

Abstract Submitted  
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**Fluctuation exchange analysis of quasiparticle properties of strontium ruthenate** JOHN DEISZ, TIM KIDD, Department of Physics, University of Northern Iowa — We utilize a weak-coupling approximation, FLEX, to analyze quasiparticle properties of strontium ruthenate. Utilizing first-principles-derived parameters for the band structure, spin-orbit interaction and Coulomb and exchange interactions, we quantitatively reproduce the band-structure renormalization and linewidths observed in photoemission. However, the electronic specific heat coefficient is underestimated by a factor of two and superconducting  $T_c$  is overestimated by 30 K. Analysis of the band and momentum-resolved self-energy reveals an essentially momentum-independent, Fermi-liquid-like self-energy with the exception of the  $\gamma$  band along the  $\Gamma$ -M cut for which non-Fermi-liquid behavior is observed.

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