Monday, 21 September 2015

10:00 -10:45 Registration (Institution hall)

Plenary session. (Large conference hall)

10:45 - 11:00 Opening

11:00 - 11:45 Lipatov Lev (PNPI NRC KI, Gatchina, Russia)
Euler-Lagrange equations for high energy effective actions in QCD and gravity

11:45 - 12:30 Kazakov Dmitry (BLTP JINR, Dubna, Russia)
Divergences in maximally supersymmetric theories in diverse dimensions

12:30 - 13:15 Wiese Kay (LPTENS, Paris, France)
Avalanches

13:15 - 15:00 Lunch

Sections

Section A - Renormalization group methods and condensed matter.
(Small conference hall)

15:00 - 15:25 Braun Mikhail (St.Petersburg State University, St.Petersburg, Russia)
On the Casimir energy in the dispersive and absorptive medium in the Fano diagonalization approach

15:25 - 15:50 Sokolov Aleksandr, Nikitina Margarita (St.Petersburg State University, St.Petersburg, Russia)
Renormalized coupling constants for Ising ferromagnet at criticality and pseudo-ɛ expansion

15:50 - 16:15 Komarova Marina (St.Petersburg State University, St.Petersburg, Russia)
Temperature Green function formalism for graphene-like systems

16:15 - 16:45 Coffee break

Section B - Quantum field theory methods in elementary particle physics.
(Large conference hall)

15:00 - 15:25 Manashov Alexander (Hamburg University, Hamburg, Germany)
Two-loop conformal anomaly in QCD

15:25 - 15:50 Bednyakov Alexander (BLTP JINR, Dubna, Russia)
Two-loop electroweak decoupling corrections for the strong coupling and the b-quark mass in the SM.

15:50 - 16:15 Chetyrkin Konstantin (KIT, Karlsruhe, Germany)
Towards QCD running in 5 loops

16:45 - 17:10 Ogarkov Stanislav (All-Russia Research Institute of Automation, Moscow, Russia)
On the functional renormalization group method in the stochastic theory of turbulence

17:10 - 18:35 Gulitskiy Nikolay, Antonov Nikolay (St.Petersburg State University, St.Petersburg, Russia)
Turbulent advection in magnetohydrodynamics: Effects of the anisotropy and finite correlation time.

17:35 - 18:00 Remecky Richard (BLTP JINR, Dubna, Russia)
General A-model of passive vector advection in two-loop approximation

17:35 - 18:00 Kolevatov Sergei (St.Petersburg State University, St.Petersburg, Russia)
Star cooling with pseudoscalar condensate
Tuesday, 22 September 2015

Plenary session. (Large conference hall)

11:00 - 11:45  Aref’eva Irina (Steklov Mathematical Institute, Moscow, Russia)
Global holographic effects and information paradox

11:45 - 12:30  Kataev Andrei (INR Russian Academy of Sciences, Moscow, Russian Federation)
Static potential in QCD: the results and recent applications

12:30 - 13:15  Nalimov Mikhail (St.Petersburg State University, St.Petersburg, Russia)
Superconductive phase transition in 3D and 2D systems with U(r) symmetry and 2D goldstone problem

13:15 - 15:00 Lunch

Sections

Section B - Quantum field theory methods in elementary particle physics.
(Small conference hall)

15:00 - 15:25  Labzowsky Leonti (St.Petersburg State University, St.Petersburg, Russia)
Extension of Landau-Yang theorem to multiphoton case

15:25 - 15:50  Grozdanov Tasko, Solovev Evgeni
(Institute of Physics, Belgrade, Serbia; BLTP JINR, Dubna, Russia)
Dynamical adiabatic theory of atomic collisions

15:50 - 16:15  Vechernin Vladimir (St.Petersburg State University, St.Petersburg, Russia)
The explicit asymptotic for the correlation function of transverse momenta in string fusion model

16:15 - 16:45 Coffee break

16:45 - 17:10  Feofilov Grigory, Altsybeev Igor
(St.Petersburg State University, St.Petersburg, Russia)
Long-range correlations and flows in hadronic collisions

17:10 - 18:35  Kovalenko Vladimir (St.Petersburg State University, St.Petersburg, Russia)
Mayer diagrams for pp interaction amplitude in dipole-based approach

17:35 - 18:00  Andrianov Vladimir (St.Petersburg State University, St.Petersburg, Russia)
Our proposals and signatures to indicate of the Local parity breaking in medium

18:00 - 18:25  Khmara Viktor (P.J. Safarik University, Kosice, Slovakia)
Quasiclassical treatment of the quantum mechanical two-Coulomb-centre problem

