

数学与系统科学研究院

计算数学所学术报告

报告人: 朱佐农 教授

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报告题目:

**On an integrable discrete Hirota equation and a nonintegrable discrete nonlocal NLS equation**

邀请人: 常向科 博士

报告时间: 2017年8月22日(周二)

上午 11:00-12:00

报告地点: 数学院南楼七层

702 教室

## **Abstract:**

In this talk, we will address the following topics:

### **(1) An integrable discrete Hirota equation**

A new integrable discrete Hirota equation is derived. We focus on the question that how the discrete space step  $\delta$  effects the simulation for soliton solution to the Hirota equation. The Darboux transformation and soliton solution for the discrete Hirota equation are constructed. We show that the continuum limit for the discrete Hirota equation including the Lax pair, the Darboux transformation and soliton solution yields the corresponding results of the Hirota equation as  $\delta \rightarrow 0$ .

### **(2) A nonintegrable discrete nonlocal NLS equation**

We investigate stationary solitary wave and its linear stability for a nonintegrable discrete nonlocal NLS equation. We also discuss numerical simulation of Cauchy problem for a nonlocal NLS equation.

The talk is based on the joint works with A. Pickering, H.Q. Zhao, J.L. Ji, and Z.W. Xu.

**欢迎大家参加！**