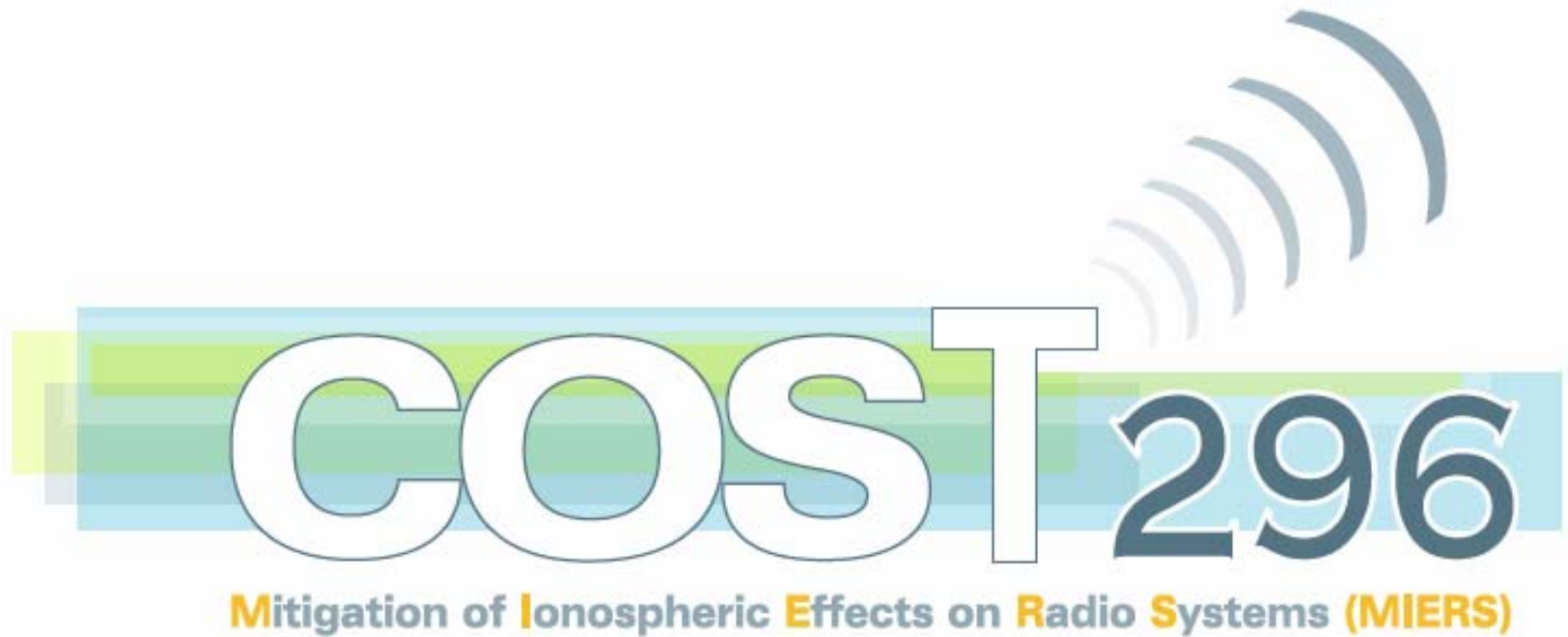


Proposed logo designed by
"Laboratorio Grafica & Immagini"



COST296 activities related to the IHY

**Giorgiana De Franceschi, Lucilla Alfonsi, Silvia Pau
INGV**

Rome-Italy

e-mail: defranceschi@ingv.it

**In collaboration with:
Laboratorio Grafica & Immagini (INGV)**



COST296 Action (2005-2009) provides a unique European forum for the progression of knowledge of the ionosphere and its effects on navigation and communication systems.

