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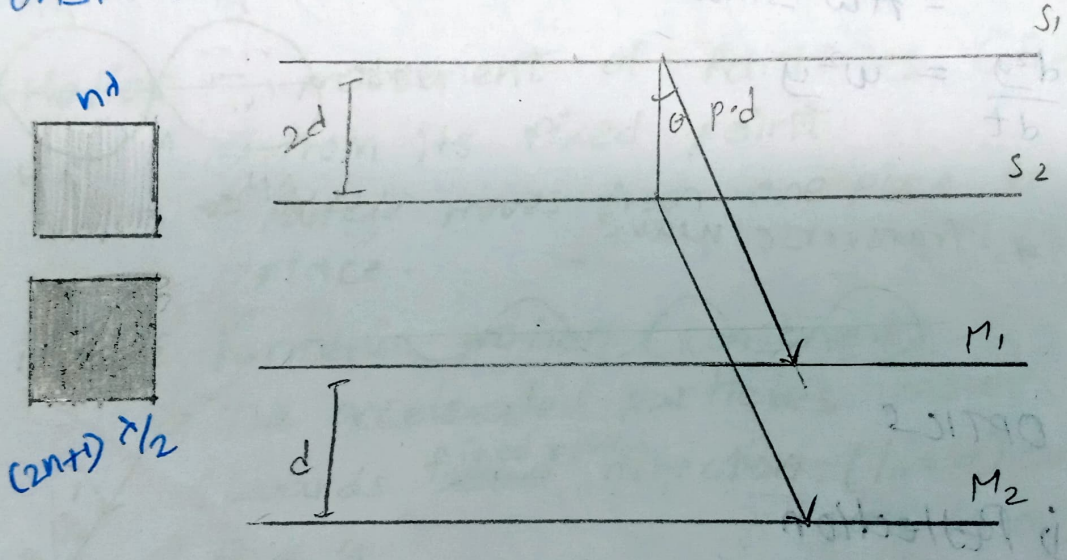
Michelson's Interferometer

Principle : Interference → Two coherence light
→ Superimpose

Construction :



$$\cos\theta = \frac{p \cdot d}{2d} \quad \therefore pd = 2d\cos\theta$$

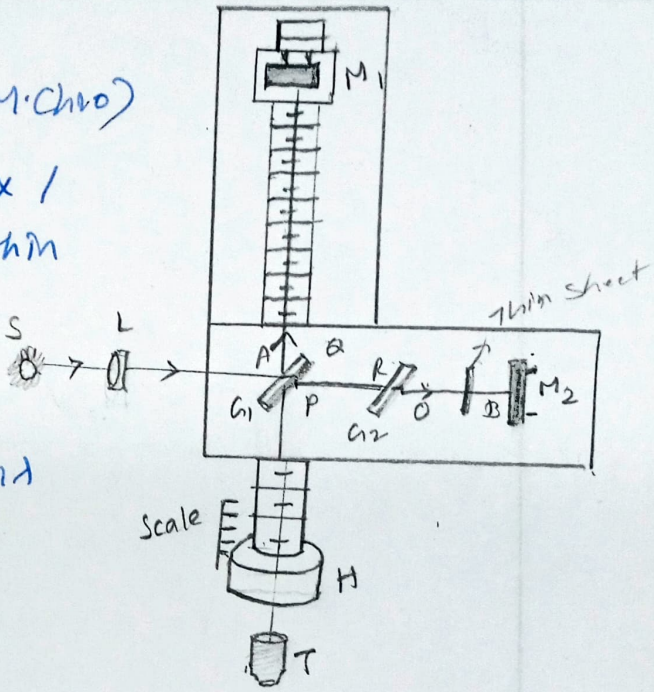
$$2d\cos\theta = n\lambda$$

$$2d\cos\theta = (2n+1)\frac{\lambda}{2}$$

Applications :

1) wavelength (Michelson)

2). refractive index / thickness of thin transperent plate



$P.D = 2(M-1)t = n\lambda$

$2d\cos\theta = n\lambda$

$2d = n\lambda$

$\lambda = 2d/n$

$2(M-1)t = n \cdot 2d/n$

$t = d/\mu - 1$