

E 4720 (2005A) #2

קלינה כדורית, בלום

$$E_{lm} = \frac{1}{2MR^2} l(l+1)$$

$$W = e \tilde{E}_0 z = e E_0 R \cos \theta$$

כאילו ציאת התפרדה

$$\langle l m | \cos \theta | 0 \rangle = \frac{1}{\sqrt{4\pi}} \cdot \sqrt{\frac{4\pi}{3}} \cdot \langle Y_{lm} | Y_{10} \rangle$$

$$W_{lm,0} = \frac{1}{\sqrt{3}} e \tilde{E}_0 R \delta_{l,1} \delta_{m,0}$$

$$P_{(1,0|0)} = \frac{1}{3} (e \tilde{E}_0 R)^2 \left| \int f(t) e^{i\omega t} dt \right|^2$$

$$f(t) = e^{-\frac{1}{2}(\frac{t}{\tau})^2} \xrightarrow{\text{F.T.}} \sqrt{2\pi} \tau e^{-\frac{1}{2}(\tau\omega)^2}$$

$$\omega = E_1 - E_0 = \frac{1}{MR^2}$$

$$P_{(1,0|0)} = \frac{2\pi}{3} (e \tilde{E}_0 R \tau)^2 e^{-(\tau/MR^2)^2}$$