



**The Hong Kong Polytechnic University
Department of Applied Mathematics**

**Seminar
On**

**Quadratic Inverse Eigenvalue Problem in
Model Updating with Symmetry,
Positive Definiteness, and no Spill-Over**

by

**Dr. Delin Chu
Department of Mathematics
National University of Singapore**

Abstract

Updating a system modeled as a symmetric quadratic inverse eigenvalue problem to match observed spectral information has been an important task for practitioners in different disciplines. It is often desirable in the process to match only the newly measured data without tampering with the other unmeasured and often unknown eigenstructure inhering in the original model. Such an updating, known as no spill-over, has been critical yet challenging in practice. Only recently, a mathematical theory on updating with no spill-over has begun to be understood. However, another imperative issue of maintaining positive definiteness in the coefficient matrices remains to be addressed. This talk introduces some new results about updating that preserves both no spill-over and positive definiteness of the mass and the stiffness matrices.

Date : 19 June, 2008 (Thursday)
Time : 4:00 – 5:00 p.m.
**Venue : Departmental Conference Room HJ610
The Hong Kong Polytechnic University**

***** ALL ARE WELCOME *****