

December 5, 1973

Dr. Carl W. Garland  
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Dear Dr. Garland:

I have read with interest your recent paper, "Order-disorder phenomena. VIII. Acoustic attenuation and dispersion in  $\text{NH}_4\text{Cl}$ ." I am in the process of compiling information on high pressure phases of the compounds and would like your opinion of a paper by Yu. A. Klyuev entitled, "Spectral Investigation of the  $\lambda$  Phase Transition in  $\text{NH}_4\text{Cl}$  under Pressure" (copy enclosed). In looking for the  $\lambda$  transition, Dr. Klyuev made his measurements at room temperature from about 9 to 23 kilobars. The "13-15" kbar point at room temperature is well below the  $\beta - \alpha$  boundary. Is there any possibility he is observing the  $\lambda$  transition and is the method of measuring the variation of the half width of some absorption bands a valid criteria for the detection of this transition?

I would be most appreciative for any help you can give me on the above questions. Thank you very much.

Sincerely,

Leo Merrill

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