# NUDE AND COVERED DROPLET: THE INFLUENCE OF SOLID PARTICLES AT THE INTERFACE (PICKERING EMULSION) ON THE DROPLET RETRACTION AFTER A LARGE STRAIN JUMP

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We study the effect of solid particles on droplet retraction after a large strain jump in a liquid emulsions. In the case of a pure interface i.e. without surfactant or solid particles, we showed that droplet retraction is a universal behavior characterized by two relaxation times with a constant ratio independent of the applied strain and the viscosity ratio. The droplet shape and the kinetic retraction are related to the gradient of the normal stress difference across the droplet interface. In the case of particle-covered droplets, called Pickering emulsion, we showed that the presence of solid particles induces a flow singularity not observed for free-interface droplets. In addition, particles at the interface considerably slow down the retraction kinetics in comparison to free-interface droplets. The terminal relaxation time of the droplet increases linearly with the applied strain. This result implies a memory effect induced by the presence of solid particles at the droplet interface in a Pickering emulsion.