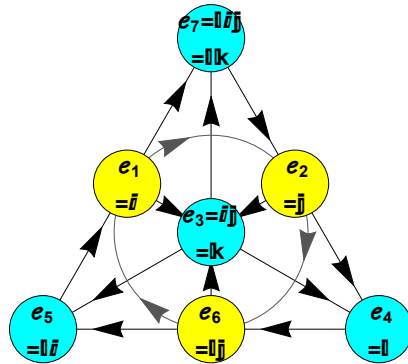
{1, 2, 6, 3, 4, 7, 5}

{2, 3, 5}, {2, 4, 7}, {3, 7, 6}, {4, 6, 5}}

{0, 0, 1, 0, 0, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & e_4 & -e_3 & -e_7 & -e_2 & e_5 \\ e_2 & -e_6 & -1 & e_5 & e_7 & -e_3 & e_1 & -e_4 \\ e_3 & -e_4 & -e_5 & -1 & e_1 & e_2 & -e_7 & e_6 \\ e_4 & e_3 & -e_7 & -e_1 & -1 & -e_6 & e_5 & e_2 \\ e_5 & e_7 & e_3 & -e_2 & e_6 & -1 & -e_4 & -e_1 \\ e_6 & e_2 & -e_1 & e_7 & -e_5 & e_4 & -1 & -e_3 \\ e_7 & -e_5 & e_4 & -e_6 & -e_2 & e_1 & e_3 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=17 D₈ R fp_sm=8→6DH

flat triad/mask bits

{{1, 5, 2}, {1, 3, 7}, {1, 6, 4},

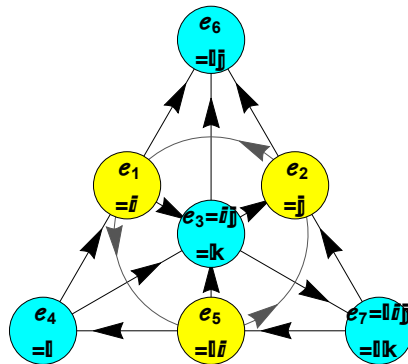
{1, 2, 5, 3, 7, 6, 4}

{2, 4, 3}, {2, 6, 7}, {3, 6, 5}, {4, 7, 5}}

{1, 0, 1, 1, 0, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & e_7 & -e_6 & e_2 & e_4 & -e_3 \\ e_2 & e_5 & -1 & -e_4 & e_3 & -e_1 & e_7 & -e_6 \\ e_3 & -e_7 & e_4 & -1 & -e_2 & -e_6 & e_5 & e_1 \\ e_4 & e_6 & -e_3 & e_2 & -1 & -e_7 & -e_1 & e_5 \\ e_5 & -e_2 & e_1 & e_6 & e_7 & -1 & -e_3 & -e_4 \\ e_6 & -e_4 & -e_7 & -e_5 & e_1 & e_3 & -1 & e_2 \\ e_7 & e_3 & e_6 & -e_1 & -e_5 & e_4 & -e_2 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

183

 $\mu_{yd} \vec{L}$ 

0apggsscc Zn
0001000002 30

flip=False

Triad fpi=15 D_8 L fp_sm=3→02H

flat triad/mask bits

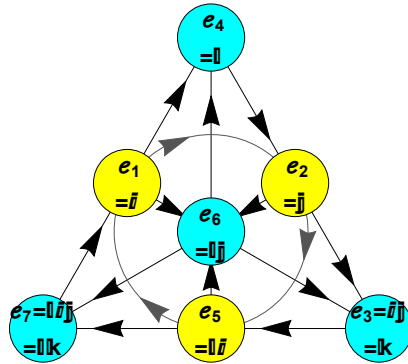
{ {1, 2, 5}, {1, 6, 3}, {1, 4, 7},

{1, 2, 5, 6, 3, 4, 7}

{2, 3, 4}, {2, 6, 7}, {3, 5, 7}, {4, 5, 6}}

{0, 1, 0, 0, 0, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & -e_6 & e_7 & -e_2 & e_3 & -e_4 \\ e_2 & -e_5 & -1 & e_4 & -e_3 & e_1 & e_7 & -e_6 \\ e_3 & e_6 & -e_4 & -1 & e_2 & e_7 & -e_1 & -e_5 \\ e_4 & -e_7 & e_3 & -e_2 & -1 & e_6 & -e_5 & e_1 \\ e_5 & e_2 & -e_1 & -e_7 & -e_6 & -1 & e_4 & e_3 \\ e_6 & -e_3 & -e_7 & e_1 & e_5 & -e_4 & -1 & e_2 \\ e_7 & e_4 & e_6 & e_5 & -e_1 & -e_3 & -e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=16 D_8 L fp_sm=3→02H

flat triad/mask bits

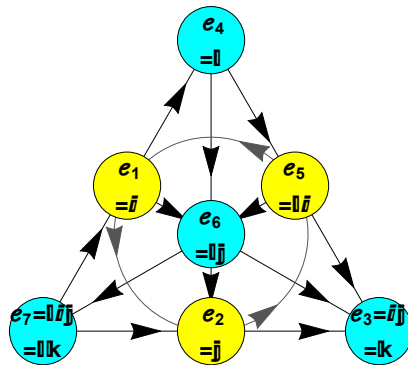
{ {1, 2, 5}, {1, 6, 3}, {1, 4, 7},

{1, 5, 2, 6, 3, 4, 7}

{2, 3, 7}, {2, 4, 6}, {3, 4, 5}, {5, 6, 7}}

{0, 1, 0, 0, 0, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & -e_6 & e_7 & -e_2 & e_3 & -e_4 \\ e_2 & -e_5 & -1 & e_7 & e_6 & e_1 & -e_4 & -e_3 \\ e_3 & e_6 & -e_7 & -1 & e_5 & -e_4 & -e_1 & e_2 \\ e_4 & -e_7 & -e_6 & -e_5 & -1 & e_3 & e_2 & e_1 \\ e_5 & e_2 & -e_1 & e_4 & -e_3 & -1 & e_7 & -e_6 \\ e_6 & -e_3 & e_4 & e_1 & -e_2 & -e_7 & -1 & e_5 \\ e_7 & e_4 & e_3 & -e_2 & -e_1 & e_6 & -e_5 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

184 $\overline{e_T \phi}_{rd}^{0 \rightarrow 1}$



0apggsscc C
011000001₂ 6

flip=False

Triad fpi=2 D₈ R fp_sm=8→73H

flat triad/mask bits

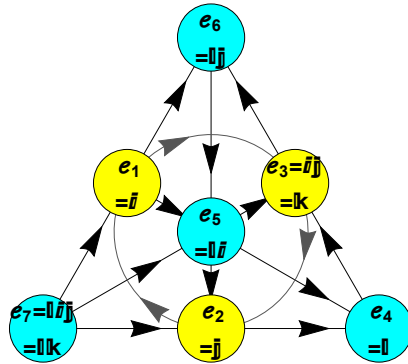
{{1, 3, 2}, {1, 5, 4}, {1, 6, 7},

{1, 3, 2, 5, 4, 6, 7}

{2, 4, 7}, {2, 6, 5}, {3, 6, 4}, {3, 7, 5}}

{1, 1, 0, 0, 1, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & -e_5 & e_4 & e_7 & -e_6 \\ e_2 & e_3 & -1 & -e_1 & e_7 & -e_6 & e_5 & -e_4 \\ e_3 & -e_2 & e_1 & -1 & -e_6 & -e_7 & e_4 & e_5 \\ e_4 & e_5 & -e_7 & e_6 & -1 & -e_1 & -e_3 & e_2 \\ e_5 & -e_4 & e_6 & e_7 & e_1 & -1 & -e_2 & -e_3 \\ e_6 & -e_7 & -e_5 & -e_4 & e_3 & e_2 & -1 & e_1 \\ e_7 & e_6 & e_4 & -e_5 & -e_2 & e_3 & -e_1 & -1 \end{pmatrix}$$

flip=True

Triad fpi=1 D₈ R fp_sm=5→70H

flat triad/mask bits

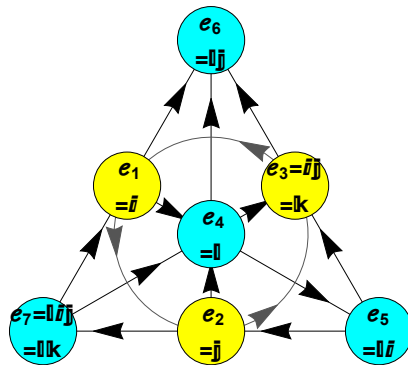
{{1, 2, 3}, {1, 4, 5}, {1, 6, 7},

{1, 3, 2, 4, 5, 6, 7}

{2, 4, 6}, {2, 7, 5}, {3, 7, 4}, {3, 6, 5}}

{0, 0, 0, 0, 1, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & e_5 & -e_4 & e_7 & -e_6 \\ e_2 & -e_3 & -1 & e_1 & e_6 & -e_7 & -e_4 & e_5 \\ e_3 & e_2 & -e_1 & -1 & -e_7 & -e_6 & e_5 & e_4 \\ e_4 & -e_5 & -e_6 & e_7 & -1 & e_1 & e_2 & -e_3 \\ e_5 & e_4 & e_7 & e_6 & -e_1 & -1 & -e_3 & -e_2 \\ e_6 & -e_7 & e_4 & -e_5 & -e_2 & e_3 & -1 & e_1 \\ e_7 & e_6 & -e_5 & -e_4 & e_3 & e_2 & -e_1 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

185

 $\overline{V_{\mu}}_{\text{wd}}^0 \text{ L}$


0apggsscc Al
011100000₂ 13

flip=False

Triad fpi=15 D₈ R fp_sm=3→7AH

flat triad/mask bits

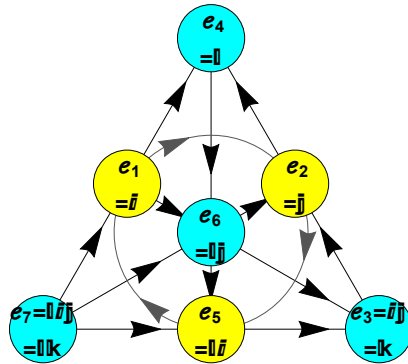
{1, 2, 5}, {1, 6, 3}, {1, 4, 7},

{1, 2, 5, 6, 3, 4, 7}

{2, 4, 3}, {2, 7, 6}, {3, 7, 5}, {4, 6, 5}}

{0, 1, 0, 1, 1, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & -e_6 & e_7 & -e_2 & e_3 & -e_4 \\ e_2 & -e_5 & -1 & -e_4 & e_3 & e_1 & -e_7 & e_6 \\ e_3 & e_6 & e_4 & -1 & -e_2 & -e_7 & -e_1 & e_5 \\ e_4 & -e_7 & -e_3 & e_2 & -1 & -e_6 & e_5 & e_1 \\ e_5 & e_2 & -e_1 & e_7 & e_6 & -1 & -e_4 & -e_3 \\ e_6 & -e_3 & e_7 & e_1 & -e_5 & e_4 & -1 & -e_2 \\ e_7 & e_4 & -e_6 & -e_5 & -e_1 & e_3 & e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=16 D₈ R fp_sm=3→7AH

flat triad/mask bits

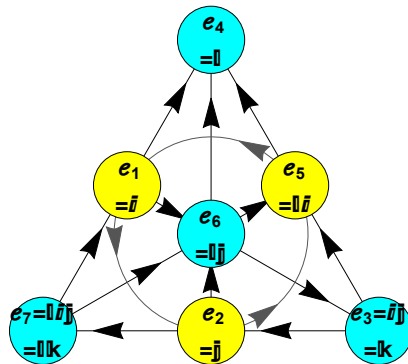
{1, 2, 5}, {1, 6, 3}, {1, 4, 7},

{1, 5, 2, 6, 3, 4, 7}

{2, 7, 3}, {2, 6, 4}, {3, 5, 4}, {5, 7, 6}}

{0, 1, 0, 1, 1, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & -e_6 & e_7 & -e_2 & e_3 & -e_4 \\ e_2 & -e_5 & -1 & -e_7 & -e_6 & e_1 & e_4 & e_3 \\ e_3 & e_6 & e_7 & -1 & -e_5 & e_4 & -e_1 & -e_2 \\ e_4 & -e_7 & e_6 & e_5 & -1 & -e_3 & -e_2 & e_1 \\ e_5 & e_2 & -e_1 & -e_4 & e_3 & -1 & -e_7 & e_6 \\ e_6 & -e_3 & -e_4 & e_1 & e_2 & e_7 & -1 & -e_5 \\ e_7 & e_4 & -e_3 & e_2 & -e_1 & -e_6 & e_5 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

186 $S_{01} \xrightarrow{R} -1/3$



0apggsscc Ca
000100101₂ 20

flip=False

Triad fpi=19 D₈ L fp_sm=3→1CH

flat triad/mask bits

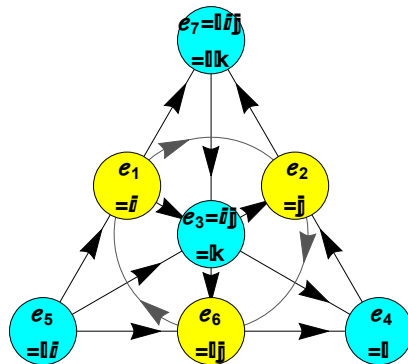
{{1, 2, 6}, {1, 3, 4}, {1, 7, 5},

{1, 2, 6, 3, 4, 7, 5}

{2, 5, 3}, {2, 7, 4}, {3, 6, 7}, {4, 5, 6}}

{0, 0, 1, 1, 1, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & e_4 & -e_3 & -e_7 & -e_2 & e_5 \\ e_2 & -e_6 & -1 & -e_5 & -e_7 & e_3 & e_1 & e_4 \\ e_3 & -e_4 & e_5 & -1 & e_1 & -e_2 & e_7 & -e_6 \\ e_4 & e_3 & e_7 & -e_1 & -1 & e_6 & -e_5 & -e_2 \\ e_5 & e_7 & -e_3 & e_2 & -e_6 & -1 & e_4 & -e_1 \\ e_6 & e_2 & -e_1 & -e_7 & e_5 & -e_4 & -1 & e_3 \\ e_7 & -e_5 & -e_4 & e_6 & e_2 & e_1 & -e_3 & -1 \end{pmatrix}$$

flip=True

Triad fpi=17 D₈ L fp_sm=8→15H

flat triad/mask bits

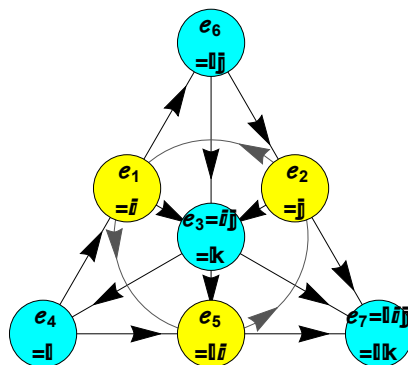
{{1, 5, 2}, {1, 3, 7}, {1, 6, 4},

{1, 2, 5, 3, 7, 6, 4}

{2, 3, 4}, {2, 7, 6}, {3, 5, 6}, {4, 5, 7}}

{1, 0, 1, 0, 1, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & e_7 & -e_6 & e_2 & e_4 & -e_3 \\ e_2 & e_5 & -1 & e_4 & -e_3 & -e_1 & -e_7 & e_6 \\ e_3 & -e_7 & -e_4 & -1 & e_2 & e_6 & -e_5 & e_1 \\ e_4 & e_6 & e_3 & -e_2 & -1 & e_7 & -e_1 & -e_5 \\ e_5 & -e_2 & e_1 & -e_6 & -e_7 & -1 & e_3 & e_4 \\ e_6 & -e_4 & e_7 & e_5 & e_1 & -e_3 & -1 & -e_2 \\ e_7 & e_3 & -e_6 & -e_1 & e_5 & -e_4 & e_2 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

187 $S_{c1} \xrightarrow{R} -1/3$



0apggsscc Fe
000100110₂ 26

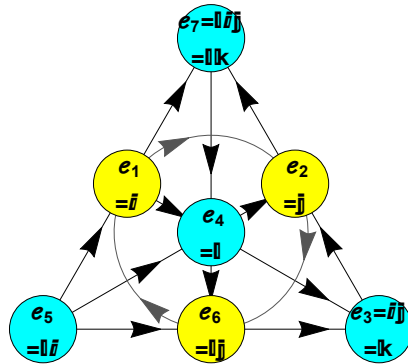
flip=False

Triad fpi=20 D₈ L fp_sm=1→1EH
{ {1, 2, 6}, {1, 4, 3}, {1, 7, 5},
{2, 7, 3}, {2, 5, 4}, {3, 5, 6}, {4, 6, 7} }

flat triad/mask bits
{1, 2, 6, 4, 3, 7, 5}
{0, 1, 1, 1, 1, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & -e_4 & e_3 & -e_7 & -e_2 & e_5 \\ e_2 & -e_6 & -1 & -e_7 & -e_5 & e_4 & e_1 & e_3 \\ e_3 & e_4 & e_7 & -1 & -e_1 & e_6 & -e_5 & -e_2 \\ e_4 & -e_3 & e_5 & e_1 & -1 & -e_2 & e_7 & -e_6 \\ e_5 & e_7 & -e_4 & -e_6 & e_2 & -1 & e_3 & -e_1 \\ e_6 & e_2 & -e_1 & e_5 & -e_7 & -e_3 & -1 & e_4 \\ e_7 & -e_5 & -e_3 & e_2 & e_6 & e_1 & -e_4 & -1 \end{pmatrix}$$

Fano plane



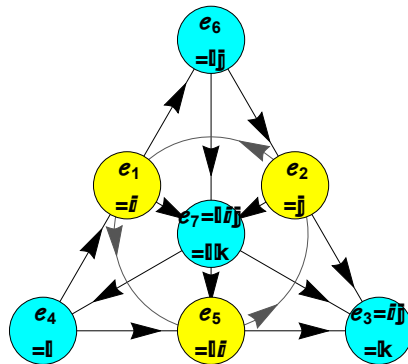
flip=True

Triad fpi=18 D₈ L fp_sm=6→17H
{ {1, 5, 2}, {1, 7, 3}, {1, 6, 4},
{2, 3, 6}, {2, 7, 4}, {3, 4, 5}, {5, 6, 7} }

flat triad/mask bits
{1, **2**, **5**, 7, 3, 6, 4}
{1, 1, 1, 0, 1, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & -e_7 & -e_6 & e_2 & e_4 & e_3 \\ e_2 & e_5 & -1 & e_6 & -e_7 & -e_1 & -e_3 & e_4 \\ e_3 & e_7 & -e_6 & -1 & e_5 & -e_4 & e_2 & -e_1 \\ e_4 & e_6 & e_7 & -e_5 & -1 & e_3 & -e_1 & -e_2 \\ e_5 & -e_2 & e_1 & e_4 & -e_3 & -1 & e_7 & -e_6 \\ e_6 & -e_4 & e_3 & -e_2 & e_1 & -e_7 & -1 & e_5 \\ e_7 & -e_3 & -e_4 & e_1 & e_2 & e_6 & -e_5 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

188 $S_{m1}^{-1/3}$



0apggsscc Uuo
000100111₂ 118

flip=False

Triad fpi=21 D₈ L fp_sm=6→17H

flat triad/mask bits

{ {1, 6, 2}, {1, 5, 3}, {1, 7, 4},

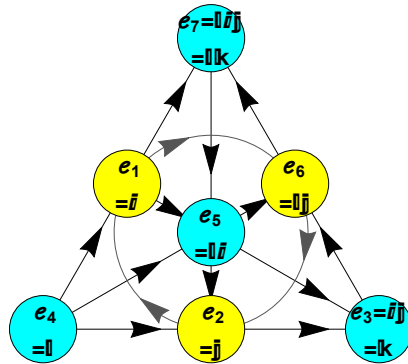
{1, 6, 2, 5, 3, 7, 4}

{2, 3, 4}, {2, 7, 5}, {3, 6, 7}, {4, 5, 6}}

{1, 1, 1, 0, 1, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & -e_5 & -e_7 & e_3 & e_2 & e_4 \\ e_2 & e_6 & -1 & e_4 & -e_3 & -e_7 & -e_1 & e_5 \\ e_3 & e_5 & -e_4 & -1 & e_2 & -e_1 & e_7 & -e_6 \\ e_4 & e_7 & e_3 & -e_2 & -1 & e_6 & -e_5 & -e_1 \\ e_5 & -e_3 & e_7 & e_1 & -e_6 & -1 & e_4 & -e_2 \\ e_6 & -e_2 & e_1 & -e_7 & e_5 & -e_4 & -1 & e_3 \\ e_7 & -e_4 & -e_5 & e_6 & e_1 & e_2 & -e_3 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=22 D₈ L fp_sm=6→17H

flat triad/mask bits

{ {1, 6, 2}, {1, 5, 3}, {1, 7, 4},

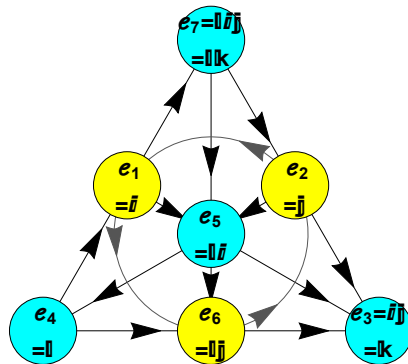
{1, **2**, **6**, 5, 3, 7, 4}

{2, 3, 7}, {2, 5, 4}, {3, 4, 6}, {5, 6, 7}}

{1, 1, 1, 0, 1, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & -e_5 & -e_7 & e_3 & e_2 & e_4 \\ e_2 & e_6 & -1 & e_7 & -e_5 & e_4 & -e_1 & -e_3 \\ e_3 & e_5 & -e_7 & -1 & e_6 & -e_1 & -e_4 & e_2 \\ e_4 & e_7 & e_5 & -e_6 & -1 & -e_2 & e_3 & -e_1 \\ e_5 & -e_3 & -e_4 & e_1 & e_2 & -1 & e_7 & -e_6 \\ e_6 & -e_2 & e_1 & e_4 & -e_3 & -e_7 & -1 & e_5 \\ e_7 & -e_4 & e_3 & -e_2 & e_1 & e_6 & -e_5 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

189 $\overline{C}_{bd}^{-2/3 \rightarrow 1/3}$



0apggsscc $\overline{Rf}$
011100011₂ 104

flip=False

Triad fpi=21 D₈ R fp_sm=6→71H

flat triad/mask bits

{{1, 6, 2}, {1, 3, 5}, {1, 4, 7},

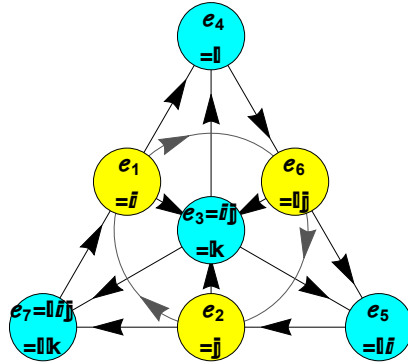
{1, 6, 2, 3, 5, 4, 7}

{2, 3, 4}, {2, 7, 5}, {3, 7, 6}, {4, 6, 5}}

{1, 0, 0, 0, 1, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & e_5 & e_7 & -e_3 & e_2 & -e_4 \\ e_2 & e_6 & -1 & e_4 & -e_3 & -e_7 & -e_1 & e_5 \\ e_3 & -e_5 & -e_4 & -1 & e_2 & e_1 & -e_7 & e_6 \\ e_4 & -e_7 & e_3 & -e_2 & -1 & -e_6 & e_5 & e_1 \\ e_5 & e_3 & e_7 & -e_1 & e_6 & -1 & -e_4 & -e_2 \\ e_6 & -e_2 & e_1 & e_7 & -e_5 & e_4 & -1 & -e_3 \\ e_7 & e_4 & -e_5 & -e_6 & -e_1 & e_2 & e_3 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=22 D₈ R fp_sm=6→71H

flat triad/mask bits

{{1, 6, 2}, {1, 3, 5}, {1, 4, 7},

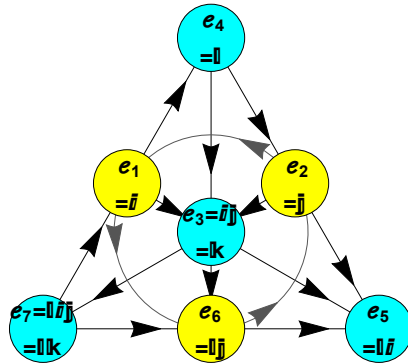
{1, **2**, **6**, 3, 5, 4, 7}

{2, 3, 7}, {2, 5, 4}, {3, 6, 4}, {5, 7, 6}}

{1, 0, 0, 0, 1, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & e_5 & e_7 & -e_3 & e_2 & -e_4 \\ e_2 & e_6 & -1 & e_7 & -e_5 & e_4 & -e_1 & -e_3 \\ e_3 & -e_5 & -e_7 & -1 & -e_6 & e_1 & e_4 & e_2 \\ e_4 & -e_7 & e_5 & e_6 & -1 & -e_2 & -e_3 & e_1 \\ e_5 & e_3 & -e_4 & -e_1 & e_2 & -1 & -e_7 & e_6 \\ e_6 & -e_2 & e_1 & -e_4 & e_3 & e_7 & -1 & -e_5 \\ e_7 & e_4 & e_3 & -e_2 & -e_1 & -e_6 & e_5 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

190 $\overline{C}_{gd}^{0 \rightarrow 1/3}$



0apggsscc Co
011100010₂ 27

flip=False

Triad fpi=20 D₈ R fp_sm=1→78H

flat triad/mask bits

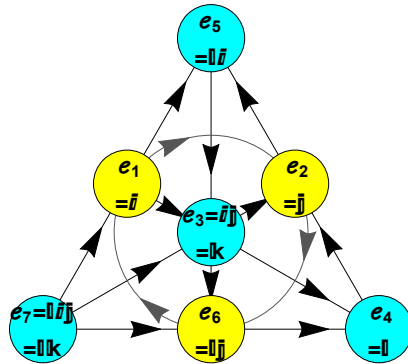
{{1, 2, 6}, {1, 3, 4}, {1, 5, 7},

{1, 2, 6, 3, 4, 5, 7}

{2, 7, 3}, {2, 5, 4}, {3, 6, 5}, {4, 7, 6}}

{0, 0, 0, 1, 1, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & e_4 & -e_3 & e_7 & -e_2 & -e_5 \\ e_2 & -e_6 & -1 & -e_7 & -e_5 & e_4 & e_1 & e_3 \\ e_3 & -e_4 & e_7 & -1 & e_1 & -e_6 & e_5 & -e_2 \\ e_4 & e_3 & e_5 & -e_1 & -1 & -e_2 & -e_7 & e_6 \\ e_5 & -e_7 & -e_4 & e_6 & e_2 & -1 & -e_3 & e_1 \\ e_6 & e_2 & -e_1 & -e_5 & e_7 & e_3 & -1 & -e_4 \\ e_7 & e_5 & -e_3 & e_2 & -e_6 & -e_1 & e_4 & -1 \end{pmatrix}$$

flip=True

Triad fpi=18 D₈ R fp_sm=6→71H

flat triad/mask bits

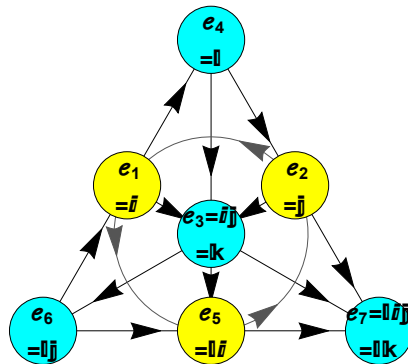
{{1, 5, 2}, {1, 3, 7}, {1, 4, 6},

{1, 2, 5, 3, 7, 4, 6}

{2, 3, 6}, {2, 7, 4}, {3, 5, 4}, {5, 7, 6}}

{1, 0, 0, 0, 1, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & e_7 & e_6 & e_2 & -e_4 & -e_3 \\ e_2 & e_5 & -1 & e_6 & -e_7 & -e_1 & -e_3 & e_4 \\ e_3 & -e_7 & -e_6 & -1 & -e_5 & e_4 & e_2 & e_1 \\ e_4 & -e_6 & e_7 & e_5 & -1 & -e_3 & e_1 & -e_2 \\ e_5 & -e_2 & e_1 & -e_4 & e_3 & -1 & -e_7 & e_6 \\ e_6 & e_4 & e_3 & -e_2 & -e_1 & e_7 & -1 & -e_5 \\ e_7 & e_3 & -e_4 & -e_1 & e_2 & -e_6 & e_5 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

