

Abstract Submitted
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Dependency of Lipid Raft Diffusion on System Size RYAN DAVIS,
University of Memphis — An inherent limitation in molecular dynamics is a finite system size. Although periodic boundary conditions can be used to mimic an infinite space, minimizing the artificial effects created by the physical dimensions of the system still remains an issue. Here I will discuss the undesirable relationship between system properties and system size observed via a dissipative particle dynamics approach. In particular, results illustrate a strong dependence between the diffusion of a lipid raft along a membrane and the length of the axis perpendicular to it, even at relatively large system sizes. Methods for obtaining system properties independently of simulation size are crucial for accurate results.

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