

Operations of the Pierre Auger Observatory

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The construction of the first stage of the Pierre Auger Observatory, designed for the research of ultra-high energy cosmic rays, began in 2001 with a prototype system. It has been collecting data since early 2004 and was completed in 2008. The Observatory is placed at 1400 m above sea level near Malargüe, (Mendoza province) over a vast plain of 3000 km² covered by detectors, known as the Pampa Amarilla in western Argentina. It is the first experiment characterized by very high performance using the hybrid technique where 1660 water Cherenkov stations, forming the Surface Detector (SD), and 27 peripheral fluorescence telescopes, comprising the Fluorescence Detector (FD), are operating. With time the Auger Observatory has been enhanced with different R&D prototypes and recently subjected to an important upgrade (AugerPrime).

In the present contribution, the general operations of the SD and FD will be described. In particular the FD shift procedure - executable locally in Malargüe or remotely by teams in control rooms abroad within the Collaboration - and the newly (operating since 2019) SD shifts will be explained. Additionally, the SD and FD maintenance campaigns, as well as the data taking and data handling at a basic level, will be reported.

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Pierre Auger Observatory; Fluorescence Detector; Surface Detector; maintenance, shift, data taking, data handling.

Collaboration

Auger

other Collaboration

Subcategory

Experimental Methods & Instrumentation

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