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Sl. No.	Title of the collaborative activity	Name of the collaborating agency with contact details	Name of the participant	Year of collaboration	Duration	Nature of the activity
2017-2018	Wireless soil monitoring sensor for sprinkler irrigation automation system	International Journal of Ambient Energy	Nagarajan, G., Minu, R.I.	2018		Research paper publication
	Decision based detail preserving algorithm for the removal of equal and unequal probability salt and pepper noise in images and videos	Book Series: IEEE- International Conference on Advanced Computing and	Kishorebabu, V., Karuppaiyan, K., Nagarajan, G	2018		Research paper publication
	Enhanced hybrid quality prediction model for 8K UHD H.265 video using ANFIS	2017 4th International Conference on Advanced Computing and Communication Systems (ICACCS)	Dhanalakshmi, A., Nagarajan, G.	2018		Research paper publication
	High voltage gain multiphase interleaved DC-DC converter for DC micro grid application		Ramesh babu A and T. A. Raghavendiran	2018		Research paper publication

	using intelligent control					
	A Novel bridgeless SEPIC Converter for Power Factor Correction	"First International Conference on Power Engineering Computing and CONTROL (PECCON-2017) 2nd -4th March .2017	MEENA DEVI R,Dr. L. PREMALATHA	2018		Research paper publication
	A new solar based asymmetrical triggering method of DC-DC converter for resistive load		S.Jayaprakash and V.Ramakrishnan	2018		Research paper publication
	Neoteric AT For The Visually Challenged	IEEE explore	Sivagami P, M.Pushpavalli and Peter Shyamal N	2018		Research paper publication
	Fuzzy logic controlled PV supported triple stage ILBC converter system with improved dynamic response	IEEE explore	Bharathi, M.L., Kirubakaran, D	2018		Research paper publication
	A novel grid integration scheme for the hybrid electric power generation using solar and wind energy resources	IEEE explore	Fathima, K.A.R., Bharathi, M.L	2018		Research paper publication
	Novel non-isolated high step-down three phase interleaved DC-DC converter with capacitor voltage division techniques	IEEE explore	A. Ramesh Babu, Raghavendiran, Barnabas Paul Gladys and G. T. Sundar Rajan	2018		Research paper publication
	Alleviate the Voltage gain of High Step-up DC to DC converter using Quasi Active Switched	IEEE explore	V.Balasubramanian, V.Senthil Nayagam , Jayarama Pradeep	2018		Research paper publication

	Inductor Structure for Renewable Energy”					
	Performance measures of positive output superlift luo converter using multitudinous controller	IJPEDS	Sivagami, P., Jothi Swaroopan, N.M.	2018		Research paper publication
	Control strategy used in DFIG and PMSG based wind turbines an overview	IJPEDS	Meenakshi, V., Paramasivam, S.	2018		Research paper publication
	Modeling and control of GSO method based on HPFC using an interconnected hybrid power generation systems		A.Murugan., V .Rama Krishnan	2018		Research paper publication
	Imperialsociety Of Innovative Engineers-KI University	Imperialsociety Of Innovative Engineers-KI University (Virtual Round) Imperial Society Of Innovative Engineers-GalgotiasUniversity,Delhi (Testing) Imperial Society Of Innovative Engineers-Buddh International Circuit,GreaterNoida,Delhi (Final Round)	1.Suragani Thirupathirao 2. Panchala Sai Kumar 3. Yakub Saheb GariGhouse Hussain Basha	2018		PROJECT EXHIBITIONS

Wireless Soil Monitoring Sensor for Sprinkler Irrigation Automation System

Authors:  G. Nagarajan,  R. I. Minu [Authors Info & Claims](#)

Wireless Personal Communications: An International Journal, Volume 98, Issue 2 • January 2018 • pp 1835–1851 • <https://doi.org/10.1007/s11277-017-4948-y>

Online: 01 January 2018 [Publication History](#)