191 $\overline{C}_{rd}^{0 \rightarrow 1/3}$



0apggsscc Ge
011100001₂ 32

flip=False

Triad fpi=19 D₈ R fp_sm=3→7AH

flat triad/mask bits

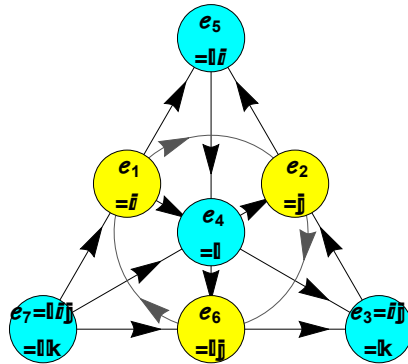
{{1, 2, 6}, {1, 4, 3}, {1, 5, 7},

{1, 2, 6, 4, 3, 5, 7}

{2, 5, 3}, {2, 7, 4}, {3, 7, 6}, {4, 6, 5}}

{0, 1, 0, 1, 1, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & -e_4 & e_3 & e_7 & -e_2 & -e_5 \\ e_2 & -e_6 & -1 & -e_5 & -e_7 & e_3 & e_1 & e_4 \\ e_3 & e_4 & e_5 & -1 & -e_1 & -e_2 & -e_7 & e_6 \\ e_4 & -e_3 & e_7 & e_1 & -1 & -e_6 & e_5 & -e_2 \\ e_5 & -e_7 & -e_3 & e_2 & e_6 & -1 & -e_4 & e_1 \\ e_6 & e_2 & -e_1 & e_7 & -e_5 & e_4 & -1 & -e_3 \\ e_7 & e_5 & -e_4 & -e_6 & e_2 & -e_1 & e_3 & -1 \end{pmatrix}$$

flip=True

Triad fpi=17 D₈ R fp_sm=8→73H

flat triad/mask bits

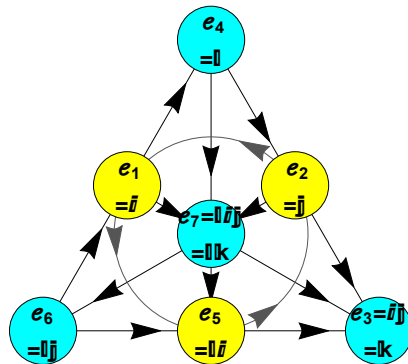
{{1, 5, 2}, {1, 7, 3}, {1, 4, 6},

{1, 2, 5, 7, 3, 4, 6}

{2, 3, 4}, {2, 7, 6}, {3, 6, 5}, {4, 7, 5}}

{1, 1, 0, 0, 1, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & -e_7 & e_6 & e_2 & -e_4 & e_3 \\ e_2 & e_5 & -1 & e_4 & -e_3 & -e_1 & -e_7 & e_6 \\ e_3 & e_7 & -e_4 & -1 & e_2 & -e_6 & e_5 & -e_1 \\ e_4 & -e_6 & e_3 & -e_2 & -1 & -e_7 & e_1 & e_5 \\ e_5 & -e_2 & e_1 & e_6 & e_7 & -1 & -e_3 & -e_4 \\ e_6 & e_4 & e_7 & -e_5 & -e_1 & e_3 & -1 & -e_2 \\ e_7 & -e_3 & -e_6 & e_1 & -e_5 & e_4 & e_2 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

192 $\mu_{y1} \xrightarrow{\bar{R}} 0$



0apggsscc Sr
000100100₂ 38

flip=False

Triad fpi=15 D₈ L fp_sm=3→1CH

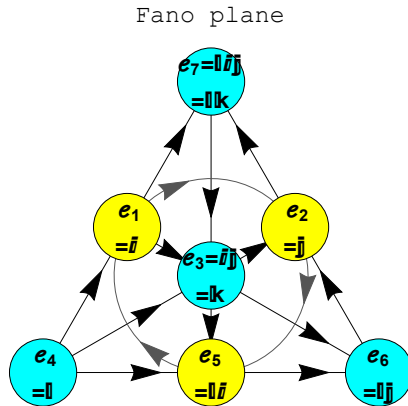
flat triad/mask bits

{{1, 2, 5}, {1, 3, 6}, {1, 7, 4},

{1, 2, 5, 3, 6, 7, 4}

{2, 4, 3}, {2, 7, 6}, {3, 5, 7}, {4, 5, 6}}

{0, 0, 1, 1, 1, 0, 0}



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & e_6 & -e_7 & -e_2 & -e_3 & e_4 \\ e_2 & -e_5 & -1 & -e_4 & e_3 & e_1 & -e_7 & e_6 \\ e_3 & -e_6 & e_4 & -1 & -e_2 & e_7 & e_1 & -e_5 \\ e_4 & e_7 & -e_3 & e_2 & -1 & e_6 & -e_5 & -e_1 \\ e_5 & e_2 & -e_1 & -e_7 & -e_6 & -1 & e_4 & e_3 \\ e_6 & e_3 & e_7 & -e_1 & e_5 & -e_4 & -1 & -e_2 \\ e_7 & -e_4 & -e_6 & e_5 & e_1 & -e_3 & e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=16 D₈ L fp_sm=3→1CH

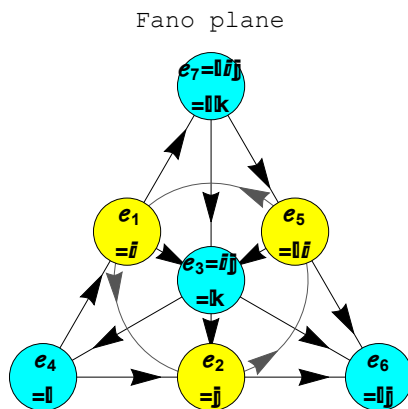
flat triad/mask bits

{{1, 2, 5}, {1, 3, 6}, {1, 7, 4},

{1, 5, 2, 3, 6, 7, 4}

{2, 7, 3}, {2, 6, 4}, {3, 4, 5}, {5, 6, 7}}

{0, 0, 1, 1, 1, 0, 0}



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & e_6 & -e_7 & -e_2 & -e_3 & e_4 \\ e_2 & -e_5 & -1 & -e_7 & -e_6 & e_1 & e_4 & e_3 \\ e_3 & -e_6 & e_7 & -1 & e_5 & -e_4 & e_1 & -e_2 \\ e_4 & e_7 & e_6 & -e_5 & -1 & e_3 & -e_2 & -e_1 \\ e_5 & e_2 & -e_1 & e_4 & -e_3 & -1 & e_7 & -e_6 \\ e_6 & e_3 & -e_4 & -e_1 & e_2 & -e_7 & -1 & e_5 \\ e_7 & -e_4 & -e_3 & e_2 & e_1 & e_6 & -e_5 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

193 $\overline{\omega_L}_{R_m}^{0 \rightarrow -1}$



0apggsscc Pd
011001101₂ 46

flip=False

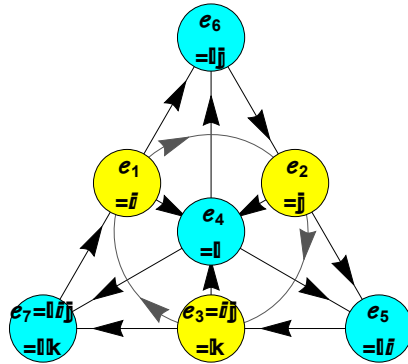
Triad fpi=2 D₈ R fp_sm=8→40H

flat triad/mask bits

{{1, 2, 3}, {1, 4, 5}, {1, 6, 7},
{2, 4, 7}, {2, 5, 6}, {3, 4, 6}, {3, 7, 5}}

{1, 2, 3, 4, 5, 6, 7}
{0, 0, 0, 0, 0, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & e_5 & -e_4 & e_7 & -e_6 \\ e_2 & -e_3 & -1 & e_1 & e_7 & e_6 & -e_5 & -e_4 \\ e_3 & e_2 & -e_1 & -1 & e_6 & -e_7 & -e_4 & e_5 \\ e_4 & -e_5 & -e_7 & -e_6 & -1 & e_1 & e_3 & e_2 \\ e_5 & e_4 & -e_6 & e_7 & -e_1 & -1 & e_2 & -e_3 \\ e_6 & -e_7 & e_5 & e_4 & -e_3 & -e_2 & -1 & e_1 \\ e_7 & e_6 & e_4 & -e_5 & -e_2 & e_3 & -e_1 & -1 \end{pmatrix}$$

flip=True

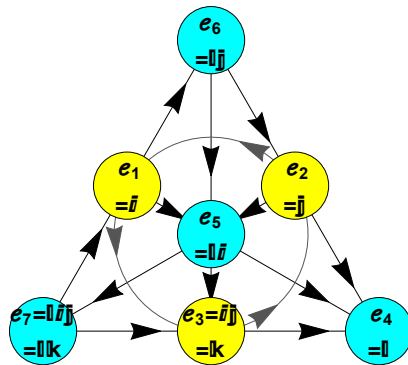
Triad fpi=1 D₈ R fp_sm=5→43H

flat triad/mask bits

{{1, 3, 2}, {1, 5, 4}, {1, 6, 7},
{2, 4, 6}, {2, 5, 7}, {3, 4, 7}, {3, 6, 5}}

{1, 2, 3, 5, 4, 6, 7}
{1, 1, 0, 0, 0, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & -e_5 & e_4 & e_7 & -e_6 \\ e_2 & e_3 & -1 & -e_1 & e_6 & e_7 & -e_4 & -e_5 \\ e_3 & -e_2 & e_1 & -1 & e_7 & -e_6 & e_5 & -e_4 \\ e_4 & e_5 & -e_6 & -e_7 & -1 & -e_1 & e_2 & e_3 \\ e_5 & -e_4 & -e_7 & e_6 & e_1 & -1 & -e_3 & e_2 \\ e_6 & -e_7 & e_4 & -e_5 & -e_2 & e_3 & -1 & e_1 \\ e_7 & e_6 & e_5 & e_4 & -e_3 & -e_2 & -e_1 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

194

$$\frac{e_T \phi}{g_m} \frac{0}{L}$$



0apggsscc
011001010₂

N
7

flip=False

Triad fpi=5 D₈ R fp_sm=7→5FH

flat triad/mask bits

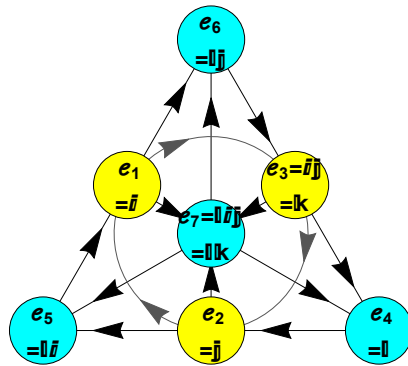
{{1, 3, 2}, {1, 7, 4}, {1, 6, 5},

{1, 3, 2, 7, 4, 6, 5}

{2, 5, 4}, {2, 7, 6}, {3, 4, 6}, {3, 7, 5}}

{1, 1, 1, 1, 1, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & -e_7 & -e_6 & e_5 & e_4 \\ e_2 & e_3 & -1 & -e_1 & -e_5 & e_4 & -e_7 & e_6 \\ e_3 & -e_2 & e_1 & -1 & e_6 & -e_7 & -e_4 & e_5 \\ e_4 & e_7 & e_5 & -e_6 & -1 & -e_2 & e_3 & -e_1 \\ e_5 & e_6 & -e_4 & e_7 & e_2 & -1 & -e_1 & -e_3 \\ e_6 & -e_5 & e_7 & e_4 & -e_3 & e_1 & -1 & -e_2 \\ e_7 & -e_4 & -e_6 & -e_5 & e_1 & e_3 & e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=3 D₈ R fp_sm=4→56H

flat triad/mask bits

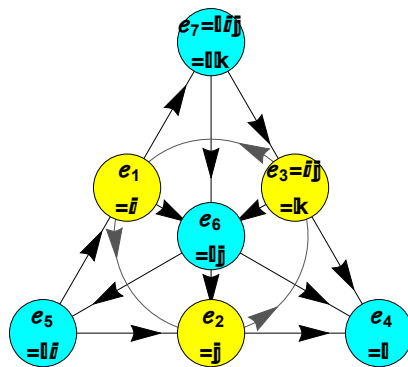
{{1, 2, 3}, {1, 6, 4}, {1, 7, 5},

{1, 3, 2, 6, 4, 7, 5}

{2, 4, 5}, {2, 7, 6}, {3, 4, 7}, {3, 6, 5}}

{0, 1, 1, 0, 1, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & -e_6 & -e_7 & e_4 & e_5 \\ e_2 & -e_3 & -1 & e_1 & e_5 & -e_4 & -e_7 & e_6 \\ e_3 & e_2 & -e_1 & -1 & e_7 & -e_6 & e_5 & -e_4 \\ e_4 & e_6 & -e_5 & -e_7 & -1 & e_2 & -e_1 & e_3 \\ e_5 & e_7 & e_4 & e_6 & -e_2 & -1 & -e_3 & -e_1 \\ e_6 & -e_4 & e_7 & -e_5 & e_1 & e_3 & -1 & -e_2 \\ e_7 & -e_5 & -e_6 & e_4 & -e_3 & e_1 & e_2 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

195 $\overline{e_s \phi}_{g_1}^{0 \rightarrow 1} \text{R}$



0apggsscc Si
011000110₂ 14

flip=False

Triad fpi=5 D₈ R fp_sm=7→6CH

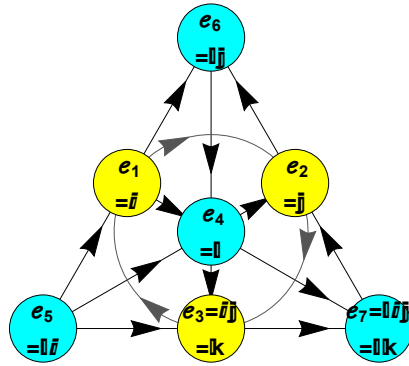
flat triad/mask bits

{{1, 2, 3}, {1, 4, 7}, {1, 6, 5},
{2, 5, 4}, {2, 6, 7}, {3, 6, 4}, {3, 7, 5}}

{1, 2, 3, 4, 7, 6, 5}
{0, 0, 1, 1, 0, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & e_7 & -e_6 & e_5 & -e_4 \\ e_2 & -e_3 & -1 & e_1 & -e_5 & e_4 & e_7 & -e_6 \\ e_3 & e_2 & -e_1 & -1 & -e_6 & -e_7 & e_4 & e_5 \\ e_4 & -e_7 & e_5 & e_6 & -1 & -e_2 & -e_3 & e_1 \\ e_5 & e_6 & -e_4 & e_7 & e_2 & -1 & -e_1 & -e_3 \\ e_6 & -e_5 & -e_7 & -e_4 & e_3 & e_1 & -1 & e_2 \\ e_7 & e_4 & e_6 & -e_5 & -e_1 & e_3 & -e_2 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=3 D₈ R fp_sm=4→65H

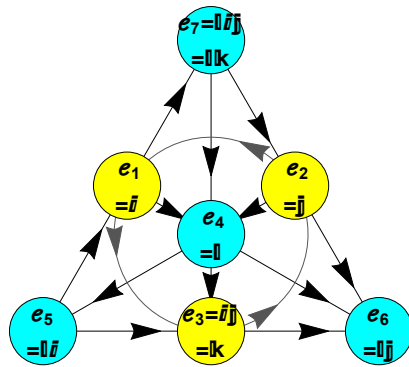
flat triad/mask bits

{{1, 3, 2}, {1, 4, 6}, {1, 7, 5},
{2, 4, 5}, {2, 6, 7}, {3, 7, 4}, {3, 6, 5}}

{1, 2, 3, 4, 6, 7, 5}
{1, 0, 1, 0, 0, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & e_6 & -e_7 & -e_4 & e_5 \\ e_2 & e_3 & -1 & -e_1 & e_5 & -e_4 & e_7 & -e_6 \\ e_3 & -e_2 & e_1 & -1 & -e_7 & -e_6 & e_5 & e_4 \\ e_4 & -e_6 & -e_5 & e_7 & -1 & e_2 & e_1 & -e_3 \\ e_5 & e_7 & e_4 & e_6 & -e_2 & -1 & -e_3 & -e_1 \\ e_6 & e_4 & -e_7 & -e_5 & -e_1 & e_3 & -1 & e_2 \\ e_7 & -e_5 & e_6 & -e_4 & e_3 & e_1 & -e_2 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

196

 $\overline{V_{\mu}}^0_R$
 W_m 

0apggsscc Sc
011101100₂ 21

flip=False

Triad fpi=15 D₈ R fp_sm=3→49H

flat triad/mask bits

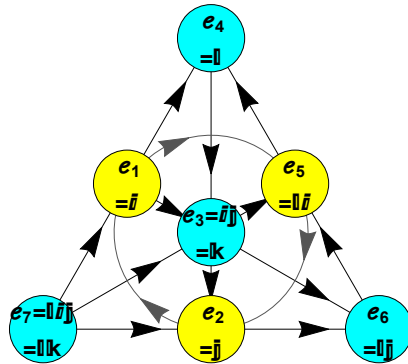
{ {1, 5, 2}, {1, 3, 6}, {1, 4, 7},

{1, 5, 2, 3, 6, 4, 7}

{2, 4, 3}, {2, 6, 7}, {3, 5, 7}, {4, 6, 5}}

{1, 0, 0, 1, 0, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & e_6 & e_7 & e_2 & -e_3 & -e_4 \\ e_2 & e_5 & -1 & -e_4 & e_3 & -e_1 & e_7 & -e_6 \\ e_3 & -e_6 & e_4 & -1 & -e_2 & e_7 & e_1 & -e_5 \\ e_4 & -e_7 & -e_3 & e_2 & -1 & -e_6 & e_5 & e_1 \\ e_5 & -e_2 & e_1 & -e_7 & e_6 & -1 & -e_4 & e_3 \\ e_6 & e_3 & -e_7 & -e_1 & -e_5 & e_4 & -1 & e_2 \\ e_7 & e_4 & e_6 & e_5 & -e_1 & -e_3 & -e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=16 D₈ R fp_sm=3→49H

flat triad/mask bits

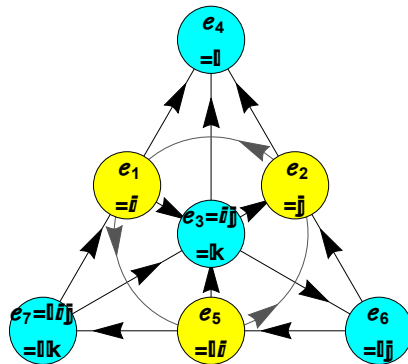
{ {1, 5, 2}, {1, 3, 6}, {1, 4, 7},

{1, 2, 5, 3, 6, 4, 7}

{2, 7, 3}, {2, 4, 6}, {3, 4, 5}, {5, 7, 6}}

{1, 0, 0, 1, 0, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & e_6 & e_7 & e_2 & -e_3 & -e_4 \\ e_2 & e_5 & -1 & -e_7 & e_6 & -e_1 & -e_4 & e_3 \\ e_3 & -e_6 & e_7 & -1 & e_5 & -e_4 & e_1 & -e_2 \\ e_4 & -e_7 & -e_6 & -e_5 & -1 & e_3 & e_2 & e_1 \\ e_5 & -e_2 & e_1 & e_4 & -e_3 & -1 & -e_7 & e_6 \\ e_6 & e_3 & e_4 & -e_1 & -e_2 & e_7 & -1 & -e_5 \\ e_7 & e_4 & -e_3 & e_2 & -e_1 & -e_6 & e_5 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

197 $S_{om} \xrightarrow{-1/3} \bar{L}$



0apggsscc Ni
000101001₂ 28

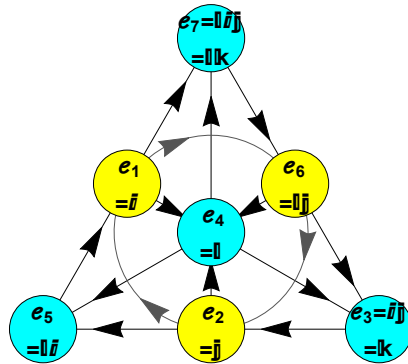
flip=False

Triad fpi=19 D₈ L fp_sm=3→2FH
{ {1, 6, 2}, {1, 4, 3}, {1, 7, 5},
{2, 5, 3}, {2, 4, 7}, {3, 7, 6}, {4, 5, 6} }

flat triad/mask bits
{1, 6, 2, 4, 3, 7, 5}
{1, 1, 1, 1, 0, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & -e_4 & e_3 & -e_7 & e_2 & e_5 \\ e_2 & e_6 & -1 & -e_5 & e_7 & e_3 & -e_1 & -e_4 \\ e_3 & e_4 & e_5 & -1 & -e_1 & -e_2 & -e_7 & e_6 \\ e_4 & -e_3 & -e_7 & e_1 & -1 & e_6 & -e_5 & e_2 \\ e_5 & e_7 & -e_3 & e_2 & -e_6 & -1 & e_4 & -e_1 \\ e_6 & -e_2 & e_1 & e_7 & e_5 & -e_4 & -1 & -e_3 \\ e_7 & -e_5 & e_4 & -e_6 & -e_2 & e_1 & e_3 & -1 \end{pmatrix}$$

Fano plane



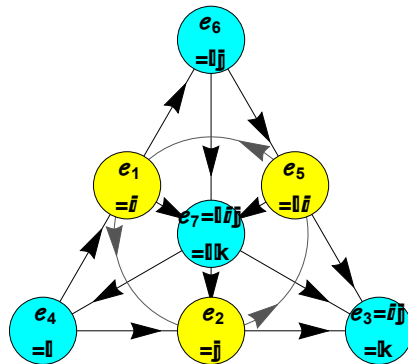
flip=True

Triad fpi=17 D₈ L fp_sm=8→26H
{ {1, 2, 5}, {1, 7, 3}, {1, 6, 4},
{2, 3, 4}, {2, 6, 7}, {3, 6, 5}, {4, 5, 7} }

flat triad/mask bits
{1, 5, 2, 7, 3, 6, 4}
{0, 1, 1, 0, 0, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & -e_7 & -e_6 & -e_2 & e_4 & e_3 \\ e_2 & -e_5 & -1 & e_4 & -e_3 & e_1 & e_7 & -e_6 \\ e_3 & e_7 & -e_4 & -1 & e_2 & -e_6 & e_5 & -e_1 \\ e_4 & e_6 & e_3 & -e_2 & -1 & e_7 & -e_1 & -e_5 \\ e_5 & e_2 & -e_1 & e_6 & -e_7 & -1 & -e_3 & e_4 \\ e_6 & -e_4 & -e_7 & -e_5 & e_1 & e_3 & -1 & e_2 \\ e_7 & -e_3 & e_6 & e_1 & e_5 & -e_4 & -e_2 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

198 $S \xrightarrow{-1/3}$
 $C_m \bar{L}$



0apggsscc Se
000101010₂ 34

flip=False

Triad fpi=20 D₈ L fp_sm=1→2DH

flat triad/mask bits

{{1, 6, 2}, {1, 3, 4}, {1, 7, 5},

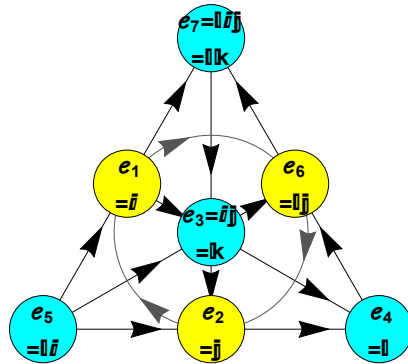
{1, 6, 2, 3, 4, 7, 5}

{2, 7, 3}, {2, 4, 5}, {3, 6, 5}, {4, 6, 7}}

{1, 0, 1, 1, 0, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & e_4 & -e_3 & -e_7 & e_2 & e_5 \\ e_2 & e_6 & -1 & -e_7 & e_5 & -e_4 & -e_1 & e_3 \\ e_3 & -e_4 & e_7 & -1 & e_1 & -e_6 & e_5 & -e_2 \\ e_4 & e_3 & -e_5 & -e_1 & -1 & e_2 & e_7 & -e_6 \\ e_5 & e_7 & e_4 & e_6 & -e_2 & -1 & -e_3 & -e_1 \\ e_6 & -e_2 & e_1 & -e_5 & -e_7 & e_3 & -1 & e_4 \\ e_7 & -e_5 & -e_3 & e_2 & e_6 & e_1 & -e_4 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=18 D₈ L fp_sm=6→24H

flat triad/mask bits

{{1, 2, 5}, {1, 3, 7}, {1, 6, 4},

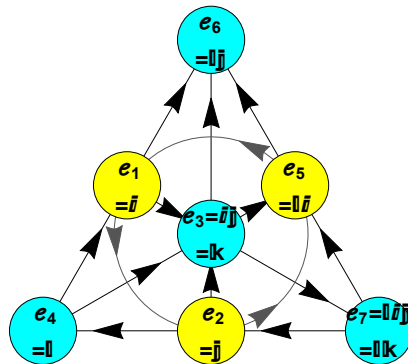
{1, 5, 2, 3, 7, 6, 4}

{2, 3, 6}, {2, 4, 7}, {3, 5, 4}, {5, 6, 7}}

{0, 0, 1, 0, 0, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & e_7 & -e_6 & -e_2 & e_4 & -e_3 \\ e_2 & -e_5 & -1 & e_6 & e_7 & e_1 & -e_3 & -e_4 \\ e_3 & -e_7 & -e_6 & -1 & -e_5 & e_4 & e_2 & e_1 \\ e_4 & e_6 & -e_7 & e_5 & -1 & -e_3 & -e_1 & e_2 \\ e_5 & e_2 & -e_1 & -e_4 & e_3 & -1 & e_7 & -e_6 \\ e_6 & -e_4 & e_3 & -e_2 & e_1 & -e_7 & -1 & e_5 \\ e_7 & e_3 & e_4 & -e_1 & -e_2 & e_6 & -e_5 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

