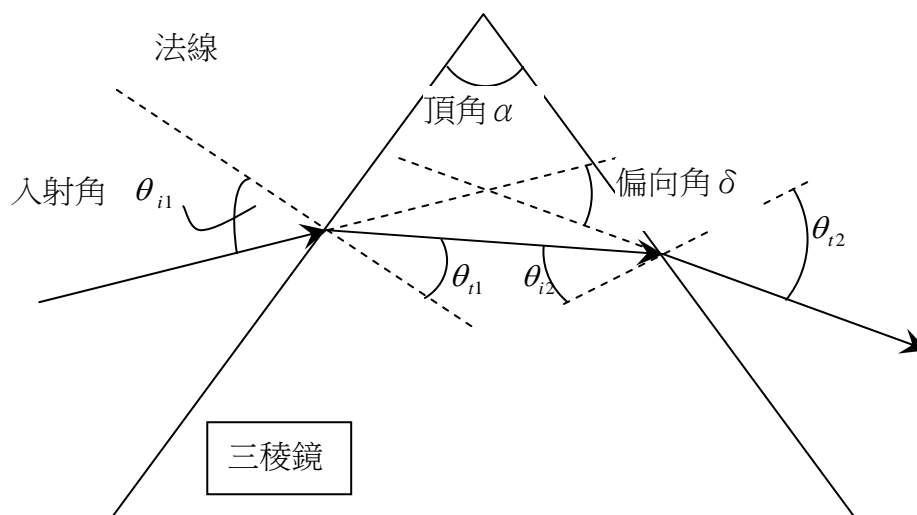


附錄：



$\delta = (\theta_{i1} - \theta_{t1}) + (\theta_{t2} - \theta_{i2})$ ，又 $\alpha = \theta_{t1} + \theta_{t2}$ ，因此 $\delta = \theta_{i1} + \theta_{i2} - \alpha$ 。
 由司乃爾定律 $n \sin \theta_{t2} = \sin \theta_{i2}$ ，

$$\theta_{t2} = \sin^{-1}(n \sin \theta_{i2}) = \sin^{-1}[n \sin(\alpha - \theta_{t1})]$$

$$= \sin^{-1}[n \sin \alpha \cos \theta_{t1} - n \cos \alpha \sin \theta_{t1}]$$

$$= \sin^{-1}[\sin \alpha \sqrt{n^2 - \sin^2 \theta_{t1}} - n \cos \alpha \sin \theta_{t1}] \text{ (根據司乃爾定律)}$$

$$n \sin \theta_{t1} = \sin \theta_{i1} \text{)}$$

$$\theta_{t2} = \sin^{-1}[\sin \alpha \sqrt{n^2 - \sin^2 \theta_{i1}} - \cos \alpha \sin \theta_{i1}]$$

$$\delta = \theta_{i1} + \sin^{-1}[\sin \alpha \sqrt{n^2 - \sin^2 \theta_{i1}} - \cos \alpha \sin \theta_{i1}] - \alpha$$

從此式可以得到折射率 n 。