CURRICULUM VITAE

SERGEY A. FROLOV

Full address of present institution:

School of Mathematics
Trinity College
Dublin 2
Ireland

e-Mail address: frolovs@maths.tcd.ie

Phone number: +353 1 896 4027

Telefax: +353 1 608 2282

PROFESSIONAL

Date and Place of Ph.D:

June, 1990, Steklov Mathematical Institute of the Russian Academy of Sciences, Moscow. Ph.D. in Theoretical Physics and Mathematics.

The title of the Ph. D. Thesis:

"Quantization of Yang-Mills fields in linear gauges".

Thesis Adviser: Professor Andrei A. Slavnov.

Education:

1981 – 1987, Moscow State University, Department of Physics (graduated with highest honors)

1987 – 1990, Graduate studies at the Steklov Mathematical Institute of the Russian Academy of Sciences, The Department of Quantum Field Theory.

Fellowships: 1994, Alexander von Humboldt fellow.

Grants: 2005-2008, the National Science Foundation, USA, funded the proposal entitled "String Theory and its Applications" for three years, $20000 per year.

Recognitions: March/April 2005 issue of ScienceWatch recognized my research in 2003-2004 as the hottest research in physics.

Main research field: String theory, quantum field theory, mathematical physics.

No. of publications: 72

Areas of publications:

Integrability of string theory on (deformed) $AdS_5 \times S^5$,
Multi-spin solitonic string solutions and the AdS/CFT correspondence,
Bethe Ansatz for quantum strings, Type IIB superstrings, Tachyon condensation,
Matrix string theory and orbifold conformal field theory,

Many-body integrable systems and dynamical r-matrices,
Chiral theories and anomalies, Lattice gauge models,
Combinatorial quantization of the Chern-Simons model,
Quantum groups Hamiltonian lattice gauge models,
BRST quantization of constrained systems.

Referees of Research:

1. Professor Daniel Z. Freedman, Department of Mathematics and Center for Theoretical Physics, Massachusetts Institute of Technology, Cambridge, MA 02139-4307, USA, e-mail: dzf@math.mit.edu, phone: (617) 253-4354
2. Professor Igor R. Klebanov, Joseph Henry Laboratories, Princeton University, Princeton, NJ 08544, USA, e-mail: klebanov@feynman.princeton.edu, phone: (609) 258-5593
3. Professor Andrei A. Slavnov, Steklov Mathematical Institute, Gubkin str. 8, GSP-1, 117966 Moscow, Russia, e-mail: slavnov@mi.ras.ru
4. Professor Stefan Theisen, Max-Planck-Institut für Gravitationphysik, Am Mühlenberg 1, D-14476 Golm, Germany, e-mail: theisen@aei-potsdam.mpg.de, phone: +49 (331) 567-7314, fax: +49 (331) 567-7297
5. Professor Arkady A. Tseytlin, Blackett Laboratory, Imperial College, London SW7 2BW, U.K., email: tseytlin@ic.ac.uk, phone: 44 207 594 1890, fax: 44 207 594 7844

Referees of Teaching:

1. Professor Stanley T. Jones, Chair, Department of Physics and Astronomy, The University of Alabama, Box 870324, Tuscaloosa, AL 35487-0324, USA, email: stjones@bama.ua.edu, phone: 205-348-5050
2. Professor Edmond Rusjan, Department of Mathematics/Sciences, SUNY Institute of Technology, P.O. Box 3050, Utica, NY 13504-3050, USA, e-mail: edmond@sunyit.edu, phone: (315) 792-7394
3. Professor William Thistleton, Chair, Department of Mathematics/Sciences, SUNY Institute of Technology, P.O. Box 3050, Utica, NY 13504-3050, USA, e-mail: thistlet@sunyit.edu, phone: (315) 792-7508

Research positions:

1. July 2005 – August 2006, Senior Researcher at Max Planck Institute for Gravitational Physics, Albert Einstein Institute, Golm, Germany.
2. September 2000 – August 2003, Research Associate, Department of Physics,

The Ohio State University, Columbus, OH 43210-1106, USA.

