

CURRICULUM VITAE

Isaak A. Kunin, Professor Emeritus

Dept. of Mechanical Engineering, University of Houston, Houston, TX 77204, USA
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Education

M.S. (1952), Ph.D. (1958), Polytechnical Institute, Leningrad, USSR

Doctor of Sciences (1968), Academy of Sciences, USSR

Professional Experience

2003-present Professor Emeritus

1979-03 Professor, Department of Mechanical Engineering, University of Houston

1974-79 Professor, Chairman, Department of Mathematics, Electrotechnical Institute, Novosibirsk, USSR

1963-74 Professor, Chairman, Department of Theoretical Physics, Institute of Thermophysics, the Academy of Sciences of the USSR, Novosibirsk, USSR

1956-63 Senior Scientist, Department of Applied Mathematics, Mining Institute, the Academy of Sciences of the USSR, Novosibirsk, USSR

1952-56 Engineer, Head of Mechanical Analysis Division, Turbogenerator Factory, Novosibirsk, USSR

Fields of Research

Mechanics of solids and fluids: linear and nonlinear elasticity, media with microstructure and continuously changing topology, theory of dislocations, gauge theory of materials and microdefects, waves in solids and fluids, hydrodynamical theory of lubrication, vortex dynamics.

Physics of solids: crystal lattice dynamics, point defects, dislocations, disclinations, cracks.

Electrodynamics: electromagnetic fields in media, non-destructive testing, life-time prediction.

Mathematical physics: group deformations, space-time quantizations, gauge theory, differential geometry, nonlinear waves, boundary value and variational problems, discrete mathematics.

Dynamical systems: chaos, complexity, G-moving frames, optimal gauging, order in chaos, Kolmogorov complexity and algorithms, discretization, physics of chaos, optimal control.

Recognitions for Teaching and Research

Halliburton Faculty Excellence Teaching Award, 1982

Organized and Chaired Conferences on Mathematical Methods in Engineering,
Novosibirsk, USSR, 1963, 1965, 1976, 1978.

Member of the Scientific Committees:

International Conferences on Continuum Models of Discrete Systems: Poland, 1975; Toronto, 1977; Freudenstadt, 1979; Stockholm, 1981; Nottingham, 1985; Gauge Theories of Defects in Solids, Stuttgart, 1982.

International Conferences on Advanced Problems in Mechanics: St. Petersburg 2001, 2002, 2003

Organizer, Chair of Sessions:

IUTAM-Symposium on the Generalized Cosserat Continuum and the Continuum Theory of Dislocations, Stuttgart, 1967.

Conferences on Mechanics of Solids, Poland, 1967, 1969, 1971, 1973, 1975, 1977.

Media with Microstructure, XII International Congress of Theoretical and Applied Mechanics, Stanford, 1968.

Elasticity, XIII International Congress of Theoretical and Applied Mechanics, Moscow, 1972.

Soviet-Polish Conferences on Mechanics, Poland, 1975; Novosibirsk, 1977.

International Symposium on Trends in Application of Pure Mathematics to Mechanics, Poland, 1977.

ASME Conference, Houston, 1983.

International Symposium on Mechanics of Dislocations, Houghton, 1983.

ASME Conference, San Antonio, 1984.

The 37th Annual Meeting of the Soc. of Engng. Sci., Columbia, SC, 2000.

Symposium Chaos-Complexity-Algorithms, APM, St. Petersburg 2002.

Session: Self-organization, Complexity and Control, PhysCon-2003, St. Petersburg, Russia.

Member of Editorial Boards

Izvestia of Siberian Div. Of Acad. Sci. USSR; Dynamics of Continuous Media;

Physical and Tech. Problems of Mining; Dynamics of Mechanical Systems;

Letters in Int. Journal of Eng. Sciences

Reviewer of Journals

IAN, PMTF, PMM, PTT, DMS, ZAMM, Nuovo. Cim., Int. J. Theor. Phys., J. Mech. Phys.

Solids., Int. J. Engng. Sci., Int. J. Solids and Structures, Appl. Math. and Mech., Mech. Reviews,

Continuum Mech. and Thermodynamics, Acta Mechanica, others.

Member of Professional Organizations

American Academy of Mechanics

American Society of Mechanical Engineers

International Society for the Interaction of Mechanics and Mathematics

Societies of Engineering Sciences and for Industrial and Applied Mathematics

American Mathematical Society

Patents

Seven patents on electromagnetical vibrators, devices for using electrodynamical cumulative effect, thrust bearings for hydrogenerators, thermomechanical engine.

Publications

Books

1. I.A.Kunin, Hydrodynamic Theory of Lubrication, Academy of Sci., USSR, Novosibirsk, 1960
2. I.A.Kunin, Nonlocal Theory of Elasticity, Polish Academy of Sci., Warsaw, 1970
3. V.V. Kostrov, I.A. Kunin, D. Rogula, The Theory of Defects in Media with Microstructure, Polish Academy of Sci., Warsaw, 1973
4. I.A.Kunin, Theory of Elastic Media with Microstructure, Nauka, Moscow, 1975
5. I.A.Kunin, Theory of Media with Microstructure, (Survey), Academy of Sci., USSR, Novosibirsk, 1976
6. I.A.Kunin, Media with Microstructure, I . Vol. 26, Springer-Verlag, Berlin, New York, 1982
7. I.A.Kunin, Media with Microstructure, II . Vol. 44, Springer-Verlag, Berlin, New York, 1983
8. S.A. Ambartsumyan, I.A. Kunin, Theory of Anisotropic Plates, Hemisphere Publ. New York, 1990

Papers in referred journals, proceedings of International Conferences,

Congresses

(See Abbreviations at the end of the list)

1. I.A. Kunin, The Stability in the Large for a System of Non-Linear Differential Equations, *PMM*, **16**, 539 (1952).
2. I.A. Kunin, Fields Due to Arbitrary Distributions of Dislocations in an Anisotropic Elastic Medium, *PMTF*, **6**, 76 (1955)
3. I.A. Kunin, On the Hydrodynamic Theory of Lubrication of Pad-Type Bearings, *ISOAN*, **6**, 128 (1957).
4. I.A. Kunin, The Solution of Reynold's Equation with Variable Viscosity, *IAN*, No.10, 109 (1957).
5. I.A. Kunin, An Approximate Method of Solution of Elliptic Boundary Value Problems, *IAN*, No.10, 146-150 (1958).

