

Astrophysics and Astronomy

(Scientific Session of the Physical Sciences Division of the Russian Academy of Sciences, (PSD RAS) on March 19, 2025)

DOI: <https://doi.org/10.3367/UFNe.2025.03.039910>

On March 19, 2025, at 14:00, a Scientific Session of the Physical Sciences Division of the Russian Academy of Sciences (PSD RAS) titled “Astrophysics and Astronomy” was held in the Blue Hall (3rd floor) of the RAS building, located at Leninskii prospekt 32A, Moscow.

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

1. **Karachentsev I.D.** (Special Astrophysical Observatory of the RAS, Nizhny Arkhyz, Karachay-Cherkess Republic, Russian Federation (RF)). “Problems of cosmology on small scales of the Universe;”

2. **Sil’chenko O.K.** (Sternberg State Astronomical Institute, Lomonosov Moscow State University, Moscow, RF). “Origin of morphological types of galaxies;”

3. **Moiseev A.V.** (Special Astrophysical Observatory of the RAS, Nizhny Arkhyz, Karachay-Cherkess Republic, RF). “Archaeology of galactic nuclei activity;”

4. **Vol’vach A.E.** (Crimean Astrophysical Observatory (CrAO) of the RAS, Nauchny, Republic of Crimea, RF). “Study of active galactic nuclei and star-forming regions at radio telescope RT-22 in CrAO (Simeiz);”

5. **Bikmaev I.F.** (Kazan Federal University, Kazan, RF). “Ground-based optical support for eROSITA telescope observations on the Spektr-RG orbital observatory;”

6. **Zinchenko I.I.** (A.V. Gaponov-Grekhov Institute of Applied Physics of the RAS, Nizhny Novgorod, RF). “Current tasks and prospects of millimeter and submillimeter astronomy.”

Articles and reviews written on the basis of the presented papers 1–4 are published further in this issue of the journal *Physics–Uspekhi* (*Uspekhi Fizicheskikh Nauk*) (see Refs [1–5]).

References

1. Karachentsev I D “Problems of cosmology on small scales of the Universe” *Phys. Usp.* **69** 222 (2026); “Problemy kosmologii na malykh masshtabakh Vselennoi” *Usp. Fiz. Nauk* **196** 239 (2026)
2. Sil’chenko O K “The origin of morphological types of galaxies” *Phys. Usp.* **69** 231 (2026); “Proiskhozhdenie morfologicheskikh tipov galaktik” *Usp. Fiz. Nauk* **196** 248 (2026)
3. Moiseev A V, Arshinova A, Smirnova A A “Archaeology of galactic nuclei activity” *Phys. Usp.* **69** 239 (2026); “Arkheologiya aktivnosti yader galaktik” *Usp. Fiz. Nauk* **196** 257 (2026)
4. Volvach A E, Volvach L N, Larionov M G “Multi-frequency radio monitoring on RT-22 in Simeiz: variability, structure and gravitational-wave prospects of binary supermassive black holes and galactic kilomasers” *Phys. Usp.* **69** 246 (2026); “Mnogochastotnyi radiomonitoring na RT-22 v Simeize: peremennost’, struktura i gravitatsionno-volnovye perspektivy dvoynykh sverkhmassivnykh chernykh dyr i galakticheskikh kilomazero” *Usp. Fiz. Nauk* **196** 264 (2026)
5. Zinchenko I I “Current tasks and prospects of millimeter and submillimeter astronomy” *Phys. Usp.* **69** 270 (2026); “Aktual’nye zadachi i perspektivy millimetrovoi i submillimetrovoi astronomii” *Usp. Fiz. Nauk* **196** 290 (2026)



The unique RT-22 radio telescope in Simeiz, celebrating the 60th anniversary of its first observations (1966), continues to provide world-class data; it has been instrumental in discovering powerful galactic kilomasers and identifying extreme objects such as the most massive binary black hole and one of the most powerful radio sources (see [4] for more details).