199

 $S_{mL}^{-1/3}$


0apggsscc Uue
000101011₂ 119

flip=False

Triad fpi=21 D₈ L fp_sm=6→24H

flat triad/mask bits

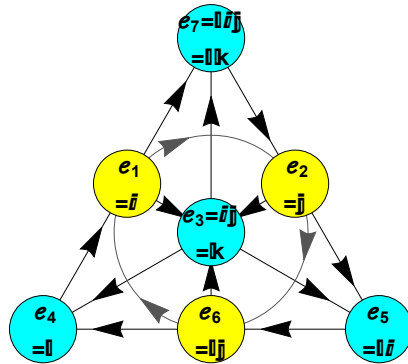
{1, 2, 6}, {1, 3, 5}, {1, 7, 4},

{1, 2, 6, 3, 5, 7, 4}

{2, 3, 4}, {2, 5, 7}, {3, 7, 6}, {4, 5, 6}}

{0, 0, 1, 0, 0, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & e_5 & -e_7 & -e_3 & -e_2 & e_4 \\ e_2 & -e_6 & -1 & e_4 & -e_3 & e_7 & e_1 & -e_5 \\ e_3 & -e_5 & -e_4 & -1 & e_2 & e_1 & -e_7 & e_6 \\ e_4 & e_7 & e_3 & -e_2 & -1 & e_6 & -e_5 & -e_1 \\ e_5 & e_3 & -e_7 & -e_1 & -e_6 & -1 & e_4 & e_2 \\ e_6 & e_2 & -e_1 & e_7 & e_5 & -e_4 & -1 & -e_3 \\ e_7 & -e_4 & e_5 & -e_6 & e_1 & -e_2 & e_3 & -1 \end{pmatrix}$$

flip=True

Triad fpi=22 D₈ L fp_sm=6→24H

flat triad/mask bits

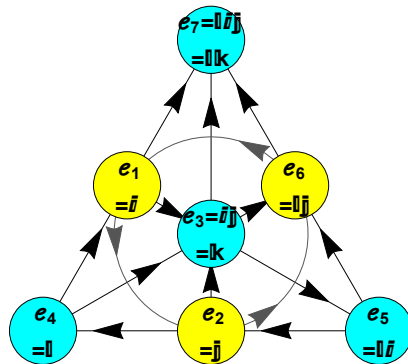
{1, 2, 6}, {1, 3, 5}, {1, 7, 4},

{1, **6**, **2**, 3, 5, 7, 4}

{2, 3, 7}, {2, 4, 5}, {3, 6, 4}, {5, 6, 7}}

{0, 0, 1, 0, 0, 1, 0}

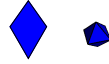
Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & e_5 & -e_7 & -e_3 & -e_2 & e_4 \\ e_2 & -e_6 & -1 & e_7 & e_5 & -e_4 & e_1 & -e_3 \\ e_3 & -e_5 & -e_7 & -1 & -e_6 & e_1 & e_4 & e_2 \\ e_4 & e_7 & -e_5 & e_6 & -1 & e_2 & -e_3 & -e_1 \\ e_5 & e_3 & e_4 & -e_1 & -e_2 & -1 & e_7 & -e_6 \\ e_6 & e_2 & -e_1 & -e_4 & e_3 & -e_7 & -1 & e_5 \\ e_7 & -e_4 & e_3 & -e_2 & e_1 & e_6 & -e_5 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

200 $\overline{C}_{b_m}^{-2/3 \rightarrow 1/3} R$



0apggsscc $\overline{Md}$
011101111₂ 101

flip=False

Triad fpi=21 D_8 R fp_sm=6→42H

flat triad/mask bits

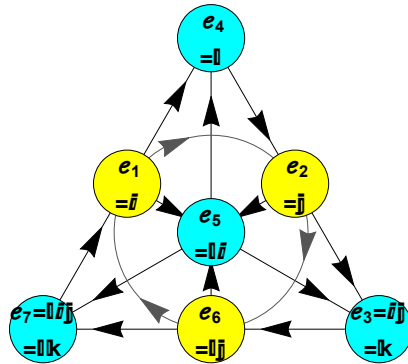
{ {1, 2, 6}, {1, 5, 3}, {1, 4, 7},

{1, 2, 6, 5, 3, 4, 7}

{2, 3, 4}, {2, 5, 7}, {3, 6, 7}, {4, 6, 5}}

{0, 1, 0, 0, 0, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & -e_5 & e_7 & e_3 & -e_2 & -e_4 \\ e_2 & -e_6 & -1 & e_4 & -e_3 & e_7 & e_1 & -e_5 \\ e_3 & e_5 & -e_4 & -1 & e_2 & -e_1 & e_7 & -e_6 \\ e_4 & -e_7 & e_3 & -e_2 & -1 & -e_6 & e_5 & e_1 \\ e_5 & -e_3 & -e_7 & e_1 & e_6 & -1 & -e_4 & e_2 \\ e_6 & e_2 & -e_1 & -e_7 & -e_5 & e_4 & -1 & e_3 \\ e_7 & e_4 & e_5 & e_6 & -e_1 & -e_2 & -e_3 & -1 \end{pmatrix}$$

flip=True

Triad fpi=22 D_8 R fp_sm=6→42H

flat triad/mask bits

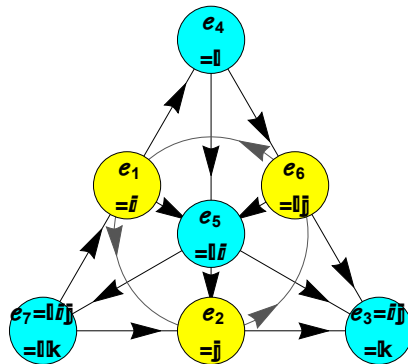
{ {1, 2, 6}, {1, 5, 3}, {1, 4, 7},

{1, **6**, **2**, 5, 3, 4, 7}

{2, 3, 7}, {2, 4, 5}, {3, 4, 6}, {5, 7, 6}}

{0, 1, 0, 0, 0, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & -e_5 & e_7 & e_3 & -e_2 & -e_4 \\ e_2 & -e_6 & -1 & e_7 & e_5 & -e_4 & e_1 & -e_3 \\ e_3 & e_5 & -e_7 & -1 & e_6 & -e_1 & -e_4 & e_2 \\ e_4 & -e_7 & -e_5 & -e_6 & -1 & e_2 & e_3 & e_1 \\ e_5 & -e_3 & e_4 & e_1 & -e_2 & -1 & -e_7 & e_6 \\ e_6 & e_2 & -e_1 & e_4 & -e_3 & e_7 & -1 & -e_5 \\ e_7 & e_4 & e_3 & -e_2 & -e_1 & -e_6 & e_5 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

201 $\overline{C}_{g_m}^{0 \rightarrow 1/3} R$



0apggsscc Br
011101110₂ 35

flip=False

Triad fpi=20 D₈ R fp_sm=1→4BH

flat triad/mask bits

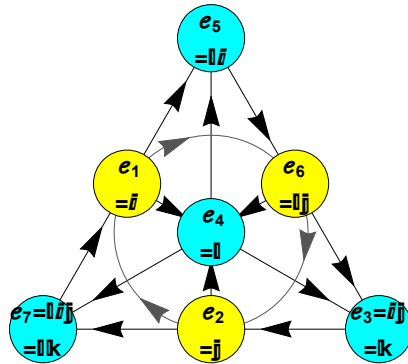
{{1, 6, 2}, {1, 4, 3}, {1, 5, 7},

{1, 6, 2, 4, 3, 5, 7}

{2, 7, 3}, {2, 4, 5}, {3, 5, 6}, {4, 7, 6}}

{1, 1, 0, 1, 0, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & -e_4 & e_3 & e_7 & e_2 & -e_5 \\ e_2 & e_6 & -1 & -e_7 & e_5 & -e_4 & -e_1 & e_3 \\ e_3 & e_4 & e_7 & -1 & -e_1 & e_6 & -e_5 & -e_2 \\ e_4 & -e_3 & -e_5 & e_1 & -1 & e_2 & -e_7 & e_6 \\ e_5 & -e_7 & e_4 & -e_6 & -e_2 & -1 & e_3 & e_1 \\ e_6 & -e_2 & e_1 & e_5 & e_7 & -e_3 & -1 & -e_4 \\ e_7 & e_5 & -e_3 & e_2 & -e_6 & -e_1 & e_4 & -1 \end{pmatrix}$$

flip=True

Triad fpi=18 D₈ R fp_sm=6→42H

flat triad/mask bits

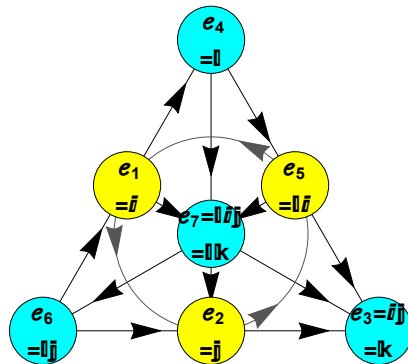
{{1, 2, 5}, {1, 7, 3}, {1, 4, 6},

{1, 5, 2, 7, 3, 4, 6}

{2, 3, 6}, {2, 4, 7}, {3, 4, 5}, {5, 7, 6}}

{0, 1, 0, 0, 0, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & -e_7 & e_6 & -e_2 & -e_4 & e_3 \\ e_2 & -e_5 & -1 & e_6 & e_7 & e_1 & -e_3 & -e_4 \\ e_3 & e_7 & -e_6 & -1 & e_5 & -e_4 & e_2 & -e_1 \\ e_4 & -e_6 & -e_7 & -e_5 & -1 & e_3 & e_1 & e_2 \\ e_5 & e_2 & -e_1 & e_4 & -e_3 & -1 & -e_7 & e_6 \\ e_6 & e_4 & e_3 & -e_2 & -e_1 & e_7 & -1 & -e_5 \\ e_7 & -e_3 & e_4 & e_1 & -e_2 & -e_6 & e_5 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

202 $\overline{C}_{x_m}^{0 \rightarrow 1/3}$



0apggsscc Zr
011101101₂ 40

flip=False

Triad fpi=19 D₈ R fp_sm=3→49H

flat triad/mask bits

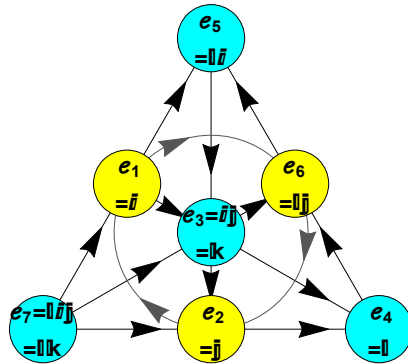
{{1, 6, 2}, {1, 3, 4}, {1, 5, 7},

{1, 6, 2, 3, 4, 5, 7}

{2, 5, 3}, {2, 4, 7}, {3, 6, 7}, {4, 6, 5}}

{1, 0, 0, 1, 0, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & e_4 & -e_3 & e_7 & e_2 & -e_5 \\ e_2 & e_6 & -1 & -e_5 & e_7 & e_3 & -e_1 & -e_4 \\ e_3 & -e_4 & e_5 & -1 & e_1 & -e_2 & e_7 & -e_6 \\ e_4 & e_3 & -e_7 & -e_1 & -1 & -e_6 & e_5 & e_2 \\ e_5 & -e_7 & -e_3 & e_2 & e_6 & -1 & -e_4 & e_1 \\ e_6 & -e_2 & e_1 & -e_7 & -e_5 & e_4 & -1 & e_3 \\ e_7 & e_5 & e_4 & e_6 & -e_2 & -e_1 & -e_3 & -1 \end{pmatrix}$$

flip=True

Triad fpi=17 D₈ R fp_sm=8→40H

flat triad/mask bits

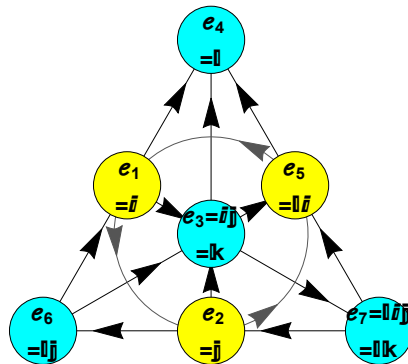
{{1, 2, 5}, {1, 3, 7}, {1, 4, 6},

{1, 5, 2, 3, 7, 4, 6}

{2, 3, 4}, {2, 6, 7}, {3, 5, 6}, {4, 7, 5}}

{0, 0, 0, 0, 0, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & e_7 & e_6 & -e_2 & -e_4 & -e_3 \\ e_2 & -e_5 & -1 & e_4 & -e_3 & e_1 & e_7 & -e_6 \\ e_3 & -e_7 & -e_4 & -1 & e_2 & e_6 & -e_5 & e_1 \\ e_4 & -e_6 & e_3 & -e_2 & -1 & -e_7 & e_1 & e_5 \\ e_5 & e_2 & -e_1 & -e_6 & e_7 & -1 & e_3 & -e_4 \\ e_6 & e_4 & -e_7 & e_5 & -e_1 & -e_3 & -1 & e_2 \\ e_7 & e_3 & e_6 & -e_1 & -e_5 & e_4 & -e_2 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

203

 $\mu_{y_m} \xrightarrow{\bar{L}} 0$


0apggsscc Ag
000101000₂ 47

flip=False

Triad fpi=15 D₈ L fp_sm=3→2FH

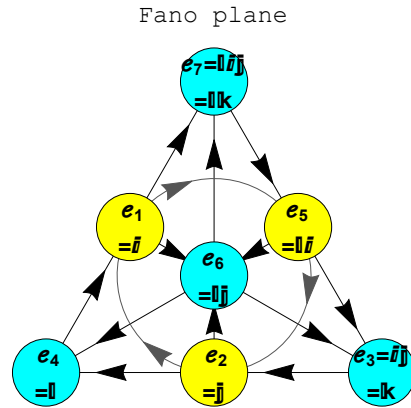
flat triad/mask bits

{{1, 5, 2}, {1, 6, 3}, {1, 7, 4},

{1, 5, 2, 6, 3, 7, 4}

{2, 4, 3}, {2, 6, 7}, {3, 7, 5}, {4, 5, 6}}

{1, 1, 1, 1, 0, 1, 0}



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & -e_6 & -e_7 & e_2 & e_3 & e_4 \\ e_2 & e_5 & -1 & -e_4 & e_3 & -e_1 & e_7 & -e_6 \\ e_3 & e_6 & e_4 & -1 & -e_2 & -e_7 & -e_1 & e_5 \\ e_4 & e_7 & -e_3 & e_2 & -1 & e_6 & -e_5 & -e_1 \\ e_5 & -e_2 & e_1 & e_7 & -e_6 & -1 & e_4 & -e_3 \\ e_6 & -e_3 & -e_7 & e_1 & e_5 & -e_4 & -1 & e_2 \\ e_7 & -e_4 & e_6 & -e_5 & e_1 & e_3 & -e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=16 D₈ L fp_sm=3→2FH

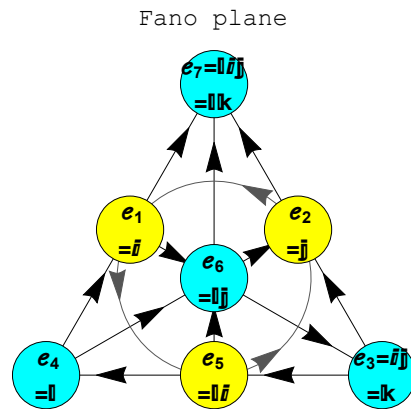
flat triad/mask bits

{{1, 5, 2}, {1, 6, 3}, {1, 7, 4},

{1, **2**, **5**, 6, 3, 7, 4}

{2, 7, 3}, {2, 4, 6}, {3, 5, 4}, {5, 6, 7}}

{1, 1, 1, 1, 0, 1, 0}



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & -e_6 & -e_7 & e_2 & e_3 & e_4 \\ e_2 & e_5 & -1 & -e_7 & e_6 & -e_1 & -e_4 & e_3 \\ e_3 & e_6 & e_7 & -1 & -e_5 & e_4 & -e_1 & -e_2 \\ e_4 & e_7 & -e_6 & e_5 & -1 & -e_3 & e_2 & -e_1 \\ e_5 & -e_2 & e_1 & -e_4 & e_3 & -1 & e_7 & -e_6 \\ e_6 & -e_3 & e_4 & e_1 & -e_2 & -e_7 & -1 & e_5 \\ e_7 & -e_4 & -e_3 & e_2 & e_1 & e_6 & -e_5 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

204 $B_{bm}^{0 \rightarrow -1}$



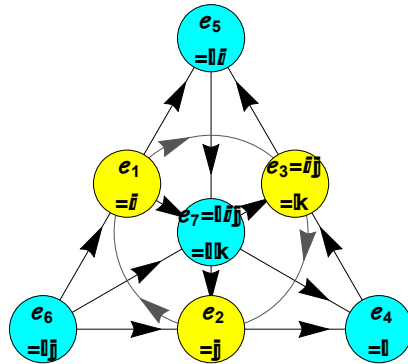
0apggsscc Xe
001001011₂ 54

flip=False

Triad fpi=6 D₈ R fp_sm=6→23H
{ {1, 3, 2}, {1, 7, 4}, {1, 5, 6},
{2, 4, 6}, {2, 5, 7}, {3, 5, 4}, {3, 6, 7} }

flat triad/mask bits
{1, 3, 2, 7, 4, 5, 6}
{1, 1, 0, 0, 0, 1, 0}

Fano plane



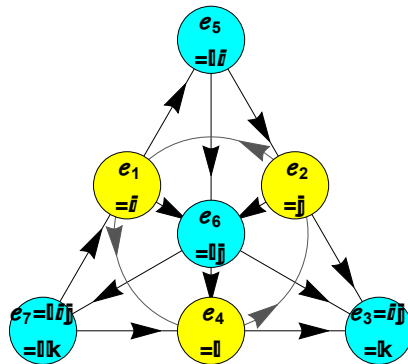
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & -e_7 & e_6 & -e_5 & e_4 \\ e_2 & e_3 & -1 & -e_1 & e_6 & e_7 & -e_4 & -e_5 \\ e_3 & -e_2 & e_1 & -1 & -e_5 & e_4 & e_7 & -e_6 \\ e_4 & e_7 & -e_6 & e_5 & -1 & -e_3 & e_2 & -e_1 \\ e_5 & -e_6 & -e_7 & -e_4 & e_3 & -1 & e_1 & e_2 \\ e_6 & e_5 & e_4 & -e_7 & -e_2 & -e_1 & -1 & e_3 \\ e_7 & -e_4 & e_5 & e_6 & e_1 & -e_2 & -e_3 & -1 \end{pmatrix}$$

flip=True

Triad fpi=9 D₈ R fp_sm=6→23H
{ {1, 4, 2}, {1, 6, 3}, {1, 5, 7},
{2, 3, 5}, {2, 6, 7}, {3, 7, 4}, {4, 5, 6} }

flat triad/mask bits
{1, 2, 4, 6, 3, 5, 7}
{1, 1, 0, 0, 0, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & -e_6 & e_2 & e_7 & e_3 & -e_5 \\ e_2 & e_4 & -1 & e_5 & -e_1 & -e_3 & e_7 & -e_6 \\ e_3 & e_6 & -e_5 & -1 & -e_7 & e_2 & -e_1 & e_4 \\ e_4 & -e_2 & e_1 & e_7 & -1 & e_6 & -e_5 & -e_3 \\ e_5 & -e_7 & e_3 & -e_2 & -e_6 & -1 & e_4 & e_1 \\ e_6 & -e_3 & -e_7 & e_1 & e_5 & -e_4 & -1 & e_2 \\ e_7 & e_5 & e_6 & -e_4 & e_3 & -e_1 & -e_2 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

205

 $\overline{e_s \phi}_{bd}^0 L$


0apggsscc Nd
011000011₂ 60

flip=False

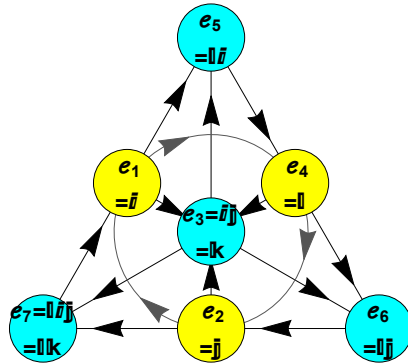
Triad fpi=9 D₈ R fp_sm=6→71H

flat triad/mask bits

{{1, 4, 2}, {1, 3, 6}, {1, 5, 7},
{2, 3, 5}, {2, 7, 6}, {3, 7, 4}, {4, 6, 5}}

{1, 4, 2, 3, 6, 5, 7}
{1, 0, 0, 0, 1, 1, 1}

Fano plane



1	e_1	e_2	e_3	e_4	e_5	e_6	e_7
e_1	-1	$-e_4$	e_6	e_2	e_7	$-e_3$	$-e_5$
e_2	e_4	-1	e_5	$-e_1$	$-e_3$	$-e_7$	e_6
e_3	$-e_6$	$-e_5$	-1	$-e_7$	e_2	e_1	e_4
e_4	$-e_2$	e_1	e_7	-1	$-e_6$	e_5	$-e_3$
e_5	$-e_7$	e_3	$-e_2$	e_6	-1	$-e_4$	e_1
e_6	e_3	e_7	$-e_1$	$-e_5$	e_4	-1	$-e_2$
e_7	e_5	$-e_6$	$-e_4$	e_3	$-e_1$	e_2	-1

flip=True

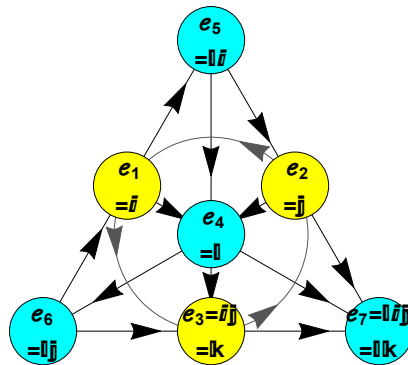
Triad fpi=6 D₈ R fp_sm=6→71H

flat triad/mask bits

{{1, 3, 2}, {1, 4, 7}, {1, 5, 6},
{2, 4, 6}, {2, 7, 5}, {3, 5, 4}, {3, 7, 6}}

{1, 2, 3, 4, 7, 5, 6}
{1, 0, 0, 0, 1, 1, 1}

Fano plane



1	e_1	e_2	e_3	e_4	e_5	e_6	e_7
e_1	-1	$-e_3$	e_2	e_7	e_6	$-e_5$	$-e_4$
e_2	e_3	-1	$-e_1$	e_6	$-e_7$	$-e_4$	e_5
e_3	$-e_2$	e_1	-1	$-e_5$	e_4	$-e_7$	e_6
e_4	$-e_7$	$-e_6$	e_5	-1	$-e_3$	e_2	e_1
e_5	$-e_6$	e_7	$-e_4$	e_3	-1	e_1	$-e_2$
e_6	e_5	e_4	e_7	$-e_2$	$-e_1$	-1	$-e_3$
e_7	e_4	$-e_5$	$-e_6$	$-e_1$	e_2	e_3	-1

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

206

 $\overline{\omega_R}^0$
 $g_m R$


0apggsscc
011001110₂

0
8

flip=False

Triad fpi=5 D₈ R fp_sm=7→41H

flat triad/mask bits

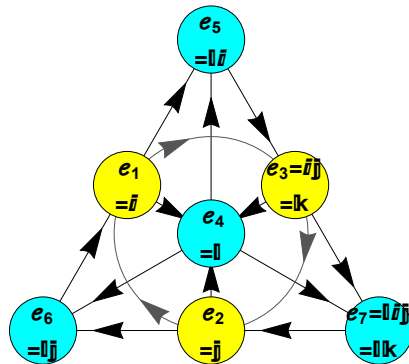
{{1, 3, 2}, {1, 4, 7}, {1, 5, 6},

{1, 3, 2, 4, 7, 5, 6}

{2, 4, 5}, {2, 6, 7}, {3, 4, 6}, {3, 7, 5}}

{1, 0, 0, 0, 0, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & e_7 & e_6 & -e_5 & -e_4 \\ e_2 & e_3 & -1 & -e_1 & e_5 & -e_4 & e_7 & -e_6 \\ e_3 & -e_2 & e_1 & -1 & e_6 & -e_7 & -e_4 & e_5 \\ e_4 & -e_7 & -e_5 & -e_6 & -1 & e_2 & e_3 & e_1 \\ e_5 & -e_6 & e_4 & e_7 & -e_2 & -1 & e_1 & -e_3 \\ e_6 & e_5 & -e_7 & e_4 & -e_3 & -e_1 & -1 & e_2 \\ e_7 & e_4 & e_6 & -e_5 & -e_1 & e_3 & -e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=3 D₈ R fp_sm=4→48H

flat triad/mask bits

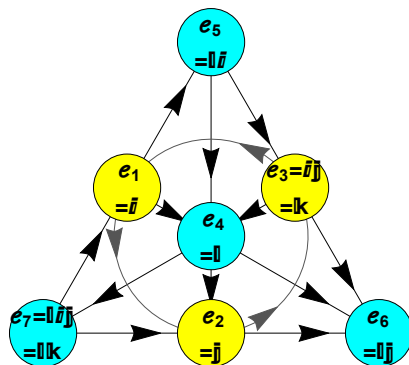
{{1, 2, 3}, {1, 4, 6}, {1, 5, 7},

{1, 3, 2, 4, 6, 5, 7}

{2, 5, 4}, {2, 6, 7}, {3, 4, 7}, {3, 6, 5}}

{0, 0, 0, 1, 0, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & e_6 & e_7 & -e_4 & -e_5 \\ e_2 & -e_3 & -1 & e_1 & -e_5 & e_4 & e_7 & -e_6 \\ e_3 & e_2 & -e_1 & -1 & e_7 & -e_6 & e_5 & -e_4 \\ e_4 & -e_6 & e_5 & -e_7 & -1 & -e_2 & e_1 & e_3 \\ e_5 & -e_7 & -e_4 & e_6 & e_2 & -1 & -e_3 & e_1 \\ e_6 & e_4 & -e_7 & -e_5 & -e_1 & e_3 & -1 & e_2 \\ e_7 & e_5 & e_6 & e_4 & -e_3 & -e_1 & -e_2 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

