QUARKS-2008

15th International Seminar on High Energy Physics

Sergiev Posad, Russia, May 23 — 29, 2008.

Program and links to presentations

Moscow,2008

Friday, May 23

Morning: Registration

Plenary Session. 15:30

1. *Opening* — 30 min.
2. McKenna J. (U. British Columbia)
   Recent highlights in heavy quark physics from the BaBar experiment — 40 min.
3. Krasnikov N. (INR, Moscow)
   Search for supersymmetry at LHC — 30 min.

Coffee Break. 17:10 – 17:30

4. Arefeva, I. (Steklov Math. Inst., Moscow)
   Production of micro-black holes and wormholes at the LHC — 30 min.
5. Manton N. (Cambridge U.)
   Light nuclei as quantized skyrmions — 30 min.

Saturday, May 24

Plenary Session. 10:00

1. Mukohyama S. (Tokyo U.)
   Brane inflation in string cosmology — 30 min.

2. Starobinsky A. (Landau Inst.)
   f(R) models of dark energy — 30 min.

3. Kozlov A. (U. of Tokyo)
   KamLAND results and prospects — 30 min.

Coffee Break. 11:30 – 11:50

4. Machulin I. (Kurchatov Inst., Moscow)
   Borexino and solar neutrinos — 30 min.

5. Esposito L. (LNGS, Gran Sasso)
   Recent results from the OPERA neutrino oscillation experiment — 25 min.

6. Djilkibaev Zh. (INR, Moscow)
   Status of Baikal neutrino experiment — 25 min.

7. Kudenko Yu. (INR, Moscow)
   Status of the T2K long baseline neutrino experiment — 25 min.

Evening Sessions.

Parallel Section #1 (Hall #1). 15:00

1. Vysotsky M. (ITEP, Moscow)
   Direct CPV and extraction of angle alpha: $B- > \pi\pi, \rho\rho, \rho\pi, K\pi$ — 30 min.

2. Braguta V. (IHEP, Protvino)
   Study of charmonium distribution amplitudes — 20 min.

3. Achasov N. (Sobolev IM, Novosibirsk)
   Light scalars in field theory — 30 min.

4. Duk V. (INR, Moscow)
   OKA experiment for studying rare kaon decays — 20 min.

Coffee Break. 16:40 – 17:00

5. Faustov R. (Computing Ctr., Moscow)
   Properties of heavy baryons in the relativistic quark model — 30 min.

6. Molokanova N. (JINR, Dubna)
   Rare kaon and hyperon decays in NA48 experiment — 20 min.

7. Doroshenko M. (JINR, Dubna)
   Search for rare $K0- > pi0$ nu anti-nu decay — 20 min.

8. Ramazanov S. (Moscow State U.)
   Semileptonic decays of charmed and beauty baryons with sterile neutrinos in the final state — 20 min.

9. Trusov M. (ITEP, Moscow)
   The coupled channel analysis of D_s and B_s mesons — 20 min.

Parallel Section #2 (Hall #2). 15:00

1. Volovich I. (Steklov Math. Inst., Moscow)
   Time machines in astro- and high energy physics — 30 min.

2. Akhmedov E. (ITEP, Moscow)
   Quantum instability of the de Sitter space — 20 min.

3. Barvinsky A. (Lebedev Physics Inst., Moscow)
   Density matrix of the Universe reloaded: origin of inflation and cosmological acceleration — 20 min.

4. Dokuchaev V. (INR, Moscow)
   Cosmic censorship for phantom energy — 20 min.

5. Fursaev D. (Dubna U. & JINR, Dubna)
   Entanglement in Quantum Gravity and Space-Time Topology — 20 min.

Coffee Break. 16:50 – 17:10

6. Pilling T. (North Dakota State U.)
   Subtleties in the tunneling calculation of Hawking radiation — 20 min.

7. Shnir Ya. (Oldenburg U.)
   d=4+1 gravitating non-abelian solutions with biazimutal symmetry — 20 min.

8. Chernov S. (INR, Moscow)
   Perfect fluids in the vicinity of black holes and naked singularities — 20 min.

9. Didenko V. (Lebedev Physics Inst., Moscow)
   Unfolded description of AdS(4) kerr black hole — 20 min.

Parallel Section #3 (Hall #3). 15:00

1. Vasiliev M. (Lebedev Physics Inst., Moscow)
   Higher spin fields in Siegel space, currents and theta functions — 30 min.

