

数学与系统科学研究院

计算数学所学术报告

报告人: Prof. Chengjian Zhang

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报告题目: Stable solutions of
nonlinear functional-integro
differential equations by Pouzet-
Runge-Kutta methods

邀请人: 周爱辉研究员

报告时间: 2010年1月6日(周三)

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报告地点: 科技综合楼三层 311

计算数学所报告厅

Abstract: The functional-integro-
differential equations (FIDEs) arise widely

in diverse scientific fields, such as biology, ecology, mechanics, physics and so on, and hence have come to intrigue researchers. In the recent decade, many researches have been dedicated to numerical analysis and effective computation of FIDEs. For such a topic, although some research have been presented, there still exist a lot of open problems keeping to be done both in theory and in computation. In the present talk, we will deal with numerical solutions of a class of nonlinear FIDEs. The classical Pouzet–Runge–Kutta methods are adapted to solve FIDEs. Based on the non–classical Lipschitz condition, some novel analytical and numerical stability criteria are derived. Numerical experiments further illustrate the theoretical results and the methods' effectiveness. This work is cooperated with Prof. H. Brunner.

欢迎大家参加！