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■ Abstract

In a developing country like India, there is an exponential rise in population nutrition requirement. To meet up with both the ends, the agricultural techniques should be perfected for optimal yield and quality. Irrigation and soil property monitoring system using sensors can be automated and operated wirelessly to achieve optimal water supply control and surveillance. The objective of this paper, is to automate the whole wireless sensor network

Decision Based Detail Preserving Algorithm for the Removal of Equal and Unequal Probability Salt and Pepper Noise in Images and Videos

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Abstract: A novel vicinity based algorithm for the elimination of equal and unequal probability salt and pepper noise with a fixed 3x3 kernel is proposed. The proposed method uses a tree based switching mechanism for the replacement of corrupted pixel. The processed pixel is checked for 0 or 255; if found true then the pixel is considered as noisy else termed non noisy and left unaltered. If the pixel is noisy then it checks for the 4 neighbors of the processed pixel. If all the 4 neighbors are noisy then mean of the 4 neighbors are replaced. If any of the 4 neighbors are not noisy then the corrupted pixel is replaced by unsymmetrical trimmed mean. Under high noisy conditions if all the elements of the current processing window is noisy then global mean replaces the corrupted pixel. The proposed algorithm exhibits better performance both quantitatively and qualitatively over the standard and existing algorithms at very high noise densities. The performance of the existing non linear filters are outclassed by the proposed algorithm in terms of PSNR, IEF, MSE, and SSIM and also preserves fine details of an image even at high noise densities. The algorithm works well even for gray scale, color images and video.

Keywords: Unequal probability salt and pepper noise, unsymmetrical trimmed mean, edge preservation.

Enhanced hybrid quality prediction model for 8K UHD H.265 video using ANFIS

Publisher: **IEEE**

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A. Dhanalakshmi ; G. Nagarajan [All Authors](#)

1

Paper

Citation

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Abstract

Document Sections

I. Introduction

II. Related Work

III. Proposed Anfis Based Prediction Model

IV. Experimental Result

V. CONCLUSION

Abstract:

Enhanced video coding standard: H.265/ High Efficiency Video Coding (HEVC) elaborated by using SHVC reference software model (SHM), has an aim to develop performance above the current H.265 standard. This paper represents a Quality of Experience (QoE) and Quality of service (QoS) estimate model in a video streaming from the origin of network visual application which is developed in recent years and also 8K video streaming illustration based on the approaching standard of SHVC (Scalable High efficiency Video Coding). SHVC decoder is utilized below the monitor to decode moreover demonstrate in real time the expected SHVC layers. Conversely, ANFIS technique is carried out to interface the Quality of Experience and Quality of service and real time streaming is approved in an unfeasible model which entails an original video sequence. The fundamental objective of this paper is to represent a wireless domain considering 8K UHD H. 265-coded video of the hybrid estimate model of excellent quality. The main contribution of this paper are split up as the examination of the quality impact of the service parameter on the video transmission of 8K UHD H.265-coded and the objective

High voltage gain multiphase interleaved DC-DC converter for DC micro grid application using intelligent control ☆

A. Ramesh Babu ^a  , T.A. Raghavendiran ^b

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<https://doi.org/10.1016/j.compeleceng.2017.12.030>

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Abstract

This paper presents Multiphase Interleaved Boost Converter (MIBC) with Voltage Multiplier Cell (VMC) supplied for DC micro grid application. The main focus of this research is to increase the voltage gain and reduce the voltage stress across the switch. The improvement in voltage gain is achieved by recycling the stored energy in the inductor, VMC and voltage lift capacitor. In the proposed MIBC the input current is divided among the three converters. Hence, the rating of devices used in the converter can be reduced, which in turn minimises the ohmic loss of the switch. In addition, the interleaved converter decreases the voltage stress across the switch. The MIBC is compared with existing converters for various parameters such as voltage gain, voltage stress of the main switch and diode and the number of components used. The hardware is implemented for the proposed MIBC to validate performance in real time application.

