

Abstract Submitted  
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**Direct nm-scale observation of lipid membrane fluctuations** SUNG CHUL BAE, YAN YU, Department of Materials Science and Engineering, University of Illinois, STEPHEN M. ANTHONY, Department of Chemistry, University of Illinois, STEVE GRANICK, Department of Materials Science and Engineering, University of Illinois — Thermal fluctuation of giant unilamellar phospholipids vesicles(GUVs) was observed by a combination of direct imaging using epifluorescence microscopy and forward laser beam scattering of a laser beam from the vesicle edge. The latter technique, owing to the refractive index mismatch, offers nanometer spatial and microsecond temporal resolution. When nanoparticles adsorb, this changes. We will discuss the changes of membrane rigidity caused by nanoparticles, based on membrane fluctuation data.

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