



European COST Action P18

Second International Symposium on

Lightning Physics and Effects



Vienna, Austria, April 19 and 20, 2007

Symposium Program

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<http://www.costp18-lightning.org/>

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Farhad Rachidi, Swiss Federal Institute of Technology, Lausanne, Switzerland

Petra Pohl-Fakler, ALDIS, Austria

Rajeev Thottappillil, Uppsala University, Sweden

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Marcos Rubinstein, Western University of Applied Sciences, Switzerland

COST P18 WG2 Leader

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COST P18 WG4 Leader

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COST P18 WG5 Leader

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Farhad Rachidi, Swiss Federal Institute of Technology, Switzerland

COST P18 Vice-Chair

COST P18 "The Physics of Lightning Flash and Its Effects":

<http://www.costp18-lightning.org/>

SYMPOSIUM TIMETABLE

Thursday April 19, 2007

Morning Sessions

09:00-09:50		Registration (Coffee)
09:50-10:00	Opening Session	Welcome message of R. Thottappillil, COST P18 Chair, Diendorfer, OC Chair
10:00-11:45	Session 1	Lightning and Climatology, Sprites & Jets (Chair: C. Price)
	10:00 – 10:15	Chanrion, O. and T. Neubert: A semi-autonomous optical observatory for sprite observations
	10:15 – 10:30	M. Fullekrug and R. Roussel-Dupre: Mesospheric runaway breakdown in LF radio
	10:30 – 10:45	Neubert, T.: Co-ordinated ground observations in support of the ASIM and TARANIS missions
	10:45 – 11:00	Pechony, O., C. Price: Schumann resonances: applications in lightning research
	11:00 – 11:15	Price, C., Y. Yair and M. Asfur: East African lightning as a precursor of Atlantic hurricane activity
	11:15 – 11:30	Sátori, G., I. Lemperger, J. Bór: Modulation of the annual and semiannual areal variations of global lightning on the 11-year solar cycle
	11:30 – 11:45	Yair, Y., C. Price, M. Ganot, E. Greenberg, B. Ziv, R. Yaniv, Y. Sherez, A. Devir, K. Ehrlick and E. Vadislevski: Summary of the 2005/6 and 2006/7 winter sprite campaigns in Israel
	Session 2	Lightning Measurement and Simulation (Chair: G. Diendorfer)
11:45-12:45	11:45 – 12:00	Mimouni, A., M. Paolone, F. Rachidi and P. Zwiack: On the Use of Shielded Cables in Lightning Protection Systems
	12:00 – 12:15	Paolone, M., K. Yamabuki, A. Borghetti, F. Napolitano, C.A. Nucci, M. Bernardi: A Distributed Measurement System for Correlating Faults to Lightning in Distribution Networks
	12:15 – 12:30	Solà, G., J. Montanyà, D. Romero and V. March: The 2007 objectives of the Eagle Nest Tower
	12:30 – 12:45	Radovanovic, N. S., M. S. Savic, M. B. Kostic, J. Cvetic: Response of the grounding loop backfilled with bentonite to the lightning impulse current
12:45– 13:45	Lunch Break	

