

Abstract Submitted  
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**AFM and TEM Studies on the Phase Transition of Micro and Nanocrystalline Films of Vanadium Dioxide** FELIPE RIVERA, MIKE CLEMENS, BRADY COX, ROBERT DAVIS, RICHARD VANFLEET, Brigham Young University — Bulk crystalline vanadium dioxide undergoes an insulator (semiconductor) to metal phase transition near 68 degrees Celsius, and consequently has potential electronic and optical applications. Solid crystalline thin films and isolated particles up to 1 micron in size were produced through an anneal process of an amorphous thin film. The phase transition in these films and particles was studied using capacitive AFM measurements and with electron microscopy. A geometric enhancement was observed in the capacitance measurements of these films.

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