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Current-voltage characteristics of a compressed carbon nanotube EVAN WILSON, RONALD COSBY, Ball State University — Current-voltage calculations for a compressed segment of a single-wall metallic carbon nanotube attached to copper electrodes are reported. Density functional theory is used for electronic structure computations. Currents through the 48-atom nanotube segment are predicted by applying a non-equilibrium Green's function technique. The conductance is predicted to increase linearly for small compressions.

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