3.3.2 Number of research papers per teachers in the Journals notified on UGC website during the year

Title of paper	Name of the author/s	Department of the teacher	Name of journal
Implementation of Direct Torque Control of Induction Motor with Minimum Voltage Vector Error using Matlab/Simulink	Dr. Pratik Ghutke	Electrical Engineering	The Indian Journal of Technical Education
A Novel Method for Implementing MPPT Based Photovoltaic Closed Loop Flyback Inverter with STM32F407VG Controller using Waijung Tool	Dr. Prashant Thakre	Electrical Engineering	International Journal of Engineering Trends and Technology
BMOTSM: design of hybrid bioinspired model to determine optimal turbine sizing for capacity maximization in environment and economy-aware deployments	Radharaman Shaha	Electrical Engineering	International Journal of Sustainable Energy
GRMWBO:design of a general-purpose repowering model for wind farms via bioinspired optimization	Radharaman Shaha	Electrical Engineering	Proceedings of the Indian National Science Academy
Brayton-Moser passivity-based controller for an on-board integrated electric vehicle battery charger	Dr. Kumari Shipra	Electrical Engineering	Journal of Energy Storage
Design A Working Model Of Iot Based Smart Samai	Chetan Jambhulkar	Electrical Engineering	International Research Journal of Modernization in Engineering Technology and Science

Review on multiple cancer disease prediction and identication using machine learning techniques	Prof.Jayant Rohankar	Information Technology	Techronicle
Review on multiple cancer disease prediction and identication using machine learning techniques	Prof.Poonam keche	Information Technology	Techronicle
Review on multiple cancer disease prediction and identication using machine learning techniques	Prof.Snehal.Bagde	Information Technology	Techronicle
House price prediction using KNN algorithm	Prof.Abhay Rewatkar	Information Technology	Techronicle
House price prediction using KNN algorithm	Prof.Anup Gade	Information Technology	Techronicle
An approach for analysis of supply chain management using machine learning	Prof.Anup Gade	Information Technology	Techronicle
A review paper on breast cancer detection using deep learning	Prof.Jayant Rohankar	Information Technology	Techronicle
Review on Machine Learning-Based Cyber-Attack Detection And Monitoring System	Prof.Abhay Rewatkar	Information Technology	Techronicle
Review on Machine Learning-Based Cyber-Attack Detection And Monitoring System	Prof.Priyanka.Kanoje	Information Technology	Techronicle
Lung Tumor Detection UsingConvolutional Neural Networkon Histopathological Images	Prof.Jayant Rohankar	Information Technology	Techronicle
Experimental investigation on strength of rc beam using conventional concrete and adopting bubble deck technology.	Mr. Sanjay Bhadke	Civil Engineering	Journal of East China University of Science and Technology Volume 65, Issue 3
Experimental research on the strength of rc beam using conventional concrete and bubble deck technology for sustainable development	Mr. Sanjay Bhadke	Civil Engineering	Seybold Report
Structural assessment of silo structure using NDT technics .	Mr. Sanjay Bhadke	Civil Engineering	Tech-Chronical (An International E-journals on emerging trends in science technology and management

An examination of the analysis and research of the factors influencing the design of prefabricated buildings.	Mr. Sanjay Bhadke	Civil Engineering	Tech-Chronical (An International E-journals on emerging trends in science technology and management
An examination of the analysis and research of the factors influencing the design of prefabricated buildings	Mr. Sanjay Bhadke	Civil Engineering	Tech-Chronical (An International E-journals on emerging trends in science technology and management
Structural Assessment of Silo Structure Using NDT Technics	Mr. Sanjay Bhadke	Civil Engineering	Tech-Chronical (An International E-journals on emerging trends in science technology and management
An examination of the analysis and research of the factors influencing the design of prefabricated buildings	Mr. Sanjay Bhadke	Civil Engineering	Tech-Chronical (An International E-journals on emerging trends in science technology and management
Analysis and design of a 24 m long span steel girder with the load of a special vehicle in mind	Dr. Amey Khedikar	Civil Engineering	Tech-Chronical (An International E-journals on emerging trends in science technology and management
Seismic analysis of elevated circular water tank with different sections and orientation of the column	Mrs. Priyanka Petkar	Civil Engineering	Tech-Chronical (An International E-journals on emerging trends in science technology and management
Analysis and design for confined ferrocrete cross beam and its bending behavior.	Mrs. Priyanka Petkar	Civil Engineering	Tech-Chronical (An International E-journals on emerging trends in science technology and management
Comparative analysis of steel roof truss using staddpro v8i	Mrs. Priyanka Petkar	Civil Engineering	International Research Journal Of Modernization in Engineering Technology and Science
Study of Modified Bolomey's Equation for Concrete Made with Partial Use of Coal Bottom	Mr Aasif Baig	Civil Engineering	SSRN: https://ssrn.com/abstract=4008877

