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First Results from the Telescope Array RADAR (TARA) Cosmic Ray Observatory Remote Stations (12' + 3')

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The TARA Remote Stations (RS) are autonomous Very-High-Frequency radio receivers for the detection of Ultra-High-Energy Cosmic Rays (UHECR). UHECR cause charged showers in the atmosphere which may become dense enough to reflect radio waves. The RS use firmware-based filtration and trigger techniques to receive and record these reflections from a dedicated VHF transmitter. We are co-located with the primary TARA detector as well as the Telescope Array (TA) ground-based cosmic ray detector, which allows us to make coincident detection studies. In this presentation, first results of the RS experiment, which ran from February to April of 2016, are relayed and compared to previous such measurements. The station design and novel trigger mechanism are briefly discussed, as well as future prospects for radio-based cosmic ray physics.

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