Low Temperature Phase Diagram in $\gamma - p$-NPNN KOICHI KAJIYOSHI$^1$, TAKASHI KAMBE, KOKICHI OSHIMA, Graduate School of Natural Science and Tech., DEP. OF PHYSICS, FAC. OF SCIENCE, OKAYAMA UNIVERSITY TEAM — We performed the magnetic torque measurements of $\gamma$-phase of para-Nitrophenyl Nitronyl Nitroxide (being $p$-NPNN), which is considered to be as a quasi-one-dimensional ferromagnet, in the vicinity of $T_N (=0.65K)$ using a piezoresistive micro-cantilever. Typical sample dimension is about $0.25 \times 0.10 \times 0.10mm^3$. At 0.4K, a spin-flop transition ($H_{SF}$) and an antiferromagnetic-paramagnetic transition ($H_C$) are clearly observed in the magnetic field of about 470 Gauss and 2100 Gauss, respectively. The spin-easy axis is almost parallel to the direction to phenyl ring from the ONCNO fragments. $H - T$ phase diagram is determined properly. These results are consistent with our recent low frequency ($\sim 300 MHz$) and low-temperature (0.4 K) ESR. We will discuss the $H - T$ phase diagram of $\gamma - p$-NPNN in comparison with the one-dimensional Heisenberg ferromagnetic model.

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