

A Rapid Code Acquisition Scheme in OOC-Based CDMA Systems

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Abstract : We propose a code acquisition scheme called improved multiple-shift (IMS) for optical code division multiple access systems, where the optical orthogonal code is used instead of the pseudo noise code. Although the IMS algorithm has a similar process to that of the conventional MS algorithm, it has a better code acquisition performance than the conventional MS algorithm. We analyze the code acquisition performance of the IMS algorithm and compare the code acquisition performances of the MS and the IMS algorithms in single-user and multi-user environments.

Keywords : code acquisition, optical CDMA, optical orthogonal code, serial algorithm

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