

## عنوان مقاله:

An HAM Analysis of Stagnation-Point Flow of a Nanofluid over a Porous Stretching Sheet with Heat Generation

## محل انتشار:

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## خلاصه مقاله:

Steady two-dimensional stagnation point flow and heat transfer of a nanofluid over a porous stretching sheet investigated analytically using the Homotopy Analysis Method (HAM). The employed model for nanofluid includes two-component four-equation non-homogeneous equilibrium model that incorporates the effects of Brownian diffusion and thermophoresis simultaneously. The basic partial boundary layer equations have been reduced to a two-point boundary value problem via similarity variables. The effects of thermophoresis number ( ), Brownian motion number ( ), suction/injection parameter ( ), source/sink parameter ( ), permeability parameter ( ), stretching parameter and Lewis number ( ) on the temperature and nanoparticle concentration profiles are studied in detail. Moreover, special attention is paid on the variations of reduced Nusselt and Sherwood number on the affects of physical parameters. The obtained results indicate that for , reduced Sherwood number remains constant however, corresponds to .negative Sherwood number, i.e. concentration rate is reversed

## کلمات کلیدی:

Stagnation, point, Homotopy analysis method, stretching sheet, Nanofluid, Brownian motion

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1385156>

