International Journal of All Research Education and Scientific Methods (IJARESM), ISSN: 2455-6211
Volume 11, Issue 3, March-2023, Impact Factor: 7.429, Available online at: www.ijaresm.com

Women Empowerment in Githa Hariharan's "in Times of Siege"

N. Satish Kumar

Research Scholar

Githa Hariharan has produced a body of Indian Literature that is committed to feminist and social issues. Githa Hariharan is one such writer whose discourse shows resistance and questions every aspect of social order. Her stories deal with inequalities, power struggles and women asserting their identity. Githa Hariharan shows in this novel In Times of Siege how womenare superior to men like Shiv. They are Meena and Shiv's wife Rekha. Rekha is another heroine of the modern age. She has gone abroad without any anxiety about her husband. She is fully capable of controlling the uncontrollable. When they moved to the house, it was a jungle. She is as brave a woman as Meena is. These women are born warriors. Meena waits for Shiva to give a befitting reply to the fundamentalist's attack on him for showing what Basava was a man bent upon bringing reform in society by granting equal status to the down trodden brethren of society. This bitter pill could not be swallowed by the so-called Hindus. Their movement swelled and surged to swallow social convention and religious ritual. Such people came to attack Shiv, and like a courageous tigress Meena's waiting for Shiv to comeso that she wants to give him her head full of plans. She thinks that he will pick up a spearand shield and rush headlong into battle. In this novel, Meena is developed as a feminist character that fights against communal forces.

Keywords: women Empowerment, social convention, down trodden, identity

Feminist approach of Githa Hariharan is an important phenomenon prevailing in all her novels. Githa Hariharan is one of the leading women writers in India who has proclaimed philosophy of feminism in all her novels. Her progressive prototypes have been reflected directly or indirectly in her works. Das and Mahapatra have observed that, "There are several subtypes of feminist ideology have developed over the years." (Das Krishna 249)

Githa Hariharan does not present a feminine map to show-case woman's assertion over man's ability. She rather takes for granted that early feminists focused upon gender. The sexes, according to them are culturally formed, and not just biologically. The decade from 1920 to 1960 was a period of protest movements-civil rights, peace, the New Left, anti- poverty. For the theorists the new feminism is not about the elimination of differences between the neither sexes nor achievement of equal opportunity: it concerns the individual rights to find out the kind of person he or she is and to strive to become that person. Atheorist like Janet Rediffe Richards thinks that women suffer from systematic social injustice because of their sex.

Githa Hariharan's *"In Times of Siege"* describes communal events in New Delhi happened in 2000. Staff meeting, lesson modules, a halfhearted little affair with a colleague is the blank but comfortable life of Shiv Murthy, a history teacher in an Open University. But disruption and change are on their way in his life. An outspoken young woman with a broken knee comes into his life and turns it upside down. During this time, Hindu zealots attack his writings on Basava, the reformer poet. When fundamentalism lands on his own doorstep, Shiv discovers that the ideas he had inherited about history, nations, and patriots change inthe course of time. These bitter realities are evoked by Githa Hariharan in this novel. Moreover, Githa Hariharan's feminist ideas are indirectly reflected in this novel. Krishnan Das and Deepch and Patra have rightly pointed:

Female voices who have wielded the writer's pen to present forth literature which not only highlight women's plight in society, but havealso enriched the field with brilliant narratives, styles, techniques and themes, enchanting generations of readers, and immortalizing their own agenda in penning their works. (Das Krishna 1)

Githa Hariharan's novel is not exception to this phenomenon. The feminism in this novel isunique: Shiv, the hero of the novel, is seeking inspiration from Meena. Under her suggestions, Shiv is forced to confront the demands of his times and choose a direction for the future. But first he must come to terms with his own incomplete past history, fears and hisobsession.

Feminist in the present day destroy masculinity hierarchy but not sexual dualism. It is pro- woman but not anti-man. In fact, this is what Githa Hariharan is out to display in her novel In Times of Siege. Githa Hariharan shows in this novel how women are superior to men like Shiv. They are Meena and Shiv's wife Rekha. Meena waits for Shiva with her

Cover Page

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY EDUCATIONAL RESEARCH
ISSN:2277-7881; IMPACT FACTOR :8.017(2023); IC VALUE:5.16; ISI VALUE:2.286
Peer Reviewed and Refereed Journal: VOLUME:12, ISSUE:3(3), March: 2023
Online Copy of Article Publication Available (2023 Issues)
Scopus Review ID: A2B96D3ACF3FEAZA
Article Received: 2nd March 2023
Publication Date:10th April 2023
Publisher: Sucharitha Publication, India
Digital Certificate of Publication: www.ijmer.in/pdf/e-CertificateofPublication-IJMER.pdf

DOI: http://ijmer.in.doi./2023/12.03.54
www.ijmer.in

IDENTITY OF INDIAN WOMEN IN GITA MEHTA'S "RAJ"

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Gita Mehta is an eminent women writer writing in India. She has provided the Indian ethos in her writings. A close reading of her novels brings the peculiarities of incessant Indian traditional culture. Raj deals with Indian history during freedom struggle and Kshatriya dharma. Indian context relevant to traditional pattern and modern changes have been fused artistically and naturally. The changing aspects of theme regarding religion, spirituality, politics and female issue are well elaborated and make one curious about this country and life and so on. The historical novel Raj is about politics, freedom movement of India and divisions between religious groups and their struggle against British rule. During the novel covers the period from 1897 to 1970, the period from British imperial power to movement of freedom and then democratic country. This paper focusses on a woman traditional cultural context, Jaya is the marginalized and her husband, the patriarch is the centre, but by the reverse logic of the postcolonial text, it is Jaya who wields real power and she is the sufferer.

Keywords: Context, Traditional, Historical, Politics, Women Identity Etc.

