

JUNE 2016						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

$$\vec{S} = -\mu_B \hat{k} \rightarrow \hat{k} \cdot \vec{B} = B_z$$

$$\vec{S} \cdot \vec{B} = +\mu_B B_z = \mu_B B_z$$

WEDNESDAY
04
19th Week 125-241

MAY

E_c

Onsager $\rightarrow \sigma(S, B)$
 $= \sigma(-S, B)$

$$E_{cy} = \hbar^2 k^2 + V_0 \hbar + S B_z \mu_B + B_z \hbar^2 V_0$$

$$\Omega = - \frac{S \hbar}{2k^3}$$

How is linear term generated?

Rules of $S B_z \mu_B$ term,
 $\sigma(S, B_z) = \sigma(-S, -B_z)$
 is possible.

$$\left[\vec{w} + e \vec{B} (\vec{n} \cdot \vec{w}) \right] \cdot \vec{E}$$

$$\begin{aligned} & \left[w_2 + e B_2 (\vec{n} \cdot \vec{w}) \right]^2 \frac{1}{1 + e^2 B_2^2} \\ &= \left(w_2^2 + e^2 B_2^2 (\vec{n} \cdot \vec{w})^2 + 2 e B_2 w_2 (\vec{n} \cdot \vec{w}) \right) \delta(\epsilon) \end{aligned}$$

\times

$$1 + e^2 B_2^2$$

$$w_2^2 = (v_0^2 + v_m^2 + v_s^2)$$

$$= v_0^2 + (v_m^2 + v_s^2) + 2 v_0 (v_m + v_s)$$

$$\begin{aligned} & v_0^2 + v_m^2 + v_s^2 + 2 v_0 v_m + 2 v_0 v_s \\ & \quad + 2 v_m v_s \end{aligned}$$

linear in B

linear in R

02

$$\left(\frac{E_{inc} \cdot A_{ev0} \cdot \cos \theta}{2} \right) = \frac{k^2 z}{k^2 x^2 + k^2 y^2 + k^2 z^2}$$

03

$$\frac{\partial}{\partial k^2} \left(\frac{1}{2} \right) = \frac{1}{k^2} - \frac{k^2 \times 2k^2}{(k^2 x^2 + k^2 y^2 + k^2 z^2)^2}$$

04

$$= \frac{1}{k^2} - \frac{2k^2 \cos^2 \theta}{k^4}$$

05

So will give zero while
coupling with V_0 term

$$\int (V_0)^2 \left[1 - e^{\beta_2 \Omega_2} \right]$$

$$\rightarrow \text{Bif} (V_0)^2 \quad \circ$$

from Ω_{mm} energy $\rightarrow 2$

$$\mathcal{E}_m \quad \delta(\dots) (V_0)^2 \propto k_2$$

\rightarrow gives zero

from Ω_{mm} energy $\rightarrow 2$

$$\mathcal{E}_s \quad \delta(\dots) (V_0)^2 \propto k_2$$

\rightarrow gives zero

sth $\beta_2 \quad \circ$

$$\mathcal{E}_s \quad \Delta \mathcal{E}_s \quad \circ$$

so μ_B a term

as $\Delta \mathcal{E}_s$ a term