عنوان مقاله:

STEADY-STATE NANOFLUID CONVECTIVE FLOW IN FRACTURED POROUS MEDIA

محل انتشار:

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خلاصه مقاله:

Suspended nanoparticles in conventional fluids, called nanofluids, have been the subject of intensive study worldwide. The use of nanofluids as an advanced kind of fluids to improve heat transfer efficiency and performance is a comparatively recent development. This article presents steady-state transport of nanofluid in a fractured porous media by two-dimensional modelling. In the porous region, the Brinkman–Forchheimer extended Darcy model was used to describe the fluid flow pattern. The model used for the nanofluids incorporates the effects of Brownian motion and thermophoresis. The velocity and temperature profiles and expressions for the Nusselt number values were obtained for fully developed nanofluid flow. In addition, a parametric study was conducted to investigate the influences .of various parameters on the nanofluid flow pattern and heat-transfer performance

کلمات کلیدی:

Nanofluid, Fractured porous media, Heat transfer, Modelling, Numerical solution