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The AugerPrime extension of the Pierre Auger Observatory

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Only the less deflected cosmic rays point back to their origin and allow astronomical observations. Therefore, the key to identifying the sources of the highest energetic cosmic rays is to measure their mass on an event-by-event basis. Equally, the shower development at the extreme energies is still puzzling, like the muon deficit in extensive air-shower simulations, pointing to a lack of understanding of the hadronic interactions. For these purposes, the Pierre Auger Observatory extended the measurement capabilities of the full duty cycle Surface Detector to improve the separation of the muonic and electromagnetic components of the shower. The different extensions, the status of the deployment, the first performance studies and calibrations, as well as the first examples of the upgraded detector measurements will be discussed.

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