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# The New Version of SIMBAD

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**Abstract.** A new version of SIMBAD, SIMBAD4, has been developed at the CDS. Basically, everything that SIMBAD does today will be possible with the new version but not necessarily in the same way. The new features will concern the queries, flux, object types and hierarchical links.

## 1. Introduction

The present version of SIMBAD started in 1990. Since then many technical improvements have arrived allowing new possibilities for databases.

## 2. Queries

As with the previous version, queries can be done by identifiers, coordinates and bibcodes. Additional possibilities are:

- queries using wildcards for identifiers (e.g. var * and)
- exact author name search using wildcards or phonetically

- sample creation on any data field, including measurement data, reference title and authors in addition to identifier and coordinates
- in the bibliography of one object, queries taking into account the importance of the references for the specific object will be allowed
- user defined identifier and coordinate list
- scripting language

## 3. New Content

Each astronomical object will have several object types. The present implementation will be based on the object type associated with each identifier using the information stored in the *Dictionary of Nomenclature*. Flux and magnitudes will be possible for any wavelength. These data will be implemented step by step. This will allow display of a spectral energy distribution (SED) for the objects. Hierarchical links and associations between objects will be implemented. This may be a link between a double star and its components or between a star and its planets. It will also be possible to put links from sources at different wavelengths or any other type of links.

## 4. Access

Queries through mail or SSH/telnet are no longer available. The new interface now gives similar possibilities in the 'Output options' panel. Other means of access will remain: Web, URLs, Web services, Simcli package and external archives (HEASARC etc.).

## 5. Output

The output will be parametrized in the 'Output options' panel. For instance it will be possible to have up to four expressions of the position, and the velocity can be expressed as redshift or in km/s. It should be noticed that the dimensions of the galaxies are expressed now in arcminutes and not in logarithmic values. In a list it will be possible to choose an acronym among all the identifiers of an object.

## 6. Conclusion

SIMBAD is already a major resource in the online network of astronomical services and the emerging astronomical Virtual Observatory (VO). The new version will be fully compliant with VO standards.