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Structures and Dynamics of Polymers Adsorbed on Supported Cationic Lipid Membrane CHEN-MING CHANG, YUK-GYN LAU, JIH-CHIANG TSAI, WEN-TAU JUAN, Institute of Physics, Academia Sinica, Taipei, Taiwan — The structures and dynamics of polymers adsorbed on various surfaces have received attentions not only as a subject concerning fundamental polymer physics, but also for their important roles in many industrial and biological processes. In this talk, I will discuss our recent work utilizing single-molecule imaging to study the conformation and dynamics of fluorescent dye labeled λ-DNA molecules adsorbed on supported cationic lipid membrane. High-magnification snapshots of individual molecules, combined with statistical analyses on their apparent size and anisotropy as well as dynamic analyses on their diffusions, reveal interesting details that could have been overlooked in measurements based on ensemble averaging and theories based on polymers in 2D.

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