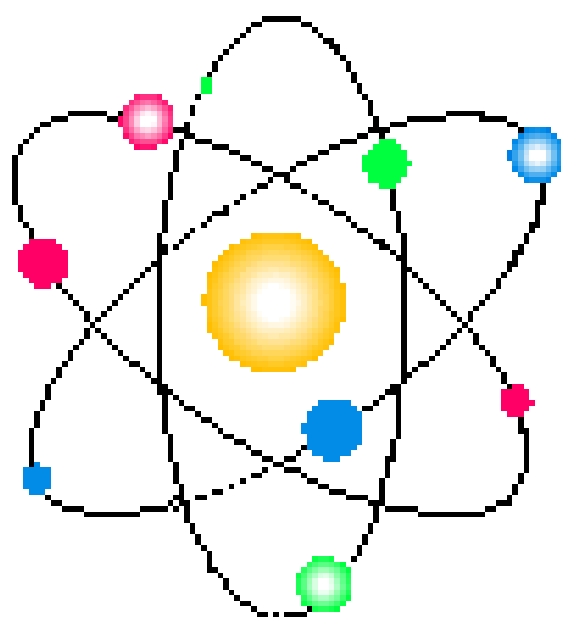


The XV-th International School-Conference "The Actual Problems of Microworld Physics"



Report of Contributions

Contribution ID: 1

Type: **not specified**

Physics beyond the Standard Model at the LHC

Tuesday, 29 August 2023 09:00 (45 minutes)

Presenter: SHMATOV, Sergei (JINR)

Session Classification: Plenary

Contribution ID: 2

Type: **not specified**

Probe of Standard Model in pp collisions at 13 TeV by ATLAS and CMS at LHC

Tuesday, 29 August 2023 09:45 (45 minutes)

Presenter: KULCHITSKY, Yuri (JINR)

Session Classification: Plenary

Contribution ID: 3

Type: **not specified**

Взаимодополняемость синхротронных и нейтронных методов в исследованиях конденсированных сред

Tuesday, 29 August 2023 11:00 (40 minutes)

Presenter: BELUSHKIN, Alexander (FLNP, JINR)

Session Classification: Plenary

Contribution ID: 4

Type: **not specified**

The nonperturbative QCD problems and how to resolve them

Tuesday, 29 August 2023 11:40 (40 minutes)

Presenter: SHIMANSKIY, Stepan (JINR)

Session Classification: Plenary

Contribution ID: 5

Type: **not specified**

Адрон как когерентное состояние партонов

Tuesday, 29 August 2023 12:20 (40 minutes)

Primary author: KUROCHKIN, Yuri

Co-authors: RUSSAKOVICH, Nikolai (JINR); HARKUSHA, Sergey; KULCHITSKY, Yuri (JINR)

Presenter: KUROCHKIN, Yuri

Session Classification: Plenary

Contribution ID: 6

Type: **not specified**

ARIADNA research programme at NICA: new gates for cooperation in materials sciences, life sciences and nuclear physics technologies

Tuesday, 29 August 2023 14:00 (45 minutes)

Presenter: BELOV, Oleg (VBLHEP JINR)

Session Classification: Applied physics

Contribution ID: 7

Type: **not specified**

**Ленты ВТСП для миниускорителей частиц:
увеличение силы пининга и сверхпроводящих
критических параметров облучением протонами**

Tuesday, 29 August 2023 14:45 (30 minutes)

Presenter: FEDOTOV, Alexander K.

Session Classification: Applied physics

Contribution ID: 8

Type: **not specified**

Critical parametrs of YBCO superconductive tapes irradiated with high-energy particles

Tuesday, 29 August 2023 15:15 (15 minutes)

Presenter: SVITO, Ivan

Session Classification: Applied physics

Contribution ID: 9

Type: **not specified**

Investigation of the perspectives of accelerator driven subcritical reactors with ion beams

Tuesday, 29 August 2023 15:45 (15 minutes)

Presenter: PARAI PAN, Mihaela (Joint Institute for Nuclear Research Dubna Russia, Institute of Space Science Bucharest-Magurele Romania)

Session Classification: Applied physics

Contribution ID: **10**

Type: **not specified**

Интенсивность и профиль пучка экспериментов MSTI ARIADNA

Tuesday, 29 August 2023 15:30 (15 minutes)

Presenter: PUKHAEVA, Nelli (JINR)

Session Classification: Applied physics

Contribution ID: 11

Type: **not specified**

Terahertz optics of graphene structures: absorption, lasing, influence of distributed feedback

