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CORRIGENDUM

On the thickness of soap films: an alternative to Frankel's law – CORRIGENDUM

ERNST A. VAN NIEROP, BENOIT SCHEID AND HOWARD A. STONE

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Constructive conversations with Peter Howell led us to notice an error in the derivation of equation (2.2), and therefore in the calculation of film thickness h_0 in (2.4). The evolution equation as developed in the derivation of (2.2) should have a minus sign due to the choice of coordinate system (with X being positive in the downward direction). As it stands, the solution given in (2.4) does not apply to extensional withdrawal of a film of fluid. Rather, the solution applies to the entrainment of a film into the bulk, where the entrainment speed is modified by surface viscosity μ^*, e.g. as similar to the case of a foam lamella draining into a Plateau border at early time when h_0 is nearly constant. See also, for example, the work by Breward & Howell (2002) and Naire *et al.* (2001) for related problems concerning the evolution of a film after it has been formed. We note that the manner in which variations of surface properties affect 'Frankel's law' for the case of a film formed by withdrawal from a bath remains an open question.

REFERENCES

Breward, C. J. W. & Howell, P. D. 2002 The drainage of a foam lamella. *J. Fluid Mech.* **458**, 379–406.

Naire, S., Braun, R. J. & Snow, S. A. 2001 An insoluble surfactant model for a vertical draining free film with variable surface viscosity. *Phys. Fluids* **13**, 2492–2502.

van Nierop, E. A., Scheid, B. & Stone, H. A. 2008 On the thickness of soap films: an alternative to Frankel's law. *J. Fluid Mech.* **602**, 119–127.