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THe ASTRI Mini-Array at the Teide Observatory

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The ASTRI Mini-Array is an INAF project to build and operate a facility to study astronomical sources emitting very high energy in the TeV spectral band. It consists of a group of nine innovative aplanatic dual mirror Imaging Atmospheric Cherenkov Telescopes of 4 m diameter. The telescopes will be installed at the Teide Astronomical Observatory of the Instituto de Astrofisica de Canarias in Tenerife (Canary Islands, Spain) based on a host agreement with INAF. Thanks to its expected overall performance, better than those of current IACT arrays, for energies above about 5 TeV and up to 100 TeV and beyond, the ASTRI Mini-Array will represent an important instrument to perform deep observations of the Galactic and extra-Galactic sky at these energies with high angular resolution (a few arcmins). It will be complementary to the wide-field particle shower arrays (based on water Cherenkov and scintillator detectors) like HAWC and LHAASO already operated in the North hemisphere.
The ASTRI Mini-Array is currently under construction. The site infrastructure, including telescope foundations, data and power network, data center, and control room, will be completed by the end of June 2022. The first telescope of the array (ASTRI-1) has been realized and is currently being tested at the premises of the EIE GROUP company in Italy. It will be integrated at the Tenerife site starting in mid-June, with optical commissioning performed during summer 2022. First tests with a reduced version of the onsite information and communication technology are in progress. The second and third telescopes of the array and the first Cherenkov camera will follow by the end of 2022. We plan to complete the array by 2024. In this paper, we will present the status of the ASTRI mini-array, discussing its design and expected performance.

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