



Contribution ID: 356

Type: Poster

【837】 Spin wave scattering by a magnetic defect in a magnonic crystal detected by Brillouin light scattering microscopy

Wednesday 23 August 2017 12:35 (1 minute)

Magnonic crystals (MCs) allow for tailoring the dispersion relation of spin waves (SWs) in nanopatterned ferromagnets. Local defects in MCs are expected to add further functionality. We prepared 1D MCs consisting of bistable magnetic stripes separated by sub-100 nm air gaps. By adjusting the magnetic history, we programmed ordered magnetic states with single stripes of opposed magnetization. We studied the influence of these defects on propagating SWs via broadband microwave spectroscopy and phase-resolved focused Brillouin light scattering microscopy. Depending on a bias magnetic field, we observed SW attenuation and phase shift caused by the magnetic defects. We thank for funding by SNSF via grant 163016.

Author: BAUMGAERTL, Korbinian (SWITCH edu-ID)

Co-authors: WATANABE, Sho (SWITCH edu-ID); GRUNDLER, Dirk (EPFL)

Presenter: BAUMGAERTL, Korbinian (SWITCH edu-ID)

Session Classification: Poster Session

Track Classification: Magnetism and Spintronics at the Nanoscale