

Curriculum Vitae

Nikolai G. Uraltsev

BORN: May 17, 1957
Married, one child

AT: Leningrad, USSR
Citizenship: Russian
Residency: USA

Education

- 1973 Graduation Diploma of Special School attached to Leningrad State University, Leningrad, USSR.
- 1979 Graduation Diploma (*Summa cum laude*) Physics Department, Leningrad State University, Leningrad, USSR.
- 1979-1982 Graduate School of Leningrad Nuclear Physics Institute, Gatchina, USSR.
- 1983 PhD., Theoretical Physics, Leningrad Nuclear Physics Institute, Gatchina, USSR.

Positions Held

- 1982-1986 Junior Research Fellow, Leningrad Nuclear Physics Institute, Gatchina, USSR.
- 1986-1989 Research Scientist, Leningrad Nuclear Physics Institute, Gatchina, USSR.
- 1990-1995 Senior Scientist, Petersburg Nuclear Physics Institute, Gatchina, Russia.
- 1989 Visiting Scholar at the University of Notre Dame, Notre Dame, Indiana (one month).
- 1990 Visiting Research Fellow at DESY, Hamburg, FR Germany (one month).
- 1991-1993 Visiting Research Associate at University of Notre Dame, Notre Dame, Indiana on leave of absence from Petersburg Nuclear Physics Institute (total one year).

April 1993	Visiting Research Scholar at University of Chicago, Chicago, Illinois.
November 1993-August 1994	Scientific Associate, CERN Theory Division.
October 1994-July 1995	Visiting Professor, Theoretical Physics Institute, University of Minnesota, Minneapolis and University of Notre Dame, Notre Dame.
November 1995-August 1996	Scientific Associate, CERN Theory Division.
September 1996 - December 1997	Visiting Associate Professor, University of Notre Dame, Notre Dame, IN, USA and Theoretical Physics Institute, University of Minnesota, Minneapolis.
PRESENT	Visiting Associate Professor, University of Notre Dame, Notre Dame, IN, USA; Senior Scientist, Petersburg Nuclear Physics Institute, Gatchina, Russia (permanent position).

Other Professional Experience

Referee of *Physical Review D*, *Physical Review Letters*, *Physics Letters B* and *Yadernaya Fizika* (Sov. Journ. Nucl. Phys.).

1982-1990	Gave series of lectures at Leningrad Nuclear Physics Institute annual Winter Schools, ITEP Winter Schools (Moscow, USSR) and some other research institutions.
1988-1989	Taught courses at Physics Department of Leningrad State University for theoretical physics majors; taught courses for experimental research fellows at Leningrad Nuclear Physics Institute.
Since 1993	Scientific Council member of Theory Division, Petersburg Nuclear Physics Institute.
February 1994	Lecturer at the Second International Winter School, Petersburg Nuclear Physics Institute, Gatchina, St.Petersburg, Russia.
July 1997	Gave series of lectures at the International School of Physics "Enrico Fermi", Course CXXXVII "Heavy Flavour Physics: a Probe of Nature's Grand Design"; Varenna, Villa Monastero, Italy.

