

KIC 004543058

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})
004543058-01	OBS	No	348.188375	323.134362	125.0	4.044	7.1	7.7	1.02	5866	1.34	1.24

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004543058-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—CENT_SATURATED

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

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

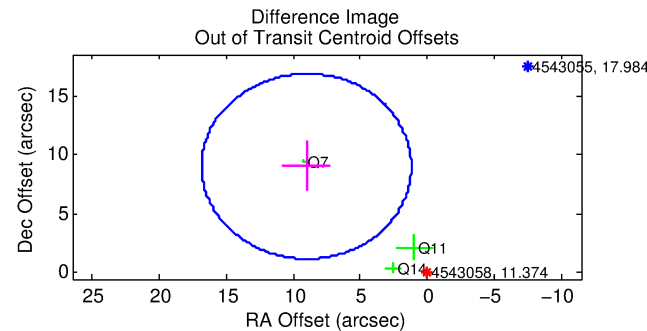
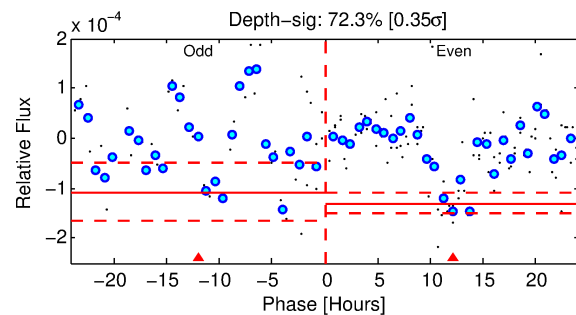
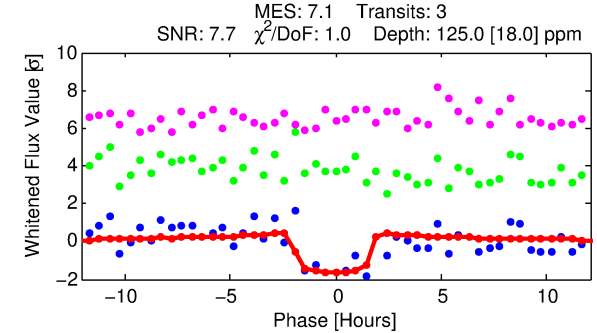
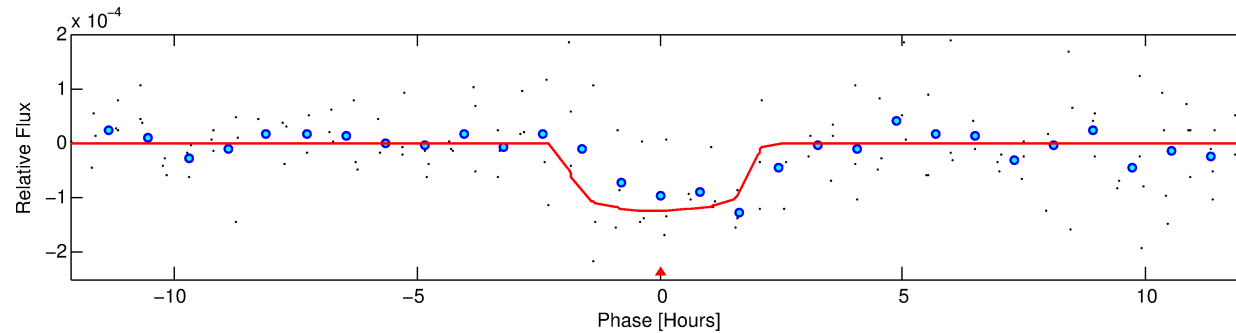
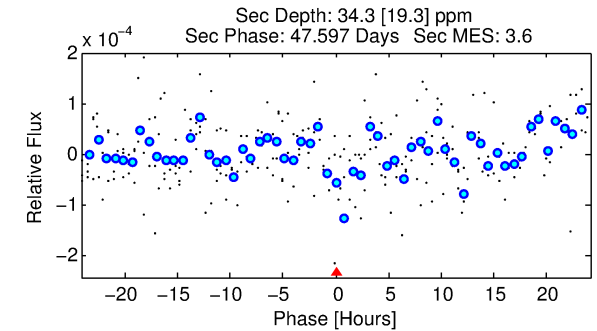
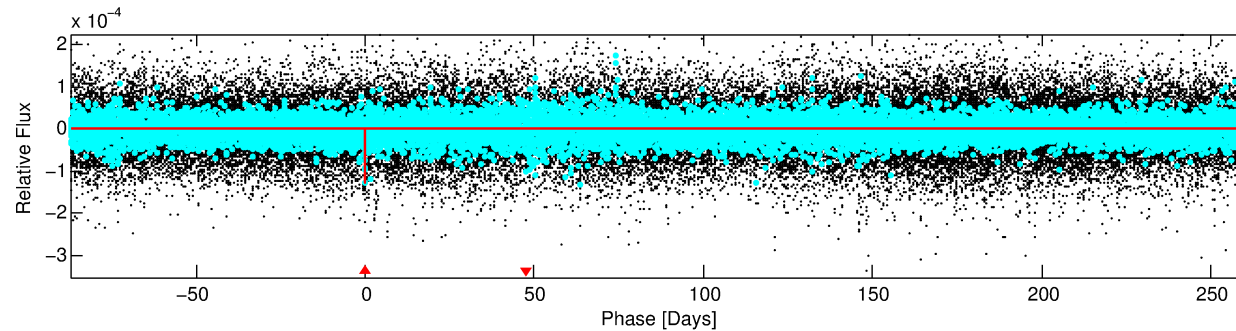
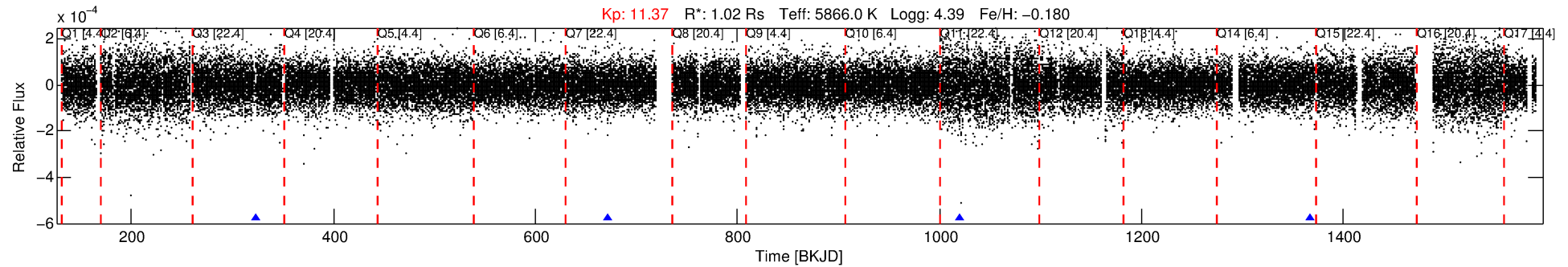
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004543058-01

No Significant Match Found

DV One-Page Summary

KIC: 4543058 Candidate: 1 of 1 Period: 348.188 d



DV Fit Results:

Period = 348.18837 [0.00596] d
Epoch = 323.1344 [0.0125] BKJD
Rp/R* = 0.0120 [0.0096]
a/R* = 316.55 [1259.72]
b = 0.89 [0.95]
Seff = 1.24 [0.34]
Teq = 269 [18] K
Rp = 1.34 [1.11] Re
a = 0.9457 [0.1626] AU
Ag = 9356.30 [16084.61] [0.58σ]
Teff = 4095 [1745] K [2.19σ]

