

Chlorine-35 NQR Study of a Structural Phase Transition in $(\text{ND}_4)_2\text{PdCl}_6$ *

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Temperature dependences of ^{35}Cl NQR frequencies and spin-lattice relaxation times were measured at 4.2 to 400 K for natural and deuterated ammonium hexachloropalladate. It was confirmed that only the deuterated salt undergoes a first order phase transition at 30 K. The crystal structure of the low-temperature phase is predicted to be the same as that of the deuterated ammonium hexachloroplatinate and hexachloroplumbate. The mechanism of the deuteration-induced phase transition is discussed.

Key words: Isotope Effect; Phase Transition; Chlorine NQR; Spin-lattice Relaxation; Deuterated Ammonium Hexachloropalladate.

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