IVS Newsletter

Issue 12, August 2005

CONT05 Preparations Under Way

–Dirk Behrend and Cynthia Thomas, NVI Inc./GSFC

The preparations for the continuous VLBI campaign CONT05 are under way. The first observation is scheduled to be taken on September 12; the last observation will be recorded on September 27. The network consists of eleven stations. The fifteen days of continuous observations will produce approximately 112,500 observations and the amount of data to be recorded will be around 150 TB. We plan to use around 95 D-sized modules (2 TB) and 20 smaller modules. This became feasible only through disk purchases done by Algonquin, Ny Alesund, Onsala, and Wettzell since December 2004. And, just in time for the CONT05, USNO/NASA purchased 45 D-sized modules at the end of July 2005.

This year's CONT campaign will be the first continuous VLBI campaign in which multi-technique considerations play a larger role. An inter-technique coordination group for observing and analysis was formed that has representatives from the services of the geodetic space techniques (IGS, ILRS, IDS, and IVS) as well as from the IERS. The IVS is represented by Arthur Niell, Axel Nothnagel, and Dirk Behrend.

For the duration of the CONT05 campaign, all techniques will make sure that the best possible observations be taken. That means that no unnecessary maintenance work or upgrades will be performed at the stations. Furthermore, it is envisaged that all sites will be analyzed in the regular analysis of the particular service. For combination purposes the group will put emphasis on the models and parameters to be used in the analysis. A first meeting of the group is foreseen at the IAG Scientific Assembly in Cairns, Australia in August.

The participating stations are currently conducting extensive testing of their equipment under the direction of Brian Corey and Ed Himwich. The test results are examined by the stations themselves as well as Brian and Ed. The tests are done in order to ensure that the stations will be at their peak performance for CONT05.

More information is available on the CONT05 web site: http://ivscc.gsfc.nasa.gov/program/cont05.

5th APSG Workshop Held in Hong Kong

– Hayo Hase, BKG

The 5th Workshop of the Asia-Pacific Space Geodynamic Project with the title "Geodynamics and Natural Hazard" was held at the Hong Kong Polytechnic University from June 15-17, 2005. This workshop had about 60 participants, mainly from the Asia-Pacific region. After the Sumatra tsunami event, it was the right time to exchange scientific results of related science. A special session dedicated to "VLBI in Earth Sciences" figured mainly the ambitious plans of China, Japan, and India in their respective moon missions.

Japan demonstrated successfully within the Mars mission Nozomi and the asteroid mission Hayabusa the use of VLBI in the near Earth field for navigation purposes. In the near Earth field the VLBI model requires a curved wave propagation which allows the estimation of range and range rate parameters to the target source.

China wants to apply this technique within their mission "Chang Er" to the moon in 2007 in which they have to determine the position and orbit of the moon orbiter by VLBI techniques. This requires an extension of the domestic Chinese VLBI configuration (Seshan, Urumqi) by two new radio telescopes (40m, 50m) which are currently under construction in the north-east and south-west of China. By 2007 they will need all near real-time VLBI capabilities, including the correlator.

At the APSG closing session the question was raised, whether the IVS could be interested in a new product related to positioning of spacecrafts.

The next APSG meeting is scheduled for Jeju Island, Korea, to be held in October 2006.

PERMANENT COMPONENT

Kokee Park Geophysical Observatory, Kauai, Hawaii, USA

Kokee Park Geophysical Observatory (KPGO) is an IVS Network Station in the middle of the Pacific Ocean and is one of the most frequently scheduled stations. Newsletter Editor Hayo Hase caught up via email with Kokee's operations manager Clyde Cox and VLBI manager Charles ("Chuck") Kodak to learn more about this island station. The following is a compilation of what Hayo learned about Kokee Park's history, its people, and other things.

Chuck Kodak, Clyde Cox and Bill Wildes (left to right) during an inspection of the Kokee Park site.

The 20-m and 9-m radio telescopes at Kokee Park.

