The Second HST Guide Star Photometric Catalog

We present an update on the status of the Second Guide Star Photometric Catalog (GSPC-II). A description of this survey is presented by Postman et al. in *Digitised Optical Sky Surveys* 1992, pp. 61-63. One important motivation for the GSPC-II survey is to expand the spectral range and limiting magnitude for the photometric calibrations of plates used to support HST observation planning and target acquisitions. GSPC-II survey was undertaken, however, with full awareness of the scientific benefits that result from well-calibrated digitized all-sky surveys. Stars and galaxies to limiting magnitude of V=19 are visible on the StScI–Palomar quick V plates (and to V=21 on the POSS E and SRC J plates). Many of the most interesting scientific programs require faint photometry, either to support qualitative decisions, or in the case of statistical studies, to minimize systematic errors. To satisfy both the functional and scientific needs, the GSPC-II will, initially, have 5% photometry in the Kron-Cousins V and R passbands to a limiting magnitude of V=18 (ultimately to V=21).

The survey is being conducted using CCD direct imaging cameras at observatories in both the northern and southern hemispheres (Wise Observatory, ESO, CTIO, KPNO, Megantic Observatory, Lowell Observatory, McDonald Observatory, and San Diego State University). The northern hemisphere program consists of 655 target fields, each one centered on the faintest star in the original GSPC survey (Lasker, Sturch, et al. 1988, *Ap. J. Suppl.*). The southern survey consists of 822 fields centered on the SRC J survey plate centers. Figure 1 shows the location of the 1477 fields on the sky.

For each field, two (V and R) short and two long exposures are being acquired. The short exposures (2 minutes) will get us to V=18 mag. The long exposures (20 minutes) will get us to V=21 mag. Figure 2 shows the 742 fields for which good short exposure data have either been acquired or for which unreduced data exists and is believed to be of the required photometric accuracy (5% to V=18). As the map demonstrates, the short exposure survey is nearly complete for $\delta \geq 0°$. The long exposure survey is about 40% complete in the north and just getting underway in the south.

The northern short survey will be made publicly available when all fields with $\delta \geq 0°$ are reduced and the appropriate catalog QA has been completed. This should occur sometime in mid to

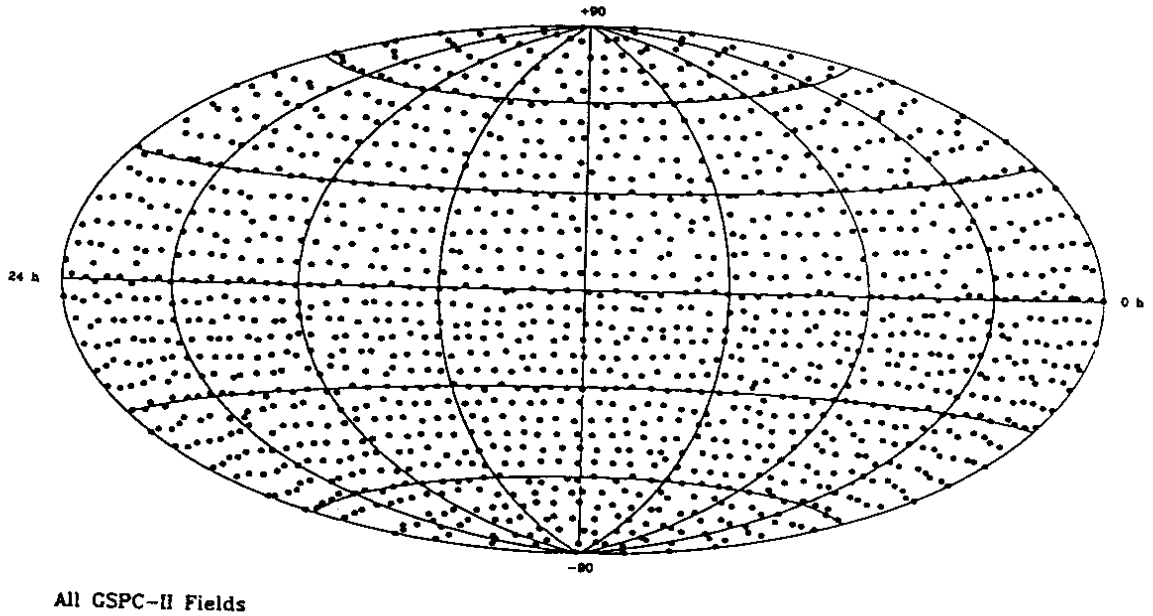

Figure 1. Aitoff equal area projection of the 1477 GSPC-II survey fields.

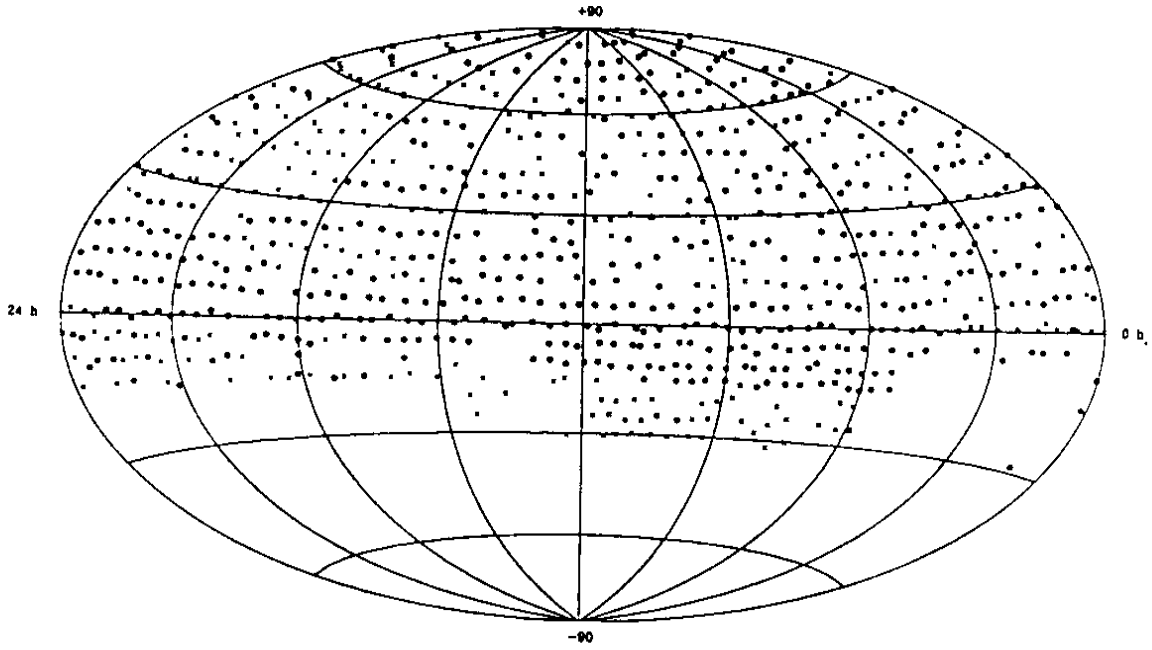

Figure 2. Similar projection for the 742 fields with good or unreduced data (believed to be good) as of June 1992.

late 1993. The catalog will contain two color photometry and positions for over 50,000 stars. It will most likely be distributed via ftp. An all-sky version will be released when the southern short survey is completed (circa 1995).

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