International Conference on
Sustainable Energy Technologies and Computational Intelligence
(SETCOM 2025)
Department of Electrical Engineering, SoET
Pandit Deendayal Energy University (PDEU), Gandhinagar, Gujarat, India |

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SETCOM 2025 Special Sessions on

"Electric Vehicle Technologies and Power Quality Challenges"

Aims & Scope of the Session:

In the next years, electric vehicle (EV) expansion will certainly affect power quality, a major issue for grid efficiency, security, and smart grid security. Electric vehicle interfaces use PECs. Their switching power semiconductor components and operation mechanism make these converters nonlinear. Thus, converter input current has several harmonics. The power system's harmonics and power factor suffer. Voltage sag/swell, current, active/reactive power, harmonic voltage/current content, and power quality are crucial. Its energy levels should meet power regulations. Power quality must be checked for electric car charging, a specific electrical necessity.

Harmonic computation and assessment are crucial for electric car charging. Simulations show that high-power electronic loads interrupt the source-side. We determine control output by monitoring current and voltage. From the harmonic disturbance graph, compute total harmonic distortion. Electric car charging must improve to solve these issues.

Innovative research and reviews on current power system power quality are invited for this Special Session. We welcome university scientists, researchers, and prominent academics to discuss power quality in modern electrical systems, electric vehicles, smart networks, and related power electronics topologies using advanced signal processing, artificial intelligence, and chaotic methods.

Topics of interest include, but are not limited to:

- Electric Vehicle
- Power converters
- Renewable energy systems
- Smart grid
- Intelligent controller design and development
- Artificial intelligence
- Power quality

- Power Quality Standards
- Harmonic distortion
- Advanced signal processing techniques
- Grid synchronization methods
- Selective harmonic elimination
- Power quality improvement techniques
- Optimization algorithms

Special Session Organizers (names and contact emails):

Dr. T Vijay Muni, SMIEEE

Department of Electrical and Electronics Engineering,

Power Electronics Research Group Head

K L Deemed to be University, Vaddeswaram

Email: vijaymuni@kluniversity.in

Mobile: +91-9000055144

Special Session Organizers (short bios with photo):

	**Dr. T Vijay Muni** is working as Assistant Professor, Power Electronics Research Group Head and researcher with 13+ years of experience teaching courses in both undergraduate and postgraduate levels at K L University. He published 58 Scopus indexed articles, 13 web of science indexed articles and over 15 articles in peer-reviewed journals. Published 6 patents with two grants. Authored 6 textbooks on electrical discipline. Completed 5 global certifications in the field of AI, Multi Cloud Computing, Outcome Based Education and Foundations of Google Data Analytics. He is a Senior Member of IEEE. He has multiple government-funded grants supported by the Department of Science and Technology (DST). He served as an editorial board member on many International Journals and session chairs for International and IEEE conferences. He served as expert reviewer for many Elsevier group of Journals like Applied Energy, Automatika, Electric Power System Research, Energy Reports, Journal of Energy Storage, Renewable Energy, Renewable Energy Focus, Heliyon etc.