

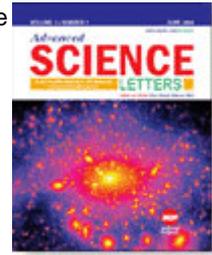
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Thermal Radiation Effects on Unsteady MHD Natural Convection Flow Past an Infinite Inclined Plate with Ramped Temperature

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Source: [Advanced Science Letters](#), Volume 19, Number 1, January 2013, pp. 296-300(5)

Publisher: [American Scientific Publishers](#)



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Abstract:

A theoretical study of the effects of thermal radiation and magnetic field on unsteady natural convection flow adjacent to an infinite inclined plate subject to a temperature boundary condition which follows a ramp function up until a specified time and then remains constant is presented. Closed form analytical solutions have been derived for the momentum and energy equations with the help of Laplace transform technique. A parametric study of all parameters involved is conducted, and the variations in fluid velocity are shown in graphs whereas the numerical values of skin-friction are presented in tabular form. The results obtained from the present study are compared with the results obtained for an infinite inclined plate with constant temperature.

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Document Type: Research Article

DOI: <http://dx.doi.org/10.1166/asl.2013.4662>

Publication date: 2013-01-01

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