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2D AND LAYERED STRUCTURES III

POSTER SESSION

PDF | On Feb 26, 2017, Diana Carolina Coello Fiallos published LOW DIMENSIONAL MATERIALS | Find, read and cite all the research you need on ResearchGate.Â February 2017. DOI: 10.13140/RG.2.2.25538.73922. Thesis for: PhD. Advisor: Lorenzo Caputi. Project: Oxidized Graphene and its applications. Authors: Diana Carolina Coello Fiallos.Â In the last year, the investigation of two-dimensional materials as graphene oxide is a fundamental goal to produce innovative devices with wide range of applications in many areas. In the present work, we report a systematic study of structural and electronic properties of graphene oxide for different oxidations levels (25%, 50%, 75%, 100%) using density functional calculations for electronic Low dimensional materials refer to those systems in which electronic state wavefunction is confined, at least in one of the three dimensions. Electronic confinement generally appears in the range from 1 nm to 100 nm. In these materials, spatial constraints give rise to quantum size effects, which can significantly alter their electronic properties and deeply modify their behavior, as compared to their bulk counterparts.Â The primary goals of Lowdim are the synthesis of novel 2D materials and the fundamental understanding of their properties. Current work-areas of the Unit include: The development of preparation techniques which may produce large-area crystalline 2D layered materials exhibiting tunable band gaps. PROCEEDINGS VOLUME 10349. Low-Dimensional Materials and Devices 2017. Editor(s): Nobuhiko P. Kobayashi; A. Alec Talin; M. Saif Islam; Albert V. Davydov. For the purchase of this volume in printed format, please visit Proceedings.com. Volume Details. Volume Number: 10349 Date Published: 19 October 2017. Table of Contents. show all abstracts | hide all abstracts.Â However reduced dimensionality poses a significant challenge for photonics and optoelectronics applications due to poor light absorption and emission dictated by the volume of semiconductor material. Plasmonic nanostructures have been widely studied for enhancing light-matter interactions in wide variety of material systems resulting in increased emission and absorption properties. Modelling of Heterostructures for Low Dimensional Devices. H. Hakan GÃ¼rel, Ã–zden AkÄ±ncÄ±, Hilmi Ãœnlü. Pages 1-47. Aspects of the Modeling of Low Dimensional Quantum Systems. Norman J. M. Horing. Pages 49-71. Wave Propagation and Diffraction Through a Subwavelength Nano-Hole in a 2D Plasmonic Screen. Norman J. M. Horing, DÃ©sirÃ© Miessein. Pages 73-104.Â Biological applications of quantum dots Electronic Properties of Low Dimensional Growth of quantum dots Laser-assisted formation of semiconductor MOCVD of low-dimensional structures Microfluidics in bionanotechnology Nanomagnetism and spintronics Nanoparticles Nanostructured materials for solar cells Properties of oxide-based thin films Semiconducting carbon nanotubes Semiconductors.