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Tunneling spectroscopy in carbon nanotubes YUNG-FU CHEN,
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Champaign — Carbon nanotubes are one-dimensional metallic or semiconducting
wires that serve as good model systems to study Luttinger liquids, in which electron-
electron interaction are essential to electronic transport. Luttinger behavior has pre-
viously been measured via transport through the ends of nanotubes. We have fabri-
cated novel nanotube devices with three-terminal configurations—two normal con-
tacts at the ends and one non-invasive superconducting tunnel probe in the middle.
This configuration is well-suited to tunnel spectroscopy studies of bias-dependence,
non-equilibrium effects, and carrier interactions in nanotubes. We present results
on low-temperature tunneling measurements performed using this configuration.

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