

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:

The stability of Pad é and  
generalized Pad é approximations

邀请人: 洪佳林研究员

报告时间: 2009年5月19日(周二)

上午9:00—10:00

报告地点: 科技综合楼三层301

计算数学所报告厅

## Abstract:

Padé approximations to the exponential function are the most accurate approximations possible for given bounds on the degrees of the numerator and denominator. The range of possible values of the degrees of the approximation which make corresponding numerical methods A-stable, was conjectured by Ehle and later proved by Hairer, Norsett and Wanner, using the order stars approach. More recently, the type of approximation has widened to permit its application to multivalued methods. These are known as generalized Padé approximations and there is a natural generalization of the Ehle conjecture, known as the Butcher-Chipman conjecture. This is a more difficult problem and requires analysis on a Riemann surface rather than the complex plane. It can be proved using order arrows.

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