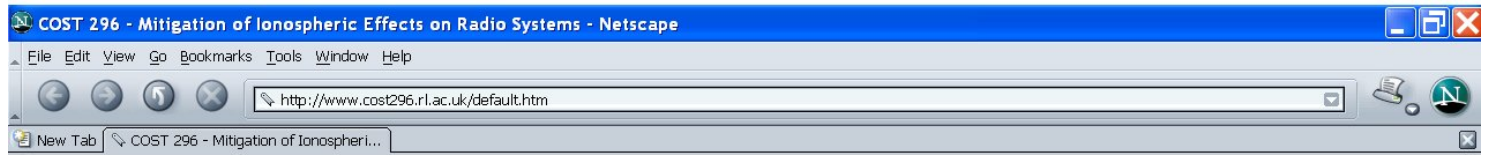
For this reason the European cooperation under the umbrella of COST296 Action could serve as a **valid contribution to IHY 2007-2008 initiatives.**

SUMMARY

- **COST296/IHY Web pages**
 - multi-instruments observation campaigns
 - outreach activities
- **Coordination team**
- **Possible CIP**
- **Remarks**



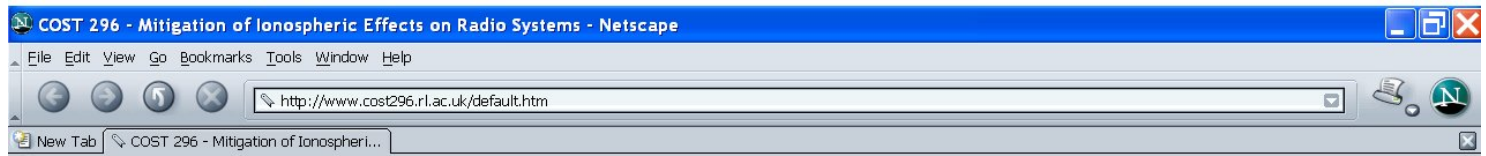
COST 296 home page



COST 296		
Mitigation of Ionospheric Effects on Radio Systems (MIERS)		
4th Management Committee Meeting 26-29th April, Neustrelitz, Germany		
Home		
Objectives	COST	
Participants	European Cooperation in the Field of Scientific and Technical Research. It is a framework for scientific and technical cooperation, allowing the coordination of national research on European level. Basic and pre competitive research as well as activities of public utility.	
Programme	COST 296 Objectives	
Working Groups	Develop an increased knowledge of the effects imposed by the ionosphere on practical radio systems, and for the development and implementation of techniques to mitigate the deleterious effects of the ionosphere on such systems.	
Minutes		
Meetings	Action Lifetime 4th February 2005 - 3rd February 2009	
Links	Chairperson Dr Ljiljana R. Cander, CCLRC RAL, UK Vice-Chairperson Dr Bruno Zolesi, INGV, Italy Secretary Angela Vernon, CCLRC RAL, UK	
Privacy Statement		
Site maintained by Carron Wilson		

*Proposals for a
COST 296 logo
are welcome.
E-mail suggestions to
the chairman*

COST296/IHY WEB Pages



COST 296
Mitigation of Ionospheric Effects on Radio Systems (MIERS)

4th Management Committee Meeting 26-29th April, Neustrelitz, Germany

- Home
- Objectives
- Participants
- Programme
- Working Groups
- Minutes
- Meetings
 - [IHY](#)
- Links

