

KIC 008160817

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})
008160817-01	OBS	No	374.266218	263.845053	259.0	33.338	8.7	7.4	0.99	5641	1.63	0.93

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008160817-01	OBS	FP	0.00	1	0	0	1	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS—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.

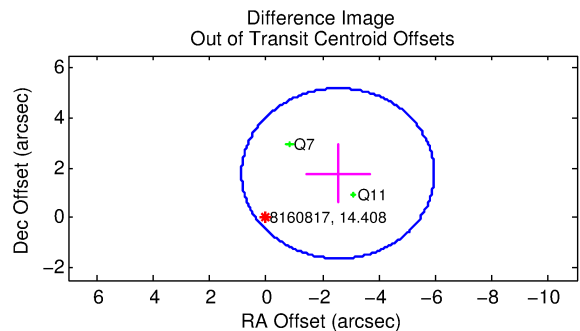
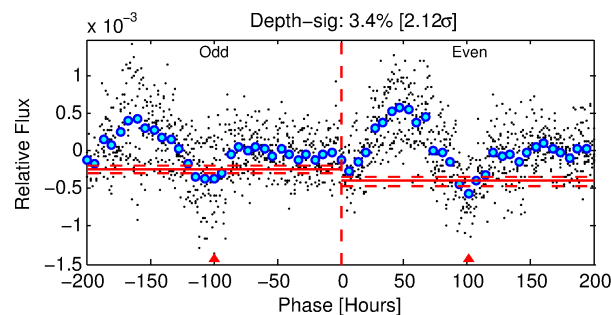
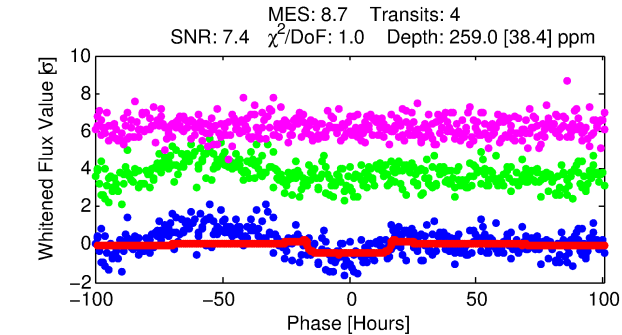
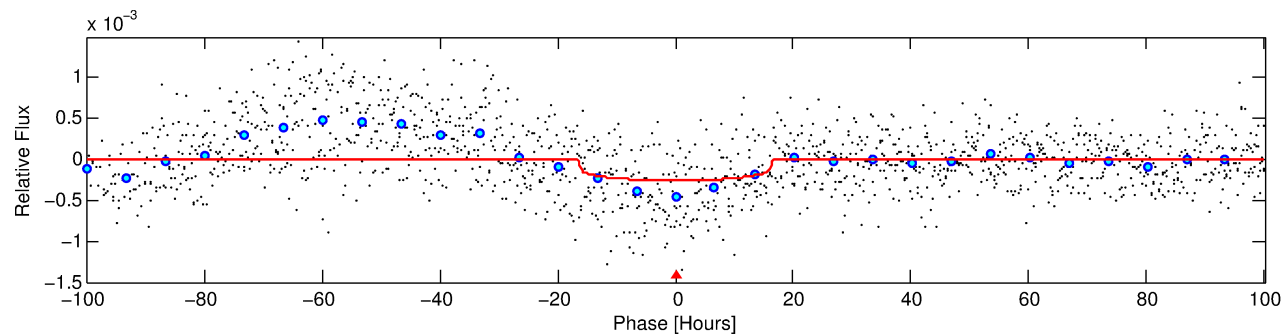
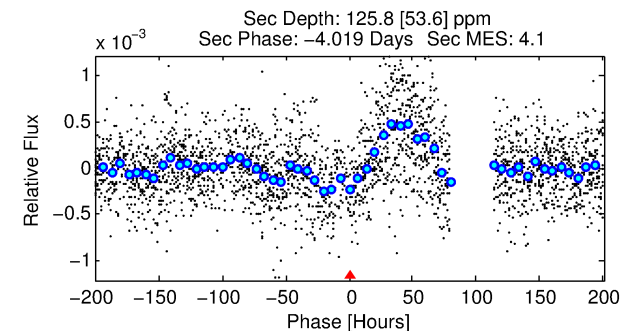
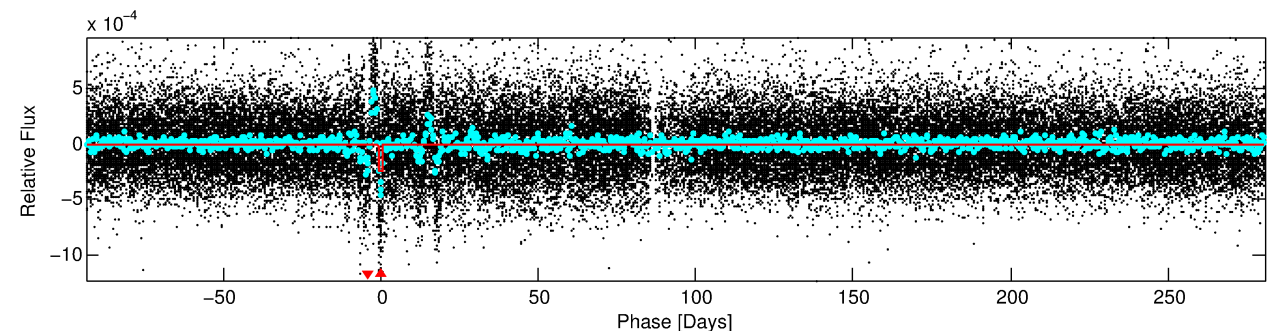
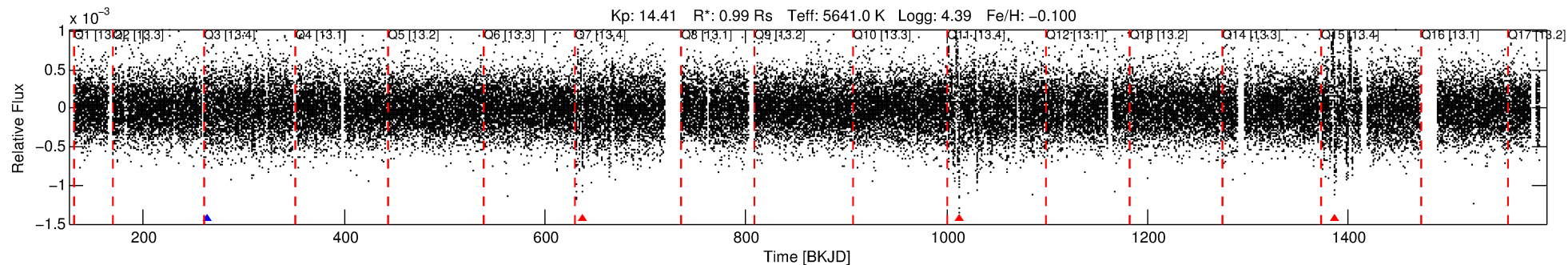
Ephemeris Match Information For 008160817-01

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
008160817-01	8160817	008092488-01	8092488	1:1	74.1	16	10	15.08	14.41	2.98	Direct-PRF	1	1.12	1.57

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: 8160817 Candidate: 1 of 1 Period: 374.266 d



DV Fit Results:

Period = 374.26622 [0.01879] d
Epoch = 263.8451 [0.0346] BKJD
Rp/R* = 0.0151 [0.0063]
a/R* = 73.96 [128.53]
b = 0.54 [2.33]
Seff = 0.93 [0.34]
Teff = 251 [23] K
Rp = 1.63 [0.82] Re
a = 0.9750 [0.2336] AU
Ag = 24711.34 [24553.43] [1.01 σ]
Teffp = 4856 [1137] K [4.05 σ]

