



Contribution ID: 1342

Type: **Oral (Non-Student) / orale (non-étudiant)**

Electrode effects in dielectric spectroscopy measurements on (Nb+In) co-doped TiO₂

Wednesday 15 June 2016 15:45 (15 minutes)

Recently, several papers reported the discovery of giant permittivity and low dielectric loss in (Nb+In) co-doped TiO₂. A series of tests was performed which included the measurement of the frequency dependence of the dielectric permittivity and ac conductivity of co-doped (Nb+In)TiO₂ as a function of electrode type, sample thickness and temperature. The data suggest that the measurements are strongly affected by the electrodes. The consistency between four contact van der Pauw dc conductivity measurements and bulk conductivity values extracted from two contact ac conductivity measurements suggest that the values of colossal permittivity are, at least in part, a result of Schottky barrier depletion widths that depend on electrode type and temperature.

Primary author: CRANDLES, David (Brock University)

Co-authors: NUZHNY, Dimitri (Institute of Physics, The Czech Academy of Sciences); PETZELT, Jan (Institute of Physics, The Czech Academy of Sciences); PROKES, Jan (Charles University in Prague, Faculty of Mathematics and Physics); SAVINOV, Maxim (Institute of Physics, The Czech Academy of Sciences); KAMBA, Stanislav (Institute of Physics, The Czech Academy of Sciences); YEE, Susan (Brock University)

Presenter: CRANDLES, David (Brock University)

Session Classification: W3-3 Quantum Transport (DCMMP) / Transport quantique (DPMCM)

Track Classification: Condensed Matter and Materials Physics / Physique de la matière condensée et matériaux (DCMMP-DPMCM)