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3.3.2 NUMBER OF RESEARCH PAPERS PER TEACHERS IN THE JOURNALS NOTIFIED ON UGC WEBSITE DURING THE YEAR

Year	2021 - 2022				
	SCI	SCIE	SCOPUS	UGC Care 1	UGC Care 2
Number of Journal Publications	1	Nil	5	Nil	Nil

List research papers per teachers in the journals notified on UGC website during the year 2021-2022

Title of paper	Staff	Dept.	Name of journal	Web Link	Page No.
Logistic Regression with Elliptical Curve Cryptography to Establish secure IOT	Dr.S.VELMURUGAN	ECE	Computer Systems Science and Engineering	https://www.techscience.com/csse/v45n3/50738	2
Wireless Networks in Providing Extraordinary Quality of Experience for camera consumers	Dr.S.VELMURUGAN	ECE	American Institute of Physics	https://aip.scitation.org/doi/abs/10.1063/5.0110839	3
A Novel Modulation and Multiplexing Scheme for Analysis of Wireless high speed optical fiber communication System	Dr.M.SATHYA PRIYA	ECE	IEEE	https://ieeexplore.ieee.org/document/9850893	4
RASPBERRY Pi Processor based I-Gloves for Mute Community for Home Automation Systems	Dr.M.SATHYA PRIYA	ECE	IEEE	https://ieeexplore.ieee.org/document/9782194	5
Dielectric relaxation and optical properties in ferroelectric bis (methylammonium) tetrachloro zincate single crystal	S. ANITHA	S&H	Ferroelectrics	https://www.tandfonline.com/doi/abs/10.1080/00150193.2021.1991215	6
Prospective theoretical investigations of optical, dielectric, mechanical and third-order NLO property in potassium tri-hydrogen di-succinate single crystal	S. ANITHA	S&H	Chinese Journal of Physics	https://www.sciencedirect.com/science/article/abs/pii/S0577907321003233	7

Logistic Regression with Elliptical Curve Cryptography to Establish Secure IoT

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Abstract: Nowadays, Wireless Sensor Network (WSN) is a modern technology with a wide range of applications and greatly attractive benefits, for example, self-governing, low expenditure on execution and data communication, long-term function, and unsupervised access to the network. The Internet of Things (IoT) is an attractive, exciting paradigm. By applying communication technologies in sensors and supervising features, WSNs have initiated communication between the IoT devices. Though IoT offers access to the highest amount of information collected through WSNs, it leads to privacy management problems. Hence, this paper provides a Logistic Regression machine learning with the Elliptical Curve Cryptography technique (LRECC) to establish a secure IoT structure for preventing, detecting, and mitigating threats. This approach uses the Elliptical Curve Cryptography (ECC) algorithm to generate and distribute security keys. ECC algorithm is a light weight key; thus, it minimizes the routing overhead. Furthermore, the Logistic Regression machine learning technique selects the transmitter based on intelligent results. The main application of this approach is smart cities. This approach provides continuing reliable routing paths with small overheads. In addition, route nodes cooperate with IoT, and it handles the resources proficiently and minimizes the 29.95% delay.

Keywords: Wireless sensor network; internet of things; security; elliptical curve cryptography; machine learning; regression analysis

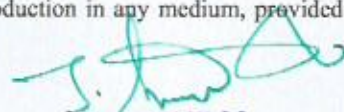
1 Introduction

WSN is the leading technology necessary for the execution of the IoT structure. IoT's operational ability and energy established the network communication, cost-effectiveness, dependability, stability, and dynamic function [1]. IoT is talented naturally from the internet. The things associated with the internet differ significantly in terms of characteristics. IoT is promising as a dynamic cyber-physical network that



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Wireless networks in providing extraordinary quality of experience for camera consumers

AIP Conference Proceedings 2523, 020068 (2023); <https://doi.org/10.1063/5.0110839>

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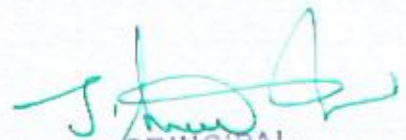
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A Novel Modulation and Multiplexing Schemes for Analysis of Wireless High Speed Optical Fiber Communication System

Publisher: IEEE

Cite This

PDF

S Priyadarshini ; L Ashok Kumar ; M Sathya Priya ; V Samuthira Pandi All Authors

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Full

Text Views

Electronics and Communication Engineering, TJS
Engineering College



Abstract

Document Sections

- I. Introduction
- II. OPTICAL FIBER COMMUNICATION SYSTEM MODEL
- III. SIGNAL MULTIPLEXING TECHNIQUES

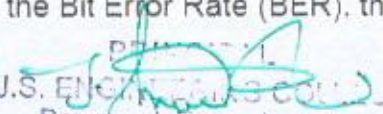
Abstract:

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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Raspberry Pi Processor-based i-Gloves for Mute Community and Home Automation System

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Abstract – Communications plays the major role for sharing our thoughts and make others to understand our point of view. But the major difficulty faced by the deaf and dumb people is speaking and hearing illness. Dumb people use sign language to convey their thoughts but most of the people aren't know about the sign language which make them more difficult in sharing their thoughts. This research helps the deaf and dumb people to convey their thoughts without any difficulties. The aim of the research is to develop a cost efficient system to help the dumb people. In this project the sign language is converted into a text and voice over mechanism. The sign language gesture is analyzed using the flex sensor and then it gets converted into a text and voice. The output is displayed using the speaker. The data processing will be done using the processor. The gesture recognition will follow the principle of Hall Effect. This system helps the deaf and dumb people to get a chance to grow in their respective carrier and extended to home automation system.

Keywords—Gesture recognition, i-gloves, flex sensor, Raspberry Pi, Home Automation.

