

THE RAMAN FREQUENCY SHIFTS RELATED TO THE THERMODYNAMIC QUANTITIES CLOSE TO THE PHASE I - PHASE II TRANSITION IN NH₄Br

H. YURTSEVEN, *Department of Physics, Middle East Technical University, Ankara, 06531 - Turkey.*

We establish here the modified Pippard relations by relating the specific heat C_p to the frequency shifts $\frac{1}{\nu} \left(\frac{\partial \nu}{\partial T} \right)_P$ and also the thermal expansivity α_p to the $\frac{1}{\nu} \left(\frac{\partial \nu}{\partial P} \right)_T$ for the ν (140 cm⁻¹) Raman mode of NH₄Br close to its phase I- phase II transition. From our linear plots of C_p vs. $\frac{1}{\nu} \left(\frac{\partial \nu}{\partial T} \right)_P$ and α_p vs. $\frac{1}{\nu} \left(\frac{\partial \nu}{\partial P} \right)_T$, we extract the values of the slope DP/dT, which are close to the experimental value of 28.2 bar/°C near the phase I-phase II transition in NH₄Br.