SIMBAD for Librarians

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Abstract

SIMBAD: Set of Identifications, Measurements, and Bibliography for Astronomical Data. SIMBAD contains information about more than 1,000,000 objects, 3,000,000+ identifications, measurements, and references from 1950 onwards for stars, 1983 onwards for galaxies and non-stellar objects.

1 Introduction

SIMBAD and its host, the Strasbourg Observatory, needs no introduction. It is probably the best known database in the field of astronomy and has been around as an online service since 1981. The database has undergone several changes to improve access. One major upgrade was in 1990 with the SIMBAD III version; the latest in 1994 when the new X-Windows version XSimbad was released. The "old" or "native" SIMBAD is still available and is necessary for some functions. For more information about the background and history to the database please refer to the list of references at the end of this article. Both the old and new versions of access to the database will be demonstrated below.

There are a number of reasons why I feel it is important that librarians get to know how to use SIMBAD. I apologise if you are already familiar with SIMBAD but perhaps by the end of this article you may know even more about SIMBAD than you knew at the beginning.

I have discovered to my surprise that there are many librarians who have never used this database nor even seen it demonstrated. I am rather intrigued to know why. Perhaps it is because in the past the database had a reputation for being rather "unfriendly" to the novice. To date manuals have not been particularly helpful for either the astronomer or the librarian. Traditionally librarians have had more experience with textual or bibliographic databases and the general perception may have been that it was not relevant to their needs since it basically produced a lot of numeric data.

It seems unusual that a database with such a wealth of information has been avoided by so many librarians. In fact it seems to me that being a user of SIMBAD has been like belonging to some secret society! We hear enough of the "information rich" and the "information poor", well take it from me once you become a SIMBAD user, you will be "information enriched!" and your ability as an online searcher will be enhanced particularly as far as your astronomers are concerned. Value added service is what is expected in an era where technology threatens to oust us from our jobs. A little more about that later.

SIMBAD is easy to use; if I can use it then I am sure most of my colleagues will have no trouble at all! We will demonstrate some of the many useful functionalities which are now available and very relevant to the needs of anyone – and in particular librarians – working in the field of astronomical research. Just in passing I would like to point out that the results of a questionaire I sent out to the Australian astronomical community revealed that many well-known astronomers do not know how to use SIMBAD either. I must admit that this was a surprise to me.

Let us face it – over the years we have had to learn to use a variety of textual databases which have not been particularly user-friendly. We have managed because it was one of the many services expected of the librarian. I have found that SIMBAD, in comparison, is a great deal easier to use than some of the commercial databases and very much less expensive. Did you know that there are national agreements in place for its usage? The national and international agreements for the use of SIMBAD has meant the service is available at a much lower cost than otherwise would be possible. Questions regarding new accounts and costs can be made by asking through the "Question" e-mail address at Strasbourg. Help with SIMBAD is always available, again using the "question" account using telnet, or via the MAIL SEND facility within SIMBAD.

2 Getting Started with SIMBAD

We will assume that you already have a 'user id' and password issued from CDS in Strasbourg. This is a first requirement. Once you have received your password you are at liberty to change it to something more meaningful and memorable after typing the word 'password'. You will then be prompted for the new password and verification. A word of warning here: do not change the password if it is not your personal account, or you could cause havoc amongst the scientific staff the next time they want to access SIMBAD.

Whether you search using old SIMBAD or the new X-Windows version you will be required to type in your 'user id' and password. Your computer staff will be responsible for making XSimbad software available. You can find information about the new version and the requirements for your system available on World Wide Web and in the article by Egret [?].

If you are performing a search 'by object' on behalf of your scientific staff then you will require the object name, which must be provided by the astronomer before you log-on. It is a good idea to find someone at your institution who is familiar with SIMBAD and sit with them for your first few searches. I found this very helpful in the early days. Most scientists will be impressed with your willingness to learn about the database. It is a bit like having an experienced driver with you the first time you venture out on the highway.

Now what type of information can you get from SIMBAD?

