Direct measurement of resistance of multiwalled carbon nanotubes using micro four-point probes

The electrical properties of multiwalled carbon nanotubes was investigated by micro four point probes, fabricated using conventional silicon microfabrication techniques. After positioning of chemical vapour deposition-grown multi-walled carbon nanotubes on a SiO2 substrate, the two- or four-point resistance at specific positions along the nanotubes, was measured by microprobes with different microelectrode spacings. Individual nanotubes were investigated in more detail by measuring current as a function of bias voltage until the point of failure and the results are compared to previously reported findings, using conventional measurement techniques.