International Workshop on Multi facets of Eos and Clustering

IWM-EC 2014

6th – 9th May 2014 Catania, Italy

Scientific Program

Tuesday – May 6th

"Aula Magna" Seminar Room of the Dipartimento di Fisica e Astronomia

9:00 Registration at the Workshop Desk

10:00 A. Insolia
Welcome by Dipartimento di Fisica e Astronomia Direction
10:15 G. Cuttone
Welcome by INFN Laboratori Nazionali del Sud Direction
10:30 A. Pagano
Welcome by INFN Sezione di Catania direction

Session 1 – Nuclear thermodynamics with isospin degrees of freedom

Chair: M. Di Toro – Università and INFN LNS, Catania, Italy

10:45 M.F. Rivet – IPN Orsay CNRS–IN2P3 and Université Paris 11, France
Nuclear thermodynamics and isospin degrees of freedom

11:30 P. Napolitani – IPN Orsay, France
Spinodal instability growth in new stochastic approaches for the dynamics of the nuclear bulk

12:00 S. Burrello – INFN Laboratori Nazionali del Sud, Catania, Italy
Pairing effect on spinodal decomposition of asymmetric nuclear matter

12:30 – 14:00 Lunch at Laboratori Nazionali del Sud Guest House

Main Conference Room Laboratori Nazionali del Sud

Session 2 – Dynamics and structure in heavy–ion collisions with stable and radioactive beams

Chair: C. Agodi – INFN Laboratori Nazionali del Sud, Catania, Italy

14:30 A. Chbihi – Ganil, Caen, France
Recent results from INDRA

15:15 O. Lopez – LPC, Caen, France
Transport properties of nuclear matter in the Fermi energy domain

15:45 T. Cap – Faculty of Physics, University of Warsaw, Poland
Polar–side emission of heavy IMFs in ^{197}Au + ^{197}Au collisions at 23A MeV

16:15 – 16:45 Coffee break

Chair: F. Gramegna – INFN Laboratori Nazionali di Legnaro, Italy

16:45 K. Nishio – Advanced Science Research Center, JAEA, Tokai, Japan
Heavy–ion fusion and fission study at JAEA

17:30 J. Frankland – GANIL, Caen, France
Influence of radial collective energy on multifragmentation partitions in central Xe+Sn and Ta+Zn collisions measured with INDRA

18:00 E. Henry – University of Rochester, USA
Inverse–Kinematics Study of 78Kr + 40Ca at 10 A MeV

18:30 End of the session

19:00 Welcome Cocktail and Concert in

"Aula Magna" Seminar Room of the Dipartimento di Fisica e Astronomia

21:00 Bus to hotels

Wednesday – May 7th

Main Conference Room Laboratori Nazionali del Sud

Session 3 – New experimental tools and detection techniques

Chair: W. Trautmann, GSI, Darmstad, Germany

9:00 G. De Angelis – INFN – Laboratori Nazionali di Legnaro, Italy
Detectors array for low energy RIBs and the SPES facility

9:45 G. Cardella – INFN Sezione di Catania, Italy
Status and perspectives of fragmentation beams at LNS with CHIMERA detector

10:15 E. Pagano – INFN Laboratori nazionali del Sud, Catania, Italy
Status of the FARCOS project

10:45 – 11:15 Coffee break

Chair: J. Frankland – GANIL, Caen, France

11.15 T. Aumann – IKP, Technische Universität Darmstadt, Germany
Perspectives for experimental investigations of structure and reactions with beams of fast exotic isotopes

Session 4 – Correlations and clustering – I

12.00 R. Charity – Washington University, St. Louis, USA
Continuum spectroscopy of light nuclei with HiRA

12:30 T. Marchi – INFN Laboratori Nazionali di Legnaro, Italy
Pre–equilibrium emission and its possible relation to α–clustering in nuclei

13:00 – 14:30 Lunch

Chair: S. Yennello – Texas A&M University, USA

14:30 Poster Session – Oral presentations

16:30 – 17:00 Coffee break

17:00 Poster Session – Poster Display

19:00 – Bus to hotels

Thursday – May 8th

Main Conference Room Laboratori Nazionali del Sud

Session 5 – Exploring nuclear symmetry energy

Chair: M.F. Rivet – IPN Orsay CNRS–IN2P3 and Université Paris 11, France

9:00 L.W. Chen – INPAC – Shanghai Jiao Tong University, China
Symmetry energy systematics and its high density behaviour

9:45 Y. Leifels – GSI, Darmstadt, Germany
Constraining the nuclear matter equation of state around twice saturation density

10:15 P. Cammarata – Texas A&M University, Cyclotron Institute, USA
Probing Symmetry Energy Effects on Reaction Mechanisms Using Heavy–Ion Collisions Below the Fermi Energy

10:45 – 11:15 Coffee break

Chair: K. Hagel – Cyclotron Institute, Texas A&M University, USA

11:15 E. De Filippo – INFN Sezione di Catania, Italy
Probing the nuclear symmetry energy with heavy ion collisions

12:00 H. Wolter – University of Munich, Germany
Symmetry Energy Dependence of Light Fragment Production in Heavy Ion Collisions

12:30 P. Russotto – INFN Sezione di Catania, Italy
The ASY–EOS experiment at GSI: investigating symmetry energy at supra–saturation densities

13.15 – 14:45 Lunch

Session 4 – Correlations and clustering – II

Chair: O. Lopez – LPC, Caen, France

15:00 Kanada–En'yo – Department of Physics, Kyoto University, Japan
Cluster features of stable and unstable nuclei in p–shell region

15:45 K. Hagel – Texas A&M University, Cyclotron Institute, USA
Clustering in Reactions with Alpha Conjugate Nuclei

