MASTER RESUME

Dr. Abhinav Saxena

Ph.D(Jamia Millia Islamia,New Delhi), M.Tech. (IIT Roorkee)
B.Tech (UPTU, Lucknow)
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Contact No: 9810241846,8909263616

D.O.B: 23rd March, 1989

Area of interest:

Renewable energy,Electric machines, power system generation,transmission & distribution, power electronics,control system, Environment sustainability,Communication signals noise & interference mitigations,Electric vehicle,Design of non linear controller,Smart grid, Analog and Digital Electronics, Digital Signal Processing(DSP), energy management,congestion management, Artificial intelligent techniques, Deep learning, IOT, ANN, ANFIS, Machine learning,Image processing

Academic Qualifications:

Sl. No.	Degree Discipline	University/Institution	Year of Passing	CGPA / (%)
1	PhD.(Electrical Engg.)	Jamia Millia Islamia, (Delhi)	July 2020	80.26 %
2	M.Tech. (Electrical)	IIT Roorkee, Roorkee (UK)	2013	7.118
3	B.Tech.(Electrical Engg.)	UPTU,Lucknow	2011	70.62 %
4	Intermediate (PCM)	Army School Bareilly Cantt.	2006	80.00 %
5	High school	Wood Row School,Bareilly	2004	78.0 %

Work Experience (8 years 8 month)

1. **Currently working as Assistant professor & Research Coordinator in Department of Electrical Engineering at JSSATE Noida.**
2. 6 Months teaching experience as Assistant professor in Galgotia college of engineering and subject covered is Electrical machines,EMMI, digital electronics.
3. 10 Month teaching experience in BIT Meerut as Assistant Professor and subjects covered are Control system, sensor & instrumentation.

Ph.D Supervising(3)

1. Co-Supervising a Ph.D student from G.D Goenka University, Gurugram, Haryana
2. Co-Supervising a Ph.D student from Shobhit University,Meerut,U.P
3. Co-Supervising a Ph.D student from Dr. A.P.J AKTU University,U.P

Research Project:

Project on the topic **"Maximum power extraction from solar PV Array in distributed system using soft computing technique"** has been granted under AKTU '**Visvesvaraya Research Promotion Scheme(VRPS)'** worth 500000 INR.

PUBLICATIONS (59)

JOURNALS (19):

1. Abhinav Saxena,Prashant, Anwar Shahzad Siddiqui,' Optimal Intelligent Strategic LMP Solution & Effect of DG in Deregulated System for Congestion Management' International Transactions on

Electrical Energy Systems (Wiley),Impact factor:**2.86**,(**SCI Journal**),Vol.31, Issue.11,first published online: 13-08-2021, ISSN: 2050-7038, https://doi.org/10.1002/2050-7038.13040

2. Arunesh Singh,Abhinav Saxena, N Roy, U chaudhary, "Inter-turn fault stability enrichment & diagnostic analysis of power system network using wavelet transformation based sample data control & Fuzzy logic Controller", Transactions of the Institute of Measurement and Control, SAGE Journal, **(SCI Journal)** Impact factor:**1.796**, first published online 27-04-2021,Vol.43,Issue:12,pp: 2788–2798 doi: https://doi.org/10.1177/01423312211007006, ISSN: 1447-0369

3. A.K Singh,Abhinav Saxena, "A novel neuro-fuzzy control scheme for wind-driven DFIG with ANN-controlled solar PV array", Environment,Development and Sustainability,Springer **(SCI Journal)**, Impact Factor:**3.219**,vol.22,issue.7,pp:6605–6626,doi:https://doi.org/10.1007/s10668-019-00502-5,ISSN: 1573-2975,October 2020.

4. Abhinav Saxena,A k singh, , Shahida Khatoon, Kriti, "Impact Review Analysis & Scope of Noise Pollution for Energy Harvesting", Journal of engineering research,Kuwait University,Faculty of engineering and petroleum **(SCI Journal**),EMSME Special Issue,pp. 112-121 **ISSN: 2307-1885,doi:** https://doi.org /10.36909/jer.EMSME,impact factor:0.62, 20-08-2021

5.Abhinav Saxena,Prashant, Nirmal Kumar Agarwal, Md. Abul Kalam, Nitin Kumar Pal, "Optimal Converging distributed load allocation of three generating units using Genetic Algorithm (GAs)", Vol. 33 Issue no 12, Baltica Journal **(SCI Journal)** (Impact factor: **1.037**), Dec 2020, ISSN: 0067-3064

6. Arunesh Singh ,Abhinav Saxena, "Robust designing of Wind Power based Doubly fed Induction generator (DFIG) using ANN Controlled Solar PV Array feeding 9-IEEE Bus System", Journal of Engineering Technology **(SCI Journal)**, October 2018(special issue), PP. 485-503,Vol. 7,ISSN: 0747-9964 Impact factor:**1.3**

7.Arunesh Singh, Abhinav Saxena, ASharma, Ibraheem, "Modelling, Simulation,controlling of eddy current breaking system using intelligent controller", Journal of fuzzy & intelligent system' JIFS **(SCI Journal)** 2018',Impact factor:**1.851**, Journal vol.36,no.3,pp.2185-2194,January 2019 with DOI:10.3233/JIFS-169930, ISBN: 1064-1246

8.Arunesh Singh, Abhinav Saxena, ASharma, Ibraheem, "Implicit control of eddy current braking system using fuzzy logic controller (FLC) and particle swarm optimisation (PSO)", Journal of Discrete Mathematical Science & Cryptography(Taylor & Francis), **(ESCI Journal)**, Vol.22, Pages 253-275, Issue 2, 8 Mar 2019, ISSN: 09720529, Impact factor:0.31, https://doi.org/10.1080/09720529. 2019.15 82871

9. Abhinav Saxena, Nirmal kumar Agarwal, Sudhanshu, Rakesh, "Smart grid in distributed system: A review", Journal of mechanics of continua and mathematical sciences,2020, **(ESCI Journal)** (Wos), accepted.

10. Arunesh Singh, Abhinav Saxena, "Implementation Of Fuzzy Logic Controller In Solar Pv Array Based Ac Drives", International Journal of Recent Technology and Engineering ,IJRTE (Journal Indexed in Scopus & Elsevier), ISSN: 2277-3878, Volume-8, pp.423-428, Issue-2S7, July 2019, Impact factor:0.16, B10780782S719/19©BEIESP DOI: 10.35940/ijrte.B1078.0782S719

11. Prashant, Abhinav Saxena, Anwar,satyam,vidushi, "An Advance Methodology For Hybrid Modelling And Selection Of Grid Integrated Renewable Energy [Wind/Solar] Profile Through Proteus", International Journal of Recent Technology and Engineering ,IJRTE (Journal Indexed in **Scopus & Elsevier**), ISSN: 2277-3878, Volume-8, pp.429-434, Issue-2S7, July 2019, Impact factor:0.16, DOI: 10.35940/ijrte.B1079.0782S719

12. Abhinav Saxena, G M Patil, ppt, arun, Nirmal Kumar Agarwal, prashant, "Optimal load distribution of thermal generating units using particle swarm optimization (PSO)", International Journal of Recent Technology and Engineering ,IJRTE (Journal Indexed in **Scopus & Elsevier**), ISSN: 2277-3878, Volume-8, pp.440-444, Issue-2S7, July 2019, Impact factor:0.16, DOI: 10.35940/ijrte.B1081.0782S719

13. Abhinav Saxena, A K singh, ppt, palak, waris, "Speed control of dc motor using fuzzy logic", IOP press ,Journal of material science & engineering,**(scopus journal)**, Vol 594, Issue 1, pp:1-9, 1757-899X, 2019. 10.1088/1757-899X/594/1/012018

14. Abhinav Saxena, A.Singh, prashant, waris, A rana, "Novel Power Coefficient for extracting the maximum power in wind power based Doubly fed Induction generator(DFIG) using vector control", IOP press , Journal of material science & engineering,2018,**(scopus journal)**., Vol 594, Issue 1, pp:1-12,2019, ISBN:1757-899X https://doi.org/10.1088/1757-899X/594/1/012007

15. Abhinav Saxena, A.Singh, "Implicit control of Induction Motor using Genetic Algorithm", International Journal of Energy Technology and Policy-Publisher Inderscience'2019, **scopus journal**, (accepted)

16. Abhinav Saxena, shashank, "Construction Of Extra High Voltage Transmission Line Using MATLAB", International Journal of Latest Technology in Engineering, Management & Applied Science" ISSN 2278-2540, Vol.7, Issue.3,april 2018 **(UGC Journal)**

17. Abhinav Saxena,A singh, "Modeling Of 3 Phase Induction Motor In Different Reference Frame", published in "TIT International Journal of Science & Technology",Vol:04,No:01,June2015,ISSN:2319-6688

18. Abhinav Saxena, A singh, shipra, saurabh, kodank, "Comparison between Wound Rotor Induction Motor and Doubly Fed Induction Motor Under Different Fault Condition", Published in IJERT ISSN: 2278-0181, IJERTV5IS100154 Vol. 5 Issue 10, October-2016

19. Abhinav Saxena, Mohit Agarwal, "Comparative analysis of Brushless DC Motor", published in the Journal 'IETE,2017.

INTERNATIONAL/NATIONAL CONFERENCES (37):

20) Abhinav Saxena, Suyash Binod,Sudhanshu maurya,Om Kapoor, Utkarsh Singh, Rajesh Kumar,Amit kumar Sharma,' Electric Vehicle Intelligent Monitoring and Analysis for Battery', AIP publisher sponsored conference ICACITEE Dec. 2021 held at Greater Noida

21) Abhinav Saxena, Nirmal Kumar Agarwal, Archana Rani,' To Analyze the Comprehensive Review MPPT Techniques of Wind Driven PMSG' IEEE Conference ICACFCT 2021 MIET Meerut

22) Abhinav Saxena, Sachin Pachauri, Ramashankar Yadav, Sudhanshu Maurya, Gaurav Verma, Nirmal Kumar Agarwal,'Performance Analysis of Different Techniques of Traffic Control System', IEEE Conference ICACFCT 2021 MIET Meerut

23) Prashant,Abhinav Saxena, Jay Singh, Amit Kumar Sharma,Nitin kumar pal,' Design of Buck Converter with Modified P&O Algorithm Based fuzzy logic controller for solar charge controller for efficient MPPT, IICS Conference(springer sponsored)2021.

24 Abhinav Saxena, Rajesh Kumar, Jay Singh, shilpi Kumari,,Mahima verma, Priyanshi Kumari, A soft computing intelligent technique implication for the comprehensive audit of Electric Vehicle, IICS Conference(springer sponsored)2021.

25. Abhinav Saxena, Nirmal Kumar Agarwal, Archit Kumar, Arpit Singh, Arpit Yadav, Arun Kumar , Amit Kumar Sharma,Electric Hazards Analysis:A review,RTPDP Conference, published in IOP series(scopus).

26. Nirmal Kumar Agarwal, Abhinav Saxena, Amurt Prakash, Amrit Kumar Yadav, Anant Sharma, Anand Pratap Singh,'Review on Unified Power Quality Conditioner (UPQC) to mitigate power quality problems, IEEE GCAT 2021, Date of publication:13-11-2021, doi:10.1109/GCAT52182.2021.9587586

27. Dr. Abhinav Saxena,Nirmal Kumar Agarwal, Aman Rathore, Sonali Arora, Akash Yadav and Ayush Yadav,Auto-Intensity Regulation of Streetlights using Arduino, IEEE ISCON 2021,GLA Mathura,22-23 October 2021, doi: 10.1109/ISCON52037.2021.9702443, 14/02/2022 at Xplorer

28. Abhinav Saxena, G.M Patil, Nirmal Kumar Agarwal, Anushka, Amrut, Kailash,Environmental and Social Aspects of Microgrid Deployment- A Review' IEEE conference on UPCON 2021, doi: 10.1109/UPCON52273.2021.9667612

29. Dr. Abhinav Saxena, Sachin Pachauri, Dr. Rajat Kumar, Ramashankar Yadav, Gaurav Verma and Nirmal Kumar Agarwal,Wireless Power Transmission: A Review, International Conference MARC 2021

30. Abhinav Saxena, Abhishek Kumar Singh,G.M Patil, Sanjeev Kumar Sharma, Sampath Kumar V, Sanjiba Kumar Bisoyi,Rajesh Kumar, Analysis of solar PV array based buck convertor design by using modified P&O Algorithm, NCSEVES 2021, JSSATE Noida

31. G.M Patil,Abhinav Saxena, Aishwarya patil, "Optimization of Second Order Non-linear System using Fuzzy Logic Controller", IEEE International Conference on Computing, Electronics & Communications Engineering 2019 (IEEE iCCECE '19), London Metropolitan University, London, UK, 26 ,December,2019,ISBN: 1927-6338. 10.1109/iCCECE46942.2019.8941791

32. Amit kumar sharma, akash pandey,mohd. Ammar khan, abhinav tripathi, Abhinav saxena, pankaj kumar yadav,' Human following Robot', IEEE International Conference on Advance Computing and Innovative Technologies in Engineering (ICACITE), Greater Noida, doi: 10.1109/ICACITE51222.2021.9404758, Date: 20,April,2021, ISBN: 978-1-7281-7742-7

33. Abhinav Saxena, G.M Patil, Anuradha, sajid, Siddhartha, abhishek, "A new implicit design & controlling of LQR for electric vehicle", ICCSEMS 2020,25-26 September 2020,JSSATE Noida

34. Abhinav Saxena, Y.K singh, Ajai, satyam, Mohit, abhishek, "Power failure Fault detection wavelet transformation Algorithm for Transmission line network", ICCSEMS 2020,25-26 September 2020,JSSATE Noida

35. Abhinav Saxena, A singh, Ankit, Sitesh, Anmol, Sharik, "Vector Control Analysis of Doubly fed Induction generator(DFIG) for different controlled parameters", ISBN 978-93-80544-28-1, IEEE Conference INDIACOM 2018. http://bvicam.in/INDIACom/news/ INDIACom%202018%20Proceedings /Main /papers.html

36.Abhinav Saxena, A singh, Abhishek, Raj, Tanul, "Wind Power Based Doubly Fed Induction Generator (DFIG) For The Speed Control Using Rotor Side And Grid Side Converter", ISBN 978-93-80544-28-1, IEEE Conference INDIACOM 2018. http://bvicam.in/INDIACom/news/ INDIACom% 202018%20 Proceedings /Main /papers.html

37. Abhinav Saxena, Palak Tusyan, A singh, prashant, "Study of various FACTS devices for steady and dynamic state stability of Power System", ISBN 978-93-80544-28-1, IEEE Conference INDIACOM 2018. http://bvicam.in/INDIACom/news/ INDIACom%202018%20Proceedings /Main /papers.html

38. Arunesh Singh, Abhinav Saxena, Asif, "A Review on DC Distributed System", National Conference (NCSES),JSSATE Noida,ISBN: 978-93-5361-694-6,June,2019

39. Abhinav Saxena, Nirmal Kumar Agarwal, priya singh, vijay tomar, tushar jain, shivam samrat, "Underground Cable Fault Detection Using Arduino And GSM (5 V D.C.)", National Conference (NCSES),JSSATE Noida,ISBN: 978-93-5361-694-6,June,2019

40. Abhinav Saxena, ppt, akshay, anshuman, "Advancement in Energy meter Reading", International Conference on SV-TDFS,Manipal University Jaipur, Rajasthan, ISBN: 978-81-938236-5-1 ,08-09 October 2018. http://toc.proceedings.com/51648webtoc.pdf

41.Abhinav Saxena,ppt,vasu,shreya,anurag, "Photovoltaic Applications through muti-level cascading of DC/DC Converter", International Conference on SV-TDFS 2018, Manipal University Jaipur, Rajasthan, ISBN: 978-81-938236-5-1, 08-09 October 2018

42. Abhinav Saxena,ppt,apar,aprajita, "Scada and its application in power generation and distribution system", International Conference on SV-TDFS 2018,Manipal University Jaipur, Rajasthan, ISBN: 978-81-938236-5-1, 08-09 October 2018

43. Abhinav Saxena, A singh, rinki goyal, "Hybrid approach for Digital Watermarking using Intelligent System and Discrete Wavelet Transform (DWT)", International Conference on SV-TDFS 2018, Manipal University Jaipur, Rajasthan, ISBN: 978-81938236-5-1 ,08-09 October 2018

44. A Saxena, A singh, "Sensorless fault analysis of Doubly fed induction motor", IEEE Sponsored Conference, NSC-2017, Dayalbagh(DEI), Dec-2017

45. Abhinav Saxena, A singh, prashant, Nirmal Kumar Agarwal, "'ANALYSIS OF 3-PHASE INDUCTION MOTOR IN DIFFERENT SPEED REFERENCE FRAME COORDINATES", IEEE International Conference 'ICPCSI 2017' ISBN: 978-1-5386-0814-2, June 2018. Doi: 10.1109/ICPCSI.2017.8391772.

46. Abhinav Saxena,Prashant, shipra, saurabh, kodank, aniket, “FAULT INJECTION ANALYSIS OF WOUND ROTOR INDUCTION MOTOR AND DOUBLY FED INDUCTION MOTOR(DFIG)”, IEEE International Conference on INDIACOM 2017, ISSN 0973-5658 ; ISBN 978-93-80544-24-3,2017

47. Abhinav Saxena,A srivastava,vijay,sumeta,pulkit, “ANALYSIS OF SPEED CONTROL OF DOUBLY FED INDUCTION MACHINE (DFIG) USING DIFFERENT TECHNIQUES”, IEEE International Conference on INDIACOM 2017, ISSN 0973-5658 ; ISBN 978-93-80544-24-3,2017

48.Abhinav Saxena, A singh, “Performance of Sensor and Sensorless Doubly fed Induction motor (DFIG) under the current sensor fault”, IEEE Explorer International Conference on ICPEICES 2016, ISBN 978-1-4673-8587-9/16/$31.00 ©2016 IEEE,february 2017, doi: 10.1109/ICPEICES.2016.7853315.

49.Abhinav Saxena,A singh,pawar,sangeeta, “Analysis of Intelligence Techniques on Sensor less Speed Control of Doubly fed Induction machine (DFIG)”, IEEE Explorer International Conference on INDIACOM 2016, ISSN 0973-7529; ISBN 978-93-80544-20-5,2016

50. Abhinav Saxena,divyang,shipra,dushyant,periyal, “Comparative analysis of Sensor-less speed control of Three phase Induction motor”, IEEE Explorer International Conference on INDIACOM 2016, ISSN 0973-7529; ISBN 978-93-80544-20-5,2016

51. Abhinav Saxena, V chandana, “Limitation and improvement in the course outcome”, IEEE Explorer International Conference on MITE 2015, ISBN 978-1-4673-6746-2/15, 2015 IEEE,2015

52. Abhinav Saxena, A singh, International conference ‘GYANODAYA 2015’ on the topic ‘Sensor less Speed estimation of 3 phase Induction motor for open loop systeem’,2015

53. Abhinav Saxena, A singh ,national conference, “torque and speed response of doubly fed induction machine under current sensor fault”, ETEEE 2015 at JAMIA MILLIA ISLAMIA 2015

54. Abhinav Saxena, Nirmal kumar Agarwal, Rajesh, “Comparative Analysis of Hydropower Plant Using MATLAB/SIMULINK", INTERNATIONAL CONFERENCE ON ADVANCES IN BUSINESS AND ENGINEERING FOR SUSTAINABILITY, ABES ghaziabad, 27-28 march 2018

55.Abhinav Saxena,a kalam,ppt,priya, “Comparative Analysis of DC-DC Converter for Application in Energy System based on Renewable Energy Resources", INTERNATIONAL CONFERENCE ON ADVANCES IN BUSINESS AND ENGINEERING FOR SUSTAINABILITY, ABES ghaziabad, 27-28 march 2018

56.Abhinav Saxena,bisoyi,prashant, “Protection of 3-phase Induction motor under 1phase fault", INTERNATIONAL CONFERENCE ON ADVANCES IN BUSINESS AND ENGINEERING FOR SUSTAINABILITY, ABES ghaziabad, 27-28 march 2018

Book Chapter (3):

57. Abhinav Saxena,A k singh,Imran, Umakanth chaudhary, “A Comprehensive Review on Active & Reactive power control of grid connected converters”, lecture notes on electrical engineering,springer, 10 september 2021,pp:659-666,ISBN: 978-981-16-4149-7, DOI:https://doi.org/10.1007/978-981-16-4149-7_59

58. Abhinav Saxena,Arunesh Singh, “Adaptive Fuzzy logic controller for the Minimum power extraction under Sensor less control of Doubly fed induction Motor(DFIM) feeding pump storage turbine”, DOI: 10.1007/978-981-13-1822-1_40, In book: Applications of Artificial Intelligence Techniques in Engineering, pp.431-441,vol.2, ISBN: 2194-5357, September 2019

59. Abhinav Saxena, A singh, “‘A Review on Sensor less control of Doubly fed induction machine”, International conference ‘CSPE 2015’ organised by IDES, ISBN: 978-93-85965-79-1(scopus), Advance In Engineering And Technology(book chapter), 9789352603855, 173-179, 2015

PATENT (10):

1. Dr. Abhinav Saxena ,Dr. Md.Abul Kalam, Dr. Srikanth Allamsetty, Mr. Mukesh Yadav,Mr. Tarun Rathi,Mr. Amit Kumar Dash,Dr. Natwar Singh Rathore, Dr. Gurulingappa M. Patil,' An implicit approach for power quality assessment and controlling of solar photovoltaic integrated converter system', Application No.202211013318 , Date of Filing: 11/03/2022

2. Dr. Abhinav Saxena, Hemant Ahuja, Rahul Virmani, Gurpreet Singh, Arika Singh, Deepak Gangwar, "SYSTEM AND METHOD FOR REMOTELY CONTROLLED HOME APPLIANCES", Application No.202011056762 A, Date of filing of Application :28/12/2020, Publication Date : 01/01/2021, The Patent Office Journal No. 01/2021, Page No.119

3. Dr.Abhinav Saxena, Dr. G.M Patil, Dr.Md.Abul Kalam, "autonomous switching & controlling of domestic home appliances in single switch board", IP intellectual property india, patent no. 201911002166A, Date of filing: 16/01/2019,Published on 28/08/2020, date of file: 16/01/2020.

4. Dr.Abhinav Saxena,Dr. G.M Patil, Nirmal Kumar Agarwal, "Detection and monitoring of Covid-19 from smart phone and digital clock using intelligent technique", Application No. 202011049427, Date of filing: 12/11/2020.

5. Dr. Abhinav Saxena, Nirmal Kumar Agarwal, Rajesh kumar, A K singh, prashant, Dr Md Abul Kalam, Amit Sharma, Nitin pal, Sunil, Kailash, Devendra, "Intelligent controlling and monitoring of charging and discharging of electric vehicle batteries", Application No. 202111006557A, Date of filing: 17/02/2021, Published:26/02/2021

6. Dr. Abhinav Saxena, Dr. Amit Kumar Sharma, Dr. Nitin Kumar Pal, Dr. Sunil kumar Chaudhary, Dr. Puneet Chandra Srivastava, Dr. Kiran Srivastava, Dr. Neeraj Kumar, Mr. Chandan Choubey, Mrs. Priyanka Datta, Dr. Bharat Singh, Mr. Manoj Kumar, Mr. Gyanesh Singh,' Optimal interference minimization between communication and transmission line using artificial intelligence based electromagnetic waves method',Date of filing:30/07/2021', Date of publication: 10/09/2021,Application No. 202111034313 A

7. Dr. Abhinav Saxena, Mr. Gaurav Verma,Dr Aseem Chandel, Mr. Nikhil Chaudhary, Mr. Sachin Pachauri, Dr. Chandra Bhan Vishwakarma,' A grid integrated hybrid renewable energy system with optimal controlling of carbon emission for sustainable and reliable solution', Date of filing:28/10/2021,Application No. 202111049294A, Date of publication: 26/11/2021

8. Dr. Abhinav Saxena, Dr. Md. Abul Kalam, Dr. Rajat Kumar, Mr. Mukesh Yadav, Mr. Pawan Kumar Kashyap, Mr. Amit Kumar Dash, Mr. Brijesh Prasad, Dr. Mohit Kumar, Dr. Govind Singh Patel,' Optimal control of electromagnetic waves through artificial intelligent for enhancing the power transmission in high voltage transmission line', Date of filing:28/10/2021, Application No. 202111049295A, Date of publication: 26/11/2021

9. Dr. Abhinav Saxena, Mr. Gaurav Verma, Mr. Shivam Yadav,Mr. Desh Deepak, Mr. Vijay pal singh, Mr. Baljeet Yadav, Mr. Sampath Kumar V, Prof. J P Pandey, " Optimal intelligent controlling and management of Electrical Vehicle charging",Application No. 202211007129A, Date of Filing: 10/02/2022, Date of published: 25/02/2022
10. Dr. Abhinav Saxena, Dr. Prakash Kumar Singh, Dr. Rajat Kumar, Mr. Prashant, Mr. Pawan Kumar Kashyap, Mr. Mukesh Yadav, Mr. Puneet Kumar,Mr. Manoj Kumar,Mr. Gaurav Verma, Mr. Baljeet Yadav, Mr. Gyanesh Singh,Mr. Lokendra Kumar, Dr. Mohit Kumar, "Stragedy economic analysis of plug-in battery of electric vehicle", Application No.202211007133A , Date of Filing: 10/02/2022, Date of published: 25/02/2022

FACULTY DEVELOPMENT PROGRAMME(FDP)/WORKSHOP

1. One week FDP on Reliable solution and development in JSSATE Noida.
2. One Week FDP on the topic 'ROBOTICS' organised by NITTTR at BIT MEERUT
3. Two Week FDP on the topic ' Research methodology ' organised by NITTTR at JSSATEN
4. One Week workshop on INSPIRE PROGRAMME organised by Ministry of Science(Govt.) at JSSATEN
5. One Week FDP on Power electronics based renewable energy at ABES Ghaziabad
6. One Week FDP on Ethics at GL Bajaj G.B Nagar
7. Two Week FDP on Power system network at VIET Dadri

INTERNSHIP INFORMATION

Bharat Heavy Electrical limited (BHEL) Ranipur, Haridwar (UK)

Turbogenerator (1 month)
Brief study of turbo-generators and its constructional features

PROJECTS

1. **IIT ROORKEE**

   Sensorless control of grid connected Doubly fed Induction machine (1 year)

   Firstly, model the doubly fed induction machine using simulation in MATLAB, estimate the speed, current, torque of DFIM, Sensorless means compute the speed and torque estimation without considering the speed sensor by simply transforming the rotor currents in different reference frame, This scheme has advantage in such a way that it reduces the fluctuation in the measurement of grid voltage and current, reduces system complexity, more efficient machine, lesser cost, lesser error in the measurement of speed and torque.

2. **IIT ROORKEE**

   Prepare Detailed project Report(DPR) forSARYU SANTESHWAR HPP in hilly areas of uttrakhand at river bed elevations varying from 832 to795 . The Catchment area is 1402 sqm.The observed river discharges at Bagheshwar guage site where catchment area is 1275 sqm. The main objective is to harness renewable energy sources for meet the growing energy demand. Further Power house designing is covered with different aspects of logic gates design for its operational for switch ON/OFF controller and different signal processing devices are assessed in the design of power house.

3. **JSSATE NOIDA**

   Design of Linear Induction motor for the propulsion of MAGLEV (6 month)

   Consider linear induction motor having stator on rail track of 1m and rotor on train .Rail track is impinged with electromagnet and rotor is provided permanent magnet. When supply given to stator terminal through auto transformer, sense of winding in electromagnet in such a way that it will produce same pole as permanent magnet, now this repulsion force will levitate the train above the track and maintain air gap of 5 mm, Now with the help of linear induction motor train will move in forward direction. Linear induction motor will be of Electro dynamic system (EDS) type

Academic Achievements

1. **Best Teacher award 2021** by Dr. A.P.J Abul kalam technical university lucknow.
2. Session chair in IEEE Conference ICACFCT-2021 held at MIET meerut.
3. Session Chair in IEEE Conference ICAT 2021 at Greater Noida.
4. Session Chair in IEEE Conference GCAT 2021 at Bangalore
5. Session Chair in Springer sponsored International conference MEDCOM 2021 at Greater Noida
6. Session chair in springer sponsored international conference IICS 2021 at Greater Noida
7. Session chair at IEEE Conference 'ICAC3CN 2021' held at Greater Noida.
8. IES 2012, 2015, 2016, 2017 written qualified.
9. Secured above **99 percentile in GATE** 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020,2021

10. More than **10 PSU's** written qualified in NTPC, UPPCL,BARC,SAIL,HPCL, etc.
11. Selected in extended merit list of IIT JEE 2007
12. **Topper** of the school in 10th class

SKILLS AND ACHIEVEMENTS

- Computer Language: Basic knowledge of C, PYTHON, MACHINE LEARNING
- Software packages: MATLAB,
- Languages Known: English (SRW), Hindi (SRW)

EXTRA CURRICULARS

- **IIT ROORKEE (2012)**
- PLACEMENT COORDINATOR OF THE IIT ROORKEE
- Tech fest of IIT Roorkee 'COGNIZANCE ' (2012)
- Work as organising member
- **WIROLOGY (2010)**
- Event coordinator OF WIROLOGY in jss noida techfest 'ZEALICON 2010'
- **'OORJA' electrical enggineering society of JSSATE NOIDA (2011)**
- WORKS AS A TECHNICAL COORDINATOR
- **'EXTREME ENGINEERING' electric train (2009)**
- PARTICIPATED
- **INDIAN TALENT PROGRAM ORGANIZE BY HOPE (2006)**
- PARTICIPATED
- **MATHS OLYMPIAD (2006)**
- QUALIFIED AT CITY LEVEL

PERSONAL DETAILS

Father's Name	:	Sh. Rajesh Kumar Saxena
Madhu Saxena	:	Madhu Saxena
Date of Birth	:	March 23,1989
Gender	:	Male
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Email	:	abhinaviitroorkee@gmail.com, abhinav.saxena@jssaten.ac.in
Permanent Address	:	164 Civil Lines Near Gayatri Hostel, Bareilly – 243001,U.P

REFERENCES

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Dr. Arunesh kumar Singh
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CERTIFICATION

I, the undersigned, certify that to the best of my knowledge and belief, this resume correctly describes me, my qualifications and experience.

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A novel neuro-fuzzy control scheme for wind-driven DFIG with ANN-controlled solar PV array

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Abstract
This paper shows strategic neuro-fuzzy (N-fis) control scheme for wind-driven-based doubly-fed induction generator (DFIG) using artificial neural network (ANN)-controlled solar PV array. The complete system of DFIG is designed using neuro-fuzzy control scheme for harnessing the maximum power from both solar and wind. The output solar PV array is connected to DC link terminal of DFIG through boost converter. ANN is used to trigger the IGBT switch of the boost converter which consists of 30 neuron structure arranged in three hidden layer. Selection of 30 neuron structure for ANN using back-propagation delay is decided by methodology which gives least square error and best regression analysis. Initially, the Simulink model of 15 kW DFIG is designed in which rotor and grid-side converter is controlled by using neuro-fuzzy (N-fis) scheme. The N-fis scheme is used for switching the GSC and RSC converter with the help of PWM converter. The wind turbine acts as mechanical input to rotor shaft of DFIG which is controlled by pitch angle, tip-to-speed ratio and power coefficient. Further 20 kW ANN-controlled solar PV array is designed which is equipped with DC link terminal of DFIG. The complete system shows the dependency, reliability and truthfulness of DFIG on renewable energy (wind & solar both). Comparative analysis is shown for 10 kW DFIG of wind–solar combination and with wind only. This also shows the significance of solar in wind power-based DFIG which reduces the requirement choke coil filter that makes the system economical and efficient.

