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Amber C Xu* (axu@andrew.cmu.edu), Carnegie Mellon University, SMC 3815, 5032 Forbes Ave., Pittsburgh, PA 15289. *Prelens Tear Film Evaporation from a Porous Layer*.

We study a fluid dynamic model of prelens tear film evaporation over a contact lens in the human eye. Our model is a one-dimensional combination of previous work on fluid film evaporation and thin film evolution on a porous layer. The model is solved numerically and validated with an analytical solution. We examine the effects of postlens tear film pressure, evaporation kinetics and pressure kinetics. Also investigated are the time required to reach a steady state tear film thickness and depletion of the postlens tear film. We find that varying the evaporation kinetics parameter produce evaporation rates comparable to measured values.

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