

KIC 004659476

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})
004659476-01	OBS	No	58.816553	162.562261	171.8	40.691	16.2	18.6	1.96	6384	3.50	54.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004659476-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV

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

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

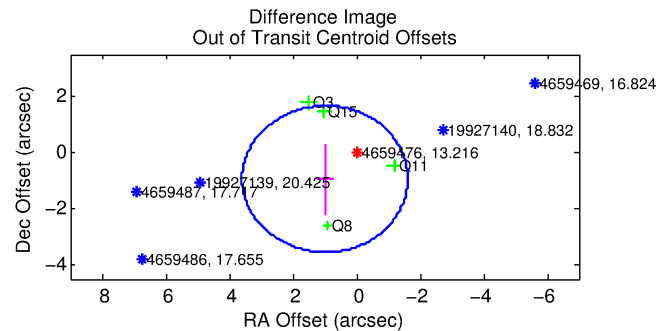
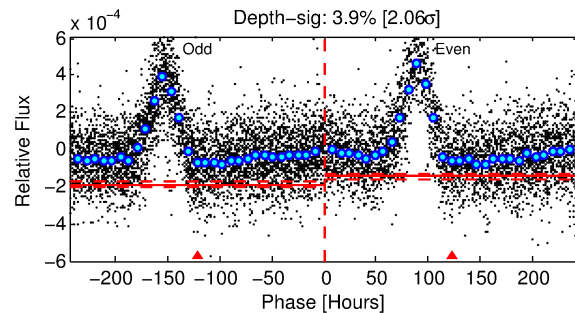
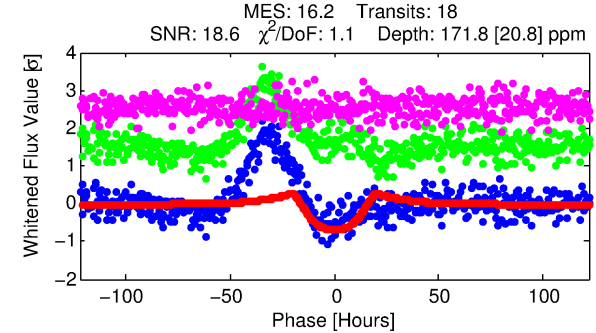
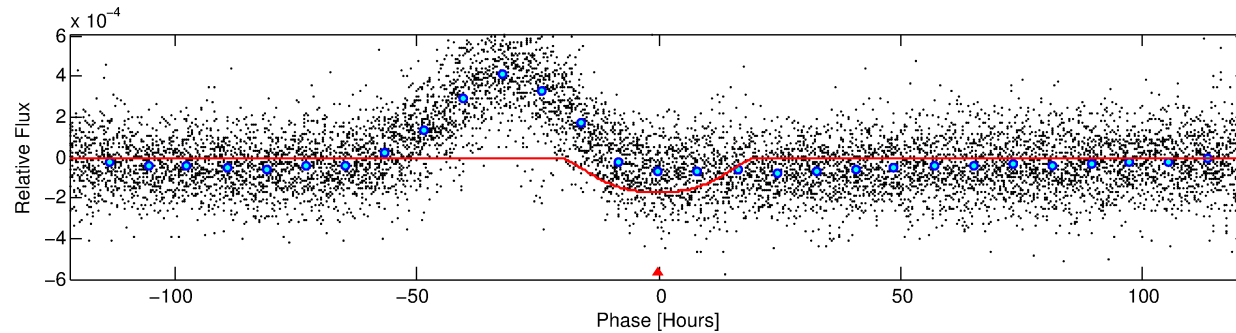
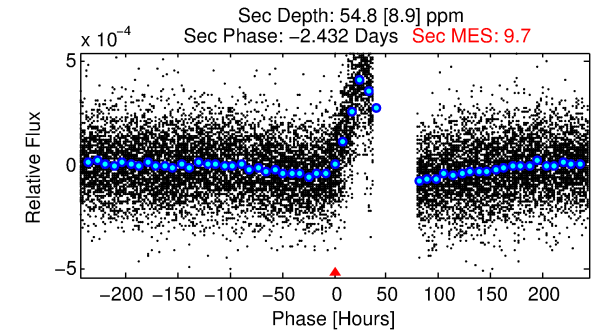
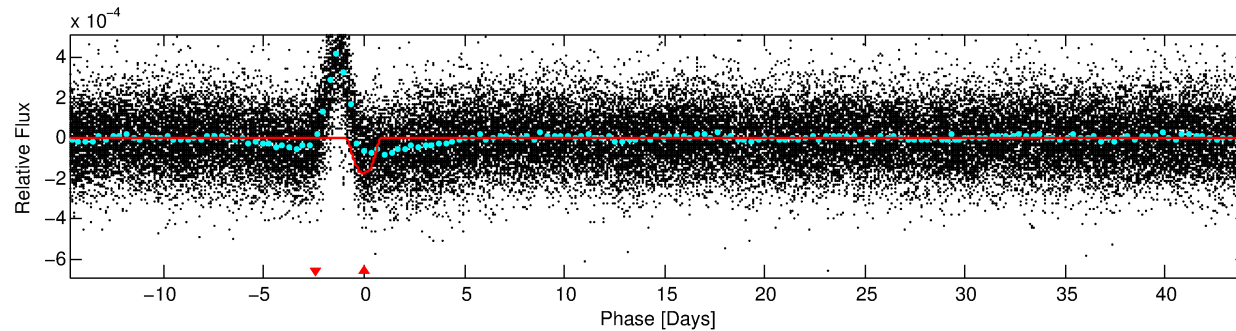
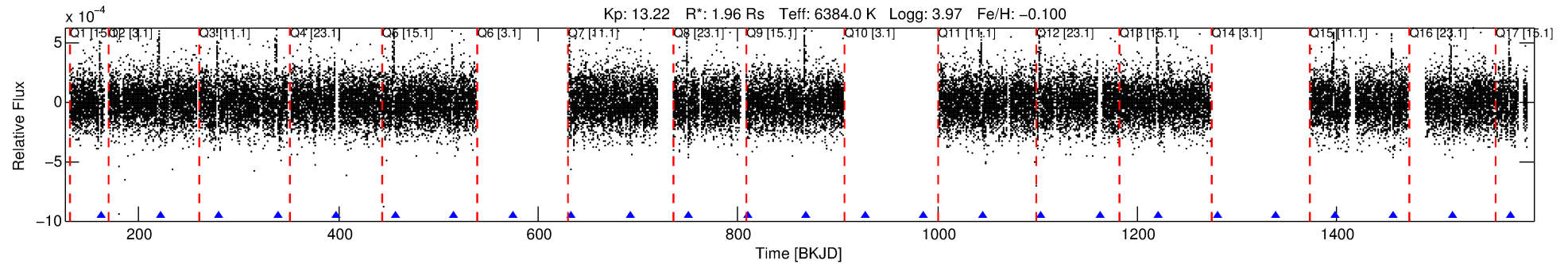
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004659476-01

No Significant Match Found

DV One-Page Summary

KIC: 4659476 Candidate: 1 of 1 Period: 58.817 d



DV Fit Results:

Period = 58.81655 [0.00300] d
Epoch = 162.5623 [0.0406] BKJD
Rp/R* = 0.0164 [0.0015]
a/R* = 2.97 [0.26]
b = 0.98 [0.01]
Seff = 54.36 [23.88]
Teq = 692 [76] K
Rp = 3.50 [1.16] Re
a = 0.3241 [0.0913] AU
Ag = 258.88 [126.59] [2.04σ]
Teffp = 4294 [284] K [12.26σ]

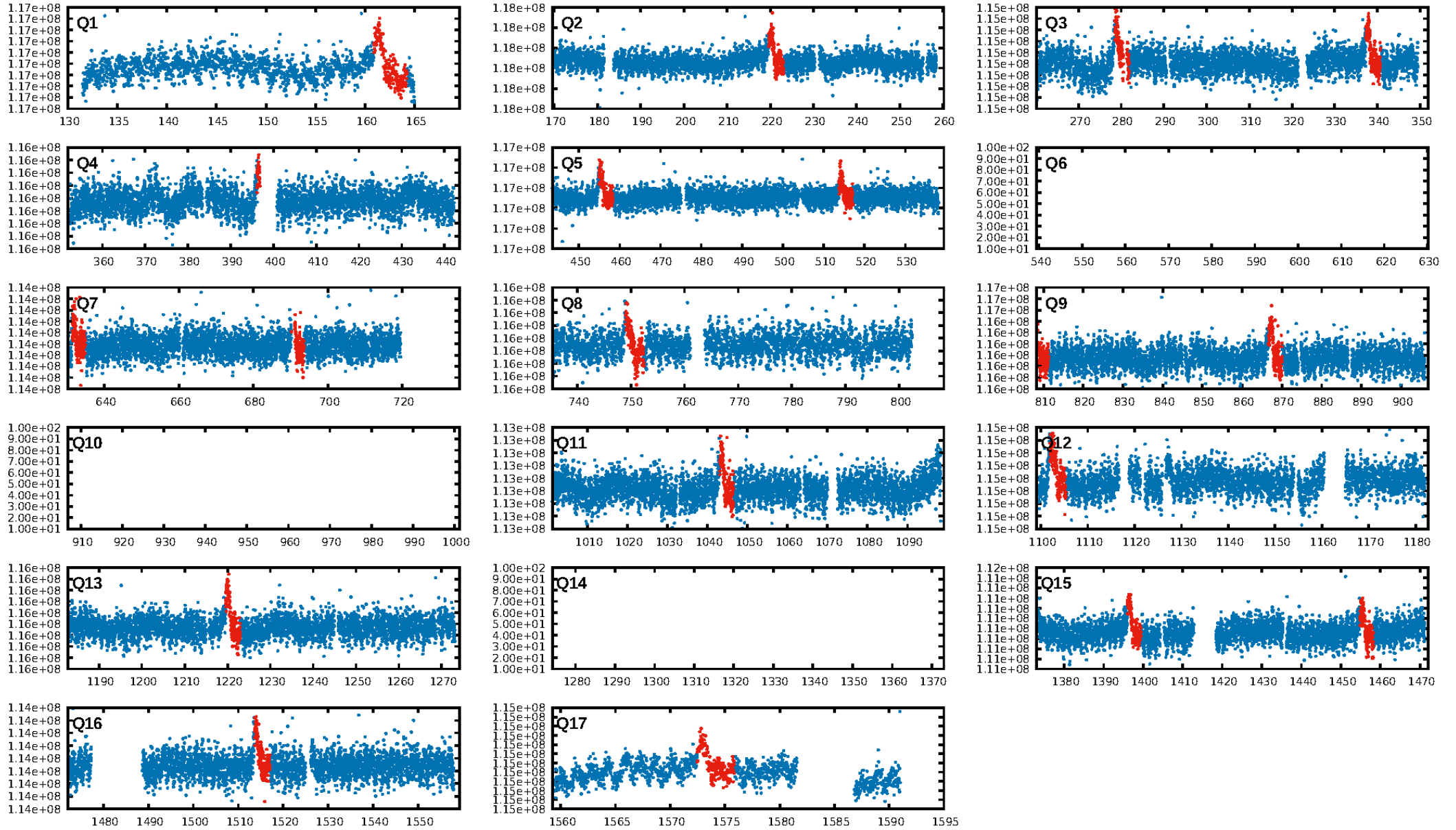
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 76.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.07e-56
RollingBand-fgt: 1.00 [16/16]
GhostDiagnostic-chr: 2.452
Centroid-sig: 48.3%
Centroid-so: 0.265 arcsec [0.60σ]
OotOffset-rm: 1.365 arcsec [1.57σ]
OotOffset-st: 0/3/1/0 [4]
KicOffset-rm: 1.386 arcsec [1.55σ]
KicOffset-st: 0/3/1/0 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [7/7]