I. INTRODUCTION

India has 2.4 million dumb and deaf people, accounting for 20 percent of the world's dumb and deaf population. This individual lacks the basic necessities that a normal person should have. The main reason for this is a lack of communication, as deaf people can't hear and dumb people can't communicate. This declining ratio of literate and employed dumb and deaf people is due to physical hearing impairment in deaf people and speech impairment in dumb people, resulting in a lack of communication between normal people and dumb and deaf people. It's the same difficulty as when two people speak two different languages and neither of them speaks the other's native tongue. It's difficult for them to communicate with each other, and they need a translation, which isn't always easy to get. To address this issue, one-of-a-kind applications were developed. This application model is a

desired Interpreter that converts natural English sentences as text input for a deaf person and sign language in the form of a dumb person's gesture to synthesized English words with a corresponding meaning in sign language as an audio output for a normal person. By bridging the communication gap, this will help both normal and deaf and dumb civilizations.

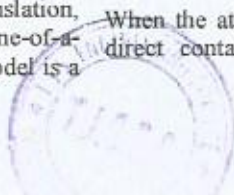
The major goal of the proposed work is to create a cost-effective system that uses i-Gloves to provide voice to the silent. It means that when a deaf person uses i-Glove, they are able to communicate with others, bridging the gap between disabled and non-disabled people. This strategy can be used to solve problems that deaf people have in the workplace. As a result, an intelligent microcontroller-based system employing Flex sensors was built in the proposed study.

II. REVIEW ON SMART GLOVE

[1]Have proposed a smart glove for physically challenged people to use for remote control. The creation of a smart glove that allows a physically challenged person to execute simple tasks such as turning on a light, turning on a fan, ringing an emergency alert, and so on. These actions can be carried out by making a basic gesture such as folding a finger and mapping the movements to the appropriate action. The device is simple to use and can be adopted by anyone to assist patients. Because of the RF transmission employed, the range of functioning is currently limited. The transmission range can be extended by using Zigbee.

[2] Described a Wrist Ambulatory Monitoring System and Smart Glove for Real-Time Emotional, Sensorial, and Physiological Analysis. The Modular Autonomous Recorder Device for Autonomic Nervous System Measurement is a wrist-worn ambulatory monitoring and recording system that incorporates a smart glove with sensors for autonomic nervous system activity detection. The system consists of a "smart tee shirt," a "smart glove," a wrist device, and a data-capturing PC. The smart glove is one of Modular Autonomous Recorder Device most crucial features.

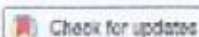
When the athlete's hands and the workout environment are in direct contact,[3] have introduced a smart glove that can



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Dielectric relaxation and optical properties in ferroelectric bis(methylammonium) tetrachloro zincate single crystal

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ABSTRACT

Bis (Methylammonium) tetrachlorozincate [MAC-Zn] is a well-known ferroelectric crystal. The crystal was synthesized by slow evaporation technique at room temperature. The grown crystal when subjected to single crystal X – Ray diffraction reveals that it belongs to monoclinic system. Dielectric properties, impedance spectroscopy and optical properties were analyzed. The variation of dielectric constant, dielectric loss, real and imaginary part of dielectric modulus were explored at different temperatures and frequencies. The yielded crystal exhibits Debye – type relaxation behavior and Correlation Barrier Hopping (CBH) conduction mechanism. The Debye phonon frequency and Debye temperature were calculated using dielectric studies. The resistance of the MAC-Zn crystal was determined using impedance spectroscopy. The theoretical calculation of optical transmittance, reflectance, refractive index, electrical conductivity, optical conductivity, electrical susceptibility and optical polarizability were calculated using optical studies and the results were discussed elaborately.

ARTICLE HISTORY

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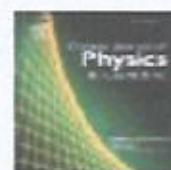
KEYWORDS

Dielectric study; impedance spectroscopy; activation energy; CBH model; optical constants



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Prospective theoretical investigations of optical, dielectric, mechanical and third-order NLO property in potassium tri-hydrogen di-succinate single crystal

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ARTICLE INFO

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Urbach energy
Raman analysis
Photoconductivity
Photoacoustic study
Z scan

ABSTRACT

A potassium third-order nonlinear optical crystal potassium tri-hydrogen di-succinate (PTHS) ($\text{C}_8\text{H}_{11}\text{O}_7\text{K}$) is grown by conventional slow evaporation technique maintained at 303 K. Single crystal XRD analysis (SXRD) evidences the grown crystal pertain to centrosymmetric space group $P2_1/c$ with monoclinic crystal system and powder X-ray diffraction (PXRD) confirms the purity of the grown crystal. The existence of various functional groups was assessed by Fourier transform infrared (FTIR) spectral analysis and the optical absorption study authenticates to the transparency in the visible region. RCP-OES study substantiates the prevalence of alkali metal potassium. Interestingly, the Urbach energy of the grown crystal is explored to be minimum proving the good crystalline nature of the yielded crystal. The various optical constants were calculated in detail. The optical band gap was used to determine the position of the valence band (E_v) and conduction band (E_c) and the Wemple D-Domenici single oscillator method was used to find the different dispersive parameters. In dielectric, the various solid state parameters including electronic polarizability were calculated with different formulas and the value was proved to be higher than that of KDP. To determine the mechanical stability, Vickers microhardness test was carried out and their indentation size effect was elucidated by using different models. The crystal exhibits negative photoconductivity. By using photo-acoustic study, the thermal diffusivity value is 1.25 times greater than standard KDP, signifying that the harvested crystal is remarkable material for nonlinear optical applications. In brief, the real and imaginary parts are reviewed by Z-scan technique and the susceptibility was compared with other single crystals.



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