2. Gorsky A. (ITEP, Moscow)
   Amplitudes in $N = 4$ SYM from the quantum geometry of the momentum space — 30 min.

3. Hohm O. (Groningen U.)
   Gauged supergravity and hidden symmetries — 30 min.

Coffee Break. 16:30 – 16:50

4. Metsaev R. (Lebedev Physics Inst., Moscow)
   Shadows, currents and AdS — 30 min.

5. Marshakov A. (Lebedev Physics Inst., Moscow & ITEP, Moscow)
   First order string theory: beta-functions and nonlinear background equations — 30 min.

6. Alkalaev K. (Lebedev Physics Inst., Moscow & INFN, Pisa)
   On manifestly sp(2) invariant formulation of quadratic higher spin Lagrangians — 20 min.

7. Krykhtin V. (Tomsk Pedagogical Inst.)
   BRST approach to Lagrangian construction for massive higher spin fields — 20 min.

8. Skvortsov E. (Lebedev Physics Inst., Moscow)
   Unfolded form of massless Mixed-Symmetry fields — 20 min.

Sunday, May 25

Morning Sessions.

Parallel Section #1. 10:00

1. Kaidalov A. (ITEP, Moscow)
   Elliptic flow from initial states of fast nuclei — 30 min.

2. Andrianov A. (St. Petersburg State U. & Barcelona U.)
   Spontaneous P-parity breaking in dense baryon matter — 20 min.

3. Kerbikov B. (ITEP, Moscow)
   Quark diffusion near the QCD critical line — 20 min.

4. Kopeliovich V. (INR, Moscow)
   Some problems of baryons spectroscopy: chiral soliton versus quark models — 30 min.

Coffee Break. 11:40 – 12:00

5. Wood S. (Cambridge U.)
   Nuclear energy spectra and form factors from skyrmions — 30 min.

6. Krusch S. (Kent U.)
   Recent developments in the Skyrme model — 30 min.

Parallel Section #2. 10:00

1. Lukash V. (ASI Lebedev Physics Inst., Moscow)
   Dark energy problem in cosmology — 30 min.

2. Sazhina O. (Sternberg Astron. Inst.)
   CMB anisotropy induced by a moving straight cosmic string — 20 min.

3. Postnov K. (Sternberg Astron. Inst.)
   Constraints on massive graviton dark matter from pulsar timing and astrometry — 20 min.

4. Villadoro G. (Harvard U.)
(No) Eternal inflation and precision Higgs physics — 30 min.

Coffee Break. 11:40 – 12:00

5. Eroshenko Yu. (INR, Moscow)
Destruction of dark matter clumps in Galaxy — 20 min.

6. Klimai P. (INR, Moscow)
Large curvature perturbations near horizon crossing in single-field inflation models — 20 min.

7. Mikheeva E. (Lebedev Physics Inst., Moscow)
Cosmological constraints on neutrino mass — 20 min.

8. Khmelnitsky A. (INR, Moscow)
Is gravitino still a warm dark matter candidate? — 20 min.

Parallel Section #3. 10:00

1. Smilga A. (SUBATECH, Nantes)
Crypto-hermiticity and crypto-supersymmetry of non-anticommuting hamiltonians — 30 min.

2. Nirov Kh. (INR, Moscow)
The (T)DBM equation as a twisted loop Toda system: generalizations and soliton solutions — 20 min.

3. Tipunin I. (Lebedev Physics Inst., Moscow)
Nonlocal observables in statistical mechanics and logarithmic conformal field theory — 20 min.

4. Chekhov L. (Steklov Math. Inst., Moscow & ITEP, Moscow & Poncelet Lab., Moscow & Concordia U., Montreal)
Methods of quantum field theory in 1/N-expansion in matrix models — 20 min.

Coffee Break. 11:30 – 11:50

5. Koroteev P. (INR, Moscow)
Quantum deformations of the one-dimensinal Hubbard model — 20 min.

6. Vernov Yu. (INR, Moscow)
   Rigorous definition of quantum field operators and test functions space in noncommutative quantum field theory — 20 min.

