

## **New Result for Optical OFDM in Code Division Multiple Access Systems Using Direct Detection**

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**Abstract :** In optical communication systems, OFDM has received increased attention as a means to overcome various limitations of optical transmission systems such as modal dispersion, relative intensity noise, chromatic dispersion, polarization mode dispersion and self-phase modulation. The multipath dispersion limits the maximum transmission data rates. In this paper we investigate OFDM system where multipath induced intersymbol interference (ISI) is reduced and we increase the number of users by combining OFDM system with OCDMA system using direct detection Incorporate OOC (orthogonal optical code) for minimize a bit error rate.

**Keywords :** OFDM, OCDMA, OOC (orthogonal optical code), (ISI), prim codes (Pc)

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