

## عنوان مقاله:

Numerical simulation of mixed convection flow and heat transfer Numerical simulation of mixed convection flow and heat transfer

## محل انتشار:

پنجمین کنفرانس بین المللی نوآوری های اخیر در شیمی و مهندسی شیمی (سال: 1396)

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## خلاصه مقاله:

In this paper, the numerical solution of mixed convective laminar boundary layer flow around a vertical slender body with suction or blowing has been investigated. Firstly, the governing boundary layer partial differential equations have been made dimensionless and then simplified by using Boussinesq approximation. Secondly, similarity transformations are introduced on the basis of detailed analysis in order to transform the simplified coupled partial differential equations into a set of ordinary differential equations. The transformed complete similarity equations are solved numerically by using computer software. Finally, the flow phenomenon has been characterized with the help of obtained flow controlling parameters such as suction parameter, buoyancy parameter, Prandtl number, body-radius parameter and other driving parameters. Finally the effects of involved parameters on the velocity and temperature distributions are presented graphically. It is found that a small suction or blowing can play a significant role on the patterns of flow and temperature fields.

## کلمات کلیدی:

Numerical simulation, Mixed Convection, Slender shape, Suction or blowing

## لینک ثابت مقاله در پایگاه سیویلیکا:

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