Supplementary Information Spin dynamics and inverse spin Hall effect study in metallic Pt/NiMn/CoFeB system

Koustuv Roy^a, Sagarika Nayak^a, Pushpendra Gupta^a, and Subhankar Bedanta^{a,b,*} ^aLaboratory for Nanomagnetism and Magnetic Materials (LNMM), School of Physical Sciences, National Institute of Science Education and Research (NISER), An OCC of Homi Bhabha National Institute (HBNI), Jatni 752050, Odisha, India ^bCenter for Interdisciplinary Sciences (CIS),National Institute of Science Education and Research (NISER), An OCC of Homi Bhabha National Institute (HBNI), Jatni, 752050 India

Fig. A1 shows the typical FMR spectra measured at 32 mW rf power of sample S2 and its corresponding fits with the Lorenzian equation 1 of the main manuscript.



Figure A1: Typical FMR spectra measured at 32 mW rf power of sample S2 and its corresponding fits with the Lorenzian equation.



Figure A2: Typical FMR spectra and its corresponding fits with the Lorenzian equation at different rf power of sample S2

	<i>a</i>	-8· · · · · · · · · · · · · · · · · · ·
rf power (mW)	ΔH (Oe)	H_{res} (Oe)
10	140.4 ± 5.9	500.2 ± 12
32	140.6 ± 6.2	501.1 ± 8.2
63	139.5 ± 5.5	500.8 ± 5.5
251	141.1 ± 6.3	499.8 ± 5.8
	<i>rf</i> power (mW) 10 32 63 251	rf power (mW) ΔH (Oe)10140.4 ± 5.932140.6 ± 6.263139.5 ± 5.5251141.1 ± 6.3

Table 1: Fitting parameters obtained with fitting Fig. A2 with Lorenzian function

Fig.A2 shows the FMR spectra and its corresponding fitting of sample S2 at different applied rf power. It is clearly visible that the amplitude of the FMR spectra increases with the applied rf power. However, the obtained H_{res} and Δ H values are almost same for all powers which is listed in table 1.