

KIC 008155291

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
008155291-01	OBS	No	0.597034	131.564176	23.4	1.836	11.8	13.6	1.58	6842	0.89	20600.75

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008155291-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

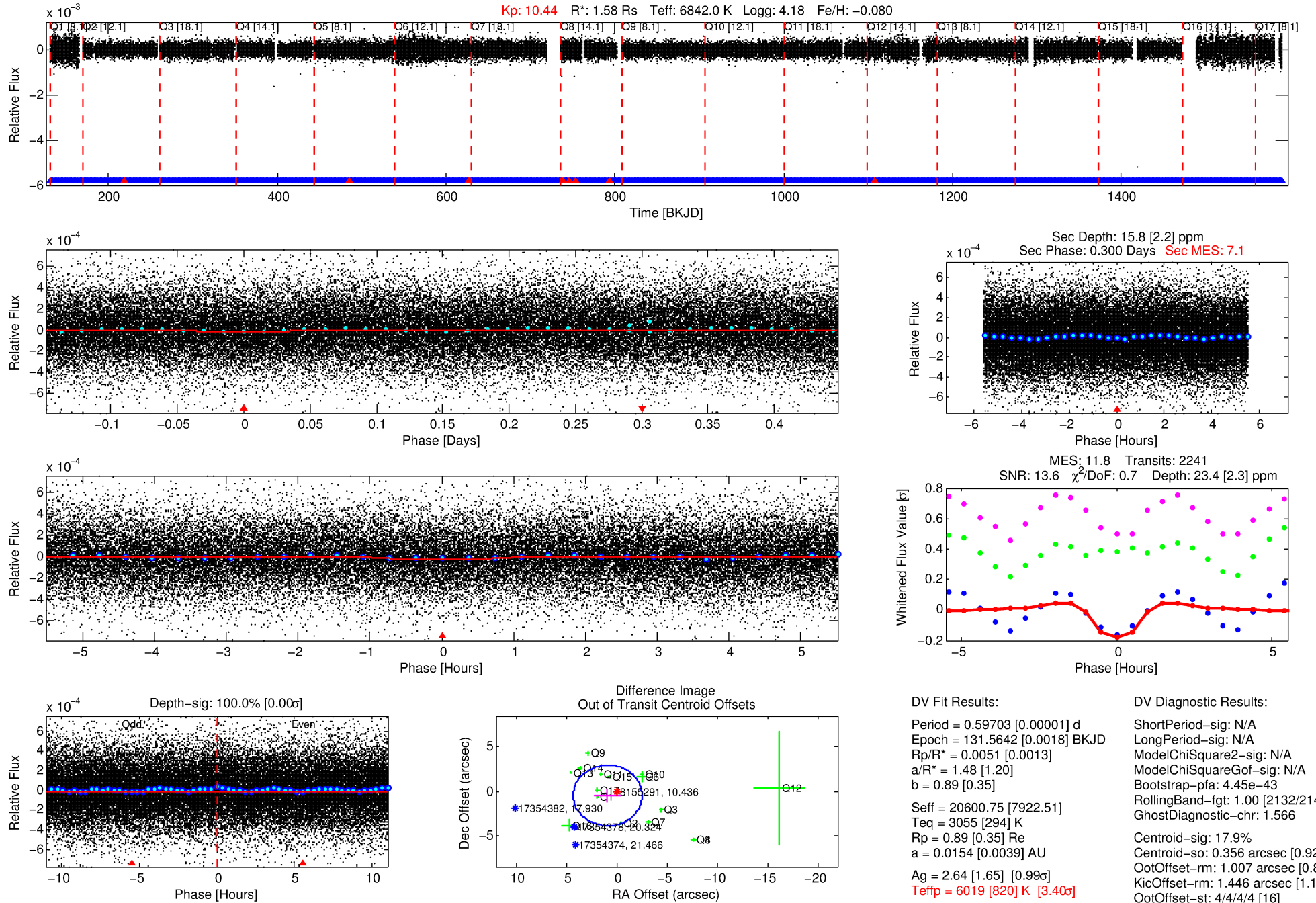
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008155291-01

No Significant Match Found

DV One-Page Summary

KIC: 8155291 Candidate: 1 of 1 Period: 0.597 d



DV Fit Results:

Period = 0.59703 [0.00001] d
 Epoch = 131.5642 [0.0018] BKJD
 Rp/R* = 0.0051 [0.0013]
 a/R* = 1.48 [1.20]
 b = 0.89 [0.35]
 Seff = 20600.75 [7922.51]
 Teq = 3055 [294] K
 Rp = 0.89 [0.35] Re
 a = 0.0154 [0.0039] AU
 Ag = 2.64 [1.65] [0.99 σ]
 Teffp = 6019 [820] K [3.40 σ]

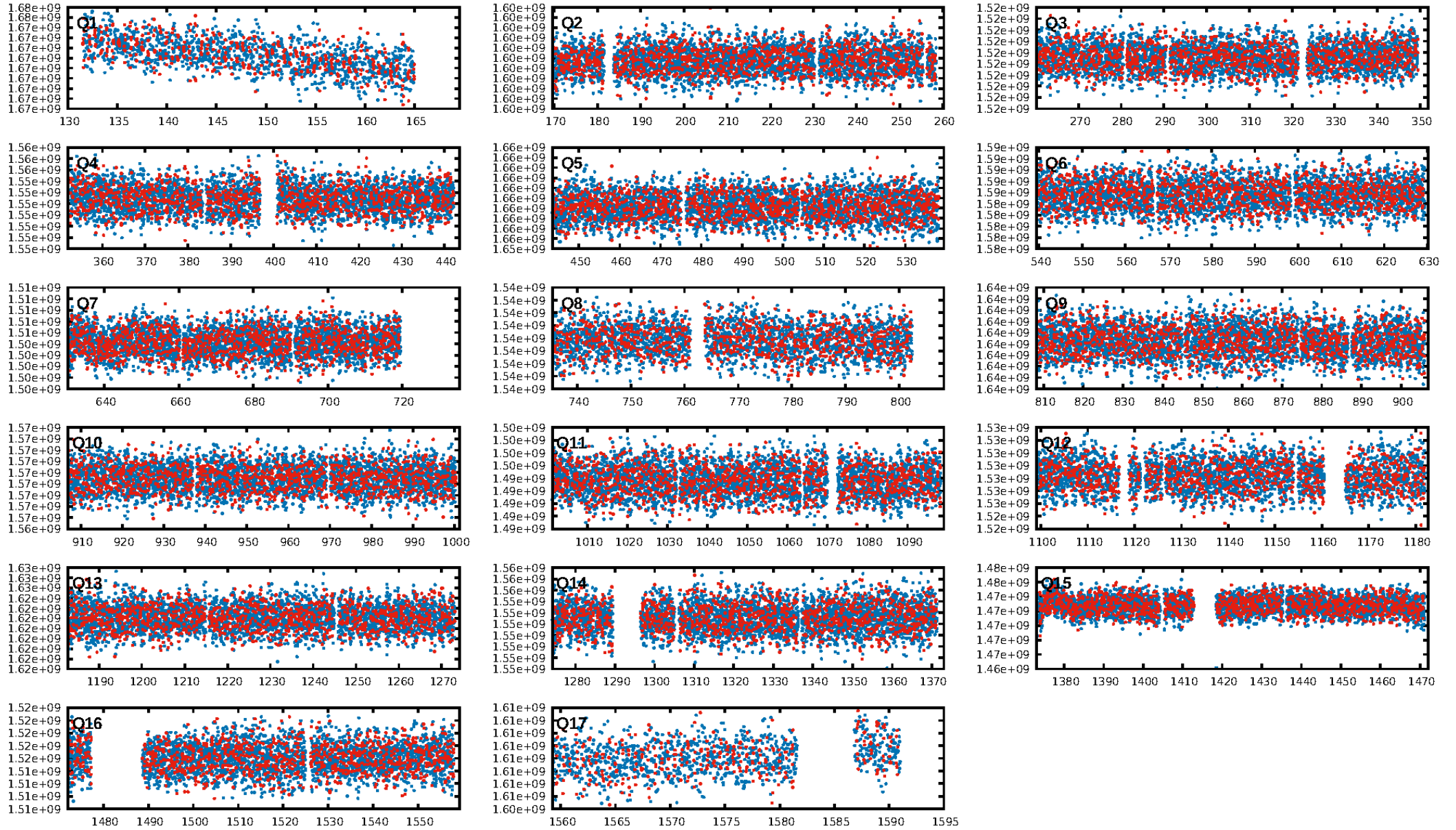
DV Diagnostic Results:

