北京理工大学

数学与统计学院学术报告

Joint moments of the derivatives of the characteristic polynomials from the CUE

报告人： 魏菲

时间： 2024年12月26日 15：00——16：00

地点： 文萃楼E 1008

摘要： In this talk, I will firstly introduce some background on the problemof joint moments of the derivatives of the characteristic polynomialof a random unitary matrix. Secondly, I will discuss the connectionsbetween joint moments and integrable systems, specifically, connections to solutions of the sigma-Painleve V and the sigma-Painleve III' equations. Thirdly, I will talk about theapplications of these results, including the rational structure of the large matrix size limit, explicit formulae for joint moments of finite matrix size, an efficient way to compute jointmoments of power sum linear statistics of a certain determinantal process.

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