

CURRICULUM VITÆ

Surname: Ivanova

First name(s): Elena Alexandrovna

Affiliation and address:

- Department of Theoretical Mechanics, St.-Petersburg State Polytechnical University (SPbSPU), Politechnicheskaja 29, 195251, St.-Petersburg, Russia;
- Laboratory of Mechatronics, Institute for Problems in Mechanical Engineering of Russian Academy of Sciences (IPME RUS), Bolshoy pr. V.O., 61, 199178, St.-Petersburg, Russia

Date and place of birth: 12 August 1968, Leningrad, Russia

Education (degrees, dates, universities):

- Engineer – Physicist (**M. Eng. in Applied Mechanics**), 1991, Leningrad State Technical University (now SPbSPU);
- Candidate of Physico-Mathematical Sciences (**Ph.D. in Physics and Mathematics**), 1995, St.-Petersburg State Technical University (now SPbSPU);
- Doctor of Physico-Mathematical Sciences (**Dr. Sci. in Physics and Mathematics**), 2003, St.-Petersburg State Polytechnical University (SPbSPU);

Career/Employment (employers, positions and dates):

- 1985-1990 – the student of the Faculty of Physics and Mechanics of Leningrad Polytechnical Institute (now SPbSPU);
- 1991-1997 – Assistant Professor of the Dep. of Theoretical Mechanics of St.-Petersburg State Technical University (now SPbSPU);
- 1997-2003 – Associate Professor the Dep. of Theoretical Mechanics of St.-Petersburg State Technical University (now SPbSPU);
- 2003 up to now - Professor of the Dep. of Theoretical Mechanics of SPbSPU;
- 2001-2003 – Senior Researcher of the laboratory “Dynamics of Mechanical Systems” of Institute for Problems in Mechanical Engineering of Russian Academy of Sciences;
- 2003-2006 – Leading Scientist of the laboratory “Dynamics of Mechanical Systems” of Institute for Problems in Mechanical Engineering of Russian Academy of Sciences;
- 2006 up to now – Leading Scientist of the laboratory of Mechatronics of Institute for Problems in Mechanical Engineering of Russian Academy of Sciences.

Research Interests:

- Non-classical models of solid mechanics
- Thermodynamics, coupled problems of thermoelasticity and thermoviscoelasticity
- Electrodynamics, piezoelectricity and ferromagnetism
- Inelasticity, phase transitions and structural transformations
- Continua with microstructure and multicomponent continua
- Mechanics of thin-wall constructions (rods, plates and shells)
- Rigid body dynamics and dynamics of discrete-continuum systems with rotational degrees of freedom

Taught Courses:

- Rigid body dynamics
- Mechanics of elastic rods
- Mechanics of elastic shells
- Rational continuum mechanics
- Classical Mechanics

Research Projects:

Personal projects supported by St. Petersburg Government:

1995: “Asymptotic investigation of free vibrations of multi-layer plates in the Reissner’s type theory”;

1997: “3-Dimensional rotation of rigid bodies in a resisting medium”;

2000: “Dynamics of discrete – continual dissipative systems”;

2001: “Dynamics of centrifuges”.

Personal projects supported by the Russian Academy of Science:

April 1999 – March 2002: Young Investigator Award from Russian Academy of Science.

Projects supported by Ministry of Education of Russian Federation:

1999 – 2000: “Microstructure simulation of impact interaction of rigid bodies”. Grants in area of fundamental natural science;

2001 – 2002: “Mathematical Models for Dynamical Processes in Ultracentrifuges”. Grants in area of fundamental technical science;

2001 – 2002: “Dynamics of Fast Spinning Rotor on Inertial Elastic Support”. Grants in area of fundamental natural science;

2003 – 2004: “Mathematical and computer modeling of mediums with microstructure”. Grants in area of fundamental natural science.