Tuesday, 29 August 2023 16:30 (30 minutes)

Presenter: BATRAKOV, Konstantin

Session Classification: Applied physics

Contribution ID: 12

Type: **not specified**

Relativistic quantum-mechanical description and new properties of a graphene electron in external fields and free (2+1)-space

Tuesday, 29 August 2023 17:00 (30 minutes)

Presenter: SILENKO, Alexander (Joint Institute for Nuclear Research)

Session Classification: Applied physics

Contribution ID: 13

Type: **not specified**

Effect of Gamma rays on the TiN nanocrystals

Tuesday, 29 August 2023 17:30 (15 minutes)

Presenter: ABIYEV, Afsun (JINR)

Session Classification: Applied physics

Contribution ID: 14

Type: **not specified**

The effects of high pressure on the crystal structure and vibration spectra of layered perovskite-like Nd₂Ti₂O₇

Tuesday, 29 August 2023 17:45 (15 minutes)

Presenter: ASADOV, Asif (FLNP)

Session Classification: Applied physics

Contribution ID: 15

Type: **not specified**

Opening remarks

Monday, 28 August 2023 10:00 (30 minutes)

Session Classification: School-conference opening

Contribution ID: 16

Type: **not specified**

JINR Science: today and tomorrow

Monday, 28 August 2023 10:30 (1 hour)

Presenter: Dr TRUBNIKOV, Grigory (JINR)

Session Classification: School-conference opening

Contribution ID: 17

Type: **not specified**

Physics at NICA

Monday, 28 August 2023 12:00 (45 minutes)

Presenter: ROGACHEVSKIY, Oleg (JINR)

Session Classification: School-conference opening

Contribution ID: **18**

Type: **not specified**

Physics with SPD experiment at NICA

Monday, 28 August 2023 12:45 (45 minutes)

Presenter: KIM, Victor (PNPI NRC KI, Gatchina & SPbPU, St. Petersburg)

Session Classification: School-conference opening

Contribution ID: **19**

Type: **not specified**

Physics and status of the CEPC

Monday, 28 August 2023 14:15 (45 minutes)

Presenter: RUAN, Manqi

Session Classification: Invited lectures

Contribution ID: 20

Type: **not specified**

International Center for Neutron Research on the base of PIK reactor

Monday, 28 August 2023 15:00 (45 minutes)

Presenter: VORONIN, Vladimir

Session Classification: Invited lectures

Contribution ID: 21

Type: **not specified**

Quantum Competition

Monday, 28 August 2023 16:15 (45 minutes)

Presenter: Prof. KILIN, Sergey

Session Classification: Invited lectures

Contribution ID: 22

Type: **not specified**

Development of the generators of the radiation in the wide spectrum range from mm, THz to optical and X-ray wavelengths on the basis of Volume Free Electron lasers for Fundamental and Applied Linear Accelerator Physics collaboration

Monday, 28 August 2023 17:00 (45 minutes)

Presenter: Prof. BARYSHEVSKY, Vladimir

Session Classification: Invited lectures

Contribution ID: 23

Type: **not specified**

Релятивистский потенциал углеродных нанотрубок с постоянным током

Monday, 28 August 2023 17:45 (45 minutes)

Presenter: Prof. POKLONSKI, Nikolai

Session Classification: Invited lectures

Contribution ID: 24

Type: **not specified**

Вхождение независимой Беларуси в состав ОИЯИ: как это было

Monday, 28 August 2023 18:30 (30 minutes)

Presenter: RUSSAKOVICH, Nikolai (JINR)

Session Classification: Invited lectures

Contribution ID: 25

Type: **not specified**

Heaviest nuclei and atoms

Wednesday, 30 August 2023 09:00 (45 minutes)

Presenter: OGANESSIAN, Yuri (FLNR, JINR)

Session Classification: Plenary

Contribution ID: 26

Type: **not specified**

Super Heavy Nuclei: present and future

Wednesday, 30 August 2023 09:45 (45 minutes)

Presenter: ITKIS, Mihail (vice-director)

Session Classification: Plenary

Contribution ID: 27

Type: **not specified**

Experimental studies of light exotic nuclei far from the beta-stability line

Wednesday, 30 August 2023 10:30 (45 minutes)

Presenter: SIDORCHUK, Sergey (FLNR JINR)

Session Classification: Plenary

Contribution ID: 28

Type: **not specified**

Physics beyond the Standard model at future lepton colliders

Wednesday, 30 August 2023 12:15 (45 minutes)

