

XVI Meeting of Physics 2017

Journal of Physics: Conference Series
Volume 1143

Lima, Peru
2 - 4 August 2017

Editors:

Rosendo Ochoa
Ener Salinas
Harold Blas

ISBN: 978-1-5108-8024-5
ISSN: 1742-6588

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2017) by the Institute of Physics
All rights reserved. The material featured in this book is subject to
IOP copyright protection, unless otherwise indicated.

Printed by Curran Associates, Inc. (2019)

For permission requests, please contact the Institute of Physics
at the address below.

Institute of Physics
Dirac House, Temple Back
Bristol BS1 6BE UK

Phone: 44 1 17 929 7481
Fax: 44 1 17 920 0979

techtracking@iop.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

Table of contents

Volume 1143

XVI Meeting of Physics

2–4 August 2017, Lima, Peru

Accepted papers received: 12 November 2018

Published online: 21 December 2018

Preface

[XVI Meeting of Physics](#)

[Pictures of the XVI Meeting of Physics](#)

[Poster](#)

[Peer Review Statement](#)

Papers

[The Holographic Correspondence : Origins](#)

Sumit R. Das.....1

[Compact stars in the pseudo-complex general relativity](#)

C. A. Zen Vasconcellos, J. E. S. Costa, D. Hadjimichef, M. V. T. Machado, F. Köpp, G. L. Volkmer and M. Razeira.....10

[ARAPUCA light trap for large liquid argon time projection chambers](#)

H da Motta, A A Machado, L Paulucci, E Segreto, A Fauth, B Gelli, M R Guzzo, G Marques, D Galante, V Teixeira, W Araujo, C Ambrósio, M Bissiano and F Marinho.....20

[Modified non-linear Schrödinger models, infinite tower of conserved charges and dark solitons](#)

H Blas and M Zambrano.....27

[Introduction to open string field theory](#)

Carlos Tello.....38

[Introduction to Open Superstring Field Theory](#)

Carlos Tello.....42

[Sunspot characteristics of active regions NOAA 2268 and NOAA 2305](#)

K. F. Lopez, V. S. Cañedo, D. P. Cabezas and Y. J. Buleje.....46

[Do we live in an under-dense region?](#)

Esly Calcina and Julio C. Tello.....54

[SEARCH FOR ECLIPSING BINARY STARS IN THE DIRECTION OF GALAXY BULGE WITH DATA OF OGLE-II AND MACHO CATALOGUES](#)

E. E. Urday and J. G. Tello.....60

[Cataclysmic variable stars: photometry of V893 Sco star and spectroscopy of HS 0220 + 0603 star](#)

William Cori and Julio Tello.....68

[Geant4 simulation of the dual phase Time Projection Chamber TPC of argon to detect neutrinos](#)

I. J. M. Huancoco.....75

[Pristine graphene: functionalization, fabrication, and nanocomposite materials](#)

Mingdi Yan.....84

[Instrumentation-level improvements in shear-force near-field acoustic microscopy](#)

J Bai, P Devulapalli, T Brockman and Andres H La Rosa.....92

[Finite element method analysis of whispering gallery acoustic sensing](#)

T Le, H Tran, R Fernandez, C J Solano Salinas, N Laal, R Bringas, J Quispe, F Segundo and A H La Rosa.....111

[Combining atomic force microscopy and shear-force acoustic near-field microscopy to characterize confined mesoscopic fluids](#)

Monte Kozell, Theodore Brockman and Andres H La Rosa.....120

[Probe damage evaluation in frequency-modulation shear-force acoustic near-field microscopy](#)

T Brockman, R Fernandez, J Bai, M Kozell and A H La Rosa.....129

[Confined Fluid Analyzed with Near-field Acoustic Detection](#)

R Fernandez, T Brockman, J Bai and A H La Rosa.....139

[Synthesis of SnO₂ quantum dots by chemical precipitation assisted by ultrasound](#)

P Alvarado, D Acosta, M M Gomez and J L Solis.....149

[Surface modification of TiO₂ nanostructured films by inserting Mg²⁺ ions applied to dye sensitized solar cells](#)

A Huamán and M Quintana.....153

[Laser power influence on Raman spectra of multilayer graphene, multilayer graphene oxide and reduced multilayer graphene oxide](#)

H Ferreira, G Poma, D R Acosta, J Barzola-Quiquia, M Quintana, L Barreto and A Champi.....163

[Molecular Energetic of Organic Species with Environmental Impact](#)

Jhonatan Martínez and Juan Dávalos.....171

[Comparison between Monolayer and Bilayer Graphene energy bands using the Tight Binding model](#)

Lucila Menacho, M. Carrasco and Z. Ayala.....175

[Calibration of remote nanothermometers using nanoparticles of NaYF₄: Er³⁺, Yb³⁺, Nd³⁺](#)

D Vásquez Mazzotti, L Alvarado, R Puga and H Loro.....181

[Synthesis of NaYF₄: Yb, Tm Nanoparticles by Solvothermal Method and Characterization by Upconversion Visible Radiation Fluorescence](#)

Ch Rubén Mallqui, Rubén Puga, Dwight Acosta, José M. Hernandez and Héctor Loro.....189

[Synthesis of Bismuth Ferrite BiFeO₃ by solution combustion method](#)

J Peñalva and A Lazo.....195

[Synthesis of LaF₃ inorganic nanoparticles: Er³⁺, Yb³⁺ by the coprecipitation method and characterization by optical spectroscopy and electron microscopy](#)

A Luis Acosta, Rubén Puga, Hector Loro, Karla Santacruz Gómez, José Manuel Hernández and Dwight Acosta.....202

[Influence of substrate temperature on the properties of Ag-C films produced by DC Magnetron Sputtering](#)

N Z Calderon, J L Ampuero, A La Rosa-Toro and B R Pujada.....210

[Identification of superconductivity mechanisms and prediction of new materials using Density Functional Theory \(DFT\) calculations](#)

J A Alarco, P C Talbot and I D R Mackinnon.....215

Synthesis of YBCO superconductor by the method of combustion reaction in solution

J Rodriguez and A Lazo.....221

Some aspects of electromagnetic interference, electromagnetic compatibility and geomagnetic induced currents

Ener Salinas.....229

Improved variational method that solves the energy eigenvalue problem of the hydrogen atom

L M Leon Hilario and E Aldo Arroyo.....235