

KIC 012884536

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})
012884536-01	OBS	No	546.184980	428.822442	210.6	20.794	9.2	10.9	2.42	5977	3.77	3.68

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012884536-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

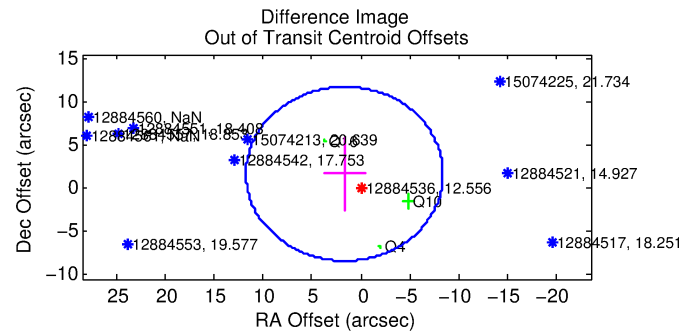
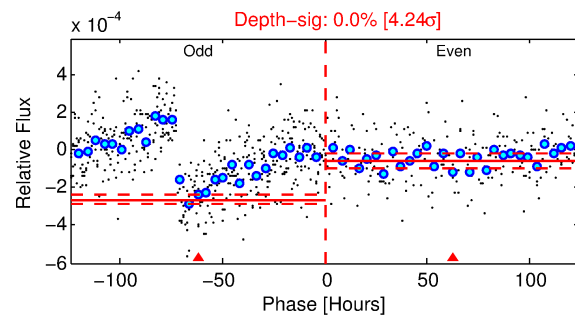
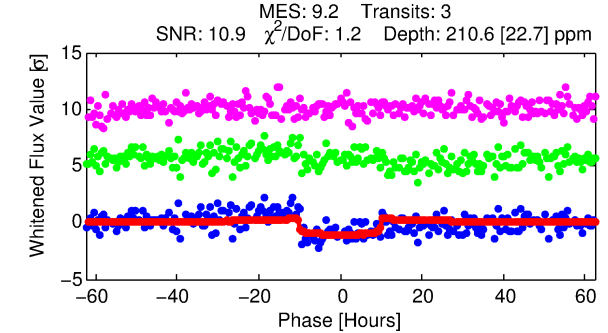
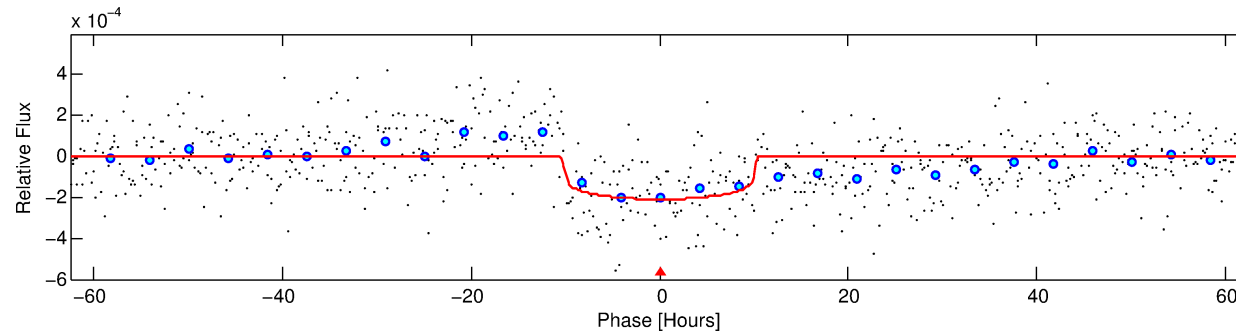
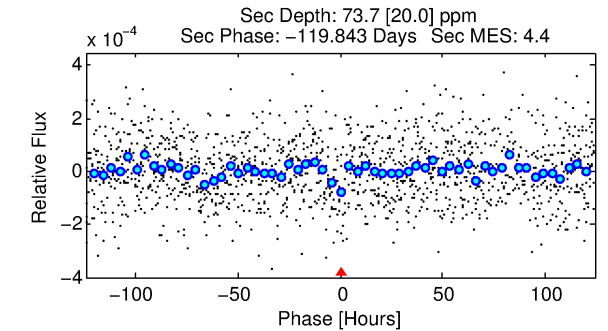
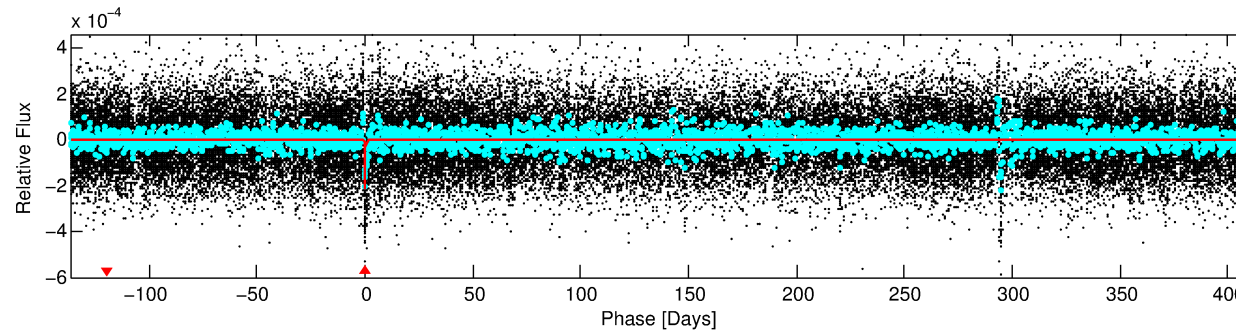
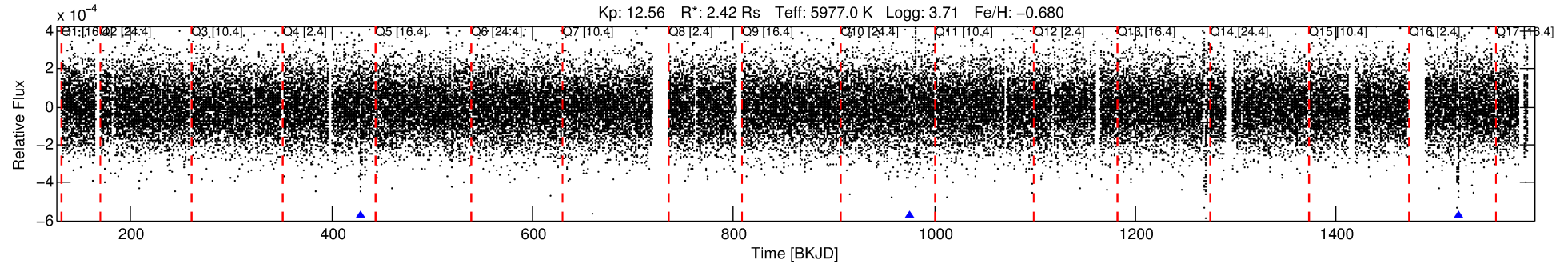
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012884536-01

No Significant Match Found

DV One-Page Summary

KIC: 12884536 Candidate: 1 of 1 Period: 546.185 d



DV Fit Results:

Period = 546.18498 [0.01426] d
Epoch = 428.8224 [0.0182] BKJD
Rp/R* = 0.0143 [0.0031]
a/R* = 144.47 [154.04]
b = 0.71 [0.74]
Seff = 3.68 [1.93]
Teq = 353 [46] K
Rp = 3.77 [1.52] Re
a = 1.3494 [0.4368] AU
Ag = 5192.86 [3756.38] [1.38σ]
Teffp = 4635 [602] K [7.09σ]

