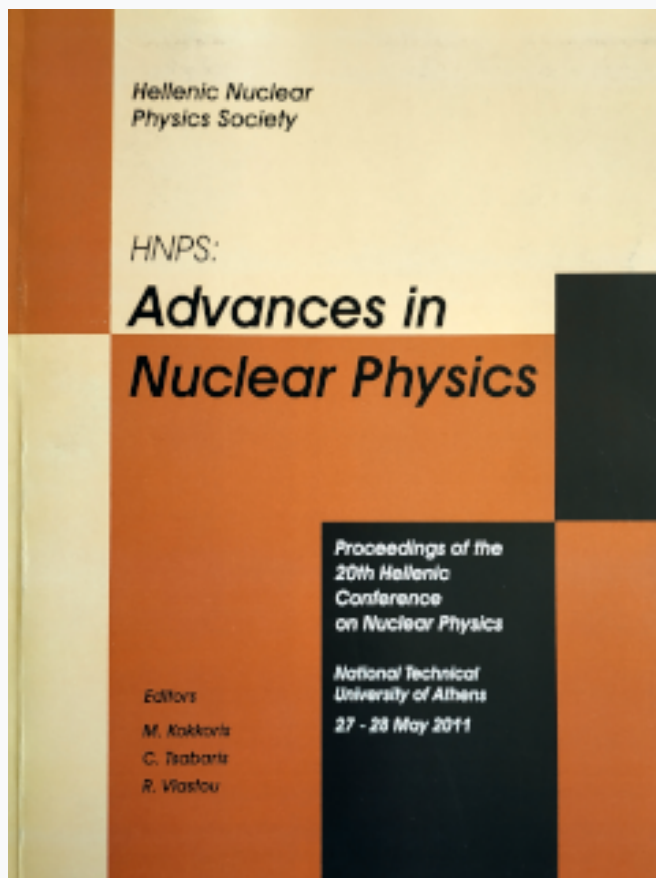


HNPS Advances in Nuclear Physics

Vol 19 (2011)

HNPS2011



Editorial Comments and Symposium Info

/ Editorial Comments

doi: [10.12681/hnps.2507](https://doi.org/10.12681/hnps.2507)

To cite this article:

Editorial Comments, /. (2020). Editorial Comments and Symposium Info. *HNPS Advances in Nuclear Physics*, 19, i-vii. <https://doi.org/10.12681/hnps.2507>

HELLENIC NUCLEAR PHYSICS SOCIETY

PROCEEDINGS

20th HELLENIC CONFERENCE

ON

NUCLEAR PHYSICS



NATIONAL TECHNICAL UNIVERSITY OF ATHENS

27 & 28 MAY 2011

SPONSORS

- NATIONAL TECHNICAL UNIVERSITY OF ATHENS
- HELLENIC CENTER FOR MARINE RESEARCH
- HELLENIC NUCLEAR PHYSICS SOCIETY

HELLENIC NUCLEAR PHYSICS SOCIETY

GOVERNING BOARD

- G. A. LALAZISSIS (PRESIDENT)
- T. KOSMAS (VICE PRESIDENT)
- R. VLASTOU (SECRETARY)
- A. LAGOYANNIS (TREASURER)
- G. SOULIOTIS

ORGANIZING COMMITTEE - EDITORS

- | | |
|---------------|------|
| • M. KOKKORIS | NTUA |
| • C. TSABARIS | HCMR |
| • R. VLASTOU | NTUA |

PREFACE

This volume contains the Proceedings of the 20th Hellenic Conference on Nuclear Physics, held in the National Technical University of Athens on the 27th and 28th of May 2011. The texts of the talks and posters are compiled as submitted by the authors.

This conference followed a series of Hellenic Nuclear Physics Conferences that started in 1990 at Thessaloniki and since then, they are yearly held at different Greek academic institutions involving Nuclear Physics. The aim of this series of conferences is to offer the local nuclear physics community the opportunity to present and discuss their latest activities in theoretical and experimental nuclear physics and applications, sometimes in collaboration with colleagues from abroad and with the use of local facilities along with facilities around the world. It is also a unique forum for presentations by young colleagues, in the early stages of their careers.

The conference was organized under the auspices of the National Technical University of Athens (NTUA) and the Hellenic Center for Marine Research (HCMR). Grateful thanks are due to all the authorities of NTUA and particularly to the Rector and the Physics Department for the financial support, the technical assistance and the facilities provided for the successful organization of the conference. The financial support offered by the Hellenic Nuclear Physics Society, is also gratefully acknowledged. The help during the conference by several graduate and undergraduate students (Mary Diakaki, George Eleftheriou, Froso Androulakaki, Filothei Pappa, Maria Anastasiou Eleftherios Skordis and Adamos Kafkarkou) is also warmly appreciated.

