

The Gaia FGK Benchmark Stars: fundamental (Teff, logg) of the extended sample

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The Gaia Benchmark stars (GBS) are reference stars which have been carefully selected for the calibration and/or the validation of atmospheric parameters massively determined from Gaia data and from spectroscopic surveys. They define the fundamental scale for Teff and logg which are determined independently of spectroscopy, through the fundamental relations based on angular diameters directly measured by interferometry, on bolometric fluxes (Fbol) measured by photometry, on masses and distances, all being observable quantities with minor dependencies on theoretical assumptions. GBS are chosen to cover as well as possible the HR diagram in the FGK range, including dwarfs, subgiants, and giants of all metallicities, representative of the different stellar populations of the Milky Way probed by Gaia and other large surveys. The initial version by Heiter+ 2015 had 34 stars. We now present the third version which includes nearly 200 stars. The precision of fundamental (Teff, logg) significantly improved thanks to the exquisite quality of Gaia data reflecting on distances and Fbol.