Participation in International Conferences

May 1984	International Workshop on Progress in Field Theory and Strong Interactions, Moscow.
October 1986	Invited Speaker at International Conference on Electroweak and Strong Interactions, Arentskopff, East Germany.
April 1987	International conference 'Particles and Nuclei', Kyoto, Japan. Plenary Speaker.
October 1987	Speaker at International Workshop on the Standard Model and Beyond, Tbilisi, Georgia.
June 1988	'Neutrino-88', Boston.
March 1989	Invited Speaker at International Conference in Protvino on Physics at Hadron Colliders, USSR.
June 1989	Invited Speaker at the International Conference on Electroweak and Strong Interactions, Budapest, Hungary.
March 1991	Invited Speaker at the XXVIth Rencontres De Moriond, "Electroweak Interactions," Les Arcs, France.
April 1992	Invited Speaker at the SLAC Workshop "B Factories."
November 1992	Speaker at Particles & Fields '92: 7 th Meeting of the Division of Particles and Fields of the APS (DPF 92), Batavia, IL, 10-14 November 1992.
April 1994	Invited Plenary speaker at the Joint APS/AAPS Meeting, Crystal City, VA.
January 1995	1995 Aspen Winter Conference on Elementary Particle Physics. Invited speaker.
June 1996	Beauty '96, 4 th International Workshop, Rome, Italy. Invited speaker.
September 1996	XI th International Workshop on High Energy Physics and Quantum Field Theory, St. Petersburg, Russia. Review talk on the Heavy Quark Theory.
August 1996	3 rd International Symposium on Radiative Corrections, Cracow, Poland. Invited speaker.
June 1997	Third BaBar Physics Workshop, Orsay, Paris, France. Invited talk.

August 1997 Speaker at VIIIth International Workshop on Light-Cone Quantization and Nonperturbative Hadronic Physics, Lutsen, MN.

July 1998 Speaker at IXth International Workshop “Small-x Physics and Light Front Dynamics in QCD,” St. Petersburg, Russia.

Talks at Scientific Centers in the USA and West Europe

October 1989 University of Notre Dame, IN, High Energy Seminar, “CP Nonconservation in Beauty -- Pattern and Prospects”

November 1989 Argonne National Laboratory, IL, High Energy Theory Seminar, “Prospects for CP Violation Study in Beauty Particles”

November 1989 University of Minnesota, MN, High Energy Seminar, “CP Nonconservation in Beauty: Standard Model and Beyond”

December 1989 UC Irvine, CA, High Energy Physics Seminar, “CP Violation in Beauty Particles -- Standard Model and Beyond”

December 1989 UCLA, CA, Special Physics Seminar, “How CP Nonconservation Can Be Observed in Beauty Particles?”

December 1989 SLAC, CA, Theoretical Physics Seminar, “Prospects for CP Violation Study in Beauty Particles”

December 1989 Fermilab, IL, Theoretical Physics Seminar, “Low Energy Supersymmetry and the Decay $b \rightarrow s + H^0$ ”

January 1990 Columbia University, NY, High Energy Theory Seminar, “CP Nonconservation in Beauty -- Pattern and Prospects”

June 1990 Dortmund University, Germany, High Energy Physics Seminar, “Prospects for CP Violation Studies in Beauty Particles”

June 1990 DESY, Hamburg, Germany, Theoretical Seminar, “Prospects for CP Violation Studies in Beauty Particles”

March 1991 University Paris Sud, Lab de l'Accelérateur Lineaire, Orsay, France, Experimental High Energy Seminar, “Prospects for CP Violation Search in Beauty Particles”

March 1991 Center for Theoretical Physics, CRNS - Luminy, Marceille, France, High Energy Theory Seminar, “Effective Interactions and Electric Dipole Moment of Neutron”

March 1991 University Paris Sud, Lab de Physique Theorique, Orsay, France, High Energy Theory Seminar, "Weak Interactions and CP Nonconservation in Heavy Flavor Decays"

March 1991 University of Padova, Italy, Theoretical Physics Seminar
1. "Prospects for CP Violation Search in Beauty Particles"
2. "Effective Interactions and Electric Dipole Moment of Neutron"

April 1991 University of Bari, Italy, High Energy Physics Seminar, "CP Violation in Beauty in Standard Model and Beyond"

April 1991 University of Parma, Italy, Theoretical Physics Seminar, "FSI Phases and CP Asymmetries: QCD Approach to Inclusive B Decays"

April 1991 International Centre for Theoretical Physics, Trieste, Italy, High Energy Physics Seminar, "Effective Gauge Interactions and Electric Dipole Moment of Neutron"

April 1991 University of Pisa, Italy, Theoretical Physics Seminar, "CP Violation in Beauty Particles in Standard Model: Expectations and Prospects"

