10:00 Opening the Week of South Africa at the JINR

I. Words of Welcome:

JINR Director V.A. Matveev 10-15’

JINR: important events in International activity

Deputy Director general of the Department of Science and Technology

Th. Auf der Heide 10-15’

Bird’s eye view of the South African National System of Innovation

Deputy Minister of Education and Science of the Russian Federation

L.M. Ogorodova 10-15’

To Be Announced

Acting CEO of SKA Rob Adam

Minister-counselor of the Embassy of South Africa in Moscow

II. Reports:

D. Adams 30’

An Overview of the SA-JINR Collaboration: Impact on Human Capital and Research Capacity Development

G. Trubnikov 30’

International large research infrastructure of JINR. NICA megaproject: challenges and perspectives

12:00-12:20 Coffee break

12:20 Excursion to NICA facility

13:30-14:30 Lunch time

14:00-15:00 Registration for the Symposium

15:00 Opening the 4th South Africa - JINR Symposium Few to Many Body-Systems: Models, Methods and Applications (co-chairmen):

Director of the BLTP V.V. Voronov

Director of the SKA Rob Adam

JINR Seminar

chairman: J. Cleymans

15:10 R. Adam (SKA South Africa) 55’+5’

Doing transformational science with the Square Kilometre Array (SKA)
16:10-16:40 Coffee break

Session: Prospects of JINR and South African basic facilities

chairman: J. Cleymans
16:40 V. Aynutdinov (INR RAS) 25'+5'
Baikal GVD experiment
17:10 S. Wyngaardt (Stellenbosch U.) 25'+5'
Towards the South African Underground Laboratory (SAUL)
17:40 M. Shirchenko (DLNP JINR) 25'+5'
Neutrino experiments at the Kalinin Nuclear Power Plant

19:00 Welcome party at the restaurant, hotel “Dubna”

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Tuesday, September 22, 2015  
Conference Hall  
of the Flerov Laboratory of Nuclear Reactions (FLNR)  
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Session(s): Nuclear Reactions (Fission and Clustering)  
Conveners: D. Kamanin, S. Mullins  

chairman: A. Karpov
9:00 D. Kamanin (JINR) 18'+2'
Status and prospects of CCT study
9:20 N. Mkaza (Stellenbosch U.) 18'+2'
Programme for LISSA setup in the University of Stellenbosch
9:40 O. Falomkina (Moscow State University/JINR) 18'+2'
Modern mathematical methods in processing of low-statistics data
10:00 A. Yeremin (FLNR) 18'+2'
Spectroscopy of SHE at Dubna: Results and plans
10:20 A. Nasirov (BLTP JINR) 18'+2'
Theoretical study of a possible mechanism of the true ternary fission

10:40-11:00 Coffee break

chairman: A. Popeko
11:00 A. Karpov (FLNR JINR) 18'+2'
Ternary clusterization of heaviest nuclear systems
11:20 F. Karpeishin (Mendeleyev Inst., S-Peterburg) 18'+2'
Many-phonon states and true ternary fission
11:40 Yu. Panebratsev (VBLHEP) 18'+2'
Virtual laboratory of fission
12:00 V. Sargsyan (BLTP, JINR) 18'+2'
Fusion reactions at near and sub-barrier energies
12:20 S. Zemlyanoy
Gas-cell based setup for production and study of heavy neutron rich Nuclei
12:40 L. Grigorenko (FLNR JINR) 18'+ 2'
Theoretical studies of few-body dynamics in the dripline nuclei and recent experimental results

13:00-14:30 Lunch time

Session(s): Few Body Systems  
Conveners: A. Motovilov, S. Rakityanski

chairman: S. Rakityansky
14:30 E. Kolganova (BLTP, JINR) 25'+5'
Ultracold atomic clusters and Efimov effect
15:00 L. Lekala (Univ. of South Africa) 25'+5'
Cluster approach for determining spectroscopy for light hypernuclei
V.S. Melezhik (BLTP JINR) 25'+5’
Ultracold resonant processes in atomic traps

