



International Conference on
Energy, Ecology and Environment



International Conference on
Electric and Intelligent Vehicles

Melbourne Australia

NOV 21-25
2018



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WELCOME TO ICEEE2018

With the growing concerns on energy shortage and environmental pollution, the research and development of new energy generation technologies and new environmental policies have been faced significant challenges to provide sustainable energy, ecosystem and environment in managing and controlling the process at each level of the concerned systems. There have been changes in the course of history, which has given the emphases on the specific issues relevant to the respective period of these doctrines. However, the vision of sustainable development should reflect energy aspect as well as ecological and environmental issues. No single discipline has the capacity to cope with these coupled complex issues. Our strategy is to integrate different disciplines to understand deeply the implications of various aspects of the world.

Currently, there is an abundance of valuable journals with disciplinary territories and sharp boundaries on the intellectual landscape. We need a problem-oriented forum without boundaries that can establish close links among the fields of energy, ecosystem and environment, promote intellectual discussions of an integrated vision of these three fields and provide multidisciplinary solutions to solve complex social economic and environmental problems.

The International Conference on Energy, Ecology and Environment (ICEEE) will create such a forum for scientists, researchers, engineers and government officials home and abroad? with cross-discipline concerning energy shortage, ecosystem degradation and environment deterioration, coming together to discuss and present the latest technology, new environmental policies as well as future direction and trends in energy, ecology and environment.

Conference Chairs

Prof. Bin Chen

Prof. Weixiang Shen



WELCOME TO ICEIV2018

In order to build cleaner and more efficient vehicles, automobile industries worldwide tend to develop the technology in the directions of fuel decarbonization, energy diversification and power electrification. Electric vehicles (EVs), which represent energy-saving and new energy automobiles, become an effective way to solve the problems of air pollution, oil shortage and low efficiency and thus help automobile industries to transition into the development of a sustainable transport. As such, the research and development of EVs has attracted the worldwide attention and taken on an accelerated pace. The International Conference on Electric and Intelligent Vehicles (shorted as ICEIV2018) will provide an excellent forum for scientists, researchers, engineers and government officials all over the world to present and discuss the latest key EV technologies and development trends, which will be held in Australia on Nov 21th~25th, 2018.

ICEIV2018 program will feature keynote speeches, workshops and paper sessions. Topics of interest include, but are not limited to

1. Electric/hybrid vehicles
2. Intelligent vehicles
3. Connected automated vehicle
4. Vehicle technology
5. Energy storage technology
6. Motor and power electronics

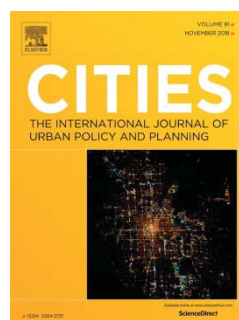
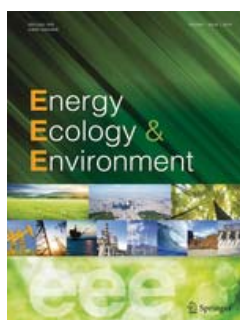
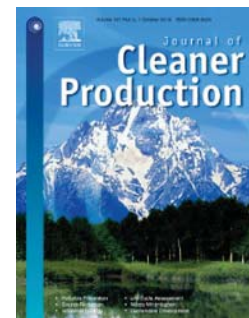
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Prof. Rui Xiong

Prof. Hongwen He



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Zhihong Man, Australia



KEYNOTE SPEAKERS



Prof. Henrik Lund

Title: Smart Energy Systems-The Design of 100% Renewable Energy Solutions

Bio: Henrik Lund, M.Sc.Eng., Ph.D., Dr.Techn. Professor in Energy Planning at Aalborg University, Denmark, www.Henriklund.eu. Henrik Lund is a highly ranked world leading researcher. He is listed among ISI Highly Cited researchers ranking him among the top 1% researchers in the world within engineering. Editor-in-Chief of Elsevier International Journal ENERGY

http://www.elsevier.com/wps/find/journaldescription.cws_home/483/description#description

Author of the book: Renewable Energy Systems: www.elsevierdirect.com

Architect behind the Advanced Energy Systems Analysis Model EnergyPLAN: www.EnergyPLAN.eu

Former head of department and head of several European and Danish research projects including the 4DH (Strategic Research Centre for 4th Generation District Heating Technologies and Systems) financed by the Danish Council for Strategic Research involving 32 university and industrial partners in Denmark, Sweden, Croatia and China. 2012-2017. www.4DH.dk, the Strategic Research Project CEESA (Coherent Energy and Environmental System Analysis, 2007-2011) www.CEESA.dk and the EU 6th framework program DESIRE (Dissemination Strategy on Electricity Balancing for Large Scale Integration of Renewable Energy). 2005-2007. www.project-desire.org

Abstract: This lecture presents the learning of a series of studies that analyze the problems and perspectives of converting the present energy system into a 100 percent renewable energy system using a smart energy approach. As opposed to, for instance, the smart grid concept, which takes a sole focus on the electricity sector, smart energy systems include the entire energy system in its approach to identifying suitable energy infrastructure designs and operation strategies. The typical smart grid sole focus on the electricity sector often leads to the definition of transmission lines, flexible electricity demands and electricity storage as the primary means to deal with the integration of fluctuating renewable sources. However, the nature of wind power and similar sources has the consequence that these measures are neither very effective nor cost-efficient. The most effective and least-cost solutions are to be found when the electricity sector is combined with the heating sector and/or the transportation sector. Moreover, the combination of electricity and gas infrastructures may play an important role in the design of future renewable energy systems. This presentation illustrates why and how electricity smart grids should be seen as part of overall smart energy systems.



KEYNOTE SPEAKERS



**Prof Dr-Michael
Gerard Pecht**

Title: From the Explosion of E/cigarettes to the Safety of Batteries

Bio: Michael G. Pecht (pecht@umd.edu) received a BS in physics, an MS in electrical Engineering and an MS and PhD in engineering mechanics from the University of Wisconsin at Madison. He is a Professional Engineer, an IEEE Fellow, an ASME Fellow, an SAE Fellow and an IMAPS Fellow. He is the editor-in-chief of IEEE Access, and served as chief editor of the IEEE Transactions on Reliability for nine years, and chief editor for Microelectronics Reliability for sixteen years. He has also served on three U.S. National Academy of Science studies, two US Congressional investigations in automotive safety, and as an expert to the U.S. Food and Drug Administration (FDA). He is the founder and Director of CALCE (Center for Advanced Life Cycle Engineering) at the University of Maryland, which is funded by over 150 of the world's leading electronics companies at more than US\$6M/year. The CALCE Center received the NSF Innovation Award in 2009 and the National Defense Industries Association Award. Prof Pecht is currently a Chair Professor in Mechanical Engineering and a Professor in Applied Mathematics, Statistics and Scientific Computation at the University of Maryland. He has written more than twenty books on product reliability, development, use and supply chain management. He has also written a series of books of the electronics industry in China, Korea, Japan and India. He has written over 700 technical articles and has 8 patents. In 2015 he was awarded the IEEE Components, Packaging, and Manufacturing Award for visionary leadership in the development of physics-of-failure-based and prognostics-based approaches to electronic packaging reliability. He was also awarded the Chinese Academy of Sciences President's International Fellowship. In 2013, he was awarded the University of Wisconsin-Madison's College of Engineering Distinguished Achievement Award. In 2011, he received the University of Maryland's Innovation Award for his new concepts in risk management. In 2010, he received the IEEE Exceptional Technical Achievement Award for his innovations in the area of prognostics and systems health management. In 2008, he was awarded the highest reliability honor, the IEEE Reliability Society's Lifetime Achievement Award.

Abstract: E-cigarettes have become popular as an alternative to traditional tobacco products. However, the safety of e-cigarettes is a significant issue, as there have been numerous incidents of Li-ion battery fires and explosions resulting in bodily injury and property damage. This paper presentation give a comprehensive review of publicly reported e-cigarette fire and explosion incidents and then identifies and discusses key concerns and Li-ion battery failure causes.



KEYNOTE SPEAKERS



**Prof. Dr.-Ing.
Andreas Jossen**

Title: Battery Energy Storage Systems for Stationary Applications - Technologies, Requirements, Operation and Optimization, Economic

Bio: Andreas Jossen studied electrical engineering at the University of Stuttgart. Within his phd he worked on battery aging for solar stand-alone systems at the same university. At the Center for Solar Energy and Hydrogen Research (ZSW) in Ulm he was responsible for a group working in battery system technology. Since 2010 Andreas Jossen holds a full professorship at the Technical University of Munich (TUM) and he is founder and head of the institute of Electrical Energy Storage Technology. His research activities are modeling, simulation and characterization of rechargeable batteries and fundamental and applied topics in battery systems, as battery topologies, state determination and control of battery systems. His research group is involved in several projects for the energy transmission in Germany by integration of stationary storage systems in the electric power system. He has founding editor and editor in chief of the mdpi journal batteries and he has published about 100 journal papers, 1 book and several book chapters and patents.



