High Energy Astrophysics and Cosmology in the era of all-sky surveys

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Highlights and discoveries from SRG/ART-XC

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An overview of highlights and discoveries from Mikhail Pavlinsky ART-XC telescope on board the SRG observatory is presented. Since 2019 SRG/ART-XC has conducted several full all sky surveys as well as a deep survey of our Galaxy. As a result, we obtained the catalogue of hard X-ray sources detected at the all sky, which includes more than one and a half thousand objects, most of them are active galactic nuclei. Hundreds of new objects have been detected during all sky and galactic surveys, including the microquasars, slowly rotating neutron stars, dwarf novae flares, Swift J1727.8-1613 - the brightest object in the X-ray sky of 2023. In February 2024 SRG/ART-XC discovered a new accreting millisecond pulsar demonstrating quasi regular Xray bursts and effects of the GR in its pulse profile. We also detected a number of gamma-ray bursts, including the most powerful one, GRB221009A. At this moment SRG/ART-XC continues the all sky surveys.

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