

数学与系统科学研究院

计算数学所学术报告

报告人: Ph. D Shaowei Lin

(University of California, Berkeley)

报告题目:

**Asymptotic Approximation of
Marginal Likelihood Integrals**

邀请人: 许志强副研究员

报告时间: 2010年1月25日(周一)

下午4:00—5:00

报告地点: 科技综合楼三层311

计算数学所报告厅

Abstract:

The accurate asymptotic evaluation of marginal likelihood integrals is a fundamental problem in

Bayesian statistics. The goal is to compute the first term asymptotics of certain Laplace integrals where the phase function is singular. Following the approach introduced by Watanabe, we translate this into a problem of computational algebraic geometry, namely, to determine the real log canonical threshold of a polynomial ideal, and we present effective methods for solving this problem. Our results are based on resolution of singularities, and they apply to all statistical models for discrete data that admit a parametrization by real analytic functions.

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