7. Shishanin A. (Moscow, Peoples Friendship University)
   Some kinds of matrix models at large N — 20 min.

8. Stepanyantz K. (Moscow State U.)
   Some interesting features of quantum corrections in N=1 supersymmetric theories — 20 min.

9. Zayakin A. (ITEP, Moscow & Munich U.)
   Chiral condensate in QCD from dual models — 20 min.

Plenary Session. 15:00

1. Ceccucci A. (CERN)
   The kaon physics programme at CERN — 40 min.

2. Hallman T. (Brookhaven)
   Characterizing the new state of strongly interacting quark-gluon matter at RHIC — 40 min.

Coffee Break. 16:20 – 16:40

3. Creminelli P. (ICTP, Trieste)
   The phase transition to eternal inflation — 30 min.

4. Lipatov L. (INP, St. Petersburg)
   BFKL Pomeron and Bern-Dixon-Smirnov amplitudes in $N = 4$ SUSY — 30 min.

5. Dudas E. (Ecole Polytechnique, CPHT & LPT, Orsay)
   Hybrid models of supersymmetry breaking — 30 min.

6. Nekrasov N. (IHES, Bures-sur-Yvette & ITEP, Moscow)
   Instanton partition functions — 30 min.

Conference Dinner. 20:00

Monday, May 26

Excursion to Sergiev Posad

Evening Sessions.

Parallel Section #1. 15:30

1. Diakonov D. (INP, St. Petersburg)
   Quark confinement from dyons — 30 min.

2. Kataev, A. (INR, Moscow)
   Conformal invariance and the expressions for $C_F^4\alpha_s^4$ contributions to the Bjorken polarized and the Gross-Llewellyn Smith sum rules — 20 min.

3. Kim V. (INP, St. Petersburg)
   Asymptotic effects in jet production at high energies — 20 min.

Coffee Break. 16:40 – 17:00

4. Pivovarov A. (INR, Moscow)
   New result about kaon wave function — 20 min.

5. Isaev A. (JINR, Dubna)
   Operator approach to analytical evaluation of Feynman diagrams — 20 min.

6. Bakulev A. (JINR, Dubna)
   Thresholds accounting in fractional analytic perturbation theory: Euclid vs Minkowski — 20 min.

7. Kalmykov M. (JINR, Dubna)
   Hypergeometric function, its Laurent expansion about rational values of parameters and Feynman diagrams — 20 min.

8. Larin S. (INR, Moscow)
   A singularity in dimensional regularization — 20 min.

Parallel Section #2. 15:30

1. Zhuk A. (Odessa State U. & Beijing Observ)
   On the problem of inflation in non-linear multidimensional cosmological models — 20 min.

2. Gorbunov D. (INR, Moscow)
   Self-accelerated brane Universe with warped extra dimension — 20 min.

3. Vernov S. (SINP, Moscow)
   Nonlocal linear models in the FRW metric — 20 min.

4. Alexeyev S. (Sternberg Astron. Inst., Moscow)
   Kerr-Gauss-Bonnet black holes: an analytical approximation — 20 min.

Coffee Break. 16:50 – 17:10

5. Bezrukov F. (IPT, Lausanne & INR, Moscow)
   Inflation using the Standard Model Higgs — 20 min.

6. Barvinsky A. (Lebedev Physics Inst., Moscow)
   Inflation scenario via the Standard Model Higgs boson and LHC — 20 min.

7. Semikoz V. (IZMIRAN, Troitsk & Valencia U.)
   Neutrino asymmetry and growth of cosmological seed magnetic field — 20 min.

Parallel Section #3. 15:30

1. Nesterov D. (Lebedev Physics Inst., Moscow)
   Effective action in DGP brane models — 20 min.

2. Smolyakov M. (SINP, Moscow)
   Testing extra dimension in the stabilized RS1 model — 20 min.

3. Filippov A. (JINR, Dubna)
   Dilaton gravity and its applications to cosmology, static states and waves — 30 min.

Coffee Break. 16:40 – 17:00

4. Libanov M. (INR, Moscow)
   On existence of nonsingular solutions in static braneworlds — 20 min.

5. Singleton D. (California State U., Fresno State)
   Fermion generations from 'apple-shaped' extra dimensions — 20 min.

