

THERMAL CONDUCTIVITY OF INDIVIDUAL MULTIWALLED CARBON NANOTUBES

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SUMMARY: Thermal conductivity of individual multiwalled carbon nanotubes (MWCNT) is measured using a pulsed photothermal reflectance technique. Intrinsic thermal conductivity of individual MWCNT with a diameter 150 nm and length 2 mm at room temperature is determined to be 2500 W/mK. In order to extract the thermal conductivity of CNT, the parallel resistor model is applied in which supportive SiO₂ is treated as a conducting channel that transports heat in parallel with MWCNT.