April 1991 University of Rome I "La Sapienza," Italy, Theoretical Physics Seminar, "QCD Analysis of the FSI Phases and CP Asymmetries in Inclusive B Decays"

April 1991 University of Naples, Italy, High Energy Physics Seminar,
1. "Prospects for CP Violation Search in Beauty Particles"
2. "Final State Interaction Phases and CP Nonconservation in Beauty: QCD approach"

November 1991 University of Notre Dame, IN, High Energy Seminar, "Effective Gauge Interactions and Electric Dipole Moment of Neutron"

January 1992 University of Michigan, East Lansing, MI, High Energy Physics Seminar, "How Can We Look for CP Nonconservation in Beauty?"

March 1992 Fermilab, IL, Special Theoretical Physics Seminar, "Gluon Emission in Nonspectator Beauty Decays: Mirage -- Though Still Important!"

April 1992 University of California, Riverside, CA, High Energy Physics Seminar, "Gluon Emission in Nonspectator Beauty Decays: Mirage -- Though Still Important!"

April 1992 California Institute of Technology, Los Angeles, CA, Theoretical Physics Seminar, "Can Gluon Emission Enhance Nonspectator Beauty Decays in QCD?"

April 1992 University of California, Los Angeles, CA, Theoretical Physics Seminar, "QCD Analysis of the FSI Phases and CP Asymmetries in Inclusive B Decays"

April 1992 University of California, Santa Cruz, CA, Theoretical Physics Seminar, "Effective CP Odd Interactions and Electric Dipole Moment of Neutron"

April 1992 Theoretical Physics Institute, University of California, Santa Barbara, CA, Theoretical Physics Seminar, "CP Nonconservation in Beauty: What Can We Count on?"

April 1992 University of California, Irvine, CA, High Energy and Theoretical Physics Seminars,
1. "QCD Analysis of the FSI Phases and CP Asymmetries in Inclusive B Decays"
2. "Induced Gauge Interactions and Electric Dipole Moment of Neutron"

May 1992 Enrico Fermi Institute, University of Chicago, IL, High Energy Seminar, "Gluon Emission in Nonspectator Beauty Decays: Mirage -- Though Still Important!"

May 1992 Theoretical Physics Institute, University of Minnesota, Minneapolis, Theoretical High Energy Physics Seminar, "Gluon Mechanism in Non-spectator Beauty Decays: What Is Its Real Meaning?"

June 1992 Carnegie Mellon University, Pittsburgh, PA, Theoretical Physics Seminar, "A QCD Approach to Nonperturbative Effects in Inclusive B Decays"

September 1992 Brookhaven National Laboratory, NY, Theoretical Physics Seminar, "Nonperturbative Corrections to Inclusive Heavy Flavor Decays: QCD Versus Phenomenological Models"

September 1992 SUNY at Stony Brook, NY, High Energy Physics Seminar, "Nonperturbative Corrections to Inclusive Heavy Flavor Decays: QCD Versus Phenomenological Models"

September 1992 University of Virginia, Charlottesville, VA, High Energy Seminar, "Nonperturbative Corrections to Inclusive Heavy Flavor Decays: QCD Versus Phenomenological Models"

October 1992 Pennsylvania State University, State College, PA, Theoretical Physics Seminar, "Nonperturbative Corrections to Inclusive Heavy Flavor Decays: QCD Versus Phenomenological Models"

October 1992 Cornell University, Ithaca, NY, Journal Club Seminar, "Nonperturbative Effects in Inclusive Heavy Flavor Decays: QCD Versus Phenomenological Models"

