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UPPER FLUX LIMITS FOR MASSIVE RARE PARTICLES WITH THE SLIM EXPERIMENT

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Abstract content

The search for rare massive particles in the cosmic radiation remains one of the main aim of non-accelerator particle astrophysics. Experiments at high altitude allow lower mass thresholds with respect to detectors at sea level or underground. We present here the analysis of the full SLIM detector (400 m^2) after 4y exposure at the Chacaltaya site (5300m a.s.l.). A part is devoted to the study carried out for defining the most efficient etching conditions and calibrations of the NT detectors. WE also compare our results for Magnetic Monopoles with masses in the range 10^5 – 10^12 GeV with existing and future experiments. Our experiment is also sensitive to SQM nuggets and Q-balls and we discuss the implications of our observations on the characteristics of these Dark Matter candidates.

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

The SLIM 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. 4 (HE part 1), pages 787-790

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