

## Documents

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**Boundary layer flow past an inclined stationary/moving flat plate with convective boundary condition**

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**Abstract**

In this study, the mathematical modeling for boundary layer flow and heat transfer past an inclined stationary/moving flat plate with a convective boundary condition is considered. Using a similarity transformation, the governing equations of the problem are reduced to a coupled third-order nonlinear ordinary differential equations and are solved numerically using the shooting method. The obtained numerical solutions are compared with the available results in the literature and are found to be in excellent agreement. The features of the flow and heat transfer characteristics for various values of the angle of inclination, Prandtl number, local Grashof number and the Biot number are analyzed and discussed. It is found that the temperature of the stationary flat plate is higher than the temperature of the moving flat plate. © 2015, African Mathematical Union and Springer-Verlag Berlin Heidelberg.

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