

Abstract Submitted
for the DFD17 Meeting of
The American Physical Society

Density Distribution of Liquid Argon in Nano-channel Poiseuille Flows¹ JIANGWEI SHE, YUYI WANG, ZHE-WEI ZHOU, Shanghai University — The density layering parallel to the boundaries of liquid has been measured in many experiments and also observed in molecular dynamics (MD) simulations. In this study, a detail and systematic investigation of density distribution in nano-scale Poiseuille flows is carried out. Through analyzing the difference of density distribution curves obtained under different conditions, the influence of interaction parameters, configuration form of solid wall and temperature on the layering are investigated. The internal mechanism is also explored in this paper. The detail description of the density distribution results and simulation algorithm is given.

¹National natural science foundation (A020405)

Zhe-Wei Zhou
Shanghai University

Date submitted: 01 Aug 2017

Electronic form version 1.4