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Electric Field:

$$\text{Coulomb Force: } F_E = \frac{1}{4\pi\epsilon_0}\frac{q_0 \cdot q}{r^2}\frac{\vec{r}}{r} \tag{1}$$

$$\mathcal{E} = \frac{F_E}{q_0} = \frac{1}{2}\frac{1}{2\pi}\frac{1}{\epsilon_0}\frac{q}{r^2}\frac{\vec{r}}{r} = -\nabla U = v\mathcal{B} \tag{2}$$

spherical waves of Electric Field from idealized point charge (linear coherent):

$$\mathcal{E} = \frac{A_0}{r}cos(\omega t - kr) = A_L \int\limits_{-D/2}^{D/2} \frac{1}{r}cos(\omega t - kr)dD \tag{3}$$

Reflected Electric Field:

$$\mathcal{E}(\vartheta) = \sum_{n=1}^{N} a_n e^{i(\omega t - kr_n)} = a \cdot e^{i(\omega t - kR)}\frac{sin(\frac{N}{2}\Delta\varphi)}{sin(\frac{1}{2}\Delta\varphi)} = A(\vartheta)e^{i(\omega t - kR)} \tag{4}$$

Difracted Electric Field:

$$\mathcal{E}(\theta) = a \cdot e^{i(\omega t - kR)}\frac{sin(\frac{N}{2}\Delta\varphi)}{sin(\frac{1}{2}\Delta\varphi)} = a \cdot cos(\omega t - kR)\frac{sin(\frac{N}{2}\Delta\varphi)}{sin(\frac{1}{2}\Delta\varphi)} = a \cdot cos(\omega t - kR)\frac{sin(\frac{N}{2}2\alpha)}{sin(\frac{1}{2}2\alpha)} \overset{linear-coherent}{=} A_L\frac{D}{R}\frac{si}{}$$
$$\tag{5}$$

where:

$A_L = \frac{1}{D}\lim\limits_{N\to\infty}\lim\limits_{A_0\to 0}(N \cdot A_0)$

$A_0 = $ intrinsic Eigen-Amplitude of charge ("Quellstärke") emitting radiation due to its movement (vibration)

$D = N \cdot d = $ total size of object (binded charges)

$d = $ distance between objects (charges)

$r = $ distance from object (charge) location to impact place = ray length

$R = r_{N/2} = r_1 - \frac{N-1}{2}\Delta s = $ average ray length

$N = $ amount of objects (charges) emitting rays

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