ShortPeriod-sig: N/A
 LongPeriod-sig: N/A
 ModelChiSquare2-sig: N/A
 ModelChiSquareGof-sig: N/A
 Bootstrap-pfa: 4.45e-43
 RollingBand-fgt: 1.00 [2132/2140]
 GhostDiagnostic-chr: 1.566
 Centroid-sig: 17.9%
 Centroid-so: 0.356 arcsec [0.92 σ]
 OotOffset-rm: 1.007 arcsec [0.88 σ]
 OotOffset-st: 4/4/4/4 [16]
 KicOffset-rm: 1.446 arcsec [1.16 σ]
 KicOffset-st: 4/4/4/4 [16]
 DiffImageQuality-fgm: 0.25 [4/16]
 DiffImageOverlap-fno: 1.00 [17/17]

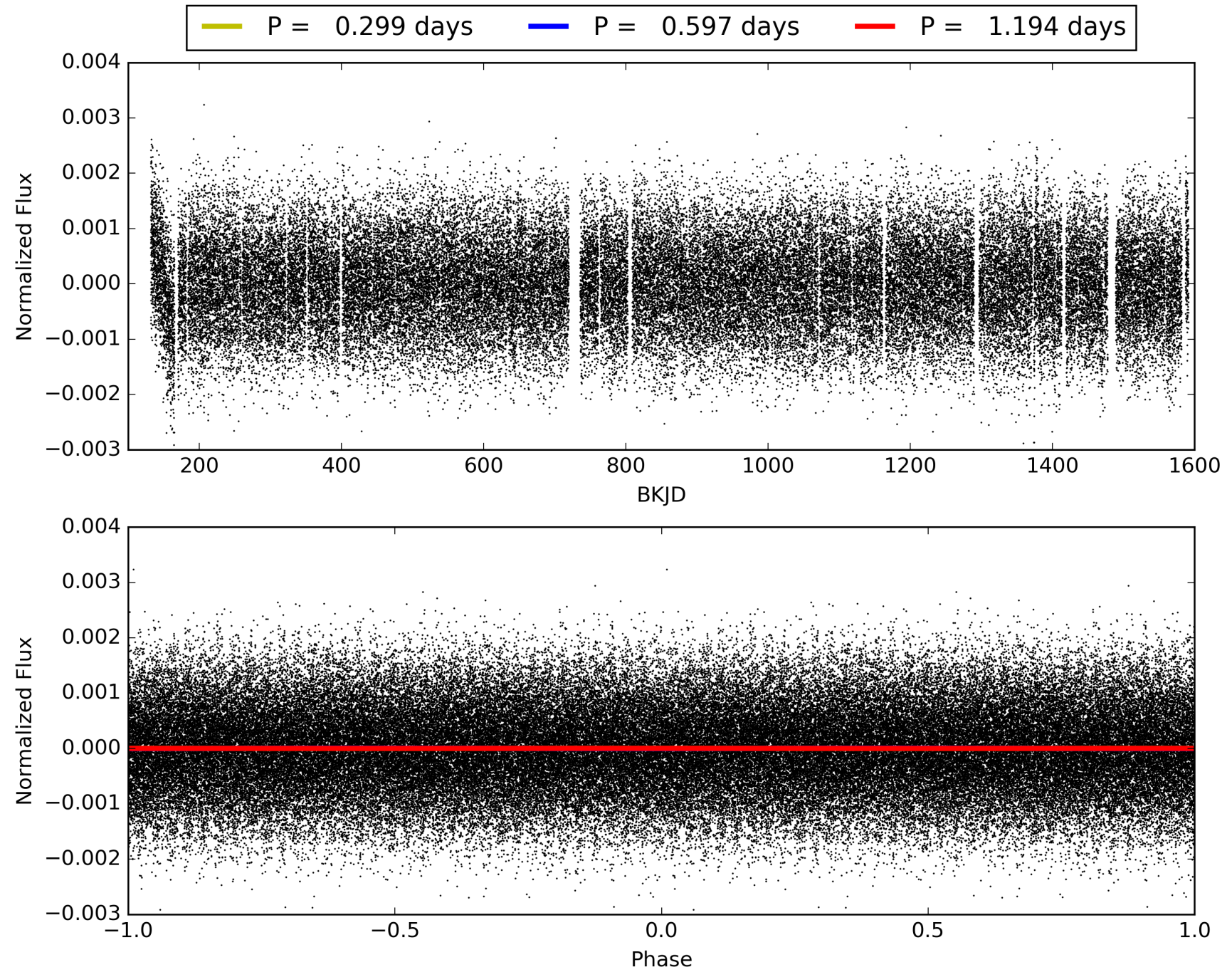
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:04:36 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008155291-01, PDC Light Curves