- October 1992 Syracuse University, NY, High Energy Seminar, “Nonperturbative Effects in Inclusive Heavy Flavor Decays: QCD Versus Phenomenological Models”
- October 1992 University of Pittsburgh, PA, Theoretical Physics Seminar, “Nonperturbative Effects in Inclusive Heavy Flavor Decays: QCD Versus Phenomenological Models”
- April 1993 University of Chicago, IL, High Energy Phenomenology Seminar, “Heavy Flavor Decays: Back to Parton Picture -- and Beyond”
- April 1994 TPI, UCSB, Santa Barbara, CA, Talk at the Workshop on Heavy Quarks, “Aspects of Heavy Flavor Decays”
- May 1994 CERN, Geneva, Switzerland - France, Theoretical High Energy Seminar, “Pole Mass of Heavy Quarks: Does It Exist?”
- May 1994 CERN, Geneva, Switzerland - France, Theoretical High Energy Seminar, “Sum Rules for Heavy Flavor Transitions and Extraction of $|V_{cb}|$ ”
- June 1994 University of Pisa, Theoretical Physics Seminar, “Sum Rules for Heavy Flavor Transitions and Extraction of $|V_{cb}|$ ”
- June 1994 University Paris Sud, Orsay, France, High Energy Theory Seminar, “Sum Rules for Heavy Flavor Transitions and Extraction of $|V_{cb}|$ ”
- June 1994 University of Rome I, “La Sapienza,” Italy, Theoretical Seminar, “Sum Rules for Heavy Flavor Transitions and Extraction of $|V_{cb}|$ ”
- July 1994 University of Dortmund, Germany, Theoretical High Energy Physics Seminar, “Sum Rules for Heavy Flavor Transitions and Extraction of $|V_{cb}|$ ”
- July 1994 University of Bochum, Germany, Theoretical Physics Seminar, “Sum Rules for Heavy Flavor Transitions and Extraction of $|V_{cb}|$ ”
- July 1994 DESY, Hamburg, Germany, Theoretical High Energy Physics Seminar, “Sum Rules for Heavy Flavor Transitions and Extraction of $|V_{cb}|$ ”
- November 1994 Fermilab, IL, Theoretical Physics Seminar, “Sum Rules for Heavy Flavor Transitions and Extraction of $|V_{cb}|$ ”
- May 1995 TPI, University of Minnesota, Minneapolis, High Energy Physics Seminar, “Renormalons and QCD Reality”
- November 1995 CERN, Geneva, Switzerland - France, Theory Division, Renormalon Workshop, “What Do We Want from Renormalons?”

June 1996 University of Rome I, "La Sapienza," Italy, Theoretical Seminar, "Strong Interactions in the Heavy Flavor Decays"

August 1996 University of Mainz, Germany, Theoretical Seminar, "Heavy Quark Expansion"

February 1997 TPI, University of Minnesota, Minneapolis, High Energy Physics Seminar, "Sum Rules and the Kinetic Operator in B Mesons"

March 1997 TPI, University of Minnesota, Minneapolis, High Energy Physics Seminar, "1/5 Expansion of the Inclusive Widths and the Heavy Quark Mass"

May 1997 High Energy Physics Seminar, University of California, Davis, "Beauty Decays in the Heavy Quark Expansion"

May 1997 Theory Seminar, LBNL, Berkeley, "The Heavy Quark Expansion in Beauty Decays"

May 1997 Theory Division Seminar, SLAC, "1/m_Q Expansion and Beauty Decays"