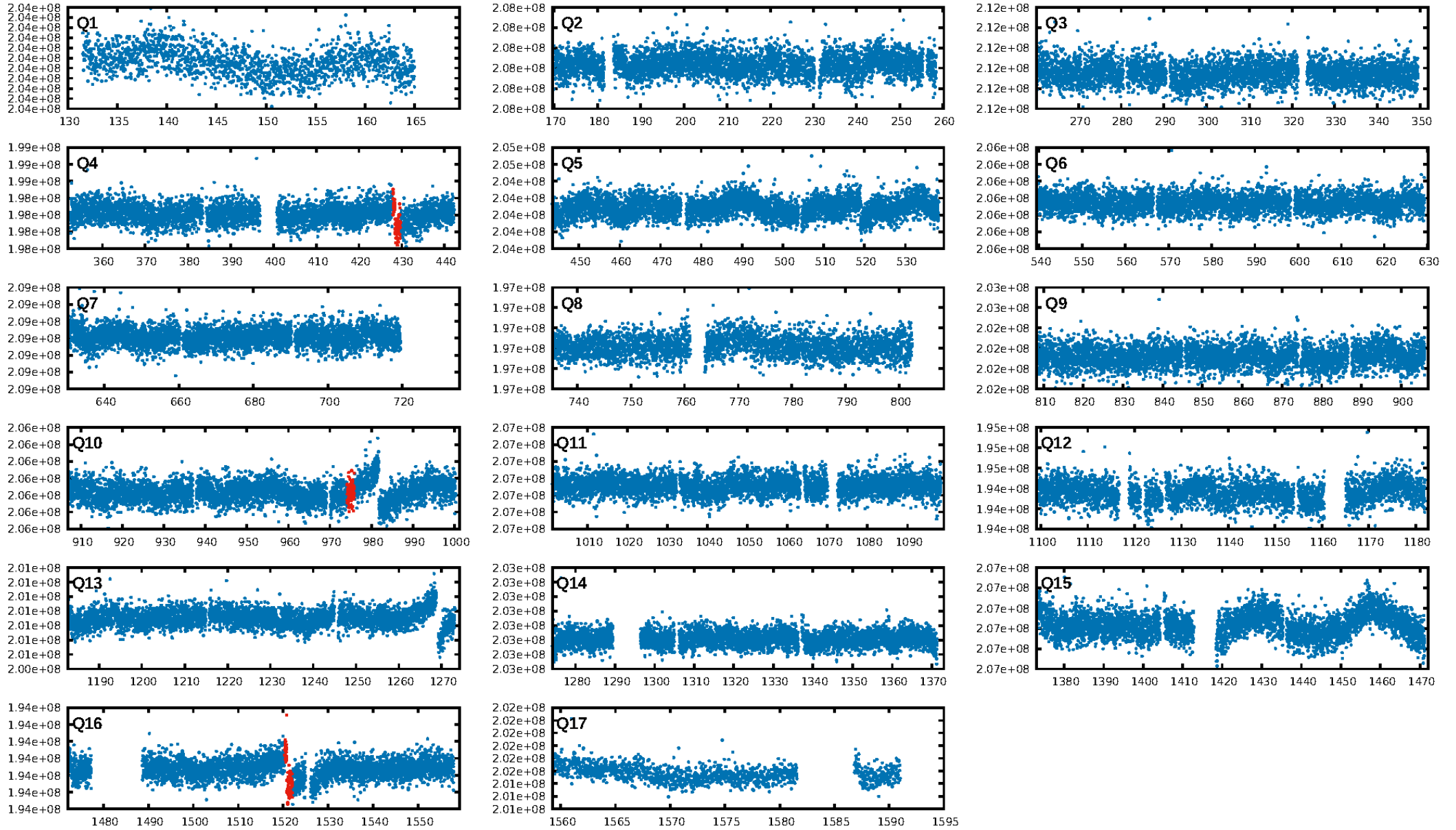
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.3%
ModelChiSquareGof-sig: 95.2%
Bootstrap-pfa: 5.86e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.681
Centroid-sig: 93.2%
Centroid-so: 0.694 arcsec [0.54σ]
OotOffset-rm: 2.364 arcsec [0.70σ]
OotOffset-st: 1/0/2/0 [3]
KicOffset-rm: 2.527 arcsec [0.71σ]
KicOffset-st: 1/0/2/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

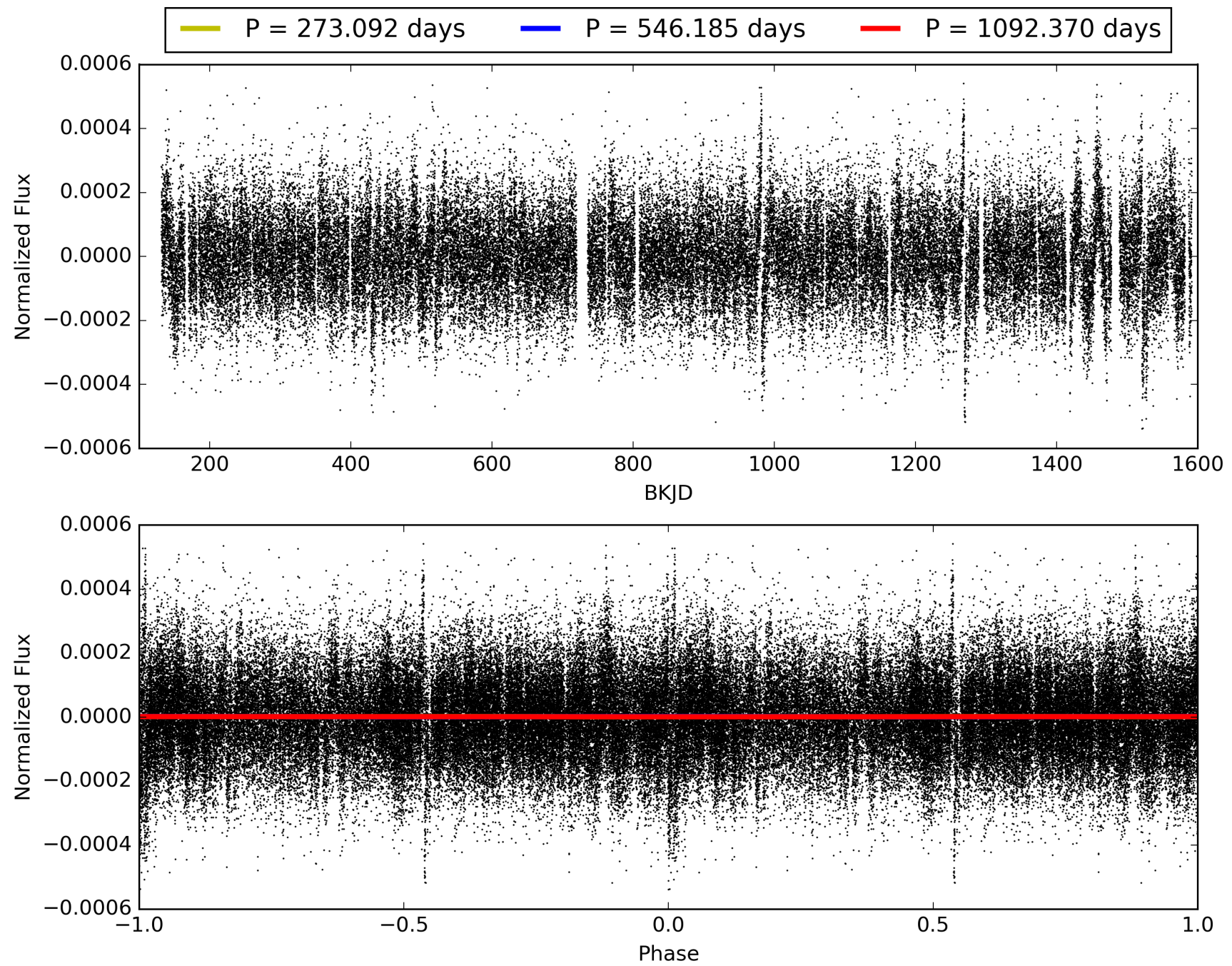
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:38:57 Z

