Development of a Magneto-Optical Kerr Effect System To Study Magnetic Molecules

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Molecular-based electronic devices show promising applications in future new generation technology. Magneto-optical Kerr effect (MOKE) demonstrates the interaction of light with magnetic materials. It shows that the polarization of a linearly polarized light can be rotated by a magnetic signal. The polarization rotation angle is proportional to the magnetic strength of the sample. Studying magnetic molecules using a MOKE system is advantageous due to surface sensitivity. We have developed a homebuilt MOKE apparatus including a customized electromagnet and a remote-controlled automatic data acquisition system to study the properties of magnetic molecular samples for future device applications.

Awards Won: