

CV



Islamic Azad University, Isfahan (Khorasgan) Branch



1- Personal Information

First Name : Bahador

Last Name : Fani

E-mail : bahador.fani@gmail.com , b.fani@khuisf.ac.ir

Work Address : Islamic Azad University, Isfahan (Khorasgan) Branch, Esfahan

Academic Rank :Associate Professor

2- Education Background

Academic Degree	Education Field	University	Country	Year
B.Sc	B.Sc in Electrical Engineering	Isfahan University of Technology (IUT)	Iran	2003
M.Sc	M.Sc in Power Systems	Isfahan University of Technology (IUT)	Iran	2005
Ph.D	Ph.D in Power Systems	Isfahan University of Technology (IUT)	Iran	2009

3- Educational Experience

Row	Specialized Courses Taught	Degree
1	Reactive power control:26 times	MSc
2	Power quality: 20 times	PhD
3	Distributed generation and microgrid: 12 times	MSc
4	Power system analysis I: 30 times	BSc
5	Power system analysis II: 40 times	BSc
6	Power system protection:16 times	BSc
7	FACTS: 18 times	PhD
8	Smart Electrical Energy Grids : 26 time	PhD
9	Advanced power system protection: 26 times	PhD
10	Power Generation Operation and Control: 26 times	MSc
11	Power System Lab: 30 times	BSc
12	Electrical Machines II: 4 times	BSc
13	Special topics in power system analysis: 2 times	BSc
14	Digital Protection of Power Systems: 3 time	PhD

4- Research Interests

Row	Fields of Investigation and Specialized
1	Distributed Generation and Microgrid
2	Power Quality
3	FACTS and Custom Power
4	Smart grids
5	Power system protection
6	Power system dynamics
7	Digital Protection of Power Systems

5- Research Activities

5-1) Paper Published in Journals

Row	Article title	Journal Name	Year	Issue/Volume	Article Printed Pages
1	Synchronous Generator Excitation System Controller Design Using Feedback Linearization and H-Infinity Methods	Signal Processing and Renewable Energy	2021	۵(۴)	۲۹-۴۹
2	Distributed Generations Management to Restore Protective Coordination Using Multi-Agent Systems	Journal of Intelligent Procedures in Electrical Technology	2024	15-۵۹	126-142
3	Providing a protection method to support distributed generation against transient voltage instability	Iranian Electric Industry Journal of Quality and Productivity	۲۰۲۳	۱۲(۱)	۲۲-۳۰
4	Coordination of protection equipment in synchronous generator-based microgrids with regard to maintaining first swing stability	Journal of Intelligent Procedures in Electrical Technology (JIPET)	2022	14(54)	1-14
5	Hierarchical Protection Scheme Based on Multi-Agent Systems in Distributed Networks in the Presence of Distributed Generation Resources	Journal of Iranian Association of Electrical and Electronics Engineers	2021	۱۸(۲)	۹۳-۱۰۶
6	Transient Stability Constraints and Protective Coordination in Distributed Resource Distribution Systems	Journal of Novel Researches on Electrical Power	۲۰۲۱	10(2)	35-42
7	Preventing of Bifurcation Consequences in VSI-Dominated Micro-grids Using Virtual Impedance Theory	Computational Intelligence in Electrical Engineering	2021	۱۲(۳)	۱۰۰-۱۲۰
8	Reduction of voltage harmonics by means of a droop controller in parallel operation of inverters	Iranian Journal of Electrical and Computer Engineering	2019	17-2	۹۷-۱۰۷
9	Isolation Detection Using Decision Tree Algorithm in Micro-Grids with Variety of Distributed Production Resources	Journal of Novel Researches on Electrical Power	2019	۸-۳	۵۳-۶۳
10	Adaptive Coordination of Fuse – Recloser in a Distribution System with High PV Penetration	Journal of Intelligent Procedures in Electrical Technology (JIPET)	۲۰۱۹	9-۳۵	۱۱-۱۸

