Abstract Submitted
for the MAR09 Meeting of
The American Physical Society

Combined transport and Raman measurements on individual carbon nanotubes MARKUS AHLSKOG, OLLI HERRANEN, JYRI RINTALA, ANDREAS JOHANSSON, MIKA PETTERSSON — Combined techniques for measurement of structural, transport, and spectroscopic properties of individual carbon nanotubes are very important for current progress in the physics of these materials. We have measured the Raman spectra of individual single walled nanotubes that are electrically contacted with lithographically fabricated microelectrodes on Si/SiO substrates. The G-band of the Raman spectra have characteristic features for metallic and semiconducting tubes that we are able to discern. This conclusion is confirmed by transport measurements that unambiguously distinguish between the two types of tubes.

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Date submitted: 09 Dec 2008 Electronic form version 1.4