6. I.A. Kunin, Solution of Boundary Value Problems by Means of Modeling in the Electrolytic Cell, *ISOAN*, No.7, 53 (1958).
7. I.A. Kunin, On the Hydrodynamic Theory of Lubrication, *Wear*, **2**, 9 (1958).
8. I.A. Kunin, Hydrodynamic Theory of Lubrication, Soviet Friction and Wear Conference, 1958, Moscow, USSR.
9. I.A. Kunin, The Determination of the Surface of a Body from its Projections, *ISOAN*, No.8, 3 (1959).
10. I.A. Kunin, The Plane Problem of the Hydrodynamic Theory of Lubrication with the Viscosity Depending on the Temperature, *IAN*, No.2, 70 (1959).
11. I.A. Kunin, The Absolute Minimum of a Functional, *ISOAN*, No.11, 90 (1959).
12. I.A. Kunin, The Theory of Planetary Vibrators, *IAN*, No.5, 48 (1959).
13. I.A. Kunin, The Interaction of a Vibrator with an Infinite Liquid Medium, *PMTF*, No.2, 144 (1960).
14. I.A. Kunin, The Interaction of a Vibrator with an Absorbing Liquid Medium, *ISOAN*, No.11, 136 (1960).
15. I.A. Kunin, The Theory of a Pendulum Device for Investigation of Rolling Friction, *ISOAN*, No.8, 116 (1961).
16. I.A. Kunin, The Interaction of a Deeply Immersed Vibrator with a Liquid Medium, *ISOAN*, No.4, 131 (1962).
17. I.A. Kunin, Analytical Investigation of the Optimum Excavator Shovel Profile, *ISOAN*, No.4, 131 (1962).
18. I.A. Kunin, The Influence of Stress State on Mine Workings, Accounting for Soil Creep, *VGD*, No.13, 2 (1962).
19. I.A. Kunin, On a Rheological Model of Dynamical Hysteresis, Int. Vibration Conference, 1962, Riga, USSR.
20. I.A. Kunin, Methods of Stress Analysis in Soil Mechanics, *MMGD*, **2**, 60 (1963).
21. I.A. Kunin, The Rock Pressure in the Neighborhood of Horizontal Excavations, *MMGD*, **2**, 73 (1963).
22. I.A. Kunin, The Rock Pressure in the Neighborhood of Near-Vertical Excavations, *MMGD*, **2** 87 (1963).
23. I.A. Kunin, A Rheological Model for Dynamic Hysteresis in Continuum Mechanics, *MMGD*, **2**, 164 (1963)
24. I.A. Kunin, A Thermomechanical Effect Related to the Rolling of a Cylinder, *MMGD*, **2**, 210 (1963).
25. I.A. Kunin, The Theory of Deeply Immersed Vibrators, *MMGD*, **1**, 140 (1963).

26. I.A. Kunin, Internal Stresses in an Anisotropic Elastic Medium, *PMM*, **28**, 612-621 (1964).
27. I.A. Kunin, The Green's Tensor for an Anisotropic Elastic Medium with Sources of Internal Stress, *DAN*, **157**, 1319 (1964).
28. I.A. Kunin, Internal Stress in Anisotropic Solids, Int. Dislocation Conference, 1964, Moscow, USSR.
29. I.A. Kunin, The Field Due to an Arbitrary Distribution of Dislocations in an Anisotropic Elastic Medium, *PMTF*, No.5, 76 (1965).
30. I.A. Kunin, Theory of Dislocations, in *J.A. Schouten, Tensor Analysis for Physicists*, Nauka, Moscow, 1965, pp. 373-443.
31. I.A. Kunin, A Model of an Elastic Medium of Simple Structure with Spatial Dispersion, *PMM*, **30**, 642 (1966).
32. I.A. Kunin, The Theory of Elasticity with Spatial Dispersion: One-Dimensional Complex Structure, *PMM*, **30**, 1025 (1966).
33. I.A. Kunin, V.E. Vdovin, The Theory of Elasticity with Spatial Dispersion: Three-Dimensional Complex Structure, *PMM*, **30**, 1272-1281 (1966)
34. I.A. Kunin, On a Representation of Crystal Lattice Dynamic Equation, International Crystallographic Congress, 1966, Moscow, USSR.
35. I.A. Kunin, Inhomogeneous Elastic Medium with Nonlocal Interaction, *PMTF*, **8**, 41 (1967).
36. I.A. Kunin, The Green's Tensor for an Isotropic Elastic Medium with Spatial Dispersion, *PMTF*, **8**, 103 (1967).
37. I.A. Kunin, Internal Stresses in a Medium with Microstructure, *PMM*, **31**, 889 (1967).
38. A.M. Vaisman, I.A. Kunin, Boundary Value Problems in the Continuum Theory of Dislocations, *DAN*, **173**, 1024 (1967)
39. I.A. Kunin, The Interaction of Dislocations and Point Defects in *Dynamic Interaction of Dislocations in Crystals*, Kharkov, 1967, pp.459-464.
40. I.A. Kunin, The Theory of Media with Microstructure and the Theory of Dislocations, IUTAM Symposium on Mechanics of Generalized Continua and Dislocations, 1967, Stuttgart, Germany.
41. I.A. Kunin, Theory of Media with Microstructure, Int. Fracture Conference, 1967, Moscow, USSR.
42. I.A. Kunin, Nonlocal Elasticity, IXth Int. Conference on Mechanics of Solids, 1967, Poland.
43. I.A. Kunin, Interaction of Dislocations and Point Defects, Int. Dislocation Conference, 1967, Kharkov, USSR
44. I.A. Kunin, Nonlocal Elasticity, IXth Polish Conference on Mechanics of Solids, 1967, Poland.

45. I.A. Kunin, Theories of Media with Microstructure, *Proc. of Vibration Problems*, (Warsaw), **9**, 323 (1968).
46. I.A. Kunin, The Theory of Elastic Media with Microstructure and the Theory of Dislocations, in *Mechanics of Generalized Cosserat Continua*, Springer-Verlag, 1968, pp.321-329.
47. I.A. Kunin, V.G. Kosilova, E.G. Sosnina, The Interaction of Point Defects Taking into Account Spatial Dispersion, *FTT*, **10**, 367 (1968)
48. V.E. Vdovin, I.A. Kunin, The Interaction of Dislocations Taking into Account Spatial Dispersion, *ITT*, **10**, 297-303 (1968)
49. I.A. Kunin, Non-local Theories of Solids, in *Proc. of 12th Int. Congr. Appl. Mech.*, Stanford, 1968, p.63.
50. I.A. Kunin, Theory of Elastic Media with Microstructure, Int. Mechanics Congress, 1968, Moscow, USSR.
51. I.A. Kunin, A.M. Vaisman, Boundary Value Problems in Nonlocal Elasticity, Int. Mechanics Congress, 1968, Moscow, USSR.
52. I.A. Kunin, V.E. Vdovin, Dislocations in Media with Microstructure, Int. Mechanics Congress, 1968, Moscow, USSR.
53. I.A. Kunin, E.G. Sosnina, Point Defects in Elasticity, Int. Mechanics Congress, 1968, Moscow, USSR.
54. I.A. Kunin, V.G. Kosilova, Elastic Moduli of Many-Rods System, Int. Mechanics Congress, 1968, Moscow, USSR.
55. A.M. Vaisman, I.A. Kunin, Boundary Value Problems in the Nonlocal Theory of Elasticity, *PMM*, **33**, 765-777 (1969).
56. I.A. Kunin, On the Nonlocal Theories of Solids, International Dislocation Conference, 1969, NBS, Washington
57. I.A. Kunin, On the Nonlocal Theories of Solids, International Dislocation Conference, 1969, NBS, Washington.
58. I.A. Kunin, Investigation of Nonlocal Effects in Solids, XIth Int. Conference on Mechanics of Solids, 1969, Poland.
59. I.A. Kunin, Theory of Defects in Media with Microstructure, International Summer School on the Theory of Defects, 1969, Poland.
60. I.A. Kunin, V.G. Kosilova, The Propagation of Wave Packets in a Medium with Spatial Dispersion, *DSS*, No.6, 127 (1970)
61. I.A. Kunin, Local Inhomogeneities in an Elastic Medium, *PM*, **34**, 399-405 (1970).
62. V. G. Kosilova, I.A. Kunin, Dynamics of Generalized Gosserrat Continua, *DSS*, No.4, 73 (1970)
63. I.A. Kunin, A.M. Vaisman, On the Nonlocal Theory of Solids, in *Fundamental Aspects of Dislocation Theory*, NBS, Washington, 1970, v.2, pp.747-760

