962-11-1052 **Thomas J. Tucker*** (`ttucker@math.uga.edu`), Department of Mathematics, University of Georgia, Athens, GA 30602. *Thue equations and the method Chabauty-Coleman.*

A Thue equation is an equation of the form $F(x, y) = m$ where m is an integer and F is a polynomial with integer coefficients and no repeated roots. A primitive integer solution to the Thue equation $F(x, y) = m$ is a pair of integers a, b such that $\gcd(a, b) = 1$ and $F(a, b) = m$. In this talk, we will show that when the degree n of F is at least 3, and the Mordell-Weil rank of the Jacobian of the corresponding projective curve $F(x, y) = hz^n$ is less than $(n-1)(n-2)/2$, there are at most $O(n^3)$ primitive integer solutions to the equation $F(x, y) = h$. The proof utilizes the method of Coleman-Chabauty, generalized here to work at primes of bad reduction, along with an explicit computation of large portions of a regular model for $F(x, y) = hz^n$ over the p-adic integers. This talk represents joint work with D. Lorenzini. (Received October 02, 2000)