


( ※本報告書は英語で記述してください。ただし、産業利用課題として採択されている方は日本語で記述していただいても結構です。 )

 <b>MLF Experimental Report</b>	提出日 Date of Report 2012/12/12
課題番号 Project No. 2012A0051 実験課題名 Title of experiment Low energy spin dynamics in d-electron heavy-fermion compound YMn <sub>2</sub> Zn <sub>20</sub> probed by $\mu$ SR 実験責任者名 Name of principal investigator Ryosuke Kadono 所属 Affiliation KEK-IMSS	装置責任者 Name of responsible person Y. Miyake 装置名 Name of Instrument/(BL No.) D1 実施日 Date of Experiment 2012/4/8 – 2011/4/11

試料、実験方法、利用の結果得られた主なデータ、考察、結論等を、記述して下さい。(適宜、図表添付のこと)  
 Please report your samples, experimental method and results, discussion and conclusions. Please add figures and tables for better explanation.

1. 試料 Name of sample(s) and chemical formula, or compositions including physical form.
Mn pyrochlore, polycrystals, YMn <sub>2</sub> Zn <sub>20-x</sub> Al <sub>x</sub> , x=7.71, 10.02

2. 実験方法及び結果 (実験がうまくいかなかった場合、その理由を記述してください。)
Experimental method and results. If you failed to conduct experiment as planned, please describe reasons.
We tried to measure zero and longitudinal-field muon spin relaxation measurements to investigate the spin fluctuation in one of the above mentioned samples (x=10.02) over a temperature range of 4.2–300 K. However, the signal to noise ratio turned out to be very poor, even after adopting “fly-past” set-up for small specimen. More than half of the allotted beam time was then spent out for tuning of measurement conditions, and only to find that considerable number of muons stopping at the neck of the “fly-past” chamber generated background. Moreover, it was later found that the backing material used to hold the specimen was chosen to be iron by mistake (instead of silver). The ferromagnetism of the backing material led strong distortion of the observed spectra, and thereby we gave up making analysis of these data to extract meaningful information.