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## Low frequency Radio signal detection associated with UHE cosmic ray air shower

### Abstract content

It has been known almost for the last 40 years that UHE cosmic ray EAS emit pulsed radio emission in the LF-VLF range[1][2][3]. We have been detecting UHE cosmic ray air shower with the mini-array method[4][5]. A VLF receiver system is setup near the mini-array hut[6]. The received signals are observed using DSO (Tektronix TDS-520A) and stored in PC via GPIB-PCI (NI-488.2). Power spectral density and inducing electric field strength are calculated by doing FFT on the stored signal for different orientations of the receiver system. Received signals are discriminated from the noise by observing simultaneous arrival of the VLF signals with mini-array particle pulses, using coincidence unit.

[1] H.R.Allan, R.W.Clay, J.K Jones, A.T. Abrosimov, K.P. Neat, Nature, Vol. 222, No. 5194, 635-637 (1969). [2] Pranayee Dutta, K.M. Pathak, Indian Journal of Pure and Applied Physics, Vol 28, August, 469-475 (1990). [3] Suga et al. 1985, in Proc. 19th ICRC, Vol. 7, 268. [4] Linsley J. (1983) Research Report UNML-6/20/83 [5] T. Bezboruah, K. Boruah, P.K. Boruah, Proceedings Symposium on Advances in Nuclear and Allied instrumentation, Vol 1 (498). [6] N.M. Saikia et al. Proc 3rd international conference on CODEC-06, pp-665-667.

**If this paper is presented for a collaboration, please specify the collaboration**

### Summary

### Reference

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