A. Patent Granted

(I)

1. **Title:** A NOVEL CASCASED MULTILEVEL ISOLATED BIDIRECTIONAL DC-DC CONVERTER AND ITS OPERATION THEREOF
2. **Contributors/Inventors:** Rajesh Gupta and V. Karthikeyan
3. **Application no:** 201611034814
4. **Grant no. 502270**
5. **Date of Filing:** 12/10/2016
6. **Date of Grant:** 23/01/2024

(II)

1. **Title:** A MODULAR HYBRID CONVERTER FOR GENERATING MULTIPLE DIRECT CURRENT OUTPUTS AND SINGLE MULTILEVEL ALTERNATING CURRENT OUTPUT
2. **Contributors/Inventors:** Rajesh Gupta and P. C. D. Goud
3. **Application no:** 202011048237
4. **Grant no. 506251**
5. **Date of Filing:** 04/11/2020
6. **Date of Grant:** 01/02/2023

(III)

1. **Title:** A PORTABLE PHOTOVOLTAICS POWERED STANDALONE HYBRID POWER SUPPLY SYSTEM WITH MULTI-PORT CONNECTIVITY FOR DISINFECTION DEVICES
2. **Contributors/Inventors:** Rajesh Gupta, Ajeet Kumar Bhardwaj, Anil Kumar, Aman Kumar
3. **Application no:** 202111046806
4. **Grant no. 513978**
5. **Date of Filing:** 13/10/2021
6. **Date of Grant:** 22/02/2024

(IV)

1. **Title:** AN AC-DC-DC/AC BOOST DERIVED HYBRID CONVERTER WITH INPUT POWER FACTOR CORRECTION
2. **Contributors/Inventors:** Rajesh Gupta, Sandeep Ojha
3. **Application no:** 202311023613
4. **Grant no. 536527**
5. **Date of Filing:** 30/03/2023
6. **Date of Grant:** 01/05/2024

B. List of Publications

I. Journal Publications

1. Chandra Sekhar Nalamati and Rajesh Gupta, “Analytical investigation of interleaved input/output parallel DAB converter for grid scale battery storage”, ***Journal of Energy Storage, Elsevier***. Vol. 99, 113400, Oct. 2024.
2. Sandeep Ojha and Rajesh Gupta, “Switching Frequency Formulation for Predictive Current Control in Grid-Connected VSI”, ***IETE Journal of Research***, vol. 69, no. 11, pp. 8502–8510, Nov. 2023.
3. Sandeep Ojha and Rajesh Gupta, “Stabilization of DC-link voltage in single-phase AC/DC converter with power factor correction using predictive control algorithm”, ***Int. Journal of Circuit Theory and Applications***, ***Wiley,*** vol. 51, no. 11, pp. 5197-5209, Nov. 2023.
4. Sandeep Ojha and Rajesh Gupta, “Formulation of Switching Instant for Improved Dynamic Performance in the Predictive Current Control Technique”, ***IETE Technical Review***, ***Tailor & Francis***, vol. 40, no. 2, pp. 220-233, June 2023.
5. Rajesh Gupta and Amit Kumar, “Rajesh Gupta and Amit Kumar, “Control of Multi-cell AC/DC and Cascaded H-bridge DC/AC-based AC/DC/AC Converter”, ***IETE Journal of Research*****,** ***Tailor & Francis***, vol. 69, no. 1, pp. 525-534, Jan. 2023.
6. Alok Agrawal and Rajesh Gupta, "Optimized sensor charge controller for bus voltage stabilization in hybrid Battery-Supercapacitor fed islanded microgrid system," ***Journal of Energy Storage, Elsevier***. Vol. 59, 106482, March 2023.
7. Alok Agrawal and Rajesh Gupta, "Coordinated Control of Hybrid DERs Enabled Grid-Interactive Residential PCM With Hybrid Bus Layout," ***IEEE Systems Journal***, vol. 16, no. 3, pp. 4607-4618, Sept. 2022.
8. P. C. D. Goud and Rajesh Gupta, "Modular Multi-output Hybrid Converter for Residential Hybrid Loads," ***IEEE Journal of Emerging and Selected Topics in Power Electronics***, vol.10, no. 4, pp. 3840-3850, Aug. 2022.
9. Anurag Sharma and Rajesh Gupta “Bridgeless Single stage AC/DC Converter with Power Factor correction for electric vehicle” ***Bulletin of Electrical Engineering and Informatics,*** vol. 11, no. 5, pp. 2500 - 2509, Oct. 2022.
10. Alok Kumar Singh, Rahul Sharma and Rajesh Gupta, “Symmetrical DC-link Capacitor Voltage for Multi Solar PV Array fed CHBMLI in Standalone Application”, ***IETE Journal of Research***, *Tailor & Francis*, vol. 68, no. 6, pp. , 4326–4334, Nov-Dec 2022.
11. Alok Kumar Singh and Rajesh Gupta, “Converter Configurations for Battery Management and Power Control in Standalone Solar PV fed Cascaded Multilevel Inverter”, ***Journal of Electrical Systems***, pp.391-405, vol. 18, no.3, Sept. 2022.
12. Anurag Sharma and Rajesh Gupta “Three port isolated AC/DC converter with power factor correction” ***Recent Advances in Electrical & Electronic Engineering,*** vol. 15, no. 6, pp. 430 - 443, Aug. 2022.

