

XIV Conference on Theoretical Nuclear Physics in Italy 2013

Journal of Physics: Conference Series Volume 527

**Cortona, Italy
29 – 31 October 2013**

**ISBN: 978-1-63439-308-9
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© by the Institute of Physics
All rights reserved.

Printed by Curran Associates, Inc. (2014)

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: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

FEW-NUCLEON SYSTEMS

UNIVERSALITY IN FEW-BODY SYSTEMS: FROM FEW-ATOMS TO FEW-NUCLEONS	1
<i>A Kievsky, M Gattobigio, E Garrido</i>	
SOME ASPECTS OF UNIVERSALITY IN EFIMOV PHYSICS	13
<i>M Gattobigio, A Kievsky</i>	
QUANTUM MONTE CARLO WITH NON-LOCAL CHIRAL INTERACTIONS	18
<i>A Roggero, A Mukherjee, F Pederiva</i>	

NUCLEAR STRUCTURE

REALISTIC SHELL-MODEL CALCULATIONS AND EXOTIC NUCLEI	25
<i>A Gargano, L Coraggio, A Covello, N Itaco</i>	
CORE POLARIZATION AND NEUTRON HALOS	36
<i>F Barranco, R A Broglia, A Idini, G Potel, E Vigezzi</i>	
NUCLEAR EXCITATION OF PYGMY DIPOLE RESONANCE	44
<i>E G Lanza, A Vitturi, M V Andrés, F Catara</i>	
FISSION AT INTERMEDIATE NUCLEON ENERGIES	52
<i>S Lo Meo, D Mancusi, C Massimi, G Vannini, A Ventura</i>	

NUCLEAR MATTER AND NUCLEAR DYNAMICS

DIRECT REACTIONS WITH RADIOACTIVE BEAMS	60
<i>A Bonaccorso</i>	
NEWS ON THE EQUATION OF STATE FROM HEAVY ION REACTIONS	71
<i>M Colonna, V Baran, M Di Toro</i>	
STUDY OF NUCLEONIC MATTER WITH A CONSISTENT TWO- AND THREE-BODY PERTURBATIVE CHIRAL INTERACTION	83
<i>L Coraggio, J W Holt, N Itaco, R Machleidt, L E Marcucci, F Sammarruca</i>	
USE OF THE SUMUDU TRANSFORM TO EXTRACT RESPONSE FUNCTIONS FROM QUANTUM MONTE CARLO CALCULATIONS	90
<i>F Pederiva, A Roggero, G Orlandini</i>	

RELATIVISTIC HEAVY ION COLLISION AND QUARK-GLUON PLASMA

THE QUARK GLUON PLASMA AND RELATIVISTIC HEAVY ION COLLISIONS IN THE LHC ERA	98
<i>F Becattini</i>	
QUARK-GLUON PLASMA: FROM LATTICE SIMULATIONS TO EXPERIMENTAL RESULTS	108
<i>G Aarts, C Allton, A Kelly, J-I Skullerud, S Kim, T Harris, S M Ryan, M P Lombardo</i>	
EQUATIONS OF STATE BASED ON RECENT LATTICE QCD RESULTS AT VANISHING NET- BARYON DENSITY	118
<i>P Alba, W Alberico, A Beraudo, M Bluhm, C Ratti</i>	
RELATIVISTIC DISTRIBUTION FUNCTION FOR PARTICLES WITH SPIN AT LOCAL THERMODYNAMICAL EQUILIBRIUM	124
<i>E Grossi</i>	
TRANSPORT COEFFICIENTS OF QUARK-GLUON PLASMA IN A KINETIC THEORY APPROACH	131
<i>A Puglisi, S Plumari, F Scardina, V Greco</i>	
OVERVIEW OF HYDRODYNAMIC MODELING OF HEAVY ION COLLISION WITH ECHO- QGP	139
<i>V Rolando</i>	

ELLIPTIC FLOW AND SHEAR VISCOSITY OF THE SHATTERED COLOR GLASS CONDENSATE	147
<i>S M Ruggieri, F Scardina, S Plumari, V Greco</i>	

NUCLEAR ASTROPHYSICS

THERMODYNAMIC INSTABILITIES IN DENSE ASYMMETRIC NUCLEAR MATTER AND IN COMPACT STARS.....	155
<i>A Lavagno, A Drago, G Pagliara, D Pigato</i>	
THE AMAZING PROPERTIES OF CRYSTALLINE COLOR SUPERCONDUCTORS	167
<i>M Mammarelli</i>	
HYBRID NEUTRON STARS WITH THE FIELD CORRELATOR METHOD.....	179
<i>D Logoteta, I Bombaci</i>	

NUCLEAR PHYSICS WITH ELECTROWEAK PROBES

NUCLEAR ELECTROMAGNETIC PROCESSES IN CHEFT	187
<i>L Girlanda, L E Marcucci, S Pastore, M Piarulli, R Schiavilla, M Viviani</i>	
THE PROTON-PROTON WEAK CAPTURE REACTION WITHIN CHIRAL EFFECTIVE FIELD THEORY	199
<i>L E Marcucci</i>	
ELASTIC AND QUASI-ELASTIC ELECTRON SCATTERING OFF ISOTOPIC AND ISOTONIC CHAINS	207
<i>M Vorabbi, A Meucci, C Giusti, F D Pacati, P Finelli</i>	

STRUCTURE OF HADRONS AND HADRONIC MATTER

NUCLEON TOMOGRAPHY.....	215
<i>M Radici</i>	
INVESTIGATING THE HOMOGENEOUS BETHE-SALPETER EQUATION IN MINKOWSKI SPACE.....	227
<i>G Salmè</i>	
NUCLEAR EFFECTS AND NEUTRON STRUCTURE IN DEEPLY VIRTUAL COMPTON SCATTERING OFF ^3He	238
<i>M Rinaldi</i>	
HASPECT: HADRON SPECTROSCOPY CENTER.....	246
<i>E Santopinto, M Battaglieri, A Celentano, R De Vita, S Fegan, V Mathieu, A Szczepaniak, A Filippi, A D'Angelo, A Rizzo, S Hughes, D Watts, L Zana, J Ferretti, S Lombardo, D Glazier, D Ireland</i>	

SPECIAL TOPICS

THE SPES RADIOACTIVE ION BEAM PROJECT OF INFN.....	250
<i>G De Angelis, G Prete, A Andrighetto, M Manziolaro, S Corradetti, D Scarpa, M Rossignoli, A Monetti, M Lollo, M Calderolla, J Vasquez, D Zafiroopoulos, L Sarchiapone, D Benini, P Favaron, M Rigato, R Pegoraro, D Maniero, L Calabretta, M Comunian, M Maggiore, A Lombardi, L Piazza, A M Porcellato, C Roncolato, G Bisoffi, A Pisent, A Galatà, M Giacchini, G Bassato, S Canella, F Gramegna, J Valiente, J Bermudez, P F Mastinu, J Esposito, J Wyss, A Russo, S Zanella</i>	
ISOSPIN PHYSICS BY CHIMERA DETECTOR.....	257
<i>S Pirrone, E De Filippo, G Politi, P Russotto</i>	
Author Index	