

ALGEBRA AND NUMBER THEORY  
SEMINAR

*Log concavity of characteristic polynomials and toric  
intersection theory.*

Eric Katz  
University of Waterloo

**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.

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Mathematics and Science Center: W306

MATHEMATICS AND COMPUTER SCIENCE  
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