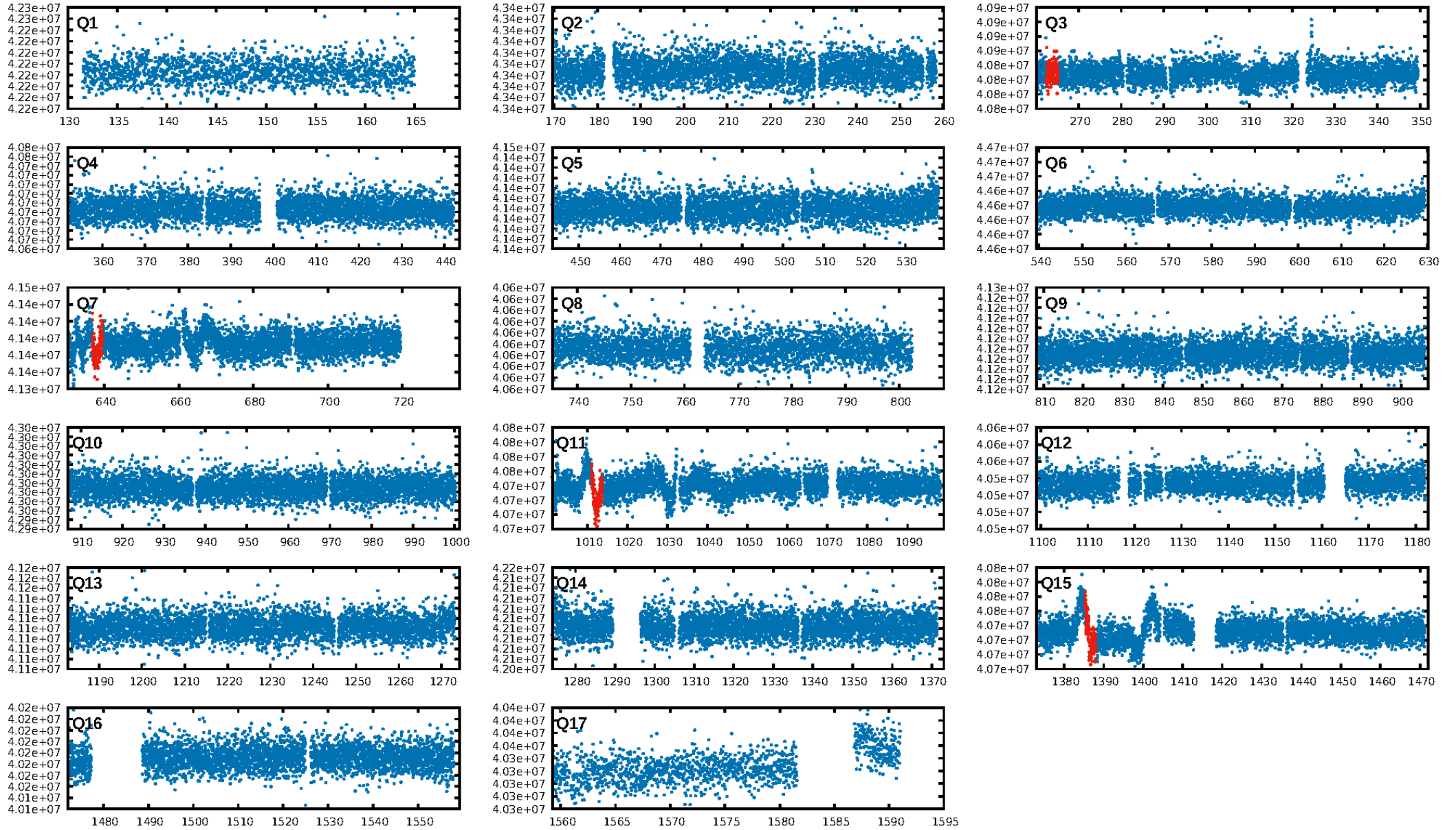
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 1.93e-12
RollingBand-fgt: 0.25 [1/4]
GhostDiagnostic-chr: -1.356
Centroid-sig: 48.2%
Centroid-so: 1.856 arcsec [0.86 σ]
OotOffset-rm: 3.098 arcsec [2.73 σ]
KicOffset-rm: 3.069 arcsec [2.69 σ]
OotOffset-st: 0/2/0/0 [2]
KicOffset-st: 0/2/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

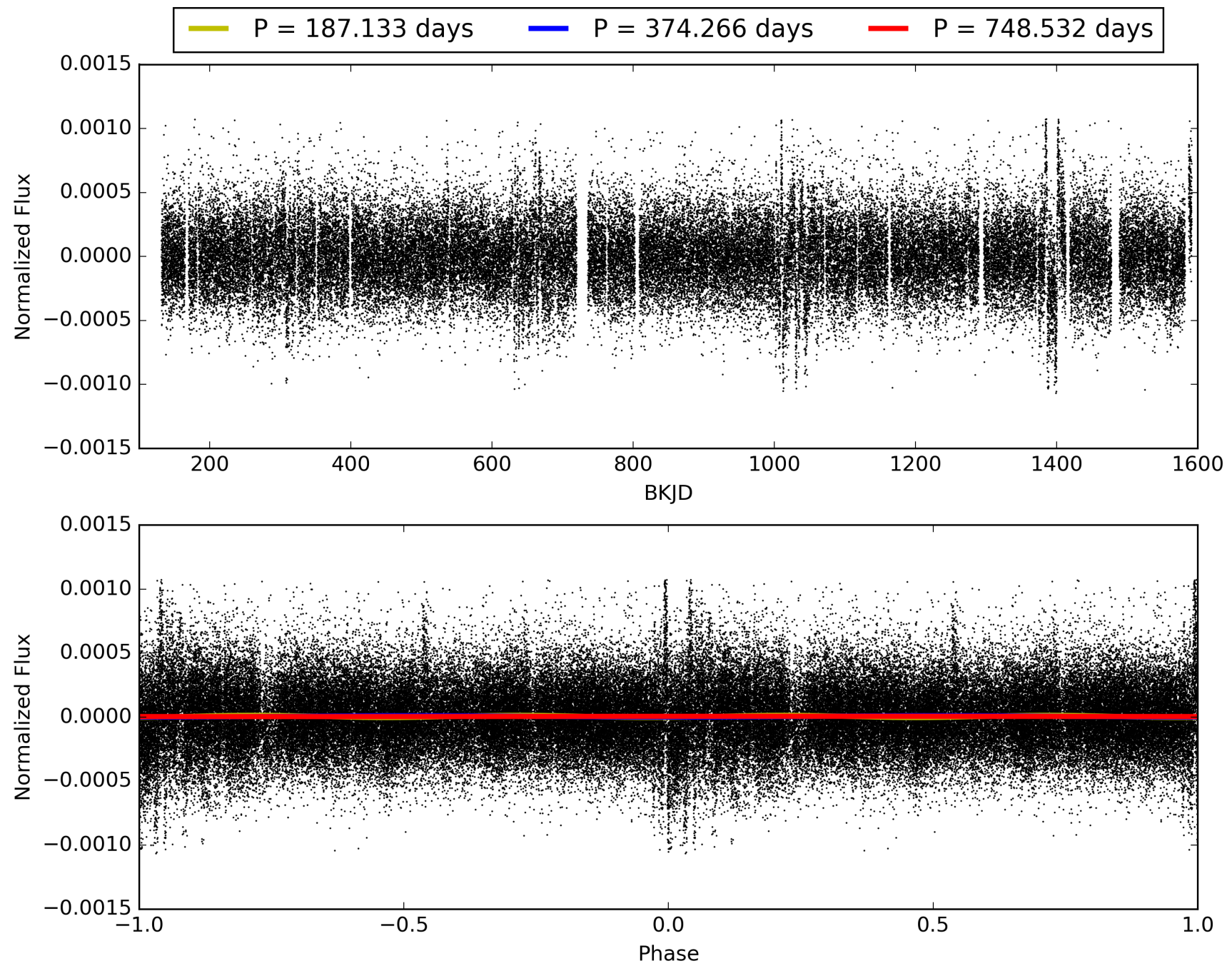
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:11:59 Z