3. September 1998 – August 2000, Research Associate, The University of Alabama, Department of Physics and Astronomy, Tuscaloosa, Alabama 35487-0324.
4. May 1997 – August 1997, November 1995 – March 1996, January 1994 – February 1995, Alexander von Humboldt fellow, Munich University, Germany.
5. November 1992 – October 1993, Visiting Research Fellow, LPTHE, Université Pierre et Marie Curie, Paris, France.
6. May 1990 – August 2003, Scientific Associate, Steklov Mathematical Institute of Russian Academy of Science, Moscow, Russia.

Academic appointments:

1. September 2006 – present, Lecturer, School of Mathematics, Trinity College, Dublin 2, Ireland
2. September 2003 – June 2005: Assistant Professor of Mathematics, Department of Mathematics/Sciences, SUNY Institute of Technology, Utica, NY 13504-3050

Teaching experience:

1. 1990-1998: was a member of committees which examined and selected students for the Steklov Mathematical Institute Ph.D. program.
2. 1992-1998: Steklov Mathematical Institute, Supervised two Ph.D. students.
3. Fall 1996: prepared a course for graduate students and faculty, R-matrix quantization of Poisson-Lie groups, Steklov Mathematical Institute.
4. Spring 1999: Taught 60 students, Calculus-based introduction to classical mechanics, The University of Alabama, Department of Physics and Astronomy.
5. Fall and Spring 2003, 2004, 2005: Calculus I, Calculus II, and Matrix Methods: SUNYIT.

Presentations since 1997:

August 2006, Ahrenshoop Conference 2006, Berlin, Germany.

March 2006, Imperial College, London, England.

March 2006, University of Utrecht, Utrecht, Holland.

February 2006, University of Amsterdam, Amsterdam, Holland.

January 2006, LAPTH, Annecy, France.

December 2005, DESY, Hamburg, Germany.

August 2005, Ecole Normale Supérior Summer Institute, Paris, France.

July 2005, Strings05, Toronto, Canada.

June 2005, Steklov Mathematical Institute, Moscow, Russia.

May 2005, MRST2005, SUNYIT, Utica, NY, USA.

January 2005, Syracuse University, Syracuse, NY, USA.
November 2004, Texas A&M University, College Station, Texas, USA.
October 2004, Ohio State University, Columbus, OH, USA.
September 2004, University of Rochester, Rochester, NY, USA.
July 2004, LPTHE, Saclay, France.
June 2004, Max-Planck Institute, Potsdam, Germany.
May 2003, MRST2003, Syracuse University, NY, USA.
February 2003, University of Minnesota, Minneapolis, MN, USA.
January 2003, Ohio State University, Columbus, OH, USA.
December 2002, Case Western Reserve University, Cleveland, OH, USA.
October 2002, Purdue University, West Lafayette, IN, USA.
December 2001, Ohio State University, Columbus, OH, USA.
July 2001, PIMS workshop "Frontiers of Mathematical Physics",
Vancouver, Canada.
December 2000, Ohio State University, Columbus, OH, USA.
August 2000, DPF2000, Columbus, OH, USA.
January 2000, Ohio State University, Columbus, OH, USA.
October 1999, University of Alabama, Tuscaloosa, AL, USA.
July 1999, Munich University, Munich, Germany.
November 1998, University of Alabama, Tuscaloosa, AL, USA.
February 1998, Steklov Mathematical Institute, Moscow, Russia.
October 1997, ITEP, Moscow, Russia.
August 1997, Munich University, Munich, Germany.
June 1997, Prague, Czech Republic.
March 1997, Steklov Mathematical Institute, Moscow, Russia.

