

PUBLICATIONS

Journals (SCI)

1. Meenu D. Nair, Jayanta Biswas, G. Vivek, and Mukti Barai, “Optimum Hybrid SVPWM Technique for Three-level Inverter on the Basis of Minimum RMS Flux Ripple”, *Journal of Power Electronics*, Vol. 19, No. 2, pp. 413-430, March 2019.
2. A Simplified Double Switching SVPWM implementation for Three Level VSI, G Vivek , Jayanta Biswas , Meenu D Nair , Mukti Barai, *IET, The Journal of Engineering*, DOI: 10.1049/joe.2018.5106 , Online ISSN 2051-3305 Available online: 31 July 2019
3. An optimized harmonic elimination method based on synchronized microcontroller architecture, Vivek Gopinath, Meenu Nair, Jayanta Biswas, Mukti Barai, *Turkish Journal of Electrical Engineering & Computer Sciences*, Available online: 29.03.2019, DOI: 10.3906/elk-1806-153.
4. Jayanta Biswas, Meenu D Nair, G Vivek and Mukti Barai, “An Optimized Hybrid SVPWM Strategy Based on Multiple Division of Active Vector Time (MDAVT)”, *IEEE Transactions on Power Electronics*, vol 36, no 6, June 2017
5. Meenu D Nair, G Vivek, Jayanta Biswas and Mukti Barai, “Performance Evaluation of Various Bus Clamped Space Vector Pulse Width Modulation”, *Journal of Power Electronics*, vol. 17, no. 5 September 2017
6. Jayanta Biswas, Aniruddha Kamath M., Anjana K.G, Mukti Barai, “Design, Architecture and Real Time Distributed Coordination DMPPT Algorithm for PV Systems” *IEEE Journal of Emerging and Selected Topics in Power Electronics*, DOI 10.1109/JESTPE.2017.2756698, Volume: PP, issue:99
7. Aniruddha Kamath M., Jayanta Biswas, Anjana K.G, Mukti Barai, “A Simple Real-Time DMPPT Algorithm for PV Systems Operating Under Mismatch Conditions” *Journal of Power Electronics (In press)*
8. G Vivek, Jayanta Biswas Meenu D Nair and Mukti Barai, “Comparative Study on SVPWM Switching Sequences for VSIs”, *Journal of Electrical Engineering & Technology*, Vol. 13, No.1 December 2017
9. Jayanta Biswas, Abir De, Aswini Kumar and Mukti Barai, “A Hybrid SVPWM Technique with Voltage Mode Digital Controller for ZVS Three Phase VSI”, *IEEE Transactions on Power Electronics (A revision submitted)*.

10. Jayanta Biswas, Vivek G, Meenu D Nair, Aswini Kumar M and Mukti Barai, “Design of Hybrid SVPWM Techniques Based on Optimum Spatial Region Identification Algorithm”, *IEEE Transactions on Power Electronics (A revision submitted)*.

Journals (Scopus Indexed)

1. Study of Common Mode Voltage (CMV) in Three level NPC VSI using SVPWM Techniques Partha sarathi Behera, G. Vivek, Dr. Mukti Barai, *International Journal of Scientific & Engineering Research*, Volume 10, Issue 3, March 2019 ISSN 2229-5518 IJSER © 2019 <http://www.ijser.org>
2. Meenu D Nair and Mukti Barai, “A Novel Advanced Double Switching SVPWM (ADSPWM) Technique for Two Level Inverter”, *International Journal of Latest Trends in Engineering and Technology*, Vol 8, No 2, pp: 29-36, 2017.
3. Shubham Goyal, Mukti Barai, “Modeling, Design and Implementation of High Gain Boost Converter with Voltage-mode Control for PV Systems”, *International Journal of Scientific & Engineering Research (ISSN 2229-5518)*, volume 8, issue 5, May-2017
4. Janjanam Naveen, Mukti Barai, “Design and Implementation of KY Buck-Boost Converter with Voltage Mode Control”, *International Journal of Scientific & Engineering Research (ISSN 2229-5518)*, volume 8, issue 6, June-2017
5. Jayanta Biswas, Aniruddha Kamath M and Mukti Barai, “Design and Implementation of Analog Controller to Reduce line current distortion of High input Power factor Boost rectifier”, *International Journal of Scientific & Engineering Research (ISSN 2229-5518)*, volume 8, issue 7, July-2017

