

1056-11-1169

Daniel P. Wisniewski* (dwisniew@brynmawr.edu). *Tetranomial Thue Equations*. Preliminary report.

A Thue equation is one of the form

$$|F(x, y)| = 1,$$

where F is a homogeneous, irreducible polynomial in $\mathbf{Z}[x, y]$ of degree at least three. We consider the problem of bounding the number of integer solutions (p, q) of an arbitrary Thue equation, with p and q coprime. There has been a great deal of research on bounding this number for specific equations and on finding asymptotic bounds, as the degree goes to infinity, for the general question. In a 2000 paper, E. Thomas considered the special case of *trinomial* Thue equations, where F has exactly three non-zero coefficients. Among other results, he gave an explicit numeric bound, independent of the degree and the values of the coefficients, on the number of integer solutions to arbitrary trinomial Thue equations of degree greater than or equal to 38.

In this talk, I will discuss recent work on the analogous problem with *tetranomial* Thue equations (where F has exactly four non-zero coefficients). Working with a somewhat restricted set of tetranomial Thue equations, I will explain the methods I've used to obtain results similar to those of Thomas in the trinomial case. (Received September 21, 2009)