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Magnetic order in frustrated Kagome-Triangular lattice antiferromagnet $NaBa_2Mn_3F_{11}$ SHOHEI HAYASHIDA, ISSP Univ. of Tokyo, HAJIME ISHIKAWA, Dep. of Phys. The Univ. of Stuttgart, YOSHIHIKO OKAMOTO, Dep. of Appl. Phys. Nagoya Univ., TSUYOSHI OKUBO, ZENJI HIROI, ISSP Univ. of Tokyo, MAXIM AVDEEV, ANSTO, PASCAL MANUEL, ISIS, MASATO HAGIHALA, MINORU SODA, TAKATSUGU MASUDA, ISSP Univ. of Tokyo — We performed powder neutron diffraction experiments on $NaBa_2Mn_3F_{11}$ [1], a model compound of *Kagome-Triangular* lattice where three of six next-nearest neighbor interactions are non-negligible. More than 10 magnetic Bragg peaks are clearly observed below $T = 2$ K, meaning that the ground state is a magnetically ordered state. From indexing the magnetic Bragg peaks, magnetic propagation vector of $\boldsymbol{q}_0 = (0, 0, 0)$ and two incommensurate vectors which are close to (1/3, 1/3, 0) are identified. Combination of representation analysis and Rietveld refinement reveals that the propagation vector of $\boldsymbol{q}_0$ exhibits the 120 structure in the *ab*-plane. Our calculation of the ground state suggests that the non-negligible magnetic dipolar interaction is responsible for the determined 120 structure in $NaBa_2Mn_3F_{11}$. Reference [1] H. Ishikawa *et al.*, J. Phys. Soc. Jpn. **83**, 043703 (2014).

Shohei Hayashida
ISSP Univ. of Tokyo

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