

Magnetic properties and band structure of $\text{Ni}_2(\text{Ti}_x\text{Mn}_{1-x})\text{Sn}$ Heusler type alloys

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We study the influence of Mn on the band structure and magnetic properties of $\text{Ni}_2\text{Ti}_x\text{Mn}_{1-x}\text{Sn}$ Heusler type alloy. The calculations were performed by TB LMTO-ASA method [1] for the experimental [2] and the theoretical lattice parameter. The theoretical lattice parameters were obtained from the minimum of the total energy. The theoretical dependence of the magnetic moment on the concentration of Mn was similar to the experimental data [2]. We present also the total density of states convoluted with Lorentzians of half with 0.4 eV and multiplied by cross sections for bands with different l symmetry [3]

[1] O.K. Andersen, O. Jepsen, Phys. Rev. Lett. **53**, 2572 (1984)

[2] C.C.M. Campbell, C.V. Stagen, Can.J.Phys. **54**, 2179 (1976)

[3] J.J. Yeh and I. Lindau, At.Data Nucl. Data Tables **32**, 1 (1985)

13.4 cm

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9.7 cm