Rank-65561 over GF(64)

January 15, 2021

The equation

The equation of the surface is :

$$X_1^3 + X_2^3 + X_0^2 X_1 + X_0 X_1 X_2 = 0$$

(0, 1, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0)
The point rank of the equation over GF(64) is 1107566725

General information

Number of lines	56
Number of points	3585
Number of singular points	1
Number of Eckardt points	0
Number of double points	0
Number of single points	3584
Number of points off lines	0
Number of Hesse planes	0
Number of axes	0
Type of points on lines	65^{56}
Type of lines on points	56, 1^{3584}

Singular Points

The surface has 1 singular points:

$0: \ P_3 = \mathbf{P}(0,0,0,1) = \mathbf{P}(0,0,0,1)$

The 56 Lines

The lines and their Pluecker coordinates are:

$$\ell_0 = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{4160} = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{4160} = \mathbf{Pl}(0,0,0,0,1,0)_{4225}$$

$$\ell_1 = \begin{bmatrix} 1 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{8321} = \begin{bmatrix} 1 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{8321} = \mathbf{Pl}(0,0,0,1,1,0)_{12353}$$

$$\ell_2 = \left[\begin{array}{cccc} 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{17043585} = \left[\begin{array}{cccc} 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{17043585} = \mathbf{Pl}(0,1,0,1,0,0)_{193}$$

$$\ell_3 = \left[\begin{array}{cccc} 1 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{274625} = \left[\begin{array}{cccc} 1 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{274625} = \mathbf{Pl}(0,1,0,1,1,0)_{12417}$$

$$\ell_4 = \left[\begin{array}{cccc} 1 & \epsilon^{39} & \epsilon^{44} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{9087623} = \left[\begin{array}{cccc} 1 & 7 & 34 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{9087623} = \mathbf{Pl}(0,34,0,7,1,0)_{13212}$$

$$\ell_5 = \left[\begin{array}{cccc} 1 & \epsilon^{32} & \epsilon^{37} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{11030810} = \left[\begin{array}{cccc} 1 & 26 & 41 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{11030810} = \mathbf{Pl}(0,41,0,26,1,0)_{15632}$$

$$\ell_6 = \left[\begin{array}{cccc} 1 & \epsilon & \epsilon^{11} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{8267906} = \left[\begin{array}{cccc} 1 & 2 & 31 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{8267906} = \mathbf{Pl}(0,31,0,2,1,0)_{12574}$$

$$\ell_7 = \left[\begin{array}{cccc} 1 & \epsilon^{15} & \epsilon^{25} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{15803477} = \left[\begin{array}{cccc} 1 & 21 & 59 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{15803477} = \mathbf{Pl}(0,59,0,21,1,0)_{15015}$$

$$\ell_8 = \left[\begin{array}{cccc} 1 & \epsilon^{57} & \epsilon^{23} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{10327601} = \left[\begin{array}{cccc} 1 & 49 & 38 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{10327601} = \mathbf{Pl}(0,38,0,49,1,0)_{18550}$$

$$\ell_9 = \left[\begin{array}{cccc} 1 & \epsilon^{49} & \epsilon^{15} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{5721374} = \left[\begin{array}{cccc} 1 & 30 & 21 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{5721374} = \mathbf{Pl}(0,21,0,30,1,0)_{16120}$$

$$\ell_{10} = \left[\begin{array}{cccc} 1 & \epsilon^{13} & \epsilon^{22} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{5184605} = \left[\begin{array}{cccc} 1 & 29 & 19 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{5184605} = \mathbf{Pl}(0,19,0,29,1,0)_{15991}$$

$$\ell_{11} = \left[\begin{array}{cccc} 1 & \epsilon^{41} & \epsilon^{50} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{16098908} = \left[\begin{array}{cccc} 1 & 28 & 60 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{16098908} = \mathbf{Pl}(0,60,0,28,1,0)_{15905}$$

$$\ell_{12} = \left[\begin{array}{cccc} 1 & \epsilon^{39} & \epsilon^{21} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{15212615} = \left[\begin{array}{cccc} 1 & 7 & 57 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{15212615} = \mathbf{Pl}(0,57,0,7,1,0)_{13235}$$

$$\ell_{13} = \left[\begin{array}{cccc} 1 & \epsilon^{60} & \epsilon^{42} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{14967116} = \left[\begin{array}{cccc} 1 & 12 & 56 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{14967116} = \mathbf{Pl}(0,56,0,12,1,0)_{13869}$$

