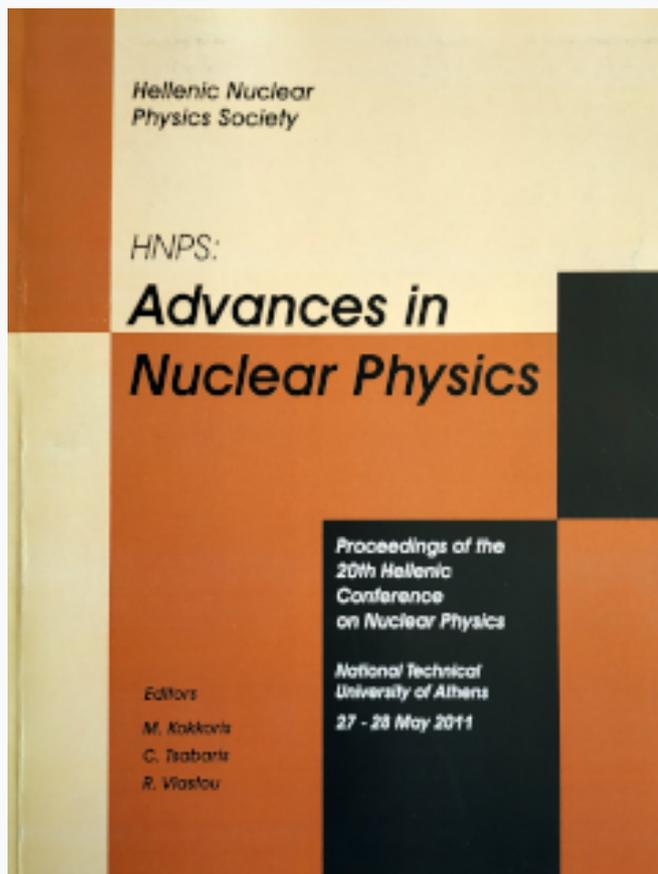


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### Supplementary Material and List of Participants

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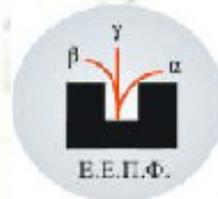
# 20<sup>th</sup> CONFERENCE OF THE HELLENIC NUCLEAR PHYSICS SOCIETY - HNPS 2011

**27 - 28 May 2011, Athens, Greece**  
**National Technical University of Athens, Zografou Campus,**  
**Multimedia Amphitheatre, Central Library Building**

## BOOK OF ABSTRACTS

### Organized by:

**National Technical University of Athens, Department of Physics**  
**Hellenic Centre for Marine Research**  
**Hellenic Nuclear Physics Society**



**Organizing Committee:**  
**Michael Kokkoris (NTUA)**  
**Christos Tsabaris (HCMR)**  
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# 20<sup>th</sup> CONFERENCE OF THE HELLENIC NUCLEAR PHYSICS SOCIETY

National Technical University of Athens, May 27-28, 2011

Multimedia Amphitheatre – Library Building – Zografou Campus

Organizing Committee: M. Kokkoris, C. Tsabaris, R. Vlastou

## SCIENTIFIC PROGRAM

Friday 27 May 2011

08:30-09:00 **Registration**

09:00-09:20 **Opening of the Conference**

09:00-09:10 Address by the Rector of NTUA

09:10-09:20 Welcoming remarks by the President of the HNPS and the Organizing Committee

09:20-11:20 **SESSION I** Chair: C. A. Kalfas (NCSR “Demokritos”)

09:20-09:40 **D. Bonatsos** (NCSR “Demokritos”)

*Group contractions and conformal maps in nuclear structure models*

09:40-10:00 **M. Zamani-Valasiadou** (AUTH)

*Nuclear tracks in solids*

10:00-10:20 **G. A. Souliotis** (UoA)

*Approaching neutron-rich nuclei towards the r-process path in peripheral heavy-ion collisions at 15 MeV/nucleon*

10:20-10:40 **P. Demetriou** (NCSR “Demokritos”)

*Fission properties of actinide nuclei at energies 26.5 and 62.9 MeV*

10:40-11:00 **G. S. Anagnostatos** (NCSR “Demokritos”)

*Towards a unification of independent particle and collective models*

11:00-11:20 **M. Kokkoris** (NTUA)

*Evaluation of differential cross-sections for light element reactions at low energies using R-matrix calculations*

11:20-11:50 **Coffee Break**

11:50-13:50 **SESSION II** Chair: M. Zamani-Valasiadou (AUTH)

11:50-12:10 **C. A. Kalfas** (NCSR “Demokritos”)

*A modern nuclear spectroscopy software package*

12:10-12:30 **A. Lagoyannis** (NCSR “Demokritos”)

*The installation of PAPAP at the tandem laboratory of the institute of nuclear physics, NCSR “Demokritos”*

12:30-12:50 **S. F. Ashley** (NCSR “Demokritos”)

*Lifetime measurements at NCSR “Demokritos”*

12:50-13:10 **T. Konstantinopoulos** (NCSR “Demokritos”)

*Measurement of nuclear lifetimes and B(E2) values in  $^{130}\text{Xe}$  as a test for E(5) symmetry*

13:10-13:30 **M. Fragopoulou** (AUTH)

*Inelastic cross-section of the system deuteron-lead at GeVs*

13:30-13:50 **V. Paneta** (NTUA, NCSR “Demokritos”)

