First results from the AugerPrime Radio Detector

Executive Summary

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What is this contribution about?

- End-to-end pilot Absolute Calibration of the AugerPrime Radio Detector by using the Galactic radio emission.
- First cosmic ray air-showers measured by the AugerPrime Radio Detector.

Why is it relevant/interesting?

- The calibration is necessary to correct for uncertainties in the system response before any scientific work.
- Confirming that the Radio Detector stations are measuring the air-showers is essential before performing the full Radio Detector array installation.

What has been done?

- Comparison of the measured dataset with the simulated Galactic signal in order to derive the calibration constants for the AugerPrime Radio Detector.
- Reconstruction of air-showers using the water-Cherenkov detector in the 1500 m array in coincidence with a signal in at least one RD station and verifying the measured radio signals with simulations.

What is the result?

- We derived the first calibration constants for the AugerPrime Radio Detector, demonstrating that the full Radio Detector array calibration with the Galactic signal is feasible.
- We confirmed that the installed AugerPrime Radio Detector stations are measuring cosmic-ray signals.