

LIST OF PROPOSALS

on

physics, mathematics and mechanics to be suggested from Uzbekistan

1. Optical harmonic generation and tunable soliton transport in optical fibers
2. Quasiparticle transport in branched Kitaev chains and Majorana wire networks
3. Quantum Zeno effect and computing on quantum graphs
4. PT-symmetric quantum graphs
5. Modelling the soliton dynamics in PT-symmetric networks
6. Quantum metrology and measurement on quantum graphs
7. PT-symmetric quantum lattices
8. Dynamical Casimir effects in quantum graphs
9. Electronic transitions and ultra-fast phenomena in low-dimensional relativistic atoms formed by charged impurities in graphene
10. Supercritical phenomena in optically driven graphene quantum dots
11. Modelling the soliton-based logic gates formed in nonlinear networks
12. Soliton generation and transport described by some nonlinear evolution equation on metric graphs
13. Modelling branched acoustic metamaterials
14. Quartic solitons in networks
15. Modelling and design solid materials with tunable deformation and plastic properties
16. Modelling charge and heat energy transport in branched DNA in quantum regime
17. Quantum heat transport in networks
18. Modelling the charge carrier transport in branched conducting polymers and molecular wire networks
19. Relativistic particles and fields under dynamical confinement
20. Modelling the fast-forward evolution in soliton dynamics
21. Modelling the rogue wave dynamics in low-dimensional branched structures
22. Laser-processing based fabrication of metamaterial and tuning their properties
23. Using laser processing in mining industry
24. Tunable transport of quasiparticles and waves in low-dimensional branched structures
25. Modeling and design of transparent nonlinear networks.
26. Development of Ultrafast Laser Processing for the Preparation of SERS Substrates in the Detection of Analytes at Ultralow Concentrations
27. Synthesis of High-Quality Porous 3D Laser-Induced Graphene by Ultrafast Laser Processing on Low-Cost Polymers