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Emerging Optical CDMA Techniques in AllOptical Networks

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Abstract

The occurring information explosions and the need to transport them securely in not-so distance future communications systems are the major thrust behind designing the future networks upon optical fiber technology using code division multiple access techniques (CDMA). In this talk we first discuss the notion of information explosion followed by the need that in any future high rate communications systems with bursty traffic, such as optical internet and fiber-to-the-home (FTTH) networks, the information access technology must remain as simple as possible and robust. We will further discuss that the above needed simplicity and robustness are achieved via optical CDMA technique, in which each user within the network is assigned a unique and minimally interfering optical codes in order to reach its destination. This talk will give an indepth overview of the activities taken place worldwide and in Iran regarding emerging optical CDMA techniques for future all-optical networks.