Minsk
2020

XXVII International Seminar
NONLINEAR PHENOMENA
IN COMPLEX SYSTEMS

Chaos, Fractals, Phase Transitions, Self-organization

Joint Institute for Power and Nuclear Research – "Sosny"
B.I. Stepanov Institute of Physics
National Academy of Sciences of Belarus
Joint Institute for Nuclear Reasearch
Belarusian State University
Institute for Nuclear Problems

Subjects: Above mentioned and other frontier topics in modern nonlinear study in

* **High energy physics and nuclear physics** *(QCD, perturbative and nonperturbative effects, confinement, physics inside/outside standard model, quark-gluon plasma, collective phenomena, physics of nuclear transmutations, the interaction of particles and nuclei, astrophysics and gravitation, neutrino physics, radiative corrections, Monte Carlo simulations)*
* **Nuclear power** *(modeling of neutron-physical, thermal-hydraulic and physico-chemical processes in nuclear and radiation installations; verification and validation of calculation codes for deterministic/probabilistic analysis of NPP safety; future nuclear reactors, nuclear and radiation technologies, radioactive waste and spent nuclear fuel management)*
* **Information processing** *(quantum computation and cryptography, neural networks, artificial intelligence, information technology, parallel calculations)*
* **Mathematical foundations and methods** *(classical and quantum chaos, chaos and tunneling, correlations, dynamical systems, integrable systems, analytical and numerical methods)*
* **Foundation of electronics and optics** *(nano-, micro-, opto- and quantum electronics, classical and quantum optics)*
* **Economics, social, biological and chemical systems** *(nonlinear dynamics in economics, social, biological and chemical systems and medicine)*

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