



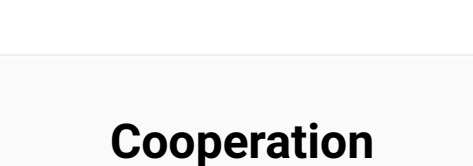
JINR Newsletter #48, 7 December 2023

Dear colleagues and friends,

Last week, news of international cooperation were the key ones. A regular meeting of the JINR-Serbia Coordination Committee took place. During the visit to JINR, a representative of the University of the Witwatersrand (Johannesburg) discussed the development of cooperation with South Africa. JINR leaders took part in major international conferences in Azerbaijan and Belarus. In addition, JINR representatives actively participated in the annual Congress of Young Scientists held in Russia.

New publications and scientific papers, interesting videos, as well as new wallpapers for your smartphones are in this issue of the JINR Newsletter.

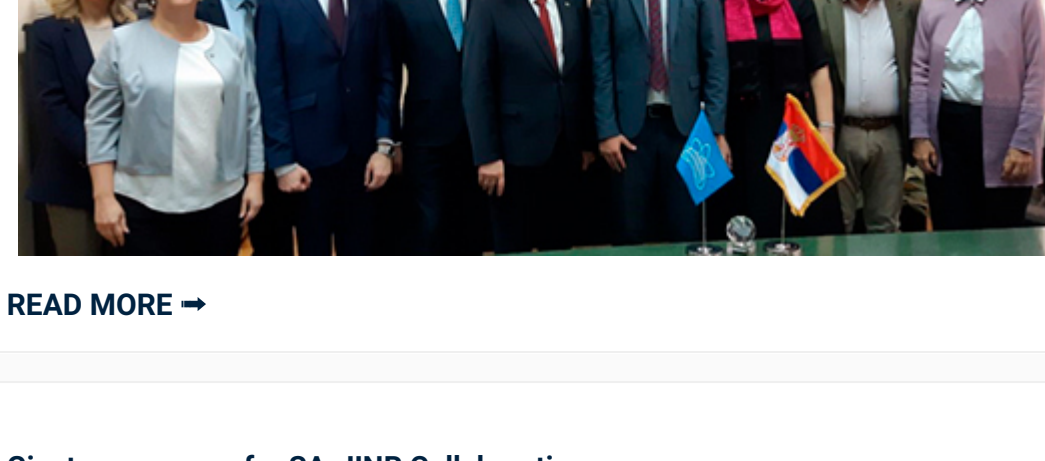
JINR Press Office



Cooperation

9th Serbia-JINR Cooperation Committee held in Belgrade

At the 9th Serbia-JINR Cooperation Committee held in Belgrade, participants summed up the results of the year's work and launched 12 new projects. They noted high interest of the parties in deepening cooperation.



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Giant resonances for SA-JINR Collaboration

The SA-JINR board coordinator for nuclear physics, Dr. Iyabo Usman from the University of Witwatersrand (Wits) in Johannesburg, South Africa, visited JINR as part of the ongoing JINR-SA collaboration. She discussed the possibility of new joint projects between Wits and FLNR researchers and opportunities for other SA universities as well.

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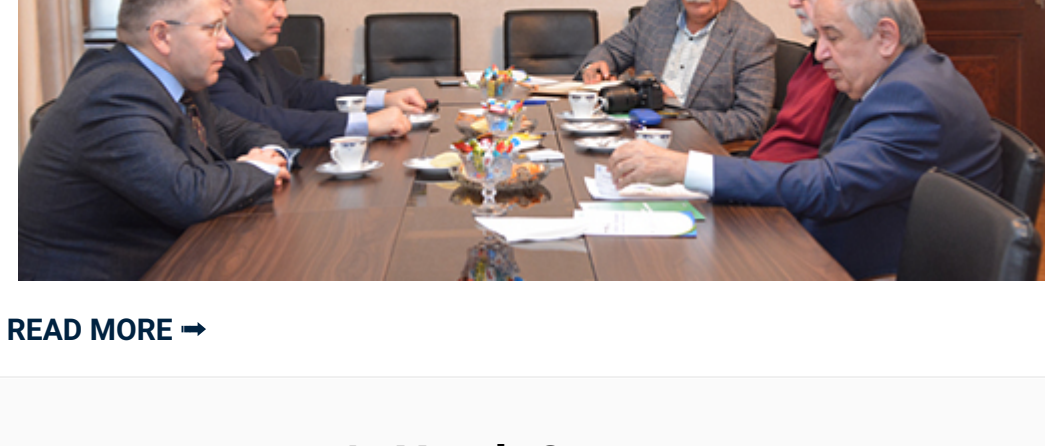
JINR congratulates State Committee for Science and Technology of Belarus on its anniversary

JINR representatives have taken part in the International Scientific and Practical Conference "Topical issues of ensuring scientific and technological safety" dedicated to the 30th anniversary of the formation of the State Committee for Science and Technology of the Republic of Belarus.

