

Harmonically Related Decimetric Bursts

Show affiliations

Sawant, H. S.; Fernandes, F. C. R.; Karlický, M.; Meszarosova, H.; Krishan, V.; Cecatto, J. R.; Madsen, F. R. H.

High frequency observations with 3 MHz frequency and 20 ms time resolutions were carried out in the frequency range of (2150 ± 100) MHz from August 2001 for about two months by the Brazilian Solar Spectroscope (BSS) totalling to of about 300 hours. About 30 groups of solar bursts were recorded. Some of them were also recorded by the Ondrejov Solar Spectroscopes. For the first time details of about 40 harmonically related decimetric narrowband type III bursts and unclassified fine structures above 1000 MHz are reported. Flux values are around 300 s.f.u. Total duration of all types of above bursts is in between 100 -- 500 ms. Frequency ratio of the harmonically related decimetric type III bursts including that of fine structures ranged between 1.76 -- 2.29, where as ratios of the fluxes varied between 1.28 to 3.57, except one case where ratio is ~ 0.98 . The lower observed flux of the fundamental component in comparison to the second harmonic could be due to its stronger collisional absorption near source. We have attempted to understand the formation of some of these structures in terms of the four-wave scattering processes assuming whistlers to be the low frequency waves.

Publication:


35th COSPAR Scientific Assembly. Held 18 - 25 July 2004, in Paris, France., p.528

Pub Date:

2004

Bibcode:

2004cosp...35..528S

 Feedback/Corrections? (http://adsabs.harvard.edu/adsfeedback/submit_abstract.php?bibcode=2004cosp...35..528S)