

PREDICTION OF THERMAL CONDUCTIVITY OF A MODEL NANOFLUID VIA MOLECULAR DYNAMICS SIMULATIONS

Hasan Babaei and J. M. Khodadadi
Auburn University
Department of Mechanical Engineering, 270 Ross Hall
Auburn, Alabama 36849-5341, USA

SUMMARY: In this paper, molecular dynamics simulation has been utilized to predict the thermal conductivity of an argon-copper (Ar-Cu) model nanofluid. Effects of the mass fraction, particle size and initial arrangement of the nano-particles on thermal conductivity have been studied.