

KIC 007107584

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})
007107584-01	OBS	No	398.247527	438.122428	224.7	12.524	9.1	8.6	1.27	5984	2.06	1.64

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007107584-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—INCONSISTENT_TRANS

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

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

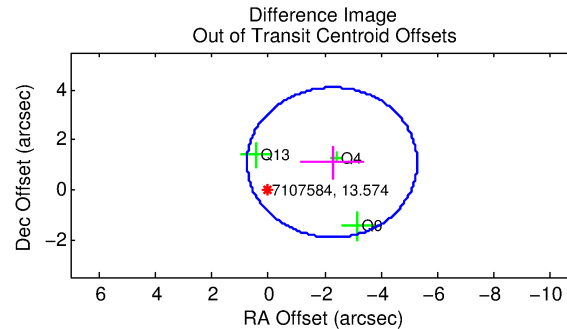
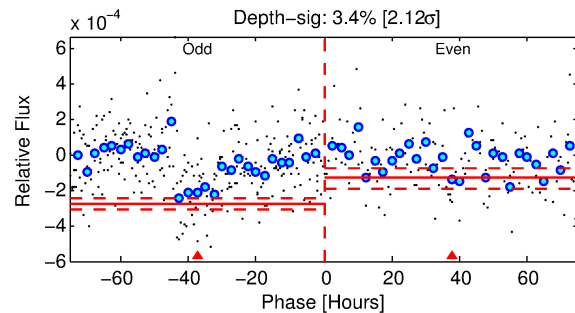
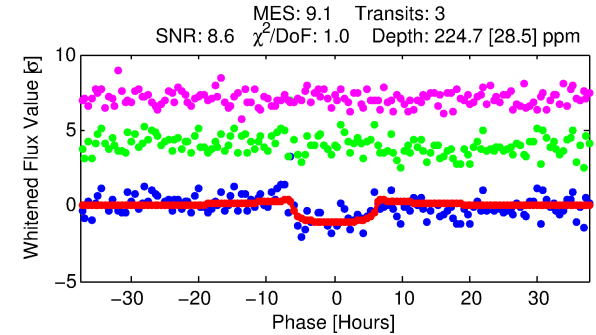
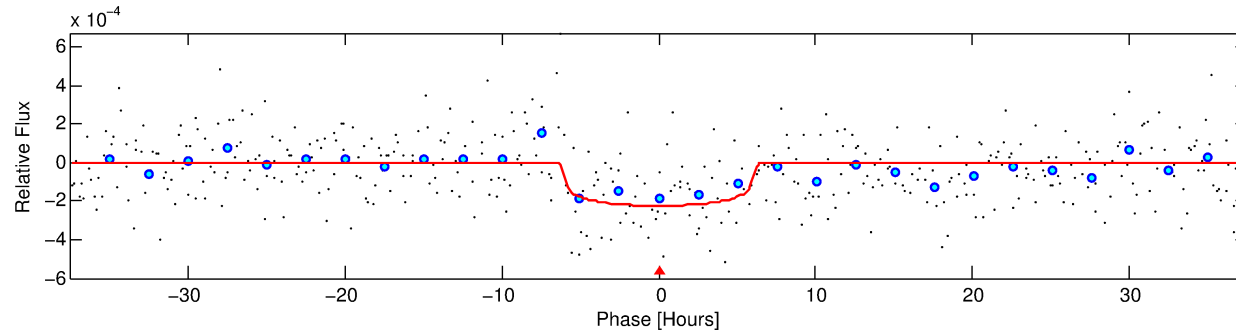
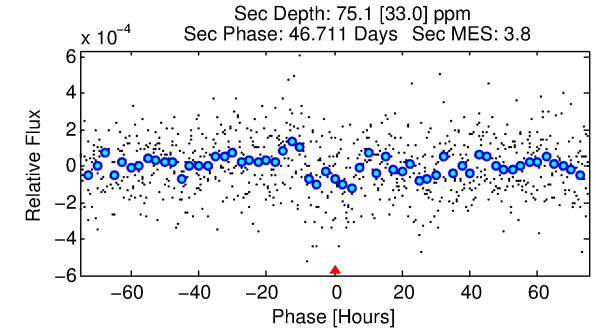
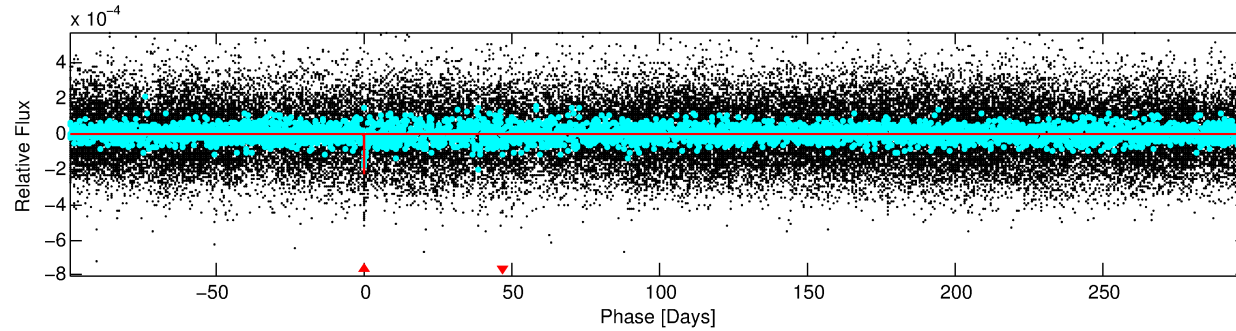
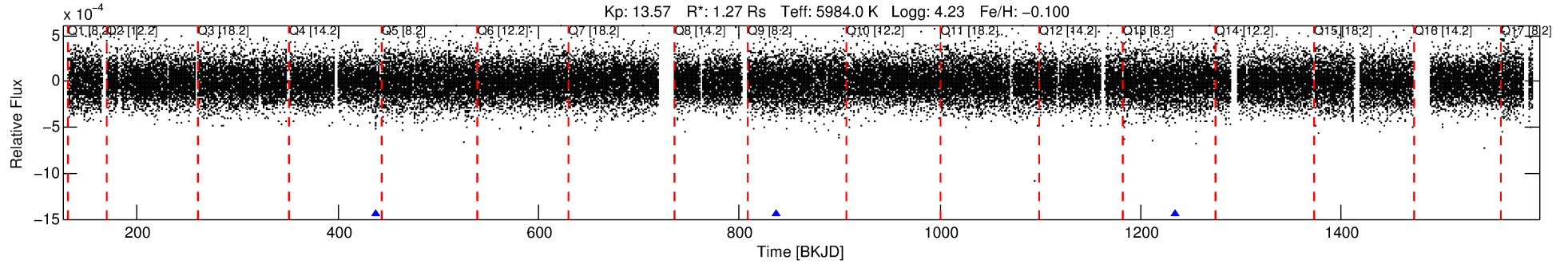
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007107584-01

No Significant Match Found

DV One-Page Summary

KIC: 7107584 Candidate: 1 of 1 Period: 398.248 d



DV Fit Results:

Period = 398.24753 [0.01274] d
Epoch = 438.1224 [0.0153] BKJD
Rp/R* = 0.0149 [0.0067]
a/R* = 167.93 [360.09]
b = 0.74 [1.30]
Seff = 1.64 [0.65]
Teff = 289 [29] K
Rp = 2.06 [1.10] Re
a = 1.0636 [0.2673] AU
Ag = 10959.97 [11697.72] [0.94σ]
Teffp = 4567 [1147] K [3.73σ]

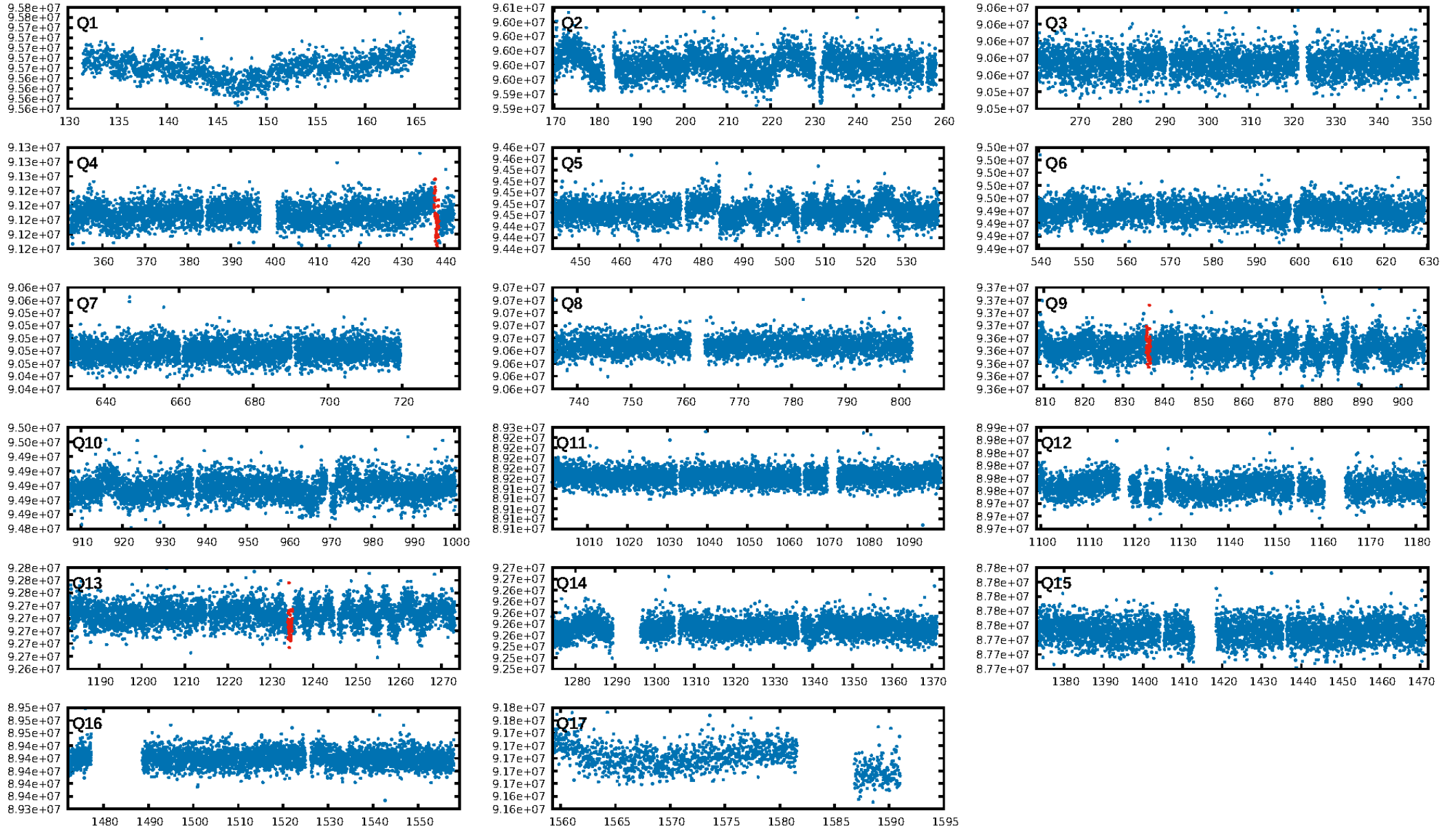
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.6%
ModelChiSquareGof-sig: 95.7%
Bootstrap-pfa: 1.82e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 3.298
Centroid-sig: 0.0%
Centroid-so: 3.150 arcsec [2.36σ]
OotOffset-rm: 2.513 arcsec [2.51σ]
KicOffset-rm: 2.601 arcsec [2.58σ]
OotOffset-st: 0/0/1/2 [3]
KicOffset-st: 0/0/1/2 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

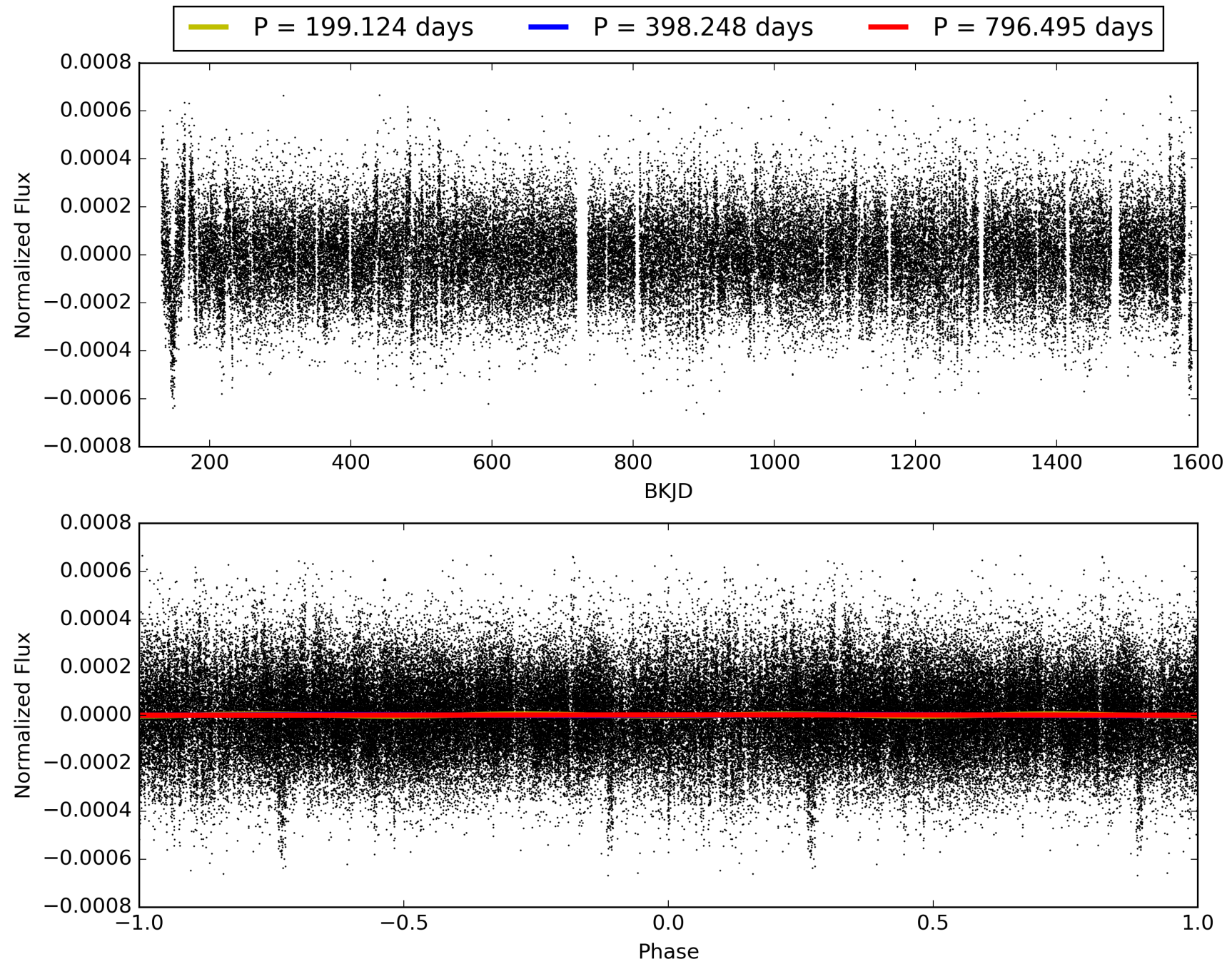
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:36:35 Z

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

TCE 007107584-01, PDC Light Curves

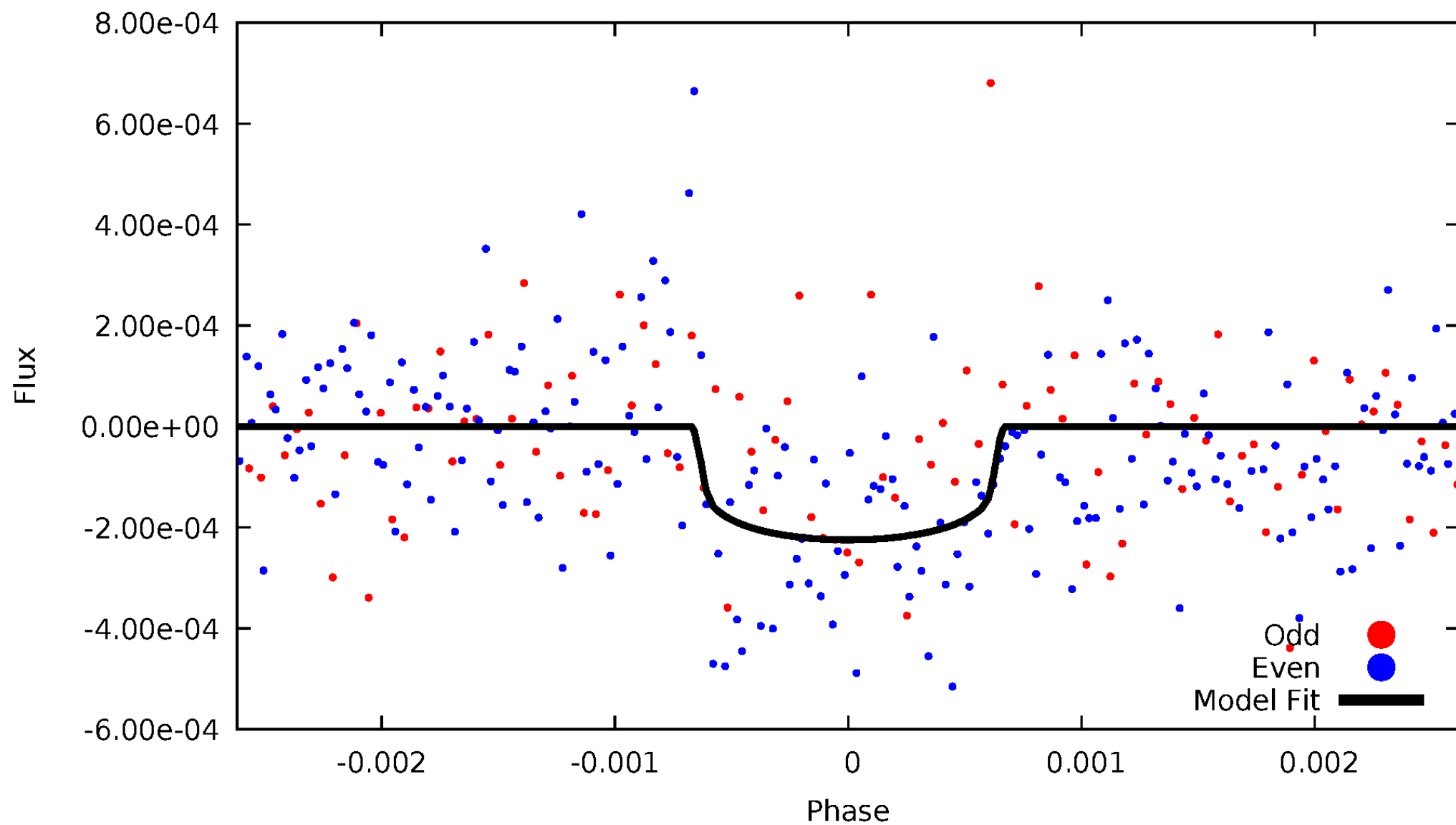


TCE 007107584-01