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

TCE 008160817-01, PDC Light Curves

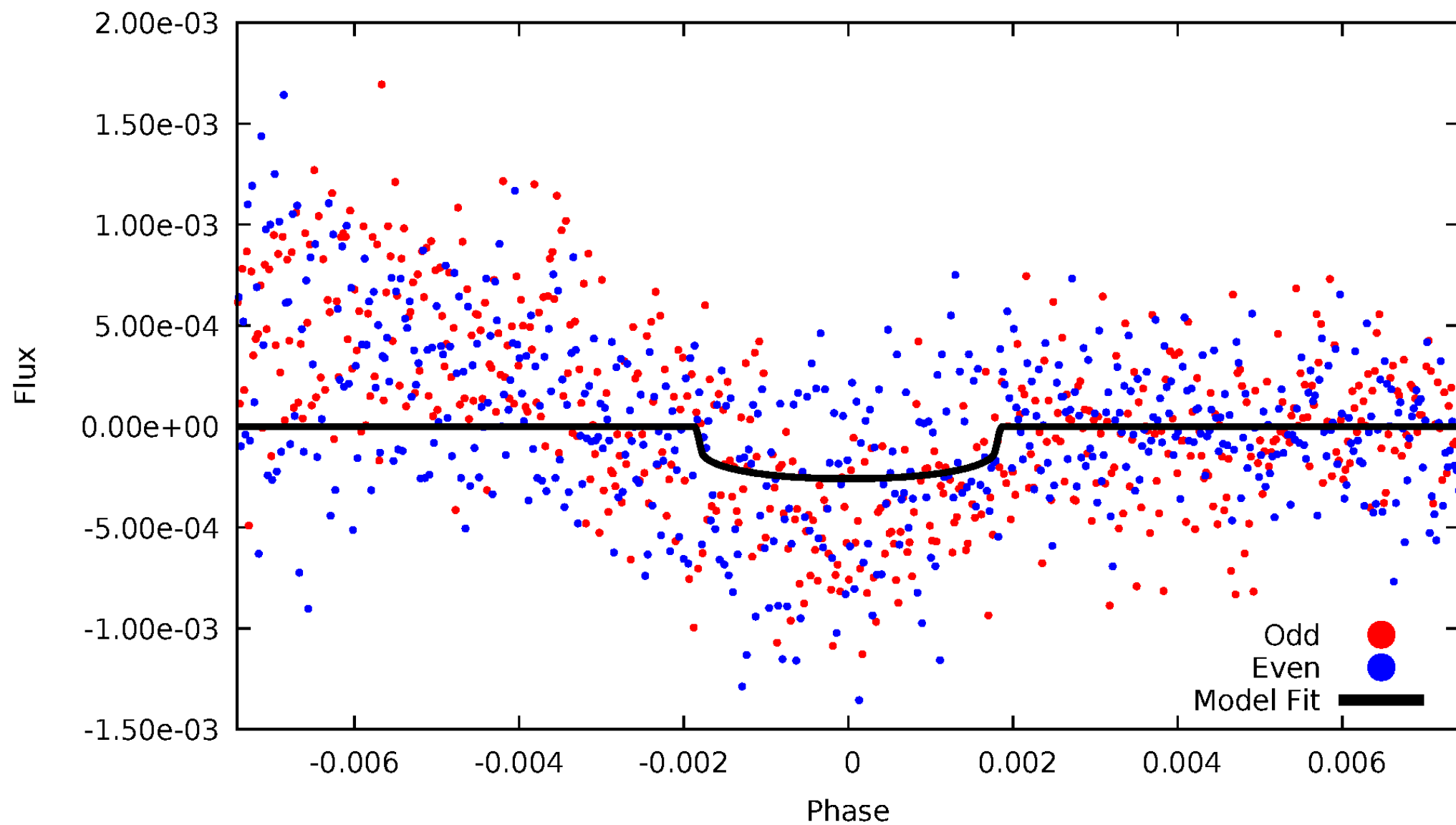


TCE 008160817-01



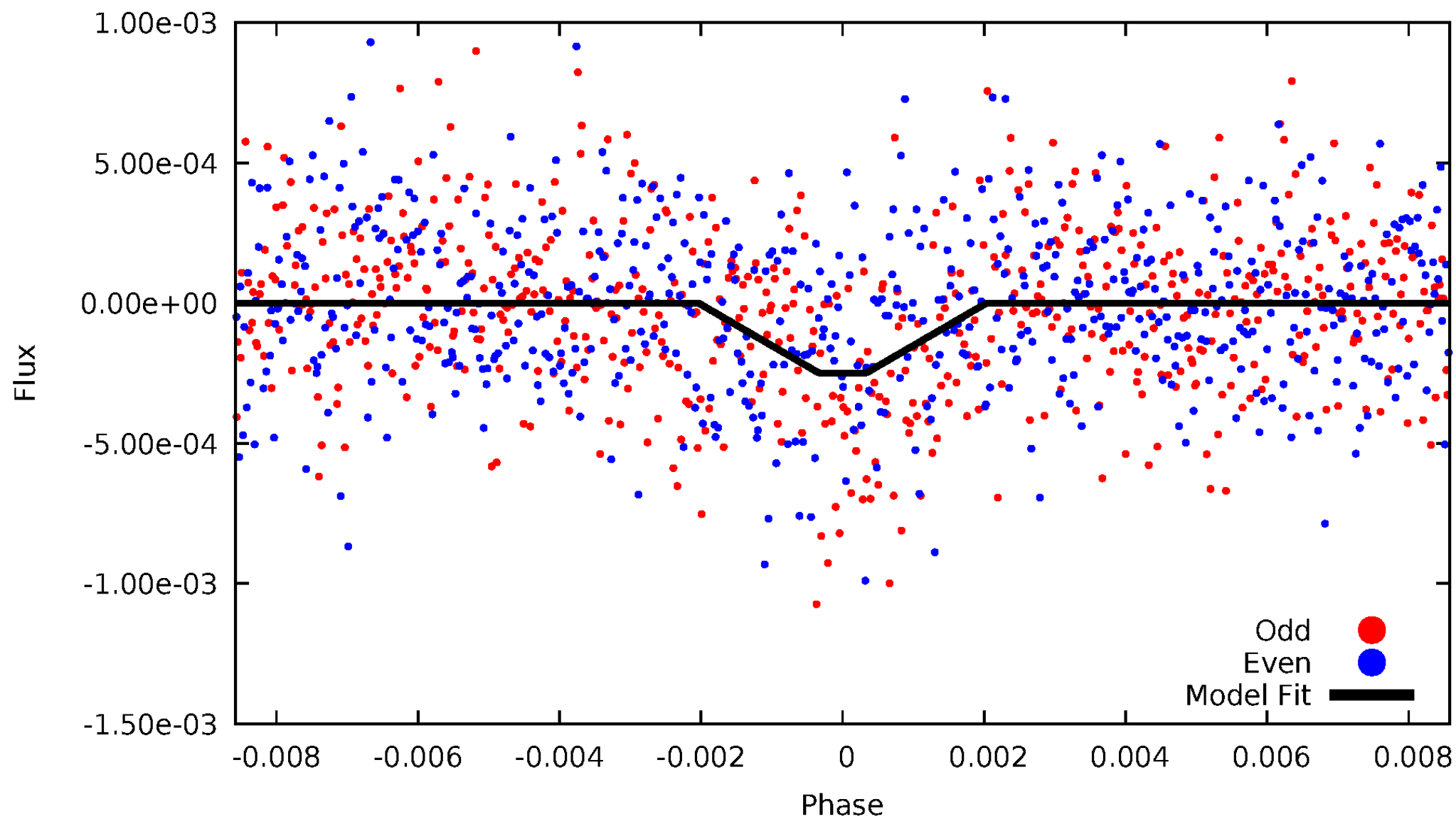
DV Odd/Even

TCE 008160817-01



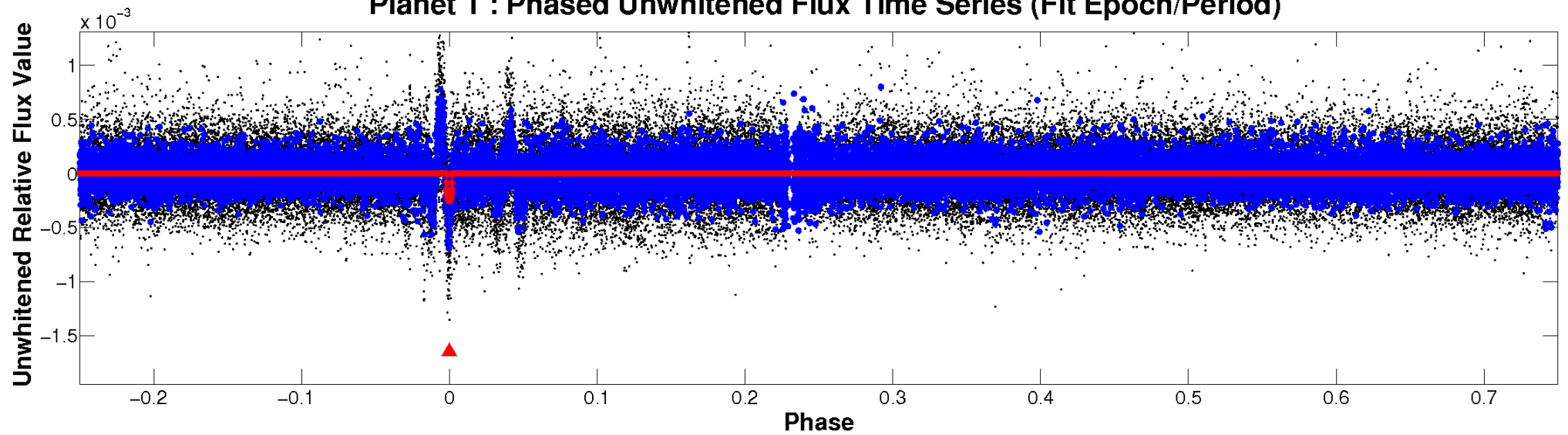
ALT Odd/Even

TCE 008160817-01

