



International VLBI Service for Geodesy and Astrometry (IVS)

<http://ivscc.gsfc.nasa.gov>

Chair of Directing Board: **A. Nothnagel** (Germany)
Coordinating Center Director: **D. Behrend** (USA)

Development

The International VLBI Service for Geodesy and Astrometry (IVS) is an international collaboration of organizations, which operate or support Very Long Baseline Interferometry (VLBI) components. IVS was established in 1999 and became a service of IAG that year. In 2000, IVS was recognized as a service of the International Astronomical Union (IAU). A membership proposal for the World Data System (WDS) has been submitted. IVS interacts closely with the International Earth Rotation and Reference Systems Service (IERS), which is tasked by IAU and IUGG with maintaining the international celestial and terrestrial reference frames (ICRF and ITRF).

Mission/Objectives

The objectives of IVS are:

- To provide a service to support geodetic, geophysical, and astrometric research and operational activities.
- To promote research and development activities in all aspects of the geodetic and astrometric VLBI technique.
- To interact with the community of users of VLBI products and to integrate VLBI into a global Earth observing system.

To meet these objectives, IVS coordinates VLBI observing programs, sets performance standards for VLBI stations, establishes conventions for VLBI data formats and data products, issues recommendations for VLBI data analysis software, sets standards for VLBI analysis documentation, and institutes appropriate VLBI product delivery methods to ensure suitable product quality and timeliness. IVS closely coordinates its activities with the astronomical community because of the dual use of many VLBI facilities and technologies for both astronomy and astrometry/geodesy.

Products

VLBI data products currently available are

- All components of Earth orientation
- Terrestrial reference frame

- Celestial reference frame
- Tropospheric parameters

All VLBI data products are archived in IVS Data Centers and are publicly available.

Structure/Board / Members

IVS accomplishes its goals through Permanent Components. As of 2011 the IVS has:

- 30 Network Stations, acquiring high performance VLBI data.
- 3 Operation Centers, coordinating activities of Network Stations.
- 6 Correlators, processing acquired data, providing feedback to stations and providing processed data to analysts.
- 6 Data Centers, distributing products to users, providing storage and archiving functions.
- 26 Analysis Centers, analyzing the data and producing results and products.
- 7 Technology Development Centers, developing new VLBI technology.
- 1 Coordinating Center, coordinating daily and long-term activities of IVS.

All together there are 79 Permanent Components, representing 41 organizations in 20 countries, and ~280 individuals who are Associate Members. The 41 organizations that support IVS components are IVS Member Organizations. There are also 6 Affiliated Organizations that cooperate with IVS on issues of common interest but do not support an IVS component.

In addition the IVS has a Directing Board to determine policies, standards, and goals. The current IVS Directing Board consists of the following members (alphabetical):

1. D. Behrend (USA) *Coordinating Center Director*
2. A. Bertarini (Germany) *Correlators and Operation Centers representative*
3. P. Charlot (France) *IAU representative*
4. J. Gómez González (Spain) *At Large member*
5. R. Haas (Sweden) *Technology Development Centers representative*

6. H. Hase (Germany/Chile) *Network Stations representative*
7. E. Himwich (USA) *Network Coordinator*
8. Sh. Kurihara (Japan) *At Large representative*
9. Ch. Ma (USA) *IERS representative*
10. A. Nothnagel (Germany) *Analysis Coordinator*
11. H. Schuh (Austria) *IAG representative*
12. F. Shu (China) *At Large member*
13. O. Titov (Australia) *Analysis and Data Centers member*
14. G. Tuccari (Italy) *Network Stations representative*
15. A. Whitney (USA) *Technology Coordinator*

Committees and Working Groups

IVS currently has three active working groups, two committees, and one executive group:

- Working Group 4 on VLBI Data Structures.
- Working Group 5 on Space Science Applications.
- Working Group 6 on Education and Training.
- Observing Program Committee.
- VLBI2010 Committee.
- VLBI2010 Project Executive Group.

Publications and Meetings

IVS publishes an Annual Report, a thrice-annual Newsletter, and Proceedings from its biennial General Meeting. All publications are available from the Coordinating Center and also published on the Web site. IVS holds a General Meeting every two years, a Technical Operations Workshop every two years, and an Analysis Workshop every year. Information about all IVS activities is available at the IVS Web site under the URL <http://ivscc.gsfc.nasa.gov>.