



V International Conference on Nuclear Structure and Dynamics

NSD2024

Valencia, 27-31 May 2024

Monday

May 27

8:30 Registration

9:00 Opening

Session 1

Chairperson: Rosa María Pérez Vidal

09:35	10:05	Silvia Leoni (University & INFN Milano, Italy) <i>Multifaceted character of shape coexistence phenomena in atomic nuclei</i>
10:05	10:35	Xavier Roca Maza (University of Barcelona, Spain) <i>Parity-violating asymmetry and dipole polarizabilities in atomic nuclei: how do they reconcile with each other?</i>
10:35	11:00	Dolores Cortina Gil (IFIC, CSIC-University of Valencia, Spain) <i>Physics opportunities with relativistic rare ion beams at R3B/FAIR</i>

Coffee Break

Session 2

Chairperson: Andrea Jungclaus

11:30	12:00	Tomás R. Rodríguez (Universidad Complutense de Madrid, Spain) <i>Multiple shape coexistence around ^{80}Zr region</i>
12:00	12:30	José Javier Valiente (INFN-LNL, Italy) <i>The AGATA physics campaign at Legnaro National Laboratories</i>
12:30	12:50	Alfredo Poves (IFT, Universidad Autónoma de Madrid-CSIC, Spain) <i>Nuclear Shapes and their Coexistence at the Islands of Inversion</i>
12:50	13:10	Radu Budaca (Horia Hulubei National Institute for R&D in Physics and Nuclear Engineering, Bucharest, Romania) <i>Spin dynamics of triaxial nuclei with a quasiparticle alignment</i>
13:10	13:30	Irene Dedes (IFJ PAN, Poland) <i>High Multipolarity Tetrahedral Symmetry Shapes Predicted in Nuclei with Nucleon Numbers around $Z=N=40$</i>

13:30 Lunch

15:00	15:30	Tea Mijatović (Institut Ruđer Bošković, Croatia) <i>Multi-nucleon Transfer Reactions: Recent Insights from Experiments at LNL-INFN</i>
15:30	16:00	Liss Vázquez Rodríguez (CERN, Switzerland) <i>Exploring the secrets of the atomic nucleus with the COLLAPS setup at CERN</i>
16:00	16:20	David Palacios Suárez-Bustamante (IGFAE-Universidad de Santiago de Compostela, Spain) <i>β-decay study of $^{76,77}\text{Cu}$</i>
16:20	16:40	Dorian Grzegorz Frycz (University of Barcelona, Spain) <i>Shell-model study of ^{28}Si: shape coexistence and superdeformation</i>
16:40	17:00	Alexandrina Petrovici (National Institute for Physics and Nuclear Engineering IFIN-HH, Romania) <i>Various facets of shape coexistence in neutron-rich nuclei within a beyond-mean-field approach</i>

Coffee Break

17:30	18:00	Giovanna Benzoni (INFN-Milano, Italy) <i>New half-lives measurements for r-process in A~225 Po-Fr nuclei</i>
18:00	18:20	Irene Zanon (Stockholm University, Sweden) <i>Anomalous $B_{4/2}$ ratio in the yrast band of ^{167}Os</i>
18:20	18:40	Victoria Vedia (TRIUMF, Canada) <i>Probing the rapid onset of deformation below ^{68}Ni through the beta decay of ^{67}Mn</i>
18:40	19:00	Chengjian Lin (CIAE Department of Nuclear Physics, Beijing, China) <i>Exotic Decays of Extremely Proton-rich Nuclei in sd-shell and Related Topics</i>



Tuesday

May 28

Session 5

Chairperson: Alberto Stefanini

09:00	09:30	Khuyagbaatar Jadambaa (GSI, Germany) <i>Probing the fission-landscape and the structure of superheavy nuclei</i>
09:30	10:00	Katsuhisa Nishio (JAEA, Japan) <i>Multinucleon Transfer Reactions for fission study</i>
10:00	10:20	Carlos Ferrera González (IEM-CSIC, Madrid, Spain) <i>Single-particle states in fp-shell nuclei through $^{50}\text{Ca}(d, p)^{51}\text{Ca}$ transfer reaction</i>
10:20	10:40	Ernest Piasecki (Heavy Ion Laboratory, University of Warsaw, Poland) <i>The influence of dissipation on the quasielastic barrier distributions of the $^{20}\text{Ne}+^{92,94,95}\text{Mo}$ systems</i>
10:40	11:00	Giovanna Montagnoli (Univ. di Padova & INFN-PD, Italy) <i>Recent data on fusion far below the barrier for $^{12}\text{C} + ^{28}\text{Si}$</i>

