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Interfacial Electronic Properties of LaAlO₃/SrTiO₃ superlattice Probed with Hard X-ray Photoemission DI-JING HUANG, NSRRC, Taiwan, YING-YI CHU, Dept. NHTU, Taiwan, JAN-CHI YANG, Dept. of Materials Science and Engineering, Taiwan, KU-DING TSUEI, NSRRC, Taiwan, WEN-CHUNG LIU, Dept of Phys, NHTU, Taiwan, YEN-FA LIAO, NSRRC, Taiwan, YING-HAO CHU, Dept of Materials Science and Engineering, NCTU, Taiwan, JONAS WEINEN, STEFANO AGRESTINI, VALERIO OLIANA, HAO TJENG, MPI-CPfS, Dresden, Germany, C.T. HUANG, NSRRC, Taiwan — Unexpected electronic and magnetic properties at interfaces between distinct transition-metal oxides have received much attention recently. The electronic phase at the interface of a heterostructure often differs from those of the sandwiching bulks. For instance, the interface between two band insulators LaAlO₃ and SrTiO₃ exhibits rich interfacial phases, drastically different from their original bulks. Here we will present measurements of hard X-ray photoemission and x-ray absorption on a LaAlO₃/SrTiO₃ superlattice to address the issue of interfacial electron at interfaces.

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