Strong coupling regime in multi-shaped thin







Sergio Martínez-Losa del Rincón^{†1}, I. Gimeno¹, V. Rollano¹, M. Rubín¹, M. C. de Ory², D. Zueco^{1,3}, F. Luis¹ and M. J. Martínez-Pérez^{*1,3}

films using light-magnonics

 ¹ Instituto de Nanociencia y Materiales de Aragón, CSIC-Universidad de Zaragoza, Pedro Cerbuna 12, CZ-50009, Zaragoza, Spain
² Centro de Astrobiología CSIC-INTA, 28850 Torrejón de Ardoz, Spain
³ Fundación ARAID, Avda. de Ranillas, 50018 Zaragoza, Spain e-mail: *pemar@unizar.es, †sergiomtz.losa@unizar.es





Coherent coupling in resonators



Conclusions and further information

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- In situ fabrication of resonators from transmission lines and optimal matching of samples and device dimensions.
- Broadband EPR spectroscopy provides a full picture of magnonic excitations in nanoscopic ferromagnetic slabs.
- Strong coupling of Kittel modes to cavity modes has been achieved for multi-shaped Permalloy samples.
- Resonators with nano-constrictions allow coupling to smaller magnetic nanostructures (Quantum Magnonics).
- Numerical simulations nicely agree with experimental data.

References

M. J. Martínez-Pérez *et al*. *Strong Coupling of a Single Photon to a Magnetic Vortex*. ACS Photonics. 6, 2, 360-367 (2019).