Coffee Break

Session 6

Chairperson: Jose Javier Valiente-Dobon

11:30	12:00	Dario Vretenar (University of Zagreb, Croatia) <i>Microscopic description of induced fission dynamics</i>
12:00	12:30	Diana Carbone (INFN – Laboratori Nazionali del Sud, Italy) <i>The NUMEN project: nuclear response to weak interaction investigated by nuclear reactions</i>
12:30	12:50	Antoine Barrière (GANIL, France) <i>Study of the ^{14}B nuclear structure and the tensor force contribution in the O isotopic chain using QFS reactions</i>
12:50	13:10	Saturnino Marcos (Universidad de Cantabria, Spain) <i>The kink effect of the nuclear charge radius in mean-field relativistic models</i>
13:10	13:30	Lei Yang (China Institute of Atomic Energy, China) <i>Reaction dynamics of proton drip-line nuclei at energies around the Coulomb barrier</i>

13:30 Lunch

Session 7

Chairperson: Beatriz Fernández Domínguez

15:00	15:30	Alessia Di Pietro (INFN – Laboratori Nazionali del Sud, Catania, Italy) <i>Reaction dynamics and nuclear structure of light exotic nuclei</i>
15:30	15:50	Deša Jelavić Malenica (Ruđer Bošković Institute, Zagreb, Croatia) <i>Investigating cluster structures in the A=10 mass region via $^{10}\text{B} + ^{10}\text{B}$ nuclear reactions</i>
15:50	16:10	María José García Borge (IEM-CSIC, Madrid, Spain) <i>β-decay as a probe of the isospin doublet in ^8Be</i>
16:10	16:30	Ivano Lombardo (Univ. di Catania and INFN-Sezione di Catania, Italy) <i>Alpha structure of ^{16}O at high excitation energies by $^3\text{He} + ^{13}\text{C}$ nuclear reactions</i>
16:30	16:50	Lucia Baldesi (Università di Firenze, Italy) <i>Comparison of $^{18}\text{O} + ^{12}\text{C}$ at 16.7 MeV/nucleon reaction with the AMD+GEMINI++ model</i>

Coffee Break

Session 8

Chairperson: Piotr Bednarczyk

17:10	17:30	Sandra Zavatarelli (INFN - Genova, Italia) <i>The study of $^{20}\text{Ne}(p,\gamma)^{21}\text{Na}$ and $^{21}\text{Ne}(p,\gamma)^{22}\text{Na}$ reactions at LUNA</i>
17:30	17:50	Helena Pais (University of Coimbra, Portugal) <i>Influence of the tetraneutron on the EoS under core-collapse supernova and heavy-ion collision conditions</i>
17:50	18:10	Miguel Madurga Flores (University of Tennessee, USA) <i>New Isomeric Transition in ^{36}Mg: Merging the N=20 and N=28 islands of inversion</i>
18:10	18:30	Tim Enrico Lellinger (CERN, Switzerland) <i>First laser-spectroscopy measurements across N = 32 in the calcium isotopic chain</i>
18:30	18:50	Serge Franchoo (IJC & University Paris-Saclay, France) <i>In-beam γ-ray spectroscopy and lifetimes of excited states of ^{79}Cu</i>
18:50	19:10	Pengwei Zhao (Peking University, China) <i>Neutrinoless double beta decay in the relativistic framework</i>

19:30 Poster Session & Cocktail



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Poster Session

Nikita Bernier (University of the Western Cape, South Africa)

Establishing the deformation characteristics of ^{66}Ge

Marcell Juhász (HUN-REN Institute for Nuclear Research, Budapest)

First spectroscopic study of ^{51}Ar by the $(p,2p)$ reaction

Odette Alonso-Sañudo (Universidad Complutense de Madrid, Spain)

Measurement of $^{27}\text{Al}(\alpha, n\gamma)^{30}\text{P}$ reaction yields and angular correlations

Theodor Popa (Horia Hulubei National Institute of Physics and Nuclear Engineering, Romania)

Pair condensation in excited states of neutron-rich nuclei

Julien Pépin (IFIC CSIC-UV, Spain & IMT Atlantique, France)