3 Output Options for SIMBAD

(i) Basic data for stars and galaxies. These include coordinates, spectral type, magnitudes and proper motion, morphological type and dimension.
(ii) Cross-identifications or aliases (other names given to the same object)
(iii) Observational data (also called measurements)
(iv) Bibliographic citations
(v) Information about catalogues, atlases, authors, object types
(vi) Journal abbreviations
(vii) Nomenclature and designations
(viii) Abstracts of papers published in selected journals
(ix) Searching by keyword in title or author name

It is a good idea to keep the result of a previous search with you so that you can get clues on the form of cross-identifications and how SIMBAD expects you to type them in. These are aliases or cross-identifications for the same object. The first few letters of an object name refer to the catalogue in which they are listed e.g. HD 148478 (Henry Draper catalogue) or IRAS 16262-2619A (an object from one of the InfraRed Astronomy Satellite catalogues). The database is now a little more forgiving and will translate your request in some instances if you haven't got it quite right. If you are unsure about the object name you can query info cat options to find out more about the object you are about to search. In this case you will be prompted by SIMBAD, please do so! For more details the –l option will provide expanded details on your object alias. For example, try 'info cati FK' and 'info cati FK4', and then 'info -l cati FK', 'info -l cati FK4'.

For example, aliases for the same object, among 25 different names, are V* alf Sco or * 21 Sco or * alf Sco or * alf Sco A (all these names refer to the same object in SIMBAD).

If you or your astronomer do not know the catalogue number then you can search for the object by coordinates. Again this information must be provided by your astronomer before you log on.

With a little practice it becomes easier to query the database. Today we will search for the object sig Sco in our demonstration. It will be shown how we find all the data about this object including a bibliography and an abstract for one of the citations.

4 Output Formats

Commands to bring up the various outputs:

- basic – coordinates, spectral type, magnitudes, proper motion etc
- all (or Carriage Return) – for all measurements
- id – for the various aliases or identifiers for the object
- data – observational measurements
- cat – measurements from catalogue cat to be specified (e.g. UBV or SAO)
- bib – for bibliographic reference codes and titles
- bibcode – for bibliographic reference code in abbreviated form

Bibliography search can be limited by years required (e.g. bibyears 1990/1995).

Hint: By typing the word "cont" before the bibliographic listing you can get a continuous display which can be scrutinised later. This method saves a lot of time otherwise you will get just a screen at a time and must type "yes" or "return" to the query "do you wish to see more?". When you have over 100 references this can be a little tiring. "page" will return to the normal mode.

Once SIMBAD has located your object then the rest is easy. It will display the basic data, all the identifiers (aliases), the measurements and the number of bibliographic citations for that object. This last piece of information is more what librarians are used to dealing with – we are now on some sort of "home territory"! Being able to provide the astronomer with a long list of references is indeed very satisfying. Imagine the amount of time you have saved everybody by not having to do a manual search via Astronomy and Astrophysics Abstracts! At this point we should remember that the bibliographic citations held in the SIMBAD database are entered into the database by a team of dedicated librarians at a number of institutions in France including: Institute for Astrophysics in Paris, the Observatory at Bordeaux and the Observatories in Paris and Strasbourg. The detailed coverage from a wide range of journals is most impressive and those librarians are to be congratulated on the highly skilled job they are doing. It is a good time to remember that any use of the SIMBAD database should be acknowledged by scientists in their published papers. Sometimes this obligation is forgotten. Librarians can do much to ensure that scientists observe this courtesy.

5 The "Info" Command

Using the command INFO there are a wide range of useful options. These queries can be made using 'old' SIMBAD, in XSimbad the "info cati" query is done by clicking on "Information about object name" in the query by object name and in the result window, and access to all the info options is given through "Information" at the bottom of the XSimbad window.

Info News gives the latest news associated with the database.
Info Help lists the main options available under this command
Info IAU lists the IAU Recommendations concerning the Nomenclature
Info cat lists the catalogue acronyms from keywords (word in title, authors, ...)
Info cati will search for an acronym e.g. SAO
Info cata will search for an acronym by the name of the first author e.g. campbell
Info cato will search the database for an object type e.g. qso
Info otype will list all object types in SIMBAD.
Info -l a more detailed listing of any of the above e.g. info -l cato qso.
info journal lists all journal abbreviations used in SIMBAD and NED.
info journal (abbr) explains a specific journal abbreviation e.g. AcA = Acta Astronomica
info gsc J2000_pos finds out stars from Guide Star Catalogue.
info qcat keyword will query the catalogue service CDS/ADC "Catalogue of catalogues"

By the addition of an asterisk * to any of the above e.g. info -l cati sao* will retrieve all the information about that expression.

