

IAF SPACE COMMUNICATIONS AND NAVIGATION SYMPOSIUM (B2)  
Interactive Presentations - IAF SPACE COMMUNICATIONS AND NAVIGATION SYMPOSIUM (IP)

Author: Ms. Brelveenraj Kaur Rajwant Singh  
Universiti Sains Malaysia, Malaysia

Dr. Aiffah Mohd Ali  
Universiti Sains Malaysia, Malaysia

Dr. Siti Aminah Bahari  
Universiti Kebangsaan Malaysia (UKM), Malaysia  
Prof. Mardina Abdullah  
Universiti Kebangsaan Malaysia (UKM), Malaysia

IONOSPHERIC TOTAL ELECTRON CONTENT (TEC) FROM GPS RECEIVERS AT KUALA  
LUMPUR INTERNATIONAL AIRPORT, MALAYSIA

**Abstract**

The growing popularity of long-haul flights has brought attention to how important space-based technologies like the Global Navigation Satellite System (GNSS) are to aviation navigation. Airports have used augmentation systems as a result of this trend, which has decreased traveller interruptions and delays. The Instrument Landing System (ILS) has been replaced with the Ground-Based Augmentation System (GBAS) in order to increase runway throughput. Amplitude scintillation is a term for the ionospheric anomalies that are common in equatorial places, such as Malaysia (4.12 N, 101.58 E). The performance of the GNSS is threatened by these anomalies, especially when ground receivers and aircraft's ability to communicate using GBAS becomes less reliable. As a result, GPS receivers may concurrently lose hold on one or more satellite signals. This study looks at the behaviour of Total Electron Content (TEC) on three GPS receivers that are situated at Kuala Lumpur International Airport (KLIA) from September 2017 to September 2018. The data were provided by the Malaysian Civil Aviation Authority (CAAM). The findings clarified the TEC relation to solar minimum activity in a low-latitude area