

16th International Conference on Nuclear Reaction Mechanisms

Varenna, June 12-16, 2023

Monday morning

8.50-11 [Chairperson: E. Tomasi]
(10')

OPENING

(25'+5')

Nuclear potentials

F. Nunes	Optical potentials and uncertainties
G. Blanchon	On the separability of microscopic optical model potentials and emerging bell-shape Perey–Buck nonlocality
T. Furumoto	Construction of density dependent α -nucleon interaction to describe α -nucleus scattering
A. Bonaccorso	Nuclear reaction cross sections and the optical potentials for the n - ^{12}C and N - ^{12}C scattering

COFFEE BREAK

11.30-13 [Chairperson: B. Carlson]
(25'+5')

Form factors

E. Tomasi	At the heart of the proton
Y. Wang	Recent results of Baryon electromagnetic form factors at BESIII
S. Pacetti	The first exploration of the physical Riemann surfaces of the ratio between the electric and the magnetic Λ form factors

Monday afternoon

15-17 [Chairperson: **H. Wolter**]
(25'+5')

Reaction theory

H. Lenske	Formal Theory of Nuclear Double Charge-Exchange Reactions
M. Herman	Problem with gradual absorption in MSD/MSD calculations
M. Dupuis	Implications of a microscopic modeling of direct and pre-equilibrium mechanisms on the neutron + actinides reaction observables
B. Carlson	Monte Carlo evaluation of the semiclassical multi-step direct reaction series

TEA BREAK

17.30-18.20 [Chairperson: **M. Colonna**]
(25'+5')

Reaction theory

P. Fraser	A multichannel algebraic scattering approach to astrophysical reactions
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(15'+5')

S. Watanabe	Collective and single-particle excitations in breakup reactions of the deformed halo nucleus ^{31}Ne
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Tuesday morning

9-11 [Chairperson: M. Dupuis]
(25'+5')

Heavy-ion reactions

H. Wolter	Transport model comparisons for intermediate-energy heavy-ion collisions
M. Colonna	Modeling double charge-exchange processes occurring in heavy ion reactions

(15'+5')

A. Spatafora	The multi-channel experimental and theoretical approach to study the $^{12}\text{C}(^{18}\text{O}, ^{18}\text{F})^{12}\text{B}$ single charge exchange reaction mechanism
B. Gnoffo	Isospin influence on nuclear dynamics in the reactions $^{78,86}\text{Kr}+^{40,48}\text{Ca}$ at 10 A MeV
D. Dell'Aquila	Understanding heavy-ion fusion cross section data using novel artificial intelligence approaches

COFFEE BREAK

11.30-13 [Chairperson: N. Schunck] *Deuteron and nucleon induced reactions*

(25'+5')

M. Avrigeanu	Due consideration of breakup and stripping mechanisms within (d; p), (d; 2p), and (d; xn) reactions
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(15'+5')

H. Nakada	Description of inclusive (d,d'x) reaction with the semiclassical distorted wave model
A. Thapa	Semi-microscopic approach to nucleon-nucleus inelastic scattering for spherical nuclei
Y. Chazono	Reaction model for a correct understanding of the (p,pd) reaction

Tuesday afternoon

15-17 [Chairperson: **G. Tagliente**]
(25'+5')

Nuclear structure

Y. Alhassid	Low-energy enhancement in the magnetic dipole gamma-ray strength functions of heavy nuclei
N. Tsoneva	Nuclear reactions as a tool to study the microscopic structure of pygmy and giant resonances
N. Sandulescu	Probing α -like quartet condensation in N=Z nuclei by α transfer reactions
A. Voyles	Investigating high-energy proton-induced reactions: Implications for level densities and the pre-equilibrium exciton model

TEA BREAK

Tuesday evening

19.30 [Chairperson: **L. Sihver**]

Ettore Gadioli wine party

Wednesday morning

9-11 [Chairperson: **F. Cappuzzello**]
(25'+5')

Reaction measurements

A. Stamatopoulos	Indirect neutron capture measurements on radionuclides through neutron transmission with the new DICER instrument at LANSCE
I. Lombardo	Study of low energy $^3\text{He}+^{13}\text{C}$ reactions and the structure of ^{16}O

(15'+5')

