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Rheology of solid-stabilized emulsions KOSTA LADAVAC, Schlumberger-Doll Research, RODRIGO GUERRA, Harvard University, PABITRA SEN, Schlumberger-Doll Research, DAVID WEITZ, Harvard University — Concentrated emulsions can possess strong shear rigidity, in spite of being comprised solely of fluids. When stress is applied the drops deform, create additional surface area and are able to store energy. For surfactant-stabilized emulsions this elasticity is driven by surface tension alone. In case of sollid- stabilized emulsions, where droplets are protected by colloidal particles adsorbed at the interfaces, organization of particles and their rigidity leads to a different response to deformation. We study this packing of a packing – the interplay between 3D structure of emulsion droplets and 2D structure of colloidal particles at their interfaces.

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