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**TbFeO<sub>3</sub> grown by a flux melting growth method**

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The transition-metal oxides with strong correlation have attracted much attention to understand the coupling effects between their order parameters and unusual physical properties. Among those, the iron perovskite materials are of interest due to their peculiar magnetic properties. For instance, weak anisotropic antisymmetric exchange causes a slight canting of spin resulting in a weak transverse ferromagnetic moment. We report extraordinary magnetic behavior, which appears to be spin reorientation phenomenon, observed from the temperature dependence of the magnetic moment curve of TbFeO<sub>3</sub>. The TbFeO<sub>3</sub> crystal used here grown by a flux method. The starting composition included 4.02 g Tb<sub>4</sub>O<sub>7</sub>, 1.72 g Fe<sub>2</sub>O<sub>3</sub>, 0.60 g B<sub>2</sub>O<sub>3</sub>, 19.20 g PbO, and 71.70 g PbF<sub>2</sub>. The whole composition was mixed by stirring on a sheet of paper and then pressed into 100 cm<sup>3</sup> platinum crucible with a closely fitting lid. The crucible was heated to 1290 °C in a furnace with heating elements on both sides. The temperature was held at 1290 °C for 5 h and then reduced to 960 °C at the rate of 2 K h<sup>-1</sup>. After separation of crystal from the crucible by tapping gently with a small hammer, glossy, opaque pseudo-cubes up to 5 mm edge were obtained from the run.