Clyde, being stranded on an island with one palm tree, in the middle of the ocean is a typical image used in cartoons. Where is the observatory located and what does nature look like around you? How close is the station to the Hawaiian volcanoes and to the famous ocean waves for surfing?

Kokee Park is located on the island of Kauai which is the northwestern-most inhabited major island of the Hawaiian Islands, located less than 100 miles from Honolulu (island of Oahu). The station is at 3500 ft (1100 m) above sea level. The drive coming "up the hill" is about 15 miles along Waimea Canyon, which is called the Grand Canyon of the Pacific. We are surrounded by high elevation tropical forest of native trees. As for the volcanoes, they are located on the island of Hawaii (referred to as the Big Island). The most famous surfing beaches are mostly located on Oahu.

Chuck, Kokee Park has quite a history. Can you tell us about its origins and the kind of operations it was used for?

The Kokee Park station came into being in the early 1960s to provide support to the Manned Spaceflight Network (MSN) for Mercury and Gemini missions followed by launch and backup support for Apollo lunar missions. The station was the prime Unified S-Band tracking station of the Pacific. Late in the 1970s, NASA began restructuring the MSN as the Shuttle program was under development and use of TDRSS (Tracking and Data Relay Satellite System) reduced the need for a 9-meter facility in the Pacific. The Kokee Park station began to ramp down, with closure threatened to occur in the 1980s.

About the same time as the MSN was discontinuing use of Kokee Park, the Crustal Dynamics Project was looking for a location to establish a Pacific VLBI station and thus the Kokee Park Geophysical Observatory (KPGO) came into being. Along with the new name came an infusion of funding provided by NASA and the U.S. Naval Observatory (USNO), which provided funding for 4 people and new hardware to support the CDP effort. Gone from the station were the majority of NASA MSN functions.

Today's VLBI observations are done with a 20-meter telescope. When was this antenna added to KPGO?

Early in the 1990s USNO, in concert with the National Radio Astronomy Observatory (NRAO) and NASA, entered into discussions to build a 20-meter class radio telescope at KPGO. The new telescope provided an enhancement to the VLBA operated by NRAO and provided the sensitivity the Earth Orientation community sought. USNO provided funding for the 20-meter, the Sigma Tau maser and the VLBA Data Acquisition System. Requirements for imagery were fulfilled by the use of a receiver provided by NRAO.

Which complementary instruments do you operate at Kokee Park?

We host a DORIS Beacon, a GPS system (IGS station), and an ailing PRARE system.

Clyde, how did you come to VLBI and how long have you been on duty at Kokee Park?

Tom Clark brought VLBI to Kokee in 1984 with the first 'GAPE' (Great Alaska Pacific Experiment) experiments. The first couple of years we supported only during the summer months, then we started to support on a monthly basis (on a weekend) while we were still part of NASA's Satellite Tracking Data Network (STDN). I have been working at Kokee since May of 1964 starting with the Gemini Program.

Which observation series of IVS is Kokee Park contributing to? Are there any non-IVS operations?

Kokee's primary experiments are the R4 series and the Daily Intensives. We also support S2 with Australia (astronomy) and S2 for Canada.

Aerial view of the Kokee Park Geophysical Observatory (KPGO) in a south-southwest direction. The VLBI station can be seen in the foreground, the upper left shows a tracking radar and telemetry system.

Who is actually doing the operations at Kokee?

The observatory is staffed with engineers provided by Honeywell Technical Solution Inc. (HTSI) working under contract with NASA. The Honeywell relationship to NASA began in the early 1960s under the name Bendix Field Engineer Corporation. The operations staff consists of Kelly Kim, Matthew Harms, and Kawika Fujita. Ben Domingo maintains the antenna structures (several) and Amorita Apilado handles logistics and administrative functions.



The operations crew Kelly Kim, Matthew Harms and Kawika Fujita (left to right).

Which institution is currently responsible for the VLBI operations at Kokee Park?

