

**BLTP/JINR – ITP/CAS**  
**Joint Workshop on Physics of Strong Interacting Systems**  
**Almaty, August 17-22, 2025**

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**PROGRAMME**

**August 18, Monday**

08:45 – 09:15	<b>Opening</b>	
	<i>Chair Antonenko Nikolai</i>	
09:20 – 09:35	Nuclear matter properties within BHF approaches	Zuo Wei
09:40 – 09:55	Pseudospin symmetry and quasidouble magic nuclei	Jolos Rostislav
10:00 – 10:15	Low-energy spectra of nobelium isotopes: recent progress	Nesterenko Valentin
10:20 – 10:35	Scissors mode in $^{254}\text{No}$	Mardyban Mariia
10:40 – 11:05	<b>Coffee Break</b>	
	<i>Chair Gan Zaiguo</i>	
11:10 – 11:25	Novel nuclear phenomena described by relativistic Hartree-Fock theory	Long Wenhui
11:30 – 11:45	Nuclear matter collective modes with relativistic random phase approximation	Jiang Weizhou
11:50 – 12:00	Description of nucleus-nucleus interaction using the Skyrme energy density functional	Kosarev Mikhail
12:05 – 12:15	Nuclear mass table in deformed relativistic Hartree-Bogoliubov theory in continuum	Guo Peng
12:20 – 12:35	Advances and prospects of <i>ab initio</i> approaches in the theory of light nuclei	Tchuvilsky Yuri
12:40 – 12:55	$\gamma$ -ray strength function of neutron-rich nuclei with DRHBc + QFAM	Jiang Xiaofei
	<b>Lunch</b>	
	<i>Chair Jolos Rostislav</i>	
14:30 – 14:45	Gamow-Teller decay studies with the 2p-2h configurations	Severyukhin Alexey
14:50 – 15:05	Nuclear structures at short ranges	Pei Junchen
15:10 – 15:25	Nuclear beta decay and IS pairing	Bai Chunlin
15:30 – 15:45	Intermediate structure in nuclear reactions and in $\beta$ -decays	Izosimov Igor
15:50 – 16:05	Pairing theory and neutron-rich odd-odd nucleus $^{128}\text{Ag}$	Cheng Yiyuan
16:10 – 16:35	<b>Coffee Break</b>	
	<i>Chair Wang Ning</i>	
16:40 – 16:55	Evolution of cross-shell excitations and monopole effects in odd-odd nuclei	Wang Hankui
17:00 – 17:15	Pygmy and giant dipole resonances in neutron-rich nuclei	Arsenyev Nikolay
17:20 – 17:35	Halo description from structure to reaction observables & half-lives of proton emitters	Zhang Shisheng
17:40 – 17:55	Finite element method on hypercubes for boundary value problems	Gusev Alexander
18:00 – 18:15	Mass and spin distributions of fragments in multinucleon transfer reaction	Zhang Dandan
18:30	<b>Welcome Party</b>	

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## August 19, Tuesday

*Chair Ma Yugang*

08:30 – 08:45	Probe the short range correlation in nuclei via bremsstrahlung gamma emission	Xiao Zhigang
08:50 – 09:05	Large neutron-to-proton conversion in light nuclear reactions at relativistic energies	Sun Baohua
09:10 – 09:25	Theoretical study on light superheavy nuclear structure	He Xiaotao
09:30 – 09:45	Potential energy surfaces of $^{238}\text{U}$ with the multidimensionally-constrained covariant density functional theory	Zhang Zhenhua
09:50 – 10:05	Charge Symmetry Breaking in Mirror Hypernuclei	Sun Tingting
10:10 – 10:25	Beta-decay half-lives in deformed nuclei using DRHBc + pnQFAM approach	Li Zhengzheng
10:30 – 10:55	<b>Coffee Break</b>	
	<i>Chair Arbutov Andrej</i>	
11:00 – 11:15	Gamow shell model description of neutron-rich He hyper-isotopes	Zhou Xianrong
11:20 – 11:35	Emergence of high-order deformation in atomic nuclei	Zhao Pengwei
11:40 – 11:55	An accurate relativistic chiral nuclear force	Lu Junxu
12:00 – 12:15	Persistence and quenching of shell effects in superheavy nuclei	Rahmatinejad Azam
12:20 – 12:35	Nuclear radii of exotic nuclei in deformed relativistic Hartree-Bogoliubov theory in continuum	Pan Cong
12:40 – 12:55	Octupole correlations in superdeformed bands of $^{56}\text{Ni}$	Lu Xiao
13:00 – 13:10	Octupole deformation in $^{220,222,224,226}\text{Rn}$	Jiang Yiming
	<b>Lunch</b>	
	<i>Chair Guo Lu</i>	
14:30 – 14:45	Microscopic symplectic symmetry approach to multicluster nuclear systems: the case of $^{16}\text{O}$	Ganev Huben
14:50 – 15:05	Small atomic clusters of helium and neon at low energies	Kolganova Elena
15:10 – 15:25	Quantum dynamical microscopic approach to stellar carbon burning	Diaz-Torres Alexis
15:30 – 15:45	Thermonuclear fusion rates of light nuclei in stellar environments	Sargsyan Vazgen
15:50 – 16:15	<b>Coffee Break</b>	
	<i>Chair Sun Baohua</i>	
16:20 – 16:35	Thermal effects on (anti)neutrino spectra from pre-supernova stars	Dzhioev Alan
16:40 – 16:55	Nuclear annihilation reactions induced by antiprotons and antideuterons	Feng Zhaoqing
17:00 – 17:15	Neutrino spectra of magnetorotational supernovae vs oscillations	Kondratyev Vladimir
17:20 – 17:35	Formation of true muonium in the Drell-Yan dimuon production	Zhevlakov Alexey
17:40 – 17:55	Towards unified description of dense stellar matter	Xia Chengjun

