数学与系统科学研究院

计算数学所网络学术报告

报告人： 田凯 教授

（ 中国矿业大学（北京） ）

报告题目：

A super Degasperis‐Procesi equation and related integrable system

邀请人： 常向科 副研究员

报告时间：2020 年 10 月 17 日（周六）

下午 **16:30-17:30**

报告工具：腾讯会议（**ID：343 470 820**）

Abstract：

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 the first negative flow of a super Kaup‐Kupershmidt (KK) hierarchy, which turns out to be a particular reduction of a super Boussinesq hierarchy. The bi‐Hamiltonian structure of the super Boussinesq hierarchy is established, and subsequently produces the bi‐Hamiltonian structure of the super KK hierarchy via suitable reductions. 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. We also calculate a positive flow of the super DP hierarchy and explain its relations with the super KK equation. Infinitely many conservation laws are derived for the super DP equation, as well as its positive flow. This is a joint work with Prof. Q. P. Liu and Dr. Binfang Gao.

欢迎大家参加！