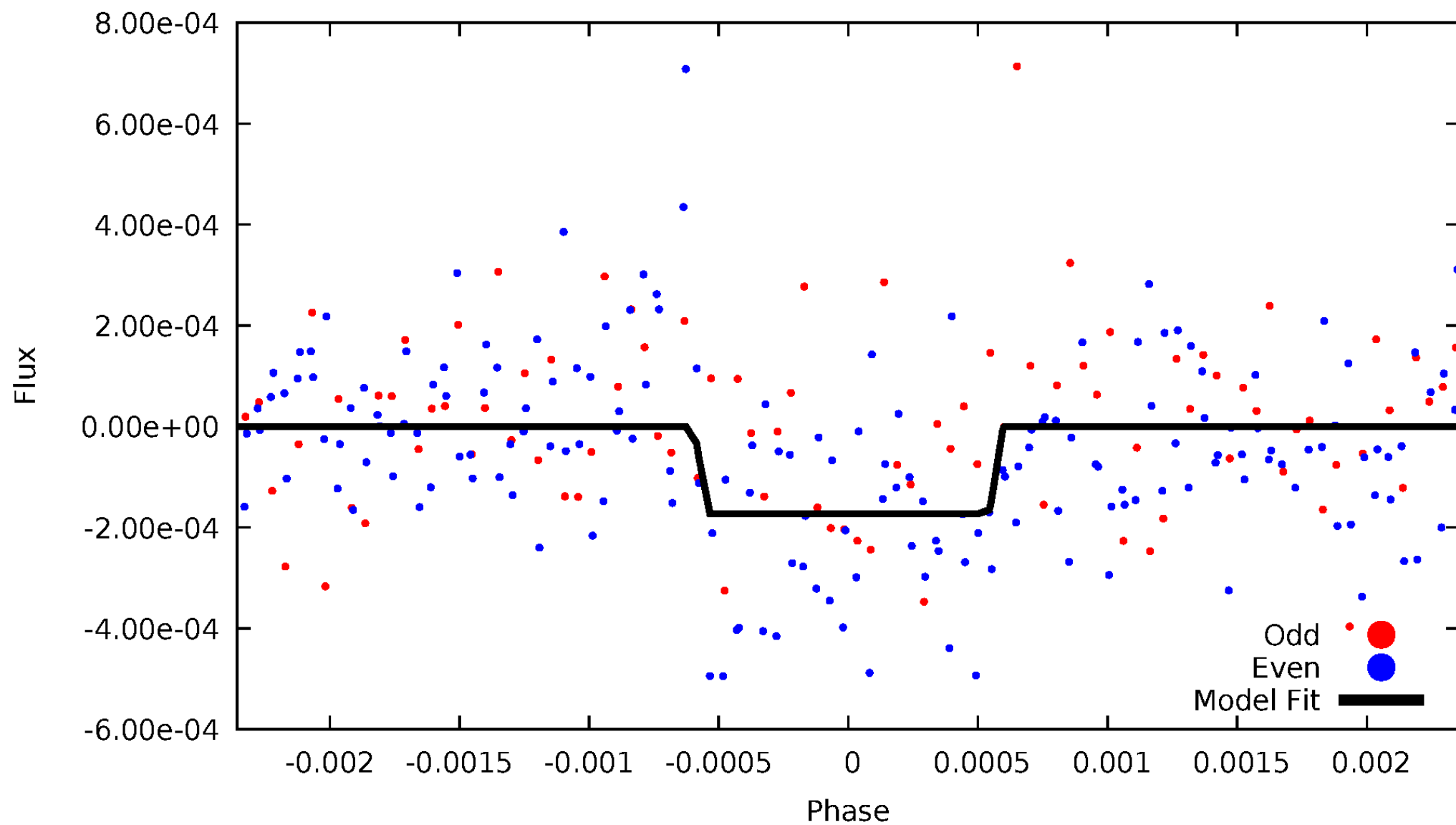
DV Odd/Even

TCE 007107584-01

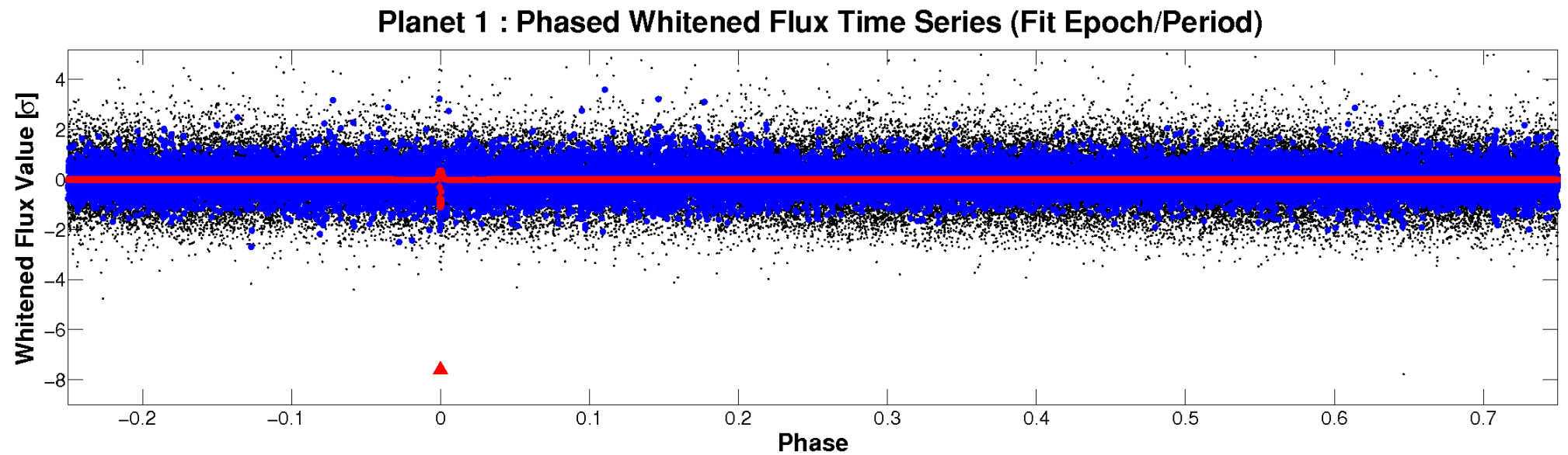
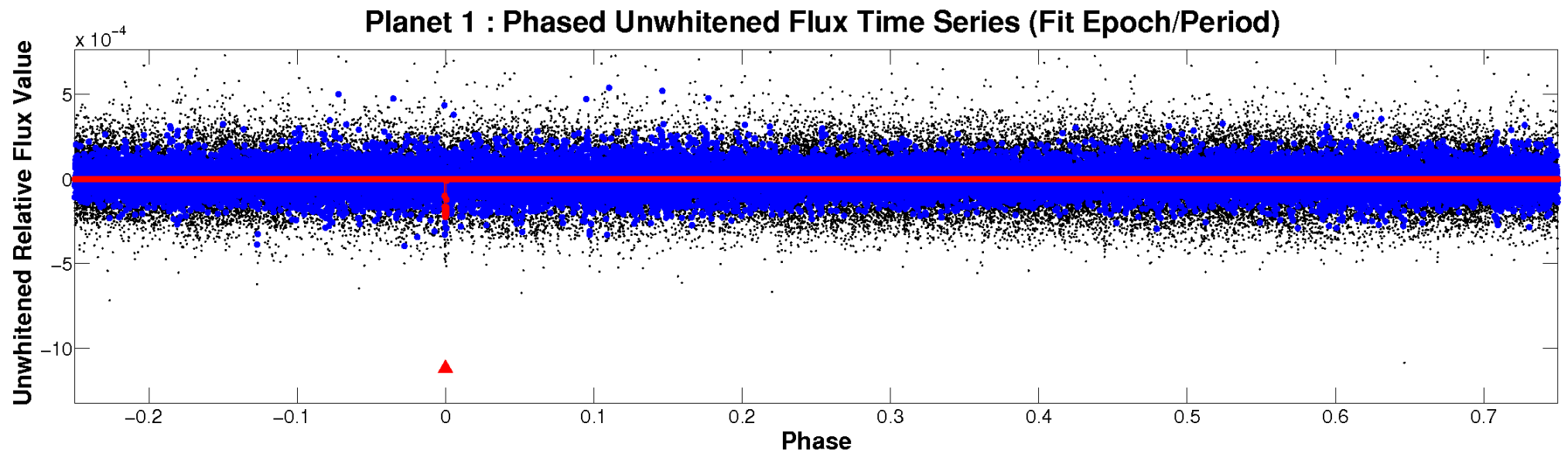