For additional information visit: http://www.maths.tcd.ie/~frolovs/

RESEARCH INTERESTS AND PLANS

My research area is theoretical high energy physics with emphasis on such fundamental questions as the relation between string theory and quantum field theories, and issue of stability of nonsupersymmetric string theories. Last few years I have been mainly interested in understanding classical and quantum integrability of string theory on $AdS_5 \times S^5$, finding Bethe Ansatz for quantum strings, analyzing multi-spin solitonic string solutions and using them to study some problems in nonperturbative gauge theory via the AdS/CFT (or string theory/gauge theory) correspondence. I also have interests in many-body integrable systems, quantum qroups and deformation quantization of Poisson algebras, see refs. [22-31] in the list of my publications.

String theory at present is the only known consistent theory of quantum gravity. Even though that has been the main motivation for studying strings, the discovery of the AdS/CFT correspondence provides us with a new reason to study string theory. The AdS/CFT correspondence is a remarkable conjecture because it relates a theory of gravity, such as string theory, to a theory with no gravity at all. Additionally, the conjecture relates highly nonperturbative problems in gauge theory to questions in classical superstring theory or supergravity. That has opened new ways to address some problems in nonperturbative gauge theory by using string theory methods. One can hope that a better understanding of string theory dynamics on nontrivial backgrounds would allow us to explain such strong coupling phenomena as confinement and chiral symmetry breaking, and to develop new efficient computational methods in QCD.

The most well-understood example of the AdS/CFT correspondence is the duality between the superconformal $\mathcal{N} = 4$ $SU(N)$ gauge theory and type IIB superstring theory on $AdS_5 \times S^5$. In the large N limit one can neglect string interactions and consider free string theory. In the strong t'Hooft coupling limit, $\lambda \to \infty$, the string theory is described by type IIB supergravity on $AdS_5 \times S^5$. Many results were obtained in the supergravity approximation. It is very important to go beyond the approximation, understand the structure of string theory on $AdS_5 \times S^5$, and compute its spectrum. The spectrum of states of the string theory determines conformal dimensions of primary operators dual to these string states.

I plan to study the spectrum of string theory on $AdS_5 \times S^5$ by using various methods and approaches. The spectrum of string states with large R-symmetry charges at strong t'Hooft coupling can be analyzed by using semi-classical approach and new multi-spin solutions recently found by Tseytlin and myself. The spectrum of string states with small R-symmetry charges can be found at the strong t'Hooft coupling as an expansion in $1/\sqrt{\lambda}$. The low-lying string spectrum can be computed at small t'Hooft coupling λ as a power series expansion in λ by using the string bits formalism, and numerically by using the Lanczos algorithm. This would allow us to predict conformal dimensions of operators of $\mathcal{N} = 4$ SYM theory at strong t'Hooft coupling, and perform nontrivial checks of the AdS/CFT correspondence.

String theory on $AdS_5 \times S^5$ is believed to be an exactly solvable model. I plan to use

the integrability to derive the Bethe ansatz for quantum strings, and, eventually, prove (or disprove) the duality between the superconformal $\mathcal{N} = 4$ $SU(N)$ gauge theory and type IIB superstring theory on $AdS_5 \times S^5$.

Another interesting example of the AdS/CFT correspondence is the duality between type IIB string theory on the deformed $AdS_5 \times S^5$ and $\mathcal{N} = 1$ superconformal $SU(N)$ gauge theory which is a marginal deformation of $\mathcal{N} = 4$ SYM. The deformed sugra background was recently found by Lunin and Maldacena. A relative simplicity of the Lunin-Maldacena supergravity background and the $\mathcal{N} = 1$ superconformal theory makes the conjectured duality a new promising arena for studying the AdS/CFT correspondence. The $su(2)$ subsector of the gauge and string models was recently investigated in the paper I wrote in collaboration with Roiban and Tseytlin. I plan to extend the analysis to the $su(3)$ subsector, and, eventually, to the whole model. There are many other interesting problems related to deformations of the Lunin-Maldacena type, and I plan to analyze some of them, see my talk on Strings05, in Toronto:

http://www.fields.utoronto.ca/audio/05-06/strings/frolov/

An interesting example of the AdS/CFT correspondence is the duality between type IIB string theory on $AdS_5 \times T^{1,1}$ and $\mathcal{N} = 1$ superconformal $SU(N) \times SU(N)$ gauge theory with bifundamental matter chiral multiplets. I propose to find the Green-Schwartz covariant κ-symmetric action for type IIB superstring on the $AdS_5 \times T^{1,1}$ background. This would allow us to study this duality in more detail, and, in particular, to prove the conjecture that the $AdS_5 \times T^{1,1}$ background is exact.

