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

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  - Additive white Gaussian noise online available at: http://en.wikipedia.org/wiki/Additive_white_Gaussian_noise
  - Rician fading online available at: http://en.wikipedia.org/wiki/Rician_fading

**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