ALT Odd/Even

TCE 007107584-01



Non-Whitened Vs. Whitened Light Curve



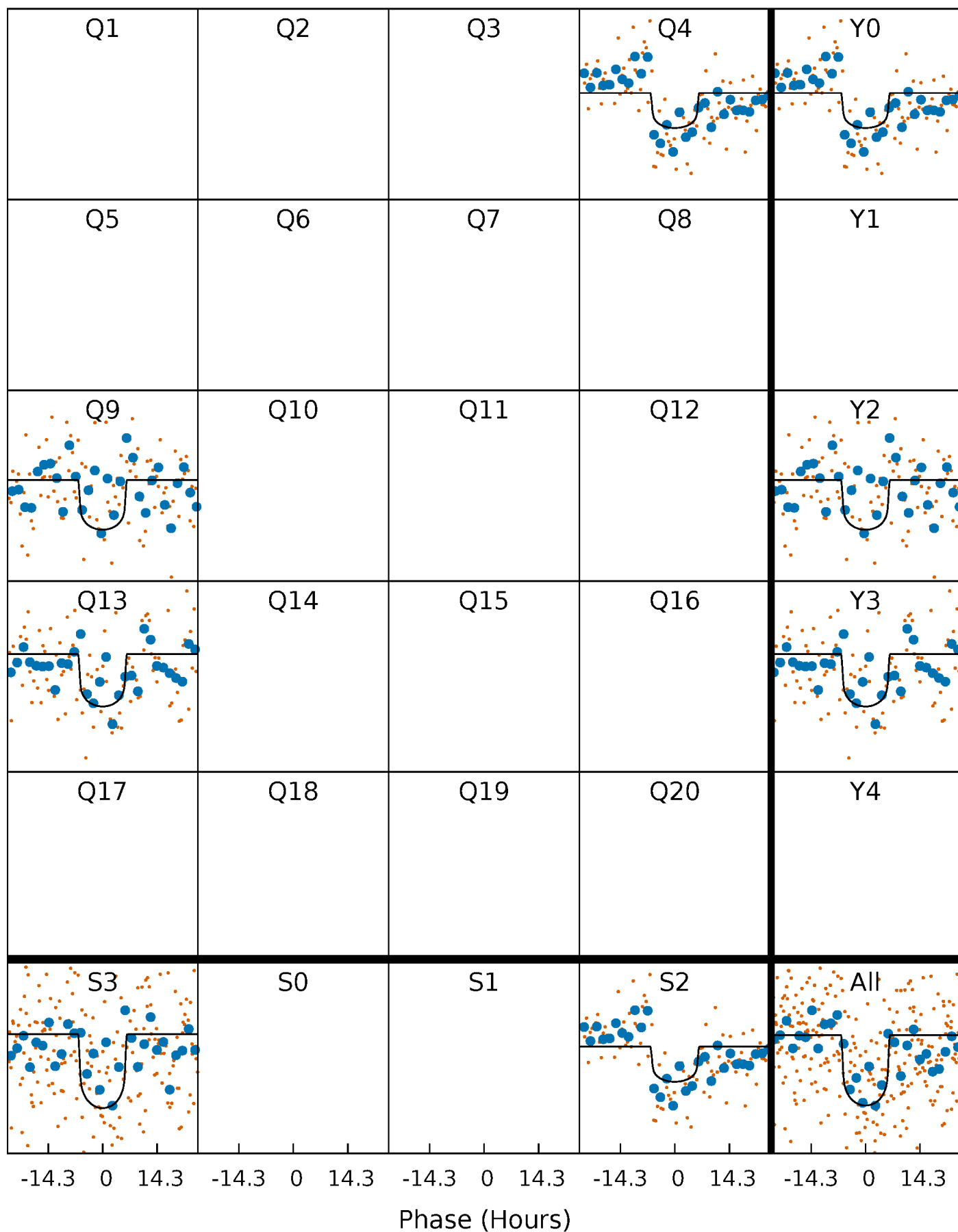
PDC Quarter-Phased Transit Curves

TCE 007107584-01 P=398.247527 Days $T_0=438.122428$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 007107584-01 P=398.247527 Days $T_0=438.122428$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

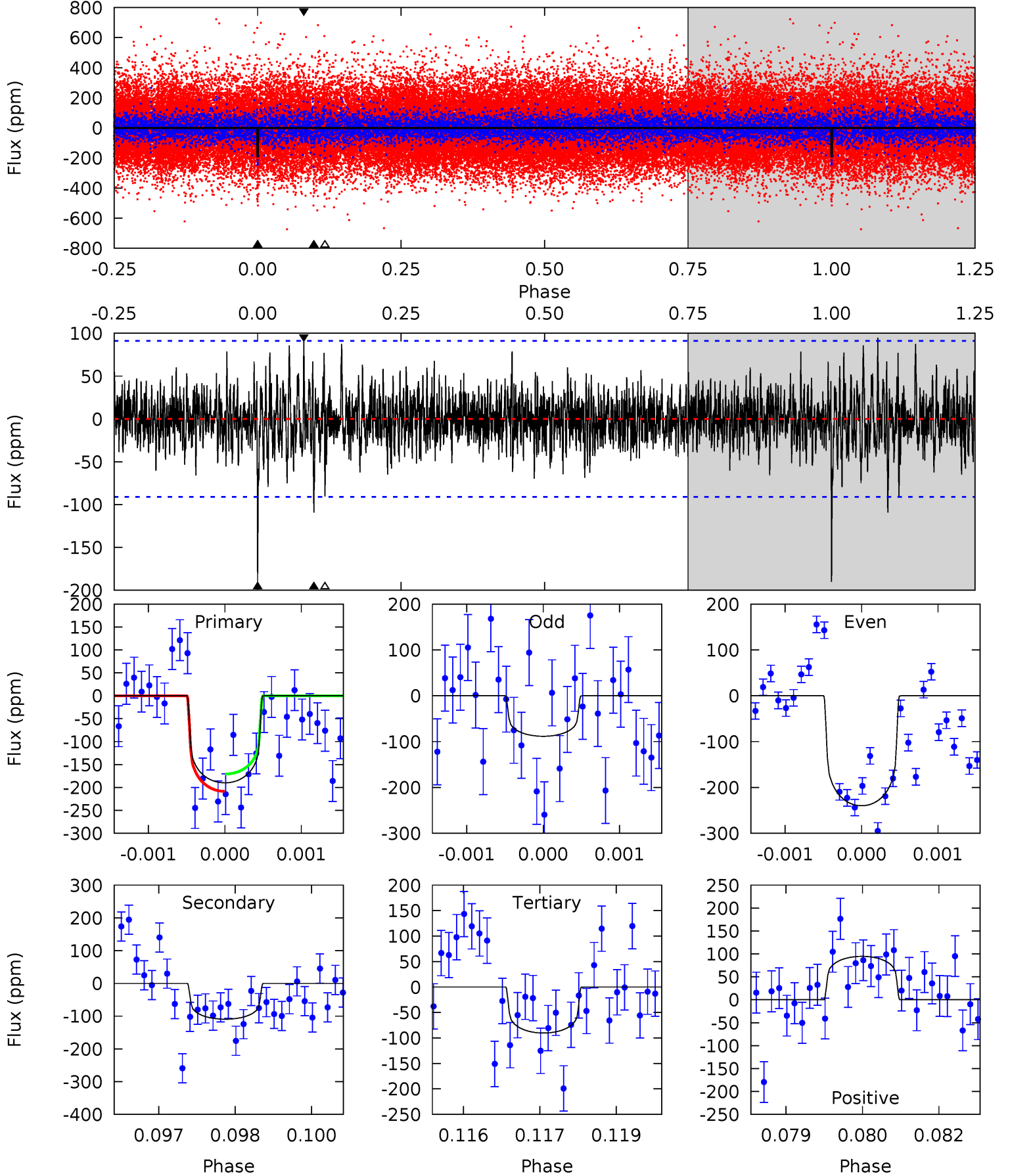
TCE 007107584-01 P=398.250084 Days $T_0=438.103939$ (BKJD)



