



Observations of Solar Spikes in the Decameter Range

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For the first time spikes in the solar radio emission were discovered few tens of years ago in the decimetric range (they were observed more frequently in the frequency band 300-3000MHz). These bursts are narrowband ($\Delta f/f = 1 - 2\%$) with short duration ($\tau < 100\text{ms}$) and high brightness temperature ($T_{br} \approx 10^{15}\text{K}$). At the beginning of the seventies of the last century stria-type bursts were registered at the decameter wavelengths. The chains of them form Type IIIb bursts. At 25MHz stria-bursts have frequency width $\Delta f \approx 100\text{kHz}$ and duration 0.3-0.8s. During 2001-2002 Type III storms we observed both stria-bursts as Type IIIb bursts and storms of single spikes in the frequency band 18-32MHz at UTR-2 radio telescope equipped with new registered equipment (DSP). Spikes were accidentally distributed on the frequency-time plane. In this report we analyze properties of spikes using samples of 530, 191 and 120 bursts observed on August 1 and 2, 2002 and May 12, 2001 correspondingly. Spike fluxes were found to vary from 20 up to 120 s.f.u. with maximum values near 24MHz. It turned out that frequency width and duration of spikes were in the bands 50-90kHz and 0.8-1.4s with average values 70kHz and 1s correspondingly. These parameters are close to those of stria-bursts in Type IIIb bursts. But if the sources of Type IIIb bursts are considered to be Type III electrons then the cause of spikes is unknown.