数学与系统科学研究院

计算数学所学术报告

报告人： **Prof. John Butcher**

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报告题目：

The stability of Padé and generalized Padé 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：

Pad é 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 multivalue methods. These are known as generalized Pad é 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 analyses on a Riemann surface rather than the complex plane. It can be proved using order arrows.

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