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ARPES investigation of Fe-based superconductor KFe_2As_2 and related compounds PIERRE RICHARD, X. SHI, B.-Q. LV, P. ZHANG, T. QIAN, H. DING, Institute of Physics, Chinese Academy of Sciences (CAS), T. K. KIM, M. HOESCH, Diamond Light Source, D.-L. FANG, H.-H. WEN, Nanjing University, X.-H. CHEN, University of Science and Technology of China, A. VAN ROEKEGHEM, P. SETH, S. BIERMANN, Ecole Polytechnique (France) — KFe_2As_2 is the end-member of the $Ba_{1-x}K_xFe_2As_2$ family of Fe-based superconductors. Despite a small T_c of 3 K, this compound is of particular interest because unlike the other members of this family of superconductors, the Fermi surface of KFe_2As_2 is free of electron pocket. Interest for this material was intensified following various reports on possible nodal superconducting order parameters in this system. Due to its momentum-resolved capabilities, angle-resolved photoemission spectroscopy (ARPES) is particularly suitable for investigating the key aspects of the electronic structure of materials. In this work we present recent ARPES data of KFe_2As_2 and related materials.

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