Abstract Submitted
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Tear Film Dynamics and Cooling of the Anterior Eye LONGFEI LI, RICHARD BRAUN, University of Delaware — A model for cooling of the human tear film is formulated by incorporating the heat transfer from the interior of the eye. A single PDE that governs the thickness of the film is derived from lubrication theory; the nonlinear partial differential equation is to be solved along the edge of a model rectangular domain for the anterior eye that includes the cornea (thin and thick substrate cases are treated separately). Optimal parameters to reproduce observed temperature decreases are found.

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