

Abstract Submitted
for the MAR06 Meeting of
The American Physical Society

Shell filling and excited states in a fully tunable double quantum dot on a carbon nanotube SAMI SAPMAZ, CAROLA MEYER, PIOTR BELICZYNSKI, PABLO JARILLO-HERRERO, LEO KOUWENHOVEN, Kavli Institute of Nanoscience Delft — We have realized fully controllable and tunable nanotube quantum dots defined with electrostatic top-gates. Using three electrostatic top-gates we have made a NT double dot. Clear honeycomb patterns are observed in the charge stability diagram as a function of two independent side-gates. Furthermore, for the first time we have observed discrete excitations at finite bias. The origin of these excitations is discussed. The central top-gate is used to control the coupling between the two NT dots. Controlling electron interactions in a molecular system is important for many applications such as for example quantum computation.

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Date submitted: 30 Nov 2005

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