

Abstract Submitted
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Penetration depth and absorption mechanisms of spin currents in $\text{Ir}_{80}\text{Mn}_{20}$ and $\text{Fe}_{50}\text{Mn}_{50}$ polycrystalline films by ferromagnetic resonance and spin pumping PABLO MERODIO, ABHIJIT GHOSH, CHRISTOPHE LEMONIAS, URSULA EBELS, MAIRBEK CHSHIEV, HELENE BEA, VINCENT BALTZ, SPINTEC, WILLIAM E. BAILEY, Columbia University, SPINTEC COLLABORATION, COLUMBIA UNIVERSITY COLLABORATION — Spintronics relies on the spin dependent transport properties of ferromagnets (F). Although antiferromagnets (AF) are used for their magnetic properties only, some fundamental F-spintronics phenomena like spin transfer torque, domain wall motion and tunnel anisotropic magnetoresistance also occur with AF, thus making AF-spintronics attractive. Here, room temperature penetration depths of spin currents in $\text{Ir}_{80}\text{Mn}_{20}$ and $\text{Fe}_{50}\text{Mn}_{50}$ are determined by F-resonance and spin pumping. We find unlike values in these AF, originating from different absorption mechanisms: dephasing and spin flipping.

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