13. Chandra Sekhar Nalamati, Niranjan Kumar and Rajesh Gupta, "Multidirectional power flow in three-port isolated DC-DC converter for multiple battery stacks", ***Turk J Elec Eng & Comp Sci***, vol. 29, pp. 756 – 772, March 2021.
14. Chandra Sekhar Nalamati, Alok Agrawal and Rajesh Gupta, "Multiple parallel-connected DAB-based solidstate transformer for hybrid DC/AC microgrid system", ***IET Generation, Transmission and Distribution,*** vol. 14, no. 25, pp. 6359-6370, Dec.2020.
15. P. C. D. Goud and Rajesh Gupta, "Solar PV based nanogrid integrated with battery energy storage to supply hybrid residential loads using single-stage hybrid converter", ***IET Energy Systems Integration****,* vol. 2, no. 2, pp. 161 –169, June, 2020.
16. P. C. D. Goud and Rajesh Gupta, "Dual Mode Control of Multi-functional Converter in Solar PV System for Small Off-grid Applications", ***IET Power Electronics,*** vol. 12, no. 11, pp. 2851 –2857, Sept., 2019.
17. V. Karthikeyan and Rajesh Gupta, "Distributed power flow control using cascaded multilevel isolated bidirectional DC–DC converter with multi-phase shift modulation", ***IET Power Electronics,*** vol. 12, no. 11, pp. 2996 –3003, Sept., 2019.
18. Alok Agrawal, Chandra Sekhar Nalamati and Rajesh Gupta, "Hybrid DC/AC zonal microgrids enabled by solid–state transformer and centralized ESD integration," ***IEEE Transactions on Industrial Electronics****,* vol. 66, no. 11, pp. 9097 – 9107, Nov. 2019.
19. Alok Agrawal and Rajesh Gupta, "Distributed co-ordination control of hybrid energy resources for power sharing in coupled hybrid DC/AC microgrids using the paralleled IFCs/ILCs," ***IET Smart Grid****,* vol. 2, no. 1, pp. 89 – 105, March 2019
20. Alok Agrawal and Rajesh Gupta, "Stochastic monte-carlo based voltage variation analysis for low voltage hybrid DC/AC radial distribution feeders interfaced with DERs," ***IET Generation, Transmission and Distribution***, vol. 13, no. 6, pp. 868 – 880, March 2019.
21. Alok Agrawal and Rajesh Gupta, "Power management and operational planning of multiport HPCS for residential application", ***IET Generation, Transmission and Distribution***, vol. 12, no. 18, pp. 4194 – 4205, Oct. 2018.
22. V. Karthikeyan and Rajesh Gupta, "FRS-DAB Converter for Elimination of Circulation Power Flow at Input and Output Ends", ***IEEE Transactions on Industrial Electronics***, vol. 65, no. 3, pp. 2135-2144, March 2018.
23. C. S. Nalamati, P. Samuel and Rajesh Gupta, "Distributed Wind Energy Conversion System Interface to the Grid Using Cascaded Multi-Level Converter**",** ***IETE Journal of Research***, vol. 64, no. 2, pp. 231-240, March-April 2018.
24. Mayank Kumar and Rajesh Gupta, "Time-Domain Characterization of Multicarrier based Digital SPWM of Multilevel VSI", ***IET Power Electronics,*** vol. 11, no. 1, pp. 100-109, Feb., 2018.
25. V. Karthikeyan and Rajesh Gupta, "Multiple-Input Configuration of Isolated Bidirectional DC-DC Converter for Power Flow Control in Combinational Battery Storage", ***IEEE Transactions on Industrial Informatics***, vol. 14, no. 1, pp. 2-11, Jan. 2018.

26. V. Karthikeyan and Rajesh Gupta, "Light-load efficiency improvement by extending ZVS range in DAB-bidirectional DC-DC converter for energy storage applications", ***Energy, ELSEVIER,*** vol.130, pp.15-21, July2017.
27. V. Karthikeyan and Rajesh Gupta, "Varying Phase Angle Control in Isolated Bidirectional DC-DC Converter for Integrating Battery Storage and Solar PV System in Standalone Mode", ***IET Power Electronics,*** vol.10, no. 4, pp.217-227, April 2017.
28. Mayank Kumar and Rajesh Gupta, "Sampled-Time Domain Analysis of Digitally Implemented Current Controlled Inverter", ***IEEE Transactions on Industrial Electronics***, vol. 64, no. 1, pp. 217-227, Jan. 2017.
29. Mayank Kumar and Rajesh Gupta, "Stability and Sensitivity Analysis of Uniformly Sampled DC-DC Converter with Circuit Parasitics", ***IEEE Transaction on Circuits. Systs.- I: Reg. Papers***,. vol. 63, no. 11, pp. 2086-2097, Nov. 2016.
30. Mayank Kumar and Rajesh Gupta, "Sampled time domain analysis of digital pulse width modulation for feedback controlled converters", ***IET Circuit Devices & Systems***, vol. 10, no. 6, pp. 481-491, Nov. 2016.
31. Raju Kumar Swami, Paulson Samuel & Rajesh Gupta, "Power Control in Grid-Connected Wind Energy System Using Diode-Clamped Multilevel Inverter", ***IETE Journal of Research***, vol. 62, no. 4, Taylor & Francis, pp.515-524, Sept 2016.
32. Mayank Kumar and Rajesh Gupta, "Sampling Effect Characterization of Digital SPWM of VSI in Time-Domain", ***IEEE Transactions on Industrial Electronics***, *IEEE Transactions on Industrial Electronics*, vol. 63, no. 7, pp. 4150-4159, July 2016.
33. V. Karthikeyan and Rajesh Gupta, "Zero circulating current modulation for isolated bidirectional dual-active-bridge DC – DC converter", ***IET Power Electronics,*** vol. 9, no. 7, pp. 1553-1561, July, 2016.
34. Satish Kumar Gudey and Rajesh Gupta, "A Recursive Fast Terminal Sliding Mode Control in VSI for a Low Voltage Microgrid System", ***IET Generation, Transmission & Distribution***, vol. 10, no. 7, pp. 1536-1543, July, 2016.
35. R. Selvamuthukumaran, Y. Shashi Kumar, and Rajesh Gupta, "Global Maximum Power Point Tracking of Multiple PV Modules under Partially Shaded Condition Using Stepped Comparison Search", ***Electric Power Components and Systems Journal***, vol. 44, no.12, pp.1384-1395, June *2016*.
36. Mayank Kumar and Rajesh Gupta, "Time-Domain Analysis of Sampling Effect in DPWM of DC–DC Converters", ***IEEE Transactions on Industrial Electronics***, vol. 82, no.11, pp. 8915-8924, Nov. 2015.
37. R. S. Bajpai, Megha Goyal, and Rajesh Gupta, "Modeling and control of variable speed wind turbine using laboratory simulator", ***Journal of Renewable and Sustainable Energy***, AIP Publishing, vol. 7, no.5, pp.20, Sept. 2015.
38. Satish Kumar Gudey and Rajesh Gupta, "Reduced state feedback sliding-mode current control for voltage source inverter-based higher-order circuit," ***IET Power Electronics***, vol. 8, no. 8, pp. 1367-1376, August 2015.

39. R. Selvamuthukumaran, A. Garg, and Rajesh Gupta, "Hybrid multicarrier modulation to reduce leakage current in a transformerless cascaded multilevel inverter for photovoltaic systems", ***IEEE Transactions on Power Electronics Letters***, vol. 30, no.4, pp. 1779-1783, April 2015.
40. S. K. Gudey and Rajesh Gupta, "Sliding-mode control in voltage source inverter-based higher-order circuits", ***International Journal of Electronics,*** vol. 102, no.4, pp. 668-689, 2014.
41. R. Selvamuthukumaran, and Rajesh Gupta, "Rapid prototyping of power electronics converters for photovoltaic system application using Xilinx System Generator", **IET Power Electronics,** vol. 7, no. 9, pp. 2269-2278, Sept. 2014.
42. Shweta Gautam and Rajesh Gupta, "Switching frequency derivation for the cascaded multilevel inverter operating in current control mode using multiband hysteresis modulation", ***IEEE Transactions on Power Electronics***, vol. 29, no.3, pp. 1480-1489, March 2014.
43. Paulson Samuel, M. Kishor Naik, Rajesh Gupta and Dinesh Chandra, "Wind Energy Interface to Grid with Load Compensation by Diode Clamped Multilevel Inverters", **Journal of Power Electronics** , The Korean Institute of Power Electronics, vol. 14, no.2, pp. 271-281, March. 2014.
44. Shweta Gautam and Rajesh Gupta, Unified time-domain formulation of switching frequency for hysteresis current controlled AC/DC and DC/AC grid connected converters, **IET Power Electronics,** vol. 6, no. 4, pp. 683-692, April 2013.
45. R. S. Bajpai and Rajesh Gupta", Modeling and control of multi-functional DVR supported from wind energy system,", ***International Journal of Emerging Electric Power Systems, De Gruyter****, Germany*, vol. 13, no. 4, pp.1-27, Sept. 2012.
46. Rajesh Gupta, "Generalized Frequency Domain Formulation of the Switching Frequency for Hysteresis Current Controlled VSI Used for Load Compensation", ***IEEE Transactions on Power Electronics***, vol. 27, no.5, pp. 2526-2535, May 2012.
47. R. S. Bajpai and Rajesh Gupta, "Design of Simulator for Modeling of Wind Turbine and Transfer of Maximum Power using Buck-Boost Converter", ***International Journal of Renewable Energy Technology (Inderscience)****,* vol.2, no.4, pp. 373-391, 2011.
48. K. K. Mishra and Rajesh Gupta, "Load Compensation for Single Phase System Using Series Active Filter", ***International journal of engineering, science and technology,*** **MULTICRAFT LIMITED*,*** vol. 3, no.3, pp 83-93, 2011.
49. Paulson Samuel, Rajesh Gupta and Dinesh Chandra, "Grid Interface of Wind Power With Large Split-Winding Alternator Using Cascaded Multilevel Inverter", ***IEEE Transactions on Energy Conversion***, vol. 26, no.1, pp. 299-309, March. 2011.
50. Rajesh Gupta, Arindam Ghosh and Avinash Joshi, "Performance comparison of VSC-based shunt and series compensators used for load voltage control in distribution system", ***IEEE Transactions on Power Delivery***, vol. 26, no.1, pp. 268-278, Jan. 2011.
51. Rajesh Gupta, Arindam Ghosh and Avinash Joshi, "Multi-band hysteresis modulation and switching characterization for sliding mode controlled cascaded multilevel Inverter", ***IEEE Transactions on Industrial Electronics***, vol. 57, no.7, pp. 2344-2353, July 2010.

52. Rajesh Gupta, Arindam Ghosh and Avinash Joshi, "Characteristic analysis for multisampled digital implementation of fixed-switching-frequency closed-loop modulation of voltage-source inverter", ***IEEE Transactions on Industrial Electronics***, vol. 56, no.7, pp. 2382-2392, July 2009.
53. Rajesh Gupta, Arindam Ghosh and Avinash Joshi, "Switching Characterization of Cascaded Multilevel Inverter Controlled Systems", ***IEEE Transaction on Industrial Electronics***, vol.55, no.3, pp. 1047-1058, March 2008.
54. Rajesh Gupta and Arindam Ghosh, "Frequency-domain characterization of sliding mode control of an inverter used in DSTATCOM application", ***IEEE Transaction on Circuits. Systs.- I: Reg. Papers***, vol.53, no.3, pp. 662-676, March 2006.
55. Rajesh Gupta, Arindam Ghosh and Avinash Joshi, "Control of Cascaded Transformer Multilevel Inverter based DSTATCOM", ***Electric Power System Research (EPSR), ELSEVIER***, vol. 77, no.8, pp. 989-999, June 2007.
56. Rajesh Gupta and Arindam Ghosh, "Reduced order LQG controller for distribution static compensator used for load voltage control of distribution system", ***Lectures on Modeling and Simulation, AMSE***, Series A, vol.8, no.3, pp. 33-43, 2007.
57. Rajesh Gupta, "New model from balanced method of model reduction", ***The Institution of Engineers (ET) INDIA***, vol.80, pp.11-14, Sept.1999.

