広島統計談話会

Hiroshima Statistics Study Group

第 291 回談話会を下記のように開催致しますので

御参集下さいますようご案内申し上げます。

You are cordially invited to the 291st meeting as scheduled below.

日　時：　　　2015 年 6 月 5 日（金）15:00 –
Date　：　　　June 5th, 2015 (Fri) 15:00 –

場　所：　　　放射線影響研究所　比治山ホール
Place　：　　　RERF Hijiyama Hall

演　者：　　　藤越 康祝 博士 (広島大学統計科学研究拠点 広島大学名誉教授)
Speaker　：　　Yasunori Fujikoshi, Ph.D.
　　　　　　　Emeritus Professor of Hiroshima University
　　　　　　　Advisor of the Hiroshima University Statistical Science Research Core

演　題：　　　「主成分分析における次元の推定基準一致性」
Title　：　　　"Consistency of Estimation Criteria of Dimensionality in Principal Component Analysis"

要　約：

Summary:

　　　Principal component analysis (PCA) is a method for the reduction of dimensionality of the data in the form of n observations of p variables. The population components and their variances are defined by using the characteristic roots and vectors of the covariance matrix of the p variables. We consider a covariance matrix structure with dimension j such that the first j largest characteristic roots are different and the remainder roots are the same.　Such a model can be found in many data sets, and is also obtained from a spiked covariance model. In general, we need to estimate the dimensionality. Our purpose is to give consistency of estimation criteria based on model selection criteria under high-dimensional framework as well as large-sample framework. The theoretical results in the case of non-normality are obtained by using random matrix theory. Simulation results are also given. The present work is based on Fujikoshi and Sakurai (2015) and Bai, Fujikoshi and Choi (2015).