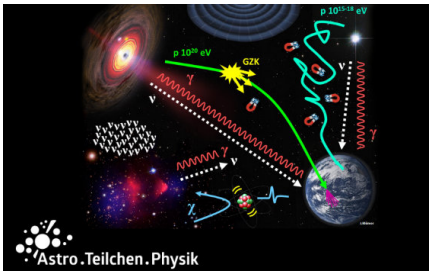

Contribution ID: **110** Type: **Poster**

AugerPrime: Status and first results

Wednesday, October 16, 2024 6:17 PM (2 minutes)

With the knowledge and statistical power derived from two decades of measurements, the Pierre Auger Observatory has significantly advanced our understanding of ultra-high-energy cosmic rays whilst unearthing an increasingly complex astrophysical scenario and tensions with hadronic interaction models. The field now demands primary mass as an observable with an exposure that only the surface array of the Observatory can provide. Access to the primary mass hinges on the disentanglement of the electromagnetic and muonic components of extensive air showers. To this end, a scintillator and radio detector have been installed atop each existing water-Cherenkov detector of the surface array, whose dynamic range has also been enhanced through the installation of small area PMTs. The timing and signal resolution of all detector stations have additionally been improved with upgraded station electronics, and underground muon counters have been installed in a region of the array with denser spacing. As the commissioning of the final components of AugerPrime reaches its conclusion and the enhanced array comes fully online, we present on the design, status, and first results of this now multi-hybrid detector.

Summary

Authors: SCHMIDT, David (Karlsruhe Institute of Technology); PIERRE AUGER COLLABORATION, for the

Presenter: SCHMIDT, David (Karlsruhe Institute of Technology)

Session Classification: Poster session leading into social dinner buffet