

Our new paper in journal of magnetism and magnetic materials

Congratulations to our new paper " Experimental study and micro-magnetic modeling of magnetization dynamics in $L1_{00}$ -FePt thin film" by M. Shafei, M. M. Tehranchi, H. Falizkaran Yazdi, S. M. Hamidi, R. Yusupov, S. Nikitin

Among different magnetic thin films, $L1_{00}$ FePt due to high magnetocrystalline anisotropy is attracting much attention for applications in new generation of magnetic recording media. In this work, switching time and switching mechanism of magnetization as essential properties of $L1_{00}$ FePt film was studied by magneto-optical Kerr effect (MOKE) and time-resolved magneto-optical Kerr effect (TR-MOKE). For this purpose, static in plane and out of plane magnetic hysteresis loop of a $L1_{00}$ FePt film on (100) MgO was measured and modeled using polar and longitudinal MOKE and mumax code respectively. Furthermore, the switching time of magnetization was studied using laser induced ultrafast demagnetization and relaxation of the sample by TR-MOKE, in which for the first time, the magnetic field was applied in the plane of the sample for this measurement.

