

GROUND'2018 & 8th LPE

International Conference on Grounding, Lightning Physics and Effects

May 20-25, 2018 Pirenópolis (Goiás) - Brazil

<http://www.groundconferences.com>

Program at a glance

	Activity	Period
Sunday May 20	Registrations	17:00 - 19:00
Monday May 21	Opening Ceremony	08:00 - 08:20
	Keynote Speech (Vladimir Rakov - USA)	08:20 - 09:00
	Technical Session: Lightning Observations and Measurements	09:00 - 10:30
	Opening of Exhibition and Coffee-break	10:30 - 11:00
	Lecture (Marley Becerra – Sweden)	11:00 - 11:40
	Technical Session: Lightning Physics	11:40 - 13:00
	Social activity 1: Tour followed by a barbecue	14:30 - 18:30
Tuesday May 22	Technical Session: Lightning Occurrence, Effects and Protection	08:00 - 09:50
	Coffee-break and Poster Session	09:50 - 10:20
	Technical Session: Lightning Detection I	10:20 - 12:00
	Lecture (Carlos Morales - Brazil)	10:20 - 11:00
	Lecture (Michael Stock - USA)	11:00 - 11:20
	Lunch	12:00 - 13:40
	Technical Session: Lightning Detection II	13:40 - 15:00
	Lecture (Osmar Pinto - Brazil)	13:40 - 14:10
	Coffee-break and Dynamic Poster Session Poster	15:00 - 15:30
	Workshop on Lightning Detection	15:30 - 19:00
	Lecture (Steve Goodman)	
	Lecture (Ryan Said)	
	Presentations of technologies and applications	
	Round Table	
Social activity 2: Cocktail supported by Furnas	19:00 - 21:00	
Wednesday May 23	Report on the advances of CIGRE WG C4.33: Frequency Dependence of Soil Parameters	08:00 - 08:30
	Technical Session: Grounding - Low Frequency	08:30 - 10:30
	Coffee-break and Dynamic Poster Session Poster	10:30 - 11:00
	Technical Session: Response of soils and grounding electrodes subjected to lightning currents	11:00 - 12:40
	Free time	
	Social activity 3: Event Dinner	19 - 22:00
Thursday May 24	Technical Session: Lightning Performance of Transmission Lines & Workshop on Tower-footing Impedance Measurement	08:00 - 11:40
	Presentations (Silverio Visacro)	
	Presentation (Fernando H. Silveira)	
	Coffee-break	
	Papers on Lightning Performance of Transmission Lines	
	Closing Ceremony	11:40 - 12:00
Experimental Activity: Measurements	14:00 - 18:00	