WORKSHOP (I)

Workshop on battery management system

22 Nov, 2018, 13:20~15:00, EN203

To address the two urgent issues nowadays of protecting the environment and achieving energy sustainability, it is of strategic importance on a global scale to replace oil-dependent vehicles with electric vehicles (EVs). It is indisputable that the power battery systems are the core part of the EVs, and have been paid much attention in recent years. As a key component of power battery system, the main task of BMS is to ensure the safety and reliability of the power battery system, to provide the state information needed for vehicle control and energy management, and to take appropriate intervention measures for the power battery system in the event of abnormal conditions. Battery management is become enormously more challenging to acquire safety, durability and adaptability to all climate environment inspired by rapid and large-scale development of EVs. Solving above issues need exploring the electrochemistry, thermodynamics, mechanism of degradation and thermal runaway of the batteries in nature. Three universities including Beijing Institute of Technology and Beijing Jiaotong University will organize the workshop on battery management system for all climate EVs. This workshop will communicate and discuss the state-of-the-art technologies and new developments for batteries. The objective is to investigate optimal solutions to battery system design and evaluation, management and control. The topics include, but are not limited to advanced battery materials, battery modeling, states estimation, battery degradation and mechanism, thermal runaway mechanism, thermal design and management, remaining useful life prediction, charging optimization, fault diagnosis, and safety management. We would like to invite scholars in the areas of energy storage technology to contribute papers to our workshop co-located with the International Conference on Electric and Intelligent Vehicles (shorted as ICEIV2018). Please contact Dr. Caiping Zhang at zhangcaiping@bjtu.edu.cn and Dr. Chun Wang at susewangchun@163.com if you have any question of an academic nature. For general inquiries on the ICEIV Conference, please contact iceiv2018@iceee.net.

Chairs: Prof. Caiping Zhang, Dr. Chun Wang

Panelist: Prof. Dr-Michael Gerard Pecht, Prof. Caiping Zhang, Prof. Xiaosong Hu, Prof. Jun Xu, Prof. Yonggang Liu, Prof. Chao Lyu, Dr. Yongzhi Zhang, Dr. Chun Wang, Prof. Qie Sun



WORKSHOP (I)

Invited talk 1: Experimental Research on Adaptive Equivalent Consumption Minimization Strategy Based on Traffic Information

Abstract: The energy management strategy (EMS) is one of the most important technologies of the plug-in hybrid electric vehicle (PHEV). In order to improve the environmental adaptability of the traditional equivalent consumption minimization strategy (ECMS), the influence factors of the equivalent factor (EF) are analyzed. On this basis, the adaptive equivalent consumption minimization strategy (A-ECMS) based on traffic information is proposed. Firstly, the initial EF of different initial state of charge (SOC) and driving distance are obtained by genetic algorithm (GA). Then the dynamic programming (DP) is used to obtain the reference SOC trajectory based on the traffic information. Finally, the reference SOC value is used as the controlled target, and the adaptive correction of the initial EF was realized by using the proportion integral (PI) controller. The energy management experiment platform of PHEV based on virtual scene was constructed, and the proposed strategy was researched experimentally. The experimental results show that the proposed strategy is superior to the ECMS without traffic information, with a total consumption reduction by 4.9% compared with the latter, and the effectiveness of the proposed strategy is verified.



Biography: Yonggang Liu was born in Chongqing, China in 1982. He received the B.S and PhD degrees in Automotive engineering from Chongqing University, Chongqing, China, in 2004 and 2010, while he was a joint PhD of University of Michigan-Dearborn, MI, USA, from 2007 to 2009. Now he is an Associate Professor and Doctoral supervisor, Dean Assistant with School of Automotive Engineering, Chongqing University. He is also a Committeeman of Technical Committee on Vehicle Control and Intelligence of Chinese Association of Automation (CAA). His research interests mainly include optimization and control of intelligent Electric Vehicles (EV/HEV) power system, and integrated control of vehicle Automatic Transmissions. He has leaded more than 10 research projects, such as National Natural Science Foundation of China (both Youth Fund and General Program), Ph.D. Programs Foundation of Ministry of Education of China, and China Postdoctoral Science Foundation. More than 40 research papers have been published and 9 patents have been awarded. He served as the head of the secretariat in The International Conference on Power Transmissions (ICPT2016) and the session chairman of the International Symposium on Electric Vehicles (ISEV2017), etc.



WORKSHOP (I)

Invited talk 2: Health Characterization of Lithium Ion Batteries

Abstract: Lithium-ion batteries (LIBs) are increasingly popular for electric vehicle and grid storage applications but degradation mechanisms remain poorly understood and are difficult to characterize accurately. Here a new method for in situ monitoring of internal degradation in LIBs using an electrochemical model (ECM) is introduced. The main contributions of this work can be summarized as follows: (1) An ECM is developed based on a single particle model, the parameters of which are reorganized from the original physical property parameters for convenience of identification, with each new parameter assigned a specific physical meaning. (2) Identification methods for all parameters are determined through activation-and-response analysis, and a combined load profile for parameter identification is developed. (3) Cyclic aging experiments are carried out and the aforementioned model and parameter identification methods are applied at appropriate intervals. The predicted trends of 7 of the 9 model parameters show a strong correlation with the experimentally observed degradation.



Biography: Chao Lyu was born in Fuxin, Liaoning, China in 1978. He received the B. S and M.S degrees in Electric Power and its Automation from Northeast Electric Power University, Jilin China, in 2001 and 2004, and received the PhD degree in Electrical Engineering from Harbin Institute of Technology, Harbin, China, in 2007. Now he is an associate professor with School of Electrical Engineering and Automation, Harbin Institute of Technology. He worked at National Physical Laboratory, UK in 2014-2015, with the principal research scientist, Gareth Hinds on electrochemical modelling for both secondary battery and fuel cell. His research interests focus on lithium ion battery management and health evaluation for reuse battery. He has led more than 10 research projects from National Natural Science Foundation of China, Aviation Industry Corporation of China, etc. He has published more than 30 research papers and organized special session in IEEE International Transportation Electrification Conference & Expo Asia-Pacific. He is also the Scientific Committee member of International Symposium on Electric Vehicles (ISEV2017).



WORKSHOP (I)

Invited talk 3: Study on cell capacity difference identification for serial connected lithium-ion battery pack

Abstract: The cell inconsistency issue is one of the important factors restricting the available capacity of the battery pack. In this paper, the numerical ranking method is used to describe the variation trend of the battery voltage of each cell in the battery pack. The relative relation between the variation trend and the cell capacity is analyzed qualitatively to study the parameters affecting battery capacity. The reasonable assumption is proposed that the voltage curve will simply stretch when charging current changes. A fast capacity difference identification method is presented based on the hypothesis. Using the voltage curve of the charging process, the curve similarity is evaluated by DTW (Dynamic Time Warping) algorithm, and the simulated equalization current and equalization capacity are determined using the method, and the battery pack capacity difference is finally obtained. The proposed method is validated by a series of experimental data from a variety of perspectives. At the same time, the difference of estimation between SOC and internal resistance was corrected by the incremental capacity analysis.



Biography: **Caiping Zhang** received her B.S. degree in Vehicular Engineering from Henan University of Science and Technology in Luoyang, China, in 2004, and the Ph.D. degree in Vehicle Engineering from Beijing Institute of Technology, Beijing, China, in 2010. From 2008-2009, she is a visiting scholar with University of Southampton, Southampton, UK.

She is currently a professor of School of Electrical Engineering, Beijing Jiaotong University. Her interest researches include battery modeling and states estimation, diagnosis and prognosis, rapid life evaluation, and charging optimization.



WORKSHOP (I)

Invited talk 4: Wavelet transform based energy management strategies for plug-in hybrid electric vehicles considering temperature uncertainty

Abstract: In order to avoid the sharps and transients of power demand and extend the battery lifetime, three energy management strategies via wavelet transform (WT) against temperature uncertainty for hybrid energy storage system (HESS) in the plug-in hybrid electric vehicle (PHEV) are proposed in this paper. The HESS consisting of battery, ultracapacitor, along with two associated DC/DC converters is discussed and modeled in details. In addition, to further investigate the influence of temperature uncertainty, a random temperature variation and three-dimensional response surfaces are employed for modeling. To systematically compare the performances of WT-based strategy, WT and rule-based strategy and WT and fuzzy logic control (FLC)-based strategy, an optimization framework is presented directly. The simulation results demonstrate that the WT and FLC-based strategy exhibits better performance under temperature uncertainty. Moreover, a hardware in the loop (HIL) experiment platform is set up to further verify the feasibility of the WT and rule-based strategy for actual application. It is found that the battery SoC and ultracapacitor SoC estimation errors are less than 0.77 % and 3.87 %, respectively.



Biography: Chun Wang was born in Zigong, Sichuan, China in 1984. He received the B.S in automation and M.S degrees in mechatronic engineering from Xihua University, Chengdu, China, in 2006 and 2009, while the Ph.D. degree in mechanical engineering from Beijing Institute of Technology and Collaborative Innovation Center of Electric Vehicles in Beijing, Beijing, China, in 2018. Since 2010, he was an assistant and then a lecturer with Sichuan University of Science and Engineering, Zigong, China. His research interests mainly include electric vehicles, energy management strategy and battery management system.



WORKSHOP (II)

Workshop on Integrated Systems Analysis

22 Nov, 2018, 15:30~17:10, EN203

Digitalization and the Internet-of-Things are transforming the society and in particular the energy sector. Decision-making is becoming exponentially more challenging with the exploding volume of easily accessible information and data. Under the contemporary challenges in energy and the environment, every decision will cause rippling effects across the entire system. Solving the macro-level problems without losing track of the micro-level issues requires a robust and systematic approach that is inter-disciplinary in nature. The Energy Studies Institute (ESI) has launched a research partnership with Royal Institute of Technology (KTH), University of Technology Sydney, Shanghai Maritime University, and research organizations from China, Switzerland, and the USA. The objectives are to foster international collaboration for scientific excellence in the area of integrated systems analysis; forge strong links between the scientific and policymaking communities through the development of a common analytical platform encompassing both quantitative and qualitative analysis methods; and continuously generate state-of-the-art analytical methods that can be used to address diverse issues and challenges related to technology innovations, sustainable energy, economics and policy, and the environment and ecosystem. Our Vision is to be a go-to center of excellence on intelligent systems analysis in its diversity, scientific methods and practical applications, and a vibrant network for sharing ideas and demonstration of state-of-the-art methods and applications. We would like to invite scholars in the areas of energy systems analysis, energy efficiency and conservation, energy strategy and policy, and other areas related to integrated systems analysis to contribute papers to our workshop co-located with the International Conference on Energy, Ecology, and Environment 2018 (ICEEE 2018). Please contact Dr. Victor Nian at nian@nus.edu.sg if you have any question of an academic nature. For general inquiries on the ICEEE Conference, please contact ICEEE2018@iceee.net.

Chairs: Prof. Victor Nian

Panelist: Prof. Victor Nian, Dr. Pietro Elia Campana, Dr. Yukun Hu, Prof. Shengchun Liu, Dr. Riasat Noor, Assoc. Prof. Jun Yuan



WORKSHOP (III)

Workshop on Emerging electrical machines and power electronics in Electric Vehicles

23 Nov, 2018, 8:10~9:50, EN203

Due to the awareness of energy and environmental issues, the traditional automotive industry is developed towards electric transformation. Lots of countries and major automobile manufacturers have invested heavily in the research of electric vehicles (EVs). Both the electrical machines and related power electronics are the core components of EVs. The requirements of the traction motor and its drivers are high efficiency, high power density, high reliability and More intelligent, which could extend the cruise distance, maximize the energy saving, and improve the safety of EVs.

Recently, the emerging electrical machines were used in EVs. Such as the redundant motors, fault-tolerance motors, wheel hub motors give more chances for improving the performance of EVs. Meanwhile, the related novel power electronics were also adopted in EVs, such as silicon carbide MOSFETs, gallium Nitride MOSFETs, multi-level converters, etc. The objective of all the emerging technologies is to improve the performance of the traction motors of EVs. However, the new questions are also emerging with the novel technologies, such electromagnetic interference (EMI), reliability, cost, etc.

Therefore, the objectives of this workshop are sharing ideas and demonstration of state-of-the-art methods and applications. We would like to invite scholars in the areas of electrical machines, power electronics and other related areas to contribute papers to our workshop co-located with the International Conference on Electric and Intelligent Vehicles (ICEIV 2018). Please contact Dr. Xiaofeng Ding at dingxiaofeng@buaa.edu.cn and Dr. Changjun Xie at jackxie@whut.edu.cn if you have any question of an academic nature. For general inquiries on the ICEIV Conference, please contact ICEEE2018@iceee.net.

Chairs: Prof. Xiaofeng Ding, Prof. Xi Zhang

Panelist: Prof. Chengming Zhang, Prof. Xiaofeng Ding, Prof. Xi Zhang, Prof. Changjun Xie,

Prof. Simin Peng, Prof. Hui Zhang



Invited talk 1: Research on the Thrust Characteristics and Temperature Rise of Slot-less Tubular Linear Motor for Active Vehicle Suspension

Abstract : This paper presents a Slot-less Tubular Permanent Magnet Linear Motor (ST-PMLM), which does not have the cogging structure in the stator. Meanwhile, its lateral stator core doesn't split, so the motor only has longitudinal edge effect. Since the ST-PMLM is supposed to be used as the active damper for vehicle suspension system, this paper focus on two aspects: increasing the output thrust and restraining the thrust fluctuation of the motor. Firstly, the equivalent magnetic circuit model of the ST-PMLM is established. The influences of structural parameters, including the thickness of the magnetic pole, the length of the air gap, the thickness of primary iron core and the thickness of primary winding, on the air gap flux density and the output thrust are analyzed. Then, the distribution of the magnetic field at the end of the primary iron core is observed. Length compensation in the end of primary iron core is adopted in order to reduce the thrust fluctuation. Finally, the prototype of ST-PMLM is developed and the experiment test bench is built. Based on the no-load test of the prototype, the effectiveness of the primary core length compensation in suppressing end effects and inhibiting fluctuations are verified.



Biography: Chengming Zhang received the B.E., M.E., and D.E. degrees from the Harbin Institute of Technology (HIT), China, in 2005, 2007, and 2013, respectively. Since 2013, He has been a lecturer with the School of Electrical Engineering and Automation, HIT. His research areas include high efficiency motor systems, high speed motors, energy conversion and control.



WORKSHOP (III)

Invited talk 2: A Novel Fast Charging Method Based on Simplified Pseudo Two-dimensional Model Considering Side reactions for Lithium-ion Battery

Abstract: A novel fast charging algorithm based on a simplified electrochemical thermal battery model considering side reactions is proposed in this paper. The method applies multistage charging strategies to charge the battery. The results of the testing on a high power NMC lithium-ion cell subjected to the method are reported. The presented charging curve permits a full recharging of the cell in approximately 35 minutes, nearly 50% of the Constant Current-Constant Voltage (CC-CV). The model is used to dynamically estimate the side reaction rate and degradation representatives at anode. The simulation and experimental results show that the proposed charging method reduces the side-effects generally accompanied by the normal CC-CV charging and slows down aging rate of a cell.



Biography: Yizhao Gao received the B.E. degree in automotive engineering from Hunan University, Changsha, China in 2016. He studied as M.S degree student from 2016-2018 in Shanghai Jiaotong University. He is currently working toward the PhD's degree in the School of Automobile Engineering in Shanghai Jiaotong University.

His research interests include Battery modelling and optimal charging strategy for lithium-ion batteries. He has accomplished 5 papers (3 for SCI&2 for EI) and 1 patent. He was awarded as Excellent Graduate Student, Hunan Province, 2016.



Invited talk 3: Efficiency Optimization Control Strategy of Overall Permanent Magnet Synchronous Motor-Inverter Under Full Power Range

Abstract: This paper investigates both the fundamental and harmonic losses of permanent magnet synchronous motor (PMSM) in conjunction with inverter losses for a wide range of switching frequencies (SFs) and different direct-axis currents (I_d s) under full power range. The effects of SFs and I_d s on the total losses, including fundamental loss and harmonic loss in the windings and lamination core, conduction loss, and switching loss in IGBTs, are described through analytical models. Meanwhile, the loss models of the motor are modified and validated by the 2-D finite-element analysis. Furthermore, the efficiency improvement of the overall PMSM-inverter system for different operation conditions benefits from an artificial bee colony (ABC) algorithm proposed in this paper. The optimal SF and I_d , in terms of PMSM-inverter overall efficiency, are preferred for every operation point, thanks to the proposed ABC and the precise calculation of losses. Experimental results validate the proposed methodology.



Biography: Xiaofeng Ding received the B.S., M.S., and D.S. degrees in electrical engineering from Northwestern Polytechnical University, Xi'an, China, in 2005, 2008, and 2011, respectively. From 2008 to 2010, he was a Visiting Scholar with the University of Michigan-Dearborn, Dearborn, MI, USA.

He is currently an associate professor with the Department of Electrical Engineering, BeiHang University, Beijing, China. And he is the chair in charge of the department of Electrical Engineering. His research interests include permanent magnet electric machines and their drives based on wide bandgap power devices, such as silicon carbide (SiC) and gallium nitride (GaN) devices.



PRACTICAL GUIDE

ABOUT MELBOURNE

Melbourne is the capital and most populous city in the state of Victoria, and the second most populous city in Australia. The metropolis is located on Port Phillip Bay, a large natural harbour, with the city centre positioned on the estuary of the Yarra River at the northernmost point of the bay. Often referred to as the “Garden City” and “cultural capital of Australia”, It is also a major centre for contemporary and traditional Australian music. The metropolis is also home to the world’s largest tram network. Melbourne Airport, the main passenger airport, is the second busiest in Australia and the Port of Melbourne is Australia’s busiest seaport for containerised and general cargo. Melbourne is very much about lifestyle. It is no huge surprise to residents that their city has been ranked as one of the world’s most liveable cities. Melburnians love the city’s vibrant energy, restaurants, fashion boutiques, cafe-filled laneways, cool bars, unbeatable galleries, spacious parks and village-like inner suburbs, each with its own special character. Melbourne is a young city and as such it never sits still. Modern, cutting-edge designs add to the fascinating mix of heritage architecture and ensure the skyline is constantly changing.

CLIMATE AND CLOTHING

Melbourne’s climate is one that is as changeable as the seasons, so tourists should go prepared for anything, though on the whole Melbourne enjoys warm summers, mild spring and autumn and cool winters. Like some other parts of Australia, Melbourne experiences a temperate climate which means that it is not prone to dangers such as tropical cyclones, though the unpredictable rainfall is something that can surprise some people. In November, the last month of the spring, Melbourne experiences an average temperatures range from 9.6 - 19.6°C (49.3 - 67.3°F). The season is known as the most variable of the year, when weather can quickly change from calm and sunny to cold and windy. Pack your umbrella – October is the wettest month with roughly 10 days of rainfall.

CURRENCY AND BANKING

Decimal currency is used in Australia (AUD) and currency units are dollars and cents. Australian notes are: \$100, \$50, \$20, \$10, \$5. Coins are: \$2, \$1, 50, 20, 10, and 5 cents.

TIME ZONE

Melbourne’s time is 10 hours ahead of GMT.

ELECTRICITY

The electrical supply is 240 volts, 50 Hz. The connection for appliances is a flat 3-pin plug. Most city hotels provide 110 volts for shavers.

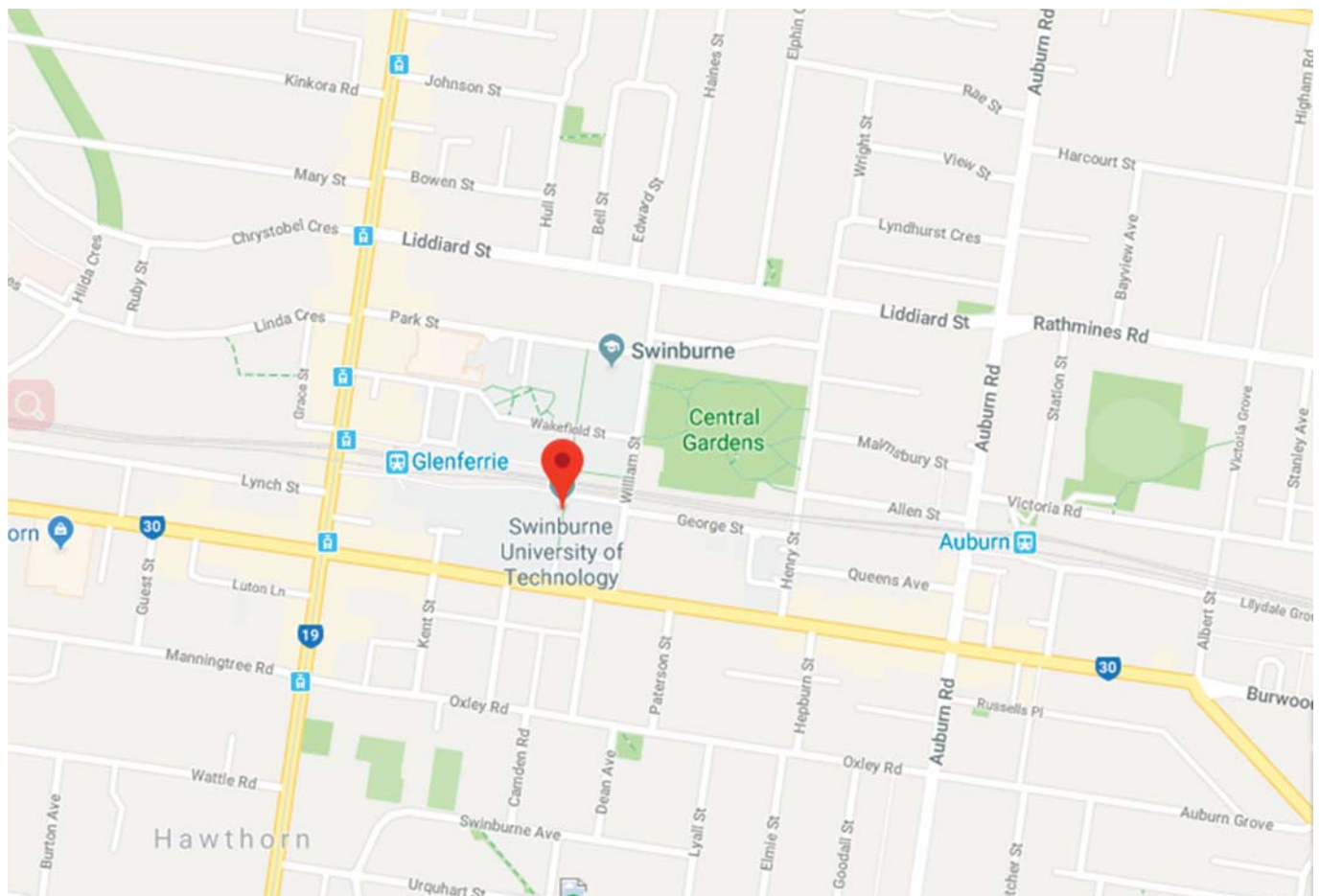


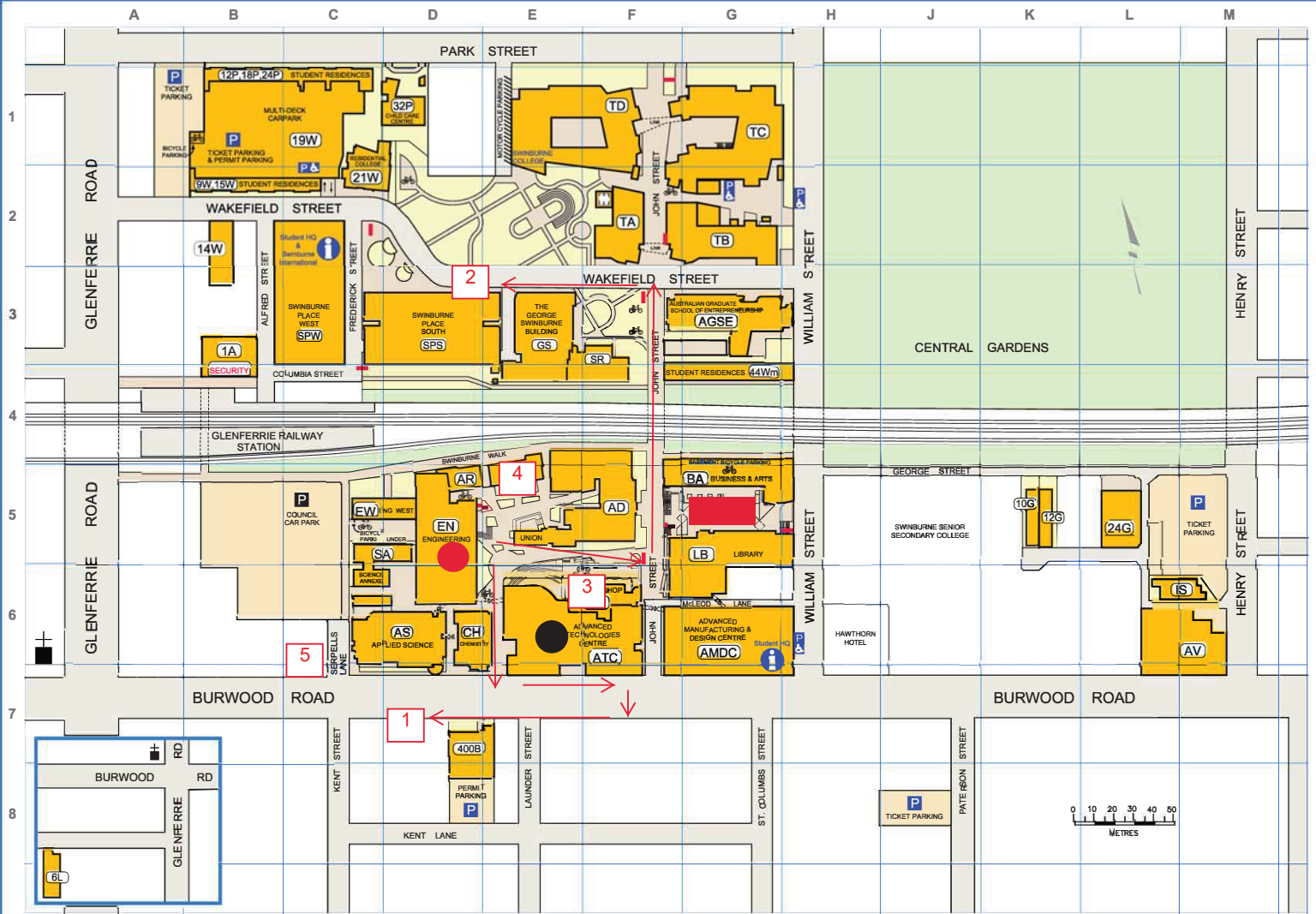
VENUE INFORMATION

The venue of ICEEE/ISEV2018 is at the Hawthorn campus of Swinburne University of Technology, which is just 10 minutes from the centre of Melbourne. Hawthorn is one of the city's most attractive inner suburbs. The campus offers a state-of-the-art learning environment and a desirable student lifestyle. It is set among the vibrant cafés, restaurants, bars, boutiques and bookshops of Glenferrie Road. It has the convenience of supermarkets, banks and ATMs nearby. Explore the many laneways, loaded with fantastic coffee and shopping options. Relax in Central Gardens or go to the gym at the newly renovated Hawthorn Aquatic and Leisure Centre. Hawthorn's newest movie theatre, Lido Cinemas, has eight screens and a rooftop cinema.

The Telefon: + 61 3 9214 8000

John Street, Hawthorn, Victoria 3122, Australia.





Conference Venue



Swinburne Library Foyer (Welcome Reception)

1

ZEN (Japanese Restaurant)

2

Yummy Campus (Chinese Restaurant)

3

Caffe On Uni

4

Haddons Cafe

5

Veggie on Board (Chinese Restaurant)

BUILDING NAME

BLDG.

REF.

1 Alfred St	1A	B 3
6 Luton Lane	6L	A 8
10 George St	10G	K 5
21 Wakefield St	21W	C 2
24 George St	24G	L 5
32 Park St	32P	D 1
400 Burwood Rd	400B	D 7
60 William St	60Wm	G 5
Old Administration Building	AD	F 5
Advanced Manufacturing & Design Centre	AMDC	G 6
Advanced Technologies Centre	ATC	E 6
Applied Sciences Building	AS	D 6
Arts Building	AR	E 5
Australian Graduate School of Entrepreneurship	AGSE	G 3
Aviation Building	AV	M 6
Business & Arts Building	BA	G 5
Chemistry Building	CH	D 6
Engineering Building	EN	D 5
Engineering - West Building	EW	C 5
IS Building	IS	M 6
Library	LB	G 5
Multi-Deck Car Park	19W	C 1
Science Annexe	SA	C 5
SR Building	SR	F 3
Student Residences - Park St	12P, 18P, 24P	B 1
Student Residences - Wakefield St	9W, 15W	B 2
Student Residences - William St	44Wm	G 4
Swinburne Place - South Building	SPS	D 3
Swinburne Place - West Building	SPW	C 3
TA Building	TA	F 2
TB Building	TB	G 2
TC Building	TC	G 1
TD Building	TD	F 1
The George Swinburne Building	GS	E 3
UN Building	UN	F 6

SWINBURNE

Swinburne University of Technology
Hawthorn Campus

P.O. Box 218
Hawthorn VIC 3122

General Enquiries : 03 9214 8000
Campus Security : 03 9214 3333

SPEAKER GUIDE

ORAL PRESENTATION

The length of presentation should be in accordance with the allocated time for the authors, which is 20mins including 5mins for Q&A. The authors are requested to load their presentation **10 mins** before the session starts. You are kindly invited to be present in the venue before the session starts. Please also prepare a short bio that the session chairs can use to introduce you.

Each presentation room is equipped with a laptop and a projector. PowerPoint is the standard presentation software. Windows is the installed OS. If you have any question, please contact conference volunteers who will help you on site.

PRESENTATION VENUES

The main conference venues are at Swinburne University of Technology. The following table lists the presentation venues which are used in the detailed program.

Event	Location
Opening	ATC101
Session A	EN101
Session B	EN102
Session C	EN103
Session D	EN202
Session E	EN203
Welcome Reception	Swinburne Library Foyer



PROGRAM AT A GLANCE

Registration: Nov 21: 14:00 - 16:00; Nov 22: 8:30 - 17:00; Nov 23: 8:30-10:00					
Day 1: Nov 22					
08:40-09:00	Opening Ceremony				
09:00-09:50	Keynotes: Prof. Henrik Lund Smart Energy Systems-The Design of 100% Renewable Energy Solutions				
09:50-10:20	TEA/COFFEE BREAK				
10:20-11:10	Keynotes: Prof Dr-Michael Gerard Pecht From the Explosion of E/cigarettes to the Safety of Batteries				
11:10-12:00	Keynotes: Prof. Dr.-Ing. Andreas Jossen Battery Energy Storage Systems for Stationary Applications - Technologies, Requirements, Operation and Optimization, Economic -				
12:00-13:20	LUNCH				
Sessions	1-A1	1-B1	1-C1	1-D1	1-E1
13:20-15:00	BMMI	EO&M I	EEE I	VTS I	PANEL I
15:00-15:30	TEA/COFFEE BREAK				
Sessions	1-A2	1-B2	1-C2	1-D2	1-E2
15:30-17:10	BMM II	EO&M II	EEE II	BMM III	PANEL II
Day 2: Nov 23					
Sessions	2-A1	2-B1	2-C1	2-D1	2-E1
08:30-09:50	BMM IV	EO&M III	EEE III	TM	PANEL III
09:50-10:20	TEA/COFFEE BREAK				
Sessions	2-A2	2-B2	2-C2	2-D2	2-E2
10:20-12:00	BMM V	VTS II	EEE IV	VTS III	BMM VI
12:00-13:20	LUNCH				
Sessions	2-A3	2-B3	2-C3	2-D3	2-E3
13:20-15:00	VTS IV	VTS V	EO&M IV	BMM VII	EO&M V
15:00-15:30	TEA/COFFEE BREAK				
15:30-16:30	POSTER SESSIONS				
18:30	BANQUET				

BMM=Battery Modeling and Management, EO&M=Energy Optimization and Management,
EEE= Energy, Ecology and Environment, VTS=Vehicular Transmission System, TM=Thermal Management



DAY 1 ORAL PRESENTATIONS

Day 1: Nov 22	
Conference Room: ATC101	
08:40-08:50	OPENING Prof. Bin Chen and Prof. Rui Xiong
08:50-09:00	Prof. Hung Nguyen, Pro-Vice Chancellor of the Faculty of Science, Engineering and Technology, Welcome address
09:00-09:50	Smart Energy Systems-The Design of 100% Renewable Energy Solutions Prof. Henrik Lund
09:50-10:20	TEA/COFFEE BREAK
10:20-11:10	From the Explosion of E/cigarettes to the Safety of Batteries Prof Dr-Michael Gerard Pecht
11:10-12:00	Battery Energy Storage Systems for Stationary Applications - Technologies, Requirements, Operation and Optimization, Economic - Prof. Dr.-Ing. Andreas Jossen
12:00-13:20	LUNCH

Conference Room: EN101			
Session Title: Battery Modeling and Management I			
Session Chair: Xi Zhang, Xiaosong Hu			
Time	Paper ID	Author	Paper Title
13:20-13:40	45	Wang Yubin, Zhang Caiping, Gao Yang, Zhang Linjing, Zhang Yanru and Cong Xinwei	Fading Mechanism Analysis of NCM Lithium-Ion Battery under Different Degrees of Overcharge
13:40-14:00	58	Heze You, Haifeng Dai and Yuan Ji	Design of an Active Equalization System for Lithium-ion Battery Based on Coreless Planar Transformer
14:00-14:20	75	Jinlei Sun, Ruihang Liu, Chuanyu Tang, Tianru Wang and Fuming Peng	Economic Optimization Scheduling Strategy for Battery Energy Storage System based on Particle Swarm Optimization
14:20-14:40	125	Hao Lei, Xiaokai Chen and Rui Xiong	Battery Modeling for Multi-Cell Battery Pack in Electric Vehicles Using Bias Correction Method
14:40-15:00	59	Rui Xiong and Linlin Li	Online estimation of state of charge and state of health based on improved single particle model using extended kalman filter
15:00-15:30	TEA/COFFEE BREAK		



DAY 1 ORAL PRESENTATIONS

Conference Room: EN102			
Session Title: Energy Optimization and Management I			
Session Chair: Simin Peng, Masoom Abbas Syed			
Time	Paper ID	Author	Paper Title
13:20-13:40	9	Yujie Wang, Zhendong Sun, Xiaoyu Yang and Zonghai Chen	A comparative study of power distribution strategies for fuel cell and supercapacitor hybrid power source system
13:40-14:00	119	Masoom Abbas Syed, Muhammad Zain Ul Abideen and Mehdi Korki	Efficient Energy Management Control of Renewable Sources in Micro Grid with Power Quality Improvement using Active Power Filter
14:00-14:20	85	Xiaosong Hu, Haifu Jiang, Fei Feng and Changfu Zou	A Novel Multi-Scale Co-Estimation Framework of State of Charge, State of Health, and State of Power for Lithium-Ion Batteries
14:20-14:40	92	Jun Yuan and Shumei Wei	Comparison of using artificial neural network and Gaussian process in ship energy consumption evaluation
14:40-15:00	91	Simin Peng, Chong Chen, Wang Zhibing, Xiaodong Yang and Zhen Xu	A state of charge estimation method based on adaptive unscented Kalman filter for Lithium-ion parallel-connected battery system
15:00-15:30	TEA/COFFEE BREAK		
Conference Room: EN103			
Session Title: Energy, Ecology and Environment I			
Session Chair: Haiyang Lin, Hongfang Lu			
Time	Paper ID	Author	Paper Title
13:20-13:40	69	Yufeng Yang	Bioremediation effects of the large-scale cultivation of seaweed Gracilaria lemaneiformis and its resource utilization -- a case study in Nanao, South China
13:40-14:00	57	Mohammad Woli Ullah, Mohammad Golam Mortuza, Md Humayun Kabir, Zia Uddin Ahmed, Sovan Kumar Dey Supta, Partho Das and Syed Mohammad Didar Hossain	Internet of Things Based Smart Greenhouse: Remote Monitoring and Automatic Control
14:00-14:20	81	Fengying Xu, Hongfang Lu, Zhen Chen, Yiwei Chen, Zhicong Guan, Guowei Shen and Changyou Li	Comparison, simulation and optimization of Pad and Fan Cooling Systems for Greenhouse
14:20-14:40	107	Haiyang Lin	Optimal siting and sizing of public charging stations in urban area
14:40-15:00	47	Sanmang Wu, Lei Yalin and Li Li	Study on China's provincial CO2 emissions: a multiregional input-output analysis
15:00-15:30	TEA/COFFEE BREAK		



DAY 1 ORAL PRESENTATIONS

Conference Room: EN202			
Session Title: Vehicular Transmission System I			
Session Chair: Ali Shah, Liqiang Zhang			
Time	Paper ID	Author	Paper Title
13:20-13:40	159	Zhang Chengming, Zhang Jiangpeng, Jiwei Cao, Li Liyi, Wang Mingyi and Jie Zhao	The Iron Loss Analysis of Direct-Driving External-Rotor Motor with Cobalt-Iron Alloy
13:40-14:00	50	Taowen Cui, Wanzhong Zhao and Chunyan Wang	Dynamic constraint analytical target cascading optimization of steering and suspension integrated system
14:00-14:20	117	Qiyuan Hu, Mengjian Tian, Bingzhao Gao and Jidong Lyu	Dynamic analysis of electric vehicle with battery pack swinging chassis
14:20-14:40	26	Zeyu Yang, Zhanyi Hu, Manjiang Hu, Xiangyu Wang and Zhihua Zhong	A Comparative Study on Coaxial Parallel and Coaxial Parallel-serial Hybrid Architectures for Plug-in Hybrid Electric buses
14:40-15:00	120	Mehdi Korki, Muhammad Saqib and Ali Shah	Single Phase Grid-Tie Inverter design using PLL and MPPT Techniques
15:00-15:30	TEA/COFFEE BREAK		

Conference Room: EN203	
Panel I	
22 Nov, 2018, 13:20-15:00	Workshop on battery management system Chairs: Prof. Caiping Zhang, Dr. Chun Wang Panelist: Prof. Dr-Michael Gerard Pecht, Prof. Caiping Zhang, Prof. Xiaosong Hu, Prof. Yonggang Liu, Prof. Jun Xu, Prof. Chao Lyu, Dr. Yongzhi Zhang, Dr. Chun Wang, Prof. Qie Sun



DAY 1 ORAL PRESENTATIONS

Conference Room: EN101

Session Title: Battery Modeling and Management II

Session Chair: Ziqiang Chen, Xiaopeng Tang

Time	Paper ID	Author	Paper Title
15:30-15:50	35	Bingxiang Sun, Xiaojia Su, Xitian He, Haijun Ruan, Weige Zhang and Xiaofeng Shen	Experimental investigations of Combined DC-AC charging pattern for lithium-ion battery at low temperature
15:50-16:10	60	Hao Yuan, Haifeng Dai and Xuezhe Wei	Sensitivity of Impedance Parameters of Li-ion batteries under different State of Health
16:10-16:30	88	Yonggang Liu, Junjun Liu, Daqi Chen and Qin Datong	An exponentially varying speed prediction method based on SVM recognition
16:30-16:50	151	Deyang Huang, Ziqiang Chen and Changwen Zheng	A novel adaptive SOC estimation method for a series-connected lithium-ion battery pack under fast-varying environment temperature
16:50-17:10	53	Xiaopeng Tang, Furong Gao, Ke Yao and Yujie Wang	Battery State of Charge Estimation based on a Pure Hardware Implementable Method

Conference Room: EN102

Session Title: Energy Optimization and Management II

Session Chair: Xiaofeng Ding, Changjun Xie

Time	Paper ID	Author	Paper Title
15:30-15:50	63	Xiaogang Wu, Dianyu Zheng, Jiuyu Du, Zhengxin Liu and Xiaodong Zhao	Torque Optimal Allocation Strategy of All-wheel Drive Electric Vehicle
15:50-16:10	28	Yan Bao, Weige Zhang and Fangyu Chang	A novel TOU price based coordinated charging strategy for EVs in the fast charging station
16:10-16:30	10	Guobiao Shi, Qian Zhou and Shuai Wang	A hierarchical strategy for the electro-hydraulic coupling steering system on commercial vehicle
16:30-16:50	79	Yu Fu	Comparison between Different Types of Energy Storage regarding Their Integration in a PV/ST-GSHP System
16:50-17:10	147	Aidao Dong, Junzhi Zhang, Jiang Yi and Wenfei Jiang	Mass and Slope Estimation of Electric Vehicles Equipped with AMT Based on Recursive Least Square Method with Multiple Forgetting Factors



DAY 1 ORAL PRESENTATIONS

Conference Room: EN103 Session Title: Energy, Ecology and Environment II Session Chair: Sajjad Mahmoudi, Xi Lu			
Time	Paper ID	Author	Paper Title
15:30-15:50	89	Jingjing Jia, Huajiao Li, Jinsheng Zhou and Jianping Ge	Evolutionary Features of Correlations in China's Listed Energy Companies Based on Financial Indicators
15:50-16:10	135	Zhan-Ming Chen, Pei-Lin Chen and Shiyun Xu	Transmission effect of fossil energy price fluctuation for China
16:10-16:30	61	Sajjad Mahmoudi, Nazmul Huda, Zahraossadat Alavi and Masud Behnia	Material Flow Analysis of the End-of-Life Photovoltaic Waste in Australia
16:30-16:50	49	Haichao Liu, Shuangquan Shao, Hainan Zhang and Changqing Tian	Performance Investigation on thermosyphon with evaporative condenser for free cooling of data centers
16:50-17:10	188	Yating Liu, Saige Wang and Bin Chen	Water-land nexus in inter-provincial food trade within China based on ecological network analysis

Conference Room: EN202 Session Title: Battery Modeling and Management III Session Chair: Hong Zhang, Li Zhao			
Time	Paper ID	Author	Paper Title
15:30-15:50	62	Xinwei Cong, Jiuchun Jiang, Caiping Zhang, Jian Wu, Yubin Wang and Jingji Bian	Analysis of Topologies of Reconfigurable Batteries
15:50-16:10	154	Li Zhao, Yong Chen and Mui Lin	Capacity-Difference Based Battery Equalization Method
16:10-16:30	98	Jiayu Mi, Jiuchun Jiang, Shaoyuan Wei and Caiping Zhang	Research on Timetable Optimization for Charging Capacity Reduction in Supercapacitor-powered Urban Rail Transit
16:30-16:50	97	Jiayu Mi, Jiuchun Jiang, Shaoyuan Wei and Xinyu Jia	Synthesis of Representative Driving Cycles for Energy Storage Based Urban Rail Vehicles
16:50-17:10	48	Hong Zhang, Zhuang Xing and Wei Chen	Design and Realization of Auxiliary Power Unit Coordination Control Strategy



DAY 1 ORAL PRESENTATIONS

Conference Room: EN203

Panel II

22 Nov, 2018,
15:30-17:10

Workshop on Integrated Systems Analysis

Chairs: Prof. Victor Nian

***Panelist: Prof. Victor Nian, Dr. Pietro Elia Campana, Dr. Yukun Hu, Prof. Shengchun Liu,
Dr. Riasat Noor, Assoc. Prof. Jun Yuan***



DAY 2 ORAL PRESENTATIONS

Day 2: Nov 23

Conference Room: EN101

Session Title: Battery Modeling and Management IV

Session Chair: Chao Lyu, Zhanming Chen

Time	Paper ID	Author	Paper Title
08:30-08:50	122	Zheng Chen, Xinyue Song, Renxin Xiao, Jiangwei Shen and Xuelei Xia	State of Health Estimation for Lithium-Ion Battery based on Long Short Term Memory Networks
08:50-09:10	37	Wang Wenwei, Yang Sheng, Lin Cheng and Li Yiding	Measuring the internal short circuit resistance under mechanical abusive conditions
09:10-09:30	153	Chao Lyu, Jun Zheng and Weilin Luo	In Situ Monitoring of Lithium-ion Battery Degradation Using an Electrochemical Model
09:30-09:50	164	Ye Liu, Xiaogang Wu and Jiuyu Du	Sizing Optimization of the Battery Energy Storage System for PV Micro-grid
09:50-10:20	TEA/COFFEE BREAK		

Conference Room: EN102

Session Title: Energy Optimization and Management III

Session Chair: Caiping Zhang, Yongzhi Zhang

Time	Paper ID	Author	Paper Title
08:30-08:50	177	Jiaxing Li and Zhuoyun Li	Optimal Air-Volume-Demand Calculation of High-Speed Rail Intelligent Air-Conditioning System Based on Passenger Distribution
08:50-09:10	94	Jianfei Cao and Hongwen He	Energy optimization of electric vehicle's acceleration process based on reinforcement learning
09:10-09:30	116	Li Junqiu, Min Qingyun, Sun Haidi, Sun Fengchun and Sun Chao	Fast Planning of Global SoC Trajectory for Hierarchical Predictive Energy Management in PHEVs
09:30-09:50	15	Dong Wei, Hongwen He and Jingda Wu	Simulation analysis on the rule-based energy management of a power-split hybrid electric vehicle
09:50-10:20	TEA/COFFEE BREAK		



DAY 2 ORAL PRESENTATIONS

Conference Room: EN103 Session Title: Energy, Ecology and Environment III Session Chair: Jiashuo Li, Pietro E. Campana			
Time	Paper ID	Author	Paper Title
08:30-08:50	152	Gengyuan Liu	Energy water nexus and its implications in Urban sectors
08:50-09:10	16	Zhanyi Hu, Zeyu Yang, Manjiang Hu, Huajian Zhou and Zihua Zhong	Economy-oriented control strategy for dual-motor four-wheel-drive electric vehicle in a car-following maneuver
09:10-09:30	5	Kun Peng, Sili Zhou and Jiashuo Li	Interdependence between energy and metals in China: evidence from a nexus perspective
09:30-09:50	30	Xinxin Han, Huiming Zou and Hongbo Xu	Experimental study on heating performance of a vapor injection ASHP for electric buses
09:50-10:20	TEA/COFFEE BREAK		

Conference Room: EN202 Session Title: Thermal Management Session Chair: Yukun Hu, Saige Wang			
Time	Paper ID	Author	Paper Title
08:30-08:50	64	Yukun Hu, Ck Tan, John Niska, Jahedul Chowdhury, Nazmiye Balta-Ozkan, Liz Varga, Paul Roach and Chunsheng Wang	Thermal performance analysis of flameless oxy-fuel combustion trials on a reheating furnace using zone method-based models
08:50-09:10	46	Jahedul Islam Chowdhury, Faisal Asfand, Yukun Hu, Nazmiye Balta-Ozkan, Liz Varga and Kumar Patchigolla	Waste heat recovery potential from industrial bakery ovens using thermodynamic power cycles
09:10-09:30	108	Xincheng Liang, Shipai Huang and Jindou Zhao	Study on the thermal generation and transmission of lithium battery
09:30-09:50	132	Daobin Mu, Beiyuan Liu, Yizhou Wu, Borong Wu, Chunli Li, Zhikun Zhao, Jiale Fu, Qi Liu and Chaoxiang Xie	Improving sulfur-containing cathode with a barrier layer of TiO ₂ -decorated reduced graphene oxide in lithium-sulfur batteries
09:50-10:20	TEA/COFFEE BREAK		



DAY 2 ORAL PRESENTATIONS

Conference Room: EN203

Panel III

23 Nov, 2018,
08:30-09:50

Workshop on Emerging electrical machines and power electronics in Electric Vehicles

Chairs: Prof. Xiaofeng Ding, Prof. Xi Zhang

Panelist: Prof. Chengming Zhang, Prof. Xiaofeng Ding, Prof. Xi Zhang, Prof. Changjun Xie, Prof. Simin Peng, Prof. Hui Zhang

Conference Room: EN101

Session Title: Battery Modeling and Management V

Session Chair: Min Ye

Time	Paper ID	Author	Paper Title
10:20-10:40	100	Zhenzhen Lei, Pan Zhao, Dongye Sun and Jie Li	Blended energy management strategy of plug-in hybrid electric vehicles based on the influences of driving cycles
10:40-11:00	6	Huihui Zou, Jinrui Nan and Fangxiang Peng	Simulation Research on Fuel Consumption Reduction Strategy of 48V Micro Hybrid Electric Vehicles
11:00-11:20	78	Jia-Qi Luo, Ying Shi and Chang-Jun Xie	FSSPD: Fast Single Stage Pedestrian Detector for Autonomous Driving
11:20-11:40	33	Min Ye	Double scale robust control for the hybrid energy system of an battery electric vehicle
11:40-12:00	205	Weida Wang, Yanqin Wang, Changle Xiang and Yulong Zhao	An improved energy management strategy for HEV based on driving condition prediction within a finite time horizon



