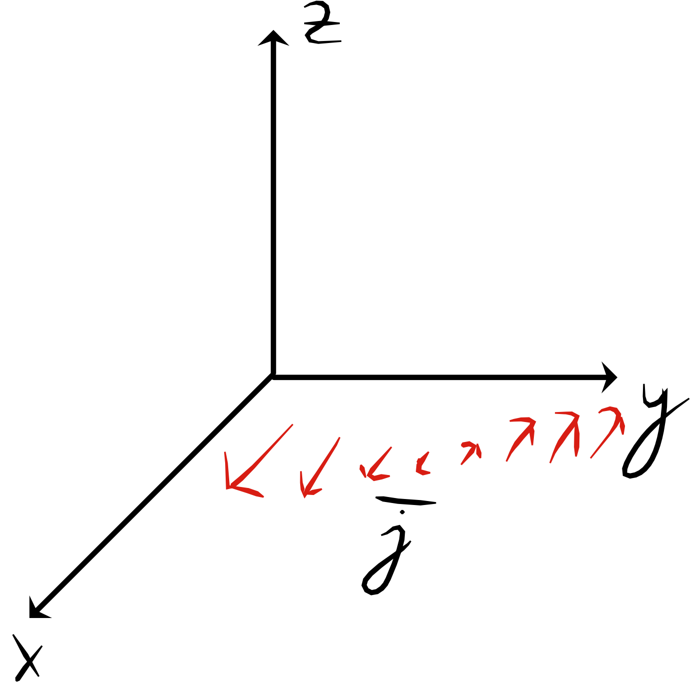

Zachowane: $E_{\parallel}, D_{\perp}, H_{\parallel}, B_{\perp}$

$\bar{B}^{+} = \bar{B}_0^{+} e^{i(\bar{k}^{+}\cdot\bar{r} - \omega^{+} t)}$ $\quad \bar{B}^{-} = \bar{B}_0^{-} e^{i(\bar{k}^{-}\cdot\bar{r} - \omega^{-} t)}$

$\bar{B}$ nie ma w kierunku $\bar{j}$ $\Rightarrow \bar{B}_0^{\pm} = \begin{bmatrix} 0 \\ B_{0y}^{\pm} \\ B_{0z}^{\pm} \end{bmatrix}$

$B_z^{+} = B_z^{-}$

$$\bar{B}_y^{+} - \bar{B}_y^{-} = \mu_0 \bar{j}$$

$$B_{0y}^{+} e^{i(k_x^{+} x + k_y^{+} y - \omega^{+} t)} - B_{0y}^{-} e^{i(k_x^{-} x + k_y^{-} y - \omega^{-} t)} = \mu_0 j e^{i(k_y y - \omega t)}$$

$k_x^{+} = k_x^{-} = 0 \qquad k_y^{+} = k_y^{-} = k_y \qquad \omega^{+} = \omega^{-} = \omega$

$k_z^{+} = k_z^{-} \qquad \frac{\omega}{k} = c \qquad \frac{\omega}{c} = \sqrt{k_y^2 + k_z^2} \qquad k_z = \pm\sqrt{\left(\frac{\omega}{c}\right)^2 - k_y^2}$

$B_{0y}^{+} - B_{0y}^{-} = \mu_0 j \neq 0$, więc $B_{0y}^{+} = -B_{0y}^{-} = \frac{1}{2}\mu_0 j$

$\bar{k} \perp \bar{B} \qquad \bar{B}\cdot\bar{k} = 0$

Dla z^{+}: $\quad k_y \frac{1}{2}\mu_0 j + k_z^{+} B_z^{+} = 0$

Dla z^{-}: $\quad -k_y \frac{1}{2}\mu_0 j + k_z^{-} B_z^{-} = 0$

$\Rightarrow k_z^{+} = -k_z^{-} \qquad B_z = \frac{-k_y}{2k_z^{+}}\mu_0 j$

$\bar{E}_0^{\pm} = \frac{c^2}{\omega}\bar{k}^{\pm}\times\bar{B}_0^{\pm} \qquad \bar{B}_0^{\pm} = \begin{bmatrix} 0 \\ \pm\frac{1}{2}\mu_0 j \\ B_z \end{bmatrix} \qquad \bar{k}^{\pm} = \begin{bmatrix} 0 \\ k_y \\ \pm k_z \end{bmatrix}$

$$\bar{E}_0^{\pm} = \frac{c^2}{\omega}\begin{bmatrix} \mp\frac{1}{2}\mu_0 j - k_y B_z \\ 0 \\ 0 \end{bmatrix}$$