

Abstract Submitted  
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**Micromachined Fabry-Perot Interferometer with Embedded Nanochannels for Nanoscale Fluid Dynamics** FRIEDER MUGELE, Physics of Complex Fluids, University of Twente, The Netherlands, KOEN M. VAN DELFT, JAN C.T. EIJKEL, BIOS group, University of Twente, The Netherlands, HELMUT RATHGEN, Physics of Complex Fluids, University of Twente, The Netherlands, ALBERT VAN DEN BERG, BIOS group, University of Twente, The Netherlands — We describe a microfabricated Fabry-Pérot interferometer with nanochannels of various heights between 6 and 20 nm embedded in its cavity. By multiple beam interferometry, the device enables the study of liquid behavior in the nanochannels without using fluorescent substances. During filling studies of ethanol and water, an intriguing filling mode for partially wetting water was observed, tentatively attributed to the entrapment of a large amount of gas inside the channels.

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