

MA3DIFINTRO

Fresnel's formulas as function of angle of incidence for $n_2 < n_1$
 Graph of $\arg(z_r) - \arg(z_{rr})$.

Complex z_r for parallel and z_{rr} for perpendicular case.

$$\theta \equiv 0, 1 \dots 90 \quad n_2 \equiv 1$$

$$r_p(\theta) := \frac{\left(\frac{n_2}{n_1}\right) \cdot \cos\left(2 \cdot \frac{\pi}{360} \cdot \theta\right) - \sqrt{1 - \left[\left(\frac{n_1}{n_2}\right) \cdot \sin\left(2 \cdot \frac{\pi}{360} \cdot \theta\right)\right]^2}}{\frac{n_2}{n_1} \cdot \cos\left(2 \cdot \frac{\pi}{360} \cdot \theta\right) + \sqrt{1 - \left[\left(\frac{n_1}{n_2}\right) \cdot \sin\left(2 \cdot \frac{\pi}{360} \cdot \theta\right)\right]^2}}$$

$$r_s(\theta) := \frac{\cos\left(2 \cdot \frac{\pi}{360} \cdot \theta\right) - \left(\frac{n_2}{n_1}\right) \cdot \sqrt{1 - \left[\left(\frac{n_1}{n_2}\right) \cdot \sin\left(2 \cdot \frac{\pi}{360} \cdot \theta\right)\right]^2}}{\cos\left(2 \cdot \frac{\pi}{360} \cdot \theta\right) + \left(\frac{n_2}{n_1}\right) \cdot \sqrt{1 - \left[\left(\frac{n_1}{n_2}\right) \cdot \sin\left(2 \cdot \frac{\pi}{360} \cdot \theta\right)\right]^2}}$$

$$n_1 \equiv 1.9$$

