

Abstract Submitted
for the MAR13 Meeting of
The American Physical Society

Anisotropic Superconducting Gap in a Multiorbital t - J_1 - J_2 Model for Iron Pnictides RONG YU, QIMIAO SI, Department of Physics and Astronomy, Rice University, Houston, TX77005 — We study the anisotropy of the superconducting gaps in the iron pnictides within a five-orbital t - J_1 - J_2 model. We show that the interplay between the multiorbital nature and the magnetic frustration can give rise to an anisotropic superconducting gap with the A_{1g} pairing symmetry. We have also calculated the dynamical spin susceptibility in the superconducting state, and find that the anisotropic gap structure affects the spin dynamics by showing two resonance peaks. We further discuss the connections between our results and recent ARPES and inelastic neutron scattering measurements.

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Date submitted: 08 Nov 2012

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