64. I.A. Kunin, E.G. Sosnina, Local Inhomogeneities in an Elastic Medium, *J. Appl. Math. Mech.*, **34**, 399-405 (1970)
65. I.A. Kunin, E.G. Sosnina, The Ellipsoidal Inhomogeneity in an Elastic Medium, *DAN*, **199**, 571-574 (1971)
66. I.A. Kunin, The Theory of Elastic Medium with Microstructure, in *Strength and Plasticity*, Nauka, 1971, 65-70
67. I.A. Kunin, Propagation of Wave Packets in Solids, XIIIth Int. Conference on Mechanics of Solids, 1971, Poland.
68. I.A. Kunin, Theory of Defects in Nonlocal Elasticity, XIII IUTAM Congress, 1972, Moscow, USSR.
69. I.A. Kunin, Wave Processes in Nonlocal Elasticity, Int. Mechanics Congress, 1972, Moscow, USSR.
70. I.A. Kunin, E.G. Sosnina, The Stress Concentration on an Ellipsoidal Inhomogeneity in an Anisotropic Elastic Medium, *PMM*, **37**, 285-305 (1973)
71. I.A. Kunin, G.N. Mirenkova, E.G. Sosnina, The Ellipsoidal Crack and Needle in an Anisotropic Elastic Medium, *PMM*, **37**, 501-508 (1973)
72. I.A. Kunin, Nonlinear Waves in Solids, Int. Nonlinear Wave Conference, 1973, Tallinn, USSR.
73. I.A. Kunin, E.G. Sosnina, Stress in an Elastic Layer, *Ell*, No.2, 23 (1973)
74. I.A. Kunin, Green's Function for a Dispersive Medium with Local Defects, *DSS*, No.10, 20 (1974).
75. I.A. Kunin, V.G. Kosilova, Scattering Problems for a Medium with Spatial Dispersion, *Numerical Methods of Continuum Mechanics*, **5**, 51 (1974)
76. I.A. Kunin, A.M. Vaisman, On Scale Effects in Continuum Mechanics, in *Problems of Thermophysics and Physical Hydrodynamics*, Nauka, 1975, pp.166-175
77. I.A. Kunin, V.A. Dunayevsky, Resonance Interaction of Longitudinal and Transverse Waves in a Nonlinear Rod, *DMS*, pp. 54-57 (1975)
78. I.A. Kunin, V.A. Dunayevsky, The Propagation of a Longitudinal Strain Wave in a Nonlinear Plate, *DMS*, pp.58-64 (1975)
79. I.A. Kunin, Media with Internal Degrees of Freedom, International Symposium on Continuum Models of Discrete Systems, 1975, Poland.
80. I.A. Kunin, Influence of Microstructure on Wave Propagation in Solids, Int. Mechanics Symposium, 1975, Poland.
81. I.A. Kunin, Ellipsoidal Inhomogeneity in Anisotropic Elastic Medium, XVIIth Int. Conference on Mechanics of Solids, 1975, Poland
82. I.A. Kunin, A.I. Chudnovsky, The Influence of Microstructure on Material Properties, *Arch. Mech. Stosow.*, **28**, 661-672 (1976)

83. I.A. Kunin, The Reflection of Waves at a Bend of a Pipeline, *DMS*, pp.52-64 (1977)
84. I.A. Kunin, Deformation of Structural Groups and Quantization, Second International Symposium on Trends in Application of Pure Mathematics to Mechanics, 1977, Poland.
85. I.A. Kunin, A.I. Chudnovsky, Influence of Microstructure on Elastic and Strength Properties of Materials, Second Int. Mechanics Symposium, 1977, Novosibirsk, USSR.
86. I.A. Kunin, A.I. Chudnovsky, Microstructure and Mechanical Properties of Materials, in *Solid Mechanics*, Warsaw, 1978, 85-97
87. I.A. Kunin, Lie Group Deformations and Quantizations, in *Trends in Applications of Pure Mathematics to Mechanics*, Pitman, 1979, v.2, 171-178.
88. I.A. Kunin, Lie Groups in Quantum Mechanics, in *Proc. International Conf. on Lie Groups*, Novosibirsk, 1978.
89. I.A. Kunin, B.I. Kunin, Lie Group Deformations, International Conference on Lie Group theory, 1978, Novosibirsk, USSR.
90. I.A. Kunin, Mathematical Models of Media with Microstructure, 3rd International Symposium on Continuum Models of Discrete Systems, 1979, Freudenstadt, Germany.
91. I.A. Kunin, Group-Theoretical Foundations for Interrelations between Physical Models, in *Proc. 3rd Int. Symposium on Continuum Models of Discrete Systems*, Univ. of Waterloo Press, 1980, 43-58.
92. I. A. Kunin, Projection Operator Method in Elasticity, XVth RJTAM Congress, 1980, Toronto, Canada.
93. I.A. Kunin, L.T. Wheeler, Voids of Minimum Stress Concentration, SES Annual Conference, 1980, Atlanta.
94. I.A. Kunin, An Algebra of Tensor Operators and its Applications to Elasticity, *Int. J. Enging. Sci.*, **19**, 1551-1561 (1981).
95. I.A. Kunin, Projection Operator Method in Continuum Mechanics, in *Continuum Models of Discrete Systems*, **4**, North-Holland, 1981, pp. 179-187.
96. I.A. Kunin, Projection Operator Method in Continuum Mechanics, 4th International Symposium on Continuum Models of Discrete Systems, 1981, Stockholm, Sweden.
97. L.T.Wheeler, I.A. Kunin, On Voids of Minimum Stress Concentration, , *Int. J. Solids Struct*, **18**,, 85-89 (1982).
98. I.A. Kunin, Quantum Mechanical Formalism in Classical Wave Propagation Problems, *Int. J. Eng. Sci.* , **20**, 271-281 (1982).
99. I.A. Kunin, A. Kadic', B.I. Kunin, On the Gauge Theory of Defects in Solids, *Proc. Int. Conf. on Gauge Field Theories of Defects in Solids*, Stuttgart, 1982, pp.11-17.
100. I.A. Kunin, A Kadic' and B. Kunin, Gauge Theory of Defects in Solids, International Conference on Gauge Theories, 1982, Stuttgart, Germany.