*Proton elastic scattering differential cross-section measurements for  $^{12}\text{C}$*

13:50-15:20 **Lunch and Coffee Break**

**15:20-16:00** **SESSION III** **Poster Session**

**A. Kafkarkou** (NTUA)

*Differential cross-section measurements for the  $p+^{19}\text{F}$  system*

**M. Zioga** (UoA)

*GEANT4/GATE simulation studies in the emission tomography*

**P. Chatzispiloglou** (NTUA, NCSR “Demokritos”)

*Full energy peak efficiency calibration of a HPGe detector using the MC method*

**F. Pappa** (NTUA, HCMR)

*Diffusion and transfer of  $^{137}\text{Cs}$  in deep basins of the Aegean sea*

**D. Papageorgiou** (NTUA, HCMR)

*Radioactivity measurements in core sediments from the gulf of Corinth, the Litochoro coast and the Black Sea*

**A. P. Karageorgis** (HCMR)

*X-ray applications in marine sedimentology*

**A. Ioannidou** (AUTH, INFN)

*$^{131}\text{I}$ ,  $^{137}\text{Cs}$ ,  $^{134}\text{Cs}$  from Fukushima fallout at Milano, Italy*

**G. Trabidou** (NCSR ‘Demokritos’)

*Comparative radiation impact assessment in marine and terrestrial biota*

**H. Kaberi** (HCMR)

*The use of natural and anthropogenic radionuclides in calculating the recent sedimentation rates in the marine environment*

**H. Florou** (NCSR ‘Demokritos’)

*$^{137}\text{Cs}$  in marine sediments from the Eastern Mediterranean during the last 27-year period*

**A. Savidou** (NCSR ‘Demokritos’)

*Pre-decommissioning radiological characterization at the Greek research reactor*

**16:00-18:20** **SESSION IV** Chair: **I. Stamatelatos** (NCSR ‘Demokritos’)

16:00-16:20 **P. Misaelides** (AUTH)

*Investigation of composite surface coatings using IBA techniques*

16:20-16:40 **H. Florou** (NCSR ‘Demokritos’)

*Controls and measurements governing the imports of food and feedstuffs originating from Japan following the accident at Fukushima*

16:40-17:00 **C. Tsabaris** (HCMR)

*In-situ and automated radionuclide quantitative characterization in aquatic ecosystems*

17:00-17:20 **A. Godelitsas** (UoA)

*Applications of “Demokritos” INP tandem accelerator in earth and environmental sciences*

17:20-17:40 **M. Psaltaki** (NTUA)

*Environmental models, a useful tool for assessment of radioactive impact on marine ecosystems*

17:40-18:00 **A. N. Rapsomanikis** (UoA)

*Sensitivity and resolution study of a small-field  $\gamma$ -camera system on a tomographic level*

18:00-18:20 **T. Vasilopoulou** (NCSR “Demokritos”)

*Large sample NAA: Developments and perspectives*

**18:30-19:30** **General Assembly of the Hellenic Nuclear Physics Society**

**21:00**

**Conference Dinner at the Taverna ‘SOUFALA’, near ‘Panormou’ metro station**

## Saturday 28 May 2011

### 09:00-10:20 **SESSION V** Chair: **G. Lalazissis (AUTH)**

09:00-09:20 **T. J. Mertzimekis (UoA)**

*A centennial of the nucleus discovery: The life and works of Ernest Rutherford*

09:20-09:40 **E. Mavrommatis (UoA)**

*NUPECC long range plan 2010: A summary of nuclear theory*

09:40-10:00 **D. Petrellis (NCSR “Demokritos”)**

*Quantum phase transition phenomena in odd–mass nuclei*

10:00-10:20 **V. Blatzios (NTUA)**

*Nilsson orbitals in quantum superintegrable systems*

### 10:20-10:50 **Coffee Break**

### 10:50-12:30 **SESSION VI** Chair: **A. Panagiotou (UoA)**

10:50-11:10 **X. Aslanoglou (U. of Ioannina)**

*Operational status of the CASTOR calorimeter at CMS with proton and heavy–ion beams*

11:10-11:30 **T. Papaevangelou (CEA Saclay)**

*The Micromegas Detector in Nuclear Physics*

11:30-11:50 **G. Tsipolitis (NTUA)**

*The Muon ATLAS MicroMegas Activity (MAMMA)*

11:50-12:10 **C. Tziaka (AUTH)**

*Monte–Carlo calculation of electrons and bremsstrahlung photons produced by U targets irradiated with a 20 MeV electron beam*

12:10-12:30 **I. Savvidis (AUTH)**

*Progress on a spherical proportional counter for nuclear reactor and supernova neutrino detection*

### 12:30-13:30 **Light lunch**

### 13:30-14:50 **SESSION VII** Chair: **D. Bonatsos (NCSR “Demokritos”)**

13:30-13:50 **C. A. Efthimiou (AUTH)**

*The RHVT approach and its application to  $\Lambda$ –hypernuclei*

13:50-14:10 **G. I. Karathanou (U. of Ioannina)**

*Updated solar neutrino fluxes with new heavy element abundances*

14:10-14:30 **S. Karampagia (NCSR, “Demokritos”)**

*Line of approximate  $SU(3)$  symmetry inside the symmetry triangle of the IBM*

14:30-14:50 **P. E. Georgoudis (NCSR, “Demokritos”)**

*The deformation–dependent mass Davidson model*

### 14:50 **Concluding remarks – End of the Conference**