Flow and Natural Convection Heat Transfer in a Power Law Fluid Past a Vertical Plate with Heat Generation

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(Received 30 December 2007, accepted 25 November 2008)

Abstract:
The paper examines the flow and convection heat transfer in a pseudoplastic power law fluid past a vertical plate with heat generation. The governing non – linear partial differential equations describing the flow and heat transfer problem are transformed into non – linear ordinary differential equation, using similarity transformation, and the resulting problem is solved numerically using Runge – Kutta shooting method. The problem is studied for power law exponents between 0 and 1. And the analysis of results obtained showed that the heat generation parameter have significant influence on the flow and heat transfer.