

nates, equatorial, ecliptic (at any equinox) or galactic. In the latter mode, one may request to get all objects within a rectangle or a circle of given dimensions around a given position. *Criteria* can also be specified on parameters such as magnitude, existence of various types of data, etc. With this information, *maps* can be produced, making SIMBAD a precious auxiliary for creating identifying fields and preparing ground or space observing runs or programmes.

The bibliographic index contains references to stars from 1950 to 1983, and to all objects outside the solar system from 1983 onwards. Presently there are more than 600,000 references taken from the 90 most important astronomical periodical publications.

SIMBAD is accessible through *data networks*, including the French TELETEL public service. The European Space Agency (ESA) IUE Ground Observatory in Madrid was actually the first foreign station connected to SIMBAD which was used operationally for checking target coordinates and as an open service to visiting astronomers. It has been followed by other space centres like the Space Telescope Science Institute in Baltimore and NASA Goddard Space Flight Center in Greenbelt. The Space Telescope European Coordinating Facility in Garching is also connected through its host, the European Southern Observatory. Other stations with access to SIMBAD include places like the STARLINK node at Rutherford Appleton Laboratory, Caltech at Pasadena (CA), the Center for Astrophysics at Cambridge (MA), the Very Large Array in Socorro (NM), the Canada-France-Hawaii Telescope in Kamuela (HI), the Anglo-Australian Observatory in Epping, the South African Astronomical Observatory in Capetown, etc. (see maps).

To the present, there are more than a hundred centres in sixteen countries regularly interrogating SIMBAD. The figures are rapidly increasing. Apart from a simple terminal, the only requirement for accessing SIMBAD is obtaining an account number from CDS which will be used for invoicing. Astronomers without access to a data network can mail their requests to the Data Centre which will then return a printout with the corresponding data. In the same way, copies of individual catalogues (from a list of more than 500) can be obtained on magnetic tapes. Some of them (about 50) are also available on microfiche. Data transfer is also possible via the major computer networks.

SIMBAD is continuously growing and kept up-to-date, not only by the Strasbourg CDS staff, but also by many

cooperating persons in other institutions. All the catalogues available at CDS have been produced by specialists, so that their high quality is guaranteed. Some catalogues, prepared at CDS itself and available as *CDS Special Publications*, are made in fields where the Strasbourg personnel has specific qualifications. Thus the *Catalogue of Stellar Groups* lists some 30,000 stars according to their spectral peculiarities.

Collaboration with other institutes having specialization in specific fields is then a natural consequence. This is particularly the case for Bordeaux, Meudon and Paris (bibliography), Geneva and Lausanne (photometry), Heidelberg (astrometry) and Marseille (radial velocities).

To encourage exchanges with other countries, *formal agreements* have been signed, in particular with NASA (USA), the Astronomical Council of the USSR Academy of Sciences and the Potsdam Zentralinstitut für Astrophysik (German Democratic Republic). CDS is also collaborating with Japan (Kanazawa Institute of Technology) and the United Kingdom (STARLINK). The goal of these agreements is to allow all astronomers in the world to have access to all existing catalogues.

### Other CDS Activities

On a much larger scale, CDS takes also an active part in space projects like HIPPARCOS and TYCHO which are heavily dependent on SIMBAD for the preparation of their respective input catalogues. The Space Telescope GSSS team is collaborating with the CDS for the inclusion of the stellar cross identifications from SIMBAD in the *ST Guide Star Catalogue*. CDS acts also as the European disseminator of the IRAS observational material and has been requested by ESA to homogenize the IUE log of observations.

CDS plays a role also in the various discussions which should lead in the near future to the setting up of a *European astronomical data network*. Ideally, SIMBAD could be connected through such a network with the observing logs of the main ground and space observatories. Specific colloquia have been organized by CDS on this matter.

Apart from smaller scale CDS scientific meetings taking place twice per year, Strasbourg Observatory has organized several important colloquia on data collection, dissemination and analysis, as well as on statistical methods in astronomy. All these meetings were great successes and revealed the importance that the astronomical community attaches to this type of work.

Interest in CDS work is also shown by the growing number of astronomers visiting it, either to get to know the CDS or to set up a collaborative project. CDS stays in touch with its users and other interested persons by a six-monthly *Bulletin* distributed free of charge. Apart from keeping readers updated on CDS services and the latest developments, it contains also general papers and news about other data centres' activities.

In its Special Publication series, CDS also publishes *directories* gathering all practical data available on, on the one hand, astronomical associations and societies (IDAAS) and, on the other hand, institutions employing professional astronomers or researchers in astronomy (IDPAL).

The research activities of the scientific staff (currently eight persons) are essentially centred on statistical methodology and its applications to astrophysics, on classification problems, on distance and luminosity determinations, as well as on studies of peculiar objects.

### Finally

If you want to have access to SIMBAD or, more generally, if you are interested in the CDS services, you can get in touch directly with us at:

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## ESO Press Releases

The following Press Releases have been published since March 12, 1987, the date when *Messenger 47* was distributed.

PR 06/87: The Unusual Behavior of Supernova 1987 A in LMC (31 March); with colour photo of the supernova and the Tarantula Nebula.

PR 07/87: Important Events in the Southern Sky (14 May); with one B/W photo of Comet Wilson.

PR 08/87: ESO Exhibition at the Heysel Planetarium in Brussels (25 May).

PR 09/87: A New Edition of the ESO Publications and Picture Catalogue is now available from the ESO Information and Publication Service.

PR 09/87: Hunting the Black Hole (16 June), with one B/W photo.

PR 10/87: Is the Universe Younger than Previously Thought? (3 July)