Tuesday, May 27

Plenary Session. 10:00

1. Matthews J, (Utah U.)
   Ultra high energy cosmic rays in the North: HiRes and Telescope Array — 30 min.
2. Vorobiov S. (Nova Gorica U.)
   The Pierre Auger Observatory: a new stage in the study of the ultra-high energy cosmic rays — 30 min.
3. Tinyakov P. (Moscow, INR & Brussels U.)
   On the interpretation of the cosmic-ray anisotropy at ultra-high energies — 20 min.

Coffee Break. 11:20 – 11:40

4. Galper A. (Moscow Phys. Eng. Inst.)
   The Russian-Italian Project PAMELA - investigation the antiparticle flux in the galaxy cosmic rays — 30 min.
5. Dolgov A. (ITEP, Moscow & Ferrara U. & INFN, Ferrara)
   Cosmic and galactic antimatter — 30 min.

Evening Sessions.

Parallel Section #1. 15:00

1. Nesvizhevsky V. (Laue-Langevin Inst., Grenoble)
   Neutron scattering and extra-short-range interactions — 30 min.
2. Shevchenko V. (ITEP, Moscow)
   Infinite statistics, induced gravity and combinatorial view of the hierarchy problem — 20 min.
3. Sibiryakov S. (INR, Moscow & CERN)
   Creating semiclassical black holes in collider experiments and keeping them on a string — 20 min.

4. Pankov A. (Gomel State Tech. U)
   Spin-identification of Randall-Sundrum resonances at the LHC — 20 min.

Coffee Break. 16:30 – 16:50

5. Hebecker A. (Heidelberg U.)
   Sequestered Dark Matter — 30 min.

6. Ognev I. (Yaroslavl State U.)
   Neutrino processes in magneto-rotational model of supernova explosion — 20 min.

7. Rykova Elza (Samara State U.)
   Evidence of CP-violation in MSSM: scenarious with nongenerate mass parameters of the squark sector — 20 min.

8. Mikheev N. (Yaroslavl State U.)
   Neutrino magnetic moment and the supernova explosion — 20 min.

Parallel Section #2. 15:00

1. Belov K. (UCLA)
   Search for the UHE neutrinos high above the Antarctic ice shield - The ANITA experiment — 20 min.

2. Troitsky S. (INR, Moscow)
   Space-based detectors and global anisotropy of ultra-high-energy cosmic rays — 20 min.

3. Gazizov A. (INFN, Gran Sasso)
   Diffusion of ultra high energy particles in expanding Universe — 20 min.

4. Tkachev I. (INR, Moscow)
   Particle acceleration to highest energies in the black hole heart of AGNs — 20 min.

5. Dedenko L. (Moscow State U.)
   The most energetic cosmic rays and their possible sources — 20 min.

Coffee Break. 16:40 – 17:00

6. Gvozdev A. (Yaroslavl State U.)
   Neutrino emission of a giant flare from SGR — 20 min.

7. Semikoz D. (INR, Moscow & APC, Paris)
   Measurement of black hole masses with TeV gamma-rays — 20 min.

8. Ostapchenko S. (Norwegian U. Sci. Tech.)
   Hadronic interaction models and cosmic ray composition — 20 min.

9. Rubtsov G. (INR, Moscow)
   Sensitivity of different experiments to UHE photon component — 20 min.

10. Sabourov A. (Cosmophys. Res. Inst., Yakutsk)
    Extensive air shower estimates and the possibility to obtain the UHECR mass composition — 20 min.

Parallel Section #3. 15:00

1. Chetyrkin K. (Karlsruhe U., TTP)
   Hadronic Z- and τ-Decays in Order α_s^4 — 30 min.

2. Penin A. (Alberta U. & INR, Moscow)
   Two-loop Bhabha scattering — 30 min.

3. Cherednikov I. (Ruhr U., Bochum & JINR, Dubna)
   New results on gauge-invariant TMD PDFs in QCD — 20 min.

4. Kataev, A. (INR, Moscow)
   Higgs boson decay width into bottom quarks: high-order QCD corrections and their resummations — 20 min.

Coffee Break. 16:40 – 17:00

5. Poppitz E. (Toronto U.)
   Lattice chirality and the decoupling of mirror fermions — 30 min.

6. Buividovich P. (Joint Inst. Power Nucl. Res., Minsk & ITEP, Moscow)
   Entanglement entropy in lattice gauge theories — 20 min.

