

Abstract Submitted
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Forces acting in quasi 2d emulsions CARLOS ORELLANA, JANNA LOWENSOHN, ERIC WEEKS, Emory University — We study the forces in a quasi two dimensional emulsion system. Our samples are oil-in-water emulsions confined between two close-spaced parallel plates, so that the oil droplets are deformed into pancake shapes. By means of microscopy, we measure the droplet positions and their deformation, which we can relate to the contact forces due to surface tension. We improve over prior work in our lab, achieving a better force resolution. We use this result to measure and calibrate the viscous forces acting in our system, which fully determine all the forces on the droplets. Our results can be applied to study static configurations of emulsion, as well as faster flows.

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