Some of these options I have to confess I have not used myself but at least it is important to know that they exist. I was quite amazed to learn that all this information was available and could save a lot of time in comparison with searching by more traditional methods. To be able to obtain a list of all the journal abbreviations in SIMBAD, object types in SIMBAD and nomenclature it is extremely useful and I am sure not many librarians - or scientists for that matter – know that this information is available online.

6 Abstracts Online

The CDS in Strasbourg has abstracts from the Astronomy and Astrophysics (A&A) main journal and the Supplement Series, as well as from the Publications of the Astronomical Society of the Pacific (PASP). The abstracts are made available approximately four weeks before publication through the World Wide Web. Information can be obtained by keyword search for either author or topic. Contents pages can also be browsed and abstracts obtained for selected items. (This will be discussed further by Daniel Egret in his presentation).

Abstracts are also available in XSimbad under the option "bibcode" first highlighting the reference then requesting the abstract (if available), and in SIMBAD with "abstract *bibcode* ".

7 "Lookbib" – String Searching the Bibliography in SIMBAD

The latest function just released is the facility to search across the bibliographic database by author or keyword. At the prompt one can type LOOKBIB [name of author] e.g. Savage. To further refine the search one can add: LOOKBIB Savage quasar. Note you will only find references for the string you have typed in. The word quasar will not include any reference with the acronym qso. You must do an additional search specifying Savage qso. Note no boolean operators are used. The searcher is then presented with a list of references. This new facility fills the remaining gap in the search functions and I for one am very pleased to see it now available. One does not have to bring up an object first in order to get a list of references.

8 Concluding Remarks

I am not sure I remember how I started using SIMBAD. I just assumed it was something I should learn because so many scientists asked me either "do you know the password for SIMBAD?" or "can you get a bibliography from SIMBAD for me?" or "how do I find out what catalogues are available on this object type?". I have found the support from the Strasbourg team excellent. They welcome feedback from users and I have occasionally found and reported wrong or missing information about a reference or object, bugs in the software, and unclear explanations in the manual. Their replies have always been prompt and very helpful. More communication between librarians and Strasbourg can therefore be of mutual benefit.

If you want to find out how necessary it is for you to become proficient in using SIMBAD at your institution, I would recommend circulating a questionnaire related to finding out current and/or potential usage. I am happy to provide a copy of the questionnaire I circulated to my Australian group and the results I obtained. I certainly found them most illuminating!

9 A Bright Future for Librarians

There is plenty of evidence in the professional literature which indicates that our role of providing education to "end users" of online database services is increasing. We may be dealing with scientists who are proficient in the number-crunching game but we have online searching skills built up from several decades of practical experience. Learning SIMBAD in even the most elementary way can be a worthwhile exercise not only for yourself but particularly for your users. The article by Fisher and Bjorner in the 1994 Fall issue of 'Special Libraries' [?] cites research results which show that training of library users in the use of online searching is a service which is growing in demand. The most interesting result was that 91% of librarians responded that their users continued to rely on professionals for all but the most basic research. It seems that even when training is given to library users, they return after some period of experimentation to ask the librarian to do the searching, either because they are too busy themselves, or because it is the easy option. Either way we do not have to worry about being replaced by technology; we are more likely to be in demand for the skills we have. With the wide range of information services available now, I would choose SIMBAD as one of the most relevant to the needs of the astronomers. At a time when one feels it is impossible to learn all the online services available, isn't it better to become proficient in a select few rather than trying to master all?

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References

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[5] SIMBAD User's Guide and Reference Manual. Observatoire Astronomique de Strasbourg, 1992.

[6] See Documentation available via WWW address: http://cdsweb.u-strasbg.fr/services.html/