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# The upgrade of the Pierre Auger Observatory with the Scintillator Surface Detector.

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Since its full commissioning in 2008, the Pierre Auger Observatory has consistently demonstrated its scientific productivity. A major upgrade of the Surface Detector array (SD) improves the capabilities of measuring the different components of extensive air showers. One of the elements of the upgrade consists of new Scintillator Surface Detectors (SSD) placed on top of the Water-Cherenkov stations of the SD. At the Observatory, the integration of the SSD components and their deployment in the array is well advanced. In this paper, the main challenges and characteristics of the construction and installation will be reviewed. Started in 2016, an Engineering Array of twelve upgraded stations has been taking data in the field. In addition, 77 SSDs started data acquisition in March 2019, increasing the wealth of events at higher energies. The performance for several different stations will be discussed. The data collected so far demonstrate the quality of the new detectors and the physics potential of the upgrade project.

## Keywords

Pierre Auger Observatory; Ultra High Energy Cosmic Rays; UHECR; Extensive air showers; AugerPrime; Instrumentation and Methods for Astroparticle Physic; Pierre Auger Observatory upgrade

## Collaboration

Auger

## other Collaboration

## Subcategory

Experimental Methods & Instrumentation

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