

Abstract Submitted
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Studies of Gilbert magnetization damping in NiFe/organometallic trihalide perovskite bilayers investigated by broadband ferromagnetic resonance¹ MATTHEW GROESBECK, DALI SUN, RYAN MCLAUGHLIN, CHUANG ZHANG, HAOLIANG LIU, ZEEV VALY VARDENY, University of Utah Dept. of Physics and Astronomy — Organo-metallic trihalide perovskites (OTP) have recently been suggested as promising candidates for spintronics applications, motivated by the presence of strong spin-orbit coupling, and recent studies of spin dynamics in $\text{CH}_3\text{NH}_3\text{PbI}_3$. To help elucidate the spin transport properties in these materials, we have studied the Gilbert magnetization damping parameter in NiFe ferromagnetic films related to spin-pumping into adjacent OTP layers under ferromagnetic resonance (FMR) excitation conditions, using a broadband FMR detection system. We found an increase of the damping parameter associated with spin-pumping into the OTP. The obtained thickness-dependent results are compared to those of NiFe/Cu and NiFe/Pt bilayer structures, where spin transport characteristics are well-known.

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