SMSS Applied Mathematics Seminar

Convective flow in a porous medium with varying resistivity and diffusivity

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Abstract

IWe consider a hydro-thermal convective flow in a horizontal porous layer with rigid top and bottom boundaries. The equations governing the system are conservation of mass, conservation of heat, and conservation of momentum which is governed by Darcy's law. We investigate the effects of hydraulic resistivity and diffusivity variations in the vertical direction. Assuming a vertically varying basic state, we apply weakly nonlinear approach to compute the solutions for flow quantities such as temperature and vertical velocity. Numerical results for those flow quantities are presented.

This is a joint work with Dr. D.N. Riahi.

Time: 12:15–13:15 pm
Place: EMAGC 1.302 (Edinburg) and Webinar in BLHSB 1.312 (Brownsville)
Date: Tuesday, December 5, 2017

Coffee and cookies will be served around 12:10 pm. For further information or for special accommodations, please contact Zhaosheng Feng at 665-7483 or via email at zhaosheng.feng@utrgv.edu.