数学与系统科学研究院

计算数学所学术报告

报告人：　　田凯 副教授

（ 中国矿业大学（北京）理学院 ）

报告题目：

Fermionic extensions of Camassa-Holm and Degasperis-Procesi equations

邀请人：　常向科 副研究员

报告时间：**2021** 年 **9** 月 **12** 日（周日）

下午 **16:45-17:30**

报告地点：数学院南楼

208 教室

Abstract:

Reciprocal transformations are introduced for two super Camassa–Holm (CH) equations, one proposed by Geng et al. [Stud. Appl. Math. 130, 1(2013)] while the other due to Zhang and Zuo [J. Math. Phys. 52, 073503 (2011)]. In the latter case, a new super KdV hierarchy is discovered, and its algebraic properties are established, including Hamiltonian operators, a recursion operator, and conserved quantities.

Based on a 4*4 matrix spectral problem, a super Degasperis-Procesi (DP) equation is proposed. We show that under a reciprocal transformation the super DP equation is related to a negative flow of a super Kaup-Kupershmidt (KK) hierarchy, which turns out to be a particular reduction of a super Boussinesq hierarchy. With the help of the reciprocal transformation, the bi-Hamiltonian representation of the super DP equation is constructed from that of the super KK hierarchy.

欢迎大家参加！