# RESONANCE PROPERTIES OF DOMAIN WALLS AND SOLITONS IN FERROMAGNETS WITH A WEAK EXCHANGE INTERACTION

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9.7 cm

The spin dynamics of the domain walls and soliton-like localized excitations in a discrete ferromagnetic chain with an easy-axis anisotropy and weak exchange interaction is studied in the framework of the classical discrete Landau-Lifshitz equations.The dependence of the intrinsic mode frequency of the domain wall on the exchange interaction is investigated for all admissible values of the latter. It is shown that this dependence is conciderably modified in the region of transformation of the domain wall from collinear structure to canted form. In this region of the parameters of a system (where the exchange interaction is of order of a single-ion anisotropy) the structure of magnetic soliton modifies significantly in a collinear form as well. The relation of these localized compact excitations with dynamic magnetic solitons in the long-wave approximation is determined and the dependence of a frequency of localized excitations on the exchange interaction parameter for a fixed value of the total number of spin deviations is constructed.

13.4 cm

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