List of Main Publications

October 1998

1. "Spontaneous CP Violation in the Six Quark Model," A.A. Anselm, N.G. Uraltsev, *Sov. J. Nucl. Phys.* **30**, 465 (1979).
2. "On Cabibbo Suppressed Decays of D Mesons," M.S. Raikin, N.G. Uraltsev, *Sov. J. Nucl. Phys.* **31**, 796 (1981).
3. "A Second Massless Axion?" A.A. Anselm, N.G. Uraltsev, **Preprint** LNPI-720, 1981.
4. "Long Range 'Arion' Field in the Radio Frequency Band," A.A. Anselm, N.G. Uraltsev, *Phys. Lett.* **116B**, 161 (1982).
5. "Structure of the Higgs Sector and the Vertex $Z^0 W^\pm H^\bullet$," A.A. Johansen, N.G. Uraltsev, V.A. Khoze, *JETP Lett.* **35**, 153 (1982).
6. "Decays of π^\pm mesons Involving Axions and Massless Axions: $\pi^\pm \rightarrow l + \nu_l + a(a')$," A.A. Anselm, V.M. Lobashev, N.G. Uraltsev, *JETP Lett.* **35**, 334 (1982).
7. "Search for Scalar Particles and Structure of the Higgs Sector," A.A. Johansen, N.G. Uraltsev, V.A. Khoze, *Sov. J. Nucl. Phys.*, **36**, 1230 (1982).
8. "Pseudogoldstone Bosons of Technicolor," A.A. Anselm, N.G. Uraltsev, *Sov. Phys. JETP* **55**, 997 (1982).
9. "A Possible Origin of the Natural Conservation of Flavor in an Interaction with Neutral Higgs Bosons," N.G. Uraltsev, *JETP Lett.* **37**, 333 (1983).
10. "Flavor Changing Interactions of Goldstone Bosons with Fermions," A.A. Anselm, N.G. Uraltsev, *Sov. Phys. JETP* **57**, 1142 (1983).
11. "Neutron Electric Dipole Moment in the Weinberg CP Violation Model," A.A. Anselm, V.E. Bunakov, V.P. Gudkov, N.G. Uraltsev, *JETP. Lett.* **40**, 1102 (1984).
12. "On the Decay $\mu \rightarrow e + \text{famon}$," A.A. Anselm, N.G. Uraltsev, M.Yu. Khlopov, *Sov. J. Nucl. Phys.* **41**, 1060 (1985).
13. "On the Neutron Electric Dipole Moment in the Weinberg CP Violation Model," A.A. Anselm, V.E. Bunakov, V.P. Gudkov, N.G. Uraltsev, *Phys. Lett.* **152B**, 116 (1985).
14. "CP Violation in the Kobayashi-Maskawa Model with Four Generations," A.A. Anselm, T.A. Zhukovskaya, N.G. Uraltsev, J.L. Chkareuli, *JETP. Lett.* **41**, 269 (1985).

15. "Higgs Particles," A.A. Anselm, N.G. Uraltsev, V.A. Khoze, *Sov. Phys. Usp.* **28**, 113 (1985).
16. "On the Kobayashi-Maskawa Model with Four Generations," A.A. Anselm, J.L. Chkareuli, N.G. Uraltsev, T.A. Zhukovskaya, *Phys. Lett.* **156B**, 102 (1985).
17. "Quark Mixing in Weak Interactions," N.G. Uraltsev, V.A. Khoze, *Sov. Phys. Usp.* **28**, 617 (1985).
18. "Yield Oscillations and CP Violation in Heavy Meson Decays," Ya.I. Azimov, N.G. Uraltsev, V.A. Khoze, **Preprint** LNPI-86-1188, May 1986.
19. "CP Nonconservation in Rare Decays of B^0_s Mesons," Ya.I. Azimov, N.G. Uraltsev, *JETP Lett.* **43**, 409 (1986).
20. "Oscillation Phenomena in Neutral B Meson Systems," Ya.I. Azimov, N.G. Uraltsev, *Sov. J. Nucl. Phys.* **45**, 878 (1987).
21. "Physical Consequences of the Large $B^0 - \bar{B}^0$ Mixing," V.A. Khoze, N.G. Uraltsev, **Preprint** LNPI-87-1290 1987.
22. "Large $B^0 - \bar{B}^0$ Mixing and Physics of the Heavy t Quark," V.S. Fadin, V.A. Khoze, N.G. Uraltsev, Trieste **Preprint** IC/87/156, June 1987.
23. "Heavy Charged H Bosons in the Case of Nonstandard Higgs Sector," A.A. Johansen, N.G. Uraltsev, V.A. Khoze, *Sov. J. Nucl. Phys.* **46**, 890 (1987).
24. "On the Inclusive Hadronic Widths of Beauty Particles," V.A. Khoze, M.A. Shifman, N.G. Uraltsev, M.B. Voloshin, *Sov. J. Nucl. Phys.* **46**, 112 (1987).
25. "Large $B^0 - \bar{B}^0$ Mixing and the Consequences for the Standard Model," V.A. Khoze, N.G. Uraltsev, *Sov. J. Nucl. Phys.* **47**, 1687 (1988).
26. "Prospects for CP in B Mesons," N.G. Uraltsev, *Nucl. Phys.* **A478**, 261c (1988).
27. "Low-Energy Supersymmetry and the Decay $b \rightarrow s + H^0$," A.A. Johansen, N.G. Uraltsev, V.A. Khoze, *JETP Lett.* **49**, 147 (1989).
28. "Physics of Top and CP Violation in B Decays in the Light of the ARGUS Measurements," A.E. Blinov, V.A. Khoze, N.G. Uraltsev, *Int. Journ. Mod. Phys.* **A4**, 1933 (1989).
29. "The Question of CP Noninvariance – as Seen through the Eyes of Neutral Beauty," I.I. Bigi, V.A. Khoze, A.I. Sanda, N.G. Uraltsev, **in:** *CP Violation*, C. Jarlskog (ed.), World Scientific, 1989, p.175.
30. "The Decay $b \rightarrow s + H^0$ in Supersymmetric Theories," A.A. Johansen, V.A. Khoze, N.G. Uraltsev, *Sov. J. Nucl. Phys.* **49**, 727 (1989).

