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No.

$$\vec{A} = \frac{1}{2}[\vec{H}\vec{r}]$$

$$W_I(H) = -\frac{\pi f_2^2 \hbar^3 c^2 e}{\kappa^2 L^6} \sum_{k,k'} \frac{(\vec{k}\vec{k}') + i[\vec{k}\times\vec{k}']\vec{\sigma}}{\varepsilon_k^2 \, \varepsilon_{k'}^2}$$

$$\times \int_V \frac{1}{2}([\vec{H}\vec{r}](\vec{k}+\vec{k}')) e^{i(\vec{k}'-\vec{k})\vec{r}} d\vec{r}$$

$$f(\vec{k},\vec{k}')\int_V e^{i(\vec{k}'-\vec{k})\vec{r}} \, \vec{r} \, d\vec{r}$$

$$= i f(\vec{k},\vec{k}') \int_V \frac{\partial}{\partial \vec{k}} e^{i(\vec{k}'-\vec{k})\vec{r}} d\vec{r}$$

$$W_I(H) = \iiint_{k k'} G(\vec{k},\vec{k}') \frac{\partial}{\partial \vec{k}} \int_V e^{i(\vec{k}'-\vec{k})\vec{r}} d\vec{r} \cdot d\vec{k} \, d\vec{k}'$$

$$= \int \Big[ G(\vec{k},\vec{k}') \underbrace{\int_V e^{i(\vec{k}'-\vec{k})\vec{r}} d\vec{r}}_{\therefore\ \delta(\vec{k}-\vec{k}')} \Big] dk'$$

$$-\iint \cancel{\frac{\partial}{\partial \vec{k}}} G(\vec{k}\vec{k}') \cdot \underbrace{\int_V \cdots}_{\therefore\ \delta(\vec{k}-\vec{k}')} dk \, dk'$$

0

$$\frac{\partial}{\partial \vec{k}}[\vec{k}\vec{H}] = 0.$$

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$$W_I(H) = -\frac{\pi f_2^2 \hbar^3 c^3 e}{\kappa^2 L^6} \sum_{k,k'} \frac{(\vec{k}\cdot\vec{k}') + i[\vec{k}\times\vec{k}']_z}{\varepsilon_k^2 \varepsilon_{k'}^2}$$

$$\times \int (\vec{A}(\vec{k}+\vec{k}'))\, e^{i(\vec{k}'-\vec{k})\vec{r}} d\vec{r}$$

$$\vec{A} = \frac{1}{2}[\vec{H}\vec{r}]$$

$$\frac{1}{2}\int \vec{H}[\vec{r}, \vec{k}+\vec{k}']\, e^{i(\vec{k}'-\vec{k})\vec{r}} d\vec{r}$$

$$= \frac{1}{2}\int \cancel{\vec{r}\,[\vec{H},\, k}(\vec{k}+\vec{k}'), \vec{H}]\, \vec{r}\, e^{i(\vec{k}'-\vec{k})\vec{r}} d\vec{r}$$

$$= \frac{1}{2}\int [(\vec{k}+\vec{k}'), \vec{H}]\; i\frac{\partial}{\partial \vec{k}}\left(e^{i(\vec{k}'-\vec{k})\vec{r}}\right) d\vec{r}$$

$$= -\frac{i}{2}\int \cancel{\frac{\partial}{\partial \vec{k}}}[(\vec{k}+\vec{k}'), H]\, e\; d\vec{r}$$

$$W_I(H) = +i\frac{\pi f_2^2 \hbar^3 c^3 e}{\kappa^2 L^6} \sum_{k,k'} \frac{\partial}{\partial \vec{k}}\left\{ \quad \right\} \delta(\vec{k}'-\vec{k})$$

$$\left\{ \frac{(\vec{k}\vec{k}') + i[\vec{k}\times\vec{k}']_z}{\varepsilon_k^2 \varepsilon_{k'}^2} \left(-\vec{k}+\vec{k}', \vec{H}\right] \right\}$$

$$= + \;\;{}^{\prime\prime}\;\; \sum \left\{ \overset{k_y' H}{k_y'[\vec{k}+\vec{k}', H]_x} + \; - \overset{k_x' H}{k_x'[(\vec{k}+\vec{k}'), H]_y} \right.$$

$$\pm \cancel{\frac{4k_z[\quad]}{(k^2+\kappa^2)^3}} \qquad = H(k_y'^2 + k_x'^2)$$

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$$W_I(H) = \frac{\pi f_2^2 \hbar^3 c^3 eH}{\varkappa^2 \cancel{L^6} L^6} \sum_{k,k'} \frac{k_y'^2 + k_x'^2}{\varepsilon_k^2 \varepsilon_k'^2} \delta(\vec{k}, \vec{k}')$$

$$= \frac{\pi f_2^2 \hbar^3 c^3 eH}{(2\pi)^6 \varkappa^2} \iiint \quad ,,$$

$$= \frac{\pi f_2^2 \cancel{\hbar^3 c^3} \hbar eH}{(2\pi)^6 \mu^2 c^3} \iiint \frac{k_x^2 + k_y^2}{(k_x^2 + \varkappa^2)^2} d\vec{k}$$

$$= \frac{4\pi^2 f_2^2}{(2\pi)^6 (\mu c^2)} \left(\frac{e\hbar}{\mu c}\right) H \frac{2}{3} \int \frac{k^4 dk}{(k^2 + \varkappa^2)^2}$$

?

$$= \frac{f_2^2}{(2\pi)^4} \left(\frac{1}{\mu c^2}\right) \left(\frac{e\hbar}{\mu c}\right) H \frac{2}{3} \int \frac{k^4 dk}{(k^2 + \varkappa^2)^2}$$

? ?

$(2\pi)^3 \times$ . .

$\frac{f_2^2}{3\pi}$