Row	Article title	Journal Name	Year	Issue/Volume	Article Printed Pages
11	An adaptive fuse-saving protection scheme for active distribution networks	International Journal of Electrical Power and Energy Systems	2023	144	108625
12	Improved Power Sharing and Energy Management Platform in Microgrid Considering Stochastic Dynamic Behavior of the Electric Vehicles	Sustainable Cities and Society	2023	98	104826
13	Simulation of a PV Connected to an Electrical Energy Distribution Network with Internal Current Loop Control and Voltage Regulator	International Journal of Smart Electrical Engineering	2023	12(1)	23-30
14	A three-stage multi-agent-based peer-to-peer method for fault isolation of high distributed generation penetrated distribution networks	IET Renewable Power Generation	2023	17(5)	1255-1266
15	Analysis and Implementation of Second-Order Step-Up Converter Using Winding Cross Coupled Inductors for Photovoltaic Applications	Journal of Solar Energy Research (JSER)	2023	8(2)	1516-1525
16	Improved Dynamic Performance in Interconnected Power System Using Secondary Frequency Control	International Journal of Smart Electrical Engineering	2023	12(2)	127-133
17	Providing a protection method to support distributed generation against transient voltage instability	نشریه کیفیت و بهره وری صنعت برق ایران	2023	12(1)	21-30
18	Intelligent protection coordination restoration strategy for active distribution networks	IET Generation, Transmission	۲۰۲۲	16(3)	397-413
19	Secondary frequency control for improved dynamic performance in interconnected power system	Journal of Simulation and Analysis of Novel Technologies in Mechanical Engineering	2022	14(3)	47-54
20	A multi-agent based protection in distribution networks including distributed generations	Energy Reports	2022	8(14)	163-174
21	Improved Droop Control Method for Reactive Power Sharing in Autonomous Microgrids	Journal of Renewable Energy and Environment (JREE)	2022	9(3)	1-9
22	Optimal Determination of Photovoltaic Penetration Level Considering Protection Coordination	IEEE SYSTEMS JOURNAL	2022	16(2)	2121-2124
23	An adaptive protection coordination scheme for microgrids with optimum PV resources	Journal of Cleaner Production	2022	340	130723
24	Analysis and Simulation of Inverter-Based Microgrid Droop Control Method in Island Operation Mode	Signal Processing and Renewable Energy	2022	6	65-81
25	Dynamic Behavior Improvement of Control System in Inverter-Based Island Microgrid by Adding a Mixed Virtual Impedance Loop to Voltage Control Loop	International Journal of Smart Electrical Engineering	2022	11(1)	27-34
26	Achieving the exact equivalent circuit of a large-scale transformer winding using an improved detailed model for partial discharge study	International Journal of Electrical Power	2022	134	1-13
27	An offline three-level protection coordination scheme for distribution systems considering transient stability of synchronous distributed generation	International Journal of Electrical Power	2021	131	1-12
28	Virtual Impedance-Based Droop Control Scheme to Avoid Power Quality and Stability Problems in VSI-Dominated Microgrids	IEEE Access	2021	9	144999-145011

Row	Article title	Journal Name	Year	Issue/Volume	Article Printed Pages
29	Multi-Agent System-Based Hierarchical Protection Scheme for Distribution Networks With High Penetration of Electronically-Coupled DGs	IEEE Access	2021	9	102998-103018
30	Protection of LVDC Microgrids in Grid-Connected and Islanded Modes Using Bifurcation Theory	IEEE Journal of Emerging and Selected Topics in Power Electronics	۲۰۲۱	9(3)	2597-2604
31	Adaptive scheme protecting renewable-dominated micro-grids against usual topology-change events	IET Renewable Power Generation	2021	15(12)	2686-2698
32	A Partial Shading Detection Algorithm for Photovoltaic Generation Systems	Journal of Solar Energy Research (JSER)	2021	6(1)	678-687
33	A first swing stability improvement approach in microgrids with synchronous distributed generators	International Transactions On Electrical Energy Systems	2021	31(4)	1-21
34	A multi-agent solution to multi-thread protection of DG-dominated distribution networks	International Journal of Electrical Power	2021	130	1-13
35	A novel adaptive protection coordination scheme for radial distribution networks in the presence of distributed generation	International Transactions On Electrical Energy Systems	2021	31(3)	1-22
36	Power System Dynamic Stability Improvement Using PSS Equipped with Microcontroller	The International Journal of Smart Electrical Engineering (IJSEE)	۲۰۲۱	10(2)	67-76
37	An Off-Line Algorithm for Fuse-Recloser Coordination in Distribution Networks with PV Resources	International Transactions on Electrical Energy Systems issn	2020	30(9)	1-16
38	A visually driven nonlinear droop control for inverter-dominated islandedmicrogrids	Electrical Engineering	2020	102	1207–1222
39	A Distributed Secondary Control Approach for Inverter-Dominated Microgrids with Application to Avoiding Bifurcation-Triggered Instabilities	IEEE Journal of Emerging and Selected Topics in Power Electronics	2020	8(4)	3361-3371
40	Multi agent-based strategy protecting the loop-based micro-grid via intelligent electronic device-assisted relays	IET Renewable Power Generation	2020	14(19)	4132 – 4141
41	Protection of Converter-Interfaced Microgrids Using Modified Short-Time Correlation Transform	IEEE SYSTEMS JOURNAL	2020	14 (4)	5172-5175
42	Fuse saving scheme in highly photovoltaic-integrated distribution networks	International Transactions on Electrical Energy Systems	2020	30	1-23
43	Decentralized Synergistic Control of Multi-Machine Power System Using Power System Stabilizer	Signal Processing and Renewable Energy	۲۰۲۰	4(4)	1-21
44	Fast Islanding Detection for Distribution System including PV using Multi-Model Decision Tree Algorithm	Majlesi Journal of Electrical Engineering	۲۰۲۰	14(4)	29-38
45	A protection strategy for inverter-interfaced islandedmicrogrids with looped configuration	Electrical Engineering	2019	101-2	1059-1073
46	Day-Ahead Capacity Estimation and Power Management of a Charging Station based on Queuing Theory	IEEE Transactions on Industrial Informatics	2019	15-10	5561-5574
47	Simultaneous Tuning of Static Synchronous Series Compensator and Multi-Band Power System Stabilizers to Mitigate Sub-Synchronous Resonances in Power S	Majlesi Journal of Electrical Engineering	2019	13-4	89-98

Row	Article title	Journal Name	Year	Issue/Volume	Article Printed Pages
48	A bi-level multi agent based protection scheme for distribution networks with distributed generation	INTERNATIONAL JOURNAL OF ELECTRICAL POWER	2019	112	209-220
49	Statistical sensorless short-circuit fault detection algorithm for photovoltaic arrays	Journal of Renewable and Sustainable Energy	2019	11-5	1-13
50	Local penetration-free control approach against numerous changes in PV generation level in MAS-based protection schemes	IET Renewable Power Generation	2019	13-7	1197-1204
51	An Offline Penetration-Free Protection Scheme for PV-Dominated Distribution Systems	Electric Power Systems Research	2018	157	1-9
52	An enhanced decentralized reactive power sharing strategy for inverter-based microgrid	International Journal of Electrical Power	2018	98	531-542
53	An adaptive current limiting strategy to prevent fuse-recloser miscoordination in PV-dominated distribution feeders	Electric Power Systems Research	2018	157	177-186
54	Protection coordination scheme for distribution networks with high penetration of photovoltaic generators	IET Generation, Transmission	2018	12-8	1802-1814
55	Adaptive protection coordination scheme against the staircase fault current waveforms in PV-dominated distribution systems	IET Generation Transmission	2018	12-9	2065-2071
56	A fault-clearing algorithm supporting the MAS-based protection schemes	International Journal of Electrical Power	2018	103	257-266
57	Adaptive complex virtual impedance control scheme for accurate reactive power sharing of inverter interfaced autonomous microgrids	IET Generation Transmission	2018	12-22	6021 – 6032
58	Advanced localized reactive power sharing in microgrids	Electric Power Systems Research	2017	151	136-148
59	Implementation of Soft Switching Forward Converter with Self-Driven Synchronous Rectification	IEICE Transactions on Electronics	2015	E98-C	963-970
60	A New Zero Voltage Switching Bidirectional DC-DC Converter without any Auxiliary Switch	MITTEILUNGEN KLOSTERNEUBURG	2015	65	309-327
61	Transient Performance Improvement of Wind Turbines with Doubly Fed Induction Generators Using Fractional Order Control Strategy	Journal of Intelligent Procedures in Electrical Technology	2014	4	17-28
62	Coordinated Control of FACTS Devices by Using ADALINE Neural Network to Enhance the Transient Stability of Power System	Intelligent Procedures in Electrical Technology	2012	3	27-40
63	A New Asymmetrical DC-DC Converter with High Voltage Gain	Journal of International Review of Electrical Engineering	2011	7	1-5
64	A New Soft Switching Current-Fed Converter with Voltage Lifting	International Review of Electrical Engineering	2011	6	1-5
65	Transformer Differential Protection Using Geometrical Structure Analysis of Waveforms	Electric Power Components and Systems	2011	39	204-224
66	A runs test-based method for discrimination between internal faults and inrush currents in power transformers	International Transactions on Electrical Energy Systems	2011	21	1392-1408
67	A frequency curves analysis-based method for transformers differential protection	International Transactions on Electrical Energy Systems	2011	21	987-996
68	Waveform feature monitoring scheme for transformer differential protection	Journal of Zhejiang University-SCIENCE A	2011	12	116-123