207

 $\overline{e_T \phi}_{b_1}^0 R$


0apggsscc P
011000111₂ 15

flip=False

Triad fpi=9 D₈ R fp_sm=6→6FH

flat triad/mask bits

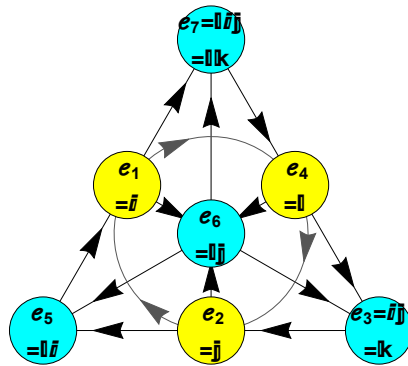
{{1, 4, 2}, {1, 6, 3}, {1, 7, 5},

{1, 4, 2, 6, 3, 7, 5}

{2, 5, 3}, {2, 6, 7}, {3, 7, 4}, {4, 6, 5}}

{1, 1, 1, 1, 0, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & -e_6 & e_2 & -e_7 & e_3 & e_5 \\ e_2 & e_4 & -1 & -e_5 & -e_1 & e_3 & e_7 & -e_6 \\ e_3 & e_6 & e_5 & -1 & -e_7 & -e_2 & -e_1 & e_4 \\ e_4 & -e_2 & e_1 & e_7 & -1 & -e_6 & e_5 & -e_3 \\ e_5 & e_7 & -e_3 & e_2 & e_6 & -1 & -e_4 & -e_1 \\ e_6 & -e_3 & -e_7 & e_1 & -e_5 & e_4 & -1 & e_2 \\ e_7 & -e_5 & e_6 & -e_4 & e_3 & e_1 & -e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=6 D₈ R fp_sm=6→6FH

flat triad/mask bits

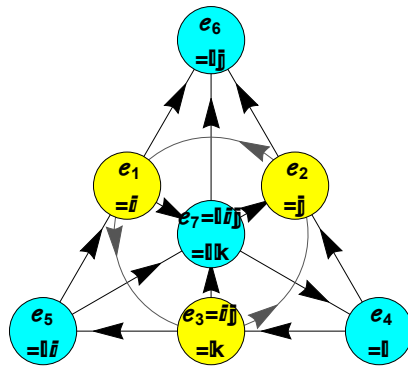
{{1, 3, 2}, {1, 7, 4}, {1, 6, 5},

{1, 2, 3, 7, 4, 6, 5}

{2, 6, 4}, {2, 5, 7}, {3, 5, 4}, {3, 7, 6}}

{1, 1, 1, 1, 0, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & -e_7 & -e_6 & e_5 & e_4 \\ e_2 & e_3 & -1 & -e_1 & -e_6 & e_7 & e_4 & -e_5 \\ e_3 & -e_2 & e_1 & -1 & -e_5 & e_4 & -e_7 & e_6 \\ e_4 & e_7 & e_6 & e_5 & -1 & -e_3 & -e_2 & -e_1 \\ e_5 & e_6 & -e_7 & -e_4 & e_3 & -1 & -e_1 & e_2 \\ e_6 & -e_5 & -e_4 & e_7 & e_2 & e_1 & -1 & -e_3 \\ e_7 & -e_4 & e_5 & -e_6 & e_1 & -e_2 & e_3 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

208 $e_T \phi_{gd}^{0 \rightarrow 1}$



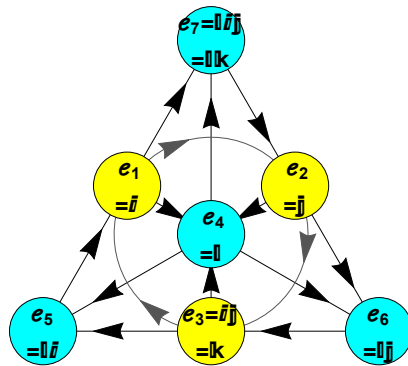
0apggsscc Ti
001000010₂ 22

flip=False

Triad fpi=3 D₈ R fp_sm=4→04H
{ {1, 2, 3}, {1, 4, 6}, {1, 7, 5},
{2, 4, 5}, {2, 6, 7}, {3, 4, 7}, {3, 5, 6} }

flat triad/mask bits
{1, 2, 3, 4, 6, 7, 5}
{0, 0, 1, 0, 0, 0, 0}

Fano plane



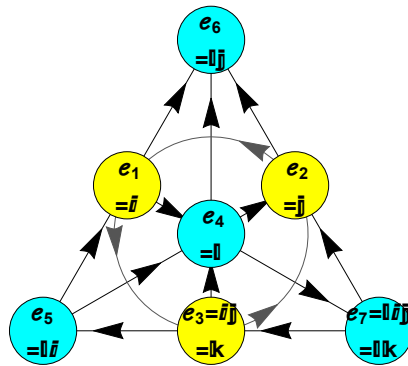
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & e_6 & -e_7 & -e_4 & e_5 \\ e_2 & -e_3 & -1 & e_1 & e_5 & -e_4 & e_7 & -e_6 \\ e_3 & e_2 & -e_1 & -1 & e_7 & e_6 & -e_5 & -e_4 \\ e_4 & -e_6 & -e_5 & -e_7 & -1 & e_2 & e_1 & e_3 \\ e_5 & e_7 & e_4 & -e_6 & -e_2 & -1 & e_3 & -e_1 \\ e_6 & e_4 & -e_7 & e_5 & -e_1 & -e_3 & -1 & e_2 \\ e_7 & -e_5 & e_6 & e_4 & -e_3 & e_1 & -e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=5 D₈ R fp_sm=7→0DH
{ {1, 3, 2}, {1, 4, 7}, {1, 6, 5},
{2, 5, 4}, {2, 6, 7}, {3, 4, 6}, {3, 5, 7} }

flat triad/mask bits
{1, **2**, **3**, 4, 7, 6, 5}
{1, 0, 1, 1, 0, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & e_7 & -e_6 & e_5 & -e_4 \\ e_2 & e_3 & -1 & -e_1 & -e_5 & e_4 & e_7 & -e_6 \\ e_3 & -e_2 & e_1 & -1 & e_6 & e_7 & -e_4 & -e_5 \\ e_4 & -e_7 & e_5 & -e_6 & -1 & -e_2 & e_3 & e_1 \\ e_5 & e_6 & -e_4 & -e_7 & e_2 & -1 & -e_1 & e_3 \\ e_6 & -e_5 & -e_7 & e_4 & -e_3 & e_1 & -1 & e_2 \\ e_7 & e_4 & e_6 & e_5 & -e_1 & -e_3 & -e_2 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

209

 $\overline{\mu}_{y_m} \xrightarrow{R} 0$


0apggsscc Cu
010101100₂ 29

flip=False

Triad fpi=16 D₈ L fp_sm=3→4EH

flat triad/mask bits

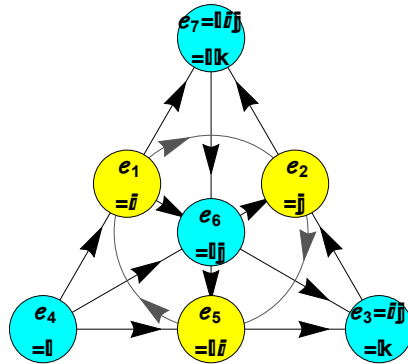
{ {1, 2, 5}, {1, 6, 3}, {1, 7, 4},

{1, 2, 5, 6, 3, 7, 4}

{2, 7, 3}, {2, 4, 6}, {3, 4, 5}, {5, 7, 6}}

{0, 1, 1, 1, 0, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & -e_6 & -e_7 & -e_2 & e_3 & e_4 \\ e_2 & -e_5 & -1 & -e_7 & e_6 & e_1 & -e_4 & e_3 \\ e_3 & e_6 & e_7 & -1 & e_5 & -e_4 & -e_1 & -e_2 \\ e_4 & e_7 & -e_6 & -e_5 & -1 & e_3 & e_2 & -e_1 \\ e_5 & e_2 & -e_1 & e_4 & -e_3 & -1 & -e_7 & e_6 \\ e_6 & -e_3 & e_4 & e_1 & -e_2 & e_7 & -1 & -e_5 \\ e_7 & -e_4 & -e_3 & e_2 & e_1 & -e_6 & e_5 & -1 \end{pmatrix}$$

flip=True

Triad fpi=15 D₈ L fp_sm=3→4EH

flat triad/mask bits

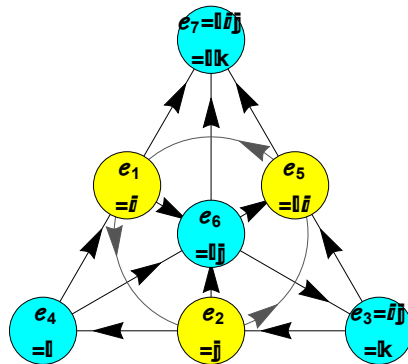
{ {1, 2, 5}, {1, 6, 3}, {1, 7, 4},

{1, 5, 2, 6, 3, 7, 4}

{2, 4, 3}, {2, 6, 7}, {3, 5, 7}, {4, 6, 5}}

{0, 1, 1, 1, 0, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & -e_6 & -e_7 & -e_2 & e_3 & e_4 \\ e_2 & -e_5 & -1 & -e_4 & e_3 & e_1 & e_7 & -e_6 \\ e_3 & e_6 & e_4 & -1 & -e_2 & e_7 & -e_1 & -e_5 \\ e_4 & e_7 & -e_3 & e_2 & -1 & -e_6 & e_5 & -e_1 \\ e_5 & e_2 & -e_1 & -e_7 & e_6 & -1 & -e_4 & e_3 \\ e_6 & -e_3 & -e_7 & e_1 & -e_5 & e_4 & -1 & e_2 \\ e_7 & -e_4 & e_6 & e_5 & e_1 & -e_3 & -e_2 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

210 $C_{\infty v}^{0 \rightarrow -1/3}$



0apggsscc Kr
001101001₂ 36

flip=False

Triad fpi=17 D₈ R fp_sm=8→21H

flat triad/mask bits

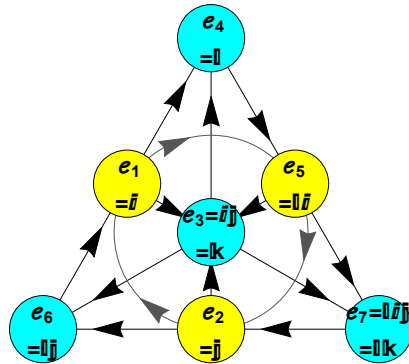
{{1, 5, 2}, {1, 3, 7}, {1, 4, 6},

{1, 5, 2, 3, 7, 4, 6}

{2, 3, 4}, {2, 6, 7}, {3, 6, 5}, {4, 5, 7}}

{1, 0, 0, 0, 0, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & e_7 & e_6 & e_2 & -e_4 & -e_3 \\ e_2 & e_5 & -1 & e_4 & -e_3 & -e_1 & e_7 & -e_6 \\ e_3 & -e_7 & -e_4 & -1 & e_2 & -e_6 & e_5 & e_1 \\ e_4 & -e_6 & e_3 & -e_2 & -1 & e_7 & e_1 & -e_5 \\ e_5 & -e_2 & e_1 & e_6 & -e_7 & -1 & -e_3 & e_4 \\ e_6 & e_4 & -e_7 & -e_5 & -e_1 & e_3 & -1 & e_2 \\ e_7 & e_3 & e_6 & -e_1 & e_5 & -e_4 & -e_2 & -1 \end{pmatrix}$$

flip=True

Triad fpi=19 D₈ R fp_sm=3→28H

flat triad/mask bits

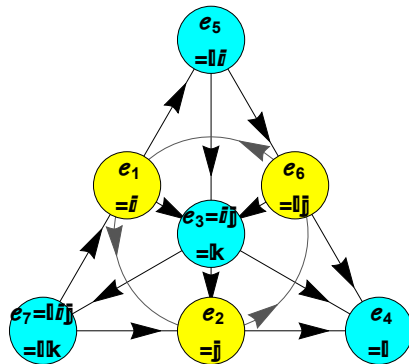
{{1, 2, 6}, {1, 3, 4}, {1, 5, 7},

{1, **6**, **2**, 3, 4, 5, 7}

{2, 5, 3}, {2, 4, 7}, {3, 7, 6}, {4, 5, 6}}

{0, 0, 0, 1, 0, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & e_4 & -e_3 & e_7 & -e_2 & -e_5 \\ e_2 & -e_6 & -1 & -e_5 & e_7 & e_3 & e_1 & -e_4 \\ e_3 & -e_4 & e_5 & -1 & e_1 & -e_2 & -e_7 & e_6 \\ e_4 & e_3 & -e_7 & -e_1 & -1 & e_6 & -e_5 & e_2 \\ e_5 & -e_7 & -e_3 & e_2 & -e_6 & -1 & e_4 & e_1 \\ e_6 & e_2 & -e_1 & e_7 & e_5 & -e_4 & -1 & -e_3 \\ e_7 & e_5 & e_4 & -e_6 & -e_2 & -e_1 & e_3 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

211 $C_{gm}^{0 \rightarrow -1/3}$



0apggsscc Mo
001101010₂ 42

flip=False

Triad fpi=18 D₈ R fp_sm=6→23H

flat triad/mask bits

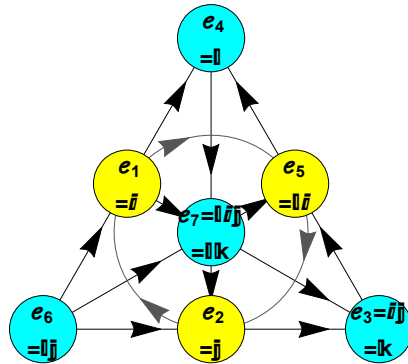
{{1, 5, 2}, {1, 7, 3}, {1, 4, 6},

{1, 5, 2, 7, 3, 4, 6}

{2, 3, 6}, {2, 4, 7}, {3, 5, 4}, {5, 6, 7}}

{1, 1, 0, 0, 0, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & -e_7 & e_6 & e_2 & -e_4 & e_3 \\ e_2 & e_5 & -1 & e_6 & e_7 & -e_1 & -e_3 & -e_4 \\ e_3 & e_7 & -e_6 & -1 & -e_5 & e_4 & e_2 & -e_1 \\ e_4 & -e_6 & -e_7 & e_5 & -1 & -e_3 & e_1 & e_2 \\ e_5 & -e_2 & e_1 & -e_4 & e_3 & -1 & e_7 & -e_6 \\ e_6 & e_4 & e_3 & -e_2 & -e_1 & -e_7 & -1 & e_5 \\ e_7 & -e_3 & e_4 & e_1 & -e_2 & e_6 & -e_5 & -1 \end{pmatrix}$$

flip=True

Triad fpi=20 D₈ R fp_sm=1→2AH

flat triad/mask bits

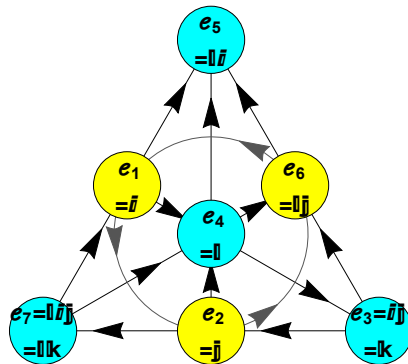
{{1, 2, 6}, {1, 4, 3}, {1, 5, 7},

{1, **6**, **2**, 4, 3, 5, 7}

{2, 7, 3}, {2, 4, 5}, {3, 6, 5}, {4, 6, 7}}

{0, 1, 0, 1, 0, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & -e_4 & e_3 & e_7 & -e_2 & -e_5 \\ e_2 & -e_6 & -1 & -e_7 & e_5 & -e_4 & e_1 & e_3 \\ e_3 & e_4 & e_7 & -1 & -e_1 & -e_6 & e_5 & -e_2 \\ e_4 & -e_3 & -e_5 & e_1 & -1 & e_2 & e_7 & -e_6 \\ e_5 & -e_7 & e_4 & e_6 & -e_2 & -1 & -e_3 & e_1 \\ e_6 & e_2 & -e_1 & -e_5 & -e_7 & e_3 & -1 & e_4 \\ e_7 & e_5 & -e_3 & e_2 & e_6 & -e_1 & -e_4 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

212 $\begin{smallmatrix} C \\ b_m \end{smallmatrix} \begin{smallmatrix} 2/3 \rightarrow -1/3 \\ L \end{smallmatrix}$



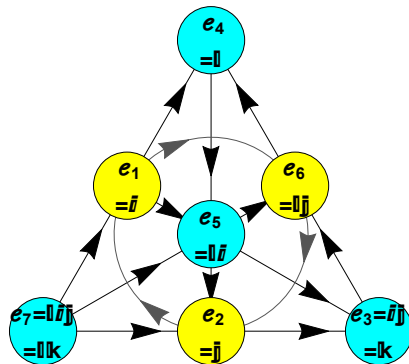
0apggsscc Ubn
001101011₂ 120

flip=False

Triad fpi=22 D₈ R fp_sm=6→23H
{ {1, 6, 2}, {1, 5, 3}, {1, 4, 7},
{2, 3, 7}, {2, 4, 5}, {3, 6, 4}, {5, 6, 7} }

flat triad/mask bits
{1, 6, 2, 5, 3, 4, 7}
{1, 1, 0, 0, 0, 1, 0}

Fano plane



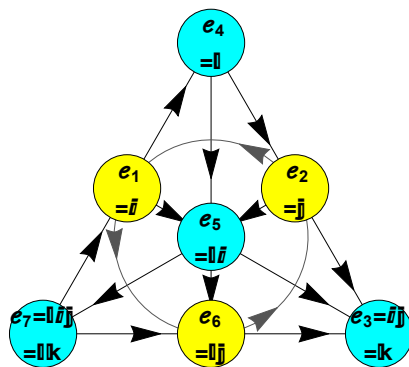
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & -e_5 & e_7 & e_3 & e_2 & -e_4 \\ e_2 & e_6 & -1 & e_7 & e_5 & -e_4 & -e_1 & -e_3 \\ e_3 & e_5 & -e_7 & -1 & -e_6 & -e_1 & e_4 & e_2 \\ e_4 & -e_7 & -e_5 & e_6 & -1 & e_2 & -e_3 & e_1 \\ e_5 & -e_3 & e_4 & e_1 & -e_2 & -1 & e_7 & -e_6 \\ e_6 & -e_2 & e_1 & -e_4 & e_3 & -e_7 & -1 & e_5 \\ e_7 & e_4 & e_3 & -e_2 & -e_1 & e_6 & -e_5 & -1 \end{pmatrix}$$

flip=True

Triad fpi=21 D₈ R fp_sm=6→23H
{ {1, 6, 2}, {1, 5, 3}, {1, 4, 7},
{2, 3, 4}, {2, 5, 7}, {3, 7, 6}, {4, 5, 6} }

flat triad/mask bits
{1, **2**, **6**, 5, 3, 4, 7}
{1, 1, 0, 0, 0, 1, 0}

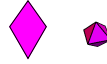
Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & -e_5 & e_7 & e_3 & e_2 & -e_4 \\ e_2 & e_6 & -1 & e_4 & -e_3 & e_7 & -e_1 & -e_5 \\ e_3 & e_5 & -e_4 & -1 & e_2 & -e_1 & -e_7 & e_6 \\ e_4 & -e_7 & e_3 & -e_2 & -1 & e_6 & -e_5 & e_1 \\ e_5 & -e_3 & -e_7 & e_1 & -e_6 & -1 & e_4 & e_2 \\ e_6 & -e_2 & e_1 & e_7 & e_5 & -e_4 & -1 & -e_3 \\ e_7 & e_4 & e_5 & -e_6 & -e_1 & -e_2 & e_3 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

213 $\overline{S}_{mm} \frac{1}{R}$



0apggsscc $\overline{BK}$
010101111₂ 97

flip=False

Triad fpi=22 D₈ L fp_sm=6→45H

flat triad/mask bits

{1, 6, 2}, {1, 3, 5}, {1, 7, 4},

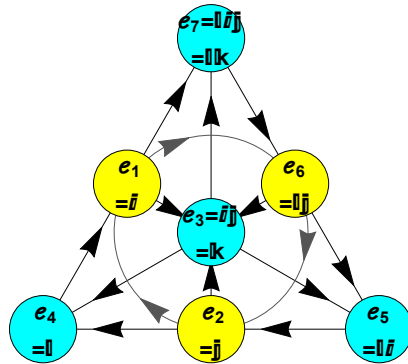
{1, 6, 2, 3, 5, 7, 4}

{2, 3, 7}, {2, 4, 5}, {3, 4, 6}, {5, 7, 6}}

{1, 0, 1, 0, 0, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & e_5 & -e_7 & -e_3 & e_2 & e_4 \\ e_2 & e_6 & -1 & e_7 & e_5 & -e_4 & -e_1 & -e_3 \\ e_3 & -e_5 & -e_7 & -1 & e_6 & e_1 & -e_4 & e_2 \\ e_4 & e_7 & -e_5 & -e_6 & -1 & e_2 & e_3 & -e_1 \\ e_5 & e_3 & e_4 & -e_1 & -e_2 & -1 & -e_7 & e_6 \\ e_6 & -e_2 & e_1 & e_4 & -e_3 & e_7 & -1 & -e_5 \\ e_7 & -e_4 & e_3 & -e_2 & e_1 & -e_6 & e_5 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=21 D₈ L fp_sm=6→45H

flat triad/mask bits

{1, 6, 2}, {1, 3, 5}, {1, 7, 4},

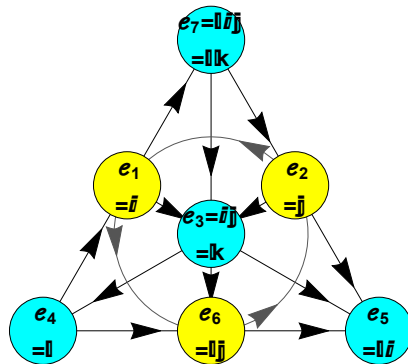
{1, **2**, **6**, 3, 5, 7, 4}

{2, 3, 4}, {2, 5, 7}, {3, 6, 7}, {4, 6, 5}}

{1, 0, 1, 0, 0, 0, 1}

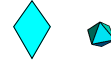
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & e_5 & -e_7 & -e_3 & e_2 & e_4 \\ e_2 & e_6 & -1 & e_4 & -e_3 & e_7 & -e_1 & -e_5 \\ e_3 & -e_5 & -e_4 & -1 & e_2 & e_1 & e_7 & -e_6 \\ e_4 & e_7 & e_3 & -e_2 & -1 & -e_6 & e_5 & -e_1 \\ e_5 & e_3 & -e_7 & -e_1 & e_6 & -1 & -e_4 & e_2 \\ e_6 & -e_2 & e_1 & -e_7 & -e_5 & e_4 & -1 & e_3 \\ e_7 & -e_4 & e_5 & e_6 & e_1 & -e_2 & -e_3 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

214 $\overline{S} \xrightarrow{+1/3}$
 $C_m R$



0apggsscc Tc
010101110₂ 43

flip=False

Triad fpi=18 D₈ L fp_sm=6→45H

flat triad/mask bits

{{1, 5, 2}, {1, 3, 7}, {1, 6, 4},

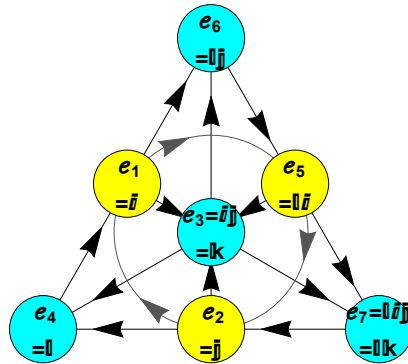
{1, 5, 2, 3, 7, 6, 4}

{2, 3, 6}, {2, 4, 7}, {3, 4, 5}, {5, 7, 6}}

{1, 0, 1, 0, 0, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & e_7 & -e_6 & e_2 & e_4 & -e_3 \\ e_2 & e_5 & -1 & e_6 & e_7 & -e_1 & -e_3 & -e_4 \\ e_3 & -e_7 & -e_6 & -1 & e_5 & -e_4 & e_2 & e_1 \\ e_4 & e_6 & -e_7 & -e_5 & -1 & e_3 & -e_1 & e_2 \\ e_5 & -e_2 & e_1 & e_4 & -e_3 & -1 & -e_7 & e_6 \\ e_6 & -e_4 & e_3 & -e_2 & e_1 & e_7 & -1 & -e_5 \\ e_7 & e_3 & e_4 & -e_1 & -e_2 & -e_6 & e_5 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=20 D₈ L fp_sm=1→4CH

flat triad/mask bits

{{1, 2, 6}, {1, 3, 4}, {1, 7, 5},

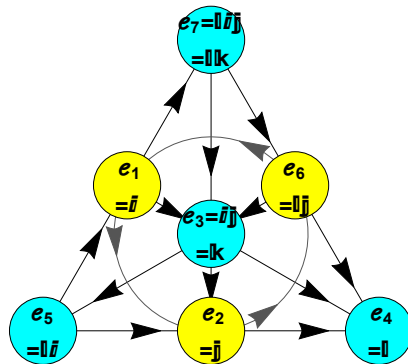
{1, 6, 2, 3, 4, 7, 5}

{2, 7, 3}, {2, 4, 5}, {3, 5, 6}, {4, 7, 6}}

{0, 0, 1, 1, 0, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & e_4 & -e_3 & -e_7 & -e_2 & e_5 \\ e_2 & -e_6 & -1 & -e_7 & e_5 & -e_4 & e_1 & e_3 \\ e_3 & -e_4 & e_7 & -1 & e_1 & e_6 & -e_5 & -e_2 \\ e_4 & e_3 & -e_5 & -e_1 & -1 & e_2 & -e_7 & e_6 \\ e_5 & e_7 & e_4 & -e_6 & -e_2 & -1 & e_3 & -e_1 \\ e_6 & e_2 & -e_1 & e_5 & e_7 & -e_3 & -1 & -e_4 \\ e_7 & -e_5 & -e_3 & e_2 & -e_6 & e_1 & e_4 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

215 $\overline{S}_{Om} \xrightarrow{+1/3} R$



0apggsscc In
010101101₂ 49

flip=False

Triad fpi=17 D₈ L fp_sm=8→47H

flat triad/mask bits

{{1, 5, 2}, {1, 7, 3}, {1, 6, 4},

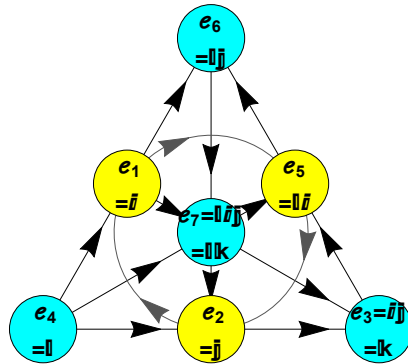
{1, 5, 2, 7, 3, 6, 4}

{2, 3, 4}, {2, 6, 7}, {3, 5, 6}, {4, 7, 5}}

{1, 1, 1, 0, 0, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & -e_7 & -e_6 & e_2 & e_4 & e_3 \\ e_2 & e_5 & -1 & e_4 & -e_3 & -e_1 & e_7 & -e_6 \\ e_3 & e_7 & -e_4 & -1 & e_2 & e_6 & -e_5 & -e_1 \\ e_4 & e_6 & e_3 & -e_2 & -1 & -e_7 & -e_1 & e_5 \\ e_5 & -e_2 & e_1 & -e_6 & e_7 & -1 & e_3 & -e_4 \\ e_6 & -e_4 & -e_7 & e_5 & e_1 & -e_3 & -1 & e_2 \\ e_7 & -e_3 & e_6 & e_1 & -e_5 & e_4 & -e_2 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=19 D₈ L fp_sm=3→4EH

flat triad/mask bits

{{1, 2, 6}, {1, 4, 3}, {1, 7, 5},

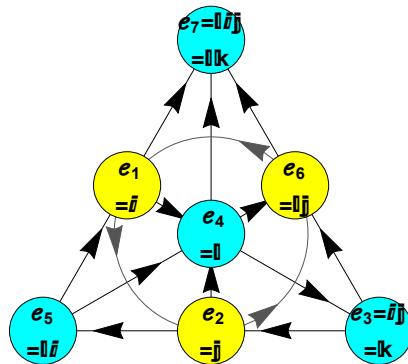
{1, **6**, **2**, 4, 3, 7, 5}

{2, 5, 3}, {2, 4, 7}, {3, 6, 7}, {4, 6, 5}}

{0, 1, 1, 1, 0, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & -e_4 & e_3 & -e_7 & -e_2 & e_5 \\ e_2 & -e_6 & -1 & -e_5 & e_7 & e_3 & e_1 & -e_4 \\ e_3 & e_4 & e_5 & -1 & -e_1 & -e_2 & e_7 & -e_6 \\ e_4 & -e_3 & -e_7 & e_1 & -1 & -e_6 & e_5 & e_2 \\ e_5 & e_7 & -e_3 & e_2 & e_6 & -1 & -e_4 & -e_1 \\ e_6 & e_2 & -e_1 & -e_7 & -e_5 & e_4 & -1 & e_3 \\ e_7 & -e_5 & e_4 & e_6 & -e_2 & e_1 & -e_3 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

