

Abstract Submitted
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Searching for Cosmic Ray Radar Echos In TARA Data¹ ISAAC MYERS, University of Utah, TARA COLLABORATION², TELESCOPE ARRAY COLLABORATION — The TARA (Telescope Array Radar) cosmic ray detector has been in operation for about a year and half. This bi-static CW radar detector was designed with the goal of detecting cosmic rays in coincidence with Telescope Array (TA). For the majority of its operation it has been in the TARA1.5 phase in which a 1.5 kW transmitter broadcasts from a single Yagi antenna across the TA surface detector array to our receiver station 50 km away. Our initial DAQ system has obtained millions of triggers utilizing a USRP2 PC controlled radio. During recent months, we have commissioned a 250 MHz sample rate detector with an intelligent self-triggering algorithm that can detect radar echo chirp signals below the noise. I will describe the stages of analysis used for comparing TARA radar triggers with TA data and present a synopsis of the analysis of the USRP2 data and preliminary results from the more advanced DAQ system.

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