Multi-terminal transport in 1D wires

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Using a novel fabrication technique called cleaved edge overgrowth we have fabricated clean ballistic one-dimensional wires. Our fabrication scheme allows for additional probes to be attached along the wire. Further, the level of the invasiveness of these probes can be manipulated. We present measurements of two, three and four terminal devices. The temperature dependence of the conductance and the linear as well as non-linear response of such multi-terminal one-dimensional ballistic junctions will be discussed.