Sparse Channel Estimation using Hybrid Approach for OFDM Transceiver

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Abstract

Orthogonal Frequency Division Multiplexing (OFDM) is very sensitive to frequency offsets that is use to demolish the orthogonality among number of subcarriers. The OFDM introduced the inter-carrier interference and it is also capable of degrading the error performance. The channel estimation plays an important role to make OFDM more efficient. Proposed approach uses hybrid technique for Sparse Channel Offset (SCO) estimation in orthogonal frequency division multiplexing (OFDM) over frequency selective fading channel by using pilot tone and Hamming window filtering approach. Proposed approach uses hamming windows function in order to optimize Fast Fourier Transform channel estimation algorithms. Common window functions are: Rectangular window, Hanning window and Hamming window. Hamming window function as the main lobe has a good width and side-lobe decay rate. The result of the proposed approach is better than the previous approaches.

References
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Index Terms

Computer Science  
Signal Processing

Keywords
OFDM, Channel Estimation, Pilot Carrier