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Developments in Nanosecond Pulse Detection Methods & Technology

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Abstract content

A promising method for the detection of UHE neutrinos is the Lunar Cherenkov technique, which utilises Earth-based radio-telescopes to detect the coherent Cherenkov radiation emitted when one of these particles interacts in the outer layers of the Moon. The LUNASKA project aims to overcome the technological limitations of past experiments to utilise the next generation of radio-telescopes in the search for these elusive particles. To take advantage of road-bandwidth data from potentially thousands of antenna requires advances in signal processing technology. Here we describe recent developments in this field and their application in the search for UHE neutrinos, from a preliminary experiment using the first stage of an upgrade to the Australia Telescope Compact Array, to possibilities for fully utilising the completed Square Kilometre Array.

If this papers is presented for a collaboration, please specify the collaboration

LUNASKA

Summary

Reference

Proceedings of the 30th International Cosmic Ray Conference; Rogelio Caballero, Juan Carlos D'Olivo, Gustavo Medina-Tanco, Lukas Nellen, Federico A. Sánchez, José F. Valdés-Galicia (eds.); Universidad Nacional Autónoma de México, Mexico City, Mexico, 2008; Vol. 5 (HE part 2), pages 1549-1552

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