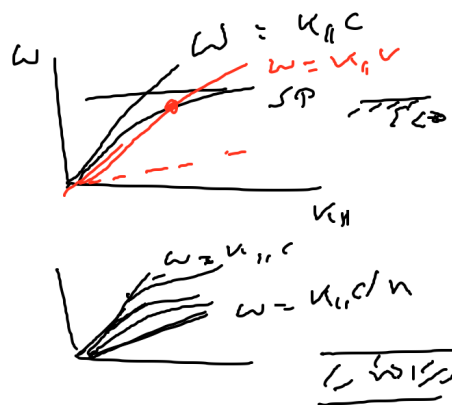


$$e^{i k_{||} x}$$

$$\frac{\omega}{v} = k_{||}$$



$$\bar{F}^{at} \propto e^{-i \omega x / v}$$



#370

$\bar{r}, \omega$



$$\bar{F}^{at} = e^{i \omega x / v} (k_{||})$$

$$\bar{P} = \alpha \bar{F}^{at}$$

$$\int d\omega \frac{dP(k_{||}, \omega)}{d k_{||}} = ?$$



#254

$$\text{gradient } A = \frac{e^2 \epsilon}{\pi^2 \hbar^2}$$

$\alpha, (r_p, r_s)$

$$\sigma(k_{||}, \omega) \approx \frac{iA}{\omega x \delta}$$

$$\alpha = \frac{3}{2} \frac{\epsilon - 1}{\epsilon + 2}$$

$$\frac{3}{2} \frac{\epsilon}{k^3}$$

$$k = \frac{\omega}{c}$$

$$\epsilon \approx -2 \rightarrow \text{SP!}$$



#176  $E_{\text{SP}}$   
#254 Sec. III  
London

$\epsilon > 1 \rightarrow k_{||} > 0 \rightarrow \text{Mix resonance}$

atom, mole - 2-level system

$$P = \rho \left( \frac{1}{\omega - \omega_0 - i\gamma} \right)$$