Kokee Park is a NASA (GSFC Code 697) facility situated on land which is leased from the State of Hawaii Department of Land and Natural Resources. USNO is partnered in the operation of the station. The 20-meter antenna, which had first light in 1993, is owned by USNO with maintenance and major support provided by NASA.

Many IVS members are dreaming of visiting Hawaii for an IVS conference. Do you think it could be possible?

It would be nice to host such an affair. However it could be a costly area to have a conference.

The IVS Newsletter is published three times annually, in April, August, and December. Contributed articles, pictures, cartoons, and feedback are welcome at any time.

Please send contributions to
ivs-news@ivscc.gsfc.nasa.gov.
The editors reserve the right to edit contributions. The deadline for contributions is one month before the publication date.

Editors:
Dirk Behrend, General Editor
dbb@ivscc.gsfc.nasa.gov
Hayo Hase, Feature Editor
hayo.hase@bkg.bund.de
Heidi Johnson, Layout Editor
hjohnson@haystack.mit.edu

The newsletter is published in color with live links on the IVS web site at http://ivscc.gsfc.nasa.gov/.

European VLBI Group for Geodesy and Astrometry (EVGA) Established

– Axel Nothnagel, Geodetic Institute of the University of Bonn

Starting in the late 1980s, the European continent has been covered with a relatively dense network of radio telescopes constructed or extended for geodetic and astrometric VLBI observations. For a long time, the operation of the network and cooperative scientific investigations have been organized in a very informal way. Only the regular Working Meetings on European VLBI for Geodesy and Astrometry held almost every year have been indicators for the existence of a lively exchange and of fruitful cooperations on a European level.

In times where funding and idealistic support more than ever depend on widespread visibility, working under an acknowledged umbrella is a necessity. For this and many other reasons, the European VLBI Group for Geodesy and Astrometry (EVGA) was formally established at the 17th Working Meeting on European VLBI for Geodesy and Astrometry. The charter of the EVGA was discussed extensively during the meeting. It states that EVGA is meant to serve as an organizational entity to foster geodetic and astrometric VLBI in Europe and to increase its visibility. In more detail, EVGA seeks to

- foster the use of European VLBI resources for deriving high quality reference frames and other scientific results.
- form a link between the different European VLBI components from observations to data analysis.
- promote and represent European geodetic and astrometric VLBI within the broader international scientific communities.
- provide and archive information and scientific results of European geodetic and astrometric VLBI.
- organize regular working meetings.
- support the respective education and training efforts.

The EVGA consists of all European IVS Associate Members and is also open for membership to any scientist affiliated with a European institution involved in geodetic and/or astrometric VLBI. The attendees of the meeting representing a large number of this group have elected Axel Nothnagel, Geodetic Institute of the University of Bonn, Germany, as the first Chairman of EVGA and Rüdiger Haas, Onsala Space Observatory of Chalmers Technical University, Sweden, as the Secretary for a four year term each.

For more details please visit EVGA's home page under http://www.evga.org.

News from the IVS Directing Board

– Wolfgang Schlüter, BKG

The 13th Directing Board Meeting was held in Noto, Italy on April 20, 2005. It was the first meeting after the January 2005 Board elections which did not change the names of the people on the board, but rather resulted in a reshuffling of some of the positions. This "personnel stability" can be viewed as a confirmation of the board's good work by the IVS community. I would like to thank the old/new board members for their willingness to serve on the board and look forward to a continuously successful collaboration.

Nancy Vandenberg unfortunately could not attend the meeting, but her deputy, Dirk Behrend, participated. It is no secret that Nancy is going to retire and that Dirk will take over her position. I would like to thank Nancy for her long-standing contributions and wish Dirk a successful transition. Considering Nancy's in every way excellent work, the expectations of the VLBI community will be a heavy burden for Dirk to bear.

Yasuhiro Koyama, Harald Schuh, and Arthur Niell continue their discussions during a coffee break.