216

 $\mathcal{V}_{w_m}^{\mu} \overset{0}{L}$


0apggsscc Cs
001101000₂ 55

flip=False

Triad fpi=16 D₈ R fp_sm=3→28H

flat triad/mask bits

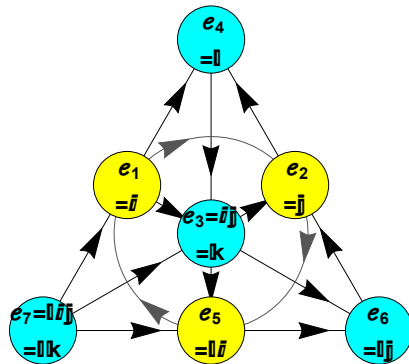
{{1, 2, 5}, {1, 3, 6}, {1, 4, 7},

{1, 2, 5, 3, 6, 4, 7}

{2, 7, 3}, {2, 4, 6}, {3, 5, 4}, {5, 6, 7}}

{0, 0, 0, 1, 0, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & e_6 & e_7 & -e_2 & -e_3 & -e_4 \\ e_2 & -e_5 & -1 & -e_7 & e_6 & e_1 & -e_4 & e_3 \\ e_3 & -e_6 & e_7 & -1 & -e_5 & e_4 & e_1 & -e_2 \\ e_4 & -e_7 & -e_6 & e_5 & -1 & -e_3 & e_2 & e_1 \\ e_5 & e_2 & -e_1 & -e_4 & e_3 & -1 & e_7 & -e_6 \\ e_6 & e_3 & e_4 & -e_1 & -e_2 & -e_7 & -1 & e_5 \\ e_7 & e_4 & -e_3 & e_2 & -e_1 & e_6 & -e_5 & -1 \end{pmatrix}$$

flip=True

Triad fpi=15 D₈ R fp_sm=3→28H

flat triad/mask bits

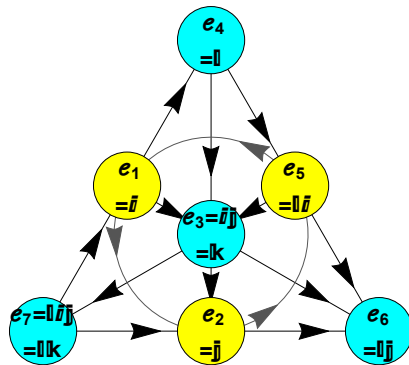
{{1, 2, 5}, {1, 3, 6}, {1, 4, 7},

{1, 5, 2, 3, 6, 4, 7}

{2, 4, 3}, {2, 6, 7}, {3, 7, 5}, {4, 5, 6}}

{0, 0, 0, 1, 0, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & e_6 & e_7 & -e_2 & -e_3 & -e_4 \\ e_2 & -e_5 & -1 & -e_4 & e_3 & e_1 & e_7 & -e_6 \\ e_3 & -e_6 & e_4 & -1 & -e_2 & -e_7 & e_1 & e_5 \\ e_4 & -e_7 & -e_3 & e_2 & -1 & e_6 & -e_5 & e_1 \\ e_5 & e_2 & -e_1 & e_7 & -e_6 & -1 & e_4 & -e_3 \\ e_6 & e_3 & -e_7 & -e_1 & e_5 & -e_4 & -1 & e_2 \\ e_7 & e_4 & e_6 & -e_5 & -e_1 & e_3 & -e_2 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

217 $\overline{e_s \phi}_{r_1} \overset{0 \rightarrow -1}{R}$



0apggsscc Sm
011000101₂ 62

flip=False

Triad fpi=2 D₈ R fp_sm=8→6DH

flat triad/mask bits

{{1, 3, 2}, {1, 4, 5}, {1, 7, 6},

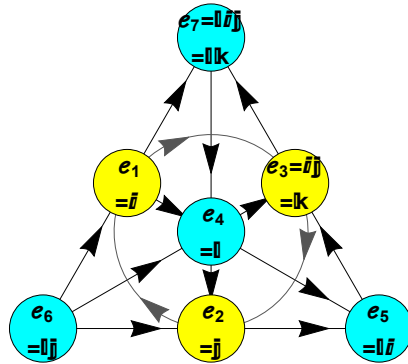
{1, 3, 2, 4, 5, 7, 6}

{2, 7, 4}, {2, 5, 6}, {3, 6, 4}, {3, 7, 5}}

{1, 0, 1, 1, 0, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & e_5 & -e_4 & -e_7 & e_6 \\ e_2 & e_3 & -1 & -e_1 & -e_7 & e_6 & -e_5 & e_4 \\ e_3 & -e_2 & e_1 & -1 & -e_6 & -e_7 & e_4 & e_5 \\ e_4 & -e_5 & e_7 & e_6 & -1 & e_1 & -e_3 & -e_2 \\ e_5 & e_4 & -e_6 & e_7 & -e_1 & -1 & e_2 & -e_3 \\ e_6 & e_7 & e_5 & -e_4 & e_3 & -e_2 & -1 & -e_1 \\ e_7 & -e_6 & -e_4 & -e_5 & e_2 & e_3 & e_1 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=1 D₈ R fp_sm=5→6EH

flat triad/mask bits

{{1, 2, 3}, {1, 5, 4}, {1, 7, 6},

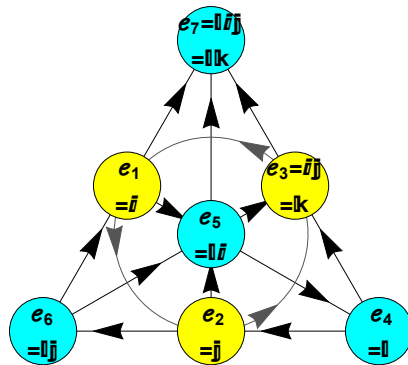
{1, 3, 2, 5, 4, 7, 6}

{2, 6, 4}, {2, 5, 7}, {3, 7, 4}, {3, 6, 5}}

{0, 1, 1, 1, 0, 1, 1}

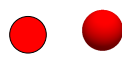
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & -e_5 & e_4 & -e_7 & e_6 \\ e_2 & -e_3 & -1 & e_1 & -e_6 & e_7 & e_4 & -e_5 \\ e_3 & e_2 & -e_1 & -1 & -e_7 & -e_6 & e_5 & e_4 \\ e_4 & e_5 & e_6 & e_7 & -1 & -e_1 & -e_2 & -e_3 \\ e_5 & -e_4 & -e_7 & e_6 & e_1 & -1 & -e_3 & e_2 \\ e_6 & e_7 & -e_4 & -e_5 & e_2 & e_3 & -1 & -e_1 \\ e_7 & -e_6 & e_5 & -e_4 & e_3 & -e_2 & e_1 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

218

 $e_s \phi_{r_m}^0$


0apggsscc Er
001001001₂ 68

flip=False

Triad fpi=1 D₈ R fp_sm=5→22H

flat triad/mask bits

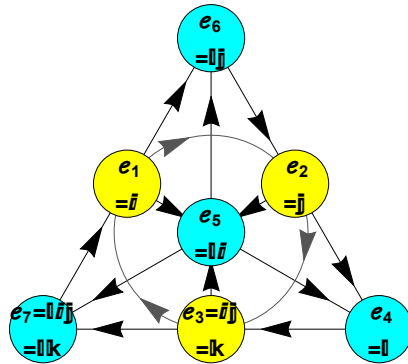
{1, 2, 3}, {1, 5, 4}, {1, 6, 7},

{1, 2, 3, 5, 4, 6, 7}

{2, 4, 6}, {2, 5, 7}, {3, 7, 4}, {3, 5, 6}}

{0, 1, 0, 0, 0, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & -e_5 & e_4 & e_7 & -e_6 \\ e_2 & -e_3 & -1 & e_1 & e_6 & e_7 & -e_4 & -e_5 \\ e_3 & e_2 & -e_1 & -1 & -e_7 & e_6 & -e_5 & e_4 \\ e_4 & e_5 & -e_6 & e_7 & -1 & -e_1 & e_2 & -e_3 \\ e_5 & -e_4 & -e_7 & -e_6 & e_1 & -1 & e_3 & e_2 \\ e_6 & -e_7 & e_4 & e_5 & -e_2 & -e_3 & -1 & e_1 \\ e_7 & e_6 & e_5 & -e_4 & e_3 & -e_2 & -e_1 & -1 \end{pmatrix}$$

flip=True

Triad fpi=2 D₈ R fp_sm=8→21H

flat triad/mask bits

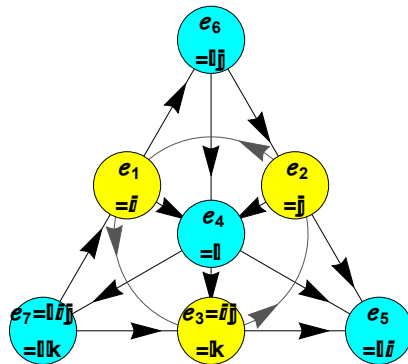
{1, 3, 2}, {1, 4, 5}, {1, 6, 7},

{1, 2, 3, 4, 5, 6, 7}

{2, 4, 7}, {2, 5, 6}, {3, 6, 4}, {3, 5, 7}}

{1, 0, 0, 0, 0, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & e_5 & -e_4 & e_7 & -e_6 \\ e_2 & e_3 & -1 & -e_1 & e_7 & e_6 & -e_5 & -e_4 \\ e_3 & -e_2 & e_1 & -1 & -e_6 & e_7 & e_4 & -e_5 \\ e_4 & -e_5 & -e_7 & e_6 & -1 & e_1 & -e_3 & e_2 \\ e_5 & e_4 & -e_6 & -e_7 & -e_1 & -1 & e_2 & e_3 \\ e_6 & -e_7 & e_5 & -e_4 & e_3 & -e_2 & -1 & e_1 \\ e_7 & e_6 & e_4 & e_5 & -e_2 & -e_3 & -e_1 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

219

 $\begin{matrix} W \\ b_m \\ R \end{matrix}$


0apggsscc W
001001111₂ 74

flip=False

Triad fpi=6 D₈ R fp_sm=6→3DH

flat triad/mask bits

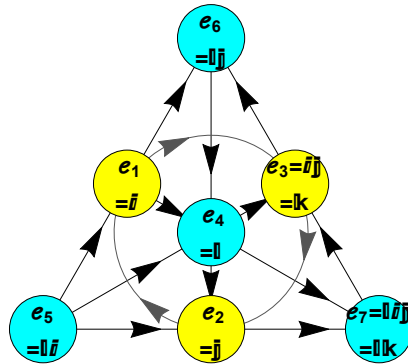
{ {1, 3, 2}, {1, 4, 7}, {1, 6, 5},

{1, 3, 2, 4, 7, 6, 5}

{2, 6, 4}, {2, 7, 5}, {3, 5, 4}, {3, 6, 7}}

{1, 0, 1, 1, 1, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & e_7 & -e_6 & e_5 & -e_4 \\ e_2 & e_3 & -1 & -e_1 & -e_6 & -e_7 & e_4 & e_5 \\ e_3 & -e_2 & e_1 & -1 & -e_5 & e_4 & e_7 & -e_6 \\ e_4 & -e_7 & e_6 & e_5 & -1 & -e_3 & -e_2 & e_1 \\ e_5 & e_6 & e_7 & -e_4 & e_3 & -1 & -e_1 & -e_2 \\ e_6 & -e_5 & -e_4 & -e_7 & e_2 & e_1 & -1 & e_3 \\ e_7 & e_4 & -e_5 & e_6 & -e_1 & e_2 & -e_3 & -1 \end{pmatrix}$$

flip=True

Triad fpi=9 D₈ R fp_sm=6→3DH

flat triad/mask bits

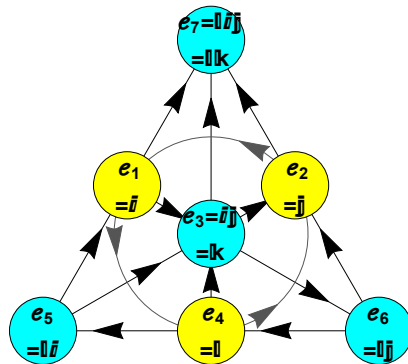
{ {1, 4, 2}, {1, 3, 6}, {1, 7, 5},

{1, 2, 4, 3, 6, 7, 5}

{2, 5, 3}, {2, 7, 6}, {3, 7, 4}, {4, 5, 6}}

{1, 0, 1, 1, 1, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & e_6 & e_2 & -e_7 & -e_3 & e_5 \\ e_2 & e_4 & -1 & -e_5 & -e_1 & e_3 & -e_7 & e_6 \\ e_3 & -e_6 & e_5 & -1 & -e_7 & -e_2 & e_1 & e_4 \\ e_4 & -e_2 & e_1 & e_7 & -1 & e_6 & -e_5 & -e_3 \\ e_5 & e_7 & -e_3 & e_2 & -e_6 & -1 & e_4 & -e_1 \\ e_6 & e_3 & e_7 & -e_1 & e_5 & -e_4 & -1 & -e_2 \\ e_7 & -e_5 & -e_6 & -e_4 & e_3 & e_1 & e_2 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

220 $\overline{U}_{r1}^{0 \rightarrow -2/3} \overline{R}$



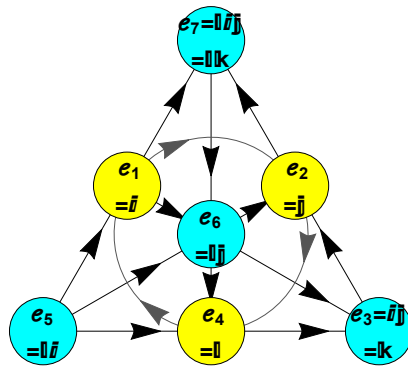
0apggsscc Rg
011010101₂ 111

flip=False

Triad fpi=10 BC₈ R fp_sm=5→6EH
{ {1, 2, 4}, {1, 6, 3}, {1, 7, 5},
{2, 7, 3}, {2, 5, 6}, {3, 5, 4}, {4, 7, 6} }

flat triad/mask bits
{1, 2, 4, 6, 3, 7, 5}
{0, 1, 1, 1, 0, 1, 1}

Fano plane



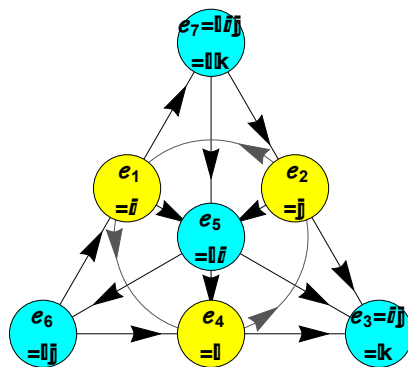
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & -e_6 & -e_2 & -e_7 & e_3 & e_5 \\ e_2 & -e_4 & -1 & -e_7 & e_1 & e_6 & -e_5 & e_3 \\ e_3 & e_6 & e_7 & -1 & -e_5 & e_4 & -e_1 & -e_2 \\ e_4 & e_2 & -e_1 & e_5 & -1 & -e_3 & -e_7 & e_6 \\ e_5 & e_7 & -e_6 & -e_4 & e_3 & -1 & e_2 & -e_1 \\ e_6 & -e_3 & e_5 & e_1 & e_7 & -e_2 & -1 & -e_4 \\ e_7 & -e_5 & -e_3 & e_2 & -e_6 & e_1 & e_4 & -1 \end{pmatrix}$$

flip=True

Triad fpi=8 BC₈ R fp_sm=2→67H
{ {1, 4, 2}, {1, 5, 3}, {1, 7, 6},
{2, 3, 7}, {2, 5, 6}, {3, 6, 4}, {4, 7, 5} }

flat triad/mask bits
{1, 2, 4, 5, 3, 7, 6}
{1, 1, 1, 0, 0, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & -e_5 & e_2 & e_3 & -e_7 & e_6 \\ e_2 & e_4 & -1 & e_7 & -e_1 & e_6 & -e_5 & -e_3 \\ e_3 & e_5 & -e_7 & -1 & -e_6 & -e_1 & e_4 & e_2 \\ e_4 & -e_2 & e_1 & e_6 & -1 & -e_7 & -e_3 & e_5 \\ e_5 & -e_3 & -e_6 & e_1 & e_7 & -1 & e_2 & -e_4 \\ e_6 & e_7 & e_5 & -e_4 & e_3 & -e_2 & -1 & -e_1 \\ e_7 & -e_6 & e_3 & -e_2 & -e_5 & e_4 & e_1 & -1 \end{pmatrix}$$

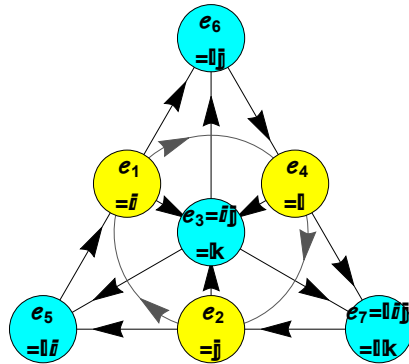
Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

221 $\overline{U}_{g1}^{0 \rightarrow -2/3} \mathbb{R}$  0apggsscc Mt
011010110₂ 109

flip=False

Triad fpi=12 BC₈ R fp_sm=4→65H flat triad/mask bits
{ {1, 4, 2}, {1, 3, 7}, {1, 6, 5}, {1, 4, 2, 3, 7, 6, 5}
{2, 3, 6}, {2, 5, 7}, {3, 5, 4}, {4, 7, 6}} {1, 0, 1, 0, 0, 1, 1}

Fano plane

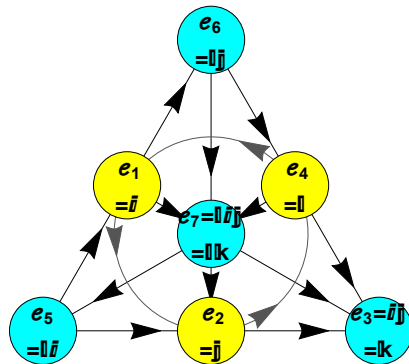


$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & e_7 & e_2 & -e_6 & e_5 & -e_3 \\ e_2 & e_4 & -1 & e_6 & -e_1 & e_7 & -e_3 & -e_5 \\ e_3 & -e_7 & -e_6 & -1 & -e_5 & e_4 & e_2 & e_1 \\ e_4 & -e_2 & e_1 & e_5 & -1 & -e_3 & -e_7 & e_6 \\ e_5 & e_6 & -e_7 & -e_4 & e_3 & -1 & -e_1 & e_2 \\ e_6 & -e_5 & e_3 & -e_2 & e_7 & e_1 & -1 & -e_4 \\ e_7 & e_3 & e_5 & -e_1 & -e_6 & -e_2 & e_4 & -1 \end{pmatrix}$$

flip=True

Triad fpi=11 BC₈ R fp_sm=1→66H flat triad/mask bits
{ {1, 2, 4}, {1, 7, 3}, {1, 6, 5}, {1, 4, 2, 7, 3, 6, 5}
{2, 3, 5}, {2, 6, 7}, {3, 6, 4}, {4, 7, 5}} {0, 1, 1, 0, 0, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & -e_7 & -e_2 & -e_6 & e_5 & e_3 \\ e_2 & -e_4 & -1 & e_5 & e_1 & -e_3 & e_7 & -e_6 \\ e_3 & e_7 & -e_5 & -1 & -e_6 & e_2 & e_4 & -e_1 \\ e_4 & e_2 & -e_1 & e_6 & -1 & -e_7 & -e_3 & e_5 \\ e_5 & e_6 & e_3 & -e_2 & e_7 & -1 & -e_1 & -e_4 \\ e_6 & -e_5 & -e_7 & -e_4 & e_3 & e_1 & -1 & e_2 \\ e_7 & -e_3 & e_6 & e_1 & -e_5 & e_4 & -e_2 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

222 $\bar{U}_{b1}^{-2/3} \bar{R}$



0apggsscc $\bar{Na}$
011010111₂ 11

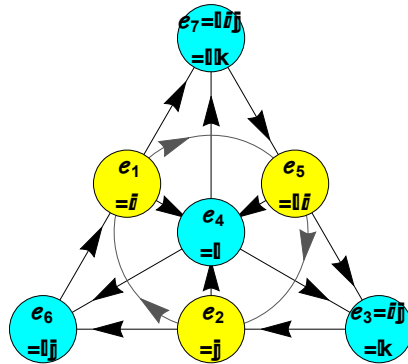
flip=False

Triad fpi=13 BC₈ R fp_sm=6→6FH
{ {1, 5, 2}, {1, 4, 3}, {1, 7, 6},
{2, 6, 3}, {2, 4, 7}, {3, 7, 5}, {4, 6, 5} }

flat triad/mask bits
{1, 5, 2, 4, 3, 7, 6}
{1, 1, 1, 1, 0, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & -e_4 & e_3 & e_2 & -e_7 & e_6 \\ e_2 & e_5 & -1 & -e_6 & e_7 & -e_1 & e_3 & -e_4 \\ e_3 & e_4 & e_6 & -1 & -e_1 & -e_7 & -e_2 & e_5 \\ e_4 & -e_3 & -e_7 & e_1 & -1 & -e_6 & e_5 & e_2 \\ e_5 & -e_2 & e_1 & e_7 & e_6 & -1 & -e_4 & -e_3 \\ e_6 & e_7 & -e_3 & e_2 & -e_5 & e_4 & -1 & -e_1 \\ e_7 & -e_6 & e_4 & -e_5 & -e_2 & e_3 & e_1 & -1 \end{pmatrix}$$

Fano plane



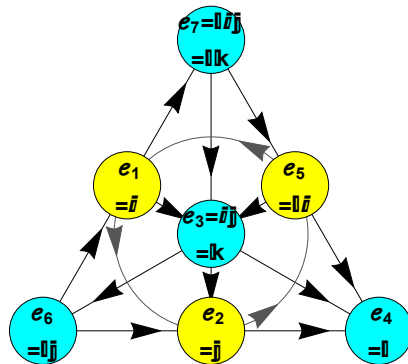
flip=True

Triad fpi=14 BC₈ R fp_sm=7→6CH
{ {1, 2, 5}, {1, 3, 4}, {1, 7, 6},
{2, 7, 3}, {2, 4, 6}, {3, 6, 5}, {4, 7, 5} }

flat triad/mask bits
{1, 5, 2, 3, 4, 7, 6}
{0, 0, 1, 1, 0, 1, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & e_4 & -e_3 & -e_2 & -e_7 & e_6 \\ e_2 & -e_5 & -1 & -e_7 & e_6 & e_1 & -e_4 & e_3 \\ e_3 & -e_4 & e_7 & -1 & e_1 & -e_6 & e_5 & -e_2 \\ e_4 & e_3 & -e_6 & -e_1 & -1 & -e_7 & e_2 & e_5 \\ e_5 & e_2 & -e_1 & e_6 & e_7 & -1 & -e_3 & -e_4 \\ e_6 & e_7 & e_4 & -e_5 & -e_2 & e_3 & -1 & -e_1 \\ e_7 & -e_6 & -e_3 & e_2 & -e_5 & e_4 & e_1 & -1 \end{pmatrix}$$

Fano plane



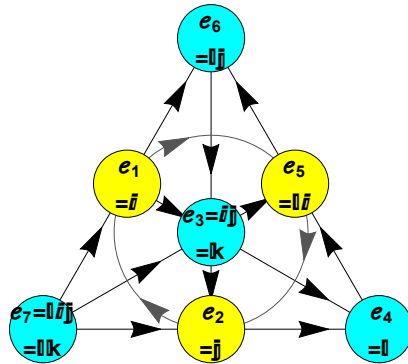
Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

223 $d_{\text{md}}^{-1/3}$   0apggsscc Hs
000010011₂ 108

flip=False

Triad fpi=13 BC₈ L fp_sm=6→09H flat triad/mask bits
{ {1, 5, 2}, {1, 3, 4}, {1, 6, 7}, {1, 5, 2, 3, 4, 6, 7}
{2, 6, 3}, {2, 4, 7}, {3, 5, 7}, {4, 5, 6} } {1, 0, 0, 1, 0, 0, 0}

Fano plane

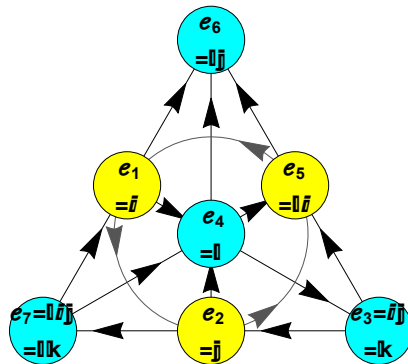


$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_5 & e_4 & -e_3 & e_2 & e_7 & -e_6 \\ e_2 & e_5 & -1 & -e_6 & e_7 & -e_1 & e_3 & -e_4 \\ e_3 & -e_4 & e_6 & -1 & e_1 & e_7 & -e_2 & -e_5 \\ e_4 & e_3 & -e_7 & -e_1 & -1 & e_6 & -e_5 & e_2 \\ e_5 & -e_2 & e_1 & -e_7 & -e_6 & -1 & e_4 & e_3 \\ e_6 & -e_7 & -e_3 & e_2 & e_5 & -e_4 & -1 & e_1 \\ e_7 & e_6 & e_4 & e_5 & -e_2 & -e_3 & -e_1 & -1 \end{pmatrix}$$

flip=True

Triad fpi=14 BC₈ L fp_sm=7→0AH flat triad/mask bits
{ {1, 2, 5}, {1, 4, 3}, {1, 6, 7}, {1, 5, 2, 4, 3, 6, 7}
{2, 7, 3}, {2, 4, 6}, {3, 5, 6}, {4, 5, 7} } {0, 1, 0, 1, 0, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_5 & -e_4 & e_3 & -e_2 & e_7 & -e_6 \\ e_2 & -e_5 & -1 & -e_7 & e_6 & e_1 & -e_4 & e_3 \\ e_3 & e_4 & e_7 & -1 & -e_1 & e_6 & -e_5 & -e_2 \\ e_4 & -e_3 & -e_6 & e_1 & -1 & e_7 & e_2 & -e_5 \\ e_5 & e_2 & -e_1 & -e_6 & -e_7 & -1 & e_3 & e_4 \\ e_6 & -e_7 & e_4 & e_5 & -e_2 & -e_3 & -1 & e_1 \\ e_7 & e_6 & -e_3 & e_2 & e_5 & -e_4 & -e_1 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

