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**Similarity solution of mixed convection boundary layer on horizontal surface embedded in porous medium with internal heat generation and concentration change**

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The aim of this work is to analytically present coupled heat and mass transfer characteristic of mixed convection boundary layer flowing on horizontal surface embedded in a porous medium with exponentially decaying internal heat generation (IHG) and internal mass generation (IMG) over specific component in the presence of thermal radiation and chemical reaction, respectively. Corresponding similarity solutions are used to reduce the governing partial nonlinear differential equations to three ordinary differential equations for the dimensionless stream function, temperature, and

concentration with the following parameters: mixed convection parameter, exponent of  $x$ , chemical reaction parameter, radiation parameter  $R$ , and Lewis number  $Le$ . Media with and without IHG and IMG are compared in context with the help of graphs and tables. Computations are performed with a system of parameters using built-in codes in Maple. The influences of these parameters on velocity, temperature and concentration profiles, and Sherwood and Nusselt numbers are thoroughly compared and graphically illustrated.

**Biography**

Rabeya Akter is a student of Graduate School of Science and Engineering, Dept. of Mechanical Engineering, Saga University, Japan. Her research interests include falling liquid film, fluid flow in porous media, heat and mass transfer, Nano fluids dynamics, magneto hydrodynamics, multiphase fluid-particle dynamics

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