

# Guide Star Catalog Information



## Draft

This is a working draft of the documentation for the Guide Star Catalog.

The Catalogs and Surveys Branch of the Space Telescope Science Institute originally constructed the Guide Star Catalog (GSC) to support the pointing and target acquisition for the Hubble Space Telescope (HST). It has since been adopted for numerous other purposes, for example, observation planning, the preparation of finding charts, and the operation of ground-based telescopes, as well as future space telescopes like the James Webb Space Telescope (JWST) and Nancy Grace Roman Space Telescope (RST).

The original version of the Guide Star Catalog ([GSC-I](#)) was an all-sky catalog of positions and magnitudes for approximately 19 million stars and other objects in the sixth to fifteenth magnitude range. The GSC-I was primarily based on an all-sky, single-epoch collection of Schmidt plates (DSS-I). For centers at +6° and north, a 1982 epoch "Quick V" survey was obtained from the Palomar Observatory, while for southern fields, materials from the UK SERC J survey (epoch = 1975) and its equatorial extension (epoch = 1982) were used. See "[Sky Surveys](#)" for more information on the plates.

The Guide Star Catalog II ([GSC-II](#)) was an all-sky optical catalog based on 1" resolution scans of the photographic Sky Survey plates, at two epochs and three bandpasses, from the Palomar and UK Schmidt telescopes (DSS-II). This all-sky catalog contains positions, proper motions, classifications, and magnitudes in multiple bandpasses for almost a billion objects down to approximately Jpg=21, Fpg=20.

The most recent versions of GSC 2.4 have been updated to provide improved astrometric positions from the ESA GAIA satellite and add fainter objects from additional ground-based survey telescopes.

## Recent space activity

## Space contributors

- [Brian McLean](#) (Dec 06, 2022)
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[WebServices for Catalog Access](#) updated Dec 06, 2022 [view change](#)

[GSC 2.4.3 Record Structure](#) updated Sept 19, 2022 [view change](#)

[GSC 2.4.2 Record Structure](#) updated Sept 19, 2022 [view change](#)

[Bandpass Codes](#) updated Sept 15, 2022 [view change](#)

[Source Codes](#) updated Jun 01, 2022 [view change](#)