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Status of the ASTRI Mini-Array Gamma-Ray Experiment

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The ASTRI Mini-Array is an international project led by INAF to install and operate nine innovative Imaging Atmospheric Cherenkov Telescopes (IACTs) at the Observatorio del Teide site, resulting from a hosting agreement between INAF and IAC. The facility will operate for at least 8 years. It will deeply observe the Galactic and extra-galactic sky at TeV energies to study compelling open questions of high energy astrophysics, e.g., the nature of pevatrons that accelerate the hadronic cosmic rays. The complete array will be ready to conduct the commissioning and scientific calibration activities by mid-2026. Compared to currently operating IACT systems (HESS, VERITAS, and MAGIC), the ASTRI Mini-Array will extend the sensitivity to 100 TeV and beyond, an almost never-explored energy range by IACTs. Therefore, ASTRI and the upcoming LACT array in China will complement the HAWC and LHAASO astroparticle experiments in the northern hemisphere and the CTAO northern observatory, which will operate at lower energies. This contribution overviews the ASTRI Mini-Array project's design, technologies, and scientific goals. It will also present the results achieved from calibration and scientific data from the telescopes already installed and equipped with the advanced ASTRI Cherenkov camera.

Collaboration(s)

on behalf of the ASTRI Mini-Array collaboration

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