Keywords DFIG · ANN · Solar PV array · Wind driven · Neuro fuzzy

1 Introduction

Doubly-fed induction generator (DFIG) is the super-synchronous mode of doubly-fed induction machine and extended design version of wound-type induction generator. The rotor resistance of singly excited induction generator is replaced by two converters connected via DC link. In DFIG, stator is connected to the grid directly or three-phase

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RESEARCH ARTICLE

WILEY

Optimal intelligent strategic LMP Solution and Effect of DG in Deregulated System for Congestion Management

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Summary

This article presents intelligent controlling on locational marginal pricing (LMP) of deregulated system for congestion management. Transmission line congestion is a critical concern, and its governance raises a technological obstacle when deregulating the electricity grid. Congestion throughout the unregulated energy market occurs where transmitting capacity is not adequate to reach all the demand transmission constraints across a line. The congestion management is decided by using the LMP difference between two buses. The existing methods have higher LMP cost due to which controlling of LMP is assessed by using a hybrid approach and genetic algorithm (GAs). The LMP difference obtained with GAs is lesser than hybrid approach which makes system economical. After the selection of uniform and high demanded congested zone, a distributed generator (DG) is used to fulfill the demand. The DG is represented by solar PV array and connected to bus through converters. The switching of the converter is assessed by a fuzzy logic controller (FLC) and vector control. The implementation of FLC improves the THD of real and reactive power generated by DG in a better way in comparison to vector control. The performance analysis is tested on standard IEEE 9-bus system, standard IEEE 14-bus system, and standard IEEE 57-bus system on Simulink.

KEYWORDS

DG, FLC, GAs, LMP

List of Symbols and Abbreviations: ρ_i, locational marginal pricing (LMP); MEC, marginal energy cost (C); $\lambda_{c,i}$, congestion cost (CC); $\lambda_{L,i}$, loss component (LC); ΔP, change in real power; ΔQ, change in reactive power; Δf, change in flow rate; S_i, complex power at ith bus; S_{ij}, complex power between ith and jth bus; S_D, complex power demand; Y_{ij}, admittance between ith and jth bus; V_i, voltage at ith bus; δ, load angle; θ, impedance angle; $E_{p,i}$, energy generation at ith bus; $E_{p,ij}$, energy dissipated between two buses; η, efficiency; k_{pf}, power factor; t_1, proportionality constant; GA, genetic algorithm; μ, operating cost for loss component; $a(t)$ and $b(t)$, nonlinear controller power; K_{p}, proportionality constant; ΔP_{conv}, change in conventional source power; ΔP_{PV}, change in PV module power; ΔP_L, change in load power; Δf, change in frequency; H, inertia constant of the machine; S, rated power of the system; S_{PV}, rated power contribution of the solar PV array; H_{PV}, inertia constant of the solar PV array; H_{conv}, inertia constant of conventional thermal source; g, distortion factor; DG, distributed generator; FLC, fuzzy logic controller; NR, Newton-Raphson method; P_i, real power; Q_i, reactive power; NB, negative big; NM, negative medium; NS, negative small; ZS, zero; PB, positive big; PS, positive small; PM, positive medium; p.u, per unit; P&O, perturb and observe method; PV, photovoltaic; MPPT, maximum power point tracking; PD, proportional derivative; THD, total harmonic distortion; λ, operating cost for cost component; $\lambda_p, \lambda_q, \mu_p^-, \mu_p^+, \mu_q^-, \mu_q^+$, inequality constraint; $\mu_l^-, \mu_l^+, \mu_v^-, \mu_v^+$, sharing ratio; K_{d}, derivative constant; s, Laplace operator; ΔP_{solar}, change in solar power; $\Delta P_{\text{thermal}}$, change in thermal power.

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Inter-turn fault stability enrichment and diagnostic analysis of power system network using wavelet transformation-based sample data control and fuzzy logic controller

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Abstract

In this paper, performance analysis of power system network is carried out by injecting the inter-turn fault at the power transformer. The injection of inter-turn fault generates the inrush current in the network. The power system network consists of transformer, current transformer, potential transformer, circuit breaker, isolator, resistance, inductance, loads, and generating source. The fault detection and termination related to inrush current has some drawbacks and limitations such as slow convergence rate, less stability and more distortion with the existing methods. These drawbacks motivate the researchers to overcome the drawbacks with new proposed methods using wavelet transformation with sample data control and fuzzy logic controller. The wavelet transformation is used to diagnose the fault type but contribute lesser for fault termination; due to that, sample data of different signals are collected at different frequencies. Further, the analysis of collected sample data is assessed by using Z-transformation and fuzzy logic controller for fault termination. The stability, total harmonic distortion and convergence rate of collected sample data among all three methods (wavelet transformation, Z-transformation and fuzzy logic controller) are compared for fault termination by using linear regression analysis. The complete performance of fault diagnosis along with fault termination has been analyzed on Simulink. It is observed that after fault injection at power transformer, fault recovers faster under fuzzy logic controller in comparison with Z-transformation followed by wavelet transformation due to higher stability, less total harmonic distortion and faster convergence.

Keywords

Wavelet, Z-transformation, fault, sample data control, fuzzy logic controller (FLC), total harmonic distortion (THD)

Introduction

The power transformer minimizes the variation in frequency and duration of unwanted outage. It requires high demand of power transformer and protective relay. It is operated at no mal-operation, no false tripping, security associated and short fault clearing time. Power system lies on the accurate and fast capability of magnetizing inrush current for different internal fault current. Magnetizing internal current energizes the transformer with many times of full load current for mal-operation of the relay. Magnetizing inrush current contains 2nd harmonic component and affects the reliability and stability of the power system (Miao et al., 2019). Generally, 2nd harmonic component is generated as an internal fault of the power transformer, which may saturate the current transformer core in extra high voltage transmission line. The magnitude of 2nd harmonic current due to internal fault is greater and close to magnetizing inrush current (Blaabjerg et al., 2016). Several methods are proposed to find the voltage and current signal of differential power transformer as recognized fault and its comparison from inrush current voltage and current. Another method is to calculate the voltage and current signal by measuring the two successive peaks between internal operation criterion of the differential zero current waveform (Haibin et al., 2018). There are many methods proposed to calculate the wavelet transformation of current waveform for transient analysis, feature extinction, power system analysis, detection of electromagnetic transient. Power quality, data compression, total harmonic distortion (THD) and fault detection are certain parameters for checking the harmonic level (Eddy et al., 2018). Wavelet transformation is calculated at different points of differential current under the fault and inrush current condition. Wavelet is decomposed