The Coordinating Center Deputy Director reported that the observing program for 2005 was finalized and that the coordination for CONT05 was under way. The source monitoring program for the next ICRF did successfully observe almost all candidate quasars in the preceding twelve months within the regular observing program. The Analysis Coordinator reported that Christoph Steinforth left his team and that Dorothee Fischer took over his tasks. We thank Christoph for his contributions and wish Dorothee continued success. The IVS combined solution for the IERS Combination Pilot Project was released constituting an important contribution for the foreseen combination of the geodetic space techniques. Nevertheless, for high-reliable, internal VLBI analyses, there still is a need for the VLBI-derived terrestrial reference frame VTRF 2005. Concerning CRF, ten Analysis Centers submitted catalogues for comparison purposes, but so far no schedule is set up to finalize the next ICRF.

The Network Coordinator expressed some concern on the decrease of the overall station performances. The data loss rate increased to 12.5% which is due to technical failures of the stations. The Technology Coordinator stated that more than 100 Mark 5A systems were deployed at the stations and correlators. Mark 5B will become available in the third quarter of 2005. An upgrade kit to transition from Mark 5A to Mark 5B will be released for a price in the order of $3,000 for the stations and $4,000 for the correlators. A K5 system upgrade is in progress. A K5 software correlator capable of correlating 5 stations with 1Gbps is under discussion and a Mark 5 format output for the K5 is planned.

Board members attentively following a presentation: (left to right) Bill Petrachenko, Ed Himwich, Patrick Wallace, Arthur Niell, Alan Whitney, Franco Mantovani, and Harald Schuh.

The WG3 report titled "VLBI2010: Current and future requirements for geodetic VLBI Systems" is almost finished. The final report will be reviewed and released in summer 2005. As it is a very important document for the coordination of the future IVS activities and seen as guideline e.g. to renew hardware, a wide-spread distribution is envisaged.

It was decided to establish a permanent "System Committee", which will promote and guide research into technique improvement. The Committee will take an integrated view of VLBI and will evaluate the effectiveness of proposed system changes based on the degree to which they improve IVS' final results. In addition, the Committee will take the responsibility of ensuring that the recommendations of the WG3 are carried out. Bill Petrachenko was nominated by the board to take over the chair and was tasked with writing a charter and proposing a member list. I would like to thank Bill for taking over this responsibility.

Items related to IAG, IAU, FAGS, and other organizations were discussed as well as the contributions of IVS to the upcoming IAG meeting in Cairns, Australia. The IVS General Meeting 2006, which will be held January 9-13, 2006 in Concepción, Chile, will be held under the keynote theme "Next Generation VLBI2010". The keynote is related to the content of the VLBI2010 report.

The meeting was supported by the Istituto di Radioastronomia, INAF, Noto, Italy. I would like to thank the local organizers and in particular Gino Tuccari for the friendly hospitality and the excellent organization.

I'll put a girdle round about the Earth in forty minutes.

- William Shakespeare, A Midsummer Night's Dream

Two VLBI Meetings Held in Noto

– Franco Mantovani, INAF/IRA

From April 21-23, 2005, both the "6th IVS Analysis Workshop" and the "17th Working Meeting on European VLBI for Geodesy and Astrometry" were held at the Noto Observatory, Sicily, Italy. The observatory is run by Istituto di Radioastronomia (IRA), Bologna and takes part regularly in the IVS observing activities. Following a recent reorganization of the Consiglio Nazionale delle Ricerche (CNR) and the former Istituto Nazionale di Astrofisica (INAF) by the Italian Government, IRA is now part of INAF.

Workshop participants in front of the 32-m dish of the Noto Observatory. Being on the African plate, Noto is an important station for studying plate tectonics in the Mediterranean region—the reason for its original selection.

The Noto Observatory is located close to the picturesque town of Noto. The town that we see today owes its existence to a devasting earthquake: in the 17th century a temblor flattened the original Noto and the town was completely rebuilt in Sicilian Baroque style.

About 50 people from 11 different countries attended the meetings in Noto. The most numerous groups came from the United States and Germany. The participants were accommodated in a hotel in Noto Marina and commuted to and from the station by bus in the morning and in the evening.

