

Combining AGN and Cluster Studies with eROSITA PV observations

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The Ultrasoft Narrow-Line Seyfert 1 Galaxy 1H 0707-495

One of the most prominent AGNs, the ultrasoft Narrow-Line Seyfert 1 Galaxy 1H0707-495, has been observed with eROSITA as one of the first CAL/PV observations on October 13, 2019 for about 60.000 seconds. 1H 0707-495 is a highly variable AGN, with a complex, steep X-ray spectrum, which has been the subject of intense study with XMM-Newton in the past. The spectral features are signaling the presence of strong-gravity effects. The object is detected clearly in the eROSITA observations and will allow unique X-ray studies and to verify the performance of the instruments based on simultaneous 60.000 seconds XMM-Newton observations.

The galaxy cluster A3407

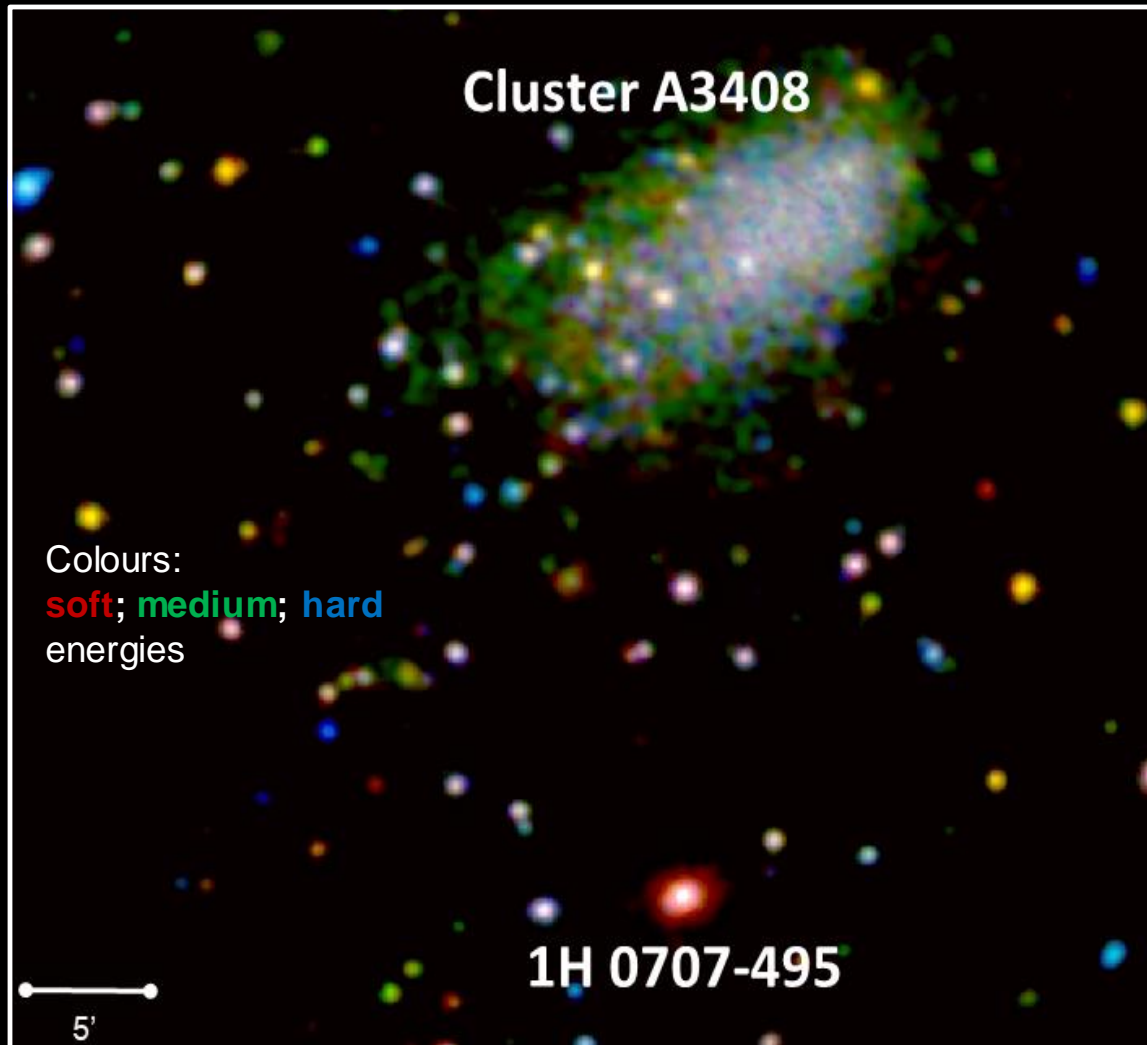
One important advantage of eROSITA is that in a dedicated observation we are covering also many other interesting objects. In the PV observation, the cluster A3407 is detected with unprecedented spatial resolution providing for the first time physical studies to access the dynamical state, rather than just having a detection. This illustrates the potential and performance of eROSITA. The AGN in the background are shining through the diffuse cluster emission, allowing studies of the intra-cluster gas properties.

Extrapolating to the upcoming eROSITA observations new science all over the sky will emerge.

