

## Nicolò Parmiggiani: Automated scientific analysis pipeline and data quality for ASTRI Mini-Array

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The Automated Scientific Analysis Pipeline is a software system that runs in the off-site data center in Rome. It executes analyses on the event list, already reduced by the data reduction pipeline, and produces high-level scientific results (counts maps, light curves, and more). A short-term scientific analysis pipeline starts automatically as soon as the data are received (~ 20 min since data acquisition) and reduced at the data center (~10 min since data receiving) to generate scientific quick-look results that can be visualized using the Human Machine Interface (HMI). A long-term scientific analysis pipeline, without time constraints and based on the best available calibration factors, is also planned to generate scientific results that will be stored in the Science Archive for reference by scientific users.

The Online Observation Quality System (OOQS) is part of the ASTRI Mini-Array on-site software systems. It aims to execute real-time data quality checks on the data acquired during the observations to detect abnormal conditions. The results of the data quality checks are stored in the Quality Archive, and the Operator can visualize them using the HMI.

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