

Motivation

Only few long-term energy systems fulfil the requirements of being environmentally neutral, sustainable and able to provide energy levels required for long-term, sustainable human development. Solar power (collected in space as well as on ground) is among the theoretically most promising power sources for the 21st century energy system.

Aim

The last SPS conference (SPS'97) took place in Montreal, Canada in 1997. Since then, significant technical progress has been made. Based on this progress and the ongoing work within the European SPS Programme, the conference intends to bring together the international research communities in the fields of solar power plants, wireless power transmission and large scale sustainable energy systems. A special focus of the conference will be on the integration of space and terrestrial solar power solutions for the energy systems of the 21st century, including hydrogen as an energy vector.

Conference Venue

The conference will take place in Granada, Spain. Favourable climatic conditions have lead to the establishment of the largest European terrestrial solar power plant research centre in close-by Almería, aiming at a realisation of commercial solar thermal power plants.

As the last Muslim stronghold in Spain, Granada was known as the Damascus of Moorish Spain for its airy sunlight and beauty. It was precisely this historic encounter among civilizations that gave rise to the originality of its artistic treasures and this city's special traits, praised by poets, artists and entertainers all over the world.

It is particularly well-known for the incomparable palace and garden complexes comprising the Alhambra and the Generalife.

The closest international airport is Malaga, about 130 km from Granada (hourly bus connection). There are daily flights to Granada airport from Madrid and Barcelona.



Call for Abstracts

Authors are invited to submit two-page extended abstracts using the form on the conference webpage:
<http://www.congrex.nl/04c15/>.

Abstract submission deadline is **December 20, 2003**.

Abstracts should contain the following information:

- Title of the presentation
- Session number (S1 to S6)
- Preference (oral or poster presentation)
- All authors and their affiliation(s)
- Contact details (address, telephone, fax, e-mail address) of the corresponding author
- Extended abstract summary description of work (**min. of 600 and max. of 1200 words**) including
 - Purpose
 - Methods & Approach
 - Innovation
 - Results & Conclusions

Papers will be presented orally and in poster sessions.

Abstract shall be submitted on-line via the conference website. In exceptional cases, a submission as a pdf file is possible. Detailed information and easy step-by-step instructions are given on the website.

The abstracts will be evaluated on the basis of the clarity of objective, degree of innovation, scope and method of approach, and significance of the results.

The author designated as the point of contact will be notified of the paper's acceptance for oral or poster presentation in February 2004. Submission of an abstract for review is considered by the Scientific and Technical Programme Committee as an agreement that the work will not be published or presented by the author prior to the conference.

All accepted papers will be published in an ESA Special Publication. Please note that with acceptance of your contribution copyright is transferred to the publisher.

Preliminary Programme

S1. Space and Terrestrial/Planetary Solar Power Plants

Session S1 is devoted to papers dealing with the comparison and integration of space and terrestrial/planetary solar power plants. Photovoltaic as well as solar thermal plants will be covered, ranging from tens to hundreds of MWe to several GWe for terrestrial concepts and from dozens of kWe to the MWe scale for planetary or lunar concepts.

S2. Integration of Solar Power from Space into a Hydrogen Economy

This session addresses the integration of solar power plants (focussing on space but including also terrestrial plants) into hydrogen economy scenarios. Solar hydrogen generation, transportation and storage issues shall be addressed as well as the influence of this storable energy vector on solar power plant concepts.

S3. Large-Scale Terrestrial Power Supply Scenarios

Session S3 is devoted to large-scale terrestrial renewable power plant concepts. Special emphasis is given to solar power plants and continental/global solutions.

S4. Wireless and Long-Distance Power Transmission

Session S4 is addressing all aspects of long distance power transmission. Different wireless transmission technologies (microwave and laser power transmission) will be covered as well as legal and safety aspects of WPT. For large distance terrestrial power transmission, alternative advanced technologies shall also be presented, including inter alia hydrogen pipelines, HVDC lines and hybrid hydrogen / superconducting lines.

S5. Power for Space Applications—Science, Research and Exploration

Session S5 will contain presentations dedicated to power production and transmission for space applications (for Earth orbit as well as science missions) and space exploration. In this respect the session will deal also with the potential of SPS, including Solar Power, WPT and other key SPS technologies as a supplement or alternative to space nuclear power sources, e.g. in the frame of lunar, Martian and deep space exploration.

S6. Near-term Demonstrators and Experiments

Space solar power plants require the development of several key technologies. Near term demonstrator missions are necessary to validate these technologies. Session S6 is dedicated to all aspects of currently planned demonstrator experiments for SPS as well as WPT (terrestrial and space experiments).

Event Timetable

20 December 2003	Deadline for abstracts
February 2004	Notification to authors
31 March 2004	End of early registration
10 June 2004	Deadline for paper submission
30 June – 2 July 2004	Conference

Local Arrangements

Information will soon be available on the Conference website at

<http://www.congrex.nl/04c15/>

Conference Chair

Peter Glaser	<i>Honorary Chair</i>
Wolfgang Seboldt	DLR – <i>Chair</i>
John Mankins	NASA HQ – <i>Vice-chair</i>
Nobuyuki Kaya	Kobe University – <i>Vice-chair</i>

Organising Committee

L. Summerer	ESA
R. Molina	CDTI
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Conference Website:

<http://www.congrex.nl/04c15/>

FIRST ANNOUNCEMENT AND CALL FOR PAPERS

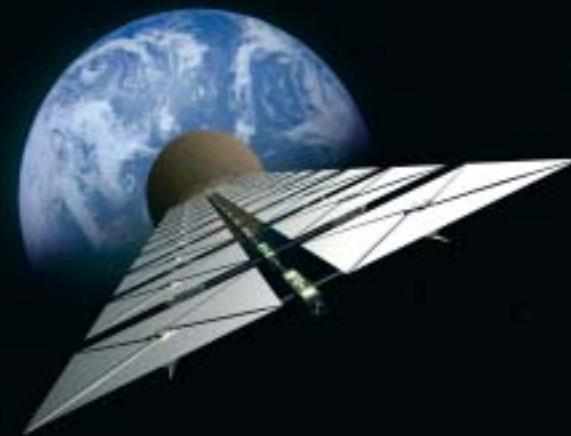
4th International Conference on

Solar Power from Space SPS '04

together with the

5th International Conference on

Wireless Power Transmission WPT 5



Granada, Spain
30 June – 2 July 2004