

Abstract Submitted  
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**ARPES observation of isotropic superconducting gaps in iso-valent Ru-substituted  $\text{Ba}(\text{Fe}_{0.75}\text{Ru}_{0.25})_2\text{As}_2$** <sup>1</sup> XIAOPING WANG, N. XU, P. RICHARD, X. SHI, A. VAN ROEKEGHEM, T. QIAN, H. DING, Institute of Physics, Chinese Academy of Sciences, Beijing 100190, China, K. NAKAYAMA, T. SATO, E. IEKI, T. TAKAHASHI, Tohoku University, Sendai 980-8578, Japan, J. XING, H.-H. WEN, Nanjing University, Nanjing 210093, China, M. SHI, Paul Scherrer Institut, Swiss Light Source, CH-5232 Villigen PSI, Switzerland, E. RIENKS, S. THIRUPATHAIAH, BESSY, D-12489 Berlin, Germany — We used high-energy resolution angle-resolved photoemission spectroscopy to extract the momentum dependence of the superconducting gap of Ru-substituted  $\text{Ba}(\text{Fe}_{0.75}\text{Ru}_{0.25})_2\text{As}_2$  ( $T_c = 15$  K). Despite a strong out-of-plane warping of the Fermi surface, the magnitude of the superconducting gap observed experimentally is nearly isotropic and independent of the out-of-plane momentum. More precisely, we respectively observed 5.7 meV and 4.5 meV superconducting gaps on the inner and outer  $\Gamma$ -centered hole Fermi surface pockets, whereas a 4.8 meV gap is recorded on the M-centered electron Fermi surface pockets. Our results are consistent with the  $J_1 - J_2$  model with a dominant antiferromagnetic exchange interaction between the next-nearest Fe neighbors.

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