The solar corona is high structured and dynamic plasma formed by dense tubes of solar plasma. There are many kinds of transient phenomena occurring on various time scales from hours to few tens of milliseconds associated to the evolution of these dense tubes of solar plasma. Observed from decameter wavelength range (~ 20 MHz) up to microwave wavelengths (near 10 GHz) these bursts with characteristic time less than one second include spikes, spike-like, very short period pulsations (regular or irregular), dips in radio emission, bursts, zebra-pattern structures, etc. and this can be related with some kind of process of energy release fragmentation. In particular, solar flares are one of the paradigmatic active phenomena where magnetic energy stored in these structures is transformed into kinetic energy of highly accelerated particles via magnetic reconnection. Fine structure of solar radio bursts has utmost importance to solar researchers as the fine structure is considered as a manifestation of the structure of the shock wave responsible for generating the type II emission and thus provides information about processes occurring during the shock propagation through the near-solar space. A possible relationship between impulsive short-lived radio events and the microwave background had focused by various early works on the cluster or group of spikes and the background level. Some others have reported on the relationship between individual impulsive narrow band events and the microwave background.
background continuum. Another important aspect is the possible correlation between impulsive short-lived events and the background continuum on which they occur, particularly, between individual impulsive narrow-band events and the background continuum, indicating an inverse relationship between the intensity of impulsive events and the intensity of the level of background continuum emission on which they appear. It is very difficult indeed to relate them to primary flare energy release sources. If the growth index of the spike mechanism is greater than the background one, early spikes could obtain greater energy than later ones as the background mechanism extracts a significant part of the primary released energy. The basic structural element of all bursts in absorption was the spikes whose duration was close to the limit of the instrument resolution (8 ms) and the instantaneous frequency bandwidth was on average of ~70-80 MHz. The present investigation is based on three main aspects viz. (i) to study the dynamic spectrum of the Sun (ii) to gather knowledge on extra solar planets and (iii) to find a possible solar terrestrial relationship in the prevalent atmospheric condition.

The dissertation embodies a description of the investigations undertaken with the discussion of the results obtained thereof. The presentation of the results is preceded by a review the early works in the field and ends with a summary and scope for further investigations.

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