

DIPOLAR MATRIX VS. CROSS-SECTION SHAPE AND SIZE IN MAGNETIC RODS

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We show the dipolar matrix and the profile of the local dipolar field in nanorods strongly depend on the shape of the structure rod cross-section (structures of circular and square cross-section are compared). The effect of the cross-section shape on the local field proves especially strong (a) in smooth nanorods, in the regions close to their lateral edges, and (b) in cubical structures, in the center; it is there that the calculated values of the local field are much higher in cylindrical rods than in square cross-section ones. In thin films, on the contrary, the difference in the respective local field values is almost uniform across the structure.

← 13.4 cm →

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9.7 cm