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1.

Authors: Priyanka Kandregula, J Bhavani, T. Nireekshana

Paper Title: A Novel Buck Boost Converter Feeded from Solar to Standalone System

Abstract: For the present standalone system which the power taken from solar system and given to the off-grid loads are required number of stages of conversions of power thereby there is loss in reliability and efficiency of the system. To reduce the stages we have to either increase the rating of the battery or increase the number of solar cells in the system to increase the voltage level ,but while increasing the rating of battery or solar cell it may cause the installation complications and it will be expensive. However, to satisfy the above disadvantages we are introducing a novel boost inverter that did not require any increase the voltage level in battery or increment of solar panels in the solar system. The system dependableness and potency area unit magnified. The brief analytical study of the system is performed. The efficiency of the system is validated by MATLAB simulation.

Keywords: Buck-Boost converter, DC-DC converter, Full bridge inverter , Maximum Power Point Tracking (MPPT), photovoltaic (PV), standalone system.

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2.

Authors: Abhinav Pathak, Ratnesh Gupta

Paper Title: Low-Frequency Oscillation in Power System

Abstract: Low-frequency oscillation can collapse the stability of the power system, which is considered to be one of the most significant challenges to a power system engineer. In earlier decades modal analysis was carried out for identifying low-frequency oscillation modes, which have various drawbacks. In the present era, with the application of the Phasor measurement unit & various signal processing techniques, identification of low-frequency oscillation is being carried out with accuracy to an extent. This paper provides a survey of recent research and development in the field of identification of low-frequency oscillation by different signal processing techniques. It is expected that this literature survey will provide researchers with some future direction in finding relevant references and developing suitable techniques for low-frequency oscillation detection in the interconnected power system.

Keywords: Inter-area modes, Low-frequency oscillation, Phasor measurement unit, Power system.

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3.

Authors: **Suresh Sorathiya, M.B. Prajapati**

Paper Title: **Mathematical Analysis and Simulation of Ahrens Model in Pulse Combustor**

Abstract : Ahrens model accepted large data of Kilicarslan but with some real differences. In Kilicarslan model, released heat in combustion having more I2R that is released under Ahrens. As per Ahrens if any specific object divides reaction and cool zone then heat release / cycle is very less compare with Kilicarslan. But with one condition of one object that is, it should be pressure independent otherwise density of reactants remains constant (or not enough increased); as a result, more heat released with less satisfied output. Mathematical model of Ahrens brief about object zones and its separation. This paper also brief about dynamic work function of tailpipe with adjustment of frequency which will proceed for system stability and its accuracy.

Keywords: Burning Mass Equation, Frequency Analysis, Roll of Oscillation, Stability, Modified Ahrens Equation.

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10-13

4.

Authors: **G. Kishor Babu, B. Madhu Kiran, V. Matthew, T. Suneel**

Paper Title: **Improve the Stability of the Segmented Traction Drive by Reducing the Harmonics with Controller**

Abstract: This paper represents, reduced harmonics in the three phase three module inverter. If the module number increases the Total-harmonics-distraction (THD) value of the traction drive reduced. And the THD value is tremendously reduced by using controller with three phase three module inverter. Here Proportional Integral (PI) is used as a controller. The THD values for the three modules with controller and simulink results are placed below. The performance a characteristic of the traction drive is improved compared with and without controller. And the simulink results are placed below.

Keywords: Voltage Source inverter (VSI), Interleaving technique, Space vector pulse with modulation (SVPWM), PI Controller, Fast Fourier Transform (FFT).

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Authors:	**Manoj Kumar, K. N. S. Rahul, Smt Malathi Narra, B. Pandu Ranga Rao**
Paper Title:	**Efficient Method on Energy Regeneration through Speed Breakers**

Abstract: From the last century speed breaker is been the sedulous thing in controlling the speed on roads. But as the technology and requirements in vehicular design increased over time, the design of vehicles having the ability to move at high speeds had ameliorated. Speed breakers with the intent of controlling speed had been doing great damage to the vehicular functioning and been gist in fuel wastage if the vehicle crosses the limits.
To utilize the present exhausting resources efficiently, every black point has to be covered and recovery of lost energy has to be the main aim. So the energy lost by a vehicle in negotiating a speed breaker has to be recuperated. This can be brought to fruition by utilizing an energy regenerating speed breaker.
Many attempts had carried out in creating an efficient energy regenerating speed breaker, every method proposed had involved in outlasting the energy generation and carried a hitch. This paper deals with a newfangled method in the renewal of energy involving the principles of negative suction.

