

Magnetic properties of two-dimensional M₂N₃ (M-metal, N-non-metal) compounds.

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Using ab-initio methods we study structural, electronic and magnetic properties of two dimensional compounds with stoichiometry M₂N₃ (M-metal, N=non-metal from groups 13-18 of the periodic table). Our study shows that structures with Cr, Ti, and Mn are stable, with significant binding energy. Also, such structures are semi-conductors with narrow band gaps. We also show that above mentioned compounds have considerable magnetic moments. The negative values of magnetic anisotropy energy suggest, that these materials can maintain ferromagnetic ordering in non-zero temperatures with estimated Curie temperatures in the range of 30-130 K