

The On-line Bibliographical Data Base ARIBIB for Astronomical References

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Abstract. The ARIBIB is an on-line bibliographical data base for astronomical references. The ARIBIB is based on the information given in the printed bibliography “Astronomy and Astrophysics Abstracts” (AAA). The bibliography AAA is produced and published by the Astronomisches Rechen-Institut (ARI) Heidelberg in collaboration with the Fachinformationszentrum Karlsruhe (FIZ) and the Institution of Electrical Engineers (IEE). The ARIBIB gives the bibliographical information in the “reference format”. This reference format contains the author(s) or editor(s), title, bibliographic data for the source, keywords, and the AAA reference number. Not included are the abstracts of the papers. The abstracts can be found either in the printed volumes of AAA or in the on-line data bases INSPEC or INSPHYS.

At present, the ARIBIB contains references to the literature from 1983 until now. Information on the older literature (1982 and earlier) is presently not available to us in a machine-readable format. The ARI intends, however, to include the older literature into the ARIBIB by scanning the corresponding volumes of AAA and of the bibliography “Astronomischer Jahresbericht”, and to translate these scans into a text format appropriate for the use in the ARIBIB. The ARIBIB would then be a tool which is especially valuable for the on-line search in the older literature.

As of July 1998, the ARIBIB is open for free access to all subscribers of the printed bibliography AAA.

1. Status of the ARIBIB

The ARIBIB is based on the bibliography “Astronomy and Astrophysics Abstracts” (AAA) [1]. AAA is a publication of the Astronomisches Rechen-Institut Heidelberg, produced in collaboration with the Fachinformationszentrum Karlsruhe and the Institution of Electrical Engineers (IEE). The ARIBIB currently contains data from Volumes 33 through 68, which amounts to more than 300 000 works by about 100 000 different authors. This dataset can be searched using an interface designed to be as simple as possible, following popular World Wide Web search engines like Alta Vista [2]. In addition to that, an author index allows a quick access to information about authors without the need to worry about spelling.

**ASTRONOMISCHES RECHEN-INSTITUT
HEIDELBERG**
ARIBIB
ARI Bibliographical Data Base for Astronomical References

Query form:

Combine words with And Or Match whole words only
 Case sensitive

Search term(s)

Restrict the answer to: matches.

Figure 1. Query form.

As of July 1998, the ARIBIB is open for free access to all subscribers of the printed bibliography AAA. However, users have to register to be allowed to perform data base queries. To register, please fill out the form provided at <http://www.ari.uni-heidelberg.de/aribib/reg.htm>.

2. Operation of the ARIBIB

A user interacts with the ARIBIB through the query form shown in Fig. 1. For usual queries, just typing a few words into the text field should yield satisfactory results. Authors' surnames, keywords, words appearing in the title, and even parts of AAA numerical codes can be freely intermixed. If the "Match whole words only" option is not selected (which is a sensible default), substrings are matched, so that a query for "eitner" will match both "Demleitner" and "Zeitner".

In author names, characters not present on all keyboards (e.g., German umlauts or accented characters) may be substituted by US-ASCII transliterations (ä=ae, ß=ss, é=e, etc.). Greek and other special characters not present in the ISO-8859-1 (Latin 1) character set are transliterated to latin strings (č=c, α=alpha, ☉=Sun, etc.).

By default, the data base does not return more than 100 matches to avoid flooding the user with unwanted data. This limit can be raised to up to 1000. If the response to a query is truncated due to the match limit, a warning is issued.

For cases in which the exact spelling of an author's name is uncertain, the ARIBIB provides an author index (Fig. 2a). Simply typing the first few



Figure 2. (a) Author index (left) and (b) the response to the query “active nucl feldman” (right).

characters of an author’s surname brings up a list of matching names. Upon selecting a name, the user is offered a query form that can be completed for a more focused query or immediately be used to find all the works of the selected author.

The query results are given in the “reference format” (Fig. 2b) which includes the title, author(s) and bibliographic information. In addition to this, the keywords assigned to the work in the AAA are given as well as the AAA numerical code for locating the entries in the printed AAA. For contributions to proceedings and similar works that are part of a larger collection, a link to the entry of the main work is provided. Papers in the leading journals also have a bibcode as used by CDS and ADS [4]. Bibcodes for other publications will be generated later. Abstracts are available in the printed volumes of AAA or on-line against charges from the data bases INSPEC and INSPHYS distributed by IEE and STN International (e.g., [5]).

3. Future plans

We plan to implement some features facilitating advanced queries (wildcards, improved boolean logic). New volumes of the AAA will be included in the ARIBIB as soon as they become available. We also consider including entries from the internal AAA data base on a regular basis, so that new literature will become indexed with less delay.

We furthermore plan to include data from volumes of the AAA before Volume 33 and finally even from the predecessor of the AAA, the “Astronomischer Jahresbericht” by processing the printed volumes with “Optical Character Recognition” (OCR) techniques. This large data set would be particularly suited to comprehensive literature surveys ranging from the beginning of the century to the most recent works.

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References

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