

**BLTP/JINR – KLTP/CAS**  
**Joint Workshop on Physics of Strong Interacting Systems**  
**Yerevan, September 03-09, 2023**

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**PROGRAMME**

**September 3, Sunday**

Arrival Day

**September 4, Monday**

8:30 – 9:15	Registration	
9:15 – 9:30	<b>Opening</b>	
	<i>Chair Anahit Balabekyan</i>	
9:30 – 9:55	Some remarks on the future of nuclear structure	Jie Meng
10:00 – 10:25	First experiments at the Superheavy Element Factory	Alexander Karpov
10:30 – 10:55	Prediction of synthesis cross sections of unknown superheavy elements in fusion-evaporation reactions with different mass models	Peng-Hui Chen
11:00 – 11:25	<b>Coffee Break</b>	
	<i>Chair Jie Meng</i>	
11:25 – 11:50	Microscopic study of multinucleon transfer reaction and superheavy element production	Lu Guo
11:55 – 12:15	Electromagnetic transitions between low-lying nonrotational states of odd-neutron nuclei in $\alpha$ -decay chains starting from $^{265,267,269}\text{Hs}$	Anna Bezbakh
12:20 – 12:40	Evolution of the collective potential along the chain of Zr isotopes	Evgeni Mardyban
12:45 – 14:30	<b>Lunch</b>	
	<i>Chair Gurgun Adamian</i>	
14:30 – 14:55	Nuclear K-isomers: systematic manifestation and some specific cases	Nikolay Minkov
15:00 – 15:25	Light superheavy nuclear structure study	Xiao-Tao He
15:30 – 15:55	Progress on obtaining unified nuclear matter EOSs in RMF models	Cheng-Jun Xia
16:00 – 16:25	<b>Coffee Break</b>	
	<i>Chair Yu-Min Zhao</i>	
16:25 – 16:50	Some possible ways to produce heavy and superheavy nuclei	Feng-Shou Zhang
16:55 – 17:20	Formation and decay of nuclear systems with $Z = 114, 120$ in reactions with heavy ions	Kirill Novikov
17:25 – 17:45	Fission from K-isomeric states within the dinuclear system model	Ivan Rogov
19:00	<b>Welcome Party</b>	

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## September 5, Tuesday

	<i>Chair Feng-Shou Zhang</i>	
9:00 – 9:25	Theoretical investigations on multi-nucleon transfer reactions in low energy heavy-ion collisions	Nan Wang
9:30 – 9:50	Production of neutron-deficient heavy nuclei	Vladimir Rachkov
9:55 – 10:10	Multi-step particle emission probabilities in superheavy nuclei at moderate excitation energies	Azam Rahmatinejad
10:15 – 10:30	Importance of light charged particle emission in formation of evaporation residues in heavy ion fusion reactions	Shuhrat Kalandarov
10:35 – 10:50	Theoretical study of reactions leading to production of new superheavy nuclei	Natalia Kurkova
10:55 – 11:20	<b>Coffee Break</b>	
	<i>Chair Alexander Karpov</i>	
11:20 – 11:45	Nuclear structure study by multinucleon transfer reactions with ${}^6\text{Li}$ , ${}^{18}\text{O}$ and ${}^{48}\text{Ca}$ ions beams at energies $\sim 10$ MeV/nucleon	Sergey Lukyanov
11:50 – 12:15	Quantum dynamics in slow nuclear collisions	Alexis Diaz-Torres
12:20 – 12:45	Experimental study of direct reaction induced by light unstable nuclei with exotic structure	Jian-Song Wang
12:50 – 13:15	Study on fusion reaction induced by weakly bound lithium nuclei	Shi-Peng Hu
13:20 – 14:30	<b>Lunch</b>	
	<i>Chair Wei Zuo</i>	
14:30 – 14:55	Recent developments of nucleon-pair approximations to the nuclear shell model	Yu-Min Zhao
15:00 – 15:25	Toroidal E1 vorticity in nuclei	Valentin Nesterenko
15:30 – 15:55	Spreading widths of giant resonances in the lead region within random matrix approach	Rashid Nazmitdinov
16:00 – 16:15	Low-energy spin and orbital magnetic dipole states in deformed nuclei	Piotr Vishnevsky
16:20 – 16:35	Behavior of moment of inertia in highly deformed ${}^{24}\text{Mg}$ and ${}^{20}\text{Ne}$	Mariia Mardyban
16:40 – 17:00	<b>Coffee Break</b>	
	<i>Chair Valentin Nesterenko</i>	
17:00 – 17:25	Ground-state Shape Phase Transition Probed in alpha-decay Spectroscopy	Zhong Liu
17:30 – 17:55	The double gamma decay of the quadrupole state of spherical nuclei	Alexey Severyukhin
18:00 – 18:20	Isoscalar giant monopole resonance in the Ca isotope chain	Nikolay Arsenyev
18:25 – 18:40	Pair correlations in boson representation technique	Gor Nikoghosyan

