数学与系统科学研究院

计算数学所定期学术报告

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报告题目：

Approximation problems and the theory of distributions in peakon equations

报告时间：**2017 年 9 月 14 日（周四）下午 16:00-17:00**

报告地点： 数学院思源楼一层报告厅

Abstract:

Peakons are special weak solutions of a class of nonlinear partial differential equations modelling non-linear phenomena such as the breakdown of regularity and the onset of shocks. Due to the non-smooth character of these solutions, one is forced to use ideas of distribution theory. One natural concept of peakons is dictated by the distributional compatibility of its Lax pair. Due to the Lax integrability, the inverse spectral method is a powerful tool in the construction of these solutions. In this talk, I'll first stress the approximation theory, such as Stieltljes continued fractions, Hermite-Pade approximations, involved in the inverse spectral problems. In the second half, I will emphasize the corresponding problems of the modifed Camassa-Holm equation for which many of the challenges posed by non-smoothness. If time permits, I'll introduce some results on peakon, Toda lattices and orthogonal polynomials. The talk is based on my joint works with Xingbiao Hu, Shihao Li and Jacek Szmigielski.

欢迎大家参加！