

KIC 004848532

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
004848532-01	OBS	No	1.501725	131.612382	103.9	4.836	7.7	8.4	0.15	3630	0.18	19.97

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004848532-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_FEW_DIFFS—HALO_GHOST—EPHEM_MATCH

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.

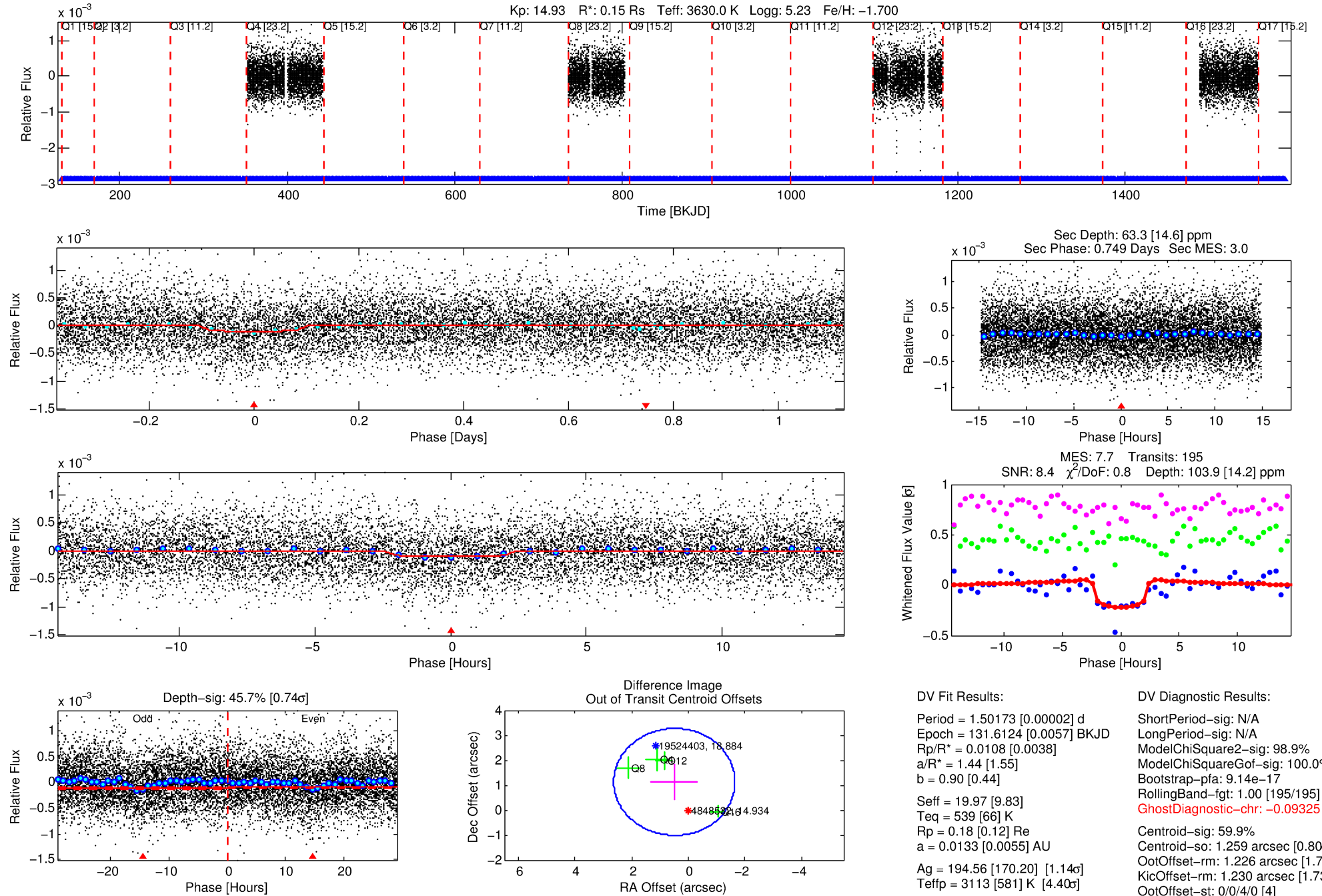
Ephemeris Match Information For 004848532-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
004848532-01	4848532	3560.01	4848423	1:1	80.3	2	-21	11.82	14.93	3748.60	Direct-PRF	0	1.84	2.85

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant σ_P < 5.0 and σ_T < 5.0. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 4848532 Candidate: 1 of 1 Period: 1.502 d



DV Fit Results:

Period = 1.50173 [0.00002] d
Epoch = 131.6124 [0.0057] BKJD
Rp/R* = 0.0108 [0.0038]
a/R* = 1.44 [1.55]
b = 0.90 [0.44]
Seff = 19.97 [9.83]
Teff = 539 [66] K
Rp = 0.18 [0.12] Re
a = 0.0133 [0.0055] AU
Ag = 194.56 [170.20] [1.14 σ]
Teffp = 3113 [581] K [4.40 σ]

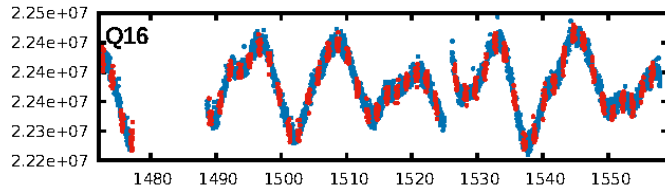
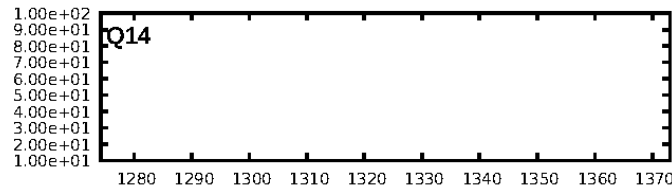
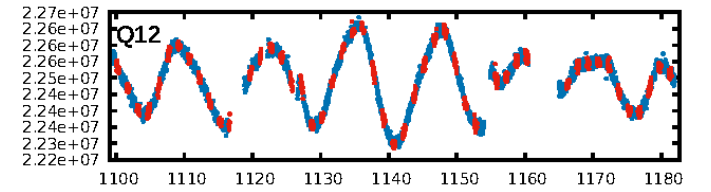
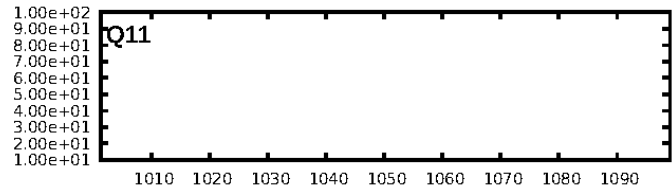
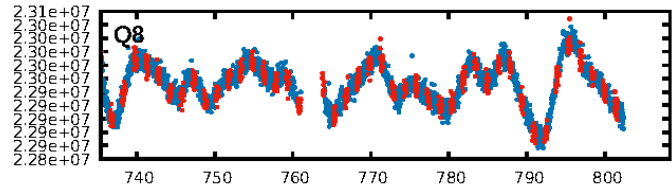
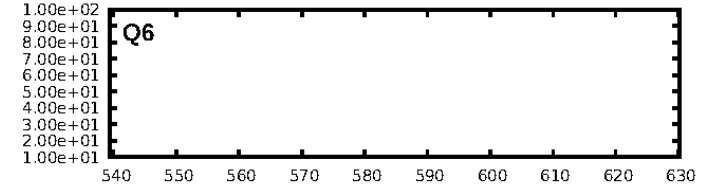
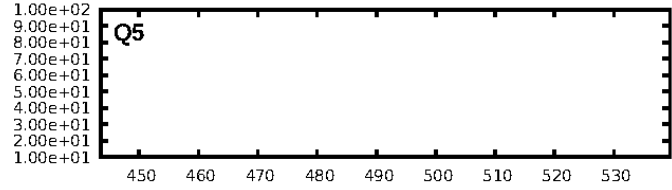
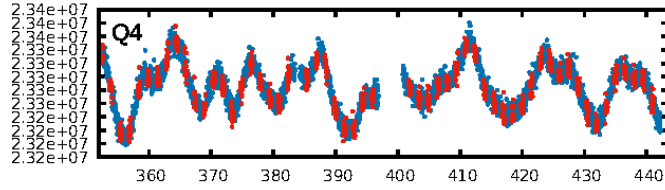
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 98.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.14e-17
RollingBand-fgt: 1.00 [195/195]
GhostDiagnostic-chr: -0.09325
Centroid-sig: 59.9%
Centroid-so: 1.259 arcsec [0.80 σ]
OotOffset-rm: 1.226 arcsec [1.72 σ]
KicOffset-rm: 1.230 arcsec [1.73 σ]
OotOffset-st: 0/0/4/0 [4]
KicOffset-st: 0/0/4/0 [4]
DiffImageQuality-fgm: 0.00 [0/4]
DiffImageOverlap-fno: 1.00 [4/4]

