• Addition Intensität $\qquad Re\{\underline{z}\} = \frac{1}{2} \cdot (\underline{z} + \underline{z}^*)$

· $\vec{\underline{S}} = \vec{\underline{E}} \times \vec{\underline{H}} = \frac{1}{2} \cdot \left(\underline{E}_1 \cdot e^{j\omega_1 t} + \underline{E}_1^* e^{-j\omega_1 t} + \underline{E}_2 e^{j\omega_2 t} + \underline{E}_2^* e^{-j\omega_2 t} \right) \times$

$$\frac{1}{2} \cdot \left(\underline{H}_1 e^{j\omega_1 t} + \underline{H}_1^* e^{-j\omega_1 t} + \underline{H}_2 e^{j\omega_2 t} + \underline{H}_2^* e^{-j\omega_2 t} \right)$$

· $\vec{\underline{E}} \perp \vec{\underline{H}}$: $|\vec{\underline{S}}| = \frac{1}{4} \underline{E}_1 \underline{H}_1 e^{j2\omega_1 t} \boxed{+ \frac{1}{4} \underline{E}_1 \underline{H}_1^*} + \frac{1}{4} \underline{E}_1 \underline{H}_2 e^{j(\omega_1 + \omega_2)t} + \frac{1}{4} \underline{E}_1 \underline{H}_2^* e^{j(\omega_1 - \omega_2)t}$

$\boxed{+ \frac{1}{4} \underline{E}_1^* \underline{H}_1} + \frac{1}{4} \underline{E}_1^* \underline{H}_1^* e^{-j2\omega_1 t} + \frac{1}{4} \underline{E}_1^* \underline{H}_2 \cdot e^{j(\omega_2 - \omega_1)t} + \frac{1}{4} \underline{E}_1^* \underline{H}_2^* e^{j(-\omega_1 - \omega_2)t}$

↘ Konstante Terme ⇒ Mittlere Leistung !

$+ \dots$

$= \frac{1}{4} \cdot \left(\underline{E}_1 \underline{H}_1^* + (\underline{E}_1 \underline{H}_1)^* \right) + \frac{1}{4} \left(\underline{E}_2 \underline{H}_2^* + (\underline{E}_2 \underline{H}_2)^* \right) + \dots$

$= \frac{1}{2} \cdot Re\{\underline{E}_1 \underline{H}_1^*\} + \frac{1}{2} Re\{\underline{E}_2 \underline{H}_2^*\} + \dots$