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Free surface profile of evaporative liquids at the vicinity of the contact line SAMMY HOUSSAINY, PIROUZ KAVEHPOUR, University of California, Los Angeles — Interfacial phenomenon, specifically those associated with evaporation from thin liquid films near the contact line of a liquid drop, play a major role in many current engineering applications which require high local heat fluxes, as evident in heat pipes, grooved evaporators, fuel cells and suction nucleate boiling devices. This study will prove useful in the improvement of such applications. Fluoresces microscopy was used as our main technique of investigating the free surface profiles of evaporative liquids, as it delivers sufficient range and resolution to address the challenge of capturing the microscopic and macroscopic aspects of this phenomenon. Subsequent to our experimental findings, the results are compared with non-volatile liquids for both contact angle and free surface structures.

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