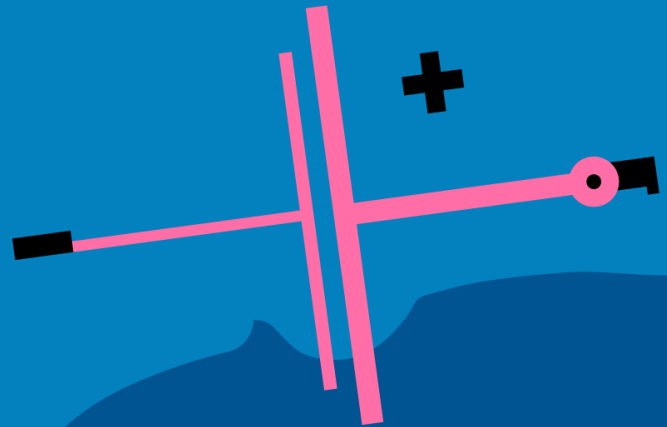


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IEEE 2nd International Conference
on Industrial Electronics
for Sustainable Energy Systems



Special Session on:

ENERGY STORAGE SYSTEMS AND CHARGING TECHNOLOGIES FOR ELECTRIC VEHICLES

ORGANIZERS (MAX 3 ORGANIZERS)

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CALL FOR PAPERS (MAX 200 WORDS)

Due to the fast growing of the Electric Vehicle (EV) market, the energy storage systems and the corresponding charging technologies are becoming of the main interest. The improvements of the battery packs for optimizing the driving range, lifetime and security are attracting a significant attention in the community. New kinds of Battery Management Systems (BMS) are being developed by considering advanced and accurate State-of-Charge (SoC) and State-of-Health (SoH) estimation algorithms, new SoC balancing techniques and smart battery solutions. Furthermore, the reduction of the charging time and the increase of the efficiency in both on-board and off-board charging converters are of great significance. The converter structures, the energy management strategies and communication infrastructures are nowadays crucial, and the impact of the charging stations on the distribution grid is also important to be analysed. Another important aspect is the ability to provide vehicle-to-grid (V2G) and vehicle-for-grid (V4G) services, such as bidirectional active power control and innovative power quality services. The main objectives of this special session are then to provide and share new solutions for the EV battery packs in terms of new estimation algorithms, advanced BMSs and original battery pack structures, new architectures for the charging system (wired and wireless, on-board and off-board), advanced strategies for the power and energy management, and novel V2G and V4G services targeting smart grids.

Topics of interest include, but are not limited to:

- New technologies of energy storage systems for EVs;
- Advanced Battery Management Systems (BMSS);
- State-of-charge and state-of-health estimation algorithms;
- Power electronics converters for on-board and off-board ev chargers;
- Innovative fast charging systems (software and hardware);
- Wireless Power Transfer (WPT);
- Vehicle-to-Grid (V2G) and Vehicle-for-Grid (V4G) services;
- New contributions for EV propulsion systems;
- Communication infrastructures among vehicles, charging stations and grid;
- EV as energy storage system for smart grids and smart homes;
- Analysis, modelling and control of power converters for EV chargers.