The Hong Kong Polytechnic University
Department of Applied Mathematics

Colloquium

On

A numerical method for a model of two-phase flow in a coupled free flow and porous media system

by

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Abstract

We study two-phase fluid flow in coupled free flow and porous media regions. The model consists of coupled Cahn-Hilliard and Navier-Stokes equations in the free fluid region and the two-phase Darcy law in the porous medium region. We propose a Robin-Robin domain decomposition method for the coupled Navier-Stokes and Darcy system with the generalized Beavers-Joseph-Saffman condition on the interface between the free flow and the porous media regions. Numerical examples are presented to illustrate the effectiveness of this method.

Date : 28 Aug, 2014 (Thursday)
Time : 10:30 - 11:30 a.m.
Venue : HJ610, The Hong Kong Polytechnic University

* * *   ALL ARE WELCOME   * * *