

Magnetic properties of V_2MnGa , V_2MnAl , V_2FeGa and V_2FeAl .

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The investigated materials belong to Heusler compounds and are similar in composition to titanium-based analogs, like Ti_2MnAl , which was suspected of exhibiting Spin Gapless Semiconductor (SGS) or Weyl semimetal state in some earlier papers. The vanadium-based analogs are not well known in earlier reports. Therefore we show our results of XRD analysis of the synthesized samples, their magnetic properties, and their resistivity measured vs. temperature. Heusler compounds can crystallize in simple or inverted structures, here we try to resolve which one is more probable in that materials and whether SGS state can exist in them.