

Abstract Submitted  
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**Modeling the evaporation of a pre-lens tear film on a contact lens**<sup>1</sup> DANIEL ANDERSON, KEVIN TALBOTT, George Mason University, AMBER XU, Carnegie Mellon University, PADMANABHAN SESHAIYER, George Mason University — We develop a model for evaporation of a post-blink pre-lens tear film in the presence of a porous contact lens. The tear film is modeled as a Newtonian fluid and the flow in the contact lens is assumed to obey Darcy's law. The evaporation model treats the contact lens as a wetting surface. Evaporative mass flux thins the pre-lens film down to a nonzero steady thickness at which point evaporation continues by drawing fluid up through the contact lens. Both one and two-dimensional models are explored. The post-lens film (between the contact lens and the corneal surface) is not included explicitly in the model but is assumed to act as a reservoir that supplies fluid drawn up through the contact lens.

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