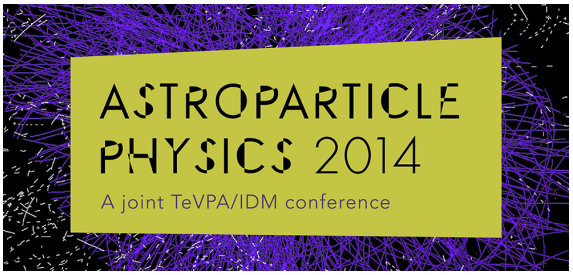

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Radio measurements of air showers with AERA

Thursday, June 26, 2014 6:15 PM (15 minutes)

High-energy cosmic rays impinging onto the atmosphere of the Earth initiate cascades of secondary particles: extensive air showers. The electrons and positrons in air showers interact with the geomagnetic field and emit radiation, which we record in the tens-of-MHz regime. Radio emission from air showers is measured with the Auger Engineering Radio Array (AERA) at the Pierre Auger Observatory in Argentina.
Objective of our investigations is to clarify the emission processes in the atmosphere and to use the radio measurements as a tool to determine the properties of cosmic rays, namely their energy, their (particle) type, and their arrival direction. We will give an overview on the radio measurements of extensive air showers and discuss recent results.

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