

The Impact of the Ternary Nanofluid in the Heat Exchange of the Stretched Sheet

Pragya^{1*}, Jogendra Kumar²

¹Department of Mathematics, Idhaya College of Arts and Science, Puducherry, India

²School of Physical Sciences, DIT University, Dehradun, India

*Corresponding Author

ABSTRACT

In the article, the theoretical analysis of the cooling property of ternary nanofluid has been done. With a water basis, titanium dioxide, cobalt ferrite, and magnesium oxide are employed as nanoparticles. This study outlines a method for discovering a superior coolant. A more effective heat exchanger is developed using combinations of nanoparticles. Through a stretched sheet, tri-hybrid fluid is conveyed. Suitable partial differential equations are used to define various physical parameters like density, viscosity, conductivity, etc. These equations are then transformed into ordinary differential equations and solved by mathematics software. The results are depicted with the help of graphs. It was found that tri-hybrid nanofluid is a better cooling agent.

Keywords: Nanofluids, nanoparticles, stretching sheet, ternary nanofluids, hybrid nanofluids.

