

Abstract Submitted
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In-Plane Impedance Spectroscopy measurements in Vanadium Dioxide thin films¹ JUAN RAMIREZ, University of California, San Diego, EDGAR PATINO, Universidad de los Andes, RAINER SCHMIDT, Universidad Complutense de Madrid, AMOS SHARONI, Bar-Ilan University, MARIA GOMEZ, Universidad del Valle, IVAN SCHULLER, University of California, San Diego — In plane Impedance Spectroscopy measurements have been done in Vanadium Dioxide thin films in the range of 100 Hz to 1 MHz. Our measurements allows distinguishing between the resistive and capacitive response of the Vanadium Dioxide films across the metal-insulator transition. A non ideal RC behavior was found in our thin films from room temperature up to 334 K. Around the MIT, an increase of the total capacitance is observed. A capacitor-network model is able to reproduce the capacitance changes across the MIT. Above the MIT, the system behaves like a metal as expected, and a modified equivalent circuit is necessary to describe the impedance data adequately.

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