A SEQUENTIAL MONTE CARLO METHOD FOR BLIND PHASE NOISE ESTIMATION AND DATA DETECTION (TueAmOR4)

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Abstract :

In this paper, a computationally efficient algorithm is presented for blind phase noise estimation and data detection, jointly, based on a sequential Monte Carlo method. The basic idea is to treat the transmitted symbols as "missing data" and draw samples sequentially of them based on the observed signal samples up to time t. This way, the Bayesian estimates of the phase noise and the incoming data are obtained through these samples, sequentially drawn,together with their importance weights. The proposed receiver structure is seen to be ideally suited for high−speed parallel implementation using VLSI technology.

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