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POSITIONS OF VARIABLE STARS FOR MASCOT

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The general situation with catalogues of variable stars is described in Samus et al. (2000). In the cited paper, we discussed the urgent necessity of good positions for the already catalogued variables. Here we present some additional details about our work on improved positions for "old" variable stars.

We started this work several years ago. The first attempts of automatic identifications of the stars from the General Catalogue of Variable Stars (GCVS) with the Hubble Space Telescope Guide Star Catalog (GSC) revealed that misidentifications occurred in about 30% cases. So we decided to make maximum use of the published finding charts and to check all identifications visually. Then, the US Naval observatory A1.0/A2.0 catalog of astrometric standards appeared and greatly facilitated our work. The software necessary to visualize the catalogs and, after a positive identification, to retrieve the catalog data for the star was developed by A. A. Volchkov (Sternberg Astronomical Institute) and J. Manek (Czech Republic), we are most grateful to them.

By now, we have performed identifications and thus have accurate positions for virtually all stars of the first volume of the GCVS (about 8000 objects), for about 11 000 stars of the Supplement to the NSV Catalog (Kazarovets et al. 1998), about 1000 of the ~3000 stars discovered by L. Plaut mainly in Libra, Ophiuchus, Scorpius and Sagittarius (we have a set of unpublished finding charts for them), some 2000 other variables

entering the second volume of the GCVS, all stars of the recent Namelists of variable stars, the first 1000 stars of the NSV catalog. In the now available electronic version of the GCVS Vol. 1 with improved positions, the following order of preferences for the sources of coordinates was used:

- Hipparcos catalog,
- Tycho/Tycho 2 catalog,
- ground-based astrometric catalogs and special astrometric measurements,
- GSC,
- USNO A1.0/A2.0 catalog,
- our determinations of coordinates using the Digitized Sky Survey images and reference stars from the GSC or from the USNO A1.0/A2.0 catalog.

In quite a number of cases, attempts of recovery of "lost" variable stars lacking finding charts were undertaken by us using existing plate collections. We also correspond with other observatories about stars having no published finding charts, urging discoverers to send us the missing charts or other investigators to recover the "lost" stars using their plate collections and/or unpublished information available at their institutions.

Naturally, our work also resulted in sufficiently complete identifications with *all* principal positional catalogs containing a star. Whenever possible, we also included proper motions. Special attention was paid to variable components of double and multiple stars.

We feel that our experience can be successfully used in the MASCOT project.

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