



Analysis of the spectral continuity of distinct Type III bursts from high to low frequencies

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We report on the solar Type III radio bursts observed by Wind and Ulysses spacecraft in the frequency range from 14 MHz down to a few kHz. It is well known that the spectral continuity of a given burst from high to low frequencies is often ambiguous. The most intense Type III bursts are not necessarily the ones that continue towards low frequencies and weak bursts may become stronger with decreasing frequency. We attempt in this contribution to provide suggestions and indications concerning the origin of such spectral features of solar bursts.

We consider individual Type III bursts simultaneously observed by WAVES and URAP experiments on-board Wind and Ulysses spacecraft. We select events which appear at high frequency (i.e. at the decametric and/or hectometric wavelengths) and continue to the low frequency (i.e. mainly kilometric wavelength). We estimate the starting and the cut-off times of the solar burst emissions and the corresponding frequencies. We derive the frequency drift rates versus the observed frequency. We localize the regions on the Sun from where the Type III burst is probably emitted. We discuss our results taking into consideration on the one hand the spacecraft positions with regards to the source location on the Sun, and on the other hand the temporal and spectral radio beam variation when combining Wind and Ulysses observations.