



Paper Presentation Schedule  
**Day 1: Friday, 22 November, 2024**

**Time: 5:00 PM - 6:30 PM**

**Technical Paper Session 1**  
**Venue: H. L. Roy Auditorium**



Paper ID	Paper Title
7	Degradation Study of Oxidatively Aged Natural Ester Oil Immersed Pressboard Insulation
70	Investigations on Physico-Chemical Properties of Natural Ester Oil-Impregnated Paper Insulation under Accelerated Thermal Ageing
107	Effect of TiO <sub>2</sub> and ZnO on the Dielectric Properties of Natural Ester Oil Nanofluid Impregnated Pressboard Insulation
116	Online Fault Location in High Voltage Distribution Lines: A Case Study of DVC Network
132	Artificial Intelligence-Enabled Intelligent Monitoring for Anomaly Detection in Inductor Current of PSFB Converter for Fast EV Charging Application

**Technical Paper Session 2**  
**Venue: K. P. Basu Memorial Hall**

Paper ID	Paper Title
84	ML-Based Improved Incipient Fault Detection in Power Transformers using DGA Data
94	Evaluation of Blended Mineral and Ester Oil Nanofluids for Transformer Applications
108	Effect of Furfural on Dielectric Characteristics of Mineral Oil
124	Investigation of Electric Field Effect on Space Charge Dynamics of Epoxy-TiO <sub>2</sub> Nano-Composites using IRC and QCC Analysis
138	Monitoring Oil Level in Distribution Transformers using Ultrasonic Sensors

**Technical Paper Session 3**  
**Venue: Seminar Hall, Electrical Engineering Department Building**

Paper ID	Paper Title
82	Classification of Electrical Tree Growth Stages in XLPE Cable Insulation using CNN and Pre-trained CNNs
103	Effect of Thermal Stress on MV Cable Insulation
113	Investigations on the Revision in the Eccentricity Limits to Improve the Performance of Extruded HVDC Cables
114	Effect of Curing on the AC and DC Breakdown Strength of Cable Insulation
115	Modeling of the Dielectric Response of XLPE Cable Insulation: Insights from Accelerated Water Tree Aging Experiments

Conference Record Number: 60527

IEEE 7th International Conference on Condition Assessment Techniques in Electrical Systems

**IEEE CATCON 2024**

22-24 November, 2024



Paper Presentation Schedule  
**Day 2: Saturday, 23 November, 2024**  
Time: 10:00 AM - 11:30 AM



**Technical Paper Session 4**  
Venue: H. L. Roy Auditorium

Paper ID	Paper Title
97	AC Conductivity Measurement of Conductor Sleeves
98	Location of Damaged Insulation for an Underground Power Cable Under High-Frequency Model
99	Investigation of Sheath Current at Different Joints for Different Types of Bonding during Busbar Fault
112	Effect of Insulation Bulging on the Electric Field Distribution in AC Cables
117	Investigation on Cable Breakdown using Aluminium Foil as Electrode

**Technical Paper Session 5**  
Venue: K. P. Basu Memorial Hall

Paper ID	Paper Title
106	Intelligent Diagnosis of Transformer Faults using DGA
123	Ageing State Estimation of Insulating Oil used in High Voltage Equipment by Electric Modulus
128	Analysis and Discrimination of Transformer Inrush Current and Fault Current
129	A Time-Efficient and Innovative Method to Determine the DP Value of Power Transformer Insulation
140	Localized Contamination Severity Assessment on SiR Insulators using mRMR-Aided SVM and Mathematical Morphology



**Paper Presentation Schedule**  
**Day 2: Saturday, 23 November, 2024**  
**Time: 3:30 PM - 5:15 PM**



**Technical Paper Session 6**  
**Venue: H. L. Roy Auditorium**

Paper ID	Paper Title
13	Non-invasive Early Breast Tumor Detection using Antenna Array
83	Partial Discharge in Power Transformers: Approaches for Estimating Number of Sources
90	Monitoring of Partial Discharge Inside High-Voltage Power Transformer using UHF Sensors
96	Analysis of Method to find out Interturn Fault before Brazing of Loop Bar and Phase Bar of 250MW(THRI Type) during Generator Rewinding Process
100	Wideband Omnidirectional Ultra High-Frequency Sensors for Detection of Partial Discharge Sources in Air-Insulated Electrical Substations
105	Condition Assessment of Transformers and Switchyards using DGA and Thermography: A Case Study of DVC Power Plant

