

Abstract Submitted  
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**Slip or not slip? A comparison of models applied to contact line motion** NIKOS SAWA, DAVID SIBLEY, SERAFIM KALLIADASIS, Department of Chemical Engineering, Imperial College London — The motion of a contact line is examined through the spreading of a thin two-dimensional droplet on a planar substrate to compare the contemporary model based on interface formation of Shikhmurzaev to more prevalent models in the literature. The implementation of the long-wave approximation for the droplet thickness in a quasistatic spreading regime affords an insight to the interface formation model behaviour, principally that the evolution of the droplet radius reduces to an equivalent expression for a slip model when the prescribed dynamic contact angle has a velocity dependent correction to its static value. This result is found both in the original interface formation model formulation and for a more recent version, where mass transfer from bulk to surface layers is accounted for through the boundary conditions. Various features, such as the pressure behaviour and rolling motion at the contact line, are critically analysed.

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