The University of Mississippi

Department of Mathematics

Statistics Seminar

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Title: Tests for High-Dimensional Covariance Matrices Using Random Matrix Projection

3:30 pm, Monday, April 24, 2017
Hume Hall 321

Abstract: The classic likelihood ratio test for testing the equality of two covariance matrices break- downs due to the singularity of the sample covariance matrices when the data dimension p is larger than the sample size n. In this paper, we present a conceptually simple method using random projection to project the data onto the one-dimensional random subspace so that the conventional methods can be applied. Both one-sample and two-sample tests for high-dimensional covariance matrices are studied. Asymptotic results are established and numerical results are given to compare our method with state-of-the-art methods in the literature.