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Search for solar neutrons associated with series of X-class flares during the declining period of solar cycle 23

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Abstract content

It was surprising that Gigantic solar flares exceeding X-class occurred 10 times in September, 2005, because the activity of the Sun had already been in the declining period. More surprisingly, 4 X-class solar flares occurred in December, 2006, when the activity of the Sun was at the minimum. It is expected that some of these flares were accompanied by the acceleration of ions, which would be observed as solar neutrons or GLEs on the ground. Solar neutron telescopes, which are dedicated to observe solar neutrons and to measure their energies, have been operating during solar cycle 23. Distributed in a worldwide network covering all longitudes they watch the Sun 24 hours a day. In this paper, we report on results of the search for solar neutron events associated with these 14 X-class flares, using data obtained by this international network of solar neutron telescopes. There was no clear evidence for detecting solar neutrons within these periods, except for the significant detection of solar neutrons on September 7, 2005. Details of this particular event will be presented by Sako et al. during this Conference.

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 33-36

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