Athens 2012

Michael Kokkoris

Christos Tsabaris

Rosa Vlastou

Table of Contents

D. Bonatsos

Group contractions and conformal maps in nuclear structure models1

D. Petrellis

Quantum phase transition phenomena in odd-A nuclei9

S. Karampagia

Line of approximate SU(3) symmetry inside the symmetry triangle of the IBM16

P. E. Georgoudis

The deformation dependent mass Davidson model22

V. Blatzios

Nilsson orbitals in quantum superintegrable systems27

T. Konstantinopoulos

Measurement of nuclear lifetimes and B(E2) values in ^{130}Xe as a test for the E(5) symmetry33

S. F. Ashley

Lifetime measurements at NCSR ‘Demokritos’41

M. Zioga

GEANT4/GATE simulation studies in the emission tomography50

A. -N. Rapsomanikis

Sensitivity and resolution study of a small-field γ -camera system on a tomographic level55

K. G. Balasi

Neutrino scattering off the $^{95,97}\text{Mo}$ isotopes60

G. I. Karathanou

Updated solar neutrino fluxes with new heavy element abundances66

G. A. Souliotis

Approaching neutron-rich nuclei towards the r-process path in ^{86}Kr -induced collisions at 15 MeV/nucleon72

M. Fragopoulou	
<i>Inelastic cross sections in relativistic deuterons on lead collisions.....</i>	81
E. Mavrommatis	
<i>NuPECC long range plan 2011: A summary of nuclear theory</i>	91
D. Papageorgiou	
<i>Recent sedimentation rates using ^{210}Pb and ^{137}Cs vertical profiles of core sediments at the gulf of Corinth, Litochoro coast and Marmara sea</i>	92
Th. Vasilopoulou	
<i>Large sample neutron activation analysis: Developments and perspectives.....</i>	100
A. Ioannidou	
<i>^{131}I, ^{137}Cs, ^{134}Cs from Fukushima fallout at Milano, Italy</i>	113
M. Psaltaki	
<i>Modeling and assessment of Cs - 137 and of heavy metals impact on marine ecosystems</i>	119
F. Pappa	
<i>Dispersion of ^{137}Cs concentration in the basins of the Aegean sea</i>	135
G. S. Anagnostatos	
<i>Towards a unification of independent particle and collective models.....</i>	140
M. Kokkoris	
<i>Evaluation of differential cross-sections for light element reactions at low energies using R-matrix calculations: The case of ^{12}C</i>	151
M. Zamani-Valasiadou	
<i>Nuclear tracks in solids.....</i>	157
P. Demetriou	
<i>Fission properties of actinide nuclei at energies 26.5 and 62.9 MeV.....</i>	158
C. A. Kalfas	
<i>A modern nuclear spectroscopy software package</i>	159
A. Lagoyannis	
<i>The installation of PAPAP at the tandem laboratory of INP, NCSR ‘Demokritos’</i>	160

V. Paneta	
<i>Proton elastic scattering cross-section measurements for ^{12}C</i>	161
P. Misaelides	
<i>Investigation of composite surface coatings using ion beam analysis techniques</i>	162
C. Potiriadis	
<i>Controls and measurements governing the import of food and feedstuffs originating from Japan following the accident at Fukushima nuclear power plants</i>	163
C. Tsabaris	
<i>In - situ and automated quantitative radionuclide characterization in aquatic ecosystems</i>	164
A. Godelitsas	
<i>Applications of NCSR ‘Demokritos’ INP tandem accelerator in earth and environmental sciences</i>	165
T. J. Mertzimekis	
<i>A centennial of the nucleus discovery: The life and works of Ernest Rutherford</i>	166
X. Aslanoglou	
<i>Operational status of the CASTOR calorimeter at CMS with proton and heavy-ion beams</i>	167
T. Papaevangelou	
<i>The micromegas detector in nuclear physics</i>	168
G. Tsipolitis	
<i>The muon ATLAS micromegas activity (MAMMA)</i>	169
C. Tziaka	
<i>Monte-Carlo calculation of electrons and bremsstrahlung photons produced by U targets irradiated with a 20 MeV electron beam</i>	170
I. Savvidis	
<i>Progress on a spherical proportional counter for nuclear reactor and supernova neutrino detection</i>	171
C. A. Efthimiou	
<i>The RHVT approach and its application to A-hypernuclei</i>	172

A. Kafkarkou	
<i>Differential cross-section measurements for the $p+^{19}\text{F}$ system</i>	173
P. Chatzispiloglou	
<i>Full energy peak efficiency calibration of a high purity Ge detector by using the Monte-Carlo method</i>	174
A. P. Karageorgis	
<i>X-ray applications in marine sedimentology</i>	175
G. Trabidou	
<i>Comparative radiation impact assessment in marine and terrestrial biota</i>	176
H. Kaberi	
<i>The use of natural and anthropogenic radionuclides in calculating the recent sedimentation rates in the marine environment</i>	177
H. Florou	
<i>Cs-137 in marine sediments from the eastern Mediterranean during the last twenty seven year period</i>	178
A. Savvidou	
<i>Pre-decommissioning radiological characterization at the Greek research reactor</i>	179
Conference Brochure	
Conference Program	