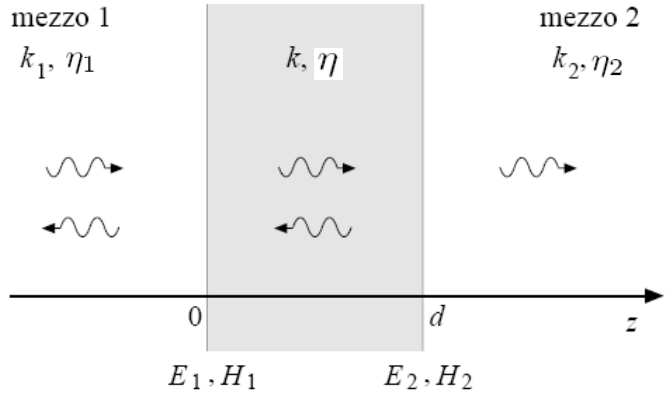
$$\begin{bmatrix} E_1 \\ H_1 \end{bmatrix} = \begin{bmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \end{bmatrix} \begin{bmatrix} E_2 \\ H_2 \end{bmatrix}$$



$$a_{11} = a_{22} = \cos kd$$

$$a_{12} = j\eta \sin kd$$

$$a_{21} = j\frac{1}{\eta} \sin kd$$

$$\Gamma = \frac{F'}{F} = \frac{a_{11}\eta_2 + a_{12} - \eta_1(\eta_2 a_{21} + a_{22})}{a_{11}\eta_2 + a_{12} + \eta_1(\eta_2 a_{21} + a_{22})}$$

$$\mathcal{T} = \frac{F''}{F} = \frac{2\eta_2}{a_{11}\eta_2 + a_{12} + \eta_1(\eta_2 a_{21} + a_{22})}$$

$$\sin(\beta - j\alpha)d = \sin \beta d \cosh \alpha d - j \cos \beta d \sinh \alpha d$$

$$\cos(\beta - j\alpha)d = \cos \beta d \cosh \alpha d + j \sin \beta d \sinh \alpha d$$