

In the present experimental work we study Faraday rotation (FR) and magnetic circular dichroism (MCD) spectra of thin films of a) RF sputtered copper ferrites stabilized by the post-deposition heat treatment in two different crystallographic structures (tetragonal and cubic), b) bismuth and gallium substituted iron garnets prepared by the liquid phase epitaxy method. With iron garnets we have measured FR and MCD spectra at room temperatures in the visible and infrared (IR) region, where we have observed diamagnetic-shape profile and high values of FR in the visible region. With copper ferrites the magneto-optical methods in the IR region at low temperatures have enabled to study fine splittings of the paramagnetic transitions of the tetrahedral Cu^{2+} ions. We have developed algorithms for as much as possible automatization of measurements of FR and MCD spectra using a rotating polarizer or a rotating quarter-wave-plate method.