Presenter: KISSELEV, Alexander (IHEP)

Session Classification: Plenary

Contribution ID: 29

Type: **not specified**

Study of alpha-particle states in the fragmentation of relativistic nuclei (The BECQUEREL Project)

Wednesday, 30 August 2023 11:30 (45 minutes)

Presenter: ZARUBIN, Pavel (Joint Institute for Nuclear Research)

Session Classification: Plenary

Contribution ID: 30

Type: **not specified**

Вызовы проекта NICA

Wednesday, 30 August 2023 14:00 (45 minutes)

Presenter: KEKELIDZE, Vladimir (LHEP, JINR)

Session Classification: Plenary

Contribution ID: **31**

Type: **not specified**

MPD TPC status

Wednesday, 30 August 2023 14:45 (30 minutes)

Presenter: MOVCHAN, Sergey (JINR)

Session Classification: Plenary

Contribution ID: 32

Type: **not specified**

**Сравнение экспериментальных и расчётных
результатов контроля температурных режимов
работы электроники ROC-камеры детектора ТРС
для эксперимента MPD**

Wednesday, 30 August 2023 15:15 (15 minutes)

Presenter: MAKAROV, Alexander

Session Classification: Plenary

Contribution ID: 33

Type: **not specified**

The computer-aided design of cooling system for MPD detector of NICA

Wednesday, 30 August 2023 15:30 (30 minutes)

Presenter: FEDOTOV, Alexander

Session Classification: Plenary

Contribution ID: 34

Type: **not specified**

Status of some parts of the TPC for the MPD at the NICA facility

Wednesday, 30 August 2023 16:00 (15 minutes)

Presenter: BAZHAZHIN, Aleksei

Session Classification: Plenary

Contribution ID: 35

Type: **not specified**

of a GEM detector with a metallized PET membrane as a Frisch grid

Wednesday, 30 August 2023 16:15 (15 minutes)

Presenter: ZUR, Ilya

Session Classification: Plenary

Contribution ID: 36

Type: **not specified**

Alignmeent of TOF700 and femtoscopy study at BM@N

Wednesday, 30 August 2023 17:00 (20 minutes)

Presenter: PUKHAEVA, Nelli (JINR)

Session Classification: Plenary

Contribution ID: 37

Type: **not specified**

Online processing and QA of the BM@N experiment

Wednesday, 30 August 2023 17:20 (15 minutes)

Presenter: GABDRAKHMANOV, Ilnur (JINR VBLHEP)

Session Classification: Plenary

Contribution ID: **38**

Type: **not specified**

The Monte Carlo simulation of MiniSPD stand

Wednesday, 30 August 2023 17:35 (15 minutes)

Primary author: BARLYKOV, Nurlan

Co-author: DUDIN, Vladimir (Dmitrievich)

Presenter: BARLYKOV, Nurlan

Session Classification: Plenary

Contribution ID: 39

Type: **not specified**

Silicon photomultipliers with deep pixels

Wednesday, 30 August 2023 17:50 (15 minutes)

Presenter: AKBAROV, Ramil

Session Classification: Plenary

Contribution ID: 40

Type: **not specified**

Status of the specialized station SHINE for applied research in the field of ADS systems at NICA accelerator complex

Thursday, 31 August 2023 12:50 (15 minutes)

Presenter: CHETVERIKOV, Alexey (DLNP)

Session Classification: Plenary

Contribution ID: 41

Type: **not specified**

Analytic perturbation theory: vacuum condensates from the electron-positron annihilation into hadrons data

Thursday, 31 August 2023 09:00 (30 minutes)

Primary author: SOLOVTSOVA, Olga (Gomel State Technical University)

Co-authors: KOZHEVNIKOVA, Marina (JINR); TERYAEV, Oleg (JINR)

Presenter: SOLOVTSOVA, Olga (Gomel State Technical University)

Session Classification: Plenary

Contribution ID: 42

Type: **not specified**

Calculations of matrix elements for reactions with polarized fermions

Thursday, 31 August 2023 09:30 (30 minutes)

Presenter: ANDREEV, Victor

Session Classification: Plenary

Contribution ID: 43

Type: **not specified**

Electroweak corrections to dilepton production at LHC: the Drell-Yan process vs. the Photon Fusion mechanism

Thursday, 31 August 2023 10:00 (30 minutes)

Presenter: ZYKUNOV, Vladimir (Leading Researcher of Laboratory of High Energy Physics of Joint Institute for Nuclear Research, Dubna, Russia)

