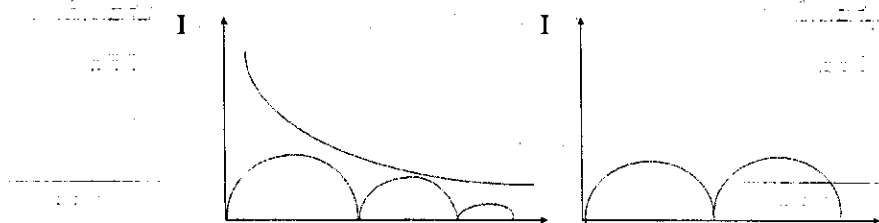
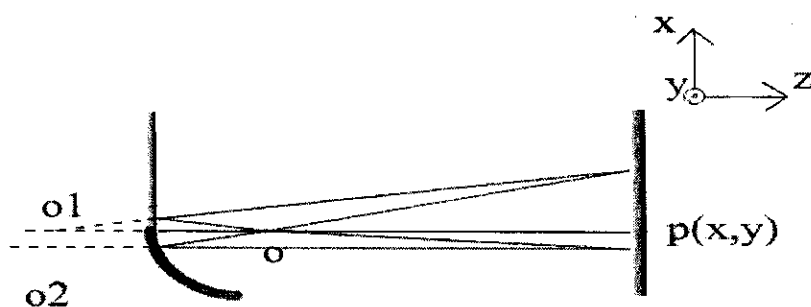


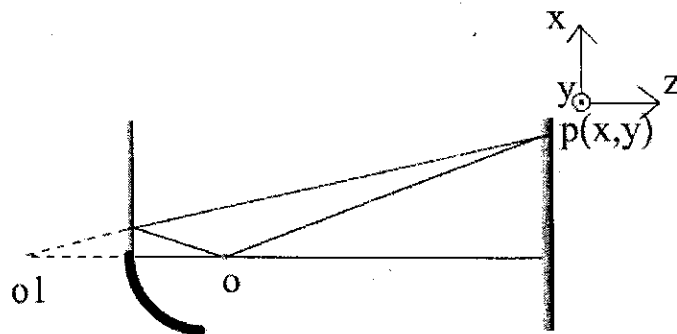
不能用肉眼观察。



05. 如图所示, A, B 分别为平面镜和球面镜, 单色点光源 O 处于球面镜 B 的焦点处且与观察屏 P(x, y) 的距离为 L, 请在镜面反射率为 100% 及傍轴条件下, 讨论观察屏上 I(x, y) 的花样特点 (提示: 分别讨论 $x > 0, x < 0, x = 0$ 的情形)



解: ① $x > 0$ 时,



$$\tilde{U}_0(x, y) = \frac{A}{L} \exp[ikL] \exp\left[i\left(k \frac{x^2 + y^2}{2L} + \varphi_1\right)\right]$$

$$\tilde{U}_o(x, y) = \frac{A}{L + 2f} \exp[ik(L + 2f)] \exp\left[i\left(k \frac{x^2 + y^2}{2(L + 2f)} + \varphi_2\right)\right]$$

$$\Delta\varphi = k \left[\frac{x^2 + y^2}{2L} - \frac{x^2 + y^2}{2(L + 2f)} \right] + \{(kL + \varphi_1) - [k(L + 2f) + \varphi_2]\}$$

$$(kL + \varphi_1) - [k(L + 2f) + \varphi_2] = 0$$

$$\Delta\varphi = k \left[\frac{x^2 + y^2}{2L} - \frac{x^2 + y^2}{2(L + 2f)} \right] = \text{Const} \tan t$$