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Magnetic ground state of $YbCo_2Zn_{20}$ probed by muon spin relaxation

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In intermetallic Ce- and Yb-compounds, the hybridization between the $4f$ and itinerant conduction electrons induces the magnetic instability and charge configurations, and the ground state properties of heavy fermion located in the vicinity of a magnetic quantum critical point (QCP) is one of important issue for strongly correlated electron systems. The cubic compound $YbCo_2Zn_{20}$ has huge electronic specific heat coefficient γ=7900mJ/molK^2 [2] and its ground state could be located in the vicinity of the QCP or a long-range ordered phase. Indeed, a magnetic long-range order was observed under pressure above 1-2 GPa[2].
To investigate magnetic ground state, we have carried out muon spin relaxation measurements and confirm non-magnetic ground state with fluctuating tiny magnetic moment. Detail of the magnetic state will be reported in the presentation.

[1]M. S.Torikachvili, S.Jia, E. D.Mun, S. T.Hannahs, R. C.Black, W. K.Neils, D.Martien, S. L.Bud'ko, and P. C.Canfield, Proc. Natl. Acad. Sci. U.S.A. 104, 9960 (2007).
[2]Y.Saiga, K.Matsubayashi, T.Fujiwara, M.Kosaka, S.Katano, M.Hedo, T.Matsumoto, and Y.Uwatoko, J. Phys. Soc. Jpn. 77, 053710 (2008).

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