

عنوان مقاله:

Study of thermophysical properties of nanofluid (water,Aluminum oxide) on the heat transfer coefficient and nusselt number in the horizontal tube

محل انتشار:

کنفرانس بین المللی پیشرفت های اخیر در مهندسی، نوآوری و تکنولوژی (سال: 1401)

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خلاصه مقاله:

Nowadays, An important problem in design of heat exchanger is enhancement of heat transfer with reducing the size of heat exchanger common fluid such as water or oil have low thermal conductivity. one of the new method for modifying the physical property is adding tiny metal or nonmetal particles to base fluid. Turbulence flow of (water-alumina(Al_2O_3)) in horizontal tube with constant flux and constant temperature is numerically studied .(in Ansys Fluent and ICEM CFD software). At this research. We considered a tube φ meters long and γ cm in diameter and create meshing by using ICEM CFD. then we import it in Ansys fluent software and apply settings in order to solve and simulation. At first we simulated base fluid(water) and then we added Nano particles. we consider the effect of volume fraction (1,2,3) percent and the effect of particles size (30nm,60nm,90nm) on thermal parameters so as to .compare

کلمات کلیدی:

Heat transfer, Nanofluid, Turbulence flow, Nusselt number, Ansys fluent

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