

Queen's Algebraic Geometry — Seminar —

LOG CONCAVITY OF CHARACTERISTIC POLYNOMIALS AND TROPICAL INTERSECTION THEORY

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Abstract

In a recent joint work with June Huh, we proved the log concavity of the characteristic polynomial of a realizable matroid by relating its coefficients to intersection numbers on an algebraic variety and applying an algebraic geometric inequality. This extended earlier work of Huh which resolved a conjecture in graph theory. In this talk, we rephrase the problem in terms of more familiar algebraic geometry, outline the proof, and discuss an approach to extending this proof to all matroids. Our approach suggests a general theory of positivity in tropical geometry.

Monday 3 October 2011
16:30 – 17:30
319 Jeffery Hall