

International Conference on
Selected Problems of Modern Physics
Dubna, June 8 – 11, 2003

List of Talks

(Section I)

Last updated: June 6, 2003

June 8, Sunday

Opening (*Conference Hall*)

V. G. Kadyshevsky

A. A. Logunov

E. P. Shabalin

A. N. Sissakian

A. V. Zrodnikov

13:00—14:30 Lunch

Quantum Mechanics (*Conference Hall*)

14:30 E. Kapuscik (INP, Krakow, Poland),
“D. I. Blokhintsev microworld spacetime — a modern outlook”

15:00 S. M. Eliseev (BLTP, JINR, Dubna, Russia),
“DIS of leptons on nuclei: hadronization process, cumulative particles production, and Blokhintsev’s flucton”

15:20 A. D. Sukhanov (Moscow State Univ., Russia),
“D.I. Blokhintsev and fundamental problems of Quantum Mechanics”

15:50 A. A. Tyapkin (LPP, JINR, Dubna, Russia),
“About the first two Blokhintsev’s books on Quantum Mechanics”

16:10 — 16:40 Coffee Break

Parallel Sessions

A. Quantum Mechanics (*Conference Hall*)

- 16:40 L. V. Prokhorov (St.-Petersburg State Univ., Russia),
“Particles and wave functions”
- 17:10 O. Yu. Shvedov (Moscow State Univ., Russia),
“What is semiclassical field theory?”
- 17:30 B. P. Kosyakov (RFNC — IEP, Sarov, Russia),
“Some facts and fictions in subnuclear realm”
- 17:50 V. S. Vanyashin (Dnepropetrovsk National Univ., Ukraine),
“Positronium Bose condensate as gamma laser”
- 18:10 E. A. Tagirov (BLTP, JINR, Dubna, Russia),
“Quantum Mechanics vs. different mathematical theories of quantization”

B. Hadron Physics (*Blokhintsev’s Lecture Hall, 4th floor*)

- 16:40 S. B. Gerasimov (BLTP, JINR Dubna, Russia),
“Sum rules for two-photon decay widths of meson resonances and quark-gluon configuration structure of low-lying scalar mesons”
- 17:10 E. E. Kolomeitsev (Niels Bohr Inst., Copenhagen, Denmark),
“Resonance states below pion–nucleon threshold in nuclear systems”
- 17:40 R. Kaminski (INP, Krakow, Poland),
“Light meson dynamics in scalar isoscalar sector below 2 GeV”
- 18:00 A. B. Arbuzov (BLTP, JINR, Dubna, Russia),
“Precision test of weak interactions in muon decay spectrum”
- 19:30 **Welcome Party**

June 9, Monday

Plenary Talks

(Conference Hall)

- 9:30** L. D. Faddeev (PDMI, St.-Petersburg, Russia),
“Background field method and renormalization in Yang-Mills theory”
- 10:10** A. A. Logunov, S. S. Gershtein, M. A. Mestvirishvili, N. P. Tkachenko
(IHEP, Protvino, Russia),
“Graviton mass, quintessence, and oscillating behavior of Universe evolution”
- 10:50** G. V. Efimov (BLTP, JINR, Dubna, Russia),
“Blokhintsev and nonlocal interaction”
- 11:30—12:00** **Coffee Break**
- 12:00** A. T. Filippov, V. de Alfaro (BLTP, JINR, Dubna, Russia & University of
Torino, Italy),
“Integrable models describing branes, black holes, and cosmologies”
- 12:40** R. Woodard (Florida Univ., Gainesville, USA),
“Standard Model fermion self-energies during inflation”
- 13:20** J. Baacke (Dortmund Univ., Germany),
*“Scalar $O(N)$ quantum field theory beyond leading order approximations
— in and out of equilibrium”*
- 14:00—15:30** **Lunch**

Parallel Sessions

A. Quantum Field Theory (Conference Hall)

- 15:30** B. A. Arbuzov (IHEP, Protvino, Russia),
“Effective non-local theories as a result of symmetry breaking”
- 16:00** A. A. Andrianov, V. A. Andrianov, P. Giacconi, and R. Soldatti
(St.-Petersburg State Univ., Russia),
“Domain wall generation by fermion self-interaction”
- 16:30** E. Mihul (IFIN HH, Bucharest, Romania),
“Consequences of Lorentz causality”

