

# Fresnel Equations

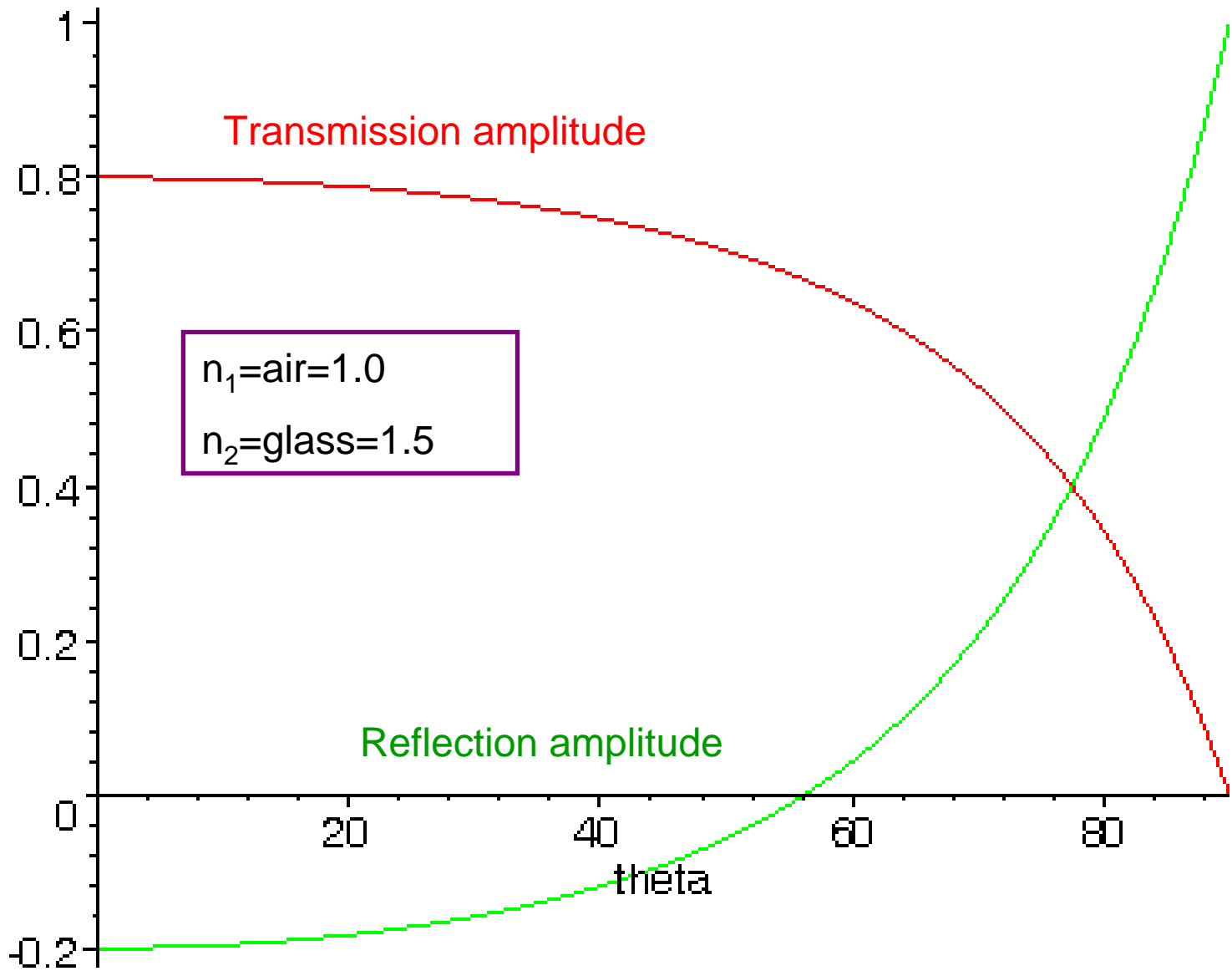
Transmission Amplitude:

$$t = \frac{2}{\frac{\sqrt{1 - \left(\frac{n_1}{n_2}\right)^2 \sin^2 \theta_i}{\cos \theta_i} + \frac{n_2}{n_1}}$$