Assessment of systemic seismic vulnerability and risk in urban infrastructure and utility systems: a review.	Mr Aasif Baig	Civil Engineering	Tech-Chronical (An International E-journals on emerging trends in science technology and management
Investigation of coal bottom ash as replacement of cement in concrete : review	Mr Aasif Baig	Civil Engineering	International Research Journal Of Modernization in Engineering Technology and Science
Analysis of vulnerary aspects of R. C. structure under shock wave condition: A Review.	Mr Aasif Baig	Civil Engineering	Tech-Chronical (An International E-journals on emerging trends in science technology and management
Analysis and Design of G+20 multi storied building with and without shear walls by changing orientation of column: A Review	Mr Aasif Baig	Civil Engineering	Tech-Chronical (An International E-journals on emerging trends in science technology and management
Review of the sustainable use of industrial waste to replace the fine aggregate used to prepare concrete	Mr Aasif Baig	Civil Engineering	Tech-Chronical (An International E-journals on emerging trends in science technology and management
A Review on seismic analysis of building with and without shear wall on different sloping ground angles for zone five	Ms.Divyani Harpal	Civil Engineering	Tech-Chronical (An International E-journals on emerging trends in science technology and management
An overview of seismic analysis of vertical geometric irregular RCC-framed buildings	Ms.Divyani Harpal	Civil Engineering	Tech-Chronical (An International E-journals on emerging trends in science technology and management
A Review on “Analysis and applications of an earthquake resistant non engineered building construction”	Dr Sandeep Gaikwad	Civil Engineering	Tech-Chronical (An International E-journals on emerging trends in science technology and management
Analysis and Design of Composite Bridge and there Design Criteria	Mr. Mohitsingh Katoch	Civil Engineering	Tech-Chronical (An International E-journals on emerging trends in science technology and management
Sustainable Treatment of Wastewater Using Natural Coagulants Based on Plants Seeds	Mr. Mohitsingh Katoch	Civil Engineering	International Journal for Modern Trends in Science and Technology, Volume 9, Issue 06, June 2023.

A Review on “Analysis and applications of an earthquake resistant non engineered building construction”	Mr. Mohitsingh Katoch	Civil Engineering	Tech-Chronical (An International E-journals on emerging trends in science technology and management
Analysis and Design of Composite Bridge and there Design Criteria	Mr. Mohitsingh Katoch	Civil Engineering	Tech-Chronical (An International E-journals on emerging trends in science technology and management
Design and Analysis of 3D Printed Parts Developed Through Fusion of Composite Materials	Mr. Ritesh Banpurkar	Mechanical Engineering	European Chemical Bulletin
A Review On Mechanical Characterization and Optimization of Parameters For Spot Welded Multigrade AHSS Joints	Dr. Vijay Talodhikar	Mechanical Engineering	European Chemical Bulletin
DEVELOPMENT OF NOVEL TURMERIC POLISHING MACHINE BY HUMAN EFFORT	Dr. Vijay Talodhikar	Mechanical Engineering	European Chemical Bulletin
DESIGN AND FABRICATION OF MECHANICAL SAND FILTER	Ravindra Shende	Mechanical Engineering	International Journal of Mechanical Engineering
Different process parameters Affecting the Additive manufacturing	Prof. Ritesh Banpurkar	Mechanical Engineering	IJFANA International Journal of Food and Nutrational Science
Study and Analysis of Energy and Time Characteristics of Node in Wireless Sensor Network	Prof. Pragati Patil	Prof. Pragati Patil	Neuro Quantology (Scopus)
Enhanced degradation of azo dye using mixed cultures of white-rot fungi in a modified rotating packed disc bioreactor and reuse of treated water	Prof. Rohit Kalnake	Biotechnology	Science Direct

Influence of measurement parameters on hydrogen absorption properties of hydrogen storage alloys	Manoj S. Choudhari	Aeronuatical Engineering	Energy Sources, Part A: Recovery, Utilization, and Environmental Effects

Principal
Tulsiramji Gaikwad Patil College Of
Engineering and Technology, Nagpur

International Journal of Engineering Trends and Technology
ISSN: 2231 – 5381 / https://doi.org/10.14445/22315381/IJETT-V70I8P220

Volume 70 Issue 8, 194-205, August 2022

Original Article

A Novel Method for Implementing MPPT Based Photovoltaic Closed Loop Flyback Inverter with STM32F407VG Controller using Waijung Tool