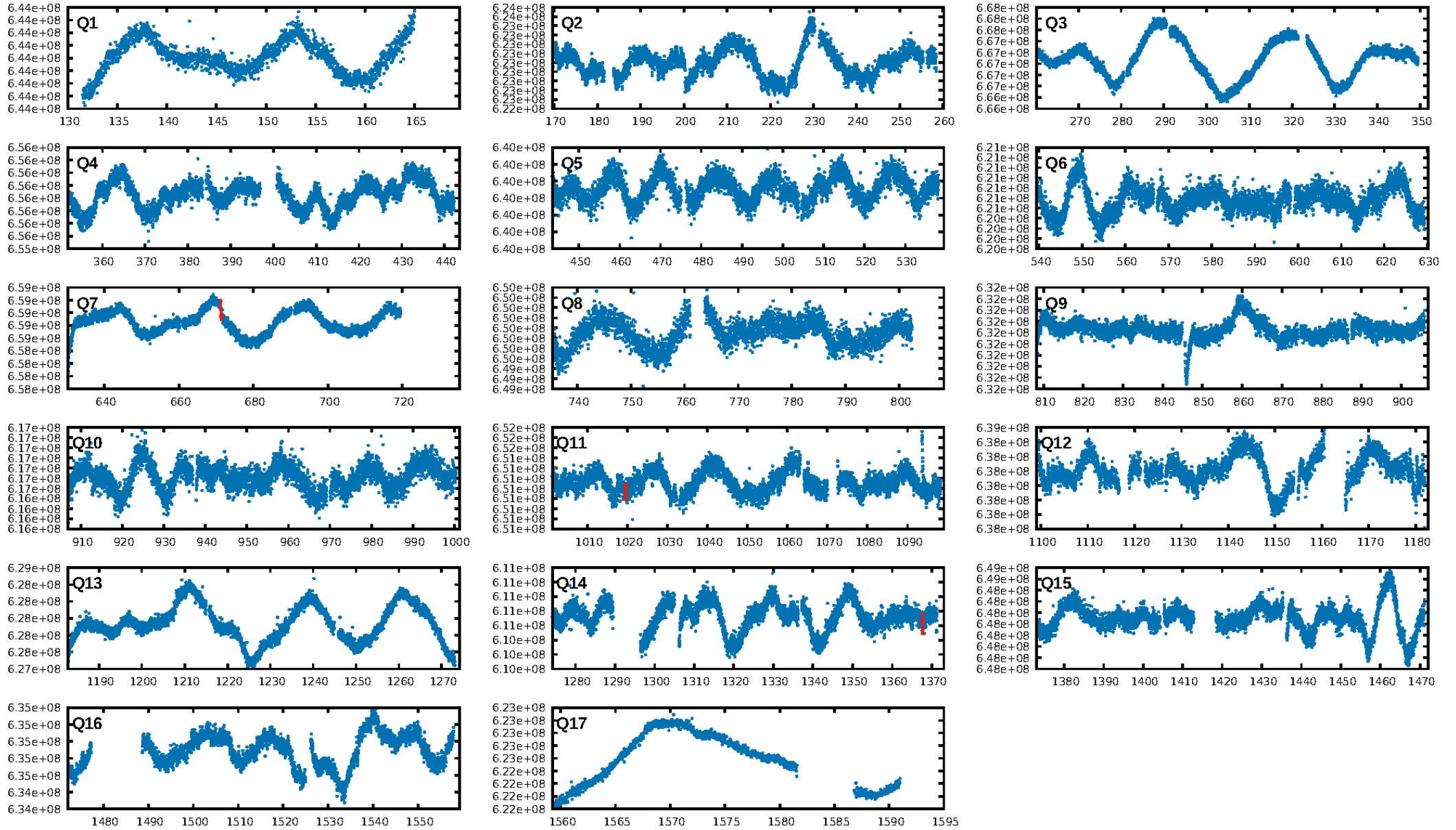
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 62.1%
ModelChiSquareGoF-sig: 99.1%
Bootstrap-pfa: 5.42e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.4465
Centroid-sig: 31.6%
Centroid-so: 2.196 arcsec [1.15σ]
OotOffset-rm: 12.755 arcsec [4.89σ]
KicOffset-rm: 12.427 arcsec [4.33σ]
OotOffset-st: 1/2/0/0 [3]
KicOffset-st: 1/2/0/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

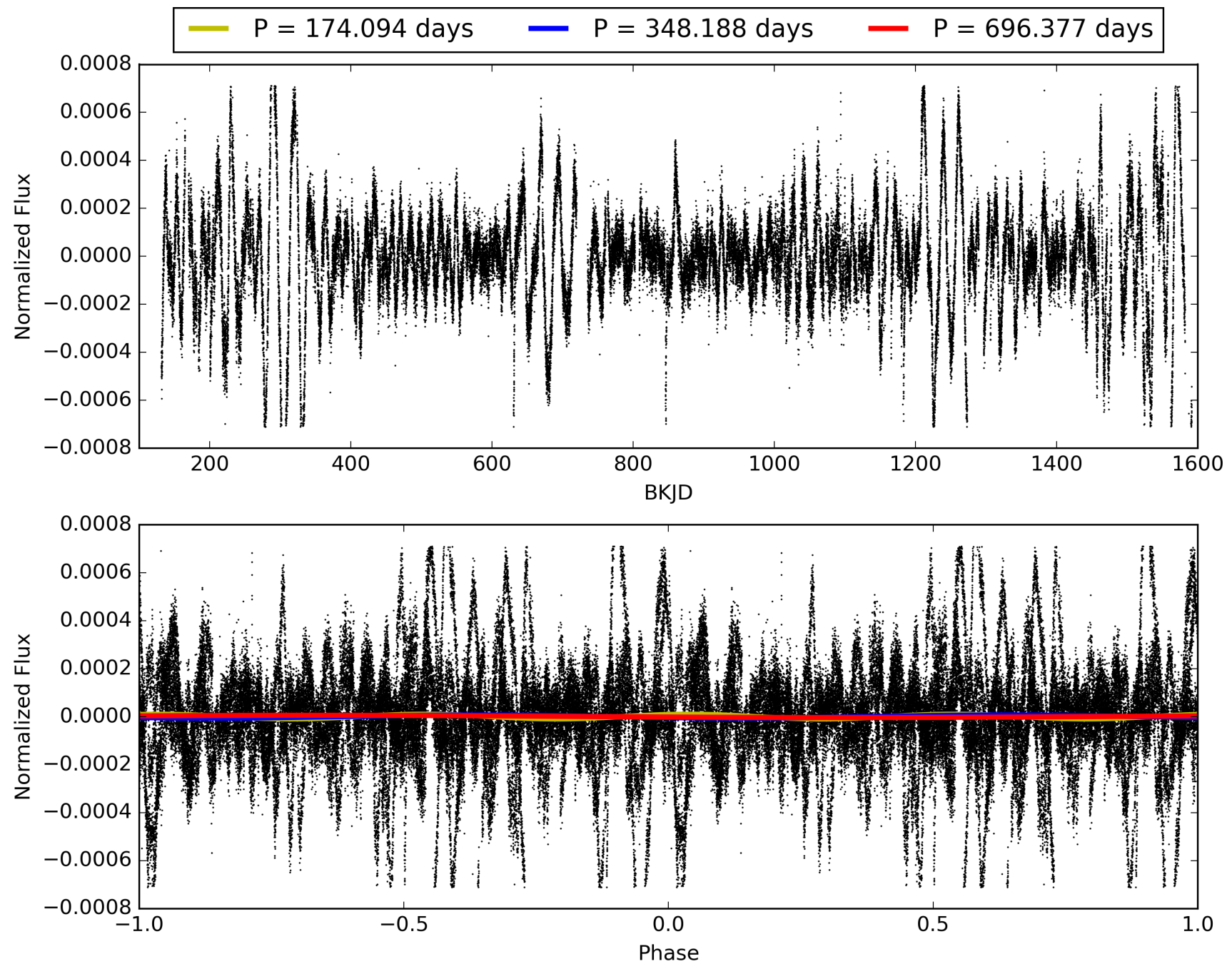
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:01:32 Z