II. Conference Publications

1. Ajeet Rawat and Rajesh Gupta, "Standalone Solar PV Plantfor Distributed Battery Chargingusing PSFB and DAB", *2024 IEEE Students Conference on Engineering and Systems (SCES2022),* 21-23 June, 2024, MNNIT Allahabad, India..
2. Kumari Priya and Rajesh Gupta, "Dual Mode EV Battery Charger Integrating Solar PV-Grid-Load with DC Charging", *2024 IEEE Students Conference on Engineering and Systems (SCES2022),* 21-23 June, 2024, MNNIT Allahabad, India..
3. Abhinay Pratap Singh and Rajesh Gupta, "DC Bus Capacitor Discharge during Standstill and Running Condition in PMSM based EVs ", *11th National Power Electronics Conference (NPEC 2023),* 14-17 Dec. 2023, IIT Guwahati , India.
4. Kumari Priya, Manas Kumar and Rajesh Gupta, "EV Battery Charging System via Reconfigurable Boost Converter with Solar PV and Grid", *11th National Power Electronics Conference (NPEC 2023),* 14-17 Dec. 2023, IIT Guwahati , India.
5. Shashank Singh, Sonu Kushwaha, Saurabh Singh and Rajesh Gupta, "Power Flow Control in a Grid Connected Solar PV Plant with Utility Scale Battery Storage ", *20th India Council International Conference (INDICON 2023),* 14-17, Dec. 2023, Hyderabad, India.
6. Ajeet Rawat and Rajesh Gupta, "Interleaved Boost Converter based Solar PV Plant for Distributed Battery Charging", *9th IEEE India International Conference on Power Electronics (IICPE-2023),* 28-29, Nov. 2023, DCRUST, Murthal, Sonipat, India.
7. Yash Gautam, Yash Garg, Pushpesh Lodiwal and Rajesh Gupta "Enhancement of Power Transfer in Wireless Power Transfer Application", *9th IEEE India International Conference on Power Electronics (IICPE-2023),* 28-29, Nov. 2023, DCRUST, Murthal, Sonipat, India.

8. Shubham Shashwat, Saumendra Sarangi and Rajesh Gupta "Enhancement of Power Transfer in Wireless Power Transfer Applications using Active Power Source", *9th IEEE India International Conference on Power Electronics (IICPE-2023),* 28-29, Nov. 2023, DCRUST, Murthal, Sonipat, India.
9. Akhouri Prateek Sinha and Rajesh Gupta, "Grid-Tied Solar Photo Voltaic Supported Reconfigurable Electric Vehicle Charger", *7th Int. Conf. on Computer Applications in Electrical Engineering-Recent Advances (CERA 2023)*, 27-29 Oct. 2023, IIT Roorkee, India.
10. Garima Sharma and Rajesh Gupta, "Solar PV Based Grid Scale Battery Energy Storage System with IBC and DAB", *7th Int. Conf. on Computer Applications in Electrical Engineering-Recent Advances (CERA 2023)*, 27-29 Oct. 2023, IIT Roorkee, India.
11. Shubham Shashwat, Saumendra Sarangi and Rajesh Gupta, "A Novel Hybrid Solid State Circuit Breaker for DC System", *7th Int. Conf. on Computer Applications in Electrical Engineering-Recent Advances (CERA 2023)*, 27-29 Oct. 2023, IIT Roorkee, India.
12. Riya Kumari, Prabhjout Singh Arora, Raj and Rajesh Gupta, "Abnormal Conditions and their Classification in Photovoltaic Array using Artificial Neural Network", *7th Int. Conf. on Computer Applications in Electrical Engineering-Recent Advances (CERA 2023)*, 27-29 Oct. 2023, IIT Roorkee, India.
13. Shiva Bind and Rajesh Gupta, "Integration of PV and Wind Energy with Grid and to Charge Electric Vehicles Battery",49th *Annual Conf. of IEEE Ind. Electronics (IECON 2021),*, 16-19, Oct 2023, Singapore.
14. Vishal Jain and Rajesh Gupta, "Sampling effect in SPS modulation for power flow control in series resonant DAB converter", IEEE PEDES-2022, MNIT Jaipur, India, 14 – 17 Dec. 2022.
15. Sandeep Ojha and Rajesh Gupta, "Switching Frequency Calculation for Predictive Control Method in Active Power Filter Application", IEEE PEDES-2022, MNIT Jaipur, India, 14 – 17 Dec. 2022.
16. Dheeraj Maurya and Rajesh Gupta, "Hybrid Converter for Roof-Top Mounted Solar PV and Battery Integrated Light Electric Vehicle", 10th Power India International Conference (PIICON 2022), 25-27 Nov. 2022, NIT Delhi.
17. S. Rajasekar and Rajesh Gupta, " Parameter Insensitive Fast Tracking Sliding Mode Control for Solar PV Module with Boost Converter", *1st IEEE Industrial Electronics Online Conference (ONCON 2022),* 9-11 Dec. 2022.
18. Suman Saurav and Rajesh Gupta, "LVRT for Solar PV System with Grid Scale Battery Energy Storage System", *2022 IEEE Students Conference on Engineering and Systems (SCES2022),* 01-03 July, 2022, MNNIT Allahabad, India.
19. Mohit Yadav and Rajesh Gupta, "Bidirectional Wireless Power Transfer using CLLC Resonant Dual Active Bridge using Coupled Inductor", *2022 IEEE Students Conference on Engineering and Systems (SCES2022),* 01-03 July, 2022, MNNIT Allahabad, India.
20. Ashutosh Kumar and Rajesh Gupta, "Sustainable Charging Station for Electric Vehicles Connected with Roof-Top Wind Turbines", *2022 IEEE Students Conference on Engineering and Systems (SCES2022),* 01-03 July, 2022, MNNIT Allahabad, India.
21. Vishal Jain and Rajesh Gupta, *"*Digitization Effect in Implementation of Hybrid Modulation Technique in CHBMLI*", 47th Annual Conf. of IEEE Ind. Electronics (IECON 2021),* 13-16 Oct. 2021, (Online) Canada.