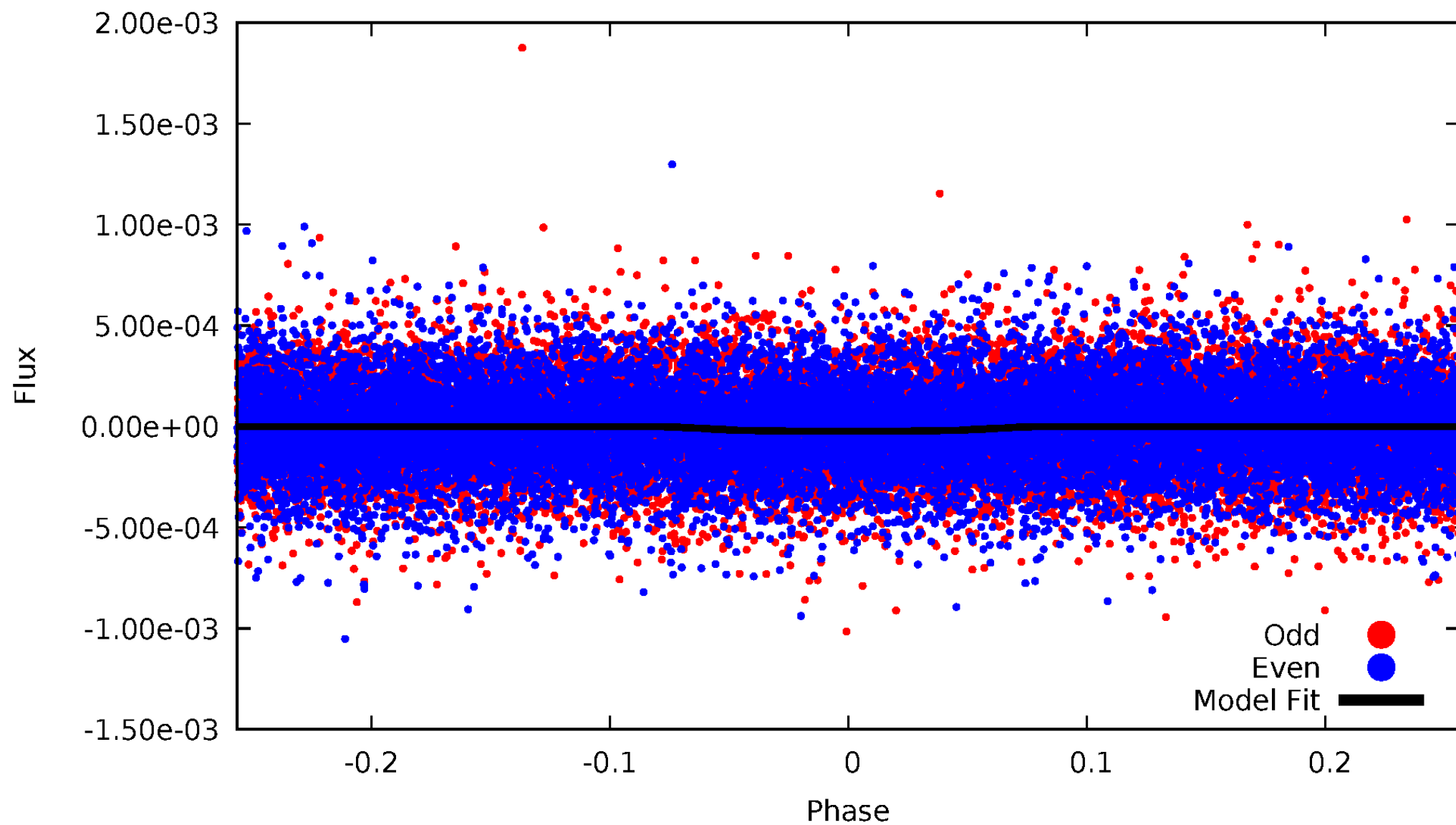


TCE 008155291-01



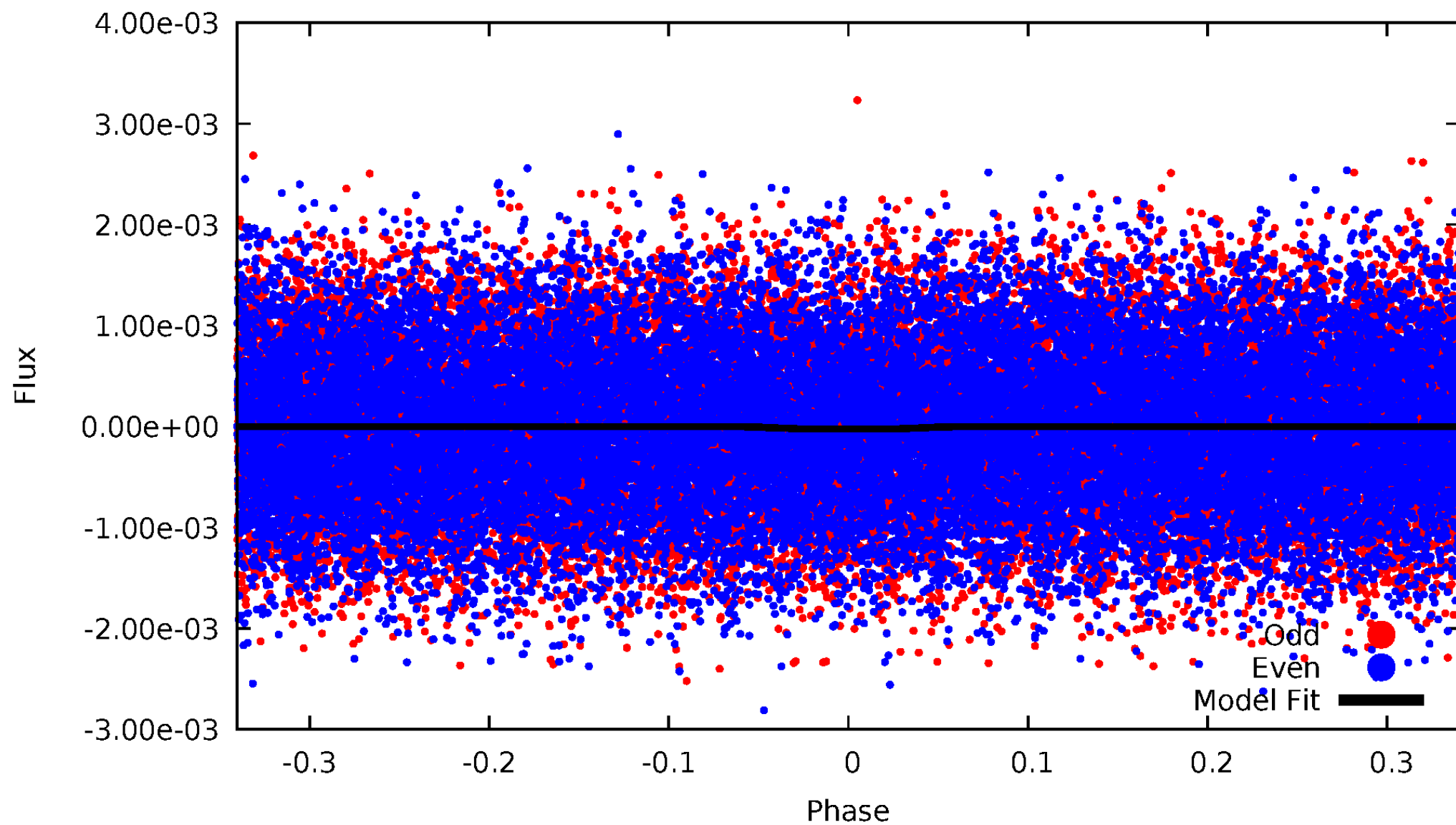
DV Odd/Even

TCE 008155291-01

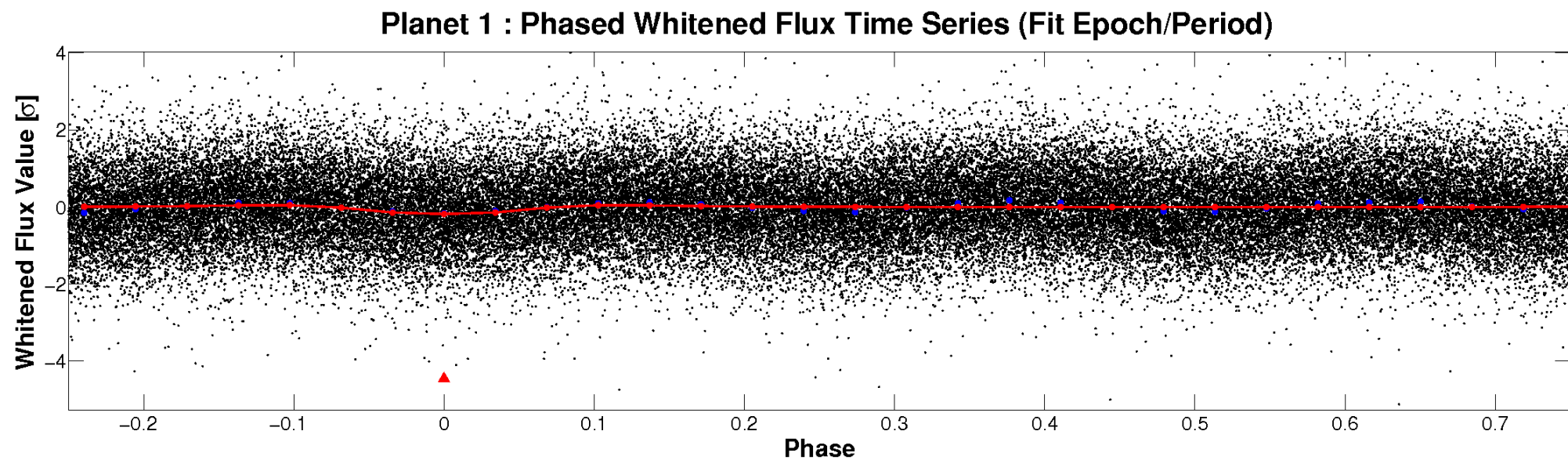
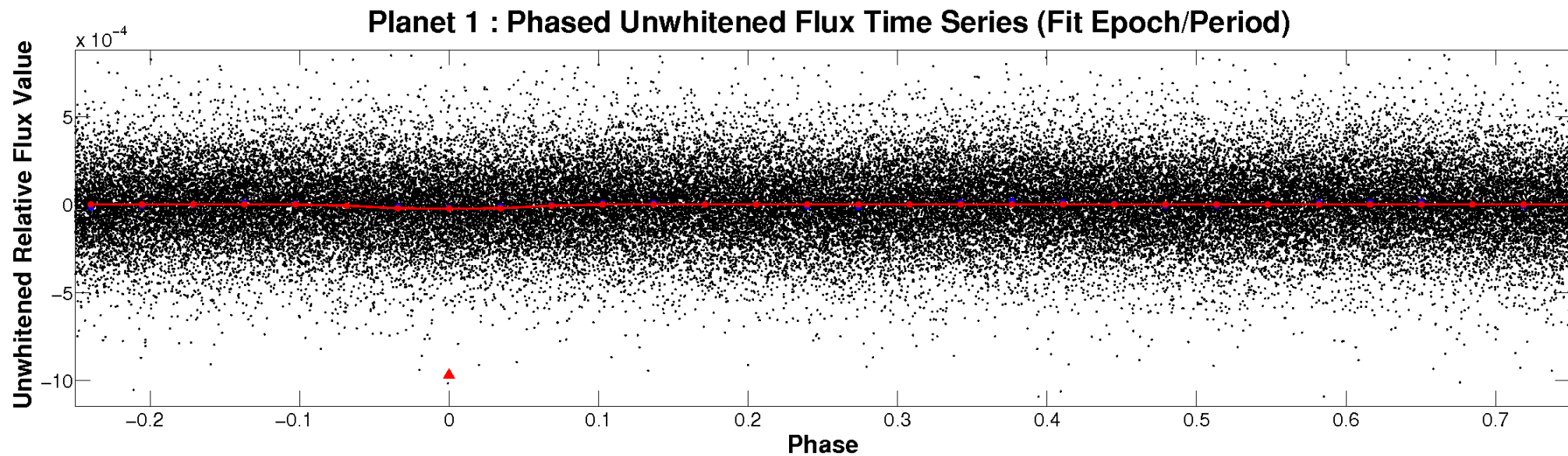


ALT Odd/Even

TCE 008155291-01

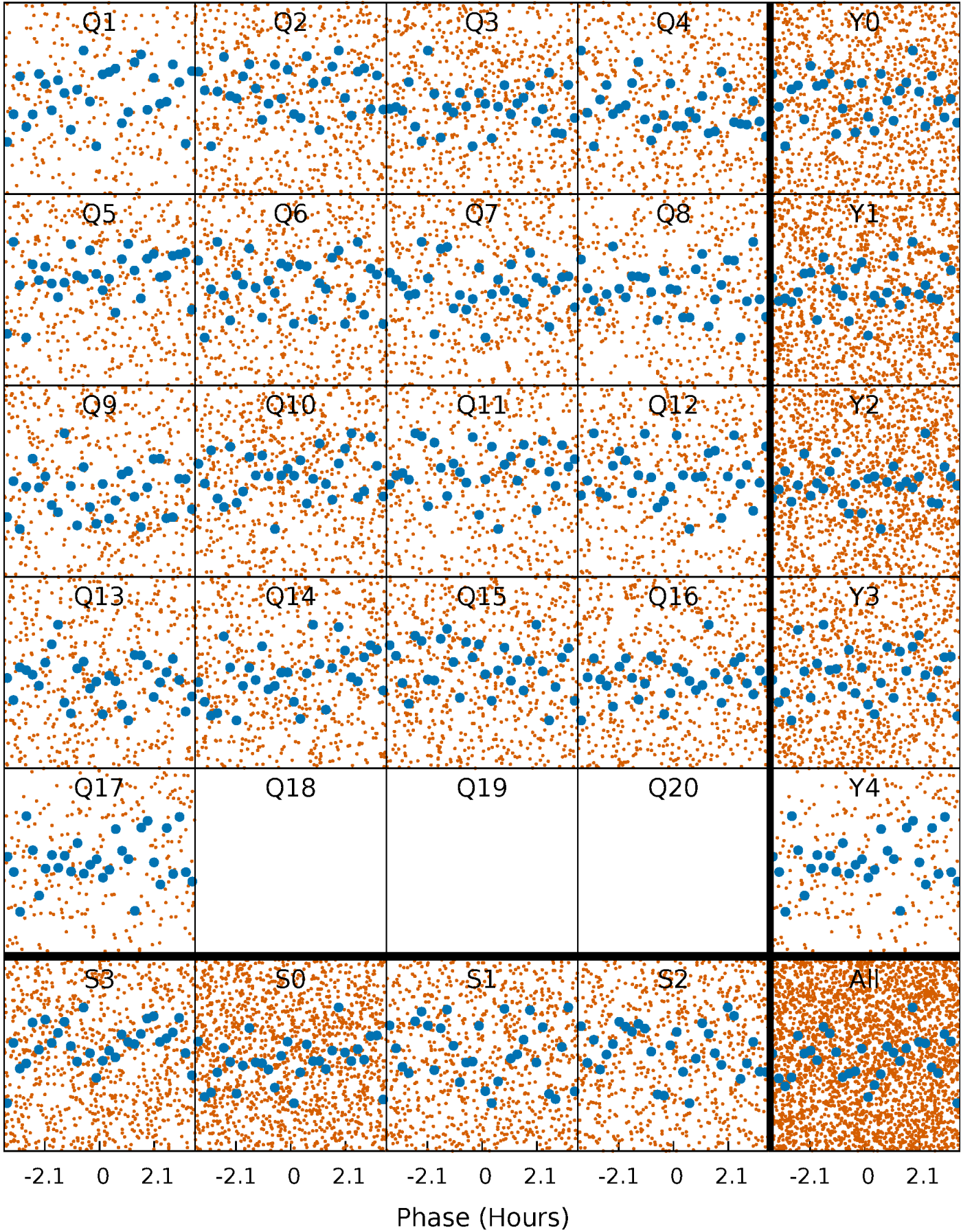


Non-Whitened Vs. Whitened Light Curve



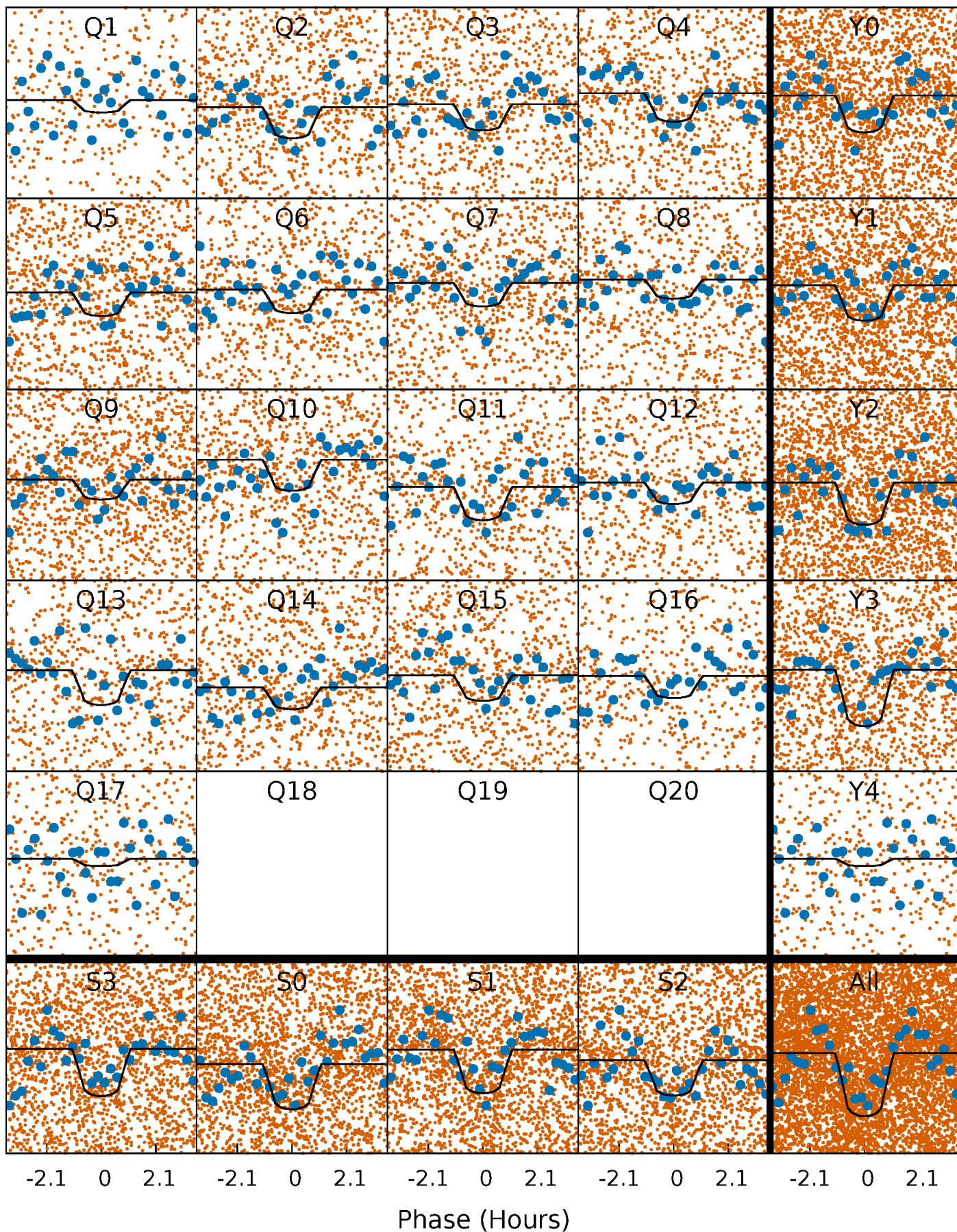
PDC Quarter-Phased Transit Curves

TCE 008155291-01 P= 0.597034 Days $T_0=131.564176$ (BKJD)



