北京理工大學

数学与统计学院学术报告

Observability of the Schrödinger equation with harmonic and anharmonic oscillators

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摘　要： In this talk, I will discuss observability inequalities for the Schrödinger equation with an anharmonic oscillator. We establish the inequality over any short time interval (0,T) for an observable set with a distinct geometric structure compared to the harmonic oscillator case.

Our method relies on three key elements: (i) an Ingham-type spectral inequality, (ii) a quantitative unique compactness argument inspired by Bourgain-Burq-Zworski, and (iii) the Szegö's limit theorem from Toeplitz matrix theory.

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