

Abstract Submitted
for the 4CF06 Meeting of
The American Physical Society

Orientation Studies of Recrystallized Vanadium Dioxide FELIPE

RIVERA, Brigham Young University, LAUREL BURK, University of Nebraska - Lincoln, ROBERT DAVIS, RICHARD VANFLEET, Brigham Young University — 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. Vanadium dioxide undergoes a metal to insulator transition changing from a monoclinic to tetragonal phase near 66 °C. Orientation Imaging Microscopy (OIM) was used to study the phase and orientation of the crystals formed, as well as to differentiate from different vanadium oxide crystal structures. Kikuchi patterns for the tetragonal phase of vanadium dioxide were used for indexing as the Kikuchi patterns for the monoclinic phase are indistinguishable, by OIM, from those of the tetragonal phase. There is a preferred orientation for the growth of these crystals with the c axis in the plane of the specimen.

Richard Vanfleet
Brigham Young University

Date submitted: 08 Sep 2006

Electronic form version 1.4