

Queen's Algebraic Geometry — Seminar —

DIOPHANTINE APPROXIMATION AND THE SESHADRI CONSTANT

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Abstract

This is a report on joint work in progress with David McKinnon. The basic idea is to generalize the classic questions about diophantine geometry to algebraic varieties. Given a point x on a variety X defined over \mathbb{Q} , and an ample line bundle L on X (used as a “gauge”), we define a constant measuring the difficulty of approximating x by nearby rational points. What is surprising is that this approximation constant is closely related to a purely geometric notion — the Seshadri constant — measuring local positivity of a line bundle. This provides a new point of view on approximation questions, and also hints at possible local approaches to global arithmetic conjectures due to Bombieri-Lang or Batyrev-Manin

Monday 7 November 2011
16:30 – 17:30
319 Jeffery Hall