Privacy Statement

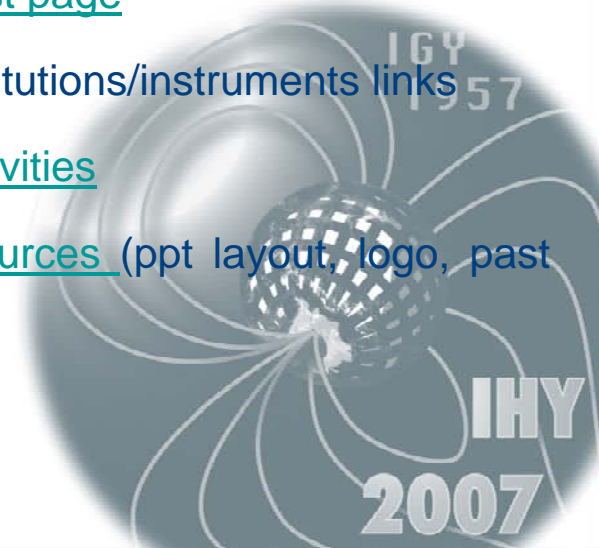
Site maintained by Carron Wilson

Proposals for a COST 296 logo are welcome. E-mail suggestions to the chairman

Add a link to a new page dedicated to IHY

- **What is IHY?** → link to IHY site ('about' page)
<http://ihy.gsfc.nasa.gov/about/about.shtml>
- **What is a CIP?** → link to IHY UK site ('how CIPs work' page)
<http://www.ihy.rl.ac.uk/HowCIPsWork.shtm>
- **IHY Events** → link to IHY Meetings and Events
<http://ihy.gsfc.nasa.gov/events/events.shtml>
- **Participants** → link to a IHY/COST296 [participant list page](#)
- **Observations** → link to an [explanatory page](#) with institutions/instruments links
- **Initiatives** → link to a page on [COST 296/IHY activities](#)
- **Resources** → link to a page on [COST 296 resources](#) (ppt layout, logo, past presentations, etc...)

Next →



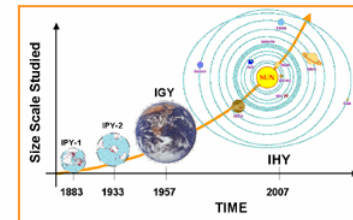
What is IHY?

contact webmaster@ihy.gsfc.nasa.gov.

- **Downloads**

Documents, posters, presentations, brochures and more.

IHY builds on the successes of the International Geophysical Year and the previous International Polar Years. We now extend our global studies out into the Heliosphere and incorporate the drivers of geophysical change into the global system. As we approach the "new frontier" of the heliopause and interstellar space, our heritage clearly extends back to previous International Years:



[Expand Image](#)

IHY Objectives:

1. Develop the basic science of heliophysics through cross-disciplinary studies of universal processes.
2. Determine the response of terrestrial and planetary magnetospheres and atmospheres to external drivers.
3. Promote research on the Sun-heliosphere system outward to the local interstellar medium - the new frontier.
4. Foster international scientific cooperation in the study of heliophysical phenomena now and in the future.
5. Preserve the history and legacy of the IGY on its 50th Anniversary.
6. Communicate unique IHY results to the scientific community and the general public.

The [Proposed IHY Science Themes](#) are now available for review and comment.

Last modification:

Responsible NASA Official: B. Thompson

[NASA IT Security Banner & Privacy Statement.](#)

Please direct feedback and comments about this site to [IHY Webmaster](#).



*CLICK ON A DATE AND FIND OUT HOW IT IS IMPORTANT TO IHY!

Heliophysical: A broadening of the concept "geophysical," extending the connections from the Earth to the Sun & interplanetary space. On the 50th anniversary of the International Geophysical Year, the 2007 IHY activities will build on the success of IGY 1957 by continuing its legacy of system-wide studies of the extended heliophysical domain.

- **IHY Organization**

Who are your national and regional IHY leaders? Find information on IHY activities in your geographical region, and learn about IHY committees and organization.

- **Vision Statement**

A note explaining the vision for IHY and its rationale.

- **How IHY Works**

A brief description of our objectives, programs and activities and how they interrelate.

- **Science Goals**

A discussion of the primary objectives of IHY, the Science Goals, universal processes, and how different disciplines fit into IHY.