I also intend to study the duality recently conjectured by Klebanov and Polyakov between the large N limit of the 3-d nonsupersymmetric field theory of N massless scalar fields and the minimal bosonic higher spin gauge theory in four dimensions constructed by Fradkin and Vasiliev. To check the Klebanov-Polyakov conjecture I plan to derive the graviton cubic action in the higher spin theory in four dimensions, and compute the 3-point stress tensor correlator by using the action. If the conjecture is correct then the result should coincide with the 3-point free field theory stress tensor correlator.

Another important example of the gauge theory/string theory duality different from the AdS/CFT correspondence is provided by matrix string theory. The matrix string theory is the large N limit of the $\mathcal{N} = 8$ two-dimensional supersymmetric $U(N)$ Yang-Mills model. It was argued Dijkgraaf, Verlinde and Verlinde that the matrix string theory describes non-perturbative dynamics of type IIA string theory. I propose to analyze contact terms in the $S^N\mathbf{R}^8$ supersymmetric orbifold conformal model which describes the IR limit of the matrix string theory. I plan to determine the precise coefficients of the terms, compute the matrix elements of the terms between string states which describe massless particles, and use the matrix elements to derive one-loop string scattering amplitudes from the orbifold model. This would be a new test of the matrix string theory conjecture.

LIST OF PUBLICATIONS

72. . Frolov, A. Tirziu and A. A. Tseytlin, "Logarithmic corrections to higher twist scaling at strong coupling from AdS/CFT," arXiv:hep-th/0611269.

71. G. Arutyunov, S. Frolov, J. Plefka and M. Zamaklar, "The off-shell symmetry algebra of the light-cone AdS(5) x S**5 superstring," arXiv:hep-th/0609157.

70. G. Arutyunov, S. Frolov and M. Zamaklar, "Finite-size effects from giant magnons," arXiv:hep-th/0606126.

69. G. Arutyunov and S. Frolov, "On AdS(5) x S**5 string S-matrix," arXiv:hep-th/0604043.

68. S. Frolov, J. Plefka and M. Zamaklar, "The AdS(5) x S**5 superstring in light-cone gauge and its Bethe equations," arXiv:hep-th/0603008.

67. L. F. Alday, G. Arutyunov and S. Frolov, "Green-Schwarz strings in TsT-transformed backgrounds," arXiv:hep-th/0512253.

66. G. Arutyunov and S. Frolov, "Uniform light-cone gauge for strings in AdS(5) x S**5: Solving su(1|1) sector," JHEP **0601** (2006) 055 [arXiv:hep-th/0510208].

65. L. F. Alday, G. Arutyunov and S. Frolov, "New integrable system of 2dim fermions from strings on AdS(5) x S**5," JHEP **0601** (2006) 078 [arXiv:hep-th/0508140].

64. S. A. Frolov, R. Roiban and A. A. Tseytlin, "Gauge-string duality for (non)supersymmetric deformations of N = 4 super Yang-Mills theory," Nucl. Phys. B **731** (2005) 1 [arXiv:hep-th/0507021].

63. S. Frolov, "Lax pair for strings in Lunin-Maldacena background," JHEP **0505** (2005) 069 [arXiv:hep-th/0503201].

62. S. A. Frolov, R. Roiban and A. A. Tseytlin, "Gauge - string duality for superconformal deformations of N = 4 super Yang-Mills theory," JHEP **0507**, 045 (2005) [arXiv:hep-th/0503192].

61. G. Arutyunov and S. Frolov, "Integrable Hamiltonian for Classical Strings on AdS(5) x S**5", JHEP **0502**, 059 (2005) [arXiv:hep-th/0411089].

