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Studies on the Insulator to Metal Phase Transition in Vanadium Dioxide MIKE CLEMENS, FELIPE RIVERA, BRADY COX, ROBERT DAVIS, RICHARD VANFLEET, Brigham Young University — Vanadium dioxide undergoes an insulator to metal transition changing from a monoclinic to tetragonal phase near 66 °C. Crystalline films and isolated vanadium dioxide particles (up to 700nm in diameter) were obtained through thermal annealing of amorphous vanadium dioxide thin films on silicon dioxide. Orientation Imaging Microscopy (OIM) was used to characterize the resulting film and particles, and to differentiate them from different vanadium oxide crystal structures. A study of this phase transition is being performed through Transmission Electron Microscopy, as well as with resistance and Capacitance measurements. The results of this study will be presented.

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