## Angle-resolved photoemission studies on $A_xFe_2Se_2$ (A = K, Cs)

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Pairing symmetry is a fundamental property that characterizes a superconductor. We have conducted angle-resolve photoemission spectroscopy (ARPES) experiment on $A_xFe_2Se_2$ (A=K, Cs)[1]. We found $A_xFe_2Se_2$ (A=K, Cs) is the most heavily electron-doped amongst all iron based superconductors. Large electron Fermi surfaces are observed around the zone corners with an almost isotropic superconducting gap of 10.3 meV, while there is no hole Fermi surface near the zone center. Thus, the sign change in the s± pairing symmetry driven by the inter-band scatterings as suggested in many weak coupling theories becomes conceptually irrelevant in describing the superconducting state here.

[1]Y. Zhang *et. al*, Nature Materials **10**, 273-277 (2011).