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**Fermi surface dichotomy of superconducting gap and pseudogap in underdoped pnictides** Y.-M. XU, Boston College, P. RICHARD, WPI Research Center, Advanced Institute for Materials Research, Tohoku University, K. NAKAYAMA, T. KAWAHARA, Y. SEKIBA, Department of Physics, Tohoku University, T. QIAN, Beijing National Laboratory for Condensed Matter Physics, and Institute of Physics, M. NEUPANE, Boston College, S. SOUMA, T. SATO, T. TAKAHASHI, Department of Physics, Tohoku University, H. LUO, H.-H. WEN, G.-F. CHEN, N.-L. WANG, Beijing National Laboratory for Condensed Matter Physics, and Institute of Physics, Z. WANG, Boston College, Z. FANG, X. DAI, H. DING, Beijing National Laboratory for Condensed Matter Physics, and Institute of Physics — A systematic angle-resolved photoemission spectroscopy (ARPES) study has been performed on the hole-doped 122-phase ($Ba_{1-x}K_xFe_2As_2$) in the underdoped (UD) region. We observe that the superconducting (SC) gap of the UD pnictides scales linearly with the transition temperature, and a distinct pseudogap develops upon underdoping and coexists with the SC gap. Remarkably, this pseudogap occurs mainly on the FS sheets that are connected by the AF wave vector, where the SC pairing is stronger as well. The observed dichotomic behaviour of the pseudogap and the SC gap on different FS sheets in the UD pnictides shares many similarities with those observed in the UD copper oxide superconductors, providing a unifying picture for both families of high- temperature superconductors.

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