Title:	Device Fabrication on Topological Insulators and probing Ferroelectricity
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Issue Date:	18-Oct-2019
Abstract:	This thesis consists of two parts. In the first part, we are trying to see the surface dominated electron transport in nanoflakes of a topological insulator. The Bi based material, was recently reported to show suppressed bulk conductivity. This gives us a platform to study surface dominated transport in this material.I have made a device over topological insulator material using a variant of photo lithography system. Opti- mal parameters are found for the whole process. A Hall bar device is fabricated over the material which was to be used for studying surface dominated electron transport in Topological Insulators. In second part, Piezoresponse force microscopy is used to study local ferroelectric polarization in a thermoelectric material. The material was supposed to have a good thermoelectric performance induced via structural distortions in lattice. These dis- tortions are supposed to bring ferroelectric instability in material. Here, we show that local ferroelectricity do exist in material in the absence of global ferroelectric ordering
URI:	http://hdl.handle.net/123456789/1305 (http://hdl.handle.net/123456789/1305)
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