

UNIVERSITY OF MACAU  
FACULTY OF SCIENCE AND TECHNOLOGY  
DEPARTMENT of MATHEMATICS

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# “Tridiagonal Inverse Quadratic Eigenvalue Problems with Partial Eigendata”

by

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**Time:** 10:30AM – 12:00PM  
**Venue:** J308

## Abstract

In this talk, we present our recent development on tridiagonal inverse quadratic eigenvalue problems in vibrations where the parameterized mass, damping, and stiffness matrices are all symmetric tridiagonal and positive semi-definite. We propose the (regularized) smoothing Newton-type methods for solving the inverse problem from the measured eigendata. We show that our approaches have global and local quadratic convergence under some mild assumptions. We also report some numerical tests to illustrate the efficiency of our methods.

***ALL ARE WELCOME!***