

KIC 008684335

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})
008684335-01	OBS	No	374.956875	174.508640	930.5	40.651	10.3	16.4	1.00	5780	3.70	0.96

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008684335-01	OBS	FP	0.00	1	0	0	1	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED—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.

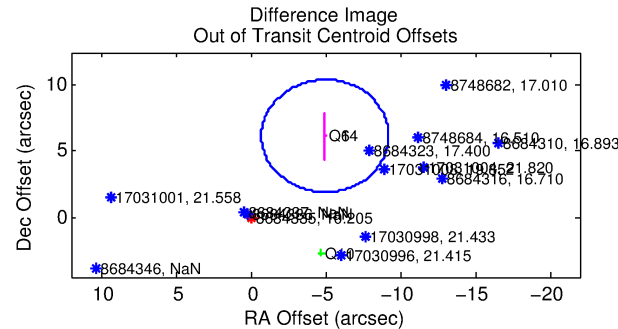
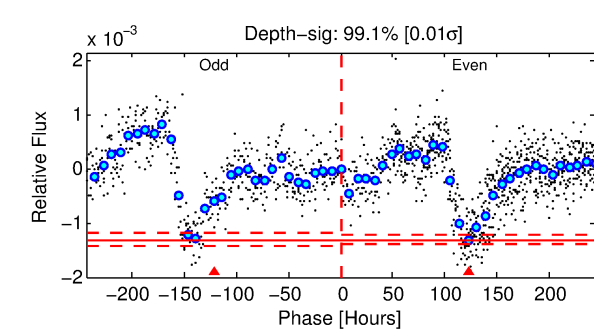
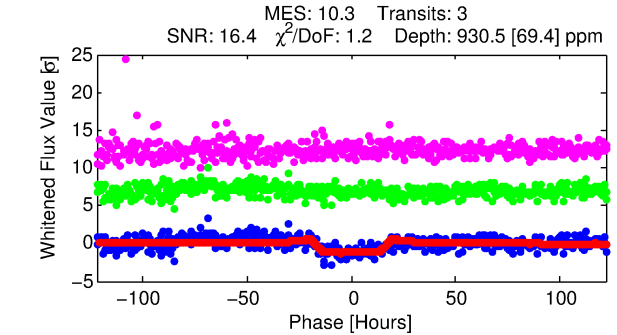
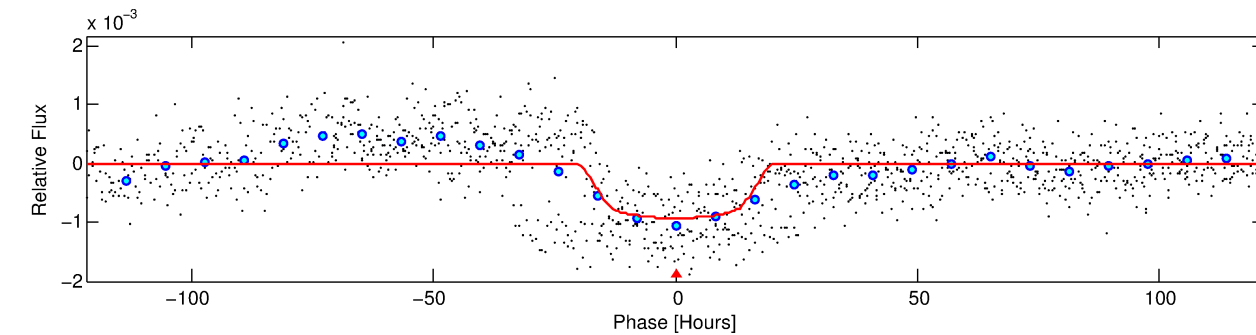
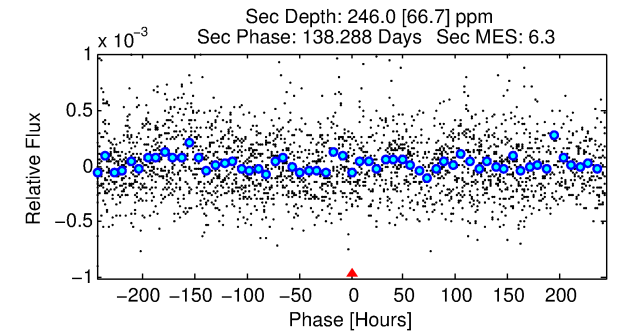
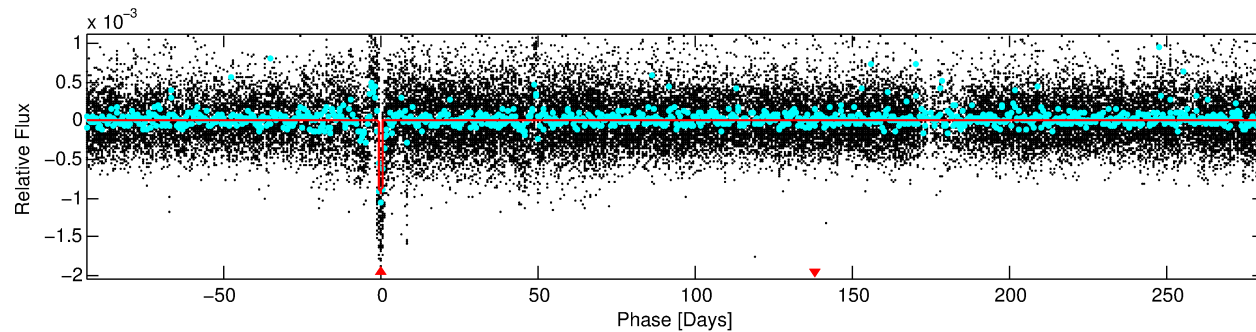
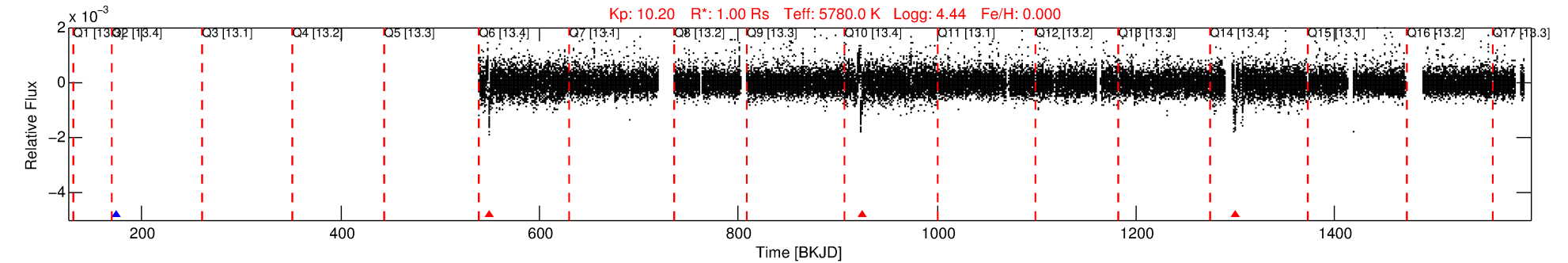
Ephemeris Match Information For 008684335-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
008684335-01	8684335	008748659-01	8748659	1:1	75.7	-1	20	15.99	10.20	3.06	Direct-PRF	1	3.11	2.86

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 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 $\sigma_P < 5.0$ and $\sigma_T < 5.0$. 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: 8684335 Candidate: 1 of 1 Period: 374.957 d



DV Fit Results:

Period = 374.95688 [0.02590] d
Epoch = 174.5086 [0.0547] BKJD
Rp/R* = 0.0339 [0.0018]
a/R* = 33.59 [4.89]
b = 0.92 [0.03]
Seff = 0.97 [0.00]
Teq = 253 [0] K
Rp = 3.70 [0.19] Re
a = 1.0179 [0.0000] AU
Ag = 10255.33 [2982.14] [3.44 σ]
Teffp = 3932 [286] K [12.87 σ]