- **Frequently Asked Questions**

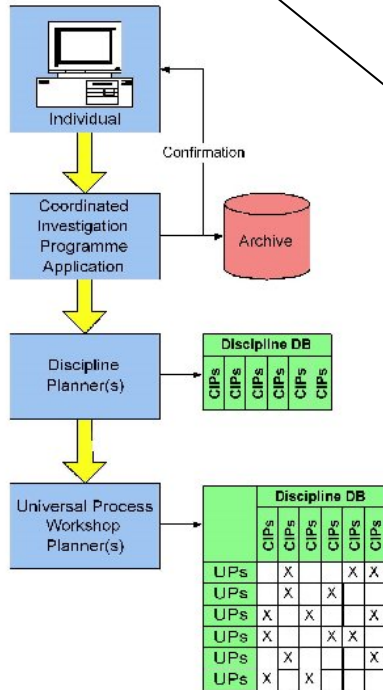
A list of frequently asked questions and their answers. If you have any questions please



What is a CIP?

How Co-ordinated Investigation Programmes work

CIPs are intended to work to a three-step procedure. The aim is that the programme remains under the control of the proposer(s) with the IHY CIP process providing a means of publicising the proposed work, co-ordinating access to and use of the necessary resources, and a forum for discussing the results. The figure below illustrates the process:



CIPs are intended to work to a three-step procedure. The aim is that the programme remains under the control of the proposer(s) with the IHY CIP process providing a means of publicising the proposed work, co-ordinating access to and use of the necessary resources, and a forum for discussing the results.

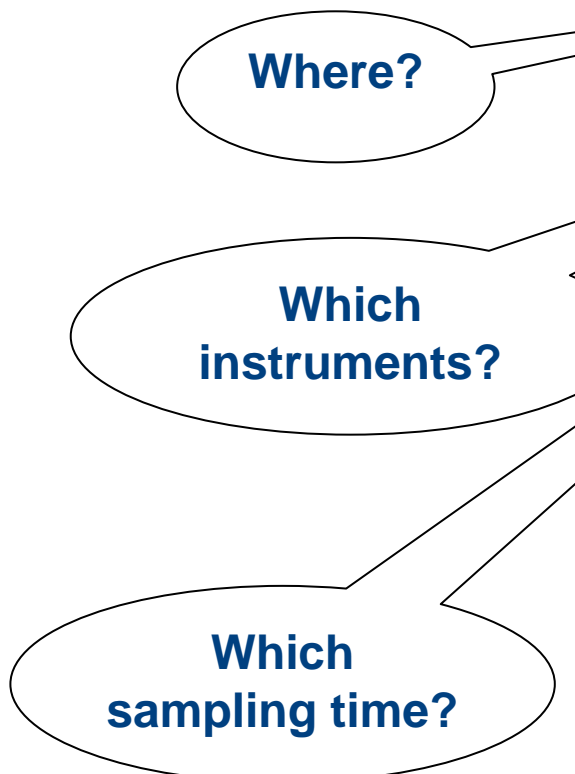
For further information please contact [Richard Stamper](#)
 Last modification: February, 21, 2006



Participants (?)

- Abdus Salam ICTP, Trieste, Italy
- Academy of Sciences of Czech Republic, Prague, Czech Republic
- Aristotelian University of Thessaloniki, Thessaloniki, Greece
- DLR/DFD, Neustrelitz, Germany
- Finnish Meteorological Institute, Helsinki, Finland
- Hungarian Academy of Sciences, Sopron, Hungary
- INTA, El Arenosillo, Spain
- Istanbul Technical University, Istanbul, Turkey
- Istituto Nazionale di Geofisica e Vulcanologia, Rome, Italy
- IZMIRAN, Russian Academy of Sciences, Troitsk, Russia
- Karl-Franzens-Universität, Graz, Austria
- Leibniz-Institute of Atmospheric Physics, Kühlungsborn, Germany
- National Observatory of Athens, Greece
- Polar Research Institute of China, Shanghai, China
- Royal Meteorological Institute, Brussels, Belgium
- Rutherford Appleton Laboratory, Chilton, Didcot, UK
- Space Research Centre, Warsaw, Poland
- St Petersburg University, St Petersburg, Russia
- The Middle East Technical University, Ankara, Turkey
- TUBITAK-Marmara Research Center, Kocaeli, Turkey
- Universidad de Huelva, Huelva, Spain
- University of Algarve, Faro, Portugal
- University of Leeds, Leeds, UK
- University of Leicester, Leicester, UK
- University of Massachusetts Lowell, USA
- University of Nottingham, UK
- University Rennes 1, France
-