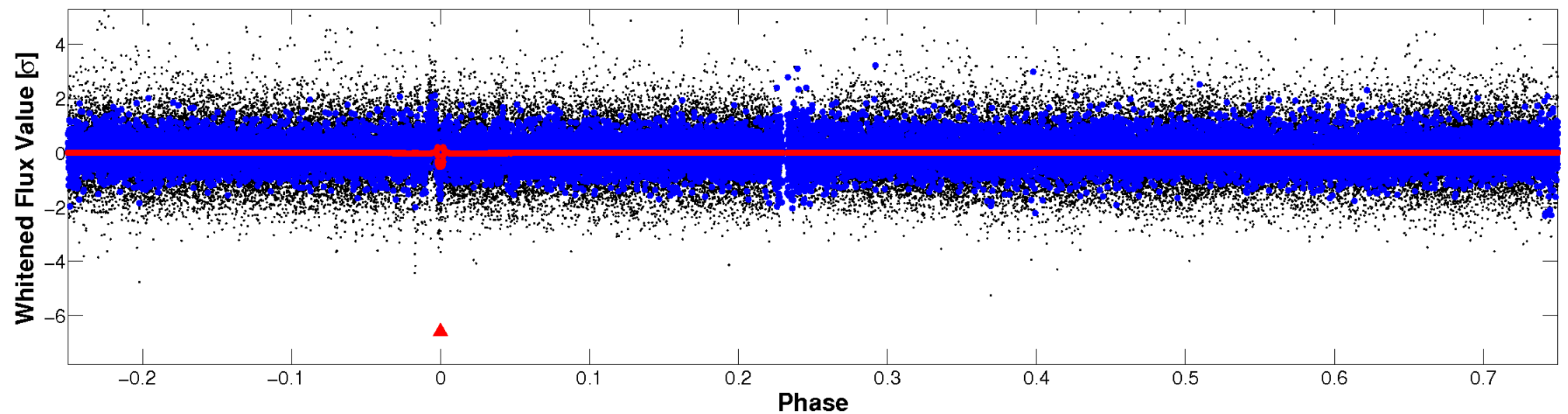


Non-Whitened Vs. Whitened Light Curve

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

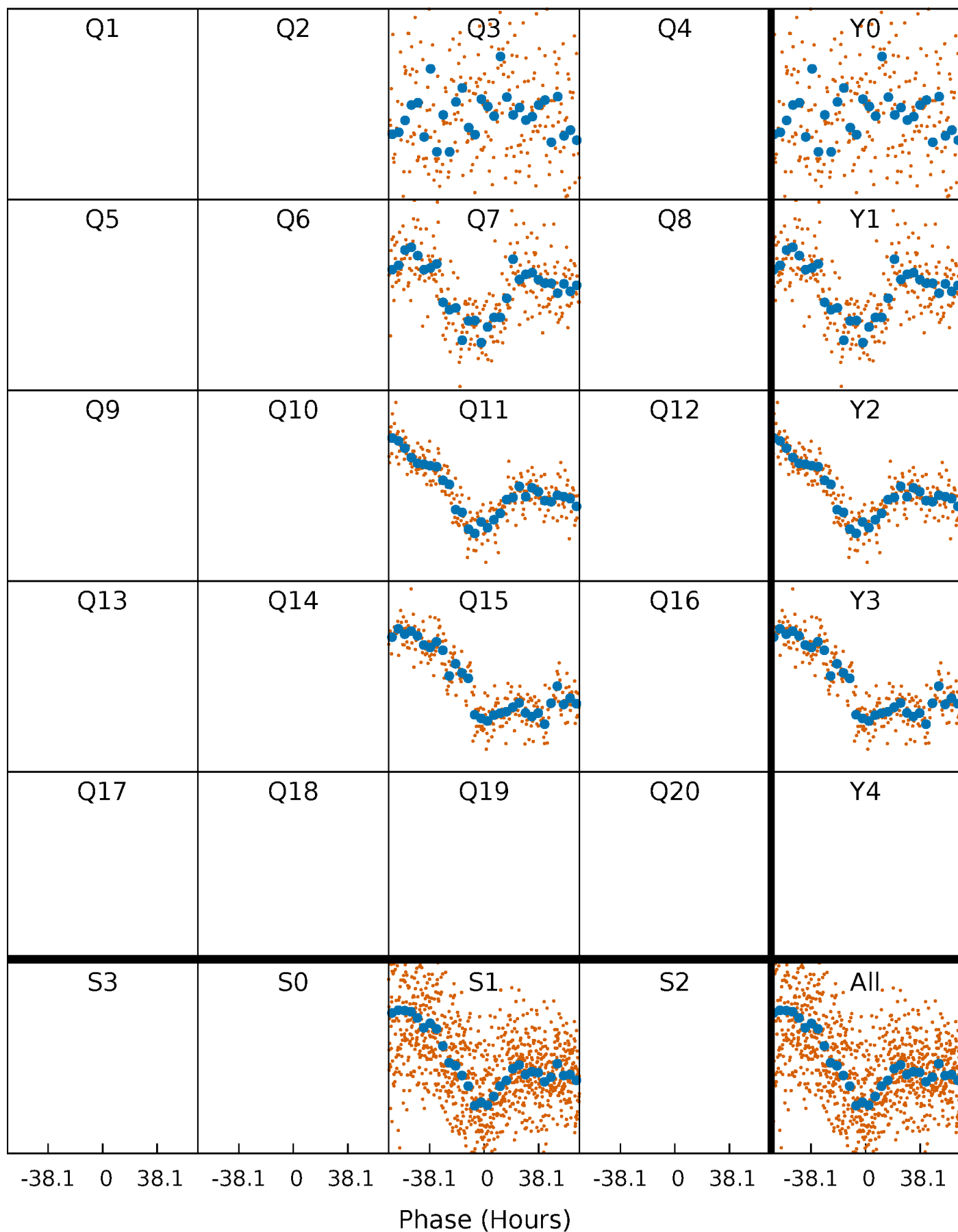


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



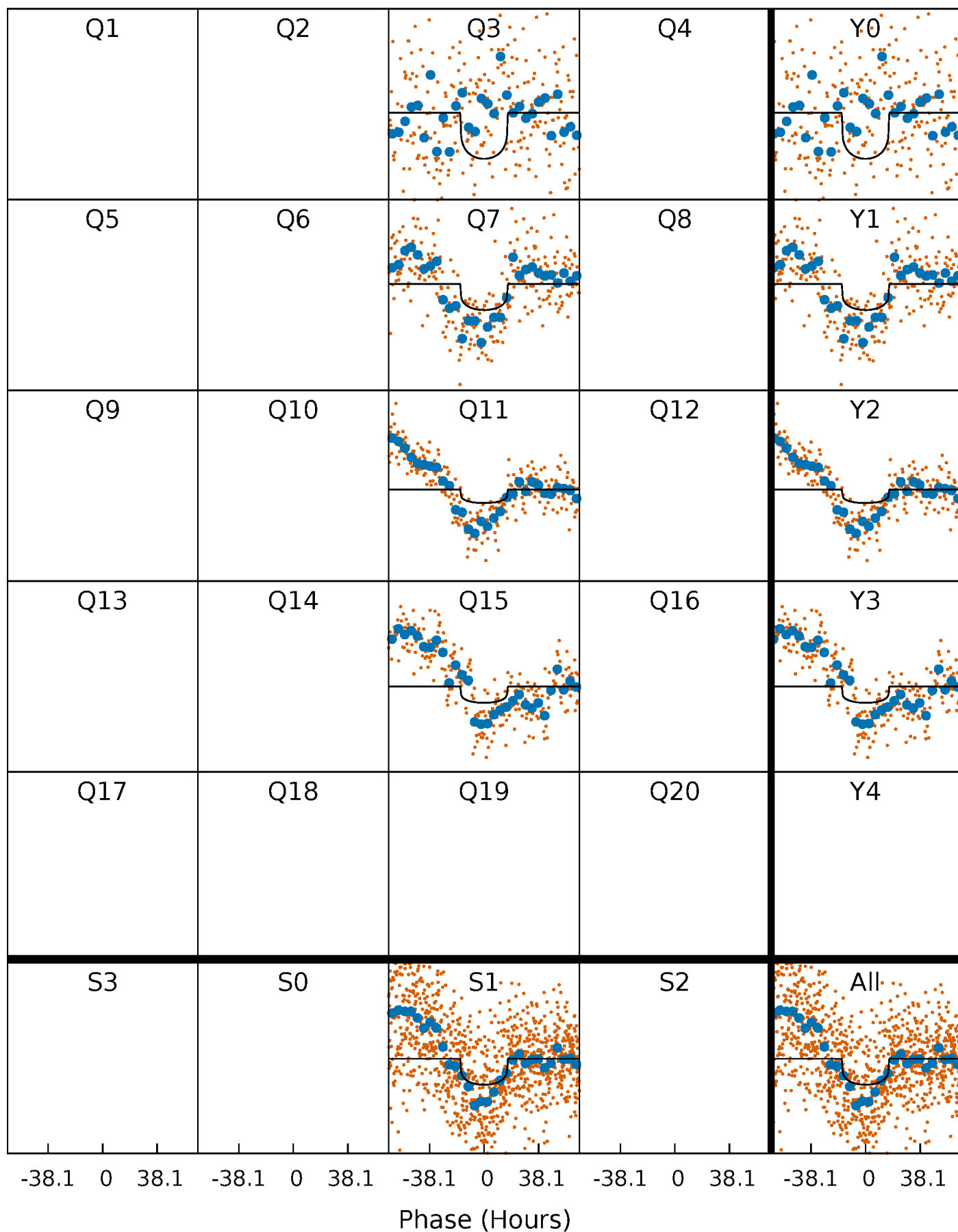
PDC Quarter-Phased Transit Curves

