

Second Circular – Workshop of the International Space Science Institute (ISSI)

Comparative Planetary Aeronomy

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1. General information

The International Space Science Institute (ISSI) is hosting a workshop on comparative planetary aeronomy. The attendance at this workshop is by invitation only. Invited participants have already confirmed their attendance and contribution too the Workshop.

The aim of this Second Circular is to provide the participants with more detailed information on the workshop programme, organisation and logistics, and to enquire about hotel reservation information. A Third Circular will be distributed on 1 June 2007 as a reminder and will give some last minute information. Please consult the letter of invitation and our WWW homepage at <http://www.issibern.ch> for general information about ISSI.

2. Workshop objectives

- Comparative studies of processes and systems aspects that control the general behaviour and structure of the upper atmospheres, ionospheres and exospheres of solar system bodies (terrestrial planets, giant planets, and their moons)
- Similarities and differences of the relevant physics, chemistry, and dynamics
- Implications for long-term evolution of atmospheres and for exoplanets

Structure and programme outline: The following themes to be covered during the Workshop have been identified:

- i) Introduction to comparative aeronomy
 - “explore” the word aeronomy & aim of the workshop
 - terrestrial aeronomy and key processes
- ii) Chemical Processes:
 - Reaction rates; cross sections; hot atom generation, etc.

- iii) Physical Processes:
 - Solar irradiance, energy deposition, energy transport, transport equations, etc.
- iv) Modeling Approaches:
 - 1D vs 3D, fluid, kinetic, MHD, hybrid;
- v) Thermospheres:
 - Venus, Earth, Mars, Jupiter, Saturn, moons, comets
- vi) Ionospheres:
 - Venus, Earth, Mars, Jupiter, Saturn, moons, comets
- vii) The interaction of fast plasma flows with ionosphere/atmosphere systems:
 - Venus, Mars, Galilean Satellites, Titan, comets
- viii) Atmospheric Escape and Long-term Evolution:
 - Relative importance of chemical, thermal- and plasma-induced escape mechanisms and long-term consequences. Role of intrinsic magnetic field. Effect of intensity of dipole.
- ix) "Relation" between our understanding of the solar system and exoplanets.
- x) General Similarities and Differences:
 - Summary and synthesis of presentations and discussions during the workshop

5. List of Participants

A list of participants is attached to this Circular and is also on the workshop website [participants_060307.pdf](#)

6. Workshop program

The draft workshop program will be available at the workshop website under [program_draft_060307.pdf](#) by the end of April 2007. Other than the introductory talks, all talks will be 30 minutes plus 10-15 minutes for discussion. Some of the talk titles have been chosen by the convenors and thus are tentative only. Speakers should please provide us with a more appropriate title, if they wish, for the final program. Also note that this will not be the final program, so talks may still be shifted, but not from one day to another. The program will be updated as the program reaches final shape.

7. Publication

A workshop volume is planned to be published by [Springer](#) both as a hardcover book in the [Space Sciences Series of ISSI](#) (SSSI) and as an issue of the journal [Space Science Reviews](#) (SSRv). It is expected that a total of about 15 review style and quality papers, submitted to the usual refereeing process will be published in the book. Papers will be based on the introductory and contributed talks, and will be moderated by the discussions in the splinter groups. Papers should be prepared in LaTeX in the SSRv style, which is

relatively small, accommodating only some 450-500 words per page full of text. Further details about the publication (including LaTeX style files) will be given at the workshop.

8. Funding of the workshop

ISSI will fund the participants by providing the daily subsistence cost during the time of the meeting up to a maximum of 7 days (time of arrival in Bern through departure from Bern). This includes the cost for the hotel and for meals. However, ISSI is not in a position to cover travel costs, taxis, phone calls etc. There will be no registration fee for this workshop. ISSI will also cover the publication costs of the printed volume, of which each participant will receive a free copy.

9. Equipment available at ISSI

ISSI is equipped with a pool of different kinds of workstations such as PCs, Macs, and Sun Stations, as well as with Postscript printers for both b/w and colour. All machines have Ethernet connections and run web browsers, ssh, telnet, ftp, etc., so connecting home, accessing email, printing, etc. while at ISSI will be no problem.

Participants who bring their own notebook computers will be able to connect to the Ethernet through the standard RJ45 plug. Cables are available at ISSI and addresses will be dealt out by our DHCP server. We also provide wireless access; participants wishing to use that will receive a username/password combination from our computer engineer and system administrator, Saliba F. Saliba (saliba@issibern.ch), who will also help with any computer-related questions.

The seminar room is equipped with a computer and beamer for electronic presentations, a video player, two overhead projectors, a slide projector, and a whiteboard.

10. Social program

An informal welcome drink will be offered at the end of the first day at ISSI, on Monday, 25 June 2007 at 6 p.m. A free afternoon is foreseen on Wednesday, 27 June 2007 (with an excursion planned for those wishing to visit the Bern countryside). A workshop dinner will be offered to all participants in the evening of Thursday, 28 June 2007, at 7:00 p.m., in a restaurant located in the old part of the city.

11. Travelling to Bern

Bern can be reached easily from two international airports: [Zurich \(ZRH\)](#) and [Geneva \(GVA\)](#). Direct intercity trains to Bern depart every half hour from inside the airport buildings; see www.rail.ch for detailed departure times. The travel time is ~1.5 hours from Zurich airport and ~2 hours from Geneva airport.

There is also a local airport (Bern, BRN), located a 20 minute shuttle ride from the city centre, with connections to several European cities (London, Munich, etc.). Bern is connected to many European cities by fast intercity trains (e.g. TGV Paris-Bern in 4.5 hours, or Frankfurt-Bern 5 hours). Timetable information of trains within and around Switzerland can be found at www.rail.ch. Also check out www.issibern.ch/guide.html for a few more travel tips such as links to city maps of Bern, weather forecasts, currency calculators, etc...

12. Hotel reservations

All participants at the workshop are now requested to contact the workshop secretary, Brigitte Fasler (Tel. +41-31-631-4896, Fax: +41-31-631-4897, email: fasler@issi.unibe.ch), to indicate their arrival and departure dates and times, as well as any special requests they may have (e.g. double room). A confirmation will be returned within a few days. Block bookings have been made in nearby hotels; please see http://www.issibern.ch/hotel_info.html for a map indicating the location of the hotels and of ISSI.

13. Timeline and deadlines

Participants who have not yet sent us their registration form (see [First Circular](#)) are invited to do so soon (**before end of April**), either in pdf form, or by fax. (Please do so even if you have already confirmed your participation by e-mail.)

Third Circular: **1 June 2007**

Hotel reservation information to Brigitte Fasler: **1 June 2007**