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Fabrication of Bismuth Telluride Wire Thermoelectric Devices

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Bismuth telluride wires are interesting building blocks of thermoelectric devices. These are nanoscale heat to electric converters that have applications as uncooled detectors, generators and uncooled bolometers. Also, there is interest in bismuth telluride because it is an example of a topological insulator. The exploitation of the thermoelectric properties of devices based on wires of thermoelectric materials requires good electrical contacts between the wires and metal electrodes. The fabrication of the devices here, is based on contacting the wire ends to the device electrodes by depositing a platinum film using the focused ion beam method.