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## August 20, Wednesday

*Chair Shneidman Timur*

08:30 – 08:45	Random walk and Langevin approaches to nuclear fusion dynamics	Kowal Michal
08:50 – 09:05	Random walk and Langevin approaches to nuclear fission dynamics	Cap Tomasz
09:10 – 09:25	Fusion and quasifission in SHE	Guo Lu
09:30 – 09:45	The study of prompt neutron multiplicity from the spontaneous fission of heavy and superheavy nuclei	Isaev Andrey
09:50 – 10:05	Isotopic dependence of fission threshold in nuclei with $Z = 114$ and $120$	Mardyban Evgenii
10:10 – 10:35	<b>Coffee Break</b>	
	<i>Chair Zhou Xiaohong</i>	
10:40 – 10:55	Prospects of $^7\text{H}$ finding in ternary fission	Parfenova Yulia
11:00 – 11:15	Correlations between angular momentum of fission fragments and the total kinetic energy in spontaneous fission of $^{252}\text{Cf}$	Shneidman Timur
11:20 – 11:35	Exploration on the clustering effect of structure and decay in heavy nuclei	Qian Yibin
11:55 – 12:10	Isotopic and temperature dependence of fission thresholds in heavy nuclei	Bezbakh Anna
11:40 – 11:50	Generalized time-dependent generator coordinate method for fission dynamics	Li Bo
	<b>Lunch</b>	
	<i>Chair Kowal Michal</i>	
14:30 – 14:45	Total cross sections for the reactions $^{10,11,12}\text{Be} + ^{28}\text{Si}$	Naumenko Mikhail
14:50 – 15:05	<b>TBA</b>	Zhang Fengshou
15:10 – 15:25	Dynamical description of the multinucleon transfer reactions $^{48}\text{Ca} + ^{208}\text{Pb}$ , $^{50}\text{Ti} + ^{208}\text{Pb}$ and $^{40}\text{Ar} + ^{209}\text{Bi}$ within DNS model	Kalandarov Shuhrat
15:30 – 15:45	Shell effects in fusion-evaporation reactions	Chen Penghui
15:50 – 16:05	iThemba laboratory for accelerator-based sciences	Nchodu Rudolph
16:10 – 16:35	<b>Coffee Break</b>	
	<i>Chair Izosimov Igor</i>	
16:40 – 16:55	Isomer depletion of $^{93}\text{Mo}$	Zhou Xiaohong
17:00 – 17:15	Impact of nucleon-nucleon collisions on heavy-ion fusion reactions – An investigation utilizing time-dependent Hartree-Fock theory with the relaxation-time approximation	Wang Nan
17:20 – 17:35	Low-energy corrections to the Glauber model of nuclear reactions	Pang Danyang
17:40 – 17:55	Color transparency in hard $pd \rightarrow ppn$ process	Larionov Alexei
18:00 – 18:15	Search for time-invariance violation in double polarized $pd$ -, $^3\text{He-d}$ and $dd$ -scattering and test of $pN$ spin amplitudes at high energies	Uzikov Yuriy
18:30	<b>Conference Dinner</b>	

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## August 21, Thursday

*Chair* Yang Yibo

08:30 – 08:45	Reduction of relativistic two-particle problem with arbitrary masses	Arbuzov Andrej
08:50 – 09:05	Abelian decomposition in QCD	Zou Liping
09:10 – 09:25	The influence of rotation and acceleration on confinement/deconfinement phase transition in gluodynamics	Braguta Victor
09:30 – 09:45	QCD phase diagram at finite quark spin density	Roenko Artem
09:50 – 10:05	Nuclear Fluctons, QCD Structure Functions and Cumulative Processes	Kim Victor
10:10 – 10:35	<b>Coffee Break</b>	
	<i>Chair</i> Zhou Shan-Gui	
10:40 – 10:55	Baryon mass and spin from Lattice QCD calculation on CLQCD ensembles	Yang Yibo
11:00 – 11:15	Meson decays within the NJL quark model	Nurlan Kanat
11:20 – 11:35	Covariant Bethe-Salpeter approach for few-nucleon systems	Bondarenko Serge
11:40 – 11:55	Role of quarks in formation of nuclear structure: superheavy nuclei	Musulmanbekov Genis
12:20	<b>Excursion</b>	