Projects supported by Russian Foundation for Basic Research (RFBR):

2002 – 2004: “Development of molecular dynamics and particle dynamics methods for modeling of microscopic and macroscopic properties of materials”. 02-01-00514-a;

2003 – 2005: “Mechanics of nanomaterials”. 03-01-00721-a;

2005 – 2007: “Development of molecular dynamics and particle dynamics methods for modeling of processes in the condensed substance at various scale levels”. 05-01-00094-a;

2006 – 2008: “Mechanics of nanomaterials”. 06-01-00452-a;

2009 – 2011: “Influence of nano-dimension on deformation, strength and physical properties of objects”. 09-01-00623-a;

2010: Participation in the Russian-French-German seminar: “Mechanics of generalized continua – from micromechanical basics to engineering applications”. 10-01-91268-RFG_z;

2012: Participation in the trilateral Russian-French-German seminar: “The generalized continuum as models for materials with multiscale effect or under the multipolar influence”. 12-01-91267-RFG_z;

2012 – 2014: “Influence of surface phenomena on deformation, stability and fracture of nano-objects”. 12-01-00815-a.

Projects supported by Russian Federation President's grants:

2005 – 2006: “Creation of mathematical models and definition of elastic characteristics of nanoobjects”. The Russian Federation President’s grant for support of young doctors of sciences MD-3475.2005.1;

2006 – 2007: “Theoretical and experimental methods of solid mechanics in a problem of destruction and problems of nanomechanics and nanomaterials”. The Russian Federation President’s grant for support of leading scientific schools NSh-4518.2006.1;

2007 – 2008: “Creation of mathematical models of thermoelastic nanoobjects and development of experimental methods of determination of their effective characteristics.” The Russian Federation President’s grant for support of young doctors of sciences MD-4829.2007.1;

2008 – 2009: “Methods of solid mechanics and objectives of nanotechnology.” The Russian Federation President’s grant for support of leading scientific schools NSh-2405.2008.1;

2010 – 2011: “Methods of solid mechanics in the problems of nano- and mesomechanics.” The Russian Federation President’s grant for support of leading scientific schools NSh-3776.2010.1;

2012 – 2013: “Methods of solid mechanics in the problems of nano- and mesomechanics.” The Russian Federation President’s grant for support of leading scientific schools NSh-518.2012.1.

Participation in programs of basic researches of presidium of the Russian Academy of Science:

2004 – 2005: The program of basic researches of Presidium of Russian Academy of Science N 19 “Control in nonlinear mechanical systems at conditions of uncertainty and chaos”. (Theme 1.4 “Synchronization and control for nonlinear oscillations and chaos in physical and technical systems”.)

Participation in programs of basic researches of branches of the Russian Academy of Science:

2004 – 2007: The program of basic researches of branch of power, mechanical engineering, mechanics and control processes of Russian Academy of Science N 12 “Structural mechanics of materials and elements of constructions. Interaction of nano-, micro-, mezo- and macroscales levels at deformation and destruction”.

Participation in the international projects:

2007 – 2010: Sandia National Laboratories under the U.S. DOE/NNSA Advanced Simulation and Computing Program.

The state contracts:

2005: The state contract on performance of research works from September, 05, 2005 N 02.445.11.7218 on a theme: RI-112/001/764 “Mechanics of a solids and problems of nanotechnology”.

Editorial activity:

- Member of the Editorial Board of the collection of articles in two volumes: Vol 1: P. A. Zhilin. Advanced problems in mechanics. St.Petersburg, 2006, 306 p. (In Russian) Vol. 2: P. A. Zhilin. Advanced problems in mechanics. St.Petersburg, 2006, 271 p.
- Guest editor: Journal of Applied Mathematics and Mechanics (ZAMM), Vol. 87, N 2, 2007.
- Chief Editor and compiler of the book: Zhilin P. A. Rational Continuum Mechanics. Politechnic University Publishing House, St. Petersburg. 2012. 584 p. (In Russian)

Participation in scientific committees of international conferences:

- XXX Summer School “Advanced Problems in Mechanics”, St. Petersburg (Repino), Russia, June 27 – July 6, 2002
- XXXI International Summer School – Conference “Advanced Problems in Mechanics”, St. Petersburg (Repino), Russia, June 22 – July 2, 2003
- XXXII International Summer School – Conference “Advanced Problems in Mechanics”, St. Petersburg (Repino), Russia, June 24 – July 4, 2004
- XXXIII International Summer School – Conference “Advanced Problems in Mechanics”, St. Petersburg (Repino), Russia, June 28 – July 5, 2005
- XXXIV International Summer School – Conference “Advanced Problems in Mechanics”, St. Petersburg (Repino), Russia, June 25 – July 1, 2006
- XXXV International Summer School – Conference “Advanced Problems in Mechanics”, St. Petersburg (Repino), Russia, June 20 – 28, 2007
- EUROMECH Colloquium 527 Shell-like Structures – Nonclassical Theories and Applications”, Leucorea, Lutherstadt Wittenberg, Germany, August 22 – 26, 2011
- International Scientific Conference “Shell and Membrane Theories in Mechanics and Biology”, Minsk, Belarus, September, 16 – 20, 2013

Plenary and invited lectures

Plenary lectures at conferences:

- E. A. Ivanova, D. A. Indeitsev, N. F. Morozov, B. A. Semenov. Mechanical characteristics of nanoscale objects. Theory and experiment. Modern problems of continuum mechanics. IX Int. Conf. devoted to the 85-anniversary from birthday of the academician of RAS I.I. Vorovich. Russia, Rostov-on-Don, October 11 – 15, 2005. (In Russian)
- E. A. Ivanova on behalf of Zhilin’s pupils. P. A. Zhilin — Scientific Results. International Summer School-Conference “Advanced Problems in Mechanics”. Russia, St. Petersburg (Repino), June 25 – July 1, 2006.
- E. A. Ivanova. Hyperbolic type theory of thermoviscoelasticity. XVII Winter School on Continuum Mechanics, Russia, Perm, February 28 – March 3, 2011. (In Russian)
- E. A. Ivanova. Description of electromechanical processes by means of Cosserat continuum with microstructure. XVIII Winter School on Continuum Mechanics, Russia, Perm, February 18 – 22, 2013. (In Russian)
- E. A. Ivanova, E. N. Vilchevskaya. Theory of shells and theory of curvilinear rods: a comparative analysis. International Conference “Shell and Membrane Theories in Mechanics and Biology: From Macro- to Nanoscale Structures”. Belarus, Minsk, September 16 – 20, 2013.

Invited lecture courses:

- E. A. Ivanova. Methods of continuum mechanics to solve problems of nanomechanics. Lecture Course, 8 hours. Perm State University. Perm, Russia. December, 2006. (In Russian)
- E. A. Ivanova. On the application of continuum models of the microstructure for description of non-mechanical processes on the macro-level. Lectures for postgraduate students. (8 Lectures.) Otto-von-Guericke-Universität, Magdeburg, Germany. January, 14 – 28, and June 30 – July 21, 2012.

Invited lectures at scientific seminars:

- E. A. Ivanova. Lecture on materials of doctoral thesis. Seminar of Dep. of Theoretical Mechanics and Mechatronics, Moscow State University. Moscow, 2002. (In Russian)
- E. A. Ivanova, N. F. Morozov. Methods of continuum mechanics in the problems of nanotechnology. Seminar in Sandia National Laboratories, Livermor, U.S.A., 2006.