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Strengthening JINR-Baku bilateral ties

DLNP JINR Director Evgeny Yakushev has taken part in the conference "Modern trends in physics-2023" organized by Baku State University (Azerbaijan). He participated in a number of meetings and spoke at a scientific seminar, where he introduced the audience to the activities of the Institute and the scientific research of DLNP.



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At Youth Congress

JINR at 3rd Congress of Young Scientists

On 28 - 30 November, JINR leaders and young scientists took part in the events of the 3rd Congress of Young Scientists in the Sirius Science and Art Park. Alongside the event, a declaration was signed between JINR and the NRC Kurchatov Institute.

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Research with JINR's participation – best project of the All-Russian Youth Competition

A researcher at the Centre of Applied Physics of the Flerov Laboratory of Nuclear Reactions, a candidate of chemical sciences Ilya Vinogradov is actively involved in a study that is the best project of the *In the heart of science* All-Russian Youth competition of scientific projects.

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Research

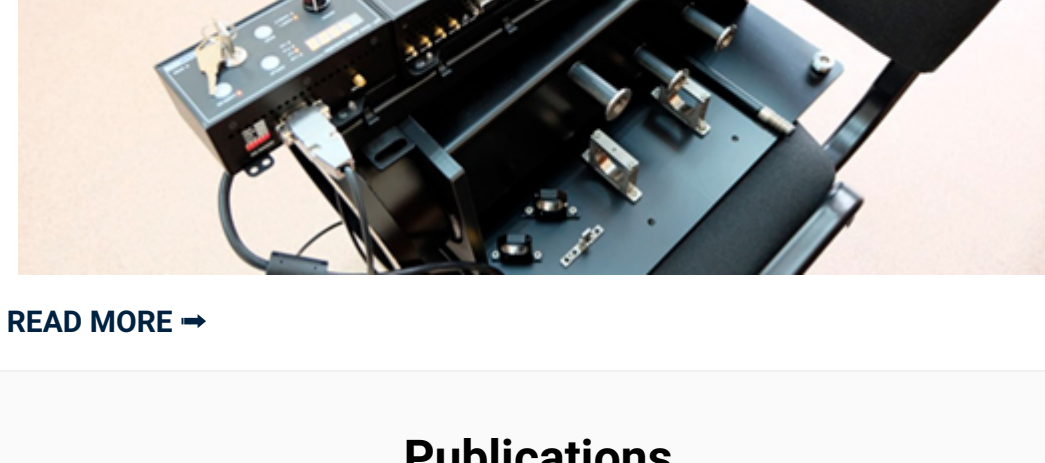
JINR exploring promising ways to synthesise new heavy and superheavy nuclei

JINR scientists have created a new specialised facility for a detailed study of products formed in the reactions of multi-nucleon transfers, and carried out a first series of experiments using it. The research will contribute to a deeper understanding of the dynamics of these reactions and a more effective use of them for the synthesis of new nuclei, including those unavailable in other nuclear reactions.

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What are JINR inclinometers?

Precision laser inclinometers are unique devices for measuring the Earth's surface inclinations. They have been developed by DLNP JINR scientists.



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Publications

New issue of Particles & Nuclei

A new issue of the review journal *Physics of Elementary Particles and Atomic Nuclei* #6 has been published. In this eminent journal, review articles examine elementary particle physics, problems of vacuum in quantum field theory, condensed matter problems, symmetries in physics, etc.

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Ion beam positioning and position stabilisation system for EG-5 accelerator

The JINR Publishing Department has issued a preprint "Ion beam positioning and position stabilisation system for EG-5 accelerator" P19-2023-50. The authors are Vyacheslav Semenov et al.

