

ELECTRONIC IBVS — THE PAST, PRESENT AND FUTURE

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The inspiration for creating the electronic version of the Information Bulletin on Variable Stars came from the AAS Newsletter Electronic Publishing Insert (1992), which the author picked up in the *Sterrewacht Leiden*. By that time IBVS was typeset in LaTeX and manuscripts were received by e-mail. Subscription fees were just about newly introduced for the previously free of charge Commission newsletter. The usefulness of a low cost distribution method (or rather a method which had no apparent costs at that time), and therefore with no subscription fee, as an alternative to the paper was instantaneously attractive. As the storage of back issues required considerable self-space by that time, electronic storage was foreseen as an important advantage for the future. The Director of Konkoly Observatory (a former Editor himself), the Editors and the Chairman of the Editorial Board were all supportive and enthusiastic.

As IBVS was small, and we did not have issues in HTML format at first (only PostScript), we were able to start the electronic edition before of the large astronomical journals, even before *ApJL*. The Electronic IBVS made its debut in August 1994, at the IAU General Assembly at The Hague. We realized later that IBVS must have been between the first 5000 websites (Gray, 1996; Zakon 2010). Though uploading the IBVS issues to the web required no extra costs, the digitization of back issues could not have been done without the help of paid and unpaid helpers: students, amateur astronomers, family members and some extra computer hardware was needed too. IBVS got financial support from the Hungarian National Information Infrastructure Program and through the Astronomy Research & Education Support. (Later we received grants from the Open Society Institute and the Ministry of Informatics and Communication too.) Soon we were able to serve back issues both in PostScript and plain text format, from issue No. 1. printed in 1961. In 2011 we reached the 6000th issue, and now we store - and make available to the readers - about 1300 data files.

We started providing HTML versions of the articles some years later, in 2000. The technology necessary for the feature-rich HTML version was developed with the help of CDS, Strasbourg. The most important feature of the hypertext issues were the reference links. The software - developed from a prototype written by François Ochsenbein - recognized the references in the LaTeX source, and produced BIBCODEs, which were used for linking to the CDS bibliographic pages (later it was changed to ADS). Now the system recognizes numerous name-variants of about 150 journals. Furthermore, DOIs, arXiv preprint identifiers and VizieR dataset identifiers are recognized as well in the reference section.

The next step was adding object links: with the help of LaTeX macros. We decided to provide object links for the „target” star(s) only, opposed to the choice of linking each object mentioned in the text. For a while we provided object links to each star appearing in text tables, but this practice was discontinued. The object meta-data were moved to the electronic versions of the tables. To the main SIMBAD object links later other object

links to other databases joined (to GCVS, NED, WEBDA). We developed linking to the WFPDB as well.

The most sophisticated linking is with the CDS Aladin service. We use Aladin as a third-party data visualization tool. Starlists in IBVS can be displayed using Aladin, and also all the finding charts can be compared with Aladin images centered on the given variable. Star lists are handed over to Aladin in VOTable format.

Linking is done in both ways - to facilitate linking from CDS databases and ADS, we report extracted meta-data (including object names) automatically upon article publication. Efforts were taken to ensure that the electronic GCVS, the NED and WEBDA databases have correct links if they refer to IBVS.

Another important concept used in the electronic IBVS is article disassembly. Readers are often interested only in a figure or table, or, at least, want to find an article which contains a figure - say, a finding chart - or has an accompanying data file. All figures and data files, and several tables replicated as data files, can be accessed individually. Furthermore, all figures and data files have their own meta-data. This opens the way for the use of advanced search tools. One can search for a light curve of a particular star, or minimum timings for another. In our terminology the latest IBVS search tool is called „semantic”, because it can search for objects or authors, not only character strings. The users can opt for local or external name resolution. We have dictionaries for author name and object name variants, but ADS and SIMBAD or GCVS could be queried for author and object name aliases, respectively. All returned name variants are searched for then in the text. (One missing feature is standardization of the names strings used - at the moment we cannot handle subtle variations of the same name, as the presence or omission of a leading zero, or the use of a non-standard punctuation in a GSC number.)

