



# T.J.S ENGINEERING COLLEGE

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TJS Nagar, Peruvoyal, Near Kavaraipettai, Gummidipoondi Taluk, Thiruvallur District -601206



# Collaborative Research Publications

# A Novel Modulation and Multiplexing Schemes for Analysis of Wireless High Speed Optical Fiber Communication System

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Electronics and Communication Engineering, TJS  
Engineering College



## Abstract

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II. OPTICAL FIBER  
COMMUNICATION  
SYSTEM MODEL

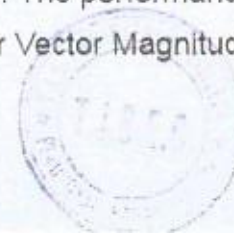
III. SIGNAL MULTIPLEXING  
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## Abstract:

One of the basic needs of people is to communicate with each other. Many advanced communication schemes and devices have been designed to fulfill the requirement of the users. The invention of such advanced applications have led to huge increases in bandwidth. To meet the demands of bandwidth due to multiple users at the same time, various modulation and multiplexing schemes have been developed. Moreover, the designed fiber system must achieve the desired data rate that must have robust transmission and be cost efficient. This study's goal is to construct a full-duplex communication system using SMF and FSO (FSO). In places where cost of implementation becomes more or optical fiber is not applicable for laying, then the systems with FSO link are employed. With the use of pilot-assisted Coherent optical orthogonal frequency division multiplexing (CO-OFDM), Optic 16-QAM is utilized to boost data rate and transmit range. To improve the Figure of Merit (Fom) of a full duplex system, optical 16-QAM, 32 QAM, 64 QAM or 256 QAM has been used. The performance has been studied under various weather conditions.

Numerous characteristics such as the Error Vector Magnitude (EVM), the Bit Error Rate (BER), the eye diagram, the

<https://ieeexplore.ieee.org/author/37089029957>



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