

**ANNALS OF  
THE UNIVERSITY OF  
CRAIOVA**



---

---

**PHYSICS  
AUC**

PROCEEDINGS OF THE 4<sup>TH</sup> SCHOOL AND WORKSHOP  
“QUANTUM FIELD THEORY &  
HAMILTONIAN SYSTEMS”  
16-21 OCTOBER 2004  
CĂLIMĂNEȘTI - CĂCIULATA, ROMANIA

---

---

**VOLUME 15 (part I)**



**2005**

CONTENTS

<b>BARNICH, G. BONELLI, M. GRIGORIEV</b> , From BRST to light-cone description of higher spin gauge fields.....	1-10
<b>L. BRINK</b> , A Non-BRST Approach to Gauge Field Theories.....	11-30
<b>J. HIETARINTA</b> , Hirota's bilinear method and soliton solutions.....	31-37
<b>G. CIRAULO, C. CHANDRE, R. LIMA, M. VITTOT, P. GHENDRIH, M. PETTINI</b> , Controlling chaotic transport in Hamiltonian systems.....	38-44
<b>M. VISINESCU</b> , Dirac particles on curved spaces and quantum anomalies for generalized Euclidean Taub-NUT metrics.....	45-59
<b>I. COTAESCU</b> , Exact solutions of the Dirac equation in central backgrounds of any dimensions.....	60-72
<b>D. R. GRIGORE</b> , Massive Gravity as a Quantum Gauge Theory.....	73-84
<b>L. MICU</b> , Relativistic bound state wave functions.....	85-89
<b>C. BIZDADEA, C. C. CIOBIRCA, E. M. CIOROIANU, I. NEGRU, S. O. SALIU, S. C. SARARU</b> , Interactions in theories with mixed-symmetry tensor fields.....	90-110
<b>D. GRECU, A. VISINESCU, A. S. CARSTEA, A. T. GRECU</b> , Modulational Instability and Soliton Generation in Nonlinear Evolution Equations.....	111-122
<b>A. S. CARSTEA, A. RAMANI, B. GRAMMATICOS</b> , Supersymmetric solitons and integrability.....	123-132
<b>P. A. BLAGA</b> , Spectral Sequences and BRST cohomology.....	133-142
<b>D. VULCANOV</b> , "Reverse engineering" in designing scalar field potentials for cosmology.....	143-156
<b>R. CIMPOIASU, V. M. CIMPOIASU, R. CONSTANTINESCU</b> , From chaos to a more regular behavior by the perturbation of Hamiltonian systems.....	157-163
<b>C. R. BOLDEA</b> , Integrable hierarchy for a recent non-linear evolution equation.....	164-176
<b>A. T. GRECU</b> , Modulational Instability of Derivative Non-Linear Schrodinger Equation.....	177-183
<b>C. BIZDADEA, C. C. CIOBIRCA, E. M. CIOROIANU, S. O. SALIU, S. C. SARARU</b> , Interactions in BF models.....	184-196
<b>E. M. CIOROIANU, S. C. SARARU</b> , Lagrangian interactions in a topological BF-type model in D=5 from a cohomological approach.....	197-205
<b>R. CONSTANTINESCU, C. IONESCU</b> , The $sp(3)$ BRST Hamiltonian formalism for the Freedman-Townsend model and its connection with the Lagrangian one.....	206-214
<b>R. CIMPOIASU, R. CONSTANTINESCU, C. IONESCU</b> , Symmetry operators for dynamical systems by high order ODEs.....	215-218