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## **【114】 Static and dynamic magnetic coupling in $\text{Co}_x\text{Zn}_{1-x}\text{O}$ -Permalloy heterostructures**

*Wednesday 28 August 2019 17:45 (15 minutes)*

$\text{Co}_x\text{Zn}_{1-x}\text{O}$  -Permalloy (Py) heterostructures were investigated with frequency-dependent ferromagnetic resonance (FMR), x-ray magnetic circular dichroism (XMCD) and SQUID magnetometry. At low temperatures  $\text{Co}_x\text{Zn}_{1-x}\text{O}$  is an uncompensated antiferromagnet showing a narrowly opened hysteresis and a vertical exchange-bias effect [1,2]. By means of SQUID a static interaction is evidenced by increased coercive fields for Py at low temperature in the  $\text{Co}_x\text{Zn}_{1-x}\text{O}$ -Py system. The dynamic interaction is measured by using FMR from 3-12GHz. We find an increasing frequency dependence of the homogeneous broadening of the FMR linewidth with increasing Co concentration evidencing spin pumping from Py into  $\text{Co}_x\text{Zn}_{1-x}\text{O}$ .

[1] V. Ney et al., Phys. Rev. B 94, 224405 (2016).

[2] M. Buchner et al., Phys. Rev. B 99, 064409 (2019)

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