

Electronic structure of detwinned BaFe_2As_2

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The electronic structure of iron based compounds are usually complicated by the mixed information from twinned structure. Here we report the electronic structure of twined and mechanically detwinned BaFe_2As_2 by polarization-dependent angle-resolved photoemission spectroscopy at 10K. By comparing the data obtained from the twinned and detwinned samples, we resolved the bands from different domains and their orbital characters. Moreover, the nature of the spin-density-wave is approached by detailed temperature dependence of the electronic structure around Zone center. Our results would help to reveal the intrinsic electronic properties of the spin-density-wave state in iron based compounds.