Abstract

The site-specific or statistical channel models can be precisely characterize the propagation channel, their parameters depend on channel statistics and accurate database, making them difficult for implementation. In mobile communication system, a simple model with few parameters to estimate or transmit is of great interest. A new model is proposed using both Fourier and Wavelet transform as a decomposition basis for outdoor propagation. The path loss is decomposed on wavelet packet basis function resulting in scaling and wavelet coefficients. Hard thresholding is used to compress these coefficients as much as possible. Different threshold levels have been tested to find the mean square error (MSE) due to reconstructed path loss after compression. Propagation models for mobile communication system have been evaluated and compared based on this modeling scheme.

References

Best Fit Wavelet Function for Path Loss Prediction in Wireless Communication System


Index Terms

Computer Science

Wireless

Keywords
Propagation model, Path loss, Best fit Wavelet function, Hard and soft thresholding