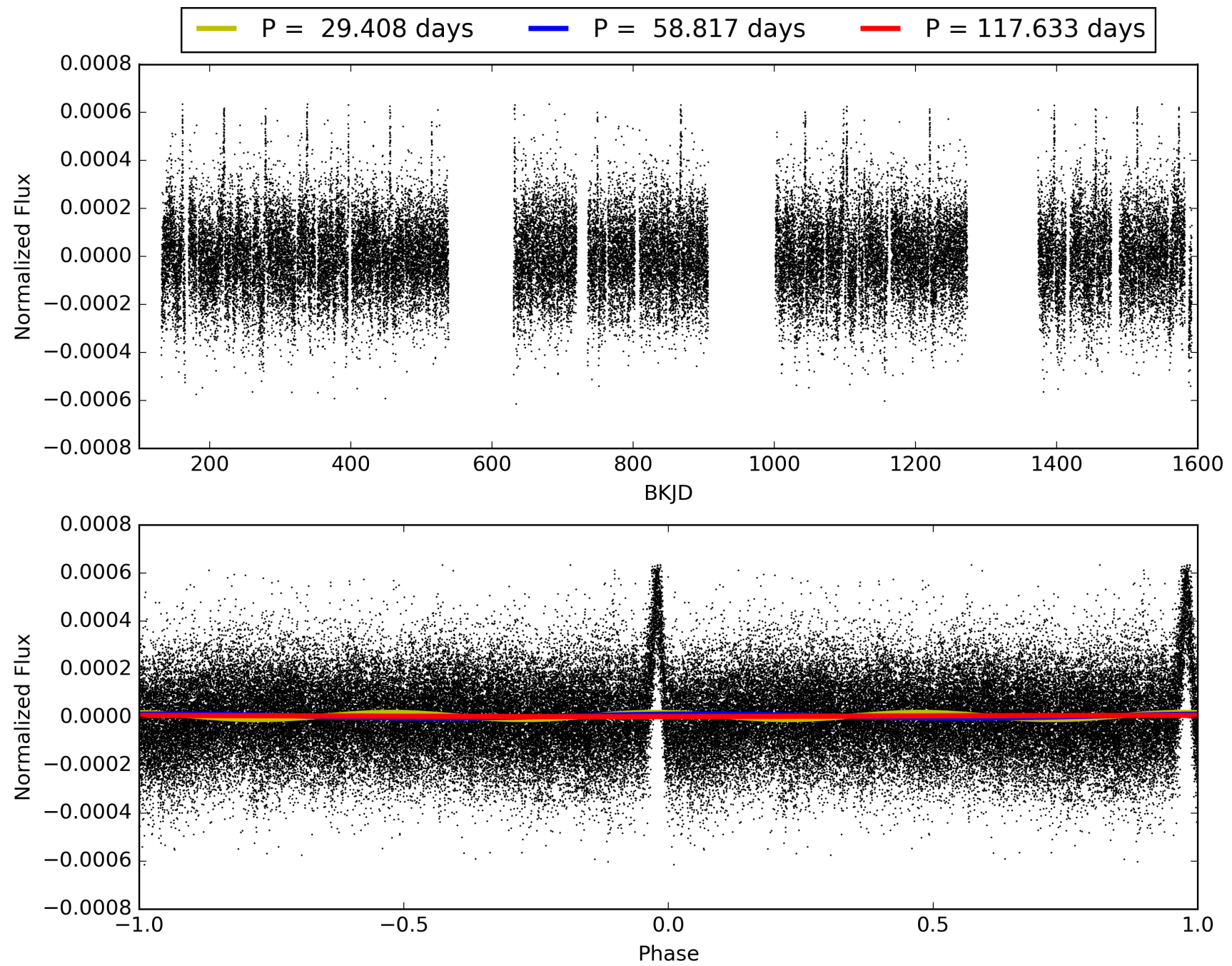
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:37:16 Z