Introduction

The women are highly portrayed as silent-sufferers in India. They are presented as the upholder of an Indian traditional culture. They are expected to play various roles in India as mother, wife, daughter, sister, lady love, prostitute and so on. This life system is mainly due to the prevailing patriarchal society. Indian women took pride in service and self-sacrifice in the society. They followed the real images of Sita, Anasuya, Kantari and so on. However, Indian woman's freedom from all the shackles of illiteracy, subjugation and ignorance heralded the dawn of independence for them. The western education served as the transitional part when the Indian woman had to face the struggles between tradition and modernity. In a patriarchal world, a woman is never regarded as an autonomous being.

The women writer on the Indian literary scene with radical outlook is of the recent phenomenon. They present the idealized Indian context of image of woman in her novel. It is imperative that they write from women's point of view. They project well the emotion and experience of a woman in the image of a wise mother and so on. The emergence of women writers in Indian English Fiction is of great importance as they write about woman subordination and emancipation. In fact, the conflict between emotion and reason becomes a complex one as women are tossed between the desire and submission to the patriarchal set up. Women writers have analyzed the socio-cultural modes and values that have given women their image and role towards themselves and the society. In order to achieve the harmony of relationships, Gita Mehta has analyzed the psychic and moral dilemmas of their woman character.

The historical novel Raj is about politics, freedom movement of India and divisions between religious groups and their struggle against British rule. During the novel covers the period from 1897 to 1970, the period from British imperial power to movement of freedom and then democratic country. It is a colorful historical story that depicts the progression of a young woman Jaya, born into Indian nobility in the period of the British Raj. Through young Jaya Singh's story, Mehta's readers are shown a portion of the British India's early struggle for independence. In her story, Mehta not only weaves colorful pictures of Indian culture and region together but also paints a picture of Indian colonial life from an Indian perspective. Mehta without being bitter and stern about history offers a complete story and leaves the reader to formulate his own position from which to read the history she tells.

General questioning the social-cultural aspects of the woman question through the 19th century and early 20th century. The great Indian writer Partha Chatterjee avers that "nationalism did in fact provide an answer to the new social and cultural problems concerning the position of woman in „moder" society and this answer was posited not on an identity but on a difference with the perceived forms of cultural modernity in the west. The relative unimportance of the women's question in the last decades of the 19th century is to be explained not by the fact that it had been censored out of the reform agenda or overtaken by the more pressing and emotive issues of political struggle. The reason lies in nationalism's success in situating the women's questions" in an inner domain of sovereignty, for removed from the arena of political context with colonial state. The inner domain of national culture was constituted in the light of the discovery of tradition". (Chatterjee, 117)

Industrial Engineering Journal
ISSN: 0970-2555
Volume: 52, Issue 4, April 2023

AIR QUALITY MONITORING SYSTEM USING NODEMCU

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Abstract:

The amount of pollution has risen through time due to a variety of causes, including population growth, increasing vehicle usage, industrialisation, and urbanisation. These variables have a negative impact on human well-being by adversely impacting the health of those who are exposed to the pollution. The goal of the Air Quality Monitoring System (AQM) is to inform the public about the risks posed by pollution. The recommended system's tilt towards IoT and ability to issue alerts when a sensor's value exceeds a threshold value are two important features. To show the current level of pollution, this gadget has an LCD monitor.

A novel framework based on data collecting and transmission called a Wireless sensor network (WSN) is suggested to monitor air quality. Temperature, humidity, CO and CO2 volumes, as well as the detection of any gas, smoke, alcohol or LPG leaks, are selected as the environmental monitoring parameters. Because temperature and humidity are important to everyone, the values are also relayed over the internet so that anybody within the system's range may check them on their cellphones and laptops. A harmful parameter, CO, is carefully monitored.

Key Words: *ESP8266, DHT11, MQ135, I2c, LCD.*

I. INTRODUCTION

We're intending to create an IoT-based LCD alert system for our air pollution monitoring system. When the level of dangerous gases in the air, such as CO2, smoking, alcohol, benzene, and NH3, exceeds a specific threshold, which occurs when the air quality deteriorates. On the LCD, the air quality will be shown in PPM for easy monitoring. However, in this study, a MQ135 sensor is utilised as the air quality sensor, which is the best option for monitoring Air Quality since it can detect most dangerous substances and can measure their level correctly. Smoke detectors and LPG detectors both employ MQ2 sensors and Air Quality Analyzers.Using a computer or mobile device, you may check the pollution level from anywhere in this job. When pollution levels exceed a certain threshold, this system, which can be deployed anywhere, can also activate some gadgets.

A study found that air pollution causes 50,000 to 100,000 premature deaths annually in the United States alone. In contrast, there are over 3,000,000 people globally and 300,000 in the EU. IoT-based air pollution monitoring systems use the Internet to monitor air quality over a web server. When the air quality drops below a predetermined threshold, which occurs when dangerous gases like CO2, smoke, alcohol, benzene, NH3, LPG, and NOx are present in sufficient quantities, an alarm is set off. It will display the air quality in PPM on the LCD and on the website so that it can be readily monitored.

LPG sensor is added in this system which is used mostly in houses. The system will show temperature and humidity. The system can be installed anywhere but mostly in industries and houses where gases are mostly to be found and give an alert message when the system crosses the threshold limit.

The atmospheric dispersion modeling of a pollutant gas is, as a final act, the mathematical simulation of how pollutants from an emitted gas disperse in the ambient atmosphere. Currently, the simulation is performed with computer programs/specialized software that use mathematical equations and algorithms to simulate how pollutants disperse in the air and, in some cases, how they react in the atmosphere. The concentration of air pollutants downwind from sources like industrial facilities, moving automobiles in traffic, or unintentional chemical discharges is estimated or predicted using dispersion models.

Software models for air pollution serve a significant role in science because they can evaluate the significance of pertinent processes. The sole technique that quantifies the deterministic link between emissions and concentrations/depositions, including the effects of past and future scenarios, and assesses the efficacy of pollution prevention measures is air pollution dispersion modelling. This makes the air pollution models essential for forensic applications as well as regulatory studies.