101. I.A. Kunin, Elasticity as a Gauge Theory; Boundary Integral Equations for a Three-Dimensional Crack, 19th Annual Meeting Soc. Eng. Sci., 1982, Rolla.
102. I.A. Kunin, Foundations of the Theory of Media with Microstructure, International Symposium on Media with Microstructure & Wave Propagation, 1983, Michigan Tech. Univ., Houghton.
103. I.A. Kunin, Gauge Theory of Interactions between Electromagnetic and Elastic Fields, IUTAM-IUPAP Symposium on Mechanical Behavior of Electromagnetic Solid Continua, 1983, Paris, France.
104. I.A. Kunin, On the Gauge Theory of Dislocations, International Symposium on Mechanics of Dislocations, 1983, Houghton, Michigan.
105. I.A. Kunin, A Gauge Theoretical Approach to Macroscopic Electrodynamics, in The Mechanical Behavior of Electromagnetic Solid Continua, North-Holland, Amsterdam, 1984, pp. 233-238.
106. I.A. Kunin, On Foundations of the Theory of Elastic Media with Microstructure, *Int. J. Eng. Sci.*, **22**, 969-977 (1984).
107. I.A. Kunin, The Restriction Integral Equation Method for Electromagnetic NDE, *Proc. First Nat. Seminar on Non-Destructive Inspection of Ferromagnetic Materials*, Houston, 1984. pp. 1-5.
108. I.A. Kunin, B.Y. Gommerstadt, An Approach to a Crack-Inclusion Interaction Problem, in *Proc. VI Int. Conf. on Fracture*, Pergamon Press, Oxford, 1984, v.2, pp. 849-855.
109. I.A. Kunin, B.Y. Gommerstadt, An Approach to a Crack-Inclusion Interaction Problem, VIth International Conference on Fracture, 1984, New Deli, India.
110. I.A. Kunin, B.Y. Gommerstadt, Relations between J and M Integrals and those Integrals with Interaction Energy, *Lett. Appl. Int. J. Engng. Sci.*, **23**, 245-246 (1985).
111. I.A. Kunin, B.Y. Gommerstadt, Relations Among Energy Release Rates for Crack-Inclusion Interaction, *Lett. Appl. Int. J. Engng. Sci.*, **23**, 247-249 (1985).
112. I.A. Kunin, B.Y. Gommerstadt, On Elastic Crack-Inclusion Interaction, *Int. J. Solids Struct.*, **21**, 757-766 (1985).
113. I.A. Kunin, J. Casey, Alicia Golibiewska Herrmann, *Int. J. Solids Struct.*, **21**, 613-615 (1985).
114. I.A. Kunin, On the Gauge Theory of Dislocations, in *The Mechanics of Dislocations*, Amer. Soc. of Metals, 1985, pp. 69-76.
115. I.A. Kunin, B. Y. Gommerstadt, Crack-Inclusion Interaction, *Int. J. Solids Struct.*, **21**, 757 (1985)
116. I.A. Kunin, On a Gauge Fields Approach to Mechanics, 5th International Symposium on Continuum Models of Discrete Systems, 1985, Nottingham, England
117. I.A. Kunin, B. Kunin, Gauge Theories in Mechanics, 6th International Symposium on Trends in Applications of Pure Mathematics to Mechanics, 1985, Bad Honnef, Germany

118. I.A. Kunin, B.I. Kunin, Gauge Theories of Mechanics, in *Trends in Applications of Pure Mathematics to Mechanic*, Lecture notes in Physics, vol.249, Springer-Verlag, Berlin, 1986, pp.246-269.
119. I.A. Kunin, B.I. Kunin, A Gauge Fields Approach to Classical and Continuum Mechanics, in *Continuum Mechanics of Discrete Systems*, ed. A.J.M. Spencer, Balkema, Rotterdam, 1987, pp. 229-230
120. I.A. Kunin, Gauge Theory in Classical Physics, International Conference on Symmetry Groups Methods in Diff. Equations, 1987, Logan, Utah.
121. I.A. Kunin, A. Gauge Theoretical Approach to Mechanics, in *Proc. Conf. on Gauge Theories of Continua*, Math. Sci. Inst., Cornell Univ., 1988.
122. I.A. Kunin, Material Manifolds, Dislocations, Chaos and All That, Interdisc. Conf. on Cont. Mechanics, 1989, Columbus.
123. I.A. Kunin, Gauge Theory in Condensed Matter, International Summer on Topology, Geometry and Gauging in Field Theoretic Models of Condensed Matter, 1989, Warsaw.
124. I.A. Kunin, Dislocations and Chaotic Motions, 6th International Symposium on Continuum Models of Discrete Systems, 1989, Dijon, France.
125. I.A. Kunin, F. Hussain, Z. Zhou, D. Kovich, Dynamics of Point Vortices in a Special Rotating Frame, , *Int. J. Engng. Sci.*, **28**, 956-970 (1990).
126. I.A. Kunin, V. Berdichevsky and F. Hussain, Thermodynamics of Vortices, 43rd Meeting of American Phys. Soc., 1990, Cornell Univ
127. V. Berdichevsky, I.A. Kunin and F. Hussain, Thermodynamics of Vortices, *Bull. Am. Phys. Soc.*, **35**, 2240 (1990).
128. I.A. Kunin, Kinematics of Media with Continuously Changing Topology, *Int. J. Theor. Phys.*, **29**, 1167-1176 (1990).
129. V. Berdichevsky, I.A. Kunin, F. Hussain, Negative Temperature of Vortex Motion, *Phys. Rev.*, **43A**, 2050-51 (1991).
130. V. Berdichevsky, I.A. Kunin, F. Hussain, Reply on Comment on Negative Temperature of Vortex Motion, *Phys. Rev.*, **44A**, 8439-40 (1991).
131. I.A. Kunin, F. Hussain, X. Zhou, Stability of the 4-Vortex System, *Int. J. Engng. Sci.*, **30**, 1233-36 (1992).
132. I.A. Kunin, F. Hussain, X. Zhou, S. Prishchepionok, Centroidal Frames in Dynamical Systems. Point Vortices, *Proc. Roy. Soc.*, **A439**, 441-463 (1992).
133. I.A. Kunin, Media with Nonlocal Interaction, International Symposium on Media with Microstructure, 1992, St. Petersburg, Russia.
134. I.A. Kunin, Moving Centroidal Frames in Mechanics, 7th International Symposium on Continuum Models of Discrete Systems, 1992, Paderborn, Germany.
135. I.A. Kunin, F. Hussain, X. Zhou, S. Prishchepionok, Moving Frames in Continuous and Discrete Systems: A Group Theoretical Approach, *Materials Sci. Forum.*, **123**, 175- 184

