

This thesis focuses on systematic study of optical and magneto-optical properties of non-doped and doped $\text{Tb}_3\text{Fe}_5\text{O}_{12}$ thin films, on gadolinium gallium garnet and silicon substrates. Spectroscopic ellipsometry measurements were performed to obtain optical properties, thicknesses and surface roughness values of studied samples. The magneto-optical properties were investigated using the Kerr and Faraday effect measurements. Obtained experimental data were used to calculate the spectral dependence of the off-diagonal components of permittivity tensor. The results were compared with literature, and the effect of doping was discussed. On three samples, the spectral magneto-optical Kerr rotation hysteresis loops were measured, for the purpose of separating the individual contributions of sublattices. The analysis revealed that the method is probably insensitive to sublattice contributions but is sensitive to the contributions of regions with different magnetic anisotropy within the deposited layer.