

Vis à Vis

Singular or regular - friend or enemy

$$x^2 - x^3 + y^2 + y^4 + z^3 - z^4 = 0$$

Singular points, or singularities, are identified visually because the surface is not smooth or soft, for instance, like a cusp or a fold.

The cusp on the left of the Vis à Vis surface is a singularity; however, the smooth hill on the right is a regular point. Singularities are interesting because small changes in the equation can change their appearance in a surprising way.

Do you know that there are people dedicated especially to studying these points? Black holes and the Big Bang constitute singularities of cosmological model equations. And now look at the tips of your fingers, the singularities of our fingerprints identify us!