List of selected publications

1. Zhilin P. A., Ivanova E. A. Modified energy functional for the Reissner theory of plates // Izvestiya RAN. Mekhanika Tverdogo Tela. 1995. No 2, pp. 120-128. (In Russian). Translated to English: Mechanics of Solids. 1995. Vol. 30. No 2, pp. 110-117.
2. Ivanova E. A. Approximate Hamilton functionals for the problems of low-frequency and high-frequency free vibrations of the Reissner plate // Izvestiya RAN. Mekhanika Tverdogo Tela. 1995. No 4, pp. 181-190. (In Russian). Translated to English: Mechanics of Solids. 1995. Vol. 30. No 4, pp. 168-175.
3. Ivanova E. A. Comparative analysis of low-frequency free vibrations of rectangular plates // Izvestiya RAN. Mekhanika Tverdogo Tela. 1997. No 6, pp. 148-159. (In Russian). Translated to English: Mechanics of Solids. 1997. Vol. 32. No 6, pp. 125-134.
4. Ivanova E. A. Asymptotic and numerical analyses of high-frequency free vibrations of rectangular plates // Izvestiya RAN. Mekhanika Tverdogo Tela. 1998. No 2, pp. 163-174. (In Russian). Translated to English: Mechanics of Solids. 1998. Vol. 33. No 2, pp. 139-149.
5. Ivanova E. A. On one approach to solving the Darboux problem // Izvestiya RAN. Mekhanika Tverdogo Tela. 2000. No 1, pp. 45-52. (In Russian). Translated to English: Mechanics of Solids. 2000. Vol. 35. No 1, pp. 36-43.
6. Ivanova E. A. A new approach to solution of some problems of the rigid body dynamics // ZAMM. Z. Angew. Math. Mech. Vol. 81, 2001. No 9. P. 613 - 622.
7. Ivanova E. A. Exact solution of a problem of rotation of an axisymmetric rigid body in a linear viscous medium // Izvestiya RAN. Mekhanika Tverdogo Tela. 2001. No 6, pp. 15-30. (In Russian). Translated to English: Mechanics of Solids. 2001. Vol 36. No 6, pp. 11-24.
8. Ivanova E. A. On the use of a new method of solution of Darboux problem for solution of the problem of motion of a ball on a rough plane // Proc. of XXVIII Summer School "Nonlinear oscillations in Mechanical Systems. Actual Problems in Mechanics". V. 1. St. Petersburg. 2001. P. 361-367.
9. Ivanova E. A., Krivtsov A. M., Morozov N. F. Peculiarities of the bending-stiffness calculation for nanocrystals. Doklady Physics, Vol. 47, No. 8, 2002, pp. 620–622.

10. Ivanova E. A. The rotation of a symmetrical rigid body under the action of superposition of a following moment and a constant moment. // Proc. of XXIX Summer School "Advanced Problems in Mechanics", St.-Petersburg, 2002, pp. 348-356.
11. Ivanova E. A. The motion of a rigid body on the inertial elastic plate. Nonlinear formulation of the problem and some effects. // Proc. of XXIX Summer School "Advanced Problems in Mechanics", St.-Petersburg, 2002, pp. 339-347.
12. Ivanova E. A., Zhilin P. A. Non-stationary regime of the motion of a rigid body on an elastic plate. // Proc. of XXIX Summer School "Advanced Problems in Mechanics", St.-Petersburg, 2002. pp. 357-363.
13. Ivanova E. A., Krivtsov A. M., Morozov N. F. Bending stiffness calculation for nanosize structures // Fatigue and Fracture of Engineering Materials and Structures, 2003. Vol. 26, pp. 715-718.
14. Ivanova E.A. Rotation of rigid body under the action of constant motor moment and friction moment. // Proc. of XXX Summer School "Advanced Problems in Mechanics", St. Petersburg, 2003, pp. 292-296.
15. Ivanova E. A., Krivtsov A. M., Morozov N. F., Firsova A.D. Inclusion of the moment interaction in the calculation of the flexural rigidity of nanostructures. // Doklady Physics, Vol. 48, No. 8, 2003, pp. 455–458.
16. Ivanova E. A., Krivtsov A. M., Morozov N. F., Firsova A. D. Description of crystal packing of particles with torque interaction. // Izvestiya RAN. Mekhanika Tverdogo Tela. 2003. No 4, pp. 110-127. (In Russian). Translated to English: Mechanics of Solids. 2003. Vol 38. No 4, pp. 76-88.
17. Ivanova E.A., Krivtsov A.M. Energy control for polyatomic molecule. In book "Control of physical and technical systems". Saint-Petersburg. Nauka. 2004. (In Russian)
18. Ivanova E.A., Krivtsov A.M., Morozov N.F., Firsova A.D. Theoretical mechanics. Determination of equivalent elastic characteristics of discrete systems. St.Petersburg, SPbSPU. 2004. 32 p. (In Russian)
19. Ivanova E. A., Morozov N. F. An Approach to the Experimental Determination of the Bending Stiffness of Nanosize Shells. // Doklady Physics, Vol. 50, No. 2, 2005, pp. 83-87.
20. Ivanova E.A., Morozov N.F., Semenov B.N., Firsova A.D. On determination of elastic modula of nanostructures: theory calculations and experimental method. // Izvestiya RAN. Mekhanika Tverdogo Tela. 2005. N 4. P. 75-85. (In Russian)
21. Eremeyev V.A., Ivanova E.A., Morozov N.F., Solov'ev A.N. On the determination of eigenfrequencies for nanometer-size objects. // Doklady Physics.2006. Vol. 51, N 2. P. 93-97.
22. Byzov A.P., Ivanova E.A. Interaction potentials for particles with rotational degrees of freedom // Modern problems of continuum mechanics. Proc.of IX Int. Conf., devoted to the 85-anniversary from birthday of the academician of RAS I.I. Vorovich, Rostov-on-Don, Oct. 11-15, 2005. V. 2. P. 47-51. (In Russian)

