

Conference Programme

22 May, Tuesday

8.00–9.00 Registration of Participants

Opening Plenary Session

(Conference Hall, room 113)

9.00 László Jenkovszky

Bolyai's language

Bogolyubov Institute for Theoretical Physics of the National Academy of Sciences of Ukraine, Kyiv, Ukraine, e-mail: jenk@bitp.kiev.ua

9.20 G.S. Yevdokimova^{1,2}, V.V. Maslyuk¹, A.N. Zavidopulo¹

Molecular magnetism in CR-wheels

¹*Institute of Electron Physics, Ukr. Nat. Acad. Sci., Uzhhorod, Ukraine*

²*Transkarpatian State University, Uzhhorod, Ukraine*

e-mail: maslyuk@iep.org.ua

9.40 V.T. Maslyuk

The mass (charge) spectrum of superheavy nuclei fission fragments: the new perspectives for the theory of nucleosynthesis

Institute of Electron Physics, Ukr. Nat. Acad. Sci., Uzhhorod, Ukraine,

e-mail: nuclear@email.uz.ua

10.00 V.M. Simulik, I.L. Lamer, and I.Yu. Krivsky

Fermi – Bose conservation laws for the spinor field

Institute of Electron Physics, Ukr. Nat. Acad. Sci., Uzhgorod, Ukraine,

e-mail: vsimulik@gmail.com

10.20 L. Bandurina¹, K. Bartschat², V. Gedeon³, O. Zatsarinny²

Electron scattering by the boron atom

¹*Institute of Electron Physics, Ukr. Nat. Acad. Sci., Uzhgorod, Ukraine, e-mail: bandurina@iep.org.ua*

²*Drake University, Des-Moynes, Iowa, USA*

³*Uzhgorod National University, Uzhgorod, Ukraine*

DISCUSSION

11.00-11.30 Coffee break

22 May, Tuesday

Second Plenary Session

(Conference Hall, room 113)

11.30 I.Yu. Krivsky¹, V.M. Simulik¹, I.L. Lamer¹, and T.M. Zajac²
Well-defined formulation of the Lagrange approach for the Foldy

–Wouthuysen field

¹*Institute of Electron Physics, Ukr. Nat. Acad. Sci., Uzhgorod, Ukraine, e-mail: vsimulik@gmail.com*

²*Uzhgorod National University, Uzhgorod, Ukraine*

11.50 M. Haysak¹, Yu. Muchychka¹, V. Onysko²
Binding energy of the helium atom isotopes in the two-dimensional

space of adiabatic hyperspherical approach

¹*Institute of Electron Physics, Ukr. Nat. Acad. Sci., Uzhgorod, Ukraine, e-mail: m.haysak@gmail.com*

²*Uzhgorod National University, Uzhgorod, Ukraine*

12.10 V.M. Simulik¹, I.Yu. Krivsky¹, O.V. Palamarchuk² and I.L. Lamer¹
Structure and different realizations of the extended real Clifford –

Dirac algebra

¹*Institute of Electron Physics, Ukr. Nat. Acad. Sci., Uzhgorod, Ukraine, e-mail: vsimulik@gmail.com*

²*Department of Information Systems Technologies, Kyiv National Economic University, Kyiv, Ukraine*

12.30 R.R. Lompay¹, A.N. Petrov¹
Manifestly covariant form of the Klein and Noether identities,

generalized Noether current, and superpotential in the

diffeomorphic invariant classical field theories with torsion

¹*Uzhgorod National University, Uzhgorod, Ukraine, e-mail: rlompay@gmail.com*

²*Relativistic Astrophysics group, Sternberg Astronomical Institute, Moscow, Russia, e-mail: anpetrov@rol.ru*

12.50 M. Haysak¹, M. Yevych², R. Yevych²
Binding energy of negative ions of excitons for semiconductors

Cu₂O and CdSe in adiabatic hyperspherical approach

¹*Institute of Electron Physics, Ukr. Nat. Acad. Sci., Uzhgorod, Ukraine, e-mail: m.haysak@gmail.com*

