

Abstract Submitted
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Measuring interfacial viscosity using macro- and micro-rheology
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Emory University — We measure the viscous moduli of thin films using two different
methods. First, we use a magnetic needle viscometer. Our apparatus employs
Helmholtz coils to control the position and orientation of the needle in the film. By
driving the needle we can produce a response in the film which allows us to probe
the bulk viscous properties of the film. Second, we use single particle microrheology
to probe the local properties of the film. Tracking the mean-squared displacement
of particles as they undergo Brownian motion probes the local viscous properties
of any heterogeneous domains. Coupling this technique with the magnetic needle
viscometer provides information on the effect local viscous properties have on the
bulk properties.

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