

FADING OF HIGH FREQUENCY RADIO SIGNALS PROPAGATING IN THE IONOSPHERE - RESULTS FROM THE JINDALEE RADAR EXPERIMENT

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ABSTRACT

The use of High-Frequency (HF) radio-wave propagation in the ionosphere is still prevalent. The ability to acquire the behaviour of the channel and the knowledge of how the channel will affect the propagating signals is imperative to ensure the reliability, and maintain adequate performance, of modern wide-bandwidth HF systems. An experiment to study the fading of HF signals propagating in the ionosphere has been conducted. Using the Jindalee Over-The-Horizon (OTH) radar, the behaviour of the ionospheric channel and wide bandwidth fading signal observations were captured. In this paper, results from the experiment will be presented, and the potential uses for the set of experimental data will be discussed.