THE XMM-NEWTON SCIENCE ARCHIVE AND ITS INTEGRATION INTO ESASKY

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We describe the variety of functionalities of the XSA (XMM-Newton Science Archive) that allow to search and access the XMM-Newton data and catalogues. The web interface http://nxsa.esac.esa.int/ is very flexible allowing different kinds of searches by a single position or target name, or by a list of targets, with several selecting options (target type, text in the abstract, etc.), and with several display options. The resulting data can be easily broadcast to Virtual Observatory (VO) facilities for a first look analysis, or for cross-matching the results with info from other observatories. Direct access via URL or command line are also possible for scripts usage, or to link XMM-Newton data from other interfaces like Vizier, ADS, etc. The full metadata content of the XSA can be queried through the TAP (Table access Protocol) via ADQL (Astronomical Data Query Language).

We present also the roadmap for future improvements of the XSA including the integration of the Upper Limit server, the on-the-fly data analysis, and the interactive visualization of EPIC sources spectra and light curves and RGS spectra, among other advanced features.

Within this modern visualization philosophy XSA is also being integrated into ESASky (http://sky.esa.int). ESASky is the science-driven multi-wavelength discovery portal for all the ESA Astronomy Missions (Integral, HST, Herschel, Suzaku, Planck, etc.), and other space and ground telescope data. The system offers progressive multi-resolution all-sky projections of full mission datasets using HiPS, a new generation of HEALPix projections developed by CDS, precise footprints to connect to individual observations, and direct access to science-ready data from the underlying mission specific science archives. XMM-Newton EPIC and OM all-sky HiPS maps, catalogues and links to the observations are available through ESASky.

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SKZPIPE: A PYTHON3 MODULE TO PRODUCE EFFICIENTLY PSF-FITTING PHOTOMETRY WITH DAOPHOT, AND MUCH MORE

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In an era characterized by big sky surveys and the availability of large amount of photometric data, it is important for astronomers to have tools to process their data in an efficient, accurate and easy way, minimizing reduction time. We present SkZpipe, a Python3 module designed mainly to process generic data, performing point-spread function (PSF) fitting photometry with the DAOPHOT suite (Stetson 1987). The software has already demonstrated its accuracy and efficiency with the adaptation VVV-SkZ_pipeline (Mauro et al. 2013) for the "VISTA Variables in the Vía Láctea" ESO survey, showing how it can replace the users, avoiding repetitive interaction in all the operations, retaining all of the benefits of the power and accuracy of the DAOPHOT suite, detaching them from the burden of data precessing. This software provides not only a pipeline, but also all the tools to run easily each atomic step of the photometric procedure, to match the results, and to retrieve information from fits headers and the internal instrumental database. We plan to add the support to other photometric softwares in the future.

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