

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。)

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|  MLF Experimental Report | 提出日 Date of Report 17 th Aug 2017 |
| 課題番号 Project No. 2015A0126 実験課題名 Title of experiment Search for magnetic fluctuations in YFe ₂ Ge ₂ 実験責任者名 Name of principal investigator Jun Zhao 所属 Affiliation Department of Physics, Fudan University, China | 装置責任者 Name of responsible person Kenji Nakajima 装置名 Name of Instrument/(BL No.) BL14 実施日 Date of Experiment 6 th -12 th Nov 2015 |

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.

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| 1. 試料 Name of sample(s) and chemical formula, or compositions including physical form. |
| Yttrium Iron Germanium YFe ₂ Ge ₂ |

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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。) Experimental method and results. If you failed to conduct experiment as planned, please describe reasons. |
| The Horace scan method is used to give a comprehensive understanding on the magnetic excitations in YFe ₂ Ge ₂ . The magnetic fluctuations have been studied at 4K, 100K and 300K in order to reveal the temperature dependence of the spin excitations. As shown in Fig. 1, stripe-type excitation has been observed at different energies at Q = (1, 0, 1) and its equivalent positions. In addition, Fig. 2 has revealed the dispersive behavior of this stripe-type fluctuation. |

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

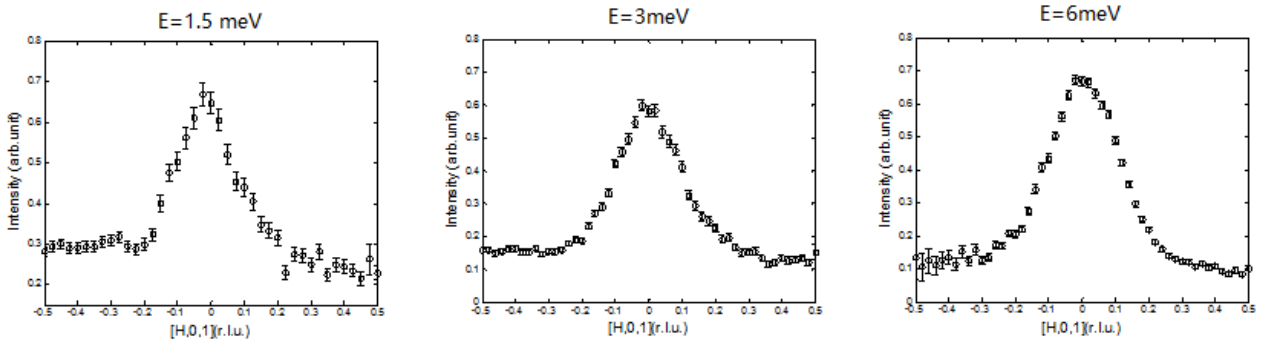


Fig. 1 Longitudinal cuts of stripe-type fluctuation near $Q = (1, 0, 1)$ at different energies.

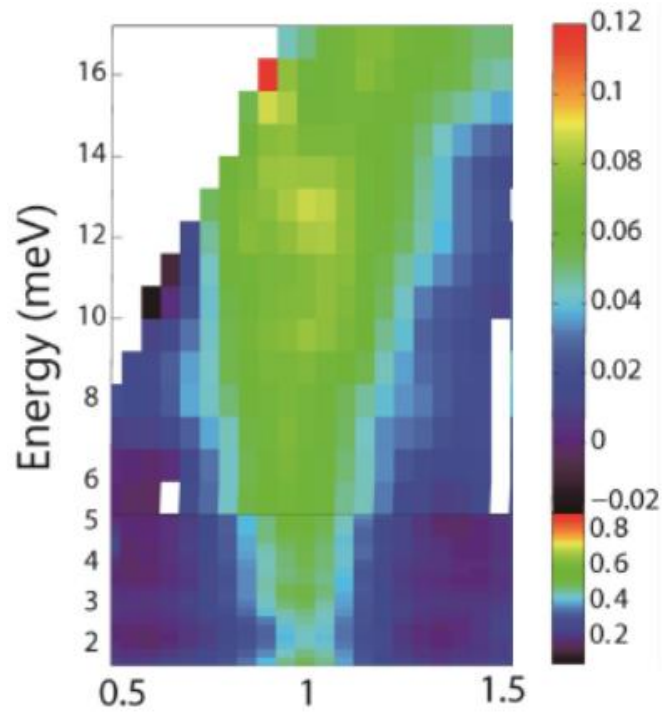


Fig. 2 Background subtracted dispersions of the stripe-type fluctuations at 4K.