

## **An estimation of the plasma parameters in the solar corona based on analysis of solar type III radio bursts**

# Kunihiro Sawada[1]; Takayuki Ono[2]; Masahide Iizima[3]; Atsushi Kumamoto[4]; Yasuaki Hiyama[5]

[1] Geophys., Tohoku Univ; [2] Department of Astronomy and Geophysics, Tohoku Univ.; [3] Geophysical Inst., Tohoku Univ.; [4] Tohoku Univ.; [5] NTT DoCoMo Tohoku, Inc.

<http://stpp1.geophys.tohoku.ac.jp/>

Fine structures of type III solar radio bursts in the decameter wavelength range from 15 MHz to 40 MHz have been investigated based on the Wideband Dynamic Polarimeter (WDP) system at Tohoku University Iitate observatory.

Type III solar radio signals which are received by two sets of orthogonal log periodic antenna are converted into left and right handed polarized signals. Finally, radio spectra from 15 MHz to 40 MHz are obtained every 500 msec by the swept-frequency polarimeter.

As a result, we have identified the periodicity of about 10 sec in the spectrogram of type III solar radio bursts. The occurrence probability of these phenomena is obtained as 8 %. The period distribution of the periodic radiation is from 6 to 25 sec which is longer than those derived from past researches. It is inferred that a large loop has some difficulty for keeping the bounce motion of wave packets.