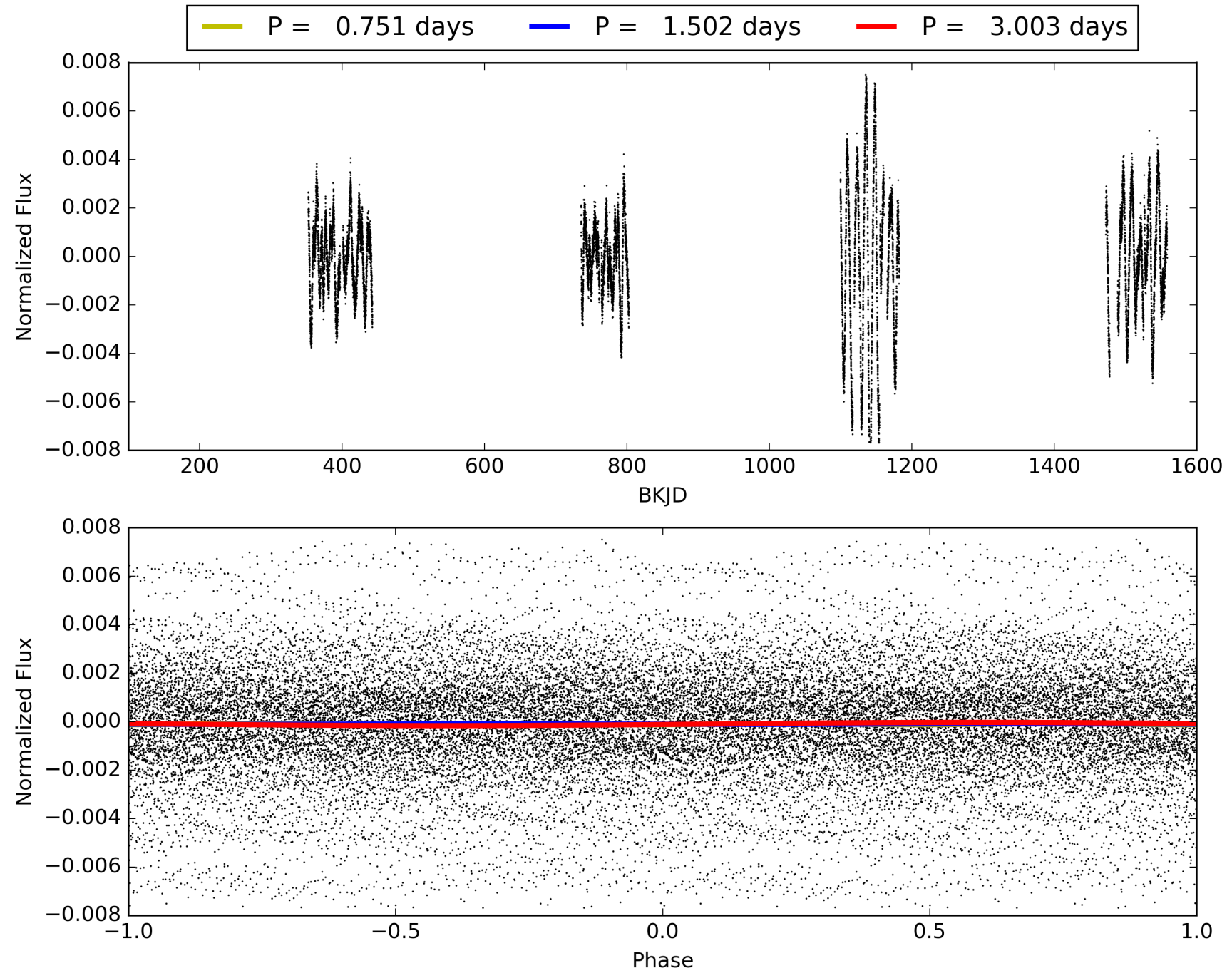
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 00:10:55 Z

