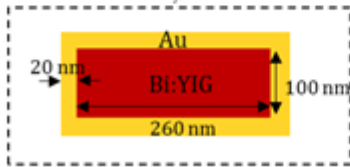
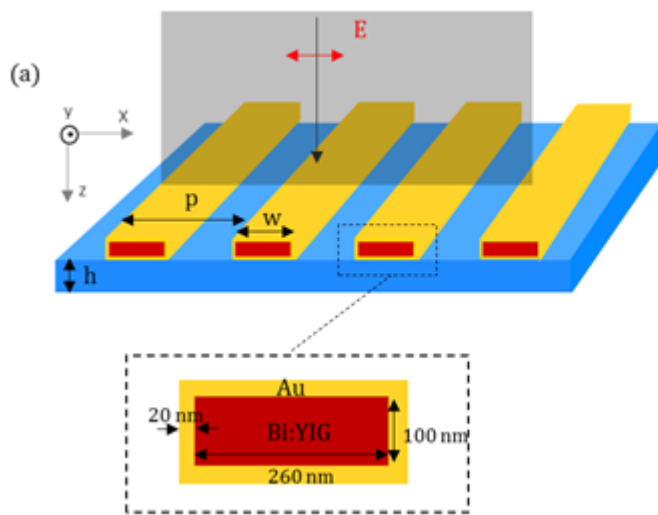


Our new paper in journal of Magnetism and magnetic materials

Congratulations to our new paper “Bi:YIG@Au Magneto-Plasmonic Core-Shell Nano-Grating with Robust, High Magneto-Optical Figure of Merit” by Somayeh Sadeghi, Seyedeh Mehri Hamidi

We numerically examine the role of Fano resonance for enhanced magneto-optical effect in an arrayed magneto-plasmonic core-shell structure composed of Bi:YIG cores as a magneto-optical active medium and Au shells as plasmonic ones. The optical and magneto-optical behavior of the magneto-plasmonic core-shell grating structure sustaining Fano resonance is investigated by means of Lumerical software based on the finite-difference time-domain solver. In the proposed structure, Fano resonance arises from the interplay between the guided mode and the surface plasmon resonance which results in enhanced magneto-optical Faraday effect. In addition, the Fano resonance and correspond enhanced magneto-optical effect can be tuned by changing the array period of the structure. The obtained results can be of interest in miniaturized and advanced magneto-optical devices.



(b) Faraday Effect



$$\begin{pmatrix} \epsilon & -\epsilon_{MO} & 0 \\ \epsilon_{MO} & \epsilon & 0 \\ 0 & 0 & \epsilon \end{pmatrix}$$