²*Uzhgorod National University, Uzhgorod, Ukraine*

DISCUSSION

13.10-15.00 Lunch Break

22 May, Tuesday

Third Plenary Session

(Conference Hall, room 113)

- 15.00** T.B. Shpenyk
The algorithm of search of the optimum solution to a problem in the schedule theory on the quantity of devices
Uzhgorod National University, Uzhgorod, Ukraine
- 15.20** E.M. Ovsiyuk
Quasi-plane waves for a particle with spin 1/2 on the background of Lobachevsky geometry, simulating of a special medium
I.P. Shamyakin Mozyr State Pedagogical University, Mozyr, Gomel region, Belarus, e-mail: e.ovsiyuk@mail.ru
- 15.40** V. Red'kov¹, E. Ovsiyuk², O. Veko²
Spin 1/2 particle in the field of Dirac string on the background of de Sitter space–time
¹*B.I. Stepanov Institute of Physics, NAS of Belarus, Minsk, e-mail: redkov@dragon.bas-net.by*
²*I.P. Shamyakin Mozyr State Pedagogical University, Mozyr, Gomel region, Belarus, e-mail: e.ovsiyuk@mail.ru*
- 16.00** E.M. Ovsiyuk¹, V.M. Red'kov²
Quasi-plane waves for a electromagnetic and spinor fields on the background of Lobachevsky geometry: simulating of a special medium
¹*I.P. Shamyakin Mozyr State Pedagogical University, Belarus, e-mail: e.ovsiyuk@mail.ru*
²*B.I. Stepanov Institute of physics, NAS of Belarus, e-mail: redkov@dragon@bas-net.by*
- 16.20** G. M. Polotovskiy
V.V. Morozov, D.A. Gudkov and the first part of the 16th Hilbert's problem
N.I. Lobachevsky State University of Nizhniy Novgorod, Nizhniy Novgorod, Russia, e-mail : polotovskiy@gmail.com

- 16.40** V.Yu. Lazur, V.V. Pop, O.K. Reity, S.I. Myhalyna
Influence of symmetry on the resonance two-electron charge exchange in slow atomic collisions
Uzhhorod National University, Uzhhorod, Ukraine,
e-mail: victoriapop@mail.ru

DISCUSSION

Poster Session

13.00-15.00

Hidezumi Terazawa

Environment-dependent fundamental physical constants (In the Theory of General Inconstancy)

Center of Asia and Oceania for Science(CAOS)

3-11-26 Maesawa, Higashi-kurume, Tokyo 203-0032, Japan and

Midlands Academy of Business & Technology(MABT),

Mansion House, 41 Guildhall Lane, Leicester LE1 5FR, United Kingdom

M.V. Stoika, P.M. Gudivok

Representation of twisted group rings of finite Abelian 2-group over the ring of p-adic numbers

Uzhgorod National University, Uzhgorod, Ukraine,

e-mail: stoyka_m@yahoo.com

L. V. Mesarosh and A. K. Shuaibov

Emission characteristics and parameters of aluminium laser plasma

Uzhgorod National University, Uzhgorod, Ukraine

e-mail: liviamesarosh@gmail.com

Piotr Garbaczewski

Lévy flights and fractional quantum mechanics

Institute of Physics, University of Opole, 45-052 Opole,

Poland February 28, 2012

e-mail: pgar@uni.opole.pl

23 May, Wednesday

First Plenary Session

(Conference Hall, room 113)

- 9.00** Emil Molnár
On the 8 homogeneous 3-geometries and their projective visualization