Session Classification: Plenary

Contribution ID: 44

Type: **not specified**

Two-particle Bose-Einstein correlations in pp-collisions at 13 TeV with ATLAS at LHC

Thursday, 31 August 2023 11:00 (25 minutes)

Presenter: KULCHITSKY, Yuri (JINR)

Session Classification: Plenary

Contribution ID: 45

Type: **not specified**

Study of KNO scaling in pp-collisions with ATLAS at LHC

Thursday, 31 August 2023 11:25 (25 minutes)

Presenter: KULCHITSKY, Yuri (JINR)

Session Classification: Plenary

Contribution ID: 46

Type: **not specified**

Double spin asymmetries in the elastic $ep \rightarrow ep$ processes in the case of parallel spins

Thursday, 31 August 2023 11:50 (30 minutes)

Primary author: GALYNSKII, Mikhail (Joint Institute for Power and Nuclear Research – Sosny, National Academy of Sciences of Belarus, 220109 Minsk, Belarus)

Co-author: Dr BYSTRITSKIY, Yury (JINR)

Presenter: GALYNSKII, Mikhail (Joint Institute for Power and Nuclear Research – Sosny, National Academy of Sciences of Belarus, 220109 Minsk, Belarus)

Session Classification: Plenary

Contribution ID: 47

Type: **not specified**

Exploring the possibility of studying the Drell-Yan process in the SPD (NICA) experiment

Thursday, 31 August 2023 12:20 (30 minutes)

Presenter: SKACHKOVA, Anna (JINR)

Session Classification: Plenary

Contribution ID: 48

Type: **not specified**

Superradiant parametric X-ray emission: chaacteristics and application

Thursday, 31 August 2023 14:00 (20 minutes)

Presenter: FERANCHUK, Illia

Session Classification: Plenary

Contribution ID: 49

Type: **not specified**

Polarized beams at the JINR accelerator complex

Thursday, 31 August 2023 14:20 (30 minutes)

Presenter: FIMUSHKIN, Victor

Session Classification: Plenary

Contribution ID: 50

Type: **not specified**

Quality factor measurements of 325 MHz half-wave resonators in superconductive state

Thursday, 31 August 2023 14:50 (30 minutes)

Presenter: BYCHANOK, Dzmitry

Session Classification: Plenary

Contribution ID: 51

Type: **not specified**

Influence of multiple scattering on electromagnetic radiation produced by relativistic electron beams

Thursday, 31 August 2023 15:20 (20 minutes)

Presenter: ANISHCHENKO, Sergei

Session Classification: Plenary

Contribution ID: 52

Type: **not specified**

Стенд усилителей мощности гармонической ВЧ-станции коллайдера проекта NICA

Thursday, 31 August 2023 15:40 (15 minutes)

Presenter: KARPUK, Alexandr

Session Classification: Plenary

Contribution ID: 53

Type: **not specified**

Primary Black Holes in the Early Universe, Quantum-Gravitational Corrections and Inflationary Cosmology

Thursday, 31 August 2023 16:30 (40 minutes)

Presenter: SHALYT-MARGOLIN, Alexander

Session Classification: Plenary

Contribution ID: 54

Type: **not specified**

The evolving Gravitational Background and cyclic dynamics of matter in non-expanding Universe

Thursday, 31 August 2023 17:10 (40 minutes)

Presenter: SERDYUKOV, Anatoly

Session Classification: Plenary

Contribution ID: 55

Type: **not specified**

Модель скалярно-тензорной теории гравитации со скалярным полем, взаимодействующим с материей

Thursday, 31 August 2023 17:50 (40 minutes)

Primary author: VYBLYI, Yuri

Co-author: DUDKO, I.

Presenter: VYBLYI, Yuri

Session Classification: Plenary

Contribution ID: 56

Type: **not specified**

Fractal effects of the space distribution of stars in the solar neighborhood

Thursday, 31 August 2023 18:30 (15 minutes)

Presenter: OSTASHOVA, Mariya

Session Classification: Plenary

Contribution ID: 57

Type: **not specified**

The mass equivalence as a consequence of special-relativistic gravity

Thursday, 31 August 2023 18:45 (15 minutes)

Presenter: SERDYUKOVA, Maria

Session Classification: Plenary

Contribution ID: 58

Type: **not specified**

Portals to dark matter and search perspectives at the LHC

Friday, 1 September 2023 09:00 (45 minutes)

