

Abstract Submitted
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Altering the Frequency of Nanoscale Mechanical Resonators with Mass Redistribution KWANPYO KIM, K. JENSEN, A. ZETTL, Department of Physics and Center of Integrated Nanomechanical Systems, UC Berkeley — Using indium mass redistribution on multiwall carbon nanotubes (MWNTs), we demonstrate a new way of tuning MWNT nanomechanical resonators. *In Situ* transmission electron microscope (TEM) studies show that indium mass can be reversibly migrated to different locations along MWNT resonators by electrical currents. Mass redistributions result in nonvolatile resonant frequency shifts, which can be as large as 20 %. The indium migration can take place either on the outer surface of a MWNT, or through the hollow channel of a MWNT.

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