Mangala R. Dhotre[1], Prashant V. Thakre[2], Vijay M. Deshmukh[3]

[1]*Electronics and Telecommunication Department, Government College of Engineering, Jalgaon, Maharashtra, India.*
[2]*Electrical Department, Tulsiramji Gaikwad Patil College of Engineering and Technology, Nagpur, Maharashtra, India.*
[3]*Electronics and Telecommunication Department, SSBT's College of Engineering and Technology, Bambhori, Jalgaon, Maharashtra, India.*

[1]*mangala_dev@rediffmail.com*

Received: 15 June 2022 Revised: 31 July 2022 Accepted: 11 August 2022 Published: 22 August 2022

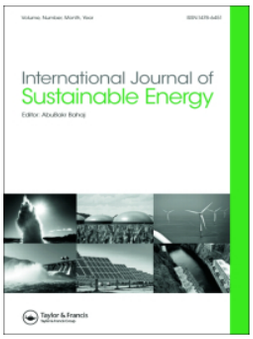
Abstract *- Nowadays, renewable energy sources are continuously increasing to reduce global warming. Since solar energy is abundantly available in India, the proposed model uses a photovoltaic (PV) system to generate dc input voltage applied to a system. Flyback inverters are gaining more popularity due to their simplicity, low cost, and high efficiency. To increase the use of flyback inverters, this research presents a novel method for implementing a photovoltaic-based closed-loop flyback inverter using an STM32F407VG digital controller in the wiajung platform. The system consists of a photovoltaic system, a flyback inverter, a proportional and integral (PI) feedback controller, and an STM32F407VG digital controller. A detailed control system is presented where the gate signal generated from the maximum power point tracking system controls the duty cycle of switching pulses applied to the MOSFET of the DC-DC converter and also ensures maximum utilization of the solar photovoltaic source. The PI controller produces the switching pulses for the flyback inverter by adjusting the inverter switches' duty cycle according to the inverter's output signal. The flyback inverter produces pure sinusoidal output voltage and current signals by adjusting the duty cycle according to the control signals generated through the STM32F407VG digital controller. The STM controller assures the sinusoidal output of the inverter even at lower solar radiation. The proposed model is developed in MATLAB/Simulink. A 300W digitally controlled flyback inverter prototype has been implemented using an STM32F407VG digital controller using the waijung blockset to verify the feasibility of the proposed scheme.*

Keywords *- Flyback inverter, Maximum power point tracking (MPPT), Perturb and observe method(P&O), Photovoltaic (PV) system, Pulse width modulation (PWM).*

1. Introduction

Over the past several years, the availability of limited non-renewable energy sources, climate change, and global warming have become critical issues worldwide.[1] According to the evidence from 21 European countries, it was found that the utilization of non-renewable energy sources also harms economic growth. [2-4] Fossil fuels contributed 73.5% of worldwide electricity production in 2017. Conversely, renewable sources contributed only 26.5%. [5, 12] Renewable energy sources such as solar, wind, and biomass are abundantly available worldwide and can reduce global warming. [6, 7] Developing countries should shift to renewable energy resources to reduce air pollution and protect the environment. [8-11] The sun being a constant energy source in most countries in the world, solar energy can be used as a renewable energy source for most applications. [8] Efficient use of solar energy under changing weather conditions is one of the significant challenges worldwide. Accordingly, a solar photovoltaic (SPV)-based system is implemented in this research work.

Due to the advantages of the flyback inverter like simplicity, low cost, and high efficiency, it is gaining more popularity currently. A review of the flyback inverter follows. A single-phase grid-connected system using a DC/DC flyback converter with a proportional-integral (PI) controller, a single-phase full-bridge inverter with a sinusoidal pulse width modulation (SPWM) switching technique, and a phase lock-loop (PLL) is implemented in MATLAB to reduce the total harmonic distortion from 52.45 % to 1.82%. [13] The flyback microinverter is designed in MATLAB Simulink with an H5 inverter controlled sinusoidal pulse width modulation (SPWM) with a PI controller. 2.59% THD is obtained with 94.08% efficiency. [14] An MPPT-based grid-connected photovoltaic system using a flyback converter is implemented in [15]. The output voltage and current waveform are produced with THD at 1.60% and 1.26%, respectively. A new switched-capacitor nine-level inverter based on a flyback DC-DC converter is presented to reduce the number of switches, diodes, and required



International Journal of Sustainable Energy

ISSN: (Print) (Online) Journal homepage: www.tandfonline.com/journals/gsol20

BMOTSM: design of a hybrid bioinspired model to determine optimal turbine sizing for capacity maximisation in environment-and-economy aware deployments

Radharaman Shaha, Lata Gidwani & Komaragiri Venkata Subba Rao

To cite this article: Radharaman Shaha, Lata Gidwani & Komaragiri Venkata Subba Rao (2023) BMOTSM: design of a hybrid bioinspired model to determine optimal turbine sizing for capacity maximisation in environment-and-economy aware deployments, International Journal of Sustainable Energy, 42:1, 25-40, DOI: 10.1080/14786451.2023.2168001

To link to this article: https://doi.org/10.1080/14786451.2023.2168001

Published online: 04 Feb 2023.