$$\ell_{14} = \left[\begin{array}{cccc} 1 & \epsilon^{28} & \epsilon^{51} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{6915581} = \left[\begin{array}{cccc} 1 & 61 & 25 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{6915581} = \mathbf{Pl}(0,25,0,61,1,0)_{20061}$$

$$\ell_{15} = \left[\begin{array}{cccc} 1 & \epsilon^{30} & \epsilon^{53} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{1560374} = \left[\begin{array}{cccc} 1 & 54 & 5 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{1560374} = \mathbf{Pl}(0,5,0,54,1,0)_{19152}$$

$$\ell_{16} = \left[\begin{array}{cccc} 1 & \epsilon^{2} & \epsilon^{22} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{5080580} = \left[\begin{array}{cccc} 1 & 4 & 19 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{5080580} = \mathbf{Pl}(0,19,0,4,1,0)_{12816}$$

$$\ell_{17} = \left[\begin{array}{cccc} 1 & \epsilon^{30} & \epsilon^{50} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{16207094} = \left[\begin{array}{cccc} 1 & 54 & 60 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{16207094} = \mathbf{Pl}(0,60,0,54,1,0)_{19207}$$

$$\ell_{18} = \left[\begin{array}{cccc} 1 & \epsilon^{37} & \epsilon^{2} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{1239977} = \left[\begin{array}{cccc} 1 & 41 & 4 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{1239977} = \mathbf{Pl}(0,4,0,41,1,0)_{17500}$$

$$\ell_{19} = \left[\begin{array}{cccc} 1 & \epsilon^{47} & \epsilon^{12} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{16743863} = \left[\begin{array}{cccc} 1 & 55 & 62 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{16743863} = \mathbf{Pl}(0,62,0,55,1,0)_{19336}$$

$$\ell_{20} = \left[\begin{array}{cccc} 1 & \epsilon^{51} & \epsilon^{22} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{5167961} = \left[\begin{array}{cccc} 1 & 25 & 19 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{5167961} = \mathbf{Pl}(0,19,0,25,1,0)_{15483}$$

$$\ell_{21} = \left[\begin{array}{cccc} 1 & \epsilon^{16} & \epsilon^{50} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{16157162} = \left[\begin{array}{cccc} 1 & 42 & 60 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{16157162} = \mathbf{Pl}(0,60,0,42,1,0)_{17683}$$

$$\ell_{22} = \left[\begin{array}{cccc} 1 & \epsilon^{50} & \epsilon & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{786428} = \left[\begin{array}{cccc} 1 & 60 & 2 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{786428} = \mathbf{Pl}(0,2,0,60,1,0)_{19911}$$

$$\ell_{23} = \begin{bmatrix} 1 & \epsilon^{55} & \epsilon^{6} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{8875412} = \begin{bmatrix} 1 & 20 & 33 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{8875412} = \mathbf{Pl}(0,33,0,20,1,0)_{14862}$$

$$\ell_{24} = \begin{bmatrix} 1 & \epsilon^{35} & \epsilon^{30} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{14459474} = \begin{bmatrix} 1 & 18 & 54 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{14459474} = \mathbf{Pl}(0,54,0,18,1,0)_{14629}$$

$$\ell_{25} = \begin{bmatrix} 1 & \epsilon^{51} & \epsilon^{46} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{11559257} = \begin{bmatrix} 1 & 25 & 43 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{11559257} = \mathbf{Pl}(0,43,0,25,1,0)_{15507}$$

$$\ell_{26} = \begin{bmatrix} 1 & \epsilon^{11} & \epsilon^{4} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{4394015} = \begin{bmatrix} 1 & 31 & 16 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{4394015} = \mathbf{Pl}(0,16,0,31,1,0)_{16242}$$

$$\ell_{27} = \begin{bmatrix} 1 & \epsilon^{31} & \epsilon^{24} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{12041933} = \begin{bmatrix} 1 & 13 & 45 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{12041933} = \mathbf{Pl}(0,45,0,13,1,0)_{13985}$$

$$\ell_{28} = \begin{bmatrix} 1 & \epsilon^{57} & \epsilon^{21} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{15387377} = \begin{bmatrix} 1 & 49 & 57 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{15387377} = \mathbf{Pl}(0,57,0,49,1,0)_{18569}$$

$$\ell_{29} = \begin{bmatrix} 1 & \epsilon^{15} & \epsilon^{42} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{15004565} = \begin{bmatrix} 1 & 21 & 56 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{15004565} = \mathbf{Pl}(0,56,0,21,1,0)_{15012}$$