7. Panin A. (INR, Moscow)
   Tunneling via unstable semiclassical solutions — 20 min.

8. Levkov D. (INR, Moscow)
Anomalously large tunneling times in multidimensional quantum mechanics — 20 min.

9. Abrikosov A. (ITEP, Moscow)
Fermionic Green function in 3D-ball with chirally invariant boundary conditons — 20 min.

Wednesday, May 28

Excursion to Rostov

Evening Sessions.

Parallel Section #1. 18:00

1. Gladyshev A. (JINR, Dubna)
   Long-lived next-to-lightest supersymmetric particles — 20 min.

2. Smirnov A. (Yaroslavl State U.)
   Mass limits for scalar leptoquark and scalar gluon doublets from current data on S, T, U — 20 min.

3. Arbuzov A. (JINR, Dubna)
   Scalar field potential in the Standard Model — 20 min.

4. Kopnin P. (ITEP, Moscow & MIPT, Moscow)
   Contribution of a singlet heavy up-type quark to the mass differences of the neutral K and B-mesons and branching ratios of rare decays K to $\pi\nu\ \bar{n}u$, B to $\pi\nu\ \bar{n}u$ and B to $K\ \nu\ \bar{n}u$ — 20 min.

Coffee Break. 19:20 – 19:30

5. Pivovarov G. (INR, Moscow)
   Naturalness of scalar fields and the Standard Model — 20 min.

6. Skachkova A. (JINR, Dubna)
   Pair production of scalar top quarks in e+e- collisions at ILC — 20 min.

Parallel Section #2. 18:00

1. Arbuzova E. (JINR, Dubna)
   Operators of observables for neutral particle in dense matter and electromagnetic field — 20 min.

2. Kuznetsov A. (Yaroslavl State U.)
Plasma induced fermion spin-flip conversion $f_L \to f_R + \gamma$ — 20 min.

3. Leonidov A. (Lebedev Phys. Inst., Moscow & ITEP, Moscow)
On energy losses in abelian random medium — 20 min.

4. Rumyantsev D. (Yaroslavl State U.)
Influence of the photon-neutrino processes on magnetar cooling — 20 min.

Coffee Break. 19:20 – 19:30

5. Chistyakov M. (Yaroslavl State U.)
Electromagnetic processes in strongly magnetized plasma — 20 min.

6. Grigoriev A. (Moscow State U.)
Neutrinos and electrons in dense matter: a new approach — 20 min.

7. Narynskaya E. (Yaroslavl State U.)
Neutrino dispersion in a magnetized plasma — 20 min.

Parallel Section #3. 18:00

1. Volovich A. (Brown U.)
Multiloop gluon amplitudes and AdS/CFT — 30 min.

2. Spradlin M. (Brown U.)
The Leading Singularity Method at Two Loops — 30 min.

3. Krikun A. (MIPT, Moscow & ITEP, Moscow)
Two-point correlation functions in AdS/QCD — 20 min.

Coffee Break. 19:20 – 19:30

4. Grigoriev M. (Lebedev Physics Inst., Moscow & Fermilab, Batavia)
Reduced model for superstrings on $AdS_3 \times S^3$ — 20 min.

5. Krotov D. (INR, Moscow)
Off-shell formulation of 10-dimensional super-Yang-Mills with materialized superghosts — 20 min.

Thursday, May 29

Plenary Session. 10:00

1. Rebbi C. (Boston U.)
   Lattice calculation of the strange quark contribution to the nucleon's form factors — 30 min.
2. Vanhove P. (SPhT, Saclay & Bohr Inst., Copenhagen)
   Cancellations of ultraviolet divergences in supergravity — 30 min.
3. Dubovsky S. (Harvard U. & INR, Moscow)
   Superluminal travel in two dimensions — 30 min.

Coffee Break. 11:30 – 12:00

4. Serone M. (SISSA, Trieste & INFN, Trieste)
   Dark Matter and Electroweak Symmetry Breaking in Models with Warped Extra Dimensions — 30 min.
5. Perevalov D. (Alabama U.)
   Results of the MiniBooNE neutrino oscillation experiment — 40 min.
6. *Closing* — 20 min.