

Abstract Submitted  
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**Surface plasmons as a tool to modify the magnetic properties of nanomagnets<sup>1</sup>** FERNANDO GALVEZ, Dpto. Fisica Materiales, Universidad Complutense Madrid, MIGUEL ANGEL GARCIA, Instituto Ceramica y Vidrio, CSIC, Madrid, DAVID PEREZ DE LARA, IMDEA-Nanociencia, Madrid, JOSE L. VICENT, Dpto. Fisica Materiales, Universidad Complutense Madrid — We have fabricated on Si substrates arrays of permalloy/gold nanostructures by electron beam lithography and sputtering techniques. These nanostructures allow studying the interplay between surface plasmons and magnetism. Direct coupling between magneto-optical activity and excitation of surface plasmon resonance is a topic which has called the attention of many researchers. In this work we follow a different approach; we explore the possibility to modify the magnetic properties of the Py nanomagnets, i. e., hysteresis loops by local excitation of surface plasmons via an increase of temperature. We present preliminary results using an experimental setup which allows measuring at the same time surface plasmon resonance and magnetization curves.

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