$$\ell_{30} = \begin{bmatrix} 1 & \epsilon^{26} & \epsilon^{44} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{9154199} = \begin{bmatrix} 1 & 23 & 34 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{9154199} = \mathbf{Pl}(0,34,0,23,1,0)_{15244}$$

$$\ell_{31} = \begin{bmatrix} 1 & \epsilon^{19} & \epsilon^{37} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{11014166} = \begin{bmatrix} 1 & 22 & 41 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{11014166} = \mathbf{Pl}(0,41,0,22,1,0)_{15124}$$

$$\ell_{32} = \begin{bmatrix} 1 & \epsilon^{4} & \epsilon^{44} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{9125072} = \begin{bmatrix} 1 & 16 & 34 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{9125072} = \mathbf{Pl}(0,34,0,16,1,0)_{14355}$$

$$\ell_{33} = \begin{bmatrix} 1 & \epsilon^{60} & \epsilon^{37} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{10972556} = \begin{bmatrix} 1 & 12 & 41 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{10972556} = \mathbf{Pl}(0,41,0,12,1,0)_{13854}$$

$$\ell_{34} = \begin{bmatrix} 1 & \epsilon^{59} & \epsilon^{3} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{2159558} = \begin{bmatrix} 1 & 6 & 8 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{2159558} = \mathbf{Pl}(0,8,0,6,1,0)_{13059}$$

$$\ell_{35} = \begin{bmatrix} 1 & \epsilon^{25} & \epsilon^{32} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{7173563} = \begin{bmatrix} 1 & 59 & 26 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{7173563} = \mathbf{Pl}(0,26,0,59,1,0)_{19808}$$

$$\ell_{36} = \begin{bmatrix} 1 & \epsilon^{57} & \epsilon^{11} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{8463473} = \begin{bmatrix} 1 & 49 & 31 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{8463473} = \mathbf{Pl}(0,31,0,49,1,0)_{18543}$$

$$\ell_{37} = \begin{bmatrix} 1 & \epsilon^{8} & \epsilon^{25} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{15878375} = \begin{bmatrix} 1 & 39 & 59 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{15878375} = \mathbf{Pl}(0,59,0,39,1,0)_{17301}$$

$$\ell_{38} = \begin{bmatrix} 1 & \epsilon^{15} & \epsilon^{58} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{890453} = \begin{bmatrix} 1 & 21 & 3 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{890453} = \mathbf{Pl}(0,3,0,21,1,0)_{14959}$$

$$\ell_{39} = \begin{bmatrix} 1 & \epsilon^{14} & \epsilon^{57} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{13294394} = \begin{bmatrix} 1 & 58 & 49 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{13294394} = \mathbf{Pl}(0,49,0,58,1,0)_{19704}$$

$$\ell_{40} = \begin{bmatrix} 1 & \epsilon^{38} & \epsilon^{11} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{8471795} = \begin{bmatrix} 1 & 51 & 31 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{8471795} = \mathbf{Pl}(0,31,0,51,1,0)_{18797}$$

$$\ell_{41} = \begin{bmatrix} 1 & \epsilon^{52} & \epsilon^{25} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{15924146} = \begin{bmatrix} 1 & 50 & 59 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{15924146} = \mathbf{Pl}(0,59,0,50,1,0)_{18698}$$

$$\ell_{42} = \begin{bmatrix} 1 & \epsilon^{30} & \epsilon^{21} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{15408182} = \begin{bmatrix} 1 & 54 & 57 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{15408182} = \mathbf{Pl}(0,57,0,54,1,0)_{19204}$$

$$\ell_{43} = \begin{bmatrix} 1 & \epsilon^{51} & \epsilon^{42} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{15021209} = \begin{bmatrix} 1 & 25 & 56 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{15021209} = \mathbf{Pl}(0,56,0,25,1,0)_{15520}$$

$$\ell_{44} = \begin{bmatrix} 1 & \epsilon^{60} & \epsilon^{43} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{4581260} = \begin{bmatrix} 1 & 12 & 17 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{4581260} = \mathbf{Pl}(0,17,0,12,1,0)_{13830}$$

$$\ell_{45} = \begin{bmatrix} 1 & \epsilon^{56} & \epsilon^{39} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{2034728} = \begin{bmatrix} 1 & 40 & 7 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{2034728} = \mathbf{Pl}(0,7,0,40,1,0)_{17376}$$

$$\ell_{46} = \begin{bmatrix} 0 & 1 & \epsilon^{21} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{17047225} = \begin{bmatrix} 0 & 1 & 57 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{17047225} = \mathbf{Pl}(0,57,0,1,0,0)_{249}$$

