

## ARE NEUTRONS PRECURSORS OF SOLAR FLARES?

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The analysis of data of a worldwide network of neutron monitors (NM) shows, that at local noon and during approximately 4 hours after, the NM sometimes register statistically significant excess. Enhancement of count rate is approximately  $\approx 1.5 \div 2\%$ . Depending on the geographical coordinates the time slice is determined, during which the global increase of a registered flux (characteristic time of the order of tens of hours) is observed. These data are correlated with data from space-borne sensors, proving significant increase ( $\approx 5 \div 10$  times) of the low energy protons and electrons in near-earth space. In both cases the flux enhancement during tenths of hours is proceeding by an impulse phase of the next solar flare. The analysis of data allows to put forward a hypothesis that the enhancement of the protons and electrons flux is stipulated by decay of solar neutrons with energies  $10 \div 30 MeV$ . These neutrons during tenths of hours before an impulse phase of a flare are born in active areas of the Sun, as a product of thermonuclear reactions ( $D+d \rightarrow He^3+n, T+d \rightarrow He^4+n$ ). The part of neutrons are decaying in the interplanetary space, and part of high energy neutrons ( $E_n > 20 MeV$ ) penetrate through terrestrial atmosphere (with probability  $\approx 10^{-7}$ ) and are registered by neutron monitors.