



# Gaia unpublished high angular-resolution photometry of TOIs and their nearby stars to help identifying the actual sources of many transits detected by TESS.

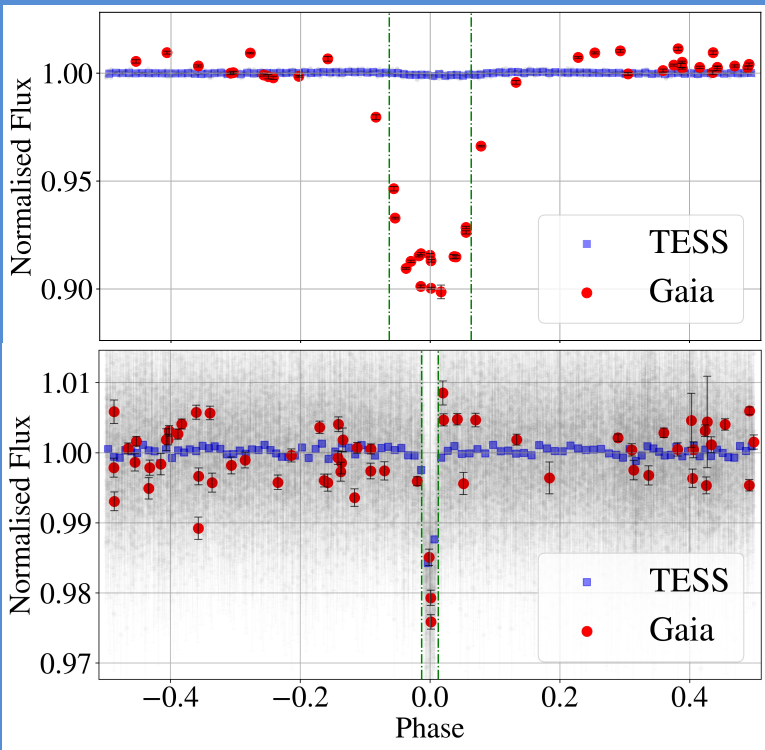


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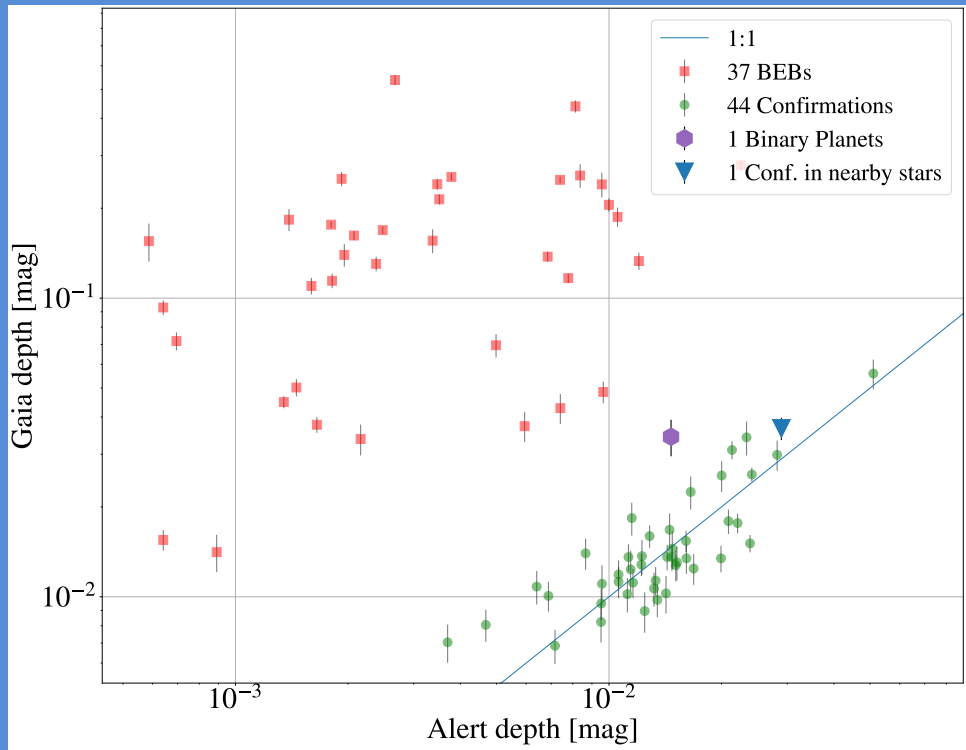


The point spread function (PSF) of TESS is relatively wide, and therefore follow-up photometric observations of the TOIs are required in order to exclude apparent transits that are actually blended eclipsing binaries (BEB). Gaia, the astrometric European space mission, with its high angular resolution produces distinct light curves (unpublished yet) for the relevant sources included in the TESS PSF, identifying false positive candidates and even confirming true planets in some cases.

The performance of our method depends mainly on the number of in-transit Gaia measurements and their precision. We are able to confirm ~5% of the TESS candidates and exclude another 5% as false positive candidates.



Phase folded light curve of: (top) a **BEB** discovered around TOI 1514.01, (bottom) **transit confirmation**



A summary plot of a recent batch (TOIs 3504-4174), **Gaia depth vs. TESS depth**