

$$E_{\text{corr}} = - \sum_{\mathbf{k}_i} \hbar \omega_{\alpha} |Y_{\mathbf{k}_i}^{\alpha}|^2 \quad (12) ; \quad \sum_{\mathbf{k}_i} \left(\hbar \omega_{\alpha} \right) - \frac{1}{2} \sum_{\mathbf{k}_i, \mathbf{k}_i'} \left(\hbar \omega_{\alpha} \right)$$

Fig. 3