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Manipulations of inverse spin Hall effect in a FM/Pt/FM trilayer structure via RKKY interlayer interaction[1] HAOLIANG LIU, DALI SUN, CHUANG ZHANG, MATTHEW GROESBECK, RYAN MCLAUGHLIN, VALY VARDENY, Department of Physics and Astronomy, University of Utah — We studied the inverse spin Hall effect (ISHE), ferromagnetic resonance and MOKE response in FM/NM/FM trilayer (NiFe/Pt/Co) as a function of the Pt layer thickness, d. We found evidence that non-local magnon drag influences the ISHE response in the Pt layer via the RKKY interaction, where the exchange coupling constant oscillates between parallel and antiparallel FM magnetization configuration as a function of d. In particular the ISHE response in the parallel FM configuration was found to be four times larger than that in the conventional Co/Pt or NiFe/Pt bilayer structures.

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