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

TCE 004659476-01, PDC Light Curves

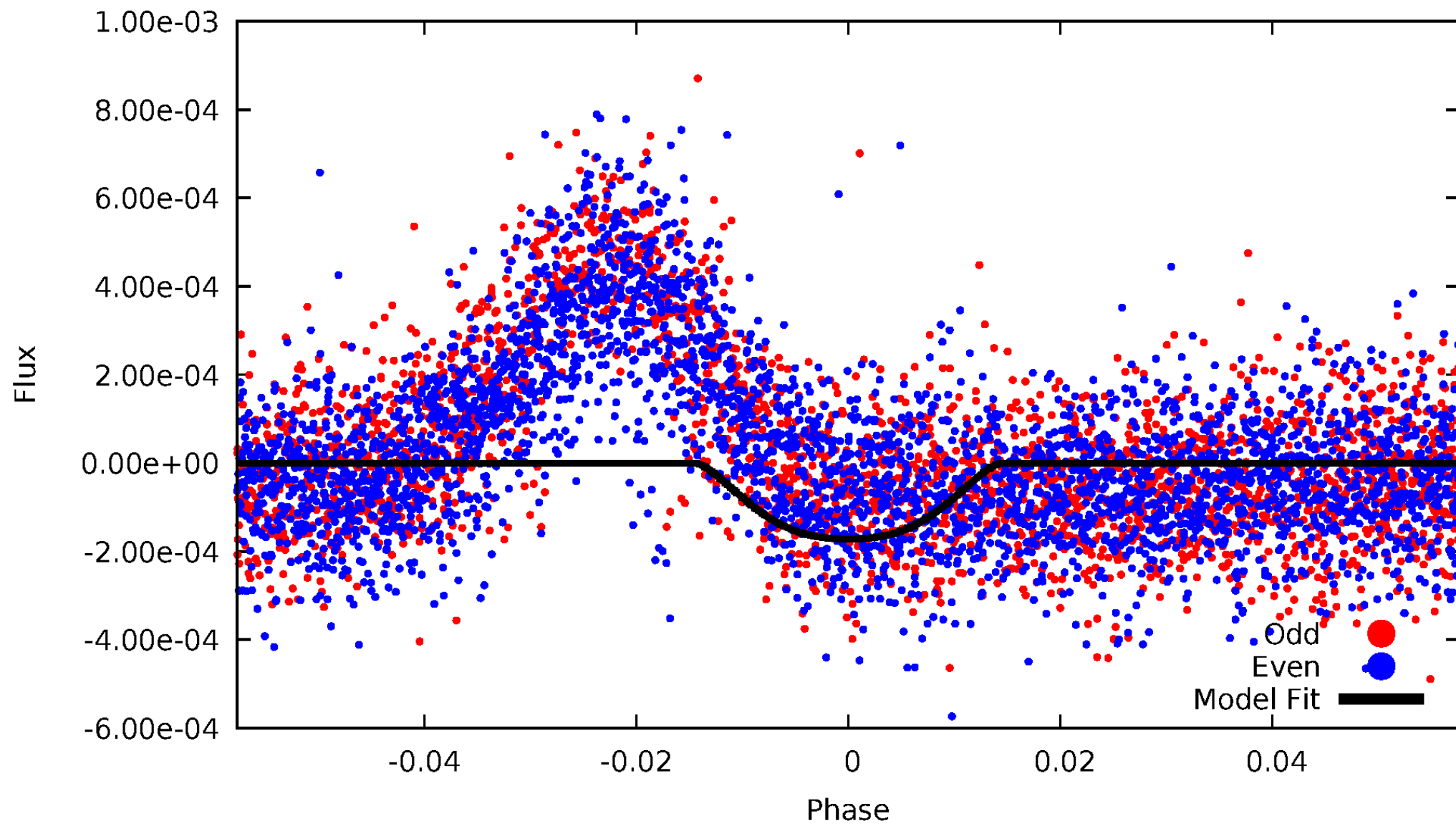


TCE 004659476-01



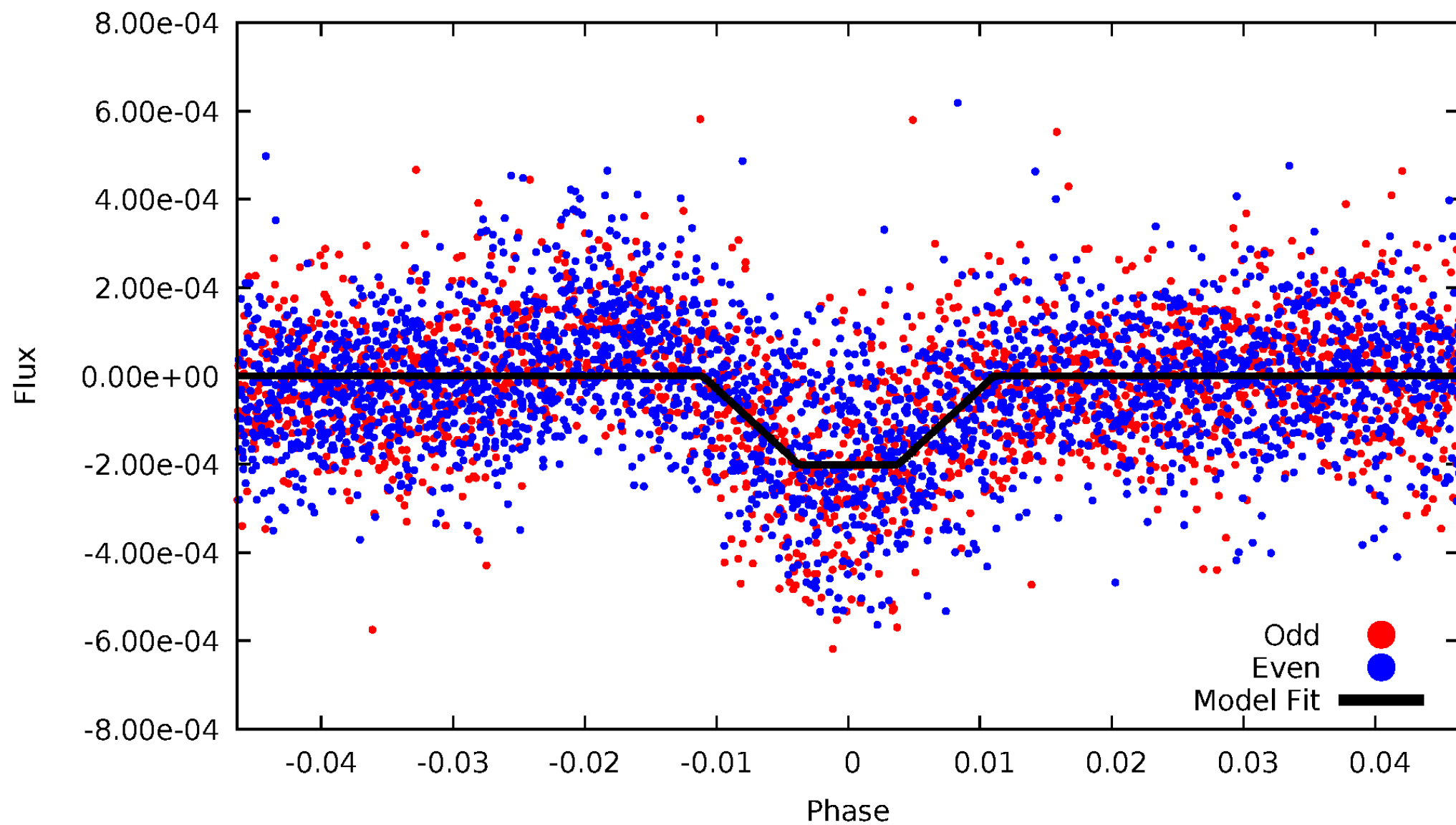
DV Odd/Even

TCE 004659476-01



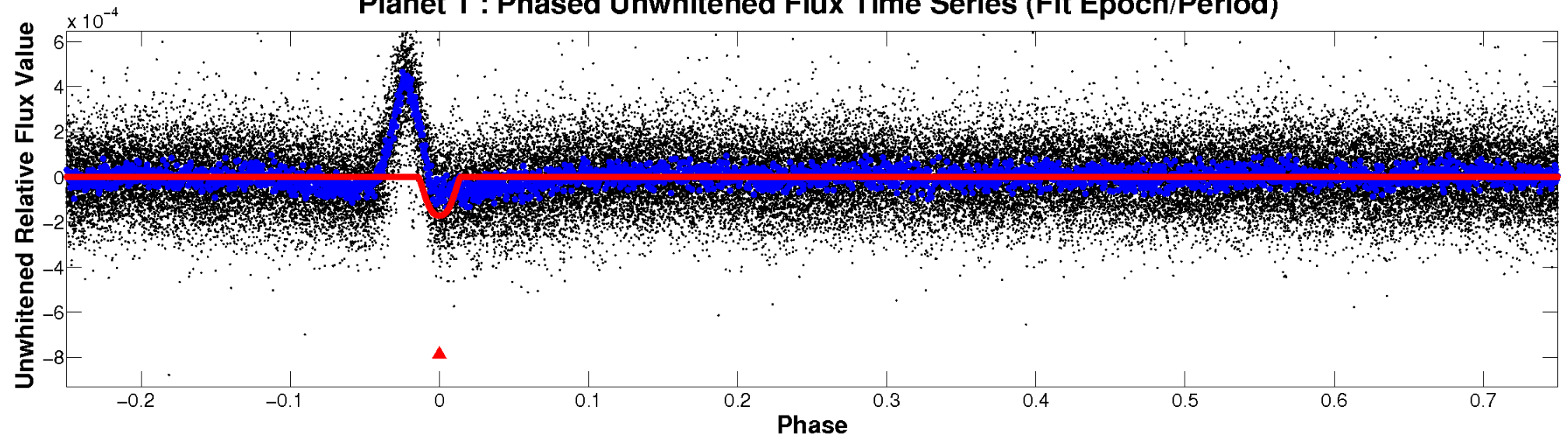
ALT Odd/Even

TCE 004659476-01

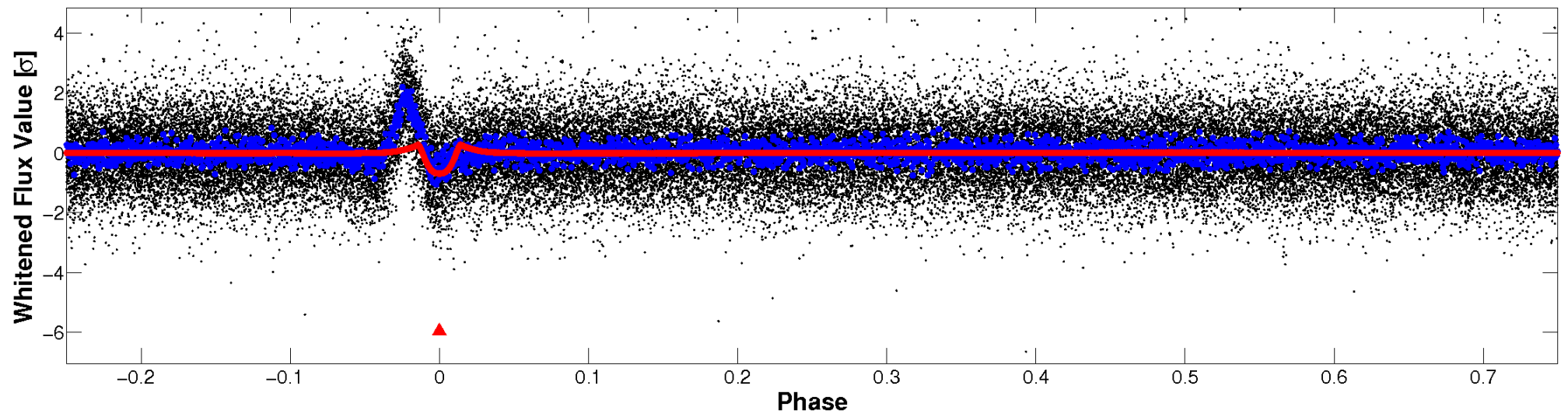


Non-Whitened Vs. Whitened Light Curve

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

