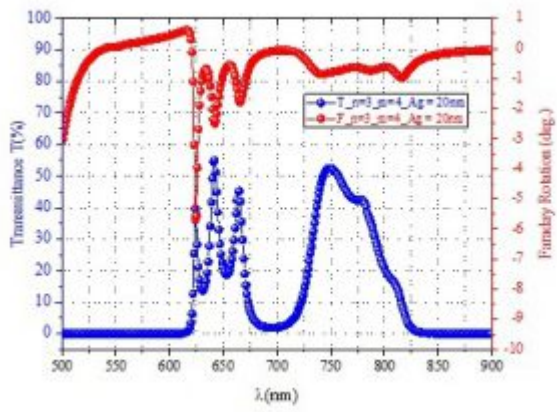


Our new paper in Journal of magnetism and magnetic materials

Congratulations for the publication of paper "*Faraday rotation in a coupled resonator magneto-plasmonic structure Tamm plasmon boosting*"

M. Hamidi, R. Moradlou

The present study aimed to evaluate the magneto-optic Faraday rotation of one-dimensional coupled resonator magnetoplasmonic structure by metallic cover layer in each resonator. To this purpose, transfer matrix method was used where SiO_2 and Bismuth substitute garnet thin films playing main building block and the gold or silver layer use to reach $((\text{SiO}_2/\text{Bi:YIG})^n / (\text{Au or Ag}) / \text{SiO}_2)^m$ structure; where n and m are considered as the repetition and resonator numbers, respectively. Tamm plasmons related to the phase cancelation in photonic band gap are identified by optical and magneto-optical spectra and accordingly the phase change in the structure. Based on these modes, a wide range of wavelengths is detected by which the figure of merit increases due to the interaction of light with Tamm plasmons and surprisingly the flat optical window in this region in addition to the main resonance. These structures can open a new gate for enhancing performance of the magneto-optic devices.



For more information: <https://doi.org/10.1016/j.jmmm.2018.08.083>