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Single-Walled Carbon Nanotubes as Shadow Masks for Nanogap Junction Fabrication[1] ETIENNE DE POORTERE, LIMIN HUANG, MINGYUAN HUANG, SHALOM WIND, JAMES HONE, STEPHEN O'BRIEN, HORST STORMER, COLUMBIA NANOSCALE SCIENCE AND ENGINEERING CENTER COLLABORATION — We report a technique for fabricating nanometer-scale gaps in Pt wires on insulating substrates, using individual *single-walled carbon nanotubes* as shadow masks during metal deposition. 83% of the devices display current-voltage dependencies characteristic of direct electron tunneling. Fits to the current-voltage data yield gap widths in the 0.8 - 2.3 nm range for these devices, dimensions that are well suited for single-molecule transport measurements.

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