



HNPS25

33rd Annual Symposium of the Hellenic Nuclear Physics Society

6 and 7 June 2025

National and Kapodistrian University of Athens

Program

Program of the 33rd Annual Symposium of the Hellenic Nuclear Physics Society

Friday 06/06/2025

8:30 Registration

9:00 Welcome Addresses

Session 1 *Chair: Ch. C. Moustakidis*

9:30 D. Bonatsos - Triaxial Shapes in Atomic Nuclei

9:50 P. Vasileiou - Exploring Triaxial Deformation in Ground and γ Bands of Even-Even Er Isotopes

10:10 K. E. Karakatsanis - Shape transitions and collective behaviour of Er and Yb isotopes based on relativistic energy density functional theory

10:30 V. Prassa - A Bayesian Network-Based Framework for Predicting Fission Charge Yields

10:50 Coffee break

Session 2 *Chair: M. Kokkoris*

11:10 V. Michalopoulou - Study of the $^{235}\text{U}(n,f)$ reaction in the energy region 1 to 100 eV

11:30 N. Kyritsis - Measurement of the $^{243}\text{Am}(n,f)$ reaction cross-section at the n_TOF facility at CERN

11:50 A. Skouloudaki - Cumulative Yield measurements from $^{235}\text{U}(n_{th},f)$ with the FIPPS detector

12:10 Z. Bari - Cross Section Measurements of Neutron Induced Reactions on Mo Isotopes

12:30 K. Kaperoni - Diamond Detector Development for Neutron Measurements in Harsh Environmental Conditions

Poster session

12:50 Light lunch and Poster session

Session 3 *Chair: D. Bonatsos*

14:50 Ch. C. Moustakidis - Implications of Kaon Condensation in Dense Nuclear Matter for Recent Light Compact Star Observations

15:10 P. S. Koliogiannis - Nuclear Signatures and Stellar Observables: Bridging Terrestrial Experiments and Neutron Star Structure

15:30 A. Kanakis-Pegios - Investigating isovector properties of finite nuclei through neutron stars

15:50 D. Papoulias - Inelastic neutrino-nucleus scattering using a hybrid nuclear model

16:10 Coffee break

Session 4 *Chair: A. Ioannidou*

16:30 M. Kokkoris - Study of Fundamental Channeling Parameters in a Diamond Crystal Using Deuterons and Combining the EBS and NRA Ion Beam Analysis Techniques

16:50 A. Kanellakopoulos - GAMMA-MRI: A Molecular Imaging modality using anisotropic gamma emission from hyperpolarised nuclei

17:10 G. Kumar - Advances in Radon Based Earthquake Forecasting using Sensor Networking

17:30 Z. Maniati - Studying temporal trends of radionuclides' and chemical concentrations accumulated at the North Cretan Basin, Greece

17:50 C. Tsabaris - The development of a detection system to inspect suspicious nuclear objects in ships's hul in the frame of the EU UnderSEC project

18:10 Short break

18:15 HNPS General Assembly and Elections

20:30 Conference Dinner

Saturday 07/06/2025

Session 5 *Chair: G. Souliotis*

10:00 P. Koseoglou - Gamma-spectroscopy on the well-deformed ^{178}Yb

10:20 A. Martinou - Future perspectives of the proxy-SU(3) symmetry

10:40 K. Gkatzogias - Multinucleon transfer mechanisms in peripheral collisions of $^{40}\text{Ar} + ^{64}\text{Ni}$ at 15 MeV/nucleon

11:00 E. Kontogianni - Multinucleon Transfer in Peripheral Collisions of ^{64}Ni on ^{64}Ni at 25 MeV/nucleon

11:20 O. Fasoula - Multinucleon Transfer Channels in $^{86}\text{Kr} + ^{64}\text{Ni}$ peripheral collisions at 15 and 25 MeV/nucleon

11:50 **Coffee break**

Session 6 *Chair: P. Koseoglou*

12:20 I. Kaissas - Analysis of SMR behavior during normal operation procedures and malfunction events using IAEA's IPWR simulation

12:40 N. G. Nicolis - Progress in Modeling Proton Reactions on Natural Silicon Targets

13:00 M. Peoviti - Preliminary results of (p, γ) and (α , γ) reaction cross-sections on ^{73}Ge relevant to nuclear astrophysics

13:20 E. Mitsi - *In-situ* observation of radiation damage saturation in ion irradiated Fe thin films

