

## LIGHT ISOTOPE ABUNDANCES IN SEPS MEASURED BY NINA

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Observations of 9 Solar Energetic Particle events detected by the instrument NINA from November 1998 to April 1999 will be presented. NINA is a silicon-based space detector in orbit since July 1998 on board the Russian satellite Resurs-01-N4, which flies at low altitude (about 800 km) in polar inclination. For every SEP event we reconstructed the power-law 4He spectrum in the energy interval 10--50 MeV/n, extracting spectral indexes from 1.8 to 6.8. Data of 3He and 4He were then employed to determine the 3He/4He ratio, which turned out to be high for some SEP events showing the enrichment in 3He; for the 1998 November 7 event this ratio reached the maximum value of  $0.33 \pm 0.06$ , with spectral indexes  $2.5 \pm 0.6$  and  $3.7 \pm 0.3$  for 3He and 4He, respectively. The 3He/4He ratio averaged over the remaining events was  $0.011 \pm 0.004$ . Almost all events presented a small quantity of deuterium. The average value of the 2H/1H ratio, over all events, was  $(3.9 \pm 1.4) \times 10^{-5}$  in the energy range 9--12 MeV/n, in accordance with expected solar values. During 1998 November 24 event, however, this ratio resulted about 10 times higher than normal coronal values.