

SOUTHERN VARIABLE/NSV SURVEY

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Abstract

Ongoing efforts to obtain new and improved positions of variable and suspected variable stars are described.

At the 78th Annual Meeting of the AAVSO held in Cambridge, Massachusetts, Dr. Carlos Lopez gave a paper on "Revised and Improved Positions of Southern Variable Stars". In his paper, Dr. Lopez mentioned that variable stars were to be included in the Yale-San Juan Southern Proper Motion program. Since the positions of the variables as listed in the *General Catalogue of Variable Stars*, (Kholopov *et al.* 1985)(GCVS) are approximate and the PDS system used to scan the plates at Yale needs accurate positions, the need to improve the positions of the variables was realized. At about the same time that Dr. Lopez was giving his paper to the AAVSO, Dr. William van Altena approached Chris Predom (President/Member of the Astronomical Society of New Haven) to see if any members of the Society would be interested in helping Dr. Lopez in measuring these variables. A small group of volunteers was assembled and started the process of learning how to operate the survey machine and to search for the finder charts as listed in the GCVS within the Yale Astronomy Library.

It was during this training process that Yale decided to include the suspected variables as published in the *New Catalogue of Suspected Variable Stars* (Kukarkin *et al.* 1982). The combined effort of Carlos Lopez and the volunteers from the Society led to obtaining improved positions of 950 variables (measured by Lopez) and 368 suspected variables located south of declination -67 . The new positions have an average standard error in R.A. and Dec. of $0.''7$. These positions were published in the *Publications of the Astronomical Society of the Pacific* (Lopez and Girard 1990).

In July 1990, Dr. Carlos Lopez returned to Argentina and there was a few months' delay until the return of Dr. van Altena from the Hubble Space Telescope meetings. The volunteers from the Society have now assumed responsibility of the project and have been directed to concentrate on the South Galactic Pole Region. At this time we have covered approximately 500 square degrees of the South Galactic Pole Region.

In order to improve the standard error of the positions, we have started using the PDS in its preview mode. This has enabled us to get slightly better coordinates with an accuracy of $0.''5$. While the gain is only $0.''2$ smaller than the survey machine, the amount of time spent on the PDS system compared to the time spent on the survey machine is well worth the effort.

We would like to express our thanks to Dr. William van Altena for giving amateurs from the Society a chance to get involved in an astronomical project of this magnitude. We would also like to thank Drs. Dorrit Hoffleit and Terrence Girard for

their input and guidance, and Carlos Lopez for taking the time and effort to instruct us on the operations of the project.

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