

**Supplemental material for: Inverse spin-Hall effect voltage  
generation by nonlinear spin-wave excitation**

Laura Feiler,<sup>1,\*</sup> Kathrin Sentker,<sup>1</sup> Manuel Brinker,<sup>1</sup> Nils  
Kuhlmann,<sup>1</sup> Falk-Ulrich Stein,<sup>2</sup> and Guido Meier<sup>2,3,1</sup>

<sup>1</sup>*Institut für Nanostruktur- und Festkörperphysik,*

*Universität Hamburg, Jungiusstr. 11, 20355 Hamburg, Germany*

<sup>2</sup>*Max-Planck Institute for the Structure and Dynamics of Matter,*

*Luruper Chaussee 149, 22761 Hamburg, Germany*

<sup>3</sup>*Center for Free-Electron Laser Science (CFEL),*

*Luruper Chaussee 149, 22761 Hamburg, Germany*

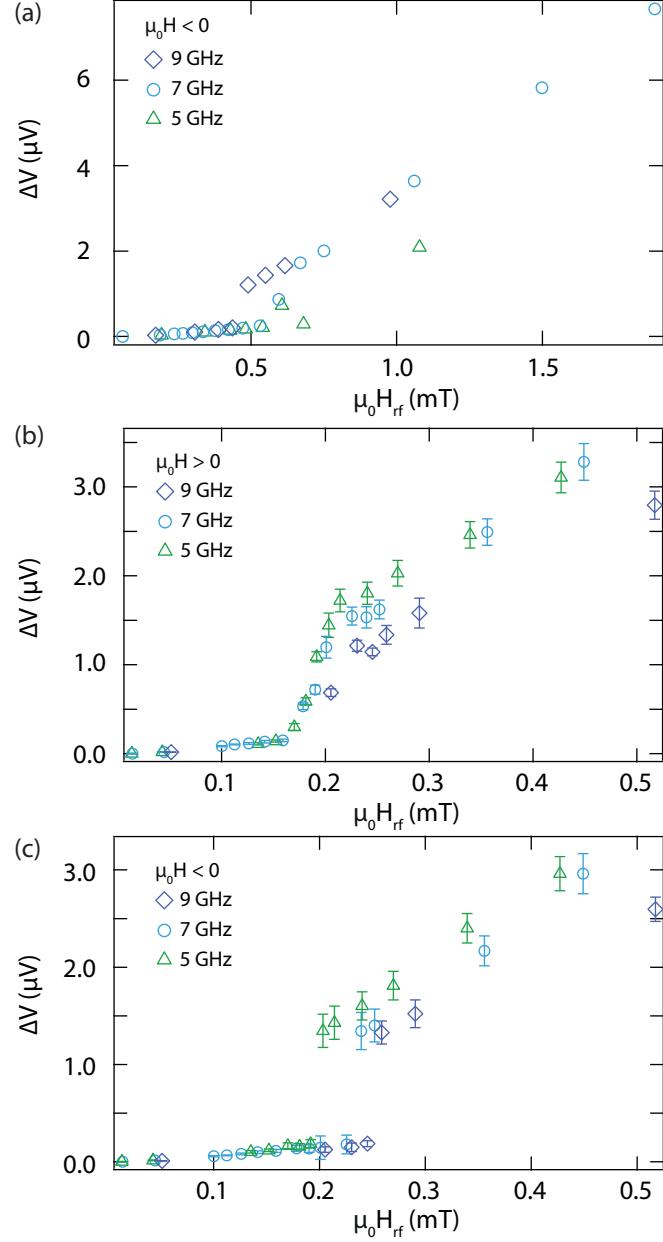


FIG. S1: (Color online) (a) ISHE voltage peak amplitudes  $\Delta V$  versus high-frequency field amplitude  $H_{\text{rf}}$  for the negative field branch and different excitation frequencies. (b) and (c) show the same for positive and negative field branch for a sample with a 3  $\mu\text{m}$  wide, 8  $\mu\text{m}$  long and 30 nm thick permalloy rectangle.

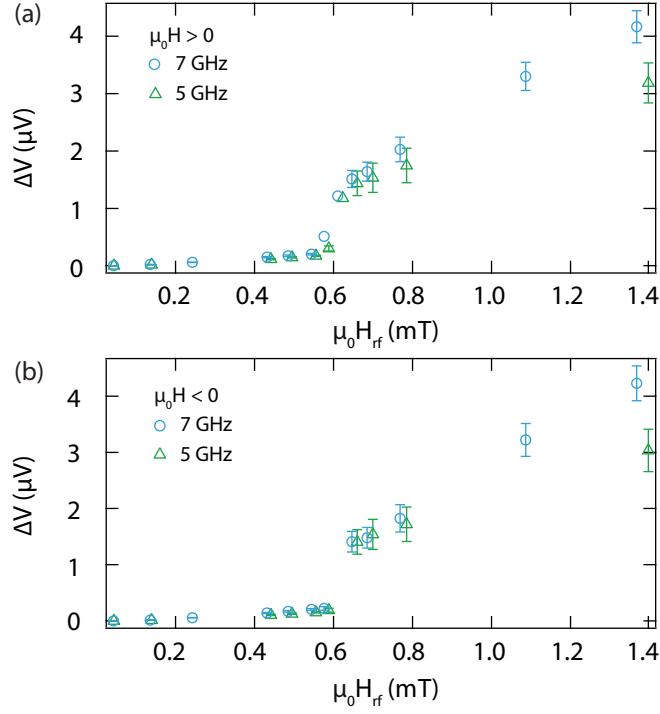


FIG. S2: (Color online) ISHE voltage peak amplitudes  $\Delta V$  versus high-frequency field amplitude  $H_{\text{rf}}$  for positive (a) and negative (b) field branch and different excitation frequencies for a sample with non-perpendicularly oriented edges.