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Measurement of the muon charge ratio in MINOS

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Abstract content

The complete 5.4 kton MINOS far detector has been taking charge-separated cosmic ray muon data since the beginning of August, 2003 at a depth of 2070 meters water-equivalent in the Soudan mine, Minnesota. The data with both normal and reversed magnetic field running configurations were combined to minimize residual systematic errors in the charge ratio. Using the map of the Soudan rock overburden, the muon momenta were projected back to the surface where the charge ratio, μ^+/μ^- , in the range 0.75-7.0 TeV was found to be 1.374 ± 0.004 (stat.) $^{+0.012}_{-0.010}$ (sys.).

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

the MINOS 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 1245-1248

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