
* Princeton Discrete Math Seminar *

Date: Wednesday, September 22 , 2:30 in Fine Hall 224

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Fourier Analysis of Boolean functions and Discrete Isoperimetry

Abstract

In this talk I will describe recent results and open problems concerning Fourier analysis of boolean functions and applications to combinatorics, probability and theoretical computer science. Of particular interest is the relation with discrete isoperimetric inequalities. I will present a result with Friedgut and Naor on the "stability" of the edge-isoperimetric inequality (total influence) and some subsequent developments, and a conjecture of Jeff Kahn and myself on the total influence of sets with tiny measure. The known techniques seems helpless when we deal with sets of tiny measure.