



Channel Estimation using STTC Index Modulation for MIMO-OFDM

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Abstract:

In wireless communication, orthogonal frequency division multiplexing (OFDM) plays a major role because of its high transmission rate. In space-time shift keying (STSK), the information is conveyed by both the spatial and time dimensions, which can be used to strike a trade-off between the diversity and multiplexing gains. On the other hand, orthogonal frequency division multiplexing (OFDM) relying on index modulation (IM) conveys information not only by the conventional signal constellations as in classical OFDM, but also by the indices of the subcarriers. In this paper compressed sensing (CS) is studied in order to increase throughput and bit-error performance by transmitting extra information bits in each subcarrier block as well as to decrease the complexity of the detector. In this paper, soft trellis decoding algorithm is implemented with channel estimation using MMSE technique.