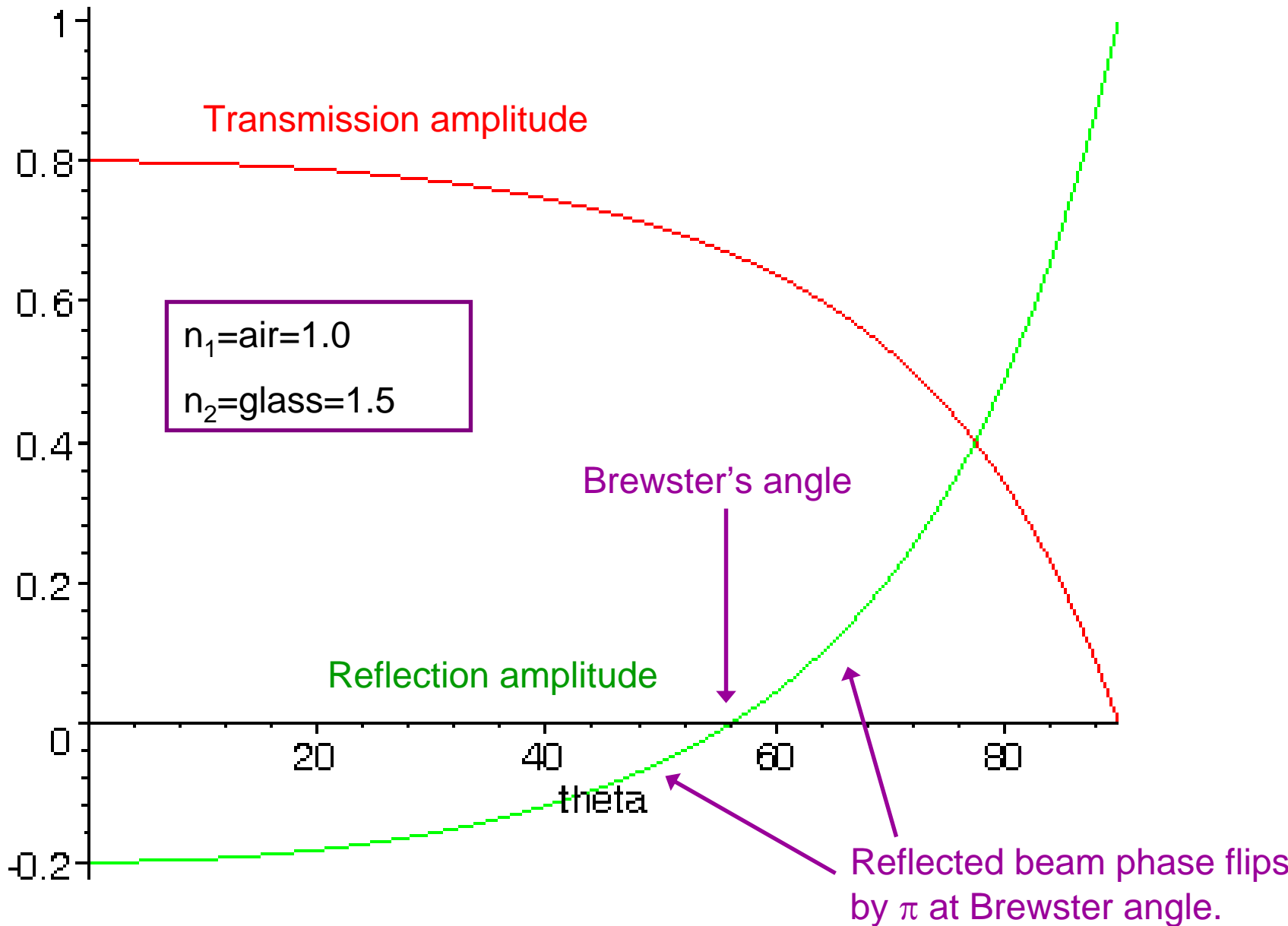
Reflection Amplitude:

$$r = \frac{\frac{\sqrt{1 - \left(\frac{n_1}{n_2}\right)^2 \sin^2 \theta_i}{\cos \theta_i} - \frac{n_2}{n_1}}{\frac{\sqrt{1 - \left(\frac{n_1}{n_2}\right)^2 \sin^2 \theta_i}{\cos \theta_i} + \frac{n_2}{n_1}}$$

