



微分方程与计算物理研究室

2024 年度系列报告(10)

报告题目: Numerical Algorithms for Inverse Spectral Problems Based on Trace Formulas

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时间: 2024 年 12 月 10 日 (周二) 10:30-11:30

地点: #腾讯会议: 647-644-546

摘要: In this talk, we will discuss some recent progress on numerical algorithms for inverse spectral problems for the Sturm-Liouville and damped wave operators. Instead of inverting the map from spectral data to unknown coefficients directly, we propose a novel method to reconstruct the coefficients based on inverting a sequence of trace formulas which bridge the spectral and geometry information in terms of a series of nonlinear Fredholm integral equations. Numerical examples are presented to verify the validity and effectiveness of the proposed numerical algorithms. The impact of different parameters involved in the algorithm is also discussed.