

INTERNATIONAL CONFERENCE «NUCLEUS-2012»
«FUNDAMENTAL PROBLEMS OF NUCLEAR PHYSICS,
ATOMIC POWER ENGINEERING AND NUCLEAR TECHNOLOGIES»
(62-d conference on nuclear spectroscopy and atomic nucleus structure)
Voronezh, Russia, June 25 – 30, 2012

THE CONFERENCE ORGANIZERS

Russian Academy of Science

Joint Institute for Nuclear Research

Voronezh State University

Kadmensky S.G.	Chairman	VSU	Voronezh
Gridnev K.A.	Co-Chairman	SIP of SPSU	S.-Petersburg
Zelenskaya N.S.	Co-Chairman	SINP of MSU	Moscow
Popov V.N.	Co-Chairman	VSU	Voronezh
Vlasnikov A.K.	Co-Chairman	SIP of SPSU	S.-Petersburg
Vahtel' V.M.	Vice-chairman	VSU	Voronezh
Titova L.V.	Scientific secretary	VSU	Voronezh

THE CONFERENCE SUBJECTS

1. Experimental investigations of atomic nucleus properties. (section 1)

- neutron-rich nuclei;
- nuclei far from stability valley;
- giant resonances;
- many-phonon and many-quasiparticle states of nuclei;
- high-spin and super-deformed states of nuclei;
- beta-decays of nuclei;
- synthesis of super-heavy elements.

2. Experimental investigations of nuclear reactions mechanisms. (section 2)

- reactions with radioactive nuclear beams;
- reactions with polarized particles;
- heavy-ion reactions;
- fusion and fission of nuclei;
- multi-fragmentation of nuclei;
- neutron reactions and ultracold neutrons;
- reactions induced by elementary particles.

3. Theory of atomic nucleus and fundamental interactions.

(section 3)

- many-body problem in nuclear physics;
- microscopic description of collective degrees of freedom and their interactions with single-particle degrees of freedom;
- theory of few-particles systems;
- non-linear nuclear dynamics;
- meson and quark degrees of freedom in nuclei, mesoatoms;
- hypernuclei and other nuclear exotic systems;
- double beta-decay and neutrino mass problem;

- interaction of nucleus with electrons of atomic shell;
- verification of theories of elementary particles interaction and conservation laws;
- physics of nucleus and particles in application to astrophysical objects.

4. Nuclear reactions theory (section 4)

- theory of direct and statistical nuclear reactions, theory of multiple scattering;
- theory of reactions with clusters and heavy ions;
- theory of relativistic nuclear collisions;
- theory of polarization phenomenon in nuclear reactions;
- theories of proton, two-protons and cluster radioactivity and fission of nuclei.

5. Technique and methods of experiment and applications of nuclear-physical methods. (section 5)

- Perspectives of nuclear medicine development;
- Nuclear-physics for nanophysics and nanotechnologies;
- Radiation technologies for micro and nanoelectronics and new materials;
- Problems of radiational reliability and durability of microelectronics products and of cosmic systems.

6. Fundamental problems of nuclear power and nuclear technologies. (section 6)

- problems of atomic power reactors with slow and fast neutrons;
- problems of radioactive waste treatment;
- transmutation methods;
- channeling of nuclei and elementary particles;
- radiation technologies for micro- and nano-electronics and new materials producing.

7. Experience and problems of qualitative training of Russian and foreign specialists in field of nuclear physics, atomic power engineering and nuclear technologies. (section 7)

It has been planned the realization of Plenary sessions with invited talks (20–30 min.), parallel sessions with original reports (10–15 min) and poster talks.

The reporters will be provided with an Overhead projector or computer support (Microsoft Power Point).

Conference proceedings will be published in Izvestiya RAN, Ser. Fizicheskaya and Physics of Atomic Nuclei.

WORKING LANGUAGES OF THE CONFERENCE

Working languages of the Conference are English and Russian.

PLACE OF THE CONFERENCE

The Conference will be held in Voronezh.

CONFERENCE FEE

Conference fee of 200 Euro or equivalent in US dollar (depending on accommodation) for participants and the half of these amounts for accompanying persons includes car transportation, break refreshments, Welcome party, Conference dinner, and a copy of Conference proceedings.

The fee is due to payment in cash at registration.

Expenses on hotel accommodation and meals are paid by participants themselves.

ARRIVAL AND REGISTRATION

Arrival days of participants are June 24-25, 2012. Registration will take place in Voronezh State University on June, 24 during a day and on June, 25 at 8³⁰ – 9⁰⁰ a.m. The Conference Opening will be at 9⁰⁰ a.m. on June, 25, 2012.

THE ORGANIZING COMMITTEE ADDRESS

Voronezh State University, University square, 1, 394006, Voronezh, Russia.

Phone: (473) 2208-821,

Fax: (473) 2208-755,

E-mail: : nucphys.vsu@mail.ru, titova_lv@phys.vsu.ru

In order to take part in the Conference it is necessary to submit by January 31, 2012 to the Organizing Committee the Application Form in electronic form. Contacts e-mail:

nucphys.vsu@mail.ru, titova_lv@phys.vsu.ru;

**APPLICATION FORM FOR PARTICIPATION IN
INTERNATIONAL CONFERENCE «NUCLEUS-2012»
«FUNDAMENTAL PROBLEMS OF NUCLEAR PHYSICS,
ATOMIC POWER ENGINEERING AND NUCLEAR TECHNOLOGIES»
(57-th conference on nuclear spectroscopy and atomic nucleus structure)
Voronezh, Russia, June 25 – 30, 2012**

Full Name

Place of employment

Post address for invitation (ZIP code is needed)

Phone (office, home)

Fax

E-mail

Full Name of accompanying person

Report title, authors (speaker should be underlined), section.