



BIT RATE COMPARISON BETWEEN MIMO CYCLICALLY PREFIXED SINGLE CARRIER AND MULTICARRIER TRANSMISSIONS (TueAmOR3)

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✳ Abstract :

We consider cyclically prefixed block transmission over frequency selective wireless multiple input multiple output (MIMO) channels. We make a bit rate comparison between MIMO cyclically prefixed single carrier (CP-SC) and MIMO orthogonal frequency division multiplexing (OFDM) systems. We analytically prove that MIMO CP-SC with decision feedback equalization (DFE) outperforms MIMO OFDM with linear receiver. Moreover, we show that spatial linear precoding on the OFDM tones, leading to a discrete matrix multitone (DMMT) scheme, enables to close the gap and to perform as well as MIMO CP-SC with DFE.