**Technical Paper Session 7**  
**Venue: K. P. Basu Memorial Hall**

Paper ID	Paper Title
12	Real-Time Monitoring of Grid Conditions for Renewable Energy Compatibility
72	Design and Development of a Solar-Wind Hybrid Electric Vehicle Charging Station
74	A Theoretical Study of the Effects of Temperature Variation on Activation Energy in Oil-Paper Insulated Transformer
78	Experimental Studies on the Performance of Electromagnets used in Shutdown System of Sodium Cooled Fast Reactor
102	Case Study of Failure of Neutral Flexible Link and Hexagonal Bus Header Plate and Palm Connector of 210MW Generator and Recommendations to Prevent Similar Faults
133	Monitoring of Solar PV Maximum Power Point Tracking Performance in Real-Time using Different Optimization Techniques
141	On-Line Acoustic Emission Technique for Condition Assessment and Detection of Defects in 400kV Oil-Cooled Type Shunt Reactors-Case Studies

**Technical Paper Session 8**  
**Venue: Seminar Hall, Electrical Engineering Department Building**

Paper ID	Paper Title
88	Applicability of Modal Analysis on Health Condition Assessment of Transformers under Uniform and Non-Uniform Clamping Pressure Change
104	Multi-Resolution Analysis of Transient Overvoltages using Entropic Empirical Mode Decomposition
120	Investigating the Loading Effects of a Real-Life Three-Phase Transformer on an Impulse Voltage Generator in a Simulated Environment
125	Study on Insulating Characteristics of Aged Epoxy Nano-composite Insulation under Lightning Impulse
139	Investigations on the Suitability of Modern Denoising Methods for Impulse Fault Current Waveforms



Paper Presentation Schedule  
**Day 3: Sunday, 24 November, 2024**  
Time: 10:00 AM - 11:30 AM



**Technical Paper Session 9**  
Venue: H. L. Roy Auditorium

Paper ID	Paper Title
73	Cross-correlation based Identification of Faulty Phase for an Interconnected Power System
85	Effect of High-Voltage Transmission Lines on Nearby Residential Buildings
95	The requirement of Islanding in Power System a Case Study of CTPS, DVC
121	Real-Time Performance Monitoring of an Optimal Energy Management Scheme for Grid-Connected PV-Battery System
136	Detection and Classification of Power Quality Disturbances in Smart Grids using Detrended Fluctuation Analysis and SVM Classifier

**Technical Paper Session 10**  
Venue: K. P. Basu Memorial Hall

Paper ID	Paper Title
75	Performance Evaluation of Superhydrophobic Coated Polymeric-Housed Surge Arresters under Various Operating Conditions
86	Broken Defect Localization of Glass Insulators with Oriented Bounding Box Model
110	AC and DC Electro-Thermal Aging Analysis of Polymeric Housed Surge Arresters
118	Detection of Interface Failure Based on Thermal Imaging in Outdoor Composite Insulators
134	Performance Evaluation of Nano Zirconia Doped Silicone Rubber Nanocomposites under Electrolytic Environments

Conference Record Number: 60527

IEEE 7th International Conference on Condition Assessment Techniques in Electrical Systems

**IEEE CATCON 2024**

22-24 November, 2024



Paper Presentation Schedule  
**Day 3: Sunday, 24 November, 2024**  
Time: 12:45 PM - 2:00 PM



**Technical Paper Session 11**  
Venue: H. L. Roy Auditorium

Paper ID	Paper Title
64	Investigation of Synthetic Inductance for Resonant Shunt Circuit applied to Vibration Control
68	Remnant Life Estimation of Power Transformer using Fuzzy Logic
93	Preventing Transformer Explosions with Fast Arc Detection by Fiber Optic Sensors
109	A Novel Frequency Response Analysis for Faulty Phase Identification in Star-Connected HV Windings: An Experimental Study

**Technical Paper Session 12**  
Venue: K. P. Basu Memorial Hall

Paper ID	Paper Title
50	Effect of Variation in Measurement Temperature on the Uniqueness of Time-Varying Insulation Model and Associated Diagnosis
91	Investigations on the Dielectric Properties of Mineral Oil and Natural Ester Mixed Liquid Insulation for Power Transformers
135	Very Fast Front Transient Overvoltage's Surge Transfer Characteristics of 145 kV Three Phase Encapsulated Gas Insulated Current Transformer
137	Evaluation of Fire Resistance and Smoke Properties of Fire Resistance Coating and Paints

