

IBVS — Novel Features of a Small OA Astronomical Journal

A. Holl

Konkoly Observatory, H-1525 P.O. Box 67, Budapest, Hungary

Abstract. The Information Bulletin on Variable Stars (IBVS) is a small, specialized astronomical journal. It has served the variable star community since 1961. An Open Access electronic version was started in 1994. This electronic version offers innovative services to the reader: the use of third-party tools for visualization (Aladin) and third-party name resolution services (SIMBAD or GCVS for objects, and ADS for author names) for search. Considerable efforts have been made to interconnect the journal with other electronic resources such as publications, databases, and archives, like CDS, ADS, GCVS, NED, WFPDB and WEBDA. Additional aspects of this small electronic journal to be discussed are: archiving policies, copyrights and the use of OAI-PMH.

1. IBVS — the Journal

IBVS is a small Open Access (OA) journal in the field of variable star research, published by Konkoly Observatory, Budapest, on behalf of Division V of the International Astronomical Union. All of the issues are available online. The journal appeared on the web in 1994, and the articles became available in HTML only six years later.

2. Novel Features of IBVS

2.1. Use of a Third-party Visualization Tool: the CDS's Aladin

IBVS has traditionally published tables and data files containing stars in a relatively small area such as comparison and check stars around a variable, or a photometric sequence containing a larger number of stars. These stars could be better visualized or examined using a Celestial Information System (a term I use for the analogue of GIS software). IBVS could not — and should not — develop things which are already widely used, so we decided to use CDS's Aladin for this purpose. The reader can invoke Aladin by following a link in the journal. The URL embedded in the link contains a small macro, which instructs Aladin to request the data file from IBVS, which IBVS provides in VOTable format.

Another variant of this tool makes it possible to compare a map published in IBVS with a WCS-referenced POSS image using Aladin.

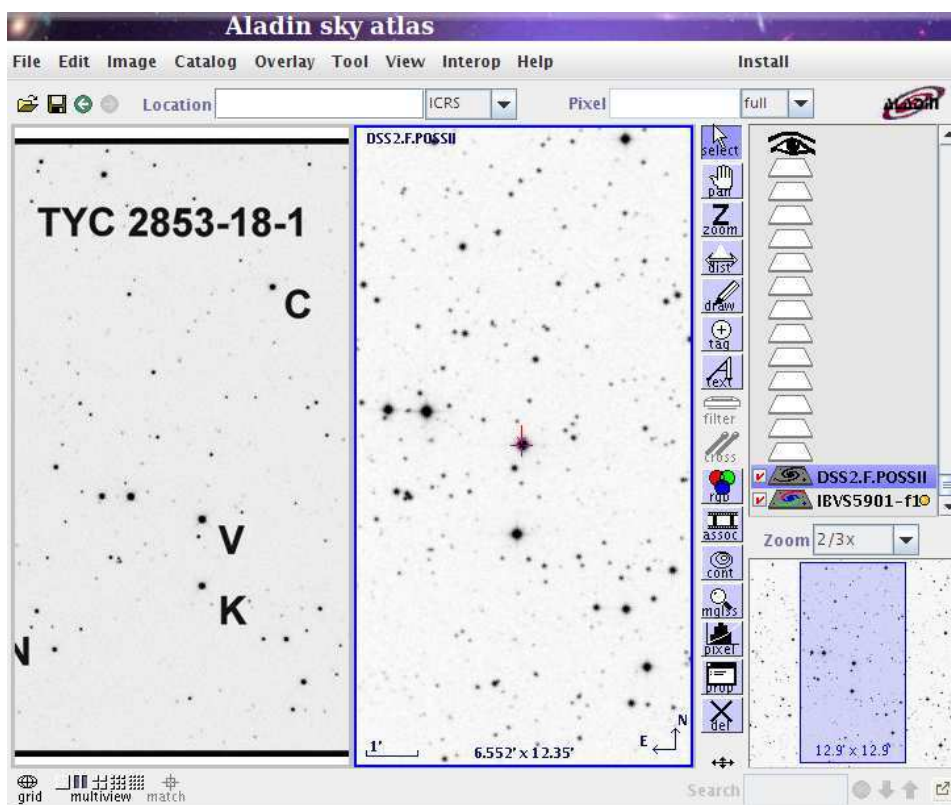


Figure 1. Finding chart visualization with CDS's Aladin

2.2. Semantic Search

IBVS, as many other electronic journals, has a comprehensive search facility. Its novelty is the ability to resolve objects and authors instead of retrieve just instances of object or author names exactly as they appear in the search string. The same astronomical object is known by many names — just as the same author might use different variants of her/his personal name. Though we can use local dictionaries for handling aliases, we recognize that others are much better at this job: SIMBAD (and GCVS in the case of variables) keeps track of star names, and ADS collects information on authors. When the reader checks some of the external name resolution options in the search form, the name is forwarded to the third-party database, which responds with a list of the known aliases. The search tool then searches for all the returned aliases. The search tool was programmed by P. Erdődi.

3. Other Features: OAI-PMH, Linking, Archiving, Copyright

3.1. Use of OAI-PMH

At present, metadata is sent to the ADS and CDS by e-mail, by the script uploading an article to the website. However, files holding meta-information are updated quite

often. The use of OAI-PMH would be better for keeping the ADS and CDS up-to-date. The Directory of Open Access Journals also harvests journal article metadata with OAI-PMH.

A possible tool for this task is YAR — Yet Another Repository, see [Jerez, Liu, Hochstenbach & Van de Sompel \(2004\)](#)¹, which is a static repository, a simple way to implement OAI-PMH for relatively small datasets. We have only a test implementation operating as yet.

3.2. Extensive Linking

IBVS links to different object databases (such as SIMBAD, GCVS, NED and WEBDA) using macros available to the authors. As we think the observational data an article is based on should be made easily available to the readers, we experimented with linking plate lists to WFPDB. Reference links (to the ADS, arXiv and Vizier as well) are produced from the LaTeX source, using a system based on CDS technology.

3.3. Archiving

IBVS seeks archiving partners. Though we hope to be able to provide access for a long time, archiving partners would be needed for short term backup and long term insurance.

3.4. Copyright

As we do not think the absolutely free model described in the Budapest Open Archive Initiative is appropriate for scientific journals, we have developed our own copyright formula. We call for comments on it.

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¹YAR is referred to in this paper as XMLTape. The software can be downloaded from <http://yar.sourceforge.net/>

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References

Jerez, H., Liu, X., Hochstenbach, P. & Van de Sompel, H.. 2004. in Proceedings of the 2004 Joint ACM/IEEE Conference on Digital Libraries, (New York: ACM), 11