

Abstract Submitted
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Inelastic neutron scattering study on Co-doped LiFeAs YU LI, Rice University, DAVID TAM, Rice Univ, MENG WANG, UC Berkeley, RICE UNIVERSITY TEAM — We performed inelastic neutron scattering on Co-doped LiFeAs material. In 12% Co doped LiFeAs, where T_c is dramatically suppressed, the low energy spin excitation is commensurate at $(\pi, 0)$ point which is different from pure LiFeAs case. Based on the fact that in this material the perfect nesting exists between outer hole pocket and electron pocket and is dominated by d_{xy} orbital, we argue that the superconductivity is actually associated with electron scattering from d_{xz}/d_{yz} orbital and the d_{xy} orbital barely contributes to the superconducting pairing.

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