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

TCE 012884536-01, PDC Light Curves

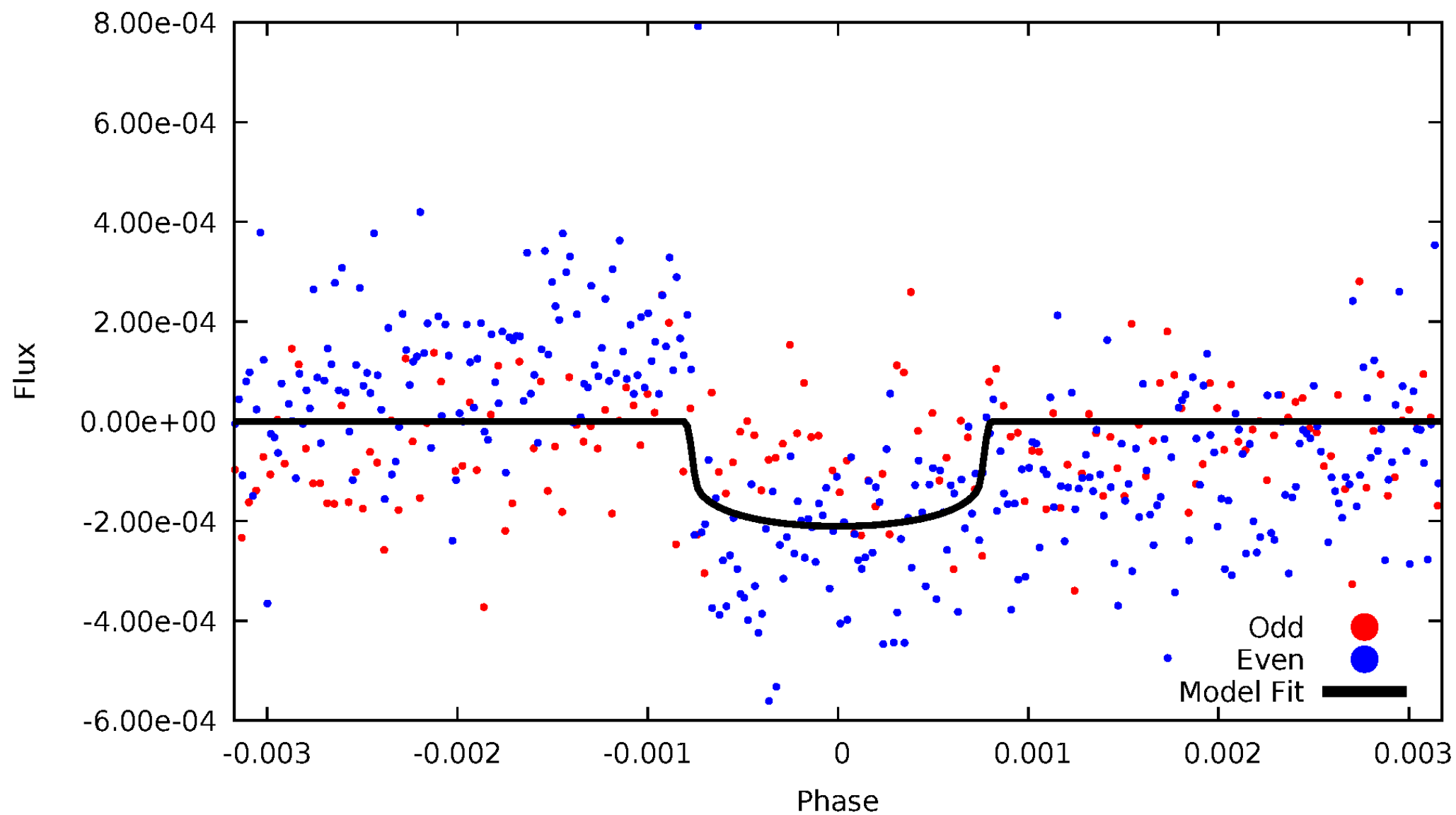


TCE 012884536-01



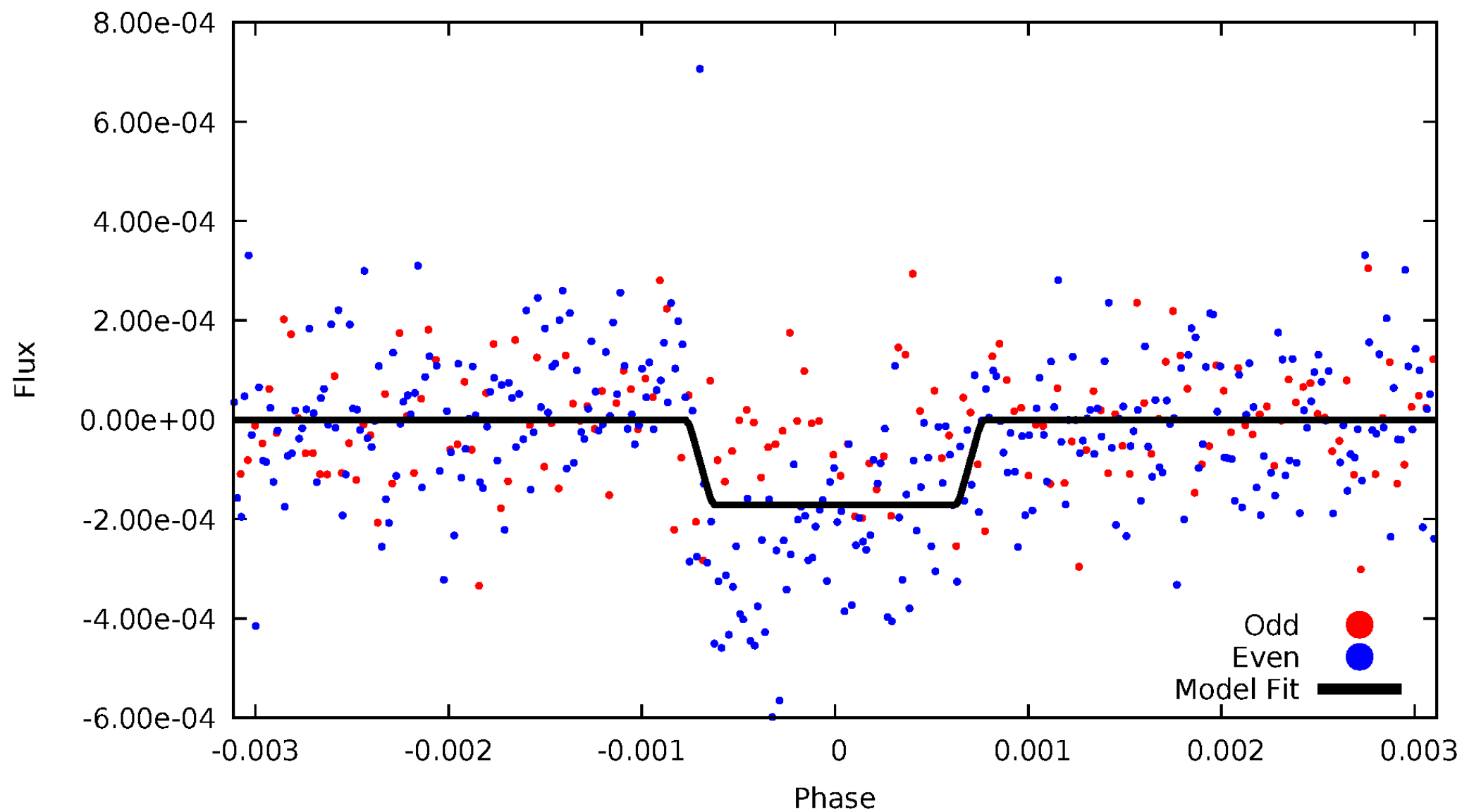
DV Odd/Even

TCE 012884536-01

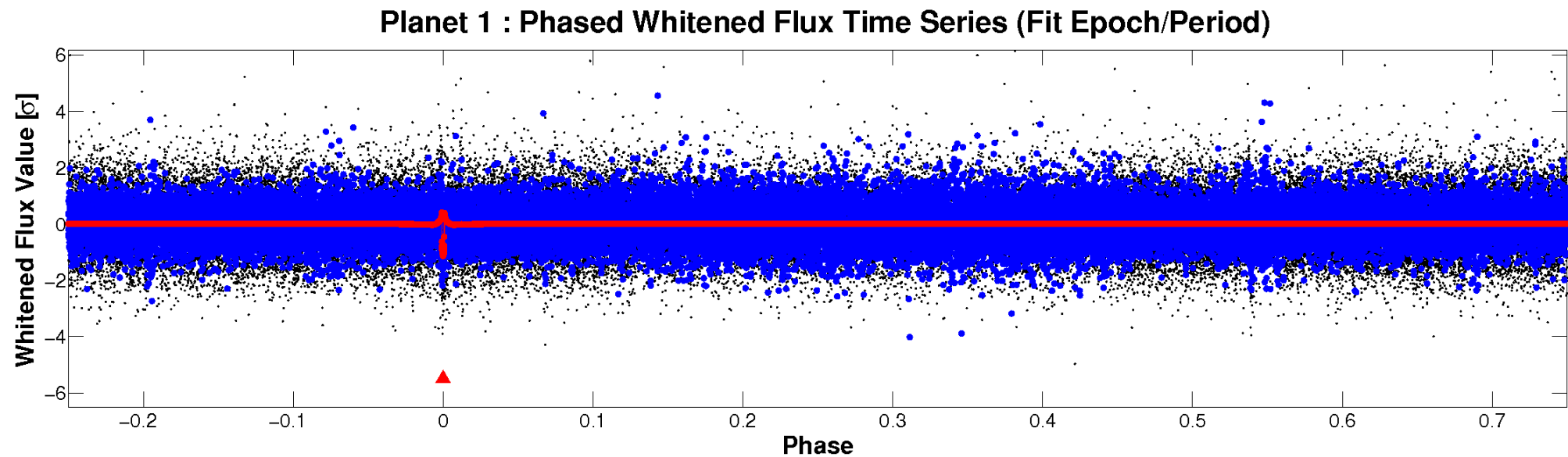
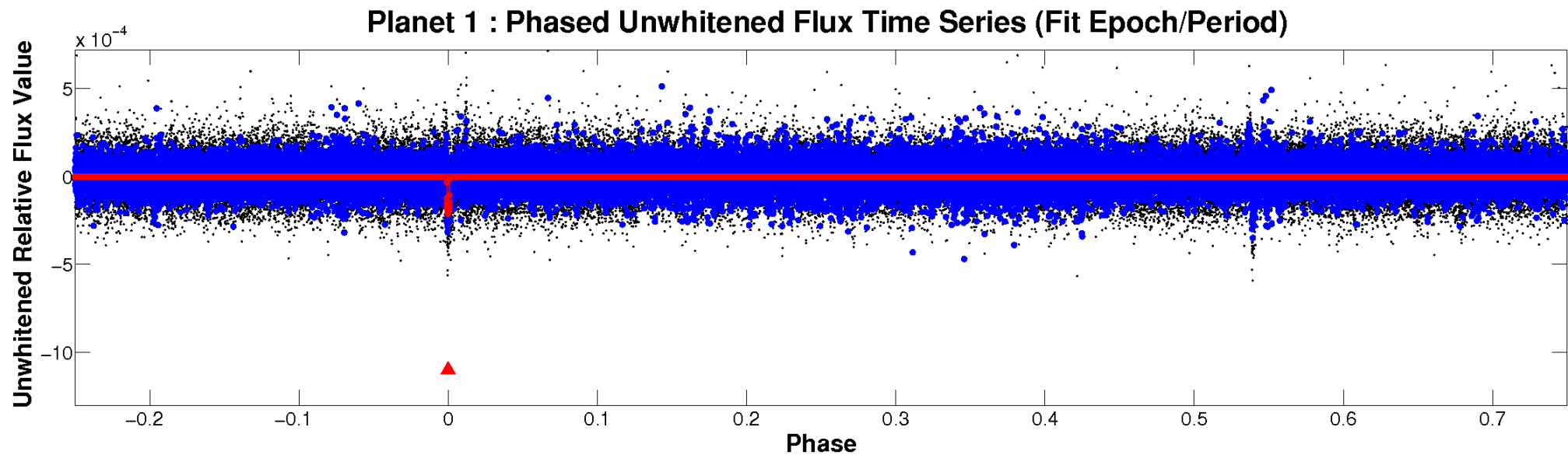


