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Connect the Dots: Tracking the Motion of Single Particles

STEPHEN ANTHONY, Department of Chemistry, UIUC, LIANGFANG ZHANG, Department of Chemical and Biomolecular Engineering, UIUC, STEVE GRANICK, Materials Research Laboratory, UIUC — The motion of individual molecules, both individually and as ensemble averages, contains information about many fundamental properties. Improvement in tracking algorithms has allowed the motion of single molecules to be observed and followed in movies. The information contained in these trajectories allows the determination of surface diffusion rates, as in fluorescent correlation spectroscopy, but unlike FCS, this technique also allows the detection of defects and domains within the liquid surface. Specific studies will be presented on the one hand of adsorbed polymers, and on the other hand of diffusion in supported lipid bilayers.

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