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

TCE 004543058-01, PDC Light Curves

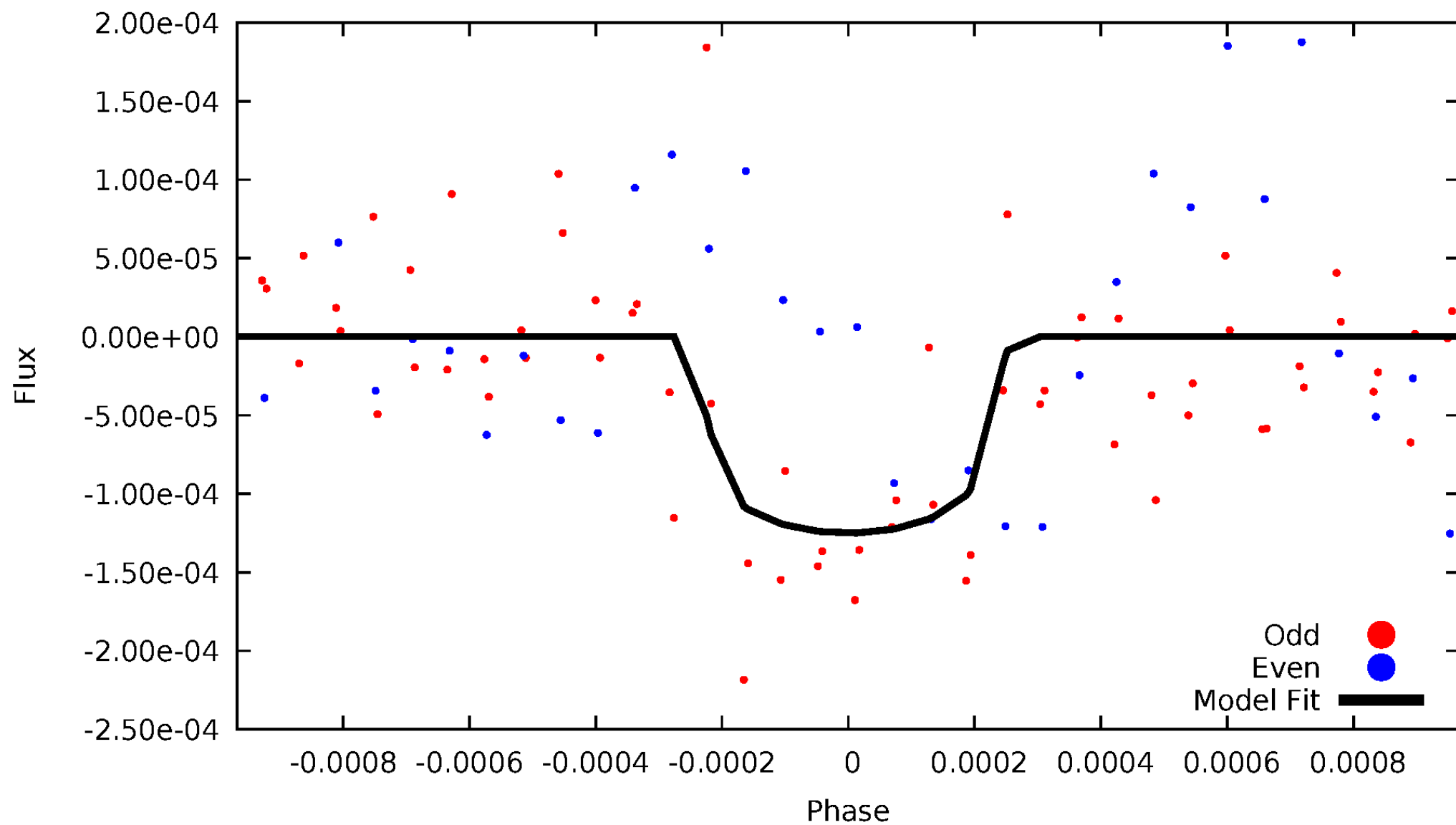


TCE 004543058-01



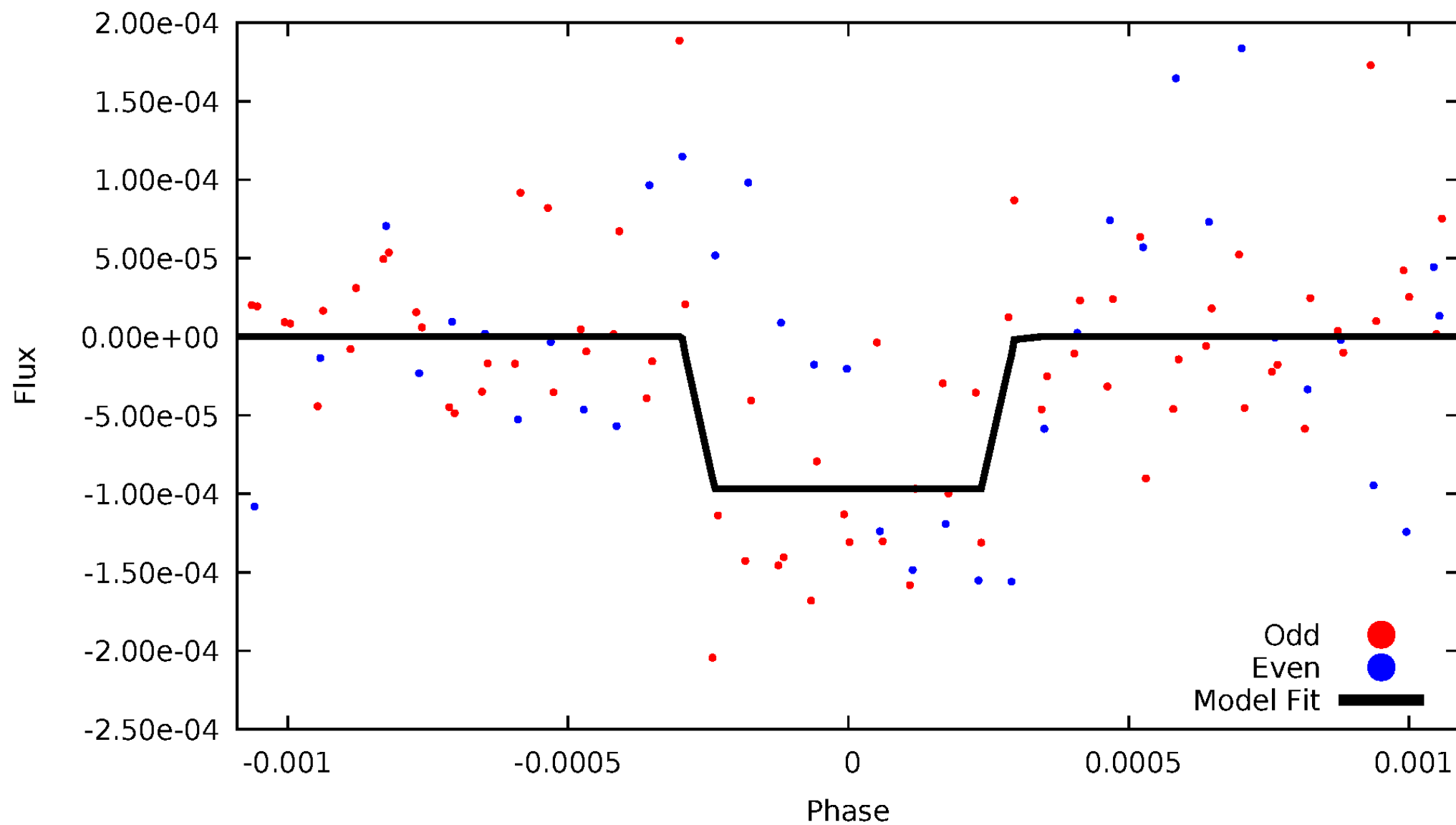
DV Odd/Even

TCE 004543058-01



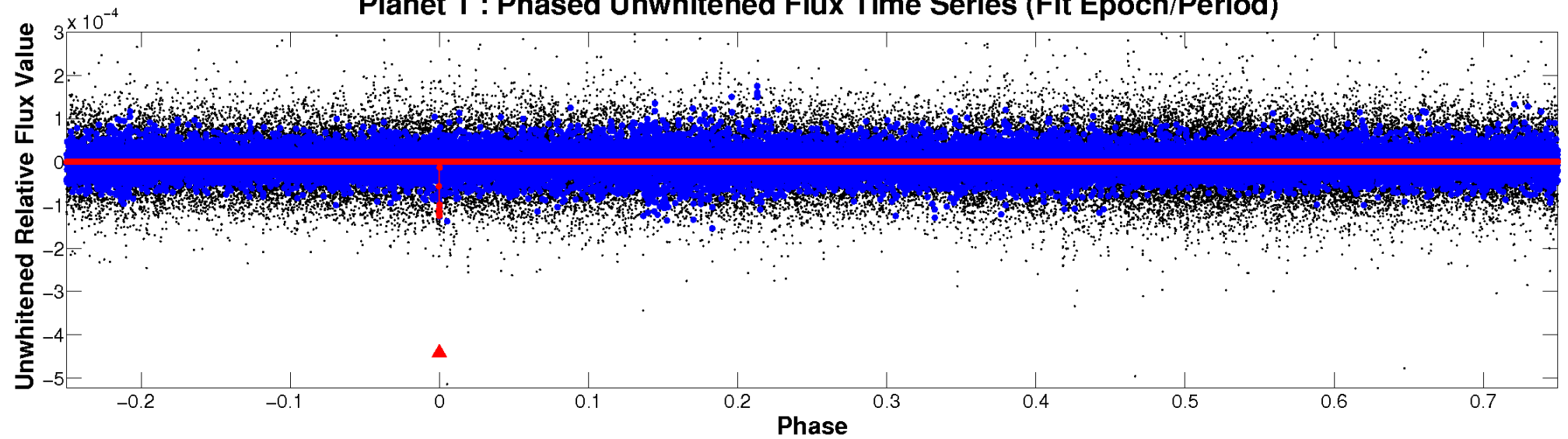
ALT Odd/Even

TCE 004543058-01

