

Expected breakthroughs in the field of the “Relativistic Astrophysics and Particles” at INAF

Monday 3 June 2024 14:30 (25 minutes)

INAF researchers in the field of the Relativistic Astrophysics and Particles are members of the scientific national group 4 (Raggruppamento Scientifico Nazionale 4, RSN4).

The research activities of RSN4 fall in the observational, theoretical and experimental areas.

Observations are performed both with ground-based and space-based telescopes, mainly in the high energy domain.

However, in the last years multi-wavelength data, from radio up to very high energy, have been used in close synergy with multi-messenger data in order to reach a complete understanding of the violent phenomena in the Universe.

Models and theory are reaching increasingly high levels of sophistication and realism, also exploiting an increasing knowledge of machine learning and artificial intelligence techniques.

Experimental activity is devoted to the design and the development of new scientific instruments that can broaden the observable horizon and the level of details reachable.

The main research fields of RSN4 are: 1) compact objects, 2) cosmic explosions, 3) multi-messenger astrophysics, 4) fundamental physics experiments.

In this talk I will review the main activities in which the RSN4 community is involved, emphasizing in particular the open questions and the expected breakthroughs reachable in the near future in our research fields.

sessioni congresso

Astrofisica relativistica e particellare

Presenter: DEL SANTO, Melania (Istituto Nazionale di Astrofisica (INAF))

Session Classification: Astrofisica Relativistica e Particellare