



Contribution ID : 1071

Type : Oral

## Study of the 28 October 2003 solar flare by means of 2.223 MeV gamma-emission from it

Wednesday, 4 July 2007 09:06 (0:12)

### Abstract content

We have studied some characteristics of solar flares and surrounding medium (solar plasma) by means of 2.223 MeV line time profile of gamma-emission from neutron captures by hydrogen nuclei. It was composed the code with making allowance for the main processes of neutron interactions and deceleration in the solar atmosphere, character of neutron source, losses of neutrons and density model of the solar atmosphere. The method allowed us to reveal a density enhancement in the photosphere or subphotospheric layers for three gamma-flares. In the case of 16 December 1988 gamma-flare we also found a hardening of charged particles spectrum with the time of the decay of gamma-ray flux. In the present work we apply the same method to investigate the 28 October 2003 solar flare of X17.2/4B importance with coordinates S16E08 and present the results for this powerful and long-duration flare. The data on 2.223 MeV gamma emission from INTEGRAL are used.

**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 23-26

**Primary author(s) :** Dr. TROITSKAIA, Evgenia (Skobeltsyn Institute of Nuclear Physics (SINP), Moscow State University (MSU))

**Co-author(s) :** Dr. MIROSHNICHENKO, Leonty (Instituto de Geofísica, UNAM, C.U., Coyoacán, 04510, México, D.F., México; Pushkov Institute IZMIRAN, Troitsk, Moscow Region, 142190, Russia)

**Presenter(s) :** Dr. MIROSHNICHENKO, Leonty (Instituto de Geofísica, UNAM, C.U., Coyoacán, 04510, México, D.F., México; Pushkov Institute IZMIRAN, Troitsk, Moscow Region, 142190, Russia)

**Session Classification :** SH 1.2, SH 1.3

**Track Classification :** SH.1.2