

V311a X線分光撮像衛星 XRISM 搭載軟X線撮像装置 Xtend による突発天体探査 (3)

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The X-ray Imaging Spectroscopy Mission (XRISM) was launched on September 7th 2023, and the onboard Xtend, which have a wide field of view of 38 arcminutes, are now performing spectral imaging in the 0.4-13 keV band. Utilizing the wide field of view of Xtend, we have been conducting transient search, called “XRISM/Xtend Transient Search (XTS)”, once a day so far. We are now reporting to the world via a telegram within ~ 1 day from the observation, as originally aimed (e.g. ATel #16561). Since the beginning of January 2024, when the XTS began operations, through the end of May, we have issued six reports at the Astronomer’s Telegram (ATel). The lower limit of sensitivity is about 10^{-14} ergs $^{-1}$ cm $^{-2}$ for a one-day observation, i.e. for the observation with an exposure time of ~ 40 ks and an observation efficiency of about 50%. This is orders of magnitude fainter than those obtained with all-sky survey satellites (e.g. MAXI and Einstein probe) and is comparable to those with Swift’s XRT and SRG’s eROSITA. XRISM’s typical exposure time is several days long, allowing for searches with practical sensitivity to variable sources with time scales of more than one day in the 10^{-14} erg s $^{-1}$ cm $^{-2}$ flux range. Together with these instruments, XRISM now plays a key role in time-domain astronomy.