L. Redigolo	A new experiment on $^{19}\text{F}(p,\alpha)^{16}\text{O}$ reaction at low energies and the spectroscopy of ^{20}Ne at large excitation energies
O. Sgouros	Global descriptions in the $^{18}\text{O}+^{48}\text{Ti}$ reaction within the NUMEN project
T. Nguyen	Photon energy dependence of photoneutron production from heavy targets

COFFEE BREAK

11.30-12.50 [Chairperson: **F. Bellini**]
(25'+5')

Reaction measurements

A. Mastroserio	Insights into light nuclei production from p-p to Pb-Pb collisions with ALICE
A. Caciolli	Study of the $^{20}\text{Ne}(p,\gamma)^{21}\text{Na}$ reaction at LUNA

(15'+5')

J. Skowronski	Proton capture on Carbon isotopes
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Wednesday evening
Session in honor of Horst Lenske
20.30 RECEPTION

21-23 [Chairperson: **M. Herman**]
(30')

H. Wolter

N. Tsoneva

F. Cappuzzello

H. Lenske

Thursday morning

9-11 [Chairperson: **T. Kawano**]
(25'+5')

Fission

V. Denisov	Calculation of the fission fragment characteristics in the three-body model of binary fission
A. Tonchev	Energy dependent fission product yields from neutron- and photon-induced fission

(15'+5')

J.L. Rodriguez Sanchez	Complete kinematics studies of fission reactions induced by quasi-free nucleon scattering collisions
K. Fujio	Prompt-fission observable calculations for actinids by TALYS
C. Oprea	Fast proton-induced fission of ^{238}U from threshold to 70 MeV

COFFEE BREAK

11.30-13 [Chairperson: **P. Talou**]
(25'+5')

Fission

R. Vogt	The role of angular momentum in fission
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(15'+5')

J. Randrup	Fission fragment rotational modes: Classification, agitation, observation
A. Mattera	Impact of Isomeric yield ratios on reactor antineutrino spectra
I. Abdurrahman	Microscopic evidence for scission neutrons

Thursday afternoon

15-17 [Chairperson: **F. Salvat Pujol**]
(25'+5')

General purpose transport codes

F. Bellini

A coalescence afterburner for antinuclei production in hadronic collisions with Monte Carlo generators

L. Sihver

How can we simulate ionizing radiation at aviation altitudes from TGFs?

(15'+5')

Y. Ruban

Reconstruction of high energy thunderstorm radiation effect on soil matrix using Monte Carlo simulations

A. Serban

Contribution of nuclear interactions to the production of Single Event Upsets (SEU) in electronics

D. Zharenov

Antiproton at rest and in flight within Intra-Nuclear Cascade model (INCL)

TEA BREAK

17.30-18.40 [Chairperson: **F. Nunes**]
(25'+5')

Photons and leptons

N. Schunck

Microscopic description of photoabsorption and deexcitation processes

(15'+5')

H. Sasaki

Noniterative finite amplitude methods for giant resonances and the application to the neutron radiative capture cross sections

A. Cvetinović

Electron screening in low-energy nuclear reactions

Friday morning

9-11 [Chairperson: **L. Canton**]
(25'+5')

Medical radioisotopes

N. Van Der Meulen	The development of radionuclides towards theragnostic application in nuclear medicine
C. Duchemin	CERN-MEDICIS: a unique facility for the production of non-conventional radionuclides for medical research

(15'+5')

L. Mou	Preliminary results of the theranostic ^{47}Sc cyclotron proton-induced production with enriched ^{48}Ti , ^{49}Ti and ^{50}Ti targets
F. Barbaro	Optimized simulations of $^{50}\text{Ti}(p,\alpha)$ and $^{49}\text{Ti}(d,\alpha)$ reactions for hospital-cyclotron production of ^{47}Sc
A. Colombi	^{155}Tb from natural targets: reaction modeling of $^{\text{nat}}\text{Tb}(p,5n)$ and $^{\text{nat}}\text{Gd}(\alpha,x)$

COFFEE BREAK

11.30-13 [Chairperson: **F. Cerutti**]
(25'+5')

Medical radioisotopes, facilities, data

A. Tsinganis	Medical radionuclide research activities at JRC-Geel
G. Tagliente	The n_TOF facility at CERN
S. Okumura	Implementation of FAIR principles on experimental nuclear reaction database (EXFOR)