



Institute of Nuclear Physics
Uzbekistan Academy of Sciences



THE XI INTERNATIONAL CONFERENCE

**MODERN PROBLEMS
OF NUCLEAR ENERGY AND
NUCLEAR TECHNOLOGIES**

Dedicated to the 80th anniversary of the
birth of Academician Bekhzod Yuldashev

PROGRAM

October 14-16, 2025
Tashkent, Uzbekistan



GAMMA SYSTEMATICS
SPECIALIZED PHYSICS AND CHEMISTRY
SERVICES

15 October, Tuesday

PARALLEL SESSION PROGRAM

SECTION II. NUCLEAR ENERGY AND NUCLEAR TECHNOLOGIES; MODERNIZATION OF RESEARCH REACTOR AND ITS APPLICATIONS

09:00 - 13:00

SESSION I

CHAIRMEN: MALIKOV Sh., KHASANOV Kh.

- 09:00 - 09:15** 1. Analysis of Modern Problems and Challenges of Nuclear Energy and Technologies in Central Asia
TASHPOLOTOV Y.
Research Institute of Nanotechnology and Artificial Intelligence, Osh State University, Osh, Kyrgyz Republic
- 09:15 - 09:30** 2. Studies of the Microelemental Status of the Human Body in Various Pathological Conditions
KURBANOV B.L., Danilova E.A., Husniddinova S.H.
Institute of Nuclear Physics, Uzbekistan Academy of Sciences, Tashkent, Uzbekistan
- 09:30 - 09:45** 3. Status of ADSR project. The design of the target LETASUR
PARAIPAN M.^{1,2}, Abduvaliev A.³, Balabekyan A.⁴, Belov O.V.¹, Ergashev F.H.³, Javadova V.M.¹, Korneev S.V.⁵, Kostov L.K.^{1,6}, Khushvaktov J.H.¹, Solnyshkin A.A.¹, Sorokin V.V.⁵, Tran T.N.^{1,7}, Tyutyunnikov S.I.¹
¹Joint Institute for Nuclear Research, Dubna, Russian Federation
²Institute of Space Science, Ilfov, Romania
³Institute of Nuclear Physics, Uzbekistan Academy of Sciences, Tashkent, Uzbekistan
⁴International Center of Advanced Studies Yerevan State University, Yerevan, Armenia
⁵Joint Institute for Energy and Nuclear Research-Sosny, Minsk, Belarus
⁶Institute for Nuclear Research and Nuclear Energy, Sofia, Bulgaria
⁷Institute of Physics of the Vietnam Academy of Science and Technology, Hanoi, Vietnam

- 15:00-15:15** 17. Radiation Method of Synthesis of Multilayer Graphene
MALIKOV Sh.R., Sadikov I.I., Ibragimova E.M., Yuldashev M.B.
Institute of Nuclear Physics, Uzbekistan Academy of Sciences, Tashkent, Uzbekistan
- 15:15-15:30** 18. Molybdenum-99 Production in a Specially Designed Irradiation Device at the Critical Facility
KHALILA T.K., Sairanbayev D.S., Aitkulov M.T., Nurgozhayev B.M., Gizatulin Sh.Kh., Kisselyov K.S., Beisebayev A.O., Shaimerdenov A.A.
Institute of Nuclear Physics of the Atomic Energy Agency of the Republic of Kazakhstan, Almaty, Kazakhstan
- 15:30 - 15:45** 19. Verification of OpenMC Code on Test Problems for IRT Type Reactors
UMAROV Sh., Umarova M., Kudratov V.
Branch of the National Research Nuclear University MEPhI in Tashkent, Tashkent, Uzbekistan
- 15:45 - 16:00** 20. Studying the Patterns of Radionuclide Distribution and Migration in Ecosystem Objects
JURAKULOV A.R.¹, Muzafarov A.M.², Kurbanov B.I.³, Mustafoev M.A.², Sharafutdinov U.Z.²
¹*Navoi State University of Mining and Technologies, Navoi, Uzbekistan*
²*Navoi Mining and Metallurgical Company" JSC, Navoi, Uzbekistan*
³*Institute of Nuclear Physics, Uzbekistan Academy of Sciences, Tashkent, Uzbekistan*
- 16:00 - 16:30** **COFFEE-BREAK**
- CHAIRMEN: TASHPOLOTOV Y., SUMKHUU D.**
- 16:30-16:45** 21. Activity Concentration of ²²⁶Ra in Bottled Drinking Waters Commercially Available in Tashkent
VASIDOVA S.O., Vasidov A.
Institute of Nuclear Physics, Uzbekistan Academy of Sciences, Tashkent, Uzbekistan
- 16:45-17:00** 22. Using of MOX Fuel in the RITM-200n Reactor. Evaluation of Neutron-Physical Characteristics
BALTABAEV D.S.
"Uzatom" Agency, Tashkent, Uzbekistan
National Research Nuclear University MEPhI, Moscow, Russian Federation

16 October, Wednesday

PARALLEL SESSION PROGRAM

SECTION III. RADIATION PHYSICS AND RADIATION MATERIAL SCIENCE

09:00 - 13:00

SESSION III

CHAIRMEN: TURAEVA N.N., BELUSHKIN A.V.

