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The Array Data Acquisition System of the ASTRI Mini-Array project: status and assessment

The ASTRI (Astrofisica con Specchi a Tecnologia Replicante Italiana) Project was born as a collaborative international effort led by the Italian National Institute for Astrophysics (INAF) to design and realize an end-to-end prototype of the Small-Sized Telescope (SST) of the Cherenkov Telescope Array (CTA) in a dual-mirror configuration (2M). The prototype, named ASTRI-Horn, has been operational since 2014 at the INAF observing station located on Mt. Etna (Italy). The ASTRI Project is now building the ASTRI Mini-Array consisting of nine ASTRI-Horn-like telescopes to be installed and operated at the Teide Observatory (Spain). The ASTRI software is aimed at supporting the Assembly Integration and Verification (AIV), and the operations of the ASTRI Mini-Array. The Array Data Acquisition System (ADAS) includes all hardware, software and communication infrastructure required to gather the bulk data of the Cherenkov Cameras and the Intensity Interferometers installed on the telescopes, and make these data available to the Online Observation Quality System (OOQS) for the on-site quick look, and to the Data Processing System (DPS) for the off-site scientific pipeline. This contribution presents the current status of ADAS software development, testing, and deployment, along with an assessment of its functionalities and performance in relation to the requirements specified in the latest released version.

Significance

The first version of software has been released and it is supporting the commissioning of first ASTRI telescope on-site. The software is also ready for the upcoming telescopes.

References

Experiment context, if any

ASTRI (Astrofisica con Specchi a Tecnologia Replicante Italiana) Mini-Array

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