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Resilient quasiparticles in Ruthenates: transport properties within LDA+DMFT method XIAOYU DENG, KRISTJAN HAULE, GABRIEL KOTLIAR, Rutgers Univ — Many Rutheniums are strongly correlated metals with Fermi Liquid behavior found only a small temperature scale. Non-Fermi signatures appear in both their resistivity and optical conductivity. We study the transport properties of a set of Ruthenates within first principle methods in combination with dynamical mean field theory and find reasonable agreement with experimental findings. The non-Fermi-liquid features are attributed to the temperature dependence of resilient quasiparticles, which survives above the Fermi liquid temperature scale and exhibits a strong temperature dependence in their effective mass enhancement and scattering rate.

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