Forced dewetting on porous media OLIVIER DEVAUCHELLE, CHRISTOPHE JOSSERAND, STEPHANE ZALESKI, LMM - CNRS / U. of Paris — We study the dewetting of a porous plate withdrawn from a bath of fluid. The microscopic contact angle is fixed to zero and the flow is assumed to be parallel to the plate (lubrication approximation). The ordinary differential equation involving the position of the water surface is analysed in the phase space by means of numerical integration. We show the existence of a critical value of the capillary number $\eta U/\gamma$, above which no stationary contact line can exist. An analytical model, based on asymptotic matching is developed, that reproduces the dependance of the critical capillary number on the angle of the plate with respect to the horizontal for large control parameters (3/2 power law). Comparison with recent experiments on granular beds are discussed.

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