

The effect of Mn addition in Ni₂MnSn

K. R. Priolkar

*School of Physical and Applied Sciences, Goa University, Goa 403
206 India*

Ni₂MnSn is a canonical ferromagnetic cubic Heusler alloy with a ferromagnetic ordering temperature, $T_C = 340$ K. Its electronic structure at the Fermi level consists of nearly spin polarized Mn d bands giving a magnetic moment of about $4 \mu_B/\text{f.u.}$ Substituting Mn for Ni in the Heusler structure results in an inverse Heusler alloy, Mn₂NiSn and finally in a DO₁₉ type hexagonal noncollinear antiferromagnetic Mn₃Sn. The talk will present the effect of step-by-step addition of Mn in place of Ni in Ni₂MnSn on the crystal structure, the local structure of constituent atoms and the magnetic properties of these Ni-Mn-Sn alloys [1,2].

References

- 1 S. V. Malik et al., J. Phys. D: Appl. Phys. **55** 165002 (2022)
- 2 S. V. Malik et al., Phys. Rev. B, (communicated)