

عنوان مقاله:

Numerical investigation of the effect of heat transfer coefficient of two-phase flow displacement in the pipe channel with barrier

محل انتشار:

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خلاصه مقاله:

In this paper, a three-dimensional two-phase flow and the effect of increasing the heat transfer coefficient of forced displacement of Fe_3O_4 nanofluid in the tube channel with barrier, under constant heat flux placed around the tube, the fluid flow is selected slowly by moving in the tube and colliding with The cylindrical barrier disrupts the thermal boundary layer and this increases the heat transfer coefficient of the fluid flow displacement. The results show that the creation of a step inside the pipe increases the turbulence with the fluid flow along the transverse, which ultimately creates A good mixing in the flow causes the temperature profile to be flatter and the thickness of the thermal boundary layer to decrease, which in turn increases the heat transfer coefficient. Therefore, by increasing the nanofluid by ۳% by volume, the transfer heat transfer coefficient is optimized by ۱۶% in the tube channel along with the .cylindrical barrier

کلمات کلیدی:

Forced heat transfer coefficient, barrier tube, constant heat flux, boundary layer, nanofluid, Two phase flow

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