II. AIR QUALITY MONITORING SYSTEM

A. Product Design

Researchers strive to create tools to facilitate monitoring and can perform more complex simulations, where simulation serves as a learning medium in the field of experimental circuit analysis. Product designs include Block Diagrams, product designs, Application Designs, and Connections. The following is an illustration of the block diagram of the tool that will be made in this study in Figure 1.

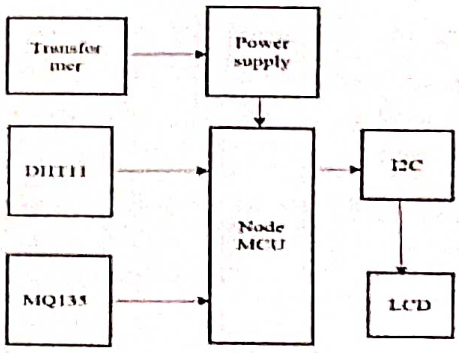

Figure1: Block diagram of the designed system

In Figure 1, the power supply is used to operate the system through the NodeMCU ESP826 module, so that all components are able to work and function properly. The DHT11 sensor is used to measure temperature, which is used to detect temperature and humidity. The MQ135 sensor is used to detect harmful gases like CO CO2, LPG

Dogo Rangsang Research Journal
ISSN : 2347-7180

UGC Care Group I Journal
Vol-09 Issue-01 No. 01 : 2022

GAS LEAKAGE DETECTION USING INSECT ROBOT

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ABSTRACT:

The explosion due to gas leakage has become a serious problem in our country's daily activities. Now the world is evolving with technology, so it is necessary to use technology, if possible, in every case. Placing sensors at each section of pipe is very costly process. LPG gas to resolve the accident occurred we can prevent it through technology. The system is based on a microcontroller, which uses gas sensors and GSM along with GPS and a robot car moving in a forward and backward direction. It is designed for LPG Gas Leakage Detection and Alert System using Arduino Uno with an MQ5 sensor. This circuit contains an MQ5 gas sensor, microcontroller, L298N 2A Dual Motor Driver, GPS and GSM. The Robot Car moves forward and backward directions MQ5 sensor will detect the gas leakage and transmit the information to the microcontroller. Based on that information, the microcontroller makes a decision and then sends a warning message on the mobile, and the location will be sent to the user via GSM. The uses of the Arduino micro controller with Arduino provide a suitable platform for implementing an embedded control system, and it is possible to modify it to meet our future requirements easily and quickly.

Keywords: LPG, GSM, GPS, MQ5 sensor, Arduino Uno, Robot, Motor Driver.

1. INTRODUCTION:

LPG Gas leaks have been increased from 0.72% of all kitchen accidents to 10.74% of all kitchen accidents. The small LPG cylinder of weight 5kg in which the burner is located immediately over the cylinder without using a rubber tube, is safer than the one which uses a rubber pipe as this subway has the hazards of getting cracked, which can make way to leakage. A computer program to run online to detect the leakage locations has been originated. It functions as the automatic supervisor of the pipelines in remote areas Simple Gas leak detector is a simple device which is used to detect the leakage of gas. If the gas leak occurs, an equivalent message is conveyed by means of an LCD screen and a buzzer and with the help of the GSM module, it is capable of broadcasting messages to the stakeholders about the LPG leak.

This device is at its initial level of development and with modification. In future, this device will also trip off the mains supply to ensure better safety and surety. The gas leak detector device can find applications not only in residential homes but also it is applicable to hotels, restaurants and even in industries where LPG gas is used for some other purposes. Robots are indispensable in many manufacturing industries. The reason is that the cost per hour to operate a robot is a fraction of the cost of the human labour needed to perform the same function. More than this, once programmed, robots repeatedly perform functions with a high accuracy that surpasses that of the most experienced human operator.

Human operators are, however, far more versatile. Humans can switch job tasks easily. Robots are built and programmed to be job-specific. You wouldn't be able to program a welding robot to start counting parts in a bin. Today's most advanced industrial robots will soon become "dinosaurs". Robots are in the infancy stage of their evolution. Internal hardware such as accelerometers, gyroscopes and proximity sensors are used by some applications to respond to additional user actions, for example, adjusting the screen from portrait to landscape depending on how the device is oriented. Android allows users to customise their home screens with shortcuts to

Industrial Engineering Journal
ISSN: 0970-2555
Volume: 52, Issue 4, April 2023

AIR QUALITY MONITORING SYSTEM USING NODEMCU

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II. Air Quality Monitoring System

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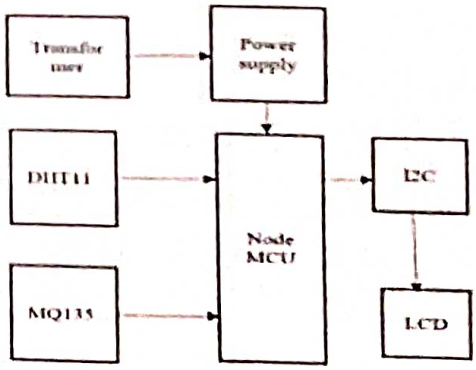

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E-ISSN 2581 – 7957
P-ISSN 2277 – 3916

CVR Journal of Science and Technology, Volume 24, June 2023
DOI: 10.32377/cvrjst2402

Low Power RF Low Noise Amplifier Design for 5G Wi-Fi Receiver

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Abstract: **This paper presents the design of a differential Low Noise Amplifier (LNA) for a 5th generation Wi-Fi Receiver. The circuit is implemented with 90nm transistors using CMOS technology. The proposed differential LNA for 5G Wi-Fi (IEEE 802.11ac) is designed by combining two single-ended 5G Wi-Fi LNAs with optimized design values. The gate and source degenerated inductance values are optimized to achieve a 5GHz frequency of operation. Noise neutralization capacitors of 10pF are used to reduce the channel noise in the MOSFETs used in the circuit. The differential LNA achieves 93.6% input matching, an input impedance of 45.94Ω, a transducer gain of 25.76dB, a noise figure of 1.52dB, P_{1dB} of -11.7dBm and IIP3 of 3.17dBm.**

