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Depth dependent atomic valence determination by synchrotron techniques¹ ROBBYN TRAPPEN, MIKEL HOLCOMB, JINLING ZHOU, West Virginia University, YING-HAO CHU, VU TRA, National Chiao Tung University — We investigate the layer-dependent atomic valence in magnetoelectric La_{0.7}Sr_{0.3}MnO₃/PbZr_{0.2}Ti_{0.8}O₃ heterostructures. X-ray absorption spectroscopy measurements were taken in both bulk-sensitive fluorescence yield and surface-sensitive total electron yield mode to determine the Mn valence. These measurements were taken at the Advanced Light Source at Lawrence Berkeley National Labs. The experimentally measured valence is modeled and compared with theory to determine the layer-by-layer atomic valence.

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