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Title:	Proposed Study of Magnetic films using Magnetocapacitance
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Abstract:	The interplay between spin and charge is one of the most discussed topics in condensed matter physics today, because of the fundamental physics as well as practical importance. Spintronics is one such field which uses the spin of electrons to make novel devices. Usually, experiments in such studies are based on measurement of transport phenomenon. In this thesis, a different technique is proposed which uses only 2 probes and examines changes in capacitance in thin film parallel plate capacitive metal/insulator/metal (MIM) structures with the application of a magnetic field (Magnetocapacitance). It is expected that changes in the magnetic properties of the metal electrodes should reflect in the magnetocapacitance. In the introduction important concepts are explained. The second chapter talks about magnetocapacitance in MIM capacitive structures, the theoretical approaches to model magnetocapacitance, and also explains the proposed studies. The third chapter discusses the experiments that have been so far with a focus on optimising the process to fabricate these MIM structures. In the last chapter the observations and conclusions, of the fabrication experiments done, are talked about.
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