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A readout scheme for optical modules in the KM3NeT deep-sea neutrino telescope

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Abstract content

The readout of optical modules for deep-sea kilometre sized neutrino telescopes is challenging for many reasons. Power consumption of the electronics placed at the bottom of the sea must be low, and the data have to be transported to shore over distances up to possibly 100 km. We present a novel readout system - developed in the framework of the KM3NeT design study - where the data from the optical sensors are rapidly transformed into optical signals, using newly designed optical modulators. The system uses point-to-point transfer of data over a DWDM fibre optic network. Laser light sent from shore is reflected and modulated by the data signals at the optical module. Bitrates of 10 to 40 Gbit/s are foreseen. The first prototype tests will be presented

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

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 1557-1560

Primary author(s) : Prof. KOOIJMAN, PAUL (University of Amsterdam/University of Utrecht/NIKHEF)

Presenter(s) : Prof. KOOIJMAN, PAUL (University of Amsterdam/University of Utrecht/NIKHEF)

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