



## EEE(SIMULINK) DEPARTMENT

### M.TECH (Electrical) SIMULATION PROJECT LIST

S.NO	PROJECT TITLE	YEAR
1.	A Grid Frequency Support Control Strategy of the Three Phase Cascaded H-Bridge Based Photovoltaic Generation System	2022
2.	A new multi-level inverter with reverse connected dual dc to dc converter at simulation	2022
3.	A New Multi-Output DC-DC Converter for Electric Vehicle Application	2022
4.	A New Wave Energy Converter for Marine Data Buoy	2022
5.	A Novel Flux-weakening Control Method with Quadrature Voltage Constrains for Electrolytic Capacitorless PMSM Drives	2022
6.	A Pencil Shaped 9-Level Multilevel Inverter With Voltage Boosting Ability: Configuration and Experimental Investigation	2022
7.	A Ring-Connected Dual Active Bridge Based DC-DC Multiport Converter for EV Fast-Charging Stations	2022
8.	A Switched-Capacitor Multilevel Inverter Using Series-Parallel Conversion With Reduced Components	2022
9.	A Two-stage Kalman Filter for Cyber-attack Detection in Automatic Generation Control System	2022
10.	A Universal Controller of Electric Spring Based on Current-Source Inverter	2022
11.	Active Converter Injection-based Protection for a Photovoltaic DC Distribution System	2022
12.	An Electrolytic Capacitor-Less PV Micro-Inverter Based on CLL Resonant Conversion With a Power Control Scheme Using Resonant Circuit Voltage Control Loops	2022
13.	An Improved Swiss Rectifier and Its Nonlinear Control for Lower THD	2022

14.	Analysis and Design of Cascaded DC-DC Converter Based Battery Energy Storage System With Distributed Multimode Control in Data Center Application	2022
15.	A Power Management Scheme for Grid-connected PV Integrated with Hybrid Energy Storage System	2022
16.	Battery Current-Sharing Power Decoupling Method for Realizing a Single-Stage Hybrid PV System	2022
17.	Bidirectional Power Control Strategy for Super Capacitor Energy Storage System Based on MMC DC-DC Converter	2022
18.	Combining Electric Vehicle Battery Charging and Battery Cell Equalization in One Circuit	2022
19.	Comparative Investigation of Torque-ripple Suppression Control Strategies Based on Torque-sharing Function for Switched Reluctance Motor	2022
20.	Conception and Experimental Validation of a Standalone Photovoltaic System Using the SUPC5 Multilevel Inverter	2022
21.	Control of PV Systems for Multimachine Power System Stability Improvement	2022
22.	Cooling System Design and Thermal Analysis of Modular Stator Hybrid Excitation Synchronous Motor	2022
23.	Demand-side Management Based on Model Predictive Control in Distribution Network for Smoothing Distributed Photovoltaic Power Fluctuations	2022
24.	Design of Active Fault-Tolerant Control System for Multilevel Inverters to Achieve Greater Reliability With Improved Power Quality	2022
25.	Direct Model Predictive Control of Noninverting Buck-boost DC-DC Converter	2022
26.	Distributed Secondary Control Strategy Based on $Q$ -learning and Pinning Control for Droop-controlled Microgrids	2022
27.	Drive Control of a Permanent Magnet Synchronous Motor Fed by a Multi-level Inverter for Electric Vehicle Application	2022
28.	Dynamic Voltage Stability Enhancement in Electric Vehicle Battery Charger Using Particle Swarm Optimization	2022
29.	Improved Instantaneous Reactive Power (PQ) Theory Based Control of DVR for Compensating Extreme Sag and Swell	2022

30.	Improved Squirrel Search Algorithm Driven Cascaded 2DOF-PID-FOI Controller for Load Frequency Control of Renewable Energy Based Hybrid Power System	2022
31.	Improved Synergetic Current Control for Grid-connected Microgrids and Distributed Generation Systems	2022
32.	Local Fault Location in Meshed DC Microgrids Based On Parameter Estimation Technique	2022
33.	Low-voltage ride through of multi-port power electronic transformer	2022
34.	Machine Learning-Based Estimation of Output Current Ripple in PFC-IBC Used in Battery Charger of Electrical Vehicles: A Comparison of LR, RF and ANN Techniques	2022
35.	MMC Based Hybrid Switched Capacitor DC-DC Converter	2022
36.	Model-Based Maximum Power Point Tracking Algorithm With Constant Power Generation Capability and Fast DC-Link Dynamics for Two-Stage PV Systems	2022
37.	Modeling and Estimation of the Losses of a Multi-Level Inverter with Integrated Battery for Electric Vehicles	2022
38.	Modeling Techniques and Stability Analysis Tools for Grid-Connected Converters	2022
39.	Multi-Functional PV Inverter With Low Voltage Ride-Through and Constant Power Output	2022
40.	Multi-Objective Design of Single-Phase Differential Buck Inverters With Active Power Decoupling	2022
41.	Multi-Objective Optimization of PV and Energy Storage Systems for Ultra-Fast Charging Stations	2022
42.	Negative Sequence Compensation Method for High-Speed Railway With Integrated Photovoltaic Generation System	2022
43.	New Powertrain Configurations Based on Six-Phase Current-Source Inverters for Heavy-Duty Electric Vehicles	2022
44.	Online State of Health Diagnostic Method of Battery cells in a Reconfigurable Battery System or Multilevel Inverter	2022
45.	Operating Principle of Neutral-Point-Less (NPL) Multilevel Inverter Topology: X-type Inverter	2022
46.	Optimal Controllers to Improve Transient Recovery of Grid-Following Inverters Connected to Weak Power Grids	2022

47.	Optimal design of Fractional order PID controller based Automatic voltage regulator system using gradient-based optimization algorithm	2022
48.	Optimal Power and Frequency Control of Microgrid Cluster With Mixed Loads	2022
49.	Optimized Controller Gains Using Grey Wolf Algorithm for Grid Tied Solar Power Generation with Improved Dynamics and Power Quality	2022
50.	Optimized Fuzzy Controller Based on Cuckoo Optimization Algorithm for Maximum Power-Point Tracking of Photovoltaic Systems	2022
51.	Performance Evaluation of an Active Neutral-Point-Clamped Multilevel Converter for Active Filtering in G2V-V2G and V2H Applications	2022
52.	Performance Evaluation of Seven Level Reduced Switch ANPC Inverter in Shunt Active Power Filter With RBFNN-Based Harmonic Current Generation	2022
53.	Photovoltaic Partial Shading Performance Evaluation With a DSTATCOM Controller	2022
54.	Power Quality Enhancement and Power Flow Analysis of a PV Integrated UPQC System in a Distribution Network	2022
55.	Power System Frequency Control Architecture Combining Open Charge Point Protocol and Electric Vehicle Model Predictive Charge Rate Control	2022
56.	Power-balancing Coordinated Control of Wind Power and Demand-side Response Under Post-fault Condition	2022
57.	Predictive Control With Battery Power Sharing Scheme for Dual Open-End-Winding Induction Motor Based Four-Wheel Drive Electric Vehicle	2022
58.	Proportional-Integral-Derivative Parametric Autotuning by Novel Stable Particle Swarm Optimization (NSPSO)	2022
59.	Protection of DC Bus using Solid-State DC Breaker	2022
60.	Reduced Sensor-Based Harmonic Resonance Detection and its Compensation in Power Distribution System With SAPF	2022
61.	Research on High Efficiency and High Density 48 V-5 V Multi-Resonant Switched Capacitor Converter	2022

62.	Research on Open-circuit Fault Tolerant Control of Six-phase Permanent Magnet Synchronous Machine Based on Fifth Harmonic Current Injection	2022
63.	Sensorless Control of Permanent Magnet Synchronous Motor in Full Speed Range	2022
64.	Soft Switching Multiphase Interleaved Boost Converter With High Voltage Gain for EV Applications	2022
65.	Solar Photovoltaic System-Based Reduced Switch Multilevel Inverter for Improved Power Quality	2022
66.	Solar PV-Fed Multilevel Inverter With Series Compensator for Power Quality Improvement in Grid-Connected Systems	2022
67.	Switched PI Control Based MRAS for Sensorless Control of PMSM Drives Using Fuzzy-Logic-Controller	2022
68.	Three Phase Four Switch Inverter Based DVR for Power Quality Improvement With Optimized CSA Approach	2022
69.	Three-Level T-Type Quasi-Z Source PV Grid-Tied Inverter With Active Power Filter Functionality Under Distorted Grid Voltage	202
70.	Unified Control Scheme of Grid-Connected Inverters for Autonomous and Smooth Transfer to Stand-Alone Mode	2022
71.	A Grid Interface Current Control Strategy for DC Microgrids	2021
72.	A High Power Interleaved Parallel Topology Full-Bridge LLC Converter for Off-Board Charger	2021
73.	Coupled Wireless Charging system for Electric Vehicles	2021
74.	Dynamic Modeling and Closed-loop Control of Hybrid Grid-connected Renewable Energy System with Multi-input Multi-output Controller	2021
75.	Dynamic Voltage Support for Low-Voltage Ride-Through Operation in Single-Phase Grid-Connected Photovoltaic Systems	2021
76.	Energy efficiency enhancement in full-bridge PV inverters with advanced modulations	2021
77.	Fast and accurate islanding detection technique for microgrid connected to photovoltaic system	2021
78.	FUZZY LOGIC based Improvement of UPFC Performance in Power System	2021

79.	Grid Connected PV System Using Multilevel Inverter	2021
80.	Hybrid Modular Multilevel Converter for Variable DC Link Voltage Operation	2021
81.	Investigation and validation of solar photovoltaic-fed modular multilevel inverter for marine water-pumping applications	2021
82.	Maximum Power Point Tracking for Wind Turbine Using Integrated Generator–Rectifier Systems	2021
83.	Modeling, Parameter Measurement, and Control of PMSG-based Grid-connected Wind Energy Conversion System	2021
84.	Multi-Port DC-AC Converter with Differential Power Processing DC-DC Converter and Flexible Power Control for Battery ESS Integrated PV Systems	2021
85.	Open-Circuit Fault Diagnosis for Cascaded H-Bridge Multilevel Inverter Based on LS-PWM Technique	2021
86.	Optimal Management for Megawatt Level Electric Vehicle Charging Stations With a Grid Interface Based on Modular Multilevel Converter	2021
87.	Optimized Reactive Power Control of Module Power Imbalance of Cascaded Converter	2021
88.	Performance improvement of hybrid renewable energy sources connected to the grid using artificial neural network and sliding mode control	2021
89.	Quasi Single-Stage Three-Phase Filterless Converter for EV Charging Applications	2021
90.	The optimization of torque ripple reduction by using DTC-multilevel inverter	2021
91.	Trinary Hybrid Cascaded H-Bridge Multilevel Inverter-Based Grid-Connected Solar Power Transfer System Supporting Critical Load	2021
92.	UPQC based Grid-Connected Photovoltaic System with Fuzzy Logic Controller	2021
93.	A Low-harmonic Control Method of Bi-directional Three-phase Z-source Converters for Vehicle-to-Grid Applications	2020
94.	A Microgrid Based on Wind Driven DFIG, DG and Solar PV Array for Optimal Fuel Consumption	2020
95.	A New High Gain DC-DC Converter With Model- Predictive-Control Based MPPT Technique for Photovoltaic Systems	2020



96.	A New Step-Up Switched-Capacitor Voltage Balancing Converter for NPC Multilevel Inverter-Based Solar PV System	2020
97.	A New Topology of Asymmetrical Multilevel Inverter with Reduced Switch Count for Electric Drive Applications	2020
98.	A Novel Control Scheme for Wind Turbine Driven DFIG Interfaced to Utility Grid	2020
99.	A Novel Controlled Frequency Band Impedance Measurement Approach for Single-Phase Railway Traction Power System	2020
100.	A switch-source cell-based cascaded multilevel inverter topology with minimum number of power electronics components	2020
101.	A Tutorial and Review Discussion of Modulation, Control and Tuning of High-Performance DC-DC Converters Based on Small-Signal and Large-Signal Approaches	2020
102.	Advanced Control Strategy of DFIG based Wind Turbine using combined Artificial Neural Network and PSO Algorithm	2020
103.	An Adaptive D-FACTS for Power Quality Enhancement in an Isolated Microgrid	2020
104.	An Efficient Inductive Power Transfer Topology for Electric Vehicle Battery Charging	2020
105.	Analysis and Design of Grid-Tied Inverter With LCL Filter	2020
106.	Cascaded Multilevel Inverter Based Power and Signal Multiplex Transmission for Electric Vehicles	2020
107.	Cascaded Multilevel PV Inverter with Improved Harmonic Performance During Power Imbalance Between Power Cells	2020
108.	Comparison of Different Control Methods for Maximum Power Point Tracking of Solar and Wind Energy	2020
109.	Cost-efficient Strategy for high Renewable Energy penetration in Isolated Power Systems	2020
110.	Delta-Bar-Delta Neural Network (NN) Based Control Approach for Power Quality Improvement of Solar PV Interfaced Distribution System	2020
111.	Design And Analysis Of Multilevel Current Charging For Electric Vehical	2020
112.	Design and Control of Magnetic Levitation System by Optimizing Fractional Order PID Controller Using Ant Colony Optimization Algorithm	2020

113.	Design and Implementation of Multilevel Inverters for Electric Vehicles	2020
114.	Development of an adaptive neuro-fuzzy inference system–based equivalent consumption minimisation strategy to improve fuel economy in hybrid electric vehicles	2020
115.	Dynamic current sharing, voltage and SOC regulation for HESS based DC microgrid using CPISMIC technique	2020
116.	Electric vehicle recharge strategies for frequency control in electrical power systems with high wind power generation	2020
117.	Enabling Utility-Scale Solar PV Plants for Electromechanical Oscillation Damping	2020
118.	Energy Management System for Small Scale Hybrid Wind Solar Battery Based Microgrid	2020
119.	Grid Synchronization of WEC-PV-BES Based Distributed Generation System using Robust Control Strategy	2020
120.	High-Gain High-Efficiency IPOS LLC Converter With Coupled Transformer and Current Sharing Capability	2020
121.	Hybrid Back-to-Back MMC System for Variable Speed AC Machine Drives	2020
122.	Identification of Faults in Microgrid Using Artificial Neural Networks	2020
123.	Implementation of Solar PV- Battery and Diesel Generator Based Electric Vehicle Charging Station	2020
124.	IMPROVEMENT OF POWER QUALITY USING FUZZY BASED UNIFIED POWER FLOW CONTROLLER	2020
125.	Integration of solar PV into grid using a new UPQC with differential inverter control	2020
126.	Investigation on Amplitude-Domain Modulation for Three-Phase Energy Stored Quasi-Z Source Inverter	2020
127.	MCPWM Based 21 Level Inverter Design for Grid Connected PV System	2020
128.	Mitigating Power Fluctuations for Energy Storage in Wind Energy Conversion System Using Supercapacitors	2020
129.	Mitigation of transient overvoltages in microgrid including PV arrays	2020



