

UNSTEADY NATURAL CONVECTION FLOW AND HEAT TRANSFER OVER A TRUNCATED CONE IN PRESENCE OF PRESSURE WORK

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ABSTRACT:

The present study aims to analyze the effect of pressure work on unsteady free convection flow over a truncated cone. The non-linear coupled partial differential equations governing the flow and heat transfer have been solved numerically by using an efficient implicit finite difference scheme along with quasilinearization technique. The computed results are compared with previously reported work and found to be in excellent agreement. The numerical results are presents in terms of skin friction co-efficient, heat transfer co-efficient, velocity and temperature profiles for different values of pressure work parameter along with Prandtl number ($Pr = 7.0$).

Key words:- unsteady flow, natural convection, pressure work, truncated cone