Performances of Chaotic CSK and DCSK systems with maximum likelihood detection

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References:
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Abstract:
Nonlinear dynamic based systems that are generated using chaotic sequences are analyzed in this paper. Special attention is given to CSK (Chaos Shift Keying) and DCSK (Differential Chaos Shift Keying) system performances evaluation for maximum likelihood detection using Viterbi algorithm. Originally results, obtained by computer simulation are compared with analytical and simulation results for CSK and DCSK systems with correlation detector. Also, comparation with classical telecommunications systems is given, and problem of chaotic sequences synchronization and orthogonallity are considered.

Keywords:
Chaotic systems, Chaos Shift Keying, maximum likelihood detection, symbolic dynamics., Differential Chaos Shift Keying