130.	Multiwinding Transformer Fed CHB Inverter With On-Line Switching Angle Calculation Based SHE Technique for Vector Controlled Induction Motor Drive	2020
131.	Off-board electric vehicle battery charger using PV array	2020
132.	On-board Single-Phase Integrated Electric Vehicle Charger with V2G Functionality	2020
133.	Parallel Coordination Control of Multi-Port DC-DC Converter for Stand-Alone Photovoltaic-Energy Storage Systems	2020
134.	Power optimisation scheme of induction motor using FLC for electric vehicle	2020
135.	Power Quality Improvement in Grid Connected Distribution Systems using Artificial Intelligence based Controller	2020
136.	Power Quality Improvement Using Dynamic Voltage Restorer	2020
137.	Power-Linked Predictive Control Strategy for Power Electronic Traction Transformer	2020
138.	PSO optimized PIDF controller for Load-frequency control of A.C Multi-Islanded-Micro grid system	2020
139.	Quantitative Comparison and Analysis of Different Power Routing Methods for Single-Phase Cascaded H-Bridge Photovoltaic Grid-Connected Inverter	2020
140.	Single-phase boost DC-link integrated cascaded multilevel inverter for PV applications	2020
141.	Single-Phase Dual-Mode Interleaved Multilevel Inverter for PV Applications	2020
142.	Single-Phase Grid-Connected Inverters With Simplified SPWM Control	2020
143.	Single-Stage PV-Grid Interactive Induction Motor Drive with Improved Flux Estimation Technique for Water Pumping with Reduced Sensors	2020
144.	Smart Transformer-based Medium Voltage Grid Support by Means of Active Power Control	2020
145.	Speed Control of BLDC Motor fed from Solar PV Array using Particle Swarm Optimization	2020
146.	Virtual Inertia Emulator-based Model Predictive Control for Grid Frequency Regulation Considering High Penetration of Inverter-based Energy Storage System	2020

147.	Voltage Sag Enhancement of Grid Connected Hybrid PV-Wind Power System Using Battery and SMES Based Dynamic Voltage Restorer	2020
148.	A Generalized Switched Inductor Cell Modular Multilevel Inverter	2019
149.	A new proposal for the design of hybrid AC/DC microgrids toward high power quality	2019
150.	A Novel Fault Ride Through Scheme for Hybrid Wind/PV Power Generation Systems	2019
151.	A Single Input Variable FLC for DFIG Based WPGS in Standalone Mode	2019
152.	Adaptive Control of Voltage Source Converter Based Scheme for Power Quality Improved Grid-Interactive Solar PV- Battery System	2019
153.	Analysis and Design of Surface Permanent Magnet Synchronous Motor and Generator	2019
154.	Distance Protection Scheme for DC Distribution Systems Based on the High Frequency Characteristics of Faults	2019
155.	Grid-Connected Wind-Photovoltaic Cogeneration Using Back-to-Back Voltage Source Converters	2019
156.	Improved Power Quality in a Solar PV Plant Integrated Utility Grid by Employing a Novel Adaptive Current Regulator	2019
157.	Interleaved High Step-Up Converter With Coupled Inductor and Voltage Multiplier for Renewable Energy System	2019
158.	Novel Symmetric Modular Hybrid Multilevel Inverter with Reduced Number of Semiconductors and Low Voltage Stress across Switches	2019
159.	Power Quality Performance Evaluation of Multilevel Inverter with Reduced Switching Devices and Minimum Standing Voltage	2019
160.	Unbiased Circular Leakage Centered Adaptive Filtering Control for Power Quality Improvement of Wind-Solar PV Energy Conversion System	2019
161.	A Power Electronic Traction Transformer Configuration with Low-Voltage IGBTs for Onboard Traction Application	2019
162.	A Hybrid 9-level, 1- $\phi$ Grid Connected Multi-Level Inverter with Low Switch Count and Innovative Voltage Regulation Techniques Across Auxiliary Capacitor	2019