

**VARIATION OF TOTAL ELECTRON CONTENT (TEC) DURING DAY
TIME AND NIGHT TIME AT MALAYSIA'S IONOSPHERE**



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Prof.,

**PERMOHONAN MENDAFTAR PROJEK PENYELIDIKAN BAGI TUJUAN
PENGESAHAN JAWATAN**

Merujuk kepada perkara di atas, saya ingin membuat permohonan untuk mendaftarkan projek penyelidikan yang telah dilakukan dengan pembiayaan sendiri.

Tujuan pendaftaran ini bagi memenuhi syarat pengesahan jawatan ahli projek yang terlibat di dalam menyelesaikan penyelidikan tersebut. Maklumat tentang projek yang ingin didaftarkan adalah seperti berikut:

Tajuk : Variation of Total Electron Content (TEC) During Day Time and Night
Time at Malaysia's Ionosphere
Ketua Projek : Mohamad Huzaimy Jusoh
Ahli Projek : 1. Noriza Othman
2. Ahmad Asari Sulaiman

Bersama-sama ini saya sertakan dua salinan laporan projek tersebut yang telah siap dan mengikut format yang telah digariskan oleh pihak IRDC.

Semoga dengan perincian ini dapat memudahkan pihak Prof. memproses permohonan pendaftaran projek tersebut. Sekian, didahului dengan ucapan ribuan terima kasih.

Yang menjalankan tugas,



MOHAMAD HUZAIMY BIN JUSOH

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ABSTRACT

The ionosphere over Malaysia is unique because of its location near the equator line. Equatorial over a world are directly receive more sun radiation or ultra violet. The main purpose of this project is to study Total Electron Content (TEC) based on different time to evaluate the variation of TEC during day time and night time. The research of TEC is based on data collected from GPS receiver station at Universiti Sains Malaysia (Penang), Politeknik Ungku Omar (Ipoh) and Universiti Teknologi Mara (Arau). Normally, for every difference time the ionosphere will give difference value of TEC. From recent studies, parameter of ionosphere will change due to solar activity. The sun releases electromagnetic radiation, which is absorbed by the atmosphere around the earth. This radiation has the potential to disturb or ionize the ionosphere, the outer most layer of the atmosphere, and this then affects radio waves, including Very Low Frequency (VLF) waves, that are reflected by the ionosphere.

CHAPTER 1

INTRODUCTION

1.1 Project Overview

The analysis of Total Electron Content (TEC) is important to monitor the behavior of the ionosphere for some practical applications like satellite tracking, satellite to satellite communication, satellite to ground communication and all communication system using satellite such as satellite TV and satellite telecommunication. Several countries like Europe, Japan and China have been accomplished the TEC analysis over their own ionosphere region to improve satellite communication system. But in Malaysia the TEC analysis over Malaysia's ionosphere is not been explored extensively. The ionosphere over Malaysia is unique because of it location near to the equator line, as the equatorial is absorb more solar radiation and ultra violet compare to European countries. Figure 1.1 shows the solar activity during day and night time.

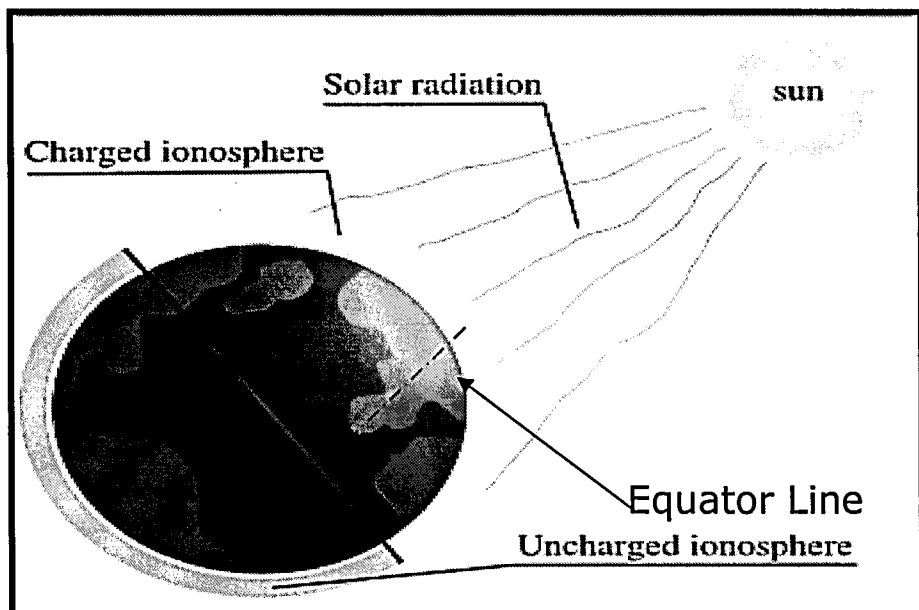


Figure 1.1: Solar activity during day and night [13]