

**MONITORING GEOMAGNETIC PARAMETERS DUE TO DAY AND NIGHT
TIME**

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**MIMI HARYANII BINTI NORINI
FACULTY OF ELECTRICAL ENGINEERING
UNIVERSITI TEKNOLOGI MARA
40450 SHAH ALAM,
SELANGOR, MALAYSIA
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ABSTRACT

Geomagnetic activity is one of the earth events that related to the several phenomena that occur in our solar system. This event can occurred due to many reasons and one of the reasons is due to day and night time. This project is employed to study relationship between geomagnetic activity and day and night time based on two stations. Data in this study were taken from Magnetic Data Acquisition System (MAGDAS) that received from Space Environment Research Center (SERC), Kyushu University. In this study, data are observed in two MAGDAS location which are situated at Manado, Indonesia (1.44°N , 124.84°E) and Onagawa, Japan (38.44°N , 141.48°E). These locations are taken to observe the comparison between effect at equatorial and low latitude. The MAGDAS data were consists of three components of magnetic field which are H, D, and Z. All these three components were analyzed during day time and night time by using their amplitude variation. This MAGDAS data was processed by using MATLAB software to plotting the graph to obtain the amplitude of the polarization. In order to prove the result obtain, all the evidence from the recent study was taken as a references. From this project, there are different effect obtain from the day and night time

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CHAPTER 1

PROJECT OVERVIEW

1.1 BACKGROUND OF STUDY

Geomagnetic activity is one of the earth's phenomena. Geomagnetic activity is referring to the phenomenon resulting from different rotation speeds by the different layers of our planet. It is the natural variations in the geomagnetic field classified into quiet, unsettled, active and storm conditions. descriptive levels of activity such as these are determined by the A index defined as follows: described as follows: A index less than 8 - "quiet"; A index from 8 up to and including 15 - "unsettled"; A index from 16 up to and including 24 - "active"; A index from 25 up to and including 35 - "minor storm"; A index from 36 upwards - "major storm" (IPS Radio & Space Services, 2001).

To observe the effect that have occur towards the geomagnetic activity, it is easy by looking at the geomagnetic parameters or the component of the geomagnetic field which consist of horizontal intensity (H), declination (D), and vertical intensity (Z), where (F) is the total intensity. The disturbance towards these three components occurred when electrical particles streaming from the sun cause the "solar wind" which warps Earth's geomagnetic field lines, flattening them on the sun-ward side and stretching them out on the downstream side. The influence of this distortion of the geomagnetic field is quite small near Earth's surface (except during solar eruptions associated with sunspots) and becomes larger with increasing distance from Earth (K. Endo 2009). It can be seen from Figure 1.1 below.