ALT Odd/Even

TCE 012884536-01

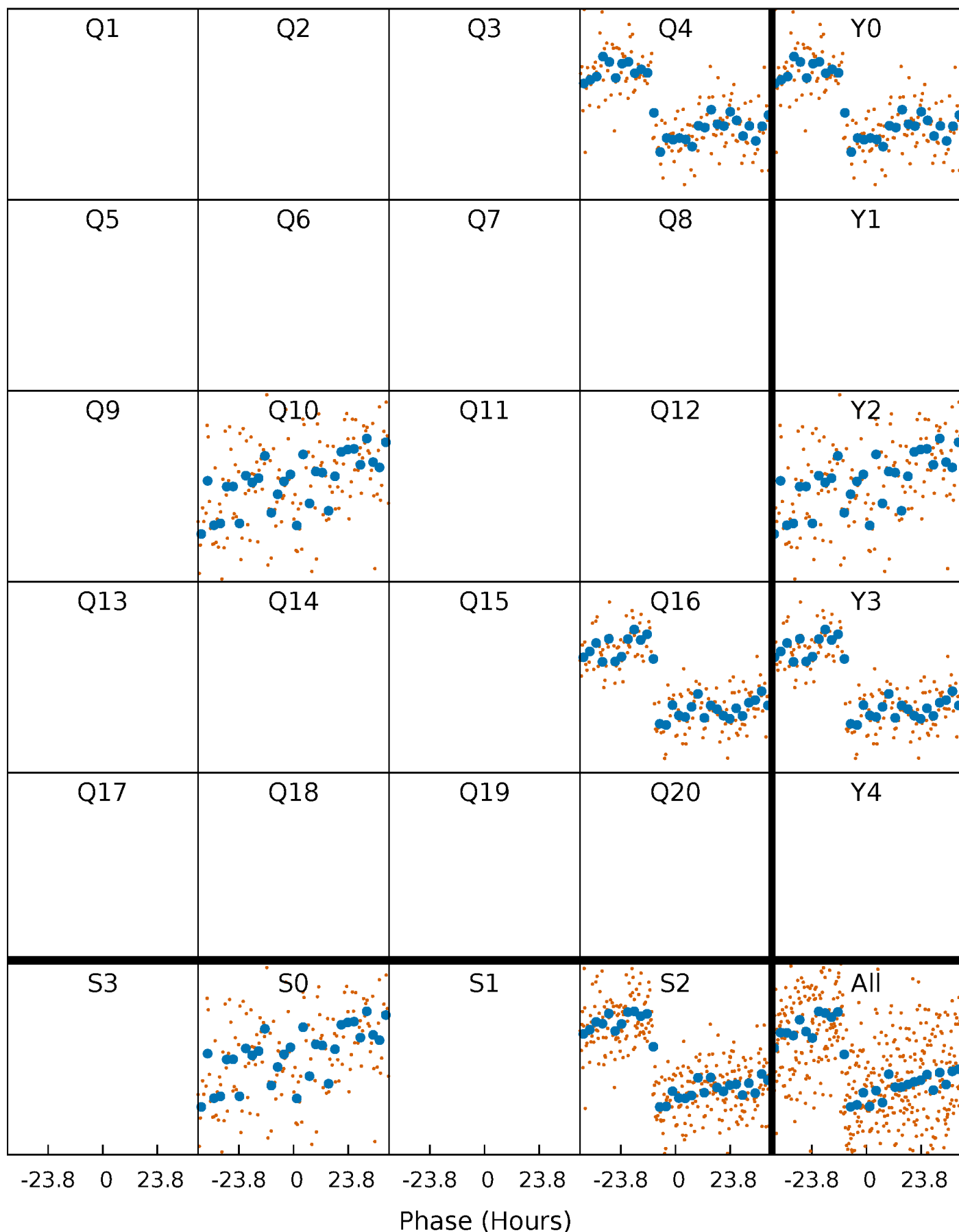


Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 012884536-01 P=546.184980 Days $T_0=428.822442$ (BKJD)



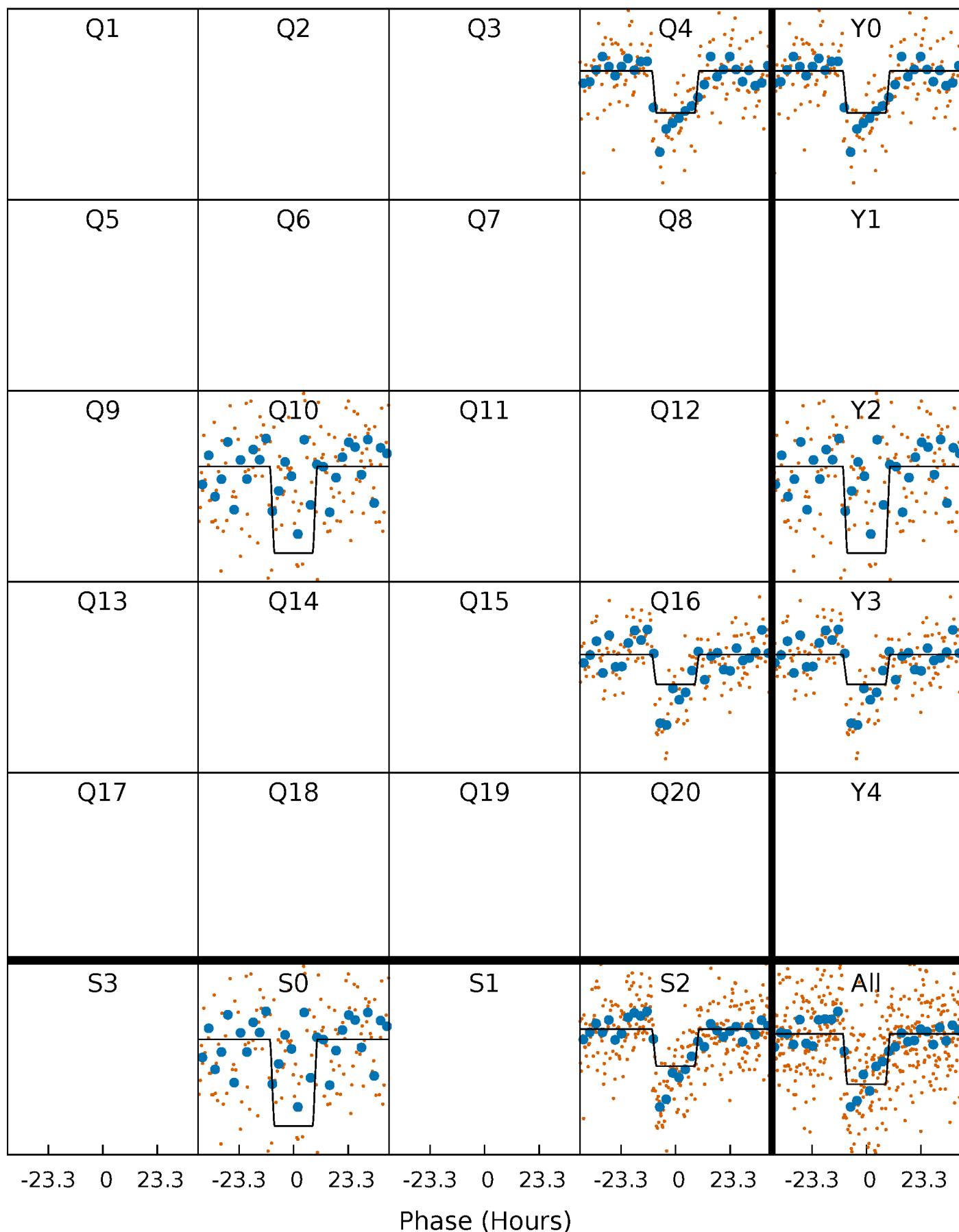
DV Quarter-Phased Transit Curves

TCE 012884536-01 P=546.184980 Days $T_0=428.822442$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