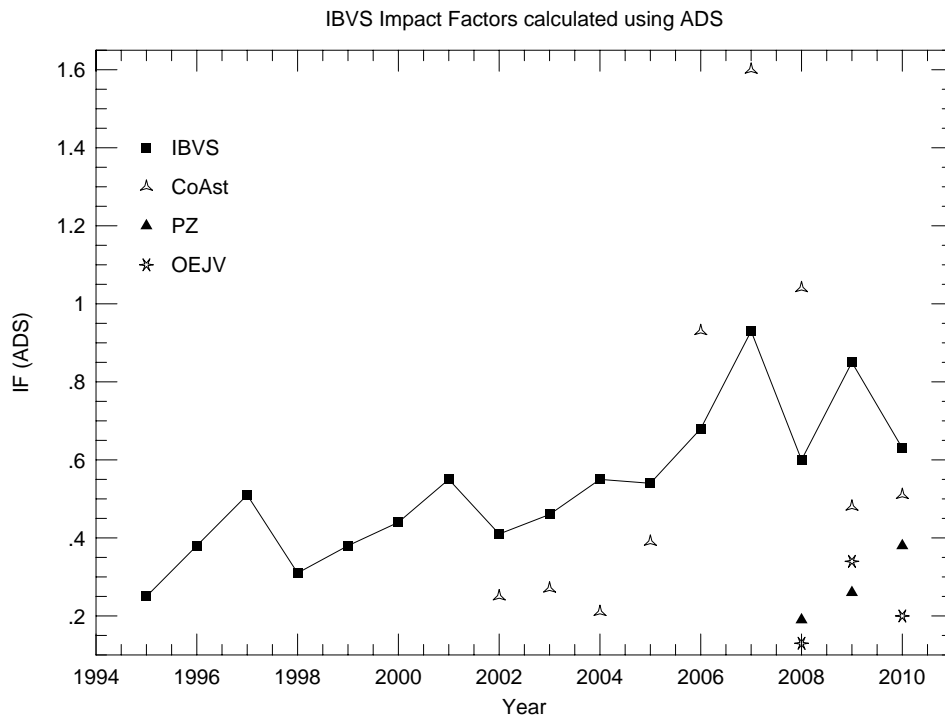


Figure 6. ADS impact factors of IBVS and some other journals. These metrics are calculated with the same algorithm as the IF, but using the ADS database (April 6th, 2011).

IBVS is an Open Access journal - though adopts the less liberal „gratis” OA model. We believe the right to redistribute IBVS papers on the Web belongs to those which can claim rights to the particular article: the author(s), their employers, their funding agencies. This also implies that the journal cannot be redistributed (copied to another, publicly accessible place) in its entirety. On the other hand, we are looking for a partner to provide an external, dark archive - ADS would be the most natural choice, maybe CDS for the data files. The journal is listed in the DOAJ, and indexed by Scopus (and has, accordingly, a SJR ranking). Obtaining a DOI for the published articles would be an important step forward - but it is not clear how the necessary costs could be covered. We do not have an Impact Factor at the moment - but using the ADS database we can estimate the impact using the same algorithm as Thomson Reuters does. The results (see Fig. 6) are not unfavorable, especially if we compute the same metrics for the journals of similar subjects and size: PZ, CoAst, OEJV.

In our plans for future technical developments, there are two obvious candidates: RSS feed for informing the readers about new issues and reports, and OAI-PMH meta-data distribution, which would provide an alternative method for informing ADS and could open-up IBVS towards general library services. There are further possibilities for technical innovation - there are some features IBVS can copy from other journals, and there might be others which this little journal could present to the world.

References:

AAS, Insert on Electronic Publishing, 1992, AAS Newsletter No. 62.

<http://aas.org/archives/Newsletter/nl62/epubsup.html>

Gray, M., 1996, <http://www.mit.edu/people/mkgray/net/web-growth-summary.html>

Zakon, R.H., 2010, <http://www.zakon.org/robert/internet/timeline/>



Figure 7. The first IBVS web server „ogyalla”.