

关于召开首届国际季节性储热技术大会的通知

Notice of the 1st International Conference on Seasonal Thermal Storage Technology

季节性储热是推动我国北方建筑、农业等季节性低品位用热清洁化，太阳能、工业余热、数据中心余热等综合高效利用，推进高比例可再生能源利用和跨系统节能，提升系统能效并保障相关行业用能安全的核心技术。

The seasonal thermal storage (abbreviation as STS) is a key technology that can promote the use of green heating in the northern buildings and agriculture field with seasonal thermal characteristics, the comprehensive and efficient utilization of solar energy, and residual heat from industry and data centers, and promote the high-proportion of renewable energy utilization and cross-system energy saving, improve the energy efficiency of the system and ensure the energy safety of related industries.

为推动我国及全球季节性储热及清洁供热领域的交流与合作，建立国际交流和聚力平台，经中国科学院国际合作局批准，中国科学院电工研究所、丹麦技术大学主办，国家太阳能光热产业技术创新战略联盟承办的“首届国际季节性储热技术大会”拟于2022年12月20日在线召开。

In order to promote the exchanges and cooperation in the fields of seasonal heat storage and clean heating fields in China and the world, establish an international exchanges and agglomeration platform, with the

approval by Bureau of International Cooperation Chinese Academy of Sciences, the First International Conference on Seasonal Thermal Storage Technology will be held on Dec 20, 2022, which is hosted by Institute of Electrical Engineering, Chinese Academy of Sciences, Technical University of Denmark and organized by China Solar Thermal Alliance.

大会将以学术交流和学术合作为核心，围绕各类季节性储热基础理论、关键技术和工程实践等，探讨相关理论方法研究进展、技术创新突破和工程与市场解决方案。

The conference will take academic exchanges and academic cooperation as the core, and communicate the research progress of related theoretical methods, technological innovation breakthroughs, and market solutions around various seasonal thermal storage technology.

会议时间：2022年12月20日（周二）14:30—21:10（北京时间）

Time: 14:30-21:10 (GMT+8), December 20, 2022

线上会议：腾讯会议，会议 ID：378-602-041

Online Platform: Tencent Meeting ID: 378-602-041

会议地址：<https://meeting.tencent.com/dm/k5WL4I63xepw>

Web Link: <https://meeting.tencent.com/dm/k5WL4I63xepw>

会议语言：中英文

Language: Chinese/English

主办单位：中国科学院电工研究所, 丹麦技术大学

Hosts: Institute of Electrical Engineering of the Chinese Academy of Sciences, Technical University of Denmark

承办单位：国家太阳能光热产业技术创新战略联盟

Organizer: China Solar Thermal Alliance (CSTA)

大会主席: 王志峰, 中国科学院电工研究所研究员、国家太阳能光热产业技术创新战略联盟理事长、国际能源署太阳能热发电和热化学组织 (IEA SolarPACES) 前副主席、中国科学院太阳能热利用及光伏系统重点实验室主任

Chairman: Dr. Zhifeng Wang, professor of Institute of Electrical Engineering of Chinese Academy of Science, chairman of China Solar Thermal Alliance, former vice chairman of IEA SolarPACES, director of Key Laboratory of Solar Thermal and Photovoltaic Systems of Chinese Academy of Sciences

大会共同主席: 樊建华, 丹麦技术大学教授

Co-Chairman: Prof. Jianhua Fan, Technical University of Denmark

大会秘书长: 原郭丰, 中国科学院电工研究所副研究员

Secretary-General: A.P. Guofeng Yuan, Institute of Electrical Engineering of Chinese Academy of Sciences

会议议题: 季节性水体储热、土壤储热等各类长周期储热的基础理论、关键技术、系统集成和案例分析等, 包括但不限于:

Topics: basic theories, key technologies, system integration and case analysis of various types of long-term heat storage, such as seasonal water body heat storage, soil heat storage and others, which include but not limited to:

