

Magneto-optical spectroscopy methods are used to study magnetic properties of materials down to nanometer dimensions due to its high sensitivity and non-contact nature. This requires sophisticated experimental setup, advanced technical equipment and precise optical components arrangement. This thesis describes the basic physical principles of magneto-optical Kerr spectroscopy. On the basis of these principles is designed and developed a new, much simpler experimental setup with crossed polarizers. This arrangement has the same order of sensitivity and accuracy of measurement as commonly used modulation techniques to which it is compared in this work. Finally, this arrangement is applied to the study magneto-optical properties of selected magnetic structures and these properties are discussed.