224 $d_{cd} \xrightarrow{-1/3} L$



0apggsscc $\overline{CI}$
000010010₂ 17

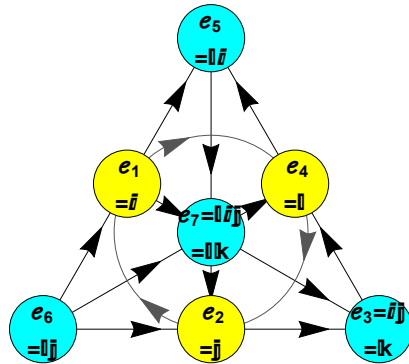
flip=False

Triad fpi=12 BC₈ L fp_sm=4→03H
{ {1, 4, 2}, {1, 7, 3}, {1, 5, 6},
{2, 3, 6}, {2, 5, 7}, {3, 4, 5}, {4, 6, 7} }

flat triad/mask bits
{1, 4, 2, 7, 3, 5, 6}
{1, 1, 0, 0, 0, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & -e_7 & e_2 & e_6 & -e_5 & e_3 \\ e_2 & e_4 & -1 & e_6 & -e_1 & e_7 & -e_3 & -e_5 \\ e_3 & e_7 & -e_6 & -1 & e_5 & -e_4 & e_2 & -e_1 \\ e_4 & -e_2 & e_1 & -e_5 & -1 & e_3 & e_7 & -e_6 \\ e_5 & -e_6 & -e_7 & e_4 & -e_3 & -1 & e_1 & e_2 \\ e_6 & e_5 & e_3 & -e_2 & -e_7 & -e_1 & -1 & e_4 \\ e_7 & -e_3 & e_5 & e_1 & e_6 & -e_2 & -e_4 & -1 \end{pmatrix}$$

Fano plane



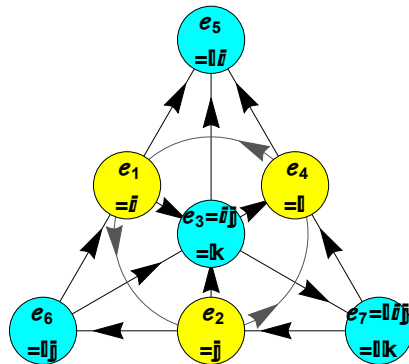
flip=True

Triad fpi=11 BC₈ L fp_sm=1→00H
{ {1, 2, 4}, {1, 3, 7}, {1, 5, 6},
{2, 3, 5}, {2, 6, 7}, {3, 4, 6}, {4, 5, 7} }

flat triad/mask bits
{1, 4, 2, 3, 7, 5, 6}
{0, 0, 0, 0, 0, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & e_7 & -e_2 & e_6 & -e_5 & -e_3 \\ e_2 & -e_4 & -1 & e_5 & e_1 & -e_3 & e_7 & -e_6 \\ e_3 & -e_7 & -e_5 & -1 & e_6 & e_2 & -e_4 & e_1 \\ e_4 & e_2 & -e_1 & -e_6 & -1 & e_7 & e_3 & -e_5 \\ e_5 & -e_6 & e_3 & -e_2 & -e_7 & -1 & e_1 & e_4 \\ e_6 & e_5 & -e_7 & e_4 & -e_3 & -e_1 & -1 & e_2 \\ e_7 & e_3 & e_6 & -e_1 & e_5 & -e_4 & -e_2 & -1 \end{pmatrix}$$

Fano plane



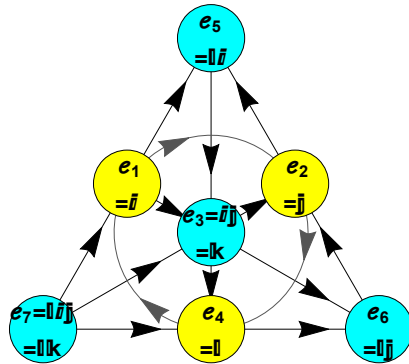
Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

225 $d_{\text{od}} \xrightarrow{-1/3} \bar{L}$  0apggsscc $\bar{V}$
000010001₂ 23

flip=False

Triad fpi=10 BC₈ L fp_sm=5→08H flat triad/mask bits
{ {1, 2, 4}, {1, 3, 6}, {1, 5, 7}, {1, 2, 4, 3, 6, 5, 7} }
{ {2, 7, 3}, {2, 5, 6}, {3, 4, 5}, {4, 6, 7} } {0, 0, 0, 1, 0, 0, 0}

Fano plane

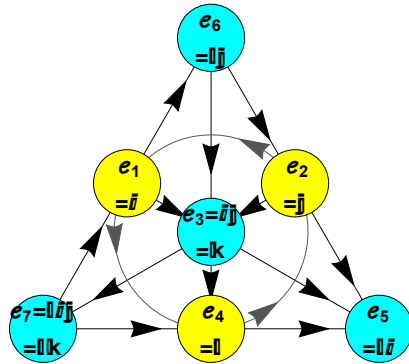


$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & e_6 & -e_2 & e_7 & -e_3 & -e_5 \\ e_2 & -e_4 & -1 & -e_7 & e_1 & e_6 & -e_5 & e_3 \\ e_3 & -e_6 & e_7 & -1 & e_5 & -e_4 & e_1 & -e_2 \\ e_4 & e_2 & -e_1 & -e_5 & -1 & e_3 & e_7 & -e_6 \\ e_5 & -e_7 & -e_6 & e_4 & -e_3 & -1 & e_2 & e_1 \\ e_6 & e_3 & e_5 & -e_1 & -e_7 & -e_2 & -1 & e_4 \\ e_7 & e_5 & -e_3 & e_2 & e_6 & -e_1 & -e_4 & -1 \end{pmatrix}$$

flip=True

Triad fpi=8 BC₈ L fp_sm=2→01H flat triad/mask bits
{ {1, 4, 2}, {1, 3, 5}, {1, 6, 7}, {1, 2, 4, 3, 5, 6, 7} }
{ {2, 3, 7}, {2, 5, 6}, {3, 4, 6}, {4, 5, 7} } {1, 0, 0, 0, 0, 0, 0}

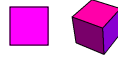
Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & e_5 & e_2 & -e_3 & e_7 & -e_6 \\ e_2 & e_4 & -1 & e_7 & -e_1 & e_6 & -e_5 & -e_3 \\ e_3 & -e_5 & -e_7 & -1 & e_6 & e_1 & -e_4 & e_2 \\ e_4 & -e_2 & e_1 & -e_6 & -1 & e_7 & e_3 & -e_5 \\ e_5 & e_3 & -e_6 & -e_1 & -e_7 & -1 & e_2 & e_4 \\ e_6 & -e_7 & e_5 & e_4 & -e_3 & -e_2 & -1 & e_1 \\ e_7 & e_6 & e_3 & -e_2 & e_5 & -e_4 & -e_1 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

226 $b_{\frac{1}{3} \rightarrow 2/3}$
 m_R



0apggsscc Db
000111111₂ 105

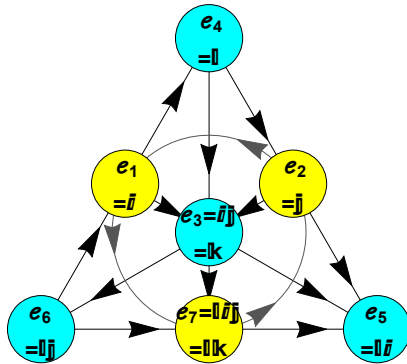
flip=False

Triad fpi=28 BC₈ L fp_sm=3→31H
{ {1, 7, 2}, {1, 3, 5}, {1, 4, 6},
{2, 3, 6}, {2, 5, 4}, {3, 7, 4}, {5, 6, 7} }

flat triad/mask bits
{1, **2**, **7**, 3, 5, 4, 6}
{1, 0, 0, 0, 1, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & e_5 & e_6 & -e_3 & -e_4 & e_2 \\ e_2 & e_7 & -1 & e_6 & -e_5 & e_4 & -e_3 & -e_1 \\ e_3 & -e_5 & -e_6 & -1 & -e_7 & e_1 & e_2 & e_4 \\ e_4 & -e_6 & e_5 & e_7 & -1 & -e_2 & e_1 & -e_3 \\ e_5 & e_3 & -e_4 & -e_1 & e_2 & -1 & e_7 & -e_6 \\ e_6 & e_4 & e_3 & -e_2 & -e_1 & -e_7 & -1 & e_5 \\ e_7 & -e_2 & e_1 & -e_4 & e_3 & e_6 & -e_5 & -1 \end{pmatrix}$$

Fano plane



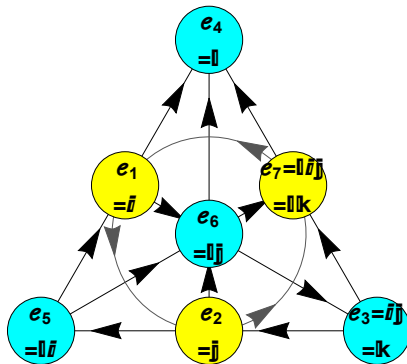
flip=True

Triad fpi=30 BC₈ L fp_sm=6→3AH
{ {1, 2, 7}, {1, 6, 3}, {1, 4, 5},
{2, 5, 3}, {2, 6, 4}, {3, 7, 4}, {5, 6, 7} }

flat triad/mask bits
{1, **7**, **2**, 6, 3, 4, 5}
{0, 1, 0, 1, 1, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & -e_6 & e_5 & -e_4 & e_3 & -e_2 \\ e_2 & -e_7 & -1 & -e_5 & -e_6 & e_3 & e_4 & e_1 \\ e_3 & e_6 & e_5 & -1 & -e_7 & -e_2 & -e_1 & e_4 \\ e_4 & -e_5 & e_6 & e_7 & -1 & e_1 & -e_2 & -e_3 \\ e_5 & e_4 & -e_3 & e_2 & -e_1 & -1 & e_7 & -e_6 \\ e_6 & -e_3 & -e_4 & e_1 & e_2 & -e_7 & -1 & e_5 \\ e_7 & e_2 & -e_1 & -e_4 & e_3 & e_6 & -e_5 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

227 $b_{C_m} \xrightarrow{2/3} R$



0apggsscc $\overline{Mn}$
000111110₂ 25

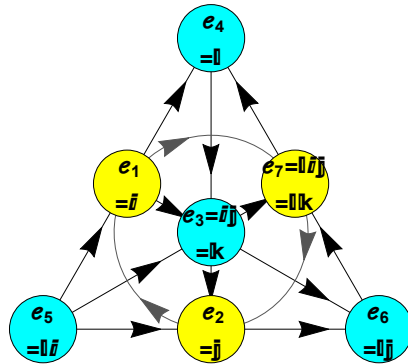
flip=False

Triad fpi=29 BC₈ L fp_sm=7→39H
{ {1, 7, 2}, {1, 3, 6}, {1, 4, 5},
{2, 4, 3}, {2, 6, 5}, {3, 7, 5}, {4, 6, 7} }

flat triad/mask bits
{1, 7, 2, 3, 6, 4, 5}
{1, 0, 0, 1, 1, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & e_6 & e_5 & -e_4 & -e_3 & e_2 \\ e_2 & e_7 & -1 & -e_4 & e_3 & -e_6 & e_5 & -e_1 \\ e_3 & -e_6 & e_4 & -1 & -e_2 & -e_7 & e_1 & e_5 \\ e_4 & -e_5 & -e_3 & e_2 & -1 & e_1 & e_7 & -e_6 \\ e_5 & e_4 & e_6 & e_7 & -e_1 & -1 & -e_2 & -e_3 \\ e_6 & e_3 & -e_5 & -e_1 & -e_7 & e_2 & -1 & e_4 \\ e_7 & -e_2 & e_1 & -e_5 & e_6 & e_3 & -e_4 & -1 \end{pmatrix}$$

Fano plane



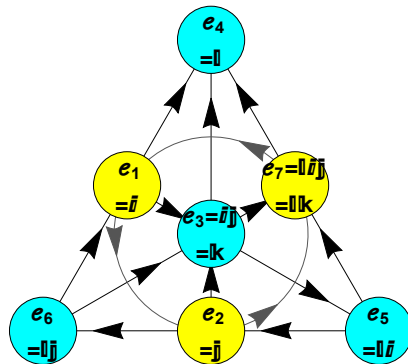
flip=True

Triad fpi=27 BC₈ L fp_sm=4→30H
{ {1, 2, 7}, {1, 3, 5}, {1, 4, 6},
{2, 3, 4}, {2, 6, 5}, {3, 7, 6}, {4, 5, 7} }

flat triad/mask bits
{1, 7, 2, 3, 5, 4, 6}
{0, 0, 0, 0, 1, 1, 0}

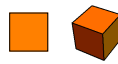
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & e_5 & e_6 & -e_3 & -e_4 & -e_2 \\ e_2 & -e_7 & -1 & e_4 & -e_3 & -e_6 & e_5 & e_1 \\ e_3 & -e_5 & -e_4 & -1 & e_2 & e_1 & -e_7 & e_6 \\ e_4 & -e_6 & e_3 & -e_2 & -1 & e_7 & e_1 & -e_5 \\ e_5 & e_3 & e_6 & -e_1 & -e_7 & -1 & -e_2 & e_4 \\ e_6 & e_4 & -e_5 & e_7 & -e_1 & e_2 & -1 & -e_3 \\ e_7 & e_2 & -e_1 & -e_6 & e_5 & -e_4 & e_3 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

228 $b_{Om} \xrightarrow{2/3} R$



0apggsscc $\overline{Ga}$
000111101₂ 31

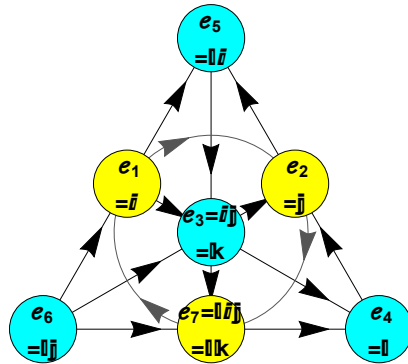
flip=False

Triad fpi=26 BC₈ L fp_sm=8→38H
{ {1, 2, 7}, {1, 3, 4}, {1, 5, 6},
{2, 6, 3}, {2, 5, 4}, {3, 7, 5}, {4, 6, 7} }

flat triad/mask bits
{1, 2, 7, 3, 4, 5, 6}
{0, 0, 0, 1, 1, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & e_4 & -e_3 & e_6 & -e_5 & -e_2 \\ e_2 & -e_7 & -1 & -e_6 & -e_5 & e_4 & e_3 & e_1 \\ e_3 & -e_4 & e_6 & -1 & e_1 & -e_7 & -e_2 & e_5 \\ e_4 & e_3 & e_5 & -e_1 & -1 & -e_2 & e_7 & -e_6 \\ e_5 & -e_6 & -e_4 & e_7 & e_2 & -1 & e_1 & -e_3 \\ e_6 & e_5 & -e_3 & e_2 & -e_7 & -e_1 & -1 & e_4 \\ e_7 & e_2 & -e_1 & -e_5 & e_6 & e_3 & -e_4 & -1 \end{pmatrix}$$

Fano plane



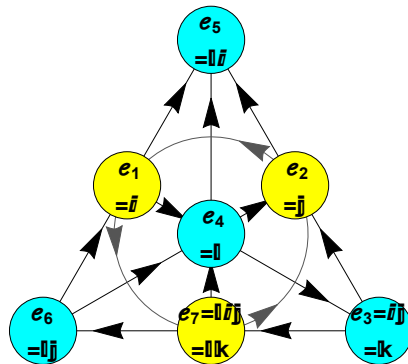
flip=True

Triad fpi=25 BC₈ L fp_sm=5→3BH
{ {1, 7, 2}, {1, 4, 3}, {1, 5, 6},
{2, 5, 3}, {2, 6, 4}, {3, 7, 6}, {4, 5, 7} }

flat triad/mask bits
{1, 2, 7, 4, 3, 5, 6}
{1, 1, 0, 1, 1, 1, 0}

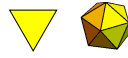
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & -e_4 & e_3 & e_6 & -e_5 & e_2 \\ e_2 & e_7 & -1 & -e_5 & -e_6 & e_3 & e_4 & -e_1 \\ e_3 & e_4 & e_5 & -1 & -e_1 & -e_2 & -e_7 & e_6 \\ e_4 & -e_3 & e_6 & e_1 & -1 & e_7 & -e_2 & -e_5 \\ e_5 & -e_6 & -e_3 & e_2 & -e_7 & -1 & e_1 & e_4 \\ e_6 & e_5 & -e_4 & e_7 & e_2 & -e_1 & -1 & -e_3 \\ e_7 & -e_2 & e_1 & -e_6 & e_5 & -e_4 & e_3 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

229

 $\overline{\mathcal{U}}_{ym}^+ \mathbb{R}$ 

0apggsscc $\overline{\mathbb{R}\mathbb{b}}$
010111100₂ 37

flip=False

Triad fpi=24 BC₈ L fp_sm=3→4EH

flat triad/mask bits

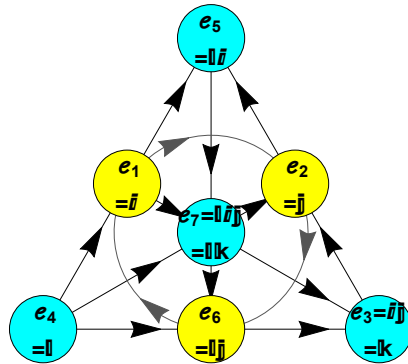
{ {1, 2, 6}, {1, 7, 3}, {1, 5, 4},

{1, 2, 6, 7, 3, 5, 4}

{2, 5, 3}, {2, 4, 7}, {3, 4, 6}, {5, 7, 6}}

{0, 1, 1, 1, 0, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & -e_7 & -e_5 & e_4 & -e_2 & e_3 \\ e_2 & -e_6 & -1 & -e_5 & e_7 & e_3 & e_1 & -e_4 \\ e_3 & e_7 & e_5 & -1 & e_6 & -e_2 & -e_4 & -e_1 \\ e_4 & e_5 & -e_7 & -e_6 & -1 & -e_1 & e_3 & e_2 \\ e_5 & -e_4 & -e_3 & e_2 & e_1 & -1 & -e_7 & e_6 \\ e_6 & e_2 & -e_1 & e_4 & -e_3 & e_7 & -1 & -e_5 \\ e_7 & -e_3 & e_4 & e_1 & -e_2 & -e_6 & e_5 & -1 \end{pmatrix}$$

flip=True

Triad fpi=23 BC₈ L fp_sm=2→4DH

flat triad/mask bits

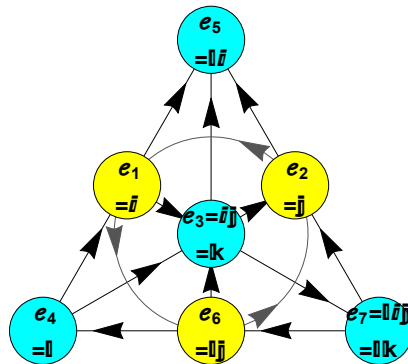
{ {1, 6, 2}, {1, 3, 7}, {1, 5, 4},

{1, 2, 6, 3, 7, 5, 4}

{2, 4, 3}, {2, 5, 7}, {3, 5, 6}, {4, 7, 6}}

{1, 0, 1, 1, 0, 0, 1}

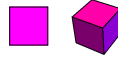
Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & e_7 & -e_5 & e_4 & e_2 & -e_3 \\ e_2 & e_6 & -1 & -e_4 & e_3 & e_7 & -e_1 & -e_5 \\ e_3 & -e_7 & e_4 & -1 & -e_2 & e_6 & -e_5 & e_1 \\ e_4 & e_5 & -e_3 & e_2 & -1 & -e_1 & -e_7 & e_6 \\ e_5 & -e_4 & -e_7 & -e_6 & e_1 & -1 & e_3 & e_2 \\ e_6 & -e_2 & e_1 & e_5 & e_7 & -e_3 & -1 & -e_4 \\ e_7 & e_3 & e_5 & -e_1 & -e_6 & -e_2 & e_4 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

230

 $b_m^{-1/3}$ 

0apggsscc No
000111011₂ 102

flip=False

Triad fpi=28 BC₈ L fp_sm=3→2FH

flat triad/mask bits

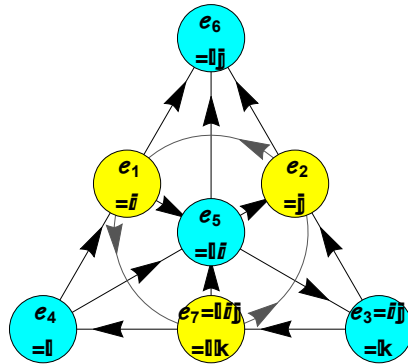
{ {1, 7, 2}, {1, 5, 3}, {1, 6, 4},

{1, 2, 7, 5, 3, 6, 4}

{2, 6, 3}, {2, 4, 5}, {3, 7, 4}, {5, 6, 7}}

{1, 1, 1, 1, 0, 1, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & -e_5 & -e_6 & e_3 & e_4 & e_2 \\ e_2 & e_7 & -1 & -e_6 & e_5 & -e_4 & e_3 & -e_1 \\ e_3 & e_5 & e_6 & -1 & -e_7 & -e_1 & -e_2 & e_4 \\ e_4 & e_6 & -e_5 & e_7 & -1 & e_2 & -e_1 & -e_3 \\ e_5 & -e_3 & e_4 & e_1 & -e_2 & -1 & e_7 & -e_6 \\ e_6 & -e_4 & -e_3 & e_2 & e_1 & -e_7 & -1 & e_5 \\ e_7 & -e_2 & e_1 & -e_4 & e_3 & e_6 & -e_5 & -1 \end{pmatrix}$$

flip=True

Triad fpi=30 BC₈ L fp_sm=6→24H

flat triad/mask bits

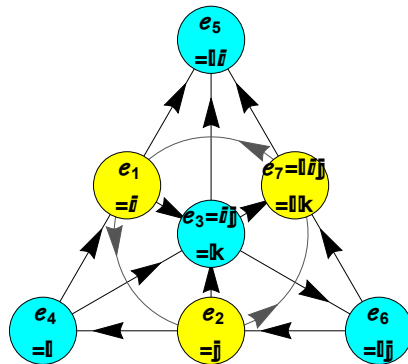
{ {1, 2, 7}, {1, 3, 6}, {1, 5, 4},

{1, 7, 2, 3, 6, 5, 4}

{2, 3, 5}, {2, 4, 6}, {3, 7, 4}, {5, 6, 7}}

{0, 0, 1, 0, 0, 1, 0}

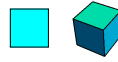
Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & e_6 & -e_5 & e_4 & -e_3 & -e_2 \\ e_2 & -e_7 & -1 & e_5 & e_6 & -e_3 & -e_4 & e_1 \\ e_3 & -e_6 & -e_5 & -1 & -e_7 & e_2 & e_1 & e_4 \\ e_4 & e_5 & -e_6 & e_7 & -1 & -e_1 & e_2 & -e_3 \\ e_5 & -e_4 & e_3 & -e_2 & e_1 & -1 & e_7 & -e_6 \\ e_6 & e_3 & e_4 & -e_1 & -e_2 & -e_7 & -1 & e_5 \\ e_7 & e_2 & -e_1 & -e_4 & e_3 & e_6 & -e_5 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

231 $b_{cm} \xrightarrow{-1/3} \bar{L}$



0apggsscc $\overline{As}$
000111010₂ 33

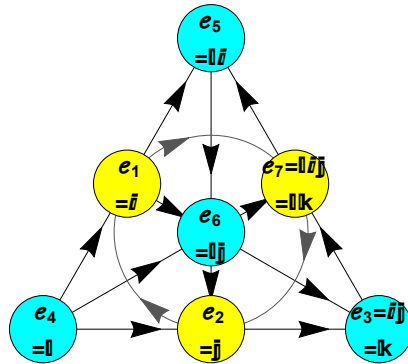
flip=False

Triad fpi=29 BC₈ L fp_sm=7→27H
{ {1, 7, 2}, {1, 6, 3}, {1, 5, 4},
{2, 3, 4}, {2, 5, 6}, {3, 7, 5}, {4, 6, 7} }

flat triad/mask bits
{1, 7, 2, 6, 3, 5, 4}
{1, 1, 1, 0, 0, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & -e_6 & -e_5 & e_4 & e_3 & e_2 \\ e_2 & e_7 & -1 & e_4 & -e_3 & e_6 & -e_5 & -e_1 \\ e_3 & e_6 & -e_4 & -1 & e_2 & -e_7 & -e_1 & e_5 \\ e_4 & e_5 & e_3 & -e_2 & -1 & -e_1 & e_7 & -e_6 \\ e_5 & -e_4 & -e_6 & e_7 & e_1 & -1 & e_2 & -e_3 \\ e_6 & -e_3 & e_5 & e_1 & -e_7 & -e_2 & -1 & e_4 \\ e_7 & -e_2 & e_1 & -e_5 & e_6 & e_3 & -e_4 & -1 \end{pmatrix}$$

Fano plane



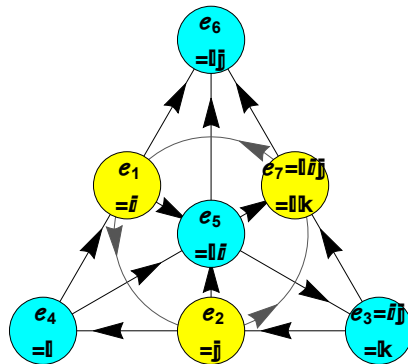
flip=True

Triad fpi=27 BC₈ L fp_sm=4→2EH
{ {1, 2, 7}, {1, 5, 3}, {1, 6, 4},
{2, 4, 3}, {2, 5, 6}, {3, 7, 6}, {4, 5, 7} }

flat triad/mask bits
{1, 7, 2, 5, 3, 6, 4}
{0, 1, 1, 1, 0, 1, 0}

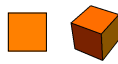
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & -e_5 & -e_6 & e_3 & e_4 & -e_2 \\ e_2 & -e_7 & -1 & -e_4 & e_3 & e_6 & -e_5 & e_1 \\ e_3 & e_5 & e_4 & -1 & -e_2 & -e_1 & -e_7 & e_6 \\ e_4 & e_6 & -e_3 & e_2 & -1 & e_7 & -e_1 & -e_5 \\ e_5 & -e_3 & -e_6 & e_1 & -e_7 & -1 & e_2 & e_4 \\ e_6 & -e_4 & e_5 & e_7 & e_1 & -e_2 & -1 & -e_3 \\ e_7 & e_2 & -e_1 & -e_6 & e_5 & -e_4 & e_3 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

232 $b_{om} \xrightarrow{-1/3} \bar{l}$



0apggsscc $\bar{Y}$
000111001₂ 39

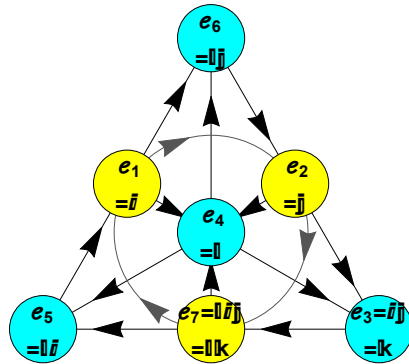
flip=False

Triad fpi=26 BC₈ L fp_sm=8→26H
{ {1, 2, 7}, {1, 4, 3}, {1, 6, 5},
{2, 3, 6}, {2, 4, 5}, {3, 7, 5}, {4, 6, 7} }

flat triad/mask bits
{1, 2, 7, 4, 3, 6, 5}
{0, 1, 1, 0, 0, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & -e_4 & e_3 & -e_6 & e_5 & -e_2 \\ e_2 & -e_7 & -1 & e_6 & e_5 & -e_4 & -e_3 & e_1 \\ e_3 & e_4 & -e_6 & -1 & -e_1 & -e_7 & e_2 & e_5 \\ e_4 & -e_3 & -e_5 & e_1 & -1 & e_2 & e_7 & -e_6 \\ e_5 & e_6 & e_4 & e_7 & -e_2 & -1 & -e_1 & -e_3 \\ e_6 & -e_5 & e_3 & -e_2 & -e_7 & e_1 & -1 & e_4 \\ e_7 & e_2 & -e_1 & -e_5 & e_6 & e_3 & -e_4 & -1 \end{pmatrix}$$

