

in the AMASE prototype include astronomical names, positions, coordinates and classifications. We are further developing AMASE to facilitate astronomical object classification and cross-identification, and to enable astronomical knowledge discovery and data mining by applying the latest computer science technology. We will describe the new search capabilities available to the astronomical community.

7:02

Radial Velocity Database for Stephenson-Sanduleak Southern Luminous Stars

C. Reed (Alma Coll.)

A database of published radial velocities for objects in the Stephenson-Sanduleak "Luminous Stars in the Southern Milky Way" catalog has been compiled from the literature. Of 5132 stars in the catalog, velocities for nearly 900 are available from 49 sources. The database lists LS number, HD and CD cross-identification, radial velocity, the standard deviation of the radial velocity, number of observations, dispersion codes, notes, LS-catalog photographic magnitudes, a full reference to each reported radial velocity, galactic coordinates, and aliases for named and variable stars.

7:03

Photometric Calibration of the ST ScI Digitized Sky Survey

J. Doggett, M. Postman, B. M. Lasker, M. Meakes (STScI)

The ST ScI Digitized Sky Survey (DSS) is based on scans of an all-sky set of plates from the UK and Palomar Schmidt Telescopes. The data have been compressed 10× and distributed as a 102 volume CD-ROM set. The initial DSS distribution included astrometric polynomials that allow users to measure equatorial coordinates. This paper describes a set of point source photometric calibrations developed for the DSS. These calibrations are also applicable to the 100× compressed version of the DSS distributed as the RealSkyCD™ by the Astronomical Society of the Pacific.

Global photometric calibrations have been constructed for the three photographic surveys which make up the DSS. For each photographic survey, the calibration consists of a single lookup table of $\log_{10}(\text{Integrated Counts})$ vs. Stellar Magnitude applicable from about 8th to 16th magnitude. The integrated count measures are made from images thresholded to 500 counts above the background. The photometric reference catalog used for the reductions is the Guide Star Photometric Catalog (GSPC). The internal accuracy of the calibrations, i.e., the residuals near the reference star sequences, is 0.5 magnitudes.

The calibrations are available via the World Wide Web and anonymous ftp as ASCII text files, FITS files and postscript plots. The FITS files provide a calibration interface with GetImage 2.0, the software used to access the DSS. Images extracted as FITS files from the DSS using GetImage 2.0 will have a binary table extension containing the appropriate photometric calibration.

Future plans include to extend the calibration down to 18th or 19th magnitude using the second version of the GSPC and to generate calibrations for plates individually good to 0.1 magnitudes. Other future activities may include the development of calibrations for extended objects, and of calibrations for the second generation POSS plates.

7:04

A New Astrometric Survey of the Southern Hemisphere

F. S. Gauss, N. Zacharias, T. R. Rafferty, M. E. Germain, E. R. Holdener, J. W. Pohlman, M. Zacharias (U. S. Naval Observatory)

With the advent of space-based star catalogs of unprecedented accuracy and the measurement of the Palomar Schmidt Survey plates, there is a pressing need for a new high-quality catalog covering the stars in the intermediate magnitudes. Testing with the USNO 8-inch CCD astrograph, equipped with a new, 5-element lens and a small CCD camera have shown that accuracies of 20mas or better can be obtained in a reasonable time using a two-fold

overlap method. A grating allows stars as bright as 6th magnitude to be observed at the same time as the faintest stars. A program is planned to start within a year in the Southern Hemisphere using this telescope and a new 4K CCD camera. The goal is to produce an astrometric catalog of all stars down to 15th magnitude in a period of two years.

7:05

The General Release of USNO-A1.0

D. Monet (U.S. Naval Observatory Flagstaff Station)

The USNO-A1.0 catalog lists right ascension, declination, and blue and red magnitudes for 488,006,860 sources. It uses data generated by the Precision Measuring Machine's scans of POSS-I O and E plates (−30 to +90 degrees) and SRC-J and ESO-R plates (−90 to −35 degrees), and contains sources as faint as $O=21/E=20$ and $J=22/F=21$. The astrometric and photometric accuracies are dominated by the systematic errors of the calibration process, and are believed to be in the range of 0.25 arcseconds and 0.25 magnitudes, but the Southern photometry is probably worse. For users with the ability to locally re-determine zero points, the relative accuracy may be a factor of two better. The catalog is contained on 10 CD-ROMs, and the set is available to qualified users upon request. The USNO-A1.1 catalog presents the same sources but gives coordinates in the IAU system of Galactic longitude and latitude. The distribution of V1.1 will be restricted because copies will be generated by CD-R on an as-needed basis.

7:06

Reference Standards in the Gunn-Thuan Filter System for Approximate Calibration of Southern-Hemisphere Survey Work

M. G. Smith (NOAO/CTIO), A. Athey (Pomona College), E. Friel (NSF(MPS/AST))

As a preliminary step in a southern-hemisphere survey (i) for quasars of redshift $4.5 > z > 7$, and (ii) for faint, red, high-latitude stars, we have made experimental observations of standard stars and sequences spanning a total range of 15 magnitudes through the Johnson and Gunn-Thuan filter systems.

We report preliminary Gunn-Thuan magnitudes for the stellar sequence near NGC300 observed in UBVR by Walker (PASP, 100, 949; PASP, 107, 683). Our work is approximate, but of sufficient precision for the purposes of this survey.

7:07

The APS Databases of the Palomar Sky Survey—Catalogs, Images, and Proper Motions

R. M. Humphreys, C. S. Cornuelle, G. Aldering, J. A. Larsen, J. Cabanela (Univ. Minn.)

The APS databases of the Palomar Sky Survey include an object catalog of matched images on both the blue and red plates, an image database of all detected images above the plate grain noise, and a new catalog of proper motions now under construction.

The proper motions are measured from our scans of the 'Luyten red' plates, a set of second epoch sky survey plates, all red, taken around 1970 with the same plate centers as the POSS I. The proper motions are being placed on the extragalactic reference frame. The proper motion catalog will include information for all objects found on both plates—both stars and galaxies.

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