SRG/eROSITA PV observations of 1H 0707-495 and A3408

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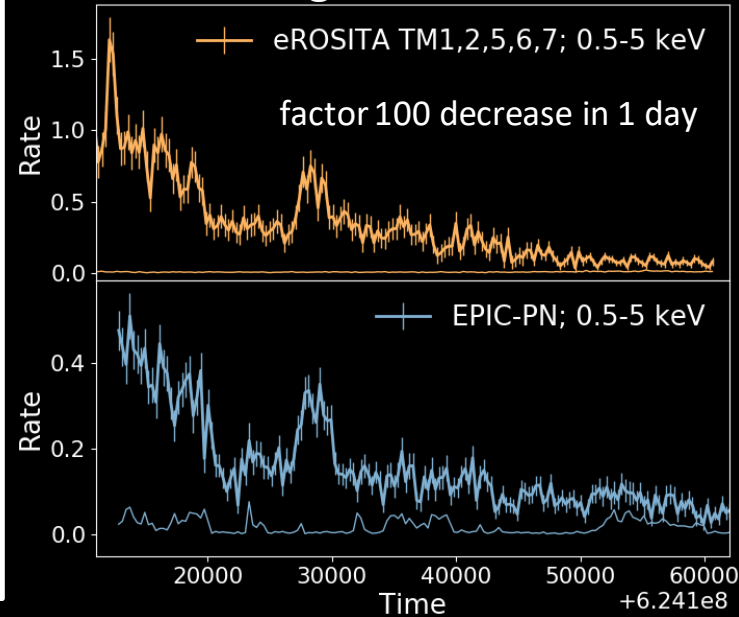
A3408

Providing physical studies rather than just a detection.

1H 0707-495

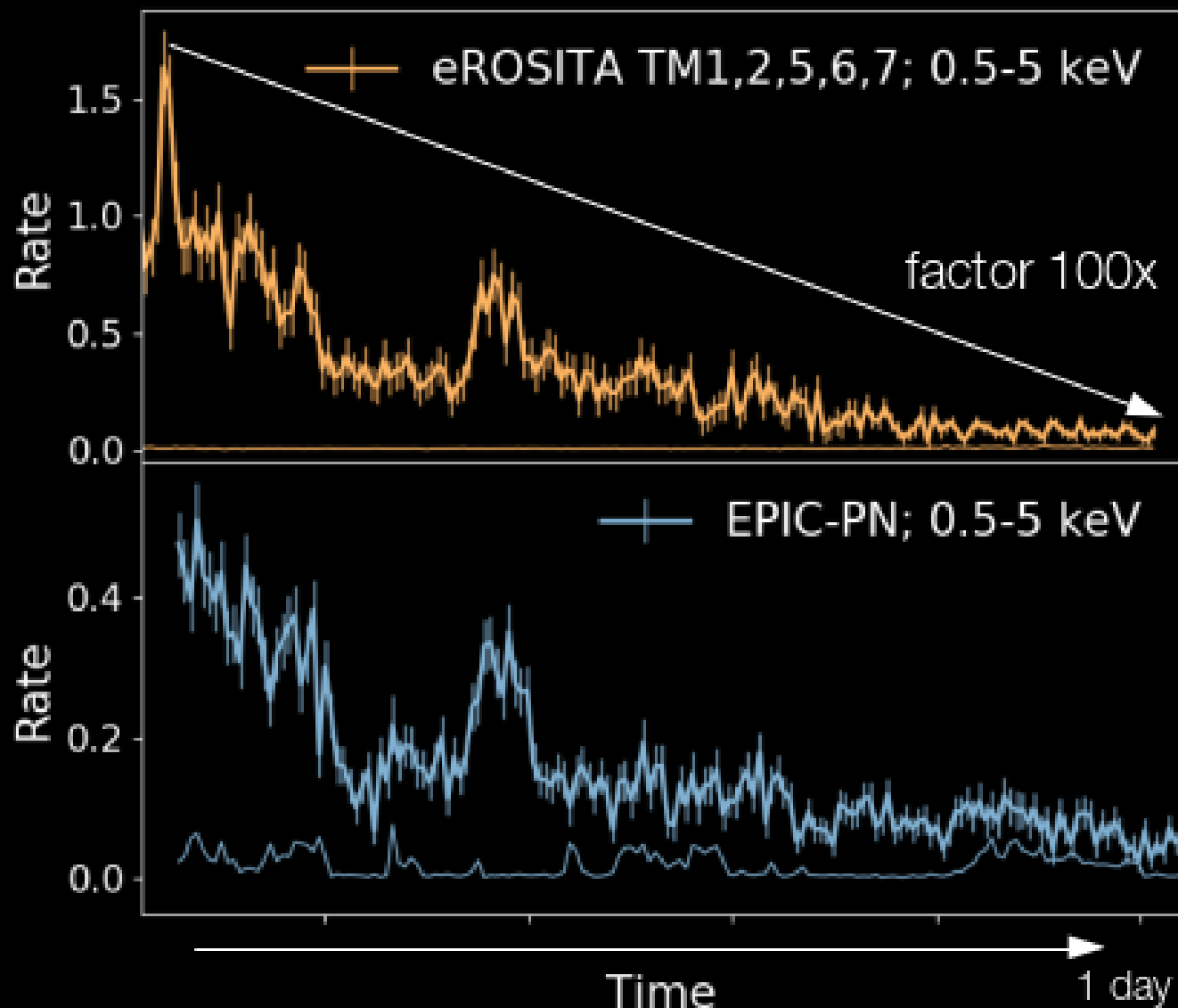
Highly variable Narrow-Line Seyfert 1 Galaxy with a complex, steep X-ray spectrum.

1H 0707-495 light curves



eROSITA's soft X-ray response and low background will allow a unique study of 1H 0707-495 and the many other object classes in the field of view.

eROSITA's high count rate and low background



Credit: Th. Boller, E. Bulbul, M. Freyberg, T. Liu (MPE/IKI)