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Title:	A proposal for ferromagnetic resonance based spin pmping
Authors:	<a href="#">Singhal, Keshav</a>
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Abstract:	Most of the magnetic materials around are based on ferromagnetism, these materials al- lows magnetic field to pass through them easily. Ferromagnetic Resonance (FMR) studies of these material are done for collecting the information about various properties like: mag- netic anisotropy, relaxation times, magnetisation, dynamic exchange/dipolar energies, and the damping in the magnetization dynamics. We have reviewed the theoretical aspects of Spintronics and Topological Insulators along with this work. The microwave transmis- sion lines, ground CPW is used for the higher frequency measurements. Unlike Microstrip transmission line, the microwave tranmission through coplanar waveguides are less lossy in higher frequency regime(say above 6GHz). Going through other analysis and designs we proceed towards device fabrications and measurements. Taking extensive literature review into account, Ferromagnetic Resonance in Magnetic materials like Nickel, Permalloy and some Cobalt based alloy is experimentally realized by using Vector Network Analysers and Electromagnet. The peak shift on increasing the magnetic field verifies that they are FMR peaks, this setup can be further moved on to study Spin Pumping in Topological Insulators.
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