

Abstract Submitted  
for the DFD10 Meeting of  
The American Physical Society

**Experimental measurements of contact angles with evaporation by interferometry**<sup>1</sup> JULIEN SEBILLEAU, SAM DEHAECK, PIERRE COLINET, TIPS, Université Libre de Bruxelles — Volatile liquids, on a substrate under total wetting conditions, exhibit an apparent contact angle even in the case of a static contact line. This contact angle is linked to the evaporation process that induces a (micro)flow in the contact line region. We study experimentally this contact angle for liquids evaporating into ambient air, in the case of a meniscus generated at the top of a Hele-Shaw cell, the two glass walls of which being placed at different heights. The shape of this meniscus is then recorded with two kinds of interferometers (Mach-Zehnder in transmission, and reflection interferometry), which allow an accurate measurement of the apparent contact angle at some distance from the actual contact line. Both static and moving (advancing or receding) contact lines situations are studied and several liquids are used. For advancing contact lines, instabilities leading to droplets formation are also observed

<sup>1</sup>Supported by the Marie Curie MULTIFLOW Network, by ESA & BELSPO PRODEX projects, and by FRS-FNRS.

Julien Sebilleau  
TIPS, Université Libre de Bruxelles

Date submitted: 07 Aug 2010

Electronic form version 1.4