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Understanding Antiphase Boundaries – Path to New Multiferroic Functionalities in Ni-Mn-Ga Magnetic Shape Memory Alloys

The presence of antiphase boundaries (APBs) can be expected in any chemically ordered compound. In Ni2MnGa, magnetic shape memory alloy, the transition between partly disordered B2' and ordered L21 structure occurs above 1000 K and the transition is fast and weakly of the first order. Understanding the nature of APB is important as it affects the magnetic hysteresis and also magnetically induced reorientation and thus it affects and also promotes new functionality of the materials.

Primary author: HECZKO, Oleg (FZU - Institute of Physics CAS)