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Metal-Insulator Transition in W-doped VO2 Nanowires[1] GEN LONG, JAMES PARRY, LUISA WHITTAKER , SARBAJIT BANERJEE, HAO ZENG, University at Buffalo, SUNY, Buffalo, NY 14260 — We report a systematic study of the metal-insulator transition in W-doped VO2 nanowires. Magnetic susceptibility were measured for a bulk amount of VO2 nanowire powder. The susceptibility shows a sharp drop with decreasing temperature corresponding to the metal-insulator transition. The transition shows large temperature hysteresis for cooling and heating. With increasing doping concentration, the transition temperatures decreases systematically from 320 K to 275K. Charge transport measurements on the same nanowires showed similar behavior. XRD and TEM measurements were taken to further determine the structure of the materials in study.

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