عنوان مقاله:

Heat Resistance Coefficient of Water- Fe3O4 nanofluid in Pulsating Heat Pipes with Magnetic Field

محل انتشار:

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خلاصه مقاله:

Pulsating heat pipe is a kind of heat pipes and it is an efficient heat exchange device which is being used for cooling and heating recovery and it s importance is because of producing bubbles which transfer sensible and latent heat. Furthermore, nanofluid is a new type of fluid that is a mixture of liquid and nanoparticles. In the present work, we made a closed-loop pulsating heat pipe with six U-turns from copper ,and we used water in our system with %40 and %50 filling ratios. Moreover, the use of water-Fe3O4 nanofluid was studied with two different filling ratios %40 and %50 and 1% mass concentration. Then, we used several magnets to produce 100 G magnetic field. At the end, we calculated heat resistance and heat transfer coefficients of water and water- Fe3O4 nanofluid in each step and compared the results and showed that %50 filling ratio of water- Fe3O4nanofluid with magnetic field was the best choice in our study because of the best heat transfer coefficient.

کلمات کلیدی:

Pulsating heat pipe, water- Fe3O4 nanofluid, magnetic field, filling ratio, heat resistance coefficient