Row	Article title	Journal Name	Year	Issue/Volume	Article Printed Pages
69	A New Isolated DC-DC Converter with Active Clamp Circuit	International Review of Electrical Engineering	2010	5	1-5
70	Design and Implementation of a New Current Fed Converter With Zero Current Switching Conditions	Intelligent Procedures in Electrical Technology	2010	1	11-18
71	A new isolated bidirectional buck-boost DC-DC converter	Journal of International Review of Electrical Engineering	2010	4	1-5
72	A New Hard Switching Bidirectional Converter With High Power Density	Intelligent Procedures in Electrical Technology	2010	1	51-56
73	Harmonic Compensation and Microgrid Voltage and Frequency Control based on Power Proportional Distribution with Adaptive Virtual Impedance Method	Journal of Intelligent Procedures in Electrical Technology	2023	14-53	33-60
74	An Intelligent Multi-Agent Based Approach for Protecting Distribution Networks	Technovations of Electrical Engineering in Green Energy System	2022	1(1)	36-62
75	Improvement of Conventional Droop Methods Performance During the Fault Occurrence in an Islanded Micro-Grid Using the Concept of Virtual Impedance	Technovations of Electrical Engineering in Green Energy System	2022	1(1)	13-35
76	Adaptive Protection Based on Intelligent Distribution Networks with the Help of Network Factorization in the Presence of Distributed Generation Resources	Energy Engineering	2022	12(2)	34-51
77	Mid-Term Residential Load Forecasting Based on Feature Selection Using Neighborhood Component Analysis	Computational Intelligence in Electrical Engineering	۲۰۲۱	۱۲(۲)	۱۰۲-۱۱۴
78	Coordinated Protection Scheme Based on Virtual Impedance Control for Loop-Based Microgrids	Journal of Intelligent Procedures in Electrical Technology (JIPET)	2021	12-46	15-32
79	Improved Protection System for Distribution Network to Maintain Fuse in the Presence of Distributed Generation Resources	Journal of Novel Researches on Electrical Power	2020	(2)9	29-37
80	An Online Free Penetration Multi-Stage Fuse Saving Protection Scheme in Distribution Systems with Photovoltaic Sources	Iranian Electric Industry Journal of Quality and Productivity	2020	9(2)	24-35
81	A local power control scheme for electronically interfaced distributed generators in islanded microgrids	Iranian Electric Industry Journal of Quality and Productivity	2020	8(3)	47-58
82	A New Adaptive Method for Protection of Distribution System with High Penetration of Distributed Generations	TABRIZ JOURNAL OF ELECTRICAL ENGINEERING (TJEE)	2020	49(4)	1533-1545
83	Scheduling and Stochastic Capacity Estimation of an EV Charging Station with PV Rooftop Using Queuing Theory and Random Forest	Journal of Iranian Association of Electrical and Electronics Engineers	2019	16-1	31-39
84	Isolation Detection Using Decision Tree Algorithm in Micro-Grids with Variety of Distributed Production Resources	Journal of Novel Researches on Electrical Power	2020	8-3	53-63
85	Virtual Impedance-Based Adaptive Droop Control to Improve Reactive Power Sharing for Inverter-Based Microgrids	Energy Engineering	2019	9-1	26-35
86	Improve the Reactive Power Sharing by Uses to Modify Droop Characteristics in Autonomous Microgrids	Energy Engineering	2020	9-3	64-71

Row	Article title	Journal Name	Year	Issue/Volume	Article Printed Pages
87	A New Method for Controlling Microgrids Protection Settings with the High Penetration of Distributed Generation	Computational Intelligence in Electrical Engineering	2020	10(4)	70-90
88	A New intelligent method of Fuse – Recloser Coordination in a Distribution System with High PV Penetration Rates	Computational Intelligence in Electrical Engineering	2018	9-1	48-63
89	Improved Reactive Power Sharing in Islanded Micro Grids using Adaptive Virtual Impedance	Computational Intelligence in Electrical Engineering	2019	9-4	12-26
90	Adaptive Coordination of Fuse – Recloser in a Distribution System with High PV Penetration	Journal of Intelligent Procedures in Electrical Technology (JIPET)	2017	8-30	23-32
91	Investigation and Improvement of High Step-up DC-DC Converters for PV Module Applications	Journal of Intelligent Procedures in Electrical Technology (JIPET)	2017	7-28	33-41
92	Reliability Evaluation of Power System SVC Types Using a Markov Chain	Journal of Intelligent Procedures in Electrical Technology	2015	6-22	13-22
93	Transient Performance Improvement of Wind Turbines with Doubly Fed Induction Generators Using Active Damping Control Strategy	Journal of Intelligent Procedures in Electrical Technology	2016	6-24	3-16
94	Short-Term Load Forecasting of Distribution Power System for Weekdays Using Old Data	Journal of Intelligent Procedures in Electrical Technology	2014	5	25-36
95	Evaluation of the Trajectory Sensitivity Analysis of the DFIG Control Parameters in Response to Changes in Wind Speed and the Line Impedance	Journal of Intelligent Procedures in Electrical Technology (JIPET)	2015	5	37-54
96	Stability of nonlinear load electric arc furnaces in the presence of reactive power sources	Journal of Intelligent Procedures in Electrical Technology (JIPET)	2014	5	41-48
97	Stability Analysis and Control of DFIG Based Wind Turbine Using FBC Strategy	Journal of Intelligent Procedures in Electrical Technology	2013	4	31-42

