

RAMAN FREQUENCY SHIFTS CLOSE TO THE ν -PHASE TRANSITION IN NH_4Br

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The critical behaviour of the frequency shifts for the Raman modes of ν_7 (56cm^{-1}) and ν_2 (1684 cm^{-1}) in NH_4Br is analyzed here close to the λ -phase transitions ($T_\lambda=234\text{ K}$, $P=0$) in this crystalline system. Values of the critical exponent associated with the critical behaviour of the frequency shifts $\frac{1}{\nu} \left(\frac{\partial \nu}{\partial T} \right)_p$ are deduced for $T < T_\lambda$ and $T > T_\lambda$ in NH_4Br . Our exponent values can be compared with those obtained experimentally for the specific heat C_p and the thermal expansivity α_p close to the λ -phase transition in NH_4Br .