

Carpathian Summer School of Physics 2020
Exotic Nuclei and Nuclear/Particle Astrophysics (VIII). Physics with small accelerators
 August 18th-27th, 2021, Sinaia, Romania
Program

Thursday, June 19th, 2021		<i>Opening and Nuclear astrophysics</i>
Morning Session: Opening		
<i>Chair: L. Trache</i>		
09:00 - 09:15	<i>Opening. Livius Trache: Opening remarks (10 min)</i>	
09:15 - 10:50	<i>Aurora Tumino (Catania & Enna): Introduction to NA. Origin of the Chemical Elements in the Universe.</i>	
10:50 - 11:10	<i>Coffee break</i>	
11:10 - 12:25	<i>Tamas Szücs (Debrecen) – Low energy nuclear reaction studies</i>	
12:25 - 13:00	<i>László Csedreki (Debrecen) – Physics at LUNA</i>	
13:00 - 15:00	<i>Lunch</i>	
Afternoon Session		
<i>Chair: R. Sparta</i>		
15:00 - 15:50	<i>László Csedreki - cont'd</i>	
15:50 - 16:10	<i>Coffee break</i>	
16:10 - 17:10	<i>Communications:</i> <i>Lorenzo Roberti - Presupernova evolution and nucleosynthesis of very low metallicity massive stars</i> <i>Sofia Sanz del Pino - The Astronomical discoveries led by the study of Cepheid variables</i> <i>David Kahl - Me, Al Cameron, and the Heat Death of the Universe</i>	
17:10 - 18:10	<i>Adrian Mare - From Nuclear Structure and Dynamics to rp-Process Nucleosynthesis in X-Ray Bursts</i> <i>Yasmine Demane - Nucleosynthesis & p-process</i> <i>Tibor Szegedi - Alpha-induced cross section measurements on Mo isotopes</i>	

Friday, August 20th, 2021

Exotic states in Nuclei & NA

Morning Session

Chair: R. Diehl


09:00 - 10:50	Muhsin Harakeh (Groningen) – <i>Study of isoscalar and isovector electric giant resonances in direct and inverse kinematics</i>
10:50 - 11:10	<i>Coffee break</i>
11:10 - 12:05	Karl-Ludwig Kratz (Mainz) – <i>The stellar r-process</i>
12:05 - 13:00	K-L Kratz – <i>The s-process</i>
13:00 - 15:00	<i>Lunch</i>

Afternoon Session

Chair: A. Spiridon

15:00 - 15:50	Roberta Sparta (Catania) – <i>The Trojan Horse Method in Nuclear Astrophysics</i>
15:50 - 16:10	<i>Coffee break</i>
16:10 - 17:10	Giuseppe Rapisarda (Catania) – <i>Investigation of the Carbon and Oxygen burning via THM</i> Shubhchintak (Brussels) - <i>Nuclear transfer reactions and their role in nuclear astrophysics</i>

Saturday, August 21st, 2021	
Morning Session Nuclear Astrophysics	
<i>Chair: D. Filipescu</i>	
09:00 - 10:50	Carlos Bertulani (TAMU Commerce) – <i>Indirect Methods in Nuclear Astrophysics</i>
10:50 - 11:10	<i>Coffee break</i>
11:10 - 12:05	Roland Diehl (Munich) - <i>Learning from directly observing cosmic isotopes</i>
12:05 - 13:00	Julien Fuchs (IFIN-HH) - <i>Laser-driven laboratory astrophysics</i>
13:00 - 15:00	<i>Lunch</i>
Afternoon Session Outreach session – round table format	
<i>Moderator: L. Trache</i>	
15:00 - 15:50	(1) “65 years of institutional nuclear physics in Romania”: N. Marginean, F. Buzatu, et al.
15:50 - 16:10	<i>Coffee break</i>
16:10 -	(2) “Science and scientific meetings in time of crisis” <i>Round table format</i>

Sunday, August 22nd, 2021	Sinaia’s trails or excursion
	

Monday, August 23rd, 2021	
Morning Session Physics at ELI-NP	
<i>Chair: F. Negoita</i>	
09:00 - 09:55	Kazuo Tanaka (Bucharest) - <i>Physics Horizon Expandable with 10 PW Laser Beams at ELI-NP</i>
09:55 - 10:50	Pär-Anders Söderström (Bucharest) - <i>Electric dipole response of low-mass nuclei for the mass evolution of extra-galactic ultra-high energy cosmic rays</i>
10:50 - 11:10	<i>Coffee break</i>
11:10 - 12:05	Ioan Dancus (Bucharest) - <i>High Power Laser System at ELI-NP</i>
12:05 - 13:00	Ovidiu Tesileanu (Bucharest) - <i>Commissioning Experiments in E4 and E7 at ELI-NP</i>
13:00 - 15:00	<i>Lunch</i>
Afternoon Session	
<i>Chair: K. Tanaka</i>	
15:00 - 15:30	Florin Negoita (Bucharest) – <i>Proposal for a Radioactive Ion Facility at IFIN-HH (RIF@IFIN)</i>
15:30 - 16:00	Domenico Doria (Bucharest) - <i>Laser-driven experiments relevant to the PW areas commissioning</i>
16:00 - 16:20	<i>Coffee break</i>
16:20 - 17:10	Dario Lattuada (Catania & Enna) - <i>Laser induced reactions for Nuclear Astrophysics</i>
17:10 – 17:40	G. Luca Guardo (Catania) – <i>Silicon detector arrays for Nuclear Astrophysics: the case of the $^{19}\text{F}(p,a)$ reaction</i>
17:40 – 18:00	<i>Communications:</i> Lucian Tudor - <i>Characterization of laser-accelerated protons based on the excitation of nuclear isomeric states</i>