5-2) Papers Presented at the Conference

Row	Article title	Conference Name	Conference Location	Year
1	A new method of protection coordination between fuses and Recloser In distributed systems, including distributed generators	5th National Conference New Idea On Electrical Engineering	Islamic Azad University khorasgan	2016
2	A comparative relay In order to maintain fuse In distribution networks In the presence of DGs	5th National Conference New Idea On Electrical Engineering	Islamic Azad University- khorasgan	2016
3	Capacitor placement based on power loss estimation in electric power distribution networks	National Conference on New Idea in Electrical Engineering	Islamic Azad University, khorasgan branch	2015
4	Improve Control of Active and Reactive Power Grid Wind Turbine DFIG	Third National Conference on New Idea in Electrical Engineering	Islamic Azad University, khorasgan branch	2015
5	Dynamic Security Assessment of DFIG Wind Turbines Using Trajectory Sensitivity for Line Impedance Changes	Third National Conference on New Idea in Electrical Engineering	Islamic Azad University, khorasgan branch	2015

Row	Article title	Conference Name	Conference Location	Year
6	Dynamic Security Assessment of DFIG Wind Turbines Using Trajectory Sensitivity for Wind Variation Changes	Third National Conference on New Idea in Electrical Engineering	Islamic Azad University, khorasgan branch	2015
7	The Influence of Rotor Controller Parameters on Dynamic Behavior Analysis of DFIG Wind Turbines	Third National Conference on New Idea in Electrical Engineering	Islamic Azad University, khorasgan branch	2015
8	Transient Performance Improvement of DFIG Wind Turbines Using Active Damping Method	Third National Conference on New Idea in Electrical Engineering	Islamic Azad University, khorasgan branch	2015
9	STATCOM controller design based on flatness technique	National Conference on New Idea in Electrical Engineering	Islamic Azad University, khorasgan branch	2015
10	Investigation of applications of flatness technique in SMIB	National Conference on New Idea in Electrical Engineering	Islamic Azad University, khorasgan branch	2015
11	Three-Phase Fault Direction Detection of Distribution Systems, Including Distributed Generation Sources Based on DFIG	4th National conference on New Idea in Electrical Engineering	Islamic Azad University, khorasgan branch	2015
12	fault Analysis Algorithms in Distributed Systems in the Photovoltaic Cells	National Conference on New Idea in Electrical Engineering	Islamic Azad University, khorasgan branch	2015

5-3) Completed Research Plans

Row	Title	Responsibility	Project Kind
1	Design and manufacturing of polymer insulators mechanical routine test system in distribution and sub transmission voltage level	Co-Worker	External Grant

5-4) Compilation and Books

Row	Title Compilation	Kind Compilation	Publishing Date	Publisher
-----	-------------------	------------------	-----------------	-----------

5-5) Initiative, Innovation and Invention, and Valuable Asrbdy

Row	Title	Registration Place	Reference Confirmed	Date
-----	-------	--------------------	---------------------	------

5-6) Awards and Honors

Row	Institution	Title	Festival	Date	Reference Award Announcement
1	Najafabad Branch, Islamic Azad University	Best University Researcher Award 2021		2021	
2	Isfahan University of Technology	1st rank in Ph.D. graduate students		2011	

5-7) Lecturer Of Workshop

Row	Title	Date
-----	-------	------

6- Executive Experience

Row	Title Executive	Year
1	Head of Student Scientific Association	2011
2	Technical reviewer for Electric Power Components and Systems	2009
3	Technical reviewer for IEEE Transactions on Power Delivery	2010
4	Technical reviewer for International Transactions on Electri	2010
5	Technical reviewer for International Journal of Electrical P	2010
6	Technical reviewer for Electric Power Systems Research	2010
7	Technical reviewer for IET Generation, Transmission	2011