TCE 008160817-01 P=374.266218 Days $T_0=263.845053$ (BKJD)



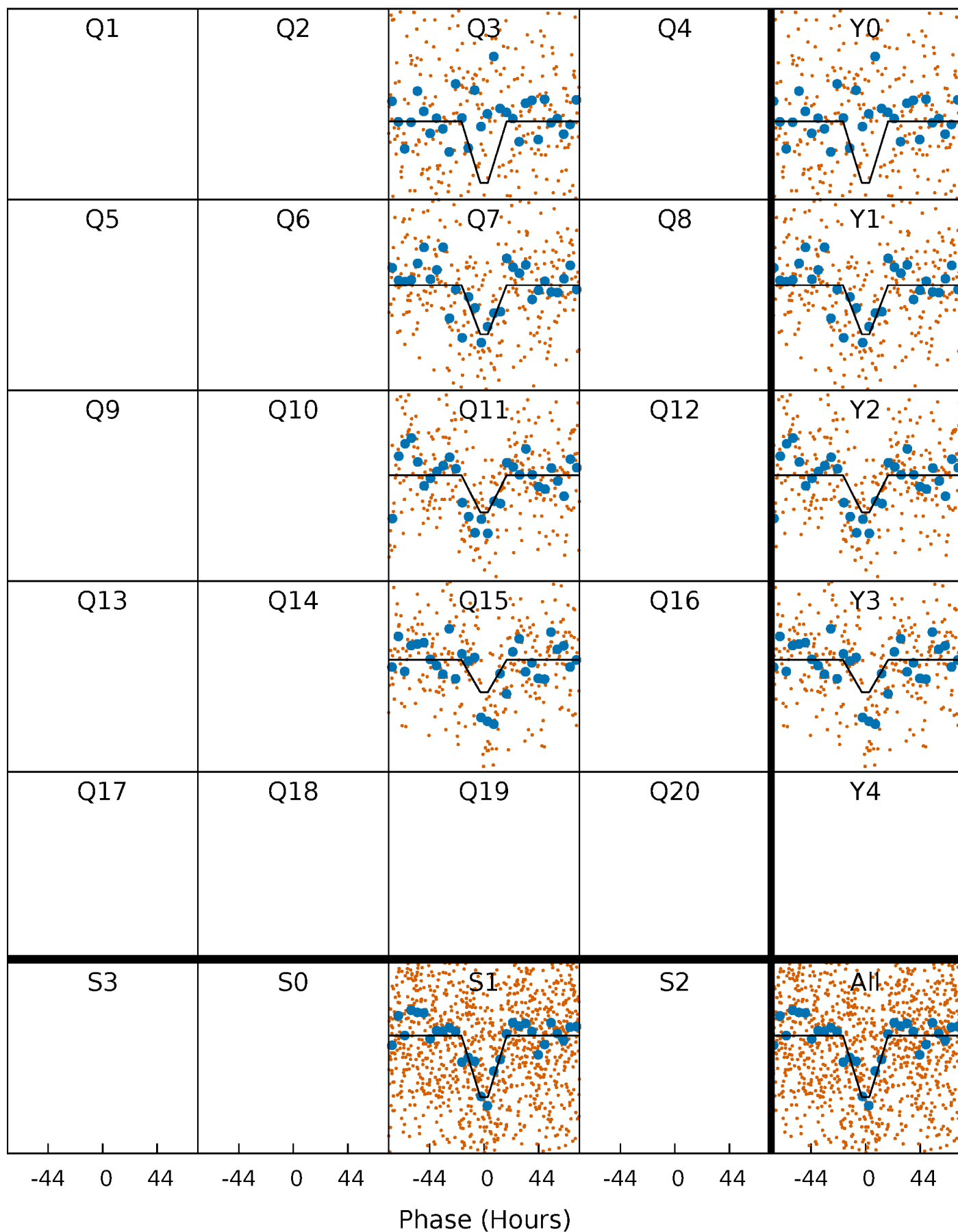
DV Quarter-Phased Transit Curves

TCE 008160817-01 P=374.266218 Days $T_0=263.845053$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

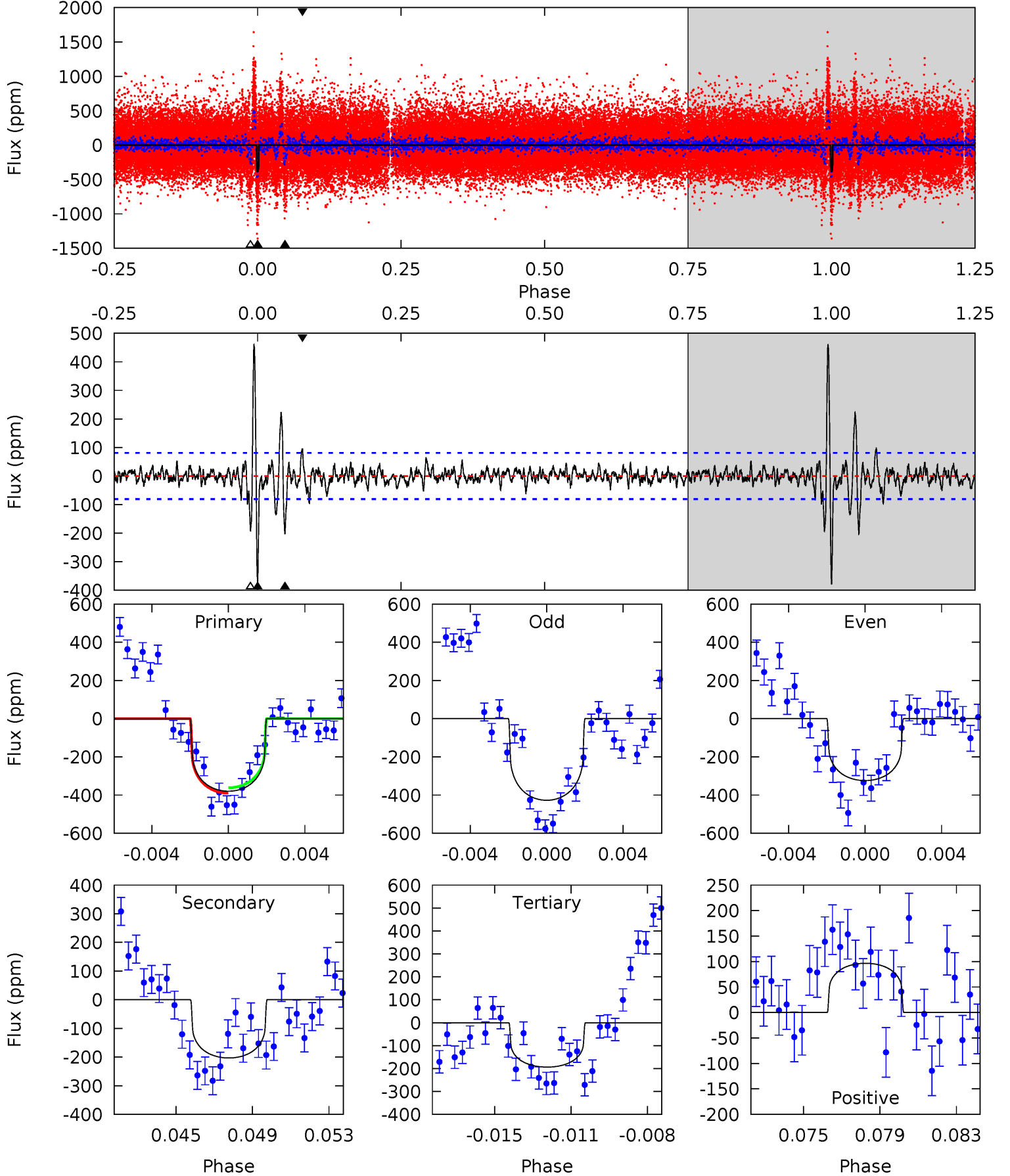
TCE 008160817-01 P=374.152106 Days $T_0=264.002042$ (BKJD)



