

Abstract Submitted  
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**Gravitational collapse of depletion gels** JUAN JOSE LIETOR-SANTOS, ALBERTO FERNANDEZ-NIEVES, CHANJOONG KIM, PETER J. LU, DAVID A. WEITZ, Division of Engineering and Applied Science. Harvard University — We study how colloidal gels collapse under the presence of a gravitational stress. We do so macroscopically, monitoring the time dependence of the creaming or sedimentation front, and microscopically, using confocal microscopy. Our system consists of fluorescently labeled spheres that are index matched to the surrounding solvent. Temperature allows fine control of the density mismatch, further enabling fine tuning of the gravitational stress. Addition of non-adsorbing polymer induces an attraction whose range and strength can also be tuned. We will present results pertaining macroscopic studies for different particle volume fractions and interaction energies and preliminary microscopic results aiming to locally describe the structure collapse.

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