



Physical observational aspects of Jovian millisecond radio bursts

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We report on the physical observational parameters of Jovian millisecond radio bursts (S-burst) observed in the frequency range between 04 MHz to 40 MHz. The main aim is the comparison of these observational spectral features to a recent model proposed by Shaposhnikov et al. (2007). This model gives an explication on the origin of the Jovian narrow-band emission and its relation to the S-burst trains. In this study, we summarize and analyze the well know physical features associated to the S-bursts like: the frequency drift-rates, the dependence on the Jovicentric declination of the Earth, and the S-burst occurrence probability versus the central meridian longitude (so-called CML) and the phase (so-called Io-phase) associated to the Io-satellite. This analysis leads to show the importance of the Jovian narrow-band and particular observational feature like its oscillation around a mean frequency.

Reference: Shaposhnikov, V.E., A.V. Kostrov, M.E. Gushchin, S.V. Korobkov, A.V. Strikovskiy, Parametric mechanism for formation the fine structure in Jovian S-bursts, European Planetary Science Congress 2007, Potsdam, Germany, 20 - 24 August 2007.