31. "Prospects for Search for CP Nonconservation in Beauty Hadrons," A.E. Blinov, N.G. Uraltsev, V.A. Khoze, *Sov. Phys. JETP* **70**, 32 (1990).
32. "QCD Analysis of the FSI Phases and of the CP Asymmetries in Inclusive Decays of *B* Particles," Yu.L. Dokshitser, N.G. Uraltsev, *JETP. Lett.* **52**, 509 (1990).
33. "Induced Multi-Gluon Couplings and the Neutron Electric Dipole moment," I.I. Bigi, N.G. Uraltsev, *Nucl. Phys.* **B353**, 321 (1991).
34. "FSI Phases and CP Asymmetries: QCD Approach to Inclusive *B* Decays," N.G. Uraltsev, **in:** *Proceedings of the XXVI Rencontre de Moriond, Electroweak Interactions and Unified Theories*. J. Tran Thanh Van (ed.), Frontieres, Paris 1991, p.321.
35. "Effects of CP Odd Phases in Supersymmetric Version of Standard Model," A.A. Johansen, N.G. Uraltsev, *JETP. Lett.* **53**, 505 (1991).
36. "Effective Gluon Operators and the Dipole Moment of the Neutron," I.I. Bigi, N.G. Uraltsev, *Sov. Phys. JETP* **100**, 198 (1991).
37. "Gluonic Enhancements in Non-Spectator Beauty Decays: an Inclusive Mirage Though an Exclusive Possibility," I.I. Bigi, N.G. Uraltsev, *Phys. Lett.* **280B**, 271 (1992).
38. "Addressing the Mysterious with the Obscure: CP Violation via Higgs Dynamics," I.I. Bigi, A.I. Sanda, N.G. Uraltsev, **in:** *Perspectives on Higgs Physics*. G.Kane (ed.), World Scientific, 1992.
39. "Nonperturbative Corrections to Inclusive Beauty and Charm Decays. QCD Versus Phenomenological Models," I.I. Bigi, N.G. Uraltsev, A.I. Vainshtein, *Phys. Lett.* **293B**, 430 (1992).
40. "A QCD 'Manifesto' on Inclusive Decays of Beauty and Charm," I.I. Bigi, B. Block, M. Shifman, N.G. Uraltsev, A.I. Vainshtein, **in:** *Proceedings of 7th Meeting of the Division of Particles and Fields of the APS (DPF 92), Batavia, IL, 10-14 November 1992*; C.H. Albright *et al.*, Eds. World Scientific, Singapore 1993, vol. 1, page 610.
41. "FSI Phases and CP Asymmetries in Beauty: QCD Point of View," **in:** *Proceedings of 7th Meeting of the Division of Particles and Fields of the APS (DPF 92), Batavia, IL, 10-14 November 1992*; C. H. Albright *et al.*, Eds. World Scientific, Singapore 1993, vol. 1, page 855.
42. "QCD Predictions for Lepton Spectra in Inclusive Heavy Flavour Decays," I.I. Bigi, M. Shifman, N.G. Uraltsev, A. Vainshtein, *Phys. Rev. Lett.* **71**, 496 (1993).
43. "Weak Annihilation and the End Point Spectrum in Semileptonic *B* Decays," I.I. Bigi, N.G. Uraltsev, *Nucl. Phys.* **B423**, 33 (1994).