IEEE Conferences

1. Abhishek Roy and Mukti Barai, “Study and Design of Soft-Switched PWM DC-DC Buck Converter”, *IEEE Power Electronics Applications & Technology in Present Energy Scenario (PETPES 2019)* held in NITK, Surathkal, August 29-31, 2019.
2. Arundhati Parida, Kumar Raja Mothukuri, Mukti Barai “Study of a soft switched Isolated DC-DC Bidirectional Converter for Electric Vehicles”, *IEEE TENCON 2019*, held in Kochi, Kerala, 17 - 20 October 2019.
3. Partha Sarathi Behera, G Vivek, Dr. Mukti Barai, “Common Mode Voltage (CMV) in Three level NPC VSI using Advanced Bus clamping methods: A Study”, *IEEE International*

conference on International Conference on Recent Innovations in Electrical, Electronics & Communication Engineering -(ICRIEECE-2018) held at School of Electrical Engineering, Kalinga Institute of Industrial Technology (KIIT), Bhubaneswar July 2018.

4. Betsy Maria Mathews, Mukti Barai, “Modeling, Design and Implementation of a Two-port DC-DC Converter with Synchronized PWM Control”, *International Journal of Scientific & Engineering Research. ISSN 2229-5518*, Volume 9, Issue 6, June-2018 pp: 1498-1510.
5. Remya M. N., Mukti Barai, “Study of Induction Heating using Half Bridge Series Resonant Inverter”, *International Journal of Scientific & Engineering Research. ISSN 2229-5518*, Volume 9, Issue 6, June-2018 pp: 1520-1525.
6. Meenu D Nair, Jayanta Biswas, G Vivek, Mukti Barai, “An Optimum Hybrid SVPWM Technique for Three level Inverter”, *IEEE 3rd International Conference for Convergence in Technology (I2CT)*, Pune. 7-8 April 2018.
7. MA Kamath, M Barai, “A simple analog controller to reduce line current distortion of single phase boost rectifier”, *IEEE International Conference on Signal Processing, Informatics, Communication and Energy Systems (SPICES), 2017* held at Kollam, India. August 2017.
8. ShubhamGoyal, MuktiBarai, “Design and Implementation of High Gain Boost Converter with Voltage-mode Control”, *IEEE International Conference on Power, Control, Signals and Instrumentation Engineering (ICPCSI-2017)*, Chennai, 21 Sep - 22 Sep 2017.
9. Aniruddha Kamath M., Anjana K.G, Mukti Barai, “A Power Electronic Compensator to Extract Maximum Power from Partially Shaded PV Module” *IEEE International Conference on Innovations in Electrical, Electronics, Instrumentation and Media Technology (ICIEEIMT 2017)* at Karunya University, Coimbatore, India, Pages 276 – 281 (Best Paper Award)
10. Anjana K.G, Aniruddha Kamath M., Mukti Barai, “A Differential Current Compensation Technique for PV Systems under Partially Shaded Condition” *IEEE International Conference on Compatibility Power Electronics and Power Engineering (CPE-POWERENG-2017)* at Cadiz, Spain, Pages: 116 – 120
11. Aniruddha Kamath M., Mukti Barai, “A Simple Analog Controller to Reduce Line Current Distortion of Single-Phase Boost Rectifier” *IEEE International Conference on Signal Processing, Informatics, Communication and Energy Systems (SPICES-2017)* at TKMCE, Kollam, India, Pages 1 – 5
12. M Aswini Kumar, Mukti Barai, “A Novel SVPWM Technique for Capacitor Voltage Balancing in Modular Multilevel Converters (MMCs)”, *IEEE International Conference on Compatibility Power Electronics and Power Engineering (CPE-POWERENG-2017)* at Cadiz, Spain

