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Photochemical Marangoni Convection[1] ALEXANDER GOLOVIN, VLADIMIR VOLPERT, Northwestern University — Marangoni convection caused by a photochemical reaction is studied. Two cases are considered: convection in a thin liquid film and in a deep liquid layer. In the first case a system of strongly nonlinear evolution equations is derived and solved numerically. It is shown that Marangoni flow caused by a photochemical reaction can result in either film dry-out or sustained wavy patterns. In the case of a deep layer the conditions for Marangoni instability to occur are found and their dependence on the reaction kinetic parameters is analyzed.

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Alexander Golovin
Northwestern University

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