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Sticking colloids to liquid-liquid interfaces one by one DAVID KAZ, RYAN MCGORTY, Harvard University, SHANKAR GHOSH, VINOTHAN MANOHARAN, Harvard University — We investigate the dynamics of placing individual colloidal particles (∼2 microns) onto a flat oil-water interface using optical tweezers. By monitoring the strength and position of the trap, we are able to measure the forces acting on a particle as it encounters the liquid-liquid interface. Digital holographic microscopy affords us three dimensional position information at high frame rates (> 500fps), allowing us to probe short timescale behavior. We vary parameters such as particle surface chemistry, dissolved ion concentration, and pH in order to pursue questions about the nature of interface penetration dynamics.

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