

Magneto-optical analysis of ultrathin Co films modified by femtosecond laser pulses

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Polar Kerr effect microscope-based setup with a CCD camera and a specially constructed electromagnet, supported by software for both data acquisition and image processing, was developed to investigate local magnetic and magneto-optical properties of ultrathin metallic systems with a micrometer resolution. Ultrathin cobalt films with femtosecond laser pulses-induced out-of-plane magnetization states [1] were studied using this method. The laser-annealed regions were characterized in detail by giving the two-dimensional maps of remanence, coercivity, saturation field, and maximal Kerr rotation, as well as some statistical information concerning distributions of these quantities.

References:

[1] J. Kisielewski et al., J. Appl. Phys. **115**, 053906 (2014)

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