



JINR Newsletter #35, 7 September 2023

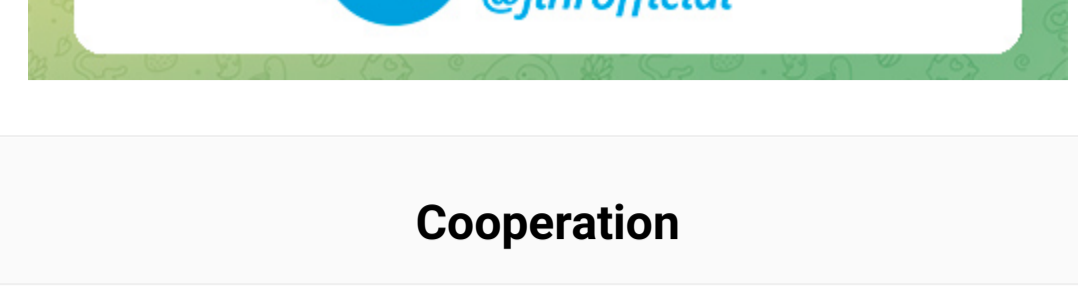
Dear colleagues and friends,

JINR representatives have recently made work visits to Pakistan and Vietnam, where they found new areas for mutually beneficial cooperation.

In the new issue of the JINR Newsletter, there is a whole galaxy of bright scientific results in theoretical physics and astrophysics, IT, as well as in experiments at the LHC.

In addition, you will find interviews with Institute's leaders, educational activities, and new September wallpapers for your smartphones.

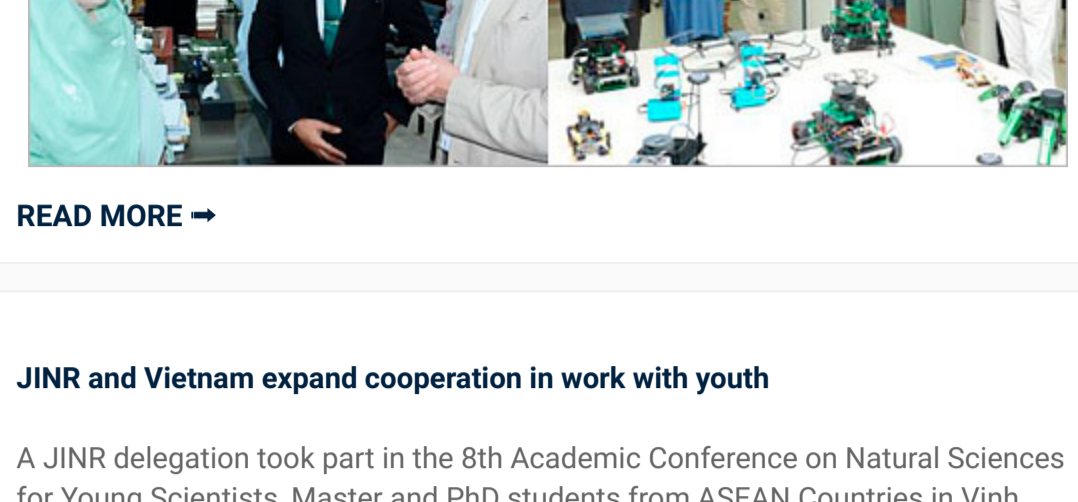
JINR Press Office



Cooperation

JINR and Pakistan discussed cooperation opportunities

In the second half of August, a JINR delegation made a working visit to Islamabad. Possible areas of cooperation with scientific organizations and universities of Pakistan were discussed.



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JINR and Vietnam expand cooperation in work with youth

A JINR delegation took part in the 8th Academic Conference on Natural Sciences for Young Scientists, Master and PhD students from ASEAN Countries in Vinh, Vietnam, on 28 - 30 August. The visit was aimed to develop cooperation with scientific and educational institutions of Vietnam in the field of staff training.

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Research

JINR created software for building digital twins of distributed data processing centres

Employees of the Laboratory of Information Technologies at JINR have developed and registered a software package for creating digital twins of distributed data acquisition, storage, and processing centres. The created software is to be used primarily in the design and operation of computing infrastructures for physical experiments.

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Research by JINR theoretical physicists contributes to creation of spintronic devices

Scientists of the Laboratory of Theoretical Physics at JINR conducted a number of studies on the anomalous Josephson effect during 2017 - 2022. They discovered a number of previously unknown properties manifested in these materials, proposed new methods for controlling the magnetisation of magnets and a way to reduce consumption during the operation of spintronic devices.