16:15 – 16:45 Coffee break

Chair: J. Lukasik – IFJ–PAN, Krakow, Poland

16:45 Y. Funaki – RIKEN, Nishina Center, Japan
Alpha–Particle Clustering in Nuclei

17:15 L. Morelli – Dip. di Fisica ed Astronomia and Sezione INFN, Bologna, Italy
Cluster correlations effects in $^{12}C+^{12}C$ and $^{14}N+^{10}B$ fusion–evaporation reactions at 2.6 A.MeV excitation energy

17:45 End of the session

18:15 Bus to hotels

20:30 Social diner

Friday – May 9th

"Aula Magna" Seminar Room of the Dipartimento di Fisica e Astronomia

Session 6 – Isospin effects in nuclear reactions

Chair: N. Le Neindre – LPC, Caen, France

9:00 M. Colonna – INFN Laboratori Nazionali del Sud, Catania, Italy
Isospin effects in heavy ion reactions: results from transport theories

9:45 J. Benlliure – Universidade de Santiago de Compostela, Spain
Isospin effects in fragmentation reactions

10:30 – 11:00 Coffee break

Chair: F. Rizzo – Università and INFN LNS, Catania, Italy

11:00 S. Piantelli – INFN Sezione di Firenze, Italy
Isospin transport phenomena and odd–even staggering in Z and N distributions in $^{84}Kr+^{112,124}Sn$ collisions at 35AMeV

11:30 G. Ademard – IPN Orsay, France
N/Z influence on the level density parameter

12:00 Moderator: Angelo Pagano – INFN Sezione di Catania, Italy
Round table on Future and Perspective of Heavy Ion Physics

13.00 Lunch

End of IWM–EC2014

15:00 Bus to hotels and airport

Poster Session

L. Auditore – INFN, Gruppo Collegato di Messina & Dipartimento di Fisica e Scienze della Terra, Università di Messina
Preliminary study for the detection of neutrons in heavy ion collisions with charged particle detectors

A. Di Pietro – INFN Laboratori Nazionali del Sud, Catania, Italy
Role of neutron transfer and breakup processes on the $^{6}Li+^{120}Sn$ and $^{7}Li+^{119}Sn$ fusion reactions

J. Dudouet – LPC Caen, ENSICAEN, Université de Caen, CNRS/IN2P3, Caen, France
95 MeV Carbon fragmentation measurements and comparisons with GEANT4 simulations for hadrontherapy

J. P. Fernández–García – Departamento de FAMN & CNA, Universidad de Sevilla, Spain & INFN–LNS Catania, Italy
^{11}Li structural information from inclusive break–up measurements

K. Gąsior – University of Silesia, Institute of Physics, Katowice, Poland
Reconstruction of primary fragments of heavy ion collisions at intermediate energies

D. Gruyer – GANIL, CEA–DSM/CNRS–IN2P3, Caen, France
Probing the decay mechanism of hot nuclei by Coulomb chronometry

A. Grzeszczuk – University of Silesia, Institute of Physics, Katowice, Poland
Advanced mathematical on line analysis in nuclear experiments. Usage of parallel computing CUDA routines in standard root analysis

A. Horvat – Institut für Kernphysik, TU Darmstadt, Germany
Probing the nuclear symmetry energy and neutron skin thickness in collective modes of excitation

Sh. A. Kalandarov – BLTP, JINR, Dubna, Russia
Production of doubly magic nucleus 100Sn in fusion reactions via particle and cluster emission channels

Z. Korkulu – Institute for Nuclear Research, Hungarian Academy of Sciences (MTA–Atomki), Debrecen, Hungary & Kocaeli University, Department of Physics, Turkey
Neutron–skin thickness in ^{124}Sn from the experimental study of the anti–analog giant dipole resonance

S. Kupny – Division of Hot Matter Physics, Jagiellonian University, Poland
Charged particle flow measured by the KRATTA detector in ASY–EOS experiment

A. Le Fèvre – GSI Darmstadt, Germany
A New Clusterisation Approach to Detect Hypernuclei and Isotopes in the QMD Phase Space Distribution

G. Marquínez–Durán – Departamento de Física Aplicada, Universidad de Huelva, Huelva, Spain
GLORIA. An effective and compact detection array for the study of exotic beams spectroscopy

T. Minniti – Dipartimento di Fisica e Astronomia Università di Catania, Italy
Proton femtoscopy in heavy–ion collisions at 50 MeV/nucleon

R. Najman – M. Smoluchowski Institute of Physics, Jagiellonian University
Quest for toroidal freeze–out configuration in the central ^{197}Au + ^{197}Au collisions at 23 AMeV

G. Pastore – Università di Firenze e INFN–Sez. Firenze, Sesto Fiorentino, Italy
Extracting information from partially depleted silicon detectors with digital sampling electronics

L. Quattrocchi – Università Messina, Dipartimento di Fisica e Scienze della Terra, & INFN, Gruppo Collegato di Messina, Italy
The InKiIsSY experiment at LNS: a study of Size vs Isospin effects with ^{124}Xe+^{64}Zn and ^{124,112}Xe+^{64,58}Ni reactions

F. Salomon – IPNO, Institut de Physique Nucléaire d'Orsay, Orsay, France
Front–End electronics for the FAZIA project

L. Stuhl – Institute for Nuclear Research, Hungarian Academy of Sciences (MTA–Atomki), Debrecen, Hungary
A neutron spectrometer for studying giant resonances with (p,n) reactions in inverse kinematics (ELENS)

S. Typel – GSI Helmholtzzentrum fuer Schwerionenforschung GmbH – Darmstadt, Germany
Clustering in dilute matter and equation of state