



CALL FOR PAPERS

10th International Conference on Insulated Power Cable

PARIS - VERSAILLES - FRANCE
23 - 27 JUNE, 2019

DEADLINE FOR YOUR SUBMISSIONS

Abstracts: 15 November, 2018 - Full Texts: 15 April, 2019 - www.jicable19.fr

Abstract acceptance: January 2019



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Organized by

- **SEE**, *Société de l'Électricité, de l'Électronique et des Technologies de l'Information et de la Communication*
- **CIGRE**, *International Council on Large Electric Systems*
- **AGP21**, *Association Grand Projects'21*
- **SYCABEL**, *Syndicat Professionnel des Fabricants de Fils et de Câbles Électriques et de Communication*
- **RTE**, *Réseau de Transport d'Électricité*
- **ENEDIS**, *l'Électricité en Réseau*
- **SERCE**, *Syndicat des Entreprises de Génie Électrique et Climatique*

With the technical and scientific support of:

- **AEIT**, *Federazione Italiana di Elettrotecnica, Elettronica, Automazione, Informatica e Telecomunicazioni**
- **AESIEAP**, *Association of the Electricity Supply Industry of East Asia and the Western Pacific**
- **AGP21**, *Association Grand Projects 21*
- **AUPTDE**, *Arab Union of Producers, Transporters and Distributors of Electricity**
- **CENELEC**, *European Committee for Electrotechnical Standardization**
- **CIRED**, *International Conference on Electricity Distribution**
- **CIS-Electric Power Council**, *Russia**
- **EEL**, *Edison Electric Institute, USA**

Objectives

What is Jicable'19

Jicable'19 is an international forum for the exchange of information in the fields of research, industrial development, installation, operation and diagnosis relating to insulated power cables and their accessories from low voltage and special cables up to ultra high voltage cables and new technology cables.

Why is Jicable'19 important ?

Insulated power cables are increasingly used in electrical power transmission and distribution networks. This is due to the significant progress achieved in the development of new technologies with higher performances, and motivated by increasing environmental pressure. Cables are recognised as a reliable means for the transportation and distribution of electrical energy.

Official Languages:

The official languages at **Jicable'19** will be English.

Abstracts:

All abstracts for proposed papers should be submitted online according to the instructions and the template available on the Jicable web site www.jicable19.fr by the deadline: **15 November 2018**.

The abstract should be adequately detailed and present a synopsis of the paper (in 500 words maximum, one single page as far as possible) emphasising any new ideas, with title, author's names, their affiliations and emails.

Full Papers:

Authors whose papers will have been accepted will be informed by January 2019. Full texts in English should reach the **Jicable'19** Secretariat by **15 April 2019**.

The conference programme will be finalized by January, 2019.

Electrosuisse*

- **ENTSO-E**, European Network of Transmission Systems Operators for Electricity*
- **ERGEG**, European Regulators' Group for Electricity and Gas*
- **EUREL**, Convention of National Societies of Electrical Engineers of Europe*
- **EURELECTRIC**, The Union of the Electricity Industry*
- **EUROPACABLE**, The European Confederation of National Associations of Manufacturers of Insulated Wire and Cable*
- **FEPC**, Federation of Electrical Power Companies, Japan*
- **FNCCR**, Fédération Nationale des Collectivités Concédantes et Régies*
- **HAPUA**, Head of ASEAN Power Utilities / Authorities*
- **IEC**, International Electrotechnical Commission*
- **IEEE**, French Section*
- **IEEE-DEIS**, Dielectrics and Electrical Insulation Society*
- **IEEE-ICC**, Insulated Conductors Committee*
- **IET**, The Institution of Engineering and Technology*
- **ÖVE**, Österreichischer Verband für Elektrotechnik*
- **SRBE**, Société Royale Belge des Électriciens*
- **UFE**, Union Française de l'Électricité*
- **UPDEA**, Union of Producers, Conveyors and Distributors of Electric Power in Africa*
- **UTE**, Union Technique de l'Électricité*
- **VDE**, Verband der Elektrotechnik, Elektronik, Informationstechnik e.V. / Verband Deutscher Elektrotechniker*

*TBC (to be confirmed):

Committees

Steering Committee

Chairman : Laurent **TARDIF**, *SYCABEL, France*

Organization Committee

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Secretary : *to be defined*

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Jicable'19 will allow in-depth analysis of the State-of-the-Art and future perspectives: new materials, evolution in technologies, improvements in manufacturing process, improvement of maintenance policies and remaining life estimation, lessons learned from service experience, dielectric phenomena, thermal and thermo-mechanical behaviour... digitalization, new innovative technical solutions for high power transmission: new superconductive materials as well as a closer look at major submarine cable projects connecting High Voltage networks in many countries.

