

Abstract Submitted
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Electronic Structure on (001) Surface of BaFe_2As_2 Parent Compound Studied with Scanning Tunneling Spectroscopy¹ D. R. JAYASUNDARA, A. LI, Y. XUAN, J. P. O'NEAL, S. H. PAN, University of Houston, Houston, Texas 77204-5002, R. JIN, E. W. PLUMMER, Louisiana State University, Baton Rouge, LA 70803-4001, R. JIN, A. S. SEFAT, M. A. MCGUIRE, B. C. SALES, D. MANDRUS, Oak Ridge National Laboratory, Oak Ridge, TN 37831 — Doping can drive some metallic pnictide compounds to superconducting phase. The microscopic mechanism of this phase transition has still not been understood. Starting with the parent compound, we have used a UHV Low Temperature STM to study the density of states on the (001) surface of single crystal BaFe_2As_2 . The tunneling spectrum varies depending on the local environment. All the spectrums have the same background with density of states depression near the Fermi energy, but some of them show different anomalies. We attribute some of these anomalies to surface states. These results may provide useful information to those surface techniques other than STM.

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