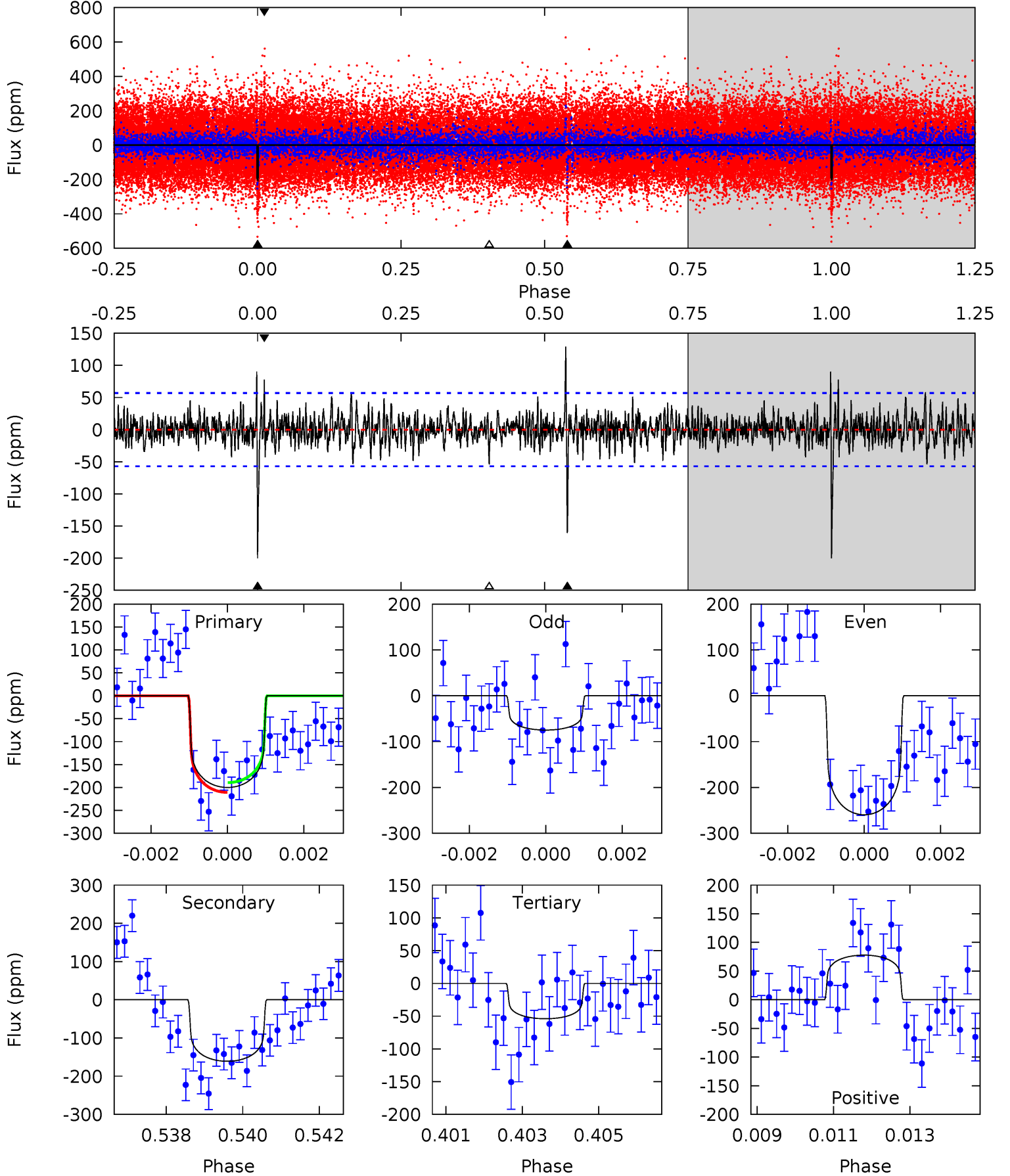
TCE 012884536-01 P=546.175436 Days $T_0=428.821378$ (BKJD)



DV Model-Shift Uniqueness Test

012884536-01, $P = 546.184980$ Days, $E = 428.822442$ Days

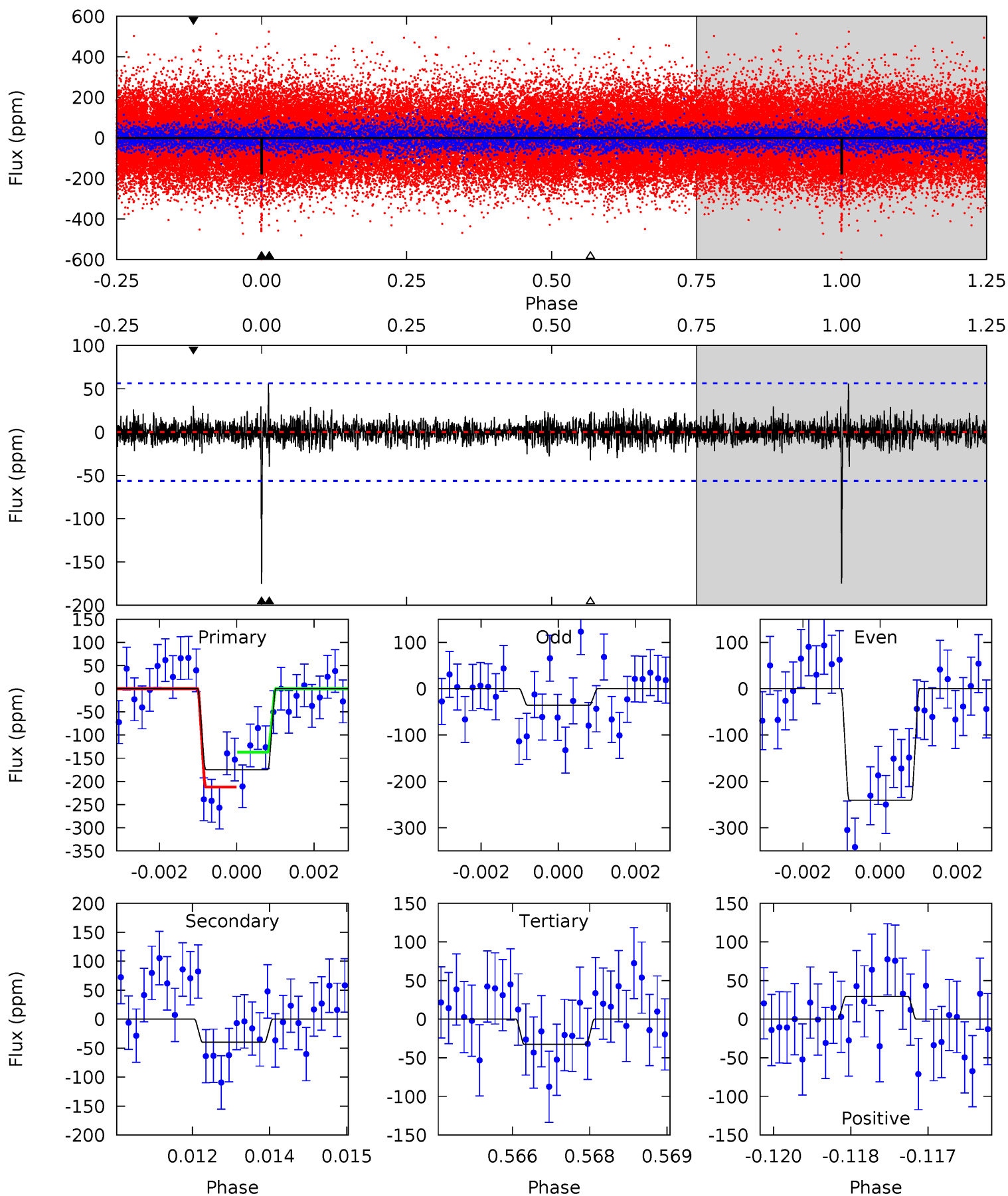
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.8	15.2	5.09	7.33	5.37	3.16	1.58	13.8	11.5	10.1	7.83	8.14	0.79	0.39	1.00



