Contribution ID: **20** Type: **not specified**

ASTRI Data Handling and Archiving

Tuesday 18 June 2019 09:50 (15 minutes)

In the context of the Cherenkov Telescope Array (CTA), INAF is developing an end-to-end prototype of the CTA Small-Size Telescopes in dual-mirror (SST-2M) configuration. The prototype, named ASTRI-Horn, is located at the INAF "M.C. Fracastoro" observing station in Serra La Nave (Mt. Etna, Sicily), and is currently undergoing the performance verification phase. A mini-array of nine ASTRI telescopes has been then proposed to be deployed and operated as a pathfinder sub-array at the CTA Observatory southern site.
The INAF-OAR CTA/ASTRI team, in collaboration with SSDC researchers, has developed a full end-to-end software package for the reduction up to the final scientific products of raw data acquired with both ASTRI-Horn prototype and mini-array. The group is also undertaking a massive production of Monte Carlo simulation data using the CTA Monte Carlo software. Simulated data are being used to validate the simulation chain and evaluate the ASTRI-Horn prototype and mini-array performance. Recently, real data of the Crab Nebula taken by the ASTRI-Horn telescope has been successfully reduced and analysed, leading to the first detection of an astrophysical source at very-high energies by a Cherenkov telescope in dual-mirror configuration.
The INAF-OAR team has also developed the ASTRI data Archiving System (AAS). AAS is in production since 2016, as soon as the first ASTRI light was taken, and takes care of long term data preservation and distribution to the scientific community. Within the AAS, we developed a Proposal Handling System, an Observation Scheduler, and a simple interface for PI data retrieval, the ASTRI Gateway, which allows to access the whole ASTRI data chain products (from raw to higher science-ready data products).
In this contribution, we present the architecture and the main components of the ASTRI data handling systems and report about the status of their development and application.

Author: LOMBARDI, Saverio (INAF-OAR and ASI-SSDC)

Presenter: LOMBARDI, Saverio (INAF-OAR and ASI-SSDC)

Session Classification: Session 2a: From data to science and back: current experiences and future perspectives - Chair: A. Antonelli