

## A COMPREHENSIVE COMPARATIVE STUDY OF FADING CHANNELS

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### ABSTRACT

For Design And performance evolution of wireless digital communication system the most important part is the simulation of wireless channel as whole performance of the system is depend upon the channel. In this paper the performance of three wireless channels, AWGN, Rayleigh and Rician have been evaluated. These three channels are most widely used in Single Input Single Output (SISO) and Multiple Input Multiple Output (MIMO) communication system. The performance is evaluated on the basis of Bit Error Rate (BER) versus signal to noise ratio (SNR) . The stimulation results shown the performance of different channel models based on BER at different SNR. The Rayleigh channel model is the most suitable model for urban areas as it is the model which simulates a channel with no Line of Sight (LOS) path and is the most difficult environment.

**KEYWORDS:** Fading Channels, Rayleigh, Rician, BER