

Optical conductivity and orbital degeneracy in manganites and vanadates

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The temperature dependence of optical conductivity reveals usually quite complex variations on a large frequency scale reflecting the changes in the spin, orbital and charge structure. To obtain a better interpretation of such data we perform finite temperature studies of generalized spin-orbital models including cooperative Jahn-Teller interactions as well. This talk will first focus on the charge ordered CE-phase in manganites, and will provide in addition to the conductivity also spin- and orbital-excitation spectra and their temperature dependence. Next we address the optical conductivity in cubic vanadates and discuss the constraints provided by optical spectral weights.