

KIC 004820550

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})
004820550-01	OBS	3823.01	202.117103	292.049368	2786.2	4.708	55.8	57.4	0.92	5536	5.89	1.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004820550-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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 004820550-01

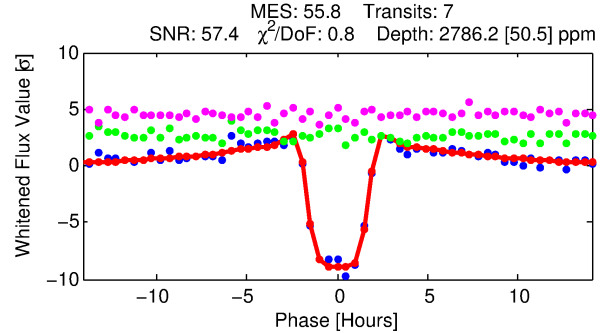
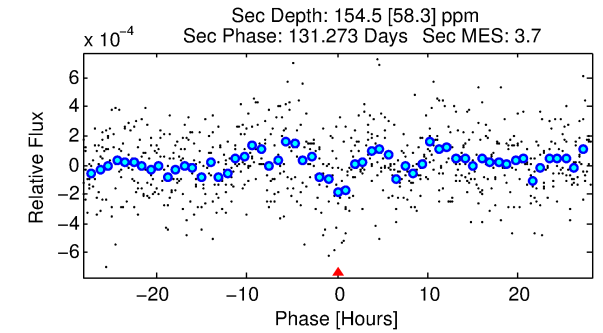
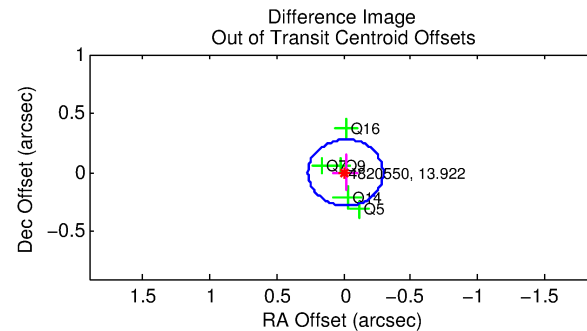
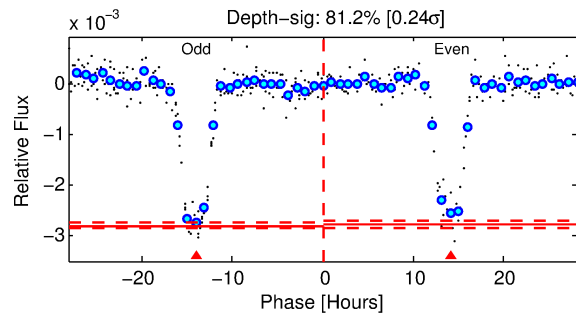
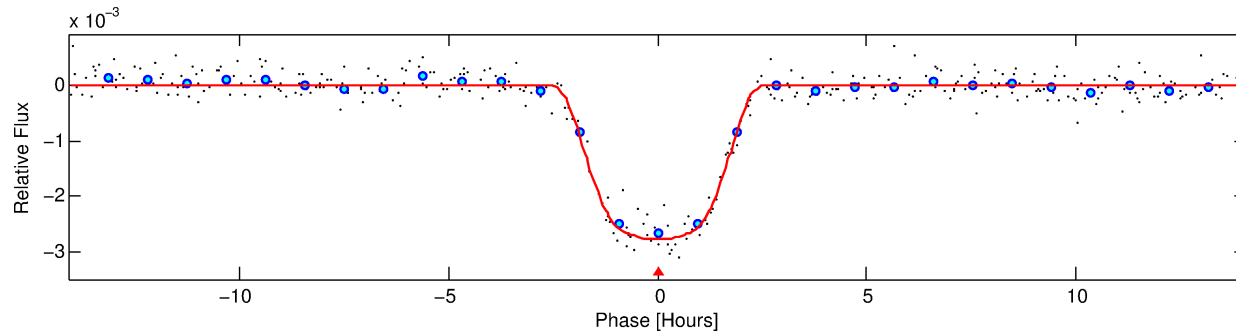
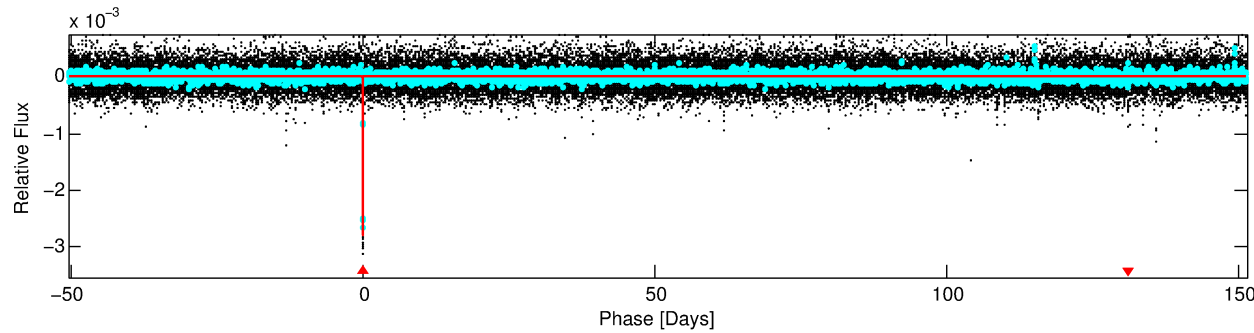
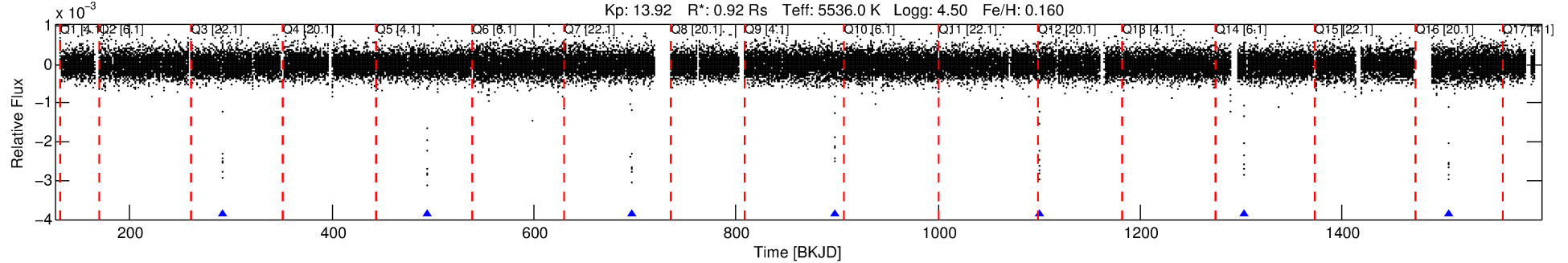
No Significant Match Found

DV One-Page Summary

KIC: 4820550 Candidate: 1 of 1 Period: 202.117 d

KOI: K03823.01 Corr: 0.990

Kp: 13.92 R*: 0.92 Rs Teff: 5536.0 K Logg: 4.50 Fe/H: 0.160



DV Fit Results:

Period = 202.11710 [0.00038] d
Epoch = 292.0494 [0.0013] BKJD
Rp/R* = 0.0588 [0.0009]
a/R* = 178.50 [6.61]
b = 0.91 [0.01]
Seff = 1.59 [0.32]
Teq = 287 [14] K
Rp = 5.89 [0.74] Re
a = 0.6663 [0.0803] AU
Ag = 1089.27 [462.58] [2.35 σ]
Teffp = 2545 [244] K [9.25 σ]

