

Depressurized capillary filling in the asymptotic theory of wetting

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The paper considers the approach to a consistent description of the dynamic wetting angle during spreading droplet along a solid surface with the additional chemical potential (wedging pressure) for fluid particles in thin layers of liquid near the contact line. The paper demonstrates application of the theory by calculating non-pressure filtering of flat capillary partially wetting fluid.

Keywords: *partially wetting liquid, thin film, near-surface tension, wedging pressure, three-phase contact, angle of liquids edge, capillary.*

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