Section A - Renormalization group methods and condensed matter.
(Large conference hall)

15:00 - 15:25  Diehl Hans Werner, Rutkevich Sergei
(Fakultät für Physik, Universität Duisburg-Essen, Duisburg, Germany)
The three-dimensional O(n) φ^4 model on a strip with free boundary conditions: exact results for a nontrivial dimensional crossover in the limit n → ∞

15:25 - 15:50  Teber Sofian (UPMC, Paris, France)
The Method of Uniqueness: new application of a powerful technique for multi-loop calculations

15:50 - 16:15  Danco Michal (IEP SAS, Kosice, Slovakia & BLTP JINR, Dubna, Russia)
Multi-loop calculation of critical exponents in the model E of critical dynamics using sector decomposition method.

16:45 - 17:10  Dubs Vadim (Omsk State University, Omsk, Russia)
Renormalization-group description of phase transitions in complicated spin systems with effects of random anisotropy and quenched defects

17:10 - 17:35  Lavruhin Ivan (Omsk State University, Omsk, Russia)
Renormalization-group description of non-equilibrium critical dynamics of spin systems at fixed spatial dimension d = 3

17:35 - 18:00  Kudlis Andrew, Sokolov Aleksandr
(St.Petersburg State University, St.Petersburg, Russia)
Anisotropy of cubic ferromagnet at criticality and field theory

18:00 - 18:25  Mizisin Lukas (P.J. Safarik University, Kosice, Slovakia)
Calculation of master parameters governing critical properties of percolation process by renormalization group approach.
Wednesday, 23 September 2015

Plenary session. (Large conference hall)

11:00 - 11:45 **Kim Victor** (PNPI NRC KI, Gatchina & SPbPU, St. Petersburg, Russia)
*BFKL-evolution manifestations at high energies*

11:45 - 12:30 **Kotikov Anatoly** (BLTP JINR, Dubna, Russia)
*The property of maximal transcendentality: calculation of master integrals*

12:30 - 13:15 **Velizhanin Vitaly** (PNPI NRC KI, Gatchina, Russia)
*Multiloop calculations in $N=4$ supersymmetric Yang-Mills theory*

13:15 - 15:00 Lunch

Sections

**Sections C - Gravitation and cosmology.** (Small conference hall)

15:00 - 15:25 **Urbanowski Kzysztof** (Institute of Physics, University of Zielona Gora, Zielona Gora, Poland)
*False vacuum as a quantum unstable state*

15:25 - 15:50 **Manida Sergey, Tchaikovskii Mikhail** (St.Petersburg State University, St.Petersburg, Russia)
*Accelerated frames in Anti-de Sitter–Beltrami spacetime*

15:50 - 16:15 **Starodubtsev Artem** (St.Petersburg State University, St.Petersburg, Russia)
*Spectrum of quantum spacetime revisited*

16:15 - 16:45 Coffee break

16:45 - 17:10 **Novikov Oleg** (St.Petersburg State University, St.Petersburg, Russia)
*Exact thick brane solutions for multi-field scalar matter*

17:10 - 18:35 **Lan Chen** (St.Petersburg State University, St.Petersburg, Russia)
*Quantization of PT-symmetric cosmology model with multiple scalar fields*

**Sections D,E - Integrable models, Mathematical methods in QFT.** (Large conference hall)

15:00 - 15:25 **Lyakhovsky Vladimir** (St.Petersburg State University, St.Petersburg, Russia)
*Numerical constructions involving the Chebyshev polynomials*

15:25 - 16:15 **Bork Leonid, Onishchenko Andrey** (ITEP, VNIIA, Moscow, Russia; MIPT & SINP MSU, Moscow, Russia)
*On Soft Theorems And Integrability For Form Factors In N=4 SYM Theory*

15:50 - 16:15 **Bibikov Petr** (Russian State Hydrometeorological University, St.Petersburg, Russia)
*Evaluation of the second cluster integral for the XXZ spin chain basing on its infinite-chain spectrum*

16:45 - 17:10 **Pismensky Artem** (St.Petersburg State University, St.Petersburg, Russia)
*Calculation of Fisher’s index $\eta$ in the $\varphi^3$ theory in 4-loop approximation by the conformal bootstrap technique*

17:10 - 17:35 **Kompaniets Mikhail** (St.Petersburg State University, St.Petersburg, Russia)
*Six loop beta function in $\varphi^3$ model*

17:35 - 18:00 **Tsendsurovskii Vladislav** (St.Petersburg State University, St.Petersburg, Russia)
*Search the exact solution of tertiary quantized universe with metric FLRW*

