

Ministry of Higher Education

And Scientific Research

University of Diyala

College of Engineering

Communication Engineering Department



Rain attenuation time series synthesizer for the satellite link in Middle East region (Iraq)

A Project

Submitted to college of Engineering in partial Fulfillment of the Requirement for the Degree of Bachelor of Science in Communication Engineering

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2013

ABSTRACT

This Project presents and implements the Tropospheric attenuation time series synthesizer ITU-R P.1853 recommendation to simulate the time series rain attenuation of the propagation channel particularly in middle east region. The accuracy and applicability of this recommendation will be validated by comparing long-term rain attenuation statistics produced with the currently available literature results. The primary objective of this paper is to investigate the performance of the rain attenuation time series synthesizer in terms of first order statistics (Rain Attenuation). The 1st order statistic will produced by using to different values of rain rate for ITU-R 837 and the data of 3 years collected in Baghdad. Then comparison will be obtained for both ITU-R 1853 and ITU-R 618 to see the difference in 1st order statistic between them. Also, this thesis will show the effect of different elevation angles by using two different satellites (NILESAT and ARABSAT).

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