

# Temperature dependent magnetic and structural properties of Ni-Mn-Ga Heusler alloy glass-coated microwires

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In last years, Ni-Mn-X Heusler alloys have attracted significant attention because of number of their functional properties. Ni-Mn-Ga glass-coated microwires (MWs) have a good prospects for new generation technical applications [1]. We investigated magnetic and structural properties of the Ni-Mn-Ga MWs fabricated by Taylor-Ulitovsky method. MWs with total diameter of 54.6 and 24.7  $\mu\text{m}$  and the diameter of metallic core of 26.7 and 8.3  $\mu\text{m}$ , respectively, were obtained. Energy dispersive spectrometer (Oxford Instr. X-Act) was used to detect composition of the metallic core of as-cast and annealed MWs. Magnetic moment versus temperature (-196-77° C) measurements and hysteresis loops were obtained by VSM (Lakeshore 7400 system). X-Ray diffraction (using Bruker D8 Discover in temperature range of -100-350 ° C) and magnetic temperature measurements reveal martensitic transition in the samples near the room temperature.

## References:

[1] A. Zhukov, Journal of Alloys and Compounds 575, 73-79 (2013)