STATICS AND DYNAMICS OF TOPOLOGICAL DEFECTS IN MAGNETIC DOTS

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A Taylor expansion of dipole-dipole interaction in 2D systems defines a Landau-like local dipolar interaction in spin derivative field. The lowest order of this interaction gives the dipolar anisotropy. The next non zero order is responsible for the appearance of magnetic vortices and hyperbolic defects. The following non zero orders indicate the occurrence of higher topological defects such as double circle and of modulations. The arrangement of self screened topological defects is discussed in agreement with Monte-Carlo simulations and experimental observations. Excited localized modes associated with these defects are classified.

9.7 cm

13.4 cm

Subject category :
3. Magnetic Structure and Dynamics

Presentation mode :
oral

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