

Abstract Submitted
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Hindered Brownian motion of colloidal particles near a liquid-liquid interface WEI WANG, PETER HUANG, Binghamton University — In this work, anisotropic hindered Brownian motion of colloidal particles in the vicinity of a liquid-liquid interface is experimentally quantified and compared with established theories. Evanescent wave-based particle tracking velocimetry is used to measure the three-dimensional Brownian motion of fluorescent microspheres near an interface between water and non-polar oil. The experimental results confirm that the mobility of particles suspended in the less viscous liquid is suppressed anisotropically, and differs from the hindered mobility of particles near a solid wall. The measured hindered diffusivities are in close agreement with the theoretical predictions.

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