

Seminar Invitation: Role of Nanoparticle Radius for Heat Transfer Optimization in MHD Dusty Fluid across Stretching Sheet

Speaker: **Muzammil Hussain** from Department of Mathematics, University of the Punjab, Lahore

Abstract

The purpose of this study is to assess the significance of nanoparticle size on the natural convection magnetohydrodynamic boundary layer flow of a dusty nanofluid across a stretching sheet. In this study, dusty nanofluid is composed of copper nanoparticles suspended in the 50%-50% mixture of ethylene glycol ($C_2H_6O_2$) and water (H_2O). The ODEs are solved numerically using MATLAB's built-in "bvp4c" method. The effects of various involved parameters on velocity, temperature, skin friction, and Nusselt number are exemplified graphically. The findings indicate that while fluid and dust temperatures decrease, increased fluid and dust velocities and a larger Nusselt number are caused by increasing the nanoparticle radius. It is noted that as the Biot number increases, there is a large increase in the temperatures of both phases and the Nusselt number.

Speakers' Brief Introduction

Mr. Muzammil Hussain is a Ph.D. scholar working under the supervision of Dr. Aziz Ullah Awan.



40th Departmental Seminar Series

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Seminar Schedule

Please join us for this Presentation

Day & Date: Wednesday; October 23, 2024

Time: 03:00PM

Venue: Seminar Hall, Department of Mathematics, University of the Punjab, Lahore

Coordinator Departmental Seminar Series

I strongly encourage all students to actively engage and contribute to this enriching academic discussion. Your participation is key to a dynamic and productive seminar.

Dr. Zeeshan Yousaf

Associate Professor

Department of Mathematics, University of the Punjab, Lahore



All the faculty members and research scholars (MPhil/PhD) are invited to the seminar

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