

Modeling over the sea surface within elevated duct

Imadeldin Elsayed Elmutasim, Izzeldin I. Mohd

Faculty of Electrical and Electronics Engineering, Universiti Malaysia Pahang (UMP), Pekan,
Pahang, Malaysia

ABSTRACT

Modeling marine environment is a rapidly evolving field expected to gain more concentration in wide aspects. Sea environment duct accounted as analytical comparative study utilizing super high frequencies SHF to investigate different parameters affect the signal propagation, which consider nonuniform nature in term of variation of electromagnetic prosperities in the duct causes different phenomena such as refraction and bending. This paper takes into account the matter via focus in elevated duct to compare with sea surface and model the refractivity profiles utilizing parabolic equation. The key goal of the work is to present fading phenomenon affect, which is caused by various atmospheric parameters and proof it does not exclusively influence the path loss, but also the sea specification itself could play a vital role in term of propagation factor such as electric field which is different from sea to another. So, this proofing would helps researchers which are working in the area to design and select appropriate model and give a reliable wireless communication when consider the coastal link budget. This work result emphasized the versa correlation between the coverage area and frequency in sea environment, and makes sure that the reduction due to several common parameters becomes clear at higher gigahertz frequencies. Overall the proposal considers the coastal ducts from refractive profiles viewpoint to ensure reliable link over the sea.

KEYWORDS

Elevated duct; Refractive profiles; Propagation factor; Fading; Loss

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