

(2)

$$\frac{d^2 z(x)}{dx^2} = \frac{1}{v_1} \left\{ \frac{1}{(x^2 + y_1^2)^{1/2}} - \frac{x^2}{(x^2 + y_1^2)^{3/2}} \right\}$$

$$+ \frac{1}{v_2} \left\{ \frac{1}{[(l-x)^2 + y_2^2]^{1/2}} - \frac{(l-x)^2}{[(l-x)^2 + y_2^2]^{3/2}} \right\}$$

$$= \frac{1}{v_1} \frac{1}{\sqrt{x^2 + y_1^2}} \left\{ 1 - \frac{x^2}{x^2 + y_1^2} \right\} + \frac{1}{v_2} \frac{1}{\sqrt{(l-x)^2 + y_2^2}} \left\{ 1 - \frac{(l-x)^2}{(l-x)^2 + y_2^2} \right\}$$

 > 0 > 0