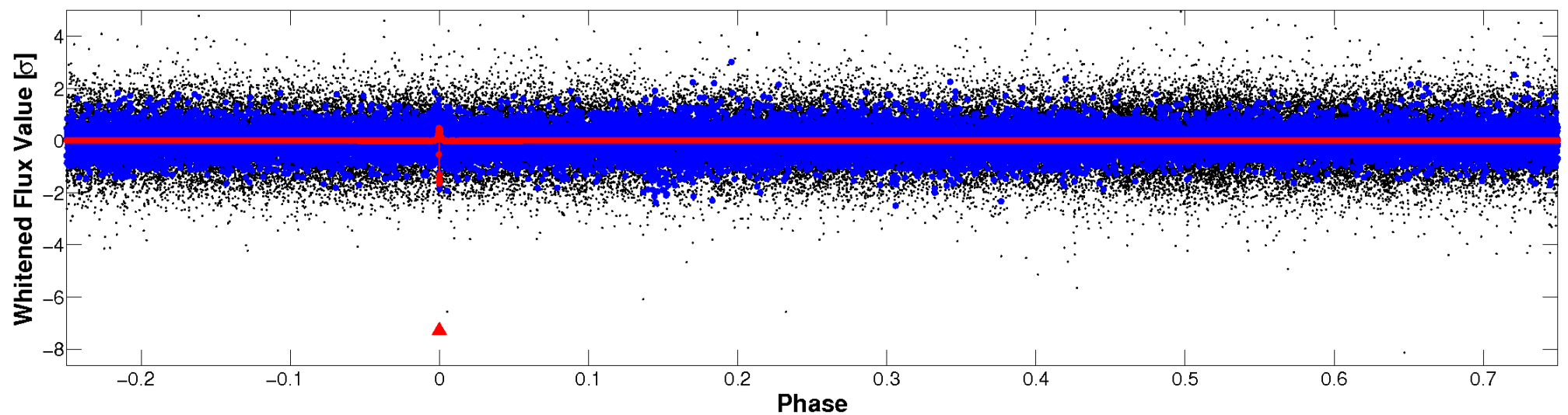


Non-Whitened Vs. Whitened Light Curve

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

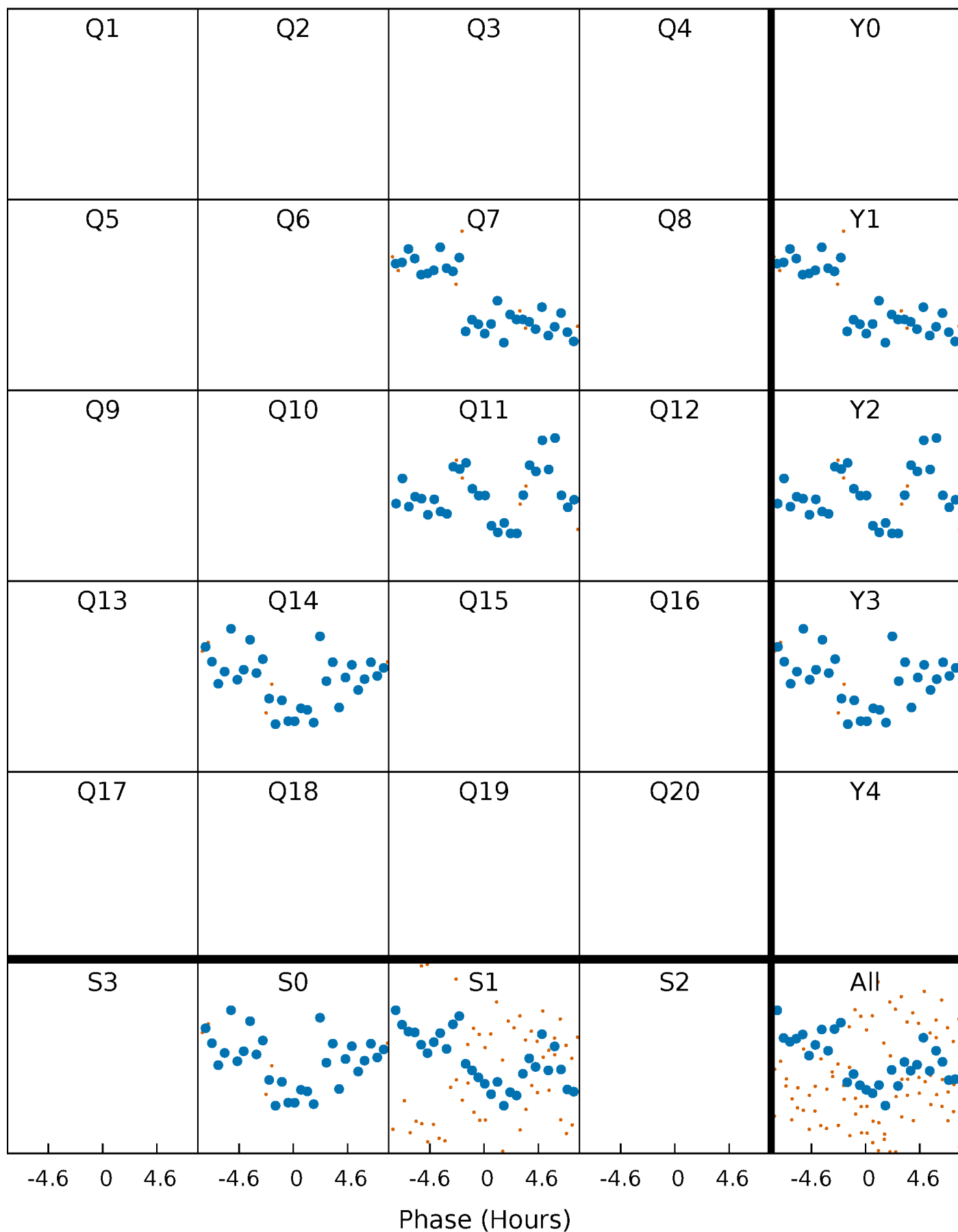


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



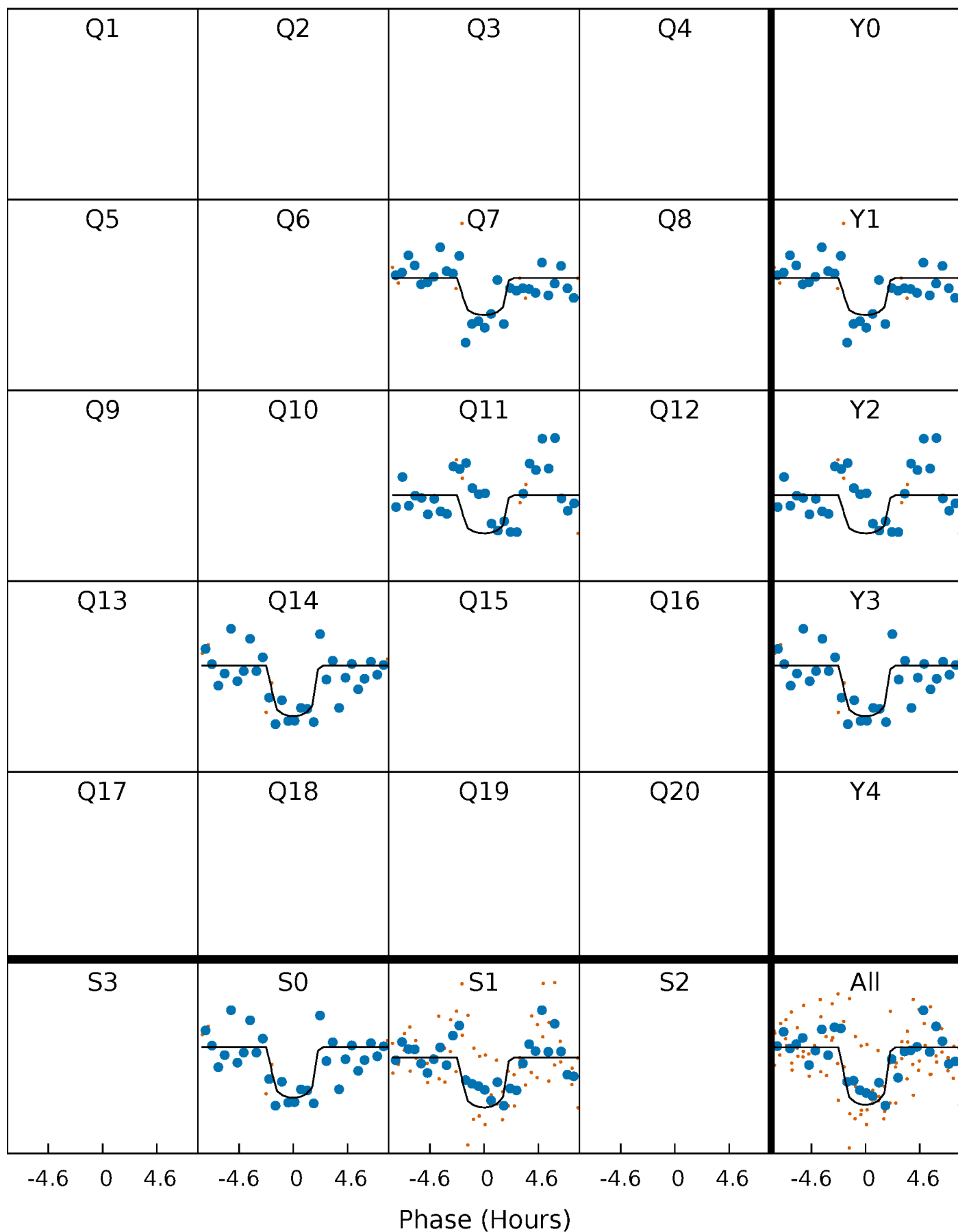
PDC Quarter-Phased Transit Curves

