30th International Cosmic Ray Conference



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Cosmic Ray Intensity Changes and Atlantic Hurricane Intensification .

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Abstract content

Earlier we have found a significant statistical relationship between geomagnetic activity as measured by the Kp index and hurricane intensity as measured by the maximum wind speed for a certain type of higher-latitude hurricanes. Here we reexamine this relationship comparing changes in cosmic ray intensity and hurricane intensification rates (time derivative of hurricane intensity). Intensification is computed using a filter (Savitzky-Golay) especially designed for derivative calculations. We consider only hurricanes over the North Atlantic Ocean away from land for two regions, one over the tropics and one over higher latitudes. The regions are chosen to control for effects of sea-surface temperature and shear on hurricane genesis. Data are taken from all tropical cyclones passing through the regions during the period 1950-2006. We find that intensification rates peaks in the range of 30-50 m/s. It appears that a slight difference exists between the interconnection cosmic ray changes - hurricane intensification in these two regions.

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. 1 (SH), pages 693-696

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