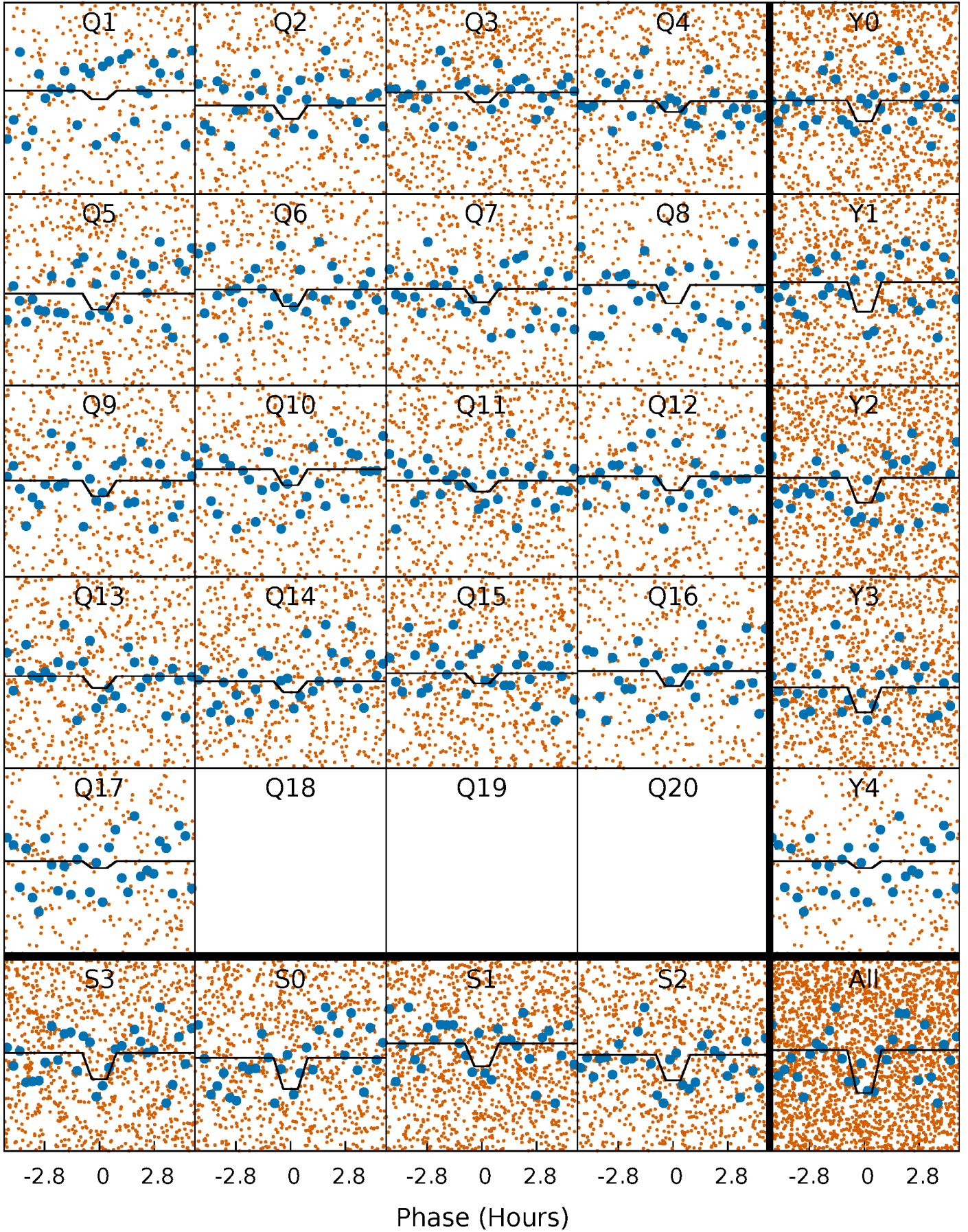
DV Quarter-Phased Transit Curves

TCE 008155291-01 P= 0.597034 Days $T_0=131.564176$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

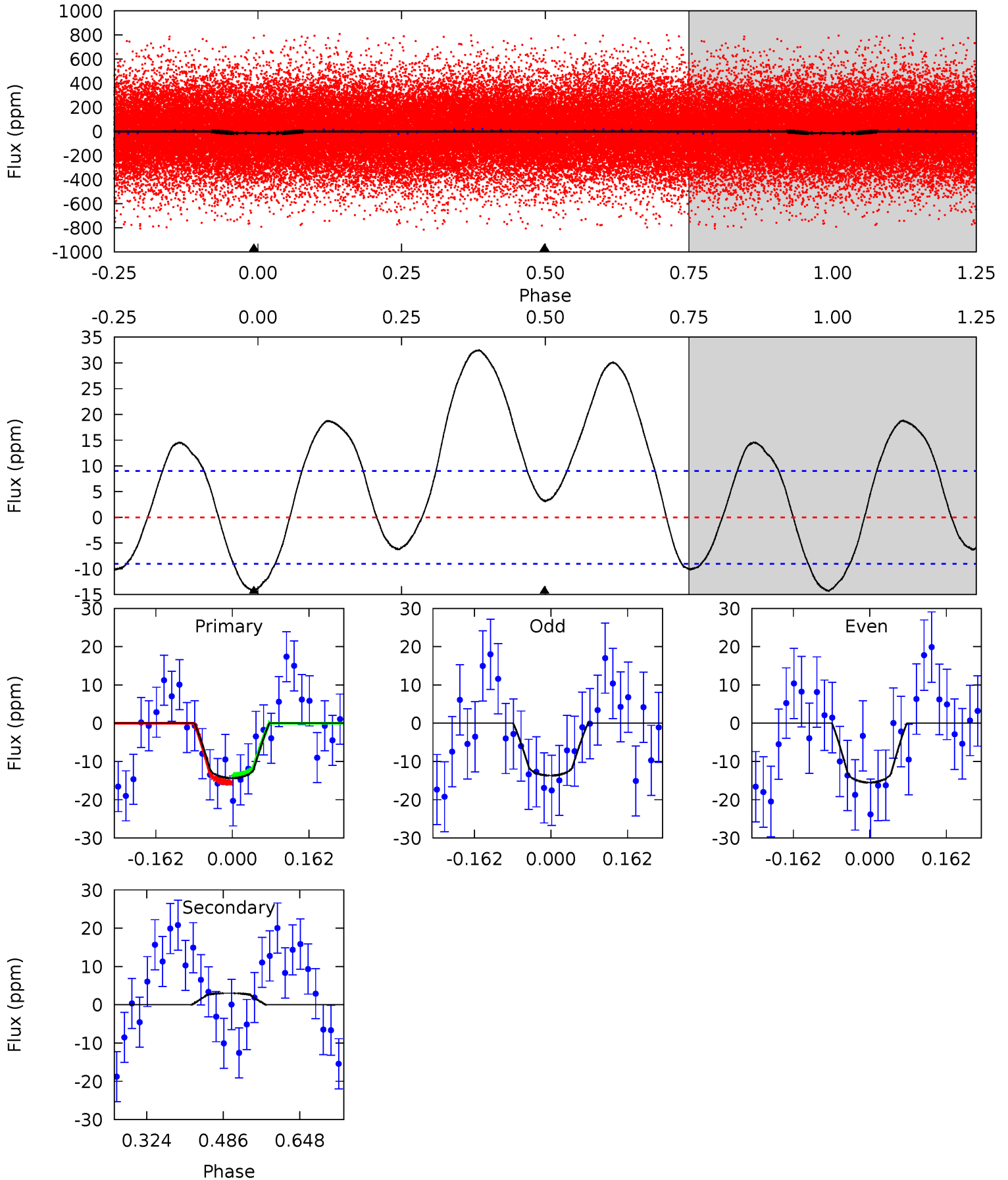
TCE 008155291-01 P= 0.597032 Days $T_0=131.566984$ (BKJD)



