Photometric Calibration of the ST ScI Digitized Sky Survey

J.Doggett,M.Postman,B.M.Lasker,M.Meakes (ST ScI)

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$\times$ 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$\times$ 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 $\log_{10}$(Integrated Counts) *vs.* Stellar Magnitude applicable from about 8^{th} to 16^{th} 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 18^{th} or 19^{th} 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.

Abstract submitted for AAS [AAS] meeting

Date submitted: October 23, 1996 Electronic form version 1.6

American Astronomical Society Abstract Form

AAS Category 25 Running #π Session 0.00

Oral preferred ☐ Dissertation abstract ☐

Paper presented by Jesse Doggett
Space Telescope Science Institute
3700 San Martin Dr.
Baltimore, MD 21117
410-338-4937
doggett@stsci.edu

Special instructions:

Abstract fee of $ will be paid by .

account # (PLEASE SUPPLY AN EXPIRATION DATE)