

**Session Program**

**11-17 Oct 2020**

**LXX International conference "NUCLEUS -  
2020. Nuclear physics and elementary  
particle physics. Nuclear physics  
technologies"**

***Section 1. Experimental and theoretical  
studies of the properties of atomic nuclei***

Online

# Monday 12 October

15:30

## Section 1. Experimental and theoretical studies of the properties of atomic nuclei

Session | Location: Online

15:30–15:55

### Description of the $M1$ resonance in $^{208}\text{Pb}$ within the self-consistent phonon-coupling model

**Speaker**

Victor Tselyaev

15:55–16:20

### MICROSCOPIC DESCRIPTION OF ISOSCALAR GIANT MONOPOLE RESONANCE IN $^{118-132}\text{Sn}$

**Speaker**

Dr Nikolay Arsenyev

16:20–16:45

### TWO-PHONON STRUCTURES FOR $\beta$ -DELAYED $\gamma$ -SPECTROSCOPY

**Speaker**

Dr Alexey Severyukhin

16:45–17:00

**Coffee break**

17:00–17:25

### Particle-hole dispersive optical model for open-shell nuclei. Implementations for describing $0^{+}$ giant resonances in tin isotopes

**Speaker**

Mr Georgy Kolomyitsev

17:25–17:50

### Properties of Isoscalar Giant Multipole Resonances in medium-heavy closed-shell nuclei: a semimicroscopic description

**Speaker**

Dr Mikhail Gorelik

17:50–18:15

### ABOUT THE DEPENDENCE OF NUCLEAR SURFACE DIFFUSENESS ON NEUTRON-PROTON ASYMMETRY AND ITS INFLUENCE ON THE EVOLUTION OF SINGLE-PARTICLE SPECTRA

**Speaker**

Olga Bespalova

18:40

## Tuesday 13 October

14:40

### Section 1. Experimental and theoretical studies of the properties of atomic nuclei

Session | Location: Online

14:40-15:05

#### SELF-CONSISTENT STUDY OF NUCLEAR CHARGE RADII WITHIN THE FAYANS FUNCTIONAL

**Speaker**

Ivan Borzov

15:05-15:30

#### THE STRUCTURE OF HIGH-SPIN (9+) ISOMERS AND THE NATURE OF ROTATIONAL BANDS IN ODD-ODD Ho NUCLEI WITH A = 156, 158, 160.

**Speaker**

Mr Владимир Стегайлов

15:30-15:55

#### TRIAXIALITY OF EVEN-EVEN NUCLEI WITH QUADRUPOLE AND OCTUPOLE DEFORMATIONS

**Speaker**

S.N. Kudirатов

15:55-16:20

#### Self-consistent calculations of transitions between the first one-phonon 2+ and 3- states in Sn isotopes

**Speaker**

Mr Mikhail Shitov

16:20-16:35

**Coffee break**

16:35-17:00

#### ЭНЕРГЕТИЧЕСКИЙ СПЕКТР И СТРУКТУРА СОСТОЯНИЙ ИЗОТОПА $\{ \} ^{156} \text{Gd}$ .

**Speaker**

П.Н. Усманов

17:00-17:25

#### COLLECTIVE STATES AND BANDCROSSING IN EVEN CERIUM ISOTOPES

**Speaker**

Dr Alexander Efimov

17:25-17:50

#### $\Delta I=1$ "STAGGERING" EFFECT IN THE SPECTRUM OF BAND OF EVEN-EVEN NUCLEI

**Speaker**

F.N. Temirov

18:15

# Thursday 15 October

14:29

## Section 1. Experimental and theoretical studies of the properties of atomic nuclei

Session | Location: Online

14:29-14:55 **First contribution cancelled**

14:55-15:20 **Shape Coexistence in  $^{96}\text{Zr}$  within Geometrical Collective Model**

