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Balloon-borne measurement of UV nightglow and clouds for the JEM-EUSO mission

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Abstract content

Ultra-high energy cosmic rays (UHECR's) above 100 EeV have been observed with several experiments. Their origin and propagation mechanism are still in mystery mainly due to the low statistics. In order to observe UHECR's with sufficient statistics, the JEM-EUSO experiment is going on. In the JEM-EUSO experiment, fluorescence and Cherenkov light from the extensive air showers induced by UHECR's are observed with a telescope attached to the International Space Station. It is important to study the background intensity in near UV region (300-400nm) seen from the JEM-EUSO telescope. We launched a balloon at Sanriku Balloon Center of JAXA to investigate the nightglow and the clouds on August 29, 2005. The upward and downward nightglow was measured through the eight near UV filters and the clouds were recorded with infrared thermography. In this paper, the detail of the experiment and the results will be reported.

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'Olive, 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 965-968

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