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

TCE 004848532-01, PDC Light Curves

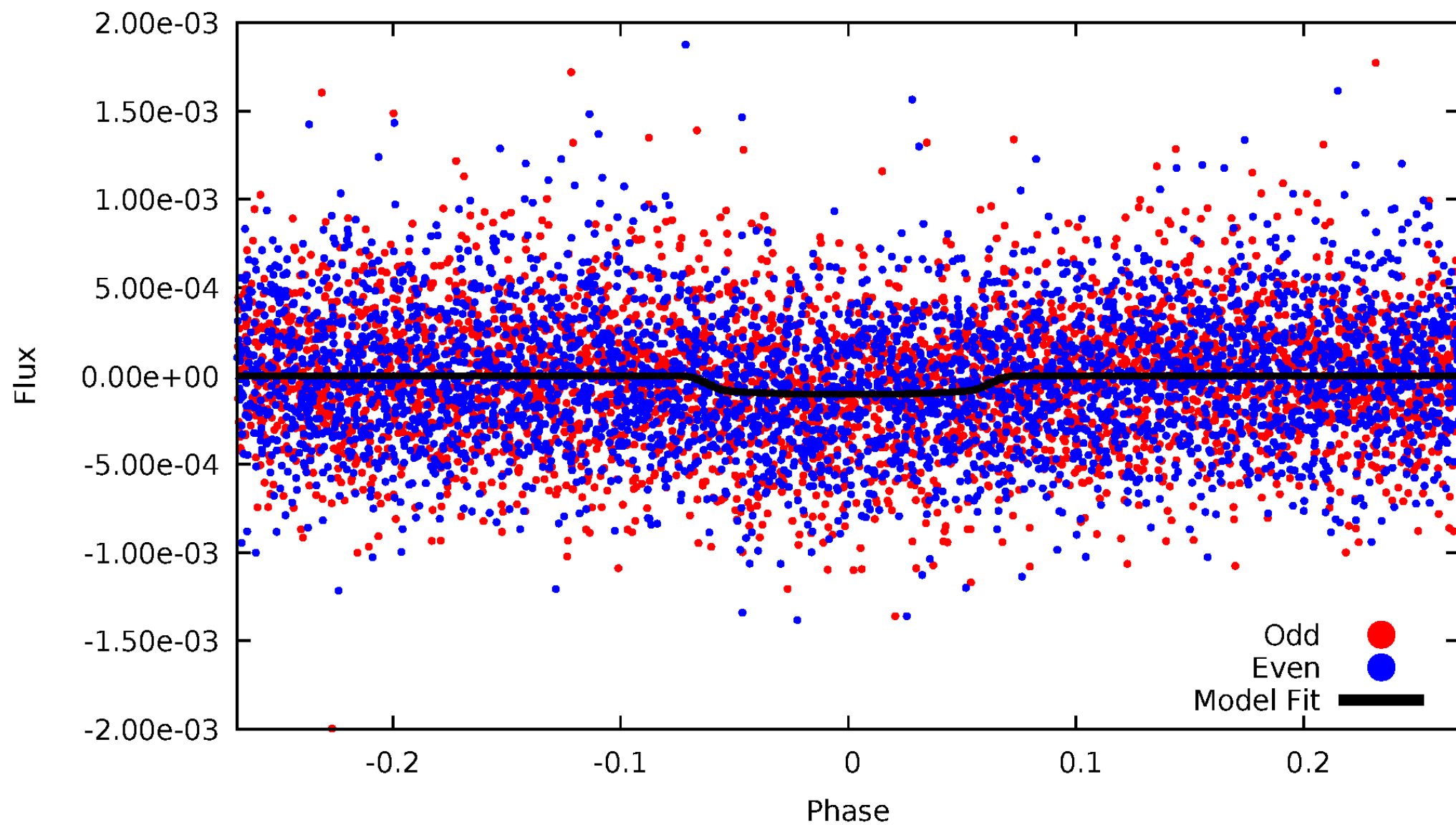


TCE 004848532-01



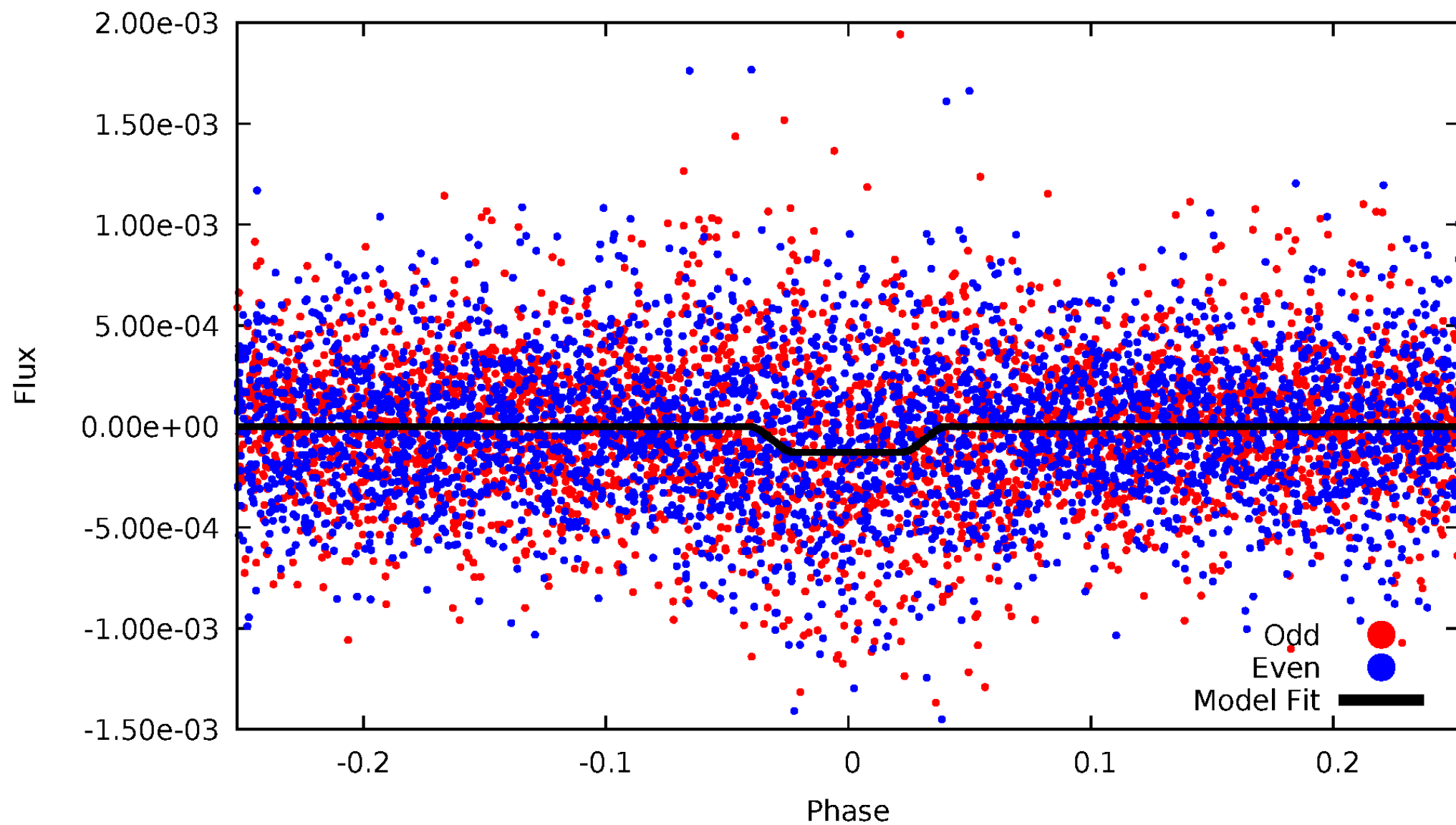
DV Odd/Even

TCE 004848532-01



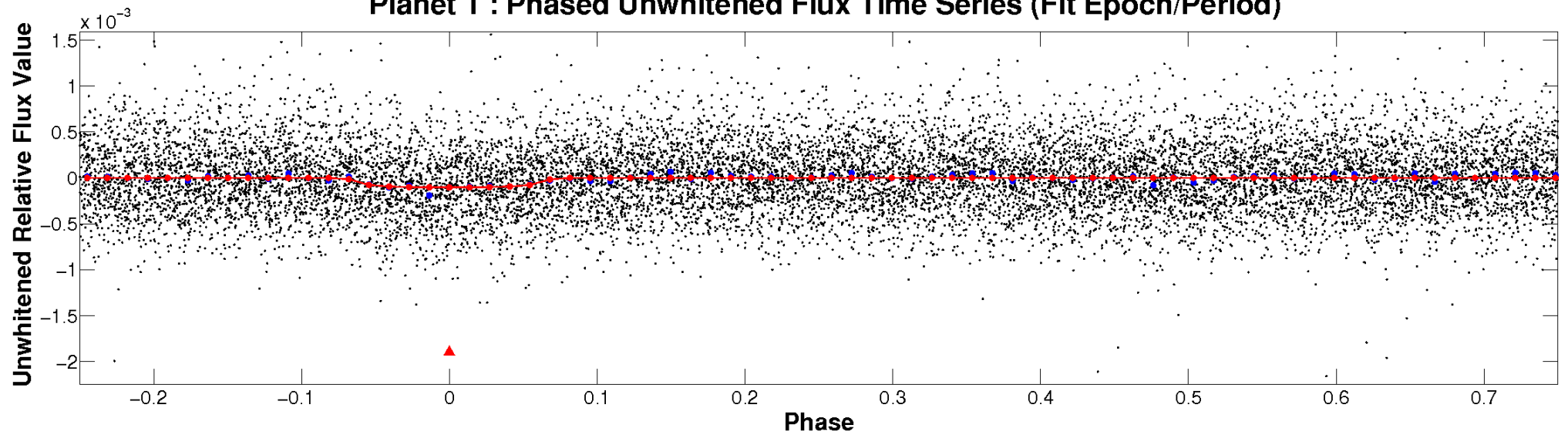
ALT Odd/Even

TCE 004848532-01

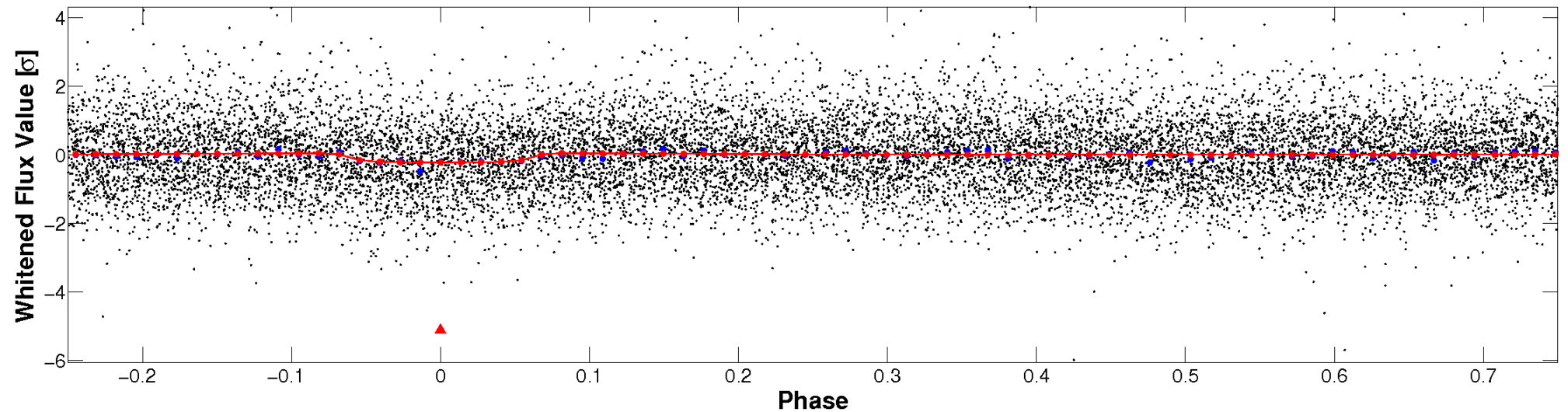


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

