TRAVELLING IONOSPGERIC DISTURBANCE (TID) DURING THE OCCURRENCE OF GEOMAGNETIC STORM USING MAGDAS DATA

This thesis is submitted in partial fulfillment for the degree of the Bachelor of Engineering (Honours) in Electronic (Communication) UNIVERSITITEKNOLOGI MARA (UiTM)

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Abstract

Magnetic Data Acquisition System (MAGDAS) through its Circum-Pan Pacific Magnetometer Network (CPMN) is a real time system magnetometers. The ordinary data from the MAGDAS is one of the datar that can be used for research or studies of variations like magnetic storm and aurora sub storms. The earth magnetic data that obtain from MAGDAS can also be used as earth magnetic data observation for space events such as geomagnetic storm. Geomagnetic storms one of the event that can damage satellites disable electric power grids. This paper focuses on monitoring and analysis MAGDAS data during the occurrence of space events such as geomagnetic storms and during ionosphere events such as Travelling Ionospheric Disturbance (TID) at different stations. The raw data is taken from different MAGDAS unit which are supplied by the Space Environment Research Centre (SERC) Kyushu University, Japan. The data were taken at different station to see its characterization and the different of earth magnetic field..Matlab program is used to simulate the MAGDAS data. Kp index also used as reference to identified the variations of ionosphere events. The results has been studies and analysis has been made. Result shown that there are 3 phase of geomagnetic storm occurrence. Through the earth magnetic field horizontal intensity (parameter H), TID have been detect. TID happen during occurrence of the aurora.