

## **Dr.B.Chitti Babu**

### **SCI/SCIE Indexed Journals:**

#### **In Press:**

1. Subham Ku. Jalan, B.Chitti Babu, Sridharan. K, Nitin Gupta, "An improved Control Strategy of Grid-tied Solar Photovoltaic (PV) System using Active Current Detection Method", International Journal of Circuit Theory and Applications, John-Wiley, Jan 2021 (Impact factor: 1.6) -In Press.
2. P. Shruti, Y.G. Praveen, B. Chitti Babu , C.P. Vipin, "Analytical tuning of 2-DOF smith predictor control scheme for dc{dc boost converter: a process control perspective", International Journal of Circuit Theory and Applications, John-Wiley, Jan 2021 (Impact factor: 1.6) -In Press.
3. Dheepan chakkravarthy, P.Muthuvel, M.P.Selvan, B.Chitti Babu, S.Moorthy "Predictive Current Control of FL-Shunt Active Power Filter for Dynamic and Heterogeneous Load Compensation", Electrical Engineering, Springer, Jan 2021 (Impact factor: 1.2)- In Press.
4. Subham Ku. Jalan, B.Chitti Babu, Nirav Patel, Ajay Kumar, Nitin Gupta, "A Novel Active Current Co-efficient Extraction based Control for Grid-tied Solar PhotoVoltaic System ", IET Power Electronics, September 2020, (Impact factor: 2.7)- In Press.
5. Aliva Routray, Khyati D Mistry, Sabha Raj Arya, B.Chitti Babu, "Power Output Evaluation of a Wind-Solar Farm Considering the Influence Parameters", IET Renewable Power Generation (Impact factor: 3.9). In Press.
6. V.V.S.Kumar Bhajana, Pavel Drabek, Martin Jara, Atif Iqbal, B.Chitti Babu, "Investigation of a Bidirectional DC/DC Converter with ZVS Operation for Battery Interfaces", IET Power Electronics, September 2020,(Impact factor: 2.7)- In Press.
7. S.J Alam, Autosht Giri, Sabha Raj Arya, B.Chitti Babu, "Classical Control Algorithms for Permanent Magnet Synchronous Generator driven by Diesel Engine for Power Quality", International Journal of Circuit Theory and Applications, John-Wiley, Nov 2020 (Impact factor: 1.6) - In Press.
8. Ajay Shankar, K.Vijaya Kumar, B.Chitti Babu,"Smart LED Lighting System With Occupants Preference and Daylight Harvesting in Office Buildings", Energy Sources, Part-A, Taylor & Francis, Nov 2020 (Impact factor: 1.2)- In Press.
9. Aliva Routray, Khyati D Mistry, Sabha Raj Arya, B.Chitti Babu, "Applied Machine Learning in Wind Speed Prediction and Loss Minimization in Unbalanced Radial Distribution System", Energy Sources, Part-A, Taylor & Francis, Nov 2020 (Impact factor: 1.2)- In Press.
10. P.Sudheer, V.Sandeep, B.Chitti Babu, "Investigation of Different Loading Conditions on Parallel Inverter Interfaced Islanded AC Microgrid with Impact of Symmetrical Fault Recovery", Energy Sources, Part-A, Taylor & Francis, Oct 2020,(Impact factor: 1.2)- In Press.
11. Nirav Patel, Ajay Kumar, B.Chitti Babu, Nitin Gupta, "Experimental Investigations on Voltage Sourced Inverter Interfaced Photovoltaic Based Distributed Generation System", ", Energy Sources, Part-A, Taylor & Francis, June 2020,(Impact factor: 1.2)- In Press.

12. AsuthoshGiri ,Rakesh Maurya, Sabha Raj Arya, B.Chitti Babu, "Power Quality Solutions for Effective Utilization of Single Phase Induction Generator Using Voltage Source Converter", ", Energy Sources, Part-A, Taylor & Francis, May 2020(Impact factor: 1.2)- In Press.
13. Narendra Babu P , B.Chitti Babu, Ranga Babu Peesapati, Gayadhar Panda, "Design, Development, and Implementation of Grid-Connected Solar Photovoltaic Power Conversion System", Energy Sources, Part-A, Taylor & Francis, April 2020 (Impact factor: 1.2)- In Press.
14. Nirav Patel, Nitin Gupta, B.Chitti Babu, "Design, Development, and Implementation of Grid-Connected Solar Photovoltaic Power Conversion System", Energy Sources, Part-A, Taylor & Francis, Oct 2019,(Impact factor: 1.2)- In Press.
15. Ajay Kumar, Nirav Patel, Nitin Gupta, B.Chitti Babu, "Active Power Coefficient Control for Grid-tied Photovoltaic System under Voltage Distortions", Energy Sources, Part-A, Taylor & Francis, June 2020,(Impact factor: 1.2)- In Press.
16. D.Prince Winston, B. Chitti Babu, B. Praveen Kumar, Karthikeyan, "Experimental Investigation on Output Power Enhancement of Partial Shaded Solar Photovoltaic System", Energy Sources, Part-A, Taylor & Francis, June 2020,(Impact factor: 1.2)- In Press.
17. Nidhi Gupta, Narendra Kumar, B.Chitti Babu, "JAYA Optimized Generation Control Strategy for Interconnected Diverse Source Power System with Varying Participation", Energy Sources, Part-A, Taylor & Francis, Oct 2019, DOI: <https://doi.org/10.1080/15567036.2019.1646354>,(Impact factor: 1.2), In Press.

**Published:**

18. Nirav Patel, Ajay Kumar, B.Chitti Babu, Nitin Gupta, "Pseudo Affine Projection Assisted Multitasking Approach for Power Quality Improvement in Grid-Interactive Photovoltaic (PV) System", IET Power Electronics, Vol. 13, Iss. 13, Pp. 2905 – 2916, Oct 2020. (Impact factor: 2.7).
19. Nirav Patel, B.Chitti Babu, Nitin Gupta, "Photovoltaic System Operation as DSTATCOM for Power Quality Improvement Employing Active Current Control", IET Generation, Transmission & Distribution, Vol. 14, Iss.17, Pp. 3518 – 3529, September 2020 , (Impact factor: 2.9).
20. Ajay Kumar, Nirav Patel, B.Chitti Babu, Nitin Gupta, "Improved robust-mixed-norm-based controller for grid-tied PV systems under voltage disturbances", IET Generation, Transmission & Distribution, Vol.14., Iss. 13, Pp. 2610 – 2619, July 2020.(Impact factor: 2.9).
21. Nirav Patel, Ajay Kumar, B.Chitti Babu, Nitin Gupta, "An Optimized PI-4VPI Current Controller for Three-Phase Grid-integrated Photovoltaic Inverter under Grid Voltage Distortions", IET Renewable Power Generation, Vol. 14, Iss. 5, pp. 779-792, April 2020, (Impact factor: 3.9).
22. Asuthosh Giri ,Rakesh Maurya, Sabha Raj Arya, B.Chitti Babu, "Control of Voltage Source Converter for Enhancement of Power Quality in off-Grid Distributed Power Generation", IET Renewable Power Generation ,Vol. 14, Iss. 5, Pp. 771 – 778, April 2020, (Impact factor: 3.9).
23. Saurabh kumar, K.Vijayakumar,M.Ashok Kumar,B.Chitti Babu, "An Improved Control Strategy for Cuk Converter Assisted Wind Driven SEIG for DC Nanogrid", IET Electric Power Applications, Vol. 14, Iss 10, PP. 1906 – 1917, Oct 2020 (Impactfactor: 2.9).

24. Haricharan, B.Chitti Babu, Atanu Banerjee, "Control and Analysis of a 3-Level Diode-Clamped Split Source Inverter in the Applications of Grid-tied Photovoltaic Systems", *Intr. Trans. on Electrical Energy Systems*, John-Wiley, Vol.30, Iss.11, Pp.01-30, Nov 2020, (Impact factor: 1.7).
25. Narendra Babu P , B.Chitti Babu, Ranga Babu Peesapati, Gayadhar Panda, "An optimal current control scheme in grid-tied hybrid energy system with active power filter for harmonic mitigation", *Intr. Trans. on Electrical Energy Systems*, John-Wiley, Vol.30, No:03, Pp.01-21, March 2020, (Impact factor: 1.7).
26. P.Balamurugan, B.Chitti Babu, N.Senthil Kumar, "Optimization of DC-Link Voltage Regulator using Bat Algorithm for Proportional Resonant Controller Based Current Control of Shunt Active Power Filter in Distribution Network", *Intr. Trans. on Electrical Energy Systems*, John-Wiley, Vol.30, No.06, Pp.01-15, June 2020, (Impact factor: 1.7).
27. Ajay Kumar, Nitin Gupta, Vikas Gupta, B.Chitti Babu, "A Novel Orthogonal Current Decomposition Control (OCDC) for Grid-connected Voltage Source Converter", *IEEE Trans. On Industrial Applications*, Vol.55, Iss.06, Pp. 7628 - 7641, Nov 2019.(SCI) (Impact factor: 3.5)
28. AsuthoshGiri ,Rakesh Maurya, Sabha Raj Arya, B.Chitti Babu, "VCO less PLL Control Based VSC for Power Quality improvement in Distributed Generation System", *IET Electric Power Applications*, Vol.13, No.08, Pp. 1114 – 1124, Aug 2019, (SCI) (Impact factor: 2.9).
29. AsuthoshGiri , Rakesh Maurya, Sabha Raj Arya, B.Chitti Babu, "Mitigation of Power Quality Problems in PMSG based Power Generation system using Quasi-Newton based Algorithm", *Intr. Trans. on Electrical Energy Systems*, John-Wiley, Vol.29, No.11, Pp. 01 – 17, Nov 2019, (SCI) (Impact factor: 1.7).
30. O. Jeba Singh, D.Prince Winston, B. Chitti Babu, B. Praveen Kumar, S. Cynthia Christabel, "Robust Detection of Real-Time Power Quality Disturbances under Noisy Condition Using FTDD Features", *AUTOMATIKA*, Taylor & Francis, Vol.60, No.01, Pp.11-18, Jan 2019, (SCI) (Impact factor: 0.76).
31. Rakesh Maurya, AsuthoshGiri, Sabha Raj Arya, Amin Qureshi, B.Chitti Babu, "Features of Power Quality in Single Phase Distributed Power Generation using Adaptive Nature Vectorial Filter", *IEEE Trans. On Power Electronics*, Vol.33, No.11, Pp. 9482 – 9495, Nov 2018, (SCI) (Impact factor: 6.4).
32. Sanjay K. Patel, Sabha Raj Arya, Rakesh Maurya, B.Chitti Babu, "A New Control Scheme for DSTATCOM based on Frequency Adaptive Disturbance Observer", *IEEE Journal of Emerging and Selected Topics in Power Electronics*, Vol.06, Iss.03, Pp.1345 – 1354, Sep 2018, (SCI) (Impact factor: 4.73).
33. AsuthoshGiri ,Rakesh Maurya, Sabha Raj Arya, B.Chitti Babu, "Power Quality Improvement in Stand-alone SEIG based Distributed Generation System using Lorentzian Norm Adaptive Filter", *IEEE Trans. On Industrial Applications*, Vol.54, Iss.05, Pp. 5256 - 5266, Oct 2018. (SCI) (Impact factor: 3.5).
34. Ooi Wen Yin,B.Chitti Babu, "Simple and easy approach for mathematical analysis of photovoltaic (PV) module under normal and partial shading conditions", *OPTIK*, Elsevier, Vol.169, Pp.45-61, Sep 2018, (SCI) (Impact factor: 2.2)- Cited by 4.
35. C.Vimala Rani, N.Kamaraj, B.Chitti Babu, "Improved Method of Maximum Power Point Tracking of Photovoltaic (PV) Array using Hybrid Intelligent Controller", *OPTIK*, Elsevier, Vol.168, Pp.403-415, Sep 2018, (SCI) (Impact factor: 2.2).

36. D. Koteswara. Raju, B. S. Umre, A.S.Junghare , B.Chitti Babu, "Mitigation of Subsynchronous Resonance with Fractional-order PI based UPFC controller", *Mechanical Systems and Signal Processing (MSSP)*, Elsevier, Vol.85, Pp.698-715, Feb 2017, (SCI) (Impact factor: 6.5).
37. Mohamayee Mohapatra, B.Chitti Babu, K.B.Mohanty "Modeling and Experimental Investigation on Vector Control of Grid-connected Inverter-Based Distributed Generation", -*Distributed Generation and Alternative Energy Journal*, Taylor & Francis Publishers, Vol.31, No: 04, Pp.06-26, Oct 2016, (SCI) (Impact factor: 0.5).
38. B.Chitti Babu, Suresh Gurjar, "A Novel Simplified Two-Diode Model of Photovoltaic (PV) Module", *IEEE Journal of Photovoltaics (JPV)*, Vol.04, Iss.04, Pp. 1156 -1161, June 2014, (SCI) (Impact factor: 3.4).
39. B.Chitti Babu, Sridharan.K, E.Rosolowski, Z.Leonowicz "Analysis of a Novel Sliding Goertzel DFT based Phase Detection System for Grid-interactive Power Converters", *Engineering Science, and Technology, an International Journal*, Elsevier, Vol: 17, Iss:04, pp.270-278. Dec 2014. (SCI) (Impact Factor: 3.2).
40. S.R.Samantaray, Rahul Dubey, B.Chitti Babu, "A Novel Time-Frequency Transform based Spectral Energy function for Fault Detection during Power Swing", *Electric Power Components and Systems*, Vol:40, Iss:08, pp.881-897, 2012, (SCI) (Impact factor: 0.89).
41. S.R.Samantaray, A.Samuai, B.Chitti Babu, "Time-Frequency Transform based Islanding Detection in Distributed Generation" *IET Renewable Power Generation*, Vol-05, Iss: 06, pp.431-438.2011, , (SCI) (Impact factor: 3.9).
42. S.R.Samantaray, B.Chitti Babu, K.B.Mohanty, P.K.Dash, "Probabilistic Neural Network based Islanding Detection in Distributed Generation" *Electric Power Components and Systems*, Vol:39, Iss:03, Pp.191-203, 2011. (SCI) (Impact factor: 0.89).

#### **Scopus Indexed Journals:**

43. Xujian Cui, B. Chitti Babu. S. K. Kam, C.M.M.Chin, Jihong Chen, , Xiongbin Peng, "Models based on mechanical stress, initial stress, voltage, current and applied stress for Li-ion batteries during different rates of discharge", *Energy Storage*, John-Wiley, Vol.2, Iss.03, Pp.01-10, June 2020 (Scopus),.
44. P.Karuppanan, B.Chitti Babu, "Modelling, Simulation and Analysis of High step up DC-DC Converter using Coupled Inductor and Voltage Multiplier Cell using PSCAD<sup>®</sup>", *Inter. Journal of Modelling & Simulation*, Taylor & Francis, Vol.40, Iss. 1, Pp. 26-36, Jan 2020. (Scopus).
45. A.K.Barisal, S.Mishra, B.Chitti Babu, "Invasive weed optimization-based automatic generation control for multi-area power systems ", *Inter. Journal of Modelling & Simulation*, Taylor & Francis, Vol.39, Iss.03, PP.190-202, June 2019. (Scopus).
46. N.Ray, P.Parthiban, B. Chitti Babu, "Implementation of Single-Phase Two-Switch Midpoint Unidirectional Multilevel Converter System", *International Journal of Emerging Electric Power Systems*, bepress, Vol.19, Iss.04, Pp.01-12, Aug 2018 (ESCI/Scopus).
47. B.R.Anandhapadmanaba, Rakesh Mauriya, Sabha Raj Arya, B.Chitti Babu, "Smart Battery Charging Station for Electric Vehicle using Half Bridge Power Converter", *International Journal of Emerging Electric Power Systems*, bepress Vol.18, No.04, Pp.01-15, Aug 2018(ESCI/Scopus).

48. Sudha Ramasamy, Damodhar Reddy, Saravanan S. and B.Chitti Babu, "High Step-Up Boost Converter with Neural Network Based MPPT Controller for a PEMFC Power Source Used in Vehicular Applications", International Journal of Emerging Electric Power Systems, bepress Vol.18, No.05, Pp.01-15, Oct 2018(ESCI/Scopus).
49. Reddy Salkuti, S., Sandeep, V., B.Chitti Babu et al. "Multi-Objective based Optimal Generation Scheduling Considering Wind and Solar Energy Systems". International Journal of Emerging Electric Power Systems, Vol.18, No.04, Pp.01-18, Oct 2018 (ESCI/Scopus).
50. Sudha Ramasamy, Damodhar Reddy, Saravanan S. and B.Chitti Babu, "Comparative Analysis of RBFN and SVPWM Controller Based Boost Type Vienna Rectifier for 1kW Wind Energy Conversion System", Journal of Green Engineering, Vol.08, Iss. 02, Pp.177-200, July2018. (Scopus).
51. V.Karthikeyan, S.Rajasekar, B. Chitti Babu , Haider Abbas, S. Tamil Selvi, and, 'HCC based Interleaved Boost Converter with Optimal Switching Frequency Control of Wind Energy Conversion System for DC Microgrid Application", IET Journal of Engineering, Vol.2017, Iss.08, Pp.495-505, July 2017(ESCI).
52. B.Chitti Babu, K.B.Mohanty, "Experimental Validation of Improved Control Strategy of Grid-interactive Power Converter for Wind Power System", Technology and Economics of Smart Grids and Sustainable Energy, Springer, Vol.02, No.05, Pp.01-12, Dec 2017 (Scopus).
53. Prativa P. Sahoo, M. Mohapatra, B.Chitti Babu, A.K.Panda, &B.P.Panigrahi, "A Comparative Analysis of Single switch Soft-switching Boost Converter and Interleaved Soft-switching Boost Converter", Journal of Low Power Electronics, Vol. 13, No.01, Pp.83-93, March 2017(ESCI, Scopus).
54. D. Koteswara. Raju, B.Chitti Babu , B. S. Umre, A.S.Junghare, "Improved Control Strategy for Sub synchronous Resonance Mitigation with Fractional-order PI Controller", International Journal of Emerging Electric Power Systems, bepress, Vol.17, No:06, Pp.683-692, Dec 2016(ESCI, Scopus).
55. S.Raghavendran, B.Chitti Babu, Luigi Piegari, "Analysis, Design and Experimental Validation of Modified Simple Soft Switching DC-DC Boost Converter", International Journal of Emerging Electric Power Systems, bepress, Vol.16, Iss.04, Pp.331-337. Aug 2015. (ESCI, Scopus).
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58. B.Chitti Babu, AnupAnurag, T.Naga Sowmya, Debatil Marandi, " Decoupled Control Strategy of Grid Interactive Inverter System with Optimal LCL Filter Design", International Journal of Emerging Electric Power Systems, bepress, Vol.14, Iss.5, Pp.477-486. Sep 2013. (Scopus).
59. SatarupaBal, B.Chitti Babu,,AnupAnurag, "Design and Analysis of Improved Soft Switching DC-DC Boost Converter for Low Power Photovoltaic Applications", Journal of Low Power Electronics, Vol.09, Iss:3, pp. 303-312, Oct 2013. (Scopus).

60. B.Chitti Babu, S.R.Samantaray and M.V.Aswin Kumar, "Implementation of Smart Battery Charger with Low Power Photo-Voltaic Energy System Using Synchronous Buck Converter", Journal of Low Power Electronics, Vol.08, Iss.02, pp.: 283-292, June 2012. (Scopus).