



SYNCHRONISATION AND DC-OFFSET ESTIMATION FOR CHANNEL ESTIMATION USING DATA-DEPENDENT SUPERIMPOSED TRAINING (WedPmOR8)



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★ Abstract :

The problem of channel estimation, under the data-dependent superimposed training (DDST) scheme, when no synchronisation between transmitter and receiver exists, is considered in this paper. The structure induced by the training sequence embedded in the transmitted signal is used to achieve synchronisation via projection operators, from which first, the value of the DC-offset and second, the channel coefficients can be extracted. The conditions for synchronisation, channel estimation and DC-offset estimation are derived. Note that this is the first synchronisation and DC-offset estimation method presented for channel estimation using the recently published DDST algorithm. Finally, simulations are presented that illustrate the successful practical application of our proposed method.