

KIC 008621839

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})
008621839-01	OBS	No	374.939292	136.168015	296.7	10.429	7.2	7.2	1.67	6649	3.25	4.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008621839-01	OBS	FP	0.00	1	0	0	1	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—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.

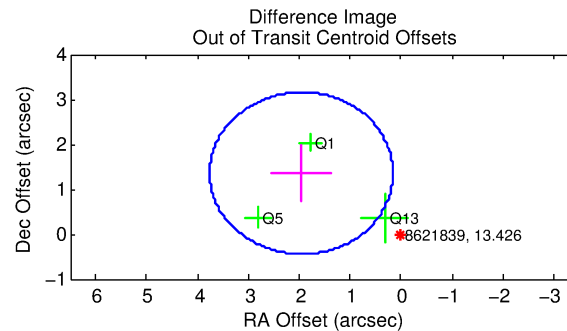
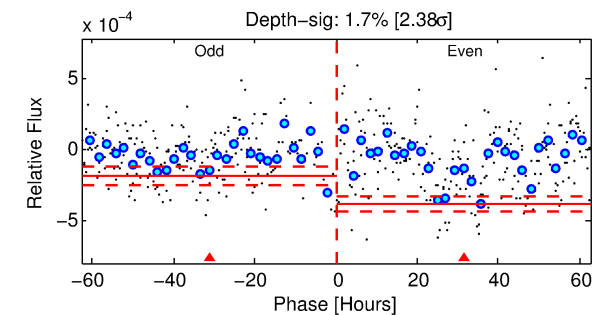
