1 BLT set 2 over GF(17)

Points on the quadric $x_0^2 + x_1x_2 + x_3x_4$:

$P_1 = (0, 1, 0, 0, 0)$

$P_2 = (0, 0, 1, 0, 0)$

$P_3 = (0, 1, 11, 16, 11)$

$P_4 = (0, 1, 7, 8, 14)$

$P_5 = (0, 1, 5, 11, 15)$

$P_6 = (0, 1, 10, 2, 12)$

$P_7 = (0, 1, 12, 10, 9)$

$P_8 = (0, 1, 6, 4, 7)$

$P_9 = (0, 1, 5, 6, 2)$

$P_{10} = (1, 3, 2, 10, 1)$

$P_{11} = (1, 5, 9, 1, 5)$

$P_{12} = (1, 2, 7, 7, 10)$

$P_{13} = (1, 5, 9, 15, 6)$

$P_{14} = (1, 2, 7, 13, 8)$

$P_{15} = (1, 3, 2, 3, 9)$

$P_{16} = (1, 1, 12, 14, 10)$

$P_{17} = (1, 1, 12, 13, 16)$

$P_{18} = (1, 7, 16, 1, 6)$

Stabilizer of order 648 is generated by:

$$g_1 = \begin{pmatrix} 7 & 0 & 0 & 5 & 4 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 15 & 0 & 0 & 4 & 16 \\ 6 & 0 & 0 & 8 & 4 \end{pmatrix}$$

$$g_2 = \begin{pmatrix} 7 & 0 & 0 & 12 & 13 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 15 & 0 & 0 & 14 & 7 \\ 6 & 0 & 0 & 12 & 14 \end{pmatrix}$$

$$g_3 = \begin{pmatrix} 10 & 0 & 0 & 5 & 4 \\ 0 & 15 & 3 & 1 & 6 \\ 0 & 6 & 15 & 11 & 15 \\ 2 & 15 & 6 & 5 & 5 \\ 11 & 11 & 1 & 11 & 5 \end{pmatrix}$$

$$g_4 = \begin{pmatrix} 7 & 0 & 0 & 5 & 4 \\ 0 & 13 & 7 & 4 & 7 \\ 0 & 6 & 13 & 2 & 12 \\ 2 & 12 & 7 & 1 & 14 \\ 11 & 2 & 4 & 7 & 1 \end{pmatrix}$$

$$g_5 = \begin{pmatrix} 12 & 0 & 0 & 2 & 5 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 10 & 1 & 15 & 5 \\ 11 & 5 & 0 & 2 & 16 \\ 1 & 15 & 0 & 8 & 2 \end{pmatrix}$$

$$g_6 = \begin{pmatrix} 0 & 5 & 9 & 15 & 5 \\ 8 & 5 & 9 & 8 & 14 \\ 11 & 16 & 5 & 8 & 11 \\ 3 & 14 & 13 & 1 & 13 \\ 9 & 16 & 11 & 3 & 5 \end{pmatrix}$$

Induced action on the BLT-set:

The induced group has order 648 and is generated by:

$g_1 =$(10, 12, 16, 18, 17, 14, 15, 11, 13)

g_2 =(10, 14)(12, 17)(13, 15)(16, 18)

g_3 =(1, 4)(2, 3)(5, 8)(7, 9)(10, 14)(12, 17)(13, 15)(16, 18)

g_4 =(1, 3)(2, 9)(4, 7)(6, 8)(10, 11)(12, 15)(14, 16)(17, 18)

g_5 =(2, 7)(3, 8)(4, 5)(6, 9)(10, 13)(11, 12)(14, 18)(15, 16)

g_6 =(1, 18, 7, 15, 2, 10)(3, 13, 9, 16, 4, 14)(5, 12, 6, 17, 8, 11)

Kernel has order 1 and is generated by:

There are 1 orbits on the BLT set.

The orbit length are [18]

The orbits are:

$O_0 = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18\}$ (length 18)