Index Terms: **CMOS, Noise Figure, 1dB compression point (P_{1dB}), Third Order Input Intercept Point (II3), harmonic signal, ISM Band**

I. Introduction

IEEE 802.11ac standard is known as 5G Wi-Fi. Modern Wi-Fi technology uses 2.4GHz and 5GHz frequencies. The design of LNA is mainly important in the performance of the overall receiver chain. The noise performance of the LNA should be critical because the same noise is amplified in the succeeding stages. To control the noise in the subsequent stages, LNA gain should be very high. The design of LNA should balance the Gain, Input impedance, Noise Figure and Power Consumption. To design LNA for a 5GHz Wi-Fi receiver, the design factors for LNA are shown in Table 1.

TABLE I.
RF LNA DESIGN FACTORS

Parameter	Value/Range
Input Resistance(R_{in})	=50Ω
Transducer Gain (G_t)	15dB-20dB
Noise Figure(NF)	<=3dB
1-dB compression point (P_{1dB})	>-30dBm
Third-order Intermodulation Intercept Point (IIP3)	>-20dBm
Power Consumption (P_{cons})	<5mw
Frequency of operation (f_c)	5 GHz
Input Reflection Coefficient (S_{11})	<-15dB

The inductive degeneration technique is implemented in distributed amplifier design to reduce the noise figure under low power operation state. A common-source amplifier is cascaded to the distributed amplifier to progress the gain at high frequency and encompass the bandwidth [1]. A two-stage ultra-wide-band CMOS LNA is designed with the common-gate configuration as the input stage, the broad-band input matching is obtained, and the noise does not increase rapidly at higher frequencies. By merging the common-source (CS) and common-gate (CG) stages, the broad-band characteristic can be achieved by using two inductors [2]. A CG amplifier combined with a CS amplifier through a current mirror can achieve a high gain due to the additional current amplification. Low noise figure (NF) due to the thermal noise cancellation can be attained with low power consumption without degrading the input matching. The linearity can be improved with low power consumption, a multiple-gated transistor technique for cancelling the IM3 distortion [3]. The T-match technique is applied to achieve simultaneously wideband input and output impedance matching, wideband power gain and a wideband NF [4].

A concurrent dual-band LNA is designed to achieve concurrent gain and impedance matching at both bands. Input and output matching is realized using two-pole matching and LC resonant network [5]. Series inductive peaking in the feedback loop can be implemented to enhance the bandwidth and noise performance of the LNA [6]. The dual-loop feedback configuration can stabilize the LNA's input return loss (S11) at Very High-Frequency (VHF) with small dc blocking capacitors. The body bias control technique is helpful to reduce the power consumption in the inverter-based resistive feedback amplifier [7].

A couple of CS stages are stacked to share the current, and the double transformers are implemented as an RF signal path between the CS stages to improve the gain and stability [8]. Four common-source stages and three transformers are used to connect the drains of the former transistors and the sources of the following transistors to boost the transconductance of the transistors. Consequently, the gain of the circuit is effectively amplified. The NF can be reduced due to the noise contributions of the following stages being further suppressed by the application of the transformers [9].

This paper uses a Cascoded common source topology to avoid Miller's effect and improve the LNA's gain. The various existing impedance matching techniques, such as resistive matching, shunt feedback, common gate input matching and inductive source degeneration techniques, are reviewed [15]. The proposed differential LNA design uses the inductive source degeneration to transfer maximum power from the antenna to LNA. The gain improvement techniques are reviewed, such as Inter Stage Inductive Coupling, Transconductance (g_m) boosting, Partial Positive Feedback, and Cascoding strategies [13]. The cascoding technique is used to design the proposed LNA with optimized design values to achieve the desired gain and improved NF.

CVR College of Engineering
Received on 02-05-2023, Revised on 07-05-2023, Accepted on 18-05-2023.

Industrial Engineering Journal
ISSN: 0970-2555
Volume: 52, Issue 4, April 2023

IoT BASED SMART BABY CRADLE

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ABSTRACT:

The globe has seen significant change in the twenty-first century, and not only men but also women's proportions have changed significantly. Married women carry on working even after giving birth to their children. It is quite challenging to raise children while working. This is the driving force behind the expansion of child care facilities. Nonetheless, it is exceedingly challenging to keep an eye on how the infants are being cared for in baby care facilities or any other type of facility. As a result, this paper proposes an IoT-based baby monitoring system that is very effective and requires little upkeep. Use the innovative Smart Cradle System concept to help all the mothers who are dropping off their kids at creche.

KEYWORDS:

Sound Sensor, Node MCU, DHT 11, Mobile.

I. INTRODUCTION:

In recent years, it has become customary in India for both parents to work. The hardest task for working parents right now will be baby monitoring. Given the difficulties parents confront raising their children, especially when both parents are employed, it is almost inconceivable to provide them 24 hours of time in these situations. Along these lines, we should develop something unique that can help parents maintain a constant observation/watch over the Baby/Infant and can provide advice regarding the same. As a result, we devised a plan to design an IOT-based Smart Cradle System.

II. IMPLEMENTAION:

This implementation needs the following components:

- Node MCU
- Sound Sensor
- DHT 11
- Mobile

III. HARDWARE DESCRIPTION:

Sound Sensor:

The esp8266 sound detection sensor module determines if sound levels

Industrial Engineering Journal
ISSN: 0970-2555
Volume : 52, Issue 4, April : 2023

DESIGNING AND ANALYSIS OF RACTANGLE PATCH ANTENNA USING DGS & HFSS

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Abstract:

Narrow bandwidth, cross-polarization, and poor gain are three outstanding characteristics of microwave circuits that can be improved with DGS. DGS is used in microstrip antennas to increase gain and bandwidth as well as for mutual coupling between elements, higher mode harmonic suppression, and to enhance the properties of the microstrip antenna radiation. This research suggests a Rectangular Aperture Disc Integrated Monopole Antenna for a UWB Application. For the full Multiband and the aforementioned integrated lower frequency bands, the antenna also demonstrates reliable radiation patterns.

