

# The Physical Sciences Division of the Russian Academy of Sciences on solving problems related to scientific and technological development of the Russian Federation (Scientific Session of the General Meeting of the Physical Sciences Division of the Russian Academy of Sciences (P.N. Lebedev Physical Institute of the Russian Academy of Sciences, December 9, 2024))

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A scientific session of the General Meeting of the Physical Sciences Division (PSD) of the Russian Academy of Sciences (RAS) was held at the P.N. Lebedev Physical Institute (LPI) of the Russian Academy of Sciences on December 9, 2024

The General Meeting of the PSD RAS heard an opening speech “On the strategy for the development of science and the current situation” (speaker: Academician-Secretary of the PSD RAS, Academician of the RAS V.V. Kveder).

The scientific session of the General Meeting of the PSD RAS included the following reports:

1. **Sharkov B.Yu.** (Joint Institute for Nuclear Research (JINR), Dubna, Moscow Region, Russian Federation) “On the preparation of the long-range program “Fundamental Properties of Matter” (implementation of the assignment of the General Meeting of the PSD RAS of May 27, 2024)”;

2. **Chkhalo N.I.** (Institute for Physics of Microstructures of the RAS and Gaponov-Grekhov Federal Research Center Institute of Applied Physics of the RAS, Nizhny Novgorod, Russian Federation) “X-ray lithography: the locomotive of critical technologies in Russia”;

3. **Kolachevsky N.N.** (Lebedev Physical Institute, Moscow, Russian Federation) “Quantum-optical technologies for sensorics and computing”;

4. **Koshelets V.P.** (Kotelnikov Institute of Radioengineering and Electronics of the RAS, Moscow, Russian Federation) “Superconducting electronics for information reception and processing systems”;

5. **Troitsky S.V.** (Institute for Nuclear Research of the Russian Academy of Sciences, Troitsk, Moscow, Russian Federation) “The origin of high-energy astrophysical neutrinos: new results and prospects.”

Papers written on the basis of reports 3 and 4 are published further in this issue of the journal *Physics–Uspekhi* (*Uspekhi Fizicheskikh Nauk*) (see Refs [1, 2]). A paper similar in content to report 5 was recently published in *Phys. Usp.* (see Ref. [3]).

## References

1. Zalivako I V et al. “Quantum computing with trapped ions: principles, achievements and prospects” *Phys. Usp.* **68** 552 (2025); “Kvantovye vychisleniya na ionakh i lovushkakh: printsiipy, dostizheniya i perspektivy” *Usp. Fiz. Nauk* **195** 585 (2025)
2. Khan F V et al. “Superconducting terahertz generators” *Phys. Usp.* **68** 584 (2025); “Sverkhprovodnikovye generatory teragertsovogo diapazona” *Usp. Fiz. Nauk* **195** 621 (2025)
3. Troitsky S V “Origin of high-energy astrophysical neutrinos: new results and prospects” *Phys. Usp.* **67** 349 (2024); “Proiskhozhdenie astrofizicheskikh neitrino vysokikh energii: novye rezul’taty i perspektivy” *Usp. Fiz. Nauk* **194** 371 (2024)

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