מכון ויצמן למדע

THE WEIZMANN INSTITUTE OF SCIENCE

FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

Geometric Functional Analysis and Probability Seminar

Room 261 ,Ziskind Building
on Thursday, Feb 04, 2016
at 11:15

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KTH Royal Inst. of Technology

Fluctuations of linear statistics of determinantal processes

Abstract:

Determinantal point processes arise in the description of eigenvalues of unitary invariant Hermitian random matrices, as well as in many statistical mechanics models such as random tilings, non-intersecting paths, etc. I will explain a cumulant method developed by A. Soshnikov to analyze the asymptotics distributions of linear statistics of determinantal processes and certain combinatorial identities associated with the sine process. I will present some applications to orthogonal ensembles and, if time permits, to certain biorthogonal ensembles and discuss some models which exhibit a transition from Poisson to GUE.