

# SUBSTRATE DEPENDENCE OF MAGNETO-OPTICS IN Co NANOPARTICLES

B. Kalska-Szostko<sup>a</sup>, J.J. Paggel<sup>a</sup>, K. Schwinge<sup>a</sup>, P. Fumagalli<sup>a</sup>,  
M. Hilgendorff<sup>b</sup> and M. Giersig<sup>b</sup>

<sup>a</sup>Freie Universität, Institut für Experimentalphysik, Arnimallee 14, 14195 Berlin, Germany

<sup>b</sup>Hahn-Meitner-Institut Berlin, Glienicker Straße 100, 14109 Berlin, Germany

Magnetic nanoparticles are recently materials, which attract large attention of scientists because of their novel properties and wide potential applications. We present results from magneto-optical studies of pure Co nanoparticles. A strong influence of the particle size and substrates compositions on the magneto-optical Kerr rotation is observed. The magneto-optical properties in connection with substrate composition and morphology are discussed. AFM images and Auger spectra were collected together with MOKE for finding relations between lateral properties and magneto-optical signal.

We observe strong dependence from the substrate on the MOKE signal of the Co particle, i.e. a change from 0.20 to 0.02 deg and also a shift of the main peak between 3.2-4.0 eV. But not only chemical composition is important, also for the same substrate element we see an increase of the magnetic signal from 0.04 to 0.06 deg in case of Au and a decrease from 0.10 to 0.04 deg in case of Cu depending on the substrate surface morphology. We believe that the influence on the MOKE signal is due to changes of the lateral distribution of the particles induced by the substrate morphology.

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9.7 cm

13.4 cm

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## Corresponding author :

B. Kalska-Szostko

## Address for correspondence :

Freie Universität Berlin  
Institut für Experimentalphysik  
Arnimallee 14  
14195 Berlin

## Email address :

kalska@physik.fu-berlin.de