22. Gunupuru G. Rao and Rajesh Gupta, ″Standalone PV based Boost Derived Hybrid Converter for EV Charging Applications *", 47th Annual Conf. of IEEE Ind. Electronics (IECON 2021),* 13-16 Oct. 2021, (Online) Canada.
23. Zubaida F. Khan and Rajesh Gupta, ″ Wind Energy based EV Charging Station along with Power Quality Enhancement *", 47th Annual Conf. of IEEE Ind. Electronics (IECON 2021),* 13-16 Oct. 2021, (Online) Canada.
24. Zubaida F. Khan and Rajesh Gupta, ″Standalone Wind Energy Conversion System for EV Battery Charging and AC Residential Loads *", 47th Annual Conf. of IEEE Ind. Electronics (IECON 2021),* 13-16 Oct. 2021, (Online) Canada.
25. Sandeep Ojha and Rajesh Gupta, "Performance Comparison of Sampled Hysteresis and Predictive Control Methods for Tracking Current in APF", IEEE INDICON 2020, 11-13 Dec. 2020, NSIT, New Delhi, India
26. Alok Kumar Singh and Rajesh Gupta, "Integrated Battery Management Configurations for Standalone Solar PV fed CHBMLI", IEEE PEDES 2020, 16-19 Dec. 2020, MNIT Jaipur, Jaipur, India
27. Anurag Sharma and Rajesh Gupta, *"Bharat DC001 Charging standard Based EV Fast Charger", 46th Annual Conf. of IEEE Ind. Electronics (IECON 2020),* 18-21 Oct. 2020, (Online) Singapore.
28. K. K. Mishra and Rajesh Gupta, *"Impedance Factor based Control Strategy for Series Active Power Filter in Distribution System", 46th Annual Conf. of IEEE Ind. Electronics (IECON 2020),* 18-21 Oct. 2020, (Online) Singapore.
29. Neha Singh and Rajesh Gupta, ″Electric Vehicle Charging with Reactive Power and Harmonic Compensation*", 2020 IEEE Students' Conference on Engineering & Systems (SCES),* July 10-12, 2020, MNNIT Allahabad, India.
30. K. K. Mishra and Rajesh Gupta, "Quality Factor Based Analysis of Radial Distribution System for Active Compensation", Electric Power and Renewable Energy Conference-2020 (EPREC-2020), May 29-30, 2020, NIT Jamshedpur.
31. C. S. Nalamati and Rajesh Gupta, "Modified Isolated Triple Active Bridge Bidirectional DC-DC Converter for Energy Storage Application", Int. Conf. on Electrical and Electronics Engg. (ICEEE 2020), Feb. 27-28, 2020, NPTI, Faridabad, India.
32. Alok Agrawal and Rajesh Gupta, "Single Sensor Based ESS Controller for DC Bus Stabilization in Low Power Isolated Solar PV System", 45th Annual Conf. of IEEE Ind. Electronics (IECON 2019), Oct. 14-17, 2019, pp. 2501-2506, Lisbon, Portugal.
33. Shweta Gautam, Pinaki Basu and Rajesh Gupta, "Generalized Current Control Method for Asymmetrical Cascaded H-bridge MLI", 45th Annual Conf. of IEEE Ind. Electronics (IECON 2019), Oct. 14-17, 2019, pp. 3535-3540, Lisbon, Portugal.
34. Anurag Sharma and Rajesh Gupta, "PV-Battery Supported Level 1 DC Fast charger for Electric Vehicles", *2019 Students Conference on Engineering and Systems (SCES2019),* 29-31 May, 2019, MNNIT, Allahabad, India.
35. N. Kumar, A. Agrawal and Rajesh Gupta, "Split Bridge Bi-directional DAB Converter for Multiple Battery Stacks in Solar PV System", *2019 Students Conference on Engineering and Systems (SCES2019),* 29-31 May, 2019, MNNIT, Allahabad, India.
36. Sandeep Ojha and Rajesh Gupta, "Non-Periodicity of Current Tracking in Digitally Controlled", *2019 Students Conference on Engineering and Systems (SCES2019),* 29-31 May, 2019, MNNIT, Allahabad, India.

37. Anurag Sharma, M. Gupta and Rajesh Gupta, "Voltage Sensitivity Analysis of DC-DC Converter at MPPT for Different Types of Load", *2019 Innovations in Power and Advanced Computing Technologies (i-PACT)*, VIT Vellore, 22-23 March, 2019.
38. Sanjeev Kumar, Alok Agrawal and Rajesh Gupta, "Power Balance for WTG - Solar PV Fed DC Microgrids with Battery and Supercapacitor Support" IEEE Power Electronics, Drives and Energy Systems Conference (IEEE PEDES 2018), Dec. 18–21, 2018, IIT Madras, Chennai, India.
39. C. S. Nalamati, Alok Agrawal and Rajesh Gupta, "Integration of Multiple Energy Storage Sections in Solar PV based HMGs using Multi-Input DAB "IEEE Power Electronics, Drives and Energy Systems Conference (IEEE PEDES 2018), Dec. 18–21, 2018, IIT Madras, Chennai, India.
40. Alok Agrawal and Rajesh Gupta, "Multi-functional bi-directional DC – DC / AC converter topology for single phase microgrid applications," 8th IEEE India International Conference on Power Electronics (IEEE IICPE 2018), Dec. 13–15, 2018, Jaipur, India.
41. P. Chinna D. Goud, Anurag Sharma and Rajesh Gupta, "Solar PV Fed Fast Charging Converter with Isolated Unidirectional Dual-Bridge Topology", 8th IEEE India International Conference on Power Electronics (IEEE IICPE 2018), Dec. 13–15, 2018, Jaipur, India.
42. Ujjwal Mishra, C. S. Nalamati and Rajesh Gupta, "Standalone Solar PV System Using DCMLI-DAB Converter with Battery Storage", 8th IEEE India International Conference on Power Electronics (IEEE IICPE 2018), Dec. 13–15, 2018, Jaipur, India.
43. P. Chinna D. Goud, C. S. Nalamati and Rajesh Gupta, "Grid Connected Renewable Energy Based EV Charger With Bidirectional AC/DC Converter", 2018 5th IEEE Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON), Nov. 2-4, 2018, Gorakhpur, India.
44. C. S. Nalamati and Rajesh Gupta, "Isolated Bidirectional Battery Converter Control for Standalone Solar PV Applications", IEEE international conference IEEMA ENGINEER INFINITE (e-TechNxt-2018), March 13-14, Greater Noida, India.
45. A. Agrawal and Rajesh Gupta, "Hybrid DERs Enabled Residential Microgrid System With MVDC and LVDC Bus Layout Facilitie", IEEE international conference IEEMA ENGINEER INFINITE (e-TechNxt-2018), March 13-14, Greater Noida, India.
46. D. Singh, A. Agrawal and Rajesh Gupta, "Power Management In Solar PV Fed Microgrid System With Battery Support", IEEE INDICON 2017, IIT Roorkee, 15-17 Dec. 2017.
47. A. Sharma, Rajesh Gupta and M. Gupta, "Xilinx System Generator-Based FPGA Control of Power Flow for DC/DC Converter", International Conference on NextGen Electronic Technologies: Silicon to Software (ICNET2 2017), VIT University, Chennai, 23-25 March 2017.
48. V. Kumar and Rajesh Gupta, "Voltage Control and Power Balance in a Standalone Microgrid Supported from Solar PV System", IEEE TENCON 2016, Nov. 22-25, 2016, Singapore.
49. R. Sharma and Rajesh Gupta, "Symmetrical DC-link Capacitor Voltage for Cascaded H-Bridge Inverter Supported from Solar PV Array", IEEE TENCON 2016, Nov. 22-25, 2016, Singapore.
50. P. Chinna D. Goud and Rajesh Gupta, "Global MPPT of Grid connected Solar PV Inverter under Partially Shaded Condition", IEEE PEDES, 14-17 Nov. 2016, Trivendrum, India.
51. A. Agrawal and Rajesh Gupta, "Strategical Operational Modes for Isolated Solar PV System in Battery Power Management Scenario", 2016 IEEE Seventh India International Conference on Power Electronics (IICPE-2016), 17-19 Nov. 2016, Patiala, India.