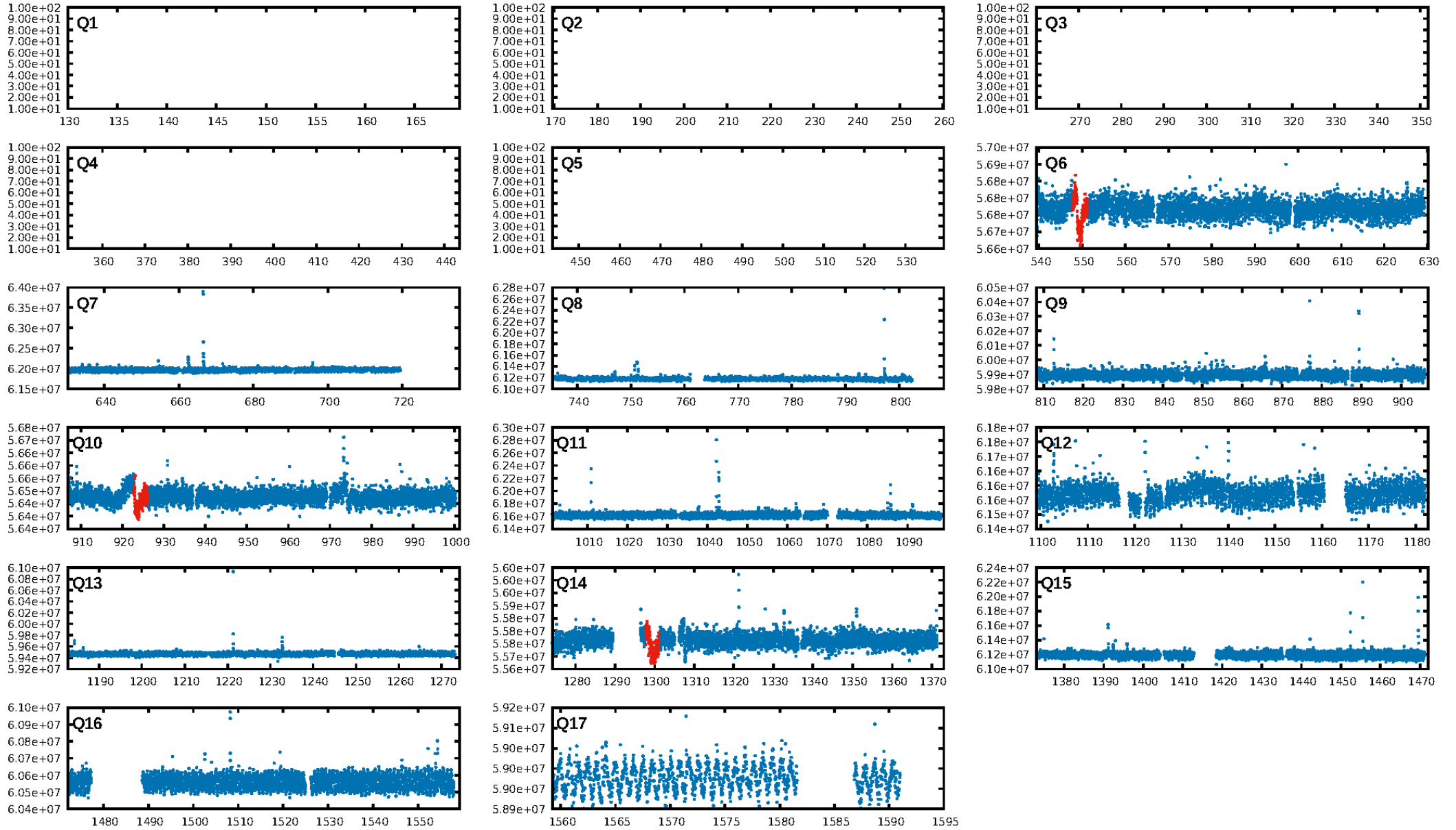
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 92.6%
Bootstrap-pfa: 1.97e-22
RollingBand-fgt: 0.00 [0/3]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 4.468 arcsec [3.04 σ]
OotOffset-rm: 7.929 arcsec [5.60 σ]
KicOffset-rm: 7.881 arcsec [5.03 σ]
OotOffset-st: 3/0/0/0 [3]
KicOffset-st: 3/0/0/0 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 1.00 [3/3]

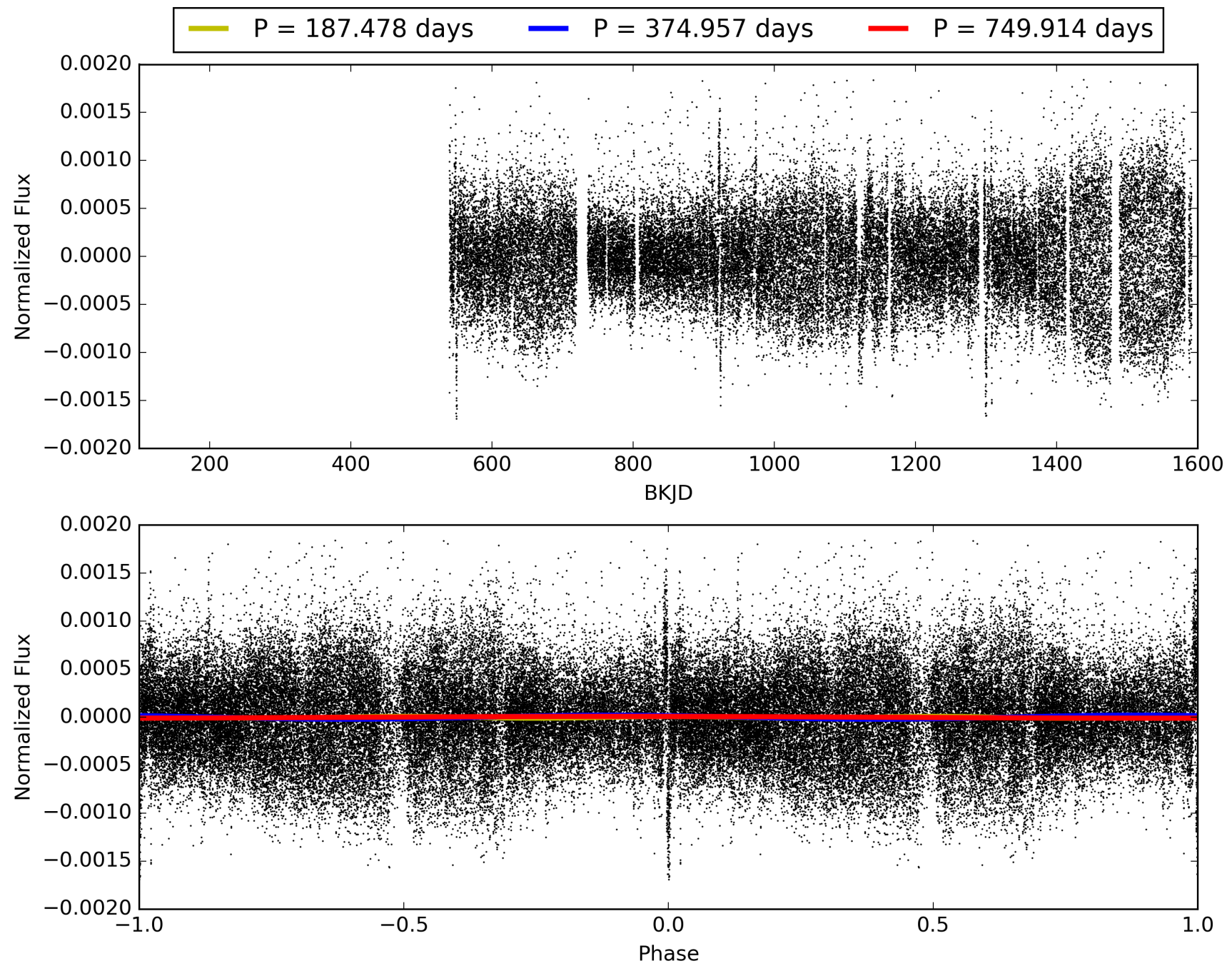
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:34:42 Z

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

TCE 008684335-01, PDC Light Curves

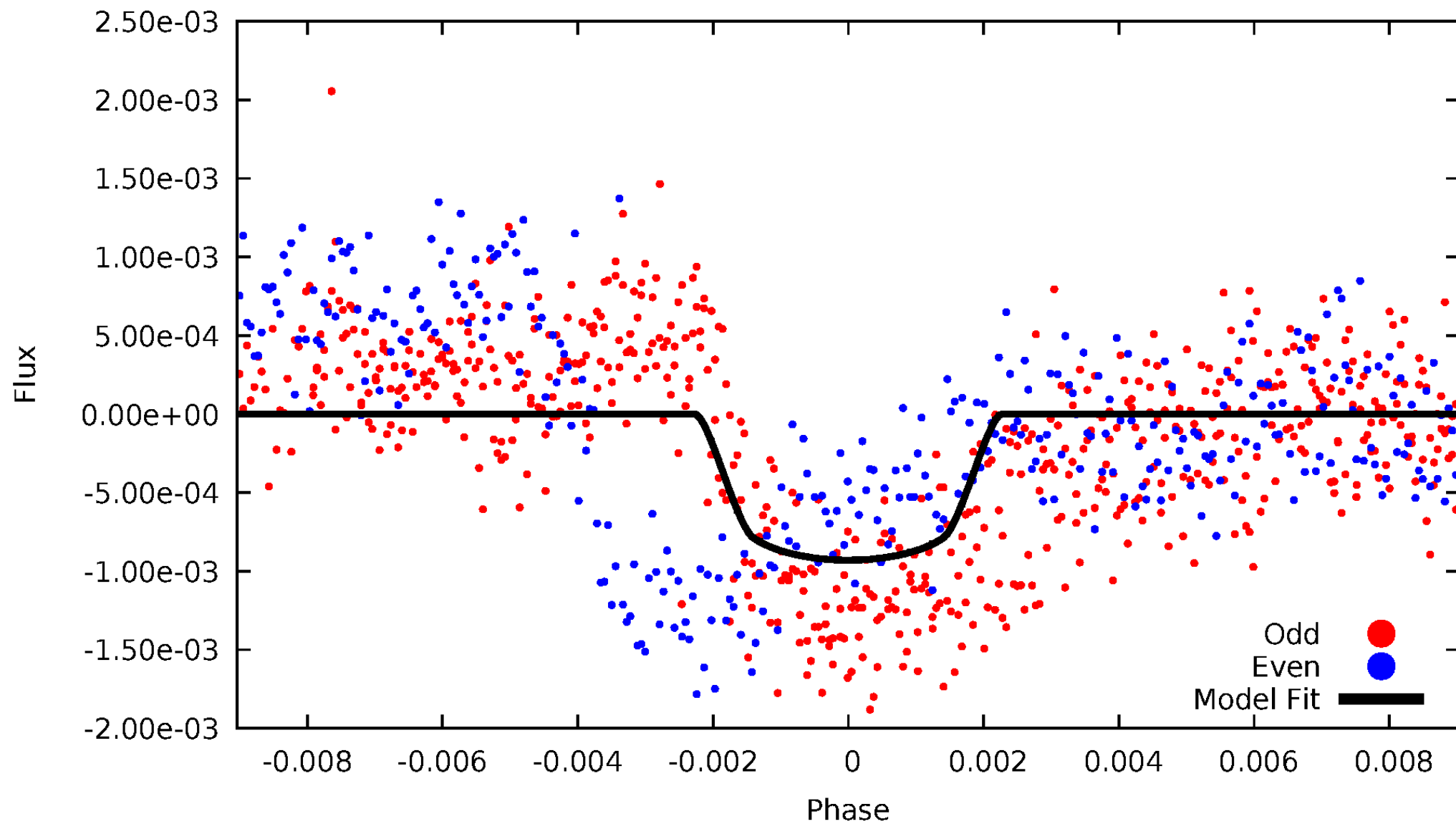


TCE 008684335-01



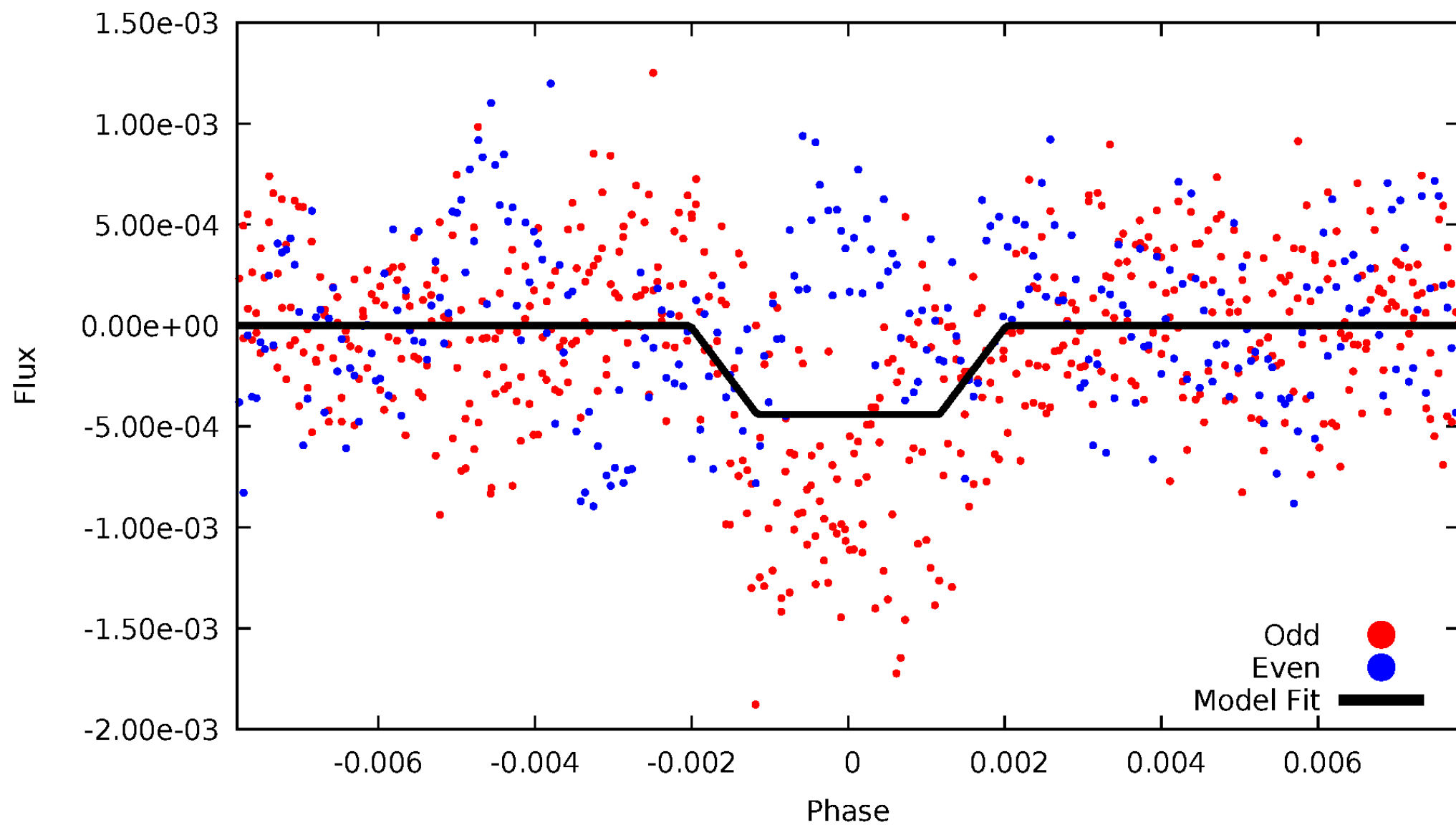
DV Odd/Even

TCE 008684335-01



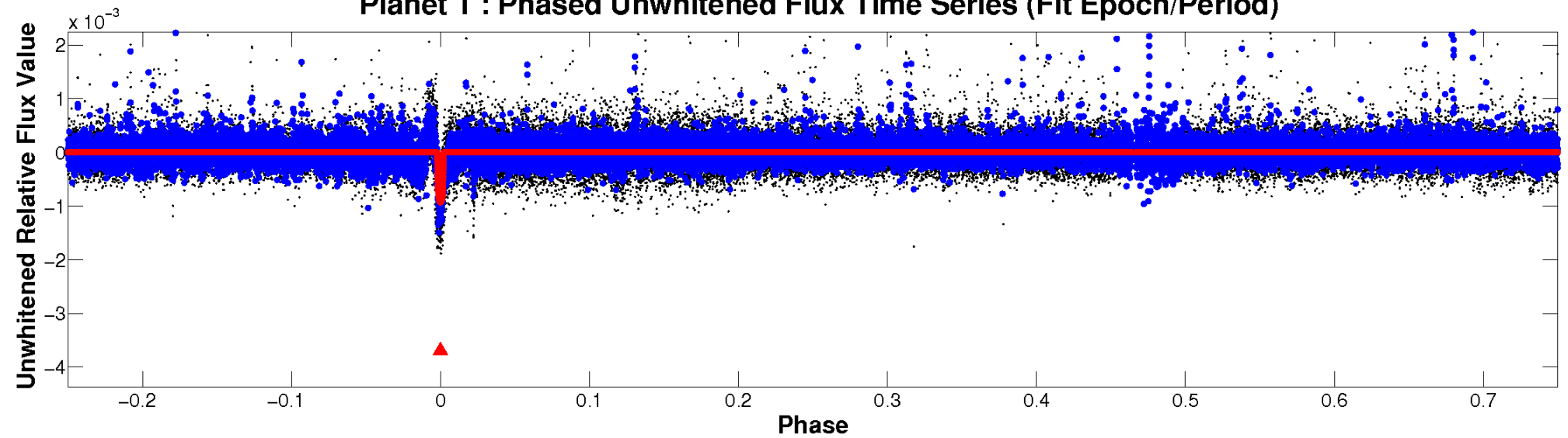
ALT Odd/Even

TCE 008684335-01

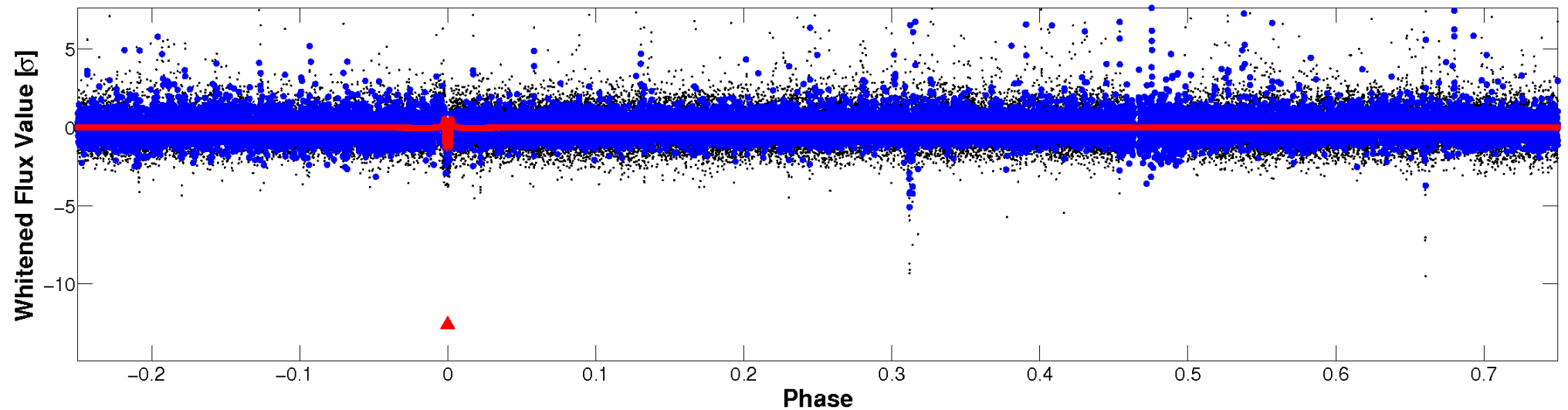


Non-Whitened Vs. Whitened Light Curve

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

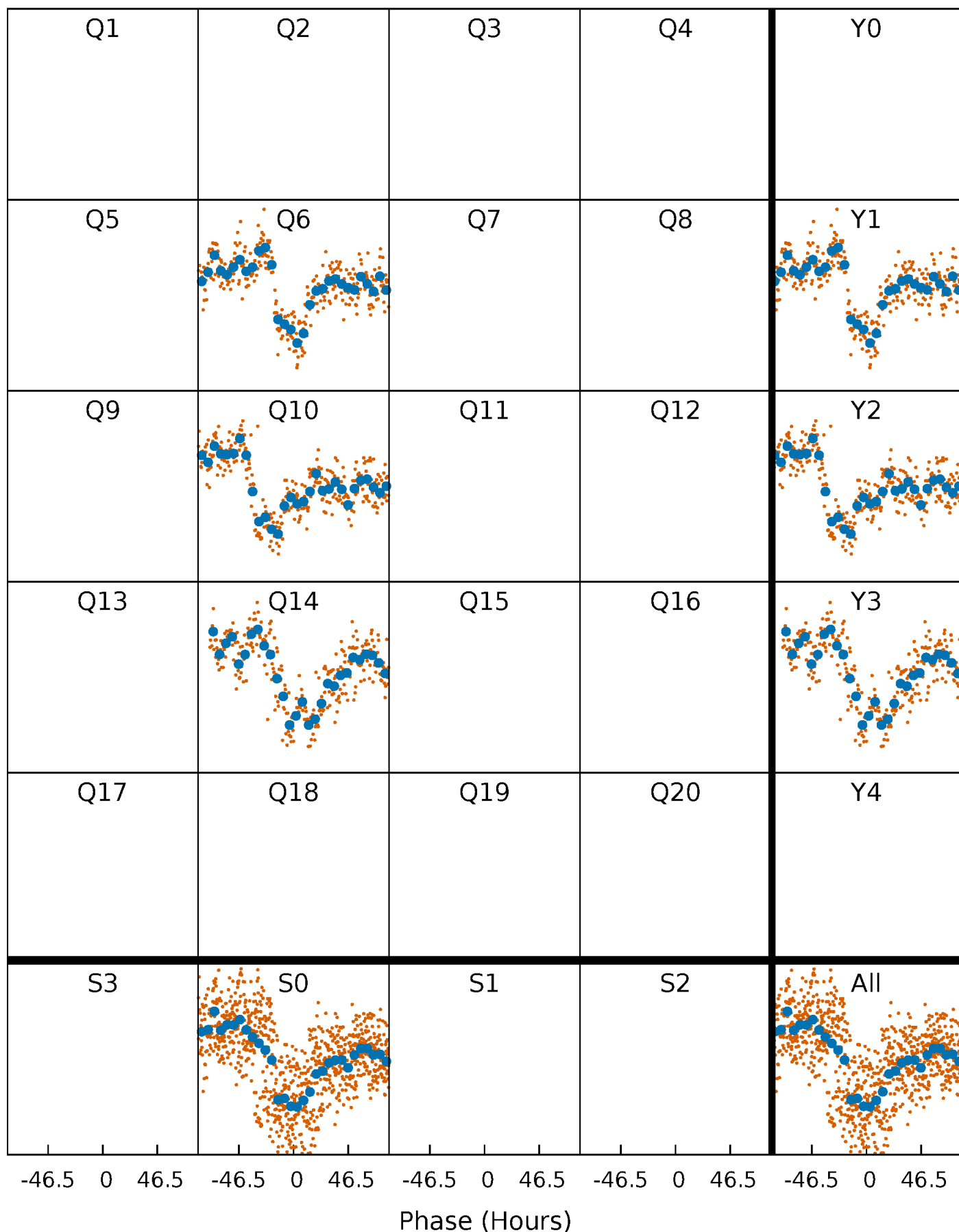


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



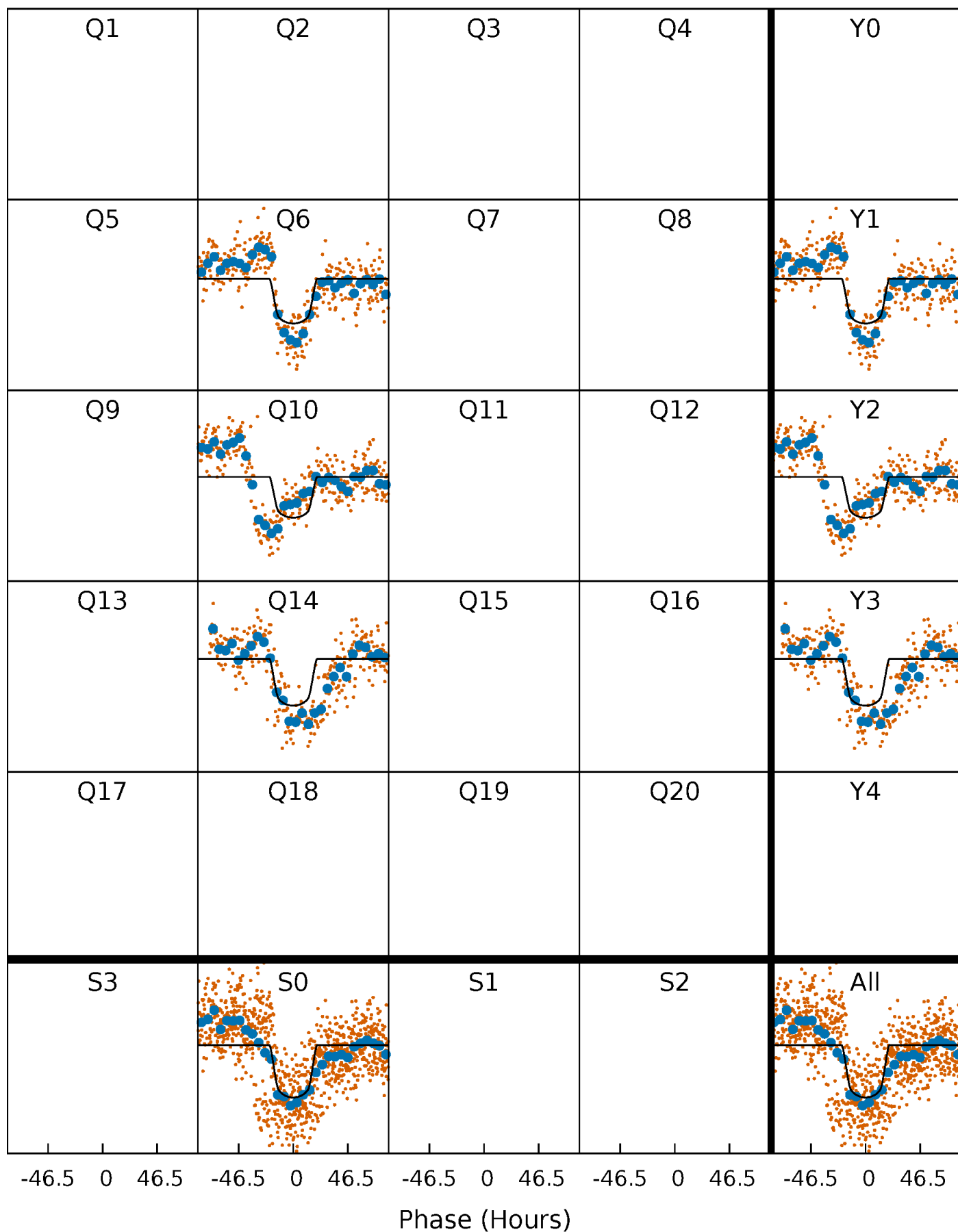
PDC Quarter-Phased Transit Curves

TCE 008684335-01 P=374.956875 Days $T_0=174.508640$ (BKJD)



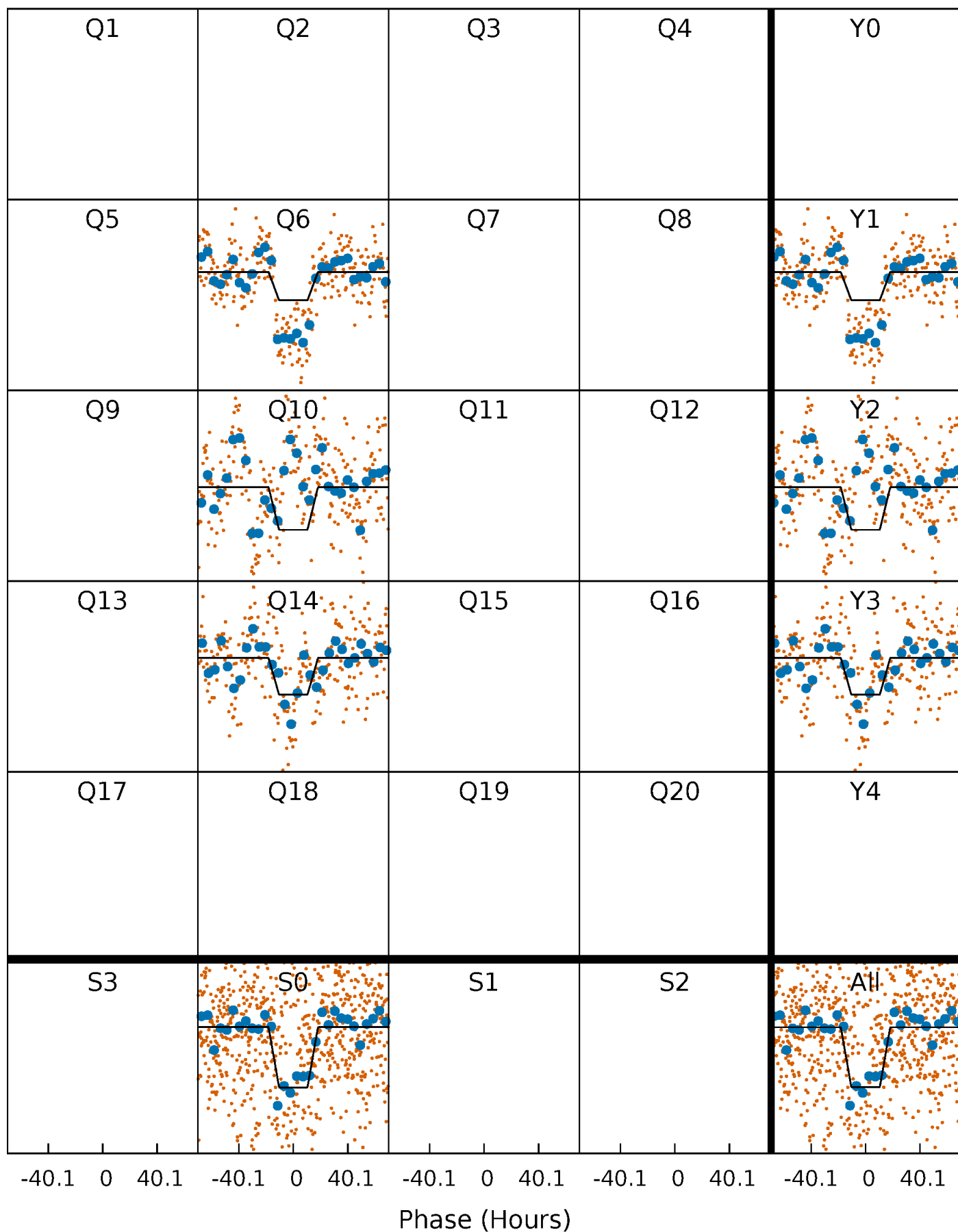
DV Quarter-Phased Transit Curves

TCE 008684335-01 P=374.956875 Days $T_0=174.508640$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

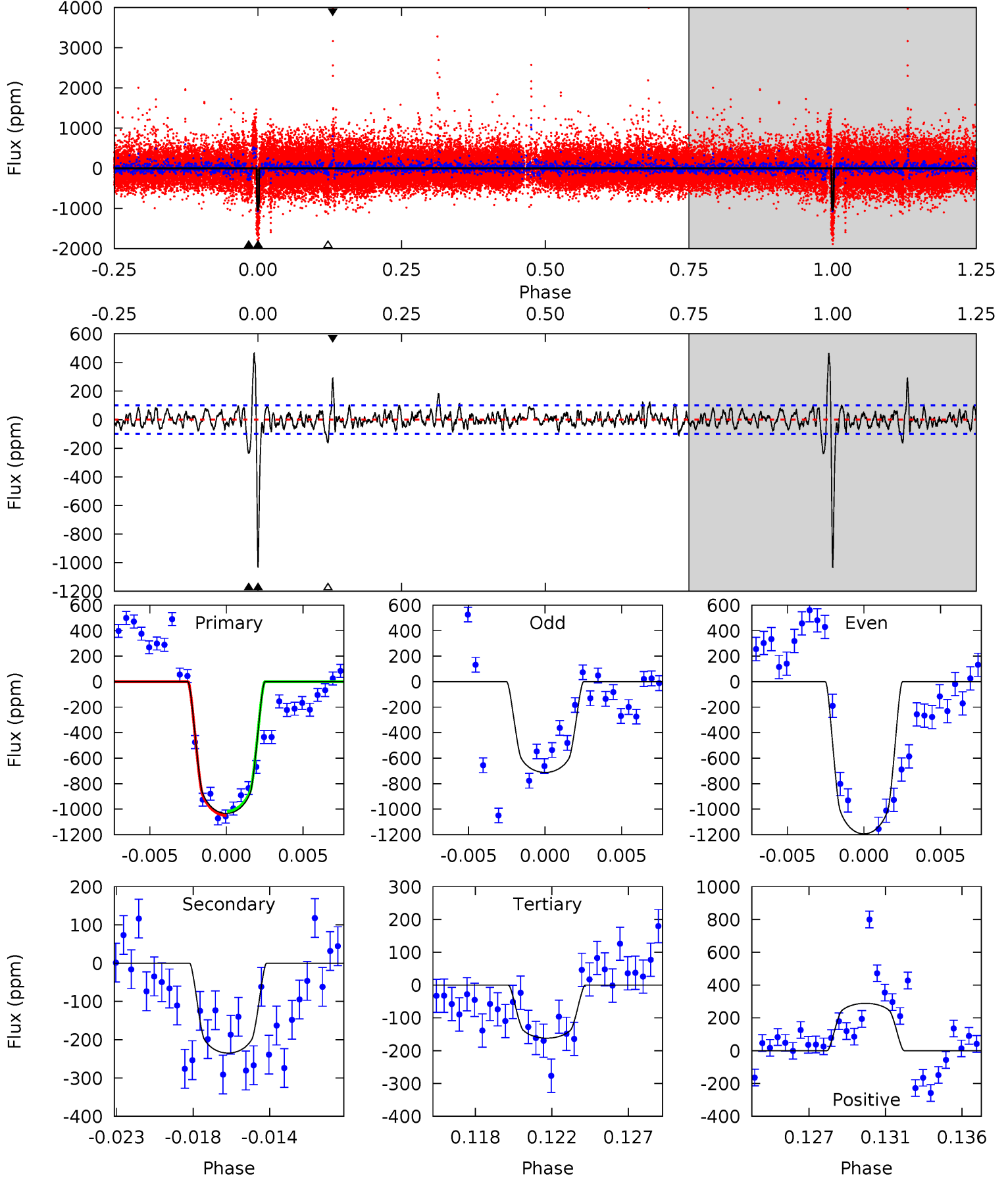
TCE 008684335-01 P=374.976260 Days $T_0=174.378482$ (BKJD)



DV Model-Shift Uniqueness Test

008684335-01, P = 374.956875 Days, E = 174.508640 Days

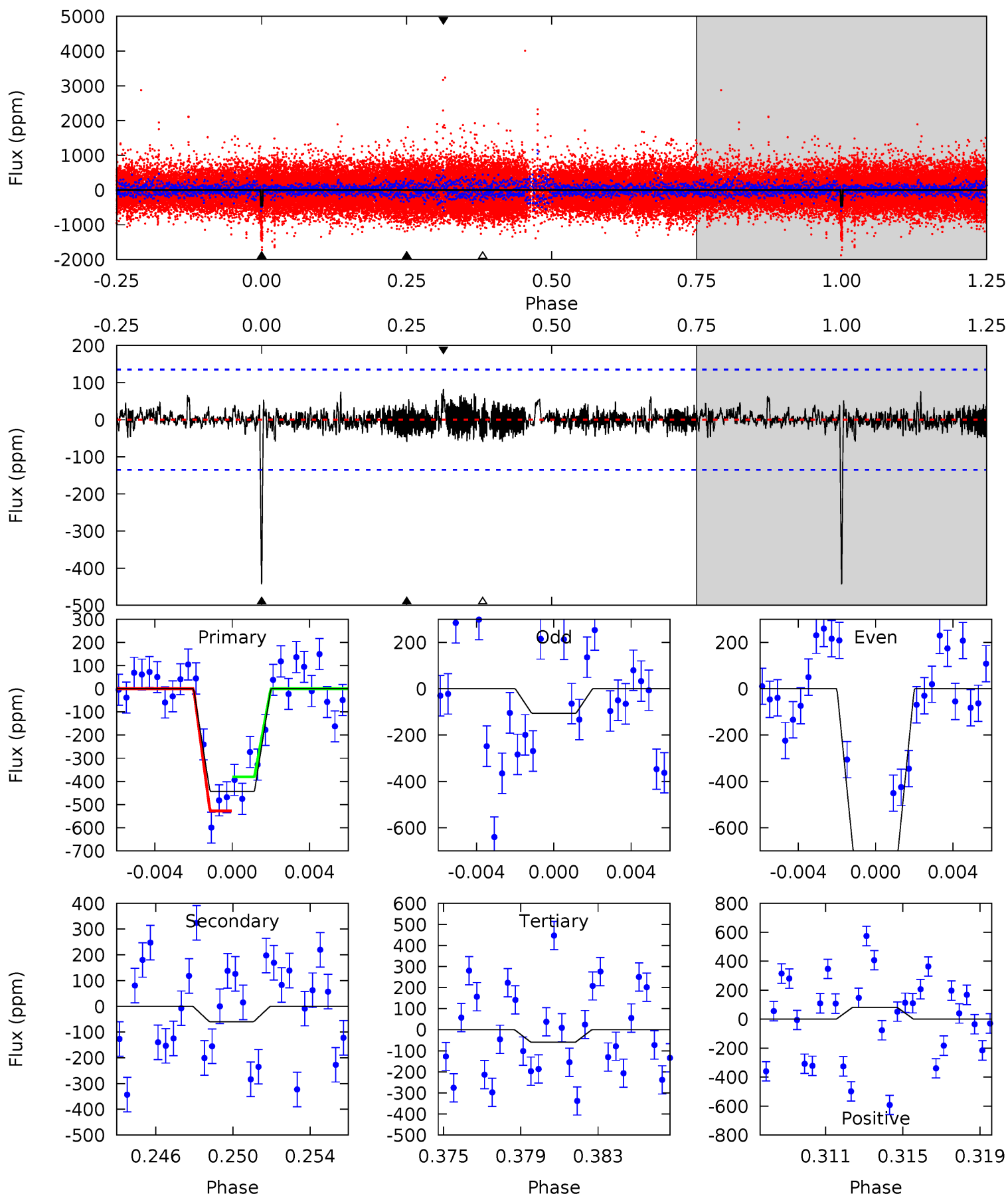
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
53.3	12.1	8.35	14.9	5.18	2.84	2.69	45.0	38.4	3.77	-2.77	8.67	0.88	0.31	0.83



Alt Model-Shift Uniqueness Test

008684335-01, P = 374.976260 Days, E = 174.378482 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.1	2.30	2.30	3.16	5.20	2.88	0.77	14.8	13.9	0.00	-0.87	10.9	1.12	0.16	2.83



Stellar Parameters For KIC 008684335

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5780^{+1}_{-1}	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

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

Secondary Eclipse Parameters for KIC 008684335-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-235 ± 19	$3.69^{+0.34}_{-0.33}$	352^{+17}_{-17}	4155^{+144}_{-154}	9775^{+2142}_{-1684}
Alt.	-60 ± 26	$2.30^{+0.25}_{-0.27}$	354^{+15}_{-15}	3828^{+311}_{-323}	6183^{+3185}_{-2540}

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 $A_{obs} \gg 1.0$

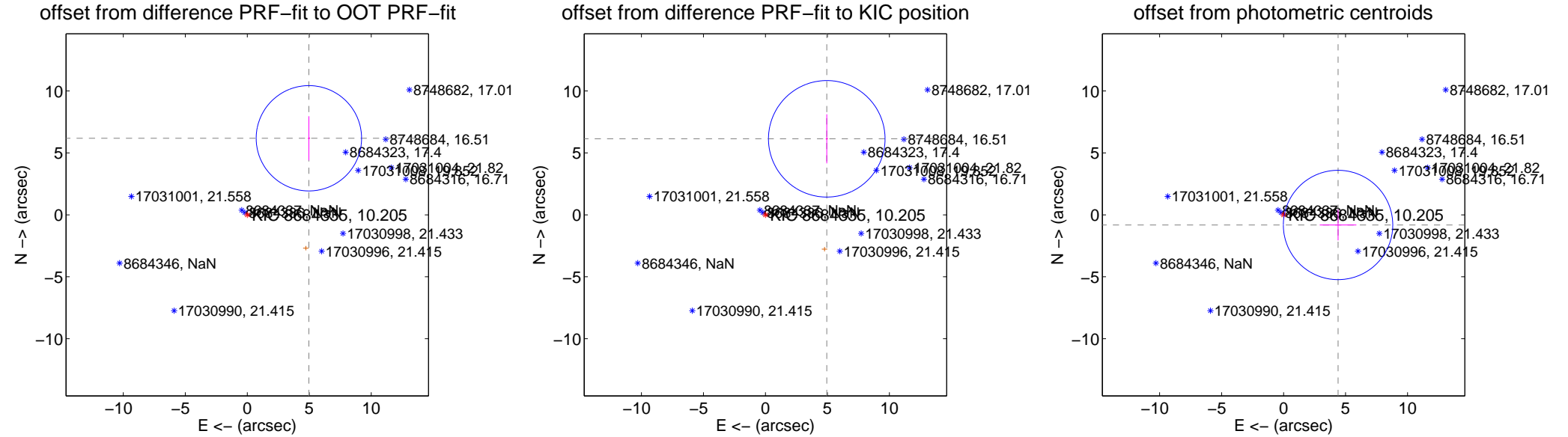
DV Centroid Data

Supplemental centroid analysis for 008684335-01. **Kepler magnitude: 10.21.** Transit SNR 16.40

There are 0 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.929 ± 1.417	5.60	-4.969 ± 0.083	6.178 ± 1.777
PRF-fit source offset from KIC position	7.881 ± 1.567	5.03	-4.946 ± 0.078	6.135 ± 1.980
photometric centroid source offset	4.47 ± 1.47	3.04	-4.39 ± 1.48	-0.82 ± 1.24



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.

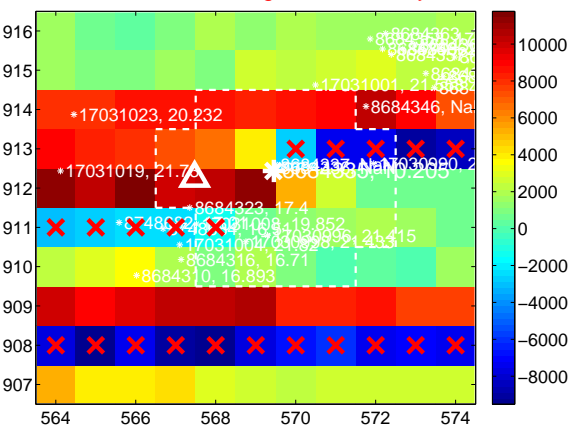
Q5 no difference image



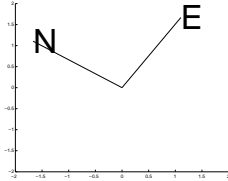
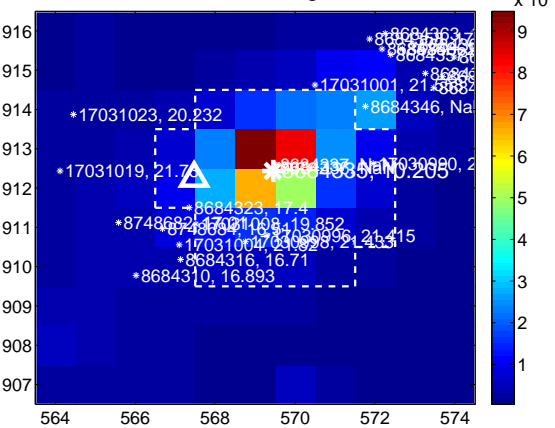
Q5 no OOT image



Q6 difference image. Poor Quality



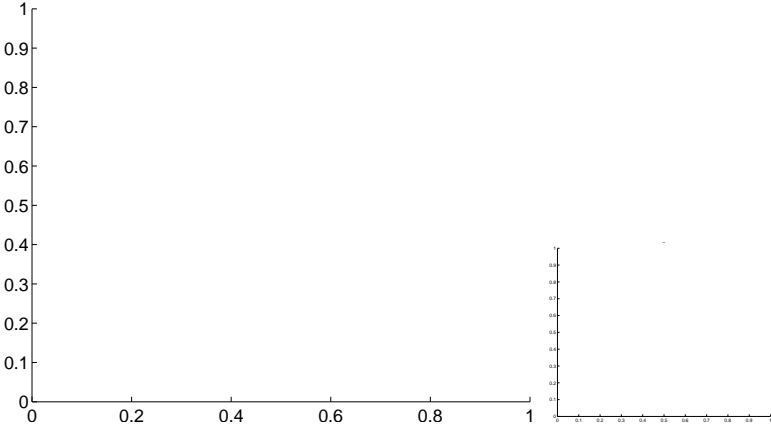
Q6 OOT image



Q7 no difference image



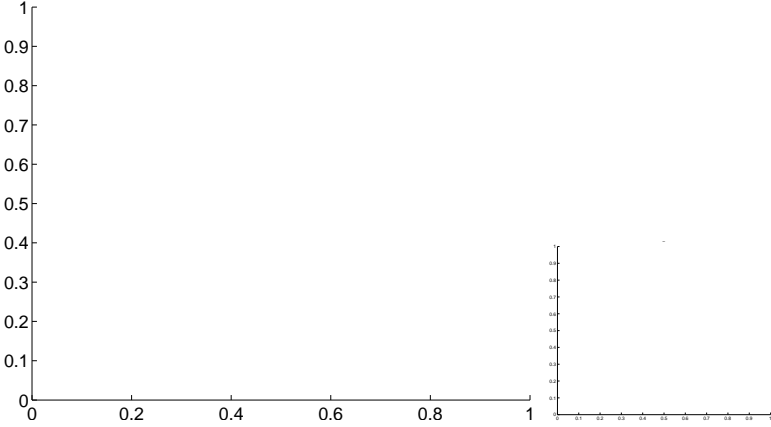
Q7 no OOT image



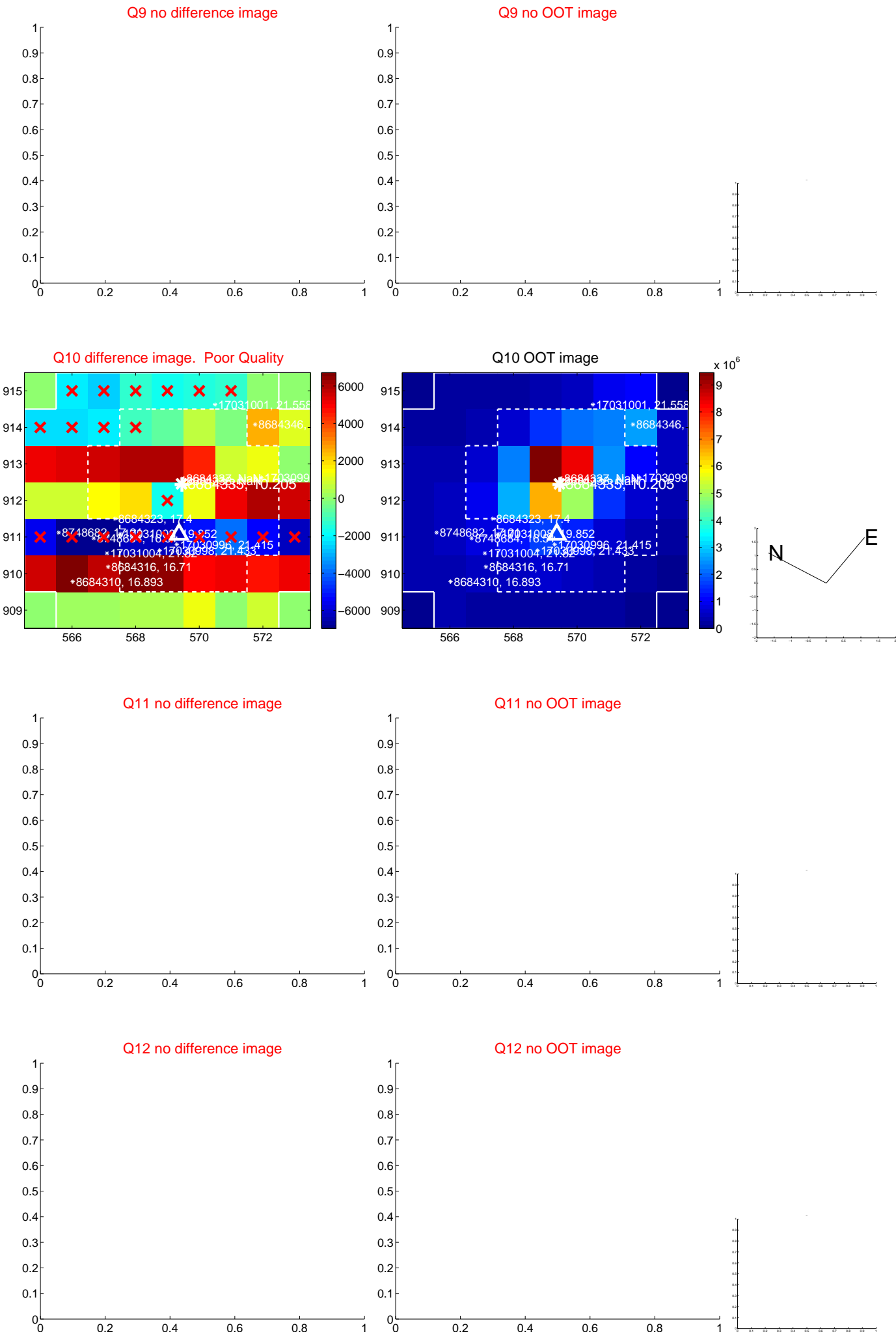
Q8 no difference image



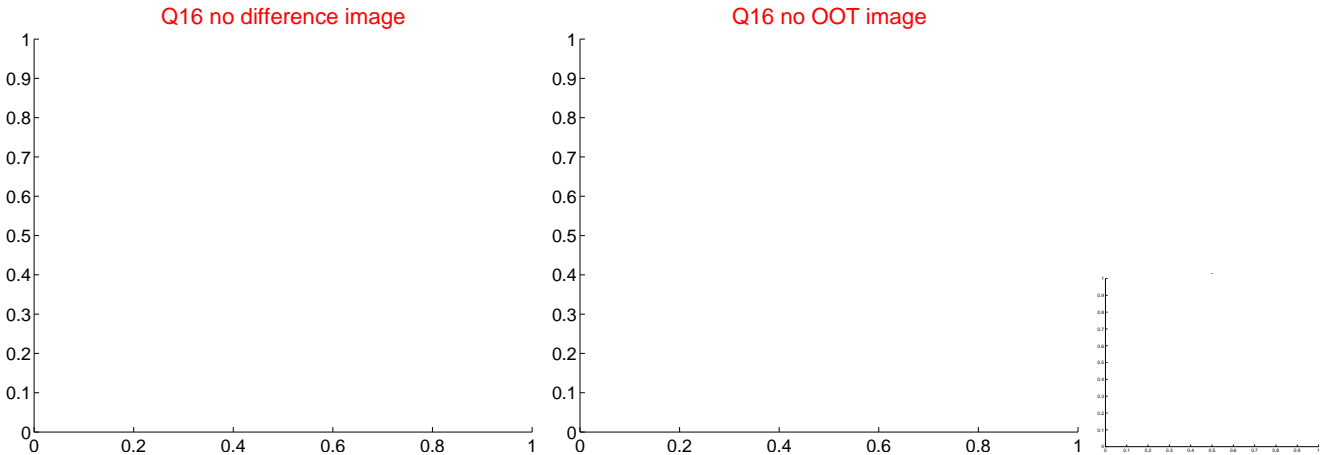
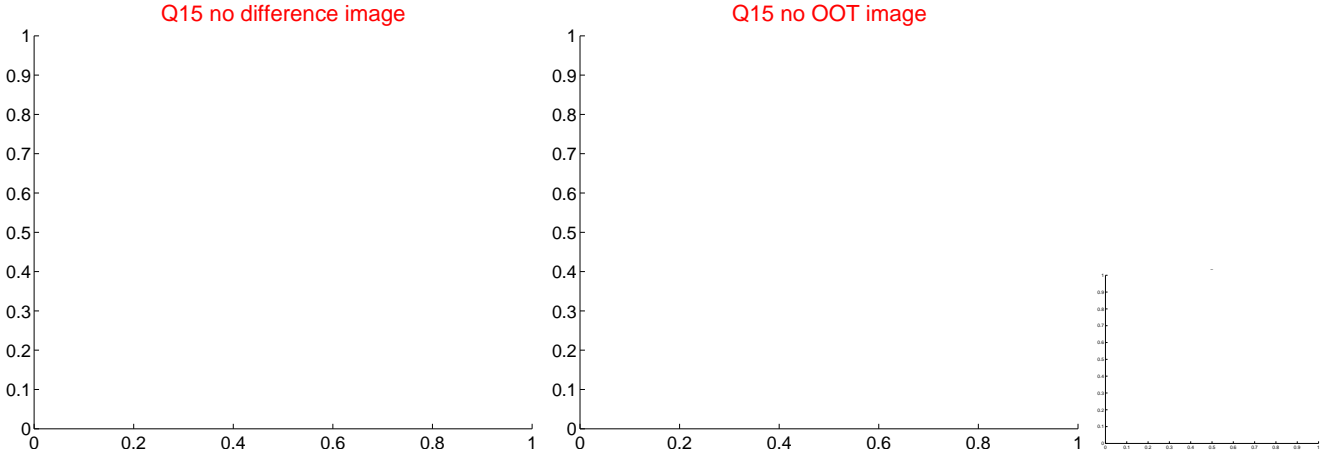
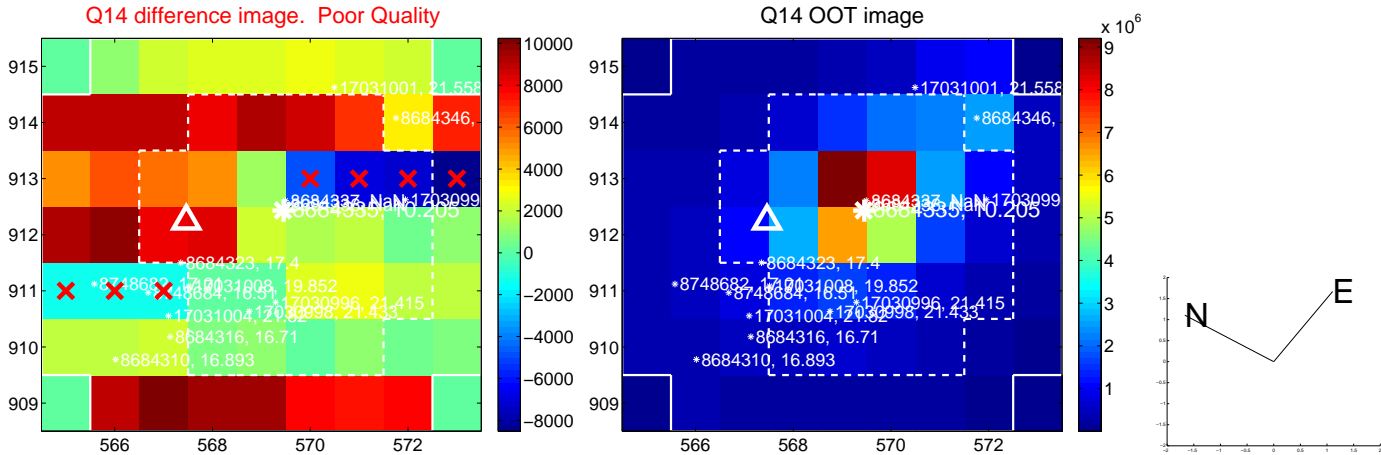
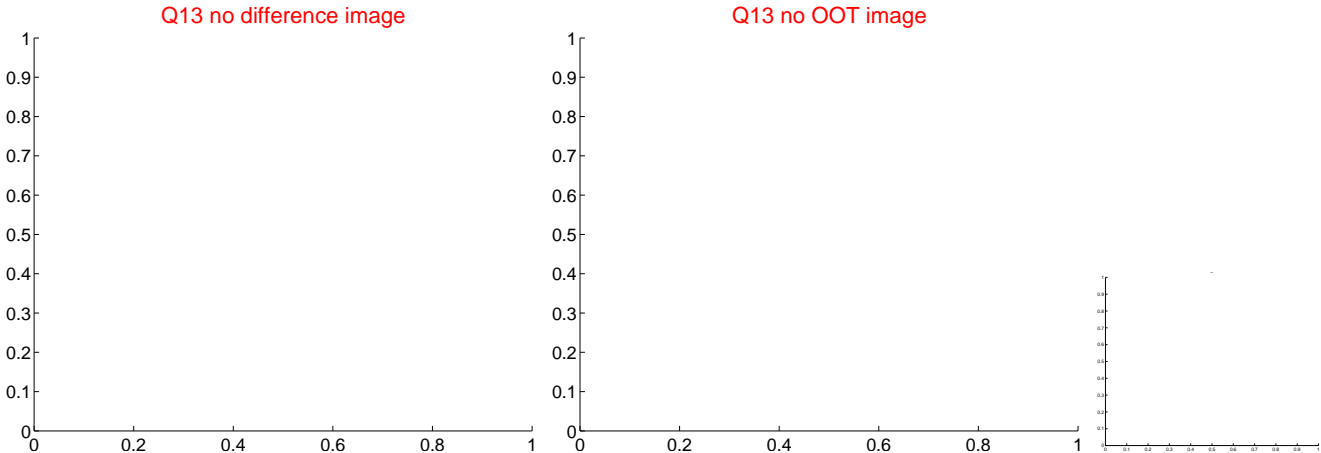
Q8 no OOT image



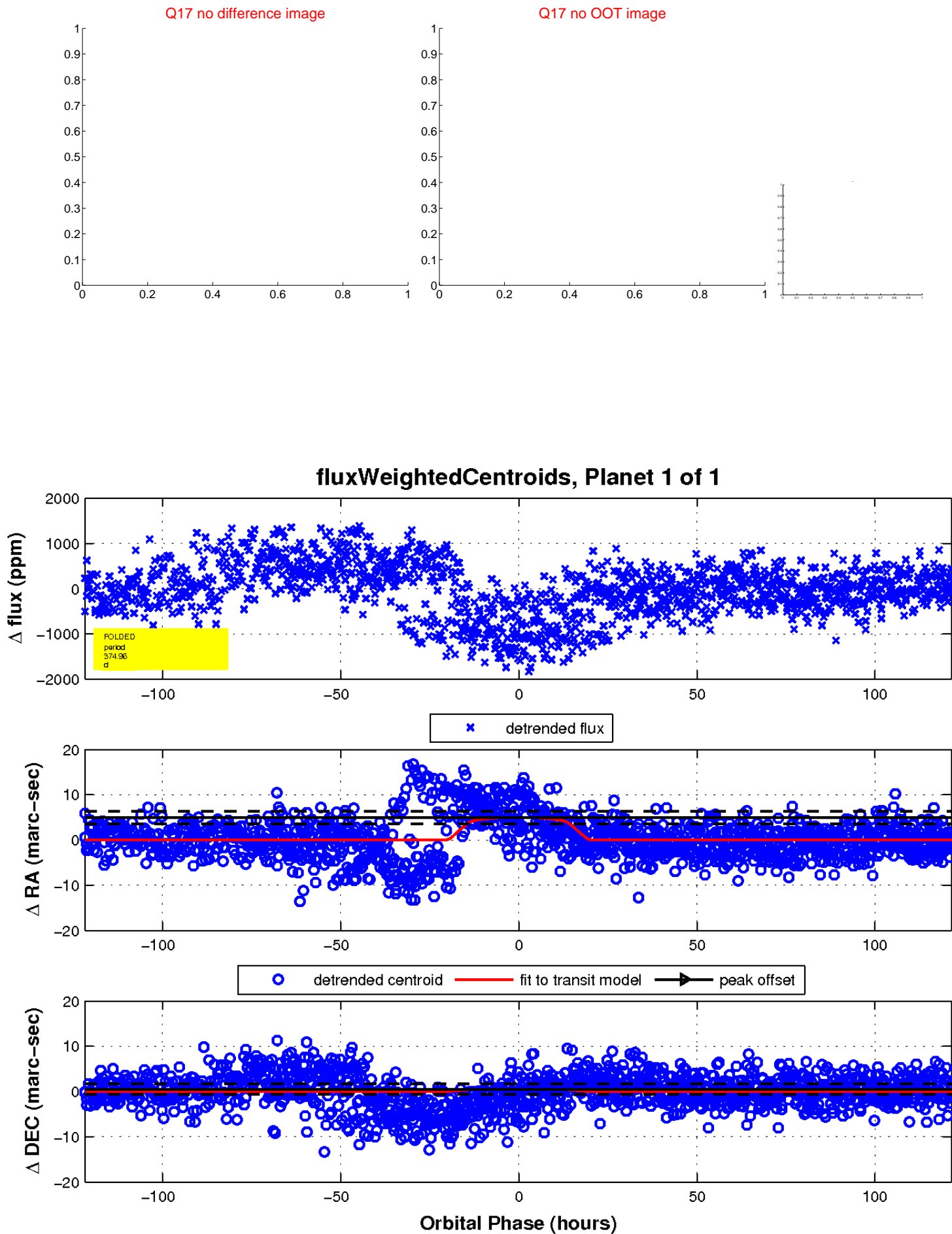
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

