Feeding the experience gained by the High-Energy Group in creating a new X-ray All-Sky survey catalogue based on ROSAT data into the data reduction analysis and scientific exploration of the eROSITA mission

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The 2RXS catalogue is the second publicly released ROSAT catalogue of point-like sources obtained during the ROSAT all-sky survey observations between June 1990 and August 1991 and is an extended and revised version of the 1RXS catalogue. The experience gained in creating the catalogue is described below and will serve as the basis to discuss within the HEG how this can be used in the software scripting and scientific preparation of the eROSITA mission and eROSITA data analysis.

1. Advancing the scientific quality of the eROSITA all-sky survey observations by an improved detection algorithm. The 2RXS source detection is running on a small map structure to avoid larger fluctuation arising from large FOV background maps. Discussions have already been started with Herman Brunner.

2. Extraction of spectra, time-series and X-ray images for each source allowing a higher quality scientific analysis by the astronomical community. Ongoing discussion with Tom Dwelly with respect to his SRCTOOL software package and subsequent software packages SPECFIT and VERICHECK with responsibility by Th. Boller.

2. A significantly improved reduction of spurious source detections obtained from the visual screening of each catalogue entry and a screening for large and extended diffuse emission regions. Here more extensive discussions are proposed especially by using the 53 large extended diffuse emission regions which require a detailed software analysis and cause spurious detections within these extended regions but also outside these regions due to the problems arising from the background maps.

4. Providing datasets for generating well-defined samples of all types of astrophysical objects for detailed scientific exploration by the astronomical community. While the HEG might concentrate on cosmological studies using cluster analysis, some basic science themes might be prepared by the HEG, especially based on the experience with AGN clustering, AGN feedback, AGN evolution, AGN physics, interacting galaxies and triggered starburst and AGN activity, X-ray population studies in normal galaxies, and physics of galactic accreting sources and neutron stars (HEG group, all).

5. The supply of a web-interface to allow the access to the catalogue entries and associated data products. Here the activities and collaborations within the institute which have already started should be discussed on a broader basis.