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Simulation of laser ablation of materials within thermal spike model

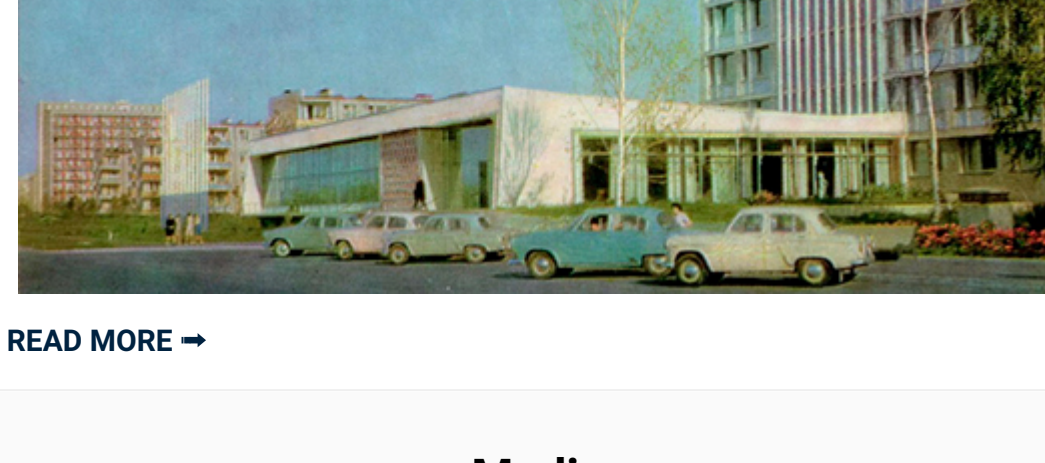
We would like to offer to your attention a preprint "Simulation of laser ablation of materials within the thermal spike model" P11-2023-51 issued by the JINR Publishing Department. The authors are Ilkizar Amirhanov et al.

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Announcements

Repairs in Dubna Hotel

Since 14 January, the restaurant of the Dubna Hotel will be closed for major repairs. In the meantime, we invite everyone interested to enjoy a delicious dinner, feel the historical atmosphere and perhaps even visit the room 326, where Vysotsky often stayed.



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Media

Filming at JINR

JINR has become a part of the *Russia 21st Century* documentary project by the Russian Knowledge Society. The new episode of the series, devoted to science in the Institute's location country, featured VBLHEP JINR employees Anatoly Sidorin, Sergei Merts, and Alyona Kotova.

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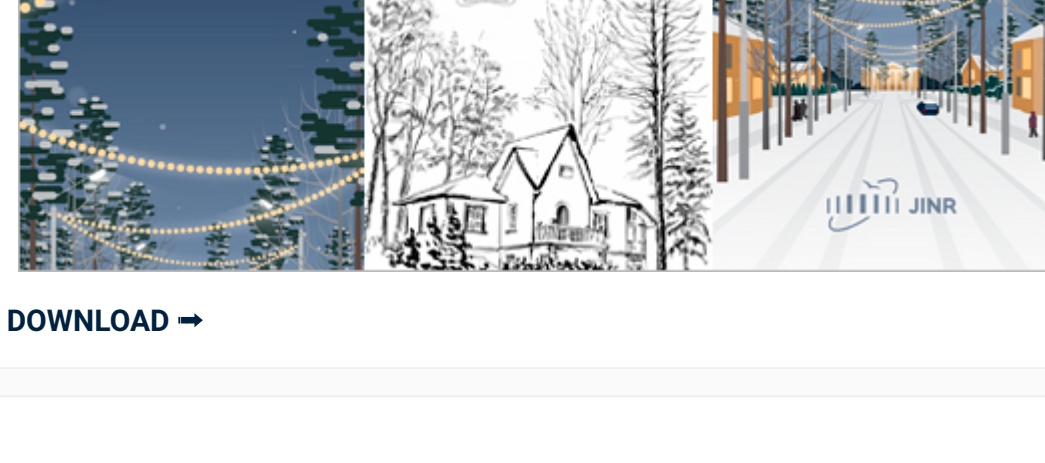
Video from VBLHEP

In a video, you can see a pavilion of the Multi-Purpose Detector (MPD) of the NICA Complex. The most sharp-eyed could spot the movement of a superconducting solenoid, a 800-tonne magnet of over 5 metres in diameter. Why is this happening? You'll find out soon, stay tuned.