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RESEARCH ARTICLE -ENGINEERNG TECHNOLOGY ASEE

Robust Designing of Wind Power based Doubly Fed Induction Generator (DFIG) using ANN Controlled Solar PV Array feeding 9-IEEE Bus System

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Abstract—This Paper shows the robust designing of wind power based Doubly fed Induction generator (DFIG) incorporating the solar PV array so as to harness the maximum energy from both the sources wind turbine as well as solar PV array module. The simulink model of 15kW wind power based DFIG (that includes rotor side converter (RSC) and grid side converter (GSC) via dc link in which 40kW solar PV Array is connected) has been designed. In this model the solar PV array is controlled by Artificial Neural Network (ANN) consist of 30 neurons to harness the maximum power, while maximum power extraction in wind turbine depends on tip to speed ratio (TSR), power coefficient, etc. The total power extracted from wind-solar system is supplying to 9-IEEE Bus system. Comparative results for designed simulink model with solar and without solar shows that DFIG with solar has lesser value of total harmonic distortion (THD) in comparison to DFIG without solar. Because of less THD, the reliability and dependability of DFIG on solar PV array increases. The advantage of DFIG with solar reduces the requirement of choke coil filter and capacitor that makes the system economical,efficient and improves the performance of the system.

Keywords: DFIG, ANN, solar PV array, wind turbine, 9-IEEE Bus, THD

1. Introduction

Electric Power is boon to the earth which science has provided to the mankind and it would be very difficult to imagine a life without it because it makes the life very simpler to the all living beings. With the nvention of electricity in the early eighteen century from the experiment of different scientist like Franklin, Thomson Edison etc. it became popular to the mankind in all aspects [4]. Now days it is spread worldwide across the globe still many locations of our country would not be access the better quality of electricity even due to inadequate generation of electricity with the increase in the load demand [16]. Major sources for electricity production available in the form of the thermal, hydro, nuclear which accounts of approximately 80% of total power generation.With the increase in the load demand above major sources needs more fuel like coal, water, uranium etc. but this fuels are expected to be extinct in upcoming forth years specially thermal so now days electricity production are focusing on the renewable sources mainly solar and wind to harness the maximum energy at present renewable sources contributing the 18% of the total energy production [1].With the high cost of solar panel government is subsiding at very economical rates so an individual can use at residential and commercial purposes apart from this other alternative like small hydro power plant which are of the range 25 MW are used but at the small scale specially in the hilly areas and also possible at the terrace of the residential roof which although produces less energy in comparison to the solar and wind so it is not focusing to harness the large amount of the power due to its limitations [16-18].This paper involve the wind-solar combination on the Doubly

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Impact Review Analysis & Scope of Noise Pollution for Energy Harvesting

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ABSTRACT

Process of obtaining energy from the environment can be called as energy scavenging or energy harvesting. In this paper, we explore the scope of scavenging electrical energy from the noise pollution present in environment and review various energy harvesting techniques for this purpose. Basically, noise is an unwanted sound that is loud, unpleasant and unexpected. Very high population, industrial, commercial activities and transportation increase the noise pollution level in the environment. In urban areas, transport related noise is the major cause of noise pollution. We know that electricity requirement is increasing day by day. Clean energy resources can help the electricity grid to fulfill the increased requirement without bad consequences. Clean energy does not produce any waste, which can pollute the environment. The various mathematical expressions have shown to minimize the level of noise pollution. With help of empirical formula more electricity can be produced. We reviewed the impact of transportation noise pollution, avoidance methods and simultaneous opportunity to transform it into electrical energy.

Keywords: Energy; Environment; Noise pollution; Energy harvesting; Clean enegy; Transportation noise

INTRODUCTION

In current scenario, noise pollution is increasing rapidly. Increase in the number of vehicles moving on roads is creating more noise specifically in urban areas. The High power machines are used in heavy industries so the sound of machines in these industries creates noise pollution in the surrounding where these industries are established. Rapid increase in the use of machines such as vehicles, home appliances, electronic gadgets etc. is the cause of stress, sleeping disorder, depression and other psychiatrist problems. Robert Koch, A German bacteriologist and Nobel Prize Winner Robert Koch once said "A day will come man will have to fight merciless noise as the worst enemy of health"[Chauhan et al., 2010].

LITERATURE REVIEW

In reference to the sound signals, Frequency is the amount of air pressure change which is measured in hertz (Hz) whereas the measure of loudness (measured in dB) is the change in air pressure resulted from vibrating an object. Larger vibrations lead to the louder sound, called high amplitude and high frequency results in high pitch of sound. Road side traffic noise frequencies commonly range between 700 Hz to 1300 Hz but generally it is considered as 1000 Hz for simplicity[Nguyen et al., 2017]. For the measurement of noise pollution, commonly sound pressure level (SPL) meter is used[Kumar and Kumar, 2018]. Sound pressure level generally denoted as Lp(A) or Leq(A)

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