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Abstract:	Nanoscience has been an evolving and rapidly expanding discipline in the last decade. This includes both recent work and more advanced ideas. Nanomaterials, nanodevices, and nanomeasurement and nanocharacterization are three major areas of nanoscience and nanotechnology. As system scaling continues in nanometer scale and new nanodevices emerge, accurate characterization and detailed understanding of their electronic structure becomes increasingly important, yet difficult. Technological advancements over the years, have empowered us today to measure capacitance precisely. But a need to further improve to measurement of small capacitance changes is required as the ongoing miniaturisation of the electromechanical devices pushes the measurement techniques to the limit. In this work we have designed a set-up for high precision capacitance measurements at low temperatures and high magnetic fields. In the first chapter we talk about current capacitance measurement devices used and need for an improvement. In second chapter we discuss some key concepts of making and working principles of capacitance measuring instruments and moving on in the third chapter we have described the experimental set-up and discussed thoroughly about all the components used and fabricated. And in the final chapter talks about the progress we have made so far in fabricating the components, results so far and future work.
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