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Enhancing Optical-CDMA-FTTH Network Confidentiality With Multicode-Keying Encryption

A Graduate Project Submitted to the Department of Information Security of the College of Information Technology, University of Babylon, in Partial Fulfillment of the Requirements for the Bachelor's degree in Information Security of Information Technology.

By

Fatima Mahdi Obaid

Supervised by

Dr.Alaa H. ALjarah

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Abstract

Nowadays, Optical Code Division Multiple Access (OCDMA) is useful as the most popular technique in multiple access key systems. In communication networks, tradeoff between the execution of framework and also, framework security issues has not been discussed in many researches. In above two cases security is a main issue in any communication channel, the security method employed may have implications on system performance. Optical code-division multiple-access (optical CDMA) technology is a multiplexing technique revised from the successful implementation in various communication networks. OCDMA is a superior arrangement for many applications because it gives physical layer security while providing significantly wide bandwidth. Optical CDMA is becoming a very attractive option in all optical communication as different users can get to the system non-concurrently at the same time with the abnormal state of security when contrasted with other multiplexing strategies.