

On families of Thue equations: A Diophantine equation of the form:

$$F(x, y) = m,$$

where $F(x, y) \in \mathbf{Z}[x, y]$ is an irreducible homogeneous polynomial of degree $d \geq 3$ and m is a nonzero integer is called a **Thue equation**. It is named after Thue, who proved in 1909, that such an equation has only finitely many solutions. In this talk we consider families of parametrized Thue equations

$$F_t(X, Y) = \pm 1 \quad t \in \mathbb{Z},$$

where $F_t \in \mathbb{Z}[t][X, Y]$ is a binary irreducible form with coefficients which are polynomials in some parameter t . We will talk about effective methods to solve these type of equations.