

Contributed Talk

Splinter eROSITA

SYNTHETIC SIMULATIONS OF THE EXTRAGALACTIC SKY SEEN BY
eROSITA: PRE-LAUNCH SELECTION FUNCTIONS AND COSMOLOGICAL
FORECASTS

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Galaxy cluster and AGN selection functions are essential in the science exploitation of the future extragalactic eROSITA survey. In this talk we present our strategy to perform extensive and dedicated “synthetic simulations” of eROSITA event lists and images. These simulations are specifically designed to reach a trade-off between tractability and realism. We show the results obtained when employing the current state-of-the-art eROSITA source detection algorithm. We derive a meaningful cluster selection function based on cluster fluxes and sizes. Such a selection function represents a step ahead of the simple count limit assumed so far in cosmological forecasts. Using this eROSITA cluster selection function, we confirm that eROSITA will be able to detect of $\sim 10^5$ clusters in the whole sky.