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Superconductivity and magnetism in a three-band model of the LAO/STO interface from a weak-coupling perspective MARK FISCHER, Cornell University, SRINIVAS RAGHU, Stanford University, EUN-AH KIM, Cornell University — Recent experiments on LAO/STO interfaces have shown the occurrence of both superconductivity and magnetism in this system. Motivated by these experiments, we analyze various Fermi-liquid instabilities in a three-band model of the LAO/STO interface with purely repulsive interactions by calculating susceptibilities for superconducting, magnetic and nematic orders. In light of recent transport experiments proposing a Lifshitz transition between d orbitals, we particularly study how the susceptibilities depend on the chemical potential. Further, we investigate the interplay of these different orders.

Mark Fischer
Cornell University

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