DV Model-Shift Uniqueness Test

008155291-01, P = 0.597034 Days, E = 130.967142 Days

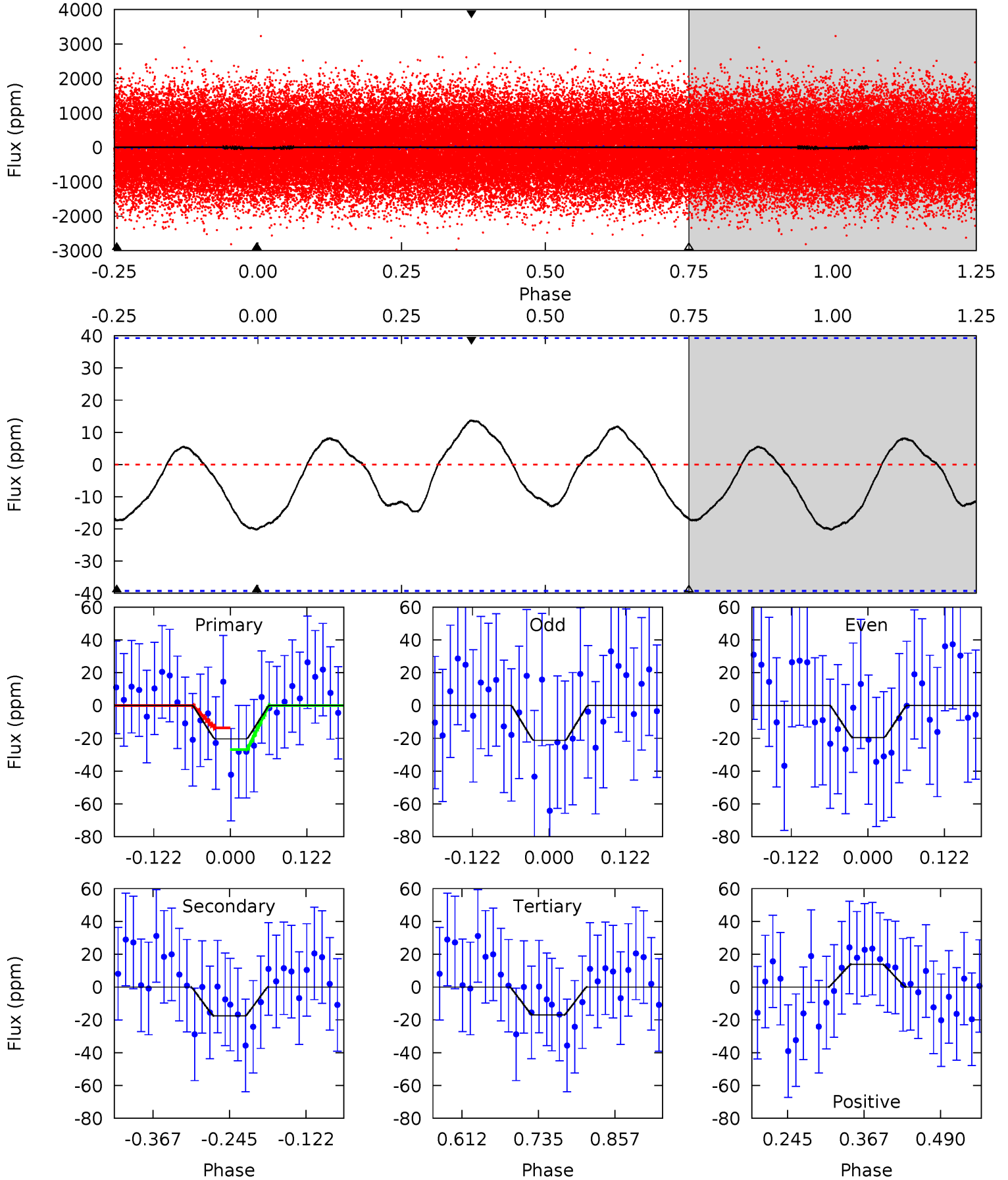
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.09	-1.50	0	0	4.46	1.40	4.32	7.09	7.09	-1.50	-1.50	0.45	0.90	0.69	0.47



Alt Model-Shift Uniqueness Test

008155291-01, P = 0.597032 Days, E = 130.969952 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.35	2.02	1.97	1.60	4.52	1.54	1.02	0.38	0.74	0.06	0.42	0.10	1.16	0.41	0.77



Stellar Parameters For KIC 008155291

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6842^{+189}_{-283}	$4.178^{+0.132}_{-0.181}$	$-0.080^{+0.250}_{-0.350}$	$1.579^{+0.493}_{-0.329}$	$1.378^{+0.196}_{-0.239}$	$0.493^{+0.380}_{-0.251}$
	+3%/-4%	+3%/-4%	+312%/-438%	+31%/-21%	+14%/-17%	+77%/-51%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008155291-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	3 ± 2	$0.89^{+0.29}_{-0.24}$	4282^{+329}_{-287}	-4570^{+471}_{-539}	$-0.423^{+0.294}_{-0.584}$
Alt.	-18 ± 9	$0.85^{+0.28}_{-0.23}$	4264^{+341}_{-288}	6039^{+1338}_{-1158}	$3.002^{+3.077}_{-1.677}$

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

DV Centroid Data

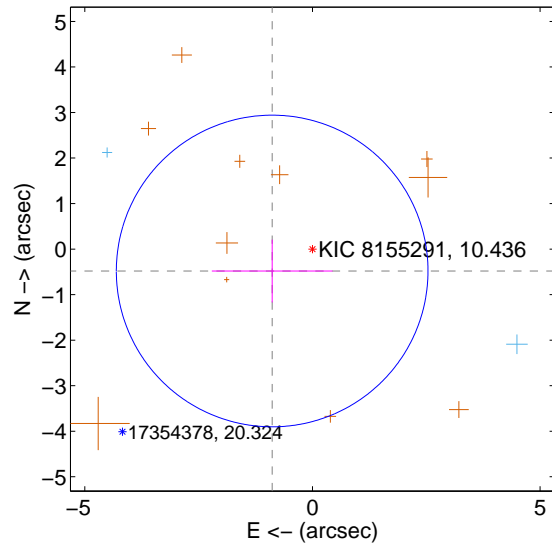
Supplemental centroid analysis for 008155291-01. **Kepler magnitude: 10.44.** Transit SNR 13.61

There are 4 quarters with good PRF difference image offsets

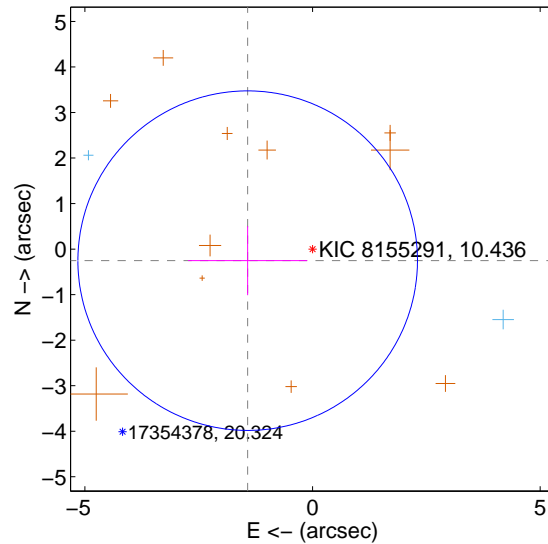
The direct PRF centroid is offset from the target star catalog position by about 0.38 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.007 ± 1.141	0.88	0.884 ± 1.326	-0.481 ± 0.689
PRF-fit source offset from KIC position	1.446 ± 1.243	1.16	1.424 ± 1.308	-0.254 ± 0.759
photometric centroid source offset	0.36 ± 0.39	0.92	-0.20 ± 0.39	-0.29 ± 0.39

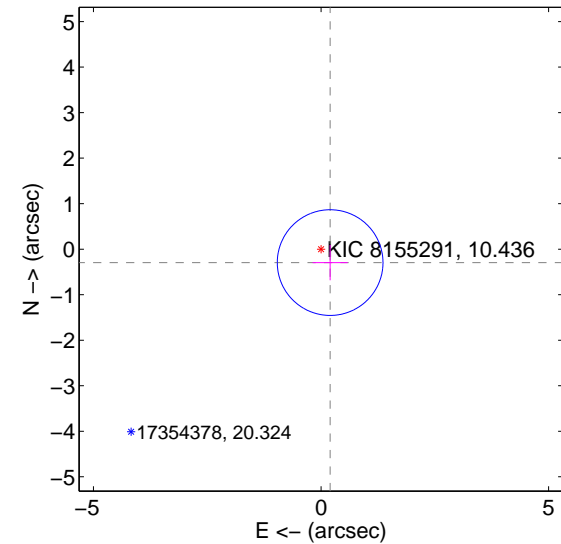
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