**Speaker**

E.V. Mardyban

15:20-15:45

**On the microscopic pygmy- and giant resonances theory accounting for complex  $1p1h$  phonon configurations**

**Speaker**

Dr Sergey Kamerzhiev

15:45-16:10 **ENERGY SPECTRUM OF COLLECTIVE STATES OF ODD-ODD NUCLEI**

**Speaker**

M.S. Nadirbekov

16:10-16:25 **Coffee break**

16:25-16:50

**ENERGY SURFACE AROUND A DEFORMED EVEN-EVEN NUCLEI WITH  $150 < A < 190$**

**Speaker**

A. K. Vlasnikov

16:50-17:15 **INFLUENCE OF NEUTRON SHELLS ON SURFACE TENSION IN NUCLEI**

**Speaker**

Aleksey Dolgodvorov

17:15-17:40

**DEEP NEURAL NETWORKS AND THE PHENOMENOLOGY OF SUPER-HEAVY NUCLEI**

**Speaker**

Andrzej Bobyk

17:40-18:05 **DISCRETE TRANSFORMS IN QUANTUM CHAOS**

**Speaker**

Prof. Vadim Bunakov

18:05

# Friday 16 October

15:15

## Section 1. Experimental and theoretical studies of the properties of atomic nuclei

Session | Location: Online

15:15–15:40

### ON POSSIBILITY TO DETECT LIGHT STERILE NEUTRINO IN BETA- AND NEUTRINOLESS DOUBLE BETA-DECAYS OF NUCLEI

**Speaker**

Dr Sergei Semenov

15:40–16:05

### DIFFERENTIAL INTENSITIES OF TWO NEUTRINO DOUBLE BETA-DECAY OF SELENIUM-82

**Speaker**

Dr Sergei Semenov

16:05–16:30

### FOUR-NEUTRON DECAY CORRELATIONS

**Speaker**

Pavel Sharov

16:30–16:45

### Coffee break

16:45–17:10

### TAGS SPECTRA ANALYSIS AND BETA DECAY STRENGTH FUNCTION STRUCTURE

**Speaker**

Igor Izosimov

17:10–17:35

### FINE STRUCTURE OF $\beta$ -DECAY STRENGTH FUNCTION

**Speaker**

Dr Igor Izosimov

17:35–18:00

### NON-STATISTICAL EFFECTS IN BETA & GAMMA DECAYS AND BETA-DELAYED FISSION ANALYSIS

**Speaker**

Igor Izosimov

18:00–18:25

### Investigating the kaonic atoms and $K^{\pm}$ nuclear absorption at low-energy: SIDDHARTA-2 and AMADEUS

**Speaker**

Dr Raffaele Del Grande

18:25–18:50

### Structure Of Light $\Lambda$ -hypernuclei Near Nucleon Drip Lines And Baryonic Interaction

**Speaker**  
Semyon Sidorov

18:50–19:15 **RESEARCH OF ISOBAR: Yb-Tm-Er-Ho WITH A=157.**

**Speaker**  
Dr Владимир Стегайлов

19:15

# Saturday 17 October

09:25

## Section 1. Experimental and theoretical studies of the properties of atomic nuclei

Session | Location: Online

09:25–09:50

### NUCLEAR MATTER DENSITY DISTRIBUTIONS OF THE LIGHT WEAKLY BOUND NUCLEI

**Speaker**

Bakytzhan Urazbekov

09:50–10:15

### Use of molecules to extract fundamental properties of nuclei

**Speaker**

Dr Leonid Skripnikov

10:15–10:40

### Study of nuclear magnetic quadrupole moments at triatomic molecules

**Speaker**

Mr Daniel Maison

10:40–11:05

### Collective structure in $^{116}\text{Sb}$

**Speaker**

Mr Shabir Dar

11:05–11:20

### Coffee break

11:20–11:45

### Structure of $^{10}\text{Li}$ in one-neutron transfer reaction $^2\text{H}(^9\text{Li}, p)$

**Speaker**

Andrey Bezbakh

11:45–12:10

### STUDY OF LEVEL STRUCTURE OF HEAVY HELIUM ISOTOPE $^8\text{He}$ IN STOPPED PION ABSORPTION

**Speaker**

Dr Boris Chernyshev

12:10–12:35

### FORMATION OF HEAVY HELIUM ISOTOPE $^9\text{He}$ IN $^{11}\text{B}(\pi^-, pp)X$ REACTION

**Speaker**

Tatiana Leonova

12:35–13:00

### The properties of the $^4\text{He}_3$ and $^3\text{He}^4\text{He}_2$ three - atomic systems

**Speaker**

Artem Korobitsin

13:00–13:50

### Lunch break

13:50

14:10

## Section 1. Experimental and theoretical studies of the properties of atomic nuclei

**Session** | **Location:** Online | **Convener:** Prof. Sergey Yakovlev

14:10–14:35 **Quantum speed limits for time evolution of a system subspace**

**Speaker**

Prof. Alexander K Motovilov

14:35–15:00 **Metastable states of diatomic beryllium molecule**

**Speaker**

Sergue Vinitzky

15:00–15:25 **Efimov states in three-atomic systems**

**Speaker**

E.A. Kolganova

15:25–15:50

### **THEORETICAL STUDY OF WEAKLY-BOUND TRIATOMIC SYSTEMS WITH FADDEEV EQUATIONS IN TOTAL ANGULAR MOMENTUM REPRESENTATION**

**Speaker**

Vitaly Gradusov

15:50–16:05 **Coffee break**

16:05–16:30 **Role of dibaryon resonances in elastic and inelastic NN scattering**

**Speaker**

Olga Rubtsova

16:30–16:55

### **Discrete Variable Representation method in the study of few-body quantum systems with a low binding energy**

**Speaker**

Vladimir Timoshenko

16:55–17:20

### **SCATTERING PROCESSES IN FEW-BODY SYSTEMS WITH NON-ZERO ANGULAR MOMENTUM**

**Speaker**

Mr Evgeny Yarevsky

17:20–17:45

### **RADIAL ASYMPTOTIC OF THE WAVE FUNCTION OF FEW-PARTICLES IN THE CONTINUUM**

**Speaker**

Prof. Sergey Yakovlev

17:45