Abstract Submitted
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Itinerant vs local moment approaches to Fe-pnictides: insight from optical spectroscopy study NAN LIN WANG, Institute of Physics, Chinese Academy of Sciences — I present optical spectroscopy investigations on single crystal samples of 4 different Fe-based systems: 1111, 122, 111, and 11. For all FeAs-based parent compounds we observed common spectral features: partial energy-gaps formation along with a removal of a large part of free-carrier spectral weight and a steep reduction of the carrier scattering rate in the magnetic ordered state. However, the 11-type FeTe behaves very differently. No energy gap opens in the magnetic ordered state. We proposed that both the itinerancy and local moment interactions of Fe 3d electrons are present, but they contribute differently to the magnetic instabilities in different systems. Work done with W. Z. Hu, G. Li, Z. G. Chen, J. Dong, P. Zheng, G. F. Chen, and J. L. Luo.

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