Who will be taking part in Jicable'19 ?

As for the 9 earlier Jicable conferences held between 1984 and 2015 (782 delegates from 47 countries at Jicable'15), **Jicable'19** will prove very useful to the following segments of the cable industry: researchers, engineers, decision-makers, raw materials suppliers, manufacturers, consultants, installers and users.

Technical Exhibition and Technical Visits:

An international technical exhibition will be organised during the conference from Monday June 24th to Wednesday June 26th 2019 at the conference site. Information concerning this exhibition is available from the **Jicable'19** Secretariat.

Technical visits will be organized for the participants during the conference in Paris area on Thursday June 27th 2019.

Registration:

Registration fees will be specified at a later date. These fees will include attendance at the conference and access to the abstracts and proceedings. Please note that authors of papers to be presented are not exempt from registration fees, and at least one author of each paper must be registered, failing which the relevant paper will be withdrawn.

Conference Venue:

Jicable'19 will be held at the Palais des Congrès in Versailles.

SEE YOU IN VERSAILLES !

For more information about the conference, the communications, or the international exhibition, visit www.jicable19.fr



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○ The following topics will be discussed

1. Materials, New Materials and Ageing Assessment in AC and DC

- Materials characterization: electric, physical and chemical
- New materials for cables and accessories
- Ageing laws: methods, experimentation, validity

2. Cables and Accessories – design and modelling

- Design adaptation to deal with new operating conditions
- Design of dynamic cables
- Technologies compatibility between cable and substation equipment
- Steady state rating, dynamic current rating and RTTR
- Design for both AC and DC
- Electrical, thermal and thermo-mechanical design
- Sheath bonding, grounding and protection
- Cable characteristics and cable modelling
- AC resistance of conductors
- Associated computer codes and validation
- Voltage and current system coordination
- Waterproofing issues
- Issues related to cable integration in networks

3. Testing Methods: Electrical and non Electrical

- Development tests, evaluation, pre-qualification tests, type tests, acceptance and after laying tests
- Definitions
- Selection criteria
- Validity
- Low frequency testing
- PD testing as an asset management tool
- Testing of accessories and conductor connectors
- Miscellaneous methods of testing

4. Diagnosis, Monitoring, Remaining Life Estimation

- Methods for assessing the properties and characteristics of materials and possible impacts on the performances of cables and accessories with time
- Monitoring
- On-line diagnosis of materials
- Fault location
- Methods of examination
- Cable diagnostics requirements in electrical tests after both installation and repair work
- Diagnostics in assessing technical condition of cable circuits.
- Analytics and health index calculation

5. Cable Systems, Environment and Sustainable Development

- Impact of cables and installation on the environment (overhead, underground, submarine)
- New material, environmentally concerned design
- End-of-life treatment methods
- Lifecycle analysis, footprint measurement methods
- Regulations impacts on cables and their materials
- Magnetic field limitation and health effects
- Coexistence of cables and nearby systems (eg. Telecommunications) / Shared structures

- Impact of the environment on cable systems (tropical, etc.)
- Corrosion protection
- De-rating in metallic structures
- Specific technologies

6. LV and MV AC Cable Systems

- LV and MV cables and accessories (insulated underground and overhead networks)
- Fire issues for insulated cables
- Resilience / Vulnerability to climate hazards
- Smart Grid and new Grids cable systems
- Impacts of Electric Vehicles and other new needs of electrical energy on cables and distribution networks
- Developments in manufacturing processes and techniques
- Quality assurance to ensure reliability and availability
- Laying methods, experience in service and quality assurance, comparative performances of cables buried with and without mechanical protection
- Operating conditions, thermo-mechanical behaviour, reliability, failure analysis, operating life extension
- Use of telecommunication cables in conjunction with LV and MV cable circuits, powerline communications
- Standardization

