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Analysis of vibrational response in graphite oxide nanoplatelets. JHON JAIRO PRIAS BARRAGAN, IS Institute and Electronic IT Program of the Universidad del Quindio, KATHERINE GROSS, CENM of the Universidad LUC LAJAUNIE, RAUL ARENAL, LMA, Instituto de Nanociendel Valle, cia de Aragón (INA), Universidad de Zaragoza, Spain, HERNANDO ARIZA CALDERON, PEDRO PRIETO, CENM of the Universidad del Valle, Colombia — In this work, we present a new low-cost fabrication process to obtain graphite oxide nanoplatelets from bamboo pyroligneous acid (GO-BPA) by thermal decomposition method using a pyrolysis system for different carbonization temperatures from 673 to 973 K. The GO-BPA samples were characterized by using Raman, FTIR, XRD, SEM and TEM techniques, whose results suggest that increased carbonization temperature increases graphite conversion, boundary defects, desorption of some organic compounds and phonon response, respectively. We discuss potential applications of the GO-BPA samples involving phonon response that would benefit from a fully scaled technology, advanced electronic sensors and devices.

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