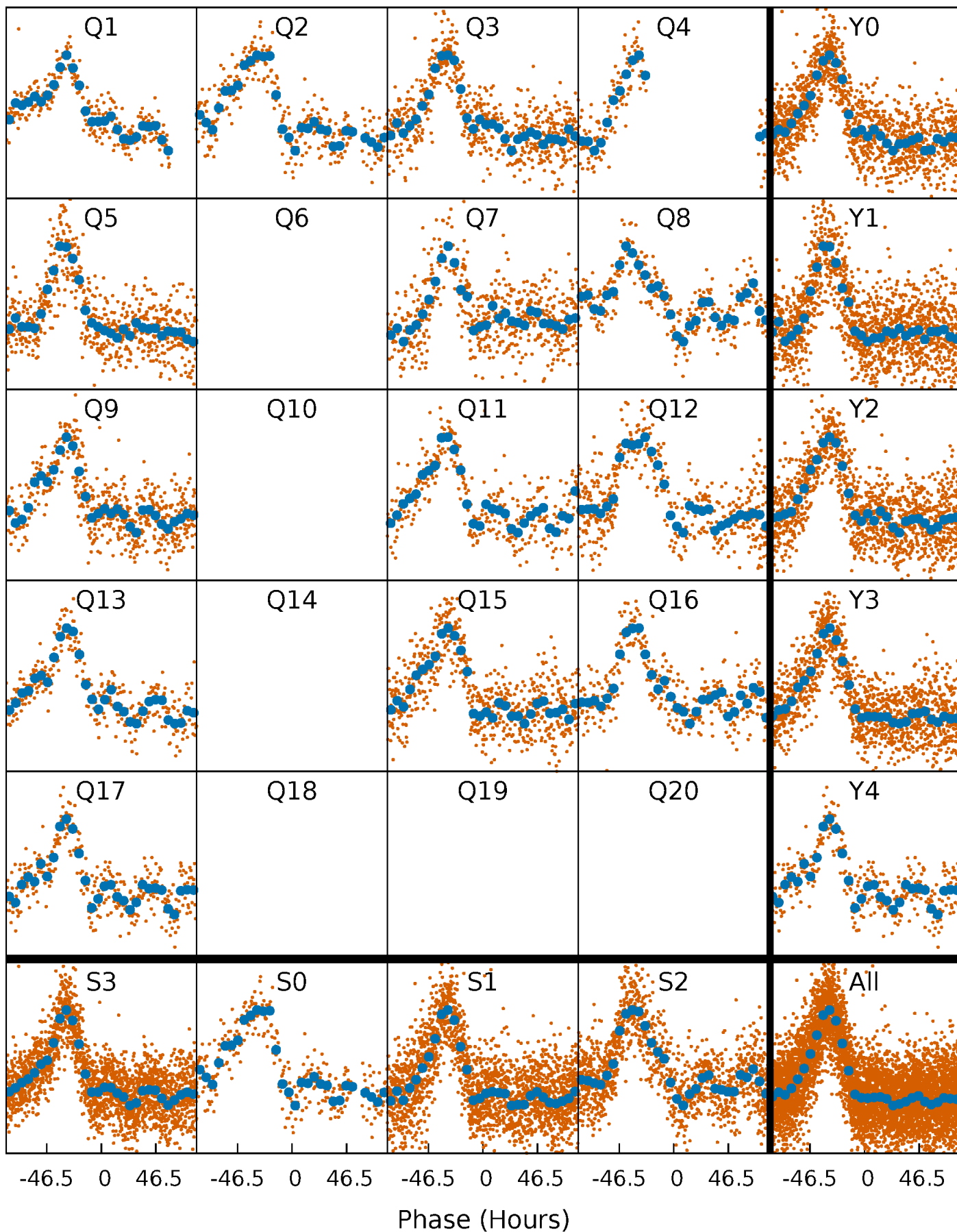


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



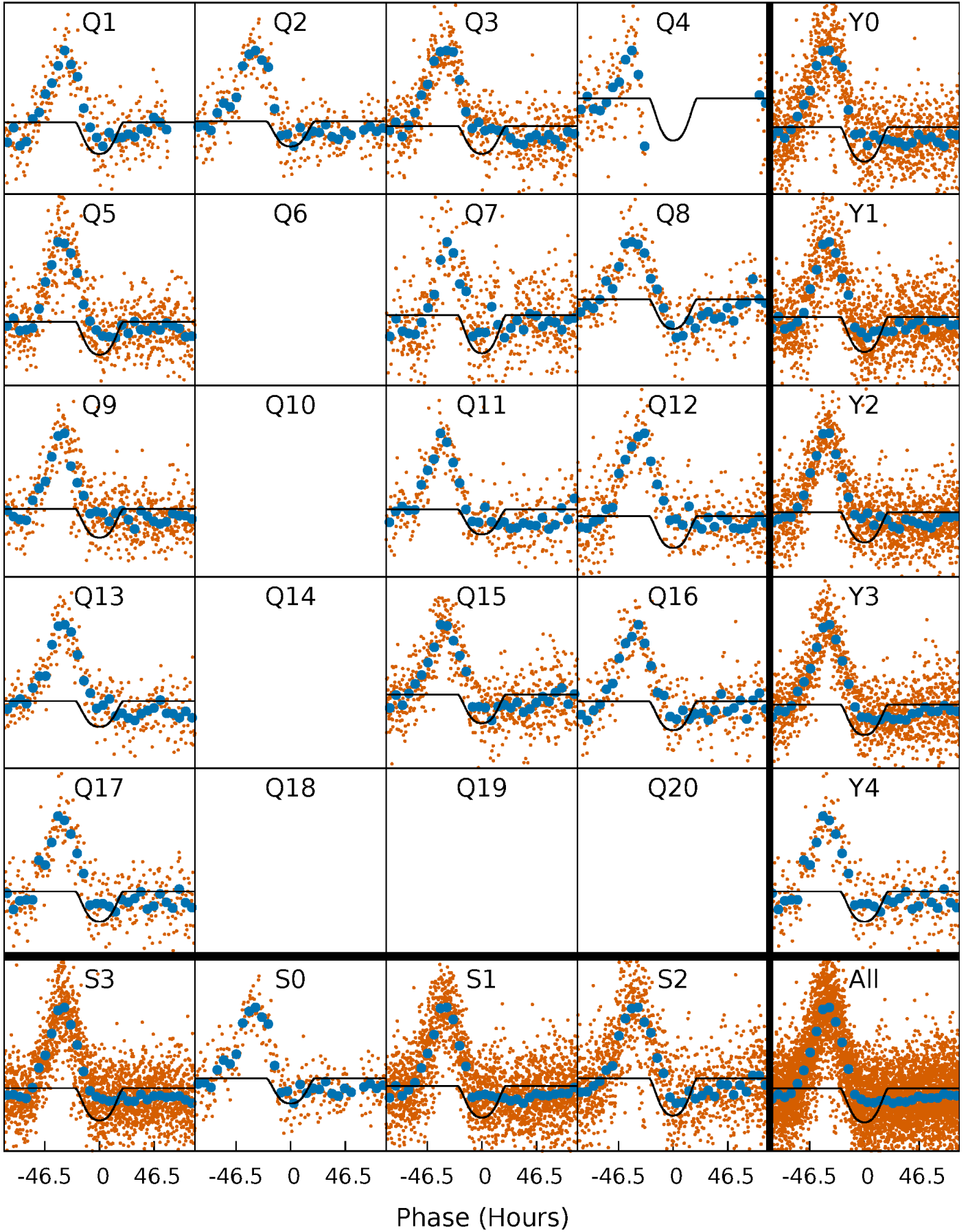
PDC Quarter-Phased Transit Curves

TCE 004659476-01 P= 58.816553 Days $T_0=162.562261$ (BKJD)



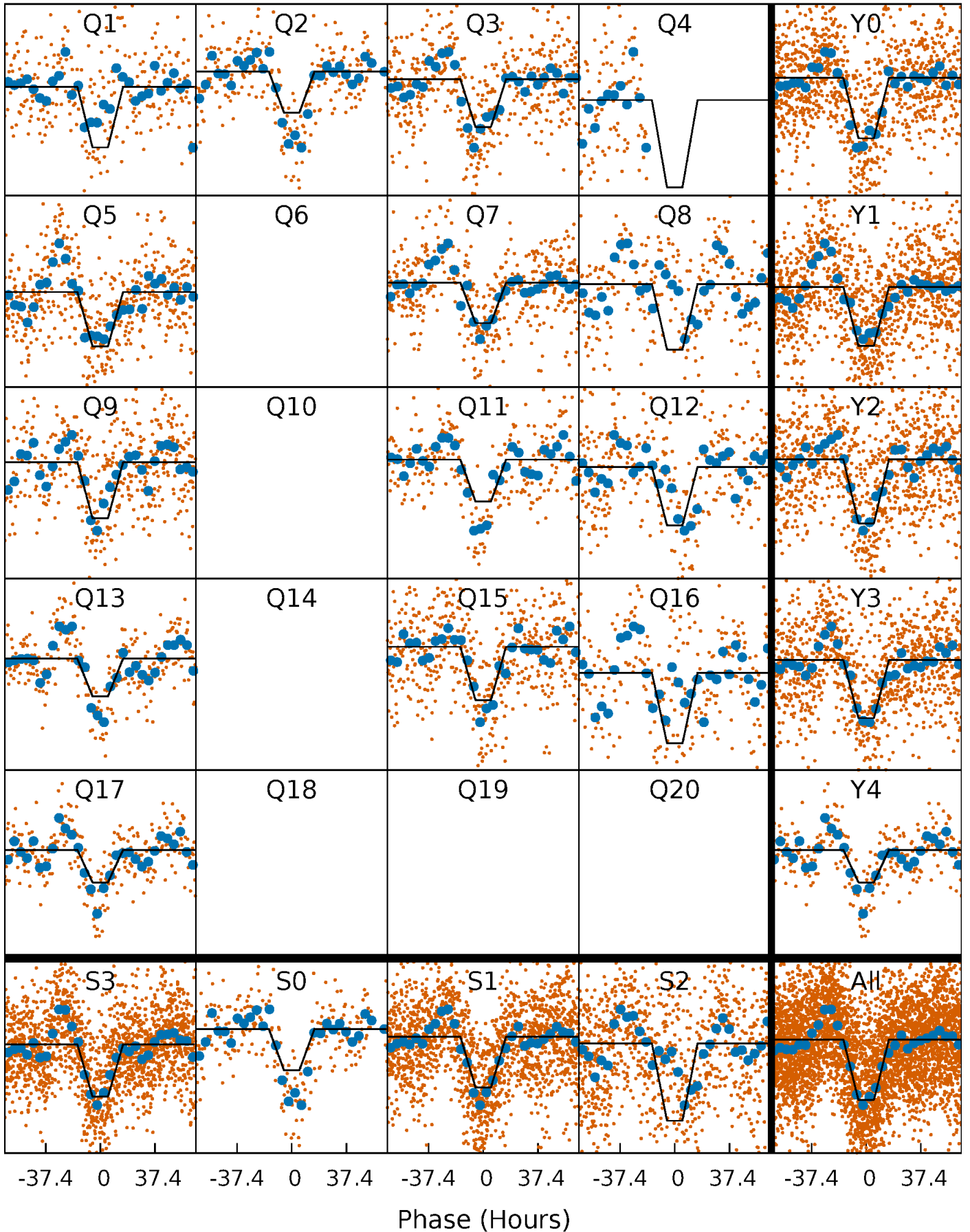
DV Quarter-Phased Transit Curves

TCE 004659476-01 P= 58.816553 Days $T_0=162.562261$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

