

Abstract Submitted
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Direct observation of two-gap superconductivity in $\text{SrFe}_{1.85}\text{Co}_{0.15}\text{As}_2$ single crystals by scanning tunneling microscopy and spectroscopy JEWOOK PARK, SEUNGHYUN KHIM, GUN SANG JEON, Seoul National University, JUN SUNG KIM, Pohang University of Science and Technology, KEE HOON KIM, KOOKRIN CHAR, Seoul National University — Scanning tunneling microscopy and spectroscopy (STM/S) studies on the recently discovered superconductor, $\text{SrFe}_{1.85}\text{Co}_{0.15}\text{As}_2$ single crystal, and its parent material SrFe_2As_2 reveal a 0.8 nm stripe pattern in the atomic resolution topographic images of both samples. In the conductance spectra taken along a line on the $\text{SrFe}_{1.85}\text{Co}_{0.15}\text{As}_2$ surface robust superconducting gaps ($2\Delta_{large} = 17.3$ meV) as well as additional small gap ($2\Delta_{small} = 2.9$ meV) structures were simultaneously observed. To the best of our knowledge, these are the first observations of such two-gap structures in pnictides in STS/M studies.

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