Tuesday, August 24th, 2021	
Morning Session	
Nuclear Equation of State	
<i>Chair: C. Bertulani</i>	
09:00 - 09:55	Adriana Raduta (Bucharest) – <i>Nuclear EoS and neutron stars</i>
09:55 - 10:50	Helena Pais (Coimbra) - <i>The equation of state for warm stellar matter: light and heavy clusters</i>
10:50 - 11:10	<i>Coffee break</i>
11:10 - 12:00	Mikhail Beznogov (Mexico City & Bucharest) - <i>Neutron stars and their thermal evolution</i>
12:00 - 12:50	Dan Filipescu (Bucharest) - <i>Photoneutron cross section measurements with Laser Compton scattered gamma-ray beams</i>
13:00 - 15:00	<i>Lunch</i>
Afternoon Session	
Nuclear Astrophysics	
<i>Chair: R.G. Pizzone</i>	
15:00 – 15:30	Maria Letizia Sergi (Catania) – <i>Application of the THM to neutron induced reactions</i>
15:30 – 16:00	Alexandra Spiridon (Bucharest) – <i>Ion-ion fusion reactions at sub-barrier energies</i>
16:00 - 16:20	<i>Coffee break</i>
16:20 - 16:50	Ioana Gheorghe (Bucharest) - <i>Photoneutron reaction data in the Giant Dipole Resonance region</i>
16:50 - 17:30	<i>Communications:</i> Alexandra Chilug - <i>Breakup of ^9C</i> Iuliana Stanciu - <i>Search for Supernova R-process actinides in geological reservoirs</i>

Wednesday, August 25th, 2021		AstroParticles & Exotic Nuclei
Morning Session		
<i>Chair: I. Burducea</i>		
09:00 - 09:55	Alexandra Saftoiu (Bucharest) – <i>Introduction to cosmic rays</i>	
09:55 - 10:50	Alina Badescu (Bucharest) -	
10:50 - 11:10	<i>Coffee break</i>	
11:10 - 12:00	Mihai Stanoiu (Bucharest) - <i>A short history of exotic nuclei!</i>	
12:00 - 12:50	Andrei Neacsu (Bucharest) – <i>Double-Beta Decay and Beyond Standard Model Physics</i>	
13:00 – 15:00	<i>Lunch</i>	
Afternoon Session		
<i>Chair: C. Borcea</i>		
15:00 - 16:00	<i>Communications:</i>	
	Gustavo Adolfo Alcalá Escalona - <i>MonteCarlo Tools for β Decay Spectra Calculations</i>	
	Jose Antonio Victoria Fernández - <i>Beta decay studies around 100Sn region</i>	
	Denis Stanca - <i>Introduction to muography</i>	
16:00 - 16:20	<i>Coffee break</i>	
16:20 - 17:20	Raluca Smau - <i>Muography applications at IFIN-HH</i>	
	Andreea Oprea - <i>Neutron capture cross section measurements of ^{241}Am at the n-TOF facility</i>	
	Ionut Stefanescu - <i>βp decay of ^{27}P</i>	
17:20 – 18:20	Radostina Zidarova - <i>First gamma-ray spectroscopy of neutron rich Scandium isotopes</i>	
	Madalina Dobre - <i>Digital signal reconstruction of AERA data</i>	
	Vasile-Alin Sevestrean - <i>Distinguishing Between the Different Mechanisms Contributing to Neutrinoless Double-Beta Decay</i>	

Thursday, August 26th, 2021		Physics with small accelerators
Morning Session		
<i>Chair: M. Stanoiu</i>		
09:00 - 09:50	Ion Burducea (Bucharest) – <i>Small accelerators for science and applications</i>	
10:00 - 10:50	Nicoleta Florea (Bucharest) – <i>Targets for nuclear physics and astrophysics</i>	
10:50 - 11:10	<i>Coffee break</i>	
11:10 - 12:00	Catalin Borcea (Bucharest) – <i>Nuclear Fission at 80</i>	
12:00 – 13:00	Communications: Ákos Tóth - <i>Activation measurement of the $3\text{He}(\alpha,\gamma)7\text{Be}$ reaction around known 7Be levels</i> Sándor Kovács - <i>Measurement of beta-decay properties of very neutron rich Pm isotopes for r-process studies</i> Alexandru State - <i>RIB formation with supersonic jets at ELI-NP</i>	
13:00 – 15:00	<i>Lunch</i>	
Afternoon Session		
<i>Chair: A. Saftoiu</i>		
15:00 - 16:00	Communications: Radu Andrei - <i>Studies on memristive devices. 3 MV Tandatron implantation beam line developments</i> Doru Pacesila - <i>Accelerator Mass Spectrometry of Plutonium Isotopes at IFIN-HH</i> Vlad Vasilca - <i>Photonuclear Production of Medically Relevant Radionuclides at ELI-NP</i>	
16:00 - 16:20	<i>Coffee break</i>	
16:20 - 17:40	Fan Zhu - <i>A geant4 study of background reduction in pulsed gamma beam experiments in ELI-NP</i> Alexandru Magureanu - <i>Targets used in laser-driven proton acceleration based on TNSA mechanism</i> Ana Maria Lupu - <i>Thermal and gamma irradiation qualification of PLA/SIS blends for packaging and medical applications</i> Irina Avram and Eugenia Coiciu - <i>Radiological protection simulations in Monte Carlo numerical codes and dosimetry equipment for ELI-NP facility</i>	
17:40 – 18:00	Livius Trache - Closing remarks	

Friday, August 27th, 2021	Departures
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