

# PRELIMINARY COMPARISONS OF THE IPS HF SKYWAVE PROPAGATION MODEL WITH IONOSPHERIC SOUNDING DATA

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## ABSTRACT

The availability of oblique radio sounding data through the ionosphere has offered the opportunity of comparison with the IPS HF radio propagation model. The model is at the core of space weather prediction systems in the Regional Warning Center, Advanced Stand Alone Prediction Service (ASAPS) software and the system to determine the coverage of HF skywave for over-the-horizon -communication or surveillance networks. The ionospheric sounding between New Zealand and the east coast of Australia indicates the maximum first-hop oblique frequency (FMUF) to compare with that produced from real time vertical radio sounding and converted to an oblique equivalent via the propagation model. The relation between the observed and modelled data is examined as a function of ionospheric and solar activity parameterised by the T index, diurnal variation and the ionospheric gradient between the transmitter and receiver.