


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。)

 Experimental Report 	承認日 Date of Approval 2017/12/9 承認者 Approver Jun-ichi Suzuki 提出日 Date of Report 2017/10/1
課題番号 Project No. 2017A0069 実験課題名 Title of experiment Metamagnetic transition and magnetoelectric response in Ni ₂ InSbO ₆ 実験責任者名 Name of principal investigator Taka-hisa Arima 所属 Affiliation University of Tokyo / RIKEN	装置責任者 Name of Instrument scientist Jun-ichi Suzuki 装置名 Name of Instrument/(BL No.) TAIKAN / BL15 実施日 Date of Experiment from 29th to 31st, May 2017

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.
Three single crystals of Ni ₂ InSbO ₆

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>The crystals were attached on an aluminum plate with their <i>c</i>-axis perpendicular to the plate. The plate was installed in a cryostat equipped with a vertical superconducting magnet. The magnetic field was applied along the <i>a</i>*-axis. The sample <i>c</i>-axis was tilted by 71.3 degrees from the beam incidence. Neutron scattering signal around the 003 reflection was recorded at several temperatures in magnetic fields of 0 T and 6 T. The exposure time was two hours for each temperature.</p> <p>The temperature dependence of the scattering at zero magnetic field is shown in Fig. 1. Ring-type superlattice scattering grows below 80 K, which agrees with the magnetic transition temperature determined by magnetic susceptibility data. In a magnetic field of 6 tesla, two-fold magnetic reflections corresponding to the (<i>q</i> 0 3) and (-<i>q</i> 0 3) appear instead of the ring, as shown in Fig. 2. This implies that the helix is approximately of the screw type.</p>

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

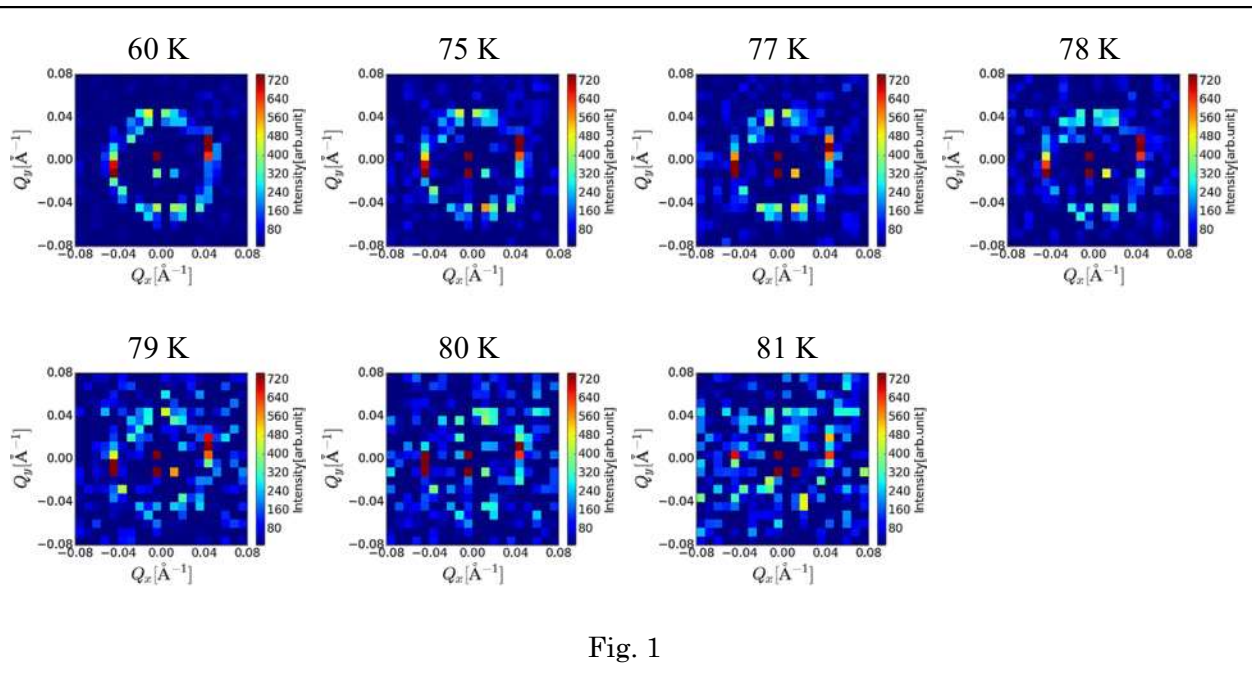


Fig. 1

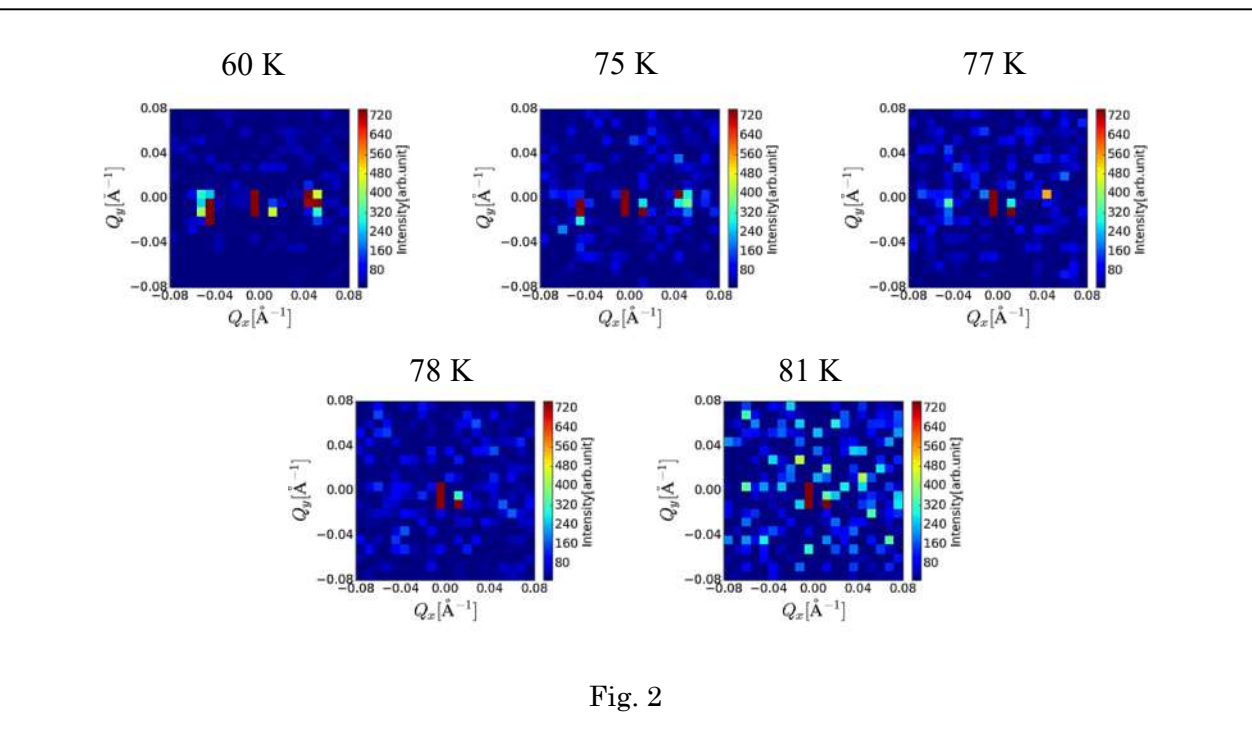


Fig. 2