

G.14 Comparison of WBMOD scintillation predictions with GPS scintillation observations during solar maximum conditions

M. A. Cervera¹ (manuel.cervera@dsto.defence.gov.au), R. M. Thomas¹, K. M. Groves², A. G. Ramli³, W. Salwa Hasan³, Effendy⁴, P. Totorong⁵, and J. Du⁶

¹Surveillance Systems Division, Defence Science and Technology Organisation, PO Box 1500, Salisbury SA 5108, Australia.

²Air Force Research Laboratory, Hanscom Air Force Base, USA

³DSTC, Ministry of Defence, Malaysia

⁴Ionospheric Research and Development Centre, LAPAN, Indonesia

⁵Military Research and Development Center, Bangkok

⁶TPS Radio and Space Services, PO Box 1386, Haymarket, NSW 1240, Australia

In this paper we compare predictions of ionospheric scintillation from the climatological model WBMOD with data obtained from Ionospheric Scintillation Monitors (ISM) based on GPS receivers in the southeast Asian region during the solar maximum conditions. Results using data from each of our sites located at Marak Parak (Malaysia), Parepare (Indonesia), Pontianak (Indonesia), Vanimo (PNG), Chiang-Rai (Thailand) and Darwin (Australia) will be presented. We found that WBMOD tends to concentrate the scintillation activity in the anomaly regions to a greater degree than that displayed by the data with it significantly underpredicting the level of scintillation activity at the geomagnetic equator. In addition we observed that the scintillation activity predicted by WBMOD cut off too early in night. These results and their implications will be discussed in detail.