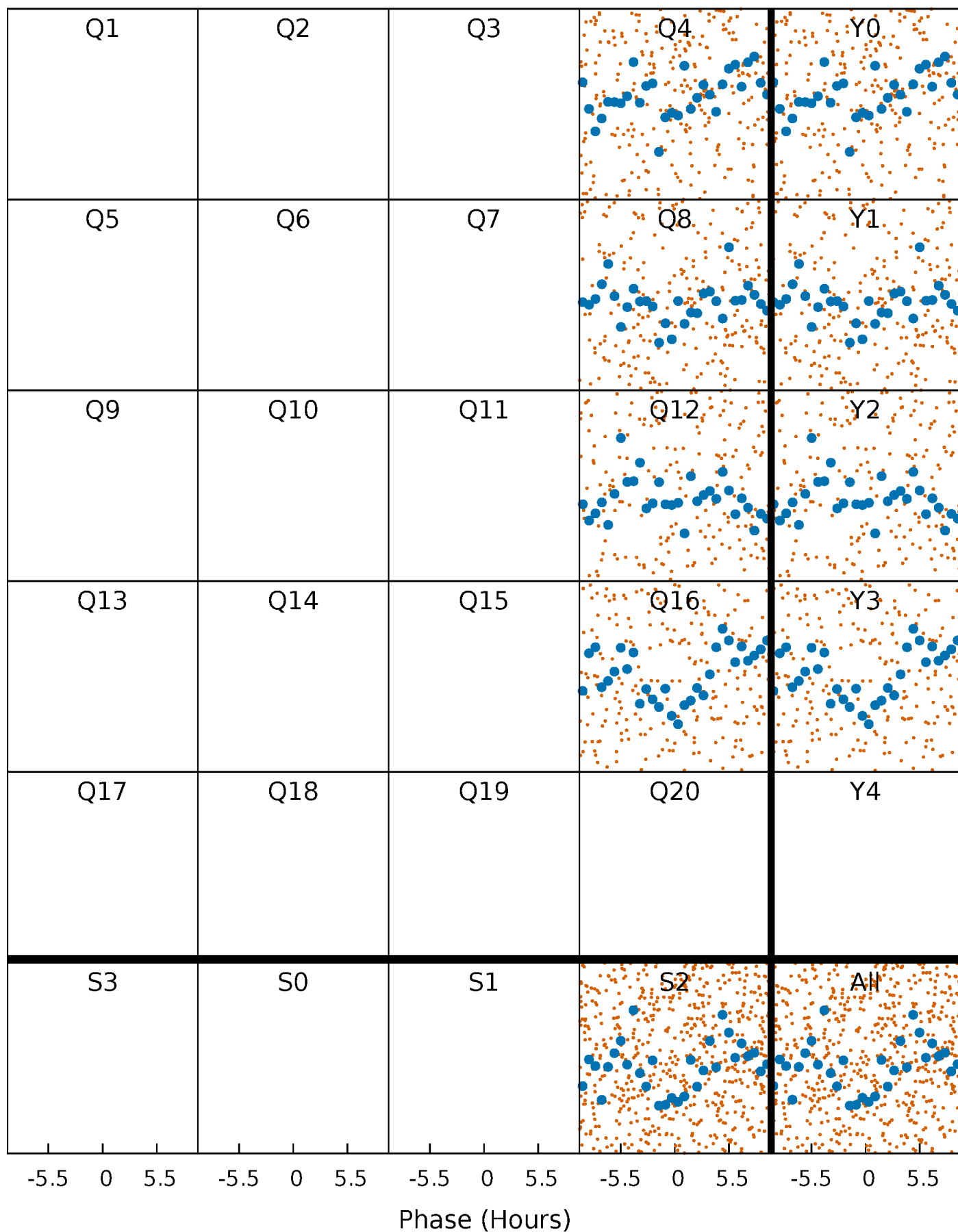


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



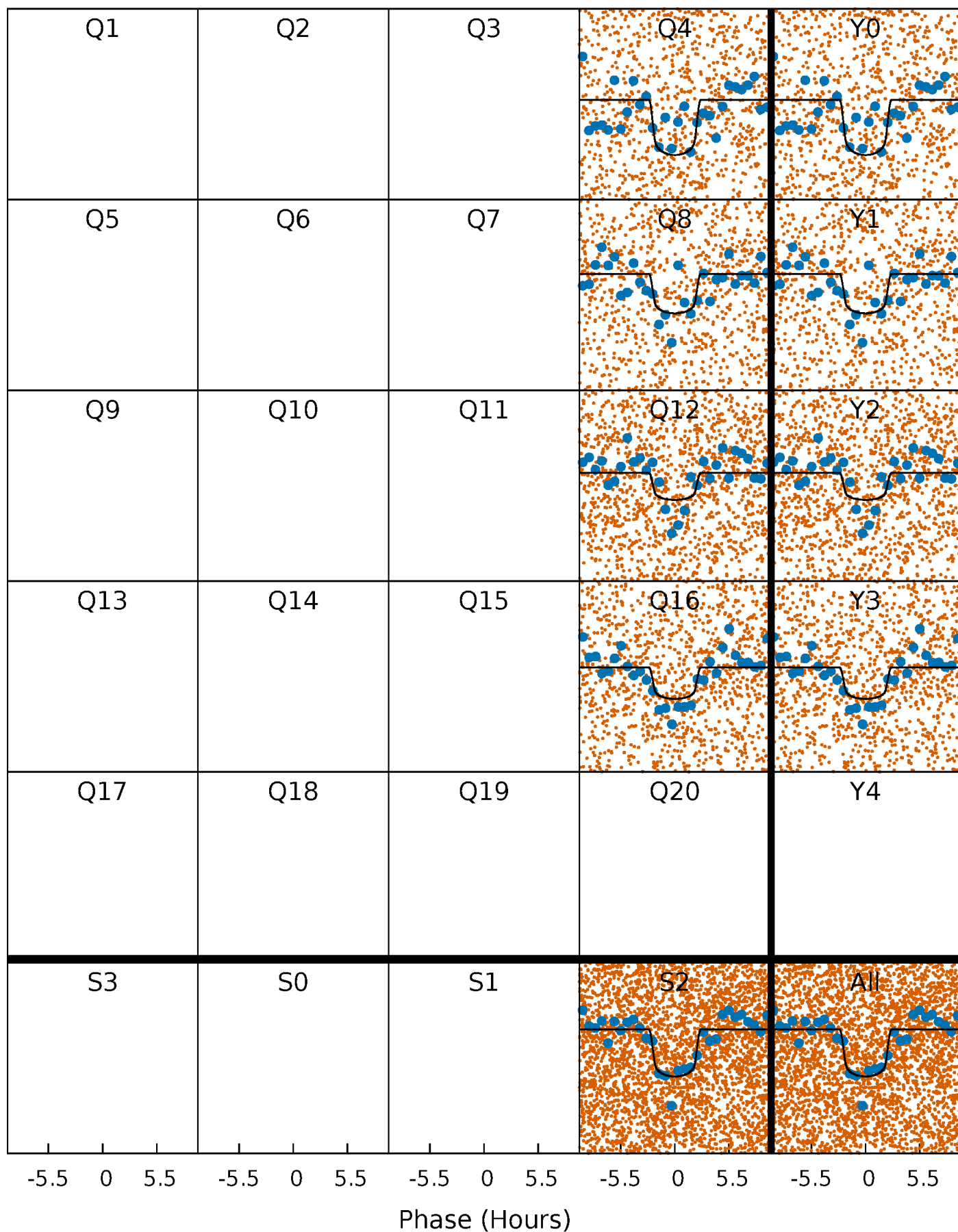
PDC Quarter-Phased Transit Curves

TCE 004848532-01 P= 1.501725 Days $T_0=131.612382$ (BKJD)



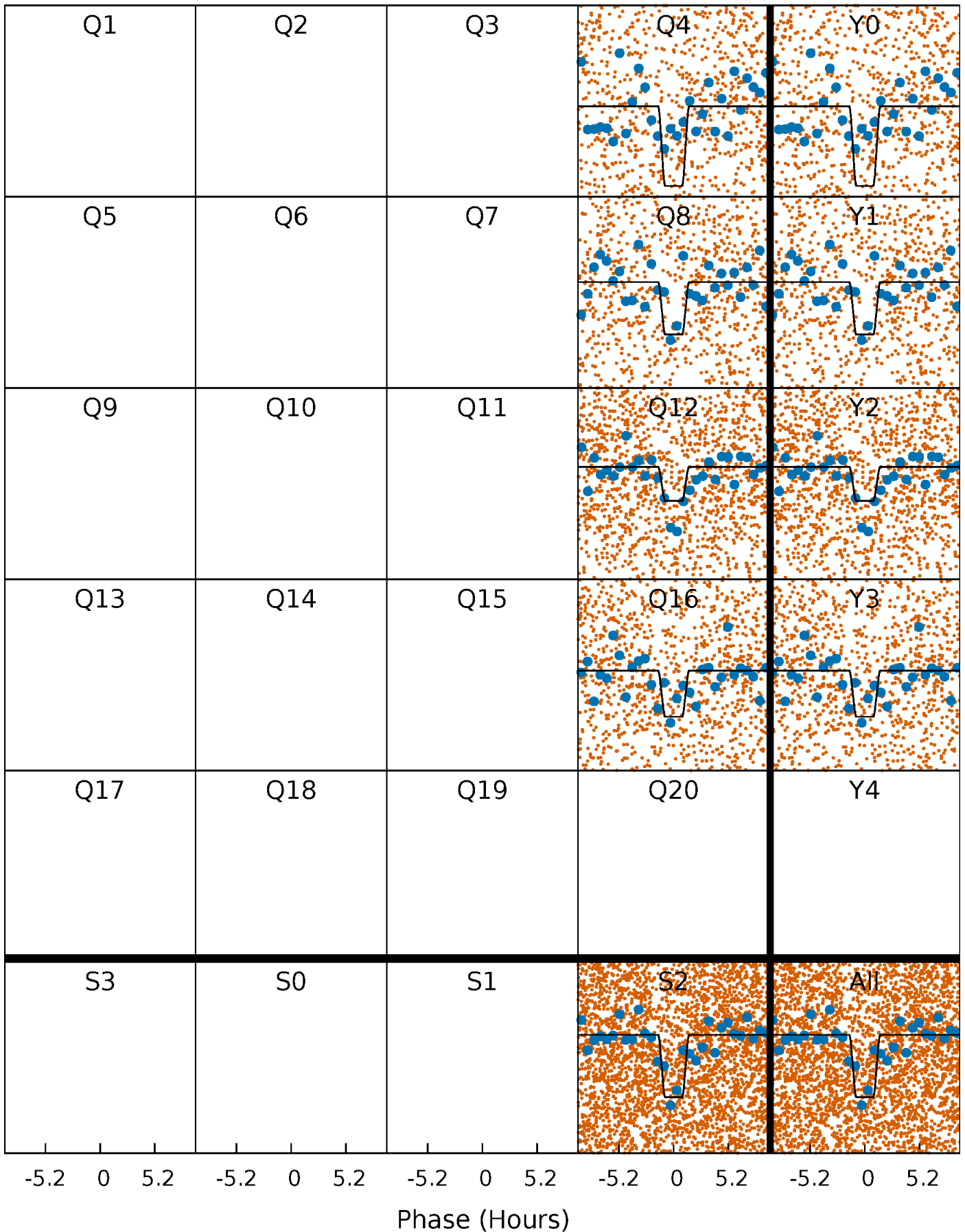
DV Quarter-Phased Transit Curves

TCE 004848532-01 P= 1.501725 Days $T_0=131.612382$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