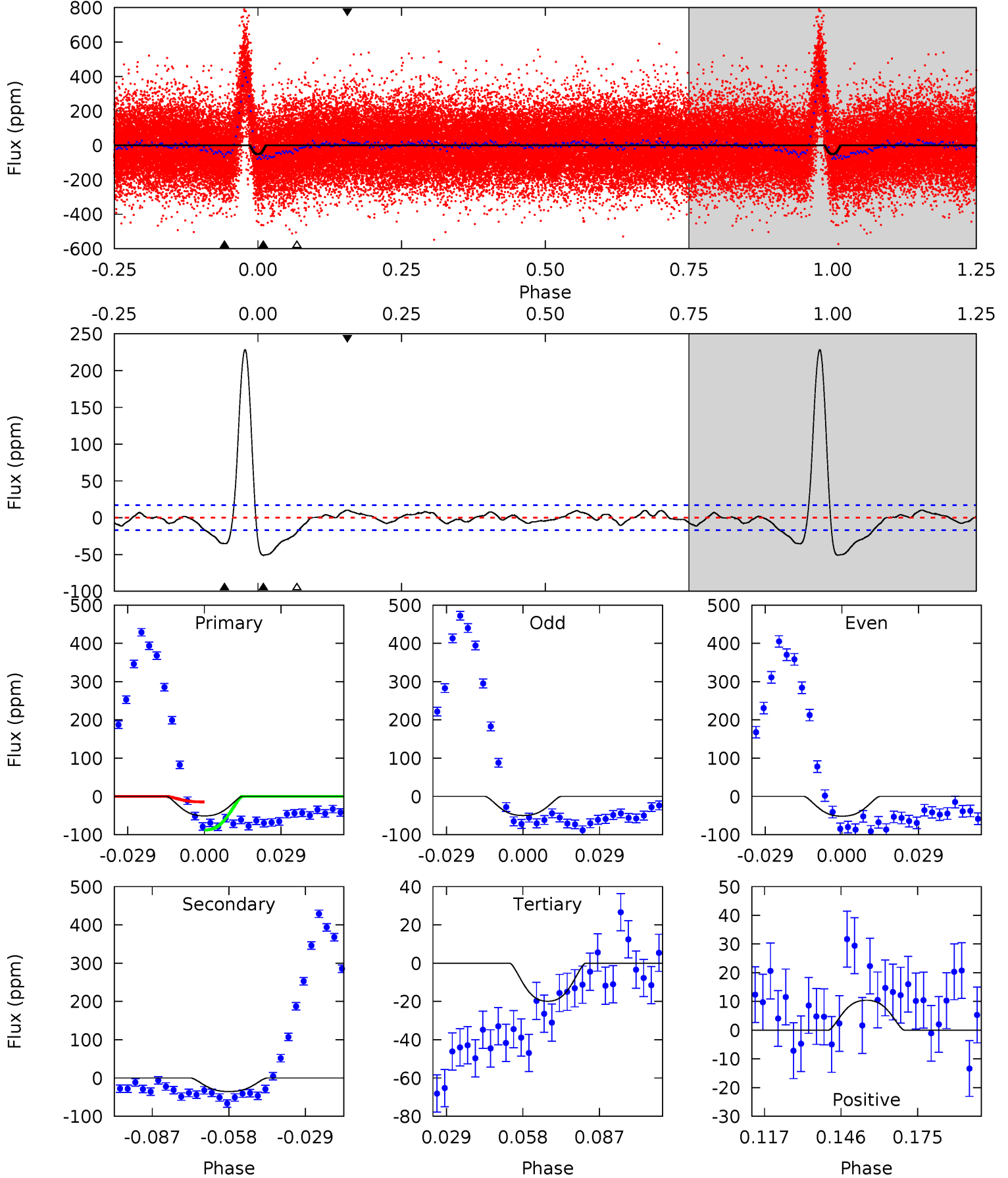
TCE 004659476-01 P= 58.812863 Days $T_0=162.391950$ (BKJD)



DV Model-Shift Uniqueness Test

004659476-01, P = 58.816553 Days, E = 103.745708 Days

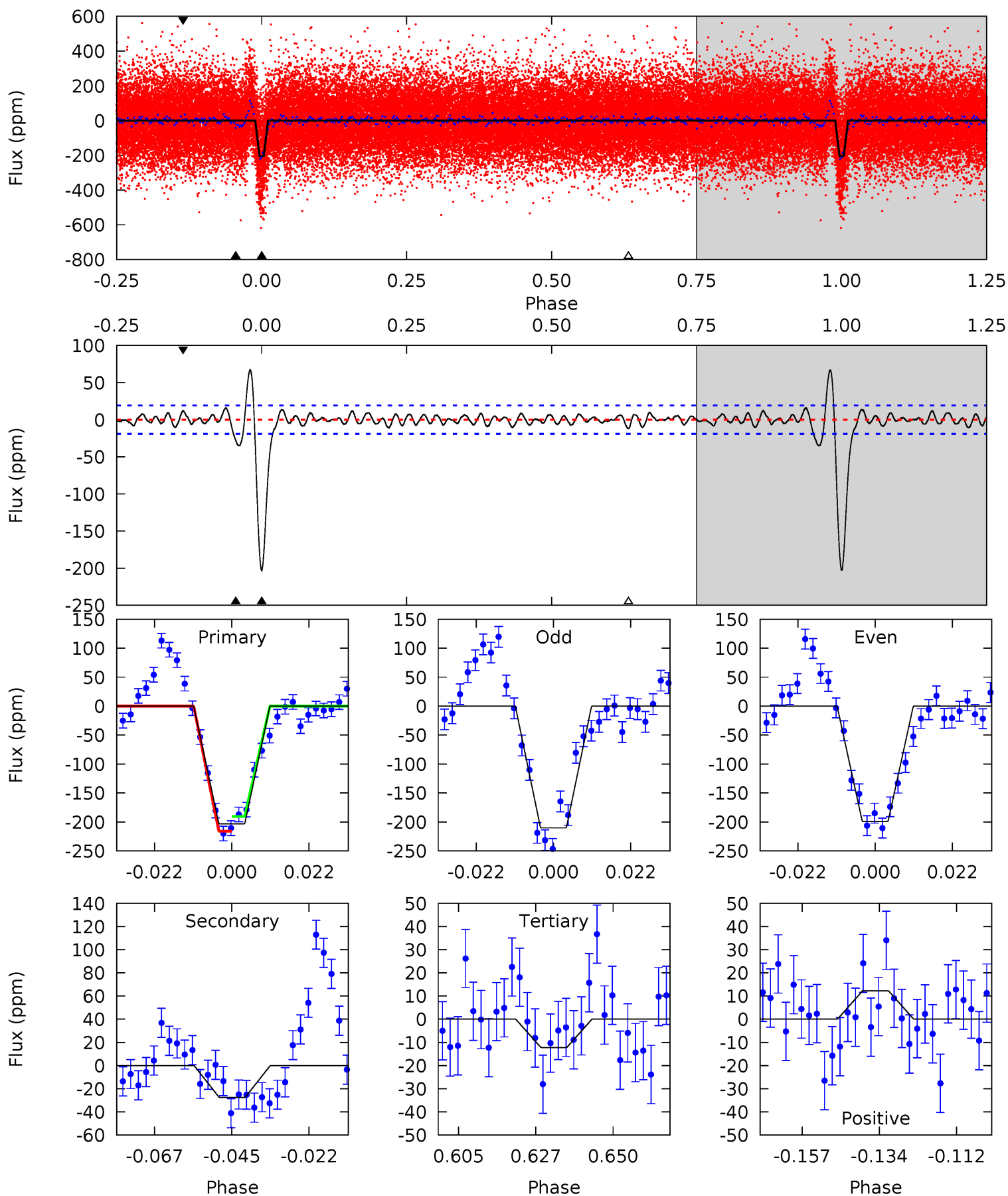
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.4	10.0	5.65	2.95	4.82	2.18	6.50	8.80	11.5	4.38	7.07	0.25	1.17	0.82	10.3



Alt Model-Shift Uniqueness Test

004659476-01, P = 58.812863 Days, E = 103.579087 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
51.6	7.00	3.10	3.12	4.87	2.28	1.24	48.5	48.5	3.90	3.88	1.42	0.93	0.25	3.23



Stellar Parameters For KIC 004659476

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6384^{+155}_{-174}	$3.972^{+0.240}_{-0.129}$	$-0.100^{+0.250}_{-0.250}$	$1.959^{+0.417}_{-0.626}$	$1.314^{+0.203}_{-0.223}$	$0.246^{+0.399}_{-0.093}$
	+2%/-3%	+6%/-3%	+250%/-250%	+21%/-32%	+15%/-17%	+162%/-38%
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 004659476-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-35 ± 4	$3.45^{+0.56}_{-0.59}$	962^{+61}_{-78}	4129^{+173}_{-162}	176^{+69}_{-47}
Alt.	-28 ± 4	$2.97^{+0.51}_{-0.53}$	956^{+60}_{-74}	4147^{+220}_{-193}	180^{+93}_{-50}

