

WAVE OPTICS

04. $\sin t = \frac{1}{v_z} - \frac{1}{v_z}$ (Snell's law)

12. Ratio of maximum to minimum Intensity $\frac{I_{\text{max}}}{I_{\text{min}}}$

13. Fringe width $\frac{\lambda D}{d}$ [13] Condition of maxima $2n\lambda$ where $n = 0, 1, 2, \dots$

14. Condition of minima $2n\lambda + \lambda$ where n

15. Intensity of a point on screen $I = I_0 \cos^2$

Where $\Delta \phi = \frac{2\pi}{\lambda} \Delta x$ $\Delta \phi$ is phase difference and Δx is path difference

16. Rayleigh's criterion $\Delta \theta = 1.22 \frac{\lambda}{D}$

17. Resolving power of microscope $\frac{1}{\Delta \theta} = \frac{1}{1.22 \frac{\lambda}{D}}$

18. Radius of central bright spot. In diffraction pattern $r_0 = \frac{1.22 \lambda D}{2a}$

19. Fresnel distance $L_f = \frac{D^2}{\lambda}$ Huygens law $\sin \theta \approx \theta$

20. Brewster's law $\tan i_p = \mu$