60. S. A. Frolov, I. Y. Park and A. A. Tseytlin, "On one-loop correction to energy of spinning strings in S(5)," Phys. Rev. D **71**, 026006 (2005) [arXiv:hep-th/0408187].

59. G. Arutyunov, S. Frolov and M. Staudacher, "Bethe ansatz for quantum strings," JHEP **0410**, 016 (2004) [arXiv:hep-th/0406256].

58. N. Beisert, S. Frolov, M. Staudacher and A.A. Tseytlin, "Precision Spectroscopy of AdS/CFT", JHEP **0310**, 037 (2003) [arXiv:hep-th/0308117].

57. G. Arutyunov, S. Frolov, J. Russo and A. A. Tseytlin, "Spinning strings in AdS(5) x S**5 and integrable systems", Nucl. Phys. B **671**, 3 (2003) [arXiv:hep-th/0307191].

56. S. Frolov and A. A. Tseytlin, "Rotating string solutions: AdS/CFT duality in non-supersymmetric sectors," Phys. Lett. B **570**, 96 (2003) [arXiv:hep-th/0306143].

55. S. Frolov and A. A. Tseytlin, "Quantizing three-spin string solution in AdS(5) x

S**5," JHEP 0307:016,2003, [arXiv:hep-th/0306130].

54. S. Frolov and A. A. Tseytlin, "Multi-spin string solutions in AdS(5) x S**5," Nucl. Phys. B **668**, 77 (2003), [arXiv:hep-th/0304255].

53. S. Frolov and A. A. Tseytlin, "Semiclassical quantization of rotating superstring in AdS(5) x S**5," JHEP 0206, 007 (2002) [arXiv:hep-th/0204226].

52. S. Frolov and A. A. Tseytlin, "R**4 corrections to conifolds and G(2)-holonomy spaces," Nucl. Phys. B 632, 69 (2002), [hep-th/0111128].

51. S. Frolov, I. R. Klebanov and A. A. Tseytlin, "String corrections to the holographic RG flow of supersymmetric SU(N) x SU(N+M) gauge theory," Nucl. Phys. B 620, 84 (2002),[hep-th/0108106].

50. S. A. Frolov, "On off-shell structure of open string sigma model," JHEP 0108, 020 (2001) [hep-th/0104042].

49. G. Arutyunov, S. Frolov, S. Theisen and A. A. Tseytlin, "Tachyon condensation and universality of DBI action," JHEP 0102, 002 (2001) [hep-th/0012080].

48. G. Arutyunov, S. Frolov and A. Petkou, "Perturbative and instanton corrections to the OPE of CPOs in N = 4 SYM(4)," Nucl. Phys. B 602, 238 (2001) [hep-th/0010137].

47. G. Arutyunov, S. Frolov and A. C. Petkou, "Operator product expansion of the lowest weight CPOs in N = 4 SYM(4) at strong coupling," Nucl. Phys. B 586, 547 (2000) [hep-th/0005182].

46. G. Arutyunov, S. Frolov and S. Theisen, "A note on gravity-scalar fluctuations in holographic RG flow geometries," Phys. Lett. B 484, 295 (2000) [hep-th/0003116].

45. G. Arutyunov and S. Frolov, "On the correspondence between gravity fields and CFT operators," JHEP 0004, 017 (2000) [hep-th/0003038].

44. G. Arutyunov and S. Frolov, "Four-point functions of lowest weight CPOs in N = 4 SYM(4) in supergravity approximation," Phys. Rev. D 62, 064016 (2000) [hep-th/0002170].

43. G. Arutyunov and S. Frolov, "Scalar quartic effective action on AdS(5)," hep-th/0002152.

42. F. Bastianelli, S. Frolov and A. A. Tseytlin, "Conformal anomaly of (2,0) tensor multiplet in six dimensions and AdS/CFT correspondence," JHEP 0002, 013 (2000) [hep-th/0001041].

41. G. Arutyunov and S. Frolov, "Scalar quartic couplings in type IIB supergravity on AdS(5) x S(5)," Nucl. Phys. B 579, 117 (2000) [hep-th/9912210].

