(O2-13)

Sb-NQR study of $PrOs_4Sb_{12}$ under pressure

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We report Sb nuclear quadrupole resonance (NQR) measurements of the filled-skutterudite superconductor $PrOs_4Sb_{12}$ under pressure. The superconducting transition temperature (T_c) determined by ac-susceptibility measurement using NQR coil decreases with increasing pressure. This pressure dependence of T_c is consistent with previous resistivity and recent susceptibility measurements under pressure[1,2].

The temperature dependence of the nuclear spin lattice relaxation rate ($1/T_1$) under pressure suggests that the crystal electrical field splitting Δ_{CEF} between the ground state and the first excited state increases under pressure.

On the basis of these results, we discuss the relation between the superconductivity and the CEF excitations. We will also discuss the pressure effect on the superconducting property of this compound.

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[2] T. Tayama *et al.*, J. Phys. Soc. Jpn. **75** (2006) 043707.