

Magnetic anisotropy and Dzyaloshinski-Moriya type coupling in small magnetic clusters

S. Mankovsky, S. Bornemann, J. Minár, S. Polesya, H. Ebert,
Dept. Chem./Phys.chem., LMU Munich, Germany

The results of a theoretical study of relativistic influences on the exchange coupling of small magnetic clusters will be presented. The use of the torque method allowed to investigate the magnetic anisotropy and angular dependence of the exchange coupling in detail and to determine the contribution of the Dzyaloshinski-Moriya-type coupling. Results will be presented for Fe, Co and Ni clusters deposited on Pt(111) surface, that have been investigated by means of the fully relativistic TB-KKR Green's function method within the framework of spin-density functional theory. The data are compared with the results of direct calculations of Dzyaloshinski-Moriya coupling in clusters and are analysed concerning their relation to the electronic structure and symmetry of the clusters. The influence of the substrate will be discussed as well. Also a non-collinear magnetism caused by Dzyaloshinski-Moriya couplings in FePt cluster deposited on Pt(111) surface will be discussed.

← 13.4 cm →

Subject category :

5. Nano-structure, Surfaces, and Interfaces

Presentation mode :

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Corresponding author :

Dr. S. Mankovsky

Address for correspondence :

Dept. Chemie und Biochemie, Universität München, Butenandtstr. 5-13, D-81377 München, Germany

Email address :

sergiy.mankovskyy@cup.uni-muenchen.de

9.7 cm