40. F. Bastianelli, S. Frolov and A. A. Tseytlin, "Three-point correlators of stress tensors in maximally-supersymmetric conformal theories in d = 3 and d = 6," Nucl. Phys. B 578, 139 (2000) [hep-th/9911135].

39. G. Arutyunov and S. Frolov, "Some cubic couplings in type IIB supergravity on AdS(5) x S(5) and three-point functions in SYM(4) at large N," Phys. Rev. D 61, 064009 (2000) [hep-th/9907085].

38. G. Arutyunov and S. Frolov, "Three-point Green function of the stress-energy tensor in the AdS/CFT correspondence," Phys. Rev. D 60, 026004 (1999) [hep-th/9901121].

37. G. Arutyunov, S. Frolov and A. Polishchuk, "On Lorentz invariance and supersymmetry of four particle scattering amplitudes in S(N) R**8 orbifold sigma model," Phys. Rev. D 60, 066003 (1999) [hep-th/9812119].

36. G. E. Arutyunov and S. A. Frolov, "Quadratic action for type IIB supergravity on AdS(5) x S(5)," JHEP 9908, 024 (1999) [hep-th/9811106].

35. G. E. Arutyunov and S. A. Frolov, "Antisymmetric tensor field on AdS(5)," Phys. Lett. B 441, 173 (1998) [hep-th/9807046].

34. G. E. Arutyunov and S. A. Frolov, "On the origin of supergravity boundary terms in the AdS/CFT correspondence," Nucl. Phys. B 544, 576 (1999) [hep-th/9806216].

33. G. E. Arutyunov and S. A. Frolov, "Four graviton scattering amplitude from S(N) R**8 supersymmetric orbifold sigma model," Nucl. Phys. B 524, 159 (1998) [hep-th/9712061].

32. G. E. Arutyunov and S. A. Frolov, "Virasoro amplitude from the S(N) R**24 orbifold sigma model," Theor. Math. Phys. 114, 43 (1998) [hep-th/9708129].

31. G. E. Arutyunov and S. A. Frolov, "On Hamiltonian structure of the spin Ruijsenaars-Schneider model," J. Phys. AA 31, 4203 (1998) [hep-th/9703119].

30. G. E. Arutyunov, L. O. Chekhov and S. A. Frolov, Quantum dynamical R-matrices for the elliptic Ruijsenaars-Schneider model. Teor.Mat.Fiz. (1997) v.111, N2, 182 (in Russian).

29. G. E. Arutyunov, L. O. Chekhov and S. A. Frolov, R-matrix quantization of the elliptic Ruijsenaars-Schneider model, Comm.Math.Phys. 192 (1998) 405-432. [q-alg/9612032].

28. G. E. Arutyunov and S. A. Frolov, Quantum Dynamical R-matrices and Quantum Frobenius Group, Comm.Math.Phys. 191 (1998). q-alg/961000.

27. G. E. Arutyunov, S. A. Frolov and P. B. Medvedev, "Elliptic Ruijsenaars-Schneider model from the cotangent bundle over the two-dimensional current group," J. Math. Phys. 38, 5682 (1997) [hep-th/9608013].

26. G. E. Arutyunov, S. A. Frolov and P. B. Medvedev, "Elliptic Ruijsenaars-Schneider model via the Poisson reduction of the Affine Heisenberg Double," J. Phys. AA 30, 5051 (1997) [hep-th/9607170].

25. S. A. Frolov, "The centre of the graph and moduli algebras at roots of 1," Commun. Math. Phys. 200, 599 (1999) [q-alg/9602036].

24. S. A. Frolov, "Physical phase space of lattice Yang-Mills theory and the moduli space of flat connections on a Riemann surface," Theor. Math. Phys. 113, 1289 (1997) [Teor. Mat. Fiz. 113, 100 (1997)] [arXiv:hep-th/9511018].

