Abstract Submitted for the MAR09 Meeting of The American Physical Society

Molecular Dynamics of the Sedimentation of polydisperse colloids¹ MANUEL VALERA, ATHULA HERAT, JOSEPH YARZEBINSKI, MARISA HICKS, Slippery Rock University — We have performed molecular dynamics simulation on colloidal systems composed of polydispersed hard spheres. The polydispersivity in the systems had a Gaussian distribution with a range of up to 10%. We studied system where gravity plays a fundamental role. We show the sedimentation profiles and the effects on layering and crystallization for different values of the gravitational length, polidispersivity and area density of the system.

¹With special thanks to Ivan Saika-Voivod and Anand Yethiraj for helpful discussions.

Manuel Valera Slippery Rock University

Date submitted: 21 Nov 2008 Electronic form version 1.4