23. Ivanova E.A., Indeitsev D.A., Morozov N.F. On the determination of the rigidity parameters of nanoobjects. // *Technical Physics*. 2006. V. 51, issue 10. P. 1327-1333.
24. Ivanova E.A., Indeitsev D.A., Morozov N.F. On the determination of rigidity parameters for nanoobjects. // *Doklady Physics*. 2006. Vol. 51, N 10. P. 569-573.
25. Indeitsev D.A., Ivanova E.A., Krivtsov A.M. "P.A. Zhilin - searching for Truth". In book: "P.A. Zhilin. Advanced problems in mechanics". St.Petersburg. 2006. V. 2. P. 6-8.
26. Indeitsev D.A., Ivanova E.A., Krivtsov A.M. Short biography and scientific results of P.A. Zhilin. In book: "P.A. Zhilin. Advanced problems in mechanics". St.Petersburg. 2006. V. 2. P. 9-31.
27. Eremeyev V.A., Ivanova E.A., Morozov N.F., Solov'ev A.N. Method of determining of eigenfrequencies of an ordered system of nanoobjects. // *Technical Physics*. 2007. V. 52, No 1. P. 1-6.
28. Ivanova E.A., Krivtsov A.M., Zhilin P.A. Description of rotational molecular spectra by means of an approach based on rational mechanics // *ZAMM. Z. Angew. Math. Mech.* **87**, (2007) No 2, P. 139-149.
29. Altenbach H., Indeitsev D., Ivanova E., Krivtsov A. "Pavel Andreevich Zhilin (1942 — 2005)." Foreword. *ZAMM. Z. Angew. Math. Mech.* **87** (2007) N 2. P. 79-80.
30. Eremeyev V.A., Ivanova E.A., Morozov N.F., Strockov S.E. Natural Vibrations of Nanotubes. // *Doklady Physics*. 2007, Vol. 52, N. 8. P. 431-435.
31. Eremeyev V.A., Ivanova E.A., Morozov N.F., Strockov S.E. The spectrum of Natural Oscillations of an Array of Micro- or Nanospheres on an Elastic Substrate. // *Doklady Physics*. 2007. Vol. 52, N 12. P. 699-702.
32. Byzov A.P., Ivanova E.A. Mathematical modelling of the moment interactions of particles with rotary degrees of freedom // *Scientific and Technical Sheets of St.Petersburg State Technical University*. 2007. N 2. P. 260-268. (In Russian)
33. Ivanova E.A., Kirvtsov A.M., Morozov N.F. Macroscopic relations of elasticity for complex crystal lattices using moment interaction at microscale. // *Applied Mathematics and Mechanics*. Vol. 71. N. 4, 2007. P. 595-615. (In Russian). Translated to English: *Applied Mathematics and Mechanics*. 2007. Vol. 71. N 4. P. 543-561.
34. Berinskiy I.E., Ivanova E.A., Kirvtsov A.M., Morozov N.F. Application of moment interactions for construction of stable model of the graphite crystal lattice. // *Izvestiya RAN. Mekhanika Tverdogo Tela*. 2007. N 5. P. 6-16. (In Russian). Translated to English: *Mechanics of Solids*. 2007. Vol. 42. N 5. P. 663-671.
35. Ivanova E.A., Morozov N.F. On one model of process of disturbance of normal functioning of biological nano-objects. // *Ecological Journal of Science Centers of BSEC*. 2008. N 1. P. 23-29. (In Russian)
36. Ivanova E.A., Morozov N.F. On the determination of the flexural rigidity of nanoshells. // *Matematychni Metody ta Fizyko-Mekhanichni Polya*, Vol. 51, N. 2. P. 166–170. (In Russian) Translated to English: *Journal of Mathematical Sciences*. 2009. Vol. 162. N 2. P. 205-210.