DV Model-Shift Uniqueness Test

008160817-01, P = 374.266218 Days, E = 263.845053 Days

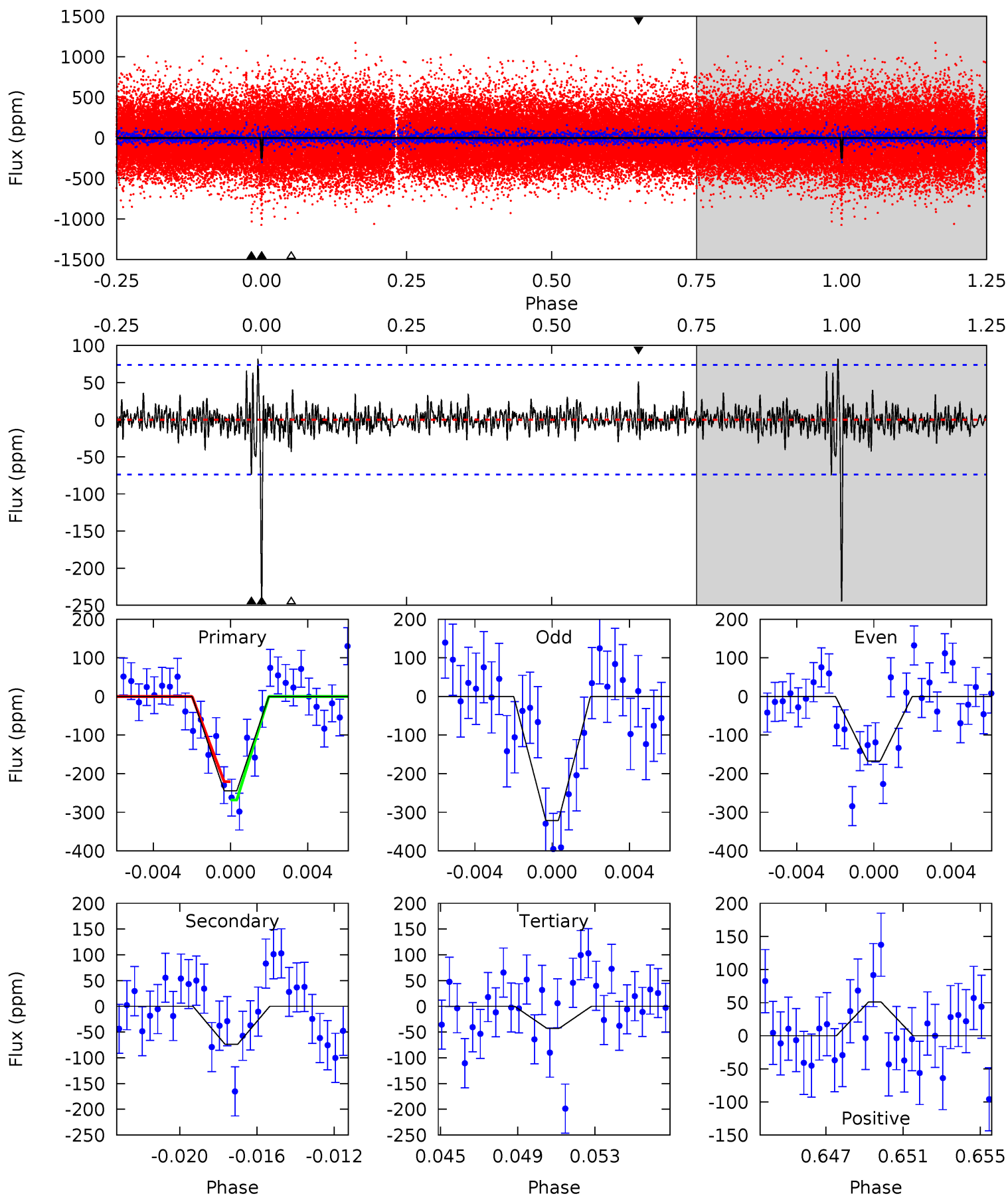
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.5	13.1	12.5	6.22	5.21	2.90	2.58	12.0	18.2	0.61	6.86	3.32	0.88	0.55	0.89



Alt Model-Shift Uniqueness Test

008160817-01, P = 374.152106 Days, E = 264.002042 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.2	5.20	3.00	3.59	5.19	2.87	0.87	14.2	13.6	2.20	1.61	5.43	0.76	0.25	1.66



Stellar Parameters For KIC 008160817

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5641^{+152}_{-152}	$4.394^{+0.128}_{-0.192}$	$-0.100^{+0.300}_{-0.250}$	$0.988^{+0.280}_{-0.151}$	$0.883^{+0.114}_{-0.076}$	$1.288^{+0.742}_{-0.633}$
	+3%/-3%	+3%/-4%	+300%/-250%	+28%/-15%	+13%/-9%	+58%/-49%
Source	PHO1	KIC0	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 008160817-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-203 ± 16	$1.68^{+0.78}_{-0.67}$	351^{+26}_{-19}	5436^{+1631}_{-718}	37533^{+65632}_{-20382}
Alt.	-74 ± 14	$1.70^{+0.75}_{-0.62}$	352^{+24}_{-21}	4388^{+964}_{-530}	13226^{+22221}_{-6968}

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 $A_{obs} \gg 1.0$

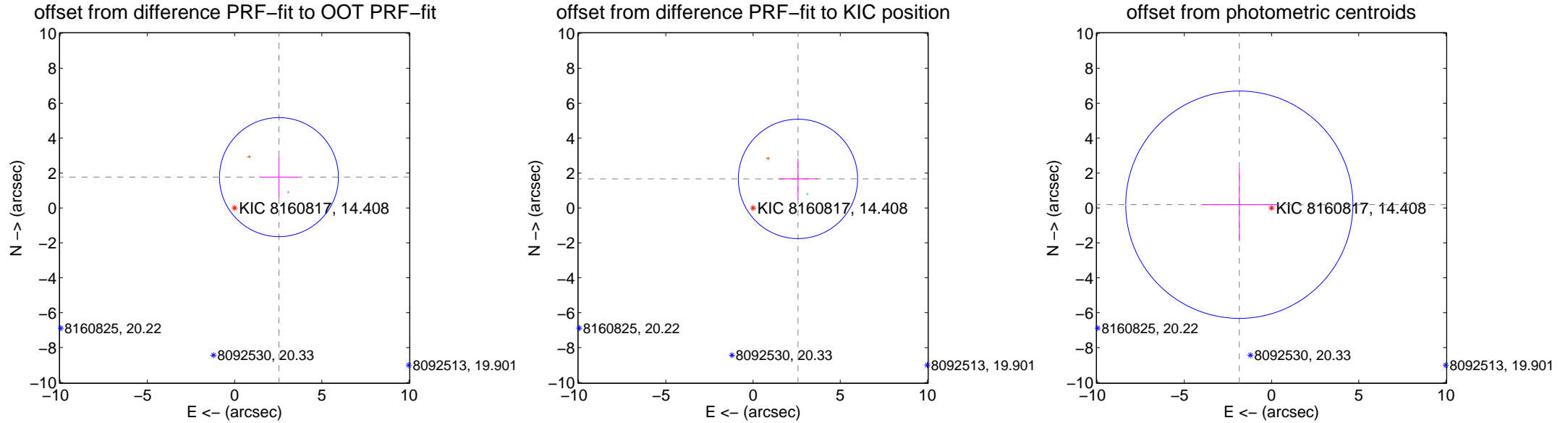
DV Centroid Data

Supplemental centroid analysis for 008160817-01. Kepler magnitude: 14.41. Transit SNR 7.36

