YOUNG SCIENTISTS SESSION

1. **A.V. Abdrashitov, K.P. Zolnikov, S.G. Psakhie** Response of charged dust particle system under impulse loading.
2. **A.A. Alabuzhev, D.V. Lybimov** The non-linear 0scillations of non-equalibrium gas-vapour bubble under vibrations.
3. **A.A. Alabuzhev, A.A. Ogleznev** The interaction of two bubbles in the volume of non-incompressible liquid.
4. **H. Altenbach, K. Naumenko, Ye. Gorash** Non-isothermal creep-damage model for heat resistant steels in application loading range.
5. **M.A. Antimonov, A.B. Freidin** On the equilibrium of the high-rank layers of new phase in elastic solids.
6. **N. Antipina, E. Tarunin** Effect of temperature separation in the Ranque - Hilsch vortex tube.
7. **A.R. Arutyunyan, B.A. Zimin, Yu.V. Sud'enkov** The investigation of materials adaptation possibilities under high-cycle loadings.
8. **I.E. Asonov** Impact of two nanoclusters.
9. **S.V. Astafurov, E.V. Shilko, S.G. Psakhie** Investigation of influence of mechanical characteristics of surface layers on deformation response of interfacially controlled materials.
10. **I.E. Berinskiy, A.M. Krivtsov** Determinations of macroscopic characteristics for graphene layer using many-body potentials of atomic interaction.
11. **G.S. Bezruchko, G.I. Kanel, S.V. Razorenov, A.S. Savinykh** Influence of shock compression direction of carbon on phase transition parameters to diamond.
12. **I. Bezruk, O. Polukhina** Numeric simulation of the internal waves dynamic in the Luzon strait.
13. **I.I. Blekhman, K.S. Ivanoff** Behavior of granular materials in communicating vessels with vibration: mathematical formulation.
14. **A.S. Bodrova, N.V. Brilliantov** Translational and rotational diffusion of rough granular particles.
15. **V.M. Bogomol'nyi, S.N. Rodivilov** Optimization of the longtime durability of multilayer radioactive wastes (RAW) containers in critical conditions.
16. **M. Chertov, M. Thiercelin** Estimation of induced stress fields around a thin producing reservoir by an axisymmetric semi-analytical model.
17. **Y.A. Chumakov, A.G Knyazeva** A study of steady-state model of gas combustion in two-layers porous cylindrical burner.
18. **N.G. Dvas** Stability analysis and modelling the phase transition in BCC lattice.
19. **P. Dyatlova, O. Shalnev** To the theory of soft toroidal shells.
20. **V.A. Eremeyev, E.S. Krivtsova** Modeling of needle-like nanoparticles motion in a shear.
21. **S.I. Fomenko, E.V. Glushkov, N.V Glushkova, S.N. Verichev.** Seismo-acoustic wave propagation and diffraction in layered boreholes with obstacles.
22. **G.M. Fomovsky, J.W. Holmes** Evaluation of material symmetry in healing cardiac scar tissue.
23. **A.I.Gakashev, E.L.Tarunin** Effects of thermal convection in beehives.
24. **E.A. Gerasimenko, V.E. Ragozina** Ray method for solving dynamic problems of nonlinear elasticity theory with strong discontinuity surfaces.
25. **E.V. Glushkov, N.V. Glushkova, A.A. Eremin** Resonance properties of an elastic waveguide with a system of rigid inclusions.
26. **S.N. Gomenyuk, S.N. Grebenyuk, V.M. Tarkhova, E.S. Reshevskaya** Definition of deflected mode of rubber designs in conditions of contact with friction.
27. **A.H.F. Guimaraes, F. Spahn, E. Vieira Neto, N.V. Brilliantov** Self-energy of the agglomerates in Saturn's rings.
28. **D.S. Gulina**
29. **M.A. Guzev, A.A. Dmitriev, N.A. Permyakov** Residual stress computation on different spatial scales using molecular dynamics method.
30. **V. A. Il'in** Behaviour of a poorly conducting liquid in modulated electric field under unipolar charge injection.
31. **N. Kartavykh** Influence of form signal on electroconvection instability of nematic liquid crystal.

