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Dynamics of spreading thixotropic droplets[1] ARAN UPPAL, RICHARD CRASTER, OMAR MATAR, Imperial College London — Thixotropy has become of increasing interest for a variety of applications in recent years. The lubrication approximation has been often used in the study of such fluids, especially in the presence of a free surface. The lubrication approximation aims to remove the explicit depth dependence from the resulting evolution equations by utilising the naturally occurring small aspect ratio. However, this is not possible with the inclusion of a structure parameter to describe the thixotropic behaviour. Thus, we consider a range of closures to simplify the evolution equations and compare against the full simulation results.

[1]EPSRC UK Centre for Doctoral Training

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