# P-polarized light on Glass, $n_2=1.5$

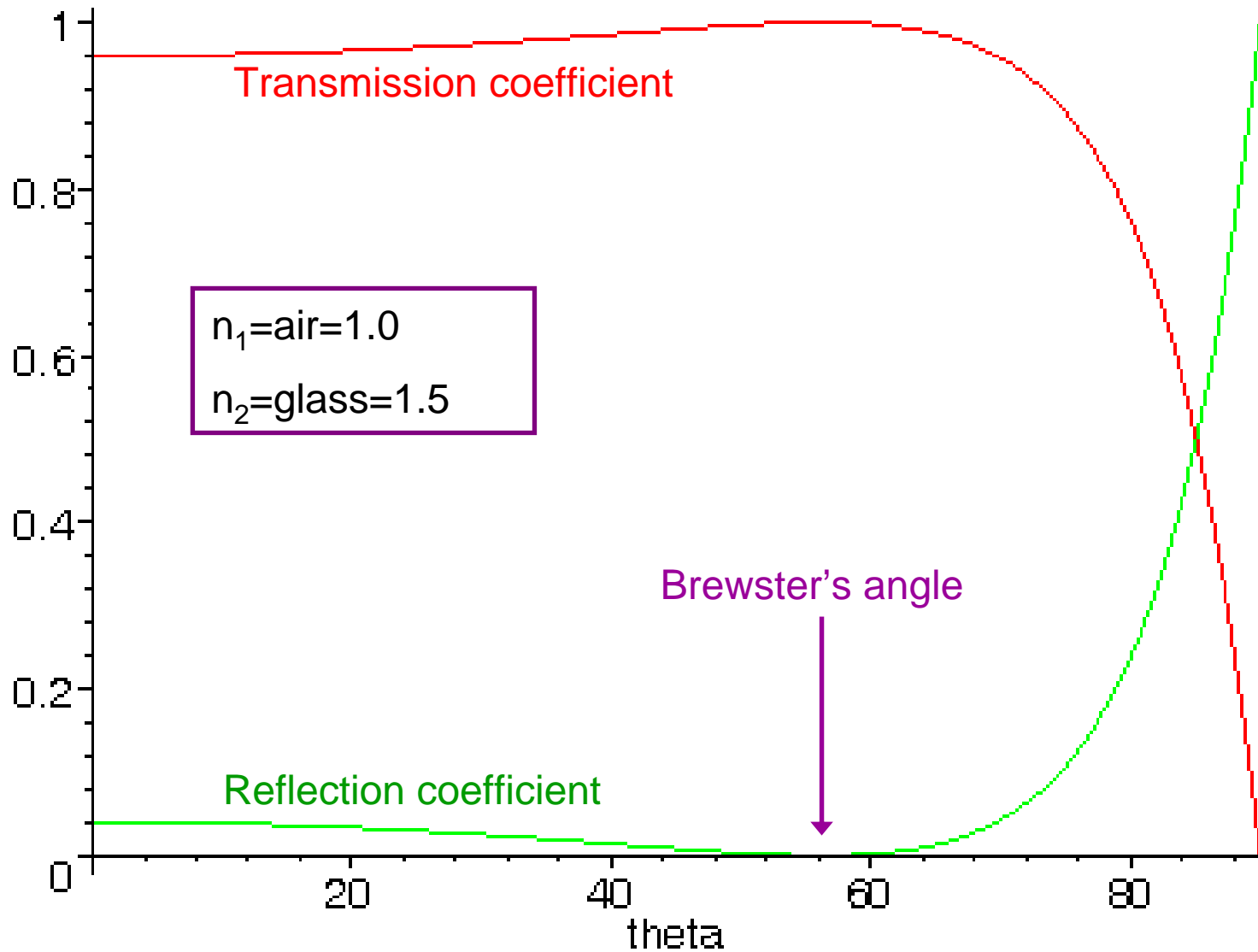


# P-polarized light on