DV Model-Shift Uniqueness Test

007107584-01, P = 398.247527 Days, E = 39.874901 Days

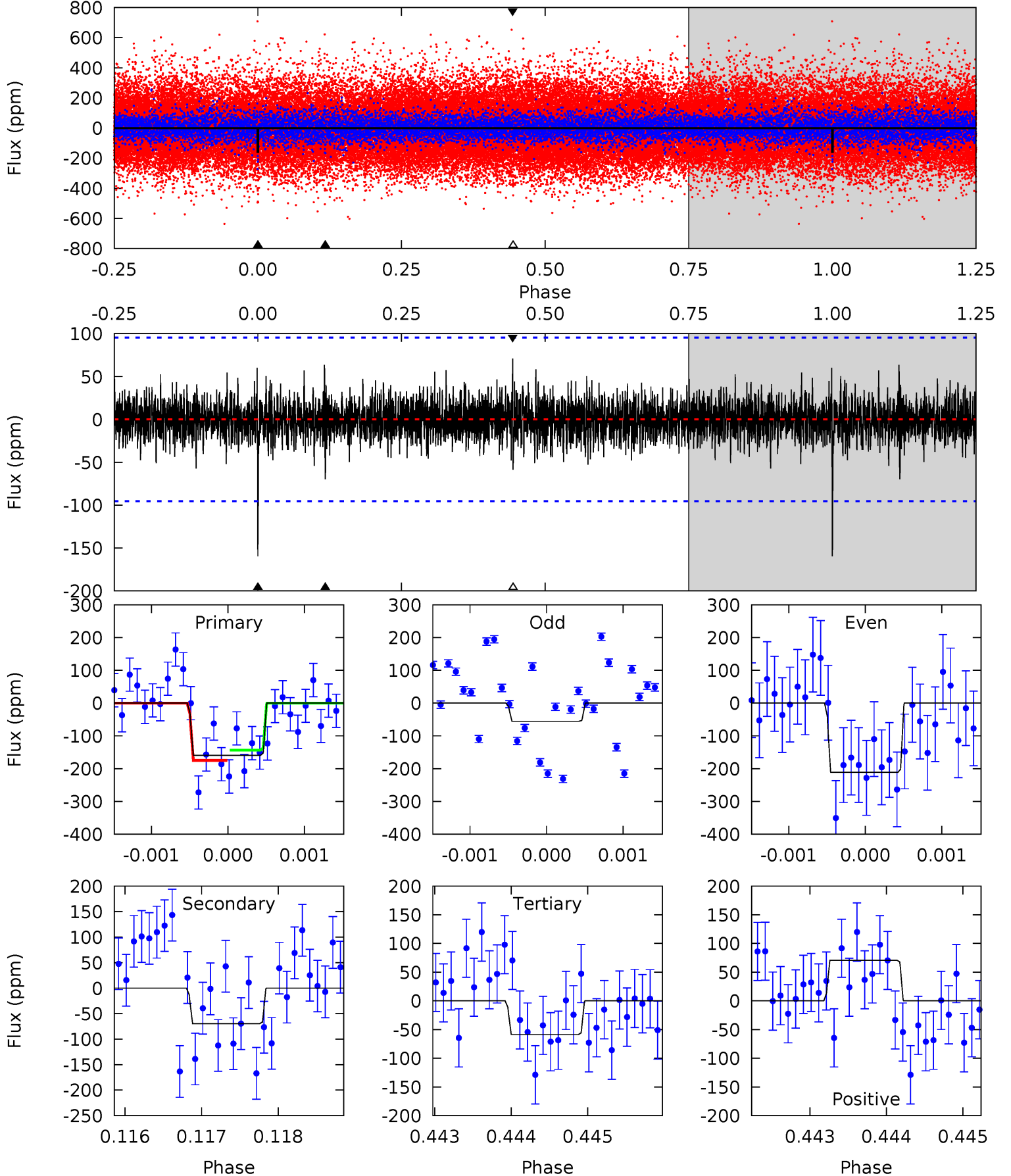
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	6.48	5.35	5.61	5.40	3.20	1.32	5.91	5.65	1.13	0.87	4.24	1.03	0.33	1.12



Alt Model-Shift Uniqueness Test

007107584-01, P = 398.250084 Days, E = 39.853855 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.07	3.95	3.33	4.03	5.42	3.24	0.90	5.74	5.04	0.63	-0.07	4.17	1.27	0.31	0.88



Stellar Parameters For KIC 007107584

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5984^{+162}_{-180}	$4.234^{+0.214}_{-0.175}$	$-0.100^{+0.300}_{-0.300}$	$1.272^{+0.363}_{-0.297}$	$1.012^{+0.153}_{-0.126}$	$0.692^{+0.796}_{-0.320}$
	+3%/-3%	+5%/-4%	+300%/-300%	+29%/-23%	+15%/-12%	+115%/-46%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007107584-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-109 ± 17	$2.05^{+1.08}_{-0.83}$	403^{+32}_{-32}	5031^{+1526}_{-692}	16501^{+28910}_{-9527}
Alt.	-70 ± 18	$1.80^{+0.97}_{-0.88}$	401^{+30}_{-28}	4856^{+1640}_{-748}	12904^{+36872}_{-7516}

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 $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

DV Centroid Data

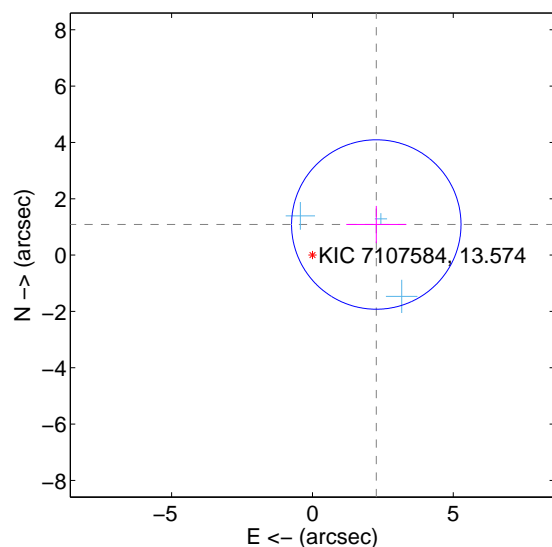
Supplemental centroid analysis for 007107584-01. Kepler magnitude: 13.57. Transit SNR 8.59

There are 3 quarters with good PRF difference image offsets

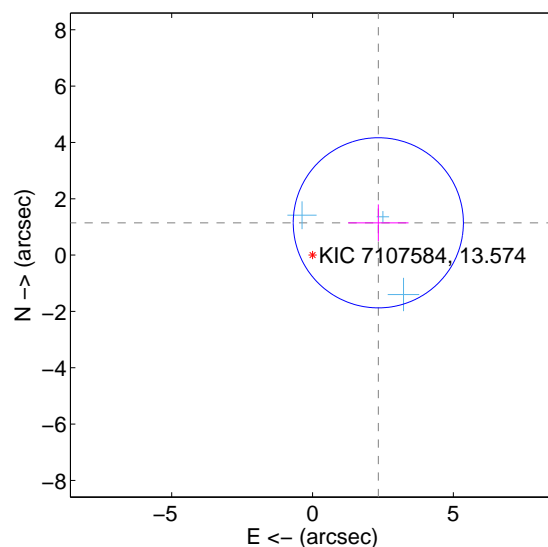
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.513 ± 1.002	2.51	-2.266 ± 1.065	1.086 ± 0.660
PRF-fit source offset from KIC position	2.601 ± 1.006	2.58	-2.335 ± 1.075	1.146 ± 0.651
photometric centroid source offset	3.15 ± 1.34	2.36	-1.83 ± 1.32	2.56 ± 1.34

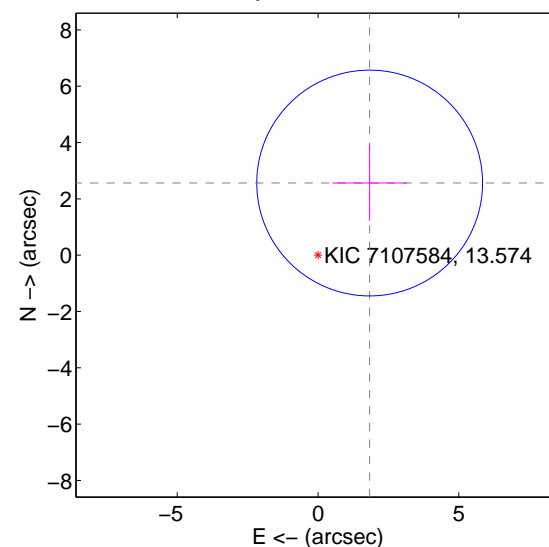
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

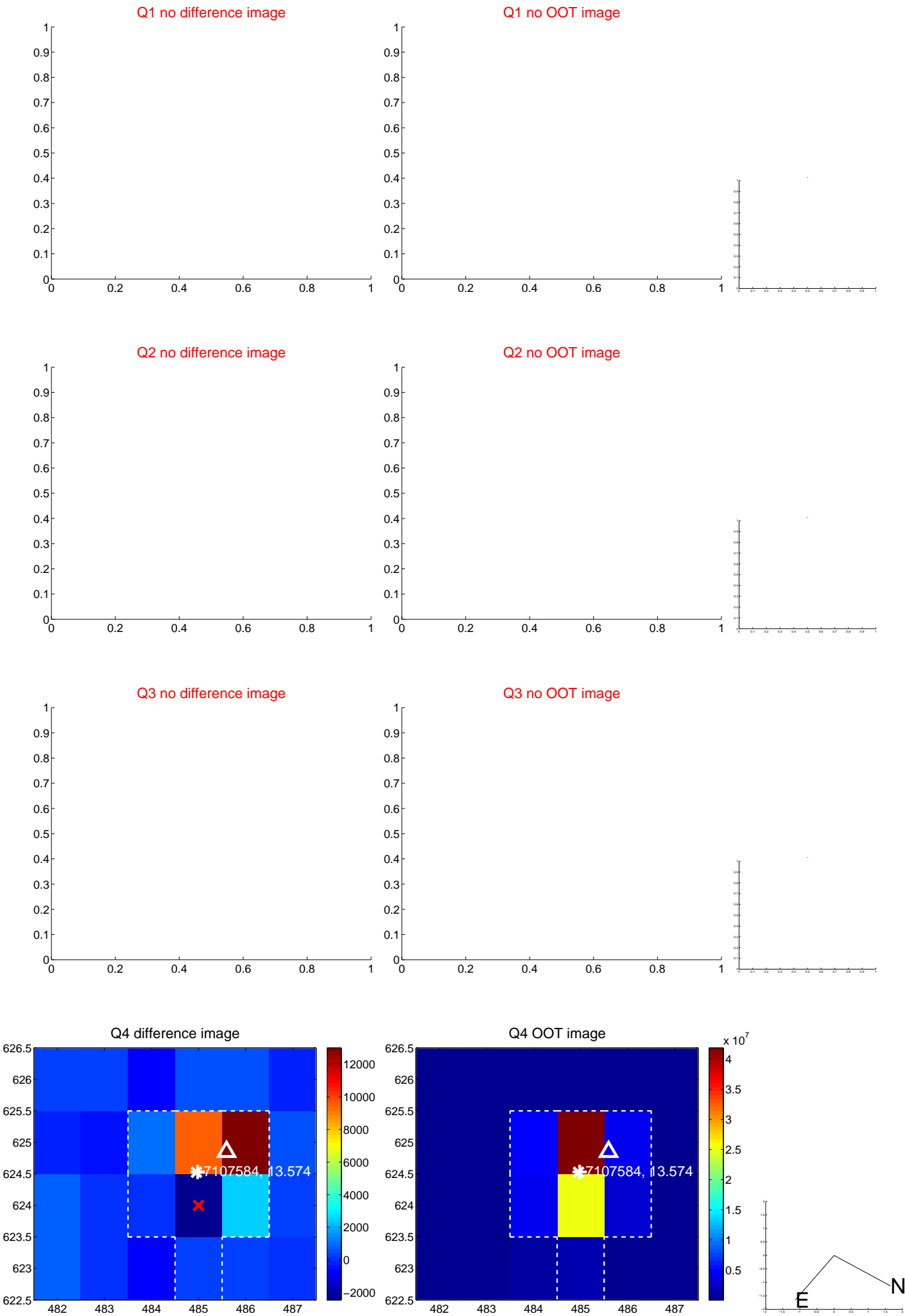


offset from photometric centroids



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.

