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**Quasiparticle mass enhancement and temperature evolution of the electronic structure in ferromagnetic $SrRuO_3$** DANIEL SHAI, CAROLINA ADAMO, Cornell University, DAWEI SHEN, Shanghai Institute of Microsystem and Information Technology, China, CHARLES BROOKS, JOHN HARTER, ERIC MONKMAN, BULAT BURGANOV, DARRELL SCHLOM, KYLE SHEN, Cornell University — We report high-resolution angle-resolved photoemission spectroscopy (ARPES) studies of epitaxial thin films of the correlated $4d$ transition metal oxide ferromagnet $SrRuO_3$. The Fermi surface in the ferromagnetic state consists of well-defined Landau quasiparticles, exhibiting strong coupling to low-energy bosonic modes which contributes to the large effective masses observed by transport and thermodynamic measurements. Upon warming the material through its Curie temperature, we observe a substantial decrease in quasiparticle coherence, but negligible changes in the ferromagnetic exchange splitting, suggesting that local moments play an important role in the ferromagnetism in $SrRuO_3$.

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