

Our new paper in Journal of magnetism and magnetic materials

Congratulations to our new paper " **Unexpected large transverse magneto-optic Kerr effect at quasi-normal incidence in commercial disk-based magnetoplasmonic crystals**" by Cicheler, M. A. Oskuei, M. V. Kataja, S.M. Hamidi, G. Herranz.

We investigate the transverse magneto-optic Kerr effect (TMOKE) of magnetoplasmonic crystals grown on top of commercial disks. From full angle-resolved scans we can identify Wood's anomalies related to the excitation of plasmons of different orders. From these maps we also detect a wide range of wavelengths and angles of incidence for which the TMOKE signal is increased due to the interaction of light with plasmons. Remarkably, conditions are established for unexpectedly large responses at quasi-normal incidence, where, by fundamental symmetry reasons, the intrinsic TMOKE is insignificant. The key towards this unexpected outcome is to engineer the geometry of magnetoplasmonic crystals, so that first-order plasmon dispersion lines run up towards quasi-normal angles of incidence. These results provide general rules for magneto-optic enhancement and, in particular, show the potential of standard commercial disks as platforms for enhanced magneto-optic devices.

