

KIC 004370527

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})
004370527-01	OBS	2166.01	61.617410	179.084470	1366.2	3.875	14.8	15.9	0.93	5480	3.59	7.69

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004370527-01	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.

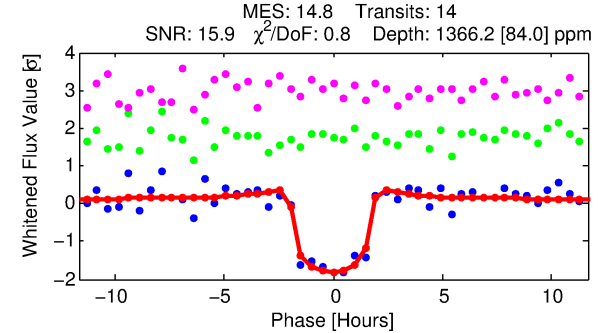
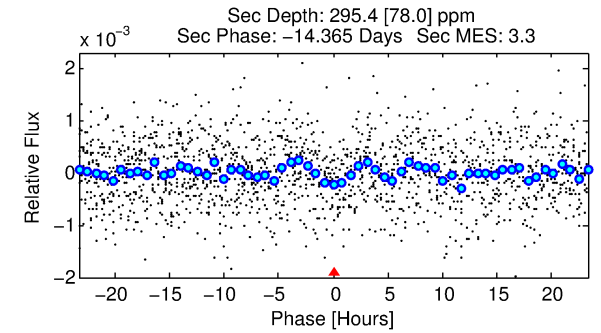
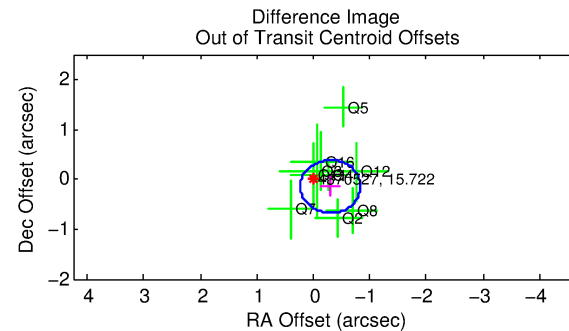
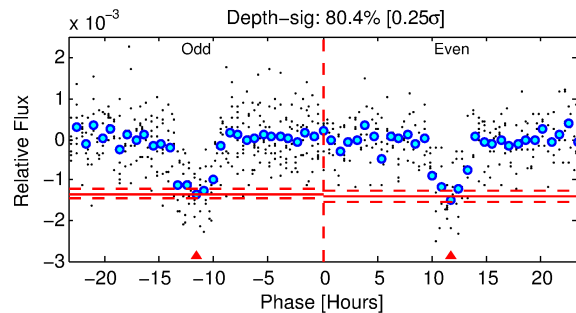
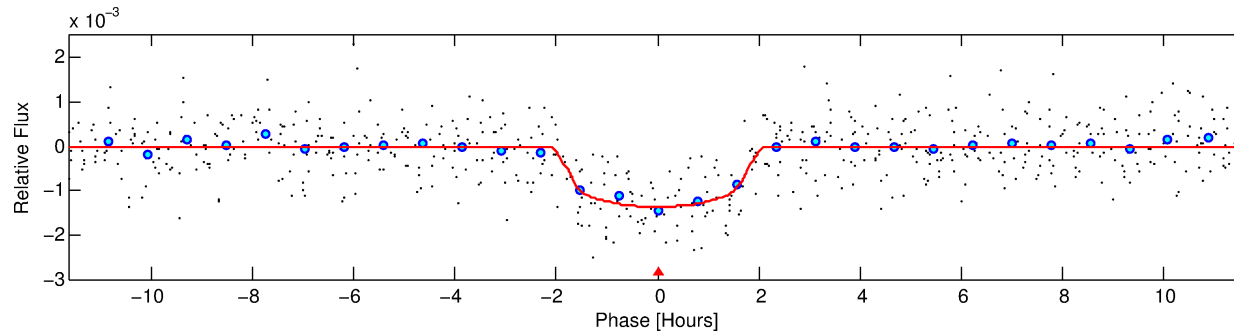
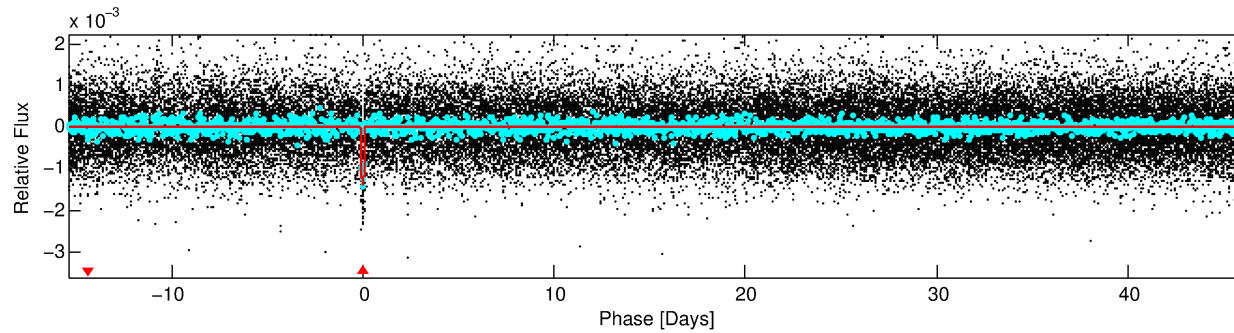
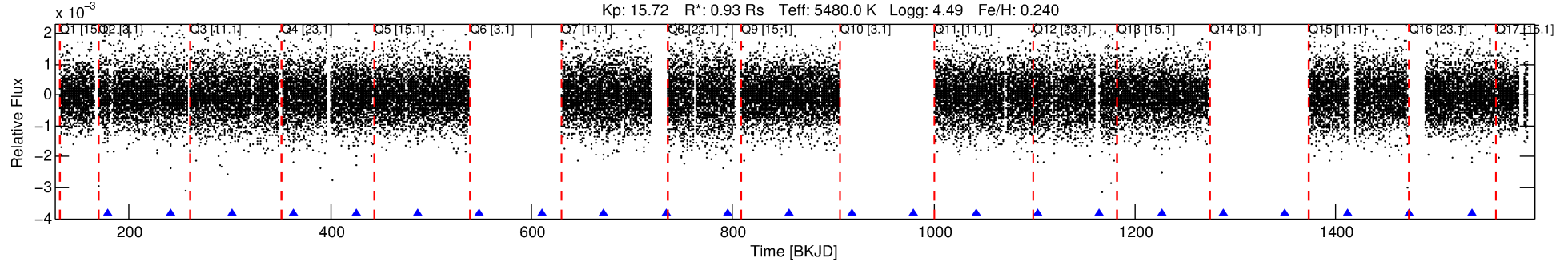
Ephemeris Match Information For 004370527-01

No Significant Match Found

DV One-Page Summary

KIC: 4370527 Candidate: 1 of 1 Period: 61.617 d
KOI: K02166.01 Corr: 0.978

Kp: 15.72 R*: 0.93 Rs Teff: 5480.0 K Logg: 4.49 Fe/H: 0.240



DV Fit Results:

Period = 61.61741 [0.00034] d
Epoch = 179.0845 [0.0041] BKJD
Rp/R* = 0.0354 [0.0243]
a/R* = 100.06 [261.71]
b = 0.63 [2.57]
Seff = 7.69 [1.47]
Teq = 425 [20] K
Rp = 3.59 [2.50] Re
a = 0.3019 [0.0348] AU
Ag = 1147.66 [1617.35] [0.71σ]
Teffp = 3821 [1336] K [2.54σ]

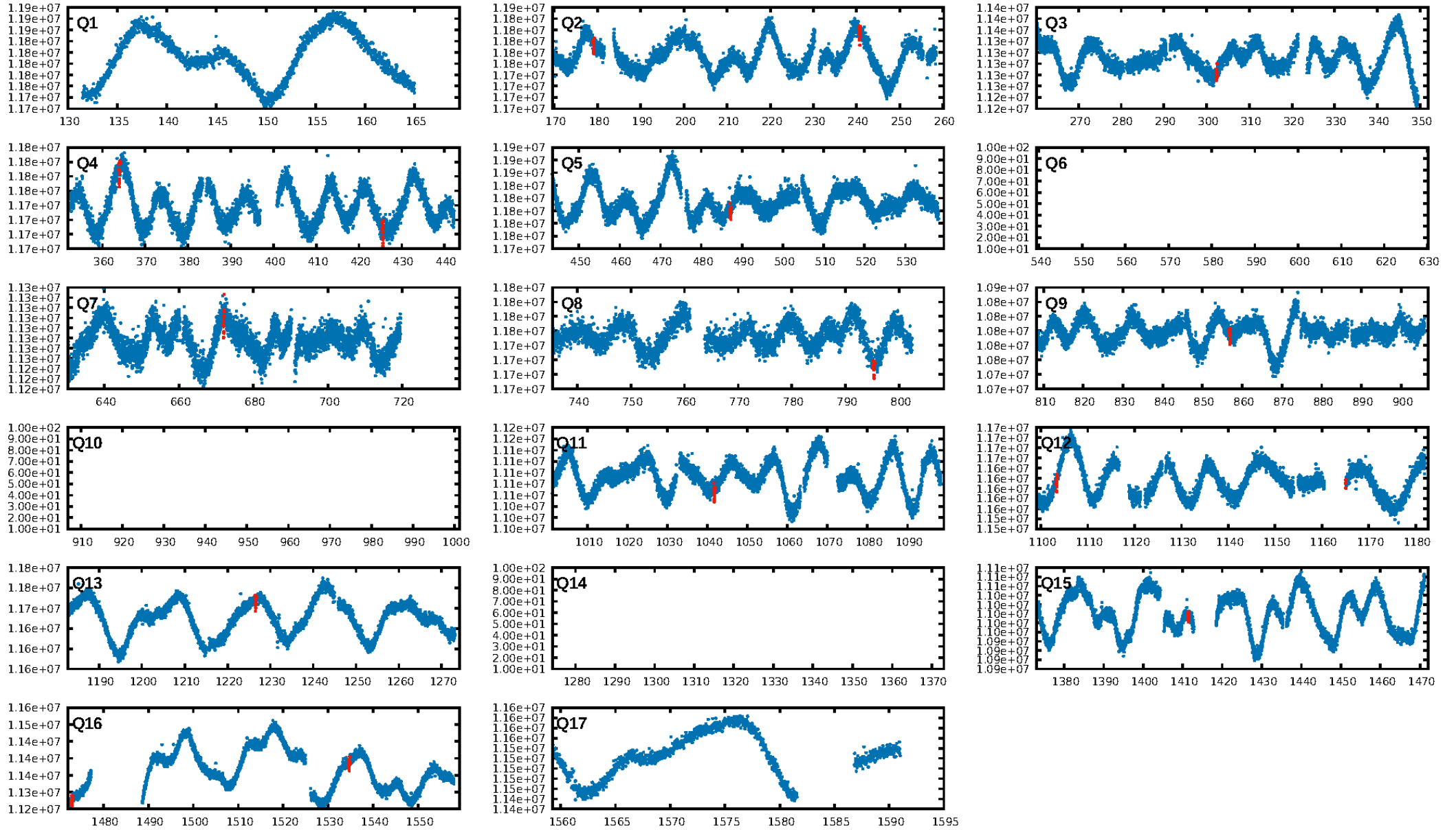
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 96.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.79e-45
RollingBand-fgt: 1.00 [14/14]
GhostDiagnostic-chr: 5.285
Centroid-sig: 19.4%
Centroid-so: 0.824 arcsec [1.16σ]
OotOffset-rm: 0.333 arcsec [1.88σ]
KicOffset-rm: 0.333 arcsec [1.86σ]
OotOffset-st: 1/3/4/1 [9]
KicOffset-st: 1/3/4/1 [9]
DiffImageQuality-fgm: 1.00 [9/9]
DiffImageOverlap-fno: 1.00 [11/11]

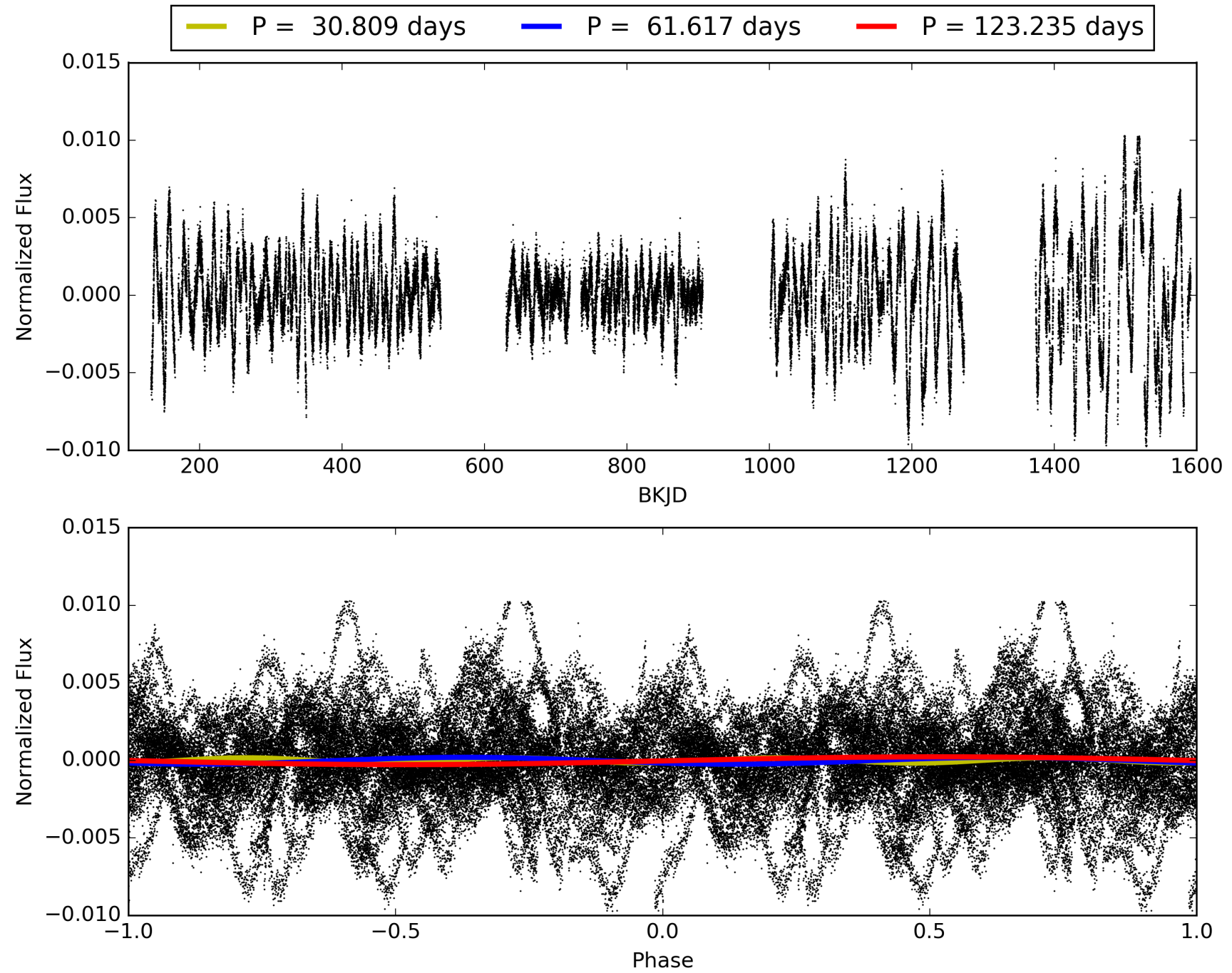
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:25:40 Z

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

TCE 004370527-01, PDC Light Curves

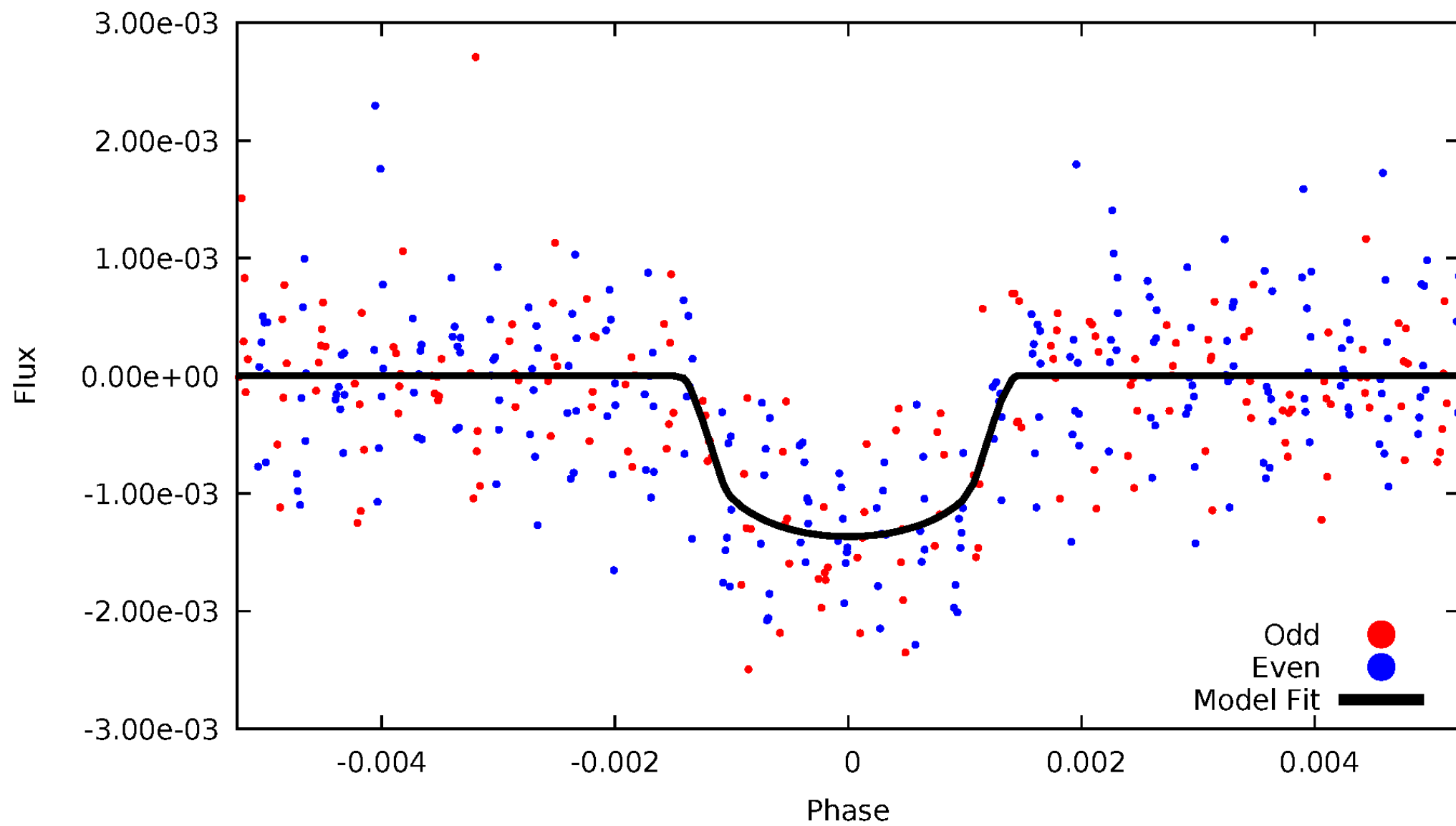


TCE 004370527-01



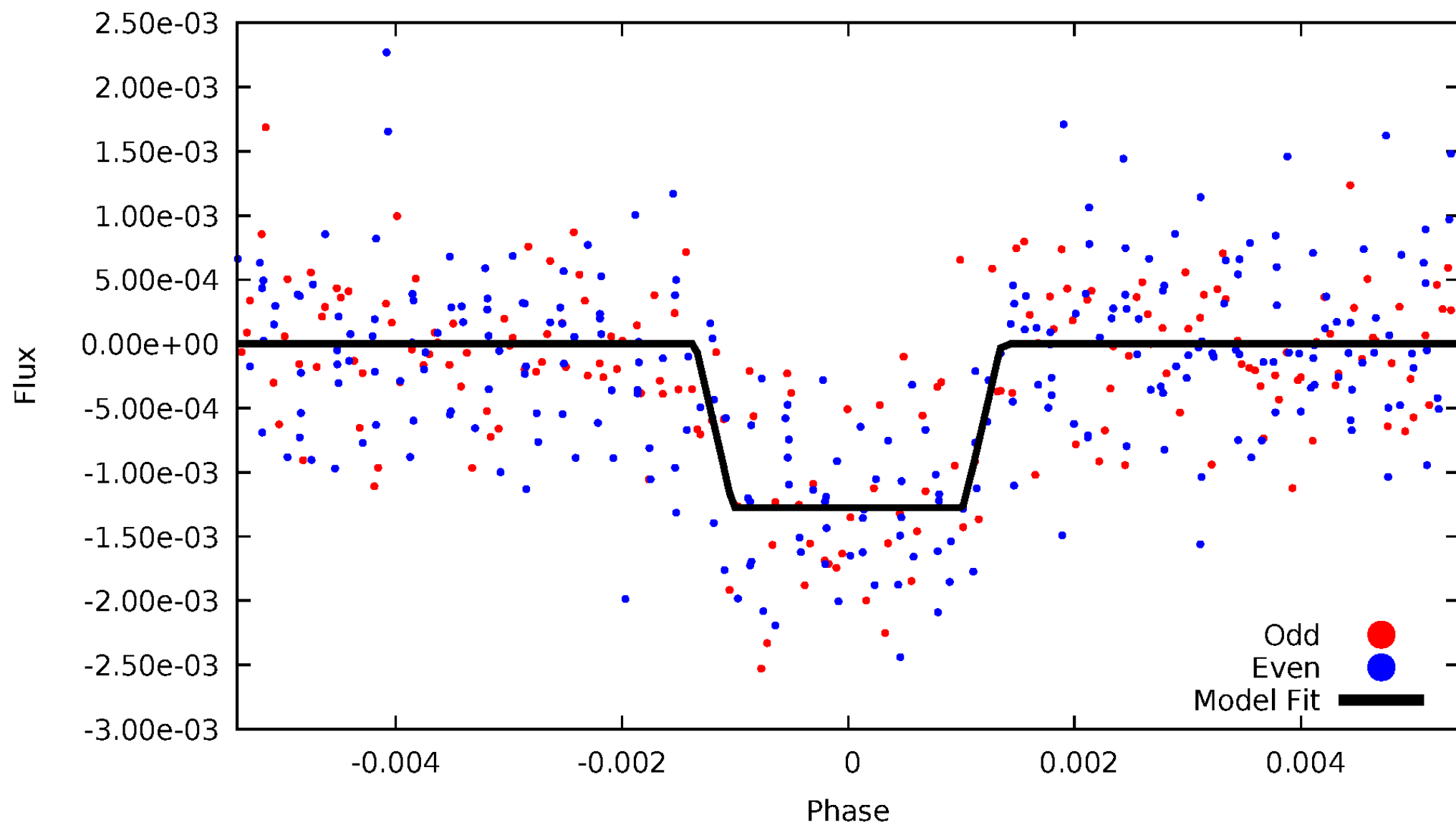
DV Odd/Even

TCE 004370527-01



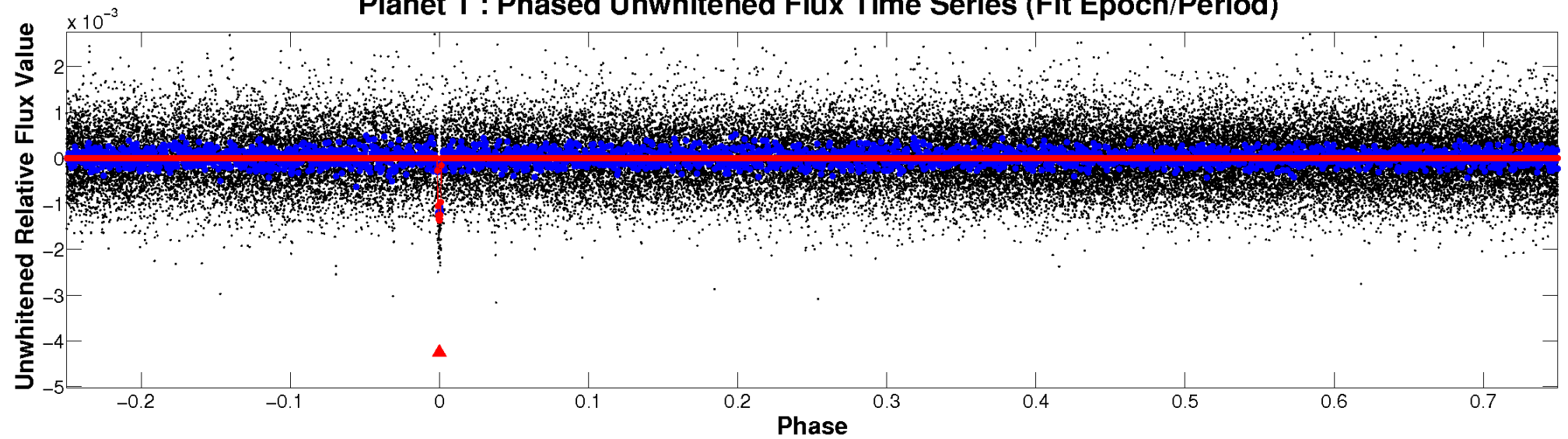
ALT Odd/Even

TCE 004370527-01

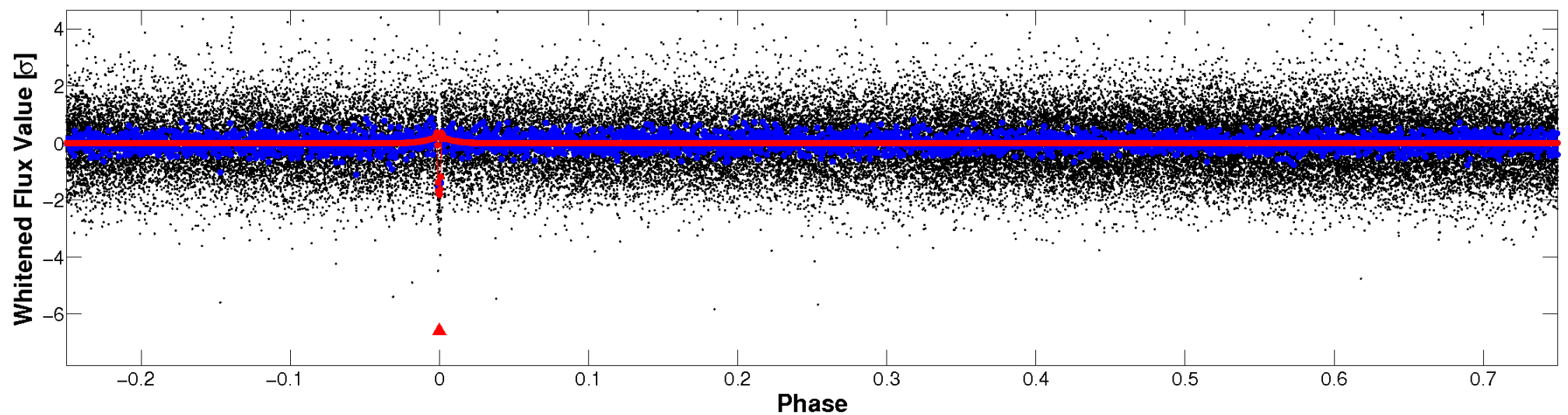


Non-Whitened Vs. Whitened Light Curve

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

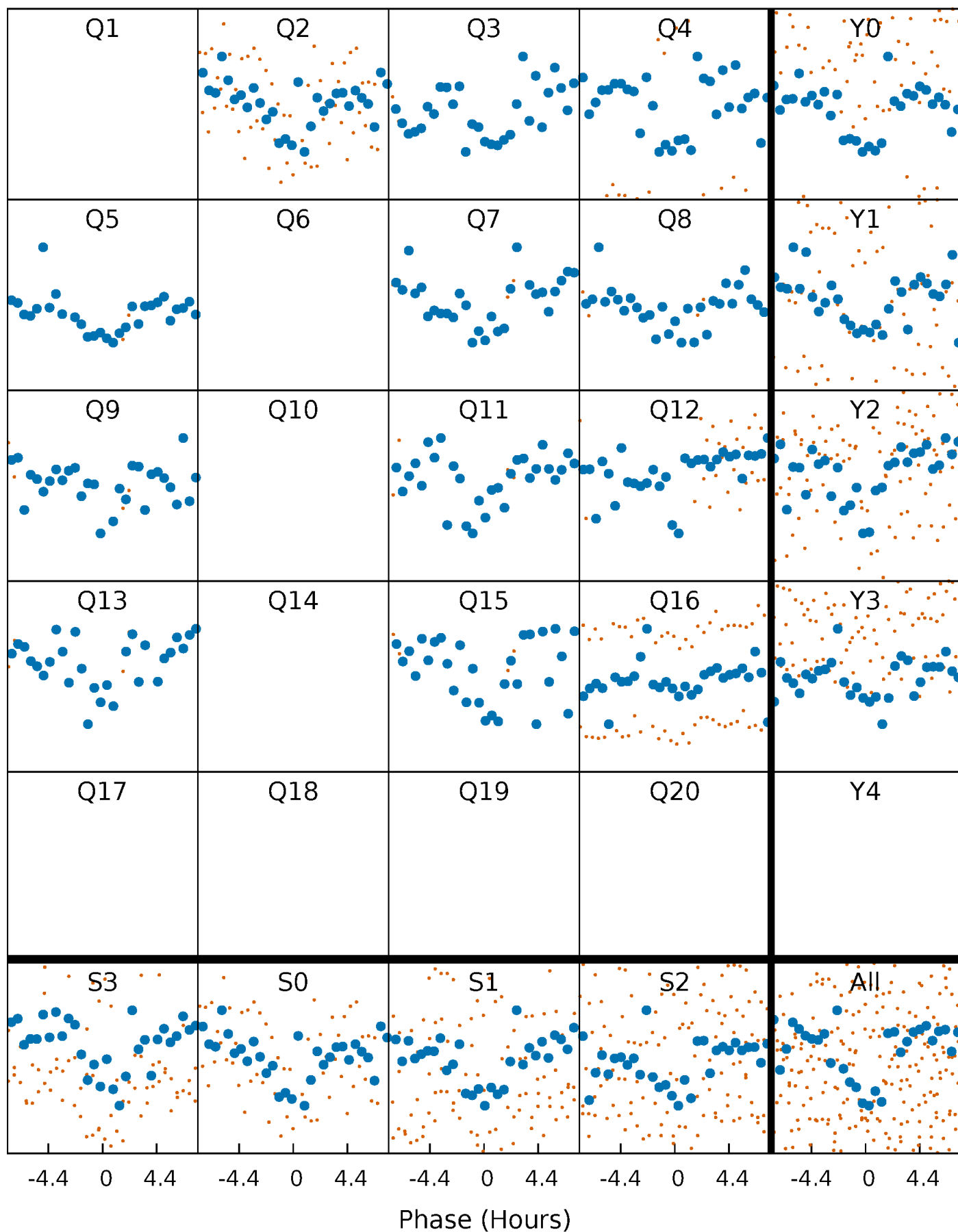


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



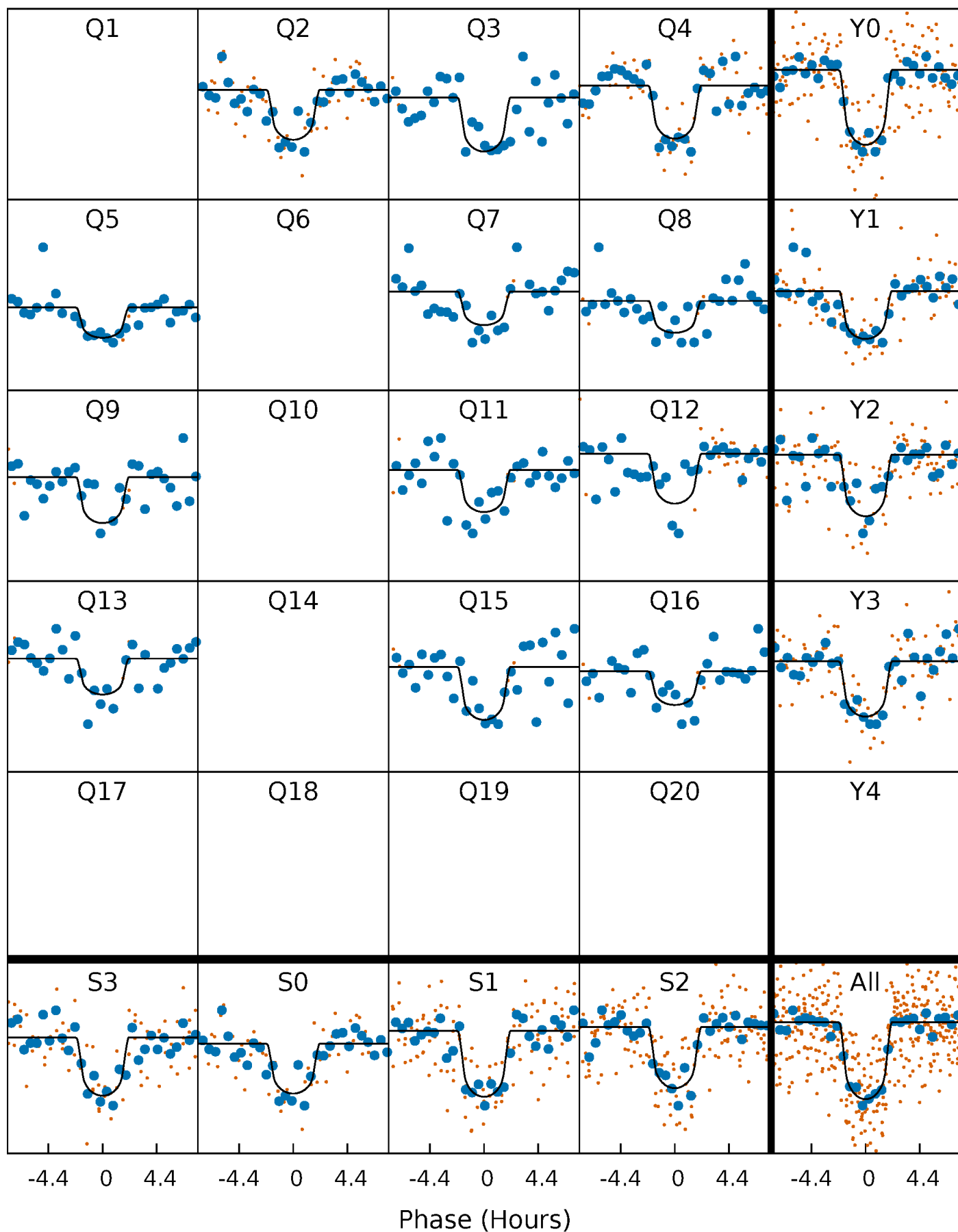
PDC Quarter-Phased Transit Curves

TCE 004370527-01 P= 61.617410 Days $T_0=179.084470$ (BKJD)



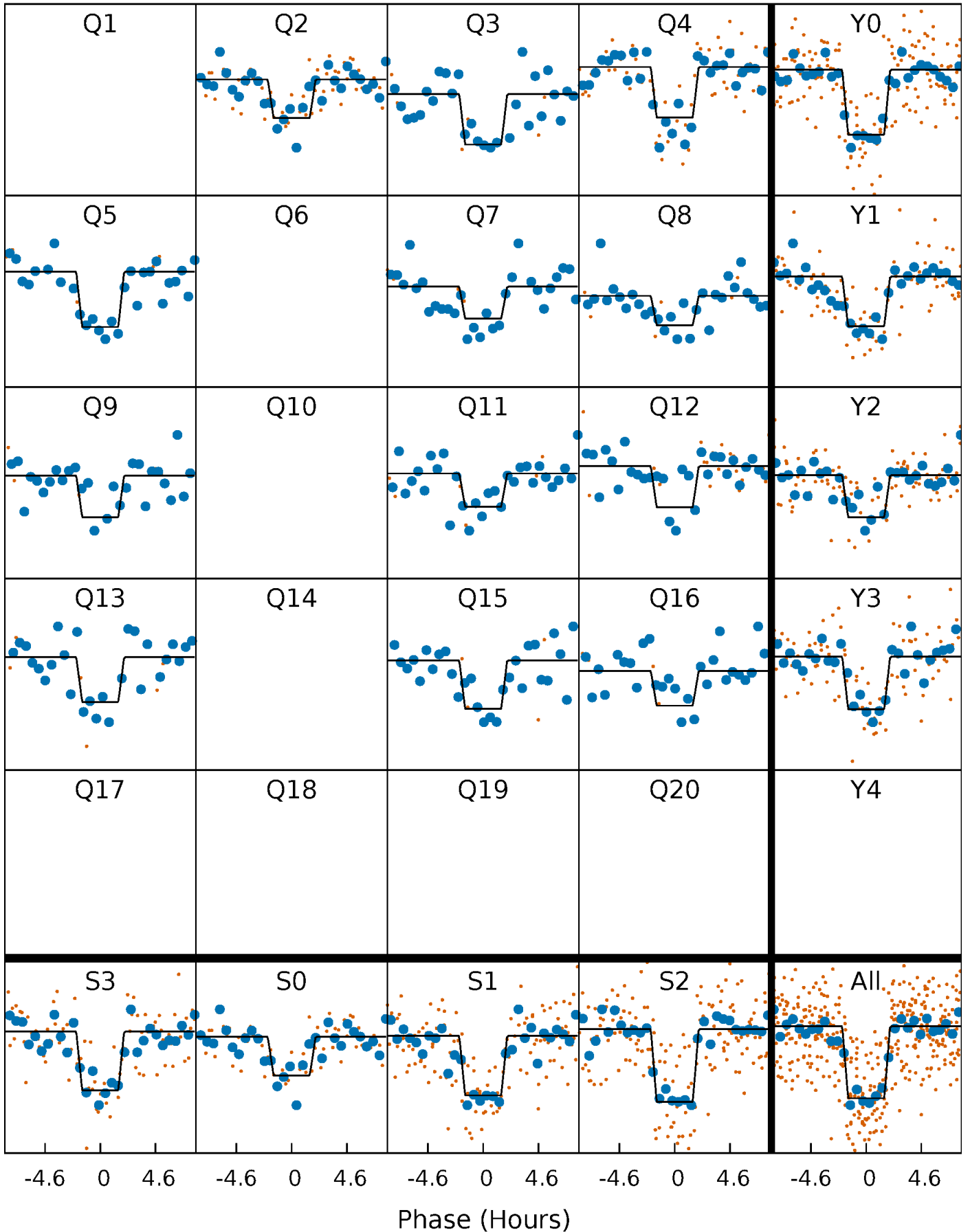
DV Quarter-Phased Transit Curves

TCE 004370527-01 P= 61.617410 Days $T_0=179.084470$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

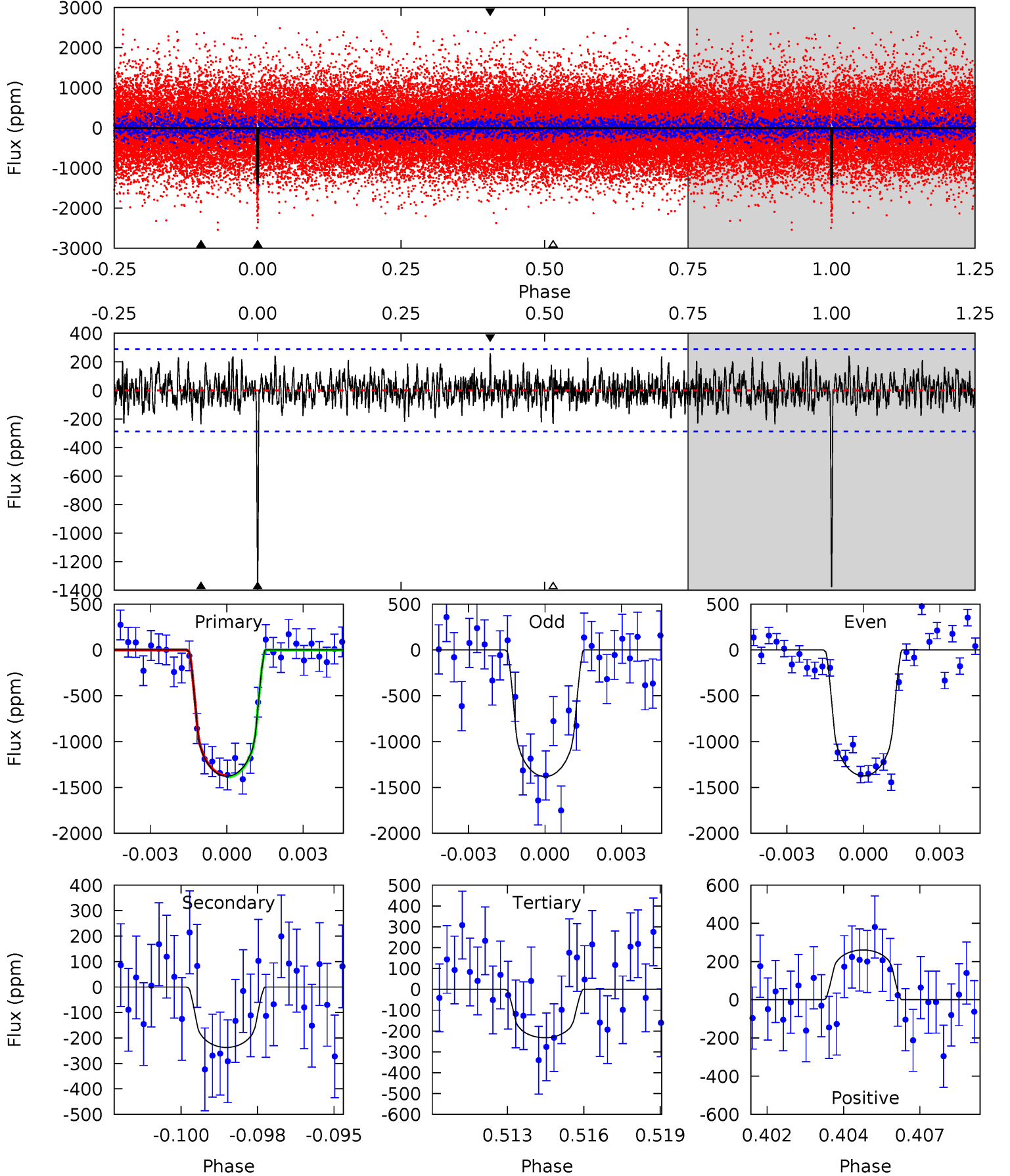
TCE 004370527-01 P= 61.616438 Days $T_0=179.095555$ (BKJD)



DV Model-Shift Uniqueness Test

004370527-01, $P = 61.617410$ Days, $E = 117.467060$ Days

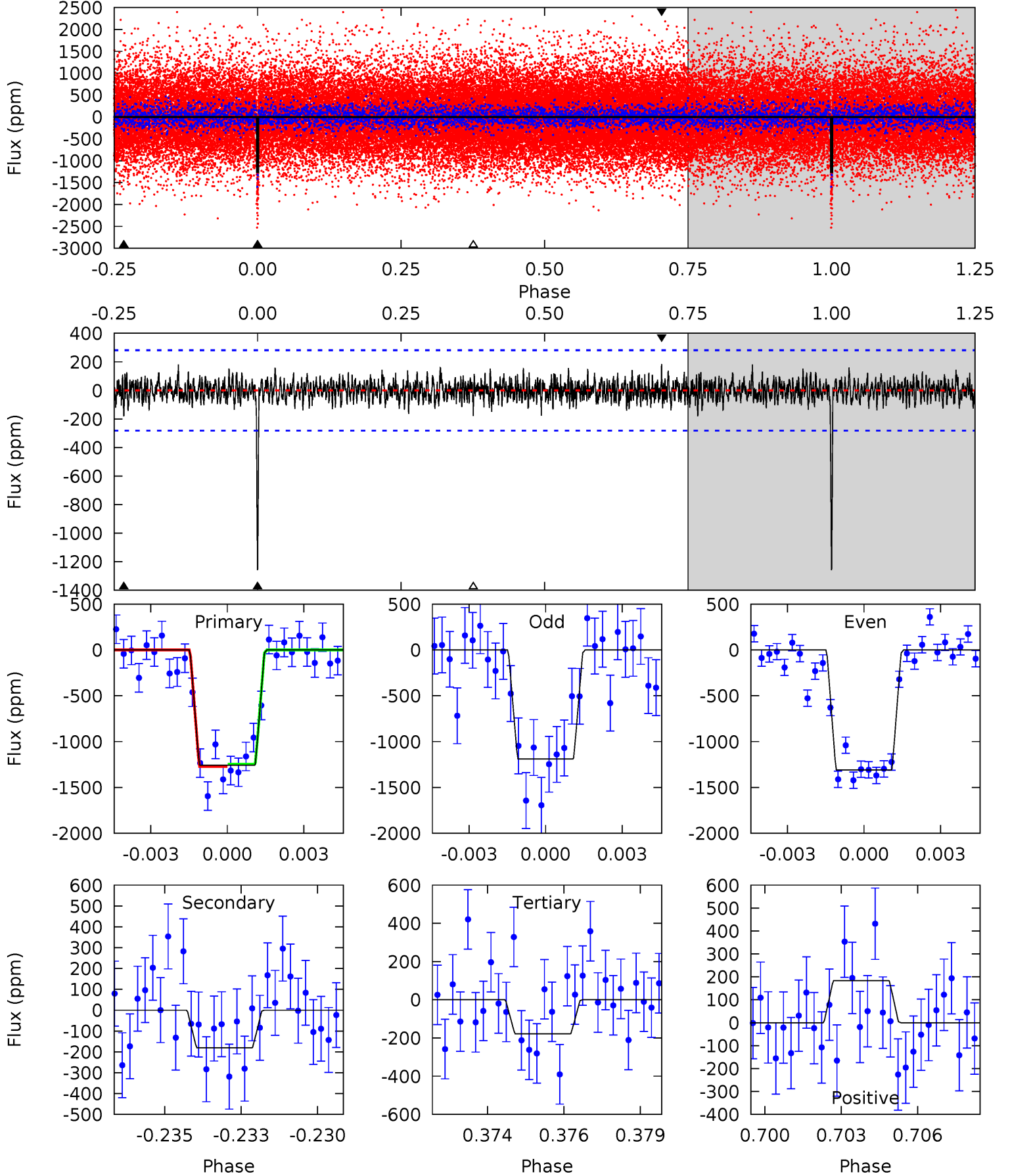
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.2	4.34	4.25	4.77	5.26	2.98	1.35	21.0	20.4	0.09	-0.43	0.07	0.97	0.16	0.15



Alt Model-Shift Uniqueness Test

004370527-01, $P = 61.616438$ Days, $E = 117.479117$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.5	3.37	3.34	3.44	5.27	2.99	0.99	20.2	20.1	0.03	-0.06	1.11	0.99	0.13	0.23



Stellar Parameters For KIC 004370527

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5480^{+73}_{-82}	$4.485^{+0.045}_{-0.105}$	$0.240^{+0.150}_{-0.150}$	$0.931^{+0.115}_{-0.053}$	$0.966^{+0.039}_{-0.054}$	$1.685^{+0.289}_{-0.519}$
	+1%/-1%	+1%/-2%	+62%/-62%	+12%/-6%	+4%/-6%	+17%/-31%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 004370527-01 / KOI 2166.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-237 ± 55	$3.71^{+2.56}_{-2.06}$	596^{+20}_{-15}	3889^{+1523}_{-624}	836^{+3612}_{-559}
Alt.	-181 ± 53	$3.95^{+2.30}_{-2.15}$	596^{+20}_{-15}	3648^{+1230}_{-506}	562^{+2153}_{-347}

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

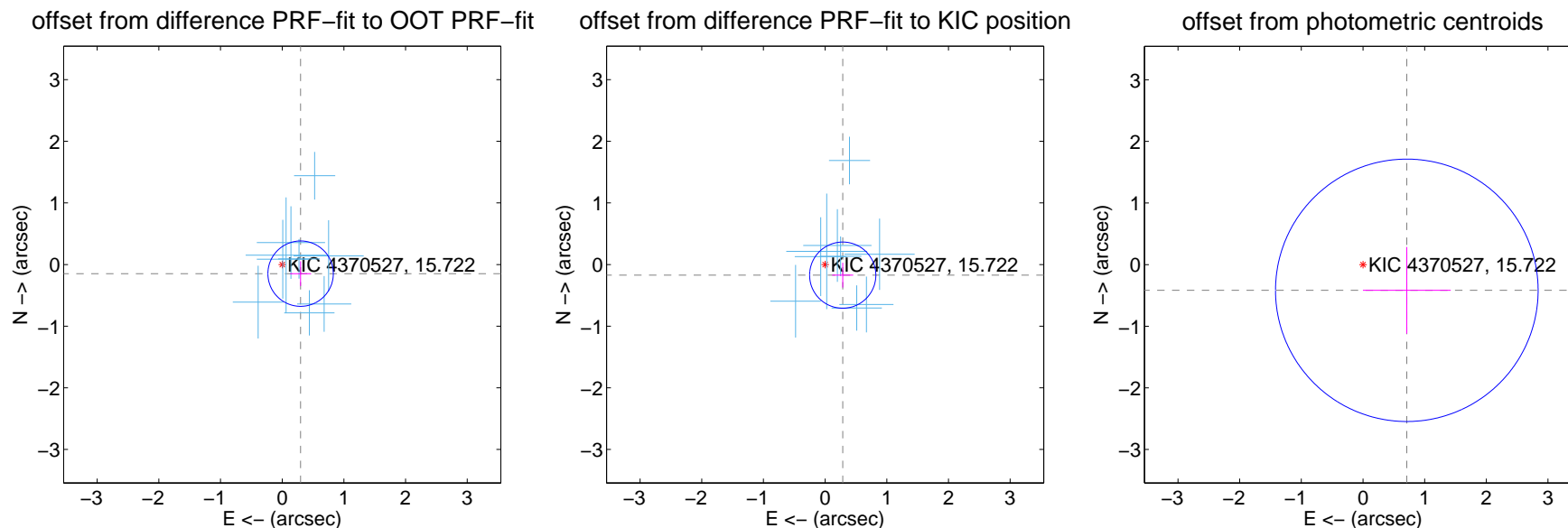
DV Centroid Data

Supplemental centroid analysis for 004370527-01. Kepler magnitude: 15.72. Transit SNR 15.93

There are 9 quarters with good PRF difference image offsets

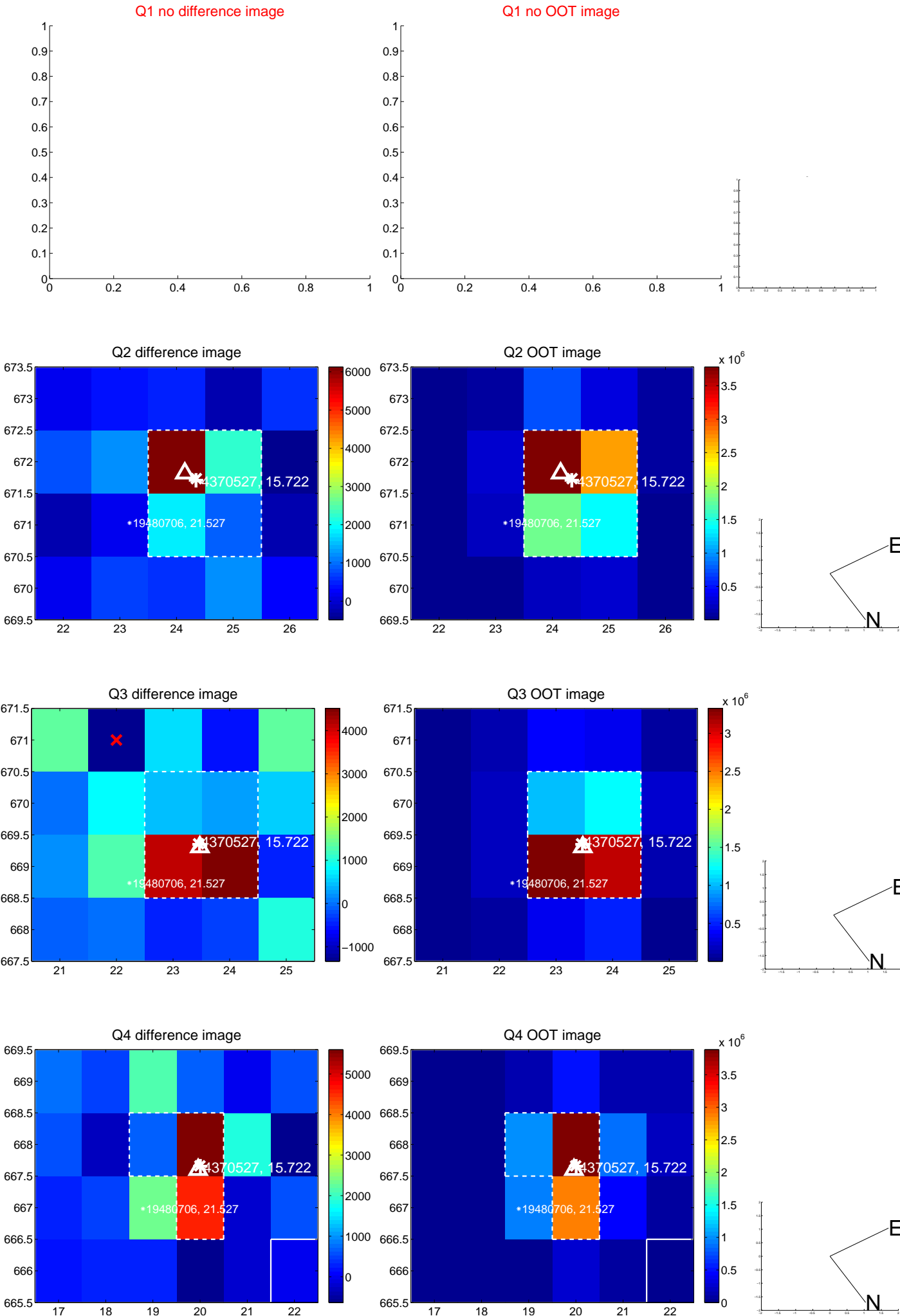
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.333 ± 0.177	1.88	-0.298 ± 0.170	-0.148 ± 0.201
PRF-fit source offset from KIC position	0.333 ± 0.179	1.86	-0.285 ± 0.170	-0.172 ± 0.201
photometric centroid source offset	0.82 ± 0.71	1.16	-0.71 ± 0.71	-0.42 ± 0.70

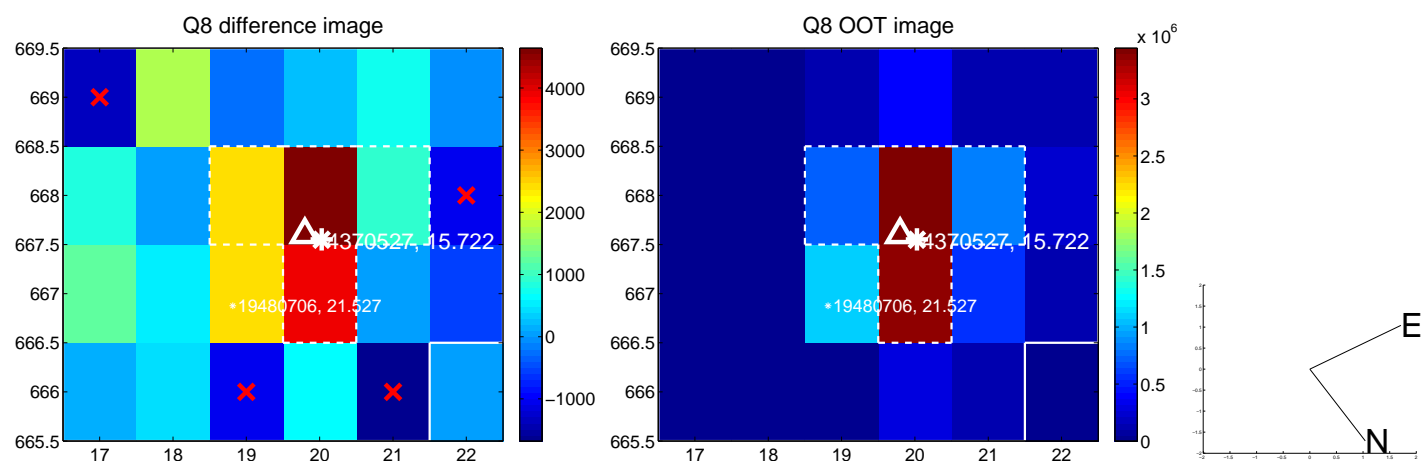
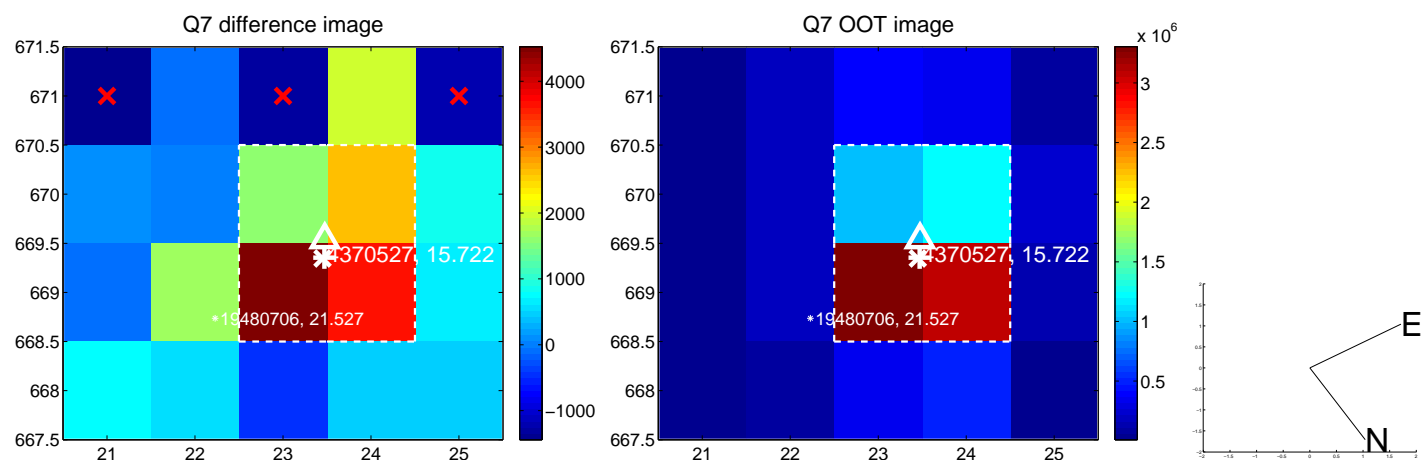
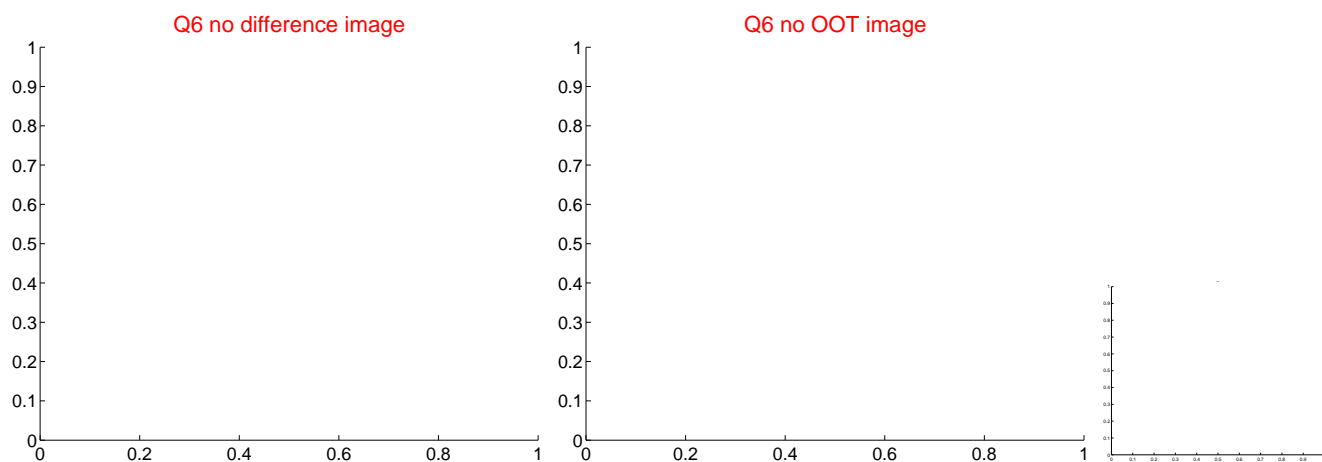
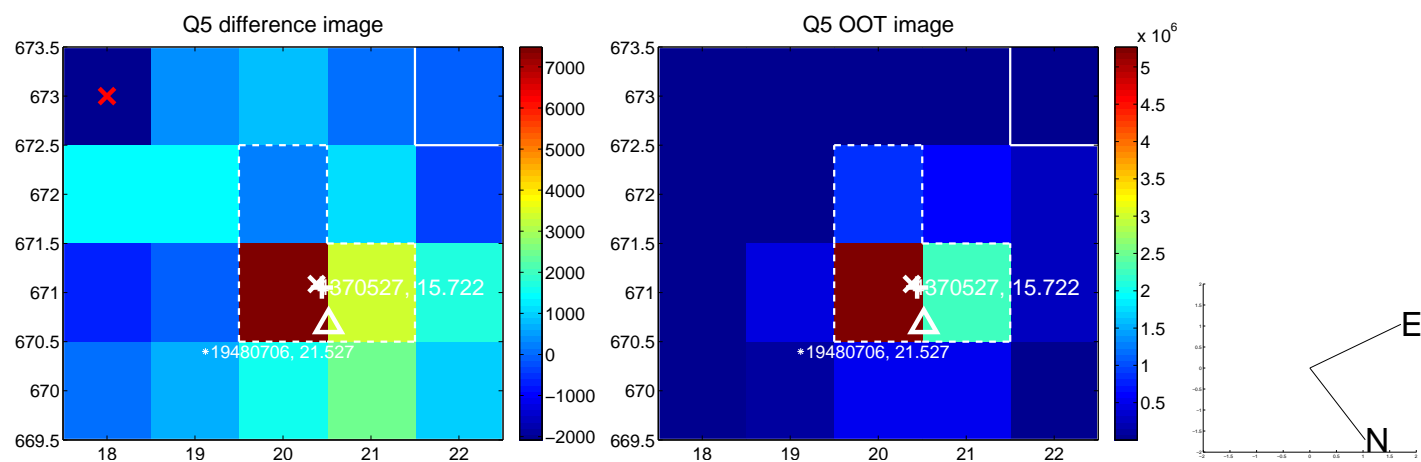


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

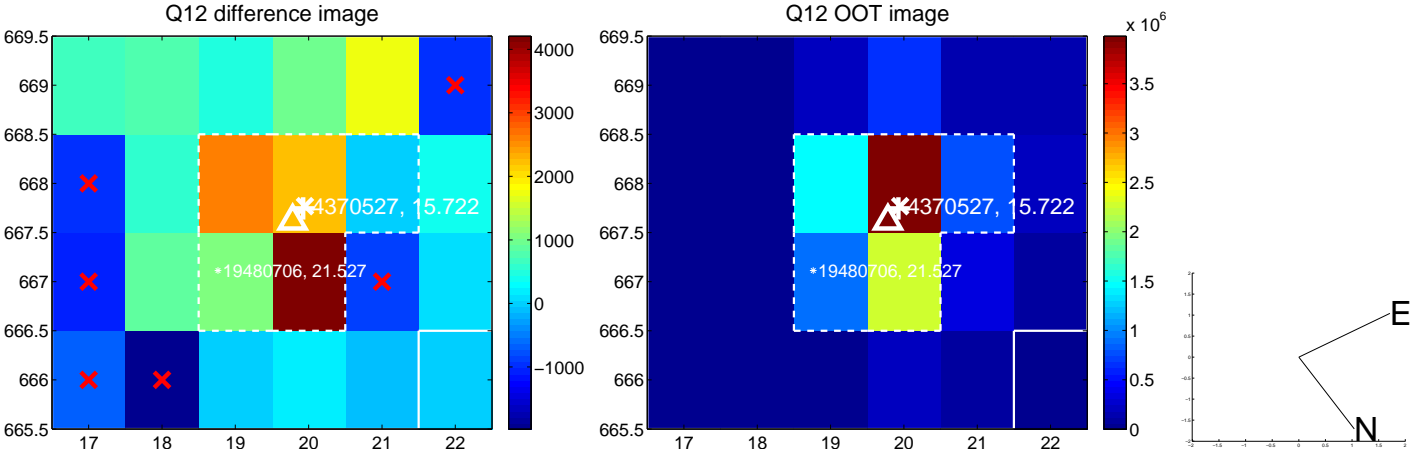
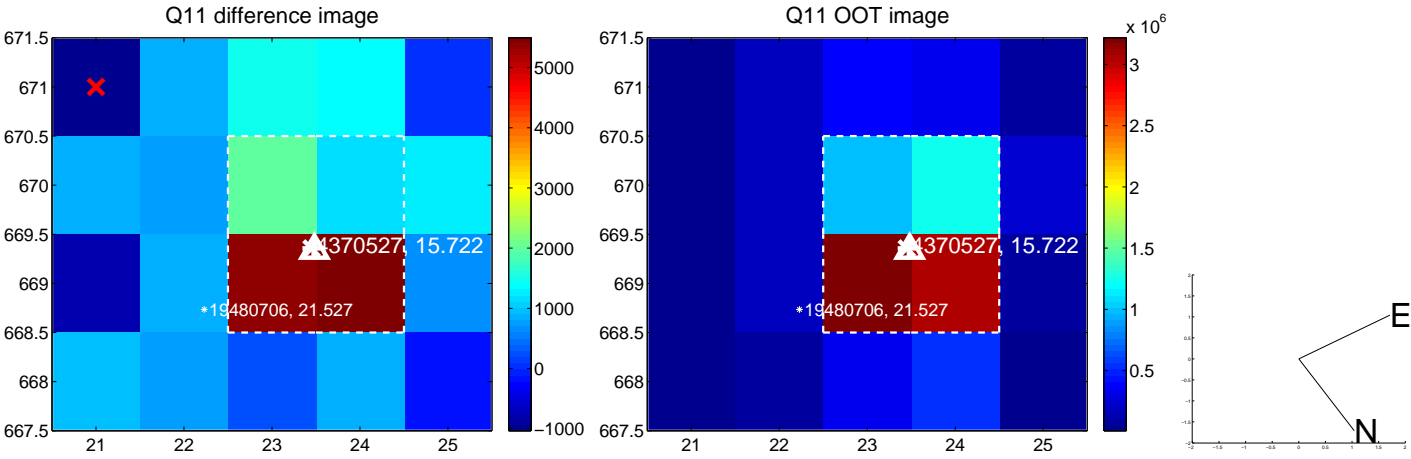
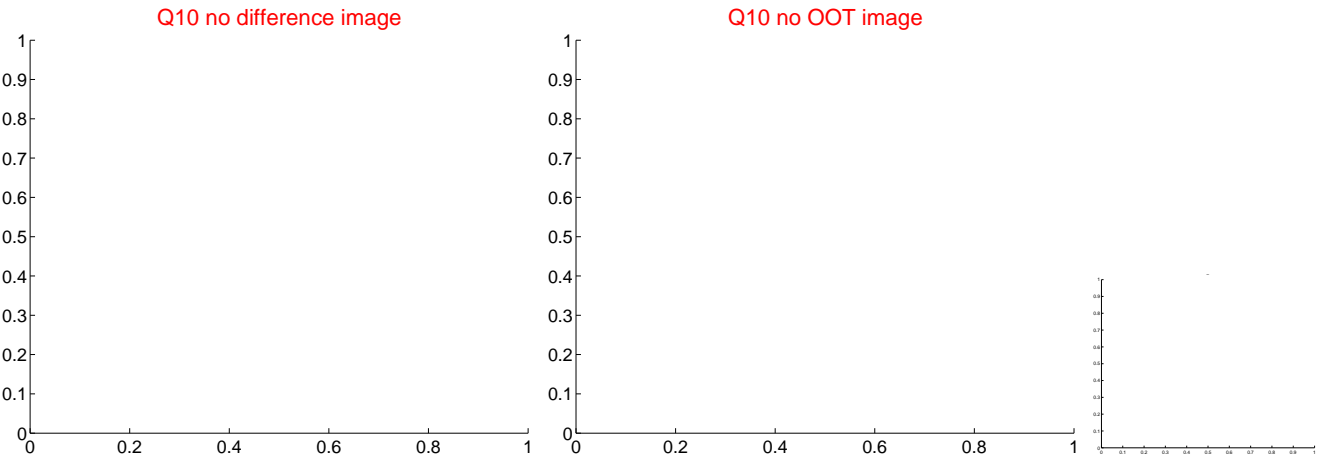
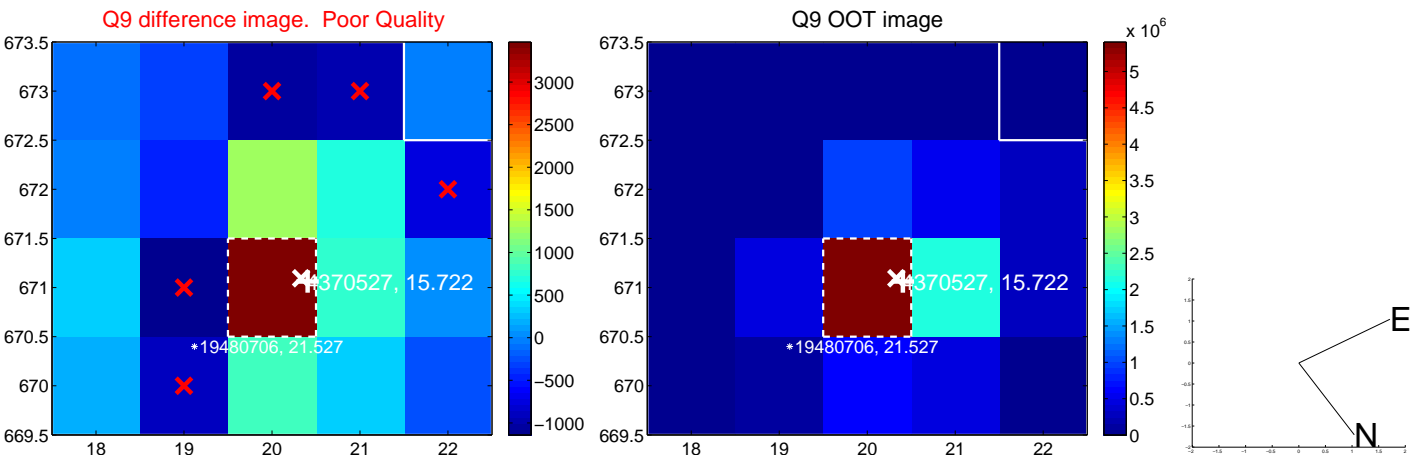
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



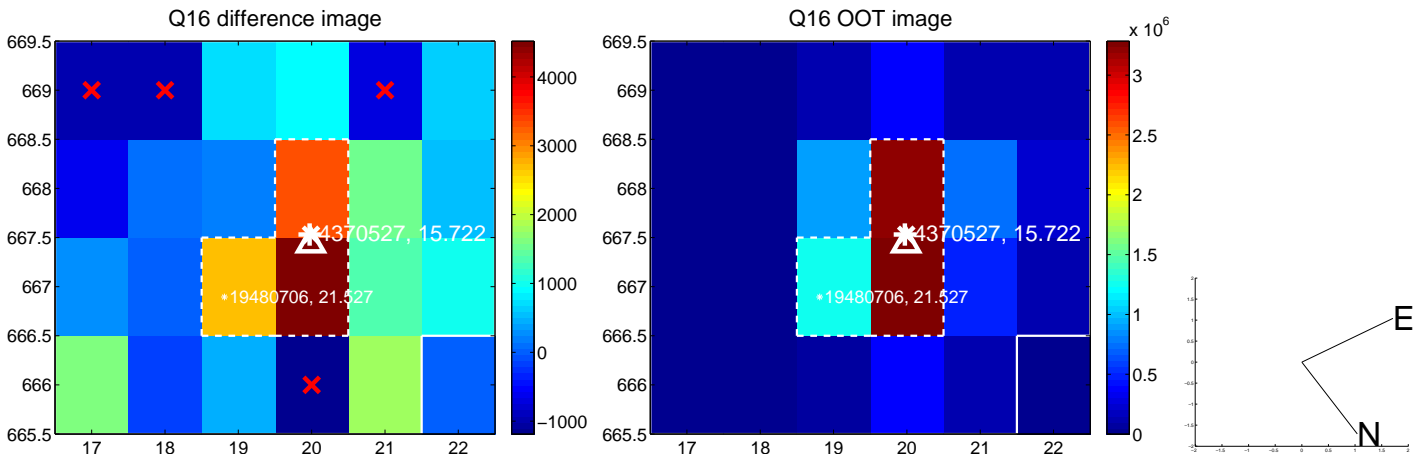
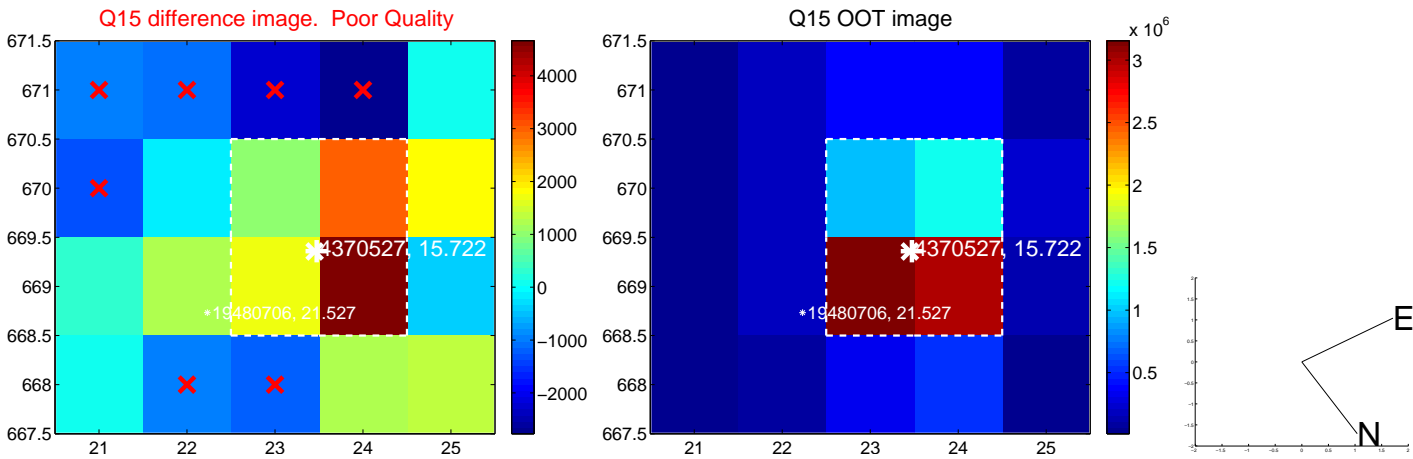
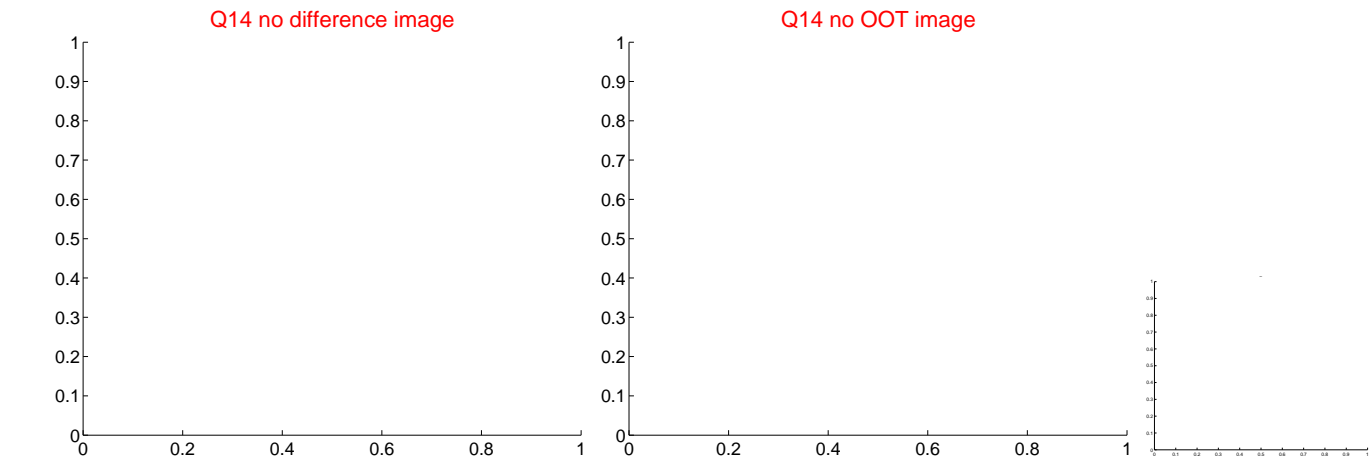
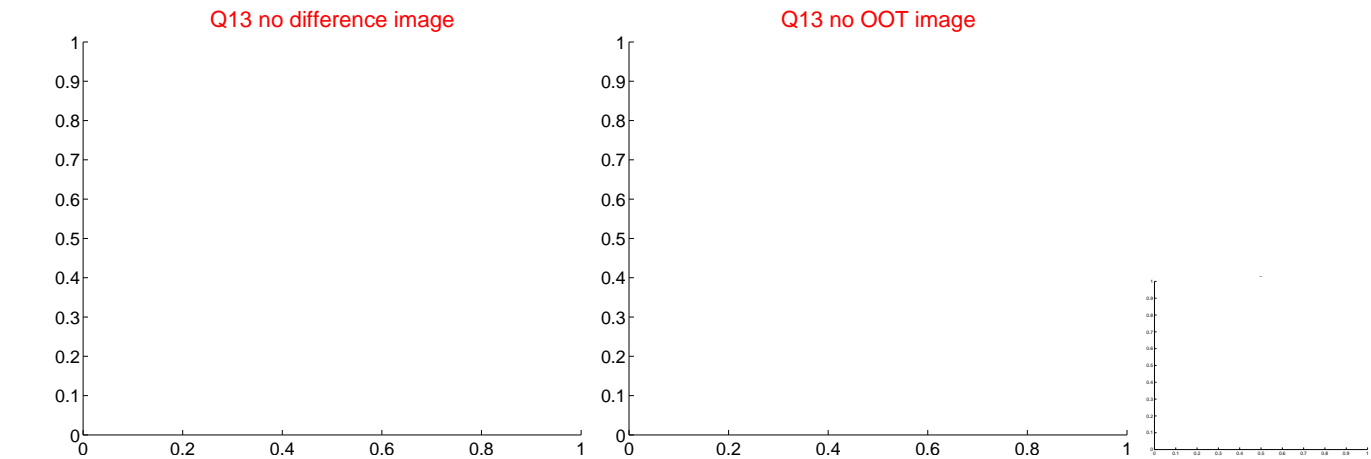
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



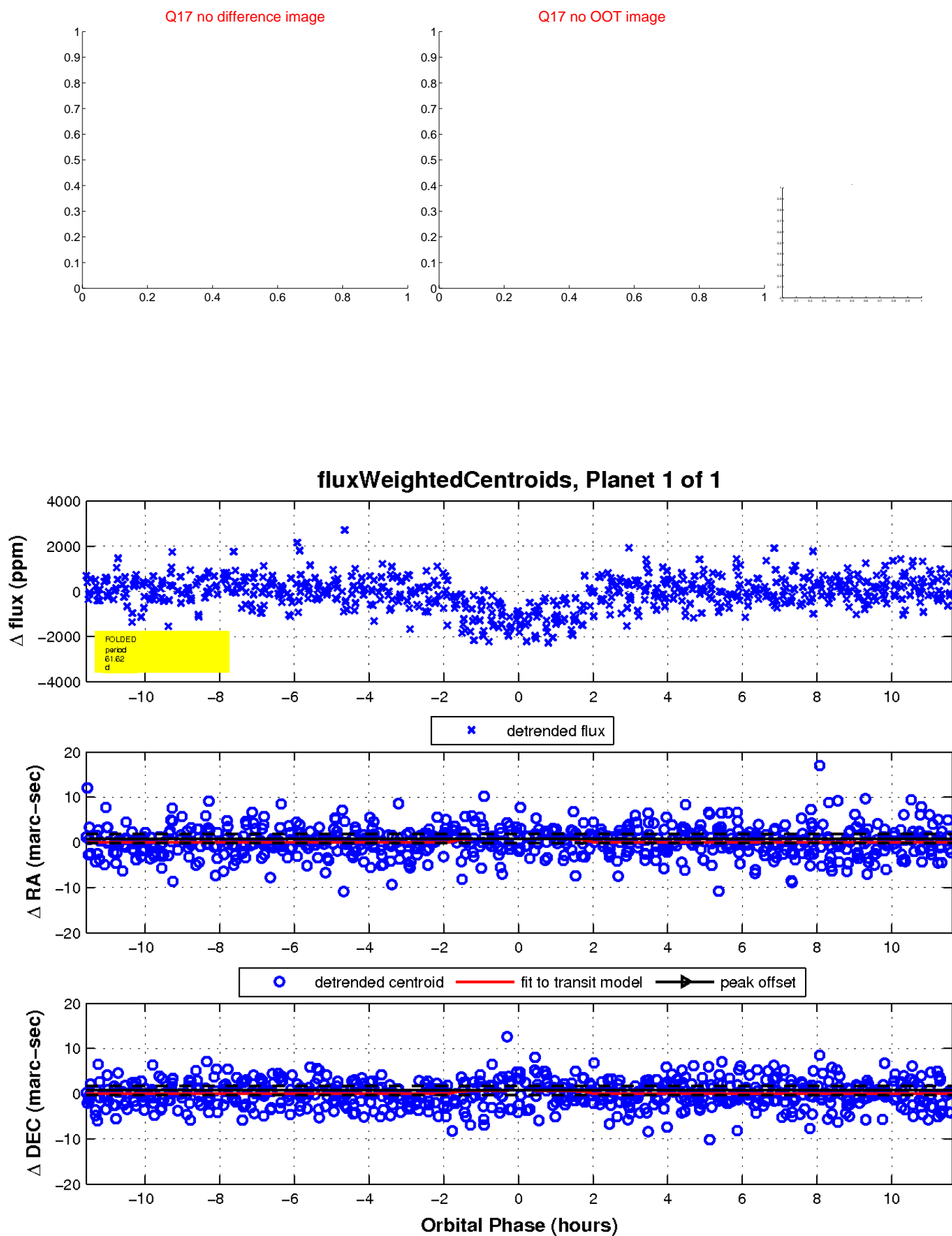
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