FINAL PROGRAM

	Title	Author		
MONDAY (May 21)	OPENING CEREMONY		8:00	
		Keynote Speech Recent progress in studying lightning initiation, propagation, and attachment	Vladmir A. Rakov University of Florida, USA	8:20 - 9
		Plenary Session 1	<i>Lightning Observation and Measurements</i>	9 - 10:30
	1	CN Tower lightning flash characteristics based on high-speed imaging system	Ishemeen Sra, Ali Hussein , Petros Liatos - Canada	9 - 10:30
	2	Analysis of a recent negative upward lightning measured at Morro do Cachimbo Station based on simultaneous records of current, electric field and high-speed video	Miguel Guimarães , Marcelo Arcanjo, Paula Teixeira, Maria H. M. Vale, Silvério Visacro - Brazil	
	3	On the records of current, electric field and high-speed video of a recent negative downward lightning measured at Morro do Cachimbo Station	Silvério Visacro , Marcelo Arcanjo, Maria H. M. Vale, Miguel Guimarães - Brazil	
	4	Do upward positive connecting leaders compete during the approach of a negative downward leader?	Marcelo Saba , Amanda Paiva, Carina Schumann, Gerhard Diendorfer, Richard Orville – Brazil/Austria/USA	
	5	Non-direct lightning current measurements performed by a low-cost device with remote access	Listz Araújo , Pedro Mattioli, Silvério Visacro - Brazil	
		Opening of Exhibition – Coffee-break		10:30 - 11
		Plenary Session 2	<i>Physics of Lightning and Atmospheric Electricity</i>	11 - 13
		Lecture Physics of the Attachment of Lightning Flashes to Structures: New Insights and Challenges	Marley Becerra Sweden	11 - 11:40
	6	On the initiation of upward connecting leaders from grounded structures and corresponding calculated striking distances	Silvério Visacro , Marcelo Arcanjo, Maria H. M. Vale, Miguel Guimarães - Brazil	11-40 : 13
	7	Propagation features of positive and negative leaders in negative CG lightning	Miguel Guimarães , Marcelo Arcanjo, Maria H. M. Vale, Silvério Visacro - Brazil	
	8	Do positive leaders propagate in a stepped fashion? A case study	Marcelo Saba , Carina Schumann, Tom Warner, Richard Orville – Brazil/USA	
	9	An electrostatic model for tracking the evolution of electric quantities during a negative CG lightning formation	Marcelo Arcanjo , Rosilene N. Dias, Silvério Visacro - Brazil	
	10	First lightning electric field waveforms recorded permanently operating in the eastern amazon: preliminary results	Adônis Leal , Ricardo Shinkai, Marcio Lopes, Brigida Rocha, Vladimir Rakov, Jeff Lapierre - Brazil/USA	
		Lunch		13h
	Tour followed by barbecue	All participants (accompanying persons can acquire tickets: <u>one day in advance</u>)	14:30-18:30	