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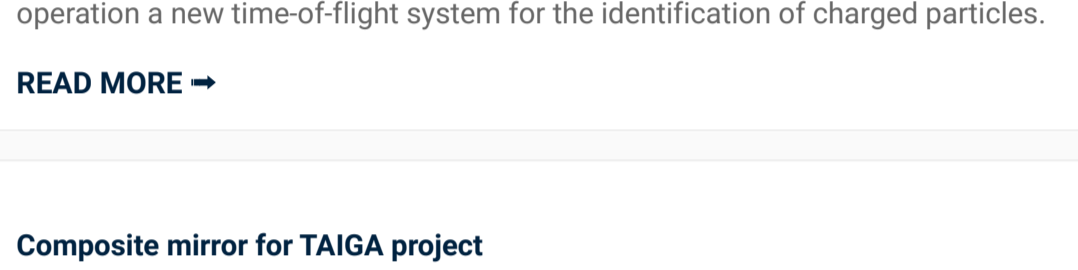
JINR scientists proposed to study astrophysical processes by method of superoperators

A group of JINR theoretical scientists has formulated a statistical approach to calculating the cross sections and velocities of semileptonic-weak reactions with heated nuclei in the dense and hot plasma of a star. The approach was developed based on the method of superoperators. 15 articles on this topic were awarded the JINR Second Prize 2022.

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New results were obtained in ATLAS collaboration at LHC with JINR participation

This year, the ATLAS collaboration has published scientific papers that present the combined statistics of particle collision analysis in the first and second runs of the Large Hadron Collider at CERN. Two of the four works were carried out with the participation of JINR scientists. Evgeny Khranov, a DLNP employee and co-author of these studies, commented on the results.



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JINR scientists take part in NA61/SHINE experiment at CERN

On 16 August, a 6-week data set was completed as part of the neutrino programme for measuring hadron yields in hadron-nuclear interactions in the NA61/SHINE experiment at CERN. JINR employees developed and put into operation a new time-of-flight system for the identification of charged particles.

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Composite mirror for TAIGA project

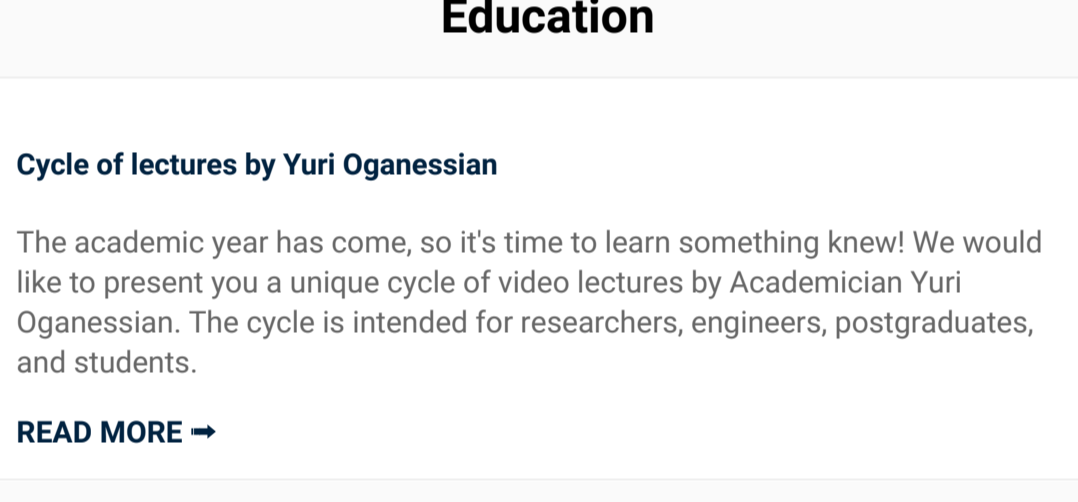
DLNP JINR staff members together with employees of Dubna State University proposed a technology and made a prototype of a lightweight composite mirror for the Cherenkov telescopes of the TAIGA project. The production of such mirrors will allow specialists to move from a traditional process of manufacturing monolithic glass mirrors to a faster and optimal production of more mirrors for Cherenkov telescopes.

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Conferences

Workshop on High Energy Spin Physics started

On 4 - 8 September, a traditional Dubna event, Workshop on High Energy Spin Physics, is being held in a hybrid format at JINR. Almost 90 scientists from research centres of different countries are taking part in the event.