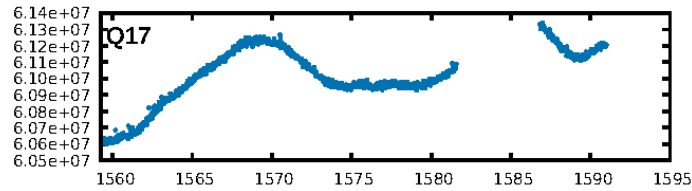
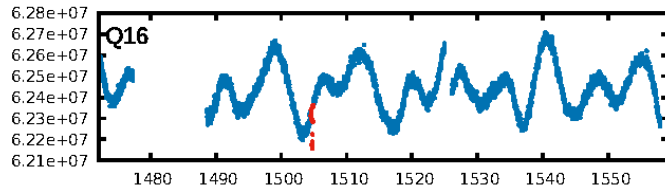
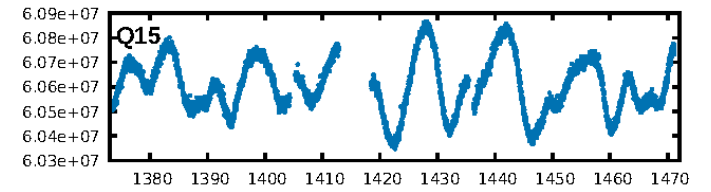
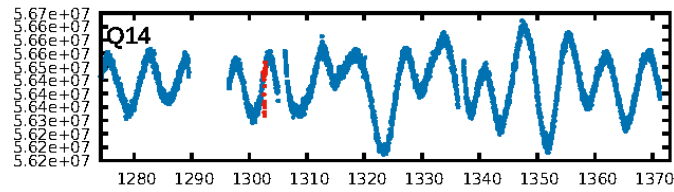
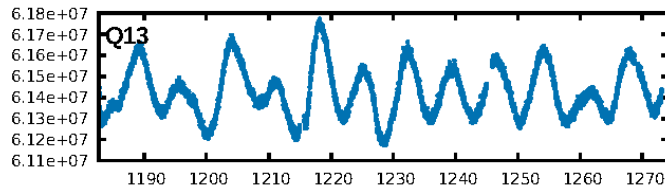
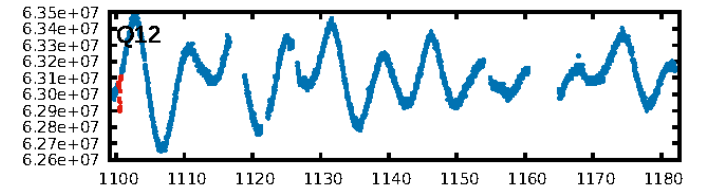
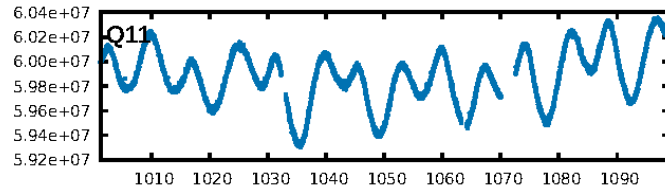
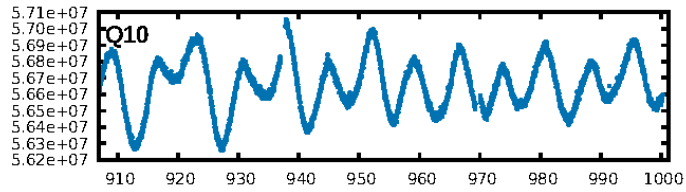
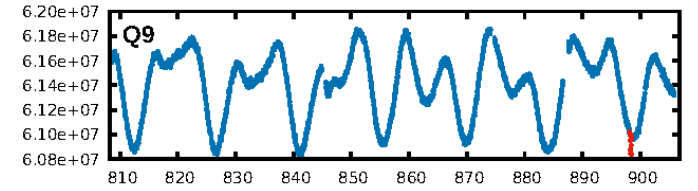
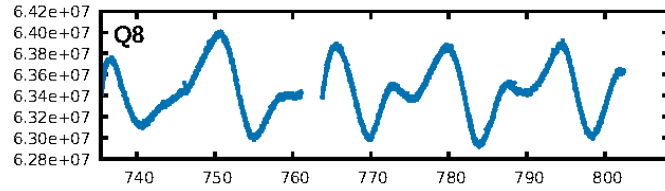
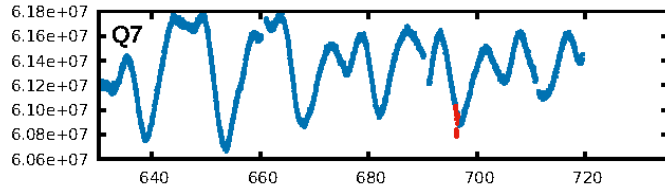
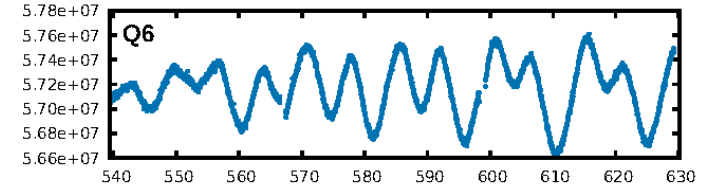
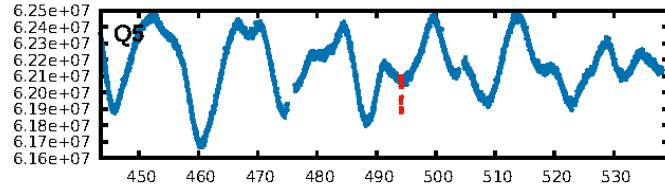
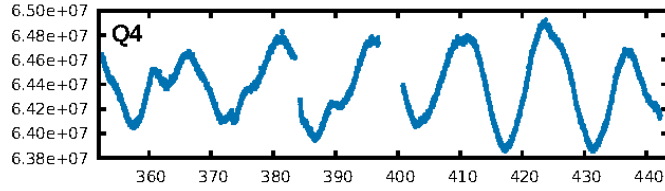
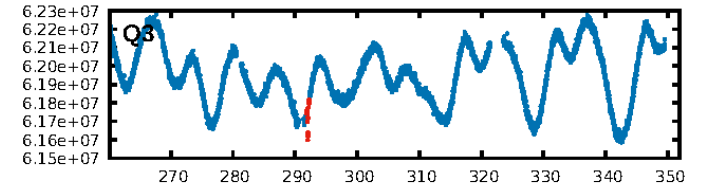
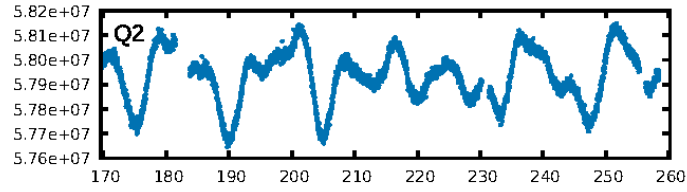
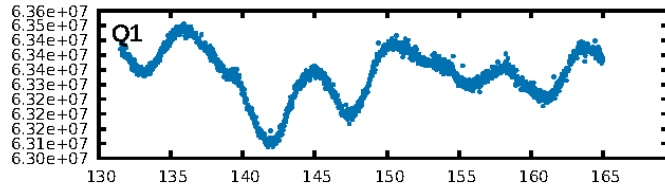
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 73.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.20e-298
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 2.358
Centroid-sig: 20.6%
Centroid-so: 0.094 arcsec [0.62 σ]
OotOffset-rm: 0.015 arcsec [0.16 σ]
KicOffset-rm: 0.134 arcsec [1.54 σ]
OotOffset-st: 1/1/1/2 [5]
KicOffset-st: 1/1/1/2 [5]
DiffImageQuality-fgm: 1.00 [5/5]
DiffImageOverlap-fno: 1.00 [5/5]

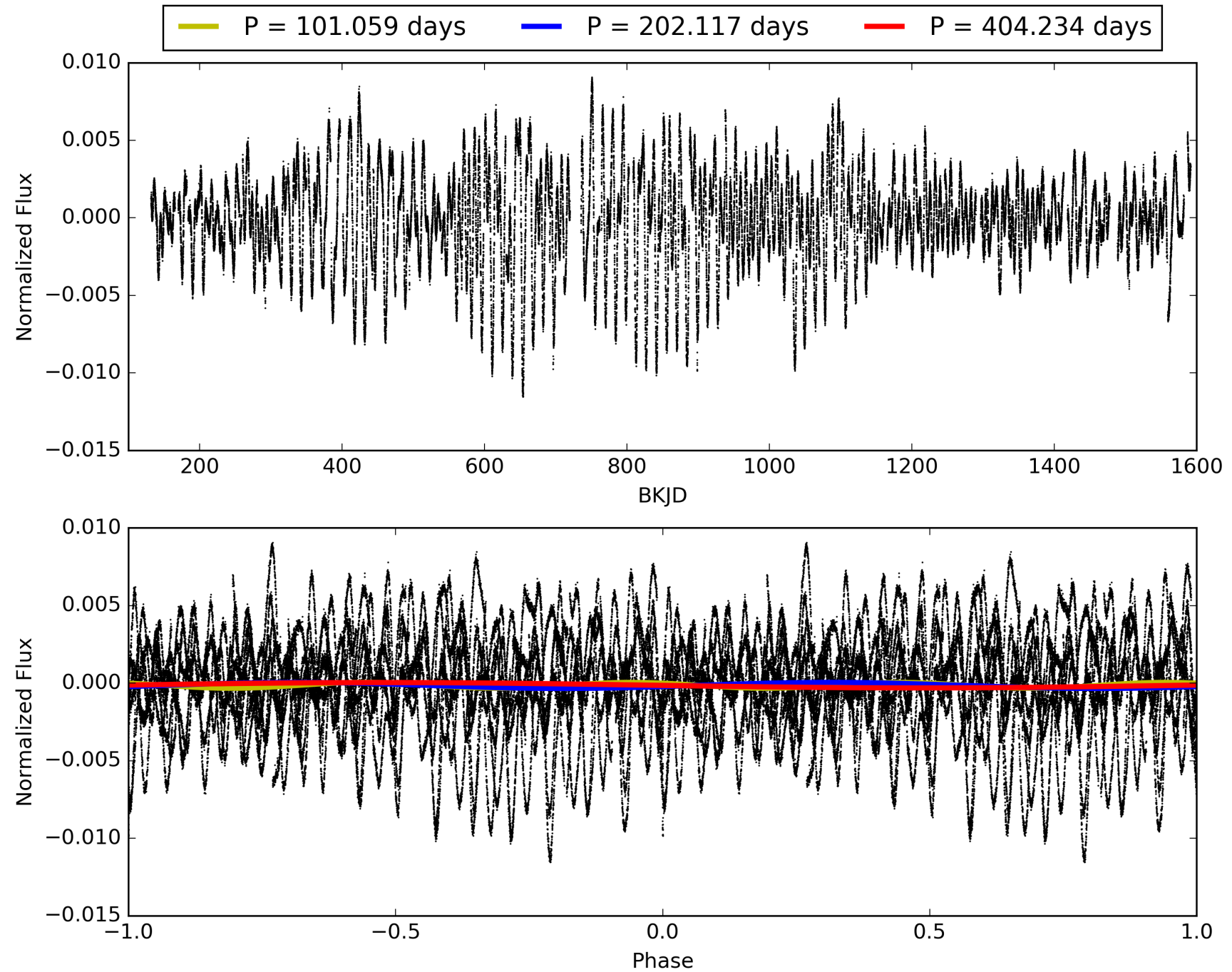
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:20:27 Z