A transducer is simply what an antenna is. It changes an electrical current at a radio frequency (RF) into an electromagnetic wave at the same frequency. It is affordable, extremely dependable, and just needs Low installation area is required, and the antenna's output provides good gain. Making use of HFSS software.

In this HFSS software, as well as a network analyzer, we may create this antenna and analyze the output characteristics.

I. INTRODUCTION:

Conventional microstrip antennas had some drawbacks, including the fact that they only operate at a single operating frequency, have a narrow bandwidth of impedance, have low gain, are larger in size, and have polarization issues. A variety of methods, including stacking, various feeding strategies, frequency selective surfaces (FSS),

Filomat 36:3 (2022), 933–944
https://doi.org/10.2298/FIL2203933B

Published by Faculty of Sciences and Mathematics,
University of Niš, Serbia
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Strong Coupled Proximal Points of Cyclic Coupled Proximal Mappings Using C_k-Class Functions in S-Metric Spaces

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Abstract. In this paper, we introduce cyclic coupled proximal mapping in S-metric spaces using C_k-class functions and prove the existence of strong coupled proximal points of such mappings in complete S-metric spaces. Also, we provide an example in support of our main result.

1. Introduction and Preliminaries

In 1969, Fan [11] introduced the notation of best proximity point. Later, in 2006, Eldred and Veeramani [10] established results on the existence and uniqueness of best proximity point in a uniformly convex Banach space. Let (X, d) be a metric space. Let A and B be two nonempty subsets of X and $T : A \to B$. A point $x \in A$ is called a best proximity point of T if $d(x, Tx) = d(A, B)$, where $d(A, B) = \inf\{d(x, y) : (x, y) \in A \times B\}$. It is observed that best proximity point becomes a fixed point when the mapping T is a self-mapping. For more works on best proximity point results, we refer [3], [5], [10]. In 2009, Suzuki, Kikkawa and Vetro [18] extended Eldred and Veeramani [10] theorem to metric spaces by using UC property. Later, in 2012, coupled best proximity point in metric spaces was introduced by Sintunavarat and Kumam [17] and proved the existence of these points in metric spaces. For more works on coupled best proximity point results, we refer [2], [6], [12], [14], [18].

We recall the following definitions.

Definition 1.1. *[13] Let A and B be two nonempty subsets of X. A mapping $f : X \to X$ is cyclic with respect to A and B if $f(A) \subseteq B$ and $f(B) \subseteq A$.*

Definition 1.2. *[7] Let X be a nonempty set. Let $F : X \times X \to X$ be a mapping. An element $(x, y) \in X \times X$ is said to be a coupled fixed point of F if $F(x, y) = x$ and $F(y, x) = y$.*

Definition 1.3. *[8] Let A and B be two nonempty subsets of X. A mapping $F : X \times X \to X$ is said to be cyclic with respect to A and B if $F(A, B) \subseteq B$ and $F(B, A) \subseteq A$.*

2020 *Mathematics Subject Classification.* 47H10, 54H25
Keywords. S-metric space, cyclic mapping, coupled fixed point, strong coupled fixed point, strong coupled proximal point, cyclic coupled proximal mapping
Received: 20 March 2021; Accepted: 20 December 2021
Communicated by Vasile Berinde
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© 2023 IJNRD | Volume 8, Issue 4 April 2023 | ISSN: 2456-4184

IJNRD.ORG ISSN : 2456-4184

INTERNATIONAL JOURNAL OF NOVEL RESEARCH AND DEVELOPMENT (IJNRD) | IJNRD.ORG

An International Open Access, Peer-reviewed, Refereed Journal

SMART BLOOD OXYGEN AND HEART RATE MONITORING WITH AUTOMATIC DATA SAVING SYSTEM

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Abstract:

The goal of this study is to develop a portable heart rate monitoring device that is easy to use and can provide reliable blood oxygen levels. Its architecture was simple and user-friendly, and it was able to compete against other medical equipment. The device is built using a MAX30100 sensor, which is capable of producing high accuracy. Although it can only monitor the heart's signs, it can be used by anyone who wants to move around. This paper discusses the various use cases for this type of system, which are usually found when the end-user requires mobility and size.

Key words:*Arduino UNO, OLED Display, Bluetooth Module, MAX30100 sensor.*

I.INTRODUCTION

The covid-19 worldwide pandemic had an unprecedented impact on humanity. People must maintain excellent health at this trying time and regularly check their vital signs. Even yet, we are aware of how expensive and difficult COVID-19 patient medical care is. Following the essential instructions and keeping an eye on our blood oxygen saturation are the most straightforward and efficient ways to prevent getting impacted. Due to the fact that it integrates the enormous biological processes, oxygen gas is essential for human life. The covid-19 damages the lungs, making it impossible for the patient to create blood that is oxygenated. Finding the blood's oxygen saturation level is therefore necessary and crucial. The pulse oximeter has been around since the beginning of the 1930s. By applying this idea, blood oxygen levels can be determined non invasively. A few medical devices are used to fill the gaps left by routine diagnostic and common tests since medical care is not universally accessible or affordable. One of those is using a pulse oximeter; pulse oximetry is a simple and unobtrusive test that determines your oxygen immersion level or the amount of oxygen in your blood. It can swiftly detect even subtle variations in how efficiently oxygen is being delivered to the extremities, particularly the legs and arms, which are farthest from the heart. Regular blood oxygenation testing aids in the early detection of many dangerous disorders, including hypoxia. Today, health risks are rising and endangering the lives of millions of people. Around 8 million people perish away yearly as a result of a dynamic increase in cardiovascular diseases that can be linked to hypertension. Additionally, among the main causes of death are acute respiratory infections, which affect 142 out of every 1000 live births.

