MAGNETIC ORDERING AT THE STEPPED FERRO/ANTIFERROMAGNETIC INTERFACE

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In the light of technical applications of giant magnetoresistance layered magnetic structures and interfaces have been subjected widely to theoretical and experimental investigations. In experimental investigations of layered magnets some interlayers are often wedge-shaped with a small divergence angle. Then the interface between the magnets has a regular stepped form and in particular case of ferro/antiferromagnetic interface the so called "topological surface antiferromagnetism" arises. We show that the presence of an atomic step at the interface between isotropic ferro- and antiferromagnets necessarily leads to the emergence of a nonuniform distribution of the magnetic disclination type. The structure of such a magnetization distribution depends on the relation between the exchange constants in ferro- and antiferromagnetic halfspaces. The obtained results are generalized to the case of periodic stepped structure of interface.

9.7 cm

13.4 cm

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