Content description

This material supplements the research presented in the manuscript 'A Stochastic Gradient Boosting prediction model of GNSS ionospheric delay during a short-term rapidly developing geomagnetic storm for sub-equatorial region with geomagnetic field density components as predictors', authored by Renato Filjar, Oliver Jukić, Jasna Prpić-Oršić, and Serdjo Kos. It contains the following files:

rojs.R – the R script used for performing the research

darw076.Std, darw077.Std, darw078.Std, darw147.Std, darw148.Std, darw149.Std, darw250.Std, darw251.Std, darw252.Std, darw269.Std, darw270.Std, darw271.Std – Std files with TEC estimates for the days referred to in the manuscript, derived using the GPS-TEC software (https://seemala.blogspot.com/R) from the related GNSS pseudoranges observations in RINEX o files, provided by International GNSS Service (IGS) at: https://cddis.nasa.gov/archive/gnss/data/daily/

Dst.Mar2015.dat, Dst.May2017.dat, Dst.Sep2017.dat – monthly Dst estimates, as provided by International Service of Geomagnetic Indices (ISGI) for the time referred to in the manuscript, at: http://isgi.unistra.fr/data_download.php

7.dat, 8.dat, 9.dat, 17.dat, 18.dat, 19.dat, 26.dat, 27.dat, 28.dat, 27S.dat, 28S.dat, 29.dat – daily INTERMAGNET () data of components of the geomagnetic field density vector, as observed at Kakadu, NT for the days referred to in the manuscript

Data sets are presented in gthe original content, and in the form used in the research presented.

The R script has been developed by Dr Renato Filjar, Dr Oliver Jukić, and Prof Jasna Prpić-Oršić, for the purpose of research presented in manuscript 'A Stochastic Gradient Boosting prediction model of GNSS ionospheric delay during a short-term rapidly developing geomagnetic storm for sub-equatorial region with geomagnetic field density components as predictors', authored by Renato Filjar, Oliver Jukić, Jasna Prpić-Oršić, and Serdjo Kos. This software may contain pieces of code taken from description of various R packages and examples. It is provided on the as-is basis, for the sole purpose of reproducibility of our research. We do not accept any liability for possible errors and mis-interpretations.

On behalf of the co-authors:
Dr Oliver Jukić