

Far from thunderstorm UV transient events in the atmosphere measured by Vernov satellite

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The steady self-contained classification of events such as sprites, elves, blue jets emerged for the period of transient luminous events (TLE) observation. In accordance with TLE origin theories the presence of the thunderstorm region where the lightnings with the large peak current generating in is necessary. However, some far-from-thunderstorm region events were also detected and revealed to us another TLE generating mechanisms. For the discovering of the TLE nature the Universitetsky-Tatiana-2 and Vernov satellites were equipped with ultraviolet (240-400 nm) and red-infrared (>610 nm) detectors. In both detector it was carried out regardless the lightnings with the guidance by the flashes in the UV wavelength where lightning's emitting is quite faint. The lowered threshold on the Vernov satellite allowed to select the great amount of TLE with the numerous far-from-thunderstorm region events examples. such events were not conjuncted with lightning activity measured by global lightning location network (WWLLN) on the large area of approximately 10^7 km² for 30 minutes before and after the time of registration. The characteristic features of this type of event are: the absence of significant signal in the red-infrared detector's channel; a relatively small number of photons (less than $5 \cdot 10^{21}$). A large number of without lightning flash were detected at high latitudes over the ocean ($30^{\circ}\text{S} - 60^{\circ}\text{S}$). Lightning activity in the magnetic conjugate point also was analyzed. The relationship of far-from-thunderstorm region events with the specific lightning discharges didn't confirmed. Far-from-thunderstorm events - a new type of transient phenomena in the upper atmosphere is not associated with the thunderstorm activity. The mechanism of such discharges is not clear, though it was accumulated a sufficient amount of experimental facts of the existence of such flashes. According to the data of Vernov satellite the temporal profile, duration, location with earth coordinates and the number of photons generated in the far-from-thunderstorm atmospheric events has been analyzed and the discussion of these events origin is in progress.