


(※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. 2011B0038 実験課題名 Title of experiment Measurement of neutron capture cross-sections for Fe isotopes 実験責任者名 Name of principal investigator Guinyun KIM 所属 Affiliation Kyungpook National University	装置責任者 Name of responsible person Guinyun KIM 装置名 Name of Instrument/(BL No.) BL-04 実施日 Date of Experiment 2012. 2.13- 2.16

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.												
<p>^{56,57}Fe isotopes, thin metallic foil rectangular shape.</p> <table border="1" data-bbox="509 974 1067 1111"> <thead> <tr> <th>Sample</th> <th>Purity (%)</th> <th>Thickness (mm)</th> <th>Size (cm²)</th> </tr> </thead> <tbody> <tr> <td>⁵⁶Fe</td> <td>99.94%</td> <td>0.5</td> <td>5×5</td> </tr> <tr> <td>⁵⁷Fe</td> <td>95.90%</td> <td>0.4</td> <td>5×5</td> </tr> </tbody> </table>	Sample	Purity (%)	Thickness (mm)	Size (cm ²)	⁵⁶ Fe	99.94%	0.5	5×5	⁵⁷ Fe	95.90%	0.4	5×5
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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。)
<p>Experimental method and results. If you failed to conduct experiment as planned, please describe reasons.</p> <p>The neutron capture cross-section measurement was done using an NaI(Tl) detector system and a pulse-height weighting technique.</p> <p>We could not get a good result due to double beam structure. Thus, we could not solve the problem due to double structure in the neutron energy higher than keV region.</p> <p>However, we could measure the neutron total cross-sections for ⁵⁶Fe in the neutron energy region from 10 eV to 10 keV by using the ⁶Li glass detector which was originally used for neutron monitor.</p> <p>We presented the results for this experiment at the Korean Nuclear Society meeting held in Jeju, Korea from May 16-18, 2012.</p>