

Special Session XI

Special Session Basic Information:

专栏题目
Session Title

中文：大规模电动汽车聚合与控制
英文：Aggregation and Control of Large-Scale Electric Vehicles

专栏介绍和征稿主题
Introduction and topics

中文：
随着电动汽车的快速普及和车网互动技术的发展，大规模电动汽车的聚合与控制对电力系统运行与调度提出了新的挑战。电动汽车的高随机性与灵活性既为电力系统削峰填谷、储能调节和需求响应提供了机遇，也对电网安全、稳定性和碳排放管理提出了更高要求。本专题聚焦大规模电动汽车的充放电聚合控制与优化调度，探讨人工智能、大数据分析、区块链等前沿技术在充放电管理中的应用，以及电动汽车与可再生能源、电网协同优化的关键问题，旨在推动绿色低碳能源系统建设，实现交通与能源系统的深度融合与协同发展。

征稿主题：
(1) 电动汽车聚合与优化控制
(2) 车网互动与储能技术应用
(3) 车联网与区块链技术应用
(4) 人工智能与大数据技术应用
(5) 碳排放管理与节能技术应用

英文：
With the rapid adoption of electric vehicles (EVs) and advancements in vehicle-grid integration (VGI) technologies, the aggregation and control of large-scale EV fleets present new challenges for power system operation and dispatch. The high stochasticity and inherent flexibility of EVs offer opportunities for peak shaving, energy storage regulation, and improved demand response, while also posing higher requirements for grid security, stability, and carbon emission management. This session focuses on the aggregated control and optimal scheduling of large-scale EV charging and discharging. It explores the applications of cutting-edge technologies, including artificial intelligence, big data analytics, and blockchain, in EV management. Key issues to be explored include the coordinated optimization among EVs, renewable energy sources, and the power grid, to advance the development of green, low-carbon energy systems and achieve deep integration and synergistic development between the transportation and energy sectors.

- Call for Papers:
- (1) EV Aggregation and Optimal Control
(2) VGI and Energy Storage Technology Applications
(3) Vehicular Networking and Blockchain Technology Applications
(4) Artificial Intelligence and Big Data Technology Applications
(5) Carbon Emission Management and Energy Conservation Technology Applications

Special Session Chair(s):

	姓名 Name	王均 Wang Jun
	称谓 Prefix	博士 Doctor
	部门 Department	电气工程学院 College of Electrical Engineering
	单位 Organization	河南工业大学 Henan University of Technology
	城市/地区 City/Region	郑州 Zhengzhou
	邮箱 Email	wang.jun@haut.edu.cn

Organizer's Brief Biography

中文：王均，男，博士，高级工程师，硕士生导师。毕业于电子科技大学，研究方向为新型电力能源系统优化控制、车网互动及应急响应决策，发表 SCI/EI 期刊论文 20 余篇。获河南省科技进步奖二等奖、中国仪器仪表学会科技进步二等奖、河南省教育厅科技成果一等奖。

英文：Jun Wang, male, Ph.D., senior engineer, master's supervisor. He graduated from the University of Electronic Science and Technology of China, with research interests in optimization and control of novel power and energy systems, vehicle-to-grid (V2G) interaction, and emergency response decision-making. He has published over 20 papers in SCI/EI-indexed journals. He has received the Second Prize of the Henan Provincial Science and Technology Progress Award, the Second Prize of the Science and Technology Progress Award from the Chinese Society for Instrumentation, and the First Prize of the Henan Provincial Department of Education Science and Technology Achievement Award.

	姓名 Name	陈昕 Chen Xin
	称谓 Prefix	博士 Doctor
	部门 Department	自动化学院 School of Automation
	单位 Organization	重庆邮电大学 Chongqing University of Posts and Telecommunications
	城市/地区 City/Region	重庆 Chongqing
	邮箱 Email	chenxin@cqupt.edu.cn

Organizer's Brief Biography

中文：陈昕，男，博士，讲师，研究生导师，毕业于电子科技大学，研究兴趣包括新型电力系统、电力电子建模与控制、车网互动、电力系统稳定控制等电气工程与控制工程的理论研究及应用。发表 SCI/EI 论文 20 余篇，授权发明专利 10 余项。主持或参与各级科研项目 10 余项；在研国家电网公司总部科技项目，重庆市技术创新与应用发展专项重点项目

英文：Xin Chen, male, Ph.D., lecturer, and graduate advisor, graduated from the University of Electronic Science and Technology of China. His research interests include new power systems, power electronics modeling and control, vehicle-to-grid (V2G) interaction, and power system stability control, focusing on theoretical research and applications in electrical engineering and control engineering. He has published more than 20 SCI/EI papers and holds over 10 authorized invention patents. He has led or participated in more than 10 research projects at various levels, including ongoing national grid company headquarters technology projects and key projects in the Chongqing Municipal Technology Innovation and Application Development Program.