## 基于：线性角谱 Theory

$$\left(\nabla^2 + k_1^2\right) E_1(\boldsymbol{r}) = 0$$

$$\mathcal{F}^{-1}\left[ \mathcal{F}\left[E_{10}(x,y)\right]\Big|_{k_x,k_y}^{x,y} e^{i\sqrt{k_1^2-k_x^2-k_y^2}\,z} \right]\Bigg|_{x,y}^{k_x,k_y}$$

## 拓展：非线性角谱 Theory

$$\left(\nabla^2 + k_3^2\right) E_3(\boldsymbol{r}) = -\frac{k_3^2}{\varepsilon_3^{(1)}} P_3^{(2)}(\boldsymbol{r})$$

$$\mathcal{F}^{-1}\left[ \frac{e^{ik_{3z}z}}{k_{3z}} \cdot \iint \left\{ \begin{array}{l} \mathcal{F}\left[E_{10}(x,y)\right]\Big|_{k_x,k_y}^{x,y} \cdot \\ \mathcal{F}\left[E_{20}(x,y)\right]\Big|_{k_{3x}-g_{l_x}-k_x,\,k_{3y}-g_{l_y}-k_y}^{x,y} \cdot \\ \dfrac{e^{i\Delta k_{zQ}z}-1}{\Delta k_{zQ}} \dfrac{1}{\Delta k_{zQ}/k_{3z}+2} \end{array} \right\} \mathrm{d}k_x \mathrm{d}k_y \right]\Bigg|_{x,y}^{k_{3x},k_{3y}}$$

Universal Origin