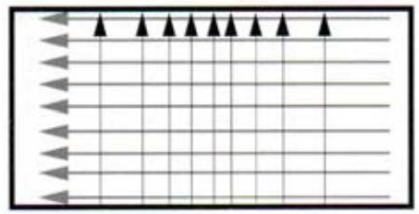
modo TE_{10} in guida rettangolare



$$\kappa''_{10} = \pi/a \qquad \lambda''_{10} = 2\,a \qquad f''_{10} = v/(2\,a)$$

$$\Phi''_{10} = \sqrt{\frac{2}{ab}}\,\cos\frac{\pi x}{a}$$

$$\vec{e}''_{10} = -\sqrt{\frac{2}{ab}}\,\vec{u}_y\,\sin\frac{\pi x}{a}$$

$$\vec{h}''_{10} = \sqrt{\frac{2}{ab}}\,\vec{u}_x\,\sin\frac{\pi x}{a}$$

$\lambda > 2a$

$$\alpha = \frac{\pi}{a}\sqrt{1-\left(\frac{2\,a}{\lambda}\right)^2}$$

$$Z = \frac{j\,\eta}{\sqrt{\left(\frac{\lambda}{2\,a}\right)^2-1}}$$

$\lambda < 2a$

$$\beta = \frac{2\pi}{\lambda}\sqrt{1-\left(\frac{\lambda}{2\,a}\right)^2}$$

$$Z = \frac{\eta}{\sqrt{1-\left(\frac{\lambda}{2\,a}\right)^2}}$$

campi modali

$$\vec{E}''_{10} = -\sqrt{\frac{2}{ab}}\,\vec{u}_y\,\sin\frac{\pi x}{a}\,V''_{10}(z)$$

$$\vec{H}''_{10} = \sqrt{\frac{2}{ab}}\left(\vec{u}_x\,\sin\frac{\pi x}{a}\,I''_{10}(z) - j\,\vec{u}_z\cos\frac{\pi x}{a}\,\frac{\lambda}{2a\,\eta}\,V''_{10}(z)\right)$$