1. 水体型季节性储热/Seasonal pit thermal energy storage
2. 土壤型季节性储热/Seasonal borehole thermal energy

storage

3. 新型季节性储热/New seasonal thermal energy storage
4. 季节性储热系统仿真与优化/Simulation and optimization of STS
5. 季节性储热工程案例分析/Case study of STS project
6. 季节性储热未来发展趋势与国际合作/Development trends and international cooperation on STS

会议联系人：洪松 18311092363（同微信）

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附：议程安排

Attachment: Agenda of the 1st International Conference on Seasonal Thermal Storage Technology

国家太阳能光热产业技术创新战略联盟

China Solar Thermal Alliance

2022年12月11日

附件 Attachment:

“首届国际季节性储热技术大会” 议程
Agenda of the 1st International Conference on
Seasonal Thermal Storage Technology
(2022 年 12 月 20 日, 星期二/ Tuesday, December 20, 2022)

特邀报告/Invited Speeches	
Moderator: Prof. Jie Ji, University of Science and Technology of China 主持人: 季杰 教授 中国科技大学	
07:20-07:30 (GMT+1) 14:20-14:30 (GMT+8)	Opening ceremony 领导致辞
07:30-08:00 (GMT+1) 14:30-15:00 (GMT+8)	Development prospect of solar seasonal thermal storage Prof. Zhifeng Wang, Institute of Electrical Engineering, Chinese Academy of Sciences, China 太阳能跨季节储热的发展前景 王志峰 教授, 中国科学院电工研究所研究员/中国科学院大学, 中国
08:00-08:30 (GMT+1) 15:00-15:30 (GMT+8)	Solar heating plants in Denmark - Status Prof. Simon Fubo, Tenured Professor, Director of the Institute of Solar Energy, Technical University of Denmark, Denmark 丹麦太阳能区域供热现状 Simon Fubo 教授, 丹麦技术大学终身教授, 太阳能研究所所长, 丹麦
08:30-09:00 (GMT+1) 15:30-16:00 (GMT+8)	Low carbon urban heating mode in northern China based on low-grade thermal energy utilization Prof. Lin Fu, Tsinghua University, China 基于低品位热能利用的北方城镇低碳供热模式 付林 教授, 清华大学, 中国
09:00-09:10 (GMT+1) 16:00-16:10 (GMT+8)	休息/Break
Moderator: Prof. Yanjun Dai, Shanghai Jiao Tong University 主持人: 代彦军 教授 上海交通大学	
09:10-09:35 (GMT+1) 16:10-16:35 (GMT+8)	Seasonal heat storage for district heating in Denmark Prof. Jianhua Fan, Technical University of Denmark, Denmark 季节性储热技术在丹麦区域供热中的应用 樊建华 教授, 丹麦技术大学, 丹麦
9:35-10:00 (GMT+1) 16:35-17:00 (GMT+8)	Large thermal energy storage for district heating Nathan Fournier, NewHeat Group, France 适应于区域供热的大规模储热技术研究 Mr. Nathan Fournier, NewHeat 集团, 法国