37. Eremeyev V.A., Ivanova E.A., Morozov N.F. Mechanical Problems in Nanotechnology. // Proceedings of the Saratov University. 2008. Vol. 8. Ser. Mathematics. Mechanics. Informatics. Issue 3. P. 25-32. (In Russian)
38. Eremeyev V.A., Ivanova E.A., Morozov N.F., Strochkov S.E. Natural vibrations in a system of nanotubes. // Prikladnaya Mekhanika i Tekhnicheskaya Fizika. 2008. Vol. 49. N 2. P. 160-171. (In Russian) Translated to English: Journal of Applied Mechanics and Technical Physics. 2008. Vol. 49. N 2. P. 291-300.
39. Ivanova E.A., Indeitsev D.A., Krivtsov A.M. About Pavel Andreevich Zhilin (1942-2005). // Bulletin of the Perm University. Series: Mathematics. Mechanics. Informatics. 2008. N 4. P. 204-206. (In Russian)
40. Indeitsev D.A., Ivanova E.A., Krivtsov A.M., Zhilina N.A. Brief biography of P.A.Zhilin. // Bulletin of the Perm University. Series: Mathematics. Mechanics. Informatics. 2008. N 4. P. 207-208. (In Russian)
41. Ivanova E.A. On one approach to formulation of the coupled problem of thermoelasticity with the hyperbolic type heat conduction equation. // Fifth Polykhov's reading. Selected Works of Int. Conf. on Mechanics. St. Petersburg. 2009. P. 301-306.
42. Altenbach H., Eremeyev V.A., Indeitsev D.A., Ivanova E.A., Krivtsov A.M. On the Contributions of Pavel Andreevich Zhilin to Mechanics. // Technische Mechanik. 2009. Band 29. Heft 2. S. 115-134.
43. Eremeyev V.A., Ivanova E.A., Indeitsev D.A. Wave processes in nanostructures formed by nanotube arrays or nanosize crystals. // Prikladnaya Mekhanika i Tekhnicheskaya Fizika. 2010. Vol. 51. N 4. P. 143-154. (In Russian) Translated to English: Journal of Applied Mechanics and Technical Physics. 2010. Vol. 51. N 4. P. 569-578.
44. Ivanova E. A. Derivation of theory of thermoviscoelasticity by means of two-component medium. // Acta Mechanica. 2010. Vol. 61, Issue 1. P. 261–286.
45. Ivanova E. A. On one model of generalised continuum and its thermodynamical interpretation // Mechanics of generalized Continua (Ed. H. Altenbach, G.A. Maugin, V. Erofeev). Berlin: Springer, 2011. P. 151-174.
46. Ivanova E. A. High-frequency free vibrations of plates in the Reissner's type theory // Shell-like Structures - Non-classical Theories and Applications (Ed. H. Altenbach, V. A. Eremeyev). Berlin: Springer, 2011. P. 153-164.
47. Grekova E.F., Ivanova E.A., Krivtsov A.M. Editors' preface to the book: Zhilin P.A. Rational Continuum Mechanics. St. Petersburg.: Publishing House of the Polytechnic. University Press, 2012. 584 p. (P. 12-16). (In Russian)
48. Vilchevskaya E.N., Ivanova E.A. The reduced equation of energy balance – an alternative approach. // Appendix to the book: Zhilin P.A. Rational Continuum Mechanics. St. Petersburg.: Publishing House of the Polytechnic. University Press, 2012. 584 p. (P. 476-485). (In Russian)
49. Ivanova E.A. Zhilin's method and Truesdell's method – a comparative analysis. // Appendix to the book: Zhilin P.A. Rational Continuum Mechanics. St. Petersburg.: Publishing House of the Polytechnic. University Press, 2012. 584 p. (P. 486-495). (In Russian)
50. Ivanova E.A., Krivtsov A.M. Material strain tensor. // Appendix to the book: Zhilin P.A. Rational Continuum Mechanics. St. Petersburg.: Publishing House of the Polytechnic. University Press, 2012. 584 p. (P. 496-505). (In Russian)

