Title	5)On the Phase Transition of K_2SeO_4
Author(s)	Takagi, Yutaka; Sawada, Akikatsu
Citation	物性研究 (1976), 25(6): B7-B7
Issue Date	1976-03-20
URL	http://hdl.handle.net/2433/89113
Right	
Type	Departmental Bulletin Paper
Textversion	publisher

Comments on the Lifshitz conditions

Yoshihiro Ishibashi, Akikatsu Sawada and Yutaka Takagi

It is known that there are many phase transitions triggered by irreducible representations which are inactive from the viewpoint of the Lifshitz condition.

We examine this feature by studying concretely the Fourier-transformed dipole interaction matrix based on the model which reflects the symmetry aspect of the Rochelle salt crystal.

On the Phase Transition of K_2SeO_4

Yutaka Takagi and Akikatsu Sawada

It seems almost certain that the M phase of K_2SeO_4 belongs to $Pna2_1$ (C_{2v}^9), though the crystal lacks the evidences of the polar nature. This apparent contradiction can be solved by assuming that the high temperature phase of the crystal belongs to D_{6h}^4, and the M phase arises as the greatest common measure of two orthorhombic non-polar phases D_{2h}^{16} and D_{2h}^{14} which are, respectively, induced by the modulations of the wave vectors $k = \frac{1}{2} a_2^*$, and $k = \frac{1}{2} a_2^* + \frac{1}{3} a_3^*$.