The understanding and manipulation of light and thus photonics is crucial to many modern technologies ranging from modern imaging displays, to optical data communications. Physicists and engineers must have a clear understanding of the fundamental phenomena behind photonics, such as reflection and refraction, in order to innovate and maintain these sectors.
Through this experiment we will investigate many aspects of reflection & refraction of light at an optical interface. Through the use of a laser, a polariser and a detector, we will take various physical measurements and compare them to modern photonics theory, such as Snell's law, the Brewster angle and the Fresnel equations for reflectivity. We will attempt to analyse their accuracy and observe which of these equations leads us to the most precise value for the refractive index.

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In this experiment we will investigate many aspects of reflection & refraction of light at an optical interface, in this case a prism. Though the use of a laser, a polariser and a detector, we will take various physical measurements and compare them to moder photonics theory. We will use Snell's law, the Brewster angle and the Fresnel equation for reflectivity in an attempt to analyse their accuracy and observe which of these equation leads us to the most precise value for the refractive index of our prism.