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Refraction for identifying matter (property of matter):

$$\eta \overset{opt.}{=} \frac{sin(\alpha)}{\sin(\beta)} = \frac{\eta_\beta}{\eta_\alpha} \overset{prism}{=} \frac{\sin[\frac{1}{2}(\varpi + \varsigma_{min})]}{\sin[\frac{1}{2}\varpi]} \overset{phys.}{=} \sqrt{\epsilon_r \mu_r} = \frac{\lambda_\alpha}{\lambda_\beta} = \frac{v_{ph,\alpha}}{v_{ph,\beta}} = \frac{1}{2}\frac{\lambda}{d}\frac{n}{\cos(\beta)} = \sqrt{\left(\frac{n}{2}\frac{\lambda}{d}\right)^2 + \sin(\alpha)^2} \overset{dispers}{=} \tag{1}$$

$$\text{Vacuum} \iff \eta = 1 f = FocalLength \qquad D = RefractivePower(Dioptri)$$

$$n \equiv \text{order ("Quantum"):}\ n = \frac{\nu}{c}\Delta s = \frac{\Delta\varphi}{2\pi} = 2\eta\frac{d}{\lambda}\sqrt{\eta^2 - \sin(\alpha)^2} = 2\eta\frac{d}{\lambda}\cos(\beta) = \frac{q}{e_0} \qquad \in \mathbb{N}$$

$$v^2 = \left(\frac{\nu\lambda}{\eta}\right)^2 = \left(\frac{\omega}{k\eta}\right)^2$$

$$\left(\frac{\eta}{c}\right)^2 = \epsilon\mu \qquad \epsilon = \epsilon_0\epsilon_r \qquad \mu = \mu_0\mu_r$$