TCE 004543058-01 $P=348.188375$ Days $T_0=323.134362$ (BKJD)



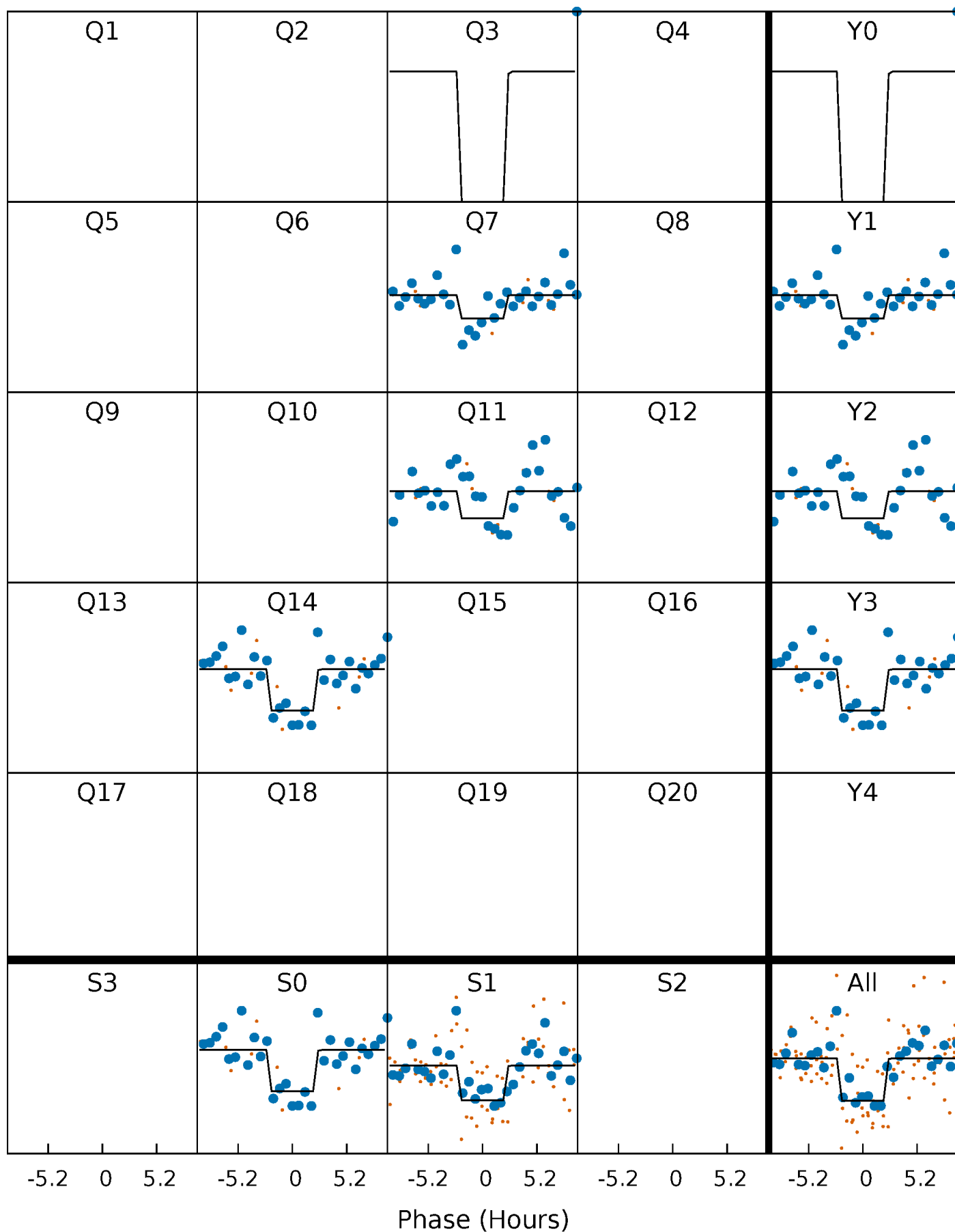
DV Quarter-Phased Transit Curves

TCE 004543058-01 P=348.188375 Days $T_0=323.134362$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

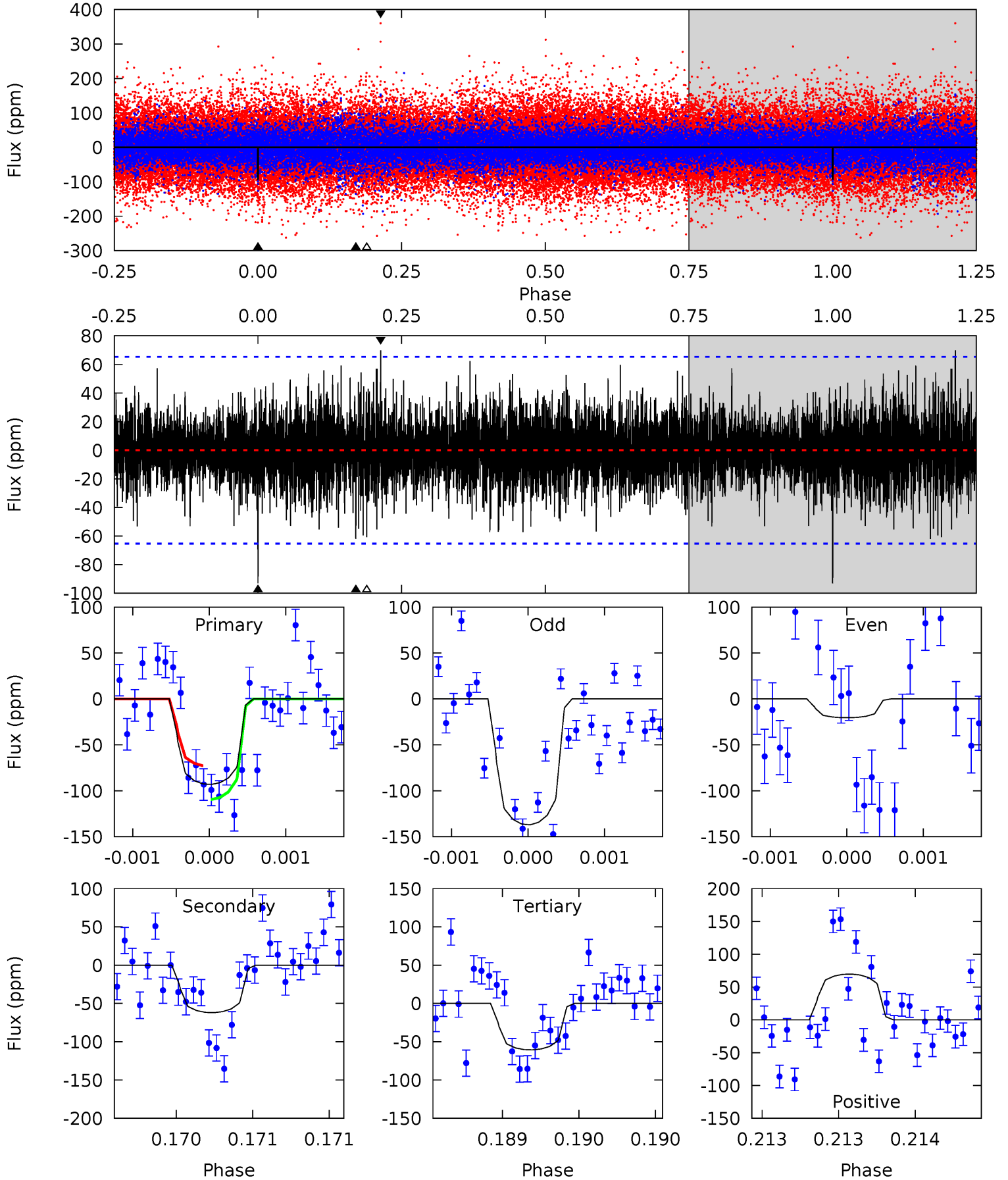
TCE 004543058-01 P=348.167429 Days $T_0=323.181988$ (BKJD)



