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**Microregion model of a contact line including evaporation, kinetics and slip** DANIEL ANDERSON, George Mason University, VLADISLAV JANECEK, ArcelorMittal Global R and D — We consider the evaporation of a liquid on a uniformly heated solid substrate. In the framework of lubrication theory we consider hydrodynamics, heat conduction, phase change, evaporation kinetics, and slip. Our model focuses only on the contact line 'inner' region which allows us to quantify the impact of evaporation on the apparent contact angle and microregion heat transfer. The linearized problem with respect to the substrate overheating is solved analytically. The analytical solutions are compared with full numerical solutions and to predictions of Hocking (Physics of Fluids, 1995).

Daniel Anderson  
George Mason University

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