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Rotational and Translational Diffusion of PMMA Colloidal Clusters HYUN JOO PARK, MARK T. ELSESSER, New York University, KAZEM V. EDMOND, Emory University, DAVID J. PINE, New York University, NEW YORK UNIVERSITY COLLABORATION, EMORY UNIVERSITY COLLABORATION — Colloidal clusters, 3-7 μm in size, are a good model system for various 2D and 3D structures depending on the aggregation number, N . We measure the translational and rotational diffusion of individual dyed PMMA clusters of dimers and trimers using high speed confocal scanning microscopy and particle tracking. We report measurements of the rotational and translational diffusion coefficients (and their ratios) as a function of volume fraction.

Hyun Joo Park
New York University

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