Possible example (from IHY/Italy web site)



The INGV Upper Atmosphere Observatories

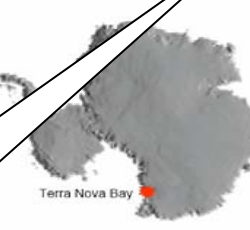
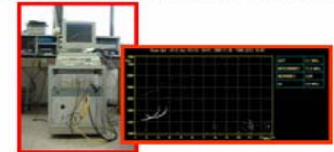


In Italy:

Ionospheric vertical sounding in Rome (41.8N, 12.5E) and in Gibilmanna (37.59N, 14.0E, Sicily). Ionospheric oblique sounding between Inskip (UK), Rome and Chania (Greece), in cooperation with Qinetiq company and with the University of Chania. GPS TEC (Total Electron Content) measurements from Rome, in collaboration with IFAC-CNR (Florence) and University of Bath (UK)

Instrumentation:
 AIS-INGV ionosonde
 DPS-4 digisonde
 GISTM GPS dual frequency receiver

Sampling time:
 15 minutes for vertical and oblique soundings
 20 ms for GPS TEC measurements

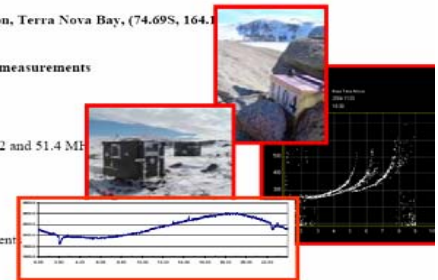


In Antarctica, at "Mario Zucchelli" Station, Terra Nova Bay, (74.69S, 164.1E)

**Ionospheric vertical sounding
 Cosmic noise for ionospheric absorption measurements
 Ionospheric scintillations**

Instrumentation:
 AIS-INGV ionosonde
 Solid State single beam riometers at 30, 38.2 and 51.4 MHz
 GISTM GPS dual frequency receiver

Sampling time:
 30 minutes for vertical sounding
 1 second for cosmic noise measurements
 20 ms for TEC and scintillations measurement

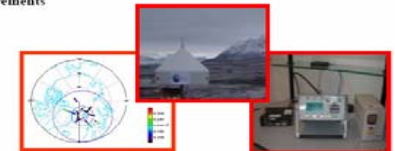


In Arctic, at "Dirigibile Italia" Station, Ny-Ålesund, Svalbard, Norway (78.9° N, 11.9° E):

Ionospheric TEC and scintillations measurements

Instrumentation:
 GISTM GPS dual frequency receiver

Sampling time:
 20 ms



PRINCIPAL SCIENTIFIC AND TECHNOLOGICAL OBJECTIVES

Ionospheric sounding over high and mid latitudes to monitor the ionospheric behaviour for Space Weather applications and for developing nowcasting and forecasting tools. Web pages: <http://ionos.ingv.it/spaceweather/>, www.spaceweather.ingv.it

