International Conference PhysicA.SPb/2026

The International Conference PhysicA.SPb is being held in St. Petersburg on October 19–23, 2026, continuing a tradition of St. Petersburg seminars on physics and astronomy that began about thirty years ago, in the mid-1990s. This year, the conference brings together more than 300 participants from regions across Russia, as well as the United States, the United Kingdom, France, Italy, Serbia, Norway, Armenia, Azerbaijan, Belarus, Kazakhstan, South Africa, and China. The participants conduct research in a wide range of fields in physics and astronomy. The PhysicA.SPb Program Committee traditionally places great emphasis on both the fundamental and applied significance of the contributions, bringing together within one conference the full spectrum of physical sciences, including astrophysics, plasma physics, solid-state physics, semiconductor physics, and biophysics. Bringing these different research topics together gives a strong impetus to the emergence of new directions and the development of established ones. As a result, PhysicA.SPb attracts considerable interest among Russian and international scientists.

The conference is traditionally accompanied by the International School Laser Physics.SPb, supported by the Russian Science Foundation (project No. 21-72-30020-P) and devoted to laser physics, laser spectroscopy, and the physics and technology of semiconductors used to produce laser radiation sources and detectors. The School program includes lectures on recent advances in photonics and on techniques for fabricating and investigating semiconductor heterostructures. Particular attention is given to biomedical applications of infrared and terahertz radiation. Leading scientists from Russian and international research centers at the forefront of developing and investigating infrared and terahertz radiation sources and detectors have been invited to lecture at the School.

This issue of the Journal publishes articles by participants in PhysicA.SPb/2026. Peer review was organized by the chairs of the Conference Organizing and Program Committees, who acknowledge the contributions of the section and technical editors: A. V. Ivanchik (Corresponding Member of the Russian Academy of Sciences, Ioffe Institute), P. A. Ryabochkina (Ogarev Mordovia State University), S. V. Morozov (Institute for Physics of Microstructures, Russian Academy of Sciences), I. A. Sokolov (Ioffe Institute), N. A. Pikhtin (Ioffe Institute), A. F. Tsatsulnikov (Ioffe Institute), S. O. Slipchenko (Ioffe Institute), K. Yu. Golenitsky (Ioffe Institute), N. V. Teplova (Ioffe Institute), G. M. Savchenko (Ioffe Institute), V. V. Pavlov (Ioffe Institute), P. A. Alekseev (Ioffe Institute), M. S. Dunaevskiy (Ioffe Institute), M. O. Nestoklon (Ioffe Institute), A. V. Dunaev (Turgenev Oryol State University), A. B. Ustinov (St. Petersburg Electrotechnical University „LETI“), A. M. Kalashnikova (Ioffe Institute), M. V. Chernyshov (Baltic State Technical University „VOENMEKH“ named after D. F. Ustinov), E. D. Cherotchenko (Ioffe Institute), E. A. Kognovitskaya (Ioffe Institute), N. Yu. Gordeev (Ioffe Institute), and D. R. Khokhlov (Corresponding Member of the Russian Academy of Sciences, Lomonosov Moscow State University).

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