北京理工大學

数学与统计学院学术报告

Low regularity Fourier integrators for some nonlinear dispersive equations

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摘　要： In recent years, driven by practical considerations in modeling complex physical systems characterized by rough initial data and non-smooth potentials, there has been growing interest in developing numerical methods capable of handling low regularity scenarios. In this talk, some Fourier integrators are proposed for solving the KdV equation and the nonlinear Schrodinger equation, including the rough initial data and non-smooth potentials. The designation of the scheme is based on the exponential-type integration, Splitting methods and the Phase-Space analysis of the nonlinear dynamics.

个人简介： 吴奕飞，南京师范大学数学科学学院教授、博士生导师，入选国家重大人才计划领军人才(2023)、国家重大人才计划青年人才(2019)。主要从事偏微分方程理论及数值分析、调和分析等方向的交叉研究，在非线性Schrödinger方程、KdV方程等整体适定性和低正则算法构造方面做出一系列研究成果，科研论文发表在J. Eur. Math. Soc、Found. Comput. Math.、Comm. Math. Phy.、Adv. Math.、Anal. PDE、Numer. Math、Math. Comp.等国际刊物上.

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