1 BLT set 1 over GF(47)

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

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

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

$P_3 = (0, 1, 28, 46, 28)$

$P_4 = (0, 1, 7, 23, 14)$

$P_5 = (0, 1, 24, 31, 25)$

$P_6 = (0, 1, 2, 15, 3)$

$P_7 = (0, 1, 25, 43, 18)$

$P_8 = (0, 1, 16, 25, 5)$

$P_9 = (0, 1, 42, 42, 46)$

$P_{10} = (0, 1, 18, 45, 9)$

$P_{11} = (0, 1, 1, 18, 13)$

$P_{12} = (0, 1, 42, 5, 1)$

$P_{13} = (0, 1, 3, 28, 15)$

$P_{14} = (0, 1, 4, 36, 26)$

$P_{15} = (0, 1, 21, 41, 27)$

$P_{16} = (0, 1, 27, 10, 2)$

$P_{17} = (0, 1, 12, 9, 30)$

$P_{18} = (0, 1, 9, 40, 8)$

$P_{19} = (0, 1, 32, 13, 12)$

$P_{20} = (0, 1, 24, 16, 22)$

$P_{21} = (0, 1, 34, 26, 24)$

$P_{22} = (0, 1, 2, 32, 44)$

$P_{23} = (0, 1, 28, 1, 19)$

$P_{24} = (0, 1, 3, 19, 32)$

$P_{25} = (0, 1, 8, 30, 6)$

$P_{26} = (0, 1, 36, 33, 16)$

$P_{27} = (0, 1, 34, 21, 23)$

$P_{28} = (0, 1, 21, 6, 20)$

$P_{29} = (0, 1, 37, 35, 7)$

$P_{30} = (0, 1, 17, 44, 37)$

$P_{31} = (0, 1, 14, 27, 43)$

$P_{32} = (0, 1, 4, 11, 21)$

$P_{33} = (0, 1, 32, 34, 35)$

$P_{34} = (0, 1, 6, 8, 11)$

$P_{35} = (0, 1, 6, 39, 36)$

$P_{36} = (0, 1, 14, 20, 4)$

$P_{37} = (0, 1, 17, 3, 10)$

$P_{38} = (0, 1, 37, 12, 40)$

$P_{39} = (0, 1, 9, 7, 39)$

$P_{40} = (0, 1, 16, 22, 42)$

$P_{41} = (0, 1, 12, 38, 17)$

$P_{42} = (0, 1, 27, 37, 45)$

$P_{43} = (0, 1, 7, 24, 33)$

$P_{44} = (0, 1, 36, 14, 31)$

$P_{45} = (0, 1, 1, 29, 34)$

$P_{46} = (0, 1, 8, 17, 41)$

$P_{47} = (0, 1, 18, 2, 38)$

$P_{48} = (0, 1, 25, 4, 29)$

Stabilizer of order 9962496 is generated by:

$$g_1 = \begin{pmatrix} 37 & 0 & 0 & 5 & 46 \\ 0 & 46 & 0 & 0 & 0 \\ 0 & 45 & 46 & 32 & 44 \\ 24 & 44 & 0 & 19 & 34 \\ 21 & 32 & 0 & 4 & 19 \end{pmatrix}$$

$$g_2 = \begin{pmatrix} 25 & 0 & 0 & 21 & 24 \\ 0 & 46 & 0 & 0 & 0 \\ 0 & 0 & 46 & 0 & 0 \\ 12 & 0 & 0 & 34 & 40 \\ 34 & 0 & 0 & 13 & 34 \end{pmatrix}$$

$$g_3 = \begin{pmatrix} 37 & 0 & 0 & 5 & 46 \\ 0 & 46 & 0 & 0 & 0 \\ 0 & 0 & 46 & 0 & 0 \\ 23 & 0 & 0 & 28 & 13 \\ 26 & 0 & 0 & 43 & 28 \end{pmatrix}$$

$$g_4 = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 46 & 0 & 0 & 0 \\ 0 & 0 & 46 & 0 & 0 \\ 0 & 0 & 0 & 46 & 0 \\ 0 & 0 & 0 & 0 & 46 \end{pmatrix}$$

$$g_5 = \begin{pmatrix} 22 & 0 & 0 & 21 & 24 \\ 0 & 1 & 28 & 46 & 28 \\ 0 & 0 & 1 & 0 & 0 \\ 12 & 0 & 28 & 12 & 35 \\ 34 & 0 & 46 & 29 & 12 \end{pmatrix}$$

