



北京理工大学

PDE RIT SEMINAR

The Nonlinear Schrodinger Equation at Critical Regularity

报告人：赵子越

时间：2026年 6月 5日 16: 00

地点：文萃楼E708

摘要： In this talk, I will present the theory and recent developments of the nonlinear Schrödinger equation (NLS) at critical regularity, with a focus on different geometric settings including Euclidean spaces, waveguide manifold, and fully periodic spaces.

The discussion will start from basic intuition and motivation, including scaling invariance and dispersion effects, and then move to key analytical tools such as Strichartz estimates and Sobolev space techniques. The main part of the talk will focus on the theory of energy-critical and mass-critical NLS in Euclidean spaces, with an emphasis on local and global well-posedness, scattering theory, and the general ideas behind concentration compactness methods. I will also briefly discuss several related developments on waveguide and periodic manifolds, introducing how weaker dispersion and resonant interactions influence the analysis in these geometric settings.

主办单位：北京理工大学数学与统计学院

School of Mathematics and Statistics, Beijing Institute of Technology