# Rank-65850 over GF(2)

January 15, 2021

# The equation

The equation of the surface is:

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

( 1, 1, 1, 0, 1, 1, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0 ) The point rank of the equation over  $\mathrm{GF}(2)$  is 65850

# General information

Number of lines	0
Number of points	1
Number of singular points	1
Number of Eckardt points	0
Number of double points	0
Number of single points	0
Number of points off lines	1
Number of Hesse planes	0
Number of axes	0
Type of points on lines	
Type of lines on points	0

## Singular Points

The surface has 1 singular points:

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

## 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 1 points not on any line: The points on the surface but not on lines are:

$$0: P_3 = (0, 0, 0, 1)$$

# ${\bf Line\ Intersection\ Graph}$

Neighbor sets in the line intersection graph: The surface has 1 points: The points on the surface are:

$$0: P_3 = (0,0,0,1)$$

2