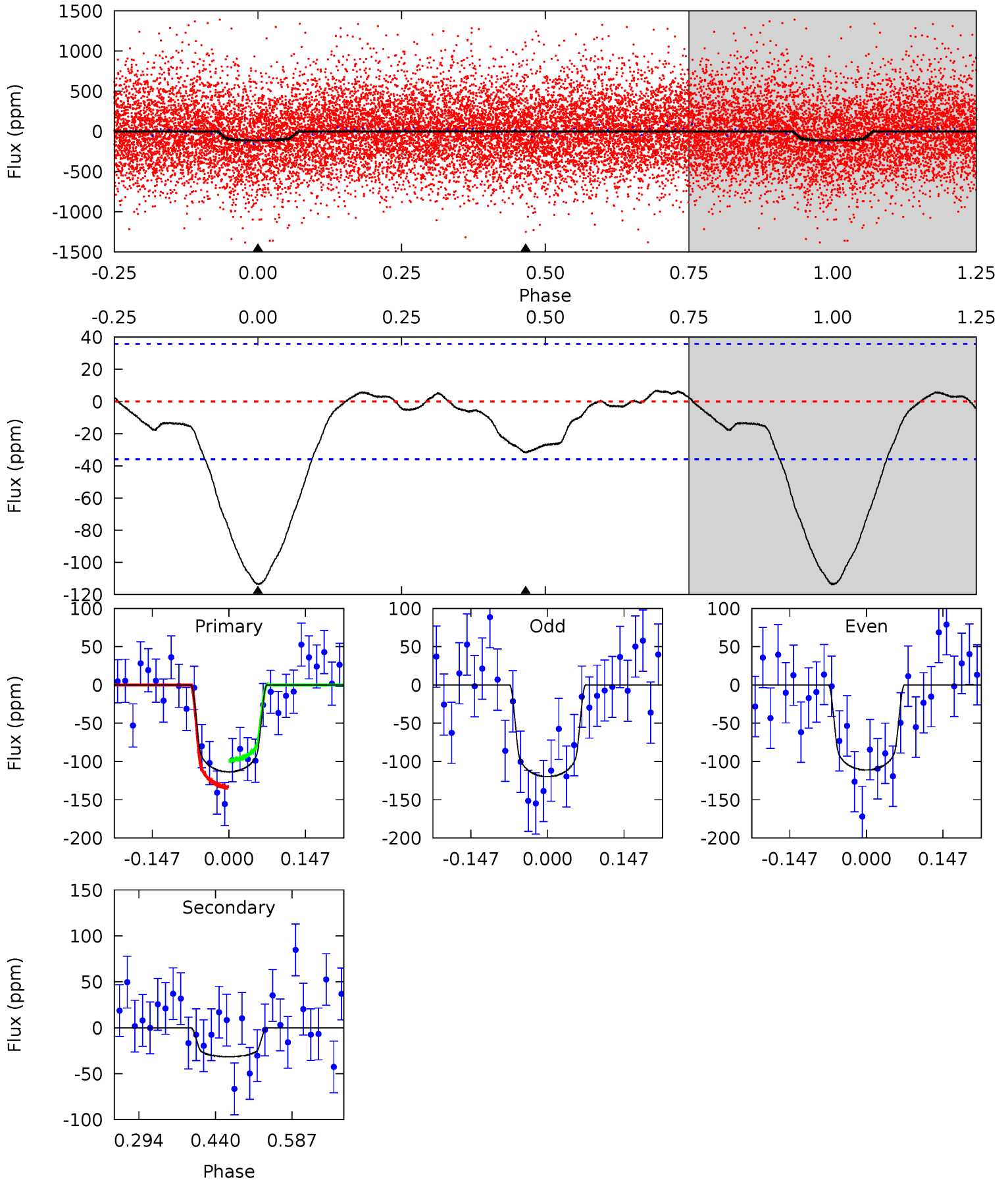
TCE 004848532-01 P= 1.501765 Days $T_0=131.576420$ (BKJD)



DV Model-Shift Uniqueness Test

004848532-01, P = 1.501725 Days, E = 131.612382 Days

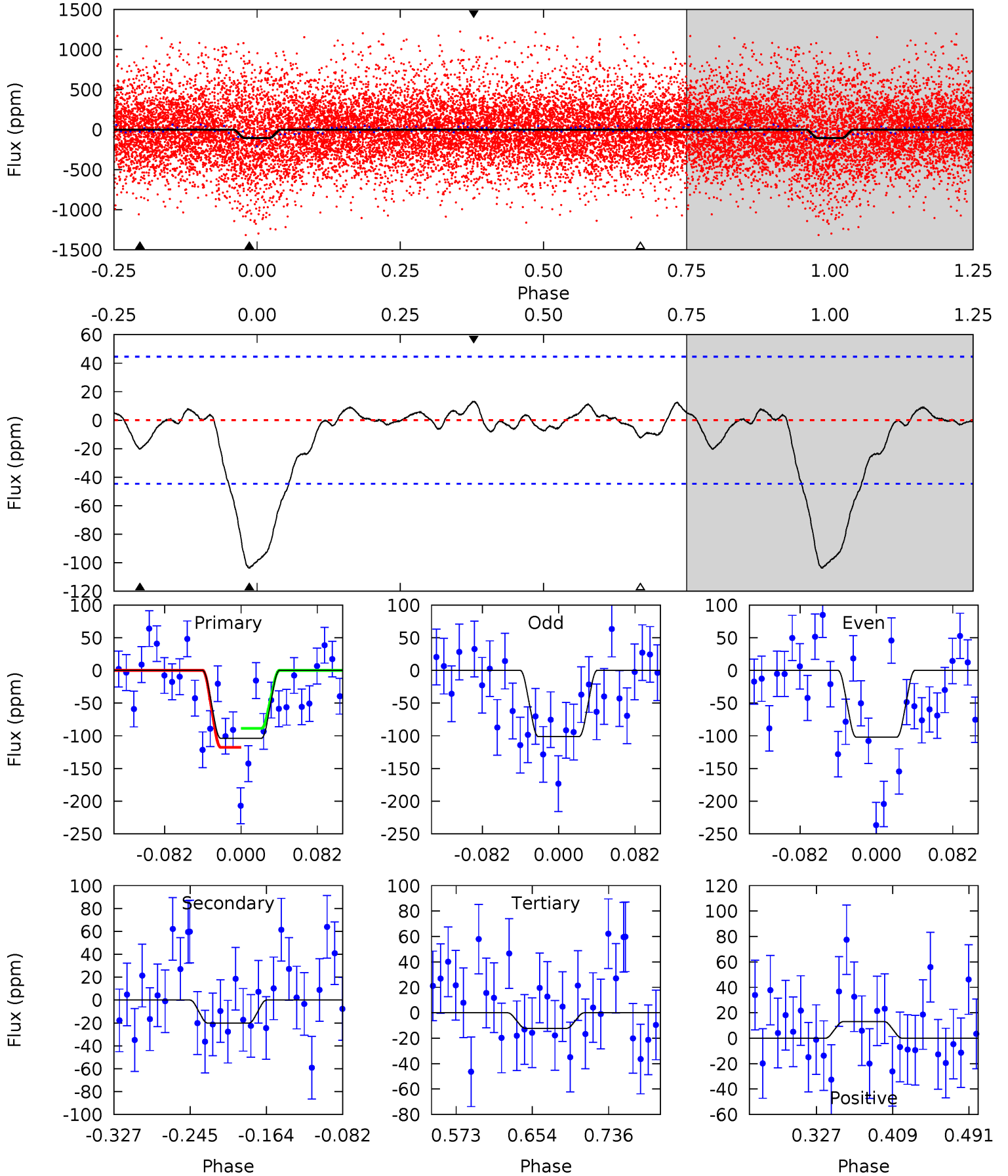
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	3.96	0	0	4.48	1.45	0.83	14.2	14.2	3.96	3.96	0.54	0.95	0.06	2.17



Alt Model-Shift Uniqueness Test

004848532-01, P = 1.501765 Days, E = 131.576420 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	2.09	1.27	1.35	4.61	1.74	0.76	9.47	9.38	0.82	0.74	0.03	0.97	0.11	1.48



Stellar Parameters For KIC 004848532

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3630^{+119}_{-98}	$5.226^{+0.058}_{-0.173}$	$-1.700^{+0.650}_{-0.200}$	$0.151^{+0.089}_{-0.016}$	$0.140^{+0.095}_{-0.017}$	$57.420^{+18.360}_{-32.170}$
	+3%/-3%	+1%/-3%	+38%/-12%	+59%/-11%	+68%/-12%	+32%/-56%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 004848532-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-32 ± 8	$0.19^{+0.08}_{-0.07}$	768^{+57}_{-37}	2971^{+429}_{-253}	87^{+124}_{-44}
Alt.	-20 ± 10	$0.20^{+0.08}_{-0.07}$	768^{+58}_{-35}	2764^{+376}_{-316}	50^{+74}_{-31}

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

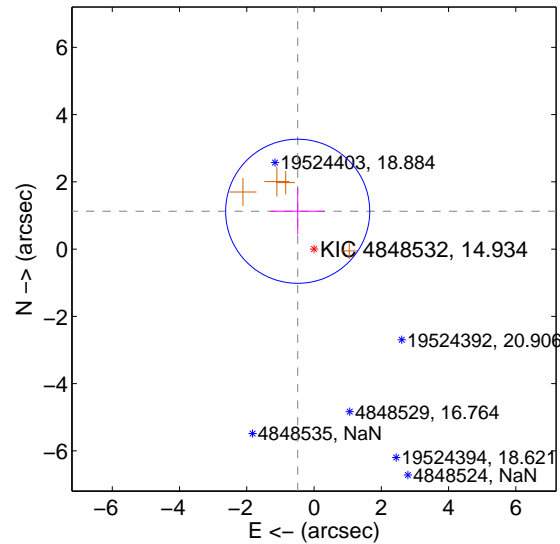
Supplemental centroid analysis for 004848532-01. Kepler magnitude: 14.93. Transit SNR 8.37

There are 0 quarters with good PRF difference image offsets

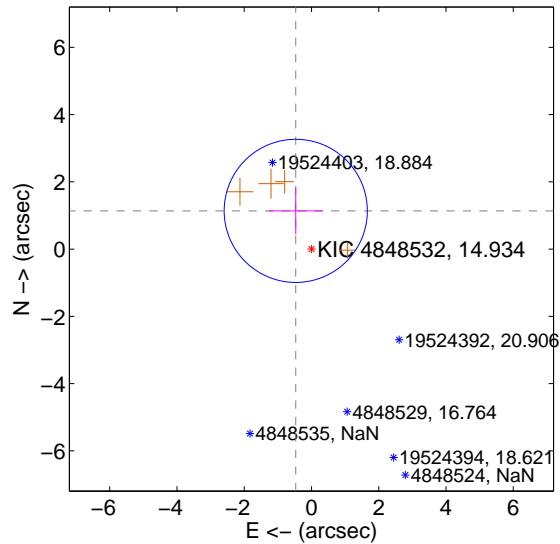
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.226 ± 0.714	1.72	0.486 ± 0.810	1.125 ± 0.695
PRF-fit source offset from KIC position	1.230 ± 0.710	1.73	0.468 ± 0.812	1.137 ± 0.691
photometric centroid source offset	1.26 ± 1.58	0.80	1.18 ± 1.56	-0.45 ± 1.73