There are 1 quarters with good PRF difference image offsets

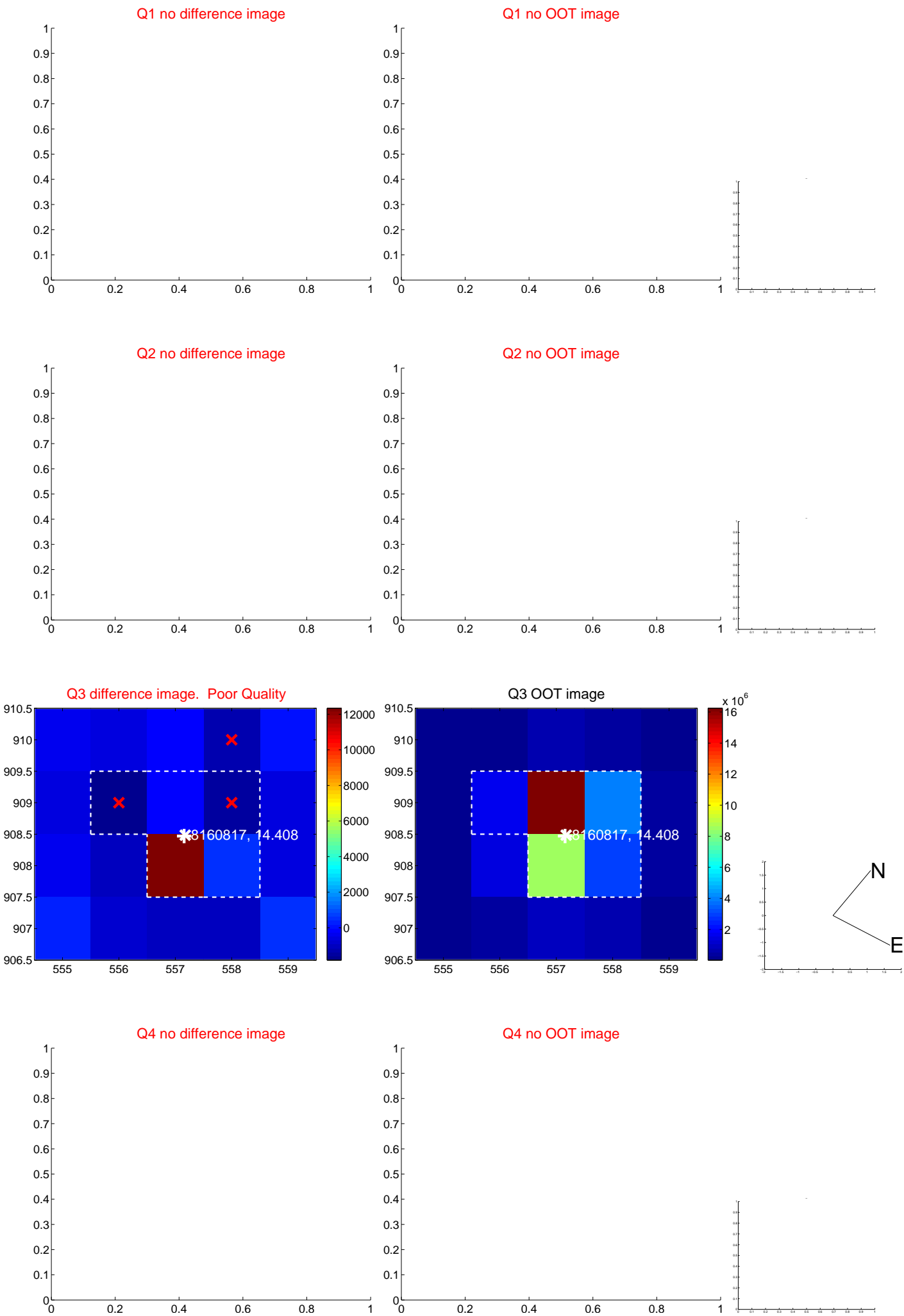
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.098 ± 1.136	2.73	-2.545 ± 1.118	1.767 ± 1.173
PRF-fit source offset from KIC position	3.069 ± 1.140	2.69	-2.578 ± 1.122	1.665 ± 1.181
photometric centroid source offset	1.86 ± 2.17	0.86	1.85 ± 2.17	0.19 ± 2.09