- (1993).
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 137. I.A. Kunin, F. Hussain, X. Zhou, Dynamics of a Pair of Vortices in a Rectangle, *Int. J. Engng. Sci.*, **32**, 1835-44 (1994).
 138. I.A. Kunin, A Group Theoretical Approach to Moving Frames in Dynamical Systems, 31st Tech. Meeting, Soc. Engng. Science, 1994, Texas A&M Univ.
 139. I.A. Kunin, S. Prishchepionok, G-Moving Frames and Their Applications in Dynamics, *Int. J. Engng. Sci.*, **33**, 2261-2275 (1995).
 140. I.A. Kunin, S. Preston, G-Moving Frames for Dynamical Systems, Int. Conf. in Honor of V. Arnold, 1997, The Fields Institute, Toronto, Canada
 141. I. Kunin, Duffing-Lorenz Type Systems, Int. Conf. in Honor of V. Arnold, 1997, The Fields Institute, Toronto, Canada
 142. I.A. Kunin, Application of Invariant Moving Frames, 17th Int. Conf. on Chaos and Nonlinear Dynamics, 1998, Duke University, NC
 143. I.A. Kunin, G. Chen, Controlling the Duffing Oscillator to the Lorenz System and Generalizations, in *IUTAM 2000*, St. Petersburg, Russia, vol.2, pp.229-232
 144. I.A. Kunin, Space-time Quantization: an Approach to Chaotic Systems, The 37th Annual Meeting of the Soc. of Engng. Sci., 2000, Univ. of South Carolina, SC
 145. L. Kauffman, I. Kunin, Yu. Kuperin, Physics of Chaotic and Complex Dynamical Systems, APM 2001, St. Petersburg, Russia
 146. I. Kunin, L. Kauffman, A. Runov, G. Chernykh, The Method of Centroidal Trajectories and its Applications to Continuous and Discrete Chaotic Systems, APM 2001, St. Petersburg, Russia
 147. I. Kunin, A. Runov, Examples of Topologically non-trivial Global Action-Angle Representations of Dynamical Systems, APM 2001, St. Petersburg, Russia
 148. I. Kunin, Yu. Romashev, B. Kunin, Equivalence Classes of Dynamical Systems with Symmetries and their Generalizations, APM 2001, St. Petersburg, Russia
 149. I. Kunin, On Extracting Physical Information from Chaotic Systems, APM 2002, St. Petersburg, Russia
 150. Yu. Gliklikh, S. Preston, I. Kunin, Geometry of Chaos Revisited, APM 2002, St. Petersburg, Russia
 151. I. Kunin, G. Chernykh, Lorenz Type Controlled Pendulum, APM 2002, St. Petersburg, Russia
 152. B. Yamrom, I. Kunin, G. Chernykh, Method of Algorithmic Transformations with Applications to Chaotic Systems, APM 2002, St. Petersburg, Russia
 153. Yu. Kuperin, I. Kunin, Operator Approach to Nonlinear Dynamics, APM 2002, St. Petersburg, Russia

154. B. Yamrom, G. Chernykh, I. Kunin, Centroidal Trajectories and Frames for Chaotic Dynamical Systems, APM 2002, St. Petersburg, Russia
155. V. Kreinovich, I. Kunin, Kolmogorov Complexity and Chaotic Phenomena, APM 2002, St. Petersburg, Russia
156. B. Yamrom, I. Kunin, R. Metcalfe, G. Chernykh, Discrete Systems of Controlled PendulumType, APM 2002, St. Petersburg, Russia
157. I. Kunin, Chaotic and Complex Systems, SES 2002
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159. B. Yamrom, I. Kunin, G. Chernykh, Algorithmic Transformations and Their Applications, SES 2002
160. S. Preston, I. Kunin, Yu. Gliklikh, A new Geometric Approach to Chaos, SES 2002
161. B. Yamrom, I. Kunin, G. Chernykh, Centroidal Trajectories and Frames for Chaotic Systems, SES 2002
162. Kunin, F. Hussain, X. Zou, Chaos in Advection Induced by point Vortices, SES 2002
163. B. Yamrom, I. Kunin, R. Metcalfe, G. Chernykh, Discrete Systems of Controlled Pendulum, SES 2002
164. I. Kunin, B. Kunin, Lorenz-type Controlled Pendulum, SES 2002
165. I. Kunin, Observables as a Link between Continuum Mathematics and Chaotic Mechanical Systems, APM 2003, St. Petersburg, Russia
166. Karabanov, I. Kunin, Bilinear Systems: Bifurcations and Chaos, APM 2003, St. Petersburg, Russia
167. Yu. Romashev, I. Kunin, An Algorithmic Approach to Chaotic Engineering SystemAPM 2003, St. Petersburg, Russia
168. I. Kunin, Physics, Control, and Kolmogorov Complexity, Int. Conf. Physics and Control, 2003, St. Petersburg, Russia
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170. I. Kunin, On Extracting Physical Information from Mathematical Models of Chaotic and Complex Systems, *Int. J. Engng. Sci.*, 41 (2003) 417-432
171. I. Kunin, B. Kunin, Lorenz-Type Controlled Pendulum, *Int. J. Engng. Sci.*, 41 (2003) 433-448
172. Yamrom, I. Kunin, R. Metcalfe, G. Chernykh, Discrete Systems of Controlled Pendulum Type, *Int. J. Engng. Sci.*, 41 (2003) 449-458

173. I. Kunin, F. Hussain, X. Zhou, On Multiple Routes to Chaos in Advection Induced by Point Vortices, *Int. J. Engng. Sci.*, 41 (2003) 459-464
174. B. Yamrom, I. Kunin, G. Chernykh, Centroidal Trajectories and Frames for Chaotic Dynamical Systems, *Int. J. Engng. Sci.*, 41 (2003) 465-473
175. B. Yamrom, I. Kunin, G. Chernykh, Method of Algorithmic Transformations with Applications to Chaotic Systems, *Int. J. Engng. Sci.*, 41 (2003) 475-482
176. V. Kreinovich, I. Kunin, Kolmogorov Complexity and Chaotic Phenomena, *Int. J. Engng. Sci.*, 41 (2003) 483-493
177. S. Preston, I. Kunin, Yu. Gliklikh, G. Chernykh, On the Geometrical Characteristics of Chaotic Dynamics, *Int. J. Engng. Sci.*, 41 (2003) 495-506

