

広島統計談話会

Hiroshima Statistics Study Group

第 265 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 265<sup>th</sup> meeting as scheduled below.

日 時 : 2011 年 7 月 1 日 (金) 15:00 –

Date : July 1st, 2011 (Fri) 15:00 –

場 所 : 放射線影響研究所 講堂

Place : RERF Auditorium

演 者 : 若木 宏文 博士 (広島大学 理学研究科 数学専攻 教授)

Speaker : Hirofumi Wakaki, Ph.D.  
Professor, Department of Mathematics  
Hiroshima University

演 題 : 「ガンマ関数に関係した分布の漸近展開公式の計算可能な誤差限界」

Title : “Computable error bounds for asymptotic expansions formulas of distributions  
related to gamma functions”

要 約 :

**Summary:**

We introduce general asymptotic expansions of the distribution of statistics whose moments are certain functions of gamma functions (Box(1949)). MANOVA test is one of such statistics. We consider the classical setup where the sample sizes become large while the dimensions are fixed, and a high dimensional setup where both the sample sizes and the dimensions become large.

Recently computable error bounds for asymptotic expansion formulas of several statistics under the high dimensional setup. The classical asymptotic expansions have derived by Box (1949) with using Stirling's expansion formula of gamma function. Closely investigating the residual of the Stirling's expansion formula, error bounds for the classical asymptotic expansion formulas can also be derived. We show how such error bounds are derived and actual bounds for some statistics including MANOVA test.