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

TCE 004820550-01, PDC Light Curves

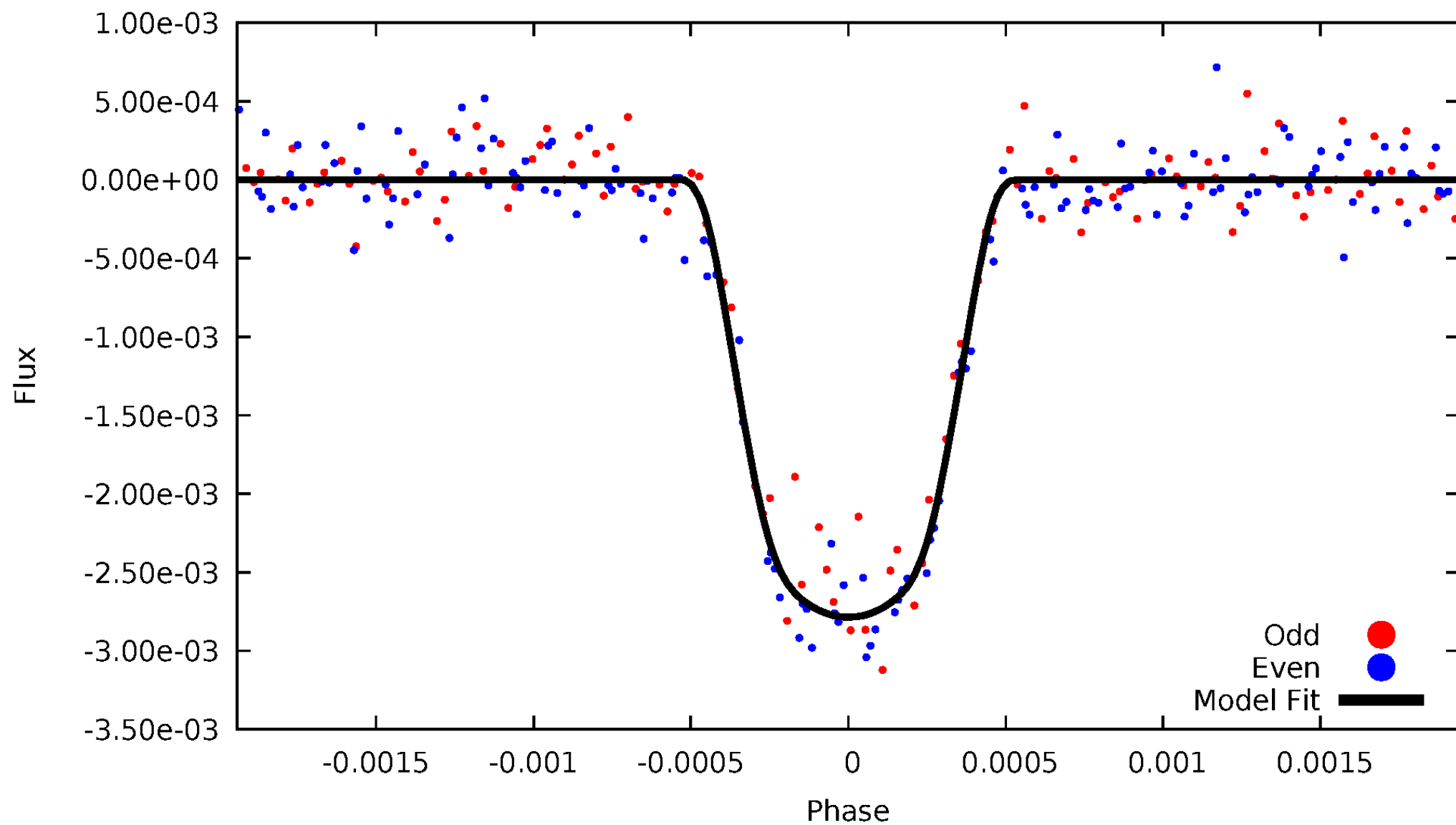


TCE 004820550-01



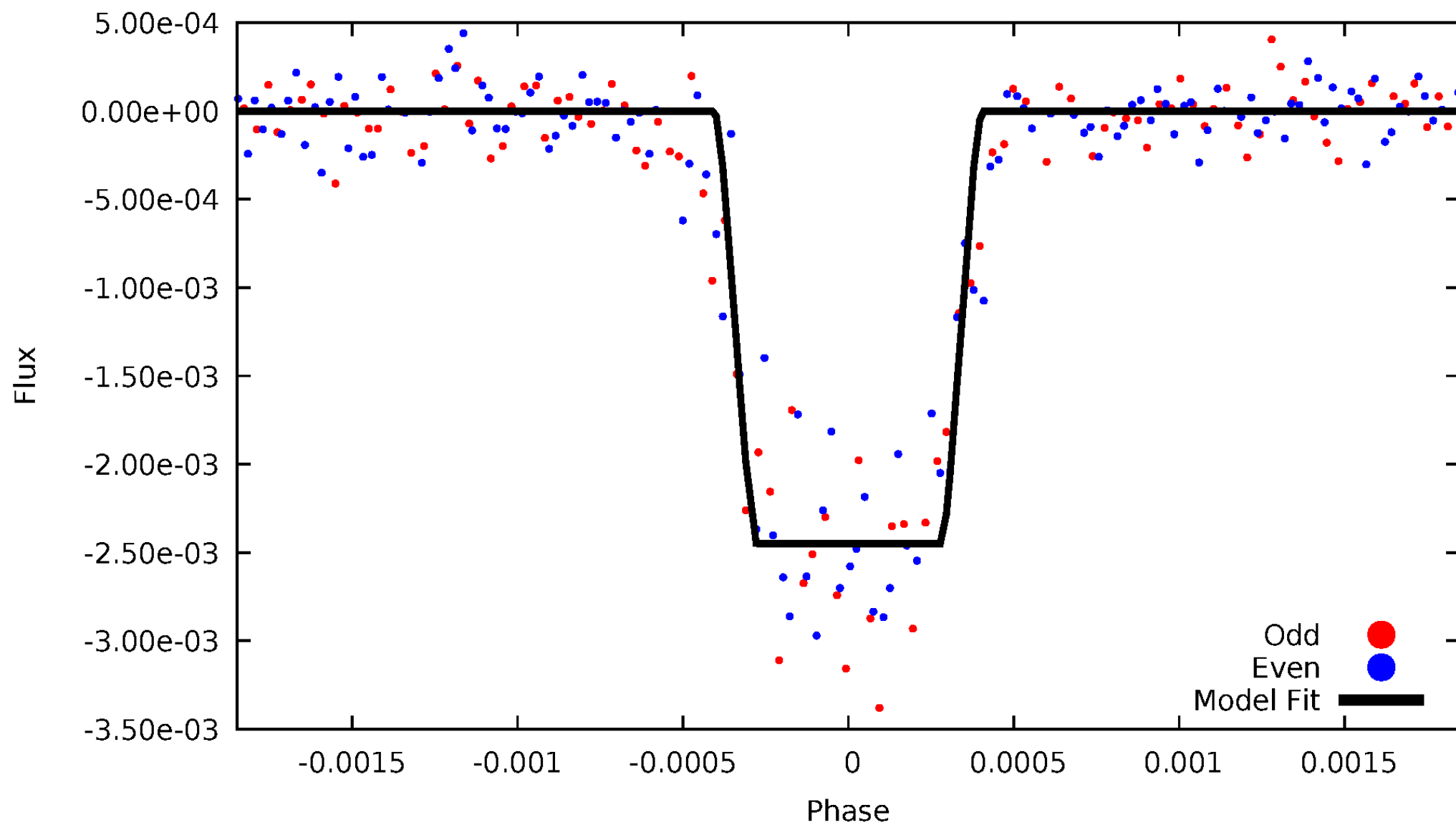
DV Odd/Even

TCE 004820550-01



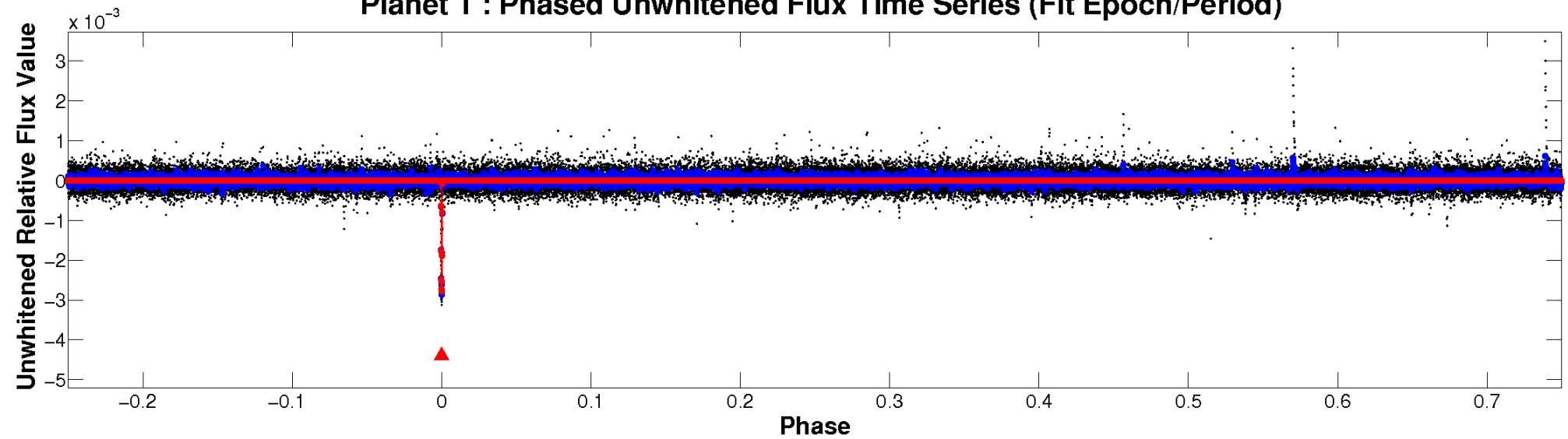
ALT Odd/Even

TCE 004820550-01

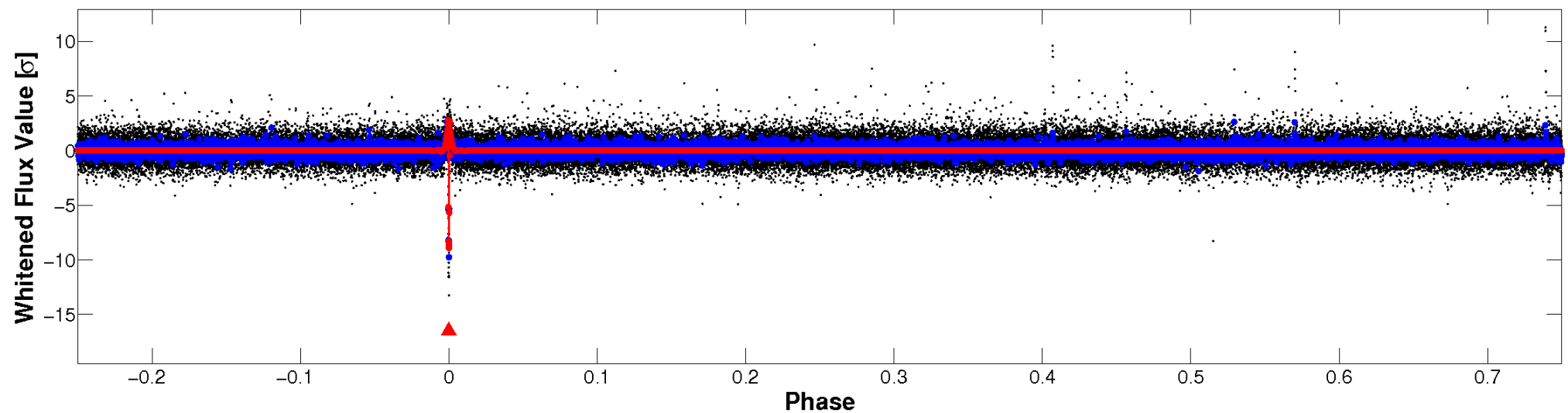


