



**XIII INTERNATIONAL SCHOOL-CONFERENCE
THE ACTUAL PROBLEMS OF MICROWORLD PHYSICS
*Belarus, Gomel region, July 27 – August 7, 2015***

Scientific Program

July 27, Monday

Arrival day.

July 28, Tuesday

08:15 Breakfast

10:00 School-conference opening

10:45 Common photo making

11:00 *Coffee*

Chairman – Nikolai Shumeiko

11:30 N.Russakovich “JINR: Status & Plans”

12:15 O.Rogachevsky “NICA project at JINR”

13:00 *Lunch*

Chairman – Viacheslav Kuvshinov

15:00 S.Harkusha, Yu.Kulchickii, Yu.Kurochkin, N.Russakovich “Partons as coherent states of the excites of hadrons and some peculiarities of multi particle production”

15:45 O.D.Skoromnik, I.D.Feranchuk, D.V.Lu, C.H.Keitel “Regularization of ultraviolet divergence in a model of a particle interacting with a scalar quantum field”

16:30 *Coffee*

Chairman – Konstantin Batrakov

17:00 E.Velicheva “Interwining of exactly solvable generalized Schredinger equations”

17:40 S.Sytova “Chaos in radiation of charged particles moving in multidimensional spatially-periodic structures”

19:00 *Welcome Party*

July 29, Wednesday

08:15 Breakfast

Chairman – Nikolai Russakovich

09:00 L.Benucci “CMS Experiment: what is and how to use it”

09:45 A.Pankov “Precise determination of Z-Z' mixing at the LHC”

10:30 *Coffee*

Chairman – Yury Kurochkin

11:00 A.Kisselev “Generalized solution for metric in Randall-Sundrum scenario”

11:50 V.Kuvshinov “Colour States Behaviour in the QCD Vacuum”

13:00 *Lunch*

Chairman – Oleg Rogachevsky

15:00 S.Movchan “Status of TPC for MPD experiment at NICA collider”

15:30 S.Tyutyunnikov “High-tech zone on the basis of the accelerator complex NICA”

16:00 S.Sedykh “Project of Microwave physics center in Joint institute for Nuclear Research, Dubna”

16:30 *Coffee*

Chairman – Alexander Pankov

17:00 A.Zhuk “Problematic aspects of extra dimensions”

17:30 A.Silenko “New properties of conformal transformations for scalar and Dirac particles in Riemannian and Riemann-Cartan spacetimes”

19:00 *Dinner*

July 30, Thursday

08:15 *Breakfast*

Chairman – Sergei Shmatov

09:00 L.Benucci “Making Physics with CMS Experiment”

09:45 E.Kokoulina “Multiparticle production study”

10:30 *Coffee*

Chairman – Alexander Zhuk

11:00 V.Skalozub “Observables for model-independent detection of heavy Z' gauge boson at ILC”

11:30 V.Baryshevsky “The phenomena of spin rotation and depolarization of high-energy particles in bent and straight crystals at Hadron Collider (LHC) and Future Circular Collider (FCC) energies and the possibility to measure the anomalous magnetic moments of short-lived particles (charm and beauty baryons)”

12:15 M.Galynskii “Alternative way to understand the unexpected results of the JLab polarization experiments to measure the Sachs form factors ratio”

13:00 *Lunch*

Chairman – Vladimir Baryshevsky

15:00 A.Shalyt-Margolin “Minimal Length in Quantum Theory and Gravity and Measurability”

15:50 A.Serdyukov “Gravitational background in cyclic Universe”

16:30 *Coffee*

Chairman – Olga Solovtsova

17:00 M.Levchuk “On possible inconsistency of data on the total photoabsorption cross section for the deuteron in the Δ region”

17:30 L.Babichev “Multiplicity Fluctuations as a Signature of First-Order Quark-Gluon Plasma \rightarrow Hadrons Phase Transitions in Heavy Ion Collisions”

17:50 M.Sergeenko “The potential quark model in theory of resonances”

19:00 *Dinner*

July 31, Friday

08:15 *Breakfast*

Chairman – Alexander Kisselev

09:00 N.Kuchinskiy, N.Kravchuk “Precision Investigation of Rare and Forbidden Decays of pions and muons”

09:30 E.Timoshin, S.Timoshin “The deep inelastic scattering on the polarized nucleon at collider EIC”

10:00 V.Andreev “Calculation of Feynman diagrams by the method of basis spinors”

10:30 *Coffee*

Chairman – Iliya Feranchuk

11:00 V.V. Andreev, O.M. Deryuzhkova, N.V. Maksimenko “A spin-dependent dipole polarizabilities and characteristics of the nucleon, related with parity violation”

11:25 A.Babich “Experimental signatures of Gauge-Higgs Unification models”

12:00 V.Kapshai, Yu.Grishechkin “Resonance states of relativistic two-particle systems”

12:25 E.Vakulina “Spin polarizability and gyration particles with spin one formalism Duffin-Kemmer-Petiau”

13:00 Lunch

Chairman – Vladimir Skalozub

15:00 S.Shamatov “New Physics with the CMS Experiment at LHC”

15:45 V.Gilewsky “Neutrino and nuclear reactor”

16:30 Coffee

Chairman – Sergey Tyutyunnikov

17:00 A.Khrutchinsky, S.Kuten “Application of variations calculus methods for optimization of time-of-flight neutron spectrometer characteristics”

17:20 K.Batrakov “Electromagnetic properties of graphene films and their applications”

18:00 E.Efimova “Study of structure cobaltite with method of X-ray spectroscopy”

19:00 Dinner

August 1-2

Days off

August 3, Monday

08:15 Breakfast

Chairman – Oleg Boyarkin

09:00 L.Jenkovszky “Diffraction at the LHC”

09:50 D.Shoukavy “Belarus activity in COMET experiment”

10:30 Coffee

Chairman – Viktor Andreev

11:00 A.Sidorov, O.Solovtsova “Structure function xF3 in the analytic approach and inverse Mellin transform”

11:25 A.Pankov, I.Serenkova, A.Tsytrinov, V.Bednyakov “Identification of direct and indirect effects of extra spatial dimensions at the LHC”

11:55 Yu.Bystritskiy “Large relative phase between strong and electromagnetic contributions in charmonium $\psi(3770)$ production at BES”

12:20 V.Zygunov “Hard photons in MOLLER experiment”

13:00 Lunch

Chairman – Vladimir Zygunov

15:00 A.Hrynevich “Inclusive jet and three-jet cross section measurements in proton-proton collision data at 7 TeV using ATLAS detector”

15:30 V.Yermolchik, Y.Dydyshka “A technique for matching hard radiation in higher order Monte Carlo event generators”

15:50 Y.Dydyshka “Some NNLO contributions to exclusive Drell-Yan cross-section”

16:10 V.Makarenko “Some background processes in CLIC experiment”

16:30 Coffee

Chairman – Nikolai Maksimenko

17:00 Yu.Chernichenko “Form factor of the relativistic two-particle system in the relativistic quasipotential approach: the case of arbitrary masses and vector current”

17:40 K.Babich, V.Andreev “The numerical solution of relativistic bound state problem in momentum space”

18:00 A.Sery “Corrections to the formula for the angle of Compton rotation in strong magnetic field”

18:20 A.Baran “Exact solution to the Schroedinger equation for parabolic double-well potential”

19:00 *Dinner*

August 4, Tuesday

08:15 *Breakfast*

Chairman – Laszlo Jenkovszky

09:00 X.Chen “Higgs (Part 1): Overview of Higgs results from ATLAS Run 1”

09:45 M.Pandurovic “Precision Higgs physics at Compact Linear Collider”

10:30 *Coffee*

Chairman – Xin Chen

11:00 O.Boyarkin “On probing Higgs couplings in $H \rightarrow Ze^+e^-$ and $e^+e^- \rightarrow ZH$ ”

11:50 M.Savina “TeV scale gravity and field theory” (Part 1)

13:00 *Lunch*

Chairman – Semen Kuten

15:00 V.Tikhomirov, A.Lobko “On the influence of the scintillating crystal structure on the performance of homogeneous electromagnetic calorimeters”

15:35 A.Lobko “Radiation modification of polymer nanocomposites”

16:00 I.Emeliantchik “Excess radiation damage of CMS Endcap hadron calorimeter and "Finger" structure of tiles as a possible method of radiation hardness increasing”

16:30 *Coffee*

Chairman – Valentin Orlovich

17:00 Yu.M.Pleskachevsky, M.A.Zhuravkov “The mechanics of deformation and destruction of elastic bodies by low-amplitude impulses”

17:40 S.Savitskiy “Enterprises of Belarus in the field of design and production of scientific and technological research for the purpose of physical research”

18:00 A.Drapezo, V.Prokoshin, S.Savitskiy “The use of microminiature Hall transducers and devices on their basis in scientific and aerospace instrumentation”

19:00 *Dinner*

August 5, Wednesday

08:15 *Breakfast*

Chairman – Viktor Tikhomirov

09:00 W.Lohmann “Luminosity measurement at colliders”

10:30 *Coffee*

Chairman – Wolfgang Lohmann

11:00 M.Savina “TeV scale gravity and field theory” (Part 2)

11:50 X.Chen “Higgs (Part 2): Prospects for Higgs studies during ATLAS Run 2”

13:00 *Lunch*

Chairman – Michael Levchuk

15:00 K.Afanaciev “Influence of visible light on the efficiency of radiation damaged diamond detectors”

15:25 A.Leonau “Structural information extracted from the diffraction of XFEL femtosecond pulses in a crystal”

15:55 A.Sytov “New coherent effects in a bent crystal and their possible application at future accelerators”

16:30 *Coffee*

Chairman – Elena Kokoulina

17:00 V.Haurylavets “The new model of the stator and armature contact point in Helical Flux Compression Generators”

17:20 E.A.Degtyareva, S.I.Timoshin “The polarized semi-inclusive lepton-nucleon DIS with the charged current”

17:45 V.Gavrish “Radiative decays of light vector mesons”

18:10 A.Man'ko “One-Loop radiative corrections for the two-photon production of leptons processes at colliders”

19:00 *Dinner*

August 6, Thursday

08:15 *Breakfast*

Chairman – Maria Savina

09:00 W.Lohmann “Novel instrumentation for luminosity and beam conditions measurements”

10:30 *Coffee*

Chairman – Alexander Babich

11:00 V.Lashkevich, O.Solovtsova “Target mass corrections to structure functions and beyond”

11:25 E.Z.Avakyan, S.L.Avakyan, “Low Energy Hadron Interaction of Tau Lepton”

11:45 E.Z.Avakyan, S.L.Avakyan “Interactions of Strange Mesons at Low Energies”

12:05 V.Khandramai “The Bjorken sum rule analysis based on the MPT”

13:00 *Lunch*

Chairman – Alexander Lobko

15:00 S.Shashkov “Raman spectroscopy: a non-destructive, non-contact and simple technique to characterize carbon materials”

15:45 S.Sytova “Educational and research web-portal of nuclear knowledge BelNET”

16:15 *Concluding remarks*

16:30 *Coffee*

17:00 *Poster session*

19:00 *School Dinner*

August 7, Friday

Departure day