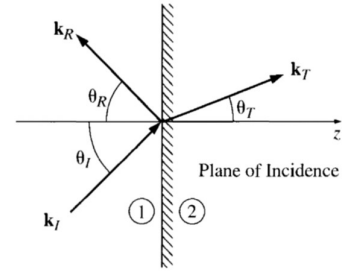


The figure shows a monochromatic electromagnetic wave travelling from medium 1 to medium 2. Assume the plane of incidence is  $xz$  plane and assume that the wave is polarized normal to the plane of incidence.



- a- Suppose medium 1 is vacuum and medium 2 is a medium with a dielectric constant of 3.61 and a relative permeability of 1.0. Use Mathematica to make two plots similar to Figure 9.16 and Figure 9.17 or your textbook. Include in the second plot the plot of  $T+R$ . Comment on occurrence of Brewster angle.
- b- Repeat a, but with medium one is the dielectric and medium 2 is the vacuum. Comment on your result.