

Abstract Submitted  
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**Flow-induced Shear of Colloidal Gels** TIFFANY SOO, GARY HUNTER, ERIC R. WEEKS, Emory University — We study colloidal gels as they break apart under shear. To make our colloidal gels, we add polystyrene polymer to PMMA colloids, inducing the depletion force. We then pump these colloidal gels through a capillary tube, and the resulting parabolic flow profile in the tube causes the gel to shear and break. We visualize this using confocal microscopy. We present two-dimensional and three-dimensional data from this experiment that has been analyzed through tracking individual particles and the movement of aggregates. We study the breaking points of the gel and characterize the structure of these points as a function of flow rate, volume fraction, and polymer concentration.

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