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Physics of strong interactions being discussed in Armenia

A traditional JINR/BLTP - SKLTP/CAS Joint Workshop on Physics of Strong Interactions is being held in Yerevan on 3 - 9 September. A delegation of 20 scientists from various universities and research centres of China is taking part in the workshop. Colleagues from Armenia, Bulgaria, Great Britain, Iran, Kazakhstan, Romania, and Russia joined the meeting as well.

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Education

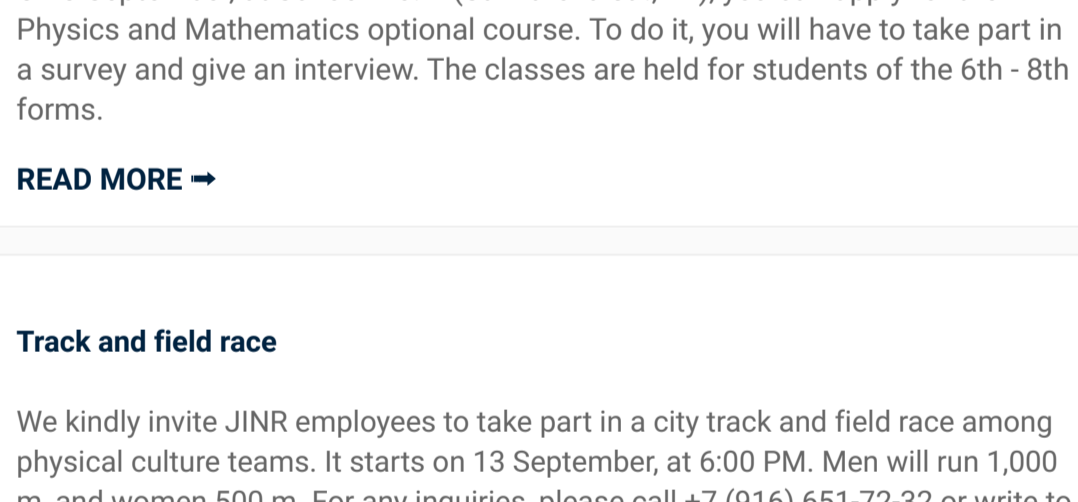
Cycle of lectures by Yuri Oganessian

The academic year has come, so it's time to learn something new! We would like to present you a unique cycle of video lectures by Academician Yuri Oganessian. The cycle is intended for researchers, engineers, postgraduates, and students.

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JINR and Dubna University invite everyone interested to a joint engineering and physics workshop

On 30 August, representatives of Dubna University visited the updated JINR University Centre and its new laboratories for conducting an engineering and physics workshop. The key feature of the workshop is the ability to combine the learning process with work on real operating physical facilities.



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Books

New Book Acquisitions exhibition in S&T Library

On 4 - 15 September, the JINR Science and Technology Library (S&T Library) invites visitors to the New Book Acquisitions exhibition. Topics of presented books are various and cover such scientific areas as methods of nonlinear analysis, quantum mechanics, the theory of generalised integrals, cosmology, general relativity, etc.

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Announcements

Physics and Mathematics optional course

On 8 September, at School No. 9 (Sakharova str., 17), you can apply for the Physics and Mathematics optional course. To do it, you will have to take part in a survey and give an interview. The classes are held for students of the 6th - 8th forms.

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Track and field race

We kindly invite JINR employees to take part in a city track and field race among physical culture teams. It starts on 13 September, at 6:00 PM. Men will run 1,000 m, and women 500 m. For any inquiries, please call +7 (916) 651-72-32 or write to travina@jinr.ru

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Enrolment for English language groups

Classes are held 2 times a week and last 1.5 hours. The classes of an elementary group are held on Monday, at 3:30 PM, and on Thursday, at 10:30 AM. A pre-intermediate group has classes on Monday, at 10:30 AM, and on Thursday, at 3:30 PM. The classes start in October. The deadline for applications is 30 September. You should write your full name and a chosen group and send it to udovichenko@jinr.ru

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Media

Media of Member States: Russia

The Scientific Russia portal published an interview with Special Representative of the JINR Director for Cooperation with International and Russian Scientific Organizations Boris Sharkov. He spoke about international cooperation in the field of fundamental science.

