Dr. Raj Nandkeolyar

29 – 14/01/1984

Mathematics

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I did my masters from Vinoba Bhave University, Hazaribag, India securing a first class first position. Following this, I joined Indian School of Mines, Dhanbad, India as an M. Phil. student and obtained my M. Phil. and Ph. D. degrees in Applied Mathematics. During this period I worked on MHD flows past flat plates and within parallel plate channels. I have published a number of research paper in the journal of international repute and I am also serving as a reviewer for some international journals, like, International Journal for Numerical Methods in Heat and Fluid Flow, International Journal of Exergy, Afrika Matematika, Journal of Applied Fluid Mechanics etc.

CURRENT RESEARCH

Topic

Study of induced magnetic field effects on several fluid dynamic problems.

Methodology

- Analytical techniques
- Numerical methods such as successive linearization method, successive relaxation methods etc.
- In-built ODE solvers of Matlab

Application

These studies are applicable to a large variety of fluid engineering devices involving the application of magnetic field.

UKZN main Publications

1. Unsteady Hydromagnetic Natural Convection Flow of a Dusty Fluid Past an Impulsively Moving Vertical Plate With Ramped Temperature in the Presence of Thermal Radiation, ***ASME Journal of Applied Mechanics***, Vol. 80, No. 3, pp. 061003 1-9 (2013)
2. Unsteady Hydromagnetic Heat And Mass Transfer Flow of a Heat Radiating and Chemically Reactive Fluid Past a Flat Porous Plate with Ramped Wall Temperature, ***Mathematical Problems In Engineering***, Vol. 2013, Article No.: 381806 (2013)

Past Researches

1. Unsteady MHD Free Convection Flow of a Heat Absorbing Dusty Fluid Past a Fat Plate With Ramped Wall Temperature, ***Afrika Matematika***, DOI: 10.1007/s13370-013-0151-9 (2013).
2. MHD Natural Convection Flow With Radiative Heat Transfer Past an Impulsively Moving Plate with Ramped Wall Temperature, ***Heat Mass Transfer***, Vol. 47, Issue 5, pp. 551-561 (2011).

Future Interests

1. My future interests include the study of magnetohydrodynamic flows with mass transfer and the application of various numerical methods on complex magnetohydrodynamic and nanofluid flow problems.

Extra Interests

Cricket, travel and photography.