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Capillary rise of a liquid between two vertical plates making a small angle ABRAHAM MEDINA, ESIME-A, IPN, FRANCISCO HIGUERA, AMABLE LINAN, E. T. S. Ingenieros Aeronauticos, UPM — The penetration of a wetting liquid in the narrow gap between two vertical plates making a small angle is analyzed in the framework of the lubrication approximation. At the beginning of the process, the liquid rises independently at different distances from the line of intersection of the plates, except in a small region around this line where the effect of the gravity is negligible. The maximum height of the liquid initially increases as the cubic root of time and is attained at a point that reaches the line of intersection only after a certain time. At later times, the motion of the liquid is confined to a thin layer around the line of intersection whose height increases as the cubic root of time and whose thickness decreases as the inverse of the cubic root of time. The evolution of the liquid surface is computed numerically and compared with the results of a simple experiment.

Francisco Higuera
E. T. S. Ingenieros Aeronauticos, UPM

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