17:35 - 18:00 **Nazarov Anton** (St.Petersburg State University, St.Petersburg, Russia)
*Feigin-Loktev modules and graded tensor product decomposition*
Thursday, 24 September 2015

Plenary session. (Large conference hall)

11:00 - 11:45  **Bordag Michael**  (Universität Leipzig, Leipzig, Germany)
*Dirac lattices, zero-range potentials and self adjoint extension*

11:45 - 12:30  **Afonin Sergey**  (St.Petersburg State University, St.Petersburg, Russia)
*Bottom-up holographic approach to QCD*

12:30 - 12:55  **Borzov Vadim, Damaskinsky Eugene**  (The Bonch-Bruevich St.Petersburg State University of Telecommunications, St.Petersburg, Russia; Military Institute (technical engineering), St.Petersburg, Russia)
*The invariance of the oscillator algebra, associated with a system of orthogonal polynomials, under linear transformations of the given system.*

12:55 - 13:20  **Honkonen Juha**  (National Defence University, Helsinki, Finland)
*Homage to S-matrix functional*

13:20 - 15:00 Lunch

Excursion
Friday, 25 September 2015

Plenary session. (Large conference hall)

11:00 - 11:45 **Grib Andrey, Pavlov Yuri** (Herzen State Pedagogical University, St.Petersburg, Russia; Institute of Problems in Mechanical Engineering of Russia Academy of Sciences, Saint Petersburg, Russia)
*Black holes and particles with negative energies*

11:45 - 12:30 **Gavrilov Sergey** (Tomsk State University, Tomsk, Russia & Herzen State University of Russia, Saint Petersburg, Russia)
*Field quantization in the presence of a potential step*

12:30 - 13:15 **Marachevsky Valery** (St.Petersburg State University, St.Petersburg, Russia)
*Casimir-Polder interaction for periodic geometries*

13:15 - 15:00 Lunch

Sections

**Section A - Renormalization group methods and condensed matter.** (Small conference hall)

15:00 - 15:25 **Pismak Yury** (St.Petersburg State University, St.Petersburg, Russia)
*Modeling of interaction of Dirac particles with 2-dimensional materials in QED.*

15:25 - 15:50 **Kakin’ Polina, Antonov Nikolay** (St.Petersburg State University, St.Petersburg, Russia)
*Effects of random environment of a self-organized critical system: Renormalization group analysis of a continuous model*

15:50 - 16:15 **Lebedev Nikita** (St.Petersburg State University, St.Petersburg, Russia)
*Critical behavior of the systems with a real tensor order parameter: Three-loop approximation*

16:15 - 16:45 Coffee break

**Section A - Renormalization group methods and condensed matter.** (Small conference hall)

16:45 - 17:10 **Pusenkov Ilya** (St.Petersburg State University, St.Petersburg, Russia)
*Soft wall model for a holographic superconductor*

17:10 - 17:35 **Lucivjansky Tomas** (P. J. Safarik University, Kosice, Slovakia & Universität Duisburg-Essen, Duisburg, Germany)
*Renormalization-group analysis of two-dimensional turbulence of a compressible fluid*

17:35 - 18:00 **Kostenko Mariia, Antonov Nikolay** (St.Petersburg State University, St.Petersburg, Russia)
*Anomalous scaling of passive scalar fields advected by the Navier-Stokes velocity ensemble*

15:00 - 15:25 **Azimov Yakov** (PNPI NRC KI, Gatchina, Russia)
*Quantum gravity should be non-local*

15:25 - 15:50 **Semenova Elizaveta** (St.Petersburg State University, St.Petersburg, Russia)
*Canonical formalism with the implicit constraints for the embedding theory*

15:50 - 16:15 **Semenova Elizaveta** (St.Petersburg State University, St.Petersburg, Russia)
*Canonical formalism and path integral for the field-theoretic form of Regge-Teitelboim gravity*

16:45 - 17:10 **Pozdnyakov Semyon** (St.Petersburg State University, St.Petersburg, Russia)
*Collisions of two pairs of nucleons in Lipatov effective action formalism*

17:10 - 17:35 **Malyshev Mikhail, Prokhvatilov Evgeniy** (St.Petersburg State University, St.Petersburg, Russia)
*The Advantage of Pauli-Villars Regularization in the Light Front Quantization*

17:35 - 18:00 **Zubov Roman** (St.Petersburg State University, St.Petersburg, Russia)
*The model of quark-antiquark interaction as an approximation to the light front QCD*
18:00 - 18:20 Closing