10:00-10:25 (GMT+1) 17:00-17:25 (GMT+8)	Performance and process analysis of large capacity long term thermal energy storages Qingtai Jiao, Vice-president of Solareast Holdings Co., Ltd, China 大容量长周期储热装置性能及工艺分析 焦青太 教授级高工, 日出东方控股股份有限公司副总裁, 中国
10:25-11:00 (GMT+1) 17:25-18:00 (GMT+8)	休息/Break
学术交流/Academic Exchanges	
Moderator: A. P. Xing Ju, North China Electric Power University 主持人: 巨星 副教授 华北电力大学	
11:00-11:25 (GMT+1) 18:00-18:25 (GMT+8)	Research on key technologies of geothermal energy extraction from energy underground structure Prof. Penghui Gao, China University of Mining and Technology, China 能源地下结构地热能提取关键技术研究 高蓬辉 教授 中国矿业大学, 中国
11:25-11:40 (GMT+1) 18:25-18:40 (GMT+8)	Thermo-economic Analysis of Solar Heating Plant with the seasonal thermal storage in Northern China A. P. Ming Yang, Institute of Electrical Engineering of Chinese Academy of Sciences/University of Chinese Academy of Sciences, China 中国北方地区太阳能跨季节储热系统的技术经济分析 杨铭 副研究员, 中国科学院电工研究所/中国科学院大学, 中国
11:40-11:55 (GMT+1) 18:40-18:55 (GMT+8)	Performance comparison of two PTES systems using energy, exergy and stratification indicators PhD. Ioannis Sifnaios, Technical University of Denmark, Denmark 两个水体型储热系统的能量、火用和分层性能对比研究 Ioannis Sifnaios 博士研究生, 丹麦技术大学, 丹麦
11:55-12:10 (GMT+1) 18:55-19:10 (GMT+8)	Study of load-bearing lid technology for PTES PhD. Mingfei He, Institute of Electrical Engineering of Chinese Academy of Sciences/University of Chinese Academy of Sciences, China 储热水体承重型顶盖技术研究 贺明飞 博士研究生, 中国科学院电工研究所/中国科学院大学, 中国
12:10-12:25 (GMT+1) 19:10-19:25 (GMT+8)	Semi-analytical modeling of large-scale water tank for seasonal thermal storage applications Dr. Yongqiang Luo, Huazhong University of Science and Technology, China 跨季节储热水体半解析仿真模型研究 罗勇强 博士, 华中科技大学, 中国
12:25-12:40 (GMT+1) 19:25-19:40 (GMT+8)	Study on control strategy for solar tower heating system with seasonal heat storage PhD. Xinyu Kan, Institute of Electrical Engineering of Chinese Academy of Sciences, University of Chinese Academy of Sciences, China 塔式太阳能跨季节储热供热系统控制策略研究 阚新好 博士研究生, 中国科学院电工研究所/中国科学院大学, 中国

Moderator: A. P. Zhiyong Tian, Huazhong University of Science and Technology 主持人: 田志勇 副教授 华中科技大学	
12:40-13:00 (GMT+1) 19:40-20:00 (GMT+8)	Large-Scale Thermal Energy Storage and Heat Pumps for Renewable District Heating Prof. Fabian Ochs, Universität Innsbruck, Austria 应用于清洁供暖的大型储热与热泵技术 Fabian Ochs 教授, 因斯布鲁克大学, 奥地利
13:00-13:15 (GMT+1) 20:00-20:15 (GMT+8)	Thermal performance analysis of a large-scale water pit heat storage PhD. Meng Gao, Technical University of Denmark, Denmark 大容量水体储热系统热性能分析研究 高萌 博士研究生, 丹麦技术大学, 丹麦
13:15-13:30 (GMT+1) 20:15-20:30 (GMT+8)	Optical optimization of heliostat field layout on an uneven land A. P. Minghuan Guo, Institute of Electrical Engineering, Chinese Academy of Sciences/University of Chinese Academy of Sciences, China 不平坦地面定日镜场的光学优化布置, 郭明焕 副研究员, 中国科学院电工研究所/中国科学院大学, 中国
13:30-13:45 (GMT+1) 20:30-20:45 (GMT+8)	Computational fluid dynamics investigation of a pit thermal energy storage PhD. Yutong Xiang, Technical University of Denmark, Denmark 水体型储热系统充放热过程对温度分层的影响性动态仿真研究 项宇彤 博士研究生, 丹麦技术大学, 丹麦
13:45-14:00 (GMT+1) 20:45-21:00 (GMT+8)	Analysis of mechanical properties of HDPE geomembrane during thermal aging M. A. Hao Ren, Institute of Electrical Engineering, Chinese Academy of Sciences/Lanzhou University of Technology, China HDPE 土工膜热老化力学性能分析 任皓 硕士研究生, 中国科学院电工研究所/兰州理工大学, 中国
14:00-14:10 (GMT+1) 21:00-21:10 (GMT+8)	Summary 会议总结