Alt Model-Shift Uniqueness Test

012884536-01, P = 546.175436 Days, E = 428.821378 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.6	3.78	3.10	2.81	5.37	3.17	0.77	13.5	13.8	0.68	0.97	9.15	0.76	0.24	3.58



Stellar Parameters For KIC 012884536

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5977^{+161}_{-161}	$3.711^{+0.301}_{-0.108}$	$-0.680^{+0.350}_{-0.250}$	$2.420^{+0.480}_{-0.823}$	$1.099^{+0.158}_{-0.237}$	$0.109^{+0.255}_{-0.036}$
	+3%/-3%	+8%/-3%	+51%/-37%	+20%/-34%	+14%/-22%	+234%/-33%
Source	PHO1	FLK73	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 012884536-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-161 ± 11	$3.54^{+1.05}_{-0.89}$	483^{+33}_{-41}	5656^{+720}_{-479}	12978^{+9579}_{-4964}
Alt.	-40 ± 11	$3.23^{+1.08}_{-0.83}$	485^{+31}_{-44}	4341^{+576}_{-398}	3656^{+3409}_{-1674}

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 $A_{obs} \gg 1.0$

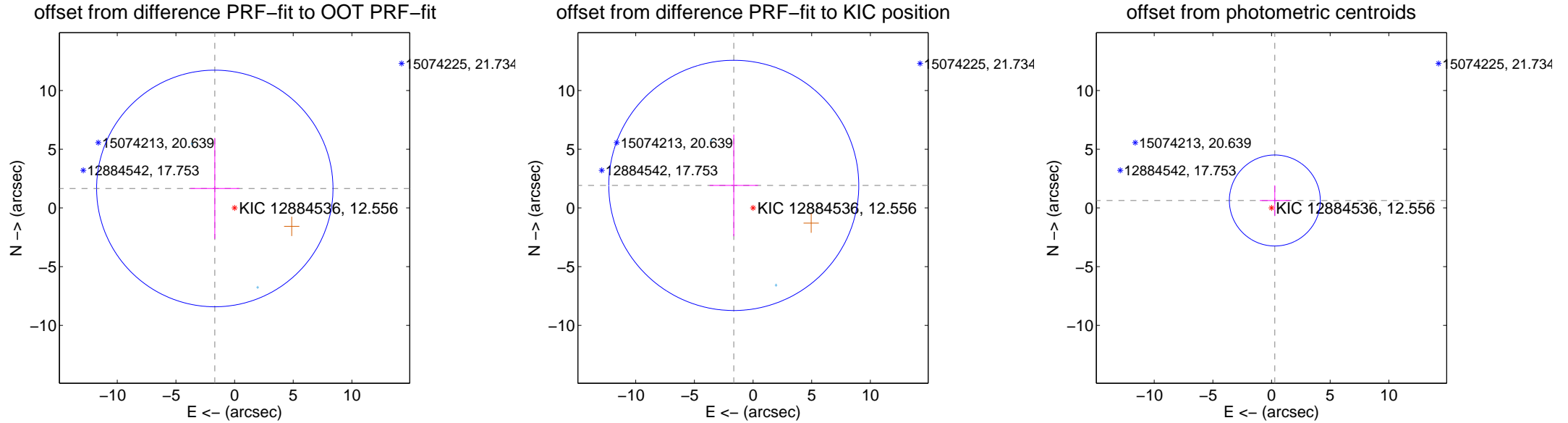
DV Centroid Data

Supplemental centroid analysis for 012884536-01. Kepler magnitude: 12.56. Transit SNR 10.88

There are 2 quarters with good PRF difference image offsets

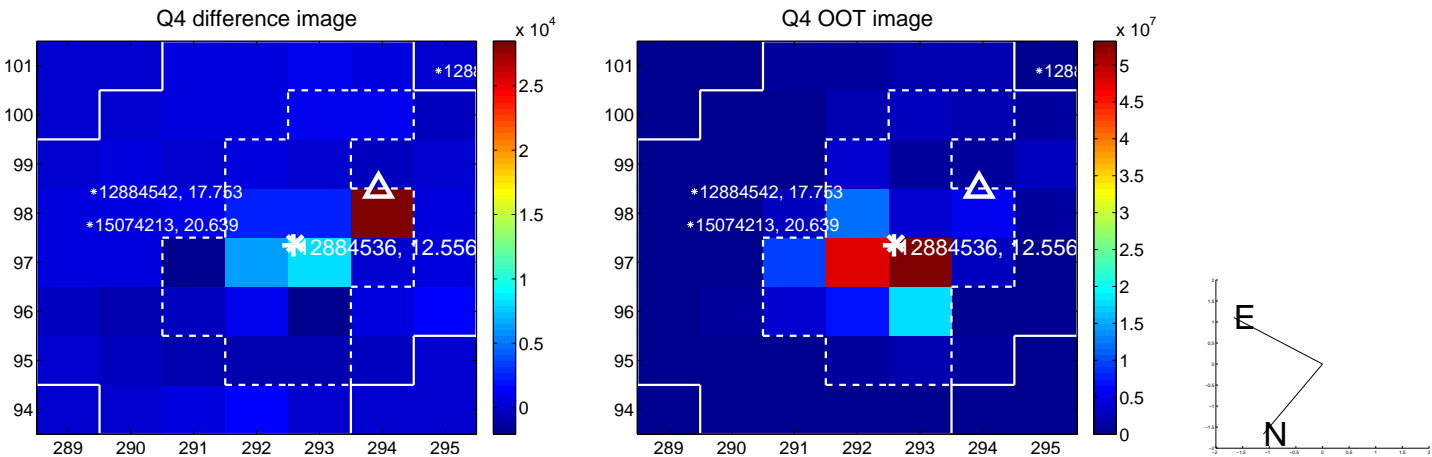
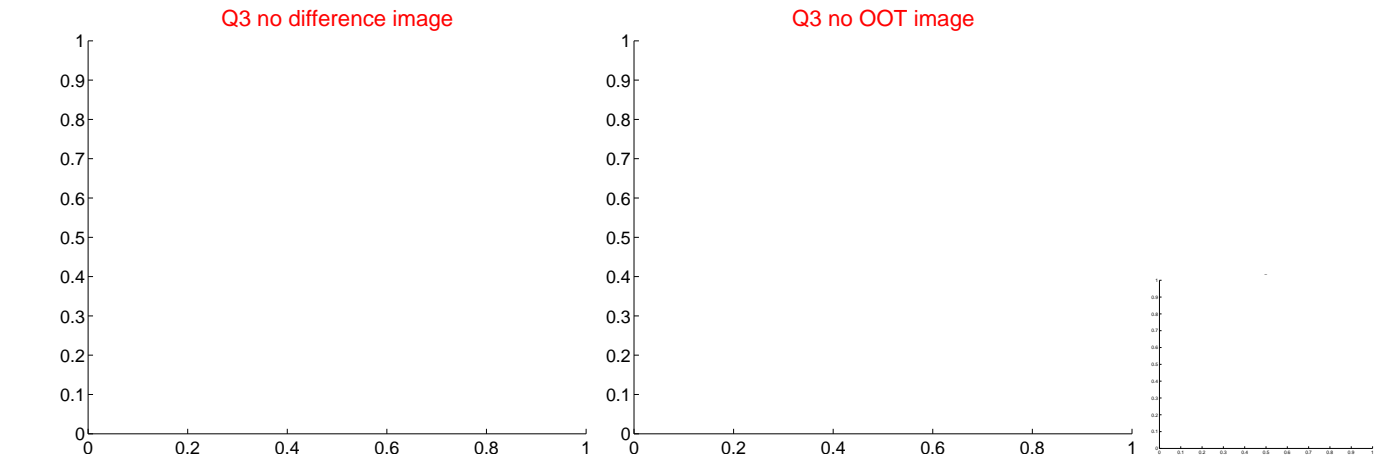
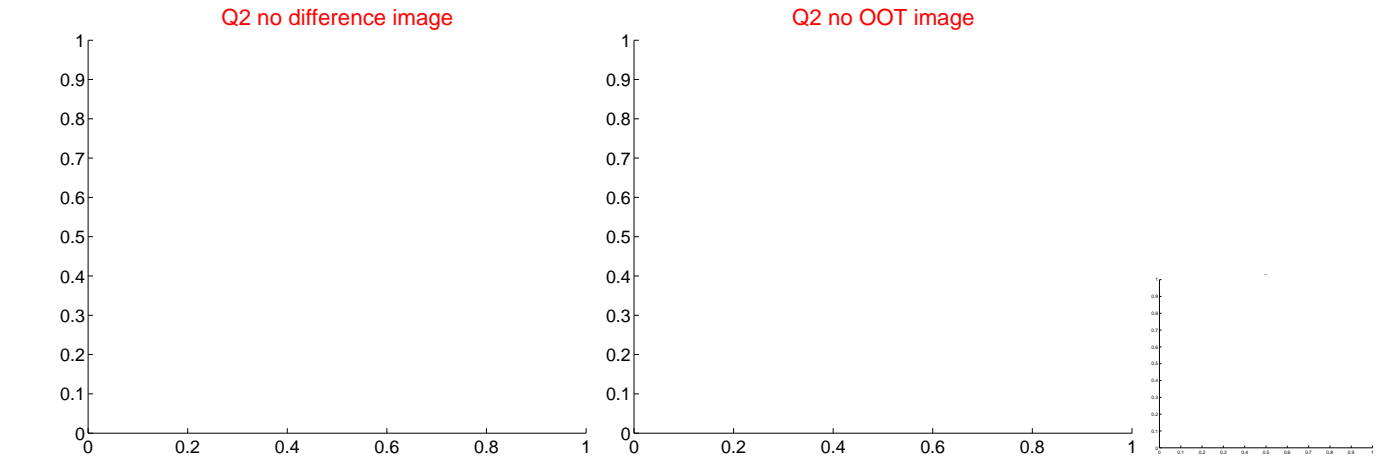
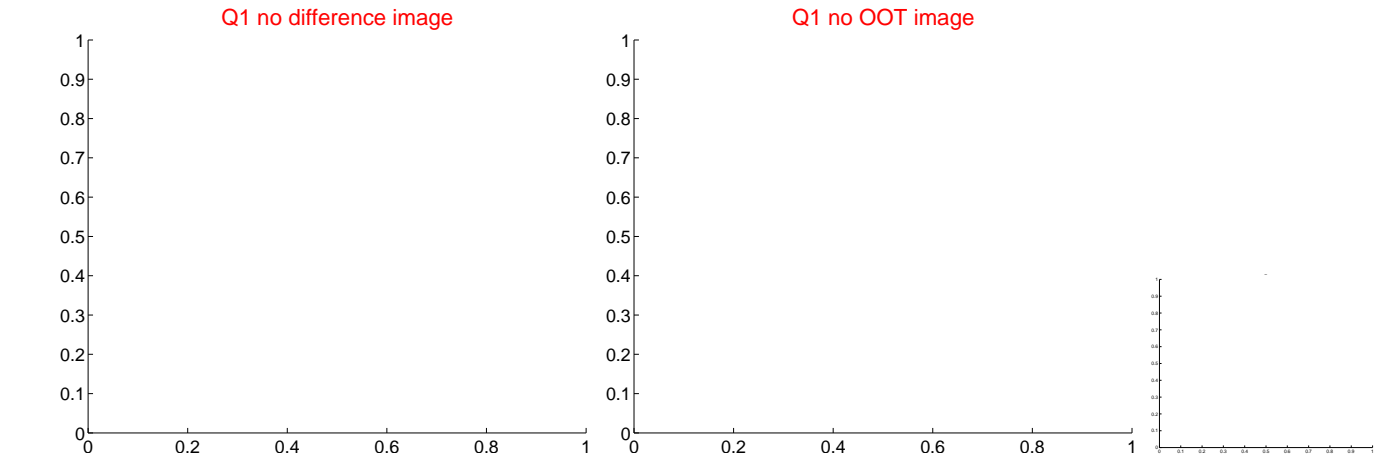
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.364 ± 3.357	0.70	1.685 ± 2.091	1.659 ± 4.289
PRF-fit source offset from KIC position	2.527 ± 3.551	0.71	1.643 ± 2.064	1.920 ± 4.327
photometric centroid source offset	0.69 ± 1.29	0.54	-0.28 ± 1.28	0.63 ± 1.29



