

1 BLT set 2 over GF(13)

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

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

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

$$P_3 = (0, 1, 6, 12, 6)$$

$$P_4 = (0, 1, 8, 6, 3)$$

$$P_5 = (0, 1, 5, 4, 2)$$

$$P_6 = (0, 1, 11, 11, 12)$$

$$P_7 = (0, 1, 2, 10, 5)$$

$$P_8 = (1, 5, 4, 10, 7)$$

$$P_9 = (1, 9, 2, 9, 8)$$

$$P_{10} = (1, 3, 5, 8, 11)$$

$$P_{11} = (1, 5, 4, 1, 5)$$

$$P_{12} = (1, 9, 2, 3, 11)$$

$$P_{13} = (1, 3, 5, 9, 4)$$

$$P_{14} = (1, 12, 7, 8, 4)$$

Stabilizer of order 392 is generated by:

$$g_1 = \begin{pmatrix} 9 & 0 & 0 & 2 & 12 \\ 0 & 12 & 0 & 0 & 0 \\ 0 & 0 & 12 & 0 & 0 \\ 6 & 0 & 0 & 8 & 2 \\ 1 & 0 & 0 & 8 & 8 \end{pmatrix}$$

$$g_2 = \begin{pmatrix} 10 & 0 & 0 & 4 & 11 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 1 & 0 & 0 & 12 & 1 \\ 11 & 0 & 0 & 4 & 12 \end{pmatrix}$$

$$g_3 = \begin{pmatrix} 12 & 0 & 0 & 0 & 0 \\ 0 & 12 & 0 & 0 & 0 \\ 0 & 5 & 12 & 7 & 10 \\ 0 & 10 & 0 & 1 & 0 \\ 0 & 7 & 0 & 0 & 1 \end{pmatrix}$$

$$g_4 = \begin{pmatrix} 9 & 0 & 0 & 2 & 12 \\ 0 & 1 & 6 & 12 & 6 \\ 0 & 5 & 1 & 4 & 2 \\ 6 & 2 & 6 & 7 & 8 \\ 1 & 4 & 12 & 6 & 7 \end{pmatrix}$$

$$g_5 = \begin{pmatrix} 0 & 9 & 9 & 3 & 8 \\ 11 & 3 & 5 & 11 & 3 \\ 4 & 7 & 3 & 1 & 2 \\ 3 & 4 & 12 & 4 & 2 \\ 6 & 10 & 6 & 4 & 2 \end{pmatrix}$$

Induced action on the BLT-set:

The induced group has order 392 and is generated by:

$$g_1 = (8, 9)(10, 14)(11, 13)$$

$$g_2 = (8, 10, 12, 14, 9, 13, 11)$$

$$g_3 = (2, 5)(3, 4)(6, 7)(8, 11)(9, 12)(10, 13)$$

$$g_4 = (1, 3)(2, 4)(5, 6)(8, 9)(10, 14)(11, 13)$$

$$g_5 = (1, 11, 5, 13, 6, 9, 3, 14, 4, 12, 7, 10, 2, 8)$$

Kernel has order 1 and is generated by:

There are 1 orbits on the BLT set.

The orbit length are [14]

The orbits are:

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