

Abstract Submitted  
for the MAR15 Meeting of  
The American Physical Society

**Zero-Dimensional Electrical Contact to a One-Dimensional Material** CHENG PAN, JHAO-WUN HUANG, SON TRAN, BIN CHENG, CHUN NING LAU, MARC BOCKRATH, University of California - Riverside — Recent work has shown that one-dimensional contacts can be made to two-dimensional graphene using boron nitride encapsulated graphene structures along with an etch process[1]. Here we report the encapsulation of carbon nanotubes, a one-dimensional material, between layers of boron nitride. By etching the edges we are able to use only the zero-dimensional ends of the carbon nanotubes to yield high-quality electrical contacts. This end-contact geometry along with an encapsulated nanotube provides possibilities for the realization of more complex nanotube heterostructure devices. [1]L. Wang et al., Science 342, 614-617 (2013).

Cheng Pan  
University of California - Riverside

Date submitted: 14 Nov 2014

Electronic form version 1.4