09:00 - 09:15 27. Distinctive Mechanisms of Charge Transport in the Normal State of High- T_c Cuprate Superconductors

DZHUMANOV S.¹, Kurbanov U.T.^{1,2}

¹*Institute of Nuclear Physics, Uzbekistan Academy of Sciences, Tashkent, Uzbekistan*

²*Tashkent State Technical University named after Islam Karimov, Tashkent, Uzbekistan*

09:15 - 09:30 28. Decay of Electronic Excitations with the Creation of Frenkel Defects in KCl and KBr with Cationic-Homologic Impurities

TAYIROV M.M.¹, Oskonbaev M.Ch.², Temirbaev M.M.¹

¹*Batken State University, Batken, Kyrgyz Republic*

²*Osh State University², Osh, Kyrgyz Republic*

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09:30 - 09:45 29. Magnetic Phase Diagram of Hole-Doped Cuprates from Fundamental Polaronic Length Scales

GANIEV O.^{1,2}

¹*Institute of Nuclear Physics, Uzbekistan Academy of Sciences, Tashkent, Uzbekistan*

²*National University of Uzbekistan, Tashkent, Uzbekistan*

09:45 - 10:00 30. Investigation of the Electronic Structure of $\text{HgBa}_2\text{CuO}_4$ Cuprate Based on the DFT Approach

**Kabulov I.Sh.¹, Khajibaev D.G.^{1,3}, Yavidov B.Y.³,
KARIMBAEV E.X.^{1,2}**

¹*Institute of Fundamental and Applied Research, National Research University TIAME, Tashkent, Uzbekistan*

²*Institute of Nuclear Physics, Uzbekistan Academy of Sciences, Tashkent, Uzbekistan*

³*Nukus State Pedagogical Institute named after Ajiniyaz, Nukus, Uzbekistan*

CHAIRMEN: KULDJANOV B., BOZTOSUN I.

14:30-14:45 ✓ 15. Results of Determining the Elemental Composition of Plant Samples in the Area Where Construction of a Nuclear Power Plant is Planned

SHARIPOVA S.M., Sadikov I.I., Yarmatov B.X., Akhmedov Ya.A., Usmanov T.M.

Institute of Nuclear Physics, Uzbekistan Academy of Sciences, Tashkent, Uzbekistan ✓

? 14:45-15:00 16. New Method for Estimating of the Age of Ancient Bones by Using of the CR-39 Track Detector

SAYDULLAEV B.J.^{1,2}, Vasidov A.²

¹*Alfragamus University, Tashkent, Uzbekistan*

²*Institute of Nuclear Physics, Uzbekistan Academy of Sciences, Tashkent, Uzbekistan*

15:00-15:15 ✓ 17. Development of an Express Method for Radionuclide Determination Radium-226 in Man-Made, Underground and Wastewater

ROZMETOVA F.X., Sadikov I.I., Yarmatov B.X.

Institute of Nuclear Physics, Uzbekistan Academy of Sciences, Tashkent, Uzbekistan ✓

15:15-15:30 ✓ 18. Study of Concentration of Radioactive Elements in Tailings of Sumsar Settlement, Chatkal District

OSKONBAEV M.Ch.¹, Tayirov M.M.²,

Zhakypbekova A.T.¹, Mizraim kyzy Nuriza¹

¹*Osh State University, Osh, Kyrgyz Republic*

²*Batken State University, Batken, Kyrgyz Republic* ✓

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15:30 - 15:45 ✓ 19. Bismuth-Based Nanoparticles as an Effective Radiosensitizer in Photon Activation Therapy

Abdullaeva G.A., RASULOVA D.R., Kulabdullaev G.A.

Institute of Nuclear Physics, Uzbekistan Academy of Sciences, Tashkent, Uzbekistan ✓

15:45 - 16:00 ✓ 20. Production of Sulfur-35 Radionuclide Without a Carrier at the WWR-SM Reactor

ASHRAPOV U., Malikov Sh., Yuldashev M., Mirzaev B.

Institute of Nuclear Physics, Uzbekistan Academy of Sciences, Tashkent, Uzbekistan ✓

16:00 - 16:30

COFFEE-BREAK