

# DU VAL SINGULARITIES

JENNIFER LI

## ABSTRACT

In algebraic geometry, a du Val singularity is a type of surface singularity. There are several ways to define a du Val singularity, and I will present a few of these characterizations. One approach is by associating it with an equation  $f(x, y, z) = 0$ , where  $f$  is of a particular form. In this way, the du Val singularities fall into one of the groups:  $A_n$ ,  $D_n$ ,  $E_6$ ,  $E_7$ , or  $E_8$ . I will also illustrate the connections between du Val singularities and Dynkin diagrams, and describe these singularities as quotients of  $\mathbb{C}^2$  by finite subgroups of  $SL(2, \mathbb{C})$ .