51. Ivanova E.A., Kolpakov Ya.E. The Cosserat continuum and piezoelectricity. // Appendix to the book: Zhilin P.A. Rational Continuum Mechanics. St. Petersburg.: Publishing House of the Polytechnic. University Press, 2012. 584 p. (P. 506-531). (In Russian)
52. Grekova E.F., Ivanova E.A. The Kelvin medium and ferromagnetism. // Appendix to the book: Zhilin P.A. Rational Continuum Mechanics. St. Petersburg.: Publishing House of the Polytechnic. University Press, 2012. 584 p. (P. 532-564). (In Russian)
53. Ivanova E.A. Derivation of theory of thermoviscoelasticity by means of two-component Cosserat continuum. // Technische Mechanik. 2012. Vol. 32, Issue 2-5. P. 273-286.
54. Altenbach H., Eremeyev V.A., Ivanova E.A., Morozov N.F. Bending of a three-layer plate with a near-zero transverse shear stiffness. // Fizicheskaya Mezomekhanika. 2012. Vol. 15. N 6. P. 15-19. (In Russian)
55. Ivanova E.A., Kolpakov Ya.E. The use of moment theory to describe the piezoelectric effect in polar and non-polar materials // Generalized Continua as Models for Materials with Multi-scale Effects or Under Multi-field Actions. (Ed. H. Altenbach, S. Forest, A.M. Krivtsov). Berlin: Springer, 2013. P. 163-178.
56. Ivanova E.A., Vilchevskaya E.N. Description of thermal and micro-structural processes in generalized continua: Zhilin's method and its modifications. // Generalized Continua as Models for Materials with Multi-scale Effects or Under Multi-field Actions. (Ed. H. Altenbach, S. Forest, A.M. Krivtsov). Berlin: Springer, 2013. P. 179-197.
57. Zhilin P.A. Altenbach H., Ivanova E.A., Krivtsov A.M. Material strain tensor. // Generalized Continua as Models for Materials with Multi-scale Effects or Under Multi-field Actions. (Ed. H. Altenbach, S. Forest, A.M. Krivtsov). Berlin: Springer, 2013. P. 321-331.
58. Eremeyev V.A., Ivanova E.A., Morozov N.F. Some problems of nanomechanics. // Fizicheskaya Mezomekhanika. 2013. Vol. 16. N 4. P. 67-73. (In Russian)
59. Ivanova E.A. Modeling of thermoelastic processes in three-dimensional media and shells by means of the Cosserat continuum with microstructure. // Radio electronics. Nanosystems. Information technology. 2013. Vol. 5. N 1. P. 98-110. (In Russian)
60. Ivanova E. A., Kolpakov Ya. E. Description of the piezoelectric effect in polar materials by means of the moment theory. // Prikladnaya mekhanika itekhnicheskaya fizika. 2013. Vol. 54. N 6. 15 p. (In Russian)
61. Vilchevskaya E.N., Ivanova E.A., Altenbach H. Description of liquid-gas phase transition in the frame of continuum mechanics. // Continuum Mech. Thermodyn. Published on-line: 23 April 2013. DoI10.1007/s00161-013-0298-5.
62. Babenkov M.B., Ivanova E.A. Analysis of the wave propagation processes in heat transfer problems of the hyperbolic type. // Continuum Mech. Thermodyn. Published on-line: 11 August 2013. DOI 10.1007/s00161-013-0315-8.
63. Ivanova E.A. Description of mechanism of thermal conduction and internal damping by means of two component Cosserat continuum. // Acta Mechanica. Published on-line: 27 September 2013. DOI 10.1007/s00707-013-0934-y.
64. Eremeyev, V.A., Ivanova, E. A., Altenbach, H., Morozov N. F. On effective stiffness of a three-layered plate with a core filled by a capillary fluid. In: W. Pietraszkiewicz, J.Gorski (eds.) Shell Structures: Theory and Applications, vol. 3. Taylor & Francis, London, 2014, p. 85-88.