DV Model-Shift Uniqueness Test

004543058-01, P = 348.188375 Days, E = 323.134362 Days

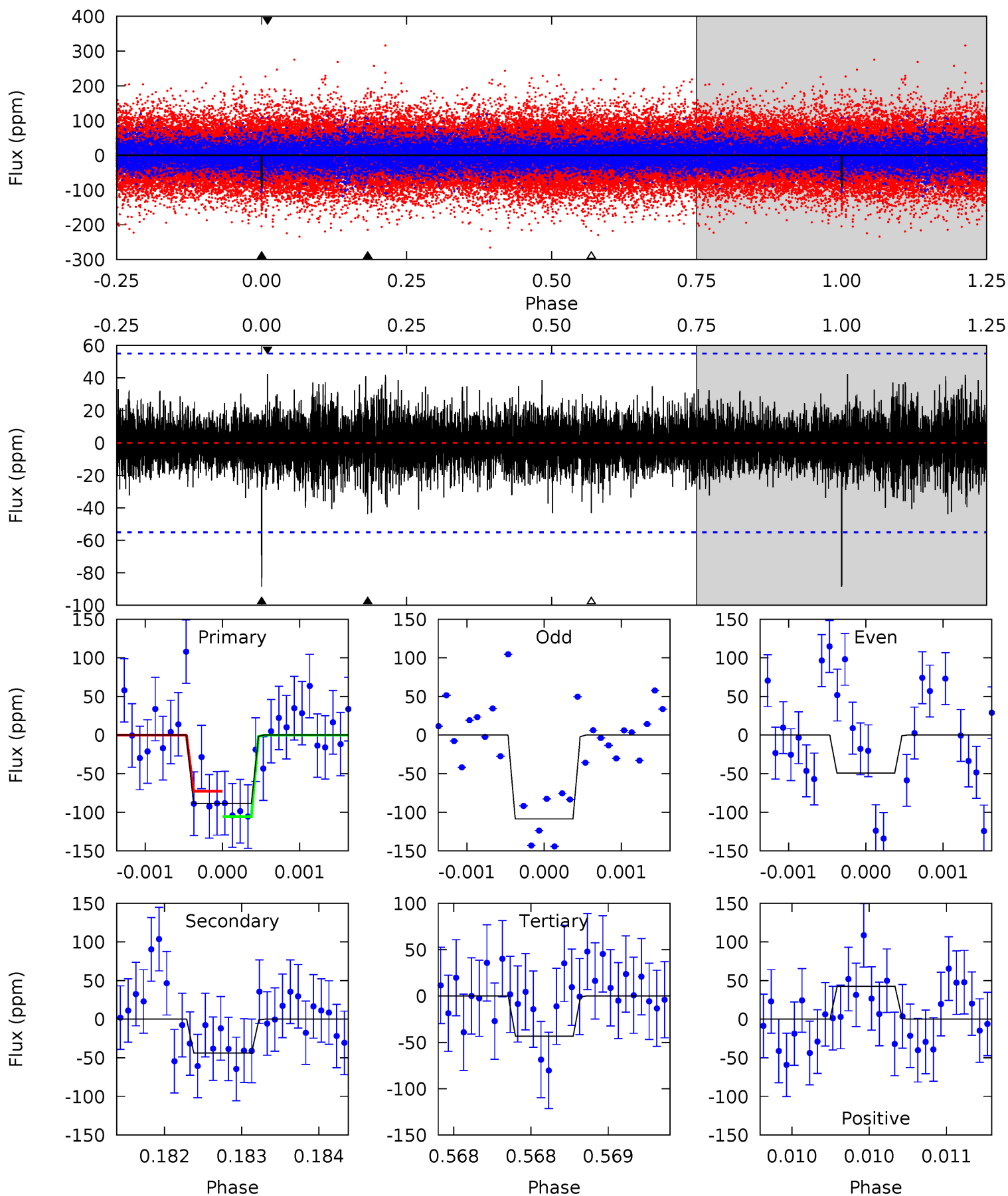
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.93	5.28	5.17	5.94	5.56	3.47	1.36	2.76	1.98	0.11	-0.66	4.64	0.73	0.43	1.55



Alt Model-Shift Uniqueness Test

004543058-01, P = 348.167429 Days, E = 323.181988 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.91	4.39	4.35	4.27	5.53	3.42	1.04	4.56	4.64	0.04	0.12	2.77	0.83	0.32	1.64



Stellar Parameters For KIC 004543058

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5866^{+147}_{-162}	$4.386^{+0.112}_{-0.138}$	$-0.180^{+0.300}_{-0.300}$	$1.024^{+0.208}_{-0.156}$	$0.931^{+0.121}_{-0.099}$	$1.220^{+0.686}_{-0.472}$
	+3%/-3%	+3%/-3%	+167%/-167%	+20%/-15%	+13%/-11%	+56%/-39%
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 004543058-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-62 ± 12	$1.53^{+1.03}_{-0.84}$	377^{+21}_{-19}	4570^{+2155}_{-757}	12849^{+52670}_{-8419}
Alt.	-44 ± 10	$1.41^{+1.02}_{-0.85}$	378^{+22}_{-20}	4454^{+2078}_{-757}	11053^{+52035}_{-7447}

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 $A_{\text{obs}} \gg 1.0$

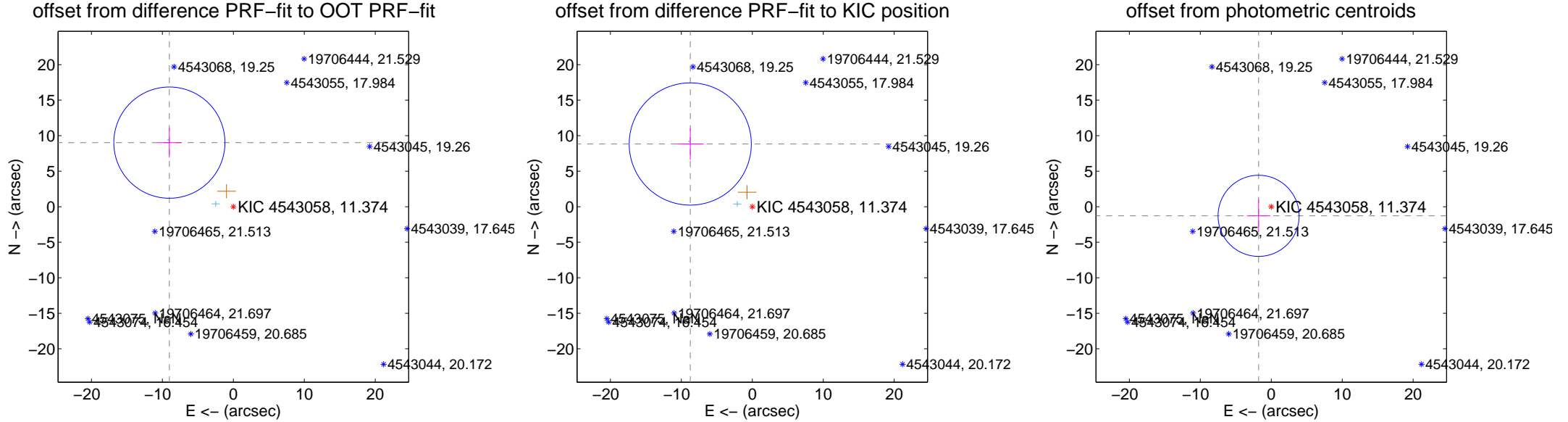
DV Centroid Data

Supplemental centroid analysis for 004543058-01. **Kepler magnitude: 11.37.** Transit SNR 7.66