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## September 6, Wednesday

	<i>Chair</i> Bao-Hua Sun	
9:00 – 9:25	Exotic hadrons and hadron structure	Bing-Song Zou
9:30 – 9:55	Hadronic molecules	Feng-Kun Guo
10:00 – 10:25	Short-range NN correlations in $^{12}\text{C}$ : a study with proton probe	Alexey Larionov
10:30 – 10:45	Muon ordinary capture for the nuclear matrix elements	Evgenii Sushenok
10:50 – 11:15	<b>Coffee Break</b>	
	<i>Chair</i> Vazgen Sargsyan	
11:15 – 11:40	Reactor neutrino spectrum anomaly and Taishan Antineutrino Observatory	Ara Ioannisian
11:45 – 12:10	<i>Ab initio</i> study of decay properties of resonance states and its application for calculations of cross-sections of resonance nuclear Reactions	Dmitri Rodkin
12:15 – 12:40	On Optical Model for Sub-barrier Heavy-Ion Fusion Reactions	Serguei Vinitsky
12:45 – 14:30	<b>Lunch</b>	
	<i>Chair</i> Elena Kolganova	
14:30 – 14:50	Finite Element Method Solver for Geometric Collective Model	Alexander Gusev
14:55 – 15:20	The scattering at the axial symmetry object with ls-type interaction Including	Pavel Krassovitskiy
15:25 – 15:45	Nuclear mass predictions with Bayesian machine learning method	Zhong-Ming Niu
15:50 – 16:05	Total reaction cross sections for light weakly bound nuclei	Mikhail Naumenko
16:10 – 16:35	<b>Coffee Break</b>	
	<i>Chair</i> Jian-Song Wang	
16:35 – 17:00	The current state of development of medical radioisotope production technology in Armenia	Ruben Dallakyan
17:05 – 17:30	Advantages of one- and two-photon light in inverse Scattering	Hakob Avetisyan
17:35 – 18:00	Photon cooling: Linear versus nonlinear interactions	Arshak Hovhannisyan
18:05 – 18:30	<b>TBA</b>	Hamlet Mkrtchyan
18:35 – 19:00	<b>TBA</b>	Asya Hunanyan

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## September 7, Thursday

8:30 **Excursion**  
18:30 **Conference Dinner**

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## September 8, Friday

*Chair Rashid Nazmitdinov*

9:00 – 9:25 The study of prompt neutron multiplicity in the spontaneous fission of heavy nuclei **Andrey Isaev**

9:30 – 9:55 Role of the dynamics in the description of neutron multiplicities in spontaneous fission of  $Z \sim 100$  nuclei **Alexander Andreev**

10:00 – 10:25 Correlation between fission observables **Horia Pasca**

10:30 – 10:55 Improved BHF calculation for nuclear matter properties **Wei Zuo**

11:00 – 11:25 **Coffee Break**

*Chair Bing-Song Zou*

11:25 – 11:50 From charge-changing reactions to RMS proton distribution radii of exotic nuclei **Bao-Hua Sun**

11:55 – 12:20 Dynamics of twisted electron in external fields **Li-Ping Zou**

12:25 – 12:50 Microscopic shell-model description of the low-lying collective states in  $^{106}\text{Cd}$  **Huben Ganey**

12:55 – 13:20 Small van der Waals Clusters **Elena Kolganova**

13:25 – 13:40 **Closing**

14:00 **Lunch**

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## September 9, Saturday

Departure Day