Thursday April 19, 2007

Afternoon Sessions

	Session 3	Lightning Phenomenology and Modeling (Chair: M. Rubinstein)
13:45–15:15	13:45 – 14:00	Javor V. and Predrag D. Rancic: Using of the new function for the lightning return stroke channel-base current in calculation of lightning electromagnetic field
	14:00 – 14:15	Szczerbinski, M.: Lightning protection “Mesh Method”: can it be analysed with electro-geometrical theory?
	14:15 – 14:30	Rahman M. and V. Cooray: X-ray production in laboratory discharges
	14:30 – 14:45	Ebert, U., T.M.P. Briels, G.J.J. Winands, E.M. van Veldhuizen, A.J.M. Pemen, A. Luque, C. Li, W.J.M. Brok, J.J.A.M. van der Mullen, W. Hundsorfer: Recent experiments and new simulational tools for streamers in strong fields: towards the streamer-leader process and runaway electrons
	14:45 – 15:00	Cooray, V., M. Rahman and V. Rakov On the NO _x production in lightning flashes
	15:00 – 15:15	Thottappillil, R. and V.A. Rakov: Review of Equivalent Methods for Computing Electromagnetic Fields from an Extending Lightning Discharge
15:15-15:45	<i>Coffee Break</i>	
	Session 4	Lightning to Tall Structures (Chair: F. Rachidi)
15:45–16:45	15:45 – 16:00	Mosaddeghi, A., D. Pavanello, F. Rachidi, M. Rubinstein: Electromagnetic Environment at Very Close Range from a Tower Struck by Lightning
	16:00 – 16:15	Pavanello, D., F. Rachidi, V. Shostak, W. Janischewskyj, M. Rubinstein, A.M. Hussein, J. S. Chang: Field Enhancement Effects for Lightning Strikes to a Tall Structure: Theoretical Prediction and Validation using NALDN Data
	16:15 – 16:30	Theethayi, N., M. Becerra, R. Thottappillil, G. Diendorfer, V. Cooray, F. Heidler and V. Rakov: On the Effective Height of Towers on Mountaintop from the Perspective of Lightning Attachment
	16:30 – 16:45	Skarka, V., N.B. Aleksic and V.I. Berezhiani: Propagation and Filamentation of Singular Optical Pulses in Air

Friday April 20, 2007

	Session 5	Lightning Observations and Inverse Source Problems (Chair: P. Laroche)
08:30-11:15	08:30-08:45	Hans D. Betz, V. Djurica, K. Schmidt, W. P. Oettinger: Far-Field Observation of Tower-Induced Lightning
	08:45-09:00	Loboda, M., P. Baranski, K. Sobolewski: Project on new local lightning detection network (LLDN) in the region of Warsaw
	09:00-09:15	Mäkelä, A.: Time differences of VHF and LF lightning locations in Finland in 2006
	09:15-09:30	Maslowski, G., P. Baranski, S. Michnowski: Analysis of electric field spectrograms of lightning discharge components
	09:30-09:45	Tuomi, T. and J. Mäkelä and N. Oyj: Sub-millisecond time differences between located strokes: Occurrence and statistics
	09:45-10:00	Mäkelä, J., N. Porjo, T. Tuomi and A., V. Cooray: Sub-millisecond time differences between located strokes: Waveform recordings
	10:00-10:30	<i>Coffee Break</i>
	10:30-10:45	Varga, B. and D. Ablonczy: Improving the Localization Accuracy of the Safir VHF Interferometric Receivers in the Hungarian Network with GPS based Measuring Techniques
	10:45-11:00	Ramos R., Prior V., Correia S., Deus R.: Portuguese Lightning Detection Network (2003-2006)
11:00-11:15	Defer, E., P. Blanchet, P. Lalande, P. Laroche, H. D. Betz, K. Schmidt and W. P. Oettinger: Concurrent Observations of Lightning Flashes from ONERA RF-Efield sensor and LINET network	
	Session 6	Lightning Return Stroke Modeling and Effects (Chair: V. Shostak)
11:15-12:15	11:15-11:30	Rancic, P.D. and V. Javor: New Two-image approximation of Sommerfeld's integral kernel in calculation of electromagnetic field of vertical mast antenna in frequency domain
	11:30-11:45	Mosaddeghi, A., D. Pavanello, F. Rachidi, M. Rubinstein, P. Zweigacker: Effect of Nearby Buildings on Electric and Magnetic Fields from Lightning
	11:45-12:00	Trueba, J.L. and M. Arrayás: Photoionization effects in electric discharges
	12:00-12:15	Rubinstein, M., R. Thottappillil, and F. Rachidi: Discussion on the influence of the time derivative of the current and the charge acceleration on the radiation fields from lightning channels
12:15-13:15	<i>Lunch Break</i>	
13:15-13:45	Montandon, E.: Facts and solutions in the real world concerning Lightning Protection for installations and equipment connected to the low voltage power supply distribution networks. (Invited Talk)	
13:45-14:00	Berger G.: Lightning Safety Brochure	
14:00-15:00	COST P18 Working Group Meetings (WG1, WG2)	
15:00-15:30	<i>Coffee Break</i>	
15:30-17:00	COST P18 Working Group Meetings (WG3, WG4, WG5)	