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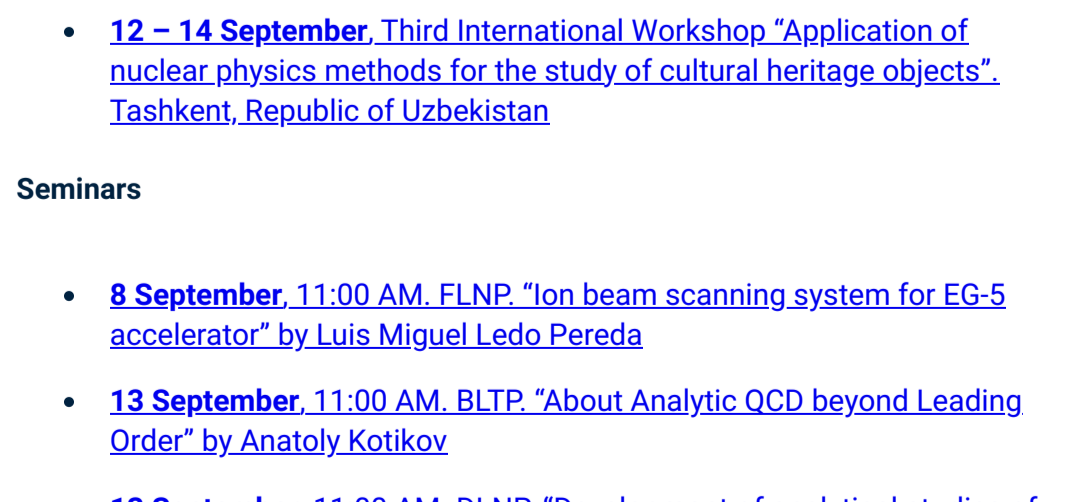
Media of Member States: Armenia

A JINR scientist, Doctor of Physics and Mathematics Evgeny Ivanov gave an interview to the Golos Armenii newspaper. He discussed the issues of science and education, shared his impressions about the international conference in Yerevan.

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New JINR wallpapers

The September wallpapers show the V. G. Kadyshesky Physics and Mathematics Lyceum established with the JINR support. The second picture features the building of the JINR International Conference Centre, where this event traditionally takes place.



DOWNLOAD →

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 #33 has been published. Please note that you can read an English version of the JINR Newspaper's website.

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Upcoming Events

Conferences

- **3 - 9 September.** BLTP/JINR - KLTTP/CAS Joint Workshop Physics of Strong Interacting Systems. Yerevan, Armenia
- **4 - 8 September.** XIX Workshop on High Energy Spin Physics, DSPIN-23 (Efremov-90). JINR, Dubna
- **11 - 15 September.** 23rd JINR Training Course "JINR Expertise for Member States and Partner Countries" (JEMS-23). JINR Laboratories, Dubna
- **12 - 13 September.** Analysis & Software Meeting of the BM@N Experiment. JINR Laboratories, Dubna
- **12 - 14 September.** Third International Workshop "Application of nuclear physics methods for the study of cultural heritage objects". Tashkent, Republic of Uzbekistan

Seminars

- **8 September, 11:00 AM.** FLNP. "Ion beam scanning system for EG-5 accelerator" by Luis Miguel Ledo Pereda
- **13 September, 11:00 AM.** BLTP. "About Analytic QCD beyond Leading Order" by Anatoly Kotikov
- **13 September, 11:00 AM.** DLNP. "Development of analytical studies of materials used for low-background experiments" by Alimardon Rakhimov

Culture

- **5 September - 1 October.** daily from 1:00 to 7:00 PM (except Monday). JINR Cultural Centre "Mir". Autumn art exhibition
- **5 September - 14 September.** from 11:00 AM to 8:00 PM on weekdays, from 12:00 AM to 8:00 PM on Saturday. JINR Universal Public Library. Exhibition of caricatures by Mikhail Bilenky
- **7 September, 7:00 PM.** JINR Universal Public Library. Hairpin book club: discussing a book "Elegance of Hedgehog" by Muriel Barbery
- **8 September, 6:00 PM.** JINR Universal Public Library. English speaking club
- **9 September.** from 12:00 to 5:00 PM. JINR Universal Public Library. Festival of additional development and education "Navigator" in Dubna
- **9 September, 6:00 PM.** JINR Cultural Centre "Mir". Opening of art exhibition
- **9 September, 7:00 PM.** JINR Universal Public Library. Lecture about modern demography
- **14 September, 7:00 PM.** JINR Universal Public Library. Summer Reading List book club: discussing a book "The Land of Foam" by Ivan Yefremov

ALL JINR EVENTS →