

Title of Article: Studies of Propagation Impairments on Earth Space Path for FixedSatellite links at Microwave Frequencies in Nigeria.

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Outlet: ISBN: 978-3-8433-7131-5 LAPLAMBERT Academic publishing GmbH &Co.KG and licensors (2010).

Abstract: Radio wave propagating between and earth-space links are adversely affected by atmospheric gases, rain, clouds, and tropospheric scintillation. The problems become more acute for countries located in the tropics. The effects of the troposphere on microwave signals due to high rain intensities lead to severe signal attenuation and outage. The objective of this work is to estimate propagation impairments on earth-space links in Nigeria, by using current meteorological (In-situ) ground data and satellite data. The telecommunication market is driven by increasing demand for multimedia services, which require wide bandwidths for high data rates available at Ka and V-band. Therefore the estimated propagation parameters such as cloud, rain, and gaseous attenuation among others, are very useful for satellite communication system designer. The database of this work will help in Planning, budgeting, and predicting transmission and reception of radio wave signals and maintain a high quality of radio wave reception during tropical rainfall. The choice of appropriate satellite equipments for Uplink and down link budget control in reception to efficient all-year-round transmissions..