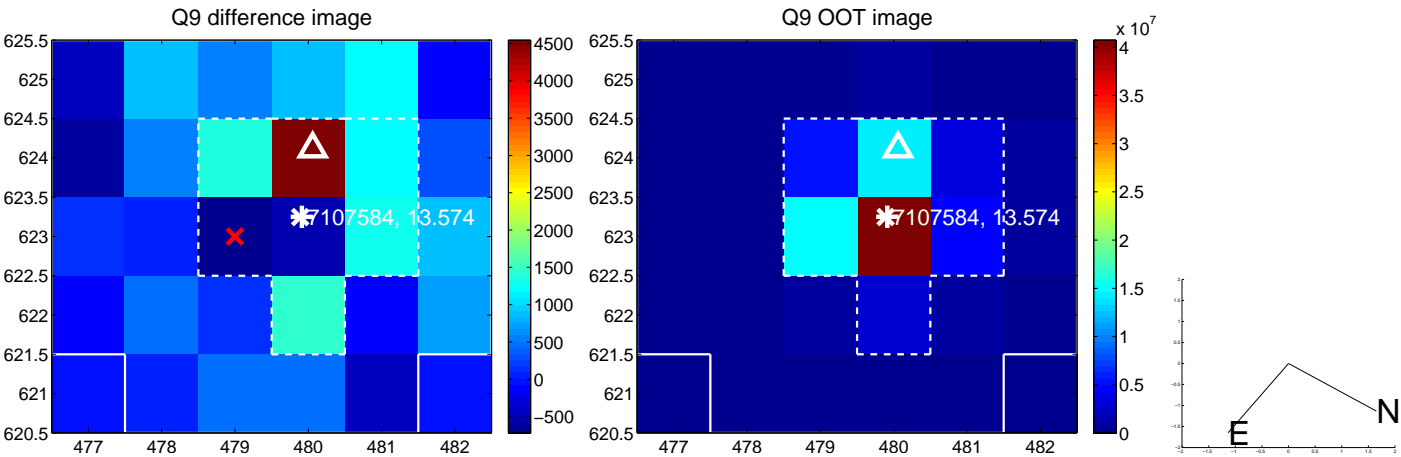
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



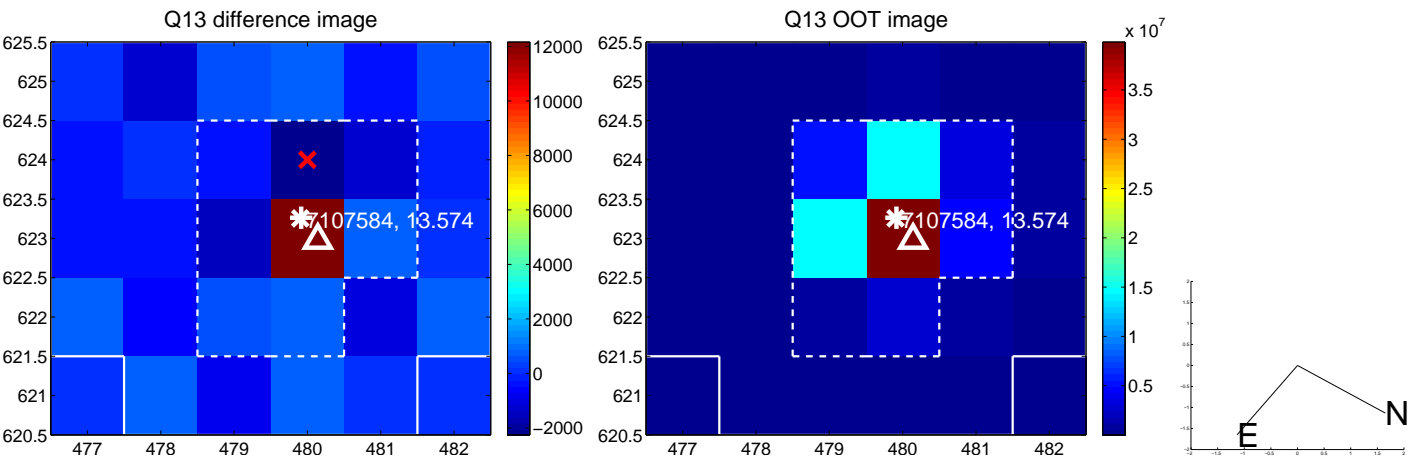
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



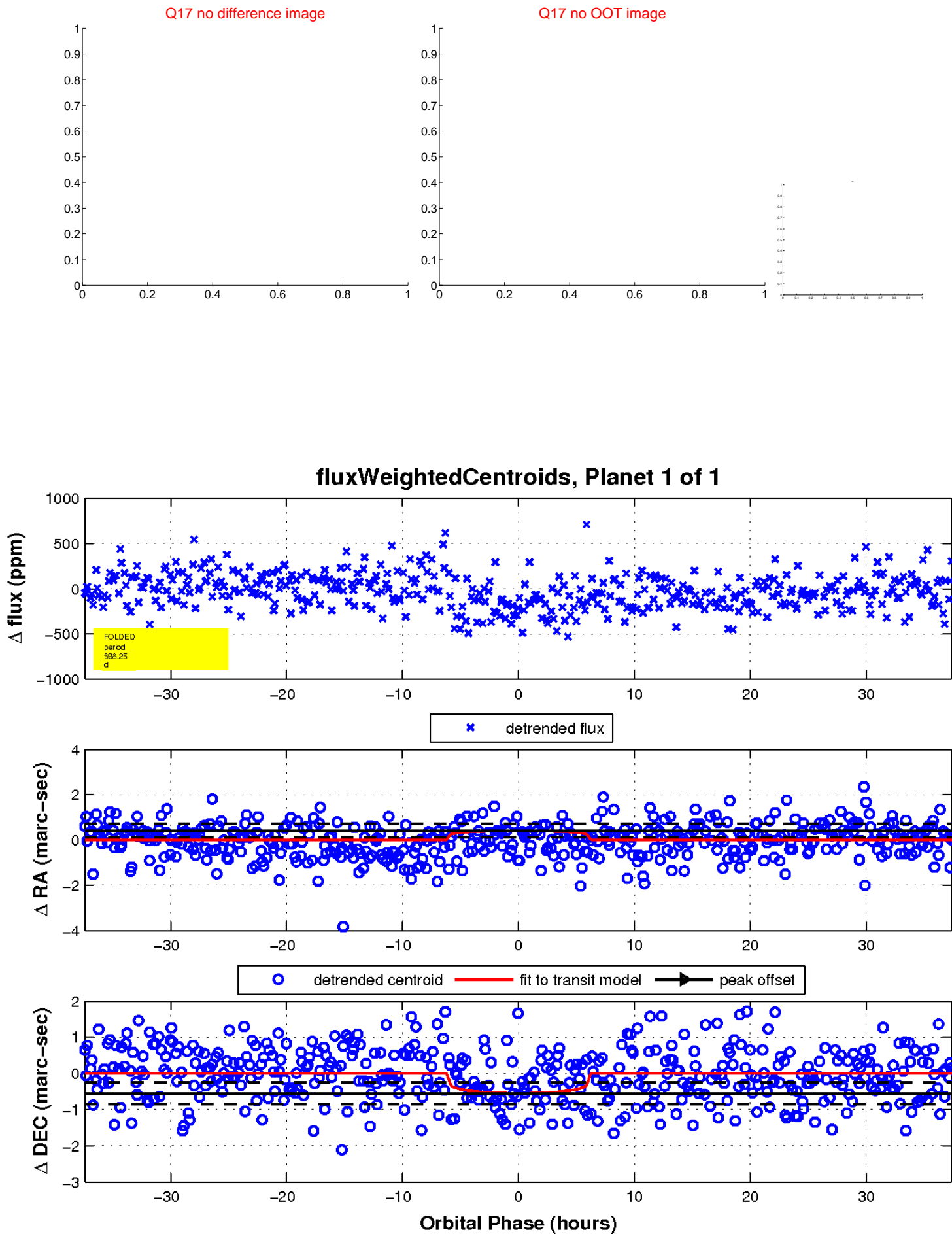
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