Keywords: ameliorated, fruition, newfangled, negative suction.

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6.	**Authors:**	**T.Sai Rakshitha, E.Shiva Prasad , K.Sravani**	
	Paper Title:	**Performance Analysis of DC-DC Converters for Solar Water Pumping System Employing Switched Reluctance Motor Drive**	
	Abstract: The grail of this paper is to investigate the performance of various DC-DC converters for solar based water pump system incorporating switched reluctance motor drive. The Converters used are CUK converter, Buck-Boost converter and Boost converter respectively. The speed of the switched reluctance motor is regulated by the mid-point converter along with the various DC-DC converters. The Switched reluctance motor is adopted over other motors because of its low inertia, ease of control, speed range is wide, less losses as there is no windings nor permanent magnets Present on the rotor. In order to operate the solar PV array at its optimum level we employ maximum power point tracking (MPPT) and specifically Perturb and Observe control method is employed in this project. The proposed system deals with the design, modeling and simulation of three different types of converters using MATLAB/Simulink environment. The applicability of this system can be analyzed by the simulated results. **Keywords:** Maximum power point tracking (MPPT), Photovoltaic System, Switched Reluctance Motor (SRM). **References:** 1. Bhim Singh, Anjana kumar, and Rajan Kumar, “Solar Powered Water Pumping System Employing Switched Reluctance Motor Drive” IEEE Transactions on Industrial applications 2016, pp. 1-8. 2. A. K. Mishra and B. Singh, "Design of PV powered SR motor driven irrigation pumps utilizing boost converter," 2016 IEEE Uttar Pradesh Section International Conference on Electrical, Computer and Electronics Engineering (UPCON), Varanasi, India, 2016, pp. 264-268 3. B. Singh and A. K. Mishra, "SPV array powered SC buck-boost converter fed SRM drive for water pumping," 2016 International Conference on Emerging Trends in Electrical Electronics & Sustainable Energy Systems (ICETEESES), Sultanpur, 2016, pp. 267-273. 4. A. K. Mishra and B. Singh, "Solar photovoltaic array dependent dual output converter based water pumping using Switched Reluctance Motor drive," 2016 IEEE 6th International Conference on Power Systems (ICPS), New Delhi, 2016, pp. 1-6. 5. S. G. Malla, C. N. Bhende, and S. Mishra, “Photovoltaic based water pumping system,” Int. Conf. Energy, Automation Signal (ICEAS), 28-3 Dec. 2011, pp. 1-4. 6. S. Belliwali, A. Chakravarti and A.B. Raju, “Mathematical modelling and simulation of directly coupled PV water pumping system employing Switched Reluctance Motor,”“ IEEE PES Innovative Smart Grid Technologies - India (ISGT India), 2011, pp.no.386-390, 1-3 Dec. 2011. 7. Karami, N., Moubayed, N., Outbib, R.: „General review and classification of different MPPT techniques“, Renew. Sustain. Energy Rev., 2017, 68, (1), pp. 1–18. 8. Mohan, N., Undeland, T. M., Robbins, W. P.: „Power electronics: converters, applications and design“ (John Wiley & Sons Inc., New Delhi, India, 2010, 3rd edn.). 9. T. J. E. Miller, "Switched Reluctance Motor and their control" in Oxford:Magna Physics Publishing and Clarendon Press, 1993 . 10. N. Femia, G. Petrone, G. Spagnuolo, M. Vitelli, "Optimizing duty-cycle perturbation of P&O MPPT technique", *IEEE 35th Annual Power Electronics Specialists Conference*, vol. 3, pp. 1939-1944, 20-25 June 2004. 11. Mohan, N., Undeland, T. M., Robbins, W. P.: „Power electronics: converters, applications and design“ (John Wiley & Sons Inc., New Delhi, India, 2010, 3rd edn.). 12. R. Krishnan, "SRM modeling simulation and analysis design and applications" in , CRC Press, 2001	**24-28**