Fresnel Diffraction

Fresnel-Kirchhoff

$$E_p = \frac{-ik}{2\pi} E_s e^{-i\omega t} \iint_{Obstacle} F(\theta) \frac{e^{ik(r+r')}}{rr'} \, dA$$

Skewness Factor

$$F(\theta) = \frac{1 + \cos\theta}{2}$$

Raius of Fresnel Zones

$$R_n \approx \sqrt{nL\lambda} \quad \text{where} \quad \frac{1}{L} = \frac{1}{p} + \frac{1}{q}$$