Abbreviations Adopted

+ DAN	Doklady Akademii Nauk SSSR (Doklady, Acad. Sci., USSR)
+ PMM	Prikladnaya Matematika i Mekhanika (Applied Mathematics and Mechanics)
+ PMTF	Prikladnaya Mekhanika i Tekhnicheskaya Fizika (Applied Mechanics and Technical Physics)
+ FTT	Fizika Tverdogo Tela (Solid State Physics)
+ IAN	Izvestiya Akademii Nauk SSSR, Otdelenie Tekhnicheskikh Nauk (Izvestiya, Acad. Sci., USSR, Division of Technical Sci.)
++ ISOAN	Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR (Izvestiya, Siberian Division of the Academy of Sciences, USSR)
++ DSS	Dinamika Sploshnoi Sredy (Dynamics of Continuous Media)
++ FTP	Fiziko-Tekhnicheskie Problemy Razrabotki Poleznykh Isokopaemykh (Physical and Technical Problems of Mining)
++ MMGD	Matematicheskie Metody v Gornom Dele (Mathematical Methods in Mining)
++ VGD	Voprosy Gornogo Davleniya (Problems of Rock Pressure)
+++ DMS	Dinamika Mekhanicheskikh Sistem (Dynamics of Mechanical Systems)
APM	Int. Conf. Advanced Problems in Mechanics, St. Petersburg, Russia
PhysCon	Int. Conf. Physics and Control, St. Petersburg, Russia

+ There exists an English translation

++ Siberian Division of the Academy of Sciences, Novosibirsk

+++ Novosibirsk University and Electrotechnical Institute, Novosibirsk

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2. I.A. Kunin, A. Runov, Global Action-Angle Variables for Duffing System, *Los Alamos Archive*, Math.DS/0105147, 2001
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Presentations

1. I.A. Kunin, Hydrodynamical Theory of Lubrication, Soviet Friction and Wear Conference, 1958, Moscow, USSR.
2. I.A. Kunin, On a Rheological Model of Dynamical Hysteresis, Int. Vibration Conference, 1962, Riga, USSR.
3. I.A. Kunin, Internal Stress in Anisotropic Solids, Int. Dislocation Conference, 1964, Moscow, USSR.
4. I.A. Kunin, On a Representation of Crystal Lattice Dynamic Equation, International Crystallographic Congress, 1966, Moscow, USSR.
5. I.A. Kunin, Theory of Media with Microstructure, Int. Fracture Conference, 1967, Moscow, USSR.
6. I.A. Kunin, Interaction of Dislocations and Point Defects, Int. Dislocation Conference, 1967, Kharkov, USSR.
7. I.A. Kunin, The Theory of Media with Microstructure and the Theory of Dislocations, IUTAM Symposium on Mechanics of Generalized Continua and Dislocations, 1967, Stuttgart, Germany.
8. I.A. Kunin, Nonlocal Elasticity, IXth Int. Conference on Mechanics of Solids, 1967, Poland.
9. I.A. Kunin, Nonlocal Theories of Solids, XIIth IUTAM Congress, 1968, Stanford, USA
10. I.A. Kunin, Theory of Elastic Media with Microstructure, Int. Mechanics Congress, 1968, Moscow, USSR.
11. I.A. Kunin, A.M. Vaisman, Boundary Value Problems in Nonlocal Elasticity, Int. Mechanics Congress, 1968, Moscow, USSR.
12. I.A. Kunin, V.E. Vdovin, Dislocations in Media with Microstructure, Int. Mechanics Congress, 1968, Moscow, USSR.
13. I.A. Kunin, E.G. Sosnina, Point Defects in Elasticity, Int. Mechanics Congress, 1968, Moscow, USSR.
14. I.A. Kunin, V.G. Kosilova, Elastic Moduli of Many-Rods System, Int. Mechanics Congress, 1968, Moscow, USSR.

15. I.A. Kunin, On the Nonlocal Theories of Solids, International Dislocation Conference, 1969, NBS, Washington.
16. I.A. Kunin, Investigation of Nonlocal Effects in Solids, XIth Int. Conference on Mechanics of Solids, 1969, Poland.
17. I.A. Kunin, Theory of Defects in Media with Microstructure, International Summer School on the Theory of Defects, 1969, Poland.
18. I.A. Kunin, Propagation of Wave Packets in Solids, XIIIth Int. Conference on Mechanics of Solids, 1971, Poland.
19. I.A. Kunin, Wave Processes in Nonlocal Elasticity, Int. Mechanics Congress, 1972, Moscow, USSR.
20. I.A. Kunin, Theory of Defects in Nonlocal Elasticity, XIII IUTAM Congress, 1972, Moscow, USSR.
21. I.A. Kunin, A New Efficient Method in Wave Propagation, XVth Int. Conference on Mechanics of Solids, 1973, Poland
22. I.A. Kunin, Nonlinear Waves in Solids, Int. Nonlinear Wave Conference, 1973, Tallinn, USSR.
23. I.A. Kunin, Influence of Microstructure on Wave Propagation in Solids, Int. Mechanics Symposium, 1975, Poland.
24. I.A. Kunin, Media with Inner Degrees of Freedom, International Symposium on Continuum Models of Discrete Systems, 1975, Poland.
25. I.A. Kunin, Ellipsoidal Inhomogeneity in Anisotropic Elastic Medium, XVIIth Int. Conference on Mechanics of Solids, 1975, Poland.
26. I.A. Kunin, Deformation of Structural Groups and Quantization, Second International Symposium on Trends in Application of Pure Mathematics to Mechanics, 1977, Poland.
27. I.A. Kunin, A.I. Chudnovsky, Influence of Microstructure on Elastic and Strength Properties of Materials, Second Int. Mechanics Symposium, 1977, Novosibirsk, USSR.
28. I.A. Kunin, B.I. Kunin, Lie Group Deformations, International Conference on Lie Group theory, 1978, Novosibirsk, USSR.
29. I.A. Kunin, Mathematical Models of Media with Microstructure, 3rd International Symposium on Continuum Models of Discrete Systems, 1979, Freudenstadt, Germany.
30. I A. Kunin, Projection Operator Method in Elasticity, XVth IUTAM Congress, 1980, Toronto, Canada.
31. I.A. Kunin, L.T. Wheeler, Voids of Minimum Stress Concentration, SES Annual Conference, 1980, Atlanta.
32. I.A. Kunin, Projection Operator Method in Continuum Mechanics, 4th International Symposium on Continuum Models of Discrete Systems, 1981, Stockholm, Sweden.
33. I.A. Kunin, A Kadic' and B. Kunin, Gauge Theory of Defects in Solids, International

Conference on Gauge Theories, 1982, Stuttgart, Germany.

