GEOMAGNETIC STORM AND TRAVELLING IONOSPHERIC DISTURBANCES (TIDs) EFFECT ON GEOMAGNETIC DATA

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ABSTRACT

A geomagnetic storm is a temporary disturbance of the Earth's magnetosphere. In one respect the solar storms themselves shield the Earth. They reduce the intensity of cosmic rays, energetic particles reaching the Earth from the Galaxy. Travelling ionospheric disturbances (TIDs) were said to occur depends on the present of geomagnetic storm. This project focused on the correlation between geomagnetic storms with travelling ionosphere disturbances (TIDs) and their effects on geomagnetic data. The geomagnetic data is based on Magnetic Data Acquisition System (MAGDAS). The geomagnetic data can be measured by using magnetometer, which is usually operating non-mechanically, that are capable of measuring the amplitude (strength) of the magnetic field, or of a component of the field. MAGDAS Data which are H, D, Z and F from Manado (Indonesia) station from 6 to 15 December 2006 were chosen to analyze the geomagnetic storm events, travelling ionospheric disturbances (TIDs) events and also geomagnetic storm with travelling ionospheric event. Travelling ionospheric disturbances can be assigned to large-scale travelling ionospheric disturbances (LSTIDs), medium-scale travelling ionospheric disturbances (MSTIDs) and small-scale travelling ionospheric disturbances (SSTIDs). The data were supplied by Space Environment Research Centre, Kyushu University Japan. The data have been selected based on Kp Index from 6 to 15 December 2006 and all these data are then analyzed by using MATLAB program. The results obtained gave a new knowledge and new finding about magnetic activities that relates to space activities.

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