

ACADEMIC LIVE PROJECTS 2024-25

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+91 9030 333 433, +91 8776 681 444

2024 – 2025 EEE POWER SYSTEMS IEEE TITLES

TITLE ID	TITLE	DOMAIN	EXTENSION TOPIC
TEMAPE364, TEPGPE331, TEMAPS912, TEPGPS902, TEMAPS913, TEPGPS903	<p>An Improved Multicarrier PWM Technique for Harmonic Reduction in Cascaded H-Bridge Based Solar Photovoltaic System</p> <p>Objective: The main objective of this project is to develop an improved multicarrier pulse-width modulation (PWM) technique for harmonic reduction in a cascaded H-bridge-based solar photovoltaic (PV) system. The proposed technique aims to minimize total harmonic distortion (THD) in the output voltage, enhancing power quality and system efficiency</p>	Solar Power Generation	ISOA
TEMAPS802, TEMAED217, TEPGPS801, TEPGED211	<p>Efficient Bidirectional Wireless Power Transfer System Control Using Dual Phase Shift PWM Technique for Electric Vehicle Applications</p> <p>Objective: The main objective of this project is to optimize charging efficiency and enable power from G2V and V2G by using bidirectional wireless power transfer system. It focuses on dynamic efficiency adjustments</p>	Solar Power Generation	PSO Based SMC

	and seamless integration with EV and smart grid infrastructures.		
TEMAPS909, TEMAPS910, TEPGPS899, TEPGPS900, TEMAPE362, TEPGPE329	<p>A Novel Nonisolated Four-Port Converter for Flexible DC Microgrid Operation</p> <p>Objective: The main objective of this project is to propose a novel non-isolated four-port converter for flexible DC microgrid operation.</p>	Solar Power Generation	New Sliding Mode Reaching Law
TEMAPS908, TEPGPS898, TEMAPE360, TEPGPE327	<p>Fully Decoupled Active and Reactive Power Distribution Control for Single Phase Cascaded Connected Microinverter Under Island Mode</p> <p>Objective: The main objective of this project is to develop a fully decoupled control strategy for active and reactive power distribution in a single-phase cascaded microinverter operating in island mode.</p>	Solar Power Generation	Dual Phase Shift based PWM
TEMAPS904, TEPGPS894, TEMAPE358, TEPGPE325	<p>Evaluating the Performance of MPPT and FPPT Approach in Standalone Solar PV Systems Under Variable Conditions</p> <p>Objective: The main objective of this project is to analyze and</p>	Solar Power Generation	Ant Colony

	<p>compare the performance of Maximum Power Point Tracking (MPPT) and Fixed Power Point Tracking (FPPT) algorithms in standalone solar photovoltaic (PV) systems under varying environmental conditions, such as changes in solar irradiance and temperature.</p>		
<p>TEMAPS902, TEMAPS903, TEPGPS892, TEPGPS893</p>	<p>An Adaptive Control Strategy of Islanded Hybrid Microgrid Considering the Cooperative Operation of PV-Energy Storage-Diesel Generator</p> <p>Objective: The main objective of this project is to operate the islanded microgrid by implementing an adaptive control strategy with the cooperative operation of PV-Energy Storage-Diesel Generator.</p>	<p>Solar Power Generation</p>	<p>FPPT</p>
<p>TEMAPS901, TEPGPS891, TEMACS878, TEPGCS124</p>	<p>PV Systems Operating in Dynamic Climatic Circumstances Using a PSO-based SMC and PID Controller</p> <p>Objective: The main objective of this project is to develop a robust control scheme for photovoltaic</p>	<p>Solar Power Generation</p>	<p>Ant Colony based MPPT</p>

	(PV) systems operating under dynamic climatic conditions using a hybrid approach combining Particle Swarm Optimization (PSO)-based Sliding Mode Control (SMC) control.		
TEMAPS900, TEPGPS890, TEMAPE356, TEPGPE323	<p>Evaluation and Control of a Solar Power System Connected with an Electrical Grid</p> <p>Objective: The main objective of the project is to evaluate and control a solar power system connected to an electrical grid using the Incremental Conductance (INC) MPPT technique to optimize energy transfer and improve system performance.</p>	Solar Power Generation	PSO MPPT
TEMAPS898, TEMAPS899, TEPGPS888, TEPGPS889	<p>Control and performance assessment of a PV and battery operated shunt active power filter</p> <p>Objective: The main objective of this project is to design an efficient control strategy for a shunt active power filter (SAPF) powered by solar PV and battery</p>	Solar Power Generation	Dual Fuzzy Sugeno method

	systems. This involves mitigating harmonic distortion, improving power quality, and providing reactive power compensation.		
TEMAPS897, TEMAPE355, TEPGPS887, TEPGPE322	<p>Analysis of Power Coordination Control Strategy in Island Mode of Photovoltaic Energy Storage Combined System</p> <p>Objective: The main objective of this project is to design and analysis of power co-ordination control Strategy in Islanded Mode of photovoltaic & energy storage combined system.</p>	Solar Power Generation	Optimized PI
TEMAPS895, TEPGPS885, TEMACS877, TEPGCS123	<p>Implementation of Fuzzy and Neural Networks-Based MPPT Techniques on Solar PV System</p> <p>Objective: The main objective of this project is to implement Fuzzy and Neural Networks based MPPT techniques for Solar PV System performance enhancement.</p>	Solar Power Generation	GA Based MPPT
TEMAPS891, TEPGPS881, TEMACS874, TEPGCS120, TEMAPS892, TEPGPS882	<p>Novel Hybrid Fuzzy/Rule-based Energy Management for Grid connected Hybrid Energy Storage System</p> <p>Objective: This main objective of</p>	Solar Power Generation	STSMC

	<p>this project is to develop an effective energy management strategy (EMS) for a hybrid energy storage system (HESS) composed of batteries and supercapacitors. This EMS aims to optimize power allocation between the battery and supercapacitor, enhance the dynamic response of the system, stabilize the DC bus voltage, and extend the lifespan of the battery.</p>		
<p>TEMAPS888, TEMAPS889, TEMACS873, TEPGPS878, TEPGPS879, TEPGCS119</p>	<p>A Novel Fuzzy/SMC based Energy Management Strategy for Hybrid Energy Storage System in an Isolated DC Microgrid</p> <p>Objective: The main objective of this project is to implement an energy management strategy for hybrid energy storage system in an isolated DC microgrid using a Novel Fuzzy and SMC based controlling topology.</p>	<p>Solar Power Generation</p>	<p>Genetic Algorithm</p>
<p>TEMAPS885, TEMAPS886, TEPGPS875, TEPGPS876, TEMACS871, TEPGCS117</p>	<p>A Novel Cooperative Control for SMES-Battery Hybrid Energy Storage in PV Grid-Connected System</p> <p>Objective: The main objective of this project is to propose a novel</p>	<p>Solar Power Generation</p>	<p>STSMC</p>

	cooperative control for SMES/Battery Hybrid Energy Storage in PV-Grid Connected System to meet escalating power demand.		
TEMAPS881, TEMAPE342, TEMAED243, TEPGPS871, TEPGPE309, TEPGED237,	<p>Hybrid Compensation Based Efficient Wireless Charging System Design with Solar Photovoltaic Interface Toward Sustainable Transportation</p> <p>Objective: The main objective of this project, is to design an efficient wireless charging system integrated with a solar photovoltaic interface to support sustainable transportation. The focus is on improving energy transfer efficiency and ensuring reliable power delivery to electric vehicles (EVs) using renewable energy sources.</p>	Solar Power Generation	FPPT
TEMAPS883, TEPGPS873, TEMACS866, TEPGCS112, TEMAPE344, TEPGPE311	<p>An Adaptive Fuzzy Controller-Based Distributed Voltage Control Strategy for a Remote Microgrid System With Solar Energy and Battery Support</p> <p>Objective: The main objective of this project is to propose an adaptive fuzzy controller-based</p>	Solar Power Generation	ANN based MPPT

	distributed voltage control strategy for a remote microgrid system with solar energy and battery support.		
TEMAPS878, TEPGPS868, TEMAPE341, TEPGPE308	<p>Two-Stage Three-Phase Transformerless Hybrid Multilevel Inverter for Solar PV Application</p> <p>Objective: The main objective of this project, is to develop an efficient, high-performance inverter system that converts the direct current (DC) from solar photovoltaic (PV) panels into alternating current (AC) suitable for grid integration or load supply.</p>	Solar Power Generation	Adaptive Fuzzy and P & o
TEMAPS879, TEPGPS869, TEMACS864, TEPGCS110, TEMAED242, TEPGED236	<p>Generalized DSC-FDC-PLL Based Synchronization of PV Array-BES Fed Water Pump System With Utility Grid</p> <p>Objective: The Main objective of this project is to develop and implement a generalized delayed signal cancellation (GDSC)-based phase-locked loop (PLL) for synchronizing a photovoltaic (PV) array and battery-supported water pump system with the utility grid, ensuring efficient power management in both grid-</p>	Solar Power Generation	ISOA

	connected and islanded modes.		
TEMAPS872, TEMAPE337, TEPGPS862, TEPGPE304	<p>A Capacitor Voltage Balancing Hybrid PWM Technique to Improve the Performance of T-Type NPC Inverters</p> <p>Objective: The main objective of this project is to improve the performance of T-Type NPC Inverters by using a capacitor voltage balancing hybrid PWM technique.</p>	Solar Power Generation	Dual Fuzzy Sugeno Controller
TEMAPS871, TEPGPS861, TEMAED240, TEPGED234, TEMACS860, TEPGCS106	<p>GAO Optimized Sliding Mode Based Reconfigurable Step Size Pb&O MPPT Controller With Grid Integrated EV Charging Station</p> <p>Objective: The main objective of this project is to develop a GAO-optimized sliding mode-based reconfigurable step size Pb&O MPPT controller to maximize the efficiency of PV systems. This system will seamlessly integrate with grid-connected EV charging stations, ensuring optimal energy utilization and reliable 24/7 charging.</p>	Solar Power Generation	CSA Based STSMC
TEMAPS868, TEMAPE334, TEMACS858,	<p>Modulated Predictive Current Control of Photovoltaic Central NPC</p>	Solar Power Generation	CSA

<p>TEPGPS858, TEPGPE301, TEPGCS104</p>	<p>Inverter With Reduced Computational Burden</p> <p>Objective: The main objective of this project is to develop and implement a modulated predictive current control strategy for a photovoltaic central NPC inverter, to enhance performance while minimizing computational demands.</p>		
<p>TEMAPS867, TEPGPS857, TEMAPE333, TEPGPE300</p>	<p>Single-Phase 15-Level Switched-Capacitor Boost Multilevel Inverter Topology for Renewable Energy Applications</p> <p>Objective: The main objective of this project is to provide a high-efficiency, low-cost inverter that can boost and convert DC power from renewable sources into high-quality AC power, while reducing the number of power electronic components and achieving better voltage regulation and harmonic performance.</p>	<p>Solar Power Generation</p>	<p>Closed Loop PI</p>
<p>TEMAPS858, TEPGPS848, TEMAED238, TEPGED232</p>	<p>Conjugate-Gradient Based Control in a Grid-Integrated PV With 24/7 Distortion-Free Charging for Bidirectional EV Charger</p>	<p>Solar Power Generation</p>	<p>STSMC</p>

	<p>Objective: The main objective of this project is to optimize the power flow and enhance the efficiency of energy transfer between the grid, PV system, and EV charger. This approach aims to minimize harmonic distortions and ensure seamless charging and discharging of EV batteries, promoting reliable and sustainable energy management.</p>		
<p>TEMAPS864, TEMACS856, TEPGPS854, TEPGCS102, TEMAPE331, TEMAPE332, TEPGPE298, TEPGPE299</p>	<p>Circle Search Algorithm-Based Super Twisting Sliding Mode Control for MPPT of Different Commercial PV Modules</p> <p>The main objective of this project is to implement a circle search algorithm based super twisting sliding mode control for MPPT of different commercial PV modules.</p>	Solar Power Generation	Genetic Algorithm
<p>TEMAPS859, TEMACS855, TEPGPS849, TEPGCS101</p>	<p>A Fuzzy-Based Adaptive P&O MPPT Algorithm for PV Systems with Fast Tracking and Low Oscillations Under Rapidly Irradiance Change Conditions</p> <p>Objective: The main objective of this project is to get fast tracking and low oscillations under rapidly irradiance change conditions in PV system by using Fuzzy-Based</p>	Solar Power Generation	ISOA

	adaptive P&O MPPT Algorithm.		
TEMAPS860, TEMAPS861, TEPGPS850, TEPGPS851, TEMAPE328, TEPGPE295	<p>Voltage Feed-Forward Control of Photovoltaic Battery DC Microgrid Based on Improved Seeker Optimization Algorithm</p> <p>Objective: The main objective of this project is to develop a voltage feed-forward control system for a photovoltaic-battery DC microgrid, utilizing an Improved Seeker Optimization Algorithm (ISOA).</p>	Solar Power Generation	Ant Colony Optimization
TEMAPS856, TEPGPS846, TEMAPS857, TEPGPS847, TEMAED236, TEPGED230	<p>A Single-Stage Bridgeless PFC Charger with Enhanced Power Quality for LEV Mounted Solar PV Panel</p> <p>Objective: The main objective of the project is to design a single-stage bridgeless Power Factor Correction (PFC) charger that enhances power quality for solar photovoltaic (PV) panels installed on light electric vehicles (LEVs). This integrated approach optimizes efficiency, minimizes power losses.</p>	Solar Power Generation	GAO optimized SMC
TEMAPS854, TEMACS854, TEPGPS845, TEPGCS100	<p>Improved Photovoltaic MPPT Algorithm Based on Ant Colony Optimization and Fuzzy Logic Under Conditions of Partial Shading</p>	Solar Power Generation	CSA

	<p>Objective: The main objective of this project is to get the improved performance from PV array by using the AFO based MPPT algorithm under partial shading conditions.</p>		
<p>TEMAPS855, TEPGPS843, TEMAPS853, TEPGPS844</p>	<p>Three-Phase Grid Connected Shunt Active Power Filter Based on Adaptive Q-LMF Control Technique</p> <p>Objective: The main objective of this project is to improve power quality in dynamic conditions in Three-Phase grid connected applications by using SAPF based on Q-LMF control Technique.</p>	<p>Solar Power Generation</p>	<p>ISOA</p>
<p>TEPGPS839, TEMAPS848, TEPGPS838, TEMAPS847</p>	<p>Active Power Sharing Scheme in a PV Integrated DC Microgrid With Composite Energy Storage Devices</p> <p>Objective: The main objective of this project is to optimize power distribution among storage systems to enhance stability and efficiency. This ensures balanced power output, improved system reliability, and voltage stability.</p>	<p>Solar Power Generation</p>	<p>ISOA</p>
<p>TEMAPS827, TEMAED224, TEPGPS818, TEPGED218</p>	<p>Integrated Three-Port Converter for Solar-Charged Electric Vehicle Applications</p>	<p>Solar Power Generation</p>	<p>Fixed Power Point Tracking</p>

	<p>Objective: The main objective of this project is to efficiently manage power flow from solar panels to both a high-voltage battery (HVB) and a low-voltage battery (LVB). Optimizing the use of solar energy even under partial shading conditions.</p>		
<p>TEMAPS833, TEMAPS834, TEPGPS824, TEPGPS825, TEMACS102, TEPGCS96</p>	<p>Experimental Investigations on Photovoltaic Interface Neutral Point Clamped Multilevel Inverter-Based Shunt Active Power Filter to Enhance Grid Power Quality</p> <p>Objective: The main objective of this project is to enhance the power quality by using PV interfaced NPC-MLI based shunt active power filter in grid related applications.</p>	<p>Solar Power Generation</p>	<p>PSO</p>
<p>TEMAPS813, TEMAPS814, TEPGPS818, TEMAPS808, TEMAPS809, TEMAPS810, TEPGPS808, TEPGPS809, TEPGPS810, TEMAED218, TEPGED212</p>	<p>Modelling and Coordinated Control of Grid Connected Photovoltaic, Wind Turbine Driven PMSG, and Energy Storage Device for a Hybrid DC/AC Microgrid</p> <p>Objective: The main objective of this project is to optimize the performance and integration of grid-connected photovoltaic systems, wind-turbine driven PMSGs and energy storage devices within a hybrid dc-ac microgrid through advanced modelling and coordinated</p>	<p>Solar Power Generation</p>	<p>STSMC</p>

	control strategies.		
<p>TEMAPS846, TEPGPS837, TEMAPE325, TEPGPE292, TEMAED234, TEPGED228</p>	<p>A New Multilevel Inverter with Reduced Component Count for a Standalone Solar Energy Conversion System</p> <p>Objective: The main objective of this project is to propose a new multilevel inverter with reduced component count for a standalone solar energy conversion system-based application.</p>	Solar Power Generation	Dual Phase Shift based PWM
<p>TEMAPS838, TEMAPS839, TEPGPS829, TEPGPS830, TEMAPE322, TEPGPE289</p>	<p>Grid-Forming Voltage-Source Inverter for Hybrid Wind-Solar Systems Interfacing Weak Grids</p> <p>Objective: The main objective of this project is to propose a grid forming voltage source inverter for hybrid wind-solar systems interfacing weak grids.</p>	Solar Power Generation	Dual Fuzzy Sugeno Controller
<p>TEMAPS823, TEMAPS824, TEPGPS814, TEPGPS815, TEMACS100, TEPGCS94</p>	<p>Advance Controller for Power Quality and Performance Improvement of Grid-Connected Single-Phase Rooftop PVS</p> <p>Objective: The main objective of this project is to enhance power quality and to improve performance of grid-connected single phase roof top photo-</p>	Solar Power Generation	New Sliding Mode Reaching Law

	voltaic systems by optimizing power output and ensuring stable, efficient integration with the grid.		
TEMAPS828, TEMAPS829, TEPGPS819, TEPGPS820	<p>Dual Fuzzy-Sugeno Method to Enhance Power Quality Performance using a Single-phase Dual UPQC-Dual PV Without DC-Link Capacitor</p> <p>Objective: The main objective of this project is enhancing power quality performance superior voltage regulation and load balancing without the use of a DC-Link capacitor in Single-Phase Dual-UPQC and Dual PV.</p>	Solar Power Generation	ISOA
TEMAPS826, TEPGPS817, TEMAPE317, TEPGPE284, TEMAED222, TEPGED216	<p>Cascaded Interleaved DC-DC Converter for a Bidirectional Electric Vehicle Charging Station</p> <p>Objective: The main objective of this project is to propose a cascaded interleaved DC-DC converter for a bidirectional Electric Vehicle charging station to reduce current and voltage stress on the semi-conductors and passive elements.</p>	Solar Power Generation	STSMC
TEMAPS825, TEPGPS816, TEMAPE314, TEMAPE315, TEPGPE281, TEPGPE282,	<p>Multifunctional Onboard Charger for Electric Vehicles Integrating a Low-Voltage DC-DC Converter and Solar Roof</p>	Solar Power Generation	GAO optimized SMC

TEMAED220, TEPGED214	Objective: The main objective of this project is to propose a multifunctional on-board charger for electric vehicles integrating a low-voltage DC-DC converter and solar roof.		
TEMAPS807, TEPGPS807, TEMAPE304, TEPGPE276, TEMACS98, TEPGCS92	Designing of a PSO-Based Adaptive SMC With a Multilevel Inverter for MPPT of PV Systems Under Rapidly Changing Weather Conditions Objective: The main objective of this project is to design a PSO-based Adaptive SMC with a Multilevel Inverter for MPPT of PV Systems Under Rapidly Changing Weather Conditions to enhance the overall efficiency and stability of the PV system.	Solar Power Generation	Genetic Algorithm
TEMAPS798, TEMAPS799, TEMAPS800, TEPGPS797, TEPGPS798, TEPGPS799, TEMAPE300, TEMAPE301, TEPGPE272, TEPGPE273	Mitigating Uncertainty Problems of Renewable Energy Resources Through Efficient Integration of Hybrid Solar PV/Wind Systems Into Power Networks Objective: The main objective of this project is to mitigate the problems of renewable energy resources through efficient integration of Hybrid Solar PV/Wind systems into power networks.	Solar Power Generation	STSMC

<p>TEMAPS801, TEPGPS800, TEMAPE302, TEPGPE274</p>	<p>Design of an Extendable High Boost Multi-Port Z-Network Converter for Small Power Grid-Connected PV Applications</p> <p>Objective: The main objective of this project is to propose an extendable high boost Multi-port Z-Network converter for implementing in Grid Connected PV Applications.</p>	<p>Solar Power Generation</p>	<p>ISOA</p>
<p>TEMAPS795, TEPGPS794, TEMAPE296, TEPGCS89, TEMAPE221, TEPGPE193, TEPGPE194</p>	<p>Enhancement of Solar PV Efficiency Using Double Integral Sliding Mode MPPT Control</p> <p>Objective: The main objective of this project is to enhance the efficiency of Solar Photovoltaic (PV) Panels through the implementation of a Double Integral Sliding Mode Maximum Power Point Tracking (MPPT) Control Strategy.</p>	<p>Solar Power Generation</p>	<p>Fixed Power Point Tracking</p>
<p>TEMAPS796, TEMAPE298, TEPGPS795, TEPGPE270</p>	<p>Design and Analysis of Novel High-Gain Boost Converter for Renewable Energy Systems (RES)</p> <p>Objective: The main objective of this project is to create and</p>	<p>Solar Power Generation</p>	<p>ISOA</p>

	<p>evaluate a high-gain boost converter customized for RES prioritizing efficiency and performance optimization for sustainable energy applications.</p>		
<p>TEMAPS884, TEMACS867, TEPGPS874, TEPGCS113</p>	<p>A Novel Coordinated Control Strategy for Frequency Regulation of MMC-HVDC Connecting Offshore Wind Farm</p> <p>Objective: The main objective of this project is to regulate the frequency by using a novel coordinated control strategy for MMC-HVDC systems connecting offshore wind farms (OWFs)</p>	<p>Wind Power Generation</p>	<p>Model Predictive Controller</p>
<p>TEMAPS882, TEPGPS872, TEMAED244, TEPGED238, TEMAPE343, TEPGPE310</p>	<p>Enhancing Zero Voltage Ride Through of PMSG-Based Wind Generator With Interchange of Converter Control and Optimized Supercapacitor Energy Storage System</p> <p>Objective: The main objective of this project is to improve the reliability and stability of wind energy systems during grid disturbances. This is achieved by optimizing the control strategy of the converter and incorporating a super-capacitor-based energy storage system.</p>	<p>Wind Power Generation</p>	<p>STSMC</p>
<p>TEMAPS880, TEPGPS870, TEMACS865,</p>	<p>Dual-Sequence Synchronization Stability Analysis and Control of Multi-</p>	<p>Wind Power Generation</p>	<p>STSMC</p>

TEPGCS111	<p>Paralleled Wind Farms During Asymmetrical Grid Faults</p> <p>Objective: The main objective of this project is to implement stability assessment method and a current control strategy to achieve the margin of dual-sequence synchronization under asymmetrical grid faults.</p>		
<p>TEMAPS877, TEPGPS867, TEMACS862, TEPGCS108</p>	<p>Virtual Synchronous Generator Control Strategy of Grid-Forming Matrix Converter for Renewable Power Generation</p> <p>Objective: The main objective of this project is to enhance grid stability and mimic the inertia of conventional synchronous generators. This approach ensures smooth integration of renewable energy sources into the power grid by regulating voltage and frequency, thereby improving system reliability and providing support during grid disturbances.</p>	Wind Power Generation	STSMC
<p>TEMAPS875, TEMAPE339, TEPGPS865, TEPGPE306</p>	<p>An Ingenious Technique to Track the Maximum Power Point for a Wind Energy System</p>	Wind Power Generation	ANN based SMC

	<p>Objective: The main objective of this project is to develop an advanced Maximum Power Point Tracking (MPPT) technique for Wind Energy Conversion Systems (WECS). The goal is to maximize the extraction of power from wind energy systems by improving the efficiency and reducing oscillations around the MPP.</p>		
<p>TEMAPS876, TEPGPS866, TEMAED241, TEPGED235</p>	<p>Passive Control for Brushless Doubly-Fed Reluctance Generator Under Unbalanced Grid Voltages</p> <p>Objective: The main objective of this project is to develop a passive control strategy for Brushless Doubly-Fed Reluctance Generators (BDFRGs) that effectively mitigates the adverse effects of unbalanced grid voltages.</p>	<p>Wind Power Generation</p>	<p>Closed Loop VSC</p>
<p>TEMAPS836, TEPGPS827, TEMAED228, TEPGED222</p>	<p>Experimental Validation of Feedback PI Controllers for Multi-Rotor Wind Energy Conversion Systems</p> <p>Objective: The main objective of this project is to access the performance and stability analysis of the controllers in real-world</p>	<p>Wind Power Generation</p>	<p>STSMC</p>

	conditions and evaluating their ability to maintain optimal rotor speeds and maximize energy conversion efficiency under varying wind conditions.		
TEPGPE288, TEMAPE321, TEPGPS826, TEMAPS835	<p>A Maximum Power Point Tracking Technique for a Wind Power System Based on the Trapezoidal Rule</p> <p>Objective: The main objective of this project is to propose a maximum power point tracking (MPPT) technique for a wind power system based on the Trapezoidal Rule is to enhance the efficiency and output of the wind turbine system</p>	Wind Power Generation	Hybrid Systems
TEMAPS838, TEMAPS839, TEPGPS829, TEPGPS830, TEMAPE322, TEPGPE289	<p>Grid-Forming Voltage-Source Inverter for Hybrid Wind-Solar Systems Interfacing Weak Grids</p> <p>Objective: The main objective of this project is to propose a grid forming voltage source inverter for hybrid wind-solar systems interfacing weak grids.</p>	Wind Power Generation	Dual Fuzzy Sugeno Controller
TEMAPS844, TEMAPS845, TEPGPS835, TEPGPS836, TEMAED233, TEPGED227	<p>Coordinated Control of Grid-Connected PMSG Based Wind Energy System With STATCOM and Supercapacitor Energy Storage</p> <p>Objective: The main objective of this project is to propose a coordinated control of grid</p>	Wind Power Generation	Ingenious MPPT

	connected PMSG based wind energy system with STATCOM and supercapacitor energy storage systems.		
TEMAPS813, TEMAPS814, TEPGPS818, TEMAPS808, TEMAPS809, TEMAPS810, TEPGPS808, TEPGPS809, TEPGPS810, TEMAED218, TEPGED212	<p>Modelling and Coordinated Control of Grid Connected Photovoltaic, Wind Turbine Driven PMSG, and Energy Storage Device for a Hybrid DC/AC Microgrid</p> <p>Objective: The main objective of this project is to optimize the performance and integration of grid-connected photovoltaic systems, wind-turbine driven PMSGs and energy storage devices within a hybrid dc-ac microgrid through advanced modelling and coordinated control strategies.</p>	Wind Power Generation	STSMC
TEMAPS830, TEPGPS821, TEMAED225, TEPGED219	<p>Stability Analysis and Enhanced Virtual Synchronous Control for Brushless Doubly-fed Induction Generator Based Wind Turbines</p> <p>Objective: The main objective of this project is to analyze the stability and propose the virtual synchronous control for Brushless Doubly-fed Induction Generator Based Wind Turbines.</p>	Wind Power Generation	Predictive Control

<p>TEMAPS798, TEMAPS799, TEMAPS800, TEPGPS797, TEPGPS798, TEPGPS799, TEMAPE300, TEMAPE301, TEPGPE272, TEPGPE273</p>	<p>Mitigating Uncertainty Problems of Renewable Energy Resources Through Efficient Integration of Hybrid Solar PV/Wind Systems Into Power Networks</p> <p>Objective: The main objective of this project is to mitigate the problems of renewable energy resources through efficient integration of Hybrid Solar PV/Wind systems into power networks.</p>	<p>Wind Power Generation</p>	<p>STSMC</p>
<p>TEMAPS914, TEPGPS904, TEMAPS915, TEPGPS905</p>	<p>Protection and Power Smoothing of a DFIG/DC Microgrid Hybrid Power System With SMES-Based Unified Power Quality Conditioner</p> <p>Objective: The primary objective of this paper is to develop a superconducting magnetic energy storage (SMES)-based unified power quality conditioner (UPQC) to enhance power quality, ensure protection, and smooth power fluctuations in a hybrid DFIG/DC micro grid system. The proposed system addresses low-voltage ride-through (LVRT) issues and power instability caused by renewable energy</p>	<p>Power Quality</p>	<p>NSMC</p>

	variability and grid faults.		
TEMAPE364, TEPGPE331, TEMAPS912, TEPGPS902, TEMAPS913, TEPGPS903	<p>An Improved Multicarrier PWM Technique for Harmonic Reduction in Cascaded H-Bridge Based Solar Photovoltaic System</p> <p>Objective: The main objective of this project is to develop an improved multicarrier pulse-width modulation (PWM) technique for harmonic reduction in a cascaded H-bridge-based solar photovoltaic (PV) system. The proposed technique aims to minimize total harmonic distortion (THD) in the output voltage, enhancing power quality and system efficiency</p>	Power Quality	ISOA
TEMAPS898, TEMAPS899, TEPGPS888, TEPGPS889	<p>Control and performance assessment of a PV and battery operated shunt active power filter</p> <p>Objective: The main objective of this project is to design an efficient control strategy for a shunt active power filter (SAPF) powered by solar PV and battery systems. This involves mitigating harmonic distortion, improving power quality, and providing reactive power compensation.</p>	Power Quality	Dual Fuzzy Sugeno method
TEMAPS893, TEMACS875, TEMAPE351,	<p>A Fast-response Power-Flow Control Strategy</p>	Power Quality	STSMC

<p>TEPGPS883, TEPGCS121, TEPGPE318</p>	<p>of MMC-UPFC based on Active Disturbance Rejection Control</p> <p>Objective: The primary objective of this paper is to develop a rapid power flow control strategy for the Modular Multilevel Converter- Unified Power Flow Controller (MMC-UPFC) using Active Disturbance Rejection Control (ADRC).</p>		
<p>TEMAPS873, TEPGPS863, TEMACS861, TEPGCS107</p>	<p>Optimized PI Gain in UPQC Control Based on Improved Zero Attracting Normalized LMS</p> <p>Objective: The main objective of this project is developing an enhanced control scheme for a 4-wire unified power quality conditioner (UPQC) using the improved reweighted zero Attracting normalized LMS (IRZA-NLMS) and self-adaptive multi population Rao (SAMP-Rao) optimization to effectively mitigate power quality issues.</p>	<p>Power Quality</p>	<p>Dual Fuzzy Sugeno Controller</p>
<p>TEMAPS862, TEPGPS852,</p>	<p>Improving Active Resonance Damping and</p>	<p>Power Quality</p>	<p>Optimized PI</p>

<p>TEMAPE330, TEPGPE297, TEMAPS863, TEPGPS853</p>	<p>Unbalanced Voltage Mitigation Based on Combined DDSRF and Washout Filter in Islanded Microgrids</p> <p>Objective: The main objective of this project is to develop and implement a combined approach using Double Decoupled Synchronous Reference Frame (DDSRF) and Washout Filter techniques to enhance active resonance damping and mitigate unbalanced voltage conditions in islanded microgrids. This combined approach aims to improve the stability, reliability, and power quality of islanded microgrids, ensuring efficient and continuous operation under varying load and generation conditions.</p>		
<p>TEMAPS856, TEPGPS846, TEMAPS857, TEPGPS847, TEMAED236, TEPGED230</p>	<p>A Single-Stage Bridgeless PFC Charger with Enhanced Power Quality for LEV Mounted Solar PV Panel</p> <p>Objective: The main objective of the project is to design a single-stage bridgeless Power Factor Correction (PFC) charger that enhances power quality for solar photovoltaic (PV) panels installed on light electric vehicles (LEVs). This integrated approach optimizes efficiency, minimizes</p>	<p>Power Quality</p>	<p>GAO optimized SMC</p>

	power losses.		
TEMACS853, TEMAPS851, TEPGPS842, TEPGCS99	<p>An Advanced Control Strategy for a Weak Grid-Connected DG for Enhancing Voltage Support During Co-occurrence of Sag and Swell</p> <p>Objective: The main objective of this project is advanced control strategy for a weak grid-connected DG system is to ensure stable operation, enhance voltage support, and improve overall power quality during sag and swell events. By achieving these, strategy contributes to reliable and efficient integration of DG into the grid, supporting sustainable energy practices and enhancing grid resilience.</p>	Power Quality	ISOA
TEMAPS855, TEPGPS843, TEMAPS853, TEPGPS844	<p>Three-Phase Grid Connected Shunt Active Power Filter Based on Adaptive Q-LMF Control Technique</p> <p>Objective: The main objective of this project is to improve power quality in dynamic conditions in Three-Phase grid connected applications by using SAPF based on Q-LMF control Technique.</p>	Power Quality	ISOA
TEMACS104, TEPGCS98, TEMAPE324,	<p>Predictive Control of PMSG-Based Hydro-Electric System with Battery Supported UPQC</p>	Power Quality	ANN based SMC

<p>TEPGPE291, TEMAPS843, TEPGPS834</p>	<p>Objective: The main objective of this project is to propose a predictive control to achieve efficient, stable, and high-quality power generation and distribution from the PMSG-based hydro-electric system, supplemented by the battery-supported UPQC</p>		
<p>TEPGCS97, TEMACS103, TEPGPS832, TEMAPS841</p>	<p>Enhanced the Hosting Capacity of a Photovoltaic Solar System Through the Utilization of a Model Predictive Controller</p> <p>Objective: The main objective of this project is to enhance the hosting capacity of a photovoltaic solar system by utilizing a Model Predictive Controller (MPC) to efficiently manage power flow, thereby maximizing the integration of renewable energy.</p>	<p>Power Quality</p>	<p>Genetic Algorithm</p>
<p>TEMAPS833, TEMAPS834, TEPGPS824, TEPGPS825, TEMACS102, TEPGCS96</p>	<p>Experimental Investigations on Photovoltaic Interface Neutral Point Clamped Multilevel Inverter-Based Shunt Active Power Filter to Enhance Grid Power Quality</p> <p>Objective: The main objective of this project is to enhance the power quality by using PV</p>	<p>Power Quality</p>	<p>PSO</p>

	interfaced NPC-MLI based shunt active power filter in grid related applications.		
TEMAPS823, TEMAPS824, TEPGPS814, TEPGPS815, TEMACS100, TEPGCS94	<p>Advance Controller for Power Quality and Performance Improvement of Grid-Connected Single-Phase Rooftop PVS</p> <p>Objective: The main objective of this project is to enhance power quality and to improve performance of grid-connected single phase roof top photo-voltaic systems by optimizing power output and ensuring stable, efficient integration with the grid.</p>	Power Quality	New Sliding Mode Reaching Law
TEMAPS817, TEPGPS813	<p>Power Quality Improvement in Commercial and Industrial Sites: An Integrated Approach Mitigating Power Oscillations</p> <p>Objective: The main objective of this project is to develop advanced control strategies and state of the art technologies to stabilize voltage and frequency, reduce oscillations, and ensure a reliable and efficient power supply, ultimately improving operational efficiency and minimizing downtime.</p>	Power Quality	Dual-Fuzzy Sugeno Method
TEMAPS828, TEMAPS829, TEPGPS819, TEPGPS820	<p>Dual Fuzzy-Sugeno Method to Enhance Power Quality Performance using a Single-phase Dual UPQC-Dual PV Without DC-Link Capacitor</p>	Power Quality	ISOA

	<p>Objective: The main objective of this project is enhancing power quality performance superior voltage regulation and load balancing without the use of a DC-Link capacitor in Single-Phase Dual-UPQC and Dual PV.</p>		
<p>TEMAPS844, TEMAPS845, TEPGPS835, TEPGPS836, TEMAED233, TEPGED227</p>	<p>Coordinated Control of Grid-Connected PMSG Based Wind Energy System with STATCOM and Supercapacitor Energy Storage</p> <p>Objective: The main objective of this project is to propose a coordinated control of grid connected PMSG based wind energy system with STATCOM and supercapacitor energy storage systems.</p>	<p>Power Quality</p>	<p>Ingenious MPPT</p>
<p>TEMAPS803, TEPGPS802</p>	<p>Voltage Sag, Swell, and Interruption Compensation Using DVR Based on Energy Storage Device</p> <p>Objective: The main objective of this project is to compensate voltage sag and swell by using DVR based on Energy Storage Device.</p>	<p>Power Quality</p>	<p>Dual Phase Shift based PWM</p>
<p>TEMAPS804, TEMACS97, TEPGPS804, TEPGCS91</p>	<p>Small Signal Modeling and Performance Analysis of Conventional- and Dual-UPQC</p>	<p>Power Quality</p>	<p>Predictive Control</p>

	<p>Objective: The main objective of this project is to analyze the performance of conventional and Dual-UPQC in a grid connected system.</p>		
<p>TEMAPS914, TEPGPS904, TEMAPS915, TEPGPS905</p>	<p>Protection and Power Smoothing of a DFIG/DC Microgrid Hybrid Power System With SMES-Based Unified Power Quality Conditioner</p> <p>Objective: The primary objective of this paper is to develop a superconducting magnetic energy storage (SMES)-based unified power quality conditioner (UPQC) to enhance power quality, ensure protection, and smooth power fluctuations in a hybrid DFIG/DC micro grid system. The proposed system addresses low-voltage ride-through (LVRT) issues and power instability caused by renewable energy variability and grid faults.</p>	<p>Hybrid Systems</p>	<p>NSMC</p>
<p>TEMAPS911, TEPGPS901, TEMACS879, TEPGCS125</p>	<p>Energy Management Algorithm Of Hybrid DC Microgrid Using MPC Approach</p> <p>Objective: The main objective of the project is to develop an advanced energy management system leveraging the Model</p>	<p>Hybrid Systems</p>	<p>ISOA</p>

	<p>Predictive Control (MPC) technique. This system aims to optimize power flow, balance supply and demand among renewable sources, storage systems, and loads, enhance system efficiency, ensure reliable operation, and adapt to dynamic conditions in a hybrid DC microgrid.</p>		
<p>TEMAPS896, TEPGPS886, TEMAPE354, TEPGPE321</p>	<p>Energy Management in Multi-Source Power System Based on PV /Wind /Batteries / Diesel Generator Connected with The Grid</p> <p>Objective: The main objective of this project is to achieve optimized energy allocation within a multi-source power system that integrates photovoltaic (PV) panels, wind turbines, batteries, diesel generators, and grid connectivity to manage and distribute energy efficiently based on real-time availability and demand</p>	<p>Hybrid Systems</p>	<p>CSA</p>
<p>TEMAPS894, TEPGPS884, TEMAPE353, TEPGPE320</p>	<p>Hybrid Energy System Simulation and Modelling Incorporating Wind and Solar Power</p> <p>Objective: The main objective of this paper is to model and simulate a hybrid energy system that combines wind and solar power, aiming to assess its performance,</p>	<p>Hybrid Systems</p>	<p>Trapezoidal MPPT</p>

	improve energy reliability, and support the integration of renewable sources for sustainable energy production		
TEMAPS891, TEPGPS881, TEMACS874, TEPGCS120, TEMAPS892, TEPGPS882	<p>Novel Hybrid Fuzzy/Rule-based Energy Management for Grid connected Hybrid Energy Storage System</p> <p>Objective: This main objective of this project is to develop an effective energy management strategy (EMS) for a hybrid energy storage system (HESS) composed of batteries and supercapacitors. This EMS aims to optimize power allocation between the battery and supercapacitor, enhance the dynamic response of the system, stabilize the DC bus voltage, and extend the lifespan of the battery.</p>	Hybrid Systems	STSMC
TEMAPS890, TEPGPS880, TEMAPE350, TEPGPE317	<p>Grid-Connected Hybrid Renewable Energy System under Various Operating Conditions</p> <p>Objective: The main objective of this project is to ensure stable and efficient power supply by optimally integrating renewable sources like solar and wind with</p>	Hybrid Systems	Dual Fuzzy Sugeno Controller

	the grid. It aims to maintain power quality, maximize renewable energy utilization, and ensure reliable energy dispatch under varying operating conditions.		
TEMAPS888, TEMAPS889, TEMACS873, TEPGPS878, TEPGPS879, TEPGCS119	<p>A Novel Fuzzy/SMC based Energy Management Strategy for Hybrid Energy Storage System in an Isolated DC Microgrid</p> <p>Objective: The main objective of this project is to implement an energy management strategy for hybrid energy storage system in an isolated DC microgrid using a Novel Fuzzy and SMC based controlling topology.</p>	Hybrid Systems	Genetic Algorithm
TEMAPS887, TEMACS872, TEPGPS877, TEPGCS118	<p>Neural Network Based Voltage Source Converter for Power Management of Hybrid Energy System</p> <p>Objective: The Main objective of this project is to develop a Power Management System for a Hybrid Energy System by using an ANN controller-based Voltage Source Converter.</p>	Hybrid Systems	STSMC
TEMAPS885, TEMAPS886, TEPGPS875, TEPGPS876, TEMACS871, TEPGCS117	<p>A Novel Cooperative Control for SMES-Battery Hybrid Energy Storage in PV Grid-Connected System</p> <p>Objective: The main objective of</p>	Hybrid Systems	STSMC

	<p>this project is to propose a novel cooperative control for SMES/Battery Hybrid Energy Storage in PV-Grid Connected System to meet escalating power demand.</p>		
<p>TEMAPS865, TEPGPS855, TEMAPS866, TEPGPS856, TEMACS857, TEPGCS103</p>	<p>Smooth and Uninterrupted Operation of Standalone DC Microgrid Under High and Low Penetration of RESs</p> <p>Objective: The main objective of the project to ensure that a standalone DC microgrid operates seamlessly and without interruption, regardless of the fluctuations in Renewable Energy Sources (RESs). This involves maintaining a stable power supply in spite of varying levels of RES penetration.</p>	<p>Hybrid Systems</p>	<p>CSA</p>
<p>TEPGPS841, TEPGPS840, TEMAPS850, TEMAPS849</p>	<p>Grid-Interactive Smooth Transition Control of Wind-Solar-DG Based Microgrid at Unpredictable Weather Conditions</p> <p>Objective: The main objective of the project is to develop a reliable microgrid system integrating wind, solar, and diesel generator (DG) power sources to ensure continuous power supply during both on-grid and off-grid modes in Unpredictable Weather Conditions.</p>	<p>Hybrid Systems</p>	<p>Genetic Algorithm</p>

<p>TEMAPS831, TEPGPS822, TEMAED226, TEPGED220</p>	<p>HESS management for Virtual Inertia, Frequency and Voltage Support through Off-board EV Bidirectional Chargers</p> <p>Objective: The main objective of this project is to enhance grid stability by dynamically balancing power supply and demand, providing rapid frequency response and maintaining voltage levels.</p>	<p>Hybrid Systems</p>	<p>Dual Phase Shift based PWM</p>
<p>TEMAPS813, TEMAPS814, TEPGPS818, TEMAPS808, TEMAPS809, TEMAPS810, TEPGPS808, TEPGPS809, TEPGPS810, TEMAED218, TEPGED212</p>	<p>Modelling and Coordinated Control of Grid Connected Photovoltaic, Wind Turbine Driven PMSG, and Energy Storage Device for a Hybrid DC/AC Microgrid</p> <p>Objective: The main objective of this project is to optimize the performance and integration of grid-connected photovoltaic systems, wind-turbine driven PMSGs and energy storage devices within a hybrid dc-ac microgrid through advanced modelling and coordinated control strategies.</p>	<p>Hybrid Systems</p>	<p>STSMC</p>
<p>TEMAPS798, TEMAPS799, TEMAPS800, TEPGPS797, TEPGPS798, TEPGPS799,</p>	<p>Mitigating Uncertainty Problems of Renewable Energy Resources Through Efficient Integration of Hybrid Solar PV/Wind Systems into Power Networks</p>	<p>Hybrid Systems</p>	<p>STSMC</p>

TEMAPE300, TEMAPE301, TEPGPE272, TEPGPE273	<p>Objective: The main objective of this project is to mitigate the problems of renewable energy resources through efficient integration of Hybrid Solar PV/Wind systems into power networks.</p>		
TEMAPS909, TEMAPS910, TEPGPS899, TEPGPS900, TEMAPE362, TEPGPE329	<p>A Novel Nonisolated Four-Port Converter for Flexible DC Microgrid Operation</p> <p>Objective: The main objective of this project is to propose a novel non-isolated four-port converter for flexible DC microgrid operation.</p>	Microgrid	New Sliding Mode Reaching Law
TEMAPS902, TEMAPS903, TEPGPS892, TEPGPS893	<p>An Adaptive Control Strategy of Islanded Hybrid Microgrid Considering the Cooperative Operation of PV-Energy Storage-Diesel Generator</p> <p>Objective: The main objective of this project is to operate the islanded microgrid by implementing an adaptive control strategy with the cooperative operation of PV-Energy Storage-Diesel Generator.</p>	Microgrid	FPPT
TEMAPS874, TEPGPS864, TEMAPE338,	<p>An Unbalance and Power Controller Allowing Smooth Islanded Transitions in Three-</p>	Microgrid	New Sliding Mode Reaching Law

TEPGPE305	<p>Phase Microgrids</p> <p>Objective: The main objective of this project is to develop a power controller for seamless islanded transitions in three-phase microgrids, ensuring stable voltage and frequency during grid-to-island mode shifts.</p>		
TEMAPS865, TEPGPS855, TEMAPS866, TEPGPS856, TEMACS857, TEPGCS103	<p>Smooth and Uninterrupted Operation of Standalone DC Microgrid Under High and Low Penetration of RESs</p> <p>Objective: The main objective of the project to ensure that a standalone DC microgrid operates seamlessly and without interruption, regardless of the fluctuations in Renewable Energy Sources (RESs). This involves maintaining a stable power supply in spite of varying levels of RES penetration.</p>	Microgrid	CSA
TEMAPS862, TEPGPS852, TEMAPE330, TEPGPE297, TEMAPS863, TEPGPS853	<p>Improving Active Resonance Damping and Unbalanced Voltage Mitigation Based on Combined DDSRF and Washout Filter in Islanded Microgrids</p> <p>Objective: The main objective of this project is to develop and implement a combined approach using Double Decoupled Synchronous Reference</p>	Microgrid	Optimized PI

	<p>Frame (DDSRF) and Washout Filter techniques to enhance active resonance damping and mitigate unbalanced voltage conditions in islanded microgrids. This combined approach aims to improve the stability, reliability, and power quality of islanded microgrids, ensuring efficient and continuous operation under varying load and generation conditions.</p>		
<p>TEMAPS860, TEMAPS861, TEPGPS850, TEPGPS851, TEMAPE328, TEPGPE295</p>	<p>Voltage Feed-Forward Control of Photovoltaic Battery DC Microgrid Based on Improved Seeker Optimization Algorithm</p> <p>Objective: The main objective of this project is to develop a voltage feed-forward control system for a photovoltaic-battery DC microgrid, utilizing an Improved Seeker Optimization Algorithm (ISOA).</p>	<p>Microgrid</p>	<p>Ant Colony Optimization</p>
<p>TEPGPS841, TEPGPS840, TEMAPS850, TEMAPS849</p>	<p>Grid-Interactive Smooth Transition Control of Wind-Solar-DG Based Microgrid at Unpredictable Weather Conditions</p> <p>Objective: The main objective of the project is to develop a reliable microgrid system integrating wind, solar, and diesel generator (DG) power sources to ensure continuous power supply during both on-grid and off-grid modes in Unpredictable Weather Conditions.</p>	<p>Microgrid</p>	<p>Genetic Algorithm</p>

<p>TEPGPS839, TEMAPS848, TEPGPS838, TEMAPS847</p>	<p>Active Power Sharing Scheme in a PV Integrated DC Microgrid With Composite Energy Storage Devices</p> <p>Objective: The main objective of this project is to optimize power distribution among storage systems to enhance stability and efficiency. This ensures balanced power output, improved system reliability, and voltage stability.</p>	<p>Microgrid</p>	<p>ISOA</p>
<p>TEMACS99, TEPGCS93, TEMAPS811, TEPGPS811</p>	<p>Impedance Model Based Coordination Control of Secondary Ripple in DC Microgrid</p> <p>Objective: The main objective of this project is to develop a continuous coordination control method based on impedance models for mitigating secondary ripple in DC Microgrids</p>	<p>Microgrid</p>	<p>STSMC</p>

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TITLE ID	TITLE	DOMAIN	EXTENSION TOPIC
TEMAPS911, TEPGPS901, TEMACS879, TEPGCS125	<p>Energy Management Algorithm Of Hybrid DC Microgrid Using MPC Approach</p> <p>Objective: The main objective of the project is to develop an advanced energy management system leveraging the Model Predictive Control (MPC) technique. This system aims to optimize power flow, balance supply and demand among renewable sources, storage systems, and loads, enhance system efficiency, ensure reliable operation, and adapt to dynamic conditions in a hybrid DC microgrid.</p>	Hybrid Systems	ISOA
TEMAPS901, TEPGPS891, TEMACS878, TEPGCS124	<p>PV Systems Operating in Dynamic Climatic Circumstances Using a PSO-based SMC and PID Controller</p> <p>Objective: The main objective of this project is to develop a robust control scheme for photovoltaic (PV) systems operating under dynamic climatic conditions using a hybrid approach combining Particle Swarm Optimization (PSO)-based Sliding Mode Control (SMC) control.</p>	Control Systems	Ant Colony based MPPT

<p>TEMAPS895, TEPGPS885, TEMACS877, TEPGCS123</p>	<p>Implementation of Fuzzy and Neural Networks-Based MPPT Techniques on Solar PV System</p> <p>Objective: The main objective of this project is to implement Fuzzy and Neural Networks based MPPT techniques for Solar PV System performance enhancement.</p>	<p>Control Systems</p>	<p>GA Based MPPT</p>
<p>TEMAPE352, TEPGEP319, TEMACS876, TEPGCS122</p>	<p>Analysis and Improvement of Transient Voltage Stability for Grid-Forming Converters</p> <p>Objective: The main objective of this project is to analyze and improve the transient voltage stability of grid-forming converters (GFCs) in power systems.</p>	<p>Control Systems</p>	<p>ANN Controller</p>
<p>TEMAPS893, TEMACS875, TEMAPE351, TEPGPS883, TEPGCS121, TEPGPE318</p>	<p>A Fast-response Power-Flow Control Strategy of MMC-UPFC based on Active Disturbance Rejection Control</p> <p>Objective: The primary objective of this paper is to develop a rapid power flow control strategy for the Modular Multilevel Converter-Unified Power Flow Controller (MMC-UPFC) using Active Disturbance Rejection Control (ADRC).</p>	<p>Control Systems</p>	<p>STSMC</p>
<p>TEMAPS891, TEPGPS881,</p>	<p>Novel Hybrid Fuzzy/Rule-based Energy Management for Grid</p>	<p>Control Systems</p>	<p>STSMC</p>

<p>TEMACS874, TEPGCS120, TEMAPS892, TEPGPS882</p>	<p>connected Hybrid Energy Storage System</p> <p>Objective: This main objective of this project is to develop an effective energy management strategy (EMS) for a hybrid energy storage system (HESS) composed of batteries and supercapacitors. This EMS aims to optimize power allocation between the battery and supercapacitor, enhance the dynamic response of the system, stabilize the DC bus voltage, and extend the lifespan of the battery.</p>		
<p>TEMAPS890, TEPGPS880, TEMAPE350, TEPGPE317</p>	<p>Grid-Connected Hybrid Renewable Energy System under Various Operating Conditions</p> <p>Objective: The main objective of this project is to ensure stable and efficient power supply by optimally integrating renewable sources like solar and wind with the grid. It aims to maintain power quality, maximize renewable energy utilization, and ensure reliable energy dispatch under varying operating conditions.</p>	<p>Control Systems</p>	<p>Dual Fuzzy Sugeno Controller</p>
<p>TEMAPS888, TEMAPS889, TEMACS873, TEPGPS878,</p>	<p>A Novel Fuzzy/SMC based Energy Management Strategy for Hybrid Energy Storage System in an Isolated DC Microgrid</p>	<p>Control Systems</p>	<p>Genetic Algorithm</p>

TEPGPS879, TEPGCS119	<p>Objective: The main objective of this project is to implement an energy management strategy for hybrid energy storage system in an isolated DC microgrid using a Novel Fuzzy and SMC based controlling topology.</p>		
TEMAPS887, TEMACS872, TEPGPS877, TEPGCS118	<p>Neural Network Based Voltage Source Converter for Power Management of Hybrid Energy System</p> <p>Objective: The Main objective of this project is to develop a Power Management System for a Hybrid Energy System by using an ANN controller-based Voltage Source Converter.</p>	Control Systems	STSMC
TEMAPS885, TEMAPS886, TEPGPS875, TEPGPS876, TEMACS871, TEPGCS117	<p>A Novel Cooperative Control for SMES-Battery Hybrid Energy Storage in PV Grid-Connected System</p> <p>Objective: The main objective of this project is to propose a novel cooperative control for SMES/Battery Hybrid Energy Storage in PV-Grid Connected System to meet escalating power demand.</p>	Control Systems	STSMC
TEMAED248, TEMAPE347, TEMACS870, TEPGED242, TEPGPE314, TEPGCS116	<p>Speed and Position Estimation for 5-ph PMSM Using SOGI Based on SMO Considering Short-Circuit Fault</p> <p>Objective: The main objective of this project is to mitigate harmonics and accurately estimate rotor speed and position during short-circuit faults.</p>	Control Systems	Dual Fuzzy Sugeno Controller

<p>TEMACS869, TEPGCS115, TEMAED247, TEPGED241</p>	<p>Speed Regulation of PMSM Systems Based on a New Sliding Mode Reaching Law</p> <p>Objective: The objective of the project is to develop a novel sliding mode reaching law to enhance the speed regulation of Permanent Magnet Synchronous Motor (PMSM) systems. This approach aims to improve robustness and accuracy in speed control by mitigating the effects of disturbances and parameter variations.</p>	<p>Control Systems</p>	<p>Model Predictive Controller</p>
<p>TEMAPE346, TEPGPE313, TEMAED246, TEPGED240, TEMACS868, TEPGCS114</p>	<p>Torque Ripple Suppression of BLDCM With Optimal Duty Cycle and Switch State by FCS-MPC</p> <p>Objective: The main objective of the project is to suppress torque ripples in Brushless DC (BLDC) motors by implementing a Finite Control Set Model Predictive Control (FCS-MPC) scheme. This approach aims to enhance motor performance by minimizing torque fluctuations, thereby improving efficiency</p>	<p>Control Systems</p>	<p>Optimized PI</p>
<p>TEMAPS884, TEMACS867, TEPGPS874, TEPGCS113</p>	<p>A Novel Coordinated Control Strategy for Frequency Regulation of MMC-HVDC Connecting Offshore Wind Farm</p> <p>Objective: The main objective of this project is to regulate the frequency by</p>	<p>Control Systems</p>	<p>Model Predictive Controller</p>

	using a novel coordinated control strategy for MMC-HVDC systems connecting offshore wind farms (OWFs)		
TEMAPS880, TEPGPS870, TEMACS865, TEPGCS111	<p>Dual-Sequence Synchronization Stability Analysis and Control of Multi-Paralleled Wind Farms During Asymmetrical Grid Faults</p> <p>Objective: The main objective of this project is to implement stability assessment method and a current control strategy to achieve the margin of dual-sequence synchronization under asymmetrical grid faults.</p>	Control Systems	STSMC
TEMAPS883, TEPGPS873, TEMACS866, TEPGCS112, TEMAPE344, TEPGPE311	<p>An Adaptive Fuzzy Controller-Based Distributed Voltage Control Strategy for a Remote Microgrid System With Solar Energy and Battery Support</p> <p>Objective: The main objective of this project is to propose an adaptive fuzzy controller-based distributed voltage control strategy for a remote microgrid system with solar energy and battery support.</p>	Control Systems	ANN based MPPT
TEMAPS879, TEPGPS869, TEMACS864, TEPGCS110, TEMAED242, TEPGED236	<p>Generalized DSC-FDC-PLL Based Synchronization of PV Array-BES Fed Water Pump System With Utility Grid</p> <p>Objective: The Main objective of this project is to develop and implement a generalized delayed signal cancellation</p>	Control Systems	ISOA

	(GDSC)-based phase-locked loop (PLL) for synchronizing a photovoltaic (PV) array and battery-supported water pump system with the utility grid, ensuring efficient power management in both grid-connected and islanded modes.		
TEMACS863, TEMAPE340, TEPGCS109, TEPGPE307	<p>Adaptive Control for Improved Virtual Synchronous Generator Under Imbalanced Grid Voltage</p> <p>Objective: The main objective of this project is to develop an adaptive control strategy for a Virtual Synchronous Generator (VSG) that enhances performance and stability under imbalanced grid voltage conditions.</p>	Control Systems	STSMC
TEMAPS877, TEPGPS867, TEMACS862, TEPGCS108	<p>Virtual Synchronous Generator Control Strategy of Grid-Forming Matrix Converter for Renewable Power Generation</p> <p>Objective: The main objective of this project is to enhance grid stability and mimic the inertia of conventional synchronous generators. This approach ensures smooth integration of renewable energy sources into the power grid by regulating voltage and frequency, thereby improving system reliability and providing support during grid</p>	Control Systems	STSMC

	disturbances.		
TEMAPS873, TEPGPS863, TEMACS861, TEPGCS107	<p>Optimized PI Gain in UPQC Control Based on Improved Zero Attracting Normalized LMS</p> <p>Objective: The main objective of this project is developing an enhanced control scheme for a 4-wire unified power quality conditioner (UPQC) using the improved reweighted zero Attracting normalized LMS (IRZA-NLMS) and self-adaptive multi population Rao (SAMP-Rao) optimization to effectively mitigate power quality issues.</p>	Control Systems	Dual Fuzzy Sugeno Controller
TEMAPS871, TEPGPS861, TEMAED240, TEPGED234, TEMACS860, TEPGCS106	<p>GAO Optimized Sliding Mode Based Reconfigurable Step Size Pb&O MPPT Controller With Grid Integrated EV Charging Station</p> <p>Objective: The main objective of this project is to develop a GAO-optimized sliding mode-based reconfigurable step size Pb&O MPPT controller to maximize the efficiency of PV systems. This system will seamlessly integrate with grid-connected EV charging stations, ensuring optimal energy utilization and reliable 24/7 charging.</p>	Control Systems	CSA Based STSMC
TEMAPS868, TEMAPE334, TEMACS858, TEPGPS858, TEPGPE301, TEPGCS104	<p>Modulated Predictive Current Control of Photovoltaic Central NPC Inverter With Reduced Computational Burden</p>	Control Systems	CSA

	<p>Objective: The main objective of this project is to develop and implement a modulated predictive current control strategy for a photovoltaic central NPC inverter, to enhance performance while minimizing computational demands.</p>		
<p>TEMACS859, TEPGCS105, TEMAPE335, TEPGPE302</p>	<p>Grid-Connected Converter with Grid-Forming and Grid-Following Modes Presenting Symmetrical and Asymmetrical Fault Ride-Through Capability</p> <p>Objective: The main objective of this project is to propose a grid-connected converter with grid-forming and grid following modes presenting symmetrical and asymmetrical fault ride-through capability.</p>	<p>Control Systems</p>	<p>Dual Phase Shift based PWM</p>
<p>TEMAPS865, TEPGPS855, TEMAPS866, TEPGPS856, TEMACS857, TEPGCS103</p>	<p>Smooth and Uninterrupted Operation of Standalone DC Microgrid Under High and Low Penetration of RESs</p> <p>Objective: The main objective of the project to ensure that a standalone DC microgrid operates seamlessly and without interruption, regardless of the fluctuations in Renewable Energy Sources (RESs). This involves maintaining a stable power supply in spite of varying levels of RES penetration.</p>	<p>Control Systems</p>	<p>CSA</p>
<p>TEMAPS859, TEMACS855, TEPGPS849, TEPGCS101</p>	<p>A Fuzzy-Based Adaptive P&O MPPT Algorithm for PV Systems with Fast Tracking and Low Oscillations Under Rapidly Irradiance Change Conditions</p>	<p>Control Systems</p>	<p>ISOA</p>

	<p>Objective: The main objective of this project is to get fast tracking and low oscillations under rapidly irradiance change conditions in PV system by using Fuzzy-Based adaptive P&O MPPT Algorithm.</p>		
<p>TEMAPS864, TEMACS856, TEPGPS854, TEPGCS102, TEMAPE331, TEMAPE332, TEPGPE298, TEPGPE299</p>	<p>Circle Search Algorithm-Based Super Twisting Sliding Mode Control for MPPT of Different Commercial PV Modules</p> <p>The main objective of this project is to implement a circle search algorithm based super twisting sliding mode control for MPPT of different commercial PV modules.</p>	Control Systems	Genetic Algorithm
<p>TEMACS853, TEMAPS851, TEPGPS842, TEPGCS99</p>	<p>An Advanced Control Strategy for a Weak Grid-Connected DG for Enhancing Voltage Support During Co-occurrence of Sag and Swell</p> <p>Objective: The main objective of this project is advanced control strategy for a weak grid-connected DG system is to ensure stable operation, enhance voltage support, and improve overall power quality during sag and swell events. By achieving these, strategy contributes to reliable and efficient integration of DG into the grid, supporting sustainable energy practices and enhancing grid resilience.</p>	Control Systems	ISOA
<p>TEMAPS854, TEMACS854,</p>	<p>Improved Photovoltaic MPPT Algorithm Based on Ant Colony</p>	Control Systems	CSA

TEPGPS845, TEPGCS100	<p>Optimization and Fuzzy Logic Under Conditions of Partial Shading</p> <p>Objective: The main objective of this project is to get the improved performance from PV array by using the AFO based MPPT algorithm under partial shading conditions.</p>		
TEMACS104, TEPGCS98, TEMAPE324, TEPGPE291, TEMAPS843, TEPGPS834	<p>Predictive Control of PMSG-Based Hydro-Electric System with Battery Supported UPQC</p> <p>Objective: The main objective of this project is to propose a predictive control to achieve efficient, stable, and high-quality power generation and distribution from the PMSG-based hydro-electric system, supplemented by the battery-supported UPQC</p>	Control Systems	ANN based SMC
TEPGCS97, TEMACS103, TEPGPS832, TEMAPS841	<p>Enhanced the Hosting Capacity of a Photovoltaic Solar System Through the Utilization of a Model Predictive Controller</p> <p>Objective: The main objective of this project is to enhance the hosting capacity of a photovoltaic solar system by utilizing a Model Predictive Controller (MPC) to efficiently manage power flow, thereby maximizing the integration of renewable energy.</p>	Control Systems	Genetic Algorithm
TEMAPE320, TEPGPE287, TEMACS101, TEPGCS95	<p>Sliding Mode Control of Vienna Rectifier Under Unbalanced Weak Power Grid</p>	Control Systems	Genetic Algorithm

	<p>Objective: The main objective of this project is to control the Vienne Rectifier by using Sliding Mode Controller under unbalanced weak power grid.</p>		
<p>TEMAPS833, TEMAPS834, TEPGPS824, TEPGPS825, TEMACS102, TEPGCS96</p>	<p>Experimental Investigations on Photovoltaic Interface Neutral Point Clamped Multilevel Inverter-Based Shunt Active Power Filter to Enhance Grid Power Quality</p> <p>Objective: The main objective of this project is to enhance the power quality by using PV interfaced NPC-MLI based shunt active power filter in grid related applications.</p>	<p>Control Systems</p>	<p>PSO</p>
<p>TEMAPS823, TEMAPS824, TEPGPS814, TEPGPS815, TEMACS100, TEPGCS94</p>	<p>Advance Controller for Power Quality and Performance Improvement of Grid-Connected Single-Phase Rooftop PVS</p> <p>Objective: The main objective of this project is to enhance power quality and to improve performance of grid-connected single phase roof top photo-voltaic systems by optimizing power output and ensuring stable, efficient integration with the grid.</p>	<p>Control Systems</p>	<p>New Sliding Mode Reaching Law</p>
<p>TEMAPS804, TEMACS97, TEPGPS804, TEPGCS91</p>	<p>Small Signal Modeling and Performance Analysis of Conventional- and Dual-UPQC</p> <p>Objective: The main objective of this project is to analyze the performance of conventional and Dual-UPQC in a grid connected system.</p>	<p>Control Systems</p>	<p>Predictive Control</p>

<p>TEMAPS807, TEPGPS807, TEMAPE304, TEPGPE276, TEMACS98, TEPGCS92</p>	<p>Designing of a PSO-Based Adaptive SMC With a Multilevel Inverter for MPPT of PV Systems Under Rapidly Changing Weather Conditions</p> <p>Objective: The main objective of this project is to design a PSO-based Adaptive SMC with a Multilevel Inverter for MPPT of PV Systems Under Rapidly Changing Weather Conditions to enhance the overall efficiency and stability of the PV system.</p>	Control Systems	Genetic Algorithm
<p>TEMAPS795, TEPGPS794, TEMAPE296, TEPGCS89, TEMAPE221, TEPGPE193, TEPGPE194</p>	<p>Enhancement of Solar PV Efficiency Using Double Integral Sliding Mode MPPT Control</p> <p>Objective: The main objective of this project is to enhance the efficiency of Solar Photovoltaic (PV) Panels through the implementation of a Double Integral Sliding Mode Maximum Power Point Tracking (MPPT) Control Strategy.</p>	Control Systems	Fixed Power Point Tracking
<p>TEMACS99, TEPGCS93, TEMAPS811, TEPGPS811</p>	<p>Impedance Model Based Coordination Control of Secondary Ripple in DC Microgrid</p> <p>Objective: The main objective of this project is to develop a continuous coordination control method based on impedance models for mitigating secondary ripple in DC Microgrids</p>	Control Systems	STSMC

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S.NO	TITLE	DOMAIN	EXTENSION TOPIC
TEMAPS909, TEMAPS910, TEPGPS899, TEPGPS900, TEMAPE362, TEPGPE329	<p>A Novel Nonisolated Four-Port Converter for Flexible DC Microgrid Operation</p> <p>Objective: The main objective of this project is to propose a novel non-isolated four-port converter for flexible DC microgrid operation.</p>	DC-DC Converters	New Sliding Mode Reaching Law
TEMAPS904, TEPGPS894, TEMAPE358, TEPGPE325	<p>Evaluating the Performance of MPPT and FPPT Approach in Standalone Solar PV Systems Under Variable Conditions</p> <p>Objective: The main objective of this project is to analyze and compare the performance of Maximum Power Point Tracking (MPPT) and Fixed Power Point Tracking (FPPT) algorithms in standalone solar photovoltaic (PV) systems under varying environmental conditions, such as changes in solar irradiance and temperature.</p>	DC-DC Converters	Ant Colony Optimization
TEMAPE327, TEMAED237, TEPGPE294, TEPGED231	<p>Multifunctional Integrated DC-DC Converter for Electric Vehicles</p> <p>Objective: The main objective of this project is to develop a single integrated DC-DC converter that can perform multiple functions (G2V, V2G, and LDC modes) efficiently, reducing the number of components, complexity, and overall cost, while improving the performance and reliability of power conversion in electric vehicles</p>	DC-DC Converters	Optimized PI

<p>TEMAPS864, TEMACS856, TEPGPS854, TEPGCS102, TEMAPE331, TEMAPE332, TEPGPE298, TEPGPE299</p>	<p>Circle Search Algorithm-Based Super Twisting Sliding Mode Control for MPPT of Different Commercial PV Modules</p> <p>The main objective of this project is to implement a circle search algorithm based super twisting sliding mode control for MPPT of different commercial PV modules.</p>	<p>DC-DC Converters</p>	<p>Genetic Algorithm</p>
<p>TEMAPS860, TEMAPS861, TEPGPS850, TEPGPS851, TEMAPE328, TEPGPE295</p>	<p>Voltage Feed-Forward Control of Photovoltaic Battery DC Microgrid Based on Improved Seeker Optimization Algorithm</p> <p>Objective: The main objective of this project is to develop a voltage feed-forward control system for a photovoltaic-battery DC microgrid, utilizing an Improved Seeker Optimization Algorithm (ISOA).</p>	<p>DC-DC Converters</p>	<p>Ant Colony Optimization</p>
<p>TEMAPE326, TEMAED235, TEPGPE293, TEPGED229</p>	<p>A Boost-LC Resonance Multimode DC-DC Converter for EV Charger Application</p> <p>Objective: The main objective of this project is to achieve high efficiency, high voltage gain, and a wide output voltage range while overcoming the limitations of conventional full-bridge (FB) LLC resonant converters.</p>	<p>DC-DC Converters</p>	<p>Dual Fuzzy Sugeno Method</p>
<p>TEPGPE288, TEMAPE321, TEPGPS826, TEMAPS835</p>	<p>A Maximum Power Point Tracking Technique for a Wind Power System Based on the Trapezoidal Rule</p> <p>Objective: The main objective of this project is to propose a maximum power point tracking (MPPT) technique for a wind power system based on the Trapezoidal Rule is to enhance the efficiency and</p>	<p>DC-DC Converters</p>	<p>Hybrid Systems</p>

	output of the wind turbine system		
<p>TEMAPS795, TEPGPS794, TEMAPE296, TEPGCS89, TEMAPE221, TEPGPE193, TEPGPE194</p>	<p>Enhancement of Solar PV Efficiency Using Double Integral Sliding Mode MPPT Control</p> <p>Objective: The main objective of this project is to enhance the efficiency of Solar Photovoltaic (PV) Panels through the implementation of a Double Integral Sliding Mode Maximum Power Point Tracking (MPPT) Control Strategy.</p>	DC-DC Converters	Fixed Power Point Tracking
<p>TEMAPS825, TEPGPS816, TEMAPE314, TEMAPE315, TEPGPE281, TEPGPE282, TEMAED220, TEPGED214</p>	<p>Multifunctional Onboard Charger for Electric Vehicles Integrating a Low-Voltage DC-DC Converter and Solar Roof</p> <p>Objective: The main objective of this project is to propose a multifunctional on-board charger for electric vehicles integrating a low-voltage DC-DC converter and solar roof.</p>	DC-DC Converters	GAO optimized SMC
<p>TEMAPS826, TEPGPS817, TEMAPE317, TEPGPE284, TEMAED222, TEPGED216</p>	<p>Cascaded Interleaved DC-DC Converter for a Bidirectional Electric Vehicle Charging Station</p> <p>Objective: The main objective of this project is to propose a cascaded interleaved DC-DC converter for a bidirectional Electric Vehicle charging station to reduce current and voltage stress on the semi-conductors and passive elements.</p>	DC-DC Converters	STSMC
<p>TEMAPS796, TEMAPE298, TEPGPS795, TEPGPE270</p>	<p>Design and Analysis of Novel High-Gain Boost Converter for Renewable Energy Systems (RES)</p>	DC-DC Converters	ISOA

	<p>Objective: The main objective of this project is to create and evaluate a high-gain boost converter customized for RES prioritizing efficiency and performance optimization for sustainable energy applications.</p>		
<p>TEMAPE316, TEPGPE283, TEMAED221, TEPGED215</p>	<p>New Integrated DC-DC Conversion System for Electric Vehicles</p> <p>Objective: The main objective of this project is to propose a new integrated DC-DC conversion system for Electric Vehicles to reduce the components as well as power losses.</p>	<p>DC-DC Converters</p>	<p>New Sliding Mode Reaching Law</p>
<p>TEMAPE363, TEPGPE330, TEMAED256, TEPGED250</p>	<p>A Bidirectional Bridgeless Converter-Based Electric Vehicle Charger</p> <p>Objective: The main objective of this project is to propose a new integrated DC-DC conversion system for Electric Vehicles to reduce the components as well as power losses.</p>	<p>AC-DC Converters</p>	<p>ST-SMC</p>
<p>TEMAPE361, TEPGPE328, TEMAED255, TEPGED249</p>	<p>Electric Vehicle On-Board Fast Charging Through Converter Maximum Switch Utilization</p> <p>Objective: The primary objective of this paper is to propose a new on-board fast charging topology for electric vehicles (EVs) that maximizes the utilization of converter switch capacity. The aim is to achieve faster charging, reduce stress on components, and maintain high efficiency with a compact design.</p>	<p>AC-DC Converters</p>	<p>ST-SMC</p>
<p>TEMAPS882, TEPGPS872,</p>	<p>Enhancing Zero Voltage Ride Through of PMSG-Based Wind Generator With</p>	<p>AC-DC Converters</p>	<p>STSMC</p>

<p>TEMAED244, TEPGED238, TEMAPE343, TEPGPE310</p>	<p>Interchange of Converter Control and Optimized Supercapacitor Energy Storage System</p> <p>Objective: The main objective of this project is to improve the reliability and stability of wind energy systems during grid disturbances. This is achieved by optimizing the control strategy of the converter and incorporating a super-capacitor-based energy storage system.</p>		
<p>TEMAPS875, TEMAPE339, TEPGPS865, TEPGPE306</p>	<p>An Ingenious Technique to Track the Maximum Power Point for a Wind Energy System</p> <p>Objective: The main objective of this project is to develop an advanced Maximum Power Point Tracking (MPPT) technique for Wind Energy Conversion Systems (WECS). The goal is to maximize the extraction of power from wind energy systems by improving the efficiency and reducing oscillations around the MPP.</p>	<p>AC-DC Converters</p>	<p>ANN based SMC</p>
<p>TEMAPE320, TEPGPE287, TEMACS101, TEPGCS95</p>	<p>Sliding Mode Control of Vienna Rectifier Under Unbalanced Weak Power Grid</p> <p>Objective: The main objective of this project is to control the Vienne Rectifier by using Sliding Mode Controller under unbalanced weak power grid.</p>	<p>AC-DC Converters</p>	<p>Genetic Algorithm</p>
<p>TEMAPE318, TEPGPE285, TEMAED223, TEPGED217</p>	<p>Coordinated Control Strategy for Cascaded Current-Source Converter Under Unbalanced Grid Voltage</p> <p>Objective: The main objective of this project is to ensure stable and efficient</p>	<p>AC-DC Converters</p>	<p>Dual Fuzzy Sugeno based controller</p>

	operation by mitigating the effects of voltage unbalance, maintaining power quality and enhancing system reliability.		
<p>TEMAPS798, TEMAPS799, TEMAPS800, TEPGPS797, TEPGPS798, TEPGPS799, TEMAPE300, TEMAPE301, TEPGPE272, TEPGPE273</p>	<p>Mitigating Uncertainty Problems of Renewable Energy Resources Through Efficient Integration of Hybrid Solar PV/Wind Systems Into Power Networks</p> <p>Objective: The main objective of this project is to mitigate the problems of renewable energy resources through efficient integration of Hybrid Solar PV/Wind systems into power networks.</p>	<p>AC-DC Converters</p>	<p>STSMC</p>
<p>TEMAED219, TEMAPE313, TEPGED213, TEPGPE280</p>	<p>An LLC-Based Single-Stage Step-Up AC/DC Resonant Converter Without Boost Circuit for EV Charging With High Power Factor</p> <p>Objective: The main objective of this project is to develop a highly efficient, cost-effective and simplified power conversion solution that integrates power factor correction (PFC) and DC-DC Conversion into a single stage specifically designed for EV charging related applications.</p>	<p>AC-DC Converters</p>	<p>STSMC</p>
<p>TEMAPS825, TEPGPS816, TEMAPE314, TEMAPE315, TEPGPE281, TEPGPE282, TEMAED220, TEPGED214</p>	<p>Multifunctional Onboard Charger for Electric Vehicles Integrating a Low-Voltage DC-DC Converter and Solar Roof</p> <p>Objective: The main objective of this project is to propose a multifunctional on-board charger for electric vehicles integrating a low-voltage DC-DC converter and solar roof.</p>	<p>AC-DC Converters</p>	<p>GAO optimized SMC</p>

<p>TEMAPS838, TEMAPS839, TEPGPS829, TEPGPS830, TEMAPE322, TEPGPE289</p>	<p>Grid-Forming Voltage-Source Inverter for Hybrid Wind-Solar Systems Interfacing Weak Grids</p> <p>Objective: The main objective of this project is to propose a grid forming voltage source inverter for hybrid wind-solar systems interfacing weak grids.</p>	<p>AC-DC Converters</p>	<p>Dual Fuzzy Sugeno Controller</p>
<p>TEMAPS911, TEPGPS901, TEMACS879, TEPGCS125</p>	<p>Energy Management Algorithm Of Hybrid DC Microgrid Using MPC Approach</p> <p>Objective: The main objective of the project is to develop an advanced energy management system leveraging the Model Predictive Control (MPC) technique. This system aims to optimize power flow, balance supply and demand among renewable sources, storage systems, and loads, enhance system efficiency, ensure reliable operation, and adapt to dynamic conditions in a hybrid DC microgrid.</p>	<p>DC-AC Converters</p>	<p>ISOA</p>
<p>TEMAPS908, TEPGPS898, TEMAPE360, TEPGPE327</p>	<p>Fully Decoupled Active and Reactive Power Distribution Control for Single Phase Cascaded Connected Microinverter Under Island Mode</p> <p>Objective: The main objective of this project is to develop a fully decoupled control strategy for active and reactive power distribution in a single-phase cascaded microinverter operating in island mode.</p>	<p>DC-AC Converters</p>	<p>Dual Phase Shift based PWM</p>
<p>TEMAPS900, TEPGPS890,</p>	<p>Evaluation and Control of a Solar Power System Connected with an Electrical Grid</p>	<p>DC-AC Converters</p>	<p>PSO MPPT</p>

TEMAPE356, TEPGPE323	<p>Objective: The main objective of the project is to evaluate and control a solar power system connected to an electrical grid using the Incremental Conductance (INC) MPPT technique to optimize energy transfer and improve system performance.</p>		
TEMAPS896, TEPGPS886, TEMAPE354, TEPGPE321	<p>Energy Management in Multi-Source Power System Based on PV /Wind /Batteries / Diesel Generator Connected with The Grid</p> <p>Objective: The main objective of this project is to achieve optimized energy allocation within a multi-source power system that integrates photovoltaic (PV) panels, wind turbines, batteries, diesel generators, and grid connectivity to manage and distribute energy efficiently based on real-time availability and demand</p>	DC-AC Converters	CSA
TEMAPS897, TEMAPE355, TEPGPS887, TEPGPE322	<p>Analysis of Power Coordination Control Strategy in Island Mode of Photovoltaic Energy Storage Combined System</p> <p>Objective: The main objective of this project is to design and analysis of power co-ordination control Strategy in Islanded Mode of photovoltaic & energy storage combined system.</p>	DC-AC Converters	Optimized PI
TEMAPS894, TEPGPS884, TEMAPE353, TEPGPE320	<p>Hybrid Energy System Simulation and Modelling Incorporating Wind and Solar Power</p> <p>Objective: The main objective of this paper</p>	DC-AC Converters	Trapezoidal MPPT

	is to model and simulate a hybrid energy system that combines wind and solar power, aiming to assess its performance, improve energy reliability, and support the integration of renewable sources for sustainable energy production		
TEMAPE352, TEPGEP319, TEMACS876, TEPGCS122	<p>Analysis and Improvement of Transient Voltage Stability for Grid-Forming Converters</p> <p>Objective: The main objective of this project is to analyze and improve the transient voltage stability of grid-forming converters (GFCs) in power systems.</p>	DC-AC Converters	ANN Controller
TEMAPS893, TEMACS875, TEMAPE351, TEPGPS883, TEPGCS121, TEPGPE318	<p>A Fast-response Power-Flow Control Strategy of MMC-UPFC based on Active Disturbance Rejection Control</p> <p>Objective: The primary objective of this paper is to develop a rapid power flow control strategy for the Modular Multilevel Converter-Unified Power Flow Controller (MMC-UPFC) using Active Disturbance Rejection Control (ADRC).</p>	DC-AC Converters	STSMC
TEMAED250, TEPGED244, TEMAED251, TEPGED245, TEMAPE349, TEPGPE316	<p>High Power Density EV Integrated Fast Battery Chargers Based on the General Torque Cancellation Law for Three-phase Motors</p> <p>Objective: The primary goal of this project is to develop a general torque cancellation law for three-phase motors. This advancement aims to improve motor</p>	DC-AC Converters	ISOA

	<p>efficiency, thereby enabling the creation of high-power density, integrated fast battery chargers for electric vehicles (EVs).</p>		
<p>TEMAED249, TEPGED243, TEMAPE348, TEPGPE315</p>	<p>Robust Model-Free Fault-Tolerant Predictive Control for PMSM Drive System</p> <p>Objective: This main objective of this project is a model-free fault-tolerant predictive control (MFFTPC) method for surface-mounted permanent magnet synchronous motor (SPMSM) drives. The method will use an extended sliding mode observer (ESMO) to manage uncertainties and unknown disturbances. The goal is to enhance the performance of finite-control-set model predictive control.</p>	<p>DC-AC Converters</p>	<p>New Sliding Mode Reaching law</p>
<p>TEMAED248, TEMAPE347, TEMACS870, TEPGED242, TEPGPE314, TEPGCS116</p>	<p>Speed and Position Estimation for 5-ph PMSM Using SOGI Based on SMO Considering Short-Circuit Fault</p> <p>Objective: The main objective of this project is to mitigate harmonics and accurately estimate rotor speed and position during short-circuit faults.</p>	<p>DC-AC Converters</p>	<p>Dual Fuzzy Sugeno Controller</p>
<p>TEMAPE346, TEPGPE313, TEMAED246, TEPGED240, TEMACS868, TEPGCS114</p>	<p>Torque Ripple Suppression of BLDCM With Optimal Duty Cycle and Switch State by FCS-MPC</p> <p>Objective: The main objective of the project is to suppress torque ripples in Brushless DC (BLDC) motors by implementing a Finite</p>	<p>DC-AC Converters</p>	<p>Optimized PI</p>

	Control Set Model Predictive Control (FCS-MPC) scheme. This approach aims to enhance motor performance by minimizing torque fluctuations, thereby improving efficiency		
TEMAPE345, TEPGPE312, TEMAED245, TEPGED239	<p>Development and Control of PMSM Drive with Improved Performance Over Wide Speed and Load Ranges</p> <p>Objective: The main objective of this project is to develop and control a PMSM drive for superior performance across wide speed and load ranges. This involves optimizing control strategies for stable operation, enhancing efficiency under varying loads, and improving dynamic performance by minimizing torque ripple, reducing current harmonics, and ensuring precise, responsive control.</p>	DC-AC Converters	Dual Fuzzy Sugeno Controller
TEMAPS883, TEPGPS873, TEMACS866, TEPGCS112, TEMAPE344, TEPGPE311	<p>An Adaptive Fuzzy Controller-Based Distributed Voltage Control Strategy for a Remote Microgrid System With Solar Energy and Battery Support</p> <p>Objective: The main objective of this project is to propose an adaptive fuzzy controller-based distributed voltage control strategy for a remote microgrid system with solar energy and battery support.</p>	DC-AC Converters	ANN based MPPT
TEMAPS881, TEMAPE342, TEMAED243, TEPGPS871, TEPGPE309, TEPGED237,	<p>Hybrid Compensation Based Efficient Wireless Charging System Design with Solar Photovoltaic Interface Toward Sustainable Transportation</p> <p>Objective: The main objective of this</p>	DC-AC Converters	FPPT

	<p>project, is to design an efficient wireless charging system integrated with a solar photovoltaic interface to support sustainable transportation. The focus is on improving energy transfer efficiency and ensuring reliable power delivery to electric vehicles (EVs) using renewable energy sources.</p>		
<p>TEMACS863, TEMAPE340, TEPGCS109, TEPGPE307</p>	<p>Adaptive Control for Improved Virtual Synchronous Generator Under Imbalanced Grid Voltage</p> <p>Objective: The main objective of this project is to develop an adaptive control strategy for a Virtual Synchronous Generator (VSG) that enhances performance and stability under imbalanced grid voltage conditions.</p>	<p>DC-AC Converters</p>	<p>STSMC</p>
<p>TEMAPS864, TEMACS856, TEPGPS854, TEPGCS102, TEMAPE331, TEMAPE332, TEPGPE298, TEPGPE299</p>	<p>Circle Search Algorithm-Based Super Twisting Sliding Mode Control for MPPT of Different Commercial PV Modules</p> <p>The main objective of this project is to implement a circle search algorithm based super twisting sliding mode control for MPPT of different commercial PV modules.</p>	<p>DC-AC Converters</p>	<p>Genetic Algorithm</p>
<p>TEPGED224, TEPGPE290, TEMAED230, TEMAPE323</p>	<p>Hybrid Control Method of Full-Bridge LLC Resonant Converter Based on Electric Vehicle</p> <p>Objective: The main objective of this project is to optimizing its performance for</p>	<p>DC-AC Converters</p>	<p>Optimized PI</p>

	<p>electric vehicle applications by enhancing efficiency and stability. This involves integrating advanced control techniques to improve power conversion and reliability.</p>		
<p>TEMACS859, TEPGCS105, TEMAPE335, TEPGPE302</p>	<p>Grid-Connected Converter with Grid-Forming and Grid-Following Modes Presenting Symmetrical and Asymmetrical Fault Ride-Through Capability</p> <p>Objective: The main objective of this project is to propose a grid-connected converter with grid-forming and grid following modes presenting symmetrical and asymmetrical fault ride-through capability.</p>	<p>DC-AC Converters</p>	<p>Dual Phase Shift based PWM</p>
<p>TEMAPS862, TEPGPS852, TEMAPE330, TEPGPE297, TEMAPS863, TEPGPS853</p>	<p>Improving Active Resonance Damping and Unbalanced Voltage Mitigation Based on Combined DDSRF and Washout Filter in Islanded Microgrids</p> <p>Objective: The main objective of this project is to develop and implement a combined approach using Double Decoupled Synchronous Reference Frame (DDSRF) and Washout Filter techniques to enhance active resonance damping and mitigate unbalanced voltage conditions in islanded microgrids. This combined approach aims to improve the stability, reliability, and power quality of islanded microgrids, ensuring efficient and continuous operation under varying load and generation conditions.</p>	<p>DC-AC Converters</p>	<p>Optimized PI</p>
<p>TEMACS104,</p>	<p>Predictive Control of PMSG-Based</p>	<p>DC-AC</p>	<p>ANN based</p>

TEPGCS98, TEMAPE324, TEPGPE291, TEMAPS843, TEPGPS834	Hydro-Electric System with Battery Supported UPQC Objective: The main objective of this project is to propose a predictive control to achieve efficient, stable, and high-quality power generation and distribution from the PMSG-based hydro-electric system, supplemented by the battery-supported UPQC	Converters	SMC
TEMAPS798, TEMAPS799, TEMAPS800, TEPGPS797, TEPGPS798, TEPGPS799, TEMAPE300, TEMAPE301, TEPGPE272, TEPGPE273	Mitigating Uncertainty Problems of Renewable Energy Resources Through Efficient Integration of Hybrid Solar PV/Wind Systems Into Power Networks Objective: The main objective of this project is to mitigate the problems of renewable energy resources through efficient integration of Hybrid Solar PV/Wind systems into power networks.	DC-AC Converters	STSMC
TEMAPE364, TEPGPE331, TEMAPS912, TEPGPS902, TEMAPS913, TEPGPS903	An Improved Multicarrier PWM Technique for Harmonic Reduction in Cascaded H-Bridge Based Solar Photovoltaic System Objective: The main objective of this project is to develop an improved multicarrier pulse-width modulation (PWM) technique for harmonic reduction in a cascaded H-bridge-based solar photovoltaic (PV) system. The proposed technique aims to minimize total harmonic distortion (THD) in the output voltage, enhancing power quality and system efficiency	Multilevel Inverters	ISOA
TEMAPS878, TEPGPS868,	Two-Stage Three-Phase Transformerless Hybrid Multilevel	Multilevel Inverters	Adaptive Fuzzy and P

<p>TEMAPE341, TEPGPE308</p>	<p>Inverter for Solar PV Application</p> <p>Objective: The main objective of this project, is to develop an efficient, high-performance inverter system that converts the direct current (DC) from solar photovoltaic (PV) panels into alternating current (AC) suitable for grid integration or load supply.</p>		<p>& o</p>
<p>TEMAPS872, TEMAPE337, TEPGPS862, TEPGPE304</p>	<p>A Capacitor Voltage Balancing Hybrid PWM Technique to Improve the Performance of T-Type NPC Inverters</p> <p>Objective: The main objective of this project is to improve the performance of T-Type NPC Inverters by using a capacitor voltage balancing hybrid PWM technique.</p>	<p>Multilevel Inverters</p>	<p>Dual Fuzzy Sugeno Controller</p>
<p>TEMAPS868, TEMAPE334, TEMACS858, TEPGPS858, TEPGPE301, TEPGCS104</p>	<p>Modulated Predictive Current Control of Photovoltaic Central NPC Inverter With Reduced Computational Burden</p> <p>Objective: The main objective of this project is to develop and implement a modulated predictive current control strategy for a photovoltaic central NPC inverter, to enhance performance while minimizing computational demands.</p>	<p>Multilevel Inverters</p>	<p>CSA</p>
<p>TEMAPS874, TEPGPS864, TEMAPE338, TEPGPE305</p>	<p>An Unbalance and Power Controller Allowing Smooth Islanded Transitions in Three-Phase Microgrids</p> <p>Objective: The main objective of this project is to develop a power controller for seamless islanded transitions in three-phase microgrids, ensuring stable voltage and</p>	<p>Multilevel Inverters</p>	<p>New Sliding Mode Reaching Law</p>

	frequency during grid-to-island mode shifts.		
<p>TEMAPS867, TEPGPS857, TEMAPE333, TEPGPE300</p>	<p>Single-Phase 15-Level Switched-Capacitor Boost Multilevel Inverter Topology for Renewable Energy Applications</p> <p>Objective: The main objective of this project is to provide a high-efficiency, low-cost inverter that can boost and convert DC power from renewable sources into high-quality AC power, while reducing the number of power electronic components and achieving better voltage regulation and harmonic performance.</p>	Multilevel Inverters	Closed Loop PI
<p>TEMAPS846, TEPGPS837, TEMAPE325, TEPGPE292, TEMAED234, TEPGED228</p>	<p>A New Multilevel Inverter with Reduced Component Count for a Standalone Solar Energy Conversion System</p> <p>Objective: The main objective of this project is to propose a new multilevel inverter with reduced component count for a standalone solar energy conversion system-based application.</p>	Multilevel Inverters	Dual Phase Shift based PWM
<p>TEMAPS807, TEPGPS807, TEMAPE304, TEPGPE276, TEMACS98, TEPGCS92</p>	<p>Designing of a PSO-Based Adaptive SMC With a Multilevel Inverter for MPPT of PV Systems Under Rapidly Changing Weather Conditions</p> <p>Objective: The main objective of this project is to design a PSO-based Adaptive SMC with a Multilevel Inverter for MPPT of PV Systems Under Rapidly Changing Weather Conditions to enhance the</p>	Multilevel Inverters	Genetic Algorithm

	overall efficiency and stability of the PV system.		
TEMAPS801, TEPGPS800, TEMAPE302, TEPGPE274	<p>Design of an Extendable High Boost Multi-Port Z-Network Converter for Small Power Grid-Connected PV Applications</p> <p>Objective: The main objective of this project is to propose an extendable high boost Multi-port Z-Network converter for implementing in Grid Connected PV Applications.</p>	Multilevel Inverters	ISOA

2024 - 2025 EEE ELECTRICAL DRIVES IEEE TITLES

S.NO	TITLE	DOMAIN	EXTENSION TOPIC
TEMAED250, TEPGED244, TEMAED251, TEPGED245, TEMAPE349, TEPGPE316	<p>High Power Density EV Integrated Fast Battery Chargers Based on the General Torque Cancellation Law for Three-phase Motors</p> <p>Objective: The primary goal of this project is to develop a general torque cancellation law for three-phase motors. This advancement aims to improve motor efficiency, thereby enabling the creation of high-power density, integrated fast battery chargers for electric vehicles (EVs).</p>	AC Drives	ISOA
TEMAED249, TEPGED243, TEMAPE348, TEPGPE315	<p>Robust Model-Free Fault-Tolerant Predictive Control for PMSM Drive System</p> <p>Objective: This main objective of this project is a model-free fault-tolerant predictive control (MFFTPC) method for surface-mounted permanent magnet synchronous motor (SPMSM) drives. The method will use an extended sliding mode observer (ESMO) to manage uncertainties and unknown disturbances. The goal is to enhance the performance of finite-control-set model predictive control.</p>	AC Drives	New Sliding Mode Reaching law
TEMAED248, TEMAPE347,	<p>Speed and Position Estimation for 5-ph PMSM Using SOGI Based on SMO</p>	AC Drives	Dual Fuzzy Sugeno

<p>TEMACS870, TEPGED242, TEPGPE314, TEPGCS116</p>	<p>Considering Short-Circuit Fault</p> <p>Objective: The main objective of this project is to mitigate harmonics and accurately estimate rotor speed and position during short-circuit faults.</p>		<p>Controller</p>
<p>TEMACS869, TEPGCS115, TEMAED247, TEPGED241</p>	<p>Speed Regulation of PMSM Systems Based on a New Sliding Mode Reaching Law</p> <p>Objective: The objective of the project is to develop a novel sliding mode reaching law to enhance the speed regulation of Permanent Magnet Synchronous Motor (PMSM) systems. This approach aims to improve robustness and accuracy in speed control by mitigating the effects of disturbances and parameter variations.</p>	<p>AC Drives</p>	<p>Model Predictive Controller</p>
<p>TEMAPE346, TEPGPE313, TEMAED246, TEPGED240, TEMACS868, TEPGCS114</p>	<p>Torque Ripple Suppression of BLDCM With Optimal Duty Cycle and Switch State by FCS-MPC</p> <p>Objective: The main objective of the project is to suppress torque ripples in Brushless DC (BLDC) motors by implementing a Finite Control Set Model Predictive Control (FCS-MPC) scheme. This approach aims to enhance motor performance by minimizing torque fluctuations, thereby improving efficiency</p>	<p>AC Drives</p>	<p>Optimized PI</p>
<p>TEMAPE345, TEPGPE312, TEMAED245, TEPGED239</p>	<p>Development and Control of PMSM Drive with Improved Performance Over Wide Speed and Load Ranges</p> <p>Objective: The main objective of this project is to develop and control a PMSM drive for superior performance across wide speed and load ranges. This involves optimizing control</p>	<p>AC Drives</p>	<p>Dual Fuzzy Sugeno Controller</p>

	strategies for stable operation, enhancing efficiency under varying loads, and improving dynamic performance by minimizing torque ripple, reducing current harmonics, and ensuring precise, responsive control.		
TEMAPS882, TEPGPS872, TEMAED244, TEPGED238, TEMAPE343, TEPGPE310	<p>Enhancing Zero Voltage Ride Through of PMSG-Based Wind Generator With Interchange of Converter Control and Optimized Supercapacitor Energy Storage System</p> <p>Objective: The main objective of this project is to improve the reliability and stability of wind energy systems during grid disturbances. This is achieved by optimizing the control strategy of the converter and incorporating a super-capacitor-based energy storage system.</p>	AC Drives	STSMC
TEMAPS879, TEPGPS869, TEMACS864, TEPGCS110, TEMAED242, TEPGED236	<p>Generalized DSC-FDC-PLL Based Synchronization of PV Array-BES Fed Water Pump System With Utility Grid</p> <p>Objective: The Main objective of this project is to develop and implement a generalized delayed signal cancellation (GDSC)-based phase-locked loop (PLL) for synchronizing a photovoltaic (PV) array and battery-supported water pump system with the utility grid, ensuring efficient power management in both grid-connected and islanded modes.</p>	AC Drives	ISOA
TEMAPS876, TEPGPS866, TEMAED241, TEPGED235	<p>Passive Control for Brushless Doubly-Fed Reluctance Generator Under Unbalanced Grid Voltages</p> <p>Objective: The main objective of this project</p>	AC Drives	Closed Loop VSC

	is to develop a passive control strategy for Brushless Doubly-Fed Reluctance Generators (BDFRGs) that effectively mitigates the adverse effects of unbalanced grid voltages.		
TEMAPS836, TEPGPS827, TEMAED228, TEPGED222	<p>Experimental Validation of Feedback PI Controllers for Multi-Rotor Wind Energy Conversion Systems</p> <p>Objective: The main objective of this project is to access the performance and stability analysis of the controllers in real-world conditions and evaluating their ability to maintain optimal rotor speeds and maximize energy conversion efficiency under varying wind conditions.</p>	AC Drives	STSMC
TEMAPS846, TEPGPS837, TEMAPE325, TEPGPE292, TEMAED234, TEPGED228	<p>A New Multilevel Inverter with Reduced Component Count for a Standalone Solar Energy Conversion System</p> <p>Objective: The main objective of this project is to propose a new multilevel inverter with reduced component count for a standalone solar energy conversion system-based application.</p>	AC Drives	Dual Phase Shift based PWM
TEMAPS830, TEPGPS821, TEMAED225, TEPGED219	<p>Stability Analysis and Enhanced Virtual Synchronous Control for Brushless Doubly-fed Induction Generator Based Wind Turbines</p> <p>Objective: The main objective of this project is to analyze the stability and propose the virtual synchronous control for Brushless Doubly-fed Induction Generator Based Wind</p>	AC Drives	Predictive Control

	Turbines.		
TEMAPS813, TEMAPS814, TEPGPS818, TEMAPS808, TEMAPS809, TEMAPS810, TEPGPS808, TEPGPS809, TEPGPS810, TEMAED218, TEPGED212	Modelling and Coordinated Control of Grid Connected Photovoltaic, Wind Turbine Driven PMSG, and Energy Storage Device for a Hybrid DC/AC Microgrid Objective: The main objective of this project is to optimize the performance and integration of grid-connected photovoltaic systems, wind-turbine driven PMSGs and energy storage devices within a hybrid dc-ac microgrid through advanced modelling and coordinated control strategies.	AC Drives	STSMC
TEMAPS844, TEMAPS845, TEPGPS835, TEPGPS836, TEMAED233, TEPGED227	Coordinated Control of Grid-Connected PMSG Based Wind Energy System with STATCOM and Supercapacitor Energy Storage Objective: The main objective of this project is to propose a coordinated control of grid connected PMSG based wind energy system with STATCOM and supercapacitor energy storage systems.	AC DRIVES	Ingenious MPPT
TEPGED210, TEMAED216, TEPGED209, TEMAED215	Performance Analysis of a High Gain Bidirectional DC-DC Converter Fed Drive for an Electric Vehicle With Battery Charging Capability During Braking Objective: The main objective of this project to implement a high gain bidirectional DC-DC Converter Fed Drive for an Electric Vehicle With Battery Charging Capability During Braking	DC DRIVES	ANN

TEMAPE363, TEPGPE330, TEMAED256, TEPGED250	<p>A Bidirectional Bridgeless Converter-Based Electric Vehicle Charger</p> <p>Objective: The main objective of this project is to propose a new integrated DC-DC conversion system for Electric Vehicles to reduce the components as well as power losses.</p>	Electric Vehicles	ST-SMC
TEMAPE361, TEPGPE328, TEMAED255, TEPGED249	<p>Electric Vehicle On-Board Fast Charging Through Converter Maximum Switch Utilization</p> <p>Objective: The primary objective of this paper is to propose a new on-board fast charging topology for electric vehicles (EVs) that maximizes the utilization of converter switch capacity. The aim is to achieve faster charging, reduce stress on components, and maintain high efficiency with a compact design.</p>	Electric Vehicles	ST-SMC
TEMAPS802, TEMAED217, TEPGPS801, TEPGED211	<p>Efficient Bidirectional Wireless Power Transfer System Control Using Dual Phase Shift PWM Technique for Electric Vehicle Applications</p> <p>Objective: The main objective of this project is to optimize charging efficiency and enable power from G2V and V2G by using bidirectional wireless power transfer system. It focuses on dynamic efficiency adjustments and seamless integration with EV and smart grid infrastructures.</p>	Electric Vehicles	PSO Based SMC
TEMAED250, TEPGED244, TEMAED251, TEPGED245, TEMAPE349, TEPGPE316	<p>High Power Density EV Integrated Fast Battery Chargers Based on the General Torque Cancellation Law for Three-phase Motors</p> <p>Objective: The primary goal of this project is</p>	Electric Vehicles	ISOA

	to develop a general torque cancellation law for three-phase motors. This advancement aims to improve motor efficiency, thereby enabling the creation of high-power density, integrated fast battery chargers for electric vehicles (EVs).		
TEMAPS881, TEMAPE342, TEMAED243, TEPGPS871, TEPGPE309, TEPGED237,	<p>Hybrid Compensation Based Efficient Wireless Charging System Design with Solar Photovoltaic Interface Toward Sustainable Transportation</p> <p>Objective: The main objective of this project, is to design an efficient wireless charging system integrated with a solar photovoltaic interface to support sustainable transportation. The focus is on improving energy transfer efficiency and ensuring reliable power delivery to electric vehicles (EVs) using renewable energy sources.</p>	Electric Vehicles	FPPT
TEMAPS871, TEPGPS861, TEMAED240, TEPGED234, TEMACS860, TEPGCS106	<p>GAO Optimized Sliding Mode Based Reconfigurable Step Size Pb&O MPPT Controller With Grid Integrated EV Charging Station</p> <p>Objective: The main objective of this project is to develop a GAO-optimized sliding mode-based reconfigurable step size Pb&O MPPT controller to maximize the efficiency of PV systems. This system will seamlessly integrate with grid-connected EV charging stations, ensuring optimal energy utilization and reliable 24/7 charging.</p>	Electric Vehicles	CSA Based STSMC
TEMAPS858, TEPGPS848, TEMAED238, TEPGED232	<p>Conjugate-Gradient Based Control in a Grid-Integrated PV With 24/7 Distortion-Free Charging for Bidirectional EV Charger</p>	Electric Vehicles	STSMC

	<p>Objective: The main objective of this project is to optimize the power flow and enhance the efficiency of energy transfer between the grid, PV system, and EV charger. This approach aims to minimize harmonic distortions and ensure seamless charging and discharging of EV batteries, promoting reliable and sustainable energy management.</p>		
TEMAPE327, TEMAED237, TEPGPE294, TEPGED231	<p>Multifunctional Integrated DC-DC Converter for Electric Vehicles</p> <p>Objective: The main objective of this project is to develop a single integrated DC-DC converter that can perform multiple functions (G2V, V2G, and LDC modes) efficiently, reducing the number of components, complexity, and overall cost, while improving the performance and reliability of power conversion in electric vehicles</p>	Electric Vehicles	Optimized PI
TEMAPS856, TEPGPS846, TEMAPS857, TEPGPS847, TEMAED236, TEPGED230	<p>A Single-Stage Bridgeless PFC Charger with Enhanced Power Quality for LEV Mounted Solar PV Panel</p> <p>Objective: The main objective of the project is to design a single-stage bridgeless Power Factor Correction (PFC) charger that enhances power quality for solar photovoltaic (PV) panels installed on light electric vehicles (LEVs). This integrated approach optimizes efficiency, minimizes power losses.</p>	Electric Vehicles	GAO optimized SMC
TEMAPE326, TEMAED235, TEPGPE293, TEPGED229	<p>A Boost-LC Resonance Multimode DC-DC Converter for EV Charger Application</p> <p>Objective: The main objective of this project is to achieve high efficiency, high voltage gain, and a wide output voltage range while</p>	Electric Vehicles	Dual Fuzzy Sugeno Method

	overcoming the limitations of conventional full-bridge (FB) LLC resonant converters.		
TEPGED224, TEPGPE290, TEMAED230, TEMAPE323	<p>Hybrid Control Method of Full-Bridge LLC Resonant Converter Based on Electric Vehicle</p> <p>Objective: The main objective of this project is to optimizing its performance for electric vehicle applications by enhancing efficiency and stability. This involves integrating advanced control techniques to improve power conversion and reliability.</p>	Electric Vehicles	Optimized PI
TEMAPS831, TEPGPS822, TEMAED226, TEPGED220	<p>HESS management for Virtual Inertia, Frequency and Voltage Support through Off-board EV Bidirectional Chargers</p> <p>Objective: The main objective of this project is to enhance grid stability by dynamically balancing power supply and demand, providing rapid frequency response and maintaining voltage levels.</p>	Electric Vehicles	Dual Phase Shift based PWM
TEMAPS827, TEMAED224, TEPGPS818, TEPGED218	<p>Integrated Three-Port Converter for Solar-Charged Electric Vehicle Applications</p> <p>Objective: The main objective of this project is to efficiently manage power flow from solar panels to both a high-voltage battery (HVB) and a low-voltage battery (LVB). Optimizing the use of solar energy even under partial shading conditions.</p>	Electric Vehicles	Fixed Power Point Tracking
TEMAPS826, TEPGPS817, TEMAPE317, TEPGPE284, TEMAED222, TEPGED216	<p>Cascaded Interleaved DC-DC Converter for a Bidirectional Electric Vehicle Charging Station</p> <p>Objective: The main objective of this project is to propose a cascaded interleaved DC-DC converter for a bidirectional Electric Vehicle</p>	Electric Vehicles	STSMC

	charging station to reduce current and voltage stress on the semi-conductors and passive elements.		
TEMAPE318, TEPGPE285, TEMAED223, TEPGED217	<p>Coordinated Control Strategy for Cascaded Current-Source Converter Under Unbalanced Grid Voltage</p> <p>Objective: The main objective of this project is to ensure stable and efficient operation by mitigating the effects of voltage unbalance, maintaining power quality and enhancing system reliability.</p>	Electric Vehicles	Dual Fuzzy Sugeno based controller
TEMAPS825, TEPGPS816, TEMAPE314, TEMAPE315, TEPGPE281, TEPGPE282, TEMAED220, TEPGED214	<p>Multifunctional Onboard Charger for Electric Vehicles Integrating a Low-Voltage DC-DC Converter and Solar Roof</p> <p>Objective: The main objective of this project is to propose a multifunctional on-board charger for electric vehicles integrating a low-voltage DC-DC converter and solar roof.</p>	Electric Vehicles	GAO optimized SMC
TEMAPE316, TEPGPE283, TEMAED221, TEPGED215	<p>New Integrated DC-DC Conversion System for Electric Vehicles</p> <p>Objective: The main objective of this project is to propose a new integrated DC-DC conversion system for Electric Vehicles to reduce the components as well as power losses.</p>	Electric Vehicles	New Sliding Mode Reaching Law
TEMAED219, TEMAPE313, TEPGED213, TEPGPE280	<p>An LLC-Based Single-Stage Step-Up AC/DC Resonant Converter Without Boost Circuit for EV Charging With High Power Factor</p> <p>Objective: The main objective of this project</p>	Electric Vehicles	STSMC

	is to develop a highly efficient, cost-effective and simplified power conversion solution that integrates power factor correction (PFC) and DC-DC Conversion into a single stage specifically designed for EV charging related applications.		
TEPGED210, TEMAED216, TEPGED209, TEMAED215	<p>Performance Analysis of a High Gain Bidirectional DC-DC Converter Fed Drive for an Electric Vehicle With Battery Charging Capability During Braking</p> <p>Objective: The main objective of this project to implement a high gain bidirectional DC-DC Converter Fed Drive for an Electric Vehicle with Battery Charging Capability During Braking</p>	Electric Vehicles	ANN

PROJECT SUPPORTS FOR STUDENTS:

- ❖ PROJECT ABSTRACT
- ❖ PROJECT IEEE BASE PAPER/ REFERENCE PAPER
- ❖ PROJECT PRESENTATION IN PPT FORMAT
- ❖ PROJECT REVIEW ASSISTANCE FOR VIVA
- ❖ PROJECT DIAGRAMS
- ❖ PROJECT SOURCE CODE
- ❖ PROJECT REPORT
- ❖ PROJECT SCREEN SHOTS
- ❖ PROJECT DEMO
- ❖ PROJECT EXPLANATION
- ❖ PLAGARISM DOCUMENTATION
- ❖ INTERNATIONAL JOURNAL/CONFERENCE PUBLISHING
- ❖ PROJECT ACCEPTANCE LETTER
- ❖ PROJECT COMPLETION CERTIFICATE

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+91 90303 33433 | 0877-2261612

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