Study of exotic nuclei of interest for applied and fundamental nuclear physics with Total Absorption Gamma Spectroscopy (TAGS)

Martina Feijoo Fontán (Universidade de Santiago de Compostela, Spain)

Study of multinucleon knockout reactions of exotic nuclei in the region of Nitrogen

Daniel Fernández Ruiz (IEM-CSIC, Spain)

Studying the structure of Li-11 via transfer reactions

Martin Ivanov (Institute for Nuclear Research and Nuclear Energy, Bulgarian Academy of Sciences, Bulgaria)

Superscaling analysis of inclusive electron and (anti)neutrino scattering within the coherent density fluctuation model



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Wednesday May 29

Session 9

Chairperson: Dario Vretenar

09:00	09:30	Beatriz Fernández Domínguez (IGFAE-Universidade de Santiago de Compostela, Spain) <i>Highlights from the first transfer experiment at GANIL with the ACTAR TPC</i>
09:30	10:00	Lorenzo Corradi (INFN-LNL, Italy) <i>Sub-barrier transfer reactions and the nuclear Josephson effect</i>
10:00	10:20	Nicolae Sandulescu (National Institute for Physics and Nuclear Engineering IFIN-HH, Rumania) <i>Proton-neutron pairing and α-like quartet condensation in $N=Z$ nuclei</i>
10:20	10:40	Enrico Vigizzi (INFN Milano, Italy) <i>Pair vibrational modes and many-body effects</i>
10:40	11:00	Vasileios Soukeras (INFN – Laboratori Nazionali del Sud, Catania, Italy) <i>$^4\text{He} + ^4\text{He}$ elastic and inelastic scattering: probing the mysterious properties of the 0^+_2 state of ^4He</i>

Coffee Break

Session 10

Chairperson: Alfredo Poves

11:30	12:00	Piotr Magierski (Warsaw University, Poland) <i>Nuclear reactions in the framework of time-dependent density functional theory with pairing correlations.</i>
12:00	12:30	Anu Kankainen (University of Jyväskylä, Finland) <i>Isomeric states close to ^{78}Ni studied via high-precision mass measurements</i>
12:30	12:50	Ismael Martel (University of Huelva, Spain) <i>Coulomb barrier dynamics of nuclear haloes</i>
12:50	13:10	Luis Mario Fraile Prieto (Universidad Complutense de Madrid, Spain) <i>I-forbidden $M1$ transitions in semimagic nuclei</i>
13:10	13:30	Arnoldas Deltuva (Vilnius University, Lithuania) <i>Reactions in three- and four-body nuclear and hypernuclear systems</i>

13:30 Free Afternoon

20:30 Conference Dinner



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Thursday May 30

Session 11

Chairperson: José Nicolás Orce

09:00	09:30	Daniele Mengoni (University and INFN Padova) <i>Exploring nuclear structure: advancements in direct reaction studies with γ-ray tracking spectrometers</i>
09:30	10:00	Adam Maj (IFJ PAN Krakow, Poland) <i>PARIS array - status, first experiments and plans</i>
10:00	10:20	Mitko Gaidarov (INRNE-BAS, Sofia, Bulgaria) <i>Microscopic analysis of giant monopole resonance in nuclear isotopic chains</i>
10:20	10:40	Marcos Llanos Expósito (Universidad Complutense de Madrid, Spain) <i>Gamma and Fast-Timing spectroscopy in the $^{128}\text{Cd} \rightarrow ^{128}\text{In} \rightarrow ^{128}\text{Sn}$ β-decay chain</i>
10:40	11:00	Esra Yuksel (University of Surrey, U.K.) <i>Electromagnetic dipole transitions in nuclei at finite temperature</i>

Coffee Break

Session 12

Chairperson: Alexandrina Petrovici

11:30	12:00	Yifei Niu (Lanzhou University, P. R. China) <i>The self-consistent quasiparticle vibration coupling approach for the study of nuclear giant resonances.</i>
12:00	12:30	José Nicolás Orce (University of the Western Cape, South Africa) <i>Nuclear structure and dynamics of the GDR at low temperatures and its influence in the universal abundance of elements</i>
12:30	12:50	Hemantika Sengar (GANIL, Caen, France) <i>Shedding new light on the structure of ^{56}Ni using $(n,3n)$ reaction at NFS</i>
12:50	13:10	Andrés Illana Sisón (Universidad Complutense de Madrid, Spain) <i>Octupole correlations in the neutron-deficient ^{110}Xe nucleus</i>
13:10	13:30	Francesco Marino (IKP, Johannes Gutenberg Universität, Mainz, Germany) <i>Ab initio Green's functions approach for homogeneous nuclear matter</i>

