عنوان مقاله:

MHD Homogeneous-Heterogeneous Reactions in a Nanofluid due to a Permeable Shrinking Surface

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خلاصه مقاله:

The MHD homogeneous-heterogeneous reaction in a nanofluid flow due to a permeable shrinking surface is studied. The bvp۴c program in MATLAB is used to obtain the numerical solutions for several values of parameters such as suction parameter, magnetic parameter, nanoparticle volume fraction, heterogeneous reaction and homogeneous reaction rates. The results show that dual solutions exist and the magnetic parameter and the nanoparticle volume fraction widen the range of the solution domain. Suction parameter, magnetic parameter and nanoparticle volume fraction cause the skin friction coefficient to increase and the velocity to decrease. The concentration increases as the nanoparticle volume fraction increases but decrease as the homogeneous reaction rate and heterogeneous reaction rate increase.

کلمات کلیدی:

Magnetohydrodinamic, heterogeneous reaction, Homogeneous, Nanofluid, Shrinking sheet, Fluid mechanics

لینک ثابت مقاله در پایگاه سیویلیکا:

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