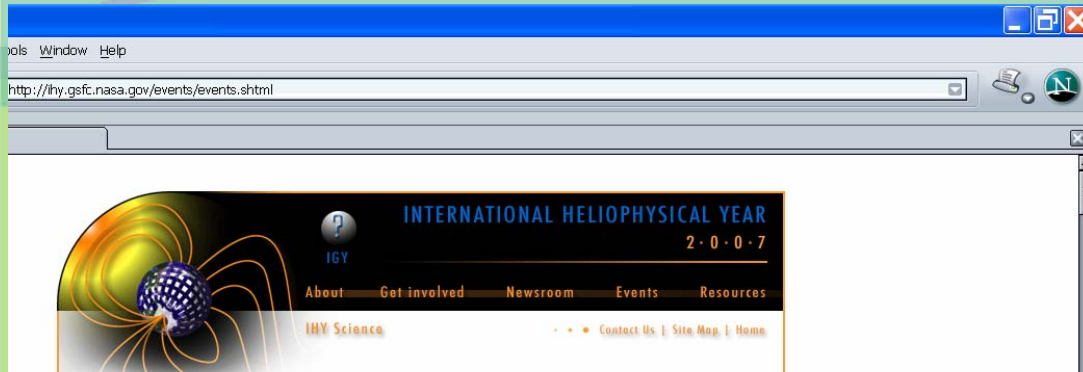
Scintillations monitoring over high latitude regions to monitor the plasma movement in the polar regions as well as to constitute a robust and rich databank useful for developing forecasting models and for testing the existing ones. Web pages: www.spaceweather.ingv.it

Ionospheric absorption measurements over Antarctica to investigate deeper the Polar Cap Absorption events (PCA) associated to space weather events due to strong emissions of solar protons. Web pages: www.spaceweather.ingv.it

Further technological development of AIS-Advanced Ionospheric Sounder, the digital ionosonde entirely designed and realised at the Laboratory of INGV together with an original auto-calling software to produce good quality data both for routine service as well as for space weather and scientific aims. Web pages: <http://www.ingv.it/innovazioni/>

← [Back](#)

IHY Events



IHY Meetings and Events

An "IHY Contact" has been identified for a number of scientific meetings. The IHY Contact is available to members of the scientific community who are interested in learning about IHY or participating in IHY. They may also plan an information session or "town meeting."

Symbols by an event denote the following:

- An IHY Contact will be available at the event
- 📅 There will an IHY Information Session at the event
- 🏠 An IHY "Town Meeting" will be held during the event
- ★ The event or meeting will have a Special Session on IHY
- 📅 IHY organizational or planning meeting

Please submit any missing meetings to the [IHY webmaster](#).

Upcoming Events: [2005](#) | [2006](#) | [2007](#) | [2008](#) | [2009](#)

Past Events: [2005](#) | [2004](#) | [2003](#) | [2002](#)