13. Abir De, Mukti Barai, "An Improved Zero Voltage Switching SVPWM for Three Phase Inverter", *IEEE International Conference on Compatibility Power Electronics and Power Engineering (CPE-POWERENG-2017)* at Cadiz, Spain
14. T. Devarajulu Reddy, Mukti Barai, "A Novel Configuration to Eliminate Dominant Harmonic Frequency (DHF) by using FFT in Series Active Filters", *2016 1st International Conference on Power Electronics, Intelligent Control and Energy Systems (IEEE ICPEICES 2016)*, Delhi Technological University, Delhi, India on 4-6, July 2016.
15. Betsy Maria Mathews, Mukti Barai, "A Synchronized Voltage-Mode Control for A Multi-port DC-DC Converter", *IEEE PEDES 2016*, 14-17 December 2016, Trivandrum, India
16. Kukkala Satya Prakash, Mukti Barai, "Time-Variant Slope Compensation for Peak Current Mode Control (PCMC) of Boost Converter with Point-of-Load Applications", *Proceedings of the 6th IEEE International Conference on Power Systems, 2016 (ICPS 2016)*, IIT Delhi, New Delhi, India, 4-6th March 2016.
17. G. Vivek, M. D. Nair and M. Barai, "Synchronized Microcontroller Architecture for dominant harmonic elimination in Quasi Square wave inverters," *PEDG 2016, Vancouver Canada*.
18. G. Vivek, M. D. Nair and M. Barai, "Experimental analysis of switching sequences for VSI," *PEMC 2016, Varna Bulgaria*.
19. Aniruddha Kamath M., Anjana K.G, Mukti Barai, "Design and Implementation of Voltage Mode Digital Controller for Fly back Converter Operating in Discontinuous Conduction Mode (DCM)" in *Proceedings in IEEE India International conference on Power Electronics (IICPE-2016)* at Thapar university, Patiala, Punjab, Pages: 1 – 6.
20. Meenu Nair, Vivek G, Mukti Barai, Performance Study of Advanced Discontinuous SVPWM Methods with Zero Changing Angle Variation", *Proceedings of the IEEE International Conference on Signal Processing, Informatics, Communication & Energy Systems (IEEE SPICES) 2015*, NIT Calicut, February 19-21, 2015.
21. Aswini Kumar Muthavarapu, Mukti Barai, "Performance Analysis of Control and Modulation Methods of Z-source Inverter", *Proceedings of the IEEE International Conference on Signal Processing, Informatics, Communication and Energy Systems (IEEE SPICES) 2015*, NIT Calicut, February 19-21, 2015.
22. M. D. Nair, G. Vivek and M. Barai, "Performance evaluation of clamping position variation on advanced bus clamping strategies: Experimental investigation," *2015 IEEE 11th International Conference on Power Electronics and Drive Systems*, Sydney, NSW, 2015, pp. 1156-1161. doi: 10.1109/PEDS.2015.7203557.

23. M. D. Nair, G. Vivek and M. Barai, "Performance study of advanced discontinuous SVPWM methods with zero changing angle variation," *Signal Processing, Informatics, Communication and Energy Systems (SPICES), 2015 IEEE International Conference on*, Kozhikode, 2015, pp. 1-5. doi: 10.1109/SPICES.2015.7091520
24. G. Vivek, M. D. Nair and M. Barai, "Online reduction of fifth and seventh harmonics in single phase quasi square wave inverters," *2015 Annual IEEE India Conference (INDICON)*, New Delhi, 2015, pp. 1-6. doi: 10.1109/INDICON.2015.7443721.
25. Sithara M, Mukti Barai, "A Hybrid Model of Switch Mode Converter for Low power AC-DC Voltage Application", *Proceedings of the 21st IEEE International Conference on Electronics Circuits & Systems*, DOI: 10.1109/ICECS.2014.7050062, 2014, pp 622 –625, Marseille, France from December 7-10, 2014.
26. M. D. Nair, G. Vivek, K. Anjana and M. Barai, "A comparative investigation of various advanced bus clamped space vector pulse width modulation (SVPWM) techniques," *2014 IEEE Energy Conversion Congress and Exposition (ECCE)*, Pittsburgh, PA, 2014, pp. 5458-5465. doi: 10.1109/ECCE.2014.6954149.