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Carbon Nanotubes for Everyone? MICHAEL BOERGERT, CHARLES BRUCE, New Mexico State University — One might be surprised to hear that carbon nanotubes, among the smallest structures extent can have applications on a macroscale. They are well known to have great strength, and can have high thermal and electrical conductivities. They have various applications on the scale of their size. Our research group recently received a sample composed of nanotubes "wet-spun" into much larger fibers from Rice University that purport to have metal-level electrical conductivities. They first announced the results of wet spun fibers in 2013 (Science). Our examinations using X-ray diffraction affirmed that the fibers were composed of nanotubes rather than graphite or amorphous carbon and, using EDX in an electron microscope, do not contain a significant amount of metal materials. The microscope reveals the threads of nanotubes within the much larger fiber structure. The electrical conductivities of the fibers received were roughly at the level of stainless steel but we do not doubt that Rice has exceeded this. Finally the response of the fibers to electromagnetic radiation was measured and compared with theory. Will we one day see conductors of electrical current composed of woven nanotubes rather than copper?

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