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.

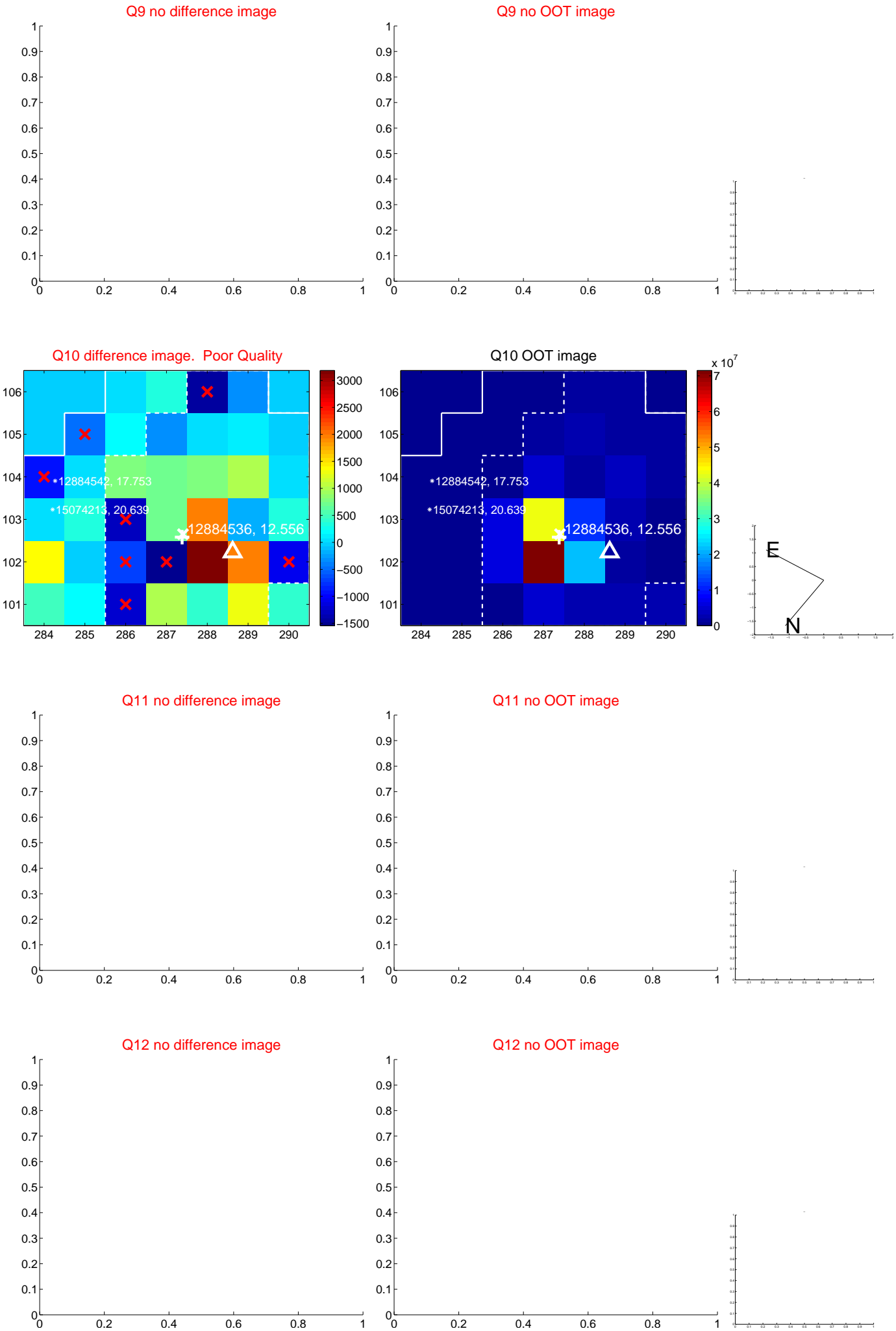
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