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	12.755 ± 2.610	4.89	9.014 ± 1.716	9.023 ± 2.070
PRF-fit source offset from KIC position	12.427 ± 2.868	4.33	8.743 ± 1.885	8.832 ± 2.222
photometric centroid source offset	2.20 ± 1.90	1.15	1.78 ± 1.65	-1.28 ± 2.32

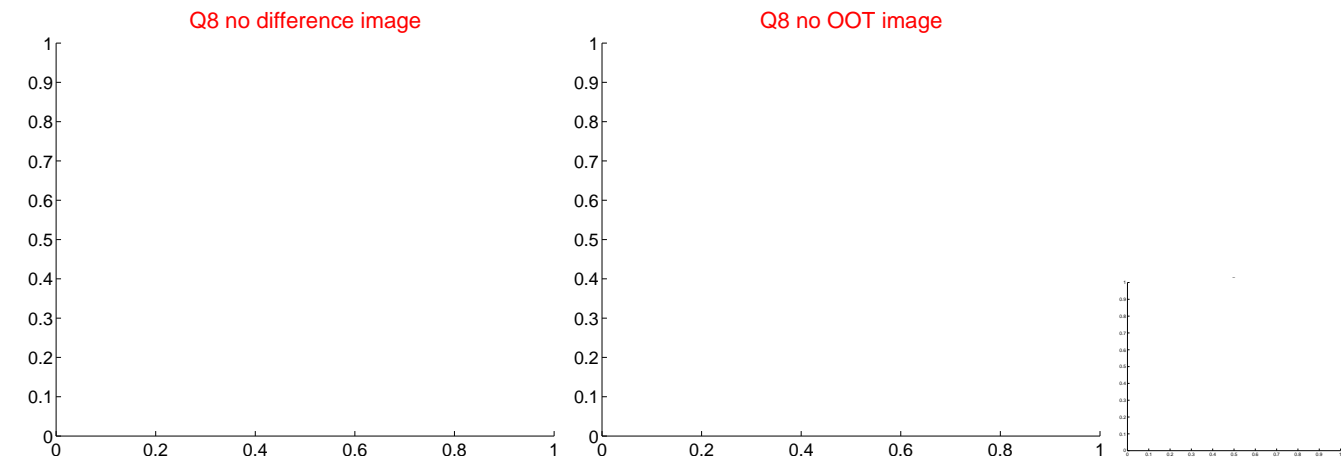
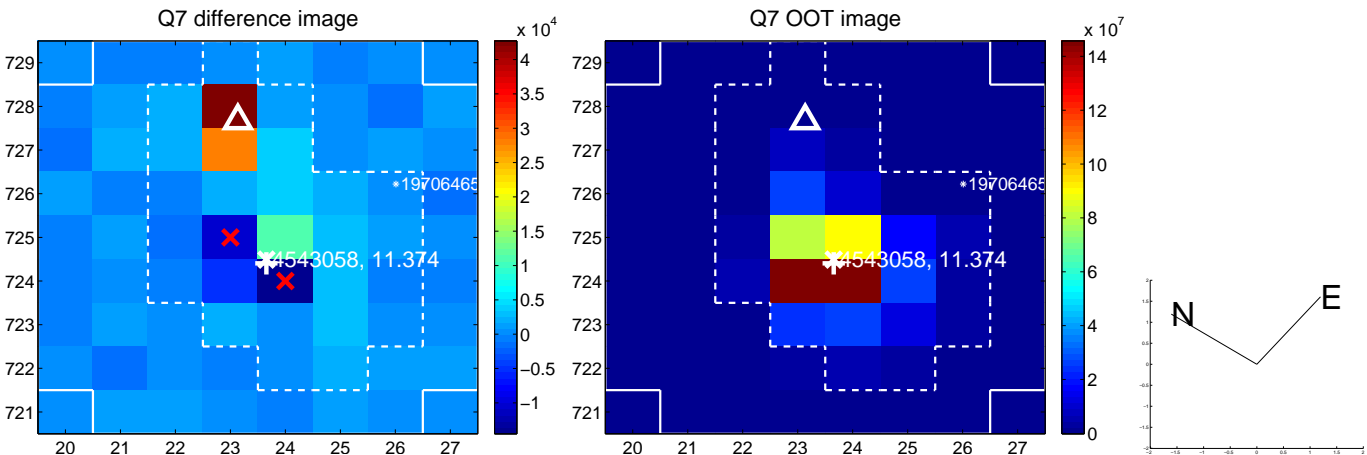


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

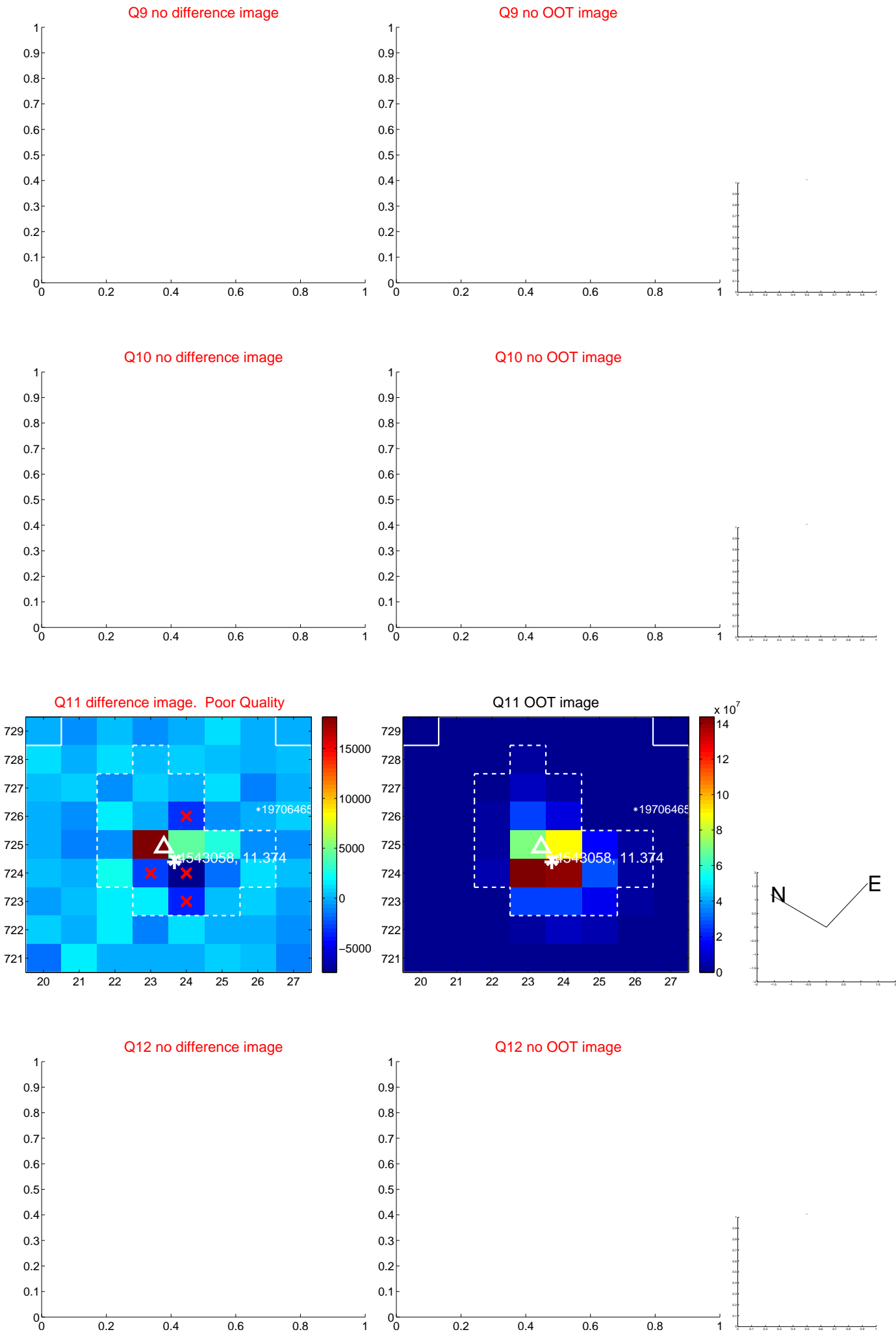
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