Upcoming Events

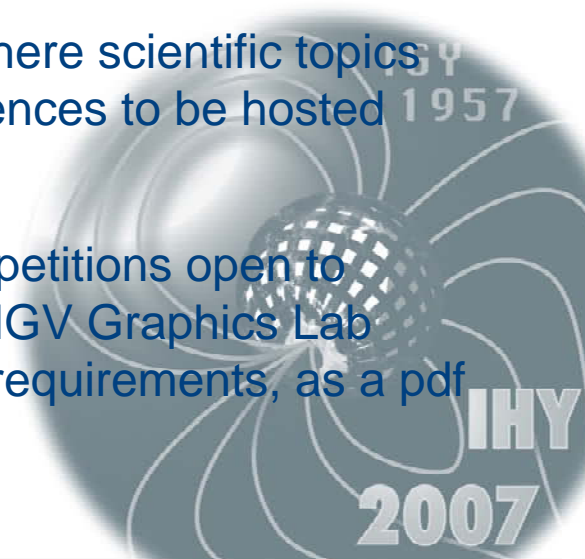
Upcoming Events

2005

- ◆ June 26 - July 1, 2005 ●★📅
Joint CEDAR-GEM Joint Workshop
 Santa Fe NM, USA
[Meeting Details](#)
Abstract Deadlines: 20 May 2005 for posters, 3 June 2005 for plenary or workshop abstracts
Special Mini-workshop on IHY, eGY and IPY!
 IHY Contacts: [Nicola FOX](#), [Marina GALAND](#), and [Howard SINGER](#), and [Roger SMITH](#)
- ◆ June 27 - July 1, 2005 ●
Solar Variability and Earth Climate
 Villa Mondragone, Monte Porzio Catone, ITALY
[Meeting Details](#)
 IHY Contact: [Lika GUHATHAKURTA](#)
- ◆ June 27 - July 1, 2005
International Conference on Fundamental and Applied MHD
 Rigas Jurmala, LATVIA
[Meeting Details](#)
Abstract Deadline: 19 November 2004
- ◆ July 10-15, 2005 ●
SHINE (Solar, Heliospheric and Interplanetary Environment) 2005 Workshop
 Big Island HI, USA
[Meeting Details](#)
 IHY Contacts: [Joan BURKEPILE](#) and [Nat GOPALSWAMY](#)
- ◆ June 27 - July 1, 2005
URSI/COSPAR International Reference Ionosphere Workshop
 Roquetes, SPAIN
[Meeting Details](#)
- ◆ July 11-14, 2005
NCAR GTP Workshop "Coherent Structures in Atmosphere and Ocean"
 Boulder CO, USA
[Meeting Details](#)

Initiatives

- Multi-instruments special campaigns of observations and investigation of the ionospheric effects of particular solar geomagnetic events by COST 296 participants in synergy with the IHY community
(link to "[IHY Scientific Instruments and Observatories](#)")
- Participation to IHY special sessions organized within international meetings to promote COST296 activities (e.g. IUGG 2007 www.iugg2007perugia.it).
- Outreach days in the frame of upper atmosphere scientific topics (March 2007: a day dedicated to public conferences to be hosted simultaneously in the participating Institutes).
- Educational/outreach initiatives such as: competitions open to school to prepare a calendar for 2007-2008 (INGV Graphics Lab could prepare a project, complete of technical requirements, as a pdf file to be printed by COST)



IUGG 2007 Perugia - Netscape

File Edit View Go Bookmarks Tools Window Help

http://www.iugg2007perugia.it/ Search

IUGG XXIV 2007 IUGG IAG IAGA IAHS IAMAS IAPSO IASPEI IAVCEI

Menu US002 - Session Details

Home Page
I.U.G.G.
XXIV General Assembly
Bulletins
Scientific Program
Field Trips
Deadlines
Registration, Fees and General Expenses
Location
L.O.C.
Sponsor & Partnership
Accommodation
Grants
Passport and Visa
Abstracts Submission
How to reach us
Links

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US002: IGY+50 and I*Y: The International Geophysical Year 1957/58 and the international years of 2007/08

Total abstracts submitted: 0

Abstracts waiting for acceptance: 0 - Accepted Abstracts: 0 - Rejected Abstracts: 0

The International Geophysical Year has meant remarkable progress to the scientific disciplines represented in IUGG. The polar regions, the deep oceans, the earth's interior, its atmosphere and the space beyond were explored at an unprecedented rate. New technologies like satellites and computers facilitated measurements, data collection and analysis and were applied in a global effort and with an extraordinary station density. The seven Associations and the Commission of Cryosphere Sciences of IUGG are invited to give an overview over the accomplishments in their fields during IGY and in the 50 years since. The anniversary of IGY is commemorated by four international years (I*Y): The International Polar Year, the Electronic Geophysical Year, the International Heliophysical Year and the International Year of the Planet Earth are invited to highlight their activities for 2007 and 2008. This symposium will consist of invited talks, which will be supplemented by extensive posters. It is closely related to U.03, U.04 and IDCH.01 of IAGA