32. **V. Kiselev, B. Kiselev** Application of Recurrence Quantification Analysis for the Time Series Study.
33. **A. Kislitsin, A. Fukalov , A. Zaitsev** Exact analytical solutions to Lamé problems for the thick-walled anisotropic combined extended cylinders and spheres under the action of uniform internal and external lateral pressures.
34. **D.A. Kitaeva, Ya.I. Rudaev** About analysis of the Entropy into kinematic and thermal conditions of Superplasticity.
35. **K.A. Kondratyev, N.N. Smirnov** Hypervelocity impact on semi-infinite targets.
36. **A.V. Konovalov, I.P. Demeshko** Parallelization of algorithms for the solution of elasto-plastic problem on shared memory multiprocessor computer.
37. **Ig.S. Konovalenko, A.Yu. Smolin** Deformation and fracture of ceramics with various pores structure under mechanical loading.
38. **Iv.S. Konovalenko, K.P. Zolnikov, S.G. Psakhie** Atomic mechanisms of thermal energy transformation into mechanical one by non-closed nanostructures.
39. **I.K. Korolev, S.V. Petinov** The features of the finite element grid in the modelling of the initial defects growth in a plane under cyclic loading.
40. **O.A. Korostina, M.S. Kuykina, M.A. Osipenko, U.I. Nyashin, I.B. Ivshina** Mathematical modelling of heavy metal and crude oil contaminated soil washing process using Rhodococcus-biosurfactant.
41. **S. Kozhar** Low-cycle Fatigue Properties of AlSi12CuNiMg Cast Aluminium Alloy.
42. **G. V. Krokhaleva** Motion of the Tippe Top.
43. **A.V. Kroshilina** Condensation wave structure in a super-cooled vapor.
44. **D.S. Kryzhevich, K.P. Zolnikov, S.G. Psakhie** Plasticity nucleation at atomic level in crystal materials under dynamic loadings.
45. **A.G. Kuchumov, V.A. Lokhov, Y.I. Nyashin** Biomechanical aspects of modeling of NiTi shape memory alloy clamps in maxillofacial surgery.
46. **A.M. Kudarova** Modeling of graphene lattice.
47. **A.Yu. Kuksin, A.V. Yanilkin** Edge dislocation movement in the Al-Cu system: atomistic simulation.
48. **S.A. Kukushkin, S.V. Kuzmichev** Evolution of uniformly stressed micropore in brittle solid.
49. **D.V. Lyubimov, T.P. Lyubimova, Ya.N. Parshakova** Vibration effect on the onset of convection in a two-layer system with a deformable interface.
50. **D.V. Lyubimov, V.A. Sharifulin** Onset of convection in a liquid with temperature inversion of density.
51. **T.P. Lyubimova, A.A. Cherepanova** Behavior of gaseous bubble suspended in a viscous liquid in oscillating container.
52. **E. Manuylovich, O. Cherkasov** Analysis of Temporal and Accuracy Characteristics of Rendezvous Algorithms on the Orbit.
53. **I.A. Morozov, A.L. Svistkov** Computer visualization and examination of a carbon black network of filled elastomers.
54. **E.S. Nechaeva, P.V. Trusov** Using of equations with internal variables for construction of high density polyethylene deformation constitutive model considering evolution of microstructure.
55. **M.A. Papaev** About stability of suspension and cable-braced bridges under wind action, in the determined and stochastic statements.
56. **A.G. Pelevin, A.L. Svistkov** Viscous-elastic model constants definition for rubber compound using the data of cyclic experiments with stress relaxation.
57. **E.A. Podolskaya** Modeling of hexagonal close-packed crystal lattices.
58. **A.A. Rogovoy, O.S. Stolbova** The efficiency of using the stress recovery procedure for the finite element method on the example of the problem with small deformations.
59. **Yu.A. Rossikhin,M.V. Shitikova,A.R. Garifulin** Dynamic response of a Timoshenko thin-walled beam of bisymmetrical open section.
60. **Yu.A. Rossikhin, M.V. Shitikova, T.A. Shcheglova** Analysis of damped vibrations of a viscoelastic oscillator based on Rabotnov's model with several relaxation (retardation) times.
61. **A.V. Rybak, E.A. Gubarev** Analis of Influence of Industrial Vibration to Workers Health in Mining.
62. **O.R. Semenova, A.N. Zakhlevnykh** Weak anchoring influence on the transitions in ferronematic cell.

63. **D.N. Sheidakov** Stability of compressed cylindrical tube of micropolar material under internal pressure.
64. **A.S. Smirnov, A.V. Konovalov** Investigation of structure and rheological simulation of AMg6 alloy under height temperature deformation.
65. **S.V. Smirnov, E.O. Ekzemplyarova** Simulation of mode of deformation under scratch test using the Berkovich indenter.
66. **S.V. Smirnov, I.A. Golubkova** Simulation of accumulative roll-bonding process.
67. **S.V. Smirnov, D.A. Konovalov** The definition of the deform hardening curve of metal materials under load-displacement diagram of conic indenter.
68. **V.S. Sorokin** Motion of a solid particle and of a gas bubble in an oscillating fluid (Continuous model).
69. **S.N. Sorokova, A.G. Knyazeva** The mathematical simulation of conversion regimes in the gas-free systems with regard to mechanical process.
70. **V.V. Stegailov, A.Yu. Kuksin, G.E. Norman** Atomistic simulation of mechanical stability of crystals.
71. **O.V. Stolbov, Yu.L. Raikher** A model to describe field-induced finite deformations in soft magnetoelasts.
72. **Z.A. Subbotin, V.A. Demin** Thermal vibrational convection of binary mixes and homogenous fluids in Hele-Shaw cell.
73. **M.V. Suetin, A.V. Vakruchev** Molecular Dynamic Simulation of Hydrogen and Hydrocarbons Storage in Single-Walled Carbon Nanotubes Closed by Fullerenes.
74. **A.V. Sulimov, N. N. Myagkov, T.A. Shumikhin** Numerical modeling of high-velocity interaction of the compact projectile with discrete shields by SPH method.
75. **Yu. Tsepkovskiy, L. Antonov, F. Palis, N. Shoylev** Solving inverse kinematics task for redundant robotic hand with constrains in coordinates.
76. **A. Vardanyan, N. Takeuchi** Discrete Limit Analysis for Plate Bending Problems by Using Hybrid-type Penalty Method.
77. **I. Voynov, D. Mikhaluk, A. Borovkov** Development and application of the computational model for arresting gear braking system.
78. **A. Yanilkin, A. Kuksin, V. Stegailov** Influence of nanoprecipitates on fracture of metals. Molecular dynamics simulation.
79. **O.V. Zavyalova** Thernomechanics of compositions.
80. **D.B. Zgonnik, M.A. Shepelov, G.N. Likhatskaya, M.A. Guzev** The modelling of protein combinations with using of efficient computer systems.
81. **P. Zhilyaev, A. Kuksin, A. Yanilkin** Molecular dynamics simulation of fracture of Al single crystal with dislocations.
82. **A.V. Zvyaguin, M.N. Smirnova** Motion of a rigid body in an elastic medium with a free surface.