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_λ=234 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.