Fano plane



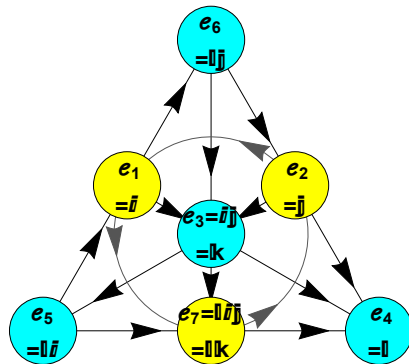
flip=True

Triad fpi=25 BC₈ L fp_sm=5→25H
{ {1, 7, 2}, {1, 3, 4}, {1, 6, 5},
{2, 3, 5}, {2, 4, 6}, {3, 7, 6}, {4, 5, 7} }

flat triad/mask bits
{1, 2, 7, 3, 4, 6, 5}
{1, 0, 1, 0, 0, 1, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & e_4 & -e_3 & -e_6 & e_5 & e_2 \\ e_2 & e_7 & -1 & e_5 & e_6 & -e_3 & -e_4 & -e_1 \\ e_3 & -e_4 & -e_5 & -1 & e_1 & e_2 & -e_7 & e_6 \\ e_4 & e_3 & -e_6 & -e_1 & -1 & e_7 & e_2 & -e_5 \\ e_5 & e_6 & e_3 & -e_2 & -e_7 & -1 & -e_1 & e_4 \\ e_6 & -e_5 & e_4 & e_7 & -e_2 & e_1 & -1 & -e_3 \\ e_7 & -e_2 & e_1 & -e_6 & e_5 & -e_4 & e_3 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

233

 $\overline{V_L}^0 R$
 W_m


0apggsscc $\overline{Rh}$
 011111100₂ 45

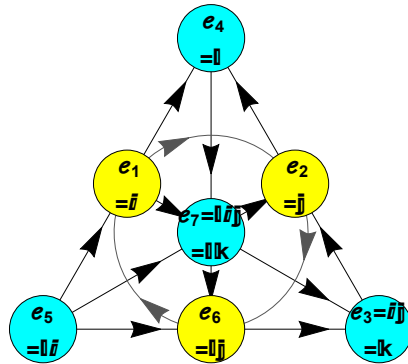
flip=False

Triad fpi=23 BC₈ R fp_sm=2→4AH
 {{1, 2, 6}, {1, 7, 3}, {1, 4, 5},
 {2, 4, 3}, {2, 5, 7}, {3, 5, 6}, {4, 7, 6}}

flat triad/mask bits
 {1, 2, 6, 7, 3, 4, 5}
 {0, 1, 0, 1, 0, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & -e_7 & e_5 & -e_4 & -e_2 & e_3 \\ e_2 & -e_6 & -1 & -e_4 & e_3 & e_7 & e_1 & -e_5 \\ e_3 & e_7 & e_4 & -1 & -e_2 & e_6 & -e_5 & -e_1 \\ e_4 & -e_5 & -e_3 & e_2 & -1 & e_1 & -e_7 & e_6 \\ e_5 & e_4 & -e_7 & -e_6 & -e_1 & -1 & e_3 & e_2 \\ e_6 & e_2 & -e_1 & e_5 & e_7 & -e_3 & -1 & -e_4 \\ e_7 & -e_3 & e_5 & e_1 & -e_6 & -e_2 & e_4 & -1 \end{pmatrix}$$

Fano plane



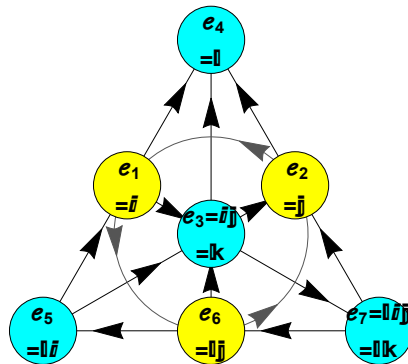
flip=True

Triad fpi=24 BC₈ R fp_sm=3→49H
 {{1, 6, 2}, {1, 3, 7}, {1, 4, 5},
 {2, 5, 3}, {2, 4, 7}, {3, 4, 6}, {5, 7, 6}}

flat triad/mask bits
 {1, 2, 6, 3, 7, 4, 5}
 {1, 0, 0, 1, 0, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & e_7 & e_5 & -e_4 & e_2 & -e_3 \\ e_2 & e_6 & -1 & -e_5 & e_7 & e_3 & -e_1 & -e_4 \\ e_3 & -e_7 & e_5 & -1 & e_6 & -e_2 & -e_4 & e_1 \\ e_4 & -e_5 & -e_7 & -e_6 & -1 & e_1 & e_3 & e_2 \\ e_5 & e_4 & -e_3 & e_2 & -e_1 & -1 & -e_7 & e_6 \\ e_6 & -e_2 & e_1 & e_4 & -e_3 & e_7 & -1 & -e_5 \\ e_7 & e_3 & e_4 & -e_1 & -e_2 & -e_6 & e_5 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

234

 $\overline{e}_{y_1}^+ R$ 

0apggsscc
010010100₂

$\overline{\text{Te}}$
52

flip=False

Triad fpi=4 BC₈ L fp_sm=3→63H

flat triad/mask bits

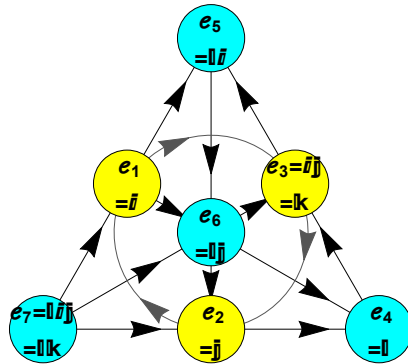
{ {1, 3, 2}, {1, 6, 4}, {1, 5, 7},

{1, 3, 2, 6, 4, 5, 7}

{2, 4, 7}, {2, 5, 6}, {3, 5, 4}, {3, 7, 6}}

{1, 1, 0, 0, 0, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & -e_6 & e_7 & e_4 & -e_5 \\ e_2 & e_3 & -1 & -e_1 & e_7 & e_6 & -e_5 & -e_4 \\ e_3 & -e_2 & e_1 & -1 & -e_5 & e_4 & -e_7 & e_6 \\ e_4 & e_6 & -e_7 & e_5 & -1 & -e_3 & -e_1 & e_2 \\ e_5 & -e_7 & -e_6 & -e_4 & e_3 & -1 & e_2 & e_1 \\ e_6 & -e_4 & e_5 & e_7 & e_1 & -e_2 & -1 & -e_3 \\ e_7 & e_5 & e_4 & -e_6 & -e_2 & -e_1 & e_3 & -1 \end{pmatrix}$$

flip=True

Triad fpi=7 BC₈ L fp_sm=3→63H

flat triad/mask bits

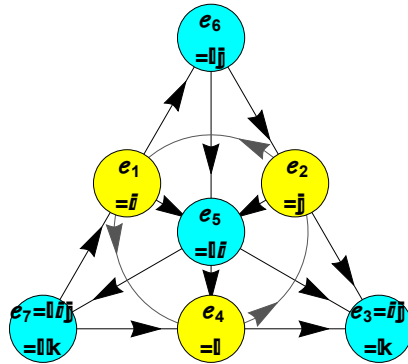
{ {1, 4, 2}, {1, 5, 3}, {1, 6, 7},

{1, 2, 4, 5, 3, 6, 7}

{2, 3, 6}, {2, 5, 7}, {3, 7, 4}, {4, 6, 5}}

{1, 1, 0, 0, 0, 1, 1}

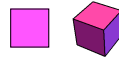
Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & -e_5 & e_2 & e_3 & e_7 & -e_6 \\ e_2 & e_4 & -1 & e_6 & -e_1 & e_7 & -e_3 & -e_5 \\ e_3 & e_5 & -e_6 & -1 & -e_7 & -e_1 & e_2 & e_4 \\ e_4 & -e_2 & e_1 & e_7 & -1 & -e_6 & e_5 & -e_3 \\ e_5 & -e_3 & -e_7 & e_1 & e_6 & -1 & -e_4 & e_2 \\ e_6 & -e_7 & e_3 & -e_2 & -e_5 & e_4 & -1 & e_1 \\ e_7 & e_6 & e_5 & -e_4 & e_3 & -e_2 & -e_1 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

235 $b_{m_1}^{-1/3}$



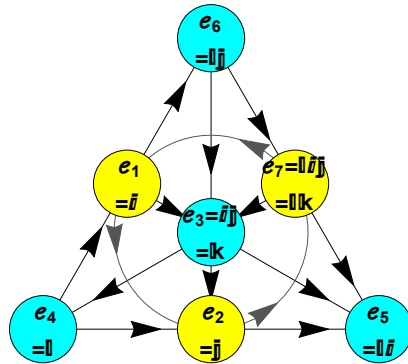
0apggsscc Cf
000110111₂ 98

flip=False

Triad fpi=28 BC₈ L fp_sm=3→1CH
{ {1, 2, 7}, {1, 3, 5}, {1, 6, 4},
{2, 6, 3}, {2, 5, 4}, {3, 4, 7}, {5, 6, 7} }

flat triad/mask bits
{1, 7, 2, 3, 5, 6, 4}
{0, 0, 1, 1, 1, 0, 0}

Fano plane



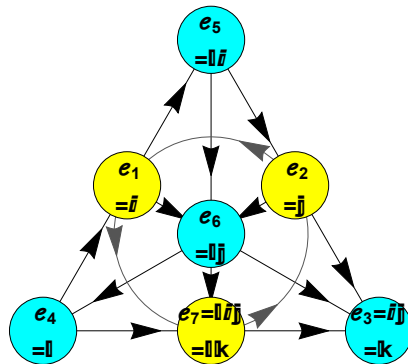
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & e_5 & -e_6 & -e_3 & e_4 & -e_2 \\ e_2 & -e_7 & -1 & -e_6 & -e_5 & e_4 & e_3 & e_1 \\ e_3 & -e_5 & e_6 & -1 & e_7 & e_1 & -e_2 & -e_4 \\ e_4 & e_6 & e_5 & -e_7 & -1 & -e_2 & -e_1 & e_3 \\ e_5 & e_3 & -e_4 & -e_1 & e_2 & -1 & e_7 & -e_6 \\ e_6 & -e_4 & -e_3 & e_2 & e_1 & -e_7 & -1 & e_5 \\ e_7 & e_2 & -e_1 & e_4 & -e_3 & e_6 & -e_5 & -1 \end{pmatrix}$$

flip=True

Triad fpi=30 BC₈ L fp_sm=6→17H
{ {1, 7, 2}, {1, 6, 3}, {1, 5, 4},
{2, 3, 5}, {2, 6, 4}, {3, 4, 7}, {5, 6, 7} }

flat triad/mask bits
{1, 2, 7, 6, 3, 5, 4}
{1, 1, 1, 0, 1, 0, 0}

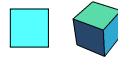
Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & -e_6 & -e_5 & e_4 & e_3 & e_2 \\ e_2 & e_7 & -1 & e_5 & -e_6 & -e_3 & e_4 & -e_1 \\ e_3 & e_6 & -e_5 & -1 & e_7 & e_2 & -e_1 & -e_4 \\ e_4 & e_5 & e_6 & -e_7 & -1 & -e_1 & -e_2 & e_3 \\ e_5 & -e_4 & e_3 & -e_2 & e_1 & -1 & e_7 & -e_6 \\ e_6 & -e_3 & -e_4 & e_1 & e_2 & -e_7 & -1 & e_5 \\ e_7 & -e_2 & e_1 & e_4 & -e_3 & e_6 & -e_5 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

236 $b_{c1} \xrightarrow{R} -1/3$



0apggsscc $\overline{Nb}$
000110110₂ 41

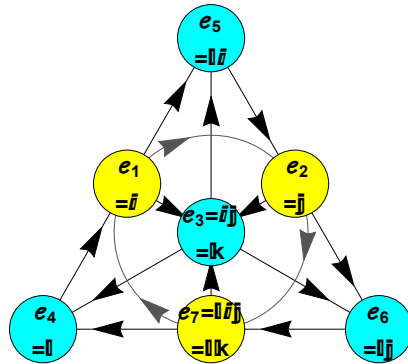
flip=False

Triad fpi=29 BC₈ L fp_sm=7→14H
{ {1, 2, 7}, {1, 3, 6}, {1, 5, 4},
{2, 3, 4}, {2, 6, 5}, {3, 5, 7}, {4, 6, 7} }

flat triad/mask bits
{1, 2, 7, 3, 6, 5, 4}
{0, 0, 1, 0, 1, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & e_6 & -e_5 & e_4 & -e_3 & -e_2 \\ e_2 & -e_7 & -1 & e_4 & -e_3 & -e_6 & e_5 & e_1 \\ e_3 & -e_6 & -e_4 & -1 & e_2 & e_7 & e_1 & -e_5 \\ e_4 & e_5 & e_3 & -e_2 & -1 & -e_1 & e_7 & -e_6 \\ e_5 & -e_4 & e_6 & -e_7 & e_1 & -1 & -e_2 & e_3 \\ e_6 & e_3 & -e_5 & -e_1 & -e_7 & e_2 & -1 & e_4 \\ e_7 & e_2 & -e_1 & e_5 & e_6 & -e_3 & -e_4 & -1 \end{pmatrix}$$

Fano plane



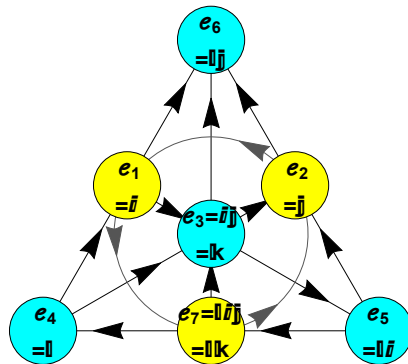
flip=True

Triad fpi=27 BC₈ L fp_sm=4→1DH
{ {1, 7, 2}, {1, 3, 5}, {1, 6, 4},
{2, 4, 3}, {2, 6, 5}, {3, 6, 7}, {4, 5, 7} }

flat triad/mask bits
{1, 2, 7, 3, 5, 6, 4}
{1, 0, 1, 1, 1, 0, 0}

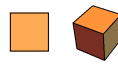
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & e_5 & -e_6 & -e_3 & e_4 & e_2 \\ e_2 & e_7 & -1 & -e_4 & e_3 & -e_6 & e_5 & -e_1 \\ e_3 & -e_5 & e_4 & -1 & -e_2 & e_1 & e_7 & -e_6 \\ e_4 & e_6 & -e_3 & e_2 & -1 & e_7 & -e_1 & -e_5 \\ e_5 & e_3 & e_6 & -e_1 & -e_7 & -1 & -e_2 & e_4 \\ e_6 & -e_4 & -e_5 & -e_7 & e_1 & e_2 & -1 & e_3 \\ e_7 & -e_2 & e_1 & e_6 & e_5 & -e_4 & -e_3 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

237 $b_{01} \xrightarrow{R} -1/3$



0apggsscc $\overline{Cd}$
000110101₂ 48

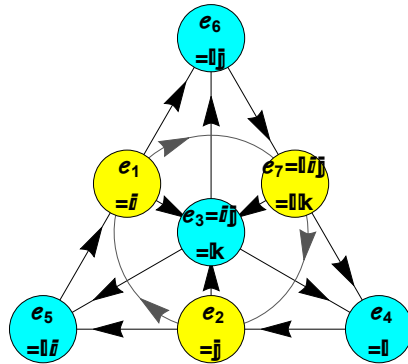
flip=False

Triad fpi=26 BC₈ L fp_sm=8→15H
{ {1, 7, 2}, {1, 3, 4}, {1, 6, 5},
{2, 3, 6}, {2, 5, 4}, {3, 5, 7}, {4, 6, 7} }

flat triad/mask bits
{1, 7, 2, 3, 4, 6, 5}
{1, 0, 1, 0, 1, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & e_4 & -e_3 & -e_6 & e_5 & e_2 \\ e_2 & e_7 & -1 & e_6 & -e_5 & e_4 & -e_3 & -e_1 \\ e_3 & -e_4 & -e_6 & -1 & e_1 & e_7 & e_2 & -e_5 \\ e_4 & e_3 & e_5 & -e_1 & -1 & -e_2 & e_7 & -e_6 \\ e_5 & e_6 & -e_4 & -e_7 & e_2 & -1 & -e_1 & e_3 \\ e_6 & -e_5 & e_3 & -e_2 & -e_7 & e_1 & -1 & e_4 \\ e_7 & -e_2 & e_1 & e_5 & e_6 & -e_3 & -e_4 & -1 \end{pmatrix}$$

Fano plane



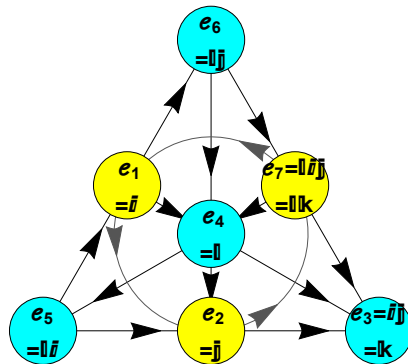
flip=True

Triad fpi=25 BC₈ L fp_sm=5→16H
{ {1, 2, 7}, {1, 4, 3}, {1, 6, 5},
{2, 3, 5}, {2, 6, 4}, {3, 6, 7}, {4, 5, 7} }

flat triad/mask bits
{1, 7, 2, 4, 3, 6, 5}
{0, 1, 1, 0, 1, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & -e_4 & e_3 & -e_6 & e_5 & -e_2 \\ e_2 & -e_7 & -1 & e_5 & -e_6 & -e_3 & e_4 & e_1 \\ e_3 & e_4 & -e_5 & -1 & -e_1 & e_2 & e_7 & -e_6 \\ e_4 & -e_3 & e_6 & e_1 & -1 & e_7 & -e_2 & -e_5 \\ e_5 & e_6 & e_3 & -e_2 & -e_7 & -1 & -e_1 & e_4 \\ e_6 & -e_5 & -e_4 & -e_7 & e_2 & e_1 & -1 & e_3 \\ e_7 & e_2 & -e_1 & e_6 & e_5 & -e_4 & -e_3 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

238

 $\overline{\nabla_{\tau}} \frac{0}{L_d}$


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011110000₂ 53

flip=False

Triad fpi=23 BC₈ R fp_sm=2→79H

flat triad/mask bits

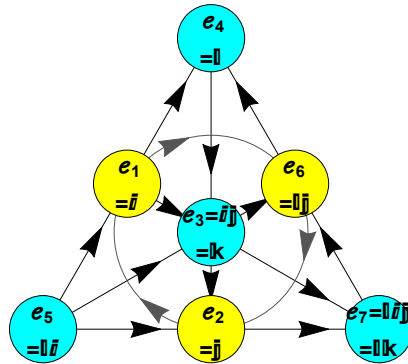
{1, 6, 2}, {1, 3, 7}, {1, 4, 5},

{1, 6, 2, 3, 7, 4, 5}

{2, 4, 3}, {2, 7, 5}, {3, 6, 5}, {4, 7, 6}}

{1, 0, 0, 1, 1, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & e_7 & e_5 & -e_4 & e_2 & -e_3 \\ e_2 & e_6 & -1 & -e_4 & e_3 & -e_7 & -e_1 & e_5 \\ e_3 & -e_7 & e_4 & -1 & -e_2 & -e_6 & e_5 & e_1 \\ e_4 & -e_5 & -e_3 & e_2 & -1 & e_1 & -e_7 & e_6 \\ e_5 & e_4 & e_7 & e_6 & -e_1 & -1 & -e_3 & -e_2 \\ e_6 & -e_2 & e_1 & -e_5 & e_7 & e_3 & -1 & -e_4 \\ e_7 & e_3 & -e_5 & -e_1 & -e_6 & e_2 & e_4 & -1 \end{pmatrix}$$

flip=True

Triad fpi=24 BC₈ R fp_sm=3→7AH

flat triad/mask bits

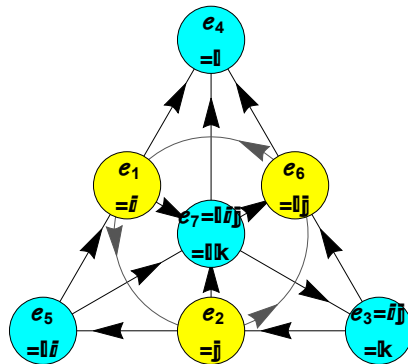
{1, 2, 6}, {1, 7, 3}, {1, 4, 5},

{1, 6, 2, 7, 3, 4, 5}

{2, 5, 3}, {2, 7, 4}, {3, 6, 4}, {5, 7, 6}}

{0, 1, 0, 1, 1, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & -e_7 & e_5 & -e_4 & -e_2 & e_3 \\ e_2 & -e_6 & -1 & -e_5 & -e_7 & e_3 & e_1 & e_4 \\ e_3 & e_7 & e_5 & -1 & -e_6 & -e_2 & e_4 & -e_1 \\ e_4 & -e_5 & e_7 & e_6 & -1 & e_1 & -e_3 & -e_2 \\ e_5 & e_4 & -e_3 & e_2 & -e_1 & -1 & -e_7 & e_6 \\ e_6 & e_2 & -e_1 & -e_4 & e_3 & e_7 & -1 & -e_5 \\ e_7 & -e_3 & -e_4 & e_1 & e_2 & -e_6 & e_5 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

239

 $\bar{e}_{ym}^+ L$ 0apggsscc
010011000₂ $\overline{Pr}$
59

flip=False

Triad fpi=4 BC₈ L fp_sm=3→50H

flat triad/mask bits

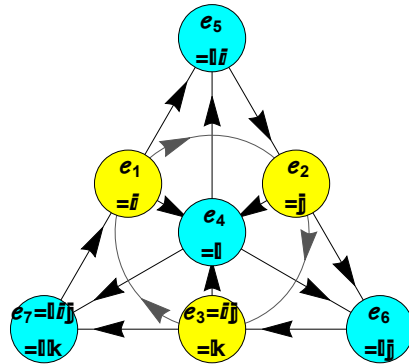
{ {1, 2, 3}, {1, 4, 6}, {1, 5, 7},

{1, 2, 3, 4, 6, 5, 7}

{2, 4, 7}, {2, 6, 5}, {3, 4, 5}, {3, 7, 6}}

{0, 0, 0, 0, 1, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & e_6 & e_7 & -e_4 & -e_5 \\ e_2 & -e_3 & -1 & e_1 & e_7 & -e_6 & e_5 & -e_4 \\ e_3 & e_2 & -e_1 & -1 & e_5 & -e_4 & -e_7 & e_6 \\ e_4 & -e_6 & -e_7 & -e_5 & -1 & e_3 & e_1 & e_2 \\ e_5 & -e_7 & e_6 & e_4 & -e_3 & -1 & -e_2 & e_1 \\ e_6 & e_4 & -e_5 & e_7 & -e_1 & e_2 & -1 & -e_3 \\ e_7 & e_5 & e_4 & -e_6 & -e_2 & -e_1 & e_3 & -1 \end{pmatrix}$$

flip=True

Triad fpi=7 BC₈ L fp_sm=3→50H

flat triad/mask bits

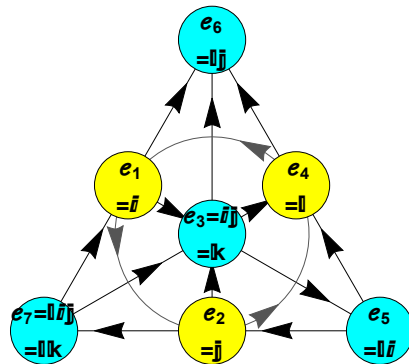
{ {1, 2, 4}, {1, 3, 5}, {1, 6, 7},

{1, 4, 2, 3, 5, 6, 7}

{2, 3, 6}, {2, 7, 5}, {3, 4, 7}, {4, 6, 5}}

{0, 0, 0, 0, 1, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & e_5 & -e_2 & -e_3 & e_7 & -e_6 \\ e_2 & -e_4 & -1 & e_6 & e_1 & -e_7 & -e_3 & e_5 \\ e_3 & -e_5 & -e_6 & -1 & e_7 & e_1 & e_2 & -e_4 \\ e_4 & e_2 & -e_1 & -e_7 & -1 & -e_6 & e_5 & e_3 \\ e_5 & e_3 & e_7 & -e_1 & e_6 & -1 & -e_4 & -e_2 \\ e_6 & -e_7 & e_3 & -e_2 & -e_5 & e_4 & -1 & e_1 \\ e_7 & e_6 & -e_5 & e_4 & -e_3 & e_2 & -e_1 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

240

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65

flip=False

Triad fpi=7 BC₈ R fp_sm=3→57H

flat triad/mask bits

{1, 4, 2}, {1, 5, 3}, {1, 7, 6},

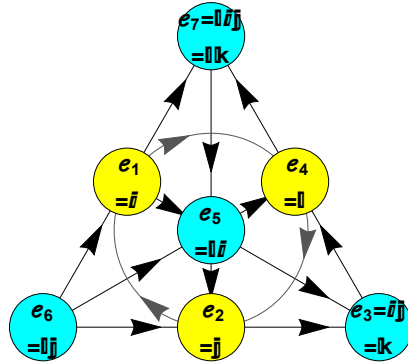
{1, 4, 2, 5, 3, 7, 6}

{2, 3, 6}, {2, 7, 5}, {3, 4, 7}, {4, 6, 5}}

{1, 1, 1, 0, 1, 0, 1}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & -e_5 & e_2 & e_3 & -e_7 & e_6 \\ e_2 & e_4 & -1 & e_6 & -e_1 & -e_7 & -e_3 & e_5 \\ e_3 & e_5 & -e_6 & -1 & e_7 & -e_1 & e_2 & -e_4 \\ e_4 & -e_2 & e_1 & -e_7 & -1 & -e_6 & e_5 & e_3 \\ e_5 & -e_3 & e_7 & e_1 & e_6 & -1 & -e_4 & -e_2 \\ e_6 & e_7 & e_3 & -e_2 & -e_5 & e_4 & -1 & -e_1 \\ e_7 & -e_6 & -e_5 & e_4 & -e_3 & e_2 & e_1 & -1 \end{pmatrix}$$

Fano plane



flip=True

Triad fpi=4 BC₈ R fp_sm=3→57H

flat triad/mask bits

{1, 3, 2}, {1, 6, 4}, {1, 7, 5},

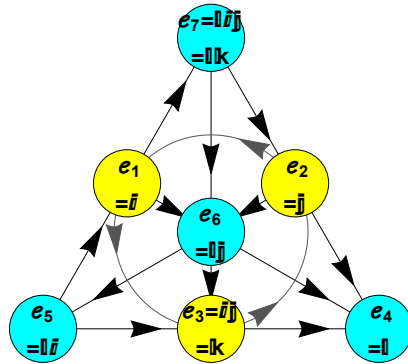
{1, 2, 3, 6, 4, 7, 5}

{2, 4, 7}, {2, 6, 5}, {3, 4, 5}, {3, 7, 6}}

{1, 1, 1, 0, 1, 0, 1}

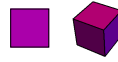
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & -e_6 & -e_7 & e_4 & e_5 \\ e_2 & e_3 & -1 & -e_1 & e_7 & -e_6 & e_5 & -e_4 \\ e_3 & -e_2 & e_1 & -1 & e_5 & -e_4 & -e_7 & e_6 \\ e_4 & e_6 & -e_7 & -e_5 & -1 & e_3 & -e_1 & e_2 \\ e_5 & e_7 & e_6 & e_4 & -e_3 & -1 & -e_2 & -e_1 \\ e_6 & -e_4 & -e_5 & e_7 & e_1 & e_2 & -1 & -e_3 \\ e_7 & -e_5 & e_4 & -e_6 & -e_2 & e_1 & e_3 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