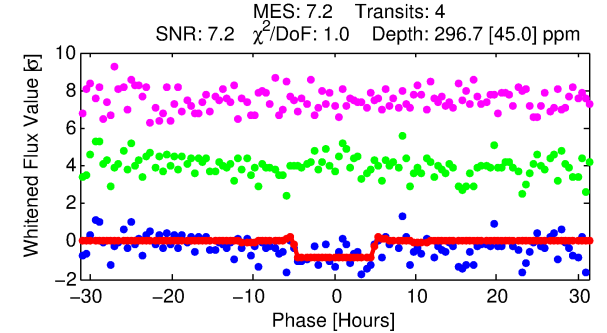
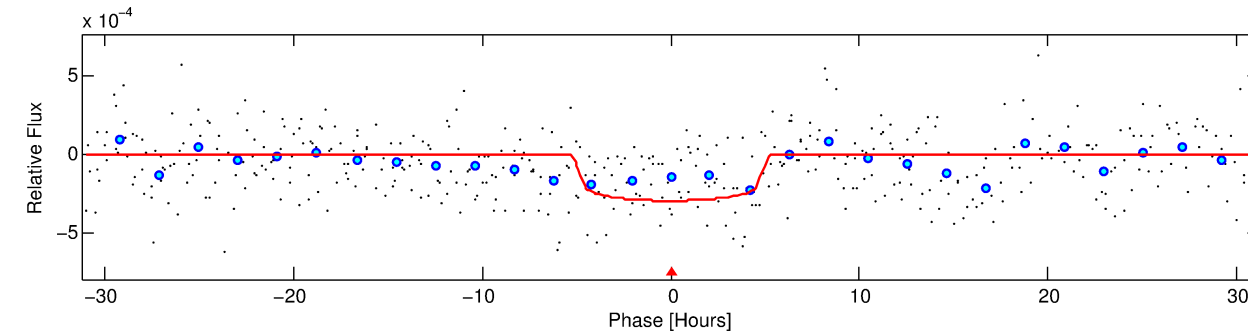
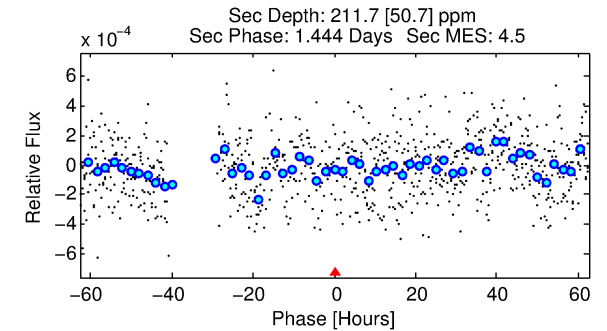
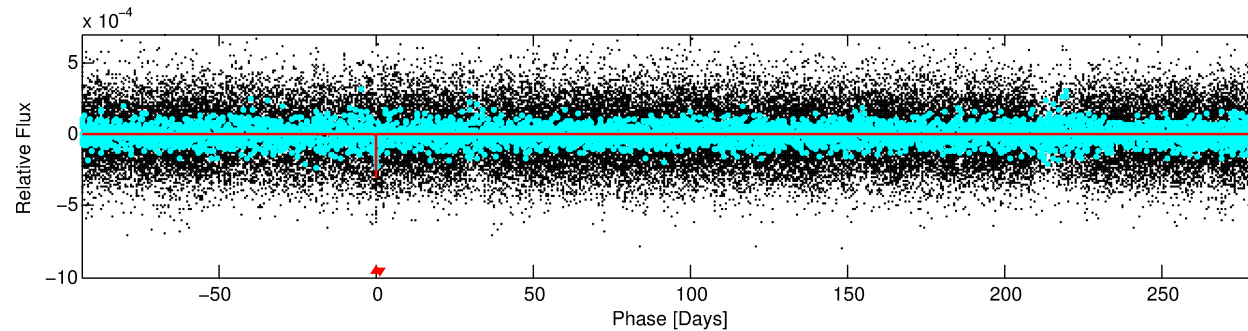
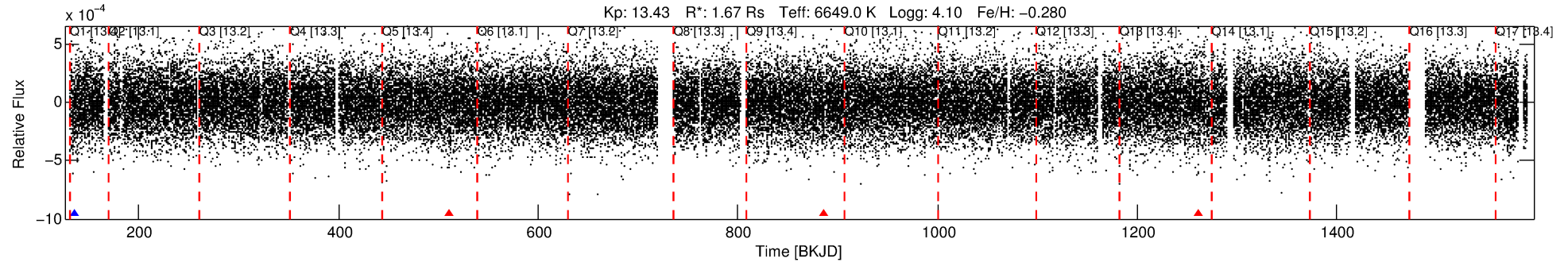
Ephemeris Match Information For 008621839-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist (\prime)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
008621839-01	8621839	008817510-01	8817510	1:1	1775.5	446	0	15.83	13.43	8.74	Col-Anomaly	1	0.43	4.80

