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Title: Open Space Modelling for the Mobile Satellite L-band Signal in Sarawak

Mobile Satellite (MS) L-band signal that propagates from the transmitting satellite to the receiver experiences attenuation effect due to severe factors such as shadowing, multipath and ionospheric effect. By means of data acquisition system using the Global Positioning System (GPS) technology, data measurement and analysis has been carried out under open space environment in Sarawak and Fukuoka. The programs and databases are developed for satellite propagation parameters extraction for later analysis purposes. Results are presented in the forms of received signal performance, fade analysis, Cumulative Distribution Function (CDF) of certain GPS satellites and Total Electron Content (TEC) comparisons. General empirical modelling that represent the open space signal strength in Fukuoka and Sarawak are developed. The characteristic of open space MS signal due to the effect of the ionosphere in Sarawak should be determined in order to predict signal performance so that the Quality of Service (QoS) provided to users can be improved.