

LANGMUIR WAVES AND TYPE III BURSTS OBSERVED BY THE WIND SPACECRAFT

SONJA VIDOJEVIC^{1, 2}, Arnaud Zaslavsky¹, Milan Maksimovic¹, Olga Atanackovic², Sang Hoang¹, Q. N. Nguyen¹

¹ LESIA Observatoire de Paris, Section de Meudon, 5, place Jules Janssen, Meudon Cedex, 92195 France, e-mail: sonja.vidojevic@obspm.fr

² Department of Astronomy, Faculty of Mathematics, University of Belgrade, Studentski trg 16, 11000 Belgrade, Serbia

Interplanetary electron beams, produced by CMEs and flares, are unstable in the solar wind and generate Langmuir waves at the local plasma frequency or its harmonic. Radio observations of those waves in range 4 kHz - 250 kHz from the WAVES experiment onboard the WIND spacecraft have been statistically analyzed. A subset of 10 events has been selected for this study. Background consisting of thermal noise and type III bursts has been removed and histogram of the remaining flux density spectra has been fitted by Pearson system of distributions. We discuss the results of this analysis, in particular the comparison of the mean values of the Langmuir waves histograms with the type III bursts radio power emitted in the same time

Type III radio bursts, Langmuir waves measured in situ

Sonja VIDOJEVIC, LESIA Observatoire de Paris, Section de Meudon, 5, place Jules Janssen, Meudon Cedex, 92195 France, e-mail: sonja.vidojevic@obspm.fr