## Effect of thermobaric treatment and severe plastic deformation on the structural and electronic properties of X-Y-Z Heusler alloys (X = Co, Ni, Fe; Y = Cr, Mn; Z = Ga, Al, Sn, In)

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Heusler and Heusler-like alloys are of great interest due to their unique functional properties, such as the magneto- and temperature operated shape memory, the half-metallic state, the giant magnetocaloric effect etc. The structural, optical, electrical, magnetic and galvanomagnetic properties of Heusler and Heusler-like alloys based on X-Y-Z (X = Co, Ni, Fe; Y = Cr, Mn; Z = Ga, Al, Sn, In) were studied in the temperature interval from 4.2 to 350 K and at magnetic fields of up to 15 T. We demonstrate that a thermobaric treatment and severe plastic deformation significantly change the structure and the electronic properties of these alloys. The results are discussed in the framework of modern concepts.
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