

Non-self-adjoint graphs

David Krejčířík

<http://gemma.ujf.cas.cz/~david/>

Abstract

On finite metric graphs we consider Laplace operators, subject to various classes of non-self-adjoint boundary conditions imposed at graph vertices. We investigate spectral properties, existence of a Riesz basis of projectors and similarity transforms to self-adjoint Laplacians. Among other things, we describe a simple way to relate the similarity transforms between Laplacians on certain graphs with elementary similarity transforms between matrices defining the boundary conditions.

This is joint work with Amru Hussein and Petr Siegl published in the Transactions of the AMS (2014).