

Abstract Submitted  
for the MAR16 Meeting of  
The American Physical Society

**Electrical conductivity of graphite oxide nanoplatelets obtained from bamboo: Effect of the deoxidation degree.** K. GROSS, CENM, Universidad del Valle, Cali, Colombia, J. J. PRIAS-BARRAGAN, IS Institute and Electronic IT Program, Universidad del Quindio, Armenia, Colombia, S. SANGIAO, LMA, INA and DFMC, Universidad de Zaragoza, 50009 Zaragoza, Spain, J. M. DE TERESA, DFMC and ICMA, CSIC, Universidad de Zaragoza, 50009 Zaragoza, Spain, L. LAJAUNIE, R. ARENAL, LMA, Instituto de Nanociencia de Aragon (INA), Universidad de Zaragoza, Spain, H. ARIZA-CALDERN, IS Institute, Universidad del Quindio, Armenia, Colombia, P. PRIETO, CENM, Universidad del Valle, Cali, Colombia — Given the high interest in the fabrication and application of carbon-based materials, we present a new and cost-effective method for the synthesis of graphite oxide nanoplatelets (GONP) using bamboo pyrolygneous acid (BPA) as source. GONP-BPA present lateral dimensions of 5-100 micro-meter and thickness less than 80 nm, as confirmed by TEM. EEL spectra show that locally the carbon is mainly in  $sp^2$  bonding configuration and confirm a short/medium range crystalline order. Elemental analysis by EDX confirms the presence of oxygen in an atomic percentage ranging from 17 to 5%. For electrical characterization, single platelets were contacted by focused-ion-beam-induced deposition of Pt nanowires. The four-point probe electrical conductivity shows a direct correlation with the oxygen percentage. Three orders of magnitude conductivity rise is observed by the oxygen reduction, reaching a value of  $2.3 \times 10^3$  S/m at the final deoxidation degree. The results suggest that GONP-BPA could be used in the development of advanced devices and sensors.

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Date submitted: 20 Jan 2016

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