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

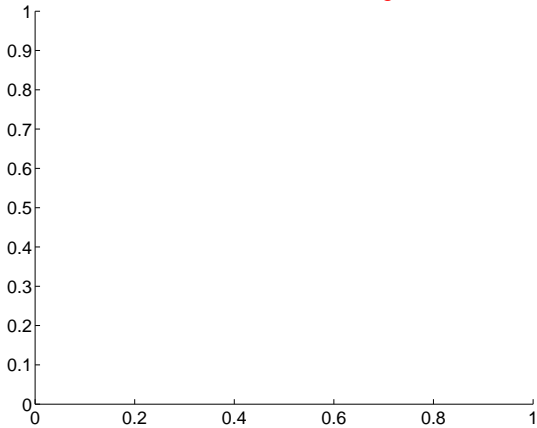
Q13 no difference image



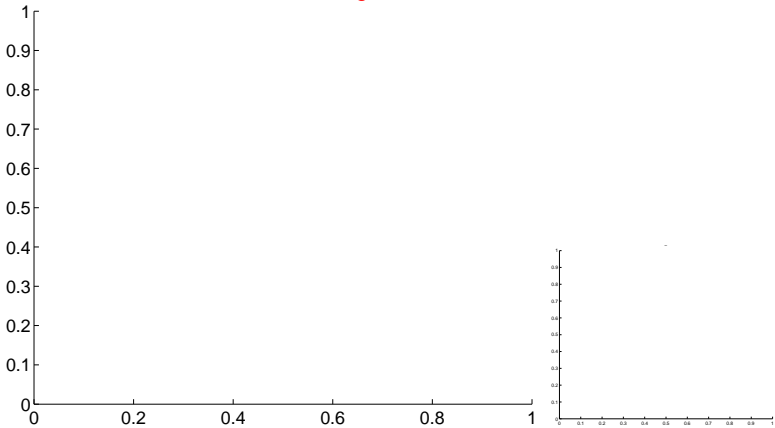
Q13 no OOT image



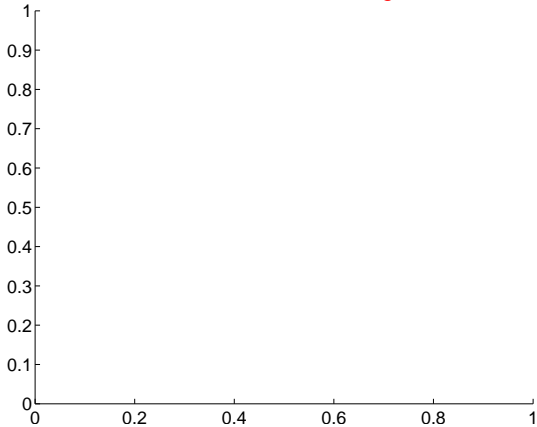
Q14 no difference image



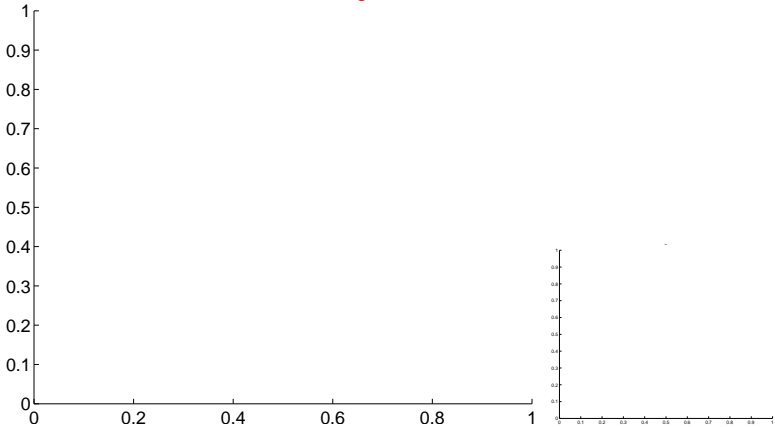
Q14 no OOT image



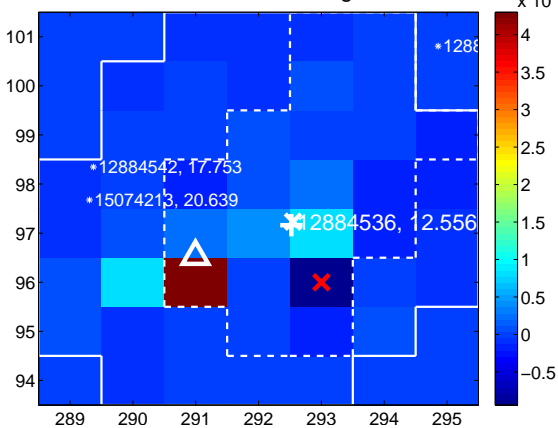
Q15 no difference image



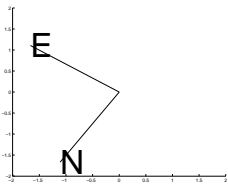
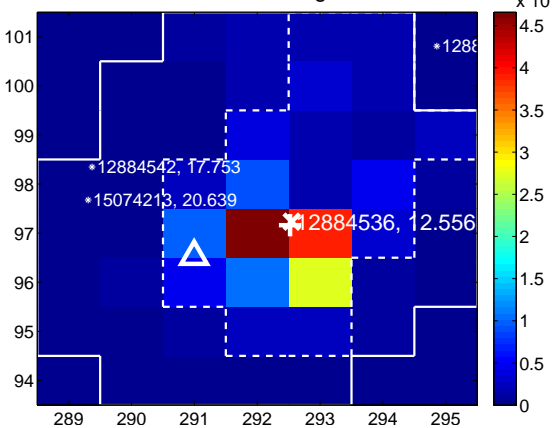
Q15 no OOT image



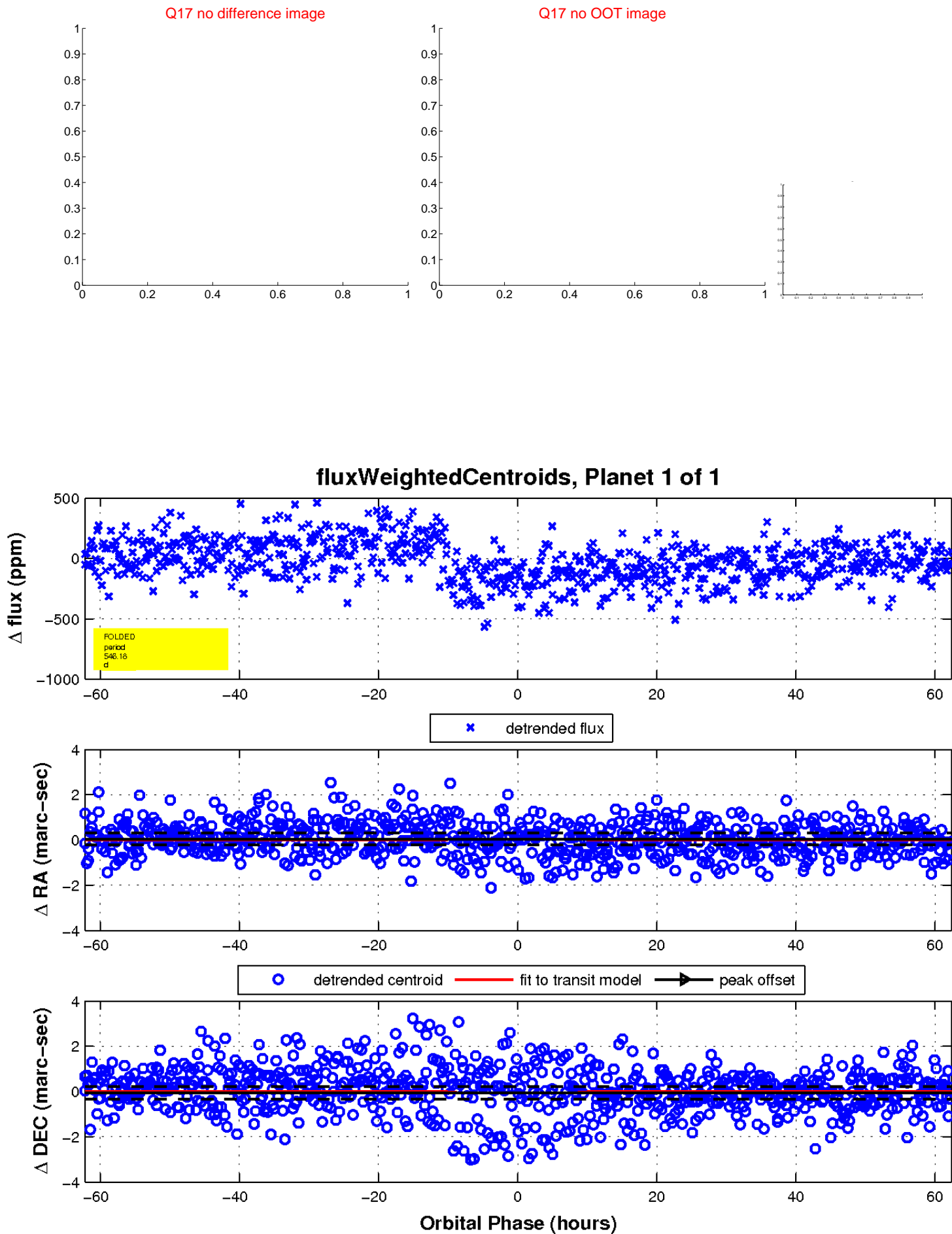
Q16 difference image



Q16 OOT image



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



UKIRT Image

Declination