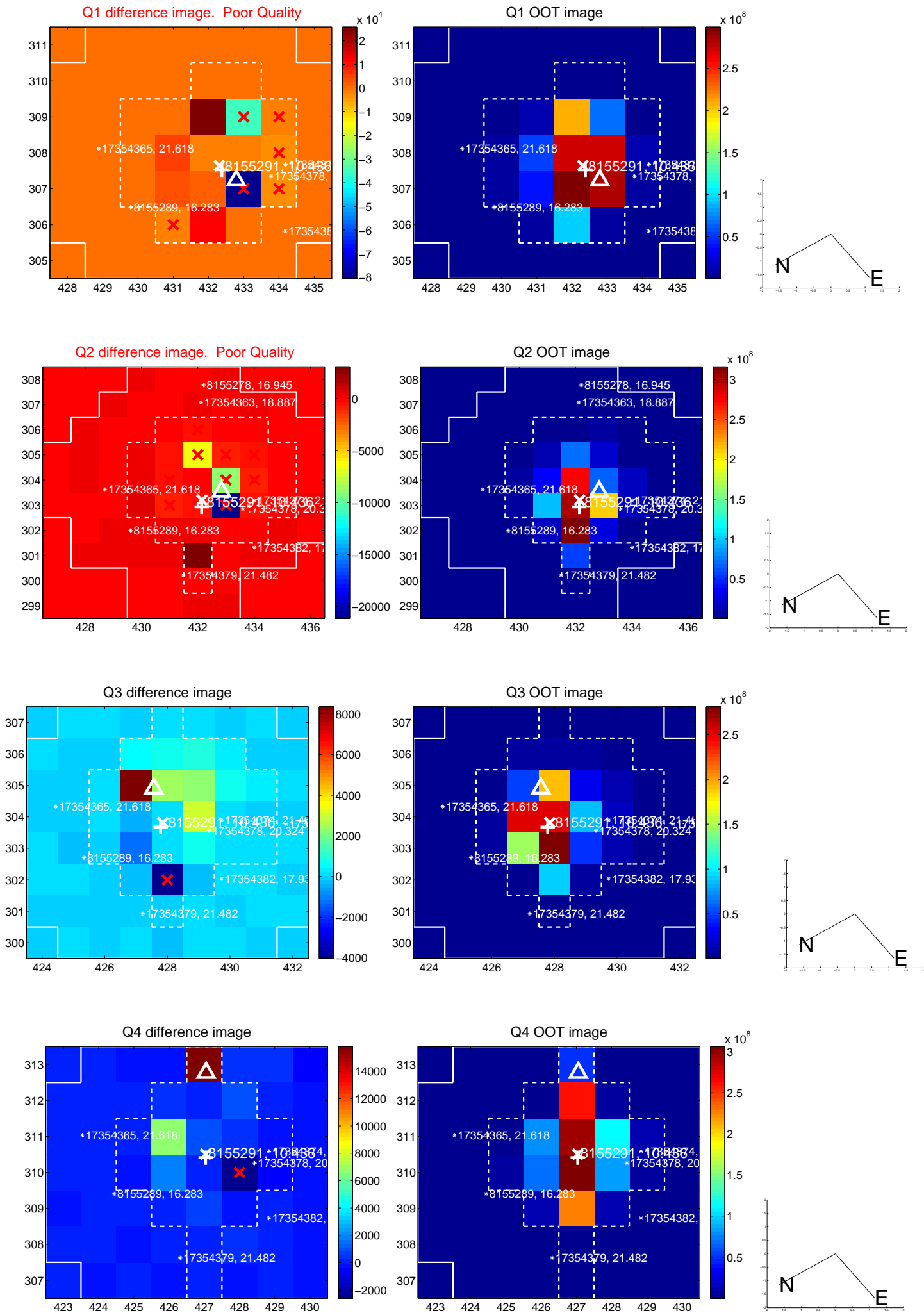


offset from photometric centroids

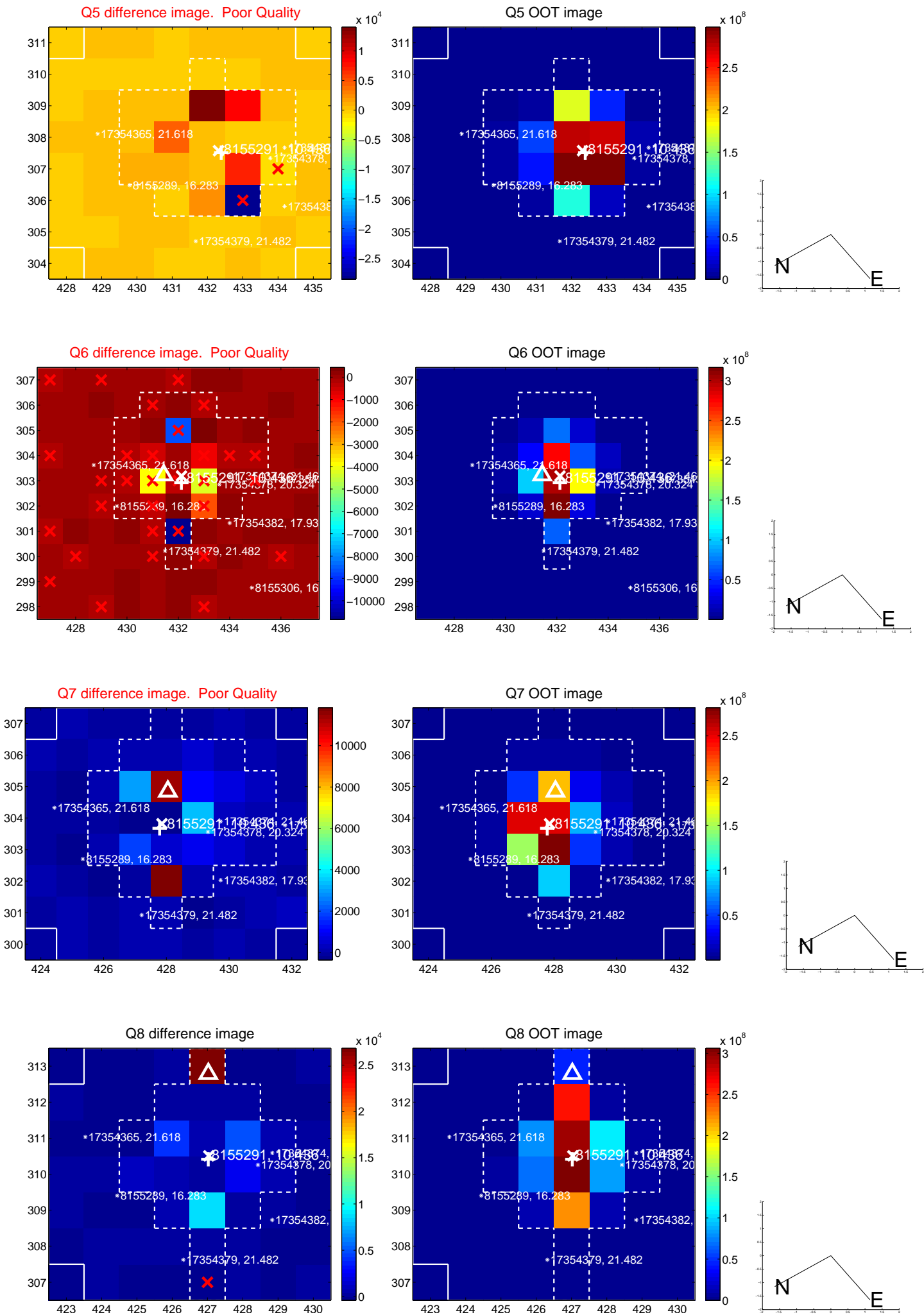


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

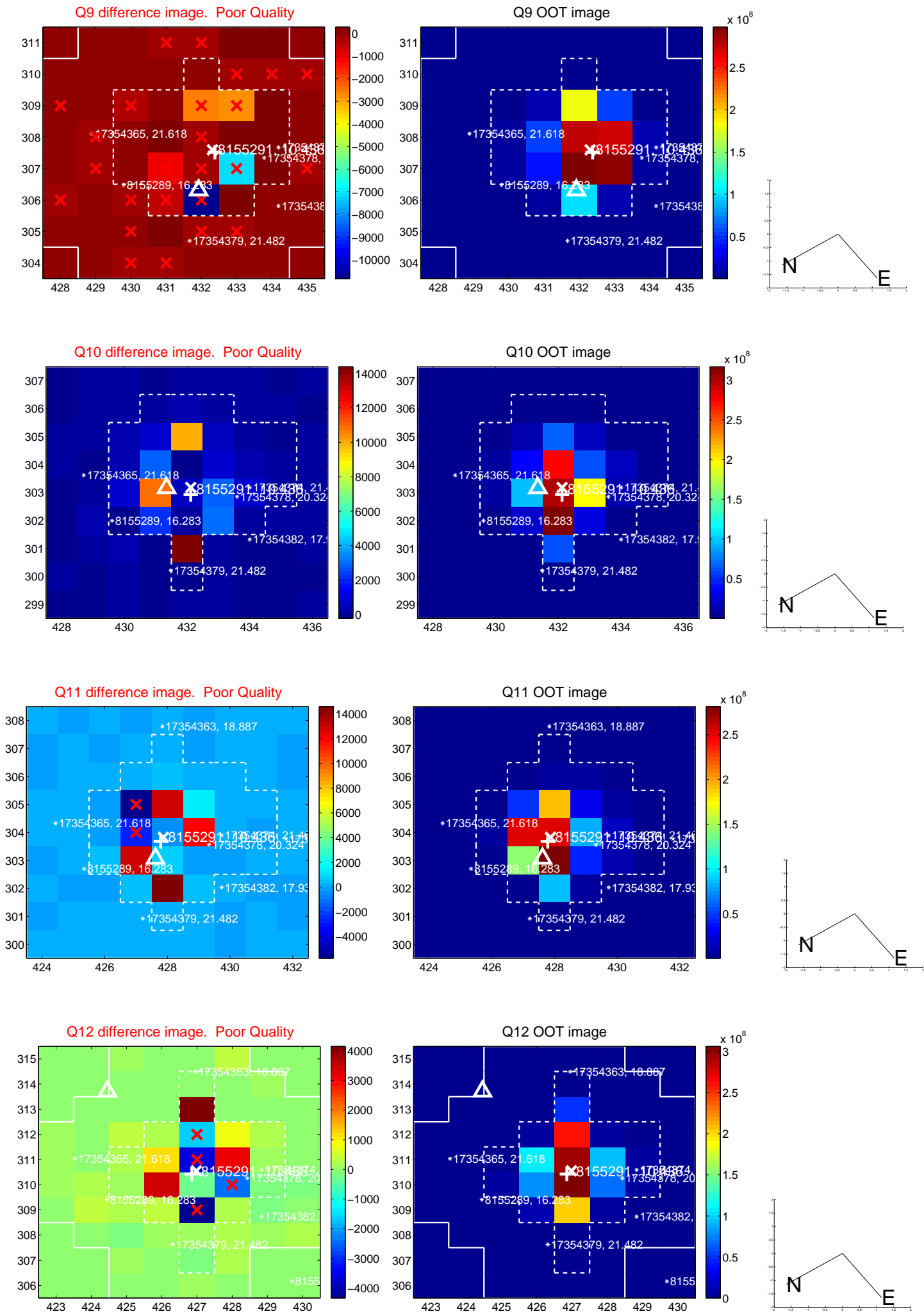
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