23. S. A. Frolov, "Hamiltonian lattice gauge models and the Heisenberg double,"

Mod. Phys. Lett. A 10, 2885 (1995) [hep-th/9502121].

22. S. A. Frolov, "Gauge invariant Hamiltonian formulation of lattice Yang-Mills theory and the Heisenberg double," Mod. Phys. Lett. A 10, 2619 (1995) [hep-th/9501143].

21. S. A. Frolov, A. A. Slavnov and C. Sochichiu, "SO(N) invariant Wess-Zumino action and its quantization," Theor. Math. Phys. 105, 1407 (1996) [hep-th/9412164].

20. S. A. Frolov, A. A. Slavnov and C. Sochichiu, "Canonical quantization of the degenerate WZ action including chiral interaction with gauge fields," Int. J. Mod. Phys. A 11, 747 (1996) [hep-th/9411182].

19. S. A. Frolov and A. A. Slavnov, "Removing fermion doublers in chiral gauge theories on the lattice," Nucl. Phys. B 411, 647 (1994) [hep-lat/9303004].

18. S. A. Frolov, A. A. Slavnov and C. Sochichiu, "On the SO(N) symmetry of the chiral SU(N) Yang-Mills model," Phys. Lett. B 301, 59 (1993) [hep-th/9212056].

17. S. A. Frolov, "BRST quantization of gauge theories in Hamiltonian like gauges," Theor. Math. Phys. 87, 464 (1991).

16. S. A. Frolov and A. A. Slavnov, "An Invariant regularization of the Standard Model," Phys. Lett. B 309, 344 (1993).

15. S. A. Frolov and A. A. Slavnov, Quantization of Yang-Mills fields in linear gauges. Physics of Elementary Particles and Atomic Nuclei, Dubna, v.24 N5 (1993) 1414-1459.

14. S. A. Frolov and A. A. Slavnov, Canonical quantization of anomalous theories. Teor. Mat. Fiz. v92, N3 (1992) 473.

13. S. A. Frolov and A. A. Slavnov, "Canonical quantization of regularized chiral electrodynamics," Phys. Lett. B 269 (1991) 377.

12. A. A. Slavnov and S. A. Frolov, "Lagrangian Brst Quantization And Unitarity," Theor. Math. Phys. 85, 1237 (1990).

11. S. A. Frolov, "On the abelization theorem in the BRST approach," Phys. Lett. B 265, 124 (1991).

10. S. A. Frolov and A. A. Slavnov, "Consistent quantization of two-dimensional chiral Higgs model," Phys. Lett. B 266, 65 (1991).

9. S. A. Frolov and A. A. Slavnov, "Canonical quantization of regularized string theory," Mod. Phys. Lett. A 6, 3621 (1991).

8. S. A. Frolov, "Effective Action For String Field Theory," Phys. Lett. B 229, 37 (1989).

7. S. A. Frolov, "Hamiltonian Brst Quantization Of An Antisymmetric Tensor Field," Theor. Math. Phys. 76, 886 (1988).

6. S. A. Frolov and A. A. Slavnov, "Physical Subspace Norm In Hamiltonian BRST Quantization," Phys. Lett. B 218, 461 (1989).

5. A. A. Slavnov and S. A. Frolov, "Quantization Of Nonabelian Antisymmetric Tensor Field," Theor. Math. Phys. 75, 470 (1988).

4. S. A. Frolov and A. A. Slavnov, "Construction Of The Effective Action For General Gauge Theories Via Unitarity," Nucl. Phys. B 347, 333 (1990).

3. A. A. Slavnov and S. A. Frolov, "Propagator Of Yang-Mills Field In Light Cone Gauge," Theor. Math. Phys. 73, 1158 (1987).

2. S. A. Frolov and A. A. Slavnov, "Covariant Quantum Description Of The N=2 Brink-Schwartz Superparticle," Phys. Lett. B 208, 245 (1988).

1. A. A. Slavnov and S. A. Frolov, "Quantization Of Yang-Mills Fields In The A(0) = 0 Gauge," Theor. Math. Phys. 68, 880 (1986).