oral

27th IAA SYMPOSIUM ON SPACE AND SOCIETY (E5)

Space Assets and Disaster Management (4)

Author: Dr. Alexander Makarov Yuzhnoye State Design Office, Ukraine, k3@optima.com.ua

Mr. Alexander Degtyarev
Yuzhnoye SDO European Representation, Ukraine, space@yuzhnoye.com
Mr. Sergii Moskalov
Yuzhnoye State Design Office, Ukraine, seimos@ua.fm
Mr. Dmitriy Galaburda
Yuzhnoye State Design Office, Ukraine, yuzhnoye.sdo@gmail.com
Prof. Valentin Shuvalov
Ukraine, Shuvalov@vash.dp.ua
Ms. Angela Zaitseva
Yuzhnoye State Design Office, Ukraine, yuzhnoye.sdo@gmail.com

MONITORING OF SEISMIC ACTIVITY AT SUB-SATELLITE TRACK USING IONOSPHERE DISTRUBANCES REGISTERED BY SATELLITE SENSORS

Abstract

Reaction of the ionosphere to seismic activity at the sub-satellite track appears as disturbance of concentrations and temperatures of charged and neutral particles and intensities of electric and magnetic fields, as well as precipitation of high-energy electrons and protons. Output data of satellite onboard sensors are proportional to local values of the ionosphere plasma parameters. Using examples of operation of onboard diagnostic sensors of satellites DEMETER (France), SCROSS-2 (India), Sich-2 (Ukraine) etc., it was shown in the report that onboard sensors (electric sensors of various modifications, wave probes, pressure probes etc.) make it possible to receive space-temporal distributions of a set of parameters of the ionosphere plasma in orbit and using localization of their disturbances to monitor seismic activity and identify space-temporal localization of epicenters of earthquakes arisen at the sub-satellite track at the moments of the satellite overflying.