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: 8621839 Candidate: 1 of 1 Period: 374.939 d



DV Fit Results:

Period = 374.93929 [0.00857] d
Epoch = 136.1680 [0.0145] BKJD
Rp/R* = 0.0178 [0.0037]
a/R* = 153.85 [167.61]
b = 0.85 [0.36]
Seff = 4.02 [1.80]
Teq = 361 [40] K
Rp = 3.25 [1.18] Re
a = 1.1045 [0.3005] AU
Ag = 13420.13 [8651.70] [1.55σ]
Teffp = 6009 [758] K [7.44σ]

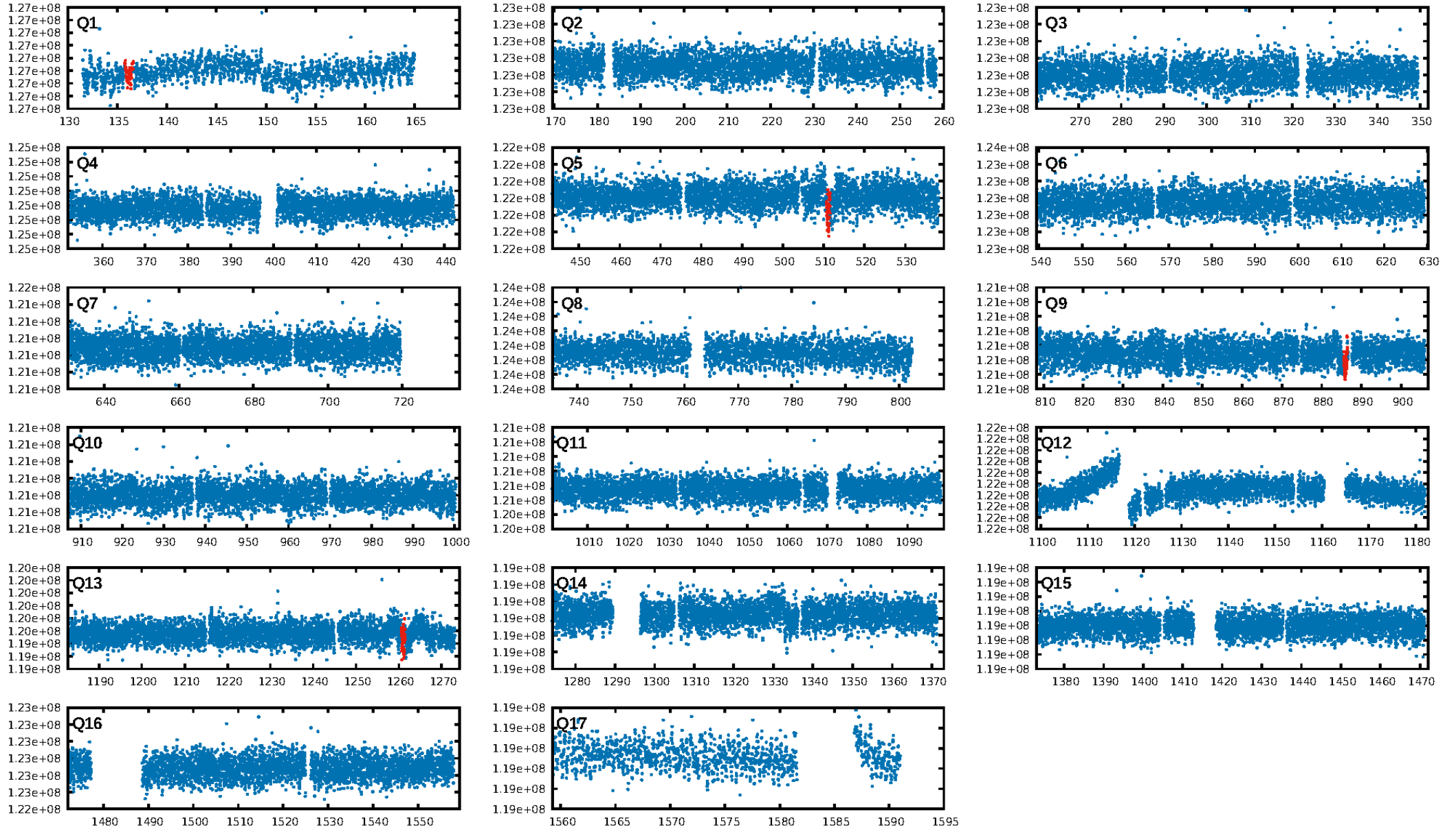
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 4.6%
ModelChiSquareGof-sig: 95.9%
Bootstrap-pfa: 5.65e-14
RollingBand-fgt: 0.00 [0/3]
GhostDiagnostic-chr: 12.83
Centroid-sig: 29.8%
Centroid-so: 1.205 arcsec [1.09σ]
OotOffset-rm: 2.381 arcsec [3.96σ]
KicOffset-rm: 2.397 arcsec [3.89σ]
OotOffset-st: 0/0/0/3 [3]
KicOffset-st: 0/0/0/3 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

