

Abstract Submitted
for the DFD05 Meeting of
The American Physical Society

Imbibition in microchannels¹ ABRAHAM MEDINA, ERICK LUNA, Instituto Mexicano del Petroleo, MARINA MEDINA, DEPFI-UNAM — In this work we studied the imbibition in straight microchannels with circular and non-circular cross-sections. The formulation of a motion equation allowed us to obtain closed-form analytical solutions for the imbibition front when there is an initial head pressure P , the gravity is acting, and the cylinder may be inclined any angle respect to the vertical. It is shown that the limit case, $Bo=0$, where Bo is the Bond number, give solutions that cover the main aspects related to imbibition in microchannels, as the competition between the strength of the capillary phenomena and the hydraulic resistance depending on the shape.

¹We acknowledge IMP, Project D.0330

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Date submitted: 24 Jun 2005

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