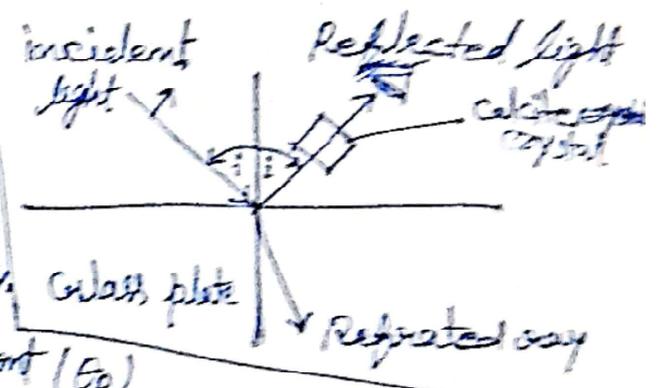


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 Exam: Paper III  
 MSc - Physics Unit 25

# Brewster's law

Brewster's law in electromagnetic wave physics (often called <sup>media.</sup> this law) states that the polarizing angle or Brewster's angle ( $\theta_p$  or  $\theta_B$ ) is the specific incidence angle where the reflected ray is polarized perpendicular to the plane of incidence.

When polarized light is incident on a transparent dielectric boundary,



the angle of incident ( $\theta_p$ ) that produces perfectly plane polarized reflected light. Occurs when the tangent of the polarizing angle equal the refractive index of the medium (if the first medium is air)  $(\tan \theta_p = \frac{n_2}{n_1})$ . At this angle the reflected and refracted waves are mutually perpendicular. The reflected ray is totally polarized perpendicular to the plane of incidence, while the transmitted ray is partially polarized. ~~It is denoted by  $\theta_p$ .~~ It is denoted by  $\theta_p$ . The angle between the reflected ray and refracted ray is  $90^\circ$ . If used in producing polarized light, ~~sumple~~ Brewster's law.