Kinetic Magnetism and Orbital Order in Iron Telluride

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Iron Telluride (FeTe), related to the new Iron-pnictide high temperature super-
conductors, has an interesting low-temperature phase. This phase has an unusual
magnetic order, as well as a structural distortion, and it is a conductor. This talk
presents a model in which these facts are related to one another and to orbital or-
dering. Evidence for or against this hypothesis can be acquired from measurements
of conductivity, ARPES, neutron scattering and evolution of the phase diagram on
changing chemical composition.