Summary

$$\frac{dP(t)}{d\Omega} \qquad |\vec{A}(t)|^2$$

$=$

so $$\frac{d^2}{d\ d} = 2\ \vec{A}(\omega)|$$

$$\frac{d^2 I}{d\omega\, d\Omega} =$$

$$\frac{dI}{d\Omega} = \int_0^\infty \frac{d^2 I}{d\omega\, d\Omega}\, d\omega$$

$$\frac{\omega\rho}{c} = 3\xi\left(\theta^2 + 1/\gamma^2\right)^{-3/2}$$

so $$\left(\frac{\omega\rho}{c}\right)^2 d\omega = 27\xi^2\left(\theta^2 + 1/\gamma^2\right)^{-9/2} d\xi\, \frac{c}{\rho}$$

$$\frac{dI}{d\Omega}$$

$$\frac{7}{16}\,\frac{e}{\rho}$$

$$\left. \frac{\hat{n} \times \left(\left(\hat{n} - \vec{\beta} \right) \times \dot{\vec{\beta}} \right)}{\left(1 - \vec{\beta} \cdot \hat{n} \right)^3} \right) dt$$

$$t = t' + \frac{R(t')}{c}$$

vt/ρ

$$\omega\left(t - \frac{\hat{n}\cdot\vec{r}}{c}\right) =$$

ound

$$\hat{n}\times(\hat{n}\times\vec{\beta}) = \beta\left(-\hat{\epsilon}_{\parallel}\sin\left(\frac{vt}{\rho}\right) + \hat{\epsilon}_{\perp}\cos\left(\frac{vt}{\rho}\right)\sin\theta\right)$$

to leading order

$$\frac{d^2}{d\omega} = \frac{e^2\omega^2}{4\pi^2 c}\left|\int_{-\infty}^{\infty}\hat{n}\times(\hat{n}\times\vec{\beta})\, e^{i\omega(t-\hat{n}\cdot\vec{r}(t)/c)}\,dt\right|^2$$

$$A_\perp(\omega) = \theta \int_{-\infty}^{\infty} e^{[\quad\quad]} \, dt$$

ρ

$$A_{11}(\omega) = \frac{P}{c}\left(\frac{1}{\gamma^2} + \theta^2\right)\int_{-\infty}^{\infty} \times e^{i\frac{3}{2}\xi\left(x + \frac{x^3}{3}\right)} dx$$

also writen as

Modified Besselfunctions

Airy int is

found in optics!

x is odd about $x=0$ so $e^{i\{\}} \rightarrow i\sin\{\}$