Highlights of the Brazilian Solar Spectroscope (bss)

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The digital, decimetric (1000-2500 MHz) Brazilian Solar Spectroscope (BSS) with high time (10- 1000 ms) and frequency (1-10 MHz) resolution is in regular operation since April, 1998, at the National Space Research Institute (INPE) at Sao Jose dos Campos, Brazil. The BSS has now been upgraded with a new digital data acquisition and data processing system. The new version of the BSS has a 14 bit A/D unit which permits improved combination of the observational parameters with a capability to record up to 200 frequency channels available in a selectable frequency range of 1000-2500 MHz. It permits data acquisition up to 5 ms time resolution with a limited number of frequency channels. The software system of the BSS is composed by two distinct modules: The first, data acquisition system provides a flexible Graphical User Interface (GUI) that allows one to choose a number of observational parameters. The second module is the real time visualization system that permits real time visualization of the observed dynamic spectrum and additionally has procedures for visualization and preliminary analysis of the recorded solar spectra. Using the new visualization system, we have realized two new types of dm-radio fine structures: narrow band type III bursts with positive/negative group frequency drift and dots-emissions arranged in zebras and fibers.

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