The "6th IVS Analysis Workshop" was organized with the aim of an exchange of technical and conceptual ideas related to generating state-of-the-art IVS products. All the scientists involved in geodetic and astrometric VLBI data analysis were invited to attend the workshop. The main topics were: data analysis activities, product dissemination, timeliness and quality control, distribution of and cooperation in software development, and ongoing research. There were more than 20 contributions and the discussion, co-ordinated by Axel Nothnagel, IVS Analysis Coordinator, was very fruitful. The program, summary, and a collection of several PowerPoint presentations can be found at http://vlbi.geod.uni-bonn.de/IVS-AC/workshop2005/index.html.

Directly following the Analysis Workshop, the "17th Working Meeting on European VLBI for Geodesy and Astrometry" was held. The purpose of this meeting was to exchange results of the latest geodetic and astrometric VLBI research, information on VLBI stations, and discussion of future projects. The contributions, about 30, encompass the following topics: station activities, technical developments, local ties, geodetic VLBI analysis and results, astrometric VLBI, combination of VLBI and other space geodetic techniques, and future perspectives of VLBI. We also had the pleasure to listen to a contribution by James Campbell on "Determination of vertical motion from levelling data in the wider area of Medicina and the Apennine foothills". At the end of the meeting the "European VLBI Group for Geodesy and Astrometry (EVGA)" was formally established.

Axel Nothnagel giving one of his talks at the Noto meetings.

The two meetings ran very smoothly and we have to thank the LOC, and in particular Gino Tuccari, very much for the excellent organization. The hospitality of the local people at the station was fabulous. The food provided for lunch and coffee breaks was superb, and this despite the fact that the station is quite distant from town and not actually equipped to host so many people.

James Campbell (left) was passing on his experience to young geodesists. Here he was talking to Jung-ho Cho (middle) and Markus Vennebusch (right).

Mt Etna as seen from the town of Taormina. At 3323 m it is Europe's largest live volcano.

Upcoming Meetings...

IAMAS Scientific Assembly
Beijing, China
August 2-11, 2005

IAG Scientific Assembly and Dynamic Planet 2005
Cairns, Australia
August 22-26, 2005

Journées 2005
Warsaw, Poland
September 19-22, 2005

AGU Fall Meeting
San Francisco, USA
December 5-9, 2005

Fourth IVS General Meeting
Universidad de Concepción
Concepción, Chile
January 9-13, 2006

http://ivscc.gsfc.nasa.gov/meetings

NEWS...

TOW 2005: A Newcomer's Perspective

–Steve Bailey, NASA Goddard Space Flight Center

The third IVS Technical Operations Workshop (TOW) was held at Haystack Observatory on May 9-12. The TOW is intended to provide training for the technical staff of the stations. Steve Bailey, NASA Goddard Space Flight Center, was a first time participant and prepared this newcomer's perspective for the Newsletter.

As a 20-year computer engineer with NASA, continuous learning has always been a requirement of the job. Learning the ins-and-outs of VLBI would simply be another engineering experience…or so it seemed.

Author Steve Bailey is the new NASA VLBI Network coordinator.

Arriving at Haystack, the first thing I noticed were all the radomes. Not surprising, given that Haystack operates a number of radio astronomy and geodesy projects. My classes began with a course on the Mark 5B and eVLBI. Alan Whitney first described the Mark 5B system and how it will improve reliability in both recording and playing back data, and then spoke of the benefits of eVLBI.

Phase Calibration followed taught by Brian Corey. Think of phase calibration as a clever method to remove phase delays caused by the electronics between the antenna receiver and the baseband converter. Without this and cable calibration, fringe phase would be much less accurate.