15:30

16:00-16:30 Coffee break

Chairman: L. Lekala
16:30 S. Rakityansky (Univ. of Pretoria) 25'+5’
Nuclear fusion d+Li\(^6\) → Be\(^8\)* induced by X-rays in Lithium-Deuteride crystal
17:00 A. Malykh (BLTP JINR) 25'+5’
Universal description for few two-species particles
17:30 B. Mukeru (Univ. of South Africa) 25'+5’
Coulomb and nuclear breakups in the \(^{11}\)Be and \(^{208}\)Pb
18:00 S. Vinitsky (JINR) 25'+5’
Tunneling of composite particles through repulsive barriers
Mpumalanga province in South Africa case study using nuclear and related analytical techniques

13:00-14:30 Lunch time

Session: Student Session
Conveners: S. Pakuliak, N. Mkaza

Chairman: N. Mkaza
14:30 O. Adeniyi (Western Cape Univ.) 13'+ 2'
Swift heavy ion irradiation of polyester and polyolefin polymeric film for gas separation application
14:45 I. Zinicovscaia (FLNP JINR) 13'+ 2'
Biotechnology of gold and silver nanoparticle production: results of collaborative study with South Africa (necsa).
15:00 Z. Goryainova (FLNP JINR) 13'+ 2'
New results on NAA of mussels from South Africa
15:15 T. Lamula (iThemba) 13'+ 2'
Neutron activation analysis of thin Bi targets with 90 and 140 MeV neutrons.
15:30 K. Kornieieeva (FLNR JINR) 13'+ 2'
Structural and micromechanical examination of ODS alloys irradiated with 1-3 MeV/nucleon heavy ions
15:45 R. Rymzhanov (FLNR JINR) 13'+ 2'
Latent tracks and mechanical stresses in Al2O3 irradiated with swift heavy ions

16:00-16:30 Coffee break
16:30 R. Botha (Univ. of Western Cape) 18 '+ 2'
Radon in-air measurements within wine-cellar of the Western Cape (South Africa) and its associated exposure dosage
16:50 M. Mokgolobotho (Univ. of Western Cape) 13'+ 2'
Determining the spectroscopic quadrupole moment \(Q_s\) of the first 2\(^+\) state in \(^{40}\)Ar
17:05 C. Mehl (Univ. of western Cape) 13'+2'
Developing a sorting code for Coulomb excitation data analysis
17:20 M. Segal (Univ. of Cape Town/iThemba LABS) 13'+2'
Liquid Metal Ion Source Assembly for External Ion Injection into an Electron String Ion Source (ESIS)

17:35 Discussion of the presentations of young scientists

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Wednesday, September 23, 2015

7:30 Excursion to Moscow, Departure from Hotel "Dubna"

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Thursday, September 24, 2015
Conference Hall of the Flerov Laboratory of Nuclear Reactions (FLNR)

Session(s): Nuclear Structure
Conveners: R. Nazmitdinov, W.D. Heiss

Chairman: F. Šimkovic
9:00 R. Nazmitdinov (BLTP, JINR) 25'+5'
Symmetry effects in mesoscopic systems
9:30 V. Nesterenko (BLTP, JINR) 25'+5'
Deformation effects in the dipole and quadrupole giant resonances: Skyrme RPA theory and iThemba experiments
10:00 N. Orce (University of the Western Cape) 25'+5'
Nuclear polarizability: the sleeping beauty of nuclear physics
10:30-11:00 Coffee break

Chairman: R. Nazmitdinov

11:00  P. Schuck (Orsay, France) 25'+5'
Selfconsistent RPA meets Time-Dependent Density matrix
11:30  F. Šimkovic (BLTP, JINR) 25'+5'
QRPA with non-linear operator
12:00  N. Arsenyev (BLTP, JINR) 18'+2'
Complex configuration effects on properties of pygmy resonance
12:20  K. Raju Mukhi (Univ. of Western Cape) 18'+2'
Coulomb excitation reorientation-effect measurements in $^{12}$C