Non-Whitened Vs. Whitened Light Curve

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

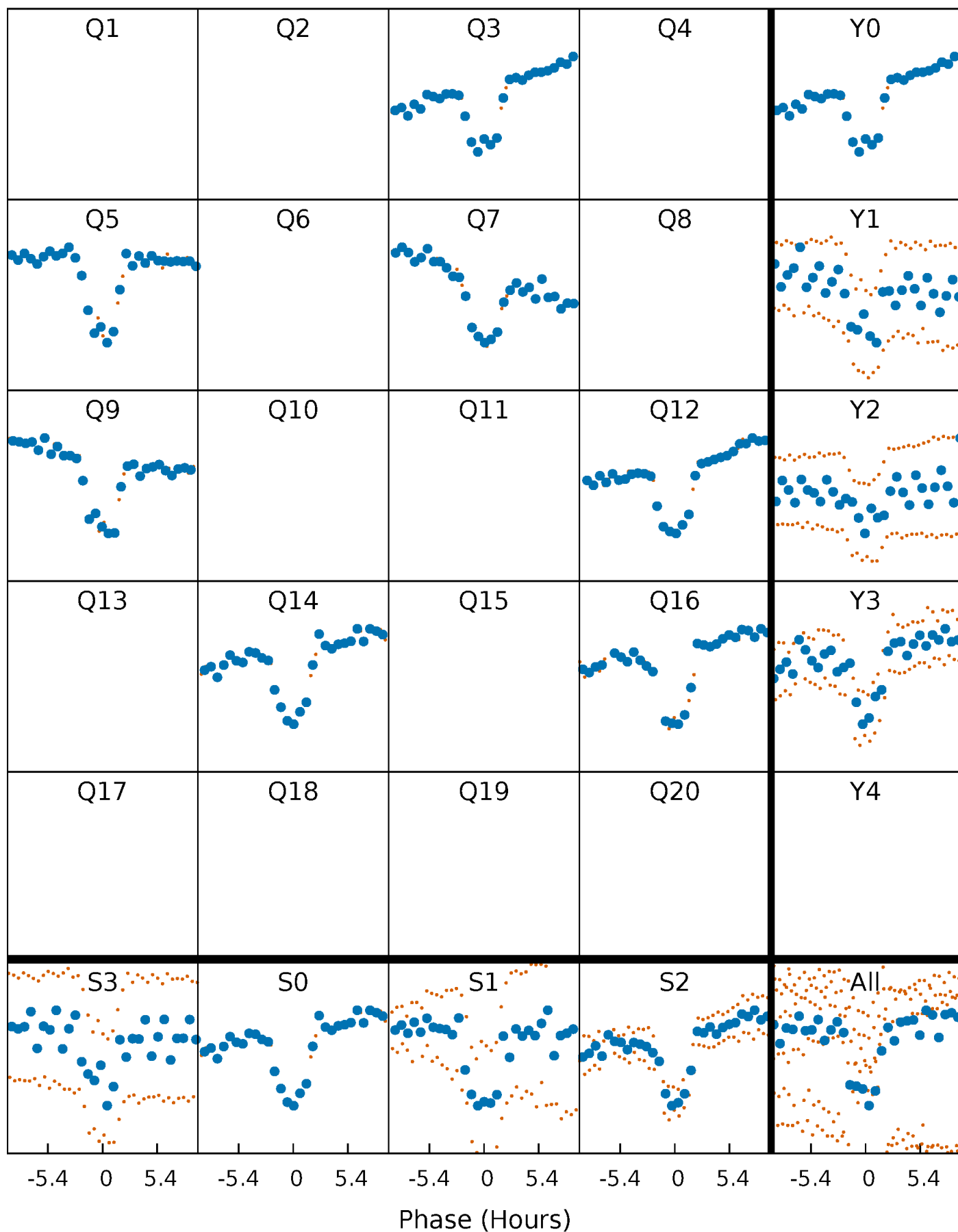


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



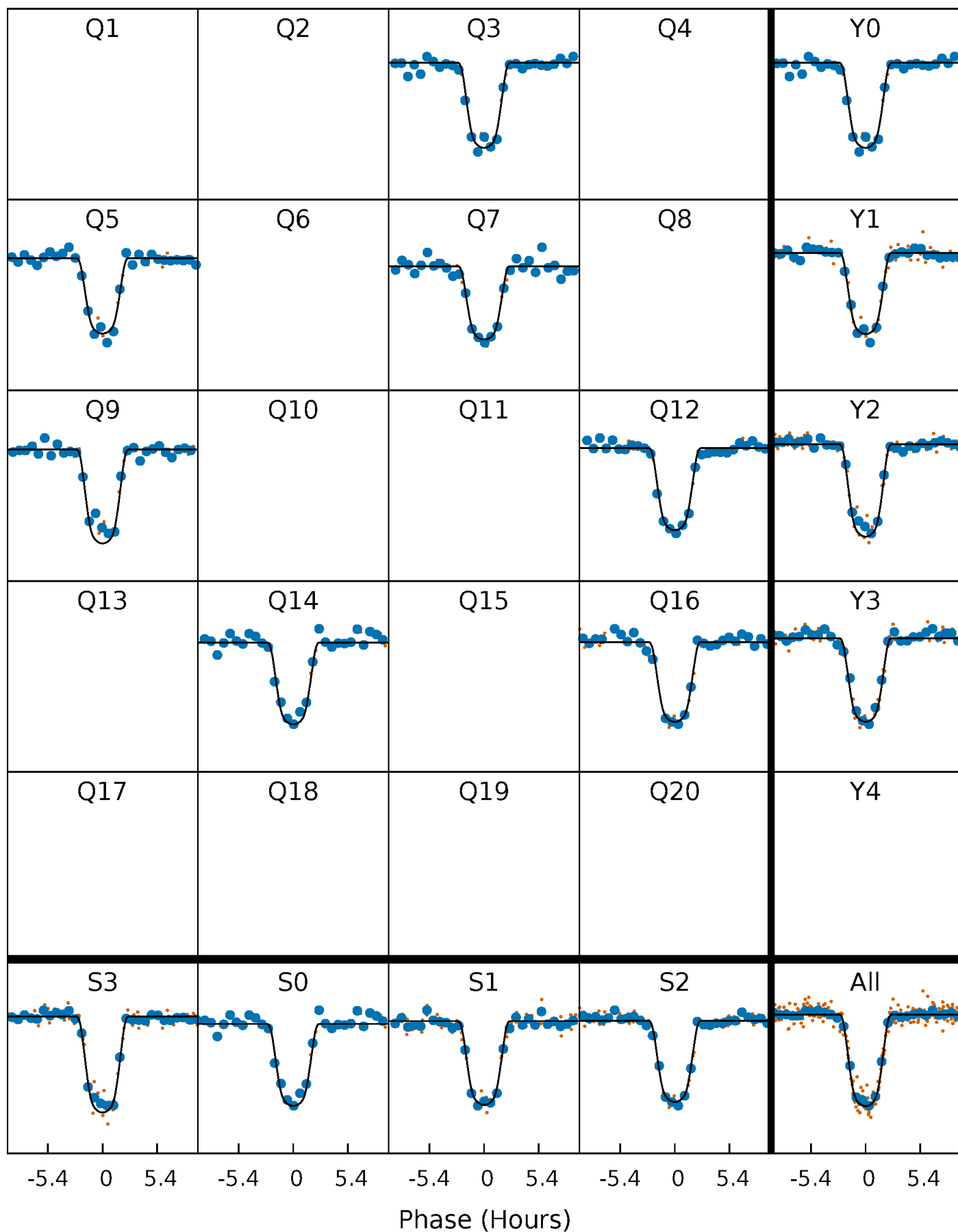
PDC Quarter-Phased Transit Curves

TCE 004820550-01 P=202.117103 Days $T_0=292.049368$ (BKJD)