Glass, $n_2=1.5$

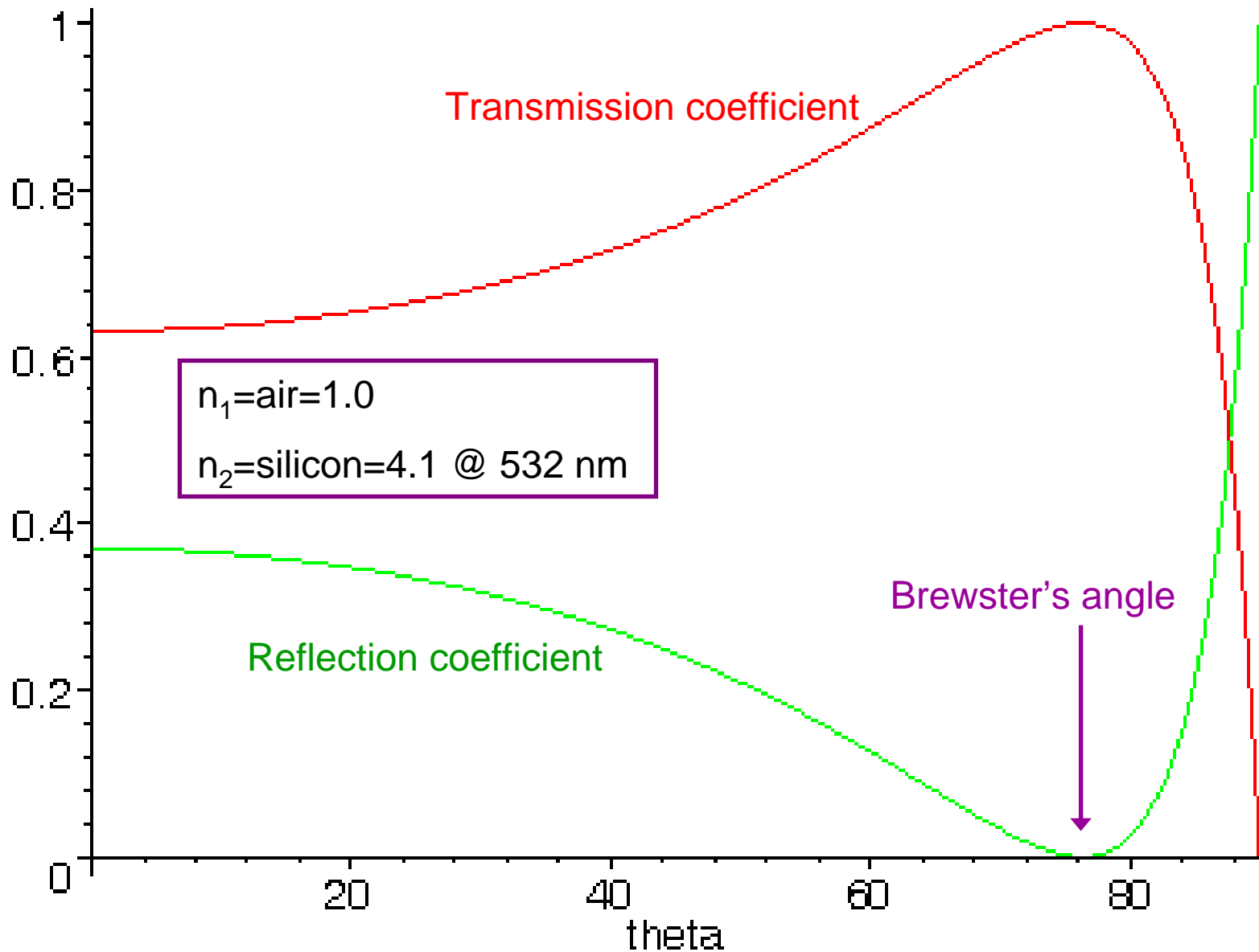




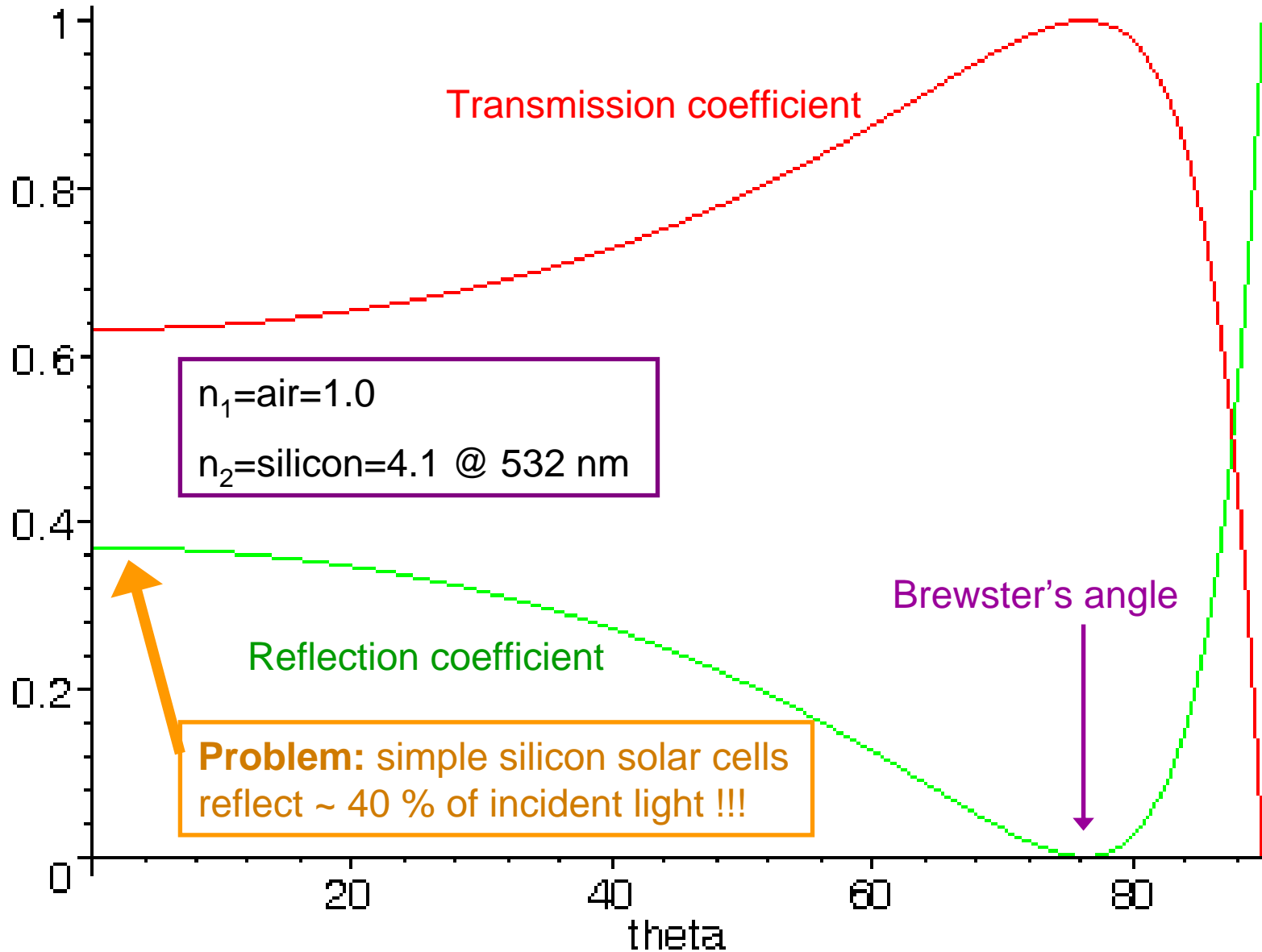
