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**Scanning tunneling microscope investigation of the interfacial electronic properties of YBCO/LCMO** J.C. WANG, B.C. HUANG, Y.P. CHIU, Department of Physics, National Sun Yat-Sen University, Kaohsiung, 80424, Taiwan, Y.C. HUANG, Y.C. CHEN, Department of Physics, National Cheng Kung University, Tainan, 701, Taiwan, V.T. TRA, J.Y. LIN, Institute of Physics, National Chiao Tung University, Hsinchu, 300, Taiwan, J.C. YANG, Y.H. CHU, Department of Materials Science and Engineering, National Chiao Tung University, Hsinchu, 1001, Taiwan — Direct measurements of the interfacial electronic structures in YBCO/LCMO hetero-structures have been performed using cross-sectional scanning tunneling microscopy (STM) and spectroscopy (STS). Both scanning tunneling spectroscopy and analysis of the local electronic states across the interface of YBCO/LCMO reveal the evolution of the energy-band structures. Closely examining the recognition of the electronic structure by the unique combination of STM and STS reveals the direct information on the local interaction between superconductivity and magnetism in this work.

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