



Seminar

K-Theory, Quadratic Forms and Number Theory

Title: Representation of integers by binary forms

Speaker: Dr. Shabnam Akhtari (MPIM)

Date: Wed 5th May 2010 at 4:00PM

Location: Mathematical Sciences Seminar Room

Abstract: Let $F(x,y)$ be an irreducible binary form with integral coefficients and degree n greater than or equal to 3, then by a well-known result of Thue, the equation $F(x,y) = m$ (m an integer) has finitely many solutions in integers x and y . I shall discuss some methods from Diophantine analysis and geometry of numbers to obtain upper bounds upon the number of integral solutions to such equations. I will pay special attention to quartic forms and describe a general method for finding integral points on elliptic curves by reducing them to quartic Thue equations. Then I will show some results on representation of integers by binary forms.