DAY 2 ORAL PRESENTATIONS

Conference Room: EN102

Session Title: Vehicular Transmission System II

Session Chair: Yonggang Liu, Naxin Cui

Time	Paper ID	Author	Paper Title
10:20-10:40	44	Taowen Cui, Wanzhong Zhao and Chunyan Wang	Design optimization of vehicle EHPS system based on multi-objective genetic algorithm
10:40-11:00	7	Jiangfeng Nan, Jinrui Nan and Xiaolin Xu	A Particle Swarm Optimization for Terminal Resistor Matching
11:00-11:20	101	Mengjian Tian, Yonghui Jiang, Jidong Lyu and Bingzhao Gao	A Novel Transmission Using Dual Motor and One-way Clutch and Its Down-shift Control Process
11:20-11:40	31	Baixuan Zhao, Xi Zhang and Wei Qian	MTPA and Flux-weakening Control Based on Online Parameters Estimation for IPMSM
11:40-12:00	114	Sun Haidi, Sun Fengchun, Li Junqiu, Min Qingyun and Sun Chao	Power demand forecasting method and its application in parallel hybrid electric vehicle powertrain control

Conference Room: EN103

Session Title: Energy, Ecology and Environment IV

Session Chair: Shuang Lv, Udayanka Mulleriyawage

Time	Paper ID	Author	Paper Title
10:20-10:40	214	Dan Song, Ling Lin and Wei Bao	Sustainability evaluation of a typical cement production chain in China – An emergy perspective
10:40-11:00	136	Zhan-Ming Chen, Rongjian Zhao, Pei-Lin Chen and Shiyun Xu	Imperfect price transmission in China: An industrial level analysis based on input-output model
11:00-11:20	137	Shuang Lv	Two air-cooling configurations for battery management system
11:20-11:40	123	Udayanka Mulleriyawage and Weixiang Shen	A review of battery energy storage systems for residential DC microgrids and their economical comparisons
11:40-12:00	86	Song Mei and Hao Xuguang	Effect Analysis of De-overcapacity Policy in China's Coal Industry



DAY 2 ORAL PRESENTATIONS

Conference Room: EN202

Session Title: Vehicular Transmission System III

Session Chair: Lijuan Xiang

Time	Paper ID	Author	Paper Title
10:20-10:40	55	Xiaochuan Zhou, Wanzhong Zhao and Chunyan Wang	Performance analysis and multi-objective optimization design of vehicle electro-hydraulic compound steering system
10:40-11:00	124	Pang Bo, Tian Mengjian, Lyu Jidong and Gao Bingzhao	Enhancement of Integrated chassis system of Electric Vehicles on cornering maneuvers
11:00-11:20	112	Zhifu Wang, Yueyi Song, Fengchun Sun and Chuang Cao	Research on Fault Detection and Diagnosis of Stator Windings in Permanent Magnet Synchronous Motor
11:20-11:40	118	Zhifu Wang, Zhaojian Liu, Rui Xiong and Renjie Li	Robust estimation of Li-ion battery SOC based on adaptive Mixed KF/HIFF filter
11:40-12:00	127	Xiaoyu Li, Teng Long, Jindong Tian, Yong Tian and Lijuan Xiang	Performance Analysis of Three types of Energy Storage Components for Wide Temperature Range Electric Vehicle Applications

Conference Room: EN203

Session Title: Battery Modeling and Management VI

Session Chair: Yong Tian, Xiaogang Wu

Time	Paper ID	Author	Paper Title
10:20-10:40	190	Bo Zhang and Yaowen Zhang	Energy, water and food requirements of China's regional development
10:40-11:00	104	Haonan Li, Hongwen He and Jiankun Peng	Five-parameter Shift Strategy of Automatic Mechanical Transmission for Electric Bus
11:00-11:20	72	Yu Fang, Jun Wang and Rui Xiong	An Novel Battery State Estimation Method without Temperature Input Based on Improved DEKF
11:20-11:40	128	Daobin Mu, Chenyou Zhu and Zhikun Zhao	Progress in Thermal Modeling for Lithium ion Battery
11:40-12:00	24	Hongwen He, Chen Wang and Hui Jia	A Stochastic Model Predictive Controller Based on Combined Conditions of Air Conditioning System for Electric Vehicles



DAY 2 ORAL PRESENTATIONS

Conference Room: EN101

Session Title: Vehicular Transmission System IV

Session Chair: Cheng Lin, Quan Xu

Time	Paper ID	Author	Paper Title
13:20-13:40	166	Min Ye and Lingying Zhao	Riding Comfort of an Electric Vehicle Based on the Coupling Braking Systems of Mechanical Friction and Electric Regenerative
13:40-14:00	73	Huan Chen, Cheng Lin and Rui Xiong	Real-time Energy Management for a Semi-active Hybrid Energy Storage System Using Model Predictive Control
14:00-14:20	2	Nana Zhou, Zheng Zhang and Hongwen He	A novel method to diagnose demagnetization fault of PMSM in electric vehicles by using H infinity filter
14:20-14:40	150	Miaoran Zhang, Yingyuan Zhang, Quan Xu, Qingwen Guan, Weijun Li, Wei Cai and Riguo Su	Gecko inspired dry self cleaning surfaces
14:40-15:00			
15:00-15:30	TEA/COFFEE BREAK		

Conference Room: EN102

Session Title: Vehicular Transmission System V

Session Chair: Lijin Han, Wenwei Wang

Time	Paper ID	Author	Paper Title
13:20-13:40	160	Hongwen He, Bing Lu and Jiankun Peng	The Prediction Regenerative Braking Control Based on the Prediction of Braking Intention for Electric Vehicles
13:40-14:00	155	Hong Pan, Wenwei Wang, Cheng Lin, Jiang Yi and Sheng Yang	A Dual-motor Coupling Propulsion System Design and Control Strategy Optimization for an Electric Coach
14:00-14:20	93	Lijin Han, Hui Liu, Weida Wang and Tian Ma	Multi-objective control strategy of Electro-Mechanical Transmission Based on Driving Pattern Division
14:20-14:40	27	Nan Jinrui and Zheng Zhichao	The Advantages and Application Prospects of CAN FD Bus Technology for Vehicle Network Communication
14:40-15:00			
15:00-15:30	TEA/COFFEE BREAK		



DAY 2 ORAL PRESENTATIONS

Conference Room: EN103

Session Title: Energy Optimization and Management IV

Session Chair: Jun Xu, Huan Chen

Time	Paper ID	Author	Paper Title
13:20-13:40	41	Yuecheng Li, Hongwen He, Jiankun Peng and Jingda Wu	Energy Management Strategy for a series Hybrid Electric Vehicle Using Improved Deep Q-network Learning Algorithm with Prioritized Replay
13:40-14:00	141	Jun Xu, Yu Li, Cheng Peng, Xuesong Mei and Junping Wang	A Review on the Battery Balancing and Reconfiguration Methods
14:00-14:20	172	Jinpeng Tian, Ruixin Yang, Weixiang Shen and Rui Xiong	A novel electrochemical impedance spectroscopy fitting method for lithium ion batteries
14:20-14:40	17	Hui Jia, Chen Wang and Hongwen He	A Neural Network Control Strategy for Composite Braking System of Electric Vehicle
14:40-15:00			
15:00-15:30	TEA/COFFEE BREAK		

Conference Room: EN202

Session Title: Battery Modeling and Management VII

Session Chair: Mehdi Korki, Shen Yu

Time	Paper ID	Author	Paper Title
13:20-13:40	121	Mehdi Korki, Krishna Kumar Bhati, Sithara Psb, Shamin Pandit, Ashwathi Suresh Nair and Darshan M Talati	MATLAB Simulation of Solar Electric Vehicle
13:40-14:00	156	Fangxu Liu, Junjie Zhou, Jin Chen and Xufeng Yin	An Approach of Trajectory Estimation for High-speed Unmanned Skid-steered Vehicle
14:00-14:20	203	Katarzyna Świerszcz and Bogdan Grenda	Geothermal Energy as an Alternative Source and a Countermeasure Against Low Emission in the Ecological Security Strategy
14:20-14:40	197	Rasoul Rahmani, Irene Moser and Antonio Cricenti	Optimal Configuration of Microgrid for Green Data Centres: A Radial Movement Optimization Approach
14:40-15:00	138	Aihua Tang	Polarization Voltage Characteristics of Li-ion Cells Using a Reduced Electrochemical Model
15:00-15:30	TEA/COFFEE BREAK		



DAY 2 ORAL PRESENTATIONS

Conference Room: EN203

Session Title: Energy Optimization and Management V

Session Chair: Delin Fang, Hui Zhang

Time	Paper ID	Author	Paper Title
13:20-13:40	8	Hongfang Lu, Pei Qin and Lei Wang	Integrated energy and economic evaluation of an Spartina alterniflora utilization ecological engineering system
13:40-14:00	1	Qing Yang, Zhiyu Wei, Hewen Zhou, Jiashuo Li, Haiping Yang and Hanping Chen	Greenhouse Gas Emission Assessment of Biomass Moving-bed Pyrolytic Polygeneration Systems in China
14:00-14:20	3	Delin Fang and Bin Chen	Water-Energy-Carbon Nexus Driven by Multi-regional Trade Network
14:20-14:40	150	Miaoran Zhang, Yingyuan Zhang, Quan Xu, Qingwen Guan, Weijun Li, Wei Cai and Rigu Su	Synthesis and application of red/yellow Dual-Emissive Carbon Dots
14:40-15:00			
15:00-15:30	TEA/COFFEE BREAK		

Poster Sessions

23 Nov, 2018, 15:30-16:30



Poster ID	Paper ID	Author	Paper Title
P-01	96	Yuchen Song, Lyu Li, Yandong Hou, Datong Liu, Chao Lyu and Yu Peng	A Numerical Study of Lithium-ion Battery Degradation Feature Extraction based on Transfer Function
P-02	77	Jie Ma, Jing Zhang, Xiaohui Lei and Bin Chen	Comparative Study of Four Uncertainty Evaluation Methods Based on SWAT Model
P-03	178	Hao Qian, Ying Zhang, Wenyan Qin, Feifei Wang and Xiaofeng Ding	Design and Implementation of Hybrid UAV Starter/Generator Module
P-04	18	Aijuan Li, Wanzhong Zhao, Xuyun Qiu, Xibo Wang, Xin Huang and Baoyi Wang	Intelligent Electric Vehicle Trajectory Optimization Method Based on Improved Genetic Algorithm
P-05	82	Bo Zhu, Peng Zhang, Jiujian Chang, Jinqiao Wang and Yuezhong Wang	Electric Vehicle Energy Flow Analysis and Energy Saving Technology Research
P-06	163	Xiang Gao, Cheng Lin, Sheng Liang and Yu Tian	LTV-RBF Approach for Yaw Stability Control of Distributed Drive Electric Vehicles
P-07	185	Tao Rui, Cungang Hu, Weixiang Shen and Jin Zhang	Distributed Optimal Dispatch Strategy for Multi-Agent System Based Isolated Microgrid
P-08	187	Ming Wu, Lingfeng Kou, Hui Xie, Chanhui Ling, Tao Rui and Weixiang Shen	Multi-objective Optimization of Distribution Network Based on Model Predictive Control
P-09	32	Bingxiang Sun, Jingji Bian, Haijun Ruan, Weige Zhang, Pengbo Ren and Xinwei Cong	Modeling Study for Lithium-ion Batteries Considering High-frequency Inductance Characteristics based on Electrochemical Impedance Spectroscopy
P-10	186	Ming Wu, Lingfeng Kou, Xiaogang Hou, Xin Tong, Tao Rui and Weixiang Shen	The Energy Management System Based on Model Predictive Control for Microgrid
P-11	143	Fengxian He and Weixiang Shen	Comparison and Selection of LiFePO ₄ Battery System in Underground Mine Electric Vehicles
P-12	161	Mingjie Zhao, Jiang Yi and Cheng Lin	Analysis of Optimal Shift Schedule Derivation for Electric City Buses equipped with Automatic Manual Transmission
P-13	167	Liyong Niu, Guoshan Yu and Jingxin Li	A Battery Energy Storage System Assisted EV Charger Based on a Three Port DCDC Converter
P-14	196	Yiyi Zhang, Shengren Hou, Jiefeng Liu, Saige Wang, Hanbo Zheng, Jieke Fang and Jiaqi Wang	Interprovincial Water Transfer in Electricity Transmission System from 2005 to 2014
P-15	68	Shuo Zhang, Ying Zhou and Xin Yuan	A Novel Inductance Identification Method for Surface-Mounted Permanent Magnet Synchronous Motor Used in Electric Bus



POSTER SESSIONS

Poster ID	Paper ID	Author	Paper Title
P-16	34	Bingxiang Sun, Pengbo Ren, Xingzhen Zhou, Jingji Bian and Minming Gong	State of Health Estimation of Lithium-ion Battery Based on Multi-output Gaussian Process Regression
P-17	162	Jian Chen, Cheng Lin, Sheng Liang and Fang Cao	A MPC-Based Torque Distribution Strategy for Distributed Drive Electric Vehicles
P-18	36	Zuoxing Wang, Yibin Tong, Qiang Cui, Jinling Meng and Guangbin Liu	Small-Signal Modeling and Analysis of Cascade Half-Bridge Battery Energy Storage System with Distributed Control
P-19	184	Min Xie, Yonghui Xie, Qihong Zhang, Yichuan He, Aihua Dong, Yuwen Shi and Qiguo Yang	Thermodynamic Analysis and Multiple System Layouts Comparison of the Supercritical CO ₂ Brayton Cycle for Sodium-cooled Fast Reactor with Offshore Scenes
P-20	74	Hong Zhang, Xueying Duan and Jining Han	Study on the Performance and Control Strategy for an Electrically Assisted Turbocharger System
P-21	131	Zhouzhensen Hong, Hong Zhang, Chaochen Ma and Shaolin Chen	Multi Field Coupling Stress Calculation and Analysis of Centrifugal Compressor Impeller Under Different Atmospheric Conditions
P-22	111	Zuguang Zhang, Jindong Tian, Yong Tian, Lijuan Xiang and Xiaoyu Li	Mechanism Analysis of Capacity Change of LiFePO ₄ Cells during Aging and Abuse
P-23	71	Xuyao Meng, Weige Zhang, Yan Bao, Yian Yan, Ruiming Yuan, Zhen Chen and Jingxin Li	Sequential Construction Planning of Electric Taxi Charging Station Considering the Development of Charging Demand
P-24	103	Peng Huang, Yuejiu Zheng, Han Gao and Chun Jiang	Design of an Multi-Module Cooperative Equalization System for Power Lithium-Ion Battery Pack
P-25	168	Jiuyu Du, Xinying Mo, Yalun Li, Lingren Li, Kun Zhang, Ye Liu and Xiaogang Wu	Heat Generation Characteristic of High power charging for BEV
P-26	38	Hongbo Xu, Changli Sun, Dianyuan Miao, Dejun Chu and Junjie Gao	Design and Experimental Research on Casing Pipe Continuous Flow Cryostat System
P-27	171	Yian Yan, Jiuchun Jiang, Weige Zhang, Caiping Zhang, Shaoyuan Wei and Xuyao Meng	Research on the Suppression of Distribution Capacity Demand of the Tramway Intermittent Charging System
P-28	180	Yuqi Yang, Lei Zhang, Rui Sun, Zhuozhi Wang, Yupeng Li and Xiaohan Ren	The Chemical and Physical Effect of Diluent H ₂ O on NO And CO Emissions in Computational CH ₄ / Air Laminar Diffusion Flames
P-29	39	Aihua Tang	Lithium-ion Battery SoC/SoH Joint Estimation Using SMO for EVs
P-30	43	Aihua Tang	Lithium-ion Battery SoC Estimation of an order-reduced electrochemical model Using SMO-URL in EVs



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P-31	189	Tao Cao, Saige Wang and Bin Chen	Urban energy-water nexus from a system dynamics perspective: A case study of Beijing
P-32	206	Saige Wang, Qing Yang and Bin Chen	The synergetic role of solar PV in the unit commitment of energy-water nexus in China
P-33	207	Yajing Li and Bin Chen	Driving force analysis of water consumption in the energy production process in China based on the LMDI method
P-34	208	Zhenzhen Tian, Saige Wang and Bin Chen	A three-scale input-output analysis of energy-water nexus for Beijing-Tianjin-Hebei Urban Agglomeration
P-35	209	Weisi Yang, Delin Fang and Bin Chen	Water-carbon nexus strength among regions, a case study of Beijing-Tianjin-Hebei
P-36	210	Weisi Yang, Delin Fang and Bin Chen	Interregional water-carbon nexus flows controlling pathways in Beijing-Tianjin-Hebei
P-37	211	Cuncun Duan and Bin Chen	Energy-water-land nexus in China
P-38	212	Tong Gao, Delin Fang and Bin Chen	Ecological network analysis for water embodied in global agricultural products trade
P-39	213	Jin Yang, Dan Song and Feng Wu	Drivers of the primary PM _{2.5} emissions in Beijing: A structural decomposition analysis
P-40	215	Pengfei Jin, Delin Fang and Bin Chen	Water-energy-land nexus analysis in northwest China based input output analysis
P-41	194	Bin Wang, Hailong Li, Jinying Yan, Eva Thorin, Sebastian Schwede and Kai Zhu	Modelling the Quench Tower in Flue Gas Cleaning of a Waste Fueled Power Plant
P-42	198	Beibei Dong and Hailong Li	PVTxy properties of CO ₂ mixtures relevant for CO ₂ capture, transport and storage: An update of available experimental data and theoretical models since 2009
P-43	144	Yifeng Guo, Tingjun Zhang and Limin Huang	Research on Simultaneous Location and Mapping Algorithm of Intelligent vehicle Based on Improved Particle Filter Resampling
P-44	109	Naxin Cui, Zhuo Kong, Chunyu Wang, Huixin Li and Chenghui Zhang	Research on Energy Management Strategy for Electric Vehicles with Hybrid Battery/Capacitor Energy Storage System
P-45	148	Chun Wang and Bo Huang	A Novel Parameter Match Method for Battery-ultracapacitor Hybrid Energy Storage System in Electric Vehicles
P-46	106	Jianping Gao, Zhenhai Xu, Jiahui Sun and Jianguo Xi	Car-following Security Situation Estimation Based on Multi-source Information Fusion
P-47	134	Jianping Gao, Hongwen He, Xiaowei Zhang and Ling Xing	Real-time Adaptive State of Energy Estimation of Lithium-ion Batteries Applied in Electric Vehicles



POSTER SESSIONS

Poster ID	Paper ID	Author	Paper Title
P-48	150	Miaoran Zhang, Yingyuan Zhang, Quan Xu, Qingwen Guan, Weijun Li, Wei Cai and Rigu Su	Noval 2D dots for energy and environmental applications
P-49	105	Jinbo Wang and Zhipeng Jiao	Energy management strategy of four-wheel drive hybrid electric vehicle based on ECMS algorithm





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