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

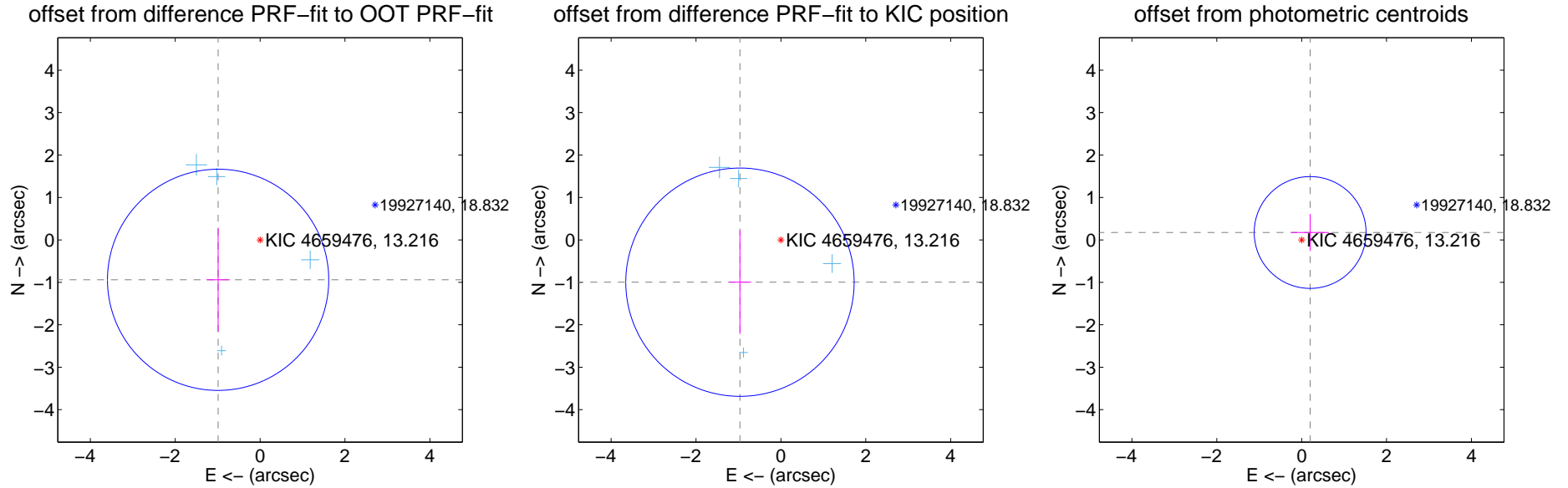
DV Centroid Data

Supplemental centroid analysis for 004659476-01. Kepler magnitude: 13.22. Transit SNR 18.63

There are 4 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.365 ± 0.869	1.57	0.989 ± 0.277	-0.940 ± 1.227
PRF-fit source offset from KIC position	1.386 ± 0.897	1.55	0.964 ± 0.263	-0.996 ± 1.221
photometric centroid source offset	0.27 ± 0.44	0.60	-0.20 ± 0.44	0.17 ± 0.44



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.

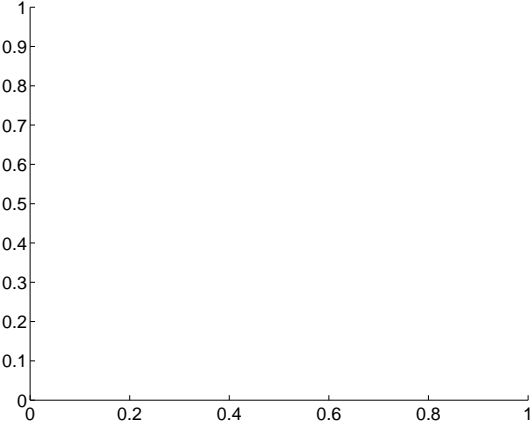
Q1 no difference image



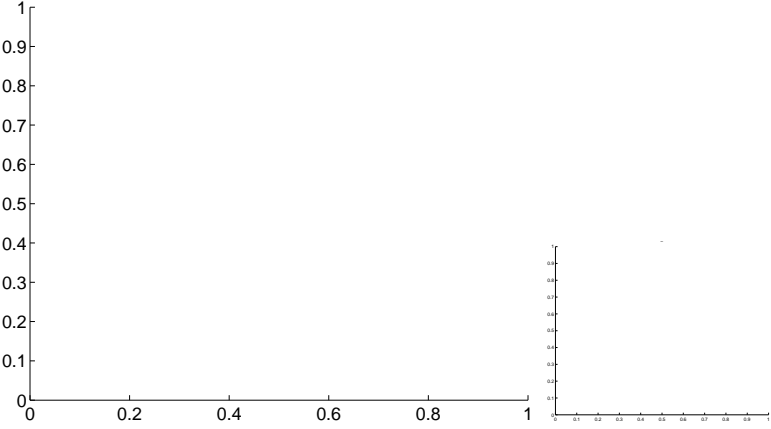
Q1 no OOT image



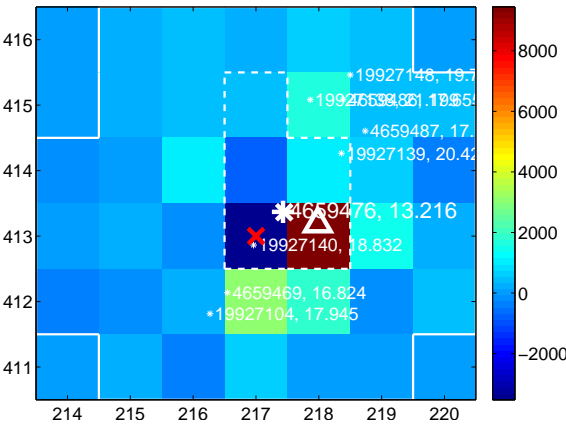
Q2 no difference image



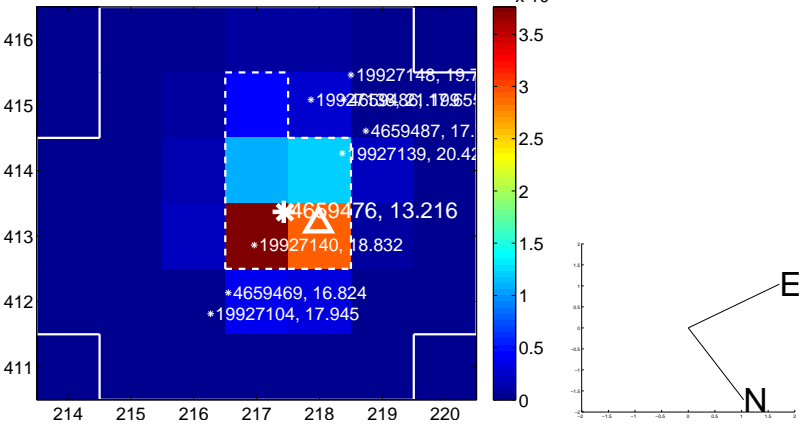
Q2 no OOT image



Q3 difference image



Q3 OOT image



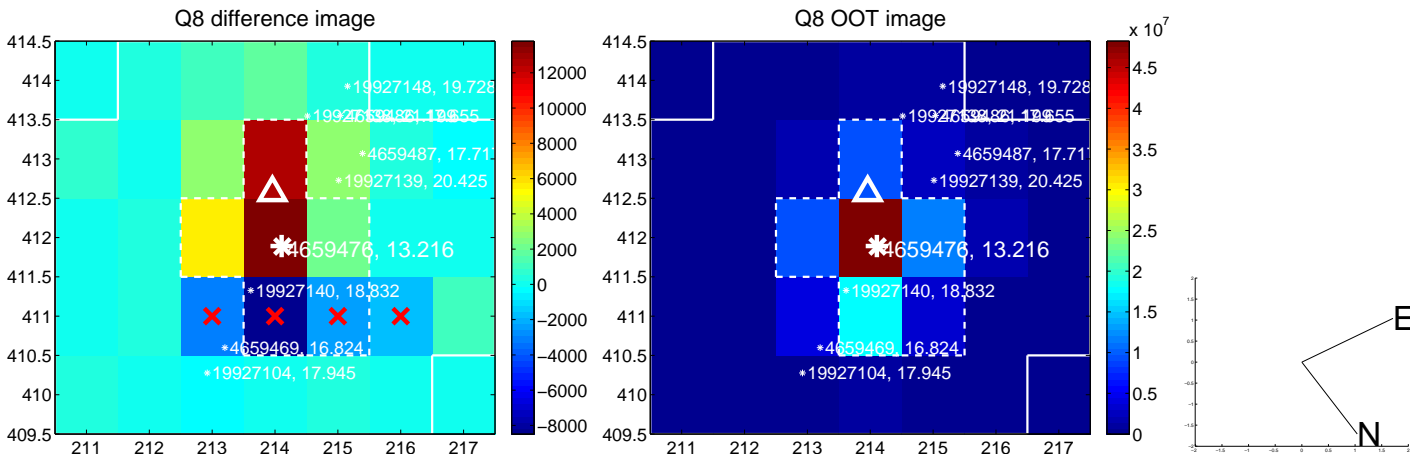
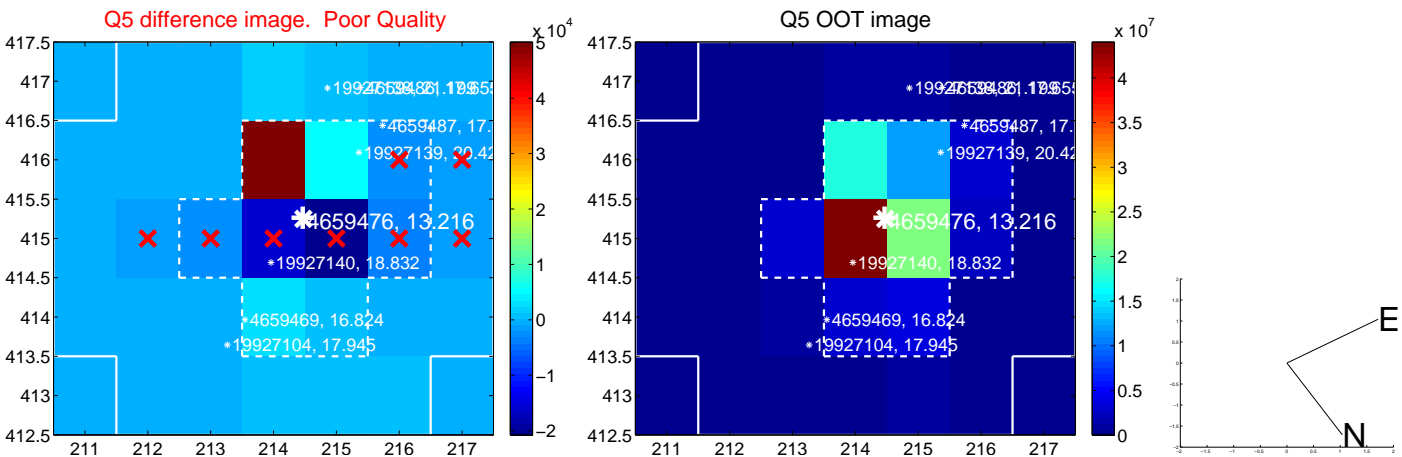
Q4 no difference image



