 © 2026 Uspekhi Fizicheskikh Nauk, Russian Academy of Sciences

CONFERENCES AND SYMPOSIA

PACS number: 01.10.Fv

Nonlinearity, statistics, medicine (Scientific Session of the Physical Sciences Division of the Russian Academy of Sciences (PSD RAS) on May 21, 2025)

DOI: https://doi.org/10.3367/UFNe.2025.05.039978

On May 21, 2025, at 13:00, a Scientific Session of the Physical Sciences Division of the Russian Academy of Sciences (PSD RAS) titled "Nonlinearity, Statistics, Medicine" was held in the conference hall of the P.N. Lebedev Physical Institute of the RAS (Leninskii prospekt 53, Moscow).

The agenda, announced on the PSD RAS website (www.gpad.ac.ru), included the following reports:

1. **Chernyaev A.P.** (Faculty of Physics, Lomonosov Moscow State University (MSU), Moscow, Russian Federation (RF)). "Radiation medical physics."
2. **Zavestovskaya I.N.** (National Research Centre "Kurchatov Institute," Moscow; P.N. Lebedev Physical Institute of the RAS (LPI RAS), Moscow, RF). "Laser, nuclear and nanotechnologies for biomedicine."
3. **Andriyash A.V.** (N.L. Dukhov All-Russia Research Institute of Automatics (VNIIA), Moscow, RF). "Photon and quantum technologies at the N.L. Dukhov All-Russia Research Institute of Automatics."
4. **Aksenova E.V.** (Saint Petersburg State University (SPbU), St. Petersburg, RF). "Localized topological structures in anisotropic media."
5. **Lomonosov I.V.** (Federal Research Center of Problems of Chemical Physics and Medicinal Chemistry of the RAS, Chernogolovka, Moscow Region, RF). "Physics of extreme states of matter: theory, experiment and numerical simulation of high-energy processes."
6. **Slyunyaev A.V.** (A.V. Gaponov-Grekhov Institute of Applied Physics of the RAS, Nizhny Novgorod, RF). "Rogue waves: analytical description, direct numerical simulation and field experiments."
7. **Romanovsky M.Yu.** (Private Enterprise "Science and Innovations," Moscow; National Center for Physics and Mathematics (NCPM), Sarov, Nizhny Novgorod Region, RF). "On the coincidence of most probable distributions and extreme value distributions in particle systems with hierarchical structure."
8. **Gladkov S.O.** (Moscow Aviation Institute (MAI), Moscow, RF). "Crystallization as a phenomenon of deterministic chaos."
9. **Kosevich Yu.A.** (Federal Research Center of Chemical Physics of the RAS, Chernogolovka, Moscow Region, RF). "Influence of system symmetry on plasmon-polariton, optical and nonlinear elastic properties of nanostructures with embedded single- or bilayer graphene, including superconducting."

Reviews written on the basis of the presented papers 1, 2 and 7 are published further in this issue of the journal *Physics-Uspekhi* (*Uspekhi Fizicheskikh Nauk*) (see Refs [1–3]).



Speakers (from top to bottom):
A.P. Chernyaev, I.N. Zavestovskaya, M.Yu. Romanovsky.

References

1. Chernyaev A P, Lykova E N, Studenikin F R, Shcherbakov A A, Kim A A, Zheltonozhskaya M V "Radiation medical physics" *Phys. Usp.* **69** 664 (2026); "Radiatsionnaya meditsinskaya fizika" *Usp. Fiz. Nauk* **196** 708 (2026)
2. Zavestovskaya I N, Deyev S M, Taskaev S Yu, Petrunya D S "History, current status, and prospects for the development of boron neutron capture therapy" *Phys. Usp.* **69** 681 (2026); "Istoriya, sovremennoe sostoyanie i perspektivy razvitiya bor-neitronozakhvatnoi terapii" *Usp. Fiz. Nauk* **196** 726 (2026)
3. Romanovsky M Yu "The exclusion principle and the evolution of matter in statistics of particles with hierarchical structure" *Phys. Usp.* **69** 714 (2026); "Printsip zapreta i evolyutsiya veshchestva v statistikakh chastits s ierarkhicheskoi strukturoi" *Usp. Fiz. Nauk* **196** 763 (2026)

Uspekhi Fizicheskikh Nauk **196** (7) 707 (2026)
DOI: https://doi.org/10.3367/UFNr.2025.05.039978