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First analysis of inclined air-showers detected by Tunka-Rex

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The Tunka Radio Extension (Tunka-Rex) is a digital antenna array for the detection of radio emission from cosmic-ray air showers in the frequency band of 30 to 80 MHz and with energies above 100 PeV.
The standard analysis of Tunka-Rex includes events with zenith angle of up to 50 degrees.
This cut is determined by the efficiency of the external trigger.
However due to the air-shower footprint increasing with zenith angle and due to the more efficient generation of radio emission (the magnetic field in Tunka valley is almost vertical), there are a number of ultra-high-energy inclined events detected by Tunka-Rex.
In this work we present a first analysis of a subset of inclined events detected by Tunka-Rex.
A comparison of detected radio signals with CoREAS end-to-end simulations is presented.
Using these simulations we estimate the energies and shower maxima of the selected events and test the efficiency of Tunka-Rex antennas for detection of inclined air-showers.

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