$$g_6 = \begin{pmatrix} 25 & 0 & 0 & 21 & 24 \\ 0 & 0 & 14 & 0 & 0 \\ 0 & 37 & 0 & 0 & 0 \\ 12 & 0 & 0 & 35 & 12 \\ 34 & 0 & 0 & 18 & 35 \end{pmatrix}$$

$$g_7 = \begin{pmatrix} 43 & 0 & 0 & 13 & 35 \\ 0 & 24 & 0 & 0 & 0 \\ 0 & 37 & 2 & 10 & 2 \\ 41 & 1 & 0 & 25 & 23 \\ 30 & 5 & 0 & 11 & 25 \end{pmatrix}$$

$$g_8 = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 5 & 0 & 0 & 0 \\ 0 & 0 & 19 & 0 & 0 \\ 0 & 0 & 0 & 46 & 0 \\ 0 & 0 & 0 & 0 & 46 \end{pmatrix}$$

$$g_9 = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 18 & 0 & 0 & 0 \\ 0 & 0 & 34 & 0 & 0 \\ 0 & 0 & 0 & 46 & 0 \\ 0 & 0 & 0 & 0 & 46 \end{pmatrix}$$

The induced group has order 103776 and is generated by:

g_1 =(2, 5)(3, 4)(7, 27)(8, 48)(9, 37)(10, 17)(11, 26)(12, 22)(13, 43)(14, 39)(15, 24)(16, 25)(18, 47)(19, 40)(20, 35)(21, 34)(23, 29)(28, 46)(30, 45)(31, 44)(32, 42)(33, 41)(36, 38)

g_2 =id

g_3 =id

g_4 =id

g_5 =(1, 3)(5, 6)(7, 37)(8, 27)(9, 48)(10, 23)(11, 13)(12, 15)(14, 16)(17, 42)(18, 28)(19, 26)(20, 25)(21, 36)(22, 44)(24, 31)(29, 32)(30, 47)(33, 38)(34, 41)(35, 39)(40, 43)(45, 46)

g_6 =(1, 2)(3, 4)(5, 40)(6, 32)(7, 15)(8, 20)(9, 44)(10, 29)(11, 46)(12, 26)(13, 27)(14, 22)(16, 18)(17, 33)(19, 41)(21, 24)(23, 43)(25, 45)(28, 48)(30, 35)(34, 37)(38, 47)(39, 42)

g_7 =(2, 3, 10, 25, 14, 42, 15, 20, 17, 48, 36, 41, 16, 34, 29, 23, 6, 7, 24, 18, 46, 9, 8, 32, 30, 31, 12, 45, 37, 21, 39, 27, 33, 44, 38, 5, 47, 11, 19, 28, 13, 22, 26, 35, 43, 4)

g_8 =(3, 24, 6, 30, 16, 10, 41, 25, 15, 36, 7, 45, 19, 29, 18, 35, 32, 21, 4, 26, 5, 40, 12)(8, 9, 23,

13, 22, 37, 42, 47, 17, 46, 28, 31, 48, 11, 33, 38, 39, 34, 14, 27, 43, 44, 20)

g_9 =(3, 33, 24, 38, 6, 39, 30, 34, 16, 14, 10, 27, 41, 43, 25, 44, 15, 20, 36, 8, 7, 9, 45, 23, 19, 13, 29, 22, 18, 37, 35, 42, 32, 47, 21, 17, 4, 46, 26, 28, 5, 31, 40, 48, 12, 11)

Kernel has order 96 and is generated by:

$$b_1 = \begin{pmatrix} 18 & 0 & 0 & 8 & 36 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 29 & 0 & 0 & 33 & 3 \\ 43 & 0 & 0 & 28 & 33 \end{pmatrix}$$

$$b_2 = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

$$b_3 = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 46 & 0 & 0 & 0 \\ 0 & 0 & 46 & 0 & 0 \\ 0 & 0 & 0 & 46 & 0 \\ 0 & 0 & 0 & 0 & 46 \end{pmatrix}$$

The kernel has 2257 orbits on the quadric.

The orbit length are $[48^{2209}, 1^{48}]$

There are 1 orbits on the BLT set.

The orbit length are [48]

The orbits are:

$O_0 = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34,$

(length 48)