Abstract

The principle objective of this work is to enhance the knowledge about channel estimation and to compare the existing channel estimation techniques under different channel conditions. Normally the received signal is corrupted by the channel (Multipath, ISI). The estimation of a time-varying multipath fading channel is a difficult task for the receiver. Its performance can be
improved if an appropriate channel estimation filter is used according to the prior knowledge of the fading channel. In this work the two popular estimation algorithms, viz., LMS and RLS are studied with respect to AWGN, Rician and Rayleigh channels. The simulation is performed in MATLAB platform.

Reference

- Rabindranath Bera, Sanjib Sil, Sourav Dhar and Subir K. Sarkar (2008), “Wi-Fi, WiMax and WCDMA A comparative study based on Channel Impairments and Equalization method used” International Symposium on Microwave, December 2008, Bangalore, India
- Jones et al. “Adaptive Filtering: LMS Algorithm”-02.06.2005 16:10 filterdesign exercise in matlab (http://cnx.rice.edu/content/m10623/latest/).
Index Terms

Computer Science  Signal Processing

Key words

LMS (Least Mean Square)  RLS (Recursive Least-Squares)
AWGN (Additive white Gaussian noise)  Rayleigh Fading
Channel & Rician Fading Channel