Abstract

In this paper, the performance evaluation of Differential Quadrature Phase Shift Keying (DQPSK) and Quadrature Amplitude Modulation-16(QAM) in the propagation of signal through troposphere is presented. Very High Frequency (VHF) range is widely used in FM(frequency modulation) broadcasting, satellite television, air traffic controlling (ATC), navigational aids in addition to the modern third generation high speed data communications. However the factors like rain, wind and dust causes impairments to the communication process to a great extent. So the proper modeling of the propagation channel in tropospheric communication, considering these factors is necessary. By choosing a suitable modulation scheme and using effective channel coding the signals can be faithfully communicated. In this work, the bit error rates (BER), scatter plot and eye diagrams are simulated to compare the performance of communication.

References

- K. A. Norton, "Point to point radio relaying via the scatter mode of tropospheric propagation," IRE Transactions On Communication Systems, vol. no. 4, pp. 39-49,
1956.

**Index Terms**

Computer Science

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**Keywords**

Rain Attenuation  Dust Attenuation  DQPSK  16-QAM  BER Curve  Eye Diagram

Convolutional Coding.