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Symposium Program

/ Editorial Team

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14th SYMPOSIUM OF THE HELLENIC NUCLEAR PHYSICS SOCIETY
National Technical University of Athens, May 21-22, 2004
Administration Building – Zografou Campus
Organizing Committee: R.Vlastou, C.T. Papadopoulos, M. Kokkoris

SCIENTIFIC PROGRAMME

Friday 21 May 2004

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

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

09:00-09:05 Opening Address by the Secretary General of GSRT(to be confirmed)

09:05-09:10 Address by the Rector and Vice Rector of NTUA

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

09:20-11:00 **SESSION I** Chair: **C.A. Kalfas** (NCSR “Demokritos”)

09:20-09:35 **G. Lalazisis** (T.U. Munchen and U. Thessaloniki)

Isospin properties of covariant density functional theory

09:35-09:50 **D. Bonatsos** (NCSR “Demokritos”)

Davidson potential in the frameworks of the E(5) and X(5) critical point symmetries

09:50-10:05 **S. Harissopoulos** (NCSR “Demokritos”)

¹⁰²Pd: The best E(5) dynamical symmetry paradigm

10:05-10:20 **P. Demetriou** (U.L. Brussels)

Global Nuclear predictions for astrophysics applications

10:20-10:35 **S. Karataglidis** (U. Melbourne)

Is friction responsible for the reduction of fusion rates far below the Coulomb barrier?

10:35-10:55 **G. Münzenberg** (GSI, Darmstadt)

FAIR: The Future European Facility for Antiproton and Ion Research at GSI Darmstadt

11:00-11:30 **Coffee Break**

11:30-13:25 **SESSION II** Chair: **P.A. Assimakopoulos** (U. Ioannina)

11:30-11:50 **R. Grötzschel** (Fz. Rossendorf)

The Rossendorf Ion Beam Laboratory

11:50-12:10 **H.-W. Becker**, (U. Bochum)

Ion Beam Analysis for the Investigation of Diffusion Processes

12:10-12:25 **P. Misaelides** (U. Thessaloniki)

Characterization and Investigation of Protective Coatings on Steel Samples Prepared by Plasma Detonation Techniques

12:25-12:40 **N. Patronis** (U. Ioannina)

Exclusive breakup of ⁶Li on a ²⁸Si target at near-barrier energies

12:40-12:55 **N.G. Nicolis** (University of Ioannina)

Simulation of fragment correlations in the disintegration of non-compact nuclear configurations

12:55-13:10 **D. Lenis** (NCSR “Demokritos”)

Z(5): critical point symmetry for the prolate to oblate shape phase transition

13:10-13:25 **T. Liolios** (H.M. Navy Academy)

Screened Alfa Decay in Dense Astrophysical Plasmas and Magnetars

13:30-16:00 **Lunch and Coffee Break**

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

C. Tsabaris (National Centre for Marine Research)

Submersible γ -ray monitoring in the marine environment

K. Eleutheriadis (NCSR "Demokritos")

Evaluation of a mean attachment coefficient for ^{211}Pb on polydisperse aerosol

H. Florou (NCSR "Demokritos")

Determination of radionuclides in «Mytilus Galloprovincialis» by alpha and gamma spectroscopy

S. Athanassopoulos (U. Athens)

One and two proton separation energies from nuclear mass systematics using neural networks

M. Axiotis (L.N. Legnaro and NCSR "Demokritos")

Decay properties of high spin states in ^{52}Mn and ^{52}Fe

D. Patiris (U. Ioannina)

Radon measurements in bottled waters in Greece

D. Patiris (U. Ioannina)

Radon Gas profiles and exposure estimates in the Perama Cave, Greece

Ch. Zarkadas (NCSR "Demokritos")

A portable semi – micro XRF spectrometer for archaeometrical studies

A. Ioannidou (U. Thessaloniki)

Temporal changes of ^7Be and ^{210}Pb concentrations in surface air at temperate Latitudes (40°N)

16:00-15:35 **SESSION IV** Chair: **C. Papanikolas** (U. Athens)

16:00-16:20 **D. Balabanski** (U. Camerino and Sofia)

Study of Magnetic Rotation in ^{193}Pb

16:20-16:35 **R. Vlastou** (NTU Athens)

The Neutron facility at NCSR "Demokritos" – Implementation in the case of the $^{232}\text{Th}(n,2n)$ and $^{241}\text{Am}(n,2n)$ reactions

16:35-16:50 **G. Perdikakis** (NCSR "Demokritos" and NTU Athens)

Measurements of the $^{241}\text{Am}(n,2n)$ cross section by the activation method

