



DEPARTMENT OF APPLIED MATHEMATICS

應 用 數 學 系

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

Seminar

**L^2 error estimates for wave equations with dynamic boundary
conditions**

by

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Abstract

L^2 error estimates of semi- and full discretisations of wave equations with dynamic boundary conditions are presented, using bulk-surface finite elements and Runge-Kutta methods. The analysis resides on an abstract formulation and error estimates, via energy techniques, within this abstract setting. Four prototypical linear wave equations with dynamic boundary conditions are analysed within the abstract framework. For problems with velocity terms and with acoustic boundary conditions order reduction occurs. These can also be observed in the presented numerical experiments.

Date : 24 October, 2018 (Wednesday)

Time : 2:30p.m. – 3:30p.m.

Venue : TU801, The Hong Kong Polytechnic University

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