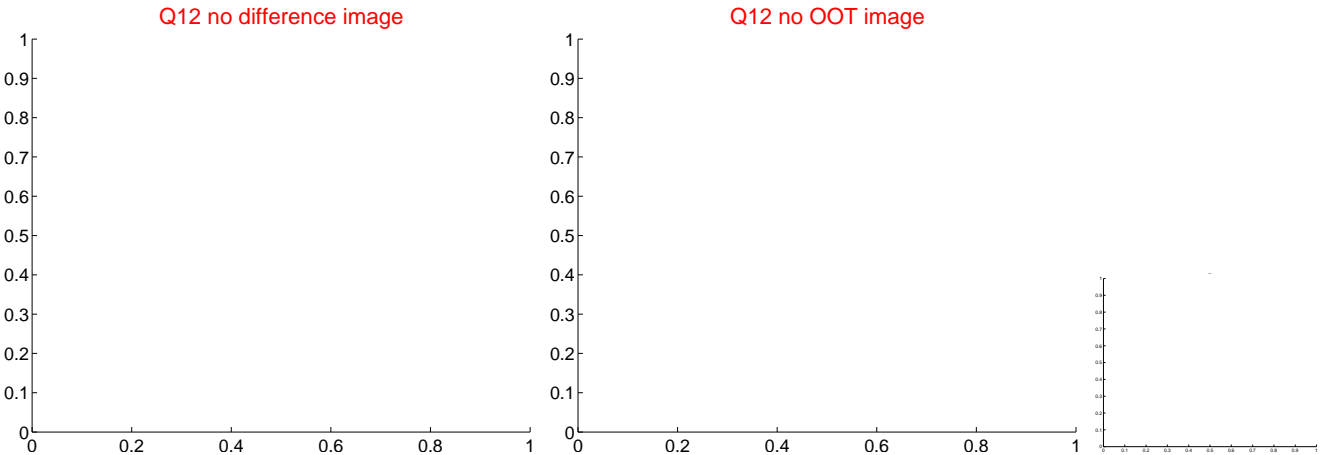
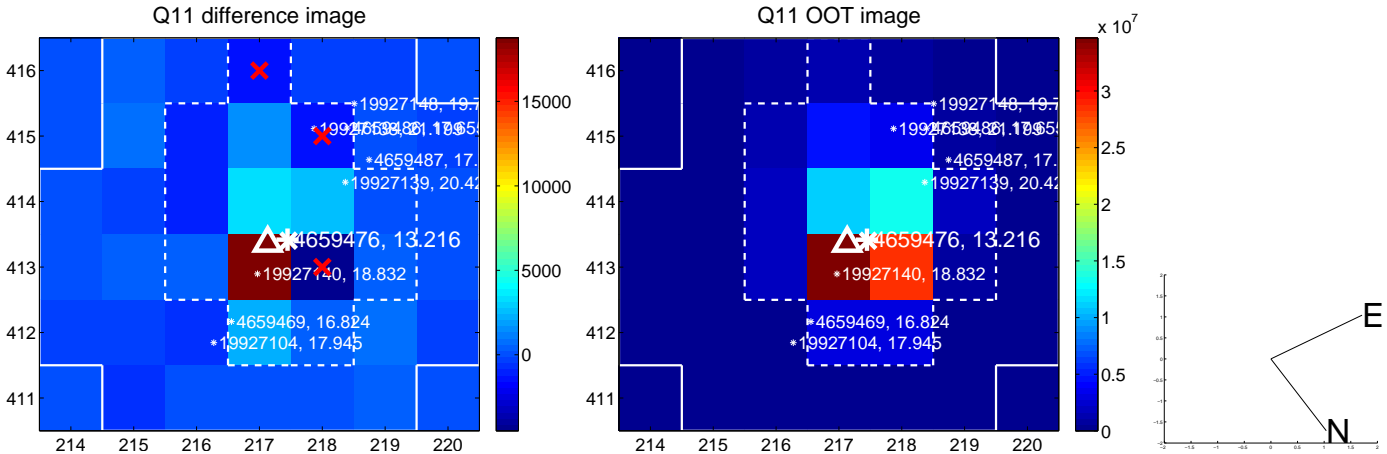
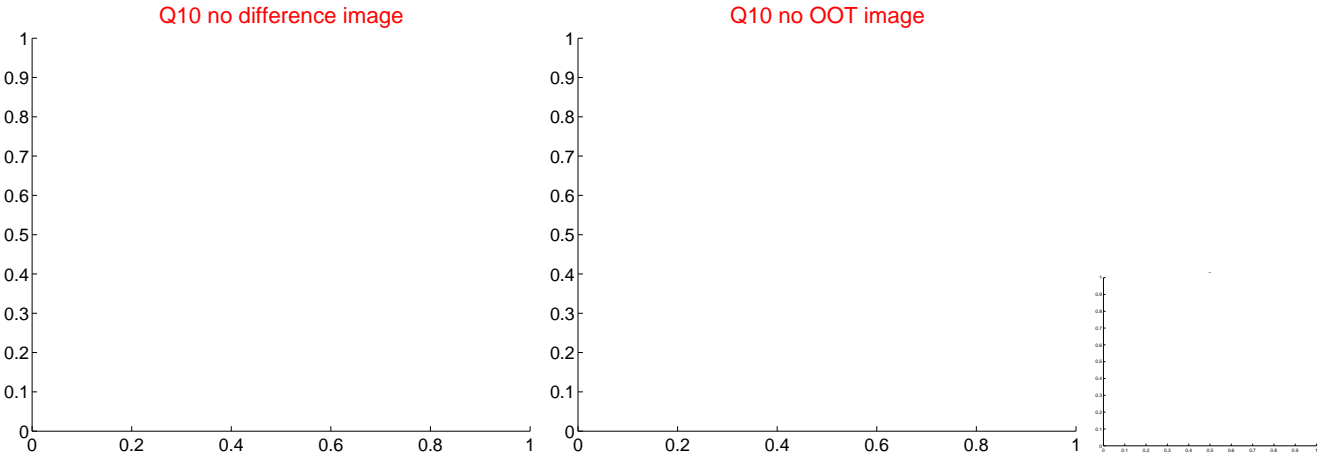
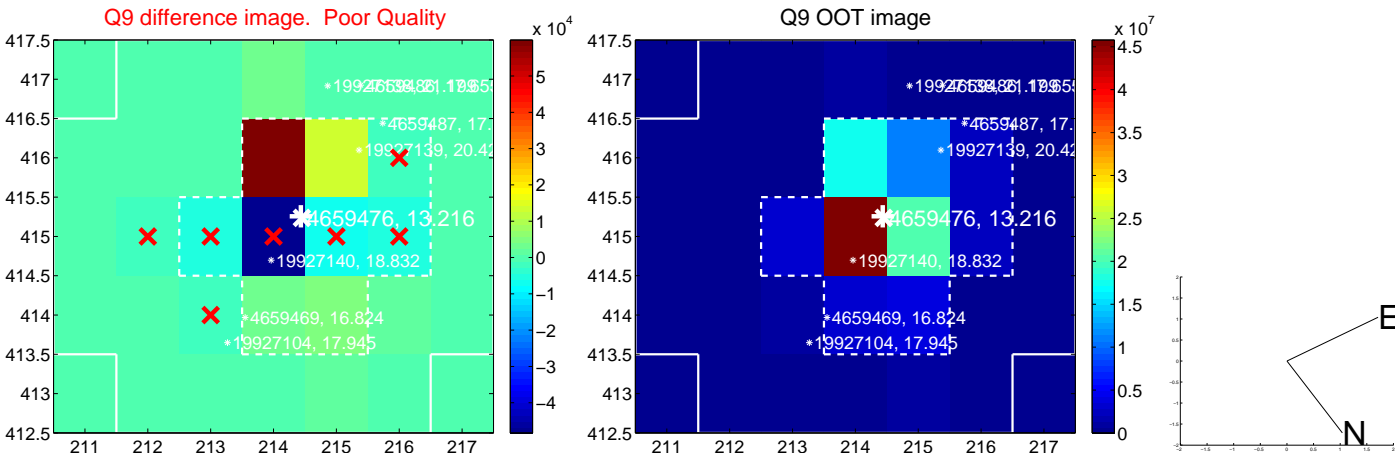
Q4 no OOT image



