



PURDUE UNIVERSITY

Department of Mathematics Colloquium

Speaker: Professor Arnaud Bodin, Universite Lille 1

Title: "Integral Points on Generic Curves"

Date: Tuesday, March 3, 2009

Time: 4:30 P.M.

Place: MATH 175

Abstract

Let $P(x, y)$ be a polynomial with rational coefficients. If the curve $(P(x, y) = k)$, $k \in \mathbb{Q}$, is irreducible and have an infinite number of points whose coordinates are integers, then by Siegel's theorem the curve is a rational curve (i.e. of genus 0). We are interested in the case where k is a generic value and we prove — in the spirit of Abhyankar-Moh-Suzuki theorem — that there exists an algebraic automorphism that send $P(x, y)$ to the polynomial x or to $x^2 - \ell y^2$, $\ell \in \mathbb{N}$. Moreover for such curves we give an optimal bound for the number of integral points (x, y) with x and y bounded.

Refreshments will be served in the Math Library Lounge at 4:00 p.m.