

Abstract Submitted
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Thermocapillary flow of droplets: gravity and disjoining potential effects¹ JUAN M. GOMBA, JONATAN R. MAC INTYRE, U. Centro de la Prov. de Buenos Aires - Conicet - Argentina, CARLOS A. PERAZZO, Dept. de Física y Química, U. Favaloro, Buenos Aires, Argentina, FLUIDODINAMICA TEAM — In a previous work (Gomba and Homsy, JFM, 2010) one of us studied the flow of a droplet on a rigid substrate under the effect of a constant temperature gradient, and under partial wetting and zero-gravity conditions. Three different regimes of flow, that depends on the contact angle and volume of the droplets were reported. Here we introduced the gravity and different substrate-liquid molecular interactions to study its effect on the flow. We observe that for small contact angles, the asymptotic behaviour of the droplet is similar to the one observed for none gravity conditions, no matter the molecular interaction modeled. For larger contact angles, the velocity of the droplet and the eventual occurrence of breakup into smaller droplets are analyzed.

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