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A. APPENDIX:

The grid parameters, transmission line, transformer, and DG parameters have been given in tables:

Table 0-1 Thevenin equivalent grid, PVDG, and Transformer data

Describing Parameters	Value
short circuit MVA	1000 MVA
frequency	50 Hz
rated voltage	132 kV
transmission transformer (Tr1)	15 MVA, 132/33 kV
distribution transformer (Tr2)	15 MVA, 33/0.69 kV
rated power of single PV unit	2.5 MW
interconnection transformer	2.5 MVA, 0.4/0.69 kV

Table 0-2 Generator parameters

Describing Parameters	DG1 and DG3
generator type	synchronous
number of machines	2
transformer to connect to grid	1 MVA, 0.69/11 kV
individual generator's rating	1 MVA
P_{rated}	1 MVA
V_{rated}	0.69 kV
X_{stator}	0.0014 p.u.
X_d	1.5 p.u.

X_q	0.75 p.u.
X_d'	0.256 p.u.
X_d''	0.168 p.u.
X_q''	0.184 p.u.
T_d'	0.53 s
T_d''	1.25 s
T_q''	0.190 s
H (inertia constant)	3.117 s
exciter time constant (T_1)	0.02 s
exciter leading time constant (T_a)	1.5 s
exciter lagging time constant (T_b)	1.0 s
exciter time constant (T_e)	0.02 s
exciter gain	100 p.u.
E_{max}	5 p.u.
E_{min}	-5 p.u.
V_{base}	0.239 kV
I_{base}	1.39 kA

B. PUBLICATION

PUBLICATION IN REFERRED AND PEER-REVIEWED JOURNALS

Table 0-3 Publication from thesis work.

S. N.	Publication	SCI/ Scopus
1	AK Thakur, SP Singh, D Shukla, SK Singh , Passive method for islanding detection using variational mode decomposition IET Renewable Power Generation 14 (18), 3782-3791 2020	SCI
2	SP Singh, AK Thakur, SP Singh, PMU placement for maximum observability of power system under different contingencies Energy Procedia 117, 893-900,10 2017	Scopus
3	AK Thakur, SP Singh;” Development of Passive Islanding Detection Technique through Real-time Simulation using variational mode decomposition in DG System” Under revision	
4	AK Thakur, SP Singh, Sliding sector based controller for regulating Voltage/Frequency in Autonomous Microgrid, Electric Power Components and Systems (under review)	
5	Detection and Classification of Power Quality disturbance in High penetration renewable energy resources using VMD (Under review)	
6	AK Thakur and S.P. Singh, ‘Comparative Study of Advanced Signal Processing Techniques for Islanding Detection in a Hybrid Distributed Generation System’ (under preparation)	
7	AK Thakur and S.P. Singh, ‘Islanding Detection method using Spherical-Sector based technique and Variational Mode Decomposition’ (under preparation)	

Table 0-4 Publication from work done other than the thesis.

S. N.	Publication	SCI/ Scopus
1	VB Pamshetti, S Singh, AK Thakur, SP Singh , Multistage Coordination Volt/VAR Control With CVR in Active Distribution Network in Presence of Inverter-Based DG Units and Soft Open Points, IEEE Transactions on Industry Applications 57 (3), 2035-2047 2021	SCI
2	S Singh, VB Pamshetti, AK Thakur, SP Singh Multistage multiobjective volt/var control for smart grid-enabled CVR with solar PV penetration IEEE Systems Journal11 2021	SCI
3	D. Shukla, S. Singh, Satyendra P. Singh, A. K. Thakur, S. P. Singh, "Block-chain Based Energy Trading in ADN with its probable impact on Aggregated Load Profile and Available Distribution Capability and Load-ability Margin" in IET Renewable Power Generation.	SCI
4	D. Shukla, S. P. Singh, A. K. Thakur and S. R. Mohanty, "ATC assessment and enhancement of integrated transmission and distribution system considering the impact of active distribution network," in IET Renewable Power Generation, vol. 14, no. 9, pp. 1571-1583, 6 7 2020, doi: 10.1049/iet-rpg.2019.1219.	SCI

PUBLICATION IN NATIONAL/INTERNATIONAL CONFERENCES

Table 0-5 Publication in national/international conferences.

S. N.	Publication
1	AMIT THAKUR, Manav Bagga, Harshit Shukla, Harsh Nadar and S P Singh; Intelligent Power Quality Disturbance Detection in Smart Grid System, IEEE 8th Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON)2021
2	AMIT THAKUR and S P Singh; SVM based online Power Quality Disturbance Detection in Smart Grid System (Communicated)
3	AMIT THAKUR, M. Anurag Swamy and S P Singh; V-f Regulation of a smart inverter fed Islanded Microgrid, IEEE 6th International Conference on Computing, Communication and Automation (ICCCA) 2021
4	Umare Sonali Vasant ,D Shukla, , AK Thakur and SP Singh; Blockchain based Peer-to-Peer Energy Trading in Transactive Energy Market, IEEE IAS Global Conference on Emerging Technologies (GlobConET) 2022
5	VB Pamshetti, AK Thakur, S Singh, SP Singh, Bi-Level Operational Planning of Microgrids considering Conservation Voltage Reduction 2020 IEEE International Conference on Power Electronics, Drives and Energy 2020
6	S Singh, AK Thakur, PV Babu, SP Singh, Real-Time Conservation Voltage Reduction and Control in Smart Micro-Grid Application 2020 IEEE International Conference on Power Electronics, Drives and Energy 2020
7	VB Pamshetti, AK Thakur, S Singh, SP Singh, Coordinated Operation of Battery Energy Storage and VVC devices in High-PV Penetrated Distribution Network 2020 IEEE International Conference on Power Electronics, Drives and Energy 2020
8	D Shukla, S Singh, SP Singh, AK Thakur, SP Singh, Block-chain Based Energy Trading in ADN with its probable impact on Aggregated Load Profile and Available Distribution Capability 2020 2nd International Conference on Smart Power & Internet Energy Systems
9	VB Pamshetti, S Singh, AK Thakur, SP Singh, VK Bussa, Integrated operation of conservation voltage reduction and network reconfiguration in PV-Rich distribution network considering soft open point impact 2019 IEEE Industry Applications Society Annual Meeting, 1-6 2 2019.
10	CK Behera, AK Thakur, SP Singh, PQ Controller of Grid-Connected Microgrid with Smart Inverter Based PV Distributed Energy Resources 2020 International Conference on Electrical and Electronics Engineering 2020
11	S Singh, AK Thakur, SP Singh, Energy savings in distribution network with smart grid-enabled CVR and distributed generation 2016 National Power Systems Conference (NPSC), 1-6.