Influence of impurities on the electronic and magnetic properties of Fe_2TiSn

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9.7 cm

The influence of Fe, Co and V on the magnetic and electronic properties of Fe_2TiSn Heusler type alloy was studied recently [1-2]. The transition elements strongly modified the electronic structure of Fe_2TiSn ,particularly near the Fermi level. In this work we present the electronic structure of $Fe_2Ti_{1-x}V_xSn$ and $Fe_{2-x}M_xTiSn$, where M=Ni and Co. The electronic structure, magnetic moments and the theoretical XPS spectra were calculated by SPR-KKR-CPA method [3]. The band structure of ordered Fe_2TiSn alloy was calculated by fully relativistic full potential FPLO [4-5] and full potential LMTO [6] methods.

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