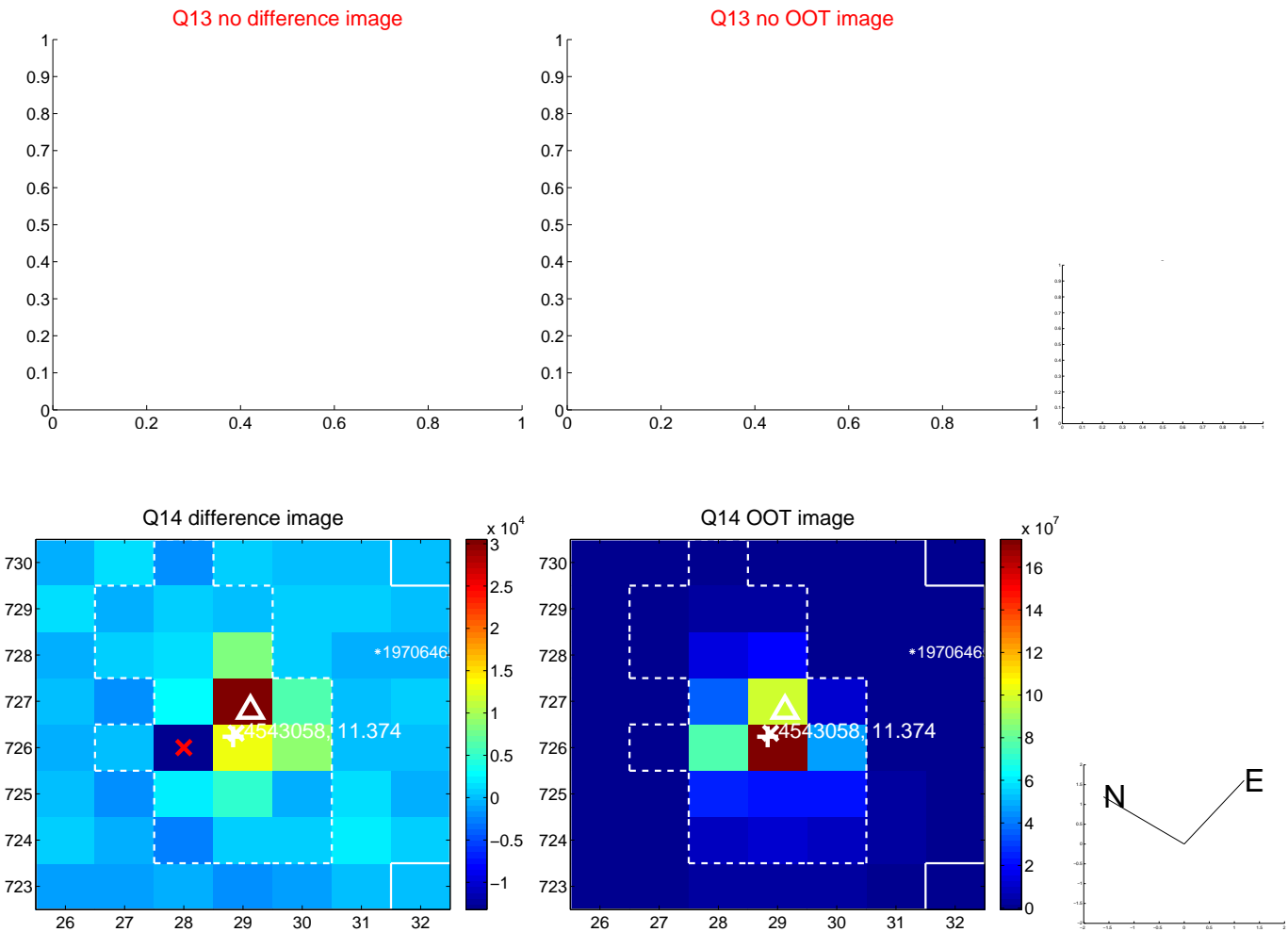
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



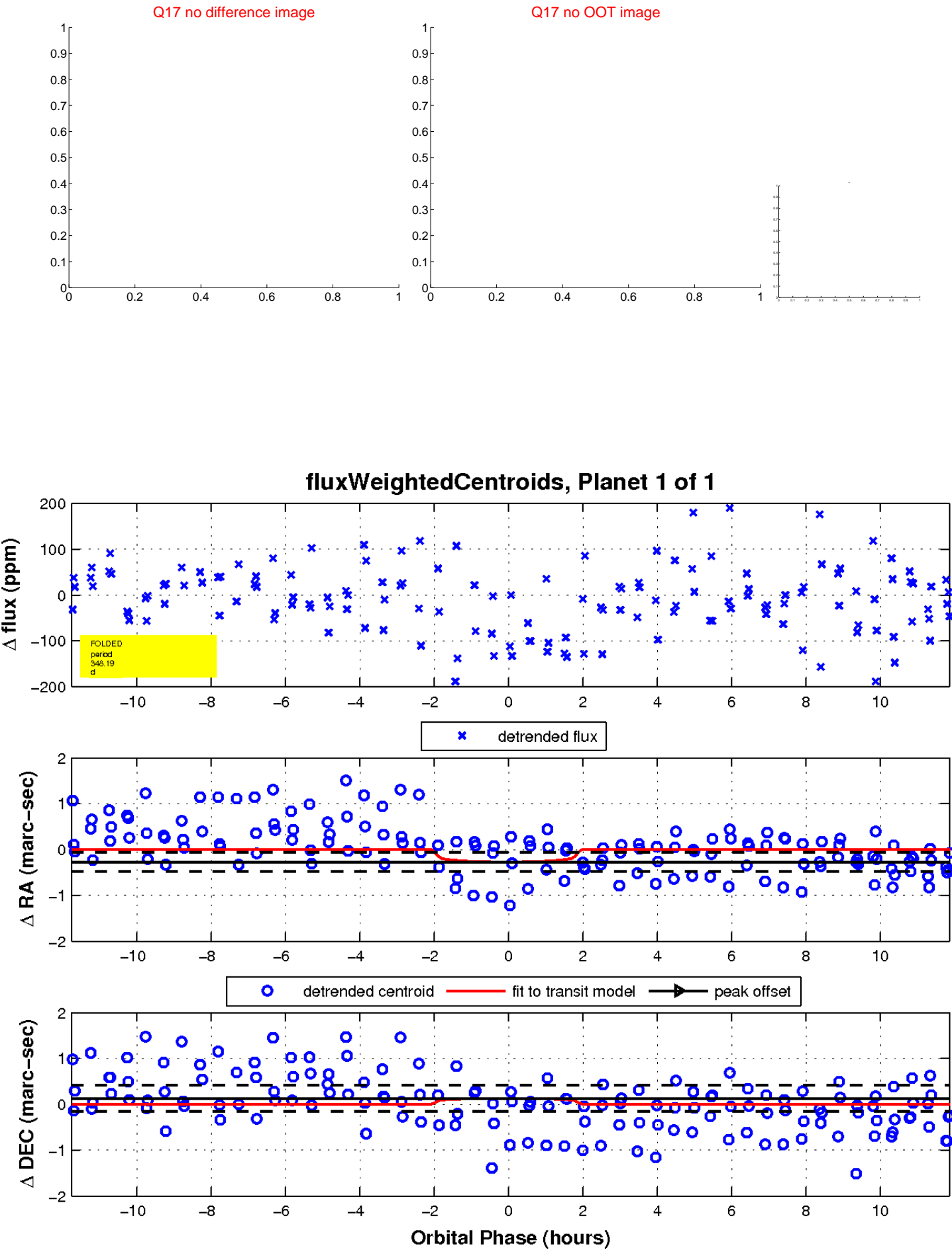
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

