Abstract Submitted
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Enhanced electromodulation of infrared transmittance in semi-transparent films of large diameter semiconducting single-walled carbon nanotubes[1] FEIHU WANG, MIKHAIL ITKIS, ROBERT HADDON, Departments of Physics & Astronomy, Center for Nanoscale Science and Engineering, University of California - Riverside — We report a comprehensive study of the gate induced electromodulated transmittance of infrared light by single-walled carbon nanotube (SWNT) thin films. The observed electromodulation is significantly enhanced by utilizing large diameter SWNTs, increasing the ratio of semiconducting to metal SWNTs and by decreasing the SWNT film thickness. The amplitude of the effect reported herein is more than an order of magnitude larger than in previous SWNT thin film solid state devices.

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