	Title	Author	
	Plenary Session 3	<i>Lightning Occurrence, Effects and Protection</i>	8:00- 9:50
11	Correlation between number of lightning days and nearby sea surface temperature in winter	Kazuo Yamamoto , Tsubasa Kai, Shinichi Sumi - Japan	8 - 9:50
12	Relations of winter lightning occurrences and surrounding weather conditions	Takuma Matsumoto , Kazuo Yamamoto, Shinichi Sumi - Japan	
13	Reduction of lightning-induced overvoltages on distribution lines with the use of shield wires	Alexandre Piantini – Brazil	
14	An influence of soil resistivity on lightning overvoltages in windfarm caused by direct lightning stroke	Shozo Sekioka , Toshihisa Funabashi - Japan	
15	Influence of insulating layer on single-phase compact distribution line transient analysis	Alex Silva, Alberto de Conti , Osiris Leal - Brazil	
16	A study of the protection of a consumer unit equipped with photovoltaic microgeneration against direct lightning strike	Bruno Lisboa, Ednardo Rodrigues , Ricardo Pontes - Brazil	
17	Development of a trigatron spark gap applied to the triggering of a Marx generator for laboratory lightning research	S. Fauveaux , T. Nowicki, J-M. Costier, B. Thirion - France	
	Coffee-break and Dynamic Poster Session 1		9:50 - 10:20
Coffee-break & Poster	18. Micrographic analysis of metal parts probably struck by lightning compared with those results of continuing current pulse of power laboratory	Helio Sueta , Miltom Shigihara, Luis Caires, Geraldo Burani, Antonio Joaquim - Brazil	9:50 - 10:20
	19. Using lightning cell characteristics to generate Earth Network dangerous thunder storm alerts (DTA)	Michael Stock, Jeff Lapierre , Saiadithya Cumbulam Thangaraj, Mark Hoekzema - USA	
	20. Influence of setting situations of railway supporting structures on overvoltage at insulators	Toshiki Ohashi , Kazuo Yamamoto, Shinichi Sumi - Japan	
	21. Down-conductor for lightning protection system and coupling to building rebar. An analysis with TLM-3D	Alcides Silva - Brazil	
	Plenary Session 4 (part 1)	<i>Lightning Occurrence and Detection</i>	10:20 - 12
	Lecture 1 Thunderstorms in South America: From lightning detection technologies to a Climatology.	Carlos Morales USP - Brazil	10:20 - 11
	Lecture 2 Medium range LF/MF lightning location technology	Michael Stock - USA	11 - 11:20
22	Earth Networks lightning network performance	Jeff Lapierre , Michael Stock, Saiadithya Cumbulam Thangaraj, Mark Hoekzema - USA	11:20 - 12
23	Lightning detection systems operating in local area of Warsaw and Rzeszow, Poland	Grzegorz Maslowski , Marek Loboda, Grzegorz Karnas - Poland	
	Lunch		12 - 13:40
	Plenary Session 4 (part 2)	<i>Lightning Detection</i>	13:40 - 15
	Lecture 3 A new lightning locating system to obtain more precise lightning information in Brazil	Osmar Pinto Jr, Iara R. C. A. Pinto	13:40-14:10
24	Fault correlation analysis using GLD360 data	Ana Marotti , Ryan Said, Rachel Albrecht, Luiz Assunção, Thiago Saldanha - USA/Brazil	14:10 - 14:55
25	Correlation between lightning strikes and failures on power transmission lines in Colombia	E. Muñetones, E. Perez , D. Aranguren, C. Tovar, J. Herrera, H. Torres, J. Inampues, J. Espinosa, I. Garcia, L. Porras	
26	Automatic analysis and fault location of events related to short circuits on transmission lines	Cleber Pereira , Geraldo Silveira Neto, Isabela Michel e Silva, Mateus Oliveira, João Pedro Klock, Bruno Pereira, Eduardo Gonçalves – Brazil	
	Coffee-break and WLD Creditation		15 - 15:30
	Opening of 2nd WLD		15:30-15:40
	Lecture: Lightning Detection from Space: GLM and LIS	Steven Goodman - USA	15:40-16:10
	Lecture: Overview of Vaisala Ground Lightning Location Systems in Brazil	Ryan Said - USA	16:10-16:40
	Combined uses of RINDAT and GLD360 data in meteorological applications	Marco Jusevicius - Brazil	16:40 - 17
	Principles of the applications of GLM, GLD360 and RINDAT data	Rachel Albrecht	17 – 17:20
	Lightning Location Systems in Brazil	Kleber Naccarato	17:20-17:40
	Round Table: Advantages and Limitations of Existent Lightning Location Systems		17:40 - 19
	Cocktail – Sponsored by Furnas		19 - 21

TUESDAY (May 22)

