# Electronic structure and magnetic properties of $Ce_2Pd_{1-x}Co_xSi_3$ and $Ce_2Pd_{1-x}Fe_xSi_3$

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The electronic structure and magnetic properties of intermetallic phase $Ce_2Pd_xCo_{1-x}Si_3$ and $Ce_2Pd_xFe_{1-x}Si_3$ have been investigated. We used the self consistent tight-binding linear muffin-tin orbital (TB-LMTO) method in the atomic-sphere-approximation (ASA) [1] and the

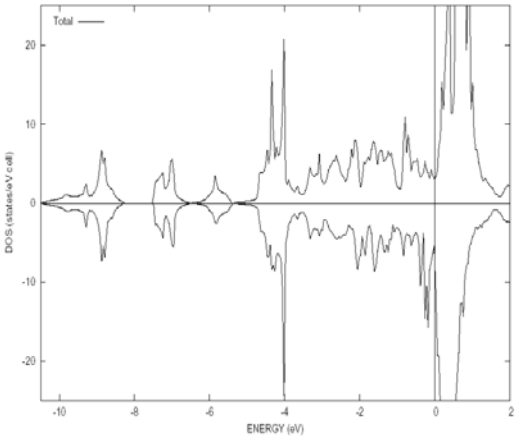


Fig. 1. Total density of states of $Ce_2Pd_{0.5}Fe_{0.5}Si_3$.

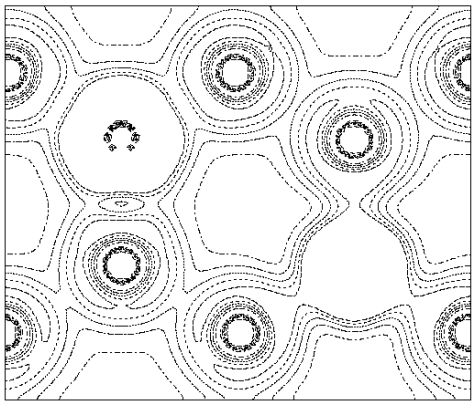

Fig. 2. Charge density of $Ce_2Pd_{0.75}Fe_{0.25}Si_3$ in plane (002).

Korringa-Kohn-Rostoker (KKR) method with the coherent potential approximation (CPA) [2]. The electronic properties of $Ce_2Pd_{1-x}Co_xSi_3$ and $Ce_2Pd_{1-x}Fe_xSi_3$ alloys were calculated for the experimental lattice parameters [3]. Total density of states (Fig. 1), band structure and charge density plots (Fig. 2) were used to describe the fundamental properties of investigated systems.

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