

Abstract Submitted
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Bismuth Manganite Defect Structure DANIEL PAJEROWSKI, Oak Ridge National Laboratory — Bismuth manganite (BMO) has had an interesting recent history. BMO is reported to be ferromagnetic, ferroelectric, and magneto-electric. However, it is very difficult to stabilize in the highly distorted perovskite structure that hosts the aforementioned properties. Initial reports suggested non-centrosymmetric structure compatible with ferroelectricity, but the current understanding is that stoichiometric BMO is centrosymmetric. Studies on films have historically reported anomalously low magnetic moments compared to the bulk, but polarized neutron reflectometry shows that the magnetization density is very similar to the bulk while the film morphology is actually the complicated feature. X-ray absorption suggests that the orbital order in the films is also similar to the bulk. X-ray spectroscopy and electron microscopy suggest a possible non-stoichiometric phase as the source of multiferroicity in some BMO films grown on Strontium Titanate (STO). Candidates for this the ferroelectric phase will be presented and compared with the data of BMO on STO.

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