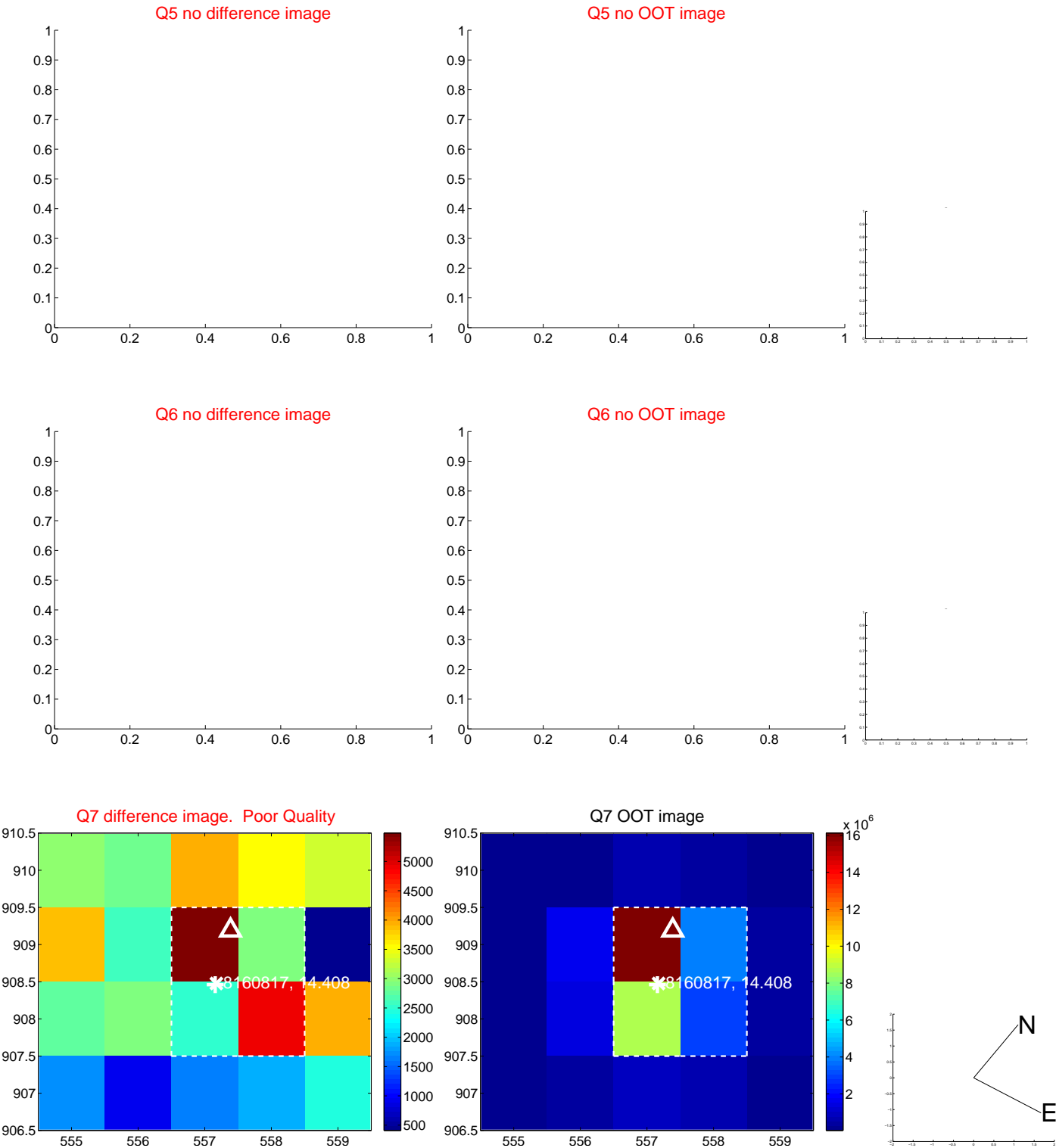


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

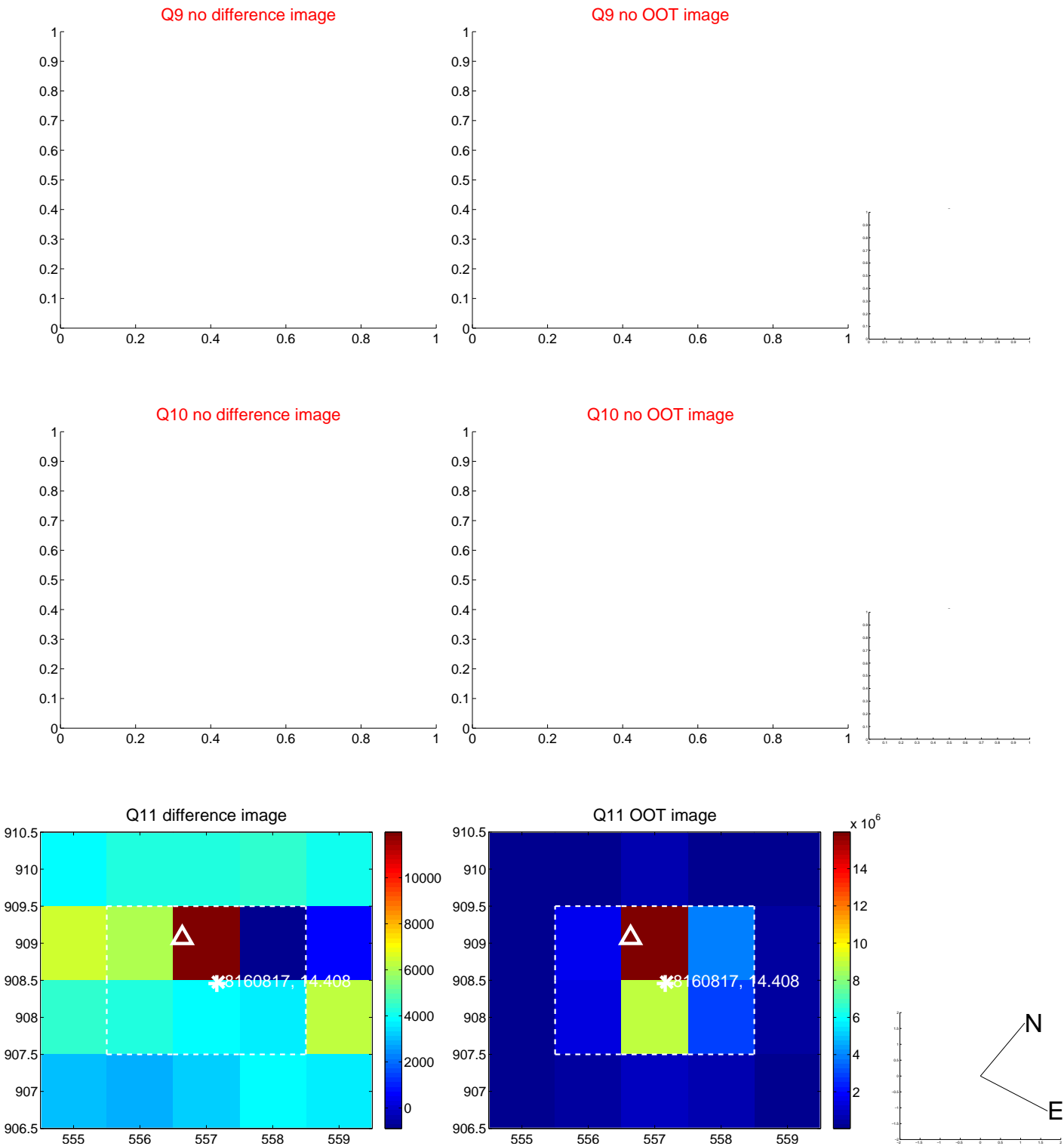
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



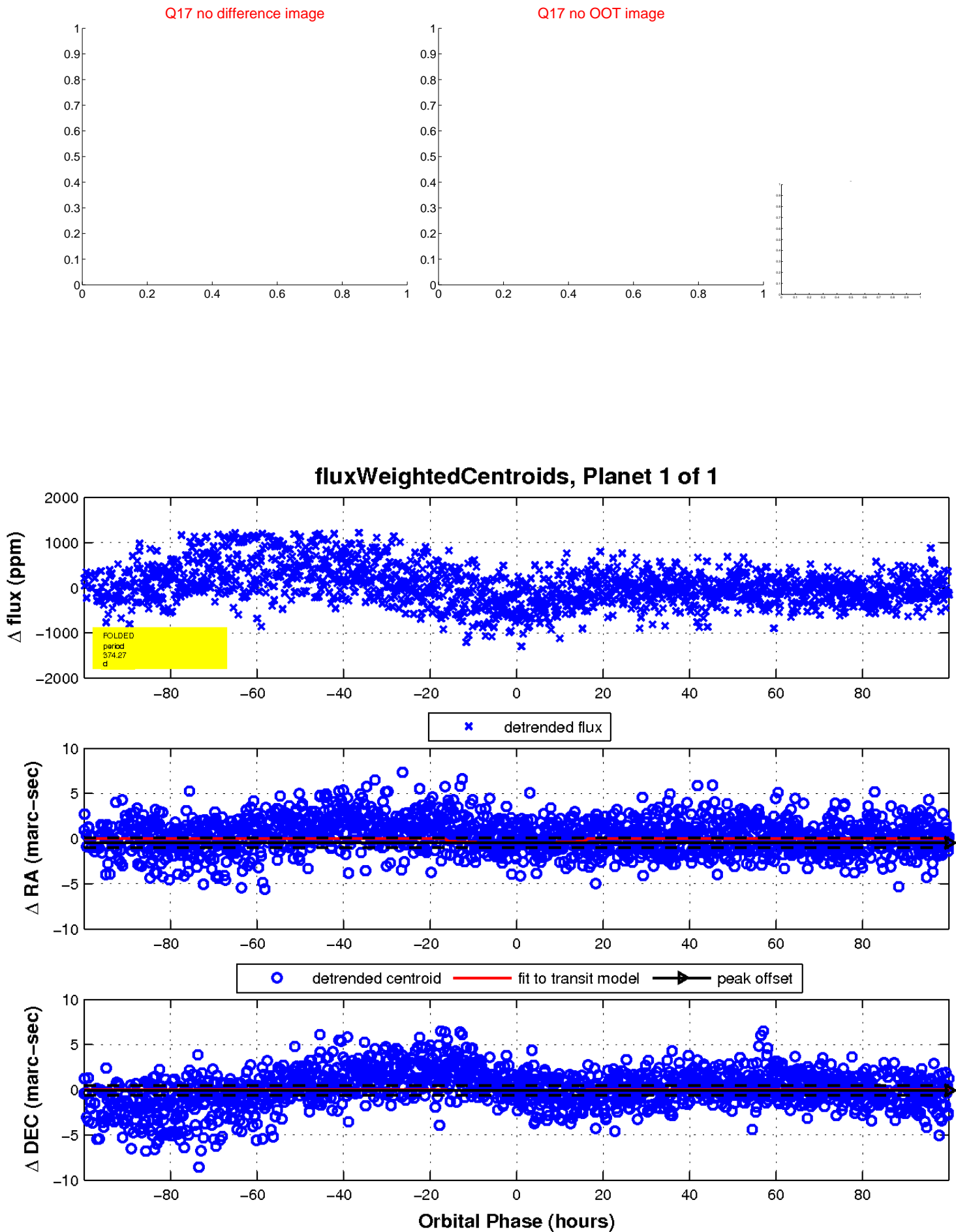
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