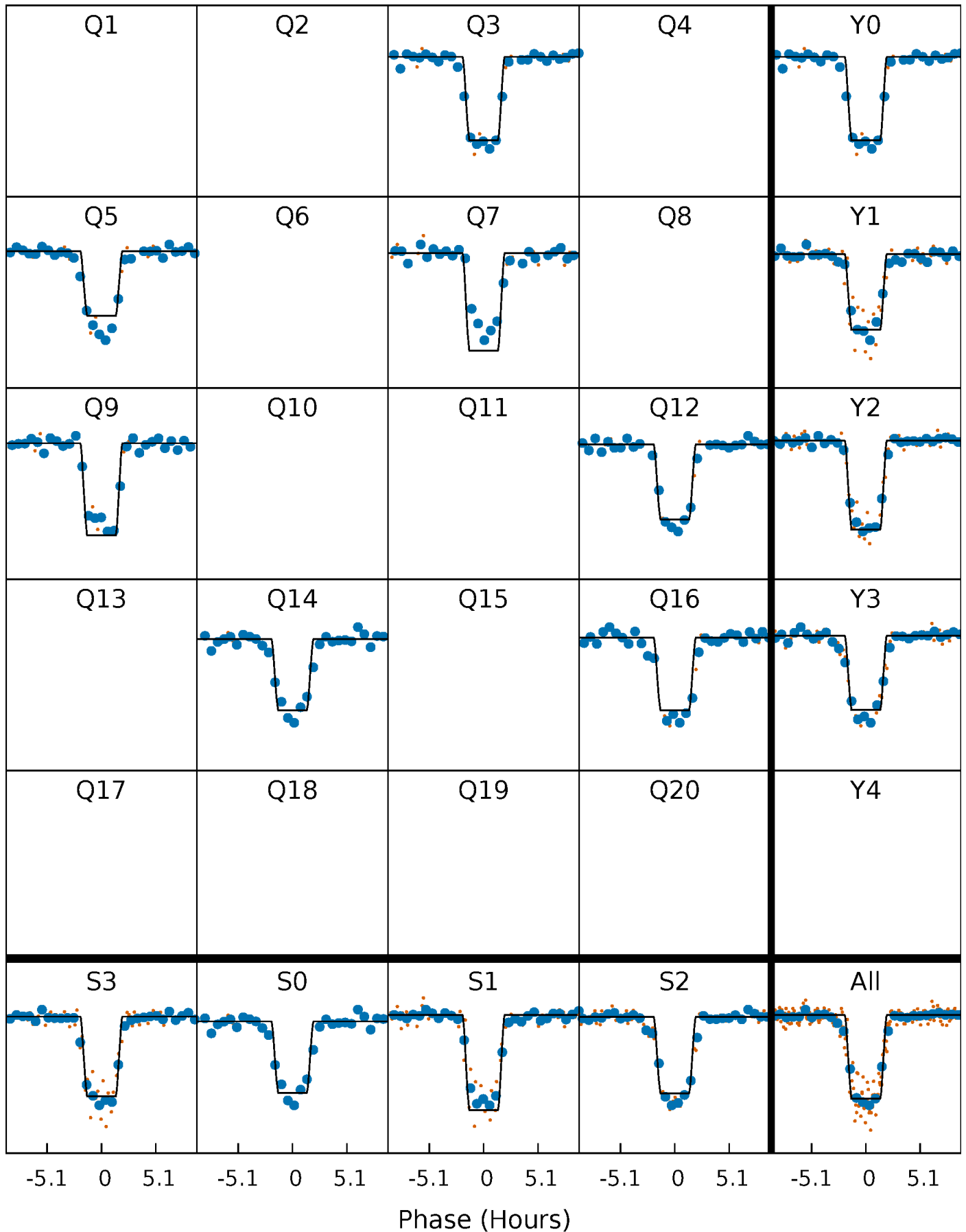
DV Quarter-Phased Transit Curves

TCE 004820550-01 P=202.117103 Days $T_0=292.049368$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

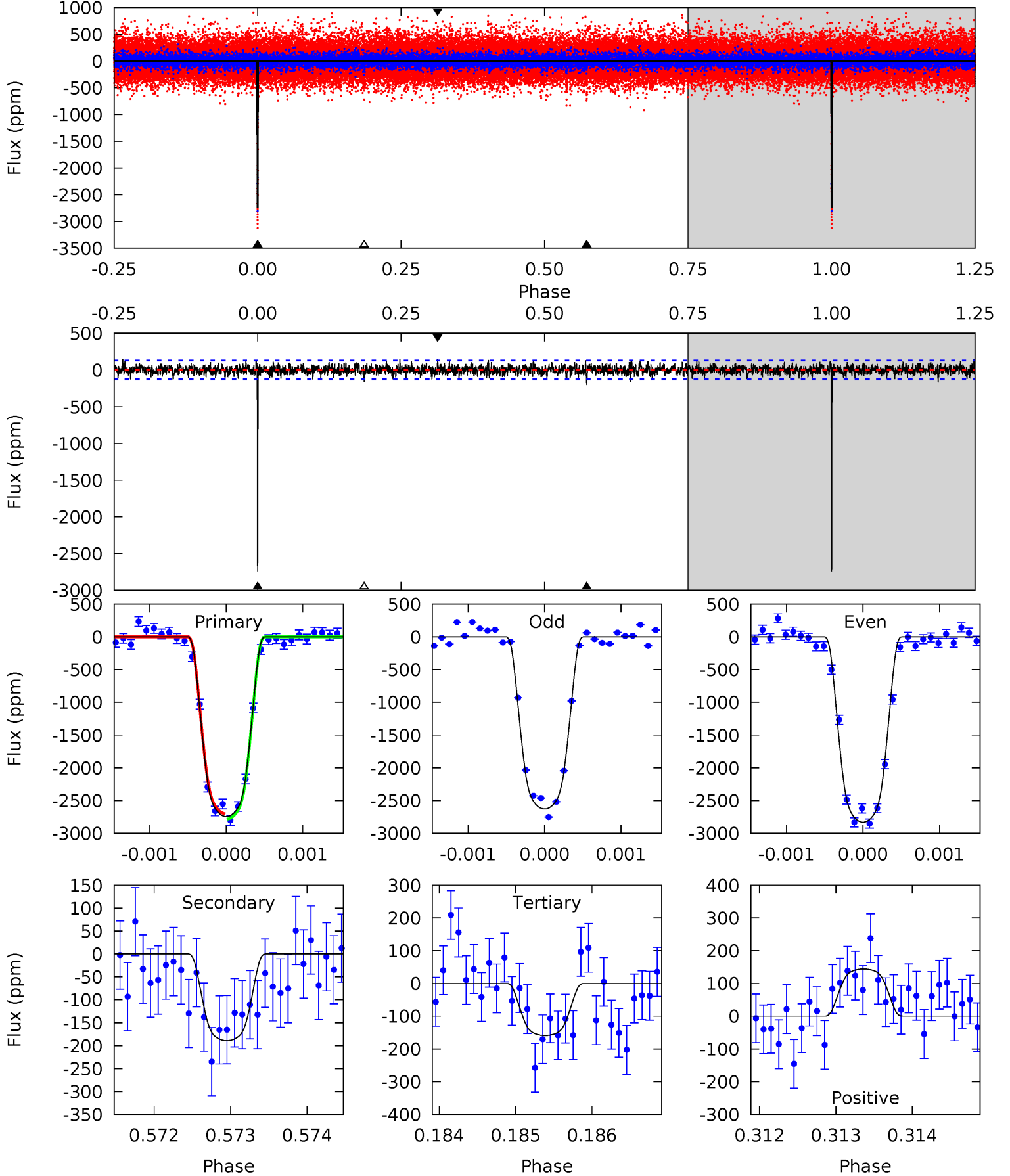
TCE 004820550-01 P=202.115708 Days $T_0=292.053764$ (BKJD)



