

数学与系统科学研究院

计算数学所学术报告

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报告题目：

**A Practical Formula for Computing  
Optimal Parameters in the HSS  
Iteration Methods**

邀请人： 白中治 研究员

报告时间： 2014 年 4 月 14 日 (周一)

下午 14:30-15:30

报告地点： 科技综合楼三层 311

计算数学所报告厅

## **Abstract:**

**In the Hermitian and skew-Hermitian method proposed by Bai, Golub and Ng (SIAM. J. Matrix Anal. Appl. 24(2003) 603-626), the determination of the optimal parameter is a tough task when the method is used to solve a non-Hermitian positive definite linear system. In this talk, a new and simple strategy for obtaining the optimal parameter is proposed, which computes an approximation to the optimal parameter by solving a cubic polynomial equation. The coefficients of this polynomial are determined by several traces of some matrices related to the symmetric and the skew-symmetric parts of the coefficient matrix of the real linear system. Numerical experiments show that our new strategy is very effective for approximating the optimal parameter in the HSS iteration methods as it leads to fast convergence of the method.**

**欢迎大家参加!**