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High Frequency Antennas for Wireless Transmissions of Audio and Video Signals Using Threads Spun From Long Multi-Wall Carbon Nanotubes. DAVID MAST, CHAMINDA JAYASINGHE, MARK SCHULZ, VESSELIN SHANOV, University of Cincinnati — We have used threads spun from long multiwall carbon nanotubes (MWCNT) to make antennas for audio and video broadcasts (transmission and reception) at GHz frequencies. The MWCNT used to make the threads have outer diameters from about 6 nm to 30 nm. These MWCNT's have been grown in lengths up to 18 mm. The diameter of the CNT threads used to fabricate the high frequency antennas was 25 microns. Initial measurements consist of 1) transmission and reception of a CW signals at f= 694 MHz and 1388MHz , 2) the transmission and detection of a CW signal plus sidebands at ± 100kHz, 3) the broadcast and reception of an AM modulated audio signal, 4) the broadcast and reception of composite video images, 5) the simultaneous broadcast and reception of audio signals from a single CNT antenna, and 6) the simultaneous transmission and/or reception at multiple frequencies from a single CNT thread antenna. The results of using the CNT thread antenna for these transmissions will be discussed.

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