Presenter: SAVINA, Maria

Session Classification: Plenary

Contribution ID: 59

Type: **not specified**

Search for Light Dark Matter in the experiment NA64 at the CERN SPS

Friday, 1 September 2023 09:45 (45 minutes)

Presenter: KIRSANOV, Mikhail

Session Classification: Plenary

Contribution ID: **60**

Type: **not specified**

Collaboration FLAP. Investigations with electron beams of LINAC200 (JINR)

Friday, 1 September 2023 10:30 (30 minutes)

Presenter: BLEKO, Vitold

Session Classification: Plenary

Contribution ID: **61**

Type: **not specified**

Resonant tunneling in the vacuum of the Yang-Mills theory

Presenter: SHULYAKOVSKY, Roman

Session Classification: Plenary

Contribution ID: 62

Type: **not specified**

Solution of the Schrödinger equation in the two Coulomb centers problem in the two-dimensions Lobachevsky space

Friday, 1 September 2023 11:20 (20 minutes)

Presenter: BARAN, Alexander

Session Classification: Plenary

Contribution ID: 63

Type: **not specified**

Two-particle partial quasipotential equations

Presenter: KAPSHAI, Valery

Session Classification: Plenary

Contribution ID: 64

Type: **not specified**

Approximate analytical solutions of the quasipotential equations with confining potentials

Friday, 1 September 2023 11:40 (20 minutes)

Presenter: GRISHECHKIN, Yury

Session Classification: Plenary

Contribution ID: 65

Type: **not specified**

Threshold S-factor and Leptonic Decay Widths for a Composite System of Two Arbitrary-Mass Relativistic Spinor Quarks

Friday, 1 September 2023 12:00 (20 minutes)

Presenter: CHERNICHENKO, Yuriy

Session Classification: Plenary

Contribution ID: 66

Type: **not specified**

Сингулярные решения свободного уравнения Шредингера

Friday, 1 September 2023 12:20 (20 minutes)

Presenter: ROBUK, Victor (Joint Institute for Nuclear Research)

Session Classification: Plenary

Contribution ID: 67

Type: **not specified**

Large relative phase induced by charmonium in baryon-antibaryon production in electron-positron annihilation

Friday, 1 September 2023 14:00 (20 minutes)

Presenter: Dr BYSTRITSKIY, Yury (JINR)

Session Classification: Plenary

Contribution ID: 68

Type: **not specified**

Rare semileptonic $B^+ \rightarrow \pi^+ l^+ l^-$ decay in the Standard Model

Friday, 1 September 2023 14:20 (30 minutes)

Presenter: PARKHOMENKO, Alexander (P.G.Demidov Yaroslavl State University)

Session Classification: Plenary

Contribution ID: 69

Type: **not specified**

Positively charged pions and kaons production in argon-nucleus collisions at 3.2 GeV/n in the BM@N experiment at the Nuclotron

Friday, 1 September 2023 14:50 (30 minutes)

Presenter: PLOTNIKOV, Vasilii (VBLHEP JINR)

Session Classification: Plenary

Contribution ID: 70

Type: **not specified**

π^0, η, η' -meson to photon transition form-factor in the relativistic quark model

Friday, 1 September 2023 15:20 (15 minutes)

Presenter: HAURYSH, Vadzim

Session Classification: Plenary

Contribution ID: 71

Type: **not specified**

The role of pseudovector mesons in low-energy hadron physics

Friday, 1 September 2023 15:35 (15 minutes)

Presenter: AVAKYAN, Sergey

Session Classification: Plenary

Contribution ID: 72

Type: **not specified**

Rare meson decays

Friday, 1 September 2023 15:50 (15 minutes)

Presenter: AVAKYAN, Elena

Session Classification: Plenary

Contribution ID: 73

Type: **not specified**

Exact and leading order radiative effects in polarized SIDIS

Friday, 1 September 2023 16:40 (20 minutes)

Presenter: ILYICHEV, Alexander

Session Classification: Plenary

Contribution ID: 74

Type: **not specified**

High-precision simulation of polarization effects for processes on modern colliders using the Monte-Carlo event generator ReneSANCe

Friday, 1 September 2023 17:00 (20 minutes)

Presenter: YERMOLCHYK, Vitaly (JINR; INP BSU)

Session Classification: Plenary

Contribution ID: 75

Type: **not specified**

Study of LFV processes with CMS at LHC

Friday, 1 September 2023 17:20 (20 minutes)

Presenter: MAKARENKO, Vladimir (INP BSU)

