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：

An integrable semi-discretization of the Boussinesq equation

邀请人：　胡星标 研究员

报告时间：**2015** 年 **11** 月 **5** 日（周四）

晚上 **20:00-21:00**

报告地点：　数学院南楼七层

702 会议室

Abstract:

In this talk, we present an integrable semi-discretization of the Boussinesq equation. Different from other discrete analogues, we discretize the 'time' variable and get an integrable differential difference system. The main idea is based on the compatibility between an integrable system and its Bäcklund transformation. Under standard limitation, the differential-difference system converges to the original Boussinesq equation such that the discrete system can be used to design numerical algorithms. Using Hirota's bilinear method, we find a Bäcklund transformation and a Lax pair of the differential-difference system. We investigate the solitary-wave interaction of the system and design numerical simulation of solitons. The numerical results are coincide with our analysis.

欢迎大家参加！