44. “ D_s Lifetime, m_b , m_c and $|V_{cb}|$ in the Heavy Quark Expansion,” I.I. Bigi, N.G. Uraltsev, *Zeit. f. Phys.* **C62**, 623 (1994).
45. “Anathematizing the Guralnik-Manohar Bound for $\bar{\Lambda}$,” I.I. Bigi, N.G. Uraltsev, *Phys. Lett.* **321B**, 412 (1994).
46. “On the Motion of Heavy Quark inside Hadrons: Universal Distributions and Inclusive Decays,” I.I. Bigi, M. Shifman, N.G. Uraltsev, A. Vainshtein, *Int. Journ. Mod. Phys.* **A9**, 2467 (1994).
47. “Non-Leptonic Decays of Beauty Hadrons – from Phenomenology to Theory,” I.I. Bigi, B.Blok, M. Shifman, N.G. Uraltsev, A. Vainshtein, **in: B Decays**, second edition. S. Stone (ed.), World Scientific, 1994, p.132.
48. “Heavy Quark Distribution Function in QCD and the AC^2M^2 Model,” I.I. Bigi, M. Shifman, N.G. Uraltsev, A. Vainshtein, *Phys. Lett.* **328B**, 431 (1994).
49. “Pole Mass of the Heavy Quark: Perturbation Theory and Beyond,” I.I. Bigi, M. Shifman, N.G. Uraltsev, A. Vainshtein, *Phys. Rev.* **D50**, 2234 (1994).
50. “Operator Product Expansion Sum Rules for Heavy Flavor Transitions and the Determination of $|V_{cb}|$,” M. Shifman, N.G. Uraltsev, A. Vainshtein, *Phys. Rev.* **D51**, 2217 (1995).
51. “On Measuring the Kinetic Energy of the Heavy Quark Inside B mesons,” I. Bigi, A. Grozin, M. Shifman, N.G. Uraltsev, A. Vainshtein, *Phys. Lett.* **B339**, 160 (1994).
52. “Comment on Renormalization Group Improvement in Exclusive B Decays,” N.G. Uraltsev, *Mod. Phys. Lett.* **A10**, 1803 (1995).
53. “A Closer Look at Perturbative Corrections in the Semileptonic $b \rightarrow c$ Transitions,” M. Shifman, N.G. Uraltsev, *Int. Journ. Mod. Phys.* **A10**, 4705 (1995).
54. “Sum Rules for Heavy Flavor Transitions in the SV Limit,” I.I. Bigi, M. Shifman, N.G. Uraltsev, A. Vainshtein, *Phys. Rev.* **D52**, 196 (1995).
55. “Do Higher Order Perturbative Corrections Upset $|V_{cb}|$ and $|V_{ub}|$ Determined from Semileptonic Widths?,” N.G. Uraltsev, *Int. Journ. Mod. Phys.* **A11**, 515 (1996).
56. “ $b \rightarrow s + \gamma$. A QCD Consistent Analysis of the Photon Energy Distribution,” D. Dikeman, M. Shifman, N.G. Uraltsev, *Int. Journ. Mod. Phys.* **A11**, 571 (1996).
57. “Are IR Renormalons a Good Probe for the Strong Interaction Domain?” Yu.L. Dokshitzer and N.G. Uraltsev, *Phys. Lett.* **B380**, 141 (1996).