16:50 R. Mir-Kasimov (BLTP, JINR, Dubna, Russia),
“Non-commutable differential calculus and q-oscillators”

17:20—17:40 Coffee Break

17:40 M. Bordag (Leipzig Univ., Germany),
“On the vacuum polarization of the Nielsen–Olesen string”

18:10 I. G. Pirozhenko (BLTP, JINR, Dubna, Russia),
“Heat kernel expansion for dielectric like spectral problems”

18:30 Yu. S. Vernov (INR RAS, Moscow, Russia),
“Dispersion relations in noncommutative field theory”

18:50 S. Azakov (IP NAS Azerbaijan),
“The Schwinger model on the Torus: Hamiltonian approach”

19:10 V. V. Lyuboshitz (FLNP, JINR, Dubna, Russia),
“Lifetime and path-length of the virtual particle”

B. Hadron Physics (*Blokhintsev’s Lecture Hall, 4th floor*)

15:30 L. D. Soloviev (IHEP, Protvino, Russia),
“String model of hadrons. Latest results.”

16:00 A. A. Andrianov, V. A. Andrianov, S. Afonin
(St.-Petersburg State Univ., Russia),
“Large- N_c QCD, Operator Product Expansion and string-like meson spectra”

16:30 Yu. S. Kalashnikova, D. S. Kuzmenko (ITEP, Moscow, Russia),
“Hybrid mesons in the QCD string model”

16:50 D. V. Gal’tsov, E. Yu. Melkumova, V. V. Sibrin (Moscow State Univ.,
Russia),
“String bremsstrahlung”

17:20—17:40 Coffee Break

17:40 V. Toneev, Yu. B. Ivanov, E. G. Nikonov, W. Nörenberg, V. N. Russkih
(BLTP, JINR, Dubna, Russia),
“Three-fluid hydrodynamic model for relativistic heavy-ion collisions”

18:10 D. Blaschke, M. K. Volkov, V. L. Yudichev (BLTP, JINR, Russia),
“Coexistence of color superconductivity and chiral symmetry breaking”

18:30 L. Jenkovszky (BITP NAS Ukraine, Kiev),
“Dual-Regge approach to generalized parton distributions and DVCS”

18:50 M. I. Gorenstein (BITP NAS Ukraine, Kiev),
“Signals of deconfinement transition in nucleus – nucleus collisions”

C. Quantum Chromodynamics (*Lecture Hall, 2nd floor*)

15:30 M. Musakhanov (National Univ. Uzbekistan, Tashkent),
“Instanton vacuum QCD effective action beyond chiral limit”

16:00 V. V. Skalozub (Dnepropetrovsk Nat. Univ.),
“Signals of the Abelian Z' gauge boson within the analysis of the LEP2 data”

16:20 M. Dineykhan, T. A. Kozhamkulov, S. A. Zhaugasheva, S. K. Sakhyev
(BLTP JINR, Dubna, Russia),
“Glueball mass spectrum and Regge trajectory in nonperturbative QCD approach”

16:40 S. V. Goloskokov, P. Kroll, B. Postler (JINR, Dubna, Russia),
“Vector meson photoproduction in QCD”

17:00 O. A. Borisenko (ITP NAS Ukraine, Kiev),
“QCD on the lattice at finite baryon density in the field-strength formulation”

17:20—17:40 **Coffee Break**

D. Gravity (*Lecture Hall, 2nd floor*)

17:40 G. A. Alekseev (Steklov Math. Inst., Moscow, Russia),
“Colliding plane waves of massless fields in general relativity and in the low energy string gravity model”

18:00 O. V. Babourova (Moscow State Univ., Russia),
“Dark matter as matter with dilaton charge”

18:20 S. N. Mayburov (LPI RAS, Moscow, Russia),
“Fuzzy space-time Geometry as novel approach to fields quantization”

18:40 A. B. Pestov (BLTP, JINR, Dubna, Russia),
“Space-time bag model”

19:00 M. V. Yurova and G. A. Alekseev (NPI Moscow State Univ., Russia),
“Monodromy transform approach to construction of classical solutions in string gravity”