13:00-14:30 Lunch time

Session(s): Physics at Underground Laboratory
Conveners: F. Šimkovic, S. Wyngaardt

Chairman: F. Šimkovic

14:30  D. Naumov (DLNP, JINR) 25'+5'
Neutrino Physics program at the JINR
15:00  R. Newman (Stellenbosch U.) 18'+2'
Towards SAUL - perspectives, progress and prospects for establishing enhanced low-level radioactivity measurement capability
15:20  O. Smirnov (DLNP, JINR) 18'+2'
Neutrino geophysics
15:40  A. Zakharov (ITEP Moscow) 18'+2'
Possible alternatives for models of the Galactic Centre

16:00-16:30 Coffee break

Session(s): Condensed Matter Physics
Conveners: Yu. Shukrinov, A.E. Botha

Chairman: A. Povolotsky

16:30  Yu. Shukrinov (BLTP JINR) 20'+5'
Theoretical Models for Superconducting Nanostructures
16:55  A. E. Botha (Univ. of South Africa) 20'+5'
Chaos and Chimera States in Josephson Junctions.
17:20  I. Rahmonov (BLTP JINR) 20'+5'
Numerical Study of Josephson Nanostructures Using Parallel Computing Based on Cloud Center LIT JINR
17:45  E. Benecha (Univ. of South Africa), R. Dawood (Cairo U.) 20'+5'
Simulation of Topologically Nontrivial DC-SQUID
18:10  K. Kulikov (BLTP JINR) 20'+5'
Josephson junction detectors for Majorana fermions

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Thursday, September 24, 2015
Conference Hall
of the Veksler and Baldin Laboratory of High Energy Physics (VBLHEP)
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Session: NICA
Conveners: A. Sorin, J. Cleymans

Chairman: A. Sorin

9:00  A. Sidorin (VBLHEP, JINR) 18'+2'
NICA collider complex: challenges and perspectives
9:20  V. Kolesnikov (VBLHEP, JINR) 18'+2'
Prospects for dense baryonic matter research at NICA: Status of the MPD
9:40  M. Kapishin (VBLHEP, JINR) 18'+2'

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Thursday, September 24, 2015
Conference Hall
of the Veksler and Baldin Laboratory of High Energy Physics (VBLHEP)
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Prospects for dense baryonic matter research at Nuclotron: Status of the BM@N

10:00 B. Mellado (Witwatersrand) 18'+2'
High-throughput electronics for the NICA complex and the ATLAS Experience

10:20-10:50 Coffee break

Chairman: J. Cleymans

10:50 J. Cleymans (Univ. of Cape Town) 18'+2'
The physics case for the NICA project

11:10 A. Sorin (VBLHEP, JINR) 18'+2'
Vortical structures and strange hyperon polarization in heavy-ion collisions

11:30 A. Muronga (Univ. of Johannesburg) 18'+2'
Relativistic Fluid Dynamics for Heavy Ion Collisions and Astrophysics

11:50 D. Blashke (Univ. of Wroclaw) 18'+2'
Cluster virial expansion for quark/nuclear matter within the 2PI formalism

12:10 A. Trunin (BLTP, JINR) 18'+2'
Equation of State for quark-gluonic matter from Nf=2+1+1 lattice QCD

12:30 M.I. Krivoruchenko (ITEP Moscow/BLTP JINR) 18'+2'
Quantum transport in the deformation quantization framework

12:50 T. Dietel (Univ. of Cape Town) 18'+2'
Online data processing for Multi-Purpose Detector at NICA and experience from ALICE

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Friday, September 25, 2015
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10:00 Meetings of the working groups of grant holders at laboratories

13:00-14:30 Lunch time

16:00 Round Table discussion at International Conference Hall in Dubna
S.A. Rakityansy (5')
Few words to the Memory of V.B. Belyaev ans S. Sofianos
F. Šimkovic (5')
Symposiums: Past, presence and future
Reports for sessions (4' for each report)

17:00 Closing of the Symposium