



THE WEIZMANN INSTITUTE OF SCIENCE  
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE  
Geometric Functional Analysis and Probability Seminar

Room 261 ,Ziskind Building  
on Thursday, Jun 04, 2015  
at 11:05

Mark Rudelson  
University of Michigan

### Approximation complexity of convex bodies

Abstract:

Consider the approximation of an  $n$ -dimensional convex body by a projection of a section of an  $N$ -dimensional simplex, and call the minimal  $N$  for which such approximation exists the approximation complexity of the body. The reason for such strange definition lies in computer science. A projection of a section of a simplex is the feasible set of a linear programming problem, and so it can be efficiently generated. We will discuss how large the approximation complexity of different classes of convex bodies can be.