52. S, Sharma and Rajesh Gupta, "Power Flow Control with CascadedTransformer Multilevel Converter Integrated With Energy Storage", 2016 IEEE Seventh India International Conference on Power Electronics (IICPE-2016), 17-19 Nov. 2016, Patiala, India.
53. P. Venkata Krishna, Alok Kumar and Rajesh Gupta, "Grid Connected Solar PV fed Cascaded Multilevel Inverter Implementation using XSG Platform", 41st Annual Conf. of IEEE Ind. Electronics (IECON 2015), Nov.9-12, 2015, Japan.
54. P. Chinna D. Goud, Alok Kumar Singh, Rajesh Gupta and Paulson Samuel, "GMPPT of Solar PV Array under Partial Shading Condition using LabVIEW FPGA", 41st Annual Conf. of IEEE Ind. Electronics (IECON 2015), Nov.9-12, 2015, Japan.
55. V. Karthikeyan and Rajesh Gupta, "Closed-loop Control of Isolated Dual Active Bridge Converter using Dual Phase Shift Modulation", 41st Annual Conf. of IEEE Ind. Electronics (IECON 2015), Nov.9-12, 2015, Japan.
56. Shweta Gautam and Rajesh Gupta, "Balanced Control of Multicell AC-DC Converter with Cascaded H-bridge Cells", *2015 IEEE UP Section Conference on Electrical Computer and Electronics (UPCON)*, 4-6 Dec. 2015, IIIT Allahabad, India.
57. Devesh Jaiswal and Rajesh Gupta, "Photovoltaic Supported Single Phase Series Controller for Voltage Compensation", *IEEE Spon. International Conference on Power Control and Embedded Systems(ICPCES 2014)*, Dec.26-28, 2014, Allahabad, India.
58. Malay Bhunia, Rajesh Gupta and B. Subudhi, "Cascaded DC-DC Converter for a Reliable Standalone PV fed DC load", *6th IEEE India Conference on Power Electronics,* **"**08-10, Dec., 2014, Krukshetra, India.
59. G. V. E. Satish and Rajesh Gupta, "Second Order Sliding Mode Control for a Single Phase Voltage Source Inverter", *IEEE TENCON 2014,* 22-25, Oct. 2014, Bangkok, Thailand.
60. Haritha P., Karthikeyan V. and Rajesh Gupta, "Universal Maximum Power Point Tracking in Wind- Solar Hybrid System for Battery Storage Application", *IEEE Sponsored International Conference on Embedded Systems (ICES 2014),* Coimbatore, India, July 2-5, 2014.
61. Rajesh P., Rajasekar S., Rajesh Gupta and Paulson Samuel, "Solar Array System Simulation using FPGA with Hardware Co-Simulation", *in 23rd IEEE Symposium on Industrial Electronics (ISIE-2014),* Istanbul, Turkey, June 1-4, 2014.
62. Mayank Kumar and Rajesh Gupta, "Analysis of Voltage and Current for Multicarrier Based Multilevel Inverter", in *IEEE Sponsored Students Conference on Engineering and Systems (SCES 2014),* Allahabad, India, May 28-30, 2014.
63. G. V. E. Satish and Rajesh Gupta, "Sliding mode control of DVR for mitigation of power quality issues", International Conference on Standards for Smart Grid Ecosystem, CPRI Bangalore, March 6-7 2014.
64. Karthikeyan. V and Rajesh Gupta, "Performance Study of Bidirectional DC-DC Converter", International Conference on Advance Computing & Communication Systems, Coimbatore, India, Dec. 19-21, 2013
65. Akbar Ahmad and Rajesh Gupta, "Digital PWM of Cascaded Multilevel Voltage Source Inverter using FPGA" in *IEEE Sponsored Students Conference on Engineering and Systems (SCES 2013),* Allahabad, India, April 12-14, 2013.
66. Malay Bhunia and Rajesh Gupta, "Voltage Regulation of Stand-Alone Photovoltaic System using Boost SEPIC Converter with battery storage system" in *IEEE Sponsored Students Conference on Engineering and Systems (SCES 2013),* Allahabad, India, April 12-14, 2013.

