



DEPARTMENT OF APPLIED MATHEMATICS

應 用 數 學 系

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

Colloquium

**An AMG preconditioner for solving Navier-Stokes equations
with moving mesh finite element method**

by

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Abstract

We apply an AMG preconditioner to solve the unsteady Navier-Stokes equations with moving mesh finite element method. $4P1-P1$ element pair is selected, which is based on the data structure of hierarchy geometry tree. We choose two-layer nested meshes including velocity mesh and pressure mesh. AMG preconditioners are designed for PDE solver and divergence-interpolation in moving mesh strategy. Numerical experiments show the efficiency of the AMG preconditioner for moving mesh finite element method.

Date : 5 October, 2016 (Wednesday)

Time : 3:00p.m. – 4:00p.m.

Venue : TU801, The Hong Kong Polytechnic University

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