

ISSI WORKSHOP

COUPLING

BETWEEN THE EARTH'S ATMOSPHERE

AND ITS PLASMA ENVIRONMENT

September 27 – October 01
2010

PROGRAM

MONDAY 27.09.2010

08:30 – 09:00	Registration in ISSI, Hallerstrasse 6, 1 st floor Workshop held in the 2 nd floor lecture room
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WELCOME

09:00 – 09:15	Welcome and Introduction to ISSI	Roger-Maurice Bonnet / Lennart Bengtsson
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INTRODUCTORY REVIEWS

Chairman		Lennart Bengtsson
09:15 – 10:00	The Earth's Atmosphere	Anne Smith
10:00 – 10:45	The Earth's Plasma Environment	Rob Pfaff

10:45 – 11:15	<i>Coffee Break</i>
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ATMOSPHERE-IONOSPHERE-TRANSITION REGION: LONG-TERM TRENDS AND SOLAR CYCLE VARIATIONS

11:15 – 12:00	Trends in upper atmospheric neutral and ionised gases	Jan Lastovicka
12:00 – 12:45	Upper atmospheric trends: modelling	Stan Solomon

12:45 – 14:00	<i>Lunch</i>
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The talks of Mike Lockwood on upper atmospheric climate and Henrik Svensmark on atmospheric ions and cosmic rays have been cancelled

Chairman		Stan Solomon
14:00 – 14:45	Solar-cycle effects on climate	Caspar Ammann

TIDES, PLANETARY WAVES, SEASONAL VARIATIONS AND STRATOSPHERIC HEATING

14:45 – 15:30	A review of tidal features in the meso- and lower thermosphere	William Ward
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15:30 – 16:00	<i>Coffee Break</i>
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16:00 – 16:45	Tidal and PW signatures in ionospheric parameters	Dora Pancheva
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17:00	<i>ISSI Welcome Cocktail</i>
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TUESDAY 28.09.2010

Session on T/PW continued

Chairman		Rudolf Treumann
09:15 – 10:00	T/PW in ionospheric equatorial / low latitudinal day-day variability	Jorge Chau
10:00 – 10:30	Tidal effects in the ionosphere	Scott England
10:30 – 11:00 <i>Coffee Break</i>		
11:00 – 11:30	Seasonal modulation of thermo-ionospheric density	Liyang Qian
11:30 – 12:00	FORMOSAT-3/COSMIC global ionospheric temperature	Kuo-Ying Wang

GRAVITY WAVES

Chairman		Kazuo Shiokawa
12:00 – 12:45	Gravity wave penetration into the thermo-ionosphere	Dave Fritts
12:45 – 14:00 <i>Lunch</i>		
14:00 – 14:45	Dynamic control of the MLT	Erich Becker
14:45 – 15:30	Observations related to P/G-D instabilities	Jonathan Makela
15:30 – 16:00 <i>Coffee Break</i>		
16:00 – 16:30	Perkins and gradient drift instabilities	Yuichi Otsuka
16:30 – 17:00	Plasma bubbles detected by GPS observations	Michi Nishioka
17:00 – 17:30	Wave mixing effects on minor chemicals in the MLT-region	Misha Grygalashvily

WEDNESDAY 29.09.2010

JOULE HEATING

Chairman		Hermann Opgenoorth
09:00 – 09:30	Heating, global TAD generation, convection: Review	Gang Lu
09:30 – 10:00	Global circulations in latitude and altitude	Hiroshi Fujiwara
10:00 – 10:30	In-situ CHAMP observations of iono-thermosphere coupling	Hermann Lühr
Mark Conde's talk on flywheel effects has been cancelled for problems with his experiment		
10:30 – 11:00	<i>Coffee Break</i>	
11:00 – 11:30	Small-scale auroral GW observ	Shin-Ichiro Oyama
11:30 – 12:00	Sporadic E: The atmosphere - ionosphere coupling paradigm	Christos Haldoupis
12:00 – 12:30	Sporadic E layer quasiperiodic echoes over Arecibo	Eliana Nossa
12:45 – 14:00	<i>WS Photo of Participants / Lunch</i>	

FREE AFTERNOON

1. ISSI-organized:

Guided tour PAUL KLEE MUSEUM BERN 15:30 – 16:30

(can be reached by direct Bus No 12 to final Bus stop, 20 min ride)

Participants meet at 15:15 at North-Entrance (indicated "Treffpunkt")

or other individual choices:

(e.g.)