Section A-Research paper

A Review On Mechanical Characterization and Optimization of Parameters For Spot Welded Multigrade AHSS Joints

Dhiraj D. Balsaraf[1], Dr. Rupesh R. Gawande[2], Dr.Ankush A. Mankar[3], Dr. Vijay Talodhikar[4]

[1]Assistant Professor, V.M. Institute of Engineering & Technology, Dongaragoan,Nagpur
[2]Associate Professor, Bapurao Deshmukh College Of Engineering, Sevagram,Wardha
[3]Principal, V.M. Institute of Engineering & Technology, Dongaragoan,Nagpur
[4] Associate Professor, Tulsiramji Gaikwad Patil college of Engineering and Technology, Nagpur

Abstract

Research and development activities in improved high-strength steels have been motivated by expanding sectors including the automobile industry. As customers have sought for goods that better satisfy their demands in terms of fuel economy, vehicle performance, and vehicle safety, competition between the steel and low-density metal industries has heated up in recent decades. Development of ultra-high strength steel to address these issues has quickened in recent years . Sheet metal joints are often welded using resistance spot welding in the aerospace, automotive, and shipbuilding sectors. The welding process is very sensitive to factors like welding current, welding time, electrode force, etc. The topic of this paper is the influence of various factors on mechanical qualities. We look at how different welding settings affect the final joint strength. Characteristics of stainless steel joints welded with the same grade of stainless steel are analyzed, as are the findings from the vast majority of research that have investigated spot welding techniques. We also talk about how welding conditions affect the final product's quality..

Keywords—Resistance Spot Welding, AHSS, Mechanical Characterization.

1. Introduction

Modern materials, such as ultra-high strength steels, have received fresh attention as businesses have grown. The steel and low-density metal industries have been engaged in a heated battle over the last decade to keep up with the increasing demand for passenger safety, vehicle performance, and fuel efficiency. Advanced High Strength Steels (AHSS) are being quickly developed by the steel industry as a response to rising concerns [1]. These steels have improved formability and crashworthiness above typical steel grades. Dual phase steels (DP), transformation-induced plasticity (TRIP), and mixed-phase steels make up a subset of advanced high-strength steels (AHSS). These steel types maintain strict safety standards while facilitating the production of lighter vehicles with more economy, less emissions, and greater range in the case of electric vehicles. To facilitate stamping and stamping procedures, the thickness must be lowered while the material's malleability is maintained. This results in a cheaper end product. These characteristics may be attained by striking a balance between rigidity and adaptability. AHSS, including duplex, multiphase, transformation-induced plasticity, and martensite steels, may now be used in industry because to improvements in both method and standard apparatus. It is important to stress the advantages of the RSW

ScienceDirect

Bioresource Technology Reports

Volume 22, June 2023, 101449

Enhanced degradation of azo dye using mixed cultures of white-rot fungi in a modified rotating packed disc bioreactor and reuse of treated water

Rohit P. Kalnake [a], Ritu Raval [b], D.V.R. Murthy [a], Piyush B. Vanzara [a], Keyur Raval [a]

Show more

https://doi.org/10.1016/j.biteb.2023.101449

Get rights and content

Highlights

- Utilized a modified rotating packed disc bioreactor for azo dye degradation
- Mixed white rot fungal culture demonstrates first order reaction for degradation.
- The treated wastewater reused to produce melanin pigment

Abstract

Reactive azo dyes are toxic and carcinogenic. In this study, mixed cultures of white-rot fungi (WRF) are used to treat synthetic reactive black 5 (RB-5) wastewater in a modified rotating packed disc bioreactor (RPDB). The continuous degradation studies were carried out for 25days under the influence of the recycle stream in which 3665L of synthetic effluent was treated. The dye wastewater was completely decolorized with more than 93% chemical oxygen demand (COD) reduction using the mixed fungal culture. During the continuous operation, the COD of influent reduced more than 85% for successive 25days of continuous operation at hydraulic retention time of 10.8h. The dry biomass loading was about 0.14g/g GAC at the end of the continuous process. The rate of COD removal followed first order kinetics with a rate constant of 0.026 per hour. The treated water was reused to produce melanin from microbial culture.

Graphical abstract