International Journal for Research in Engineering Application & Management (IJREAM)
ISSN : 2454-9150 Vol-08, Issue-01, APR 2022

Optimal Solution for Solving Intuitionistic Fuzzy Assignment Problem by New Labeling Algorithm

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Abstract: **In this paper a new labeling algorithm for finding an optimal solution for an intuitionistic triangular fuzzy optimal assignment problem is proposed. The main feature of this algorithm is that we determine the solution by finding an optimal matching in the corresponding bipartite graph by using a new labeling technique.**

Keywords: —Assignment Problem, labeling Algorithm, feasible labeling, bipartite graph, Ranking of Intuitionistic triangular fuzzy numbers.

I. INTRODUCTION

Assignment Problem (AP) is used worldwide in solving real world problems. An assignment problem plays an important role in an assigning of persons to jobs, or classes to rooms, operators to machines, drivers to trucks, trucks to routes, or problems to research teams, etc. The assignment problem is a special type of linear programming problem (LPP) in which our objective is to assign n number of jobs to n number of machines (persons) at a minimum cost. Find solution of assignment problems in various algorithms such as linear programming, Hungarian algorithm, Neural network, Genetic Algorithm, Branch and Bounded Technique etc. The proposed Algorithm, in spite of its unfamiliar and peculiar accessories, is a much faster and more efficient tool to handle the Assignment problem than the Hungarian and genetic algorithm. However, in real life situations, the parameters of assignment problem are imprecise numbers instead of fixed real numbers because time/cost for doing a job by a facility (machine/persion) might vary due to different reasons. The theory of fuzzy set introduced by Zadeh [14] in 1965 has achieved successful applications in various fields. Chi-Jen Lin, Ue-Pyng Wen [3], A Labelling algorithm for the fuzzy assignment problem, fuzzy Sets and system. Srinivas.B and Sankara rao. B [9]" An Optimal Solution for intuitionistic Fuzzy Assignment Problem Using Genetic Algorithm. Hussain, RJ and SenthilKumar [5], P. Algorithm approach for solving intuitionistic fuzzy transportation problem. Kalaiarasi et.al [6] Optimization of fuzzy assignment model with triangular fuzzy numbers. Different kinds of fuzzy assignment problems are solved in the papers [2,4,7,8].

In Section 2, we provide some basic definitions and results which will be used later. Section 3, Mathematical form of intuitionistic fuzzy Assignment problem, In Section 4, we prove some theorems which are used for proposed method and present a practical procedure. The introduced method is illustrated by solving some examples in Section 5 and conclusions are drawn in Section 6.

II. PRELIMINARIES

Fuzzy Set: Fuzzy sets were introduction by Lotfi A. Zadeh in 1965 as an extension of the classical set theory. Fuzzy sets are sets whose elements have degrees of member ship function valued in the real unit interval [0, 1]

Let A be a classical set $\mu_{\tilde{A}}$ be a function from X to [0, 1] A fuzzy set $\tilde{A}$ is defined as a set of ordered pairs $\{(x_i, \mu_{\tilde{A}}(x_i)): x_i \in A$ and $\mu_{\tilde{A}}(x) \in [0, 1]$ $\mu_{\tilde{A}}(x)$ is called the degree of membership of X in $\tilde{A}$.

Fuzzy Number: A fuzzy set $\tilde{A}$ defined on the universal set of real numbers R is said to be fuzzy number if

(i) $\tilde{A}$ is convex fuzzy set

(ii) $\tilde{A}$ is normalized fuzzy set

 DOI : 10.35291/2454-9150.2022.0132

International Journal of Engineering, Science and Mathematics
Vol.11 Issue 3, March 2022,
ISSN: 2320-0294 Impact Factor: 6.765
Journal Homepage: http://www.ijmra.us, Email: editorijmie@gmail.com
Double-Blind Peer Reviewed Refereed Open Access International Journal - Included in the International Serial Directories Indexed & Listed at: Ulrich's Periodicals Directory ©, U.S.A., Open J-Gage as well as in Cabell's Directories of Publishing Opportunities, U.S.A

FINITE ELEMENT ANALYSIS OF MHD MIXED CONVECTIVE HEAT AND MASS TRANSFER STAGNATION-POINT FLOW IN A CIRCULAR ANNULUS IN HIGHLY POROUS MEDIUM WITH RADIATION

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Abstract

We investigate the combined effect of thermal radiation and radiation absorption on free and compelled convection flow through a porous medium in a very co-axial cylindrical duct where the boundaries are maintained at constant temperature and concentration. The Brinkman-Forchhimer extended Darcy equations which takes into consideration the boundary and inertia effects are utilized in the governing linear momentum equations. The effect of density variation is confined to the buoyancy term under Boussinesq approximation. The momentum, energy and diffusion equations are coupled equations. so as to get a stronger insight into this complex problem, we are using Galerkin finite element method with quadratic approximation technique. The behavior of velocity, temperature and concentration is analyzed for various parametric values at different axial positions. The rates of warmth and mass transfer have also been obtained for variations within the governing parameters. The local Nusselt number and native Sherwood number are illustrated to point out interesting features of the result.

Keywords:

Heat & Mass Transfer; Thermal Radiation, Radiation absorption, Porous medium, Circular annulus, Finite element technique .

