



$$T_{dip} = Q \left| \int \frac{d^3 \vec{r}}{(2\pi)^3} \langle \psi | \vec{r} | \psi \rangle \right|^2 \int d\vec{r} V_{eff}$$

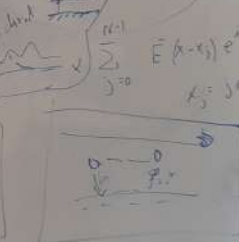
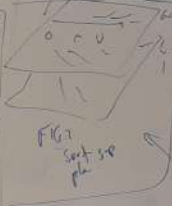
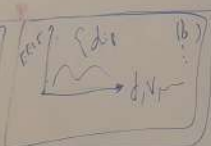
$\vec{E}_{ext} + \vec{E}_{int}$

$$\vec{P} = \frac{1}{c} \int d\vec{r} (\vec{E}_{ext} + \vec{E}_{int})$$

$$\Rightarrow r_0 = \frac{A_2}{Q - Q_0}$$

$$\int_0^\infty \frac{F(Q)}{Q - Q_0} \sim F(Q_0) \int_0^\infty \frac{dQ}{Q - Q_0} \approx 2\pi i F(Q_0)$$

$$\epsilon \rightarrow \epsilon_0 \quad \epsilon_0 = \frac{c}{v}$$



$$\vec{E}_{ext} + \vec{E}_{int}$$

$$\vec{E}(\vec{r}, t) = \sum_{\vec{k}} \vec{E}(\vec{k}, t) e^{i\vec{k} \cdot \vec{r}}$$

$$\vec{E}(\vec{k}, t) = \sum_{\vec{r}} \vec{E}(\vec{r}, t) e^{-i\vec{k} \cdot \vec{r}}$$