13:40 **Closing Remarks for HNPS25**

Poster contributions

Poster session: Friday 06/06/2025 12:50	
P-1	A. Pakou - Abnormal large reaction cross sections for weakly bound nuclei at deep sub-barrier energies
P-2	M. Lizardou - Calculations of water activation in fission reactors using Monte Carlo simulations
P-3	A. Tasiopoulou - Analysis of historical events using sediment cores and nuclear methods
P-4	E. Kapsokoli - Soil Radioactivity in urban parks of Piraeus
P-5	S. Zonitsas - Development and Evaluation of a new Proton Irradiation Experimental Set-up for Radiobiological Experiments using Human Cells
P-6	K. Palli - Reaction mechanism for ${}^8\text{B}+{}^{\text{nat}}\text{Zr}$ at the sub-Coulomb energy of 26.5 MeV
P-7	E. Karpouza - Evaluation of Environmental Radioactivity in Thessaly after Storm Daniel: A Pilot Study
P-8	R. Kourgiantakis - Study of Point Defects due to Ion Irradiation in the CrMnFeCoNi High Entropy Alloy
P-9	E. Travlou - Multinucleon transfer in peripheral collisions of ${}^{86}\text{Kr}$ on ${}^{208}\text{Pb}$ at 25 MeV/nucleon
P-10	M. Efstathiou - Ground-state lifetime measurements in Tellurium decay chains: Method and Results
P-11	S. Koulouris - Elastic Scattering of Medium-Mass Heavy-Ions and the Compressibility of the Nuclear Equation of State
P-12	N. Giannakou - Neutron Activation Cross Section Measurement of the (n,2n) Reaction on ${}^{203}\text{Tl}$ at 14.6 MeV
P-13	K. Topalis - Investigating the nuclear structure of ${}^{116,118}\text{Te}$
P-14	Ch. Giannitsa - Investigation of α -cluster Transfer in Peripheral Collisions of ${}^{40}\text{Ca}$ (12.3 MeV/nucleon) + ${}^{27}\text{Al}$ using the MARS Spectrometer at Texas A&M
P-15	S. Karachristos - Study of Deuteron-Induced Reactions in ${}^{18}\text{O}$ in the Framework of NRA
P-16	A. Violanti - Gamma-ray spectroscopic analysis around the N=104 mid-shell for ${}^{176,177}\text{Yb}$ and ${}^{182}\text{W}$ nuclei
P-17	A. Karakaxi - Time-of-Flight Neutron Transmission Measurements on ${}^{\text{nat}}\text{Cu}$ at the GELINA Facility
P-18	G. Apostolopoulos - OpenTRIM: an open source Monte-Carlo simulation code for ion transport in materials
P-19	M. Karlatira - Measurement of the ${}^{234}\text{U}(\text{n},\text{f})$ cross-section with Micromegas Detectors
P-20	D. A. Papadopoulos - Investigation of the Yb and W isotopic chains using the confined β -soft rotor model
P-21	K. Konstantinidis - Measurement of the differential cross sections of the ${}^{24}\text{Mg}(\text{p},\text{p}'\gamma)$ reaction at three detection angles relevant to the PIGE technique
P-22	A. Lympelopoulou - Hauser-Feshbach studies of α -capture reactions in molybdenum isotopes
P-23	N. Pouris - Flux Determination of the 17MeV quasi-monoenergetic Neutron Beam at NCSR "DEMOKRITOS" using the Multiple Foil Activation technique
P-24	E. Bampaloukas - Setup and calibration of in-situ gamma-ray spectrometer for marine applications
P-25	I. Tsormpatzoglou - Characterization of BC501A Liquid Scintillator for Neutron-Gamma Discrimination using the Pulse Shape Analysis Technique

P-26	D. P. Nikou - Estimation of cross section for proton-induced reactions in stable Yb isotopes at astrophysical energies
P-27	S. K. Roumelioti - Calibration of CZT detector systems for laboratory measurement of marine sediment
P-28	G. Andrianopoulos - Design and operation of an Inertial Electrostatic Confinement Fusion Device (FUSOR)
P-29	A. Kalamara - Simulations for Optimization of Proton Dose Delivery Using the Advanced Markus Chamber
P-30	T. Schizas - Development and construction of an Arduino-based Geiger-Müller detector for radiation monitoring applications