Phase Transition and Crystal Dynamics of 4-Bromobenzyl Alcohol*

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For the title compound a phase transition from Phase II to Phase I (low and room temperature phases, respectively) was found at ca. 217 K. The temperature dependence of the ^{81}Br NQR frequency and that of the dielectric constant showed anomalies at ca. 195 K that were tentatively attributed to a higher order phase transition. A similar anomaly was found at ca. 218 K for 4-chlorobenzyl alcohol which showed a II-I transition at 236 K. The dielectric dispersion observed for both compounds at low temperatures indicates an excitation of a molecular motion with the dielectric relaxation rate of ca. 1 kHz. The temperature dependence of the ^{81}Br NQR frequencies of 2- and 3-bromobenzyl alcohol, measured at $T > 77$ K, gave no evidence of phase transition in their crystals.

Key words: NQR, Phase Transition, Molecular Motion, Dielectric Dispersion.

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