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Magnetism of Gd-Fe System

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Investigation of magnetic properties of films of $GdFe_2$, $GdFe_5$ and Gd_2Fe_{17} compounds are complete. Films have been gained by a method of thermal evaporation on teflon substrates at room temperatures.

Values of Curie temperature, curves of specific magnetisation, and hysteresis curves for massive and thin-film samples are determined. It is spotted that the Curie temperature of massive samples corresponds to references. At examination of thin-film samples Curie temperature reduction was observed. Such depression of Curie temperature speaks expansion of a crystalline lattice owing to formation of microdefect (films were is amorphous-crystal).

Temperature dependences of magnetic saturation for compounds and films of Gd-Fe system are determined. The given dependences characteristic for materials of such class. Magnetic saturation of films Gd_2Fe_{17} and $GdFe_2$ at room temperature are measured.

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