58. "On the Problem of Boosting Non-Leptonic b Baryon Decays," N.G. Uraltsev, *Phys. Lett.* **B376**, 303 (1996).
59. Operator Product Expansion, Heavy Quarks, QCD Duality and its Violations," B. Chibisov, R. Dikeman, M. Shifman, N.G. Uraltsev, *Int. Journ. Mod. Phys.* **A12**, 2075 (1997).
60. "BLM-Resummation and OPE in Heavy Flavor Transitions," N.G. Uraltsev, *Nucl. Phys.* **B491**, 303 (1997).
61. "Chiral Symmetry Breaking, Duality in the $\bar{Q}q$ Channel and $b \rightarrow c\bar{c}s$ Decays," B. Blok, M. Shifman, N.G. Uraltsev, *Nucl. Phys.* **B494**, 237 (1997).
62. "Theoretical Aspects of the Heavy Quark Expansion," N.G. Uraltsev, *Nucl. Instrum. & Methods* **A384**, 17 (1996) (Proceedings of "Beauty '96").
63. "The Heavy Quark Expansion," N.G. Uraltsev, **in**: Proceedings of 3rd Intern. Symposium on Radiative Corrections (CRAD 96) (*Acta Phys. Polon.* **B28** (1997) 755).
64. "Aspects of Heavy Quark Theory," I. Bigi, M. Shifman, N.G. Uraltsev, *Ann. Rev. Nucl. Part. Sci.* **47**, 591 (1997).
65. "Key Distributions for Charmless Semileptonic B Decay," R.D. Dikeman, N.G. Uraltsev, *Nucl. Phys.* **B509**, 378 (1998).
66. "High Power n of m_b in Beauty Widths and $n=5 \rightarrow \infty$ Limit," I. Bigi, M. Shifman, N. Uraltsev, A. Vainshtein, *Phys. Rev.* **D56**, 4017 (1997).
67. "Complete $\mathcal{O}(\alpha_s^2)$ Corrections to Zero-Recoil Sum Rules for $B \rightarrow D^*$ Transitions," A. Czarnecki, K. Melnikov, N. Uraltsev, *Phys. Rev.* **D57**, 1769 (1998).
68. "The Hadronic Recoil Mass Spectrum in Semileptonic B Decays and Extracting $|V_{ub}|$ in a Model-Insensitive Way," I. Bigi, R.D. Dikeman, N. Uraltsev, *Eur. Phys. J.* **C4**, 453 (1998).
69. "Non-Abelian Dipole Radiation and the Heavy Quark Expansion," A. Czarnecki, K. Melnikov, N. Uraltsev, *Phys. Rev. Lett.* **80**, 3189 (1998).
70. "Heavy Quark Expansion in Beauty and its Decays," N. Uraltsev, preprint UND-HEP-98-BIG1, *Lectures given at the International School of Physics Enrico Fermi "Heavy Flavour Physics: A Probe of Nature's Grand Design," Varenna, July 7-18 1997.* To be published in the Proceedings, IOS press, Amsterdam.
71. "Heavy Flavor Decays, OPE and Duality in Two-Dimensional 't Hooft Model," I. Bigi, M. Shifman, N. Uraltsev, A. Vainshtein, **preprint** UND-HEP-98-BIG 02; to appear in *Phys. Rev. D*.
72. "Four-fermion heavy quark operators and light current amplitudes in heavy flavor hadrons," D. Pirjol, N. Uraltsev, preprint UND-HEP-98-BIG 03; to appear in *Phys. Rev. D*.