Session Classification: Plenary

Contribution ID: 76

Type: **not specified**

Поляризационные эффекты в процессах парного рождения мюонов

Friday, 1 September 2023 17:40 (15 minutes)

Presenter: SHALAEV, Vladislav (JINR, Dubna State University)

Session Classification: Plenary

Contribution ID: 77

Type: **not specified**

Jet flavour discrimination and measurement of gluon jet fractions at LHC

Friday, 1 September 2023 17:55 (15 minutes)

Presenter: BUDKOUSKI, Dzmitry

Session Classification: Plenary

Contribution ID: 78

Type: **not specified**

Search for dark matter produced in association with a leptonically decaying Z boson with the CMS Experiment at the LHC

Friday, 1 September 2023 18:10 (15 minutes)

Presenter: SLIZHEVSKIY, Kirill (JINR)

Session Classification: Plenary

Contribution ID: 79

Type: **not specified**

Studying muon pair production based on open data from CMS

Friday, 1 September 2023 18:25 (15 minutes)

Presenter: KORSAKOV, Iurii (JINR CMS)

Session Classification: Plenary

Contribution ID: **80**

Type: **not specified**

Phenomenology of high multiplicity

Saturday, 2 September 2023 09:00 (30 minutes)

Presenter: Prof. KOKOULINA, Elena (JINR)

Session Classification: Plenary

Contribution ID: **81**

Type: **not specified**

Manifestation of dark matter axions in relativistic dynamics of particle spins

Saturday, 2 September 2023 09:30 (30 minutes)

Presenter: SILENKO, Alexander (Joint Institute for Nuclear Research)

Session Classification: Plenary

Contribution ID: 82

Type: **not specified**

Multiparticle production in ϕ^4 theory: method of singular solutions and numerical results

Saturday, 2 September 2023 10:00 (15 minutes)

Presenter: FARKHTDINOV, Bulat

Session Classification: Plenary

Contribution ID: 83

Type: **not specified**

Relaxation timescales in the dynamics of quantum Ising spin chains

Saturday, 2 September 2023 10:15 (15 minutes)

Presenter: IZOTOVA, Ekaterina (SPbSU)

Session Classification: Plenary

Contribution ID: 84

Type: **not specified**

Electromagnetic interactions of the deuteron at low and medium energies

Friday, 1 September 2023 12:40 (20 minutes)

Presenter: NEVMERZHITSKY, Maxim

Session Classification: Plenary

Contribution ID: 85

Type: **not specified**

Associated production of Υ plus D in the improved color evaporation model

Saturday, 2 September 2023 10:30 (15 minutes)

Presenter: CHERNYSHEV, Alexey (Samara University)

Session Classification: Plenary

Contribution ID: 86

Type: **not specified**

Limits of CP-conserving Trilinear Gauge Boson vertices in $pp \rightarrow WW$ at CMS LHC

Saturday, 2 September 2023 11:15 (15 minutes)

Presenter: ANDREEV, Victor

Session Classification: Plenary

Contribution ID: **87**

Type: **not specified**

Two-photon production WW pair at the LHC

Saturday, 2 September 2023 11:30 (15 minutes)

Presenter: Mr MANKO, Andrei (Institute Physics if NAN of Belarus)

Session Classification: Plenary

Contribution ID: **88**

Type: **not specified**

Model-independent constraints on the coupling constants of the Z' boson with radiation corrections

Saturday, 2 September 2023 11:45 (15 minutes)

Presenter: KURILENKA, Valery

Session Classification: Plenary

Contribution ID: 89

Type: **not specified**

Model-independent constraints on Z' -boson coupling constants with longitudinally polarised initial beams

Saturday, 2 September 2023 12:00 (15 minutes)

Presenter: SINEGRIBOV, Dmitriy

Session Classification: Plenary

Contribution ID: 90

Type: **not specified**

Dielectric laser acceleration: concept, achievements, challenges, and possible applications

Saturday, 2 September 2023 12:15 (25 minutes)

Presenter: LOBKO, Alexander

Session Classification: Plenary

Contribution ID: 91

Type: **not specified**

Future of Nuclear Knowledge in Belarus and Nuclear Knowledge for Future

Saturday, 2 September 2023 12:40 (20 minutes)

Presenter: SYTOVA, Svetlana

Session Classification: Plenary

Contribution ID: 92

Type: **not specified**

Closing remarks

Saturday, 2 September 2023 13:00 (10 minutes)

Session Classification: Plenary