

THERMAL TRANSPORT IN A NANOCHAMBER SUBJECT TO TEMPERATURE GRADIENTS USING MOLECULAR DYNAMICS

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Abstract. This work focuses on the study of heat transfer mechanisms in a fluid confined within a nanocavity subjected to a temperature gradient through non-equilibrium molecular dynamics in steady states. Heat fluxes, temperature, and density profiles generated by a temperature difference between the two solid faces of the nanocavity, which have hydrophobic/hydrophilic coatings, will be analyzed. By introducing asymmetries in the system, we will analyze its ability to rectify thermal fluxes.