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Fermi-liquid-like quasiparticle excitations in Sr_2RhO_4 WILLIAM DUNKEL, FELIX BAUMBERGER, WORAWAT MEEVASANA, DONGHUI LU, Stanford University, ROBIN PERRY, ANDY MACKENZIE, St. Andrews University, ZHI-XUN SHEN, Stanford University — The layered 4d transition metal oxide Sr_2RhO_4 supports a highly anisotropic, well-defined Fermi-liquid-like electron fluid. Angle resolved photoemission spectroscopy shows a Fermi surface and quasiparticle effective masses in quantitative agreement with bulk de Haas-van Alphen data. Sr_2RhO_4 thus presents a prime opportunity to study the electronic self energy in a well-defined model system. To this end, we present a comprehensive spectral function analysis of high resolution angle resolved photoemission data from Sr_2RhO_4. Preliminary data at very low photon energies are presented and compared to state-of-the-art data taken at conventional UV photon energies.

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