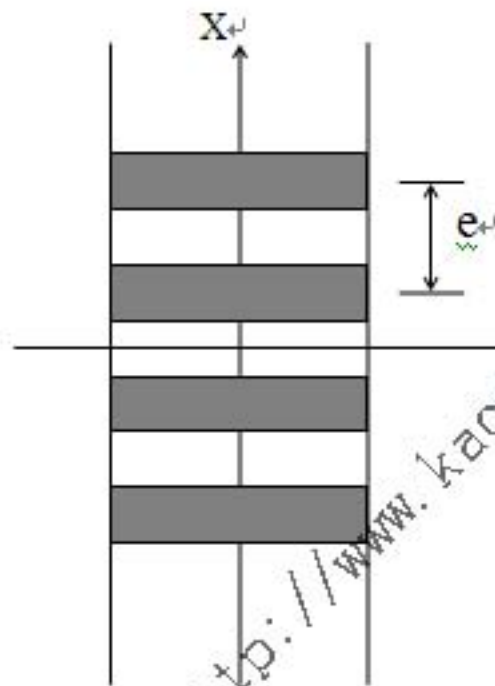
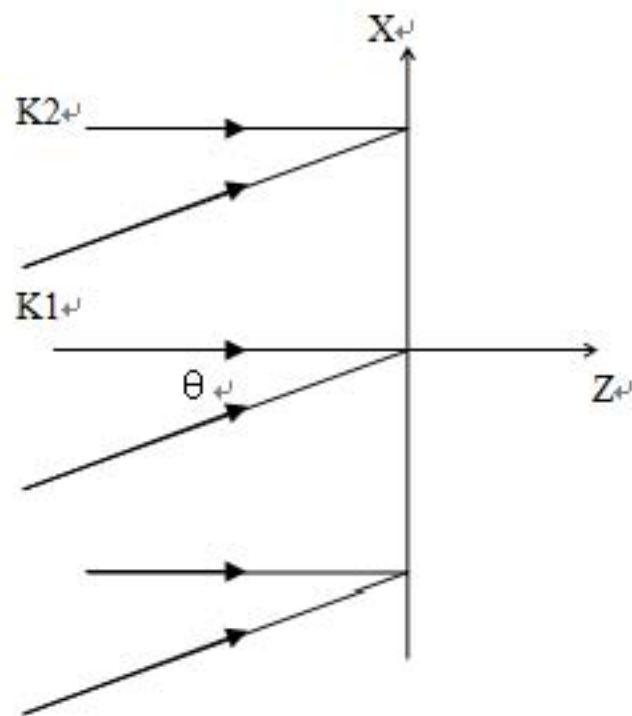


祝各位研友马到成功，金榜题名

2010年光学答案



1.解：在如上图所示的坐标系中，两束平行光的振幅可以写成：

$$\begin{cases} E_1 = E_{10} e^{-i(\omega t - k_z \cos \theta_1 - k_x \sin \theta_1)} \\ E_2 = E_{20} e^{-i(\omega t - k_z)} \end{cases}$$

干涉光振幅为： $E = E_1 + E_2$

$$E = e^{-i\omega t} \left[E_{10} e^{i(k_z \cos \theta_1 + k_x \sin \theta_1)} + E_{20} e^{ik_z} \right]$$

干涉光强度分布为： $I = E \cdot E^*$

$$I = \left| E_{10} e^{i(k_z \cos \theta_1 + k_x \sin \theta_1)} + E_{20} e^{ik_z} \right| \left| E_{10} e^{-i(k_z \cos \theta_1 + k_x \sin \theta_1)} + E_{20} e^{-ik_z} \right|$$

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