

# Differences between Gaia DR2 and Gaia EDR3 photometry: demonstration, consequences, and applications

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## Abstract

We produce a new photometric calibration for the combined six-filter system formed by *Gaia* DR2 + EDR3  $G + G_{BP} + G_{RP}$  using an improved STIS/HST spectrophotometric library with very red stars. The comparison between observed and synthetic photometry yields residual dispersions of just 3.4-8.7 mmag, resulting in the most accurate and precise whole-sky large-dynamic-range optical photometric system ever obtained. We include some tests and applications.

Our contribution can be found at <https://zenodo.org/records/13887302> in zenodo.org