SESSION 4

GRIFFITHS 9.23

Equation 9.149 $\quad R = \left| \frac{\tilde{E}_{0R}}{\tilde{E}_{0i}} \right|^2 = \left| \frac{1-\tilde{\beta}}{1+\tilde{\beta}} \right|^2$

$\tilde{\beta} = \frac{\mu_1 v_1}{\mu_2 \omega} \tilde{k} \qquad \tilde{k} = k + iK$

↖ Eq 9.148

Eqtn 9.128 for $\frac{\sigma}{\varepsilon\omega} >> 1$

$k \cong \omega \sqrt{\frac{\varepsilon\mu}{2}} \sqrt{\frac{\sigma}{\varepsilon\omega}} = \sqrt{\frac{\sigma\omega\mu}{2}} \qquad K = \omega \sqrt{\frac{\varepsilon\mu}{2}} \sqrt{\frac{\sigma}{\varepsilon\omega}} = \sqrt{\frac{\sigma\omega\mu}{2}}$

$\tilde{\beta} = \frac{\mu_1 v_1}{\mu_2 v_2} \sqrt{\frac{\sigma\omega\mu_2}{2}} (1+i) = \mu_1 v_1 \sqrt{\frac{\sigma}{2\mu_2\omega}}$

Now it is just a matter of plugging numbers in

$R = 0.93$