

Recent Advances in Dynamical Systems and Related Topics

Applied Mathematics and Nonlinear Sciences

Special issue Recent Advances in Dynamical Systems and Related Topics of MPDSIDA-2019

The first International Conference "Mathematical Physics, Dynamical Systems and Infinite Dimensional Analysis" (MPDSIDA-2019, <https://mipt.ru/education/chair/mathematics/conf/matematicheskaya-fizika-dinamicheskie-sistemy>) was held in June 17-21, 2019 at Moscow Institute of Physics and Technology (National Research University), Dolgoprudny, Moscow Region, Russia.

This conference was devoted to the search of common problems, aims and investigation methods in differential equations and operator theory, topological and differential dynamics of a systems with continuous and discrete time, ergodic theory, measure theory, random processes theory and quantum mechanics. The aim of this conference is to present and discuss the contemporary results in partial differential equations (PDE), dynamical systems, infinite dimensional analysis and their applications to quantum theory, statistical mechanics and other fields of mathematical physics.

At the conference the following sections worked:

1. Mathematical Physics (mathematical aspects of classical, quantum and statistical mechanics, qualitative theory of PDE, geometric measure theory, gravitation theory, quantum biology, random operators and random graphs);
2. Dynamical Systems (topological and differential dynamics of finite-dimensional and infinite-dimensional systems, ergodic theory, Hamiltonian systems, applications of Dynamical Systems Theory to the problems of mathematical physics and infinite dimension analysis);
3. Infinite-Dimensional Analysis (functional integrals and Feynman integrals and their applications to quantum dynamics and statistical mechanics; abstract theory of measure and integral, complex and multivalued analysis, quantum structures of functional analysis and noncommutative integration; quantum information theory).

The conference MPDSIDA-2019 was organized by Moscow Institute of Physics and Technology, Steklov Mathematical Institute of Russian Academy of Sciences, Lomonosov

Moscow State University and Keldysh Institute of Applied Mathematics of Russian Academy of Sciences.

Near 200 participants took part at the conference. In this issue the conference participants papers devoted to different aspects of dynamical systems theory and related topics of mathematical physics, topology of foliations and analysis will be published.

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Paper submission due: 01 November 2019

Submission deadline: 15 December 2019 (submission site will be closed automatically)

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