A Novel bridgeless SEPIC Converter for Power Factor Correction

R. MEENADEVI ^a, Dr. L. PREMALATHA ^b

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<https://doi.org/10.1016/j.egypro.2017.05.220>

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Abstract

In this paper, a new Power Factor Correction controlling technique using bridgeless SEPIC (single-ended primary induction) AC-DC converter with fuzzy control is proposed. The converter design has single switching device of MOFET, to reduce switching losses. This design also has Voltage and Current loop controlling technique to improve the Power Factor and output Voltage. Fuzzy logic controllersetup also improves the controller responses in this circuit. The output voltage depends on the switching frequency of the MOSFET. This proposed converter produces low conduction loss, low total harmonic reduction and high power factor reaching near-unity. This converter circuit is simulated with universal input voltage of 190V - 220V DC output Voltage connected to resistive load. All the simulation work is done using MATLAB – Simulink.

A New Solar Based Asymmetrical Triggering Method of DC-DC Converter for Resistive Load

S. Jayaprakash and V. Ramakrishnan

Abstract:

This paper presents a new Solar based Asymmetrical triggering method of DC-DC converter for resistive load. Input side Solar panel is connected, asymmetrical triggering method inverter, center tapped transformer, and converter and resistive load are connected. The circuit has two converter connected to boost the voltage and also for the power factor correction (PFC) converters. Output side of Controlled converter is connected to capacitive and pi filter. Controlled voltage is applied to the resistive load. Voltage, current and power across load are measured by experimental method. The circuit with all the component parameters operates at zero-voltage switching which retains the high circuit efficiency. A circuit operation and simulation designed for a 220v dc output is arrived and tested.

Issue: 15-Special Issue

Year: 2017

Pages: 773-779

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Neoteric AT for the visually challenged

Publisher: IEEE

[Cite This](#)

[PDF](#)

P Sivagami ; M Pushpavalli ; N Peter Shyamal [All Authors](#)

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Text Views



Abstract

Document Sections

[I Introduction](#)

[II Proposed System](#)

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Implementation](#)

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Abstract:

This paper interpolates a unified arrangement which can perform three different functions to bring light in the life of the visually challenged. The data provided by ultrasonic sensor is processed using a microcontroller based embedded system. The advent of MaxSonar sensor and the Ultrasonic sensing devices has led to many useful functions as it has high accuracy. Using MaxSonar sensor and ultrasonic sensor at different levels of human body the obstacles in the path are detected and output is given to the user via earphones. A GPS GSM module is incorporated into the system to share the location coordinates in state of emergency. When the user approaches a pedestrian traffic signal, the status of the signal is given to the user via earphones. This is achieved with use of RF TX-RX technology.

Published in: 2017 International Conference on Computation of Power, Energy Information and Commuincation (ICCPEIC)

Fuzzy logic controlled PV supported triple stage ILBC converter system with improved dynamic response

Publisher: **IEEE**

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M. L. Bharathi ; D. Kirubakaran [All Authors](#)

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Text Views



Abstract

Document Sections

[I. Introduction \(Heading 1\)](#)

[II. Simulation Results](#)

[III. Experimental Results](#)

[IV. Conclusion](#)

Authors

Abstract:

Among the renewable energies solar energy is eco-friendly in nature and since it's a huge source of energy which is abundantly available thus satisfies the energy demand. Though, they are more advantages extraction of maximum energy from the solar cell happens to be a great task. In order to attend this problem this paper agreements with design, modelling, simulation and execution of Three Stages ILBC (TS ILBC) fed DC drive system. Here, we have simulated both open as well as closed loop TS ILBC. Also, the performances of TS ILBC with PI controller and Fuzzy controller (FLC) for are compares and it is tabulated. To achieve better dynamic response Fuzzy logic controlled (FLC) TS ILBC is proposed. Prototype hardware of open loop TS ILBC system is implemented for DC motor drive.