241 $b_{md}^{-1/3}$



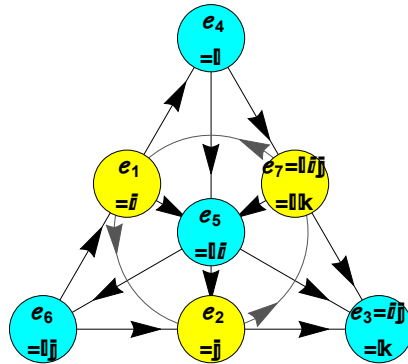
0apggsscc Np
000110011₂ 93

flip=False

Triad fpi=28 BC₈ L fp_sm=3→02H
{ {1, 2, 7}, {1, 5, 3}, {1, 4, 6},
{2, 3, 6}, {2, 4, 5}, {3, 4, 7}, {5, 6, 7} }

flat triad/mask bits
{1, 7, 2, 5, 3, 4, 6}
{0, 1, 0, 0, 0, 0, 0}

Fano plane



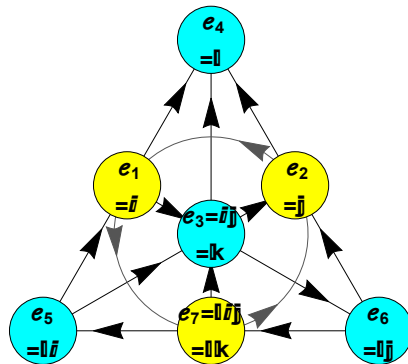
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & -e_5 & e_6 & e_3 & -e_4 & -e_2 \\ e_2 & -e_7 & -1 & e_6 & e_5 & -e_4 & -e_3 & e_1 \\ e_3 & e_5 & -e_6 & -1 & e_7 & -e_1 & e_2 & -e_4 \\ e_4 & -e_6 & -e_5 & -e_7 & -1 & e_2 & e_1 & e_3 \\ e_5 & -e_3 & e_4 & e_1 & -e_2 & -1 & e_7 & -e_6 \\ e_6 & e_4 & e_3 & -e_2 & -e_1 & -e_7 & -1 & e_5 \\ e_7 & e_2 & -e_1 & e_4 & -e_3 & e_6 & -e_5 & -1 \end{pmatrix}$$

flip=True

Triad fpi=30 BC₈ L fp_sm=6→09H
{ {1, 7, 2}, {1, 3, 6}, {1, 4, 5},
{2, 5, 3}, {2, 4, 6}, {3, 4, 7}, {5, 6, 7} }

flat triad/mask bits
{1, 2, 7, 3, 6, 4, 5}
{1, 0, 0, 1, 0, 0, 0}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & e_6 & e_5 & -e_4 & -e_3 & e_2 \\ e_2 & e_7 & -1 & -e_5 & e_6 & e_3 & -e_4 & -e_1 \\ e_3 & -e_6 & e_5 & -1 & e_7 & -e_2 & e_1 & -e_4 \\ e_4 & -e_5 & -e_6 & -e_7 & -1 & e_1 & e_2 & e_3 \\ e_5 & e_4 & -e_3 & e_2 & -e_1 & -1 & e_7 & -e_6 \\ e_6 & e_3 & e_4 & -e_1 & -e_2 & -e_7 & -1 & e_5 \\ e_7 & -e_2 & e_1 & e_4 & -e_3 & e_6 & -e_5 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

242 $b_{cd} \xrightarrow{-1/3} \bar{L}$



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000110010₂ 50

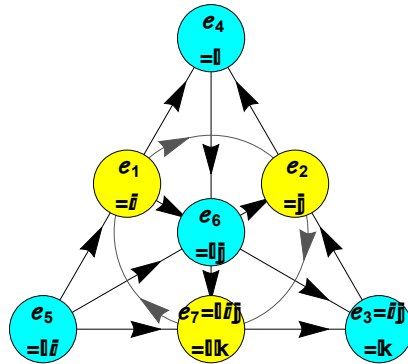
flip=False

Triad fpi=29 BC₈ L fp_sm=7→0AH
{ {1, 2, 7}, {1, 6, 3}, {1, 4, 5},
{2, 4, 3}, {2, 5, 6}, {3, 5, 7}, {4, 6, 7} }

flat triad/mask bits
{1, 2, 7, 6, 3, 4, 5}
{0, 1, 0, 1, 0, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & -e_6 & e_5 & -e_4 & e_3 & -e_2 \\ e_2 & -e_7 & -1 & -e_4 & e_3 & e_6 & -e_5 & e_1 \\ e_3 & e_6 & e_4 & -1 & -e_2 & e_7 & -e_1 & -e_5 \\ e_4 & -e_5 & -e_3 & e_2 & -1 & e_1 & e_7 & -e_6 \\ e_5 & e_4 & -e_6 & -e_7 & -e_1 & -1 & e_2 & e_3 \\ e_6 & -e_3 & e_5 & e_1 & -e_7 & -e_2 & -1 & e_4 \\ e_7 & e_2 & -e_1 & e_5 & e_6 & -e_3 & -e_4 & -1 \end{pmatrix}$$

Fano plane



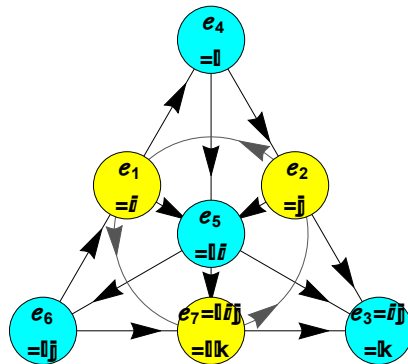
flip=True

Triad fpi=27 BC₈ L fp_sm=4→03H
{ {1, 7, 2}, {1, 5, 3}, {1, 4, 6},
{2, 3, 4}, {2, 5, 6}, {3, 6, 7}, {4, 5, 7} }

flat triad/mask bits
{1, 2, 7, 5, 3, 4, 6}
{1, 1, 0, 0, 0, 0, 0}

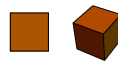
$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & -e_5 & e_6 & e_3 & -e_4 & e_2 \\ e_2 & e_7 & -1 & e_4 & -e_3 & e_6 & -e_5 & -e_1 \\ e_3 & e_5 & -e_4 & -1 & e_2 & -e_1 & e_7 & -e_6 \\ e_4 & -e_6 & e_3 & -e_2 & -1 & e_7 & e_1 & -e_5 \\ e_5 & -e_3 & -e_6 & e_1 & -e_7 & -1 & e_2 & e_4 \\ e_6 & e_4 & e_5 & -e_7 & -e_1 & -e_2 & -1 & e_3 \\ e_7 & -e_2 & e_1 & e_6 & e_5 & -e_4 & -e_3 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

243 $b_{od} \xrightarrow{L} -1/3$



0apggsscc $\overline{Ba}$
000110001₂ 56

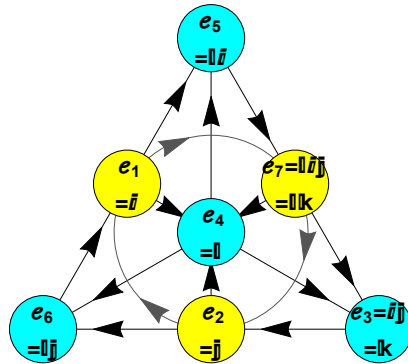
flip=False

Triad fpi=26 BC₈ L fp_sm=8→0BH
{ {1, 7, 2}, {1, 4, 3}, {1, 5, 6},
{2, 6, 3}, {2, 4, 5}, {3, 5, 7}, {4, 6, 7} }

flat triad/mask bits
{1, 7, 2, 4, 3, 5, 6}
{1, 1, 0, 1, 0, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_7 & -e_4 & e_3 & e_6 & -e_5 & e_2 \\ e_2 & e_7 & -1 & -e_6 & e_5 & -e_4 & e_3 & -e_1 \\ e_3 & e_4 & e_6 & -1 & -e_1 & e_7 & -e_2 & -e_5 \\ e_4 & -e_3 & -e_5 & e_1 & -1 & e_2 & e_7 & -e_6 \\ e_5 & -e_6 & e_4 & -e_7 & -e_2 & -1 & e_1 & e_3 \\ e_6 & e_5 & -e_3 & e_2 & -e_7 & -e_1 & -1 & e_4 \\ e_7 & -e_2 & e_1 & e_5 & e_6 & -e_3 & -e_4 & -1 \end{pmatrix}$$

Fano plane



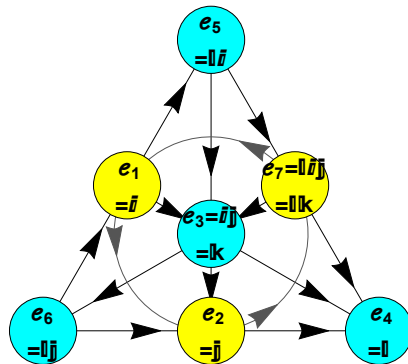
flip=True

Triad fpi=25 BC₈ L fp_sm=5→08H
{ {1, 2, 7}, {1, 3, 4}, {1, 5, 6},
{2, 5, 3}, {2, 4, 6}, {3, 6, 7}, {4, 5, 7} }

flat triad/mask bits
{1, 7, 2, 3, 4, 5, 6}
{0, 0, 0, 1, 0, 0, 0}

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_7 & e_4 & -e_3 & e_6 & -e_5 & -e_2 \\ e_2 & -e_7 & -1 & -e_5 & e_6 & e_3 & -e_4 & e_1 \\ e_3 & -e_4 & e_5 & -1 & e_1 & -e_2 & e_7 & -e_6 \\ e_4 & e_3 & -e_6 & -e_1 & -1 & e_7 & e_2 & -e_5 \\ e_5 & -e_6 & -e_3 & e_2 & -e_7 & -1 & e_1 & e_4 \\ e_6 & e_5 & e_4 & -e_7 & -e_2 & -e_1 & -1 & e_3 \\ e_7 & e_2 & -e_1 & e_6 & e_5 & -e_4 & -e_3 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

244

 $\overline{V}_1^T \begin{smallmatrix} 0 \\ R \end{smallmatrix}$


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011110100₂ 61

flip=False

Triad fpi=23 BC₈ R fp_sm=2→67H

flat triad/mask bits

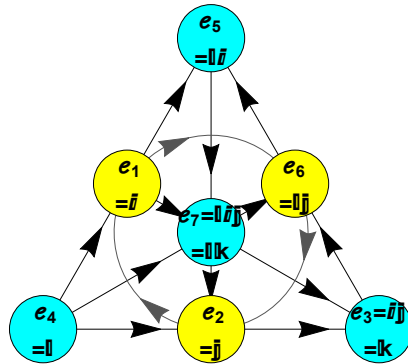
{ {1, 6, 2}, {1, 7, 3}, {1, 5, 4},

{1, 6, 2, 7, 3, 5, 4}

{2, 3, 4}, {2, 5, 7}, {3, 6, 5}, {4, 7, 6}}

{1, 1, 1, 0, 0, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_6 & -e_7 & -e_5 & e_4 & e_2 & e_3 \\ e_2 & e_6 & -1 & e_4 & -e_3 & e_7 & -e_1 & -e_5 \\ e_3 & e_7 & -e_4 & -1 & e_2 & -e_6 & e_5 & -e_1 \\ e_4 & e_5 & e_3 & -e_2 & -1 & -e_1 & -e_7 & e_6 \\ e_5 & -e_4 & -e_7 & e_6 & e_1 & -1 & -e_3 & e_2 \\ e_6 & -e_2 & e_1 & -e_5 & e_7 & e_3 & -1 & -e_4 \\ e_7 & -e_3 & e_5 & e_1 & -e_6 & -e_2 & e_4 & -1 \end{pmatrix}$$

flip=True

Triad fpi=24 BC₈ R fp_sm=3→64H

flat triad/mask bits

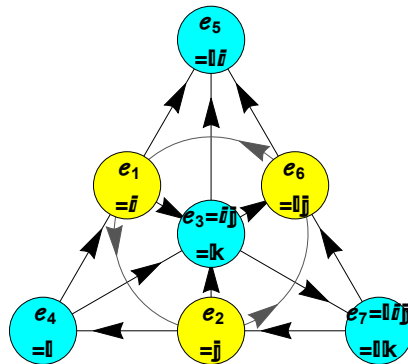
{ {1, 2, 6}, {1, 3, 7}, {1, 5, 4},

{1, 6, 2, 3, 7, 5, 4}

{2, 3, 5}, {2, 4, 7}, {3, 6, 4}, {5, 7, 6}}

{0, 0, 1, 0, 0, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_6 & e_7 & -e_5 & e_4 & -e_2 & -e_3 \\ e_2 & -e_6 & -1 & e_5 & e_7 & -e_3 & e_1 & -e_4 \\ e_3 & -e_7 & -e_5 & -1 & -e_6 & e_2 & e_4 & e_1 \\ e_4 & e_5 & -e_7 & e_6 & -1 & -e_1 & -e_3 & e_2 \\ e_5 & -e_4 & e_3 & -e_2 & e_1 & -1 & -e_7 & e_6 \\ e_6 & e_2 & -e_1 & -e_4 & e_3 & e_7 & -1 & -e_5 \\ e_7 & e_3 & e_4 & -e_1 & -e_2 & -e_6 & e_5 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

245

 $\overline{e}_{ym}^{\dagger R}$ 0apggsscc
010011100₂ $\overline{Ho}$
67

flip=False

Triad fpi=4 BC₈ L fp_sm=3→4EH

flat triad/mask bits

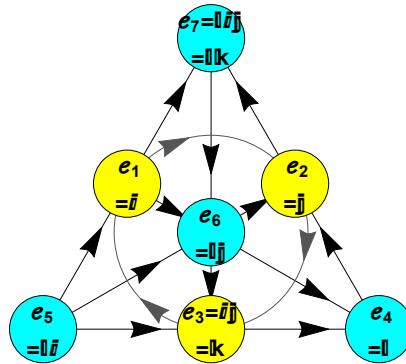
{ {1, 2, 3}, {1, 6, 4}, {1, 7, 5},

{1, 2, 3, 6, 4, 7, 5}

{2, 7, 4}, {2, 5, 6}, {3, 4, 5}, {3, 7, 6}}

{0, 1, 1, 1, 0, 0, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & -e_6 & -e_7 & e_4 & e_5 \\ e_2 & -e_3 & -1 & e_1 & -e_7 & e_6 & -e_5 & e_4 \\ e_3 & e_2 & -e_1 & -1 & e_5 & -e_4 & -e_7 & e_6 \\ e_4 & e_6 & e_7 & -e_5 & -1 & e_3 & -e_1 & -e_2 \\ e_5 & e_7 & -e_6 & e_4 & -e_3 & -1 & e_2 & -e_1 \\ e_6 & -e_4 & e_5 & e_7 & e_1 & -e_2 & -1 & -e_3 \\ e_7 & -e_5 & -e_4 & -e_6 & e_2 & e_1 & e_3 & -1 \end{pmatrix}$$

flip=True

Triad fpi=7 BC₈ L fp_sm=3→4EH

flat triad/mask bits

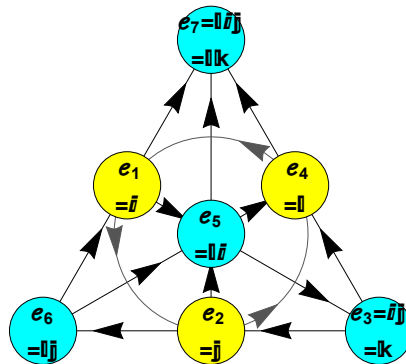
{ {1, 2, 4}, {1, 5, 3}, {1, 7, 6},

{1, 4, 2, 5, 3, 7, 6}

{2, 6, 3}, {2, 5, 7}, {3, 4, 7}, {4, 6, 5}}

{0, 1, 1, 1, 0, 0, 1}

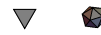
Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & -e_5 & -e_2 & e_3 & -e_7 & e_6 \\ e_2 & -e_4 & -1 & -e_6 & e_1 & e_7 & e_3 & -e_5 \\ e_3 & e_5 & e_6 & -1 & e_7 & -e_1 & -e_2 & -e_4 \\ e_4 & e_2 & -e_1 & -e_7 & -1 & -e_6 & e_5 & e_3 \\ e_5 & -e_3 & -e_7 & e_1 & e_6 & -1 & -e_4 & e_2 \\ e_6 & e_7 & -e_3 & e_2 & -e_5 & e_4 & -1 & -e_1 \\ e_7 & -e_6 & e_5 & e_4 & -e_3 & -e_2 & e_1 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

246

 $\overline{\nabla e}^0_{Wm} R$


0apggsscc
011011100₂ $\overline{Ta}$
73

flip=False

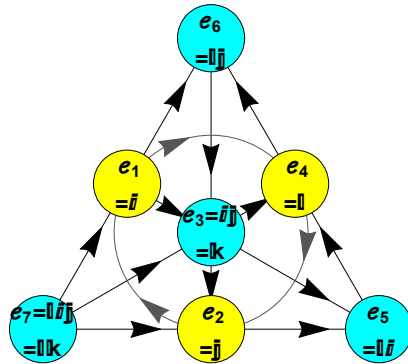
Triad fpi=7 BC₈ R fp_sm=3→49H

flat triad/mask bits

 $\{\{1, 4, 2\}, \{1, 3, 5\}, \{1, 6, 7\},$
 $\{1, 4, 2, 3, 5, 6, 7\}$
 $\{2, 6, 3\}, \{2, 5, 7\}, \{3, 4, 7\}, \{4, 6, 5\}\}$
 $\{1, 0, 0, 1, 0, 0, 1\}$

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_4 & e_5 & e_2 & -e_3 & e_7 & -e_6 \\ e_2 & e_4 & -1 & -e_6 & -e_1 & e_7 & e_3 & -e_5 \\ e_3 & -e_5 & e_6 & -1 & e_7 & e_1 & -e_2 & -e_4 \\ e_4 & -e_2 & e_1 & -e_7 & -1 & -e_6 & e_5 & e_3 \\ e_5 & e_3 & -e_7 & -e_1 & e_6 & -1 & -e_4 & e_2 \\ e_6 & -e_7 & -e_3 & e_2 & -e_5 & e_4 & -1 & e_1 \\ e_7 & e_6 & e_5 & e_4 & -e_3 & -e_2 & -e_1 & -1 \end{pmatrix}$$

Fano plane



flip=True

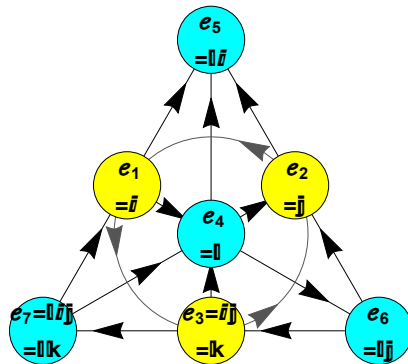
Triad fpi=4 BC₈ R fp_sm=3→49H

flat triad/mask bits

 $\{\{1, 3, 2\}, \{1, 4, 6\}, \{1, 5, 7\},$
 $\{1, 2, 3, 4, 6, 5, 7\}$
 $\{2, 7, 4\}, \{2, 5, 6\}, \{3, 4, 5\}, \{3, 7, 6\}\}$
 $\{1, 0, 0, 1, 0, 0, 1\}$

$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & -e_3 & e_2 & e_6 & e_7 & -e_4 & -e_5 \\ e_2 & e_3 & -1 & -e_1 & -e_7 & e_6 & -e_5 & e_4 \\ e_3 & -e_2 & e_1 & -1 & e_5 & -e_4 & -e_7 & e_6 \\ e_4 & -e_6 & e_7 & -e_5 & -1 & e_3 & e_1 & -e_2 \\ e_5 & -e_7 & -e_6 & e_4 & -e_3 & -1 & e_2 & e_1 \\ e_6 & e_4 & e_5 & e_7 & -e_1 & -e_2 & -1 & -e_3 \\ e_7 & e_5 & -e_4 & -e_6 & e_2 & -e_1 & e_3 & -1 \end{pmatrix}$$

Fano plane



Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

247

 $\overline{\nabla e}^0_{\text{Wd}} \text{L}$


0apggsscc
011010000₂ Au
79

flip=False

Triad fpi=7 BC₈ R fp_sm=3→7AH

flat triad/mask bits

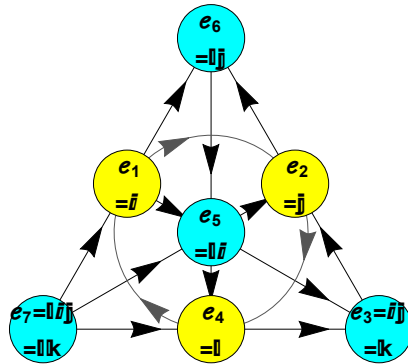
{1, 2, 4}, {1, 5, 3}, {1, 6, 7},

{1, 2, 4, 5, 3, 6, 7}

{2, 6, 3}, {2, 7, 5}, {3, 7, 4}, {4, 6, 5}}

{0, 1, 0, 1, 1, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & -e_5 & -e_2 & e_3 & e_7 & -e_6 \\ e_2 & -e_4 & -1 & -e_6 & e_1 & -e_7 & e_3 & e_5 \\ e_3 & e_5 & e_6 & -1 & -e_7 & -e_1 & -e_2 & e_4 \\ e_4 & e_2 & -e_1 & e_7 & -1 & -e_6 & e_5 & -e_3 \\ e_5 & -e_3 & e_7 & e_1 & e_6 & -1 & -e_4 & -e_2 \\ e_6 & -e_7 & -e_3 & e_2 & -e_5 & e_4 & -1 & e_1 \\ e_7 & e_6 & -e_5 & -e_4 & e_3 & e_2 & -e_1 & -1 \end{pmatrix}$$

flip=True

Triad fpi=4 BC₈ R fp_sm=3→7AH

flat triad/mask bits

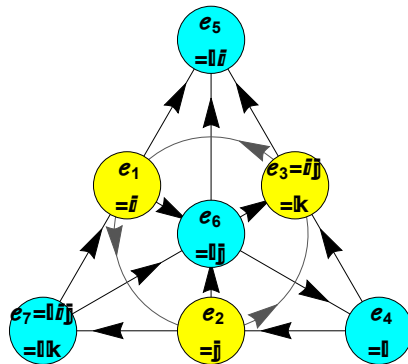
{1, 2, 3}, {1, 6, 4}, {1, 5, 7},

{1, 3, 2, 6, 4, 5, 7}

{2, 7, 4}, {2, 6, 5}, {3, 5, 4}, {3, 7, 6}}

{0, 1, 0, 1, 1, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & -e_6 & e_7 & e_4 & -e_5 \\ e_2 & -e_3 & -1 & e_1 & -e_7 & -e_6 & e_5 & e_4 \\ e_3 & e_2 & -e_1 & -1 & -e_5 & e_4 & -e_7 & e_6 \\ e_4 & e_6 & e_7 & e_5 & -1 & -e_3 & -e_1 & -e_2 \\ e_5 & -e_7 & e_6 & -e_4 & e_3 & -1 & -e_2 & e_1 \\ e_6 & -e_4 & -e_5 & e_7 & e_1 & e_2 & -1 & -e_3 \\ e_7 & e_5 & -e_4 & -e_6 & e_2 & -e_1 & e_3 & -1 \end{pmatrix}$$

Seq # Symbol 2D/3D Shape Particle Ele
Quantum Bits #

256

 $\overline{\nabla e}_{w_1}^0 R$


0apggsscc
011010100₂ $\overline{Be}$
4

flip=False

Triad fpi=7 BC₈ R fp_sm=3→64H

flat triad/mask bits

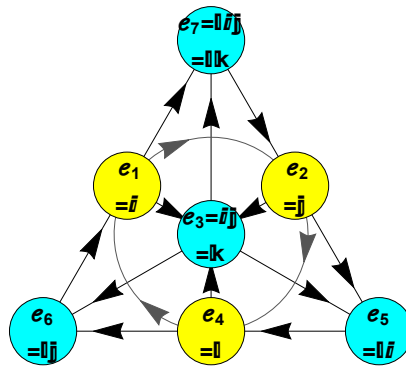
{ {1, 2, 4}, {1, 3, 5}, {1, 7, 6},

{1, 2, 4, 3, 5, 7, 6}

{2, 3, 6}, {2, 5, 7}, {3, 7, 4}, {4, 6, 5}}

{0, 0, 1, 0, 0, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_4 & e_5 & -e_2 & -e_3 & -e_7 & e_6 \\ e_2 & -e_4 & -1 & e_6 & e_1 & e_7 & -e_3 & -e_5 \\ e_3 & -e_5 & -e_6 & -1 & -e_7 & e_1 & e_2 & e_4 \\ e_4 & e_2 & -e_1 & e_7 & -1 & -e_6 & e_5 & -e_3 \\ e_5 & e_3 & -e_7 & -e_1 & e_6 & -1 & -e_4 & e_2 \\ e_6 & e_7 & e_3 & -e_2 & -e_5 & e_4 & -1 & -e_1 \\ e_7 & -e_6 & e_5 & -e_4 & e_3 & -e_2 & e_1 & -1 \end{pmatrix}$$

flip=True

Triad fpi=4 BC₈ R fp_sm=3→64H

flat triad/mask bits

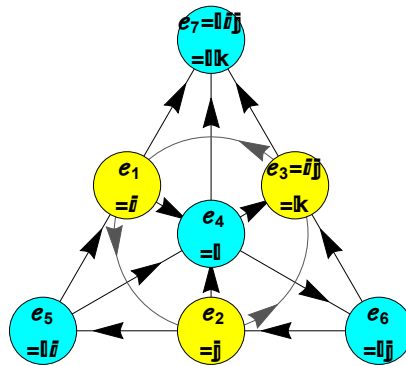
{ {1, 2, 3}, {1, 4, 6}, {1, 7, 5},

{1, 3, 2, 4, 6, 7, 5}

{2, 4, 7}, {2, 5, 6}, {3, 5, 4}, {3, 7, 6}}

{0, 0, 1, 0, 0, 1, 1}

Fano plane



$$\begin{pmatrix} 1 & e_1 & e_2 & e_3 & e_4 & e_5 & e_6 & e_7 \\ e_1 & -1 & e_3 & -e_2 & e_6 & -e_7 & -e_4 & e_5 \\ e_2 & -e_3 & -1 & e_1 & e_7 & e_6 & -e_5 & -e_4 \\ e_3 & e_2 & -e_1 & -1 & -e_5 & e_4 & -e_7 & e_6 \\ e_4 & -e_6 & -e_7 & e_5 & -1 & -e_3 & e_1 & e_2 \\ e_5 & e_7 & -e_6 & -e_4 & e_3 & -1 & e_2 & -e_1 \\ e_6 & e_4 & e_5 & e_7 & -e_1 & -e_2 & -1 & -e_3 \\ e_7 & -e_5 & e_4 & -e_6 & -e_2 & e_1 & e_3 & -1 \end{pmatrix}$$