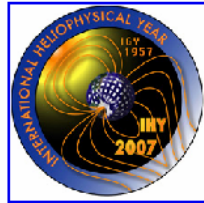
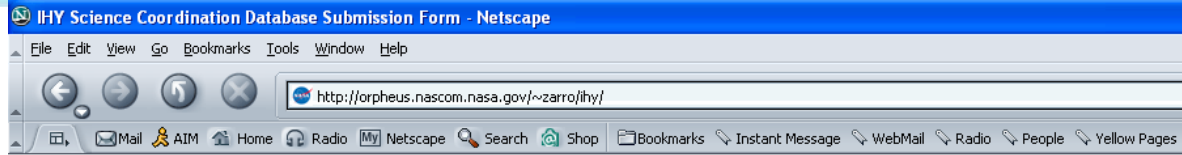
Convener

Designated
M. Kuhn,
Institute of Meteorology and Geophysics,
University of Innsbruck,
Innrain 52, A-6020 Innsbruck, Austria;
Phone +43 512 507 5450;
Fax +43 512 507 2924;
email: Michael.Kuhn@uibk.ac.at

Co-Convener

Designated
B. Thompson, NASA GFSC, USA
E. W. Cliver, Air Force Research Laboratory, Hanscom Field, USA

Done



IHY SCIENTIFIC INSTRUMENTS AND OBSERVATORIES

Note: If you would like to see an observatory or instrument added to this list, please contact [Barbara J. Thompson](#).

Additionally, if you are willing to serve as an instrument representative for planning and coordination purposes, please let us know.


We will need at least one contact for each instrument.



to IHY Science Coordination Database

[Graphics-free version of this page](#)
(For slower download speeds)

COST296 logo and link to observations web page

SPACECRAFT OR OBSERVATORY	INSTRUMENT OR OBSERVATION TYPE	INSTRUMENT EXPERT/ PLANNING CONTACT
 Advanced Composition Explorer (ACE)	Cosmic Ray Isotope Spectrometer (CRIS)	Eric CHRISTIAN
	Electron, Proton and Alpha Monitor (EPAM)	Eric CHRISTIAN
	Magnetometer (MAG)	Chuck SMITH
	Solar Energetic Particle Ionic Charge Analyzer (SEPICA)	Eberhard MOEBIUS
	Solar Isotope Spectrometer (SIS)	Eric CHRISTIAN
	Solar Wind Electron Proton Alpha Monitor (SWEPAM)	Eric CHRISTIAN
	Solar Wind Ion Composition Spectrometer (SWICS)	Eric CHRISTIAN
	Solar Wind Ions Mass Spectrometer (SWIMS)	Eric CHRISTIAN

 [Back](#)



Resources

Links to resources available for all COST 296/IHY participants to improve posters, publications etc.:

- logo
- ppt layout
- past presentations,
- ...



COST296/IHY Coordination team

Chief: Chairman of COST296

Italy: De Franceschi, Alfonsi, Pau + INGV-Graphics Lab.

France

UK

Germany

Poland

...

...



Main Tasks of the Coordination team

- Coordination of the special campaigns
- Organization of the outreach activities
- Updating of the web pages
- Presentation of COST296 / IHY activities (EGU, IUGG,....)
-



Possible Coordinated Investigation Program

A possible CIP should offer to IGY the COST296 contribution in terms of:

- Special campaign of observations/ionospheric effects of particular solar events
- Outreach/educational activities

Data related to the special campaigns should be prepared/validated, hosted and provided by the owners.



Remarks

If the MC of COST296 will decide to participate to IHY:

- By the end of May 2006 the coordination team should be constituted.
- By the end of June 2006 the COST296/IHY web pages should be ready to be inserted in the COST296 web site: Institutions should prepare explanatory observation pages, COST296 logo and links will be communicated to Barbara Thompson (IHY contact).
- By the end of September 2006 a CIP proposal should be submitted to IHY. A draft will be circulated by the INGV group.
- By the end of the year the educational/outreach activities should be planned.

