

## Long-term cosmic ray experiment in the Atmosphere: solar-proton events recorded during the current 23rd solar activity cycle

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**Abstract.** Eight solar proton events (SPEs) were observed in the atmosphere during the current solar activity cycle (1997: 6 November; 1998: 20 April, 2 May, 24 August and 14 November; 2000: 14 July, 12 September and 9 November). In the analyses we concentrate, mainly, on the points as follows 1- solar flare activity during the 23rd solar activity cycle in comparison with that in previous cycles; 2- evaluation

of the energy spectra of solar protons ( $E > 10$  MeV) using balloon experiment data, satellite and ground based neutron monitor data. Available experimental data concerning these solar proton events are used in the analyses.

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