1. Introduction

The Convective flow and warmth transfer in porous media has been attracting the eye of enormous number of investigators because of its wide applications in engineering as geophysical thermal and insulation engineering, design of pebble-bed nuclear reactors, fossil fuel drilling, ceramic processing, heat conversion, use of fibrous material within the thermal insulation of buildings, catalytic reactors and compact heat exchangers, heat transfer from storage of agricultural products which generate heat as a results of metabolism, petroleum reservoirs, storage of nuclear wastes, etc. The derivation of the empirical equations which govern the flow and warmth transfer in an exceedingly porous medium has been discussed by Vafai [23], Ingham and Pop [9]discussed Transport Phenomena in Porous Media, Further, thermal radiation heat transfer effects on natural

International Journal of Engineering, Science and Mathematics
Vol.11 Issue 3, March 2022,
ISSN: 2320-0294 Impact Factor: 6.765
Journal Homepage: http://www.ijmra.us, Email: editorijmie@gmail.com
Double-Blind Peer Reviewed Refereed Open Access International Journal - Included in the International Serial Directories Indexed & Listed at: Ulrich's Periodicals Directory ©, U.S.A., Open J-Gage as well as in Cabell's Directories of Publishing Opportunities, U.S.A

FINITE ELEMENT ANALYSIS OF MHD MIXED CONVECTIVE HEAT AND MASS TRANSFER STAGNATION-POINT FLOW IN A CIRCULAR ANNULUS IN HIGHLY POROUS MEDIUM WITH RADIATION

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Abstract

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MATEMATIČKI VESNIK
МАТЕМАТИЧКИ ВЕСНИК
74, 2 (2022), 130–140
June 2022

research paper
оригинални научни рад

FIXED POINTS OF ALMOST SUZUKI TYPE $\mathcal{Z}_s$-CONTRACTIONS IN S-METRIC SPACES

G. V. R. Babu, P. Durga Sailaja and G. Srichandana

Abstract. In this paper, we introduce almost Suzuki type $\mathcal{Z}_s$-contractions and prove the existence and uniqueness of fixed points of such mappings in complete S-metric spaces. Our results generalize Theorem 1 from [N. Mlaiki, N. Yılmaz Özgür, Nihal Taş, Mathematics, 7 (583) 2019, 12 pages] and Theorem 3.1 from [S. Sedghi, N. Shobe, A. Aliouche, Mat. Vesnik, 64 (3) (2012), 258-266]. We give illustrative examples in support of our result.

1. Introduction and preliminaries

In 2008, Suzuki [19] defined a new generalized Banach contraction and proved the existence and uniqueness of fixed points for this contraction in compact metric spaces. After this several authors have extended and generalized the result of Suzuki [19] in different directions [1, 5, 13]. In 2015, Khojasteh, Shukla and Radenović [12] introduced simulation functions and $\mathcal{Z}$-contractions which generalize the Banach contraction. Following this domain of research, many authors introduced $\mathcal{Z}$-contractions involving simulation functions and proved fixed point results on various types of metric spaces. For more works on this, we refer to [2, 4, 7, 11, 16, 20].

DEFINITION 1.1 ([12]). A mapping $\zeta : [0, +\infty) \times [0, +\infty) \to \mathbb{R}$ is called a simulation function if it satisfies the following conditions:
(ζ_1) $\zeta(0, 0) = 0$;

(ζ_2) $\zeta(t, s) < s - t$ for all $t, s > 0$;

(ζ_3) if $\{t_n\}$, $\{s_n\}$ are sequences in $(0, +\infty)$ such that $\lim_{n\to+\infty} t_n = \lim_{n\to+\infty} s_n > 0$, then $\limsup_{n\to+\infty} \zeta(t_n, s_n) < 0$.

2020 Mathematics Subject Classification: 47H10, 54H25.
Keywords and phrases: S-metric space; $\mathcal{Z}$-contraction; simulation function; $\mathcal{Z}_s$-contraction; almost Suzuki type $\mathcal{Z}_s$-contraction.

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011-49075396

Use of E-ShodhSindhu Consortium for Engineering Education in North Andhra Pradesh: A Study

International Journal of Information Studies and Libraries
Volume 8 Issue 1
Published: 2023
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Abstract

E-resources are the important alternatives for the users to refer to their core curriculum. Due to the heavy productivity of information from various innovations, subjects, researches and financial complications of the institutions, providing the right hard copy materials to the users at the right time and place is becoming trouble to the library and information professionals in the LIS arena. In that process, e-resources are playing a key role in fulfilling the gap if printed material circulation. The main objective of the study is to know the problems facing students, faculty, scholars and library professionals in the process of using e-resources in the engineering college education. This study can explain and help the peers understand the problems and benefits of e-resource usage in engineering education. The data was collected from three government universities, engineering colleges and six private engineering colleges in North Andhra Pradesh. Compared with government colleges and private colleges are using the e-resources regularly. This study can assist to the academicians, decision-makers to understand the problems and take the required actions to get solutions in a better environment through the use of digital resources in engineering education in North Andhra Pradesh.

Keywords: E-ShodhSindhu, INDEST, N-LIST, AICTE, Digital Resources, Engineering Education, Engineering College Libraries

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SATYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT
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10 MAY 2023

Manuscript Title:

THE PSYCHOLOGY OF VOICE-ACTIVATED SHOPPING: UNDERSTANDING HOW AI-POWERED SMART SPEAKERS INFLUENCE E-CUSTOMER CHOICES

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DOI Number:

DOI:10.5281/zenodo.10017760

Published : 2023-10-20

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Full Text : PDF

Abstract

The study delves into the intricate realm of voice-activated shopping and the psychological mechanisms that underlie consumer decision-making in this emerging e-commerce paradigm. As the adoption of AI- powered smart speakers for shopping continues to surge, it is imperative to gain insights into the cognitive and emotional factors that shape e-customer choices. This research employs a multidisciplinary approach, drawing from consumer behavior, technology adoption, cognitive psychology, and marketing. Through a combination of surveys, user interviews, and behavioral data analysis, the study aims to unravel the impact of key psychological variables, such as convenience, trust, personalization, cognitive ease, and emotional engagement, on the choices made by e-customers in the context of voice-activated shopping. Additionally, the research will explore the utilization of behavioral economics principles, ethical considerations surrounding data privacy and security, and the influence of marketing strategies in this burgeoning domain. The findings of this study have practical implications for businesses, marketers, and technology developers looking to optimize the user experience, build trust, and effectively leverage the potential of voice-activated shopping. Ultimately, this research contributes to a deeper understanding of the evolving dynamics of e-
commerce and how AI-powered smart speakers are reshaping the way consumers interact with and make choices within the digital marketplace.