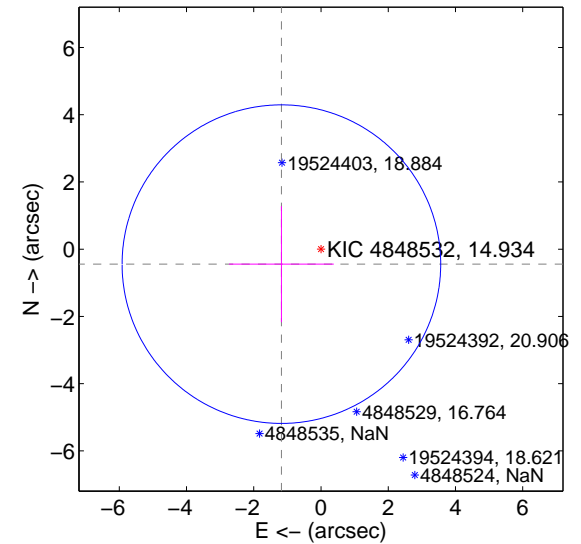
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

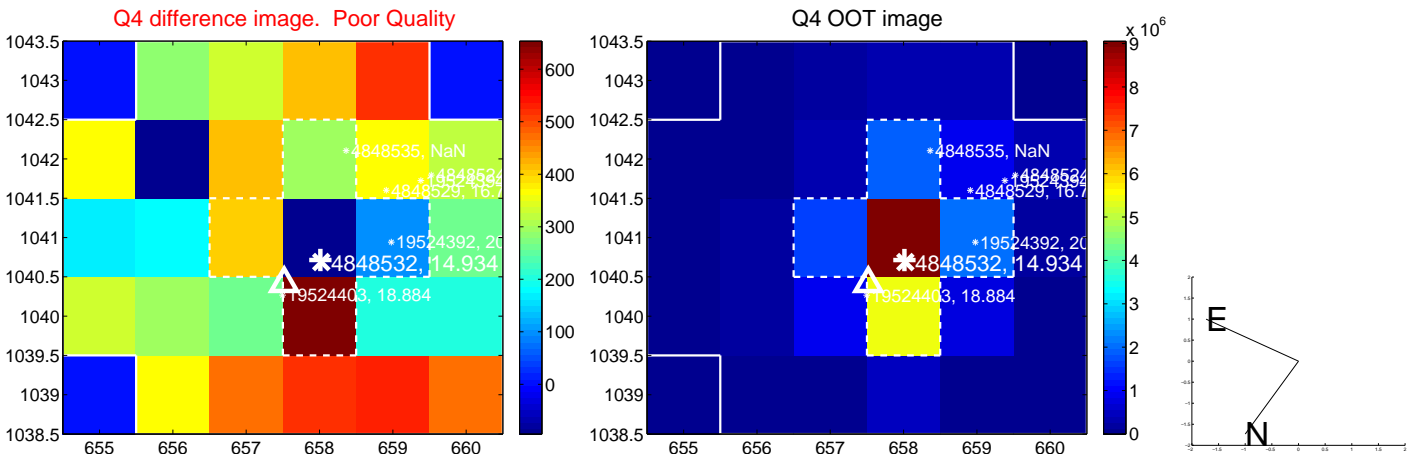
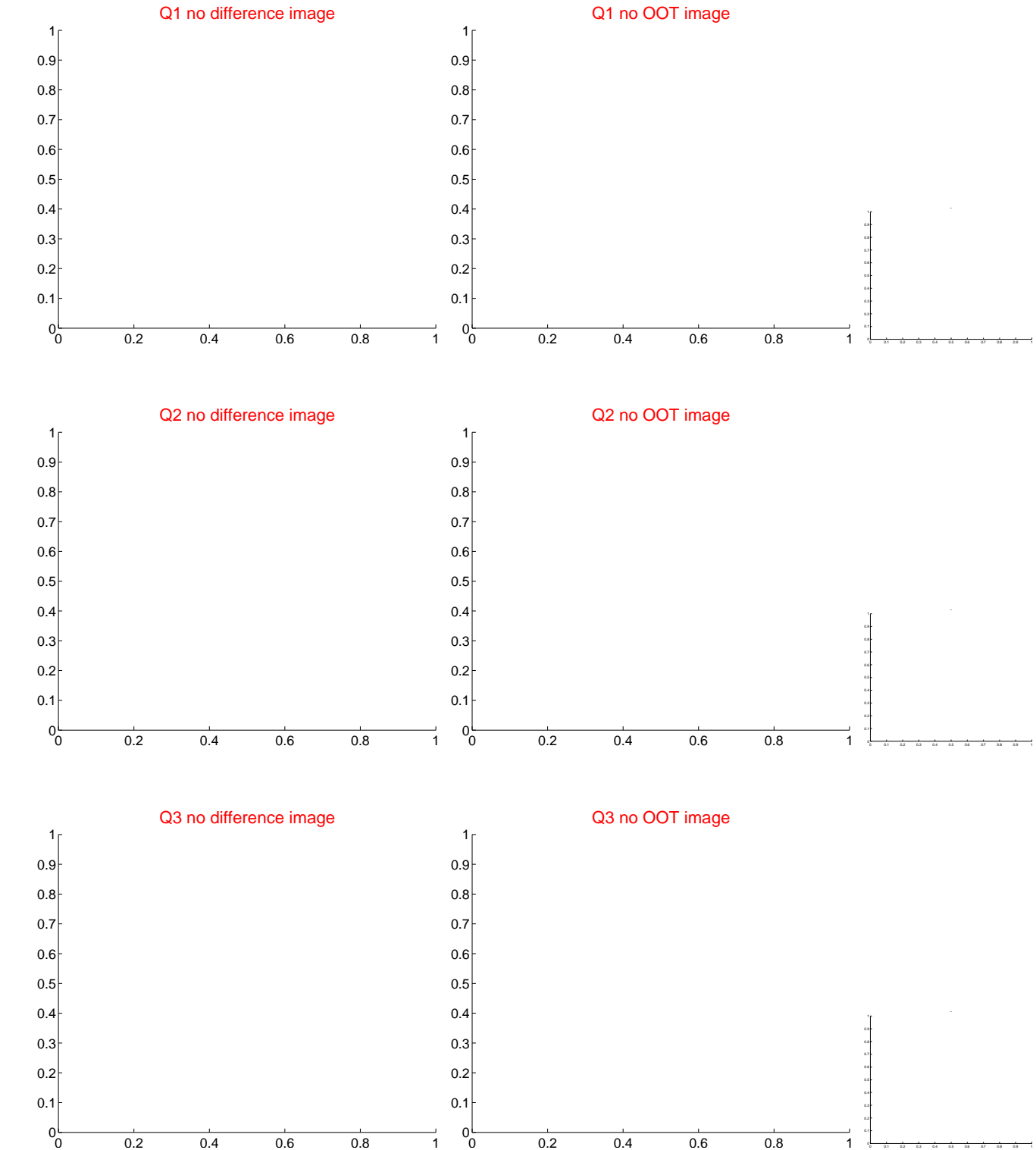


