


复旦大学数学科学学院
数学综合报告会

报告题目：Spectral Properties of Large Dimensional Noncentral Fisher Matrices

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地点：腾讯会议：470 256 947

报告摘要：

In this talk, we will show the spectral properties of the noncentral Fisher matrices from two aspects. One is in the global sense, and we establish the limiting spectral distribution and investigate its analytic behavior. In particular, to detect spiked eigenvalues, we show the determination criterion for the support of the limiting spectral distribution of the noncentral Fisher matrices. The other is about the spiked eigenvalues, and we investigate their asymptotic behavior under the normality assumption. When the dimension and sample size grow to infinity proportionally, we uncover a phase transition phenomenon and establish the central limiting theorem for the spiked eigenvalues. Besides, we develop the limits and CLTs for the sample canonical correlation coefficients and give three consistent estimators, including the population spiked eigenvalues and the population canonical correlation coefficients.

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