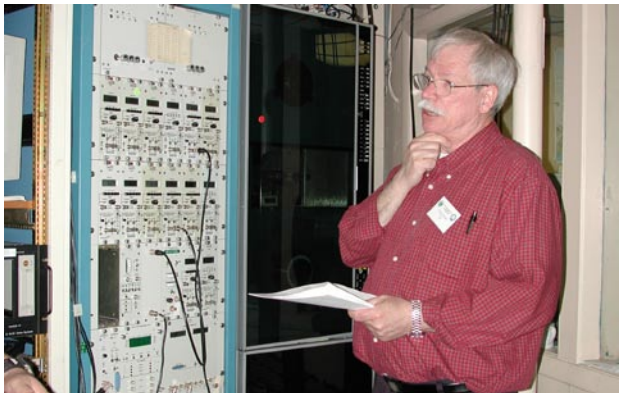
Chuck Kodak gave his class on cryogenics down at the Westford antenna teaching site personnel how to both service their receiver cryogenics systems and the importance of doing so on a regular basis. Without proper cooling, receivers become less sensitive leading to poorer measurements.

Correlation was a fascinating topic covered by a number of individuals. It seems correlation is what VLBI is all about. Correlation of signals (baselines) can be performed in both hardware and software. Mike Titus and Roger Cappallo gave an informative talk on Mark IV operations. Mario Berube provided insight into the Canadian correlator (S2) that records to videotape. Although not as robust as the Mark IV, the S2 is small, portable, and relatively inexpensive. Finally, Yasuhiro Koyama gave a couple of talks on the Japanese K5 VLBI system. An interesting note is that the K5 software correlator is free to use and is scalable since it runs on PC hardware networked together.

Dirk Behrend gave a comprehensive talk on the International VLBI Service (IVS). IVS is responsible for scheduling and coordination of international partners (34 stations in 17 countries) to create VLBI products. Products include the Celestial Reference Frame (CRF), the Terrestrial Reference Frame (TRF) and Earth Orientation Parameters (EOP).

Participants of the TOW Meeting in front of the Haystack Radome.

Tom Clark taught courses on timing and on the history of VLBI. A pioneer of VLBI, he officially retired a few years ago. I not only was impressed by his accomplishments, but by his enthusiasm to continue the cause even in retirement. I only hope to be half as engaged in what I do as Tom obviously still is.



Rich Strand during his class on Experiment Pre-checks and Operations.

Ed Himwich gave talks related to the Field System (FS). If you don't know, the FS is software that gives VLBI stations the ability to autonomously calibrate, collect, and record data. The FS is also used to determine station problems when they arise…and they do arise. Think of the FS as an intelligent, front-end software system that makes an operator's life easier. Without the FS, experiments would be more tedious, time consuming, and more prone to operator error.

Arthur Niell gave several talks including a VLBI science overview. It was here I came to understand the reasons for the ultra high precision measurements and the need for improvements through better antennas, more accurate surveys, and

more co-location with SLR, GPS, and DORIS.

By the end of the week, I came away with a much clearer understanding of VLBI—not only of its parts and techniques, but of the people with their expertise and dedication. As far as simply 'another' engineering experience, I think that was a naïve assumption on my part. VLBI is much more because of the people involved. There are not many projects that instill such compassion, camaraderie, and spirit from an international group of players as this one. By those measures, 'another' should be replaced by 'unique'—a unique engineering experience. As far as TOW 2007 is concerned, I'll be there and I look forward to seeing you all.

Hasta Pronto en Chile!

The Fourth IVS General Meeting (GM2006) will be held at the Universidad de Concepción, Concepción, Chile on January 9-13, 2006. It will focus on the theme "Next Generation VLBI2010" and will be followed by an IVS Analysis Workshop and a Directing Board Meeting. In addition, the Astronomy Group of the Universidad de Concepción is organizing a Summer School on "Radioastronomy and Very Long Baseline Interferometry" that is scheduled for January 12–17 (including a break over the weekend). The School aims at familiarizing participants with the concepts of VLBI for radioastronomy and is open for attendance by GM2006 participants (for learning and teaching).

