

I3026 - Magnetic-field controlled radiative heat transfer

13. Magneto-optics and magnetoplasmonics

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The combination of magneto-optically active and resonant materials (e.g. plasmonic modes), makes it feasible to control optical properties using magnetic fields in connection to the excitation of resonances [1] (magnetoplasmonics). It has been shown that these nanostructures can be employed to modulate the propagation wavevector of SPPs [2], which allows the development of label free sensors with enhanced capabilities [3] or to enhance the magneto-optical response in isolated entities as well as films, in connection with a strong localization of the electromagnetic field [4,5].

Here we will show that they also play a crucial role in the active control thermal emission and the radiative heat transfer between objects in the near and far field regime [6-8].

References

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