67. Piyush Agarwal and Rajesh Gupta, "Grid Integration of Solar PV Power Using Shunt Connected VSC" in *IEEE Sponsored Students Conference on Engineering and Systems (SCES 2013),* Allahabad, India, April 12-14, 2013.
68. Abhishek Garg, , Rajasekar.S and Rajesh Gupta, "A New Modulation Technique to Eliminate Leakage Current in Transformerless PV Inverter" in *IEEE Sponsored Students Conference on Engineering and Systems (SCES 2013),* Allahabad, India, April 12-14, 2013.
69. Megha Goyal and Rajesh Gupta, "DC link voltage controller based power flow control in distributed microgrid", 5th IEEE Power India Conference, 2012 , 19-22 Dec. 2012, Murthal, India.
70. Shweta Gautam, S. Kundu, P. Basu and Rajesh Gupta, "FPGA implementation of generalized modulation for hybrid multilevel inverter with fixed ratio DC link voltage", IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), 16-19 Dec. 2012, Bengaluru, India.
71. G. V. E. Satish and Rajesh Gupta, "Sliding mode control of dual-buck full-bridge inverter", *IEEE 5th India International Conference on Power Electronics (IICPE2012),* 06-08 Dec. 2012, New Delhi, India.
72. Syamnaresh Garlapati and Rajesh Gupta, "Shunt active power filter as front end converter for DC loads", *IEEE 5th India International Conference on Power Electronics (IICPE2012),* 06-08 Dec. 2012, New Delhi, India.
73. Megha Goyal and Rajesh Gupta, "Operation and Control of a Distributed Microgrid with Hybrid System", *IEEE 5th India International Conference on Power Electronics (IICPE2012),* 06-08 Dec. 2012, New Delhi, India.
74. Shweta Gautam and Rajesh Gupta, "Accurate Derivation of Switching Dynamics for Load Compensation in Non-Stiff Source Distribution System" *in 21th IEEE Symposium on Industrial Electronics (ISIE-2012),* Hangzhou, China, May 28-31, 2012.
75. Shweta Gautam and Rajesh Gupta, "Generalized Hysteresis Current Controller for Three-level Inverter Topologies" *in 21th IEEE Symposium on Industrial Electronics (ISIE-2012),* Hangzhou, China, May 28-31, 2012.
76. Rajasekar S, Rajesh Gupta, Anurag Upadhyay, Puneet Agarwal, Sudhir Kumar, Y. Shasi Kumar "Modified Hill-top Algorithm Based Maximum Power Point Tracking for Solar PV Module" *in 21th IEEE Symposium on Industrial Electronics (ISIE2012),* May 28-31, 2012.
77. Shweta Gautam, Anil Yadav and Rajesh Gupta, "AC/DC/AC Converters based on Parallel AC/DC and Cascaded DC/AC Converters" in *IEEE Sponsored Students Conference on Engineering and Systems (SCES 2012),* MNNIT, Allahabad, India, March 16-18, 2012.
78. Megha Goyal and Rajesh Gupta, "Power Flow Control in Distributed Microgrid with Wind Energy System" in *IEEE Sponsored Students Conference on Engineering and Systems(SCES 2012),* MNNIT, Allahabad, India, March 16-18, 2012.
79. Vijay Kumar Singh and Rajesh Gupta "Active Power Balance in Cascaded Multilevel Converter Under Bipolar and Unipolar Modulation" in *IEEE Sponsored Students Conference on Engineering and Systems(SCES 2012),* MNNIT, Allahabad, India, March 16-18, 2012.
80. Rajasekar.S, Rajesh Gupta, "Solar Photovoltaic Power Conversion Using Modular Multilevel Inverter," *in IEEE Sponsored Students Conference on Engineering and Systems(SCES 2012),* M.N National Institute of Technology, Allahabad, India, March 16-18, 2012 .

81. Y. Shasi Kumar and Rajesh Gupta, "Maximum power point tracking of multiple photovoltaic arrays," *IEEE Sponsored Students Conference on Engineering and Systems(SCES 2012),* M.N National Institute of Technology, Allahabad, India, March 16-18, 2012.
82. Rajasekar.S, Rajesh Gupta ," Photovoltaic Array Based Multilevel Inverter for Power Conditioning," *in IEEE Sponsored International Conference on Power and Energy System (ICPS-2011)*, Indian Institute of Technology Madras, Chennai, India, 22-24, Dec.2011.
83. R. S. Bajpai and Rajesh Gupta, "Series Compensation to Mitigate Harmonics and Voltage Sags/Swells in Distributed Generation Based on Symmetrical Components Estimation", *20th IEEE Int. Symp. on Industrial Electronics 2011 (ISIE 2011)*, June 27-30, 2011, Gdansk, Poland.
84. Amit Kumar and Rajesh Gupta, "Capacitors Voltage Balancing in Half Bridge Inverter for Low Switching Frequency Applications", *IEEE PEDES 2010 & 2010 Power India Conference*", Dec 20-23, 2010, India.
85. Rajesh Gupta, Gaurang Gupta, Dharmendra Kastwar, Amir Hussain and Hars Ranjan, "Modeling and design of MPPT controller for a PV module using PSCAD/EMTDC", Innovative Smart Grid Technologies Conference Europe (2010 IEEE PES ISGT Europe),, Oct.11-13, 2010, Gothenburg, Sweden.
86. Amit Kumar and Rajesh Gupta, "Single-phase AC/DC/AC Converter using Cascaded Multilevel Inverter", *IEEE 2010 International Conference on Power Control and Embedded Systems(ICPCES 2010)*, Nov. 29-Dec.01, 2010, India.
87. Shweta Gautam and Rajesh Gupta, "Three-level Inverter based Shunt Active Power Filter using Generalized Hysteresis Current Control Method", *IEEE 2010 International Conference on Power Control and Embedded Systems(ICPCES 2010)*, Nov. 29-Dec.01, 2010, India.
88. Kamala Kant Mishra and Rajesh Gupta, "Load Characterization and Performance Characteristic of Active Filters in Domestic Consumer Voltage Distribution System", *IEEE 2010 International Conference on Power Control and Embedded Systems(ICPCES 2010)*, Nov. 29-Dec.01, 2010, India.
89. R. S. Bajpai and Rajesh Gupta, "Sliding Mode Control of Converter in Distributed Generation using DSTATCOM", *IEEE 2010 International Conference on Power Control and Embedded Systems(ICPCES 2010)*, Nov. 29-Dec.01, 2010, India.
90. Paulson Samuel, Chandra Sekhar Nalamati and Rajesh Gupta, "Wind Energy Conversion based on Seven-level Cascaded H-bridge Inverter using LabVIEW FPGA", *IEEE 2010 International Conference on Power Control and Embedded Systems(ICPCES 2010)*, Nov. 29-Dec.02, 2010, India.
91. Rajesh Gupta, Gaurang Gupta, Dharmendra Kastwar, Amir Hussain and Hars Ranjan, "Solar photovoltaic power conversion using environment friendly power electronics converter", *Int. Conf. & Exib. On Recent Advancement in Environmental Protection (RAEP 2009)*, Dec 17-19, 2009, Agra, India.
92. Sinha, D. Kumar, P. Samuel and R. Gupta, "Performance analysis of converter based variable speed wind energy conversion system", *IEEE International Conference on Power System (ICPS 09)*, pp.6, Dec. 27-29, 2009, Kharagpur, India.
93. K. K. Mishra and Rajesh Gupta, "Harmonic reduction and reactive power compensation in domestic consumer voltage distribution system", *RAEEE09,* Dec. 23-24, 2009, NIT Hamirpur, India.