Prior to GM2006, participants will have the rare opportunity of visiting ESO's Paranal Observatory, an optical interferometer near Antofagasta, northern Chile. The visit is scheduled for Saturday, January 7, 2006 allowing for the travel to Concepción by plane on Sunday. Detailed information about this technical visit will be posted on the GM2006 web page.

Concepción is the second largest city in Chile after Santiago. At a latitude of 37°S, the climate is mild and temperate largely due to the cooling effect of the Humboldt current. In the summer month of January temperatures reach 25°C during the day, but drop to a pleasant level of 15°C at night.

We look forward to seeing you all in Chile. Hasta pronto.

http://ivscc.gsfc.nasa.gov/meetings/gm2006.

TOW 2005–The Aftermath

– Mike Poirier, MIT Haystack Observatory

It has been a couple of months since we attended the TOW meeting. All that we learned is still fresh in our minds and the big notebook is sitting on a shelf in the office.

It is now time to dust it off and take down that notebook and review the content. This notebook is really somewhat of a manual for quality operations. Mistakes in the field can be prevented by better understanding the content.

I open my notebook and I thumb through the pages to the sections that I may not fully understand. I get to the section titled Automated Pointing Models and I remember that I did not attend this class. I read more about automated measurements and pointing data analysis trying to better educate myself. I continue reading other sections like Experiment Pre-checks and Operations and remember the importance of the pre-checks that was stressed during the class. I continue to read more and realize that I didn't remember everything from the meetings that I should have. I also know that the CONT05 experiments are coming in September and my station must be prepared for them and by reviewing this information my stations operation will be improved.

It is now my responsibility to pass on this information to the other site personnel. I will sit down with all the operators and try to explain each different area of operations. I will stress the importance of pointing and pre-checks. I will tell them that noticing the little things during operations may be the difference between good data and bad data. I will also refer them to the correct sections of the TOW notebook so that they can reference what we have discussed.

The TOW notebook has now moved from my office into the control room so that we all can access it more easily. I can only encourage all to make an effort to continue using the information.

Solution of the IVS Contest....

Ed Himwich is the lucky winner of the photo contest and received the IVS hammer. He submitted the following answers:

1. *Can you name these people?*

   Nancy Vandenberg and Tom Clark

2. *Can you guess when and where the pictures were taken?*

   June 1983 at Mojave Base Station

3. *Can you come up with an appropriate caption?*

   "I just need to adjust your head Nancy, a little"

Congratulations Ed!

News...

FAGS Meeting Held at UNESCO

–Dirk Behrend, NVI Inc./GSFC

On May 2-3 the directors of the member services of the Federation of Astronomical and Geophysical Data Analysis Services (FAGS) gathered together for a meeting at UNESCO in Paris, France. FAGS was formed by the International Council for Science (ICSU) in 1956 and currently supports twelve services. The IVS became a FAGS service in 2001 following in the footsteps of the sister service IGS that became a FAGS service in 1996.

FAGS will cease to be a body of ICSU in fall 2005. The Directors' meeting preceded a meeting of the FAGS Council and its main purpose was to furnish background information to the Council members on the effect of ICSU discontinuing its sponsorship of FAGS as an ICSU Interdisciplinary Body. The short-term effect will probably be rather small. In the long run, however, the lack of a formal recognition by the general science community may have consequences in securing funding for several of the services.

While a disbanding of FAGS is not foreseen (the communication between the services is too important, for example to foster awareness of the geodetic reference frames), it will be difficult to obtain a formal scientific recognition. An option that will be pursued is that FAGS become a UNESCO-associated body in order to get a stamp of approval.

More information about FAGS can be found at the URL http://www.kms.dk/fags/index.html.

Wolfgang Schlüter, IVS Chair (left) and Bernd Richter, Director IERS Central Bureau (right) enjoying an espresso during a meeting break.

http://ivscc.gsfc.nasa.gov
ivscc@ivscc.gsfc.nasa.gov
phone: 301-614-5939
fax: 301-614-6099

IVS Coordinating Center
NASA GSFC
Code 697
Greenbelt, MD 20771