

# MAGNETIC PROPERTIES OF CORRELATED ELECTRONS

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We analyze a system composed of itinerant electrons and localized magnetic moments with on-site interactions representing Coulomb repulsion, Hund's first rule and the external magnetic field. Properties of the system are studied rigorously but in a configurational space restricted to low-period phases only. Using exact expressions for the ground state energy an evolution of the phase diagram with the magnetic field is determined and a series of metamagnetic phase transitions is detected. Field-dependent characteristics of magnetically ordered phases, such as magnetization and susceptibility, are calculated and compared to those experimentally observed in mixed valence materials.

9.7 cm

13.4 cm

**Subject category :**

6. Theory of Magnetism

**Presentation mode :**

oral

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