34. I.A. Kunin, Elasticity as a Gauge Theory; Boundary Integral Equations for a Three-Dimensional Crack, 19th Annual Meeting Soc. Eng. Sci., 1982, Rolla.
35. I.A. Kunin, Foundations of the Theory of Media with Microstructure, International Symposium on Media with Microstructure & Wave Propagation, 1983, Michigan Tech. Univ., Houghton.
36. I.A. Kunin, Gauge Theory of Interactions between Electromagnetic and Elastic Fields, RJTAM-IUPAP Symposium on Mechanical Behavior of Electromagnetic Solid Continua, 1983, Paris, France.
37. I.A. Kunin, On the Gauge Theory of Dislocations, International Symposium on Mechanics of Dislocations, 1983, Houghton, Michigan.
38. I.A. Kunin, The Restriction Integral Equation Method for Electromagnetic NDE, First National Seminar on Nondestructive Inspection of Ferromagnetic Materials, 1984, Houston.
39. I.A. Kunin, B.Y. Gommernstadt, Crack-Inclusion Interaction Problem, VIth International Conference on Fracture, 1984, New Delhi, India.
40. I.A. Kunin, On a Gauge Fields Approach to Mechanics, 5th International Symposium on Continuum Models of Discrete Systems, 1985, Nottingham, England
41. I.A. Kunin, B. Kunin, Gauge Theories in Mechanics, 6th International Symposium on Trends in Applications of Pure Mathematics to Mechanics, 1985, Bad Honnef, F.R.Germany.
42. I.A. Kunin, B. Kunin, A Gauge Fields Approach to Classical and Continuum Mechanics, 10th U.S. National Congress of Applied Mechanics, 1986, Austin.
43. I.A. Kunin, Gauge Theory in Classical Physics, International Conference on Symmetry Groups Methods in Diff. Equations, 1987, Logan, Utah.
44. I.A. Kunin, Gauge Theory of Mechanics, International Conference on Gauge Theories of Continua, Cornell Univ., 1988.
45. I.A. Kunin, Material Manifolds, Dislocations, Chaos and All That, Interdisc. Conf. on Cont. Mechanics, 1989, Columbus.
46. I.A. Kunin, Gauge Theory in Condensed Matter, International Summer on Topology, Geometry and Gauging in Field Theoretic Models of Condensed Matter, 1989, Warsaw.
47. I.A. Kunin, F. Hussain, Dynamics of Point Vortices, Dynamics Days, 1989, Austin
48. I.A. Kunin, S. Prishchepionok, Localization of Symmetries in Hamiltonian Systems, Dynamics Days, 1989, Austin.
49. I.A. Kunin, Dislocations and Chaotic Motions, 6th International Symposium on Continuum Models of Discrete Systems, 1989, Dijon, France.
50. I.A. Kunin, V. Berdichevsky and F. Hussain, Thermodynamics of Vortices, 43rd Meeting of American Phys. Soc., 1990, Cornell Univ.
51. I.A. Kunin, Media with Nonlocal Interaction, International Symposium on Media with

- Microstructure, 1992, St. Petersburg, Russia.
52. I.A. Kunin, Moving Centroidal Frames in Mechanics, 7th International Symposium on Continuum Models of Discrete Systems, 1992, Paderborn, Germany.
 53. I. A. Kunin, A Group Theoretical Approach to Moving Frames in Dynamical Systems, 31st Tech. Meeting, Soc. Engng. Science, 1994, Texas A&M Univ.
 54. I.A. Kunin, On Multiple Routes to Chaos in Advection Induced by Point Vortices; G-Moving Frames and their Applications in Dynamics, Dynamics Days, 1995, Houston, USA
 55. I.A.Kunin, S. Preston, G-Moving Frames for Dynamical Systems, Int. Conf. in Honor of V. Arnold, 1997, The Fields Institute, Toronto, Canada
 56. I.Kunin, Duffing-Lorenz Type Systems, Int. Conf. in Honor of V. Arnold, 1997, The Fields Institute, Toronto, Canada
 57. I.A. Kunin, Application of Invariant Moving Frames, 17th Int. Conf. on Chaos and Nonlinear Dynamics, 1998, Duke University, NC
 58. I.A. Kunin, G. Chen, Controlling the Duffing Oscillator to the Lorenz System and Generalizations, 2nd Int. Conf. Control , Chaos, 2000, St. Petersburg, Russia
 59. I.A. Kunin, Space-time Quantization: an Approach to Chaotic Systems, The 37th Annual Meeting of the Soc. of Engng. Sci., 2000, Univ. of South Carolina, SC
 60. L.Kauffman, I. Kunin, Yu. Kuperin, Physics of Chaotic and Complex Dynamical Systems, APM 2001, St. Petersburg, Russia
 61. I.Kunin, L. Kauffman, A. Runov, G. Chernykh, The Method of Centroidal Trajectories and its Applications to Continuous and Discrete Chaotic Systems, APM 2001, St. Petersburg, Russia
 62. I. Kunin, A. Runov, Examples of Topologically non-trivial Global Action-Angle Representations of Dynamical Sytems, APM 2001, St. Petersburg, Russia
 63. I.Kunin, Yu. Romashev, B. Kunin, Equivalence Classes of Dynamical Systems with Symmetries and their Generalizations, APM 2001, St. Petersburg, Russia
 64. I. Kunin, On Extracting Physical Information from Mathematical Models of Chaotic and Complex Systems, APM 2002, St. Petersburg, Russia
 65. Yu. Gliklikh, S. Preston, I. Kunin, Geometry of Chaos Revisited, APM 2002, St. Petersburg, Russia
 66. I. Kunin, G. Chernykh, Lorenz Type Controlled Pendulum, APM 2002, St. Petersburg, Russia
 67. B. Yamrom, I. Kunin, G. Chernykh, Method of Algorithmic Transformations with Applications to Chaotic Systems, APM 2002, St. Petersburg, Russia
 68. Yu. Kuperin, I. Kunin, Operartor Approach to Nonlinear Dynamics, APM 2002, St. Petersburg, Russia
 69. B. Yamrom, G. Chernykh, I. Kunin, Centroidal Trajectories and Frames for Chaotic Dynamical Systems, APM 2002, St. Petersburg, Russia

70. V. Kreinovich, I. Kunin, Kolmogorov Complexity and Chaotic Phenomena, APM 2002, St. Petersburg, Russia
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72. I. Kunin, Chaotic and Complex Systems, SES 2002
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82. Yu. Romashev, I. Kunin, An Algorithmic Approach to Chaotic Engineering Systems, APM 2003, St. Petersburg, Russia
83. I. Kunin, Physics, Control, and Kolmogorov Complexity, Int. Conf. Physics and Control, 2003, St. Petersburg, Russia
84. V. Kreinovich, I. Kunin, Kolmogorov Complexity: How a Paradigm Motivated by Foundations of Physics Can Be Applied to Robust Control, Int. Conf. Physics and Control, 2003, St. Petersburg, Russia

Invited Seminars

1. Lehigh University, 1979; “Quantum Mechanical Formalism in Wave Propagation”.
2. National Bureau of Standards, Washington, 1979; “Waves in Solids”
3. University of California, Berkeley, 1980; “Projection Operator Method in Elasticity”.
4. University of California, Santa Barbara, 1980; “Projection Operator Method in Elasticity”.