7. HV and EHV AC Cable Systems

- HV and EHV AC cables and accessories
- Integration in networks
- Prevention of third party damages
- New developments in manufacturing processes and techniques
- Fire issues for insulated cables
- Risk assessment of cable systems
- Quality assurance to ensure reliability and availability
- Technical and economical optimisation (high stresses, taking into account reliability, availability, temperature in normal, overload and short-circuit conditions, etc.)
- Laying methods, technical specifications, shared installation structures, quality assurance, prevention of third party damages, new innovative laying methods with reduction of the duration of works and of the disturbance of the side residents
- Operating conditions, maintenance, service experience, reliability, failure analysis, operating life extension, improving performances and operating at design limits, upgrading and uprating
- Use of telecommunications cables in conjunction in HV and EHV links, powerline communications
- Standardization

8. DC Cable Systems: LV, MV, HV and EHV

- DC cables and accessories
- New developments in manufacturing processes and techniques
- Integration in AC networks and benefits of DC systems
- Cable and converters consistent design
- Change from AC to DC
- Fire issues for insulated cables

- Risk assessment of cables systems
- Insuring reliability and availability of DC links
- Technical and economical optimisation (high stresses, taking into account reliability, availability, temperature in normal, overload and short-circuit conditions, etc.)
- Laying methods, technical specifications, shared installation structures, quality assurance, prevention of third party damages, new innovative laying methods with reduction of the duration of works and of the disturbance of the side residents
- Operating conditions, maintenance, service experience, reliability, failure analysis, operating life extension, improving performances and operating at design limits, upgrading and uprating
- Use of telecommunications cables in conjunction in HV and EHV links, powerline communications
- Standardization
- Phenomena associated at the interfaces, cables and accessories
- Transition joints
- Space charge measurements (interfaces and materials)
- Aging and reliability
- Simulations and numerical models
- Testing: investigation, development, qualification, type tests, routine and sample tests...
- Qualification procedures including extension of qualification
- POE Power over Ethernet
- Hybrid LV cables (power and optical fibers)

9. Submarine Cable Systems (AC & DC)

- AC and DC cable systems
- Cable systems for offshore wind power plants and oil platforms
- Integration in the network
- Laying, embedding and protection techniques
- Dynamic cables (design, manufacturing, operation, repair)
- Reliability and Availability of submarine links (including Quality Assurance of both design, manufacturing and installation)
- Risks and opportunities from integrated optical fibers in cables
- Risk assessment of cables systems
- Technical and economical optimization
- Repair technologies and organization (costs, methods, contracts, spare part policies, risk assessment)
- About fault location
- Mechanical testing
- Operating conditions, feedback

10. Emerging technologies and challenges

- Emerging technologies to reduce environmental footprints during manufacturing, operation and end of life
- Nanotechnologies
- Bio-materials
- Temporary or mobile HV and EHV links
- Monitoring systems for dynamic line rating
- Emerging new terminations for connecting substations and overhead lines
- Cables systems and BIM (Building Information Modelling)

- Geographic Information System (GIS), 3D visualisation
- Non-contact identification of components (RFID, IOT...) on underground cables networks
- Development of compact substations
- Digitalization (design, manufacturing, installation, operation ...) of electrical systems
- Gas-insulated cables (SF6 and other gases)
- Superconducting links
- Other new underground power transmission systems
- Integration of long cables (high power) in networks (compensation, static stability and dynamics of networks, distribution of the power flows)
- Long length DC lines for bulk power transmission (tens of km to hundred km), how to ensure reliability and availability?

11. Asset Management of cable systems all along their life cycle

- Risk Assessment and management of cable systems
- Feedback and operating experience on cable systems
- Management of data received from diagnostic tests and monitoring systems
- Big Data report of experience
- Remaining life estimation in different environments: temperature, electric fields, ionizing irradiations...
- Predictive Analytics and Asset Health Indexing
- Maintenance and refurbishment of cable systems
- Diagnostic methods used in cable networks and their economic impact
- Life extension
- Decision making for cable replacement policies
- Spare part policies, compatibilities of spare parts for repairs
- Economic, total cost of cable systems
- Cost reduction and optimisation of cable systems

12. Industrial and Special Cables

- Technologies and installation (cables for power plants, for buildings, for construction works, industrial cables, rolling Stock, railway, marine, medical...)
- Other Special Cables: aerospace, automotive, lift and crane cables, oil & gas, airport beaconing cables for control systems...
- Substation cables, generation station cables, LV secondary cables, ...
- Cables with improved fire behaviour and fire resistance
- Cables submitted to harsh external conditions: high mechanical stresses, chemical attack, ionizing irradiations