$$\ell_{47} = \begin{bmatrix} 1 & \epsilon^{42} & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{503480} = \begin{bmatrix} 1 & 56 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{503480} = \mathbf{Pl}(0,1,0,56,1,0)_{19402}$$

$$\ell_{48} = \begin{bmatrix} 0 & 1 & \epsilon^{42} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{17047160} = \begin{bmatrix} 0 & 1 & 56 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{17047160} = \mathbf{Pl}(0,56,0,1,0,0)_{248}$$

$$\ell_{49} = \begin{bmatrix} 1 & \epsilon^{21} & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{507641} = \begin{bmatrix} 1 & 57 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{507641} = \mathbf{Pl}(0,1,0,57,1,0)_{19529}$$

$$\ell_{50} = \begin{bmatrix} 1 & \epsilon^{22} & \epsilon^{8} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{10469075} = \begin{bmatrix} 1 & 19 & 39 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{10469075} = \mathbf{Pl}(0,39,0,19,1,0)_{14741}$$

$$\ell_{51} = \begin{bmatrix} 1 & \epsilon^{62} & \epsilon^{48} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{4198448} = \begin{bmatrix} 1 & 48 & 15 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{4198448} = \mathbf{Pl}(0,15,0,48,1,0)_{18400}$$

$$\ell_{52} = \begin{bmatrix} 1 & \epsilon^{61} & \epsilon^{33} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{13951832} = \begin{bmatrix} 1 & 24 & 52 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{13951832} = \mathbf{Pl}(0,52,0,24,1,0)_{15389}$$

$$\ell_{53} = \begin{bmatrix} 1 & \epsilon^{44} & \epsilon^{16} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{11330402} = \begin{bmatrix} 1 & 34 & 42 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{11330402} = \mathbf{Pl}(0,42,0,34,1,0)_{16649}$$

$$\ell_{54} = \begin{bmatrix} 1 & \epsilon^{7} & \epsilon^{60} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{3345443} = \begin{bmatrix} 1 & 35 & 12 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{3345443} = \mathbf{Pl}(0,12,0,35,1,0)_{16746}$$

$$\ell_{55} = \begin{bmatrix} 1 & \epsilon^{39} & \epsilon^{29} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{7223495} = \begin{bmatrix} 1 & 7 & 27 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{7223495} = \mathbf{Pl}(0,27,0,7,1,0)_{13205}$$

Rank of lines: (4160, 8321, 17043585, 274625, 9087623, 11030810, 8267906, 15803477, 10327601, 5721374, 5184605, 16098908, 15212615, 14967116, 6915581, 1560374, 5080580, 16207094, 1239977, 16743863, 5167961, 16157162, 786428, 8875412, 14459474, 11559257, 4394015, 12041933, 15387377, 15004565, 9154199, 11014166, 9125072, 10972556, 2159558, 7173563, 8463473, 15878375, 890453, 13294394, 8471795, 15924146, 15408182, 15021209, 4581260, 2034728, 17047225, 503480, 17047160, 507641, ...11330402, 3345443, 7223495)
Rank of points on Klein quadric: (4225, 12353, 193, 12417, 13212, 15632, 12574, 15015, 18550, 16120, 15991, 15905, 13235, 13869, 20061, 19152, 12816, 19207, 17500, 19336, 15483, 17683, 19911, 14862, 14629, 15507, 16242, 13985, 18569, 15012, 15244, 15124, 14355, 13854, 13059, 19808, 18543, 17301, 14959, 19704, 18797, 18698, 19204, 15520, 13830, 17376, 249, 19402, 248, 19529, ...16649, 16746, 13205)

Eckardt Points

The surface has 0 Eckardt points:

Double Points

The surface has 0 Double points:
The double points on the surface are:

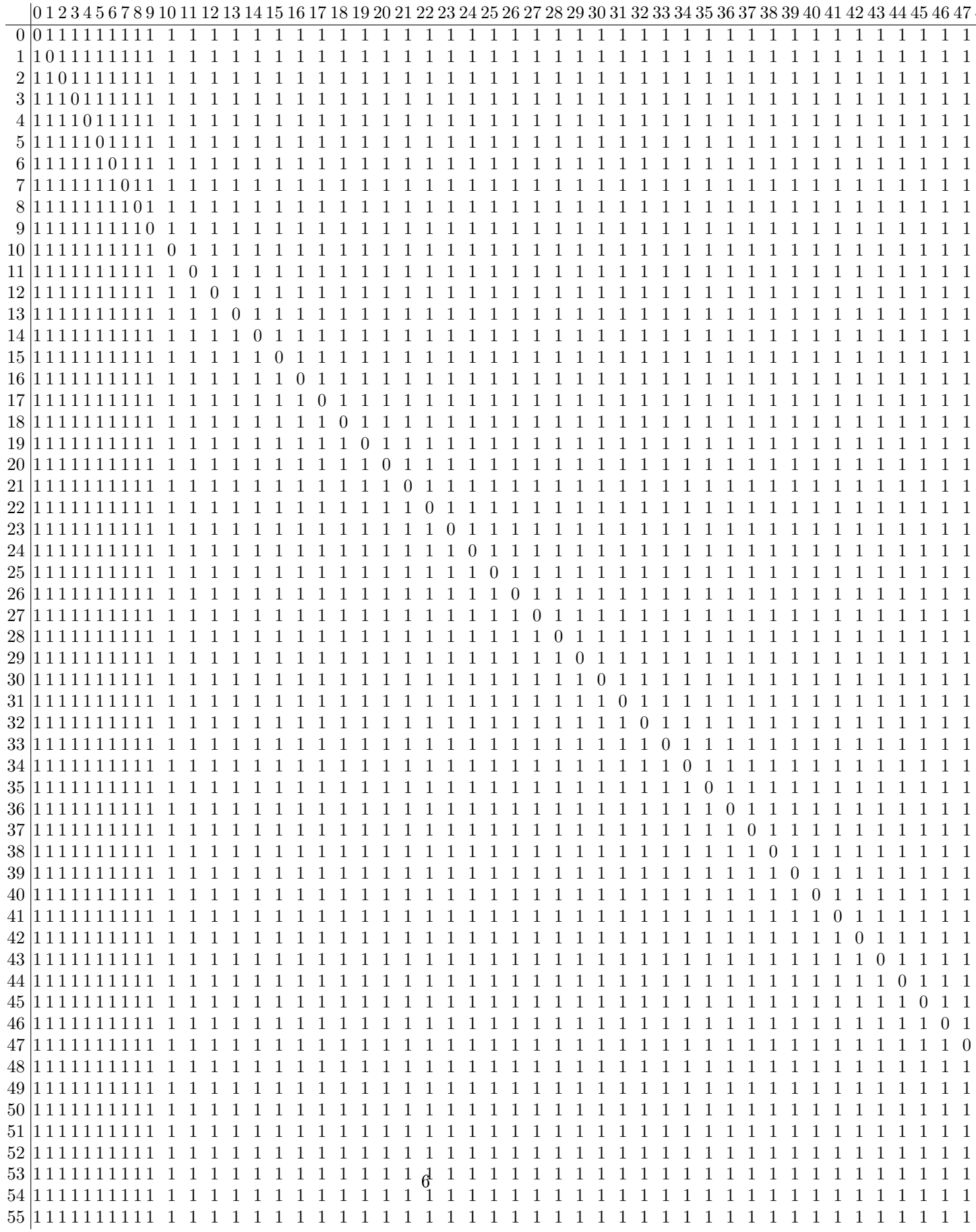
Single Points

The surface has 3584 single points:
Too many to print.

Points on surface but on no line

The surface has 0 points not on any line:
The points on the surface but not on lines are:

Line Intersection Graph



Neighbor sets in the line intersection graph:
Line 0 intersects

Line	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 1 intersects

Line	ℓ_0	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 2 intersects

Line	ℓ_0	ℓ_1	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 3 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 4 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 5 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 6 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 7 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 8 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 9 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 10 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 11 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 12 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 13 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 14 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 15 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 16 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 17 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 18 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 19 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 20 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{21}	ℓ_{22}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 21 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{22}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 22 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 23 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 24 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 25 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P

Line 26 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P

Line 27 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P

Line 28 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P

Line 29 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P

Line 30 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P

Line 31 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P

Line 32 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P

Line 33 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P

Line 34 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P

Line 35 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P

Line 36 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P

Line 37 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P

Line 38 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	

Line 39 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	

Line 40 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	

Line 41 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	

Line 42 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	

Line 43 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	

Line 44 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	

Line 45 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	

Line 46 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	

Line 47 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	

Line 48 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	

Line 49 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	

Line 50 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	

Line 51 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	$P_$

Line 52 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	$P_$

Line 53 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	$P_$

Line 54 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	$P_$

Line 55 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	$P_$

The surface has 3585 points:
Too many to print.