Published in: [2017 International Conference on Computation of Power, Energy Information and](#)

A novel grid integration scheme for the hybrid electric power generation using solar and wind energy resources

Publisher: IEEE

Cite This

PDF

K. A. Rani Fathima ; M. L. Bharathi [All Authors](#)

1

Paper

Citation

339

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Text Views



Abstract

Document Sections

I. Introduction(Heading 1)

II. Maximum Power Point Tracking (MPPT) for the PV Power Generation Unit

III. The Wind Energy Harvesting Scheme

Abstract:

In this paper is reported a novel grid integration scheme for a hybrid electric power generation scheme using Photovoltaic power generation and induction generator based wind power generation.

The proposed scheme adopts Fuzzy Logic Control (FLC) for the Maximum Power Point Tracking (MPPT) of the wind turbine driven induction generator and the incremental conductance based MPPT for the solar PV system. The power from the wind source and the photo voltaic source are brought to a common DC link and a DC to AC three phase inverter is used to upload power into the grid and a novel control scheme is adopted for sinusoidal current injection at the point of grid integration. The first novelty of the proposed system is that a variable frequency drive is used to run the induction generator at different synchronous speeds for power generation over a wide wind speed range. The additional novelty of the proposed scheme is that a direct Clark transformation and a set of two PI controllers are used to control the grid integration inverter enabling it to drive grid current with THD levels much less than the allowable limits.

Novel non-isolated high step-down three phase interleaved DC-DC converter with capacitor voltage division techniques

Publisher: IEEE

Cite This

PDF

A. Ramesh Babu ; Raghavendiran ; Barnabas Paul Gladly ; G. T. Sundar Rajan [All Authors](#)

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Paper

Citations

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Abstract

Document Sections

I. Introduction

II. Analysis of Proposed Converter

III. Simulation Result

IV. Hardware Result

V. Conclusion

Abstract:

The novel non-isolated high step-down DC-DC converter is proposed to reduce the voltage stress of main switch. The new capacitive voltage division method is used to store the input energy in input capacitors. The three input capacitors are connected across the input supply to store and release the energy to three interleaved buck converter with high step down ratio without less duty ratio. The input capacitor voltage division method will reduce the voltage stress of switch, hence easy to select the low rating switch. The low rating switch offer low on state resistance, which result in reduced conduction loss of switch. The application of interleaved PWM provides input ripple current cancellation as a result input and output current ripple get reduced. The three phase interleaved converter proposes analysis, principle of working and simulation results are presented. The proposed new method is examined under various simulation parameters are such as switching loss, conduction loss, current ripple, and voltage gain. The proposed converter simulation was done using

Alleviate the voltage gain of high step-up DC to DC converter using quasi active switched inductor structure for renewable energy

Publisher: **IEEE**

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V. Balasubramanian ; V. Senthil Nayagam ; Jayarama Pradeep [All Authors](#)

1

Paper

Citation

279

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Abstract

Document Sections

I. Introduction

II. Principle of Operation

III. Voltage Gain Expression

IV. Simulation Block Diagram of the Modified High Step- Up DC to DC Converter QASL

Abstract:

The demand for non-isolated high step-up DC-DC-dc converters in applications such as DC backup energy systems for UPS and photovoltaic has been gradually increasing. Generally, Boost converter should operate at high duty cycle in order to get the high-output voltage but it generates more EMI, conduction loss and increase the switch rating. High voltage gain DC-DC converter implemented quasi-active switched-inductor structure for a non conventional system is included in this paper. The PV system is available in the proposed system as well as two coupled inductors with magnetic core, two capacitors, two active switches, three diodes and PI filter [1]. The input supply is connected in shunt with primary part of the coupled inductor for charging. Meanwhile the charged coupled inductor is discharged in series manner along with the source and the capacitor in order to get efficient high output voltage with proper duty cycle is selected. The diode capacitor set will act as a clamp circuit so that the voltage conversion ratio by the coupled inductor structure is further improved to high level with less stress on the switch. In order to reduce the conduction loss by the switches used we preferred MOSFET switches with very low on state resistance. The reverse recovery problem is

