



# International Heliophysical Year

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## IHY Science Highlight!

### Consensus on the Flow Parameters of Interstellar Helium through the Solar System

A collaborative effort to combine observations of the interstellar helium flow through the solar system that were made with three different methods has recently come to fruition. The work is exemplary for the type of collaborations and opportunities, which can be facilitated through heightened awareness and improved boundary conditions during the International Heliophysical Year.

Hosted by the International Space Science Institute (ISSI) in Bern, Switzerland, an international team has compiled for the first time a consistent set of the physical parameters of helium in the very local interstellar gas cloud that surrounds the solar system. The three independent observational methods use the direct analysis of the interstellar neutral helium flow that penetrates close to the Sun, the production of ions from this gas and their transport with the solar wind, and finally scattering of solar UV light from the penetrating gas, which, until recently, was the only method for estimating these parameters. Knowledge of the physical characteristics of extrasolar material, obtained with these local space observations, represents an important step in our understanding the Sun's interaction with its immediate interstellar neighborhood. The surrounding interstellar medium determines the shape and size of the heliosphere, the bubble filled with solar wind and the sun's magnetic field that protects our environment from a large portion of galactic cosmic rays. This gas also comprises a sample of matter of the present day Milky Way galaxy, while all material in the solar system has preserved the composition at the time of the sun's formation 4.5 billion years ago. The coordinated analysis has become possible with a comprehensive fleet of solar, heliospheric, and astronomical spacecraft, including ACE, EUVE, SOHO and Ulysses, which have been monitoring the products of the interstellar gas and interplanetary conditions. The team initiated coordinated observation campaigns for EUVE and SOHO and took advantage of ongoing observations with ACE and Ulysses. The results are about to appear in press in a special section in *Astronomy & Astrophysics*. They have been made available to the public on the Science@NASA web site and under the ESA Science and Technology news items.

Science Team hosted by ISSI:

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**Have an interesting IHY Science Highlight? This could be your forum! Send submissions to [bala@nso.edu](mailto:bala@nso.edu)**

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### International Efforts:

N. Gopalswamy (NASA/GSFC)

To coordinate global activities, IHY has identified six regional core groups: North America, Latin America, Europe, Asia-Pacific, Former Soviet Union, and Africa. Individual core groups will hold planning meetings by June 2005.

Regional representatives will be able to discuss the outcomes of their planning meetings during the Toulouse IAGA meeting next July.

An India planning meeting was held July 10-13, 2004, organized in Ooty by Rajmal Jain and P. K. Manoharan.

A Chinese planning meeting was held September 11-13, 2004 during the CAWSES meeting in Beijing. Plans for Chinese participation was presented by Guangli Huang.

A Japanese core group will meet during October 26-29, 2004 in Kiyosato, Japan.

An Asia-Pacific planning meeting will soon be organized by Masayoshi Kojima.

**Contact:** IHY needs you! Do you have any projects or web sites which are relevant to IHY? Know of a meeting, workshop, or other activity which may provide a great opportunity for IHY planning, contact, or coordination? Then email us at [ihy@ihy.gsfc.nasa.gov](mailto:ihy@ihy.gsfc.nasa.gov) or visit [http://ihy.gsfc.nasa.gov/get\\_involved.shtml](http://ihy.gsfc.nasa.gov/get_involved.shtml) to join the IHY email list and register your support.

## IHY Events Page and Meeting Contacts System

B.Thompson (NASA/GSFC) <http://ihy.gsfc.nasa.gov/events/events.shtml>

A meetings and events calendar, web-page that relates to all meetings, seminars, workshops and conferences featuring science and activities relevant to IHY has been established. We've developed an "IHY Meeting Contact" system. Each entry in the events calendar may contain icons representing the following:

(1) An "IHY Meeting Contact" will be present at the meeting, (2) an IHY Information Session will be held during the conference, (3) there will be an IHY "Town Meeting," soliciting community input for focused activities and topics, and (4) special session(s) on IHY science are featured as part of the meeting.

Most major scientific meetings will have at least one IHY Meeting Contact in attendance, and Meeting Contacts are encouraged to work with meeting planners to hold information sessions and town meetings. If you are an IHY team member, we hope that you will help spread the word about IHY by updating the events calendar with the meetings you will be attending, and by serving as an IHY Meeting Contact at your upcoming events.

## IHY- United Nations "Basic Space Science" Program

B.Thompson (NASA/GSFC) [http://ihy.gsfc.nasa.gov/get\\_involved.shtml](http://ihy.gsfc.nasa.gov/get_involved.shtml)

The United Nations "Basic Space Science" Program, a highly successful series of workshops and activities dedicated to stimulating space science activities in developing nations, will be coordinating their activities with IHY. A planning meeting is being held October 19-21, 2004 to discuss the goals and priorities of our coordinated activities. Chief among these activities are incorporating researchers in developing nations into the IHY initiative, and identifying opportunities to establish observatories and scientific instrumentation in these nations. The planning committee will be compiling a list of scientific instruments which meet the following criteria: (i) the projects must produce scientifically significant results, (ii) these must be activities which can be performed in developing nations (many of which are near the equator), and (iii) the costs and technical requirements must be compatible with the resources available in the participating nations.

## IHY Science Coordination Database

B.Thompson (NASA/GSFC) <http://ihy.gsfc.nasa.gov/scientists.shtml>

A database has been developed to keep track of IHY activities and participants around the world. Anyone interested in IHY activities is encouraged to create an entry in the database and please encourage your colleagues to do so as well.

The database fields include: participant's contact information, institution, country, scientific interests, affiliated scientific organizations, and affiliation with an observatory or mission. This information is reflected in the database and on the online schedule of "IHY participating observatories."

As IHY activities increase, it becomes essential that we have an electronic means of tracking participants and activities. The database is tool to be used to identify participants with similar science interests, who belong to a sponsoring scientific organization, or whose

## Upcoming Events:

### AGU: 13-17 December

There are four special sessions related to IHY and IPY. A town-hall meeting is also being planned. Look for details at the meeting and plan to attend.

### AGU Special session C20

The International Polar Year 2007-2008 [Link]

### AGU Special session ED01

Space Observations for Earth System Science Education Opportunities in the IPY and IHY [Link]

### AGU Special session SH14

Low-Cost, Ground-Based Instrument Arrays for World-wide Studies in Space Science [Link]

### AGU Special session SM05

Plasma Physics of the Local Cosmos [Link]

## Planning Workshop:

B.Thompson (NASA/GSFC)

An IHY Community Science Planning Workshop will be held January 19-21, 2005 in Boulder, CO. This workshop is being planned with an "open" format to allow scientific planning and community input.

## Newsletter

### Submissions:

We are always looking for contributions to the IHY newsletter! Do you have an article, announcement, meeting summary, an interesting IHY highlight or effort? Submit it to:

[emilie@ihy.gsfc.nasa.gov](mailto:emilie@ihy.gsfc.nasa.gov)

U.S. Senate approves Resolution 466: IGY/IPY 2007 Science Year. [Link]