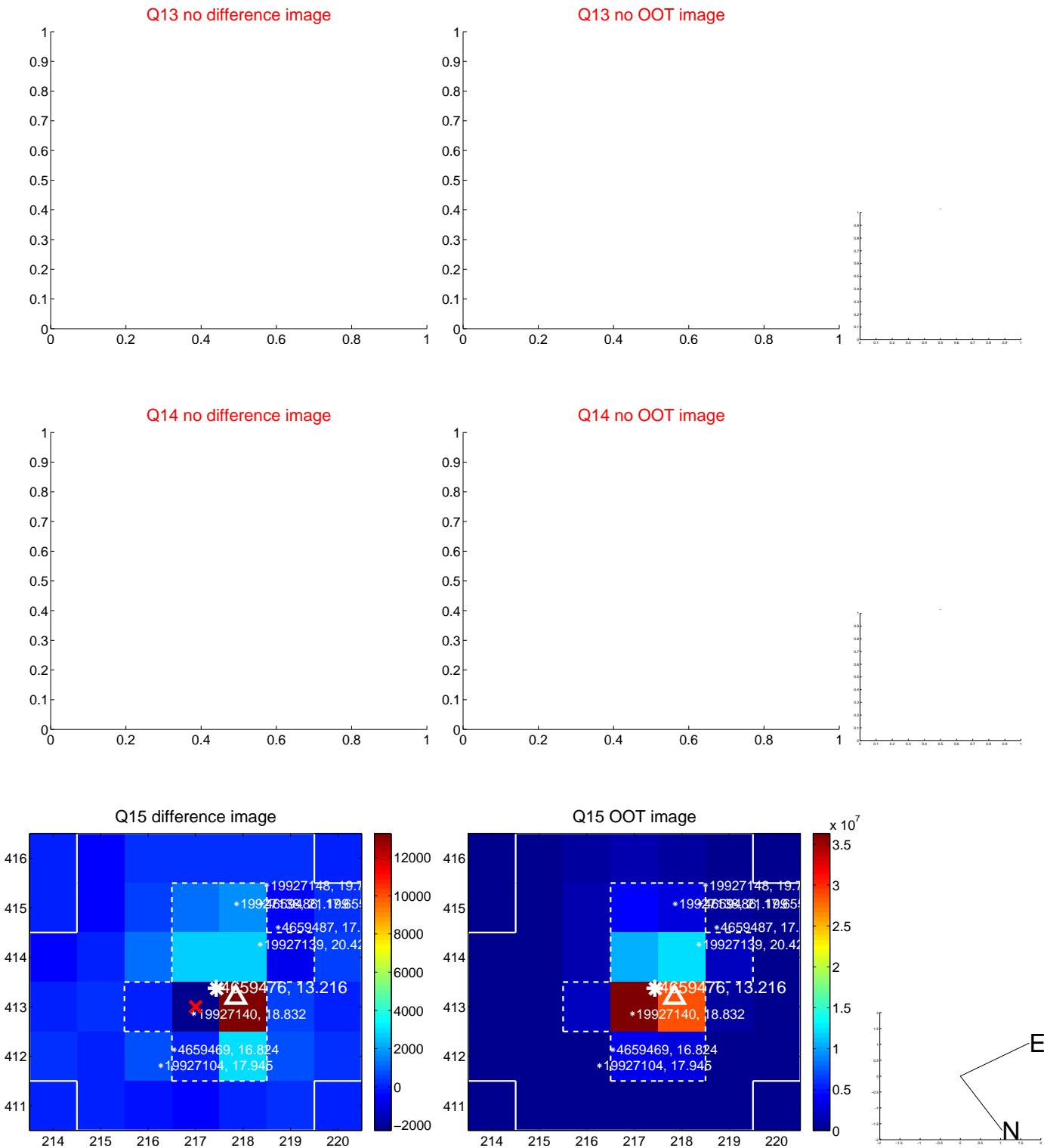
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



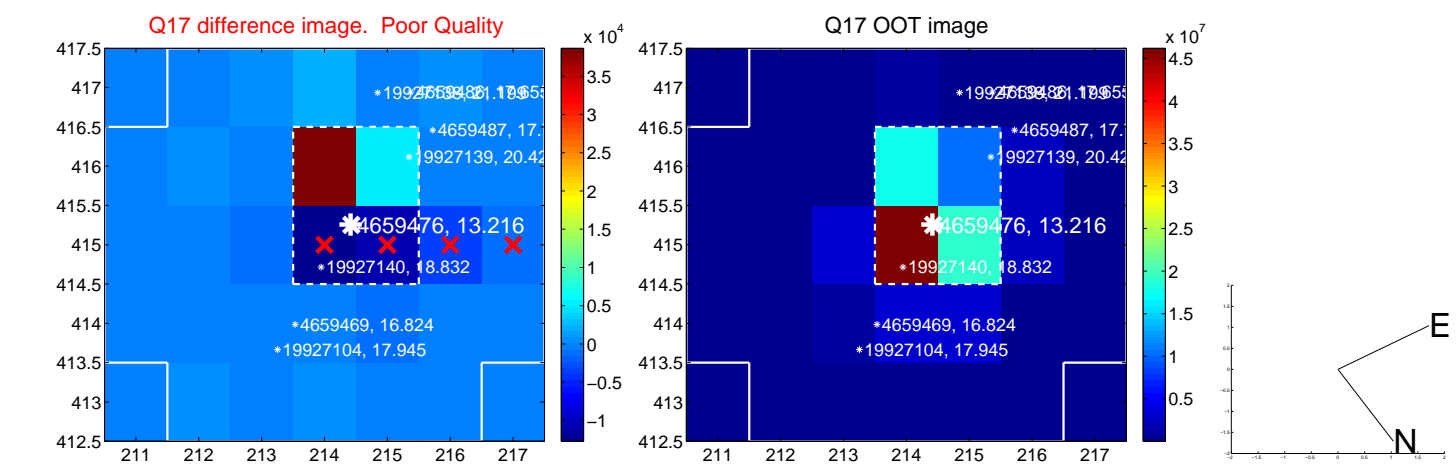
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



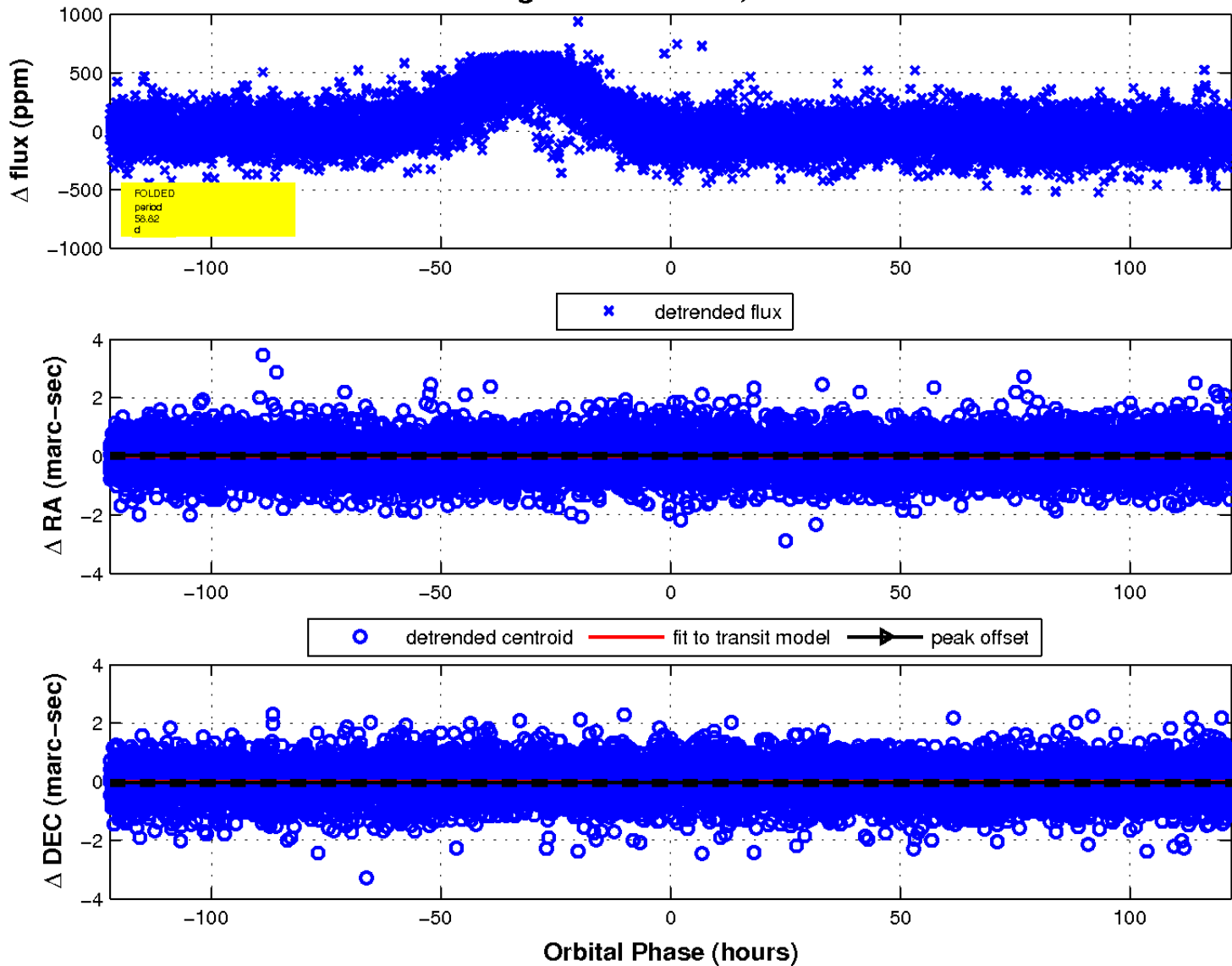
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

