

## Co-NQR Study on Successive Magnetic Phase under Pressure in Non-centrosymmetric CeCoGe<sub>3</sub>

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Non-centrosymmetric CeCoGe<sub>3</sub> is known to exhibit a complex magnetic phase in approaching to the quantum critical point (QCP) in about 5.5 GPa, around which the superconductivity arises. We have performed Co-NQR study to clarify the complex magnetic phase and the Cooper pairing symmetry in the non-centrosymmetric heavy Fermion superconductor as a final goal.

In ambient pressure, CeCoGe<sub>3</sub> shows ferrimagnetic-like order at  $T_{N1}=21$  K and the successive transitions at  $T_{N2}=12$  K and  $T_{N3}=8$  K. The Co-NQR spectrum consists of four kinds of internal field directing along the  $c$ -axis. The direction of the internal field suggests Ising-like spin system of Ce moments with easy  $c$ -axis. The successive transitions at  $T_{N2}$  and  $T_{N3}$  are confirmed by the spectral changes of Co-NQR. However no critical slowing down of the nuclear spin-lattice relaxation rate  $1/T_1$  or the nuclear spin-spin relaxation rate  $1/T_2$  at these temperatures suggests 1st order transitions at  $T_{N2}$  and  $T_{N3}$ .

When pressure is applied, the four Co sites change into two sites having the relative integrated intensity of about 1:2 above 0.7 GPa. Two kinds of Co sites is consistent but the integrated intensity is not necessarily consistent with the basic antiferromagnetic structure proposed by the neutron scattering experiment. No successive transitions are observed under 1.5 GPa, although the slower decrease of the sublattice magnetization than that expected in the mean field approximation is seen.