Thermal properties of devices and nano structures

Thermal properties of device structures are a limiting factor in improving operational properties such as speed and power. At the nanoscale, the fundamental properties resistivity and thermal conductivity depend on size of a structure. In this talk I will describe optical studies of self-heating in high-power devices where current is principally conducted by a two-dimensional electron gas. I will also overview electrical measurements of thermal conductivity in metallic nano wires.