5. University of California, Santa Barbara, 1980; "Waves in Dispersive Media".
6. University of California, Los Angeles, 1980; "Solitons in Solids".
7. California Institute of Technology, 1980; "Projection Operator Method in Elasticity".
8. Stanford University, 1980; "A New Energy Method in Wave Propagation".
9. Yale University, 1980; "Mathematical Problems in Elasticity".
10. McGill University, Canada, 1981; "Theory of Media with Microstructure"
11. Universitat Stuttgart, Germany, 1981; "Quantum Mechanical Formalism in Continuum Mechanics".
12. Universitat Paderbron, Germany, 1981; "Wave Propagation in Structured Media".
13. Technische Universitat, W. Berlin, 1981; "Group-Theoretical Method in Mechanics".
14. Technische Hochschule Aachen, Germany, 1981; "Elastic Media with Microstructure".
15. Technische Hochschule Darmstadt, Germany, 1981; "A New Method in Wave Propagation Problems".
16. Teehnische Universitat Braunschweig, Germany, 1981; "Scattering Problems in Elasticity".
17. Royal Institute of Technology, Sweden, 1981; "Fundamental Problems of Media with Microstructure".
18. Universitat Stuttgart, Germany, 1981; "On the Gauge Theory of Dislocations".
19. Universite de Paris, France, 1983; "Wave Scattering in Media with Microstructure".
20. Yale University, New Haven, 1983; "On the Gauge Theory of Defects in Solids".
21. Stanford University, 1983; "On the Classical Gauge Theories".
22. Case Western Reserve University, Cleveland, OH, 1985; "Gauge Theory and Fracture Mechanics".
23. University of Stuttgart, Germany, 1985; "Gauge Theory of Mechanics".
24. Tel Aviv University, Israel, 1985; "Gauging of the Galilean Group".
25. Case Western Reserve University, Cleveland, OH, 1986; "Interaction of Cracks with Inhomogenietis".
26. Texas A&M University, 1986; "Effects of Microstructure".
27. University of Illinois at Chicago, 1986; "Media with Microstructure", 1987.
28. University of Illinois at Chicago, 1987; "Mesomechanics".
29. Cornell University, 1988; "Gauge Theory of Mechanics".
30. AFOSR, Washington, 1988; "Mesomechanics".

31. Princeton University, 1988; Gauge Theory”.
32. University of Illinois at Chicago, 1988; “Multifractals”.
33. Georgia Institute of Technology, Atlanta, 1991; “Thermodynamics of Point Vortices”.
34. Michigan Tech. Univ., Houghton, 1991; “Motions with Continuously Changing Topology”.
35. St. Petersburg University., 1992; "Dislocations in Media with microstructure".
36. Moscow Univ., 1992; "Defects in Nonlocal Theories".
37. Novosibirsk Univ., 1992; "Geometry and Chaos".
38. University of Stuttgart, Germany, 1992; “Moving Frames in Mechanics”.
39. Max-Planck Inst. of Physics, Stuttgart, Germany, 1992; “Moving Defects in Solids”.
40. University of Alabama, Huntsville, 1992; “Gauge Theory of Mixing Phenomena”.
41. Georgia Inst. of Tech., Atlanta, 1992; “Group Theoretical Approach to Centrodial Frames”.
42. Univ. of Alabama, Huntsville, 1993; “Moving Frames in Mechanics”.
43. Georgia Inst. of Tech., Atlanta, 1993; “Dynamics of Vortices”.
44. Texas A&M Univ., 1994; “G-Frames in Chaotic Systems”.
45. Cornell Univ., 1994; “Gauge Theoretical Approach to Chaotical Phenomena”.
46. J.Hopkins Univ., 1994; "Media with Microstructure".
47. Georgia Inst. of Tech., Atlanta, 1994; "Advection induced by Point Vortices".
48. Univ. of Alabama, Huntsville, 1994; "Nonlocality in Fracture Mechanics".
49. Texas A&M Univ., 1994; "Geometry of Chaos".
50. Georgia Inst. of Tech., Atlanta, 1995; "Vortex Dipoles".
51. Univ. of Alabama, Huntsville, 1995; "Implicit Dynamical Systems".
52. Texas A&M Univ., 1995; "Curvature and Chaos".
53. Princeton Univ., 1995; "Space-Time Quantization in Chaotic Systems".
54. Texas A&M Univ., 1996; "Group Deformation and Chaotic Systems".
55. Univ. of Minnesota, 1996; "Group Theoretical Methods in Dynamical Systems".
56. Wayne State Univ., 1996; "Thermodynamics of Chaos".
57. Univ. of Alabama, 1997; " Duffing-Lorenz-type Systems".
58. Moscow Univ., 1997; "Quasi-dislocations and Chaos".

59. St.Petersburg Univ., 1997; "Hilbert Space Approach to Chaotic Systems".
60. St. Petersburg Univ., 1997; "Chaos in Molecular Systems".
61. N.Novgorod Univ., 1997; "Microstructure and Soliton Dynamics".
62. Portland State Univ., 1998; "Geometry of Chaos".
63. Univ. of Alabama, Huntsville, 1998; "Discrete Cycles".
64. Texas A&M Univ., 1998; " Quantization and Chaos".
65. Univ. of Alabama, 1999; "Gauge Theory and Mechanics".
66. Wayne State Univ., 1999; "Gauge Invariance of Dynamical Systems"
67. Texas A&M Univ., 1999; " Discrete Lorenz-type Systems"
68. Univ. of Stuttgart, 2000; "Chaotic and Complex Systems"
69. St. Petersburg State Univ., 2000; " Physical Dynamical Systems"
70. St. Petersburg State Univ., 2000; " Chaos in Mechanical Systems"
71. Institute of Problem of Mechanical Engng., RAN, 2000; " Extracting Physical Information from Chaotic Systems"
72. Univ. of Alabama, 2000; " Kolmogorov Complexity "
73. Texas A&M Univ., 2000; " Gauge Theoretical Approach to Chaos "
74. Univ. of Illinois at Chicago, 2001; " Physics of Chaos "
75. St. Petersburg State Univ., 2001; " Discrete Chaotic Systems "
76. Wayne State Univ., 2001; "Quasicontinuum Models for Media with Microstructure"
77. Univ. of Alabama, 2001; "On Applications of Generalized Affine Geometry"
78. St. Petersburg State Univ., 2002; "Dislocation Models of Chaos"
79. Wayne State Univ., 2002; "A New Family of Chaotic Systems: Controlled Pendulums"
80. Univ. of Alabama, 2002; " Controlled Pendulum "
81. Univ. of NY, 2002; "New Algorithms for Chaotic Systems "
82. Institute of Mechanics, RAS, 2002; " Quantum Mechanical Formalism for Complex Systems "
83. Univ. of Alabama, 2003; " Complex Systems and Coupled Map Lattices "
84. St. Petersburg State Univ., 2003; " Continuum Mechanics, Gauge, and Control "