

Abstract Submitted  
for the DFD14 Meeting of  
The American Physical Society

**Hysteresis in the surface topography of laterally confined fluids<sup>1</sup>**

JUAN GOMBA, Univ. Nacional del Centro- CIFICEN - Argentina, CARLOS PERAZZO, University Favaloro - Argentina, JONATAN RAÚL MAC INTYRE, Univ. Nacional del Centro- CIFICEN - Argentina — Possible steady states of a fluid within a vessel of finite width are theoretically studied. The fluid is under the action of surface tension, gravity and molecular interaction with the substrate. At steady state, the liquid surface can assume only two possible forms: a film of uniform thickness or a droplet surrounded by a uniform film. Depending on the volume of the liquid and the width of the containing vessel, the system will adopt one of the two steady states. However, there is a range of parameters for which both states can be reached either. In this case the system can present hysteresis, ie the final state may depend on its previous history.

<sup>1</sup>Authors thank to CONICET and ANPCYT

Juan Gomba  
Univ Nacional del Centro

Date submitted: 30 Jul 2014

Electronic form version 1.4