

Effect of correlations on the magnetism and x-ray spectra of Heusler alloys

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Heusler alloys represent a class of systems for which the correlations between the d electrons may be important. We performed charge-selfconsistent LSDA+DMFT calculations of the electronic structure and x-ray spectra of stoichiometric Cu_2MnAl and non-stoichiometric $\text{Ni}_2\text{Mn}_{1+x}\text{Sn}_{1-x}$ systems, to study the combined influence of correlations and disorder. We show how hybridization affects orbital magnetic moments and x-ray absorption spectra also for those atoms for which the Hubbard U is zero. An pronounced impact of the way the double-counting is included is observed for the Cu $L_{2,3}$ -edge spectra. The calculations are compared with experimental data.