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December wallpapers for your smartphone

The New Year's whirl will sweep us all very soon. If you need to take a break from pleasant chores and put your thoughts in order, you can take a walk along the cosy winter streets of Dubna with "yellow houses" of academicians scattered here and there.



[DOWNLOAD →](#)

Neutrino on Channel One

What are neutrinos, what are these mysterious particles needed for, and how to "catch" them? Deputy Director of the Laboratory of Nuclear Problems, Dmitry Naumov and a DLNP JINR senior researcher Bair Shaibonov explained this in the Good Morning programme.

[WATCH →](#)

What is it like to work as a physicist at the NICA Hadron Collider?

Vasilisa Lenivenko, a researcher at the Joint Institute for Nuclear Research, was a guest of the *In the World of Scientists* programme. In this episode, you will learn why and how scientists are creating the state of the early universe, what applied research is being done at the NICA Collider, etc.

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Video about past week JINR events

We offer you to watch a video review of recent events from the life of the Institute and Dubna.

[WATCH →](#)

JINR Weekly Newspaper issued

A new issue of the JINR Weekly Newspaper #46 has been published. Please note that you can read an English version of the JINR Newspaper's website.

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Sports

Volleyball match

On 2 December, a friendly volleyball match between the JINR and VETERANS teams took place at the JINR Sports Club. The hall has opened on 1 November and has already been appreciated by tennis and football players, who thanked the management of the Institute and the staff of the Social Infrastructure Management Office.

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Upcoming Events

Conferences

- [5 – 8 December, Baikal Collaboration Workshop, Dzhelapov Laboratory of Nuclear Problems, JINR, Dubna](#)
- [6 – 12 December, Visiting seminar "Scientific activities of JINR", Meshcheryakov Laboratory of Information Technologies, JINR, Dubna](#)
- [12 December, MEPhI-JINR workshop, Computing for the NICA megaproject, National Research Nuclear University, MEPhI](#)

Seminars

- [8 December, 10:00 AM, VBLHEP, Lecture series on training of accelerator complex operators, Beam extraction from Booster, Booster – Nuclotron transfer channel, injection into Nuclotron](#)
- [11 December, 3:30 PM, BLTP, "On optical model for sub-barrier heavy-ion fusion reactions" by Sergey Vintski](#)
- [11 December, 10:00 AM, VBLHEP, Lecture series on training of accelerator complex operators, Schottky diagnostic, Stochastic cooling system at Nuclotron](#)
- [11 December, 11:00 AM, BLTP, Journal Club, "Differentiating by prime numbers" by Pavel Maksimov](#)
- [12 December, 4:00 PM, BLTP, "Simulated quantum computations of charge transport in bio-nanostructures" Viktor Yushankhaj, Liudmila Siurakshina](#)

Culture

- [10 November – 10 December, daily from 1:00 to 7:00 PM \(except Monday\), JINR Cultural Centre "Mir", Exhibition of young artists of Dubna](#)
- [16 December – 15 December, daily from 1:00 to 8:00 PM \(except Monday\), JINR Universal Public Library, Photo exhibition of floral still lifes](#)
- [4 December – 2 February 2024, daily from 2:00 to 6:00 PM \(except Monday\), JINR Scientists' Club, Olga Trifonova, Art exhibition](#)
- [7 December, 7:00 PM, JINR Scientists' Club, Watercolour in poetry](#)
- [7 December, 7:00 PM, JINR Universal Public Library, Summer Reading List book club](#)
- [8 December, 6:00 PM, JINR Universal Public Library, JINR Cinema Club](#)
- [8 December, 7:00 PM, JINR Universal Public Library, Lecture on Russian academic and salon art](#)
- [9 December, 1:00 PM, JINR Universal Public Library "Blokhnka", Meeting of debating club for teenagers](#)
- [10 December, 10:00 AM, JINR Cultural Centre "Mir", Dance competition](#)
- [12 December, 7:00 PM, JINR Universal Public Library, Genealogy club's meeting](#)
- [14 December, 7:00 PM, JINR Universal Public Library, Hairpin book club](#)

For Kids

- [9 December, 5:00 PM, JINR Universal Public Library "Blokhnka", "Let's READers" and "Fiction from the third desk"](#)

Sports

- [9 December, 10:00 AM, JINR Stadium "Nauka", Dubna team competition in bullet shooting](#)

[ALL JINR EVENTS →](#)