Performance Measures of Positive Output Superlift Luo Converter Using Multitudinous Controller

Sivagami Ponnalagarsamy, N. M. Jothi Swaroopan

Abstract

In order to meet the increase in energy demand globally it is necessary to harness renewable energy at its maximum potential for the purpose of electric power generation. For the achievement of high output voltage and efficiency DC-DC converters plays a vital role in low voltage PV array and fuel cells. LUO converters are gaining importance because of geometric progression output. . LUO converters find its application because of high transient performance of the system, high power transfer gain, efficiency and reduced ripple .Because of load and line disturbances the output voltage of DC-DC converter must be operated in closed loop mode. This paper interpolates multitudinous controller for positive output elementary super lift LUO converter (POESLL). The pursuance of the converter under manifold such as variation in input, load are developed and compared for current mode controller and SMC.

Control Strategy Used in DFIG and PMSG Based Wind Turbines an Overview

September 2017 · [International Journal of Power Electronics and Drive Systems](#) 8(3):1160

DOI:[10.11591/ijpeds.v8.i3.pp1160-1167](#)

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Abstract and Figures

Nowadays, the fossil combustibles are replaced by renewable energies sources. These renewable energies are nontoxic, dirt free, and protected and reasonably cheap for the user. Renewable energy resources like bio-gas, geothermal, solar, tidal waves and wind have been found as the best alternatives energy source. Among those renewable energy sources, wind energy stands foremost for generating electricity. In order to have a constant utilization of wind energy and to extract maximum power from wind energy. In this paper, various control strategies prevalent to both the Doubly Fed Induction Generator (DFIG) and Permanent Magnet Synchronous Generator (PMSG) have been analyzed. In addition, control topology applicable to power electronics converter/inverter used in wind electric generators are discussed.

Modeling and Control of GSO Method Based on HPFC Using an Interconnected Hybrid Power Generation Systems

A. Murugan and Dr.V. Rama Krishnan

Abstract:

In this manuscript, we offer a new optimization algorithm, Group Search Optimizer (GSO), which is encouraged by animal probing behavior and group alive theory. The technique is depend on the Producer-Scrounger design [1], which guess group members look for either for $\blacklozenge$ searching $\blacklozenge$ (producer) or for $\blacklozenge$ grouping $\blacklozenge$ (scrounger) opportunities. Animal investigating behaviors are included to expand the algorithm. The Hybrid Power Flow Controller (HPFC) is a FACTS controller recently offered to restore the Unified Power Flow Controller (UPFC) at lower principal costs, while providing comparable regulation capacities to notice congestion problems. In this work, an summary of the suggested controller and its operation is discussed. The results show the possibility of using this processer for congestion relief in convenient grids, at lesser costs than the individuals of a UPFC.

Issue: 15-Special Issue

STUDENT PARTICIPATION IN PROJECT EXHIBITIONS

Name of the Student	Project Title	Presented At	Date
1. Suragani Thirupathirao 2. Panchala Sai Kumar 3. Yakub Saheb GariGhouse Hussain Basha	ISIE Hybrid Vehicle Challenge-Hvc 18	Imperial Society Of Innovative Engineers- KI University (Virtual Round)	19.8.2017 to 20.8.2017
		Imperial Society Of Innovative Engineers- Galgotias University, Delhi (Testing)	17.01.2018 to 19.01.2018
		Imperial Society Of Innovative Engineers- Buddh International Circuit, Greater Noida, Delhi (Final Round)	20.01.2018 to 21.01.2018

List of Students Participated in Project Exhibition outside the state in the year 2017 – 2018



Students Participated in Project Exhibition outside the state in the year 2017 – 2018