THE UNIVERSITY OF CHICAGO | THE COMMITTEE ON COMPUTATIONAL AND APPLIED MATHEMATICS

COLLOQUIUM

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Stability of Dynamical Systems on Graphs

THURSDAY, February 26th at 4:00 PM
Jones 303, 5747 S. Ellis Ave. Chicago, IL 60637

ABSTRACT

We present some work on the stability of fixed points of dynamical systems on graphs. When considering the stability of dynamical systems on graphs many of the classical tools for counting eigenvalues require some modification. One classical tool, for instance, is the Sturm oscillation theorem, which states that the eigenfunction of a Sturm-Liouville operator is indexed by the number of roots of the associated eigenfunction. This theorem does not hold in the graph setting: instead there is a correction that must be applied related to the homology of the graph. We present some older results as well as some more recent ones along these lines.

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