Abstract Submitted
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The influence of nonpolar lipids on tear film dynamics[1] CHRIS BREWARD, University of Oxford — We will examine the effects of the presence of nonpolar lipids on the evolution of a tear film during a blink. We will track the thickness of the aqueous tear layer, the thickness of the nonpolar lipid layer, and the concentration of the polar lipids that reside between the two. Our model can be reduced in various limits to previous models for tear dynamics studied. We present numerical solutions for the evolution of the tear film and show how the key parameters play a role in determining how the nonpolar lipid spreads.

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Chris Breward
University of Oxford

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