

AstroCat/CVcat – a framework for web-based interactive astronomical catalogues

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Objectives:

The aim of the *AstroCat/CVcat* project is to develop a framework for the implementation of a new type of web-based interactive astronomical catalogues (*AstroCat*), and, as a first application, to set up such a catalogue (*CVcat*) for cataclysmic variables (CVs). *AstroCat*-based catalogues are intended to hold information on the physical properties of astronomical objects of a specific class. Fine-grained sub-classifications can be applied in a convenient way. The information should be gathered only from trustworthy publications and be checked by users who assumed editorial duties. The hypermedia character of the web allows for appropriate links to the referenced publications (e. g. via the ADS abstract service, or the astro-ph preprint server). Furthermore, authors will be given the possibility to share reduced data (spectra, light curves, images, etc.) from their publications with the community of users.

Since August 2001, a feasibility study for the project is run at the university observatory in Göttingen (Kube et al. 2003). In this online catalogue on CVs, the predecessor to the upcoming *CVcat*, some of the concepts of *AstroCat* are realized. It is used up to now (June 2003) by ≈ 150 registered users and can be accessed at <http://www.cvcat.org>.

In the following, we summarize the major improvements of *AstroCat/CVcat* on classical catalogues:

Interactivity: All registered users may contribute to the database content by adding new data. The reliability of the data is ensured by an editorial team. We achieve a high level of objectiveness by allowing for several entries per property. We also allow for detailed annotations on the catalogue entries.

Up-to-dateness: Most classical catalogues are updated only in irregular and/or lengthy intervals. In *AstroCat/CVcat* all changes to the database are made instantly visible to the users. To ensure the citability of the catalogue, we provide a mechanism for restoring older states of the catalogue content.

Accessibility: The web-based character of *AstroCat* allows for simple but powerful searching on the database via a web browser. The query results can be formatted in various user-definable styles. We also provide the possibility to retrieve the query results as XML code in order to supply the user with semantically enriched data. According to the *open source* philosophy, the *AstroCat* software and the *CVcat* database will be freely accessible to all users.

More information on the *AstroCat/CVcat* project can be found at <http://astrocat.uni-goettingen.de>. We have set up an online discussion forum for comments, which are highly appreciated.

Technical realization:

The data is held in a PostgreSQL database management system. The communication between the database and the webserver (Apache) is controlled by PHP scripts. Queries to and results from the database are handled internally in an XML dialect (*AstroCatML*). This embedded XML layer provides a quite flexible communication interface, which is, e. g., helpful for feeding large amounts of data into the catalogue.

Partners:

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References:

Kube, J., Gänsicke, B. T., Euchner, F. & Hoffmann, B. 2003, *A&A*, 404, 1159.