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Interconnections Between Forbush Cosmic Ray Decreases and Atlantic Hurricanes Development.

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Abstract content

The Forbush decreases, recorded during 1951-2005 neutron measurements on Climax Cosmic Ray Station were used, estimating their number per year $F(n)$ and calculating their total yearly decrease $F(t)$. They were investigated together with certain parameters of the hurricanes recorded over a large Atlantic Ocean area, situated between 25 and 60 degrees West, and 8 and 23 degrees North. In that area the water surface temperature is practically constant and the possibility of hurricane formation is equally distributed over it. The hourly data for hurricane maximum rotational wind velocity (W) was used to calculate: the kinetic energy as W^2 and the total yearly accumulated hurricane increase of this velocity as dW/dt . It was found that both these parameters correlated well with $F(n)$ and $F(t)$. That indicates the existence of some parallel or even interconnected high atmosphere processes triggering the hurricane formation. From the other side that extend the possibilities for earlier hurricane forecasts.

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. 1 (SH), pages 697-700

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