16:50-17:05 **S. Galanopoulos** (NCSR "Demokritos")

Proton capture cross section measurements in the Sr isotopes relevant to p process nucleosynthesis

17:05-17:20 **A. Lagoyannis** (NCSR "Demokritos")

Proton-capture reaction cross sections relevant to the p process: Some first results for the Se isotopes

17:20-17:35 **A. Spyrou** (NCSR "Demokritos")

Searching for global α -particle-nucleus potential for astrophysical applications

17:40-19:00 **General Assembly of the Hellenic Nuclear Physics Society - Elections**

21:00 **Conference Dinner at the 'Taverna ATTALOS', at Plaka**

Saturday 22 May 2004

09:00-10:45 **SESSION V** Chair: **M. Grypeos (U. Thessaloniki)**

- 09:00-09:15 **Ch. Moustakidis and S. Massen (U. Thessaloniki)**
The dependence of information entropy of uniform Fermi systems on correlations and thermal effects
- 09:15-09:30 **Th. Petridou (U. Thessaloniki)**
Searches for the Σ -nucleus potential
- 09:30-09:45 **T. Gaitanos (INFN Catania)**
The Nuclear Equation of State (EoS) in Heavy Ion Collisions
- 09:45-10:00 **D. Petrellis (NCSR "Demokritos")**
Variational procedure leading from Davidson potentials to the $E(5)$ and $X(5)$ critical point symmetries
- 10:00-10:15 **M. Zamani-Valassiadou (U. Thessaloniki)**
Energy Calibration of Neutron Proportional Counters
- 10:15-10:30 **M. Fragopoulou (U. Thessaloniki)**
On the Behavior of Spallation Neutrons from Extended Pb Targets plus Moderator: A Comparison between SSNTDs Measurements and Theoretical Calculations
- 10:30-10:45 **B.A. Kotsos (TEI Lamia)**
A simplified analytic treatment of shell-effects in metal clusters

10:45-11:30 **Coffee Break**

11:30-13:15 **SESSION VI** Chair: **S. Simopoulos (NTU Athens)**

- 11:30-11:45 **I. Lirizis and Th. Ganetsos (U. Aegean and U. Athens)**
Dating of Obsidian Tools by Water Diffusion
- 11:45-12:00 **N. Evaggeliou (NCSR, "Demokritos")**
Determination of ^{137}Cs in Sea Water Samples Using Gamma Spectrometry
- 12:00-12:15 **G. Trabidou (NCSR, "Demokritos")**
Distribution and Behavior of Natural Radionuclides in Rocks and Soils of an Insular Area: The Case of the Radioactive Springs in the Island of Ikaria, Aegean Sea
- 12:15-12:30 **E. Gazis (NTU Athens)**
Study of the Radiological Protection Monitoring in the Working Area of an Office Building Under Construction in Athens
- 12:30-12:45 **P. Koulouridakis (T.U. of Crete)**
NAFION Membrane Treatment for Low Level Lead Determination by TXRF
- 12:45-13:00 **M.J. Anagnostakis (NTU Athens)**
Radioactive contamination as a result of an ^{241}Am lightning rod failure
- 13:00-13:15 **N. Giokaris (U. Athens)**
The use of antiprotons for imaging and radiotherapy: A progress report

13:15-15:30 **Lunch and Coffee Break**

15:30-17:15 SESSION VII Chair: S. Kossionides (NCSR “Demokritos”)

- 15:30-15:45 **E. Mavromatis** (U. Athens)
Topics from the theoretical study of nuclei far from stability
- 15:45-16:00 **C. Vellidis** (U. Athens)
Radiation Tail in (e,e',p) Reactions and Corrections to Experimental Data
- 16:00-16:15 **C.A.Efthimiou** (U. Thessaloniki)
The Role of the λ -Effective Mass in a phenomenological Analysis of the λ -Energy in Hypernuclei
- 16:15-16:30 **T. S. Kosmas** (U. Ioannina)
Microscopic calculation of the LSP Detection Rates for the ^{71}Ga , ^{73}Ge and ^{127}I Dark Matter Detectors
- 16:30-16:45 **L. Kaliambos** (Institute of Larissa)
Charge Distributions in Nucleons able to Create the Nuclear Structure
- 16:45-17:00 **P. Paschalis** (U. Athens)
Design and Development of a Position-Sensitive γ -Camera for SPECT
- 17:00-17:15 **A. Panagiotou** (U. Athens)
Heavy-Ion Physics at CMS-CERN
- 17:15-17:30 **G. Anagnostatos** (NCSR, “Demokritos”)
Are the tetra neutron and the hexa neutron particle stable?

Closing of the Symposium