13:30 Lunch

15:00	15:30	Enhong Wang (Shandong University, China) <i>γ-spectroscopy combining isotopically identified fragments and high-fold γ-rays in Nb isotopes - first observation of 1 and 2 phonon γ-vibrational bands in odd-odd nucleus</i>
15:30	15:50	Gustavo Adolfo Alcalá Escalona (IFIC, CSIC-University of Valencia, Spain) <i>Beta Decay Spectra Measurements for the Study of Reactors' Antineutrino Spectra</i>
15:50	16:10	Sonja Origo (IFIC, CSIC-University of Valencia, Spain) <i>TAGS measurements at GANIL with STARS</i>
16:10	16:30	Tik Tsun Yeung (The University of Tokyo, Japan) <i>New isomers in ^{213}Tl and ^{215}Tl revealing shell evolution beyond N = 126 shell closure</i>
16:30	16:50	Marta Polettini (University & INFN Padova, Italy) <i>Core-breaking effects approaching ^{100}Sn: lifetime measurements in $^{98,100}\text{Cd}$</i>

Coffee Break

17:10	17:30	Petrica Buganu (Horia Hulubei National Institute for R&D in Physics and Nuclear Engineering, Bucharest, Rumania) <i>A unified description of the shape phase transitions, shape coexistence and mixing phenomena in nuclei</i>
17:30	17:50	Esperanza Maya Barbecho (Universidad de Huelva, Spain) <i>Shape coexistence and the onset of deformation around A=100: comparing even-even and odd-even cases</i>
17:50	18:10	Samuel Ayet San Andres (IFIC, CSIC-University of Valencia, Spain) <i>Mass measurements of N = 50 isotones and its implications in the nuclear structure around ^{100}Sn</i>
18:10	18:30	Anna Bohn (IKP, University of Cologne, Germany) <i>Lifetime measurements in the A ~ 100 mass region via the coincidence Doppler-shift attenuation method</i>
18:30	18:50	Jaime Benito García (Universidad Complutense de Madrid, Spain) <i>Detailed structure of ^{131}Sn populated in the β-decay of isomerically-purified ^{131}In states</i>
18:50	19:10	Arnau Rios Huguet (University of Barcelona, Institute of Cosmos Sciences, Spain) <i>The shell model in a quantum computer</i>



Friday

May 31

Session 15

Chairperson: Lorenzo Corradi

09:00	09:30	Emmanuel Clement (GANIL, Caen, France) <i>Physics with Post-Accelerated RIB at GANIL with AGATA</i>
09:30	10:00	Franco Galtarossa (INFN Sezione di Padova, Italy) <i>Lifetime measurements after transfer reactions with AGATA at LNL</i>
10:00	10:30	Yung Hee Kim (Institute for Basic Science, Daejeon, Korea) <i>Prompt and delayed γ-ray spectroscopy of neutron-rich Au isotopes populated from multi-nucleon transfer reaction</i>
10:30	11:00	Augusto O. Macchiavelli (Oak Ridge National Laboratory, USA) <i>Some aspects of the structure of neutron-rich F isotopes in the Particle-Rotor Model</i>

Coffee Break

Session 16

Chairperson: Augusto O. Macchiavelli

11:30	12:00	James Cubiss (University of York, UK) <i>In-source laser spectroscopy @ ISOLDE: studies of shape coexistence and shape evolution across the lead region</i>
12:00	12:30	Nils Paar (University of Zagreb, Croatia) <i>Global properties of nuclei and drip lines at finite temperature</i>
12:30	12:50	Julgen Pellumaj (INFN-Milano & INFN-LNL, Italy) <i>Lifetime measurements in the N=126 region with the reversed plunger configuration</i>
12:50	13:10	Javier Menéndez Sánchez (University of Barcelona, Spain) <i>Double-gamma decays of double-beta decay emitters: can they be measured?</i>
13:10	13:30	Oleg Tarasov (FRIB / MSU, USA) <i>First Observation of New Isotopes at FRIB: What Comes Next?</i>

13:30 Conference closure



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