June 10, Tuesday

Plenary Talks

(Conference Hall)

- 10:10** A. A. Slavnov (Steklov Math. Inst., Moscow Russia),
“Symmetry and renormalization”
- 10:50** I. Ya. Arefeva (Steklov Math. Inst., Moscow, Russia),
“Superstrings, Born-Infeld action, and rolling tachyon solution”
- 10:50** V. V. Belokurov, O. A. Khrustalev, V. A. Sadovnichy,
O. D. Timofeevskaya (Moscow State Univ., Russia),
“Systems and subsystems in quantum mechanics”
- 11:30—12:00** **Coffee Break**
- 12:00** A. Di Giacomo (Pisa Univ. & INFN, Italy),
“A review of color confinement”
- 12:40** Yu. A. Simonov (ITEP, Moscow, Russia),
“Gluon degrees of freedom in QCD spectrum and DIS”
- 13:20** S. Dubnička and A. Z. Dubničková (IP SAS, Bratislava, Slovakia),
“An effective method in a description of electromagnetic, weak, and strange form factors of hadrons”
- 14:00—15:30** **Lunch**

Parallel Sessions

A. Quantum Field Theory (Conference Hall)

- 15:30** P. P. Kulish (PDMI, St.-Petersburg, Russia),
“Algebraic aspects of integrable models in quantum field theory”
- 16:00** O. K. Pashaev (Izmir Institute of Technology, Urla/Izmir, Turkey),
“Noncommutative, nonlinear integrable models”
- 16:20** A. P. Protogenov (Inst. Appl. Phys. RAS, Nizhny Novgorod, Russia),
“Structures of Order Parameters in Faddeev–Niemi Model”
- 16:40** A. P. Isaev (BLTP, JINR, Dubna, Russia),
“Multi-loop Feynman integrals and conformal quantum mechanics”

17:00 G. V. Efimov and G. Ganbold (BLTP, JINR, Dubna, Russia),
“*Quartic field interaction and the strong-coupling problem*”

17:20—17:40 Coffee Break

17:40 A. V. Prozorkevitch, V. V. Skokov, S. A. Smolyansky
(Saratov State Univ., Russia),
“*Kinetic theory of quantum field systems with unstable vacuum*”

18:00 I. L. Bogolubsky (LIT, JINR, Dubna, Russia),
“*Nonperturbative solutions with S^2 -valued scalar fields*”

18:20 O. V. Pavlovsky (N. N. Bogolubov ITPM, Moscow State Univ., Russia),
“*Chiral Born–Infeld theory, two-phase model of baryons and chiral limit of QCD*”

18:40 G. A. Kotel’nikov (RRC “Kurchatov Institute”, Moscow, Russia),
“*On the faster-than-light motions in electrodynamics*”

19:00 F. Saradzhev (IP NAS Azerbaijan, Baku),
“*Particle production by a self-interacting scalar field: tachyonic regime*”

B. Quantum Chromodynamics (Blokhintsev’s Lecture Hall, 4th floor)

15:30 I. M. Dremin (LPI, Moscow, Russia),
“*Some problems of the perturbative QCD*”

16:00 I. F. Ginzburg (Steklov Math. Inst., Novosibirsk, Russia),
“*Effects of particle instability in high energy phenomena*”

16:30 A. E. Radzhabov and M. K. Volkov (BLTP, JINR, Dubna, Russia),
“*Meson model with nonlocal four-quark interaction*”

16:50 E.-M. Ilgenfritz (Humboldt Univ., Berlin, Germany),
“*Topological structure of Yang–Mills theory just below deconfinement*”

17:20—17:40 Coffee Break

17:40 O. V. Teryaev (BLTP, JINR, Dubna, Russia),
“*Spin, gravity, and confinement*”

18:00 A. K. Likhoded (IHEP, Moscow, Russia),
“*Some problems in heavy quark production*”

18:20 Yu. S. Surovtsev (JINR, BLTP, Dubna, Russia),
“*On nature of the f_0 mesons below 1.9 GeV and lower scalar nonets*”

18:40 A. P. Bakulev (BLTP, JINR, Russia),
“*Pion distribution amplitude and QCD vacuum: recent results from CLEO and E791 experiments*”