94. P. Samuel, R. Gupta and D. Chandra, "Grid interface of photovoltaic-micro turbine hybrid based power for voltage support and control using VSI in rural applications", *IEEE PES General meeting 2009*, 26-30 July 2009.
95. Rajesh Gupta, Arindam Ghosh and Avinash Joshi, "Generalized Converter Modulation and Loss Estimation for Grid Interface Applications", *IEEE PES General meeting 2008,* 6 pp., Pittsburgh, Pennsylvania, 20-24 July 2008.
96. R. S. Bajpai and Rajesh Gupta "Voltage and Power Flow Control of Grid Connected Wind Generation System using DSTATCOM", *IEEE PES General meeting 2008,* 6 pp., Pittsburgh, Pennsylvania, 20-24 July 2008.
97. Sinha, D. Kumar, D. Kumar, P. Samuel and R. Gupta, "A Two-Stage Converter based Controller for a Stand Alone Wind Energy System used for Remote Applications", In Proc. INTELEC 2008, 6 pp., San Diego, USA, 14-18, Sept. 2008.
98. Rajesh Gupta and Arindam Ghosh, "Reduced order LQG controller for distribution static compensator used for load voltage control of distribution system", *Proc. Int. Conf. on Modelling and Simulation*, vol.2, pp. 637-641, Kolkata, India, Dec. 3-5, 2007.
99. R. S. Bajpai and Rajesh Gupta, "Fuzzy logic based extended dynamic braking of electric locomotive", *Proc. Int. Conf. on Modelling and Simulation*, vol.2, pp. 466-470, Kolkata, India, Dec. 3-5, 2007.
100. R. S. Bajpai and Rajesh Gupta, "Stability Analysis of Wind Generator Connected to Infinite Bus System ", In Proc. *IEEE Spons. Int. Conf. on Power System Analysis, Control and Optimization*, Visakhapatnam, India, pp.234-239, March 13-15, 2008.
101. Rajesh Gupta, Arindam Ghosh and Avinash Joshi, "Cascaded multilevel control of DSTATCOM using multiband hysteresis modulation", *IEEE PES General meeting 2006,* 7pp., Montreal Canada, 18-22 June 2006.
102. Rajesh Gupta, Arindam Ghosh and Avinash Joshi, "Control of 3-level shunt active power filter using harmonic selective controller", *IEEE Power India Conference*, 7pp., New Delhi, 10-12 April 2006.
103. Rajesh Gupta and Arindam Ghosh, "Bifurcation in the sliding mode control of an inverter for DSTATCOM", *Proc. 13th National Power System Conference*, Chennai, pp. 755-760, 28-30 Dec. 2004.
104. G. Sridhar Reddy and Rajesh Gupta, "Neural network based unified power flow controller", *Proc. 13th National Power System Conference*, Chennai, pp. 1043-1047, 28-30 Dec. 2004.
105. Rajesh Gupta, Arindam Ghosh and Avinash Joshi, "Linear modulation and analysis of shunt compensated distribution system", *Proc. 2nd National Power Electronics Conference*, Kharagpur, pp. 185-190, 22-24 Dec. 2005.
106. Rajesh Gupta, Arindam Ghosh and Avinash Joshi, "FPGA based closed loop control of compensators for electrical distribution system", *Worldwide virtual instrumentation conference, NIDays 2005-06*, pp. 7-8, New Delhi 29 Nov. 2005.

III. Book Chapter/Magazine Publications

1. Sandeep Ojha and Rajesh Gupta, "Selective Harmonic Compensation in Active Power Filter Using Nonlinear Predictive Current Control Method",*Real-Time Simulation and Hardware-in-the-Loop Testing Using Typhoon HIL, Transactions on Computer Systems and Networks*. Springer, Singapore, DOI: 10.1007/978-981-99-0224-8_6, 2023

2. K. K. Mishra and Rajesh Gupta, “Study on Classifications and Modeling of Loads in Low Voltage Distribution System”, 2nd Electric Power and Renewable Energy Conference, EPREC 2021, Jamshedpur, India 28-30 May 2021, Lecture Notes in Electrical Engineering, vol 870, pp. 253-270, Springer, Singapore, May, 2022.
3. K. K. Mishra and Rajesh Gupta, “Quality Factor Based Analysis of Radial Distribution System for Active Compensation”, In: Kumar J., Jena P. (eds) Recent Advances in Power Electronics and Drives. Lecture Notes in Electrical Engineering, vol 707. Springer, Singapore, Dec. 2020-Jan. 2021.
4. C. S. Nalamati and Rajesh Gupta, “Modified Isolated Triple Active Bridge Bidirectional DC-DC Converter for Energy Storage Application”, Innovations in Electrical and Electronic Engineering, Lect. Notes Electrical Eng., vol. 661, pp.351-360, Springer, Singapore, July 2020.
5. A. Sharma, Rajesh Gupta and M. Gupta, “Xilinx System Generator-Based FPGA Control of Power Flow for DC/DC Converter”, *Intelligent Embedded Systems*, *Lecture Notes in Electrical Engineering,* vol. 492**,** pp. 25-35, Springer, Singapore, 2018.
6. Rajesh Gupta, Alok Kumar Singh, Vivek Kumar, Rahul Sharma and Shweta Sharma, “Solar PV System Focus on Scenario of Uttar Pradesh“,*Electrical India Magazine*, Chary Publication (Mumbai),, Mumbai, India, vol. 56, no.1, pp.174-181, January 2016.
7. R. S. Bajpai, Rajesh Gupta and Paulson Samuel, “Generator and Power Converter Concepts in Distributed Wind Energy Conversion System”, *Electrical India Magazine*, Chary Publication (Mumbai), vol. 51, no.2, pp. 70-79, Feb. 2011.
8. Rajesh Gupta and Kamala Kant Mishra, “Review of CFL and its harmonic impact on electrical distribution system”, *Electrical India Magazine*, Chary Publication (Mumbai), vol. 50, no.2, pp. 98-106, Feb. 2010.

.