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The SST-1M gamma-ray mini-array - results of early operations

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We present first results of the commissioning data of two Single-Mirror Small-Sized Telescopes (SST-1M) for detection of gamma rays with the imaging air Cherenkov technique. SST-1M adopts a Davies-Cotton optics and a fully digitising silicon photomultipliers (SiPM) based camera. SST-1M telescopes have a lightweight and compact structure with 4 m-diameter mirror dish composed of 18 hexagonal glass mirrors and the focal ratio of 1.4. Their innovative cameras have a wide field-of-view of 9.1° and employ digital electronics with fully digital trigger and readout architecture and highly performing large-area SiPM with dedicated slow control. The SST-1M telescopes are optimized to provide gamma-ray sensitivity above 500 GeV in stereo mode. They are designed for operation in harsh environment with minimal maintenance and they already allow fully robotic operation. The SST-1M mini-array is installed at the Ondřejov Observatory in the Czech Republic and undergoes commissioning and validation during which first remote observations of astronomical objects are performed. In our presentation we will report on the status of the project, present first results of early science operations, and discuss future prospects.

Collaboration name

SST-1M

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