20:00 Banquet

June 11, Wednesday

Plenary Talks

(Conference Hall)

- 9:30** T. Hallman, Yu. Panebratsev, I. A. Savin
(LPP, JINR, Dubna, Russia),
“Selected Recent results from the STAR experiment”
- 10:10** D. Blaschke (JINR Dubna, Russia & Rostock Univ., Germany),
“Color superconductivity in compact stars”
- 10:50** G. Röpke (Rostock Univ., Germany),
“Quantum condensates in dense matter”
- 11:30—12:00** **Coffee Break**
- 12:00** D. Ebert (Humboldt Univ., Berlin, Germany),
“String representation of the dual Ginzburg–Landau theory”
- 12:40** J. Hüfner (ITP, Heidelberg Univ., Germany),
“Charmonium suppression in nucleus–nucleus collisions”
- 13:20** A. V. Radyushkin (Old Dominion Univ., USA/TJNAF/JINR-Dubna),
“Generalized Parton Distributions”
- 14:00—15:30** **Coffee Break**

Parallel Sessions

A. Gravity & Cosmology (Conference Hall)

- 15:30** N. A. Chernikov and N. S. Shavokhina (BLTP, JINR, Dubna, Russia),
“Accounting of the light speed in the Galilean problem of a particle falling on a plane”
- 15:50** P. S. Isaev (BLTP, JINR, Dubna, Russia),
“On solution of some modern problems of cosmological science”
- 16:10** S. D. Odintsov (Tomsk State Pedagogical Univ., Russia),
“dS/CFT correspondence and early Universe”
- 16:40** M. O. Katanaev (Steklov Math. Inst. RAS, Moscow, Russia),
“Geometric theory of defects in solids and three-dimensional gravity”
- 17:20—17:40** **Coffee Break**

- 17:40 V. N. Pervushin (BLTP, JINR, Dubna, Russia),
“Astrophysics in relative units as theory of conformal brane”
- 18:10 V. V. Papoyan (Yerevan State Univ., Armenia),
“Static and stationary fields in Jordan-Brans-Dicke theory of gravitation”
- 18:30 E. G. Mychelkin
 (V. G. Fesenkov Astrophys. Inst. NAS Kazakhstan, Almaty),
“Foundations of geometrized scalar gravity and physical vacuum”
- 18:50 V. M. Koryukin (Mari State Tech. Univ., Yoshkar-Ola, Russia),
“Weakly interacting particles and the Universe evolution”

B. Hadron Physics (*Blokhintsev’s Lecture Hall, 4th floor*)

- 15:30 M. Lutz (GSI, Darmstadt, Germany),
“Chiral symmetry, strangeness and nuclear matter”
- 16:00 E. A. Kuraev, V. Byt’ev (BLTP, JINR, Dubna, Russia),
“Check of $\rho - \sigma$ degeneracy by DIS experiments with two-charged-pions production”
- 16:20 V. I. Sanyuk (Peoples’ Friendship Univ of Russia, Moscow),
“Skyrmions and torons in nuclear physics”
- 16:40 A. E. Dorokhov (BLTP, JINR, Dubna, Russia),
“V and A correlators and nonlocal structure of QCD vacuum from ALEPH τ decay data”
- 17:00 J. Bartels, A. Yu. Illarionov, A. V. Kotikov, G. Parente
 (JINR, Dubna, Russia),
“Small-x behaviour of parton distributions. A study of higher twist effects”

17:20—17:40 Coffee Break

- 17:40 V. N. Bolotov (INR RAS, Moscow, Russia),
“The study of kaon decays at ISTR A setup”
- 18:00 D. V. Anchishkin (BITP, Kiev, Ukraine),
“Radiation of lepton pairs from finite thermal fireball”
- 18:20 V. A. Saleev (Samara State Univ., Russia),
“Charmed quark photoproduction and photon structure function in BFKL approach”
- 18:40 T. Nasyrov (INP NAS Uzbekistan, Tashkent),
“Spectroscopy of pseudoscalar and vector mesons and their leptonic decay constants”

19:00 V. K. Henner (Perm State Univ., Russia),
“Spectrum of vector mesons and scalar f_0 states. Application of wavelet analysis.”

19:30 **Closing** (*Conference Hall*)