DV Model-Shift Uniqueness Test

004820550-01, P = 202.117103 Days, E = 89.932265 Days

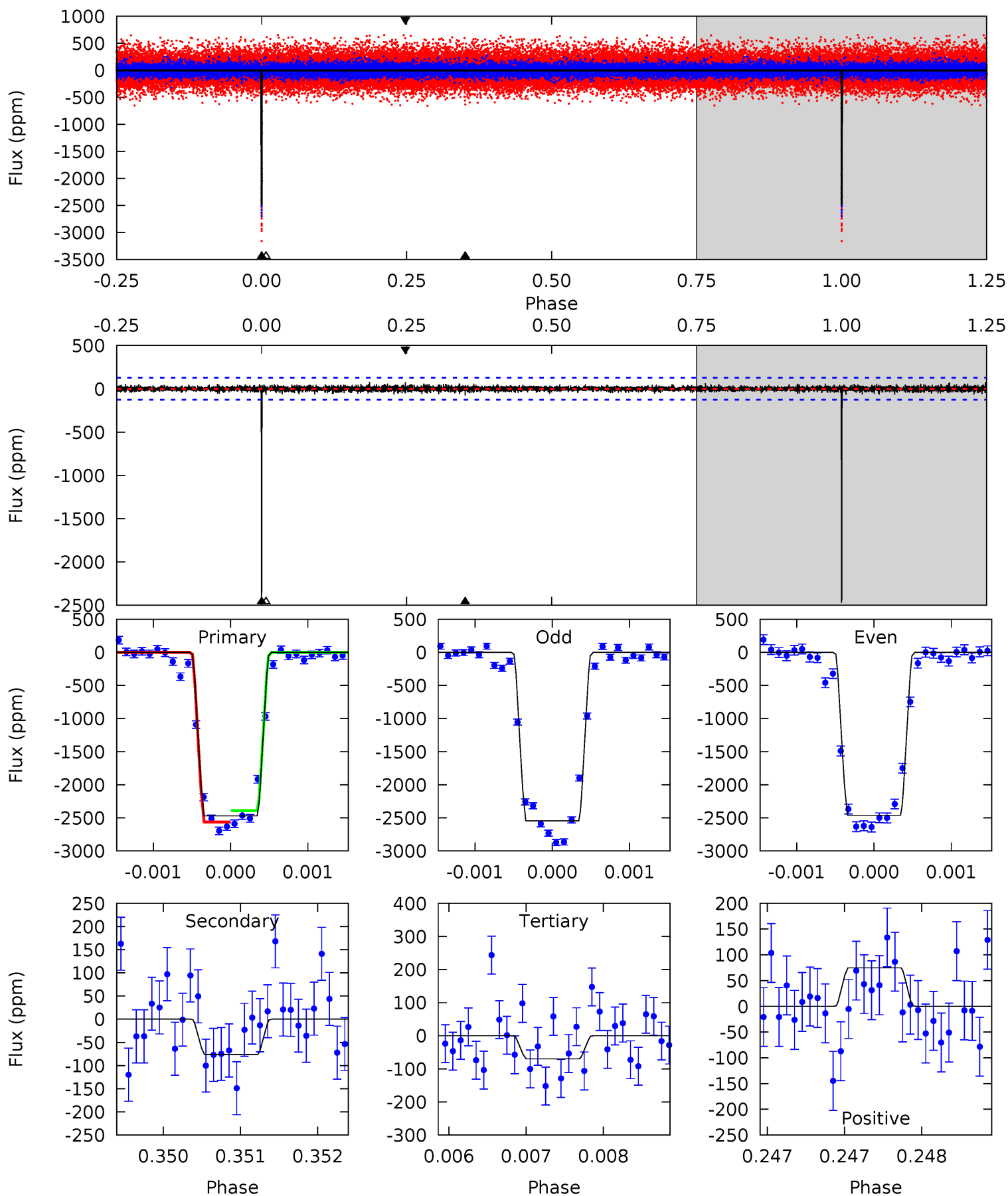
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
116.0	8.00	6.73	6.09	5.44	3.27	1.73	109.3	109.9	1.27	1.92	4.23	0.97	0.05	1.71



Alt Model-Shift Uniqueness Test

004820550-01, P = 202.115708 Days, E = 89.938056 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
106.7	3.30	3.02	3.23	5.49	3.35	0.70	103.7	103.5	0.28	0.07	1.78	0.97	0.03	3.69



Stellar Parameters For KIC 004820550

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5536^{+74}_{-83}	$4.498^{+0.038}_{-0.113}$	$0.160^{+0.150}_{-0.150}$	$0.917^{+0.115}_{-0.053}$	$0.964^{+0.044}_{-0.059}$	$1.763^{+0.288}_{-0.555}$
	+1%/-1%	+1%/-3%	+94%/-94%	+13%/-6%	+5%/-6%	+16%/-31%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 004820550-01 / KOI 3823.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-189 ± 24	$5.93^{+0.47}_{-0.27}$	404^{+14}_{-11}	3243^{+71}_{-74}	1282^{+224}_{-219}
Alt.	-76 ± 23	$5.02^{+0.35}_{-0.25}$	404^{+13}_{-10}	2990^{+117}_{-148}	723^{+229}_{-228}

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 $A_{obs} \gg 1.0$

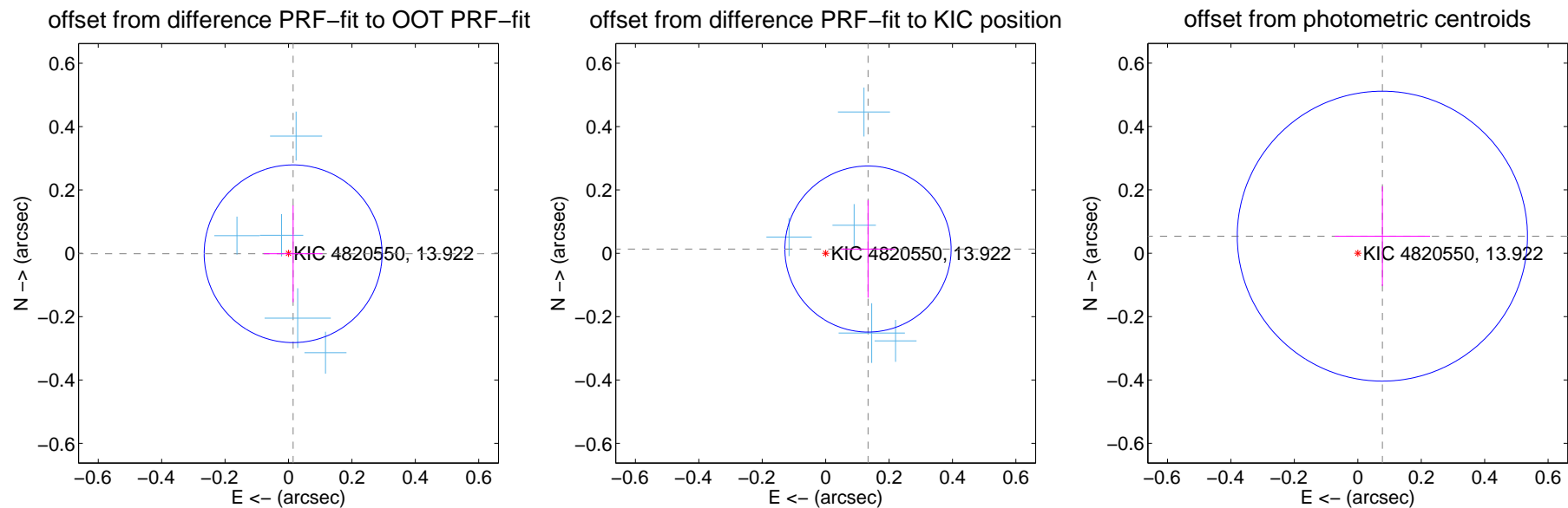
DV Centroid Data

Supplemental centroid analysis for 004820550-01. Kepler magnitude: 13.92. Transit SNR 57.36

There are 5 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.015 ± 0.093	0.16	-0.015 ± 0.093	-0.001 ± 0.153
PRF-fit source offset from KIC position	0.134 ± 0.087	1.54	-0.134 ± 0.086	0.013 ± 0.154
photometric centroid source offset	0.09 ± 0.15	0.62	-0.08 ± 0.15	0.05 ± 0.16

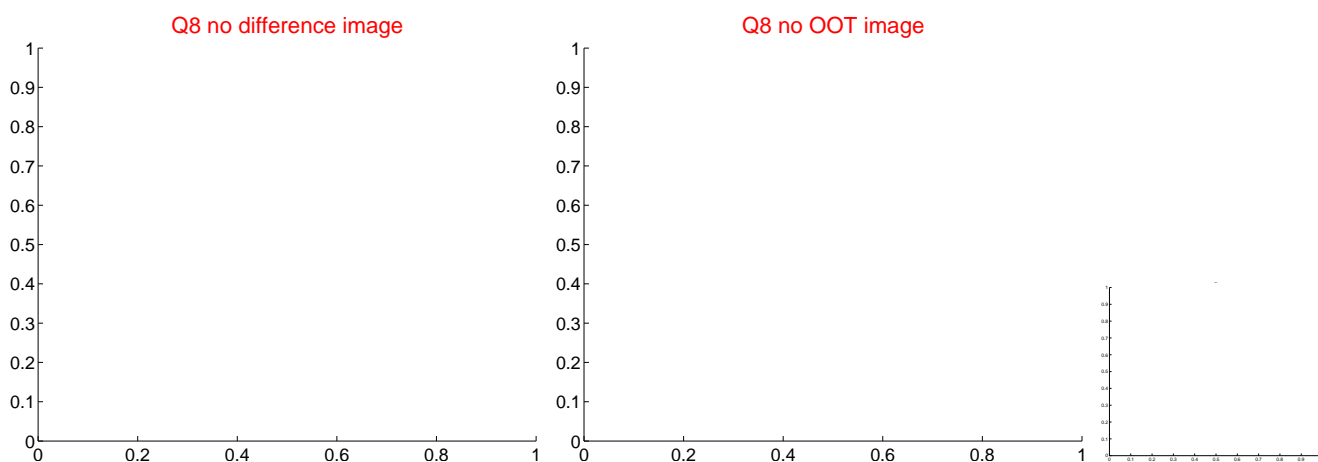
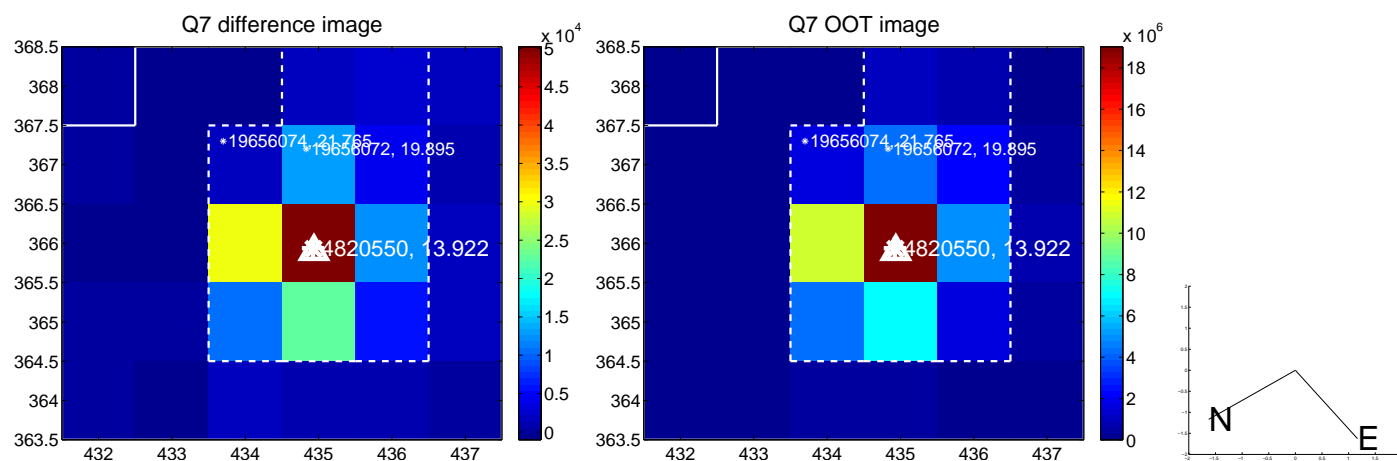
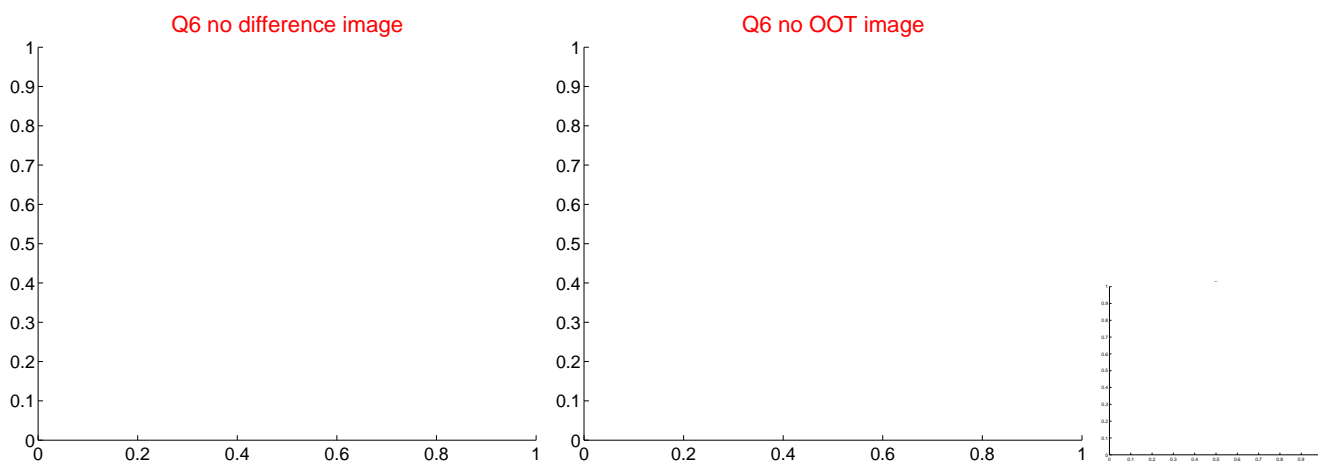
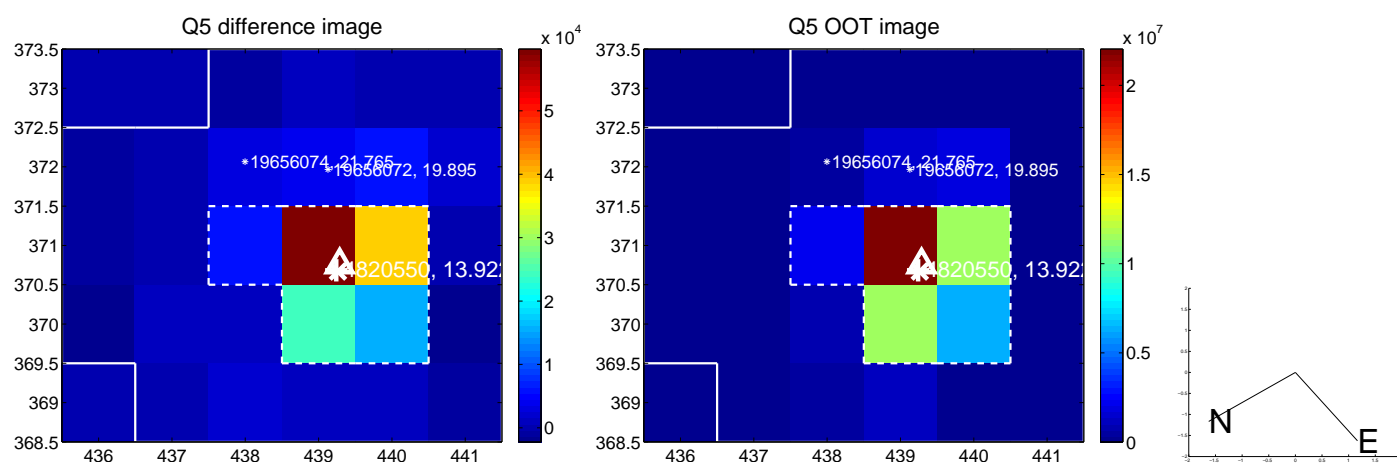


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- 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.

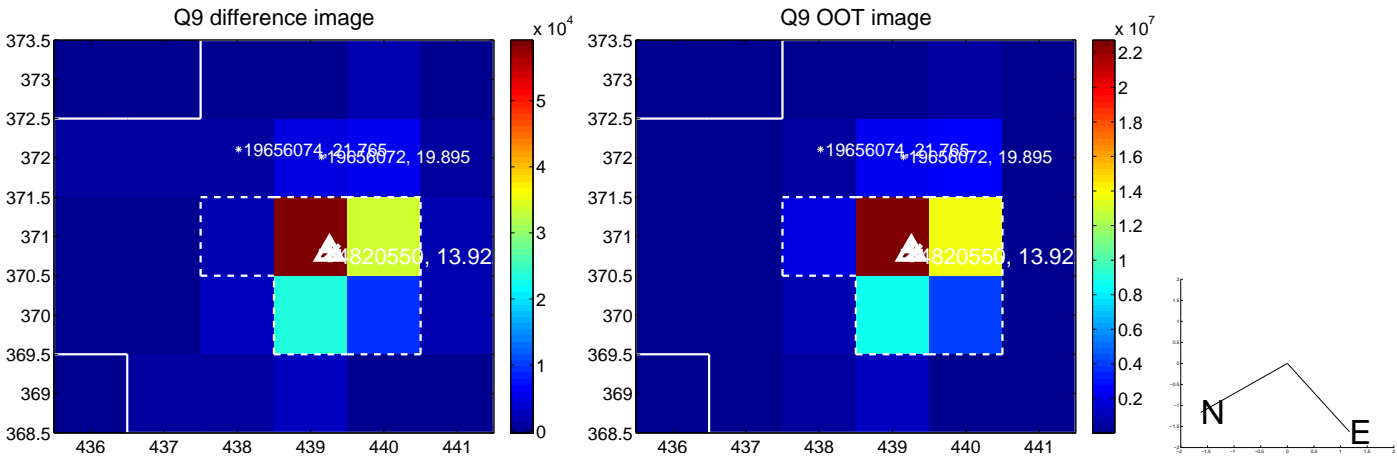
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



