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Results from polarization studies of radio signals induced by cosmic rays at the Pierre Auger Observatory

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At the Pierre Auger Observatory, the radio emission from cosmic-ray-induced air showers is measured. I will discuss the physics results from a setup consisting of three antennas triggered by an auxiliary particle detector. With this setup, a total 494 events were registered in coincidence with the surface detector of the Pierre Auger Observatory. This data allows us to study the dependence of the radio signal on air shower parameters. From an analysis of the measured polarization of the radio signals, we conclude that the emission is dominated by the geomagnetic mechanism.

However, the polarization study indicates that the pure geomagnetic description by itself is not sufficient to describe all features of the data set.

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