2. VISIT to EINSTEIN HOUSE (Kramgasse 49, near Zytglogge) / EINSTEIN MUSEUM
EINSTEIN EXHIBITION (Historisches Museum, Helvetiaplatz 5)
3. EXCURSION to some place in the mountains (depending on wheather conditions)
or any other individual choices.

19:30 ~ 22:00	WORKSHOP DINNER
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Location: CASINO-Restaurant, Herrengasse 25

THURSDAY 30.09.2010

LIGHTNING ASSOCIATED PHENOMENA, TLEs, TGFs

Chairman		Rudolf Treumann
09:00 – 09.45	Electromagnetic atmosphere-plasma coupling: The global electric circuit	Michael Rycroft
09:45 – 10:30	Lightning, TLEs and TGFs: A Review	Yoav Yair

10:30 – 11:00 <i>Coffee Break</i>

11:00 – 11:45	Impact of discharge physics on the atmosphere	Victor Pasko
11:45 – 12:15	FORMOSAT-2/ISUAL discharge observations	Cheng-Ling Kuo
12:15 – 12:45	The electrical properties of the atmosphere during the recent extreme solar minimum	Jeffrey Klenzing

12:45 – 14:00 <i>Lunch</i>

NO_x TRANSPORT AND SOLAR ENERGETIC PARTICLE EFFECTS

Chairman		J.-P. Pommereau
14:00 – 14:45	Particle precipitation and ENA in high-to-low latitudes: Review	Alex Yahnin
14:45 – 15:30	NO _x generation, transport and impact on the Ozone layer	Alain Hauchecorne

15:30 – 16:00 <i>Coffee Break</i>

<i>The talk of Linda Megner has been cancelled</i>
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16:00 – 16.45	IS-radar observations and modelling of precipitation effects and lightning on NO _x , connection to PCA and SEP	Esa Turunen
16:45 – 17:30	Satellite observations of impact and chemistry of NO _x from TLEs/TGFs	Enrico Arnone

FRIDAY 01.10.2010

VLF-ULF-LF PHENOMENA

Chairman		Tilmann Böisinger
09:00 – 09:45	VLF signatures of atmosphere-ionosphere-magnetosphere coupling	Umran Inan
09:45 – 10:30	The role of ULF and the resonant A-I-M interface	Andrei Demekhov
Umran Inan's talk has been cancelled because of illness.		
10:30 – 11:00	Coffee Break	
11:00 – 11:30	Atmospheric effects of Alfvén waves and transient plasma phenomena	Sergei Pilipenko
11:30 – 12:00	LF waves and the troposphere-ionosphere coupling	Fernando Samoes
12:00 – 12:30	WORKSHOP SUMMARY	Conveners
OFFICIAL END OF WORKSHOP		
12:30 – 14:00	Lunch	
14:00 – 15:00	Final Convener Session	
15:00	Coffee	
END OF WORKSHOP		

Notes:

1. Blue names: Invited Young Scientists
2. Speakers commit to contribute to the Chapters of the ISSI Springer book by cooperation
3. Book content will be chapter structured: Preliminary structure will follow the Session Headings

The following speakers cancelled their attendance for different reasons:

Michael Kelley (speaker replaced), Mark Conde (crash of instrument, speaker could not be replaced)
 Jean-Jacques Berthelier (speaker replaced by two recommended YS: Fernando Simoes and Jeff Klenzing)
 Linda Megner, Mike Lockwood, Henrik Svensmark (talks deleted on short term, speakers could not be replaced)
 Sergei Shalimov (talk deleted on short term. In its place Christos Haldoupis speaks about ES).