


実験報告書様式(一般利用課題・成果公開利用)

(※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。)

 MLF Experimental Report	提出日 Date of Report
課題番号 Project No. 2013B0039 実験課題名 Title of experiment Development of a new elemental analysis system using negative muon capture 実験責任者名 Name of principal investigator Takahito OSAWA 所属 Affiliation Quantum Beam Science Center, Japan Atomic Energy Agency	装置責任者 Name of responsible person Yasuhiro Miyake 装置名 Name of Instrument/(BL No.) D2 実施日 Date of Experiment April 5 to 7, 2014

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.
Carbon (Graphite) Imilac meteorite (pallasite)

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.
A new analysis system was developed and was installed to the D2 muon beam port and we have tested the system in this experiment. Checking items are below. (1) Operation check of DC stabilization power supply and electromagnet while running water. (2) Alignment adjustment. (3) Vacuum check. (4) Recording muonic X-ray while negative muon beam incident. Three items from (1) to (3) were successfully checked. But it was very difficult to obtain a good spectrum in this experiment because of the drastic delivery delay of the system that was delivered 2 days before this experiment day. The result of this work revealed several problems that have to be improved. The analysis system needs at least (1) a recording system of beam profile, (2) beam collimators, (3) a new trellis window, and (4) an external control system for DC power supply.

2. 実験方法及び結果(つづき) Experimental method and results (continued)