



Семинар
«МАЛОЧАСТИЧНЫЕ СИСТЕМЫ»

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с участием сотрудников НО СМФ и НО ТКС

Localized Chiral States in Liquid Crystals and Magnetics

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The report focuses on the study of localized chiral structures in the thin films of liquid crystals and magnetics. The consideration is based on the analysis of the energy surface of the system, the search for local minima on it, which correspond to the ground and metastable states and minimum energy paths, describing the mechanisms of transitions between them. The special attention is paid to the analysis of the stability of topological solitons, such as skyrmions, torons and tilted spirals, under conditions of restricted geometry. The influence of magnetic and electric fields, boundary conditions and geometric factors on the formation and evolution of such structures under changing external conditions is considered. The methods of theoretical physics and computational algorithms that allow predicting scenarios of transitions between locally stable states are described.

Based on materials of a C.Sc. thesis.

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