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Temperature Dependent Properties of E-Phase Perovskite $ScMnO_3$ HAIYAN CHEN, TIAN YU, TREVOR TYSON, New Jersey Institute of Technology, A.M. MILINDA ABEYKOON, Brookhaven National Lab, KEUN AHN, New Jersey Institute of Technology, YUSHENG CHEN, The University of Chicago — Perovskite E-type $ScMnO_3$ was synthesized under high temperature and pressure. Combined local and long range structural measurements were conducted using XAFS, PDF and single crystal XRD methods. The local structure of different ion sites was explored with x-ray absorption spectroscopy in low temperature. The detailed changes in structure on crossing into the magnetically ordered region are explored and compared with DFT electric polarization calculations. The accuracy of DFT models to assess the electric polarization components (structural and electronic) is discussed. This work is supported by DOE Grant DE-FG02-07ER46402.

Tian Yu
New Jersey Institute of Technology

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