（ ※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。 ）

CROSS TOKAI **Experimental Report** J-PARC	承認日 Date of Approval 2014/8/18 承認者 Approver Takashi Ohhara 提出日 Date of Report 2014/8/18
課題番号 Project No. 2014A0144 実験課題名 Title of experiment Magnetic structure of a magnetoelectric oxide Co4Nb2O9 実験責任者名 Name of principal investigator Taka-hisa Arima 所属 Affiliation Dept. Adv. Mat. Sci., Univ. Tokyo	装置責任者 Name of Instrument scientist Takashi Ohhara 装置名 Name of Instrument/（BL No.） BL-18 実施日 Date of Experiment 6 -10 June, 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.

A single crystal of A-site ordered corundum-type Co4Nb2O9

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 diffraction measurement was performed on a single crystal of Co4Nb2O9 at low temperatures. The compound undergoes an antiferromagnetic transition at about TN=26 K. We collected the diffraction intensity data at 30 K (just above TN) and analyzed the crystal structure. The analysis was carried out with R factor of 9 %, as shown in Fig. 1. Obtained structural parameters are well in accord with a previous x-ray study.

We also observed that the intensities of some low-Q reflections increase. In Fig. 2, temperature dependence of (002) reflection is shown. The increased component is clearly attributable to magnetic order. We collected the diffraction intensity data below TN and calculated the difference in intensity from the 30 K dataset. We are now analyzing magnetic structure.

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

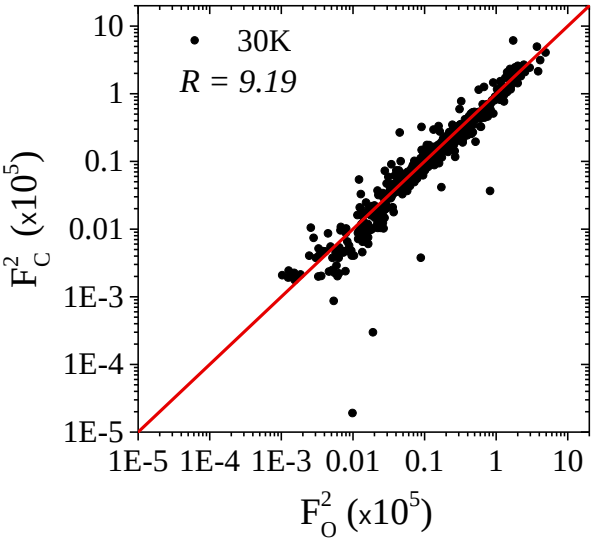

Fig. 1: Relation between calculated and observed intensities of reflections at 30 K.

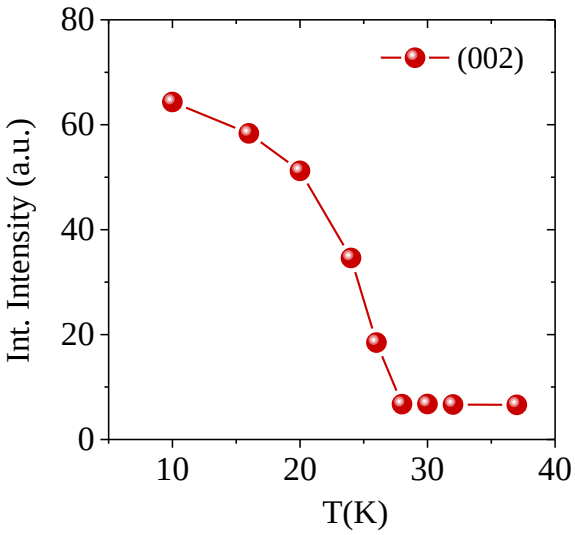

Fig. 2: Temperature dependence of the intensity of (002) reflection.