

Abstract Submitted  
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**3D Animations of Fresnel's Equations** DONALD MAY, DANIEL PARISH, RICHARD NOBRA, ASHLEY GOLDEN, NARESH KANAUIYA, JESSICA DEBNAM, Undergraduate Student — To better understand Fresnel's equations, it is beneficial to have full 3D animations in order to help demonstrate numerous physical happenings. We would like to show the laws of reflection, refraction, image formation and polarization in 3D animations. With these models, we will also be able to show phenomena such as total internal reflection and total refraction, including various laws and principles ranging from Huygen to Snell and Rayleigh. Considering these trends have not yet been animated in full 3D models, it is our ultimate goal to do so as a way to better observe, dissect, and understand the inner and outer workings of Fresnel's equations.

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