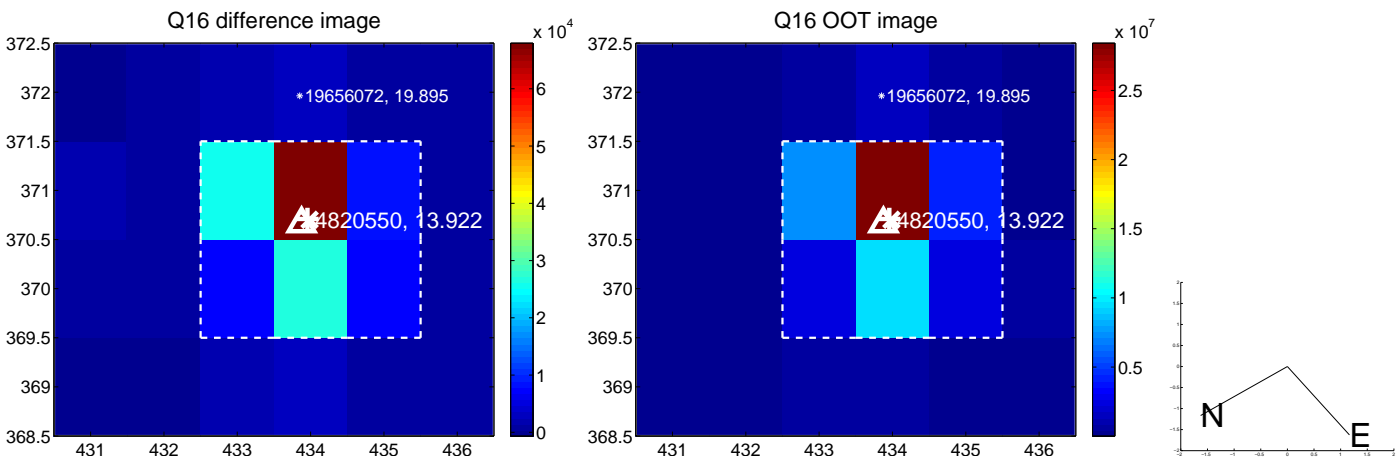
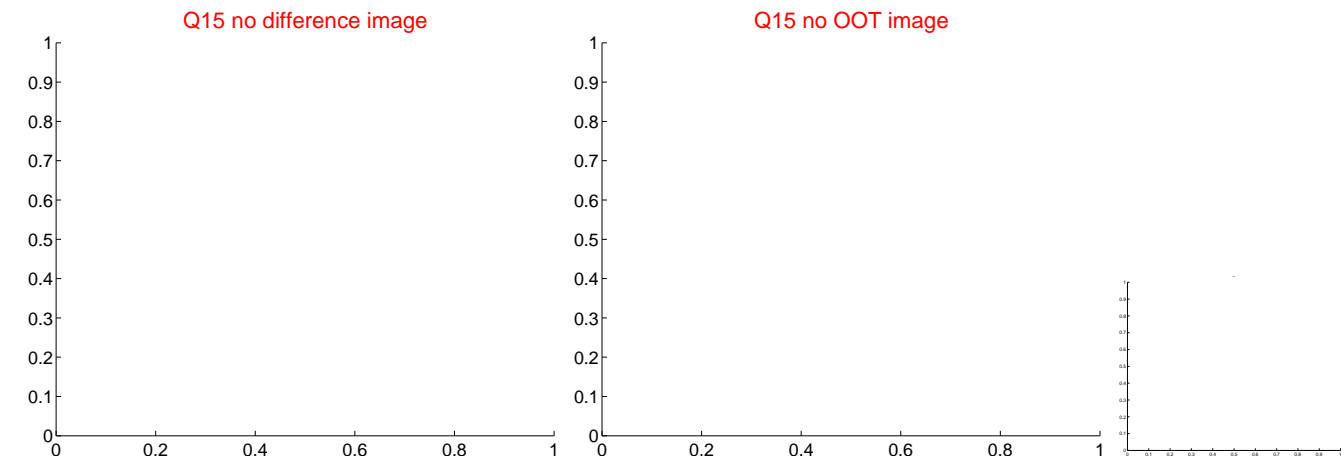
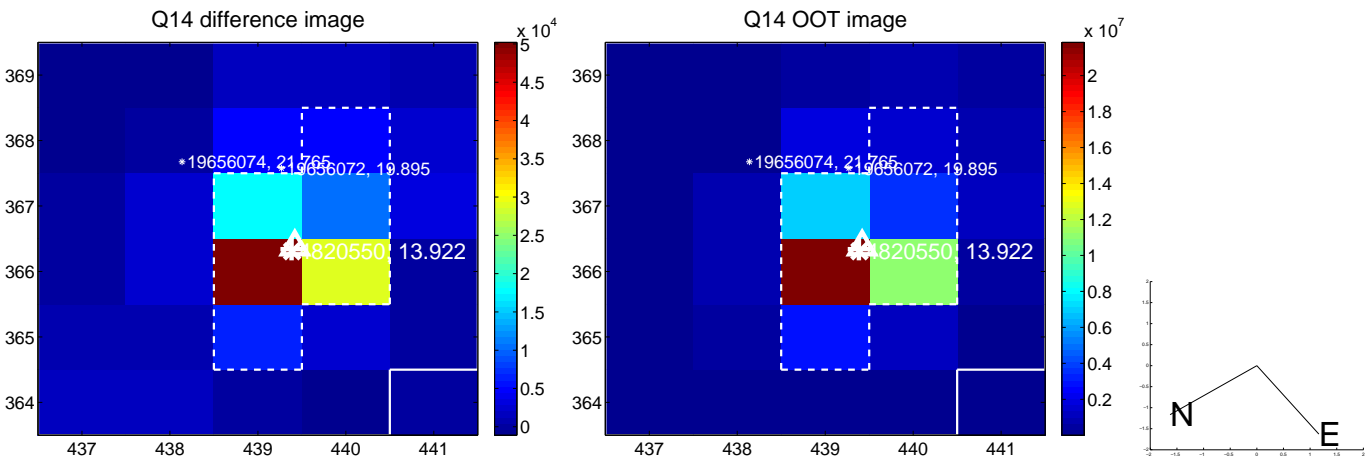
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



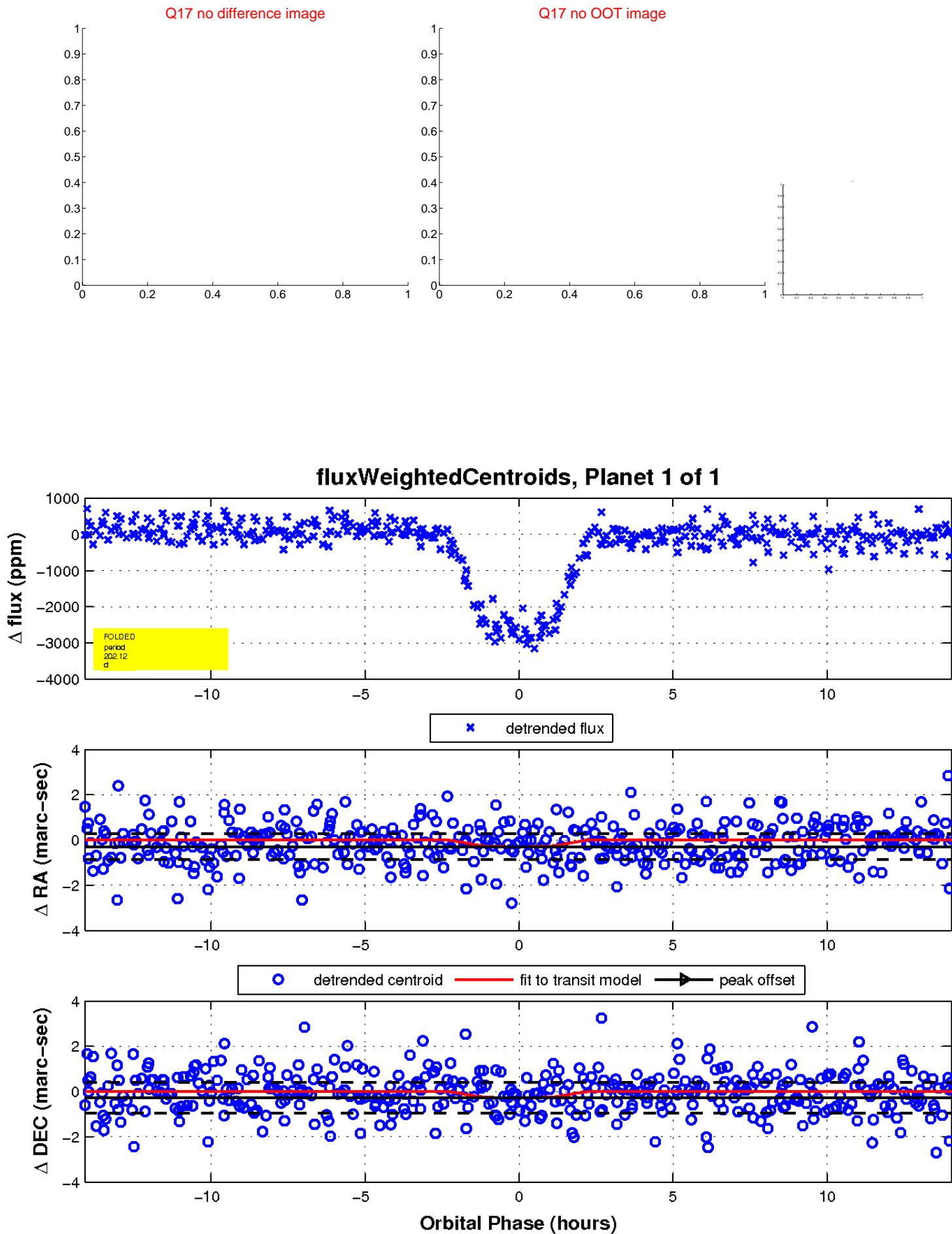
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

