

Abstract Submitted
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Shear-induced dynamics of polydisperse jammed emulsions ERIC R. WEEKS, JOAQUIM CLARA RAHOLA, Physics Dept., Emory University — We study dense and highly polydisperse emulsions at droplet volume fractions ranging from $\phi = 0.65$ to 0.85 . We apply oscillatory shear and observe the subsequent droplet motions using confocal microscopy. Both affine and nonaffine droplet motions are observed, with the large droplets typically moving affinely and pushing the smaller droplets around in non-affine ways. Despite the polydispersity of the sample and the complex droplet trajectories, we observe dynamic correlation length scales. These length scales grow from one to four times the mean droplet diameter, with larger length scales corresponding to higher strain amplitudes (up to strains of about 6%).

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