

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 2012.07.28.
課題番号 Project No. 2011B0035 実験課題名 Title of experiment Development of non-destructive and multi-elemental analysis system by muonic X-ray 実験責任者名 Name of principal investigator KENYA KUBO 所属 Affiliation International Christian University	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 2012.02.15-02.17

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.
Japanese gold coin

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.
<p>In order to check the ability of depth-profiling of the muonic X-ray elemental analysis technique, we examined a Japanese gold coin mint in the Edo era again to improve the statistics of the data for the surface region of the coin (previous data 2010B0031).</p> <p>Using the setup shown in the figure, we re-confirmed the gold content of the coin at the depth of 1.4 mm from the surface as 70 %, while the deep inside containing 56% of gold.</p> <p>The improvement of the statistics lead to the reduction of the uncertainty by a factor of two.</p>

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

