

Freitag, 26. Mai 2023, 13 Uhr c.t. im Hörsaal I des Physikalischen Instituts

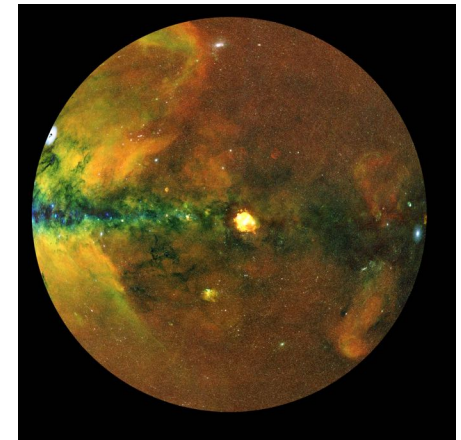


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„eROSITA on SRG: Mapping the Hot Universe“



False color picture of half of the X-ray sky as seen by eROSITA (© J. Sanders, MPE)

The next generation of wide-area, sensitive X-ray surveys designed to map the hot and energetic Universe has arrived, thanks to eROSITA (extended ROentgen Survey with an Imaging Telescope Array), the soft X-ray instrument on the Russian-German Spektrum-Roentgen-Gamma (SRG) mission. eROSITA high sensitivity, large field of view, high spatial resolution and survey efficiency is expanding the horizon of X-ray astronomy and delivering large legacy samples for many classes of objects in the energy range 0.2-8 keV. Over this bandpass, telescopes are sensitive to the emission of millions of degrees hot gas, revealing, among others, the most massive collapsed structures of the Universe (clusters and groups of galaxies), the hot ISM of the Milky Way and the Supernova remnants that energise it, the atmospheres of neutron stars, the magnetic coronae of accretion discs around black holes. Moreover, the eROSITA survey explores a new time domain window at these wavelengths, leading to the discovery of new phenomena associated to the formation of compact objects and to the interaction between black holes and stars in galactic nuclei.

I will present an overview of the instrument capabilities, the current status of the mission, and a few selected early science results from the survey program, which has completed so far four of its eight planned charts of the whole sky.