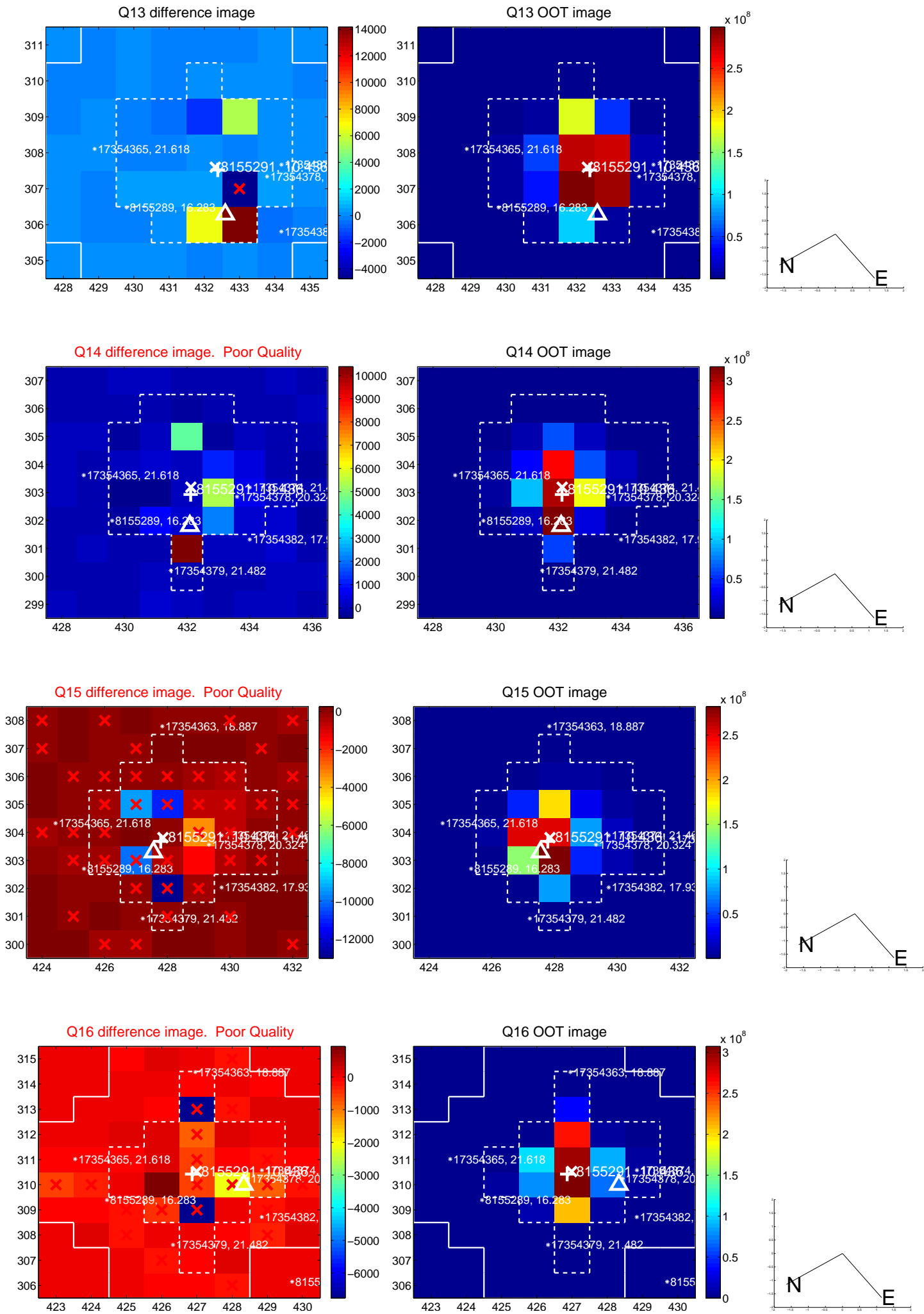
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



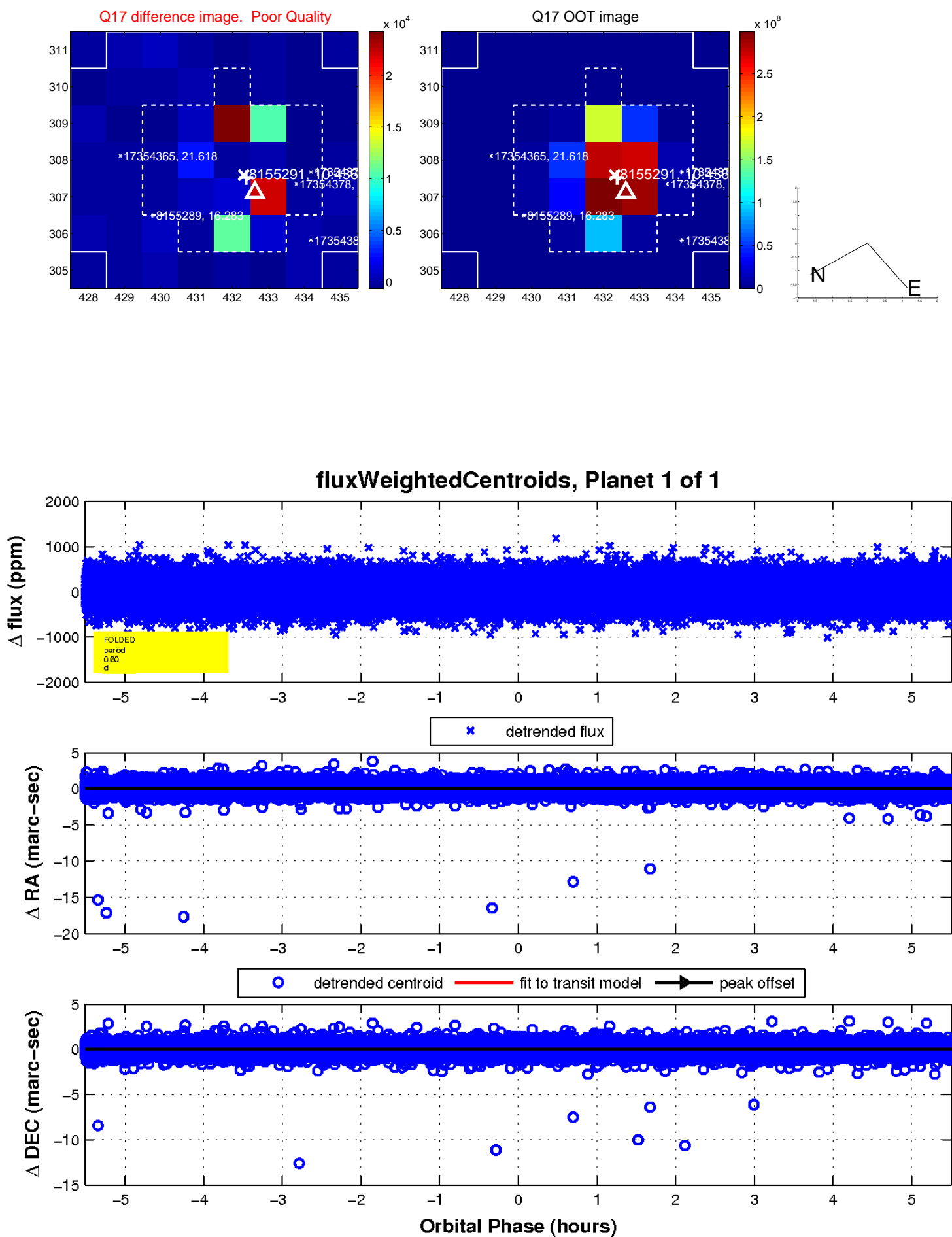
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

