

Explicit and mixed estimates for Thue inequalities with few coefficients

By N. SARADHA (Mumbai) and DIVYUM SHARMA (Pilani)

Abstract. Let $F(x, y)$ be an irreducible form of degree $r \geq 3$, having $s+1$ non-zero coefficients. Let $h \geq 1$ be an integer, and consider the Thue inequality

$$|F(x, y)| \leq h.$$

Following the seminal work of Thue in 1909, several papers were written giving an upper bound for the number of solutions of the above inequality as $\ll c(r, s, h)$, where $c(r, s, h)$ is an explicit function of r , s and h . Invariably, the absolute constant involved in \ll has been left undetermined. In this paper, following Bombieri, Schmidt and Mueller, we give three different upper bounds which are explicit in every aspect.

NATARAJAN SARADHA
FELLOW, INDIAN ACADEMY OF SCIENCES
B-706, EVERARD TOWERS
EASTERN EXPRESS HIGHWAY
SION, MUMBAI 400 022
INDIA

DIVYUM SHARMA
DEPARTMENT OF MATHEMATICS
BIRLA INSTITUTE OF
TECHNOLOGY AND SCIENCE
PILANI 333 031
INDIA

Mathematics Subject Classification: Primary: 11D61.

Key words and phrases: Thue inequalities, primitive solutions, reduced forms, clustering of roots.