# Glass: $n_2=1.5$



# Silicon: $n_2=4.1$



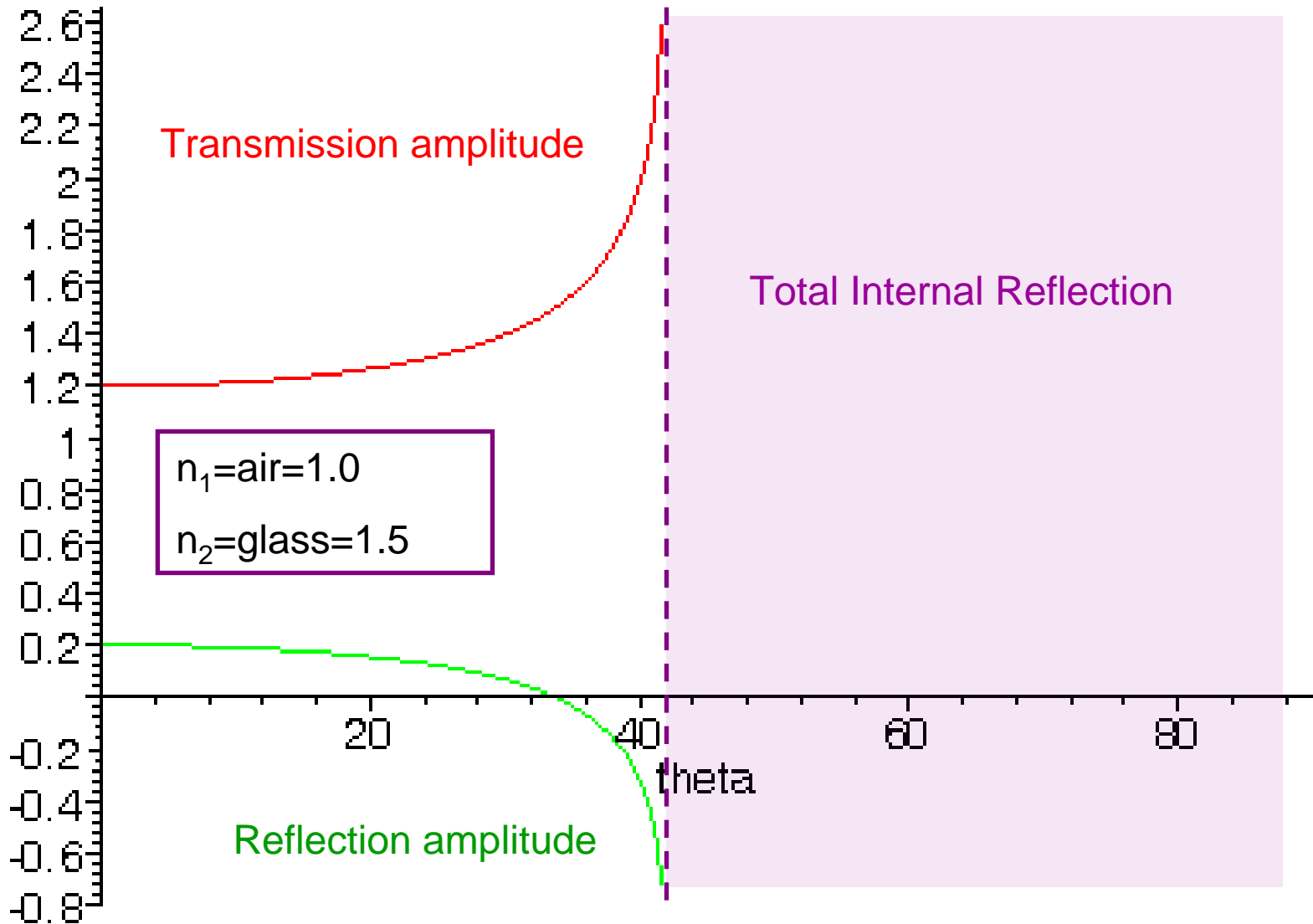
# Silicon: $n_2=4.1$







# Total internal reflection: Glass: $n_2=1.5$



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