FREQUENCY OFFSET ESTIMATION BASED ON PHASE OFFSETS BETWEEN SAMPLE CORRELATIONS (WedAmOR4)

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Abstract :

This paper deals with frequency offset estimation algorithms that exploit sample correlations of the examined sequence as described in papers by Mengali and Morelli. While previous work has only considered the phase offsets between succeeding correlation values, we want to demonstrate that it is possible to obtain better results by considering phase offsets between more correlation lags. The improvement is especially notable for low signal−to−noise ratios (SNR). Further, we will show, that it is possible to either improve performance, by restricting the estimation range (with no additional complexity) or by using more complex algorithms without having to sacrifice estimation range.

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