

Contents

PREFACE	v
LIST OF PARTICIPANTS	xi
POETRY	
Peyo Yavorov: ‘ENCHANTRESS’ read by Anton Antonov	xiii
CONTRIBUTED PAPERS	1
<i>J. Terasaki:</i>	
Consistency Examinations of Calculations of Nuclear Matrix	
Elements of Double- β Decay by QRPA	3
<i>A. Vitturi:</i>	
Two-Particle Transfer Reactions: A Key Tool for the Study of Phase Transitions in Nuclei	13
<i>V.V. Samarin:</i>	
Time-Dependent Analysis of Multinucleon Transfer Reactions with Heavy Nuclei	22
<i>N. Minkov, A. Pálffy:</i>	
Electromagnetic Properties of the ^{229m}Th Isomer	33
<i>A. Martinou, D. Bonatsos, N. Minkov, I.E. Assimakis, S. Sarantopoulou, S. Peroulis:</i>	
Highest Weight SU(3) Irreducible Representations for Nuclei with Shape Coexistence	41
<i>S. Lalkovski:</i>	
$j - 1$ Anomaly Across the Shells	52
<i>R. Machleidt:</i>	
What Is Wrong with Our Current Nuclear Forces?	62
<i>X. Viñas, C. González-Boquera, M. Centelles, L.M. Robledo, C. Mondal:</i>	
Gogny Forces in the Astrophysical Context	68

CONTENTS

<i>A.N. Antonov, D.N. Kadrev, M.K. Gaidarov, P. Sarriguren, E. Moya de Guerra:</i>	
Temperature Dependence of the Volume and Surface Contributions to the Nuclear Symmetry Energy within the Coherent Density Fluctuation Model	79
<i>M.R. Oudih, M. Ouhachi, M. Fellah, N.H. Allal:</i>	
Tensor Force Effect on the Structure Evolution in Si Isotopes.....	89
<i>A. Galoyan, A. Ribon, V. Uzhinsky:</i>	
Production of Strange Particles in Hadronic Interactions	98
<i>M.V. Ivanov, A.N. Antonov, G.D. Megias, J.A. Caballero, M.B. Barbaro,</i>	
<i>J.E. Amaro, I. Ruiz Simo, T.W. Donnelly, J.M. Udías:</i>	
Charged-Current Quasielastic (Anti)Neutrino Cross Sections on ^{12}C with Realistic Spectral Functions Including Meson-Exchange Contributions	109
<i>Y. Benbouzid, N.H. Allal, M. Fellah, M.R. Oudih:</i>	
$T=1$ Pairing and Number-Projection Effects on the Spectroscopic Factor of One-Proton Stripping Reactions Within the Picket-Fence Model	120
<i>D. Bonatsos, I.E. Assimakis, A. Martinou, S. Peroulis, S. Sarantopoulou:</i>	
Why do Nilsson Quantum Numbers Remain Good at Moderate Deformations?	126
<i>F. Sammarruca, R. Millerson:</i>	
From Nuclei to Neutron Stars with a Consistent Approach	137
<i>J. Rożynek:</i>	
Nucleon Properties & Nuclear Equation of State	146
<i>N. Buyukcizmeci, A.S. Botvina, R. Ogul:</i>	
Investigation of Binding Energies of Lambda Hypernuclei	155
<i>E.V. Zemlyanaya, V.K. Lukyanov, K.V. Lukyanov, D.N. Kadrev,</i>	
<i>M.K. Gaidarov, A.N. Antonov, K. Spasova:</i>	
Microscopic Optical Potential Model for Analysis of the $^{12,14}\text{Be} + ^{12}\text{C}$ Experimental Data	161
<i>S. Ait Elkorch, M. Chabab, A. El Batoul, A. Lahbas, M. Oulne:</i>	
γ -Rigid Triaxial Nuclei in the Presence of a Minimal Length via a Quantum Perturbation Method.....	169
<i>M. Chabab, A. El Batoul, M. Hamzavi, A. Lahbas, I. Moumene, M. Olune:</i>	
Comparison Between Coulomb and Hulthén Potentials Within Bohr Hamiltonian for γ -Rigid Nuclei in the Presence of Minimal Length	178
<i>V.V. Samarin, M.A. Naumenko:</i>	
Study of Dynamics of External Neutrons in Reactions $^{7,9,11}\text{Li} + ^{28}\text{Si}$...	186

CONTENTS

G.M. Filippov:

- Effect of Polarization Phenomena on Interaction of Projectile with
a Solid Target – I 196

M. Bouhelal, N. Azzeddine, N. Chorfi, F. Haas:

- Level Structure of ^{30}S of Astrophysical Importance in
the rp Reaction $^{29}\text{P}(p, \gamma)^{30}\text{S}$ 204

Chr. V. Christov:

- What Could Be Learned About Phase Transitions, Meson and
Nucleon Structure in Hot Medium from a Chiral Quark-Meson
Theory? 211

V. Semkova, R. Nolte, S. Peneva, T. Troev:

- Neutron-Induced Activation Cross Sections Measurements on
Molybdenum Isotopes in the 7–15 MeV Energy Range 226

- AUTHOR INDEX** 235