

Abstract Submitted
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Magnetically induced ferroelectricity in single crystalline ferrimagnet, $\text{Mn}_2\text{Mo}_3\text{O}_8$ ¹ SHALINEE CHIKARA, JOHN SINGLETON, National High Magnetic Field Lab, Los Alamos National Laboratory, Los Alamos, NM 87544, USA, BIN GAO, YAZHONG WANG, SANG-WOOK CHEONG, Rutgers Center for Emergent Materials and Department of Physics and Astronomy, Rutgers University, Piscataway, New Jersey 08854, USA, VIVIEN ZAPF, National High Magnetic Field Lab, Los Alamos National Laboratory, Los Alamos, NM 87544, USA — We present magnetization and electric polarization results on multiferroic ferrimagnet molybdate system, $\text{Mn}_2\text{Mo}_3\text{O}_8$ in pulsed magnetic fields. $\text{Mn}_2\text{Mo}_3\text{O}_8$, also known as the mineral isiemite crystallizes in a hexagonal $P6_3mc$ space group. The magnetism is attributed to the Mn ions whereas the Mo is diamagnetic. The Mo and Mn atoms are stacked alternately along c -axis. The Mn ions form a hexagonal lattice and occur in octahedral and tetragonal coordination. The spins on two different Mn sites give rise to ferrimagnetism. The system orders at about 42 K accompanied by a lambda like anomaly in heat capacity. $\text{Mn}_2\text{Mo}_3\text{O}_8$ shows anisotropic magnetization with a change in slope at 40 K signaling possibly an AFM to ferrimagnet ordering. We observe magnetic field induced electric polarization in our preliminary results and an anomaly at 40 K corresponding to T_N .

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Shalinee Chikara
Los Alamos Natl Lab

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