

Magnetic ordering in Pt/Co/Pt trilayer studied by PMOKE using 3D magnetic field.

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We have recently presented [PRB, 85, 054427 (2012)] new possibilities of Ga⁺ ion irradiation driven changes of magnetic and magneto-optical properties in Pt/Co(dCo)/Pt trilayer where especially two branches with out-of-plane magnetization states were found. In the present work the ion driven evolution of magnetic ordering is studied in series of samples irradiated by different fluences F . Samples were measured using polar magneto-optical Kerr effect (PMOKE) in recently developed set-up with specially designed system of electromagnets allowing to apply magnetic field in any direction defined by θ_H , ϕ_H angles. The irradiation induced changes of easy direction of magnetization is obtained from the analysis of magnetization curves measured at different θ_H , ϕ_H . Similar analysis might be performed in samples with e.g. different thicknesses, after thermal/light treatments.

Work supported by: Team SYMPHONY project of the FNP, co-financed by the EU from ERDF, OPPE 2007–2013.