

Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

Interface conductivity contribution in Co-Phthalocyanines capacitive type devices CARLOS MONTON, ILYA VALMIANSKY, IVAN SCHULLER, Department of Physics and Astronomy, University of California San Diego, 9500 Gilman Dr., San Diego, La Jolla, CA 92093, U.S.A — Metal Phthalocyanines are flat organic semiconductors which exhibit interesting magnetotransport properties. Recent experimental studies in a particular system together with theoretical calculations have shown that the temperature and thickness dependence of the ohmic conductivity can be universally described by two independent contributions: the organic film and the electrode-film interface [1]. In order to explore the implications of this model we performed transport measurements in sandwich devices with different bottom electrodes materials. These devices are grown in-situ by Organic Molecular Beam Epitaxy to assure ultra clean electrode-film interfaces. A combination of structural and transport studies are used to investigate the reason for the drastic change in ohmic conductance at metallo-organic film thickness around 100nm.

[1] C. N. Colesniuc, R. R. Biswas, S. A. Hevia, A. V. Balatsky, and I. K. Schuller, Phys. Rev. B 83, 085414 (2011).

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Date submitted: 15 Nov 2011

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