offset from photometric centroids

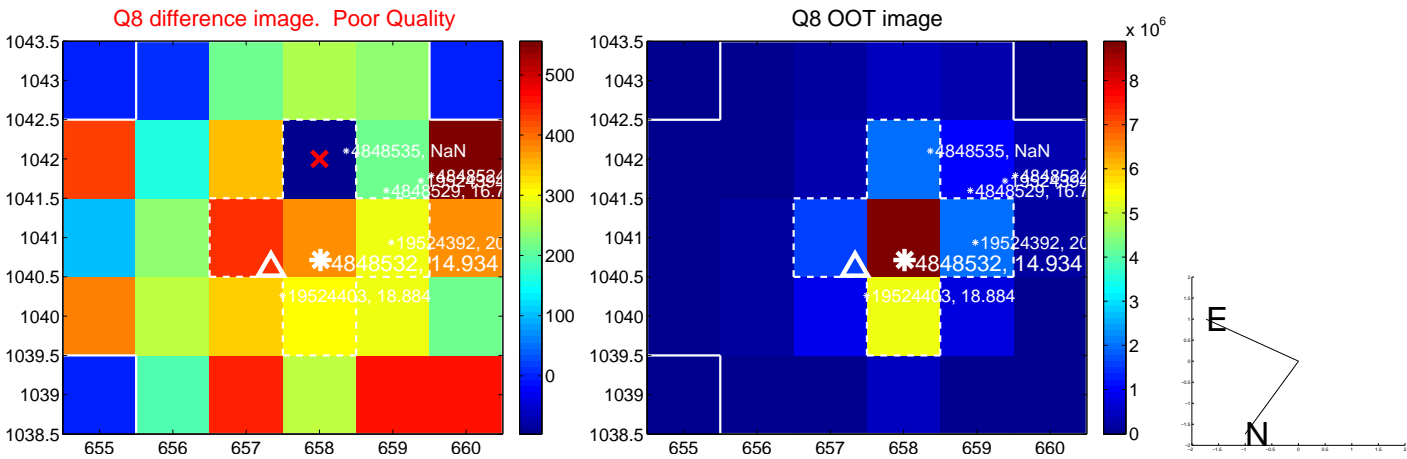
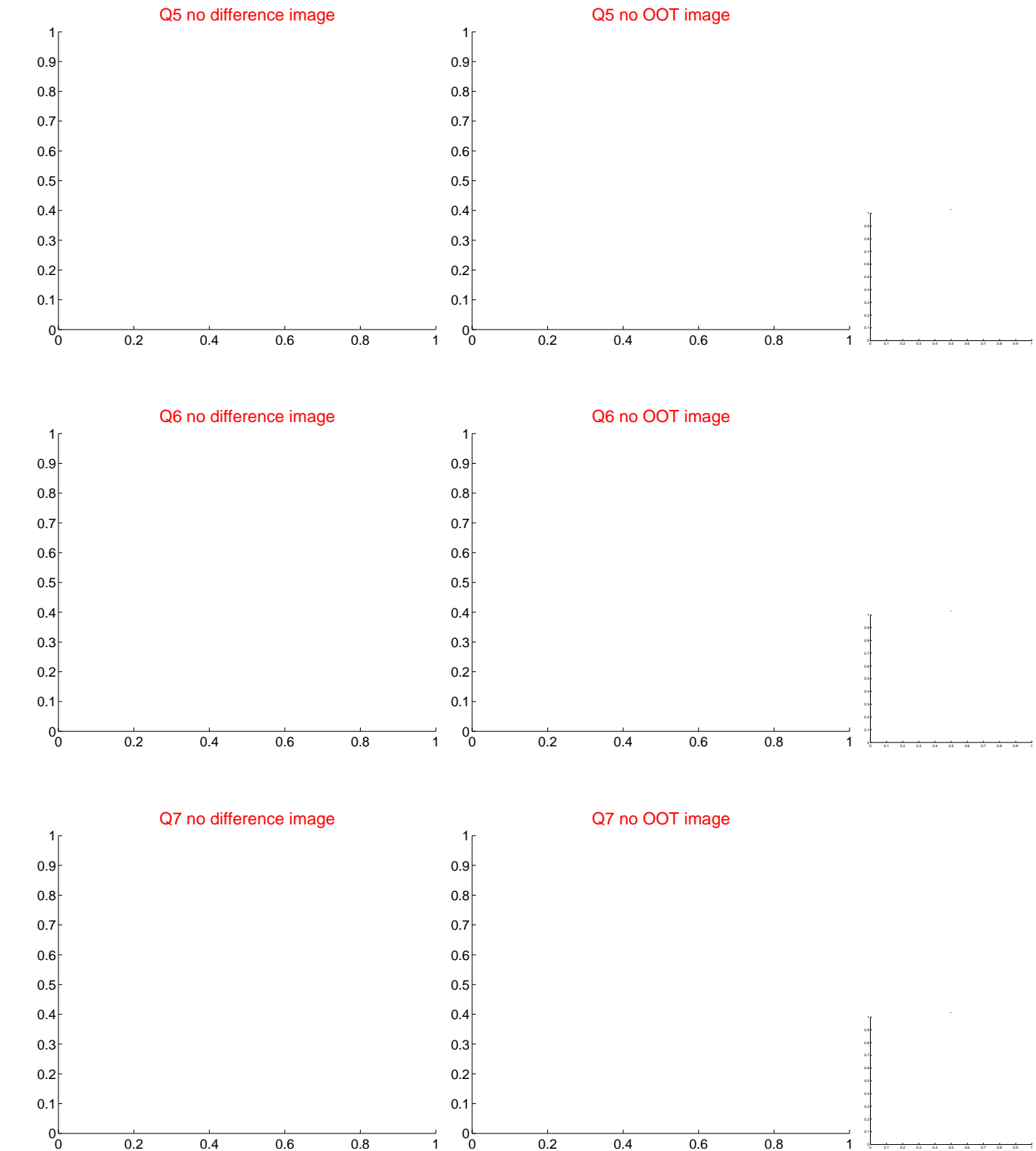


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

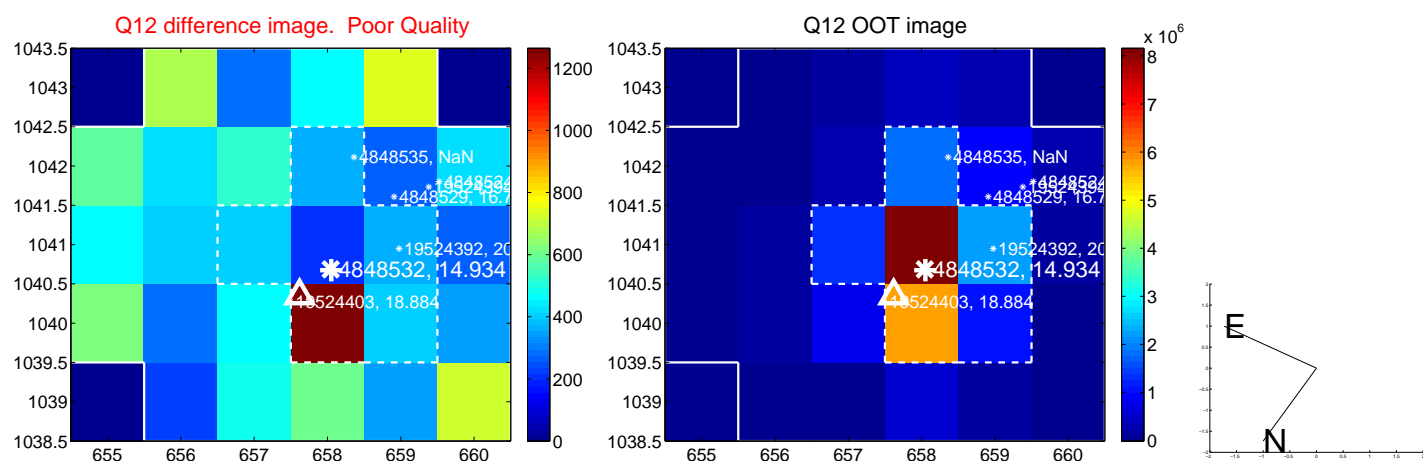
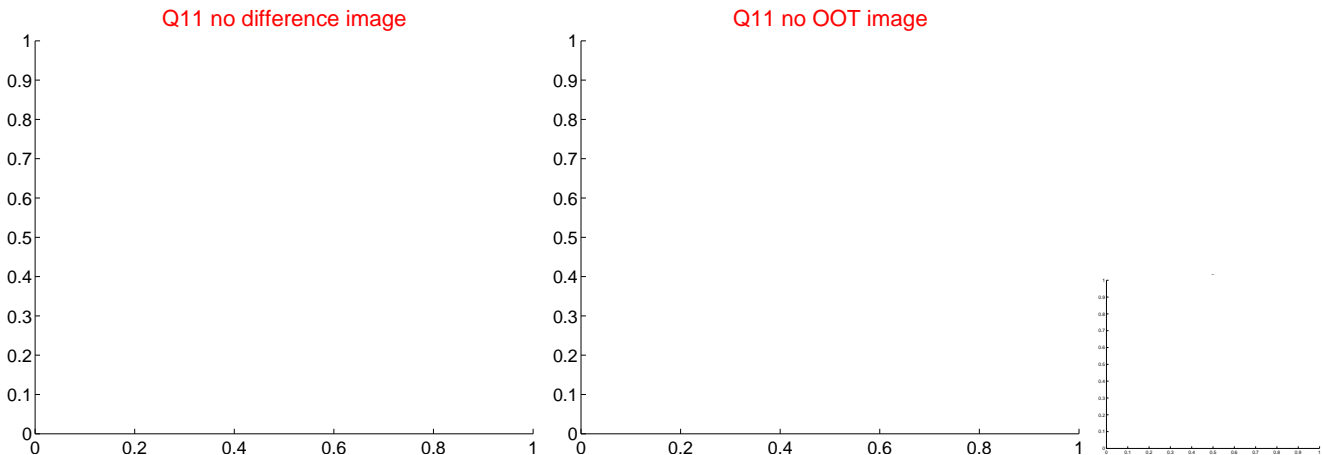
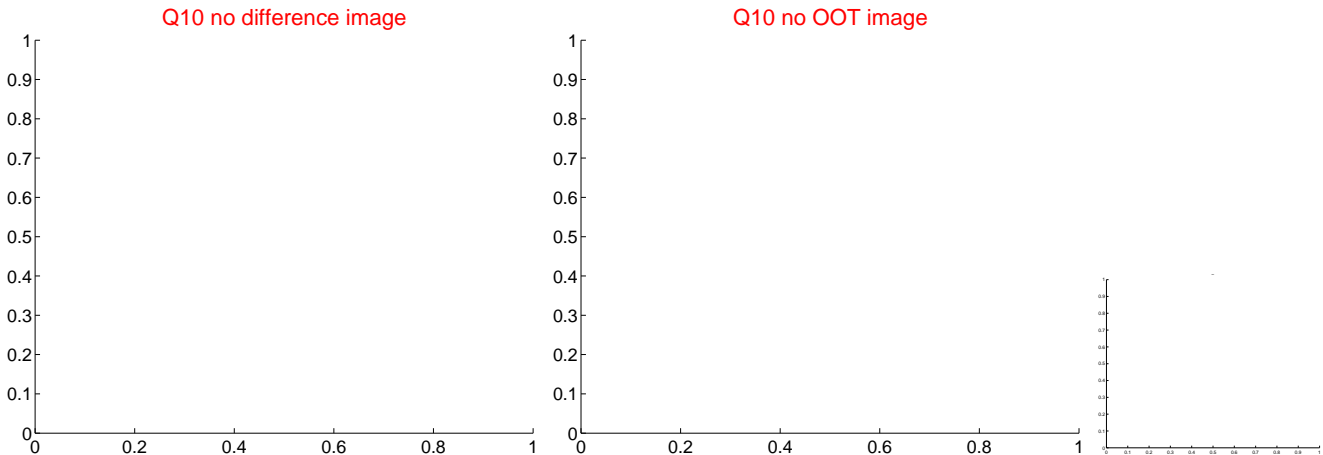
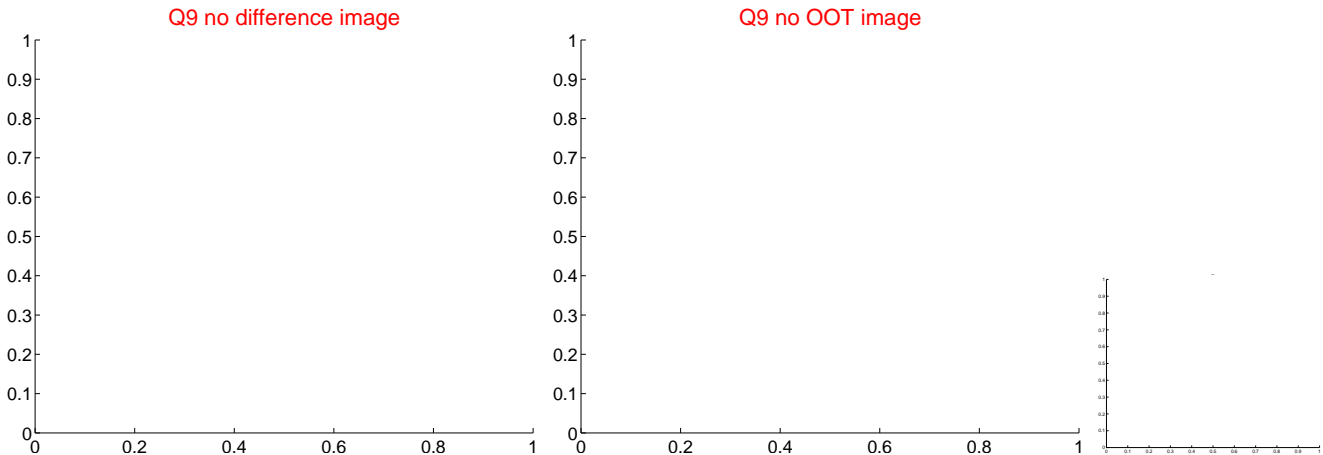
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



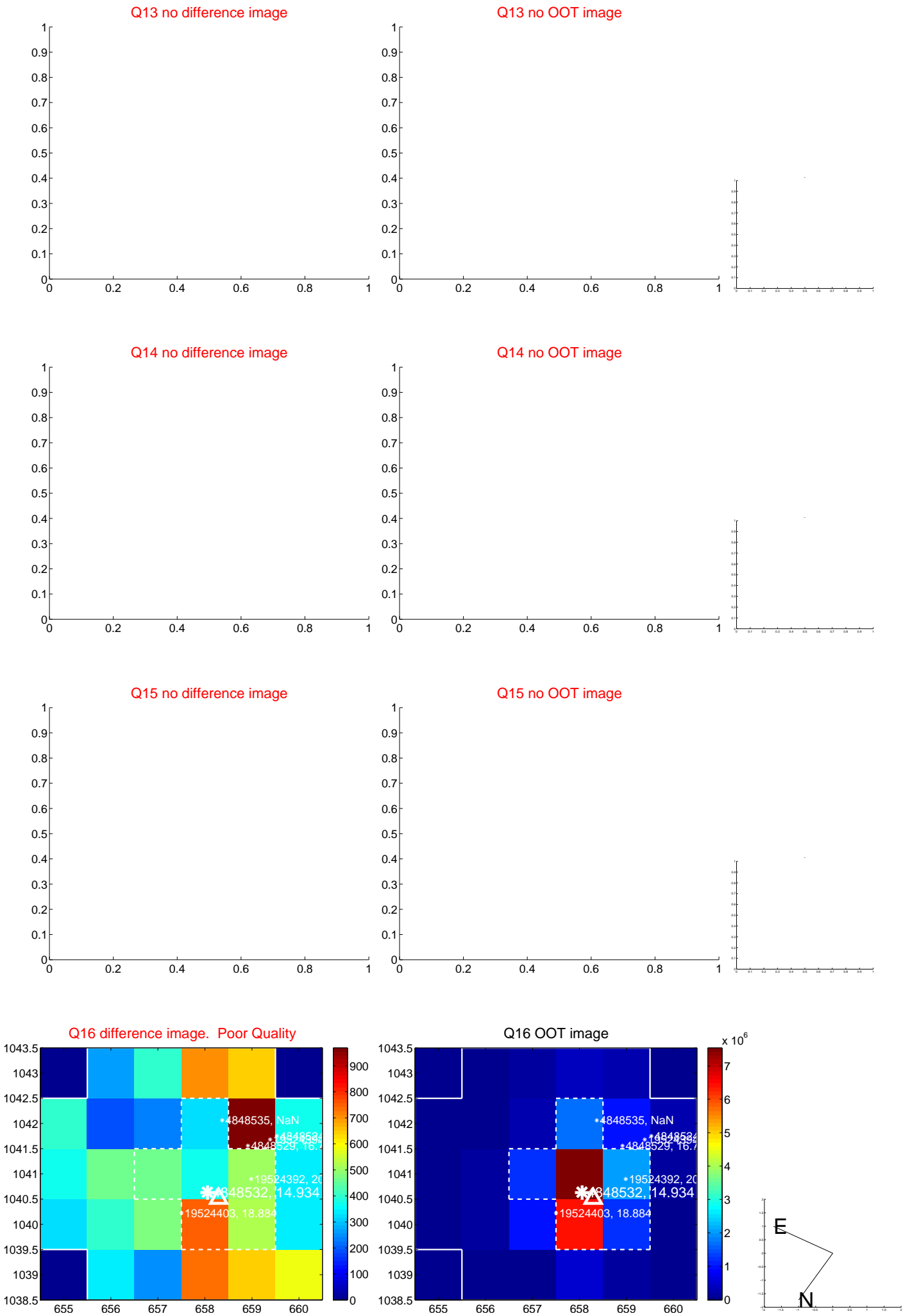
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



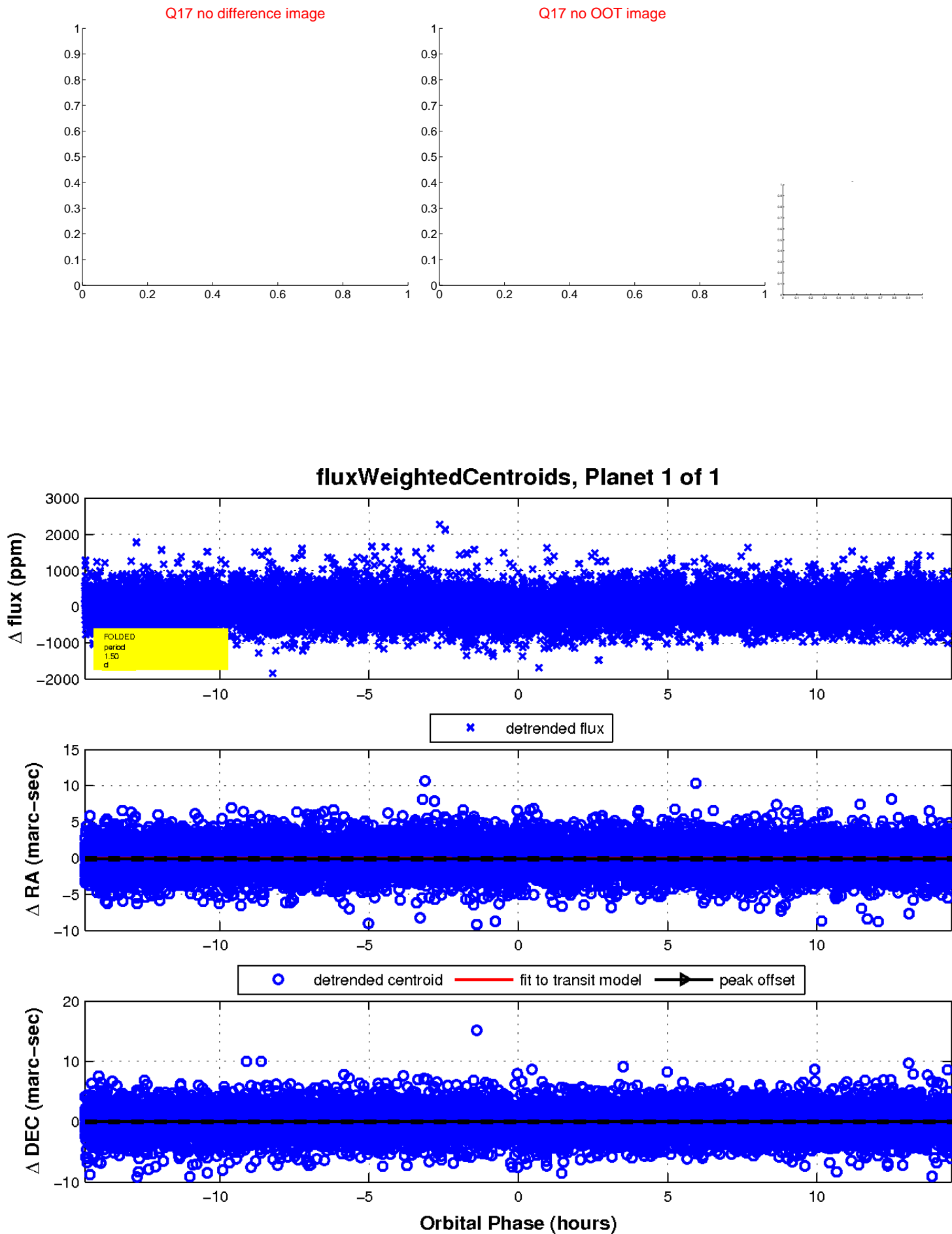
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



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



UKIRT Image

Declination

