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Single-Molecule Tracking of Polymers on Surfaces JUAN GUAN, BO WANG, STEPHEN ANTHONY, SUNG CHUL BAE, SUBHALAKSHMI KUMAR, STEVE GRANICK, U of Illinois Urbana-Champaign — Single-molecule tracking technique is, for the first time, applied to study adsorbed polymers on surfaces. Fluorescently-labeled poly (ethylene glycol) (PEG) chains are allowed to freely adsorb from dilute aqueous solutions to various surfaces with different affinity. After rinsing away any non-adsorbed chains, the motion of the surface-bound species is tracked using objective-based total internal reflection fluorescence microscopy (TIRFM). Using our single particle tracking algorithm, individual chain behaviors are analyzed with sub-diffraction resolution.

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