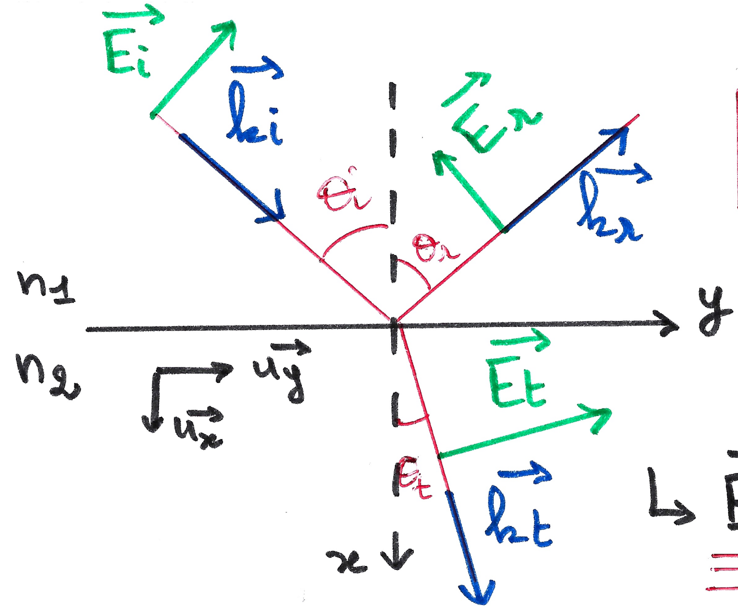

$$\boxed{\theta_i > \theta_{i,lim}}$$

$$\Rightarrow \underline{k}_t^{\perp} = -i\sqrt{\left(\frac{n_1}{n_2}\right)^2 \sin^2\theta_i - 1}$$

$$\underline{k}_t^{\perp} \in i\mathbb{R}$$

$$\hookrightarrow \vec{E_t} = \vec{E_{0t}}\, e^{i(\omega t - \underline{k}_t'' y)}\, e^{-|\underline{k}_t^{\perp}| x}$$

De plus, $\vec{E_{0r}} = \vec{E_{0i}}$ $\left(r = \frac{|\vec{E_r}|}{|\vec{E_i}|} = 1 \right)$

Donc : $\begin{cases} \vec{E_i} + \vec{E_r} \,/\!/\, -\vec{u_x} \\ \vec{E_t} \,/\!/\, -\vec{u_x} \end{cases}$ (conditions de passage)

Calcul de $\vec{B}$: $\vec{\nabla} \wedge \vec{E} = -\frac{\partial \vec{B}}{\partial t}$

$$\Rightarrow \vec{B} = \frac{i}{\omega} \begin{vmatrix} \partial/\partial x \\ \partial/\partial y \\ 0 \end{vmatrix} \wedge \begin{vmatrix} -E_t \\ 0 \\ 0 \end{vmatrix} = \frac{i}{\omega}\left(-i\, \underline{k}_t'' |E_t|\right) \vec{e_z}$$

$$= \frac{\underline{k}_t''}{\omega} E_{0t}\, e^{i(\omega t - \underline{k}_t'' y)}\, e^{-|\underline{k}_t^{\perp}| x}\, \vec{e_z}$$

Calcul de $\vec{\Pi}$ moyen :

$$\langle \vec{\Pi} \rangle = \frac{1}{2} \mathrm{Re}\left(\frac{\vec{E} \wedge \vec{B}^*}{\mu_0} \right)$$

$$= \frac{E_{0t}^2\, \underline{k}_t''\, e^{-|\underline{k}_t|^{\perp} x}}{2\mu_0 \omega}\, \vec{e_y}$$

$\rightarrow$ pas de propagation d'énergie selon $\vec{u_x}$.

Calcul fait en polarisation "p" ($\vec{E}$ dans le plan d'incidence).
Calcul en polarisation "s" ($\vec{E} \,/\!/\, \vec{u_z}$) :

Garing, p 231.