

# **Building Blocks for Magnon Optics: Emission and Conversion of Short Spin Waves - Supplementary Material**

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Additional supplementary material not included in this file consists of three 3D rendered spin wave movies of converter and emitter.

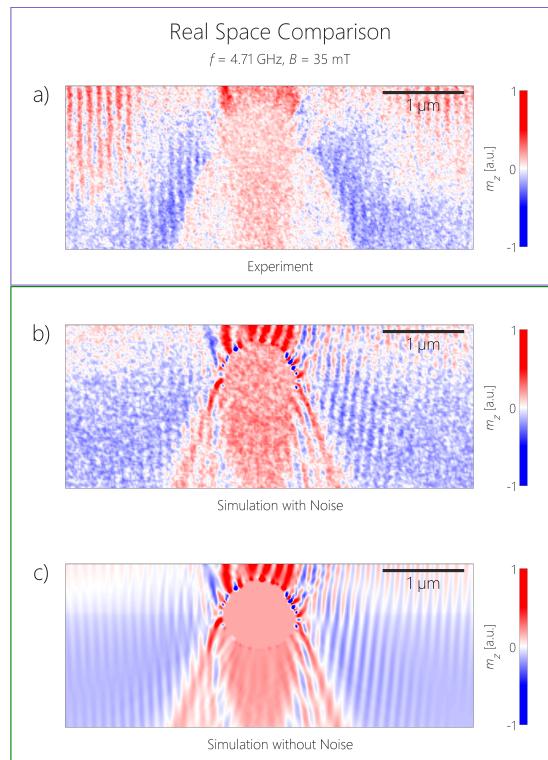


Figure 1: Real space comparison of experiment and simulation: a) Experimental data. b) Simulated data with added noise. c) Simulated data without noise.

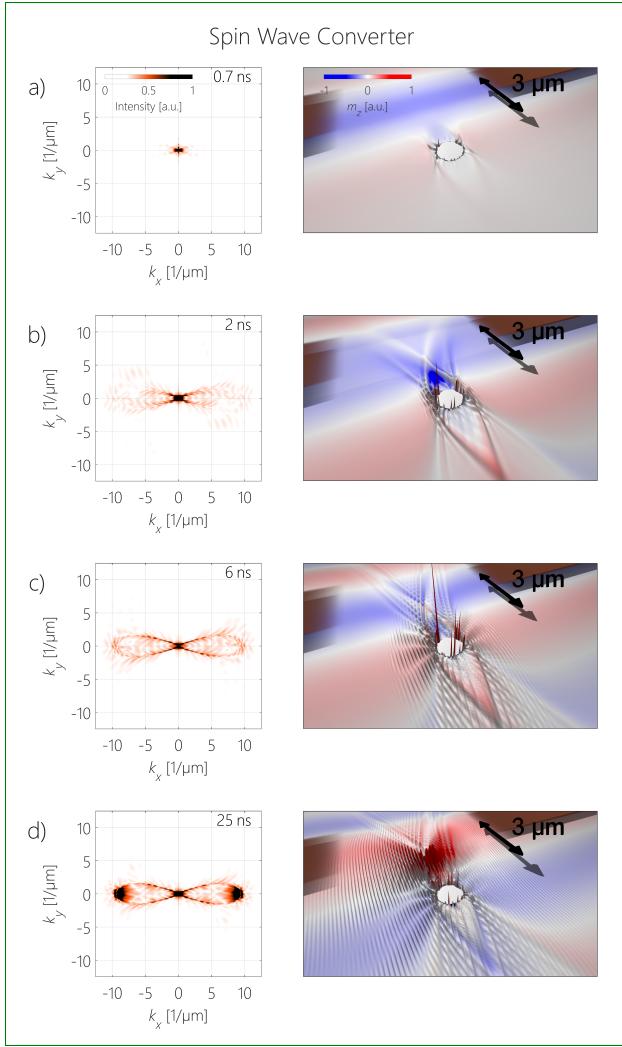


Figure 2: Simulated converter close to the microstrip antenna for different time frames.

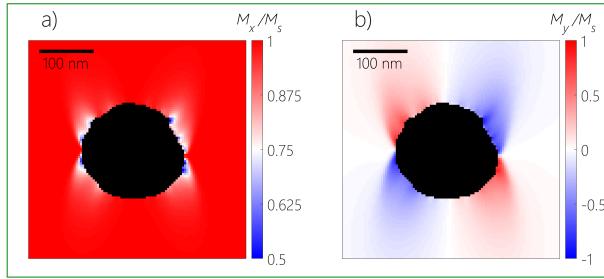


Figure 3: Simulated  $x$ - and  $y$ -component of the static magnetization. Figure a) nicely displays the demagnetization structures responsible for the spin wave emission and conversion.