

Abstract Submitted
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Observation of two step magnetization reversal in $\text{Fe}_{0.25}\text{TaS}_2$ S. PARK, Department of Physics, Chung-Ang University-Seoul, South Korea, S.B. KIM, Laboratory of Pohang Emergent Materials and Department of Physics, Pohang University of Science and Technology - Pohang, South Korea, Y.J. CHOI, Y. HORIBE, S-W. CHEONG, WEIDA WU, Rutgers Center for Emergent Materials and Department of Physics and Astronomy, Rutgers University, Piscataway, NJ, 08854, USA — Understanding magnetic coercivity mechanisms in strong ferromagnets is crucial for new technologies. We studied domain wall pinning in a highly anisotropic ferromagnet of single crystalline $\text{Fe}_{0.25}\text{TaS}_2$ by utilizing variable temperature magnetic force microscopy (VT-MFM). Magnetic domain structure and the magnetization reversal were investigated in magnetic fields up to 8 tesla at several temperature. Our results revealed the existence of two step magnetization reversal in $\text{Fe}_{0.25}\text{TaS}_2$. The real space images of magnetic domains, showing this intriguing phenomenon, will be presented.

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