

数学与系统科学研究院  
计算数学所网络学术报告

报告人: 黄正达 教授

( 浙江大学数学科学学院 )

报告题目:

**On the Efficiency of an Euler-Like  
Method for Computing the Matrix  
 $p$ -th Root**

邀请人: 白中治 研究员

报告时间: 2021 年 9 月 18 日 (周六)

晚上 19:00-20:00

报告工具: 腾讯会议 ID: (113 738 920)

## **Abstract:**

**In this report, it is shown that the matrix sequence generated by an Euler-like method starting from the identity matrix will converge to the principal  $p$ -th root of a square matrix, if all the eigenvalues of the matrix are in a region including the one for Newton's method given in [Guo, Linear Algebra Appl 432 (2010) 1905-1922]. The convergence is cubic if the matrix is invertible. A modification version of this method using the Schur decomposition is developed. Numerical experiments show that the modified algorithm has the overall good numerical behavior.**

**欢迎大家参加！**