



## 复旦大学数学科学学院 数学综合报告会

报告题目: On the asymptotic behavior of 2-coupled NLS systems

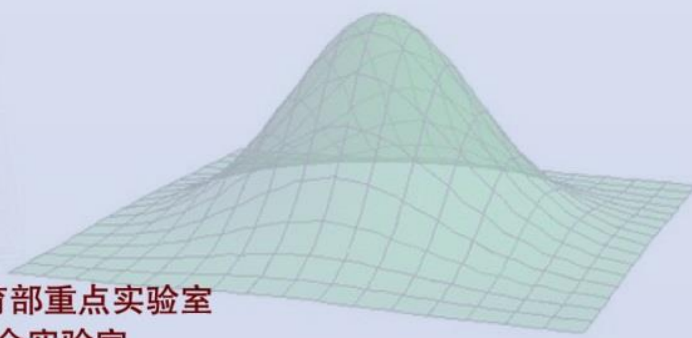
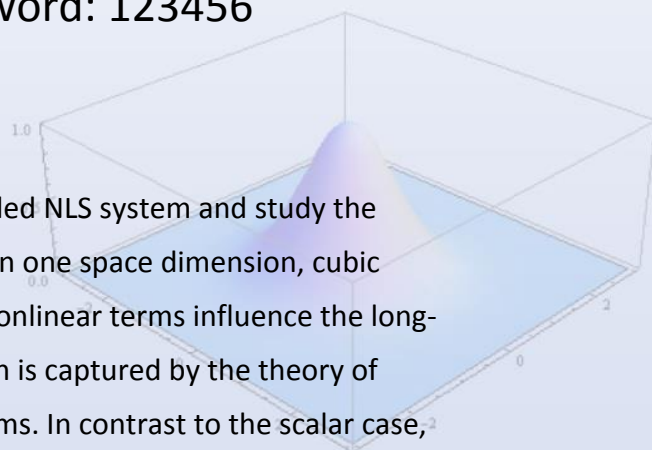
报告人: Satoshi Masaki (Hokkaido University)

时间: 2025-12-18 星期四 13:30-15:00

地点: 腾讯会议ID: 326676014 Password: 123456

报告摘要:

In this talk, I consider a one-dimensional cubic two-coupled NLS system and study the asymptotic behavior of solutions with small initial data. In one space dimension, cubic nonlinearities are critical, and it is well known that the nonlinear terms influence the long-time asymptotics. For single equations, this phenomenon is captured by the theory of modified scattering, but here we focus on coupled systems. In contrast to the scalar case,<sup>2</sup> even with real-valued nonlinear coefficients, global existence for small initial data does not generally hold for coupled systems. To guarantee small-data global existence, the null gauge condition and its weak version have been introduced in earlier works. In this talk, I present several new examples in which these conditions are not satisfied, yet the asymptotic behavior can still be analyzed through the study of the corresponding reduced ODE system.



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