

# Rank-65634 over GF(2)

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## The equation

The equation of the surface is :

$$X_0^3 + X_1^3 + X_2^3 + X_3^3 + X_0^2 X_1 + X_0^2 X_3 + X_0 X_1 X_2 = 0$$

( 1, 1, 1, 1, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0 )

The point rank of the equation over GF(2) is 65634

## General information

|                            |       |
|----------------------------|-------|
| Number of lines            | 0     |
| Number of points           | 5     |
| Number of singular points  | 0     |
| Number of Eckardt points   | 0     |
| Number of double points    | 0     |
| Number of single points    | 0     |
| Number of points off lines | 5     |
| Number of Hesse planes     | 0     |
| Number of axes             | 0     |
| Type of points on lines    |       |
| Type of lines on points    | $0^5$ |

## Singular Points

The surface has 0 singular points:

## The 0 Lines

The lines and their Pluecker coordinates are:

Rank of lines: ( )

Rank of points on Klein quadric: ( )

### 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 0 single points:

The single points on the surface are:

The single points on the surface are:

### Points on surface but on no line

The surface has 5 points not on any line:

The points on the surface but not on lines are:

$$0 : P_6 = (1, 0, 1, 0)$$

$$1 : P_7 = (0, 1, 1, 0)$$

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

$$3 : P_{12} = (0, 0, 1, 1)$$

$$4 : P_{13} = (1, 0, 1, 1)$$

### Line Intersection Graph

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Neighbor sets in the line intersection graph:

The surface has 5 points:

The points on the surface are:

$$0 : P_6 = (1, 0, 1, 0)$$

$$1 : P_7 = (0, 1, 1, 0)$$

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

$$3 : P_{12} = (0, 0, 1, 1)$$

$$4 : P_{13} = (1, 0, 1, 1)$$