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Correlations in Ferrophictides KLAUS KOEPERNIK, IFW Dresden, Germany, HELMUT ESCHRIG, IFW Dresden, Germany — The strength of correlations in the ferrophictide superconductors is still under debate. While arguments for an electron-electron interaction U of 5eV have been made, some experimental results support a U of merely 1eV. Density functional theory in the local spin density approximation (LSDA) seems to describe several aspects of the electronic structure quite reasonably, which would also support a smaller U. However, the unusually large error of the calculated lattice structure remains a puzzle. We discuss the influence of correlations on the electronic structure and the properties of the ferrophictides in the framework of LSDA+U calculations.

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