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The stability of solutions to Schrodinger's equation short of the adiabatic limit

- **Adiabatic Theorems at Intermediate Timescales**

Monday, September 26, 12:30 – 1:30 PM | EXPL 3301 | Zoom

Abstract

In this talk, I analyze the stability of solutions to Schrodinger's equation. Our approach addresses two sub-questions: (1) how tight is the so-called tight-binding approximation of eigenvectors of Hamiltonians? and (2) how well can we apply this approach to understanding solutions to Schrodinger's equation? We adapt concepts from graph theory to address the first question and then use these results to derive tight bounds on the behavior of these solutions short of the standard asymptotic limit. We believe our approach can be applied to analyzing a number of computational and physical phenomena, including the behavior of quantum gates, open quantum systems, and quantum algorithms. This talk is based on joint work with Jake Bringewatt, Connor Mooney, and Andrew Glaudell.

Meeting Information

Exploratory Hall, Room 3301
Zoom: https://go.gmu.edu/qcseminar

About the Seminar Series

The Quantum Computing Seminar Series are a series of working seminars organized and hosted by QSEC's quantum computing subgroup every Monday. These events are free and open to the public. More information is available on QSEC's Computing Events and Mathematical Sciences Department's Quantum Computing Seminars. For any questions, contact qsec@gmu.edu.