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Pairing Symmetry in a Two-Orbital Exchange Coupling Model of Oxypnictides B. ANDREI BERNEVIG, Princeton University, KANGJUN SEO, JIANGPING HU — We study the pairing symmetry of a two orbital $J_1 - J_2$ model for FeAs layers in oxypnictides. We show that the mixture of an intra-orbital unconventional $s_{x^2y^2} \sim \cos(k_x)\cos(k_y)$ pairing symmetry and a small $d_{x^2-y^2} \sim \cos(k_x) - \cos(k_y)$ component is favored in a large part of $J_1 - J_2$ phase diagram. A pure $s_{x^2y^2}$ pairing state is favored for $J_2 >> J_1$. The signs of the $d_{x^2-y^2}$ order parameters in the two different orbitals are opposite. While a small $d_{xy} \sim \sin(k_x)\sin(k_y)$ inter-orbital pairing coexists in the above phases, the intra-orbital d_{xy} pairing is not favored even for large J_2.

B. Andrei Bernevig
Princeton University

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