Keywords

Voice-Activated Shopping, AI-Powered Smart Speakers, E-Customer Choices, Psychological Factors, Online Consumer Behavior

Industrial Engineering Journal
ISSN: 0970-2555
Volume : 52, Issue 4, April : 2023

POWER CONSUMPTION MONITORING & THEFT SYSTEM USING IoT

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Abstract:

There are several wireless communication methods that can be used to detect power theft, but they are not yet supported by the necessary infrastructure. As a result, it's important to have a system that can detect power theft and take the appropriate actions under both normal and stolen circumstances. A wi-fi module is used to periodically check for power theft. Similar electric meters are installed in each residence, and they use a GPS module to report the current value they have measured on a regular basis to a server database. The system continuously measures both the amount of power supplied by the distribution unit and the amount of energy utilized at the consumer's location. An easy-to-use mobile application is used to save the customers' information in the database while installing electric meters. This information is collected via mobile GPS and includes the address, latitude, longitude, and a photo of the user's home or neighborhood. The ESP32's current sensor and Wi-Fi will be used to measure power consumption.

keywords: Power Supply, Current Sensor Relay, GPS Module, ESP32.

I.INTRODUCTION

The availability of power generation for residential and commercial customers, as well as a surge in incidents of line tapping, is the fundamental problem in the current scenario. This suggested project, "IoT-based electricity theft detection and monitoring," aims to reduce the specific issue.

India has a relatively large population, and electricity theft is also rising daily. The nation has numerous household energy thefts as well as power thefts in industrial supply every year, which causes a loss of distributed power to the supplier. The nation frequently has issues like power outages in both the urban and rural sectors as a result of power theft. According to estimates, theft alone costs India's electricity sector $16.2 billion annually. This initiative aids in minimizing and preventing issues that the entire nation is now experiencing.

The most significant innovation developed by humans is electricity. It is inconceivable to fathom modern life without electricity. The unethical practices against electricity have grown as its use has grown.

An Outlook poll from 2015 found that power theft costs the globe 81 billion dollars. India has the biggest annual electricity theft at roughly 19 billion dollars, followed by Brazil at 15 billion dollars. The growth of a country, especially one that is developing, is significantly impacted by this massive quantity of

Published by :
http://www.ijert.org

International Journal of Engineering Research & Technology (IJERT)
ISSN: 2278-0181
Vol. 12 Issue 09, September-2023

Enhancing Thermal Efficiency of Nano fluid Flow within Single Pipes Using Helical Inserts under Steady Wall Temperature Conditions: A Numerical Analysis

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Abstract *- The thermal performance of a heat exchanger can be enhanced by external agencies or allowing fluid to pass through finned tubes, helical inserts, nano fluids etc. The external agencies can be a source of electrical power, electromagnetic field, and surface vibrations. Augmenting heat transfer by using helical inserts is attempted by many researchers, In the present study a single pipe of 40 mm internal diameter under constant wall temperature is investigated numerically. The fluid volume flow rate is varied from 0.25 to 4 liters/min covering laminar, transition and turbulent regions. Water flowing through the pipe without insert is as taken as the base for investigating the combined influence of helical inserts and silver nano fluids in enhancing heat transfer. Two types of inserts i.e., 3 meters long (HI-L, extending to full length of pipe) and 1.5meters (HI-S, centrally spaced) and three compositions of silver nano fluids (volume fractions of 0.3,0.6 and 0.9) are considered. It is observed that the exit temperature for pure water raises linearly with flow rate increasing from 0.25 to 0.2 lit/min and there after drops down slowly. On the other hand, the exit temperature remains constant for all silver nanofluid volume fraction investigated at all volume flow rates. The possible reason for above deviation could be due to superior thermal properties of silver nanofluids, which enables more heat transferred to the fluid irrespective of change in volume flow rate. Pure water flowing in the single pipe at 1liter/min has resulted in heat transfer coefficient (HTC) of 57 W/m²k, and is taken as base value. With silver nanofluids alone the HTC value has shown large enhancement Viz111,121,133 W/m².k with 0.3,0.6 and 0.9 volume fraction at same mass flow rate of 1liter/min. Compounding nano fluids and long insert has resulted in very large improvement in heat transfer viz 153,171 and 187 W/m².k. With pure water & long insert, HTC value has increased to 106 i.e.is 96% more than the base value. On the hand, compounding with short insert and silver nanofluids (1lit/min mass flow rate) has yielded HTC values Viz 122,137, &150 W/m². k, which are lower compared with values obtained with long insert indicating the length of inserts has a leading key role in augmenting heat transfer.*

Key words *-*
Heat transfer coefficient, Augmentation, Silver nano fluids, Helical inserts (HI) .

1.INTRODUCTION

Using inserts in the fluid path in steam boiler is reported long back in nineteenth century(1896) by **Whitham [1]** .Hot gases flowing in the boiler tubes were allowed to pass through metal inserts for retarding the flow of gases .Extensive numerical and experimental work on improvement of heat transfer by using helical inserts in the fluid path and effect of variation of twist ratio, pitch and preformatted inserts ,relative spacing of inserts and using nano fluids is reported in detail in literature. Combined influence of helical insert and nano fluids in particular silver nano fluids would yield large heat transfer enhancement. **H. M. Shankara Murthy et al [2]** used graphene oxide with volume fractions of 0.05%,0.1% and 0.15% as the working fluid in the outer tube In their experimental study while maintaining constant flow rate of hot fluid in inner pipe of double pipe heat exchanger. Maximum enhancement was achieved with 0.15% nano fluid flowing past insert with twist ratio 9.8. **Ahmet Selim et al [3]** carried out

IJERTV12IS090047