Budapest University of Technology and Economics, Institute of Mathematics Department of Geometry,

e-mail: emolnar@math.bme

- 9.30** George Krylov and Maxim Belov
Revised treatment of quantum propagator for a step potential
Physics Department, Belarusian State University, Minsk, Belarus,
e-mail: krylov@bsu.by
- 9.50** Zoltán Horváth
On geodesic mappings of Riemannian spaces (which have special (cyclic) Ricci tensor)
Ferenc Rákóczi II. Transcarpathian Hungarian Institute, Beregszász, Ukraine, e-mail: zolee27@kmf.uz.ua
- 10.10** V.M. Fedorchuk^{1,2}, V.I. Fedorchuk²
Classification of non-singular manifolds in the space $M(1,4) \times R(u)$ invariant under one- and two- dimensional non-conjugate subalgebras of the Lie algebra of the Poincaré group $P(1,4)$
¹*Institute of Mathematics, Pedagogical University, Cracow, Poland, e-mail: vasfed@gmail.com*
²*Pidstryhach Institute of Applied Problems of Mechanics and Mathematics, Ukr. Nat. Acad. Sci., Lviv, Ukraine*
- 10.30** H.V. Grushevskaya, N.G. Krylova
Application of Finsler geometry to instant on-like process of LB-nanostructures emerging in monolayer
Belarusian State University, Minsk, Belarus,
e-mail: grushevskaja@bsu.by, nina-kr@tut.by

DISCUSSION

11.00-11.30 Coffee break

23 May, Wednesday

Second Plenary Session

(Conference Hall, room 113)

- 11.30** Halina V. Grushevskaya
Relativistic quantum coherent transport of low-dimension diffractive excitons
Belarusian State University, Minsk, Belarus,
e-mail: grushevskaja@bsu.by
- 11.50** O.N. Golubjeva¹, A.D. Sukhanov²
Geometrical sense of saturated Schroedinger uncertainties relation
¹*Peoples' Friendship University of Russia, Moscow, Russia,*
e-mail: ogol@mail.ru
²*BLTP, JINR, Dubna, Russia*

- 12.10** D.G.Pavlov
Hypothesis of hyperbolic fields and its consequences for astrophysical observations
Research Institute of Hypercomplex Systems in Geometry and Physics, Fryazino, Russia, e-mail: logos-center@mail.ru
- 12.30** D.G. Pavlov¹, S.S. Kokarev^{1,2}, M. S.Panchelyuga^{1,3}, V.A.Panchelyuga^{1,3}
Preliminary investigations of physical manifestations of hyperbolic fields
¹ *Research Institute of Hypercomplex Systems in Geometry and Physics, Fryazino, Russia, e-mail: geom2004@mail.ru,*
² *Regional Scientific-Educational Center "Logos", Yaroslavl, Russia, e-mail: logos-center@mail.ru*
³ *Institute of Theoretical and Experimental Biophysics of RAS, Pushchino, Russia, e-mail: panvic333@yahoo.com*
- 12.50** S.S. Kokarev
Theoretical estimations of experimentally observed power density spectrum shift of quartz generator in vicinity of non-stationary processes.
Research Institute of Hypercomplex Systems in Geometry and Physics, Fryazino, Russia, e-mail: logos-center@mail.ru

DISCUSSION

13.10-15.00 Lunch Break

23 May, Wednesday

Third Plenary Session

(Conference Hall, room 113)

- 15.00** A.K. Prykarpatsky
The Maxwell electrodynamics and the Lorentz type force derivation-the Feynman approach legacy
 Ivan Franko State Pedagogical University, Drohobych, Ukraine,
 e-mail: pryk.anat@ua.fm
- 15.20** Róbert Oláh-Gál
The Physicist Mór Réthy(1846-1925), as the First Bolyai-Researcher
Department of Economics, Sapientia University, Miercurea Ciuc, Romania, e-mail: olahgalrobert@sapientia.siculorum.ro
- 15.40** Robert R. Lompay
A new conserved tensorial current in the bimetric formulation of background independent field theories
Uzhgorod National University, Uzhgorod, Ukraine, e-mail: rlompay@gmail.com

- 16.00** A.V. Nazarenko
Directed random walk on the eight–branching Cayley tree
Bogolyubov Institute for Theoretical Physics, Kyiv, Ukraine,
e-mail: nazarenko@bitp.kiev.ua
- 16.20** Yu. Vasilenko, V. Polishchuk
Evaluation of the importance of Boolean arguments concerning the function
Transkarpatian State University, Uzhhorod, Ukraine,
e-mail: v.polishchuk87@gmail.com
- 16.40** Yu.A. Kurochkin¹, I.Yu. Rybak²
The system of the particles in the magnetic field on the background Lobachevsky space
¹*B.I. Stepanov Institute of Physics of the National Academy of Sciences of Belarus, Minsk, Belarus, e-mail: y.kurochkin@dragon.bas-net.by*
²*Belarusian State University, Minsk, Belarus*

DISCUSSION

24 May, Thursday
8.00-20.00

Excursion to the Synevyr National Park

Lake Synevyr is the largest and the most known one in the Ukrainian Carpathians, located in the upper reaches of the Tereblia river. The lake is located at 989 m above sea level, its area is near 4–5 hectares, the average depth is 10—12 metres, the maximal depth is 24 metres. The lake was formed in the post glacial period.

In 1989 the Synevyr National Park was created in the area around the lake.

25 May, Friday
Third Plenary Session

(Conference Hall, room 113)

- 9.00** A. Lengyel and Z. Tarics
Which Pomeron survives at LHC energies?
*Institute of Electron Physics, Ukr. Nat. Acad. Sci., Uzhgorod, Ukraine,
alexander-lengyel@rambler.ru*
- 9.20** I.Yu. Krivsky¹, V.M. Simulik¹, and T.M. Zajac²
Derivation of the Dirac equation from the canonical quantum mechanics of spin $s=1/2$ doublet
*¹Institute of Electron Physics, Ukr. Nat. Acad. Sci., Uzhgorod, Ukraine,
e-mail: vsimulik@gmail.com*
- 9.40** T.M. Zajac¹, V.M. Simulik², and R.V. Tymchyk²
Sampling of the helium atom ground state wave function in the ionization problem
*¹Uzhgorod National University, Uzhgorod, Ukraine
²Institute of Electron Physics, Ukr. Nat. Acad. Sci., Uzhgorod, Ukraine,
e-mail: vsimulik@gmail.com*
- 10.00** Galyna S. Yevdokimova^{1,2}, O.V. Farberovich³, Volodymyr V. Maslyuk¹
Noncollinear molecular magnetism: spin-frustrated structures of V_{15} cluster
*¹Institute of Electron Physics, Ukr. Nat. Acad. Sci., Uzhgorod, Ukraine
e-mail: maslyuk@iep.org.ua
²Transcarpatian State University, Uzhgorod, Ukraine
³Department of Chemistry, Ben-Gurion University of the Negev, Beer-Sheva, Israel*
- 10.20** M. Haysak¹, I. Haysak², M. Hnatic³
Bound states of the three-body quantum system of $H-e^+$
*¹Institute of Electron Physics, Ukr. Nat. Acad. Sci., Uzhgorod, Ukraine,
e-mail: m.haysak@gmail.com
²Uzhgorod National University, Uzhgorod, Ukraine
³Institute of Experimental Physics SAS, Kosice, Slovak Republic*

- 10.40** V.M. Simulik¹, I.Yu. Krivsky¹, I.L. Lamer¹, and T.M. Zajac²
On the group-theoretical foundations for Fermi – Bose duality of spinor field. Solutions
¹*Institute of Electron Physics, Ukr. Nat. Acad. Sci., Uzhgorod, Ukraine, e-mail: vsimulik@gmail.com*
²*Uzhgorod National University, Uzhgorod, Ukraine*
- 11.00** V.M. Simulik¹, I.Yu. Krivsky¹, I.L. Lamer¹, and T.M. Zajac²
Dual symmetries of the Dirac equation in its different representations
¹*Institute of Electron Physics, Ukr. Nat. Acad. Sci., Uzhgorod, Ukraine, e-mail: vsimulik@gmail.com*
²*Uzhgorod National University, Uzhgorod, Ukraine*
- 11.20** Valeriy V. Dvoeglazov
Majorana-like Neutrino and Photon: Chirality, Helicity, and Charge Conjugation
Universidad de Zacatecas Mexico, e-mail: vdvoeglazov@yahoo.com.mx

DISCUSSION

Closing ceremony