

## عنوان مقاله:

On Couple Stress Effects on Unsteady Nanofluid Flow over Stretching Surfaces with Vanishing Nanoparticle Flux at the Wall

## محل انتشار:

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## خلاصه مقاله:

In this paper the problem of unsteady nanofluid flow over a stretching sheet subject to couple stress effects is presented. Most previous studies have assumed that the nanoparticle volume fraction at the boundary surface may be actively controlled. However, a realistic boundary condition for the nanoparticle volume fraction model is that the nanoparticle flux at the boundary be set to zero. This paper differs from previous studies in that we assume there is no active control of the nanoparticle volume fraction at boundary. The spectral relaxation method has been used to solve the governing equations, moreover the results were further confirmed by using the quasi-linearization method. The qualitative and quantitative effects of the dimensionless parameters in the problem such as the couple stress parameter, the Prandtl number, the Brownian motion parameter, the thermophoresis parameter, the Lewis number on the fluid behavior are determined.

## کلمات کلیدی:

Nanofluid, Vanishing nanoparticle flux, Couple stress, Stretching surface, Spectral relaxation method

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1383563>