		Title	
		Report on the advances of CIGRE WG C4.33: Frequency Dependence of Soil Parameters	Silverio Visacro - Convener Rafael Alipio - Secretary 8 - 8:30
		Plenary Session 5	Grounding - Low Frequency 8:30 -10:30
27		Fall of potential from hemispheres, discs, cylinders and rectangles in uniform and two-layer soil	William A. Chisholm , Antônio Panicali - Canada/Brazil
28		High accuracy short range ground resistance measurement based on an extrapolation technique	Antônio R. Panicali , William A. Chisholm - Brazil/Canada
29		Safe design of a photovoltaic solar power plant grounding system located under 400 kV overhead transmission lines	Attibaud Kouassi , Sébastien Journet, François Grange, Alexandre Sellier, Farid Dawalibi - France
30		Residual current method of grounding resistance measurement in transmissions towers with earth wire - part 3: external grounding current effects on surface potential	Diogo Dahlke , Henry López-Salamanca, Ricardo Alfaro-Gamboa, Otavio Mitsuru Shiono, Pedro Block, Alexandre Costa - Brazil 8:30 - 10:30
31		Investigations on interferences caused by current injection in HVDC ground electrodes at Rio Madeira complex	Carlos Arruda , Fernando Dart, Patrícia Lugão, Berthold Kriegshauser, Francisco Morais - Brazil
32		HVDC ground electrode resistance	Paulo Freire , Sueli Pereira - Brazil
		Coffee-break and Dynamic Poster Session 2 10-30 - 11	
	Coffee-break & Poster	33. Impact on the choice of the configuration and the electrode soil	Ellen Luz - Brazil
		34. Assessment of risks related to touch and step potentials due to a lightning strike on an edification	Filipe Garcia, Ednardo Rodrigues , Tobias Fernandes Neto, Caio Viera, Ricardo Pontes - Brazil
		35. Analysis of frequency-dependence of soil resistivity: emphasis at low frequencies	Rodolfo Antônio Moura, Marco Aurélio Schroeder, Thassio Matias Pereira, Maria Teresa Correia Barros, Rafael Alipio , Antonio Carlos Lima - Brazil/Portugal 10:30 - 11
		36. Multi-port wideband model of grounding system of HSIL transmission line tower	Daniel Pechir , Rafael Alipio, Fernanda dos Santos - Brazil
		Plenary Session 6	Response of soils and grounding electrodes subjected to lightning currents 11 - 12:40
37		Influence of soil electrical structure on the transient impedance of an experimental elevated structure and its grounding system under lightning strikes	François Grange, Alexandre Sellier, Sébastien Journet, Attibaud Kouassi , Farid Dawalibi - France
38		Response of earth grid electrodes under impulse energisation in a controlled medium	H. Hasan, H. Hamzeshbahmani, D. Clark, S. Robson, A. Haddad , H. Griffiths, D.Guo – UAE/UK
39		Effect of current magnitude on measured apparent resistance of ground electrodes for 3 and 4-terminal low-voltage test configurations	M. Geyab, A. Kuadir, H. Griffiths , N. Harid, D. Clark, A. Haddad – UAE/UK 11 - 12:40
40		Power substation grounding grid designs to lightning protection	Lauro Novo, Vinicius Tarrago, Vinicius Dias, Renan dos Santos, Marcos de Melo, Luiz de Medeiros, Fabio Fraga - Brazil
41		Simulation of electromagnetic transients in overhead transmission lines including frequency-dependent ground parameters	Gabriel Dias, Rafael Alípio – Brazil
		Lunch 12:40	
		Free time	
		Meeting of CIGRE WG C4.33	Only WG C4.33 Members 14 -15
		Conference Dinner	All participants (accompanying persons can acquire tickets: <u>one day in advance</u>) 19:30 - 22

WEDNESDAY (May 23)

		Title	Author	
THURSDAY (May 24)		Plenary Session 7: Lightning Performance of Transmission Lines & Workshop on Tower-footing Impedance Measurement: WTFM		8 - 11:40
		Presentation 1. Methodology for Assessment of the Lightning Performance of Transmission Lines	Silvério Visacro	8 - 8:40
		Presentation 2. Key points under discussion in the CIGRE WG C4.23: Brazilian contributions	Fernando H. Silveira	8:40 - 9:20
	42	Efficient use of surge-arresters for improving the lightning performance of transmission lines	Silvério Visacro, Fernando Silveira, Bárbara Pereira , Rafael Maia - Brazil	9:20 - 10:00
	43	Calculation of backflashover rate of transmission lines considering lightning strikes distribution along the span	Fernando Silveira, Silvério Visacro, Rafael Maia - Brazil	
		Coffee-break		10 - 10:20
		Presentation 3. The response of Tower-footing Electrodes Subject to Lightning Currents	Silvério Visacro	10:20-10:50
	44	Experimental Impulse response of transmission-line tower-footing electrodes	Caio Oliveira , Silvério Visacro, Miguel Guimarães - Brazil	10:50-11:10
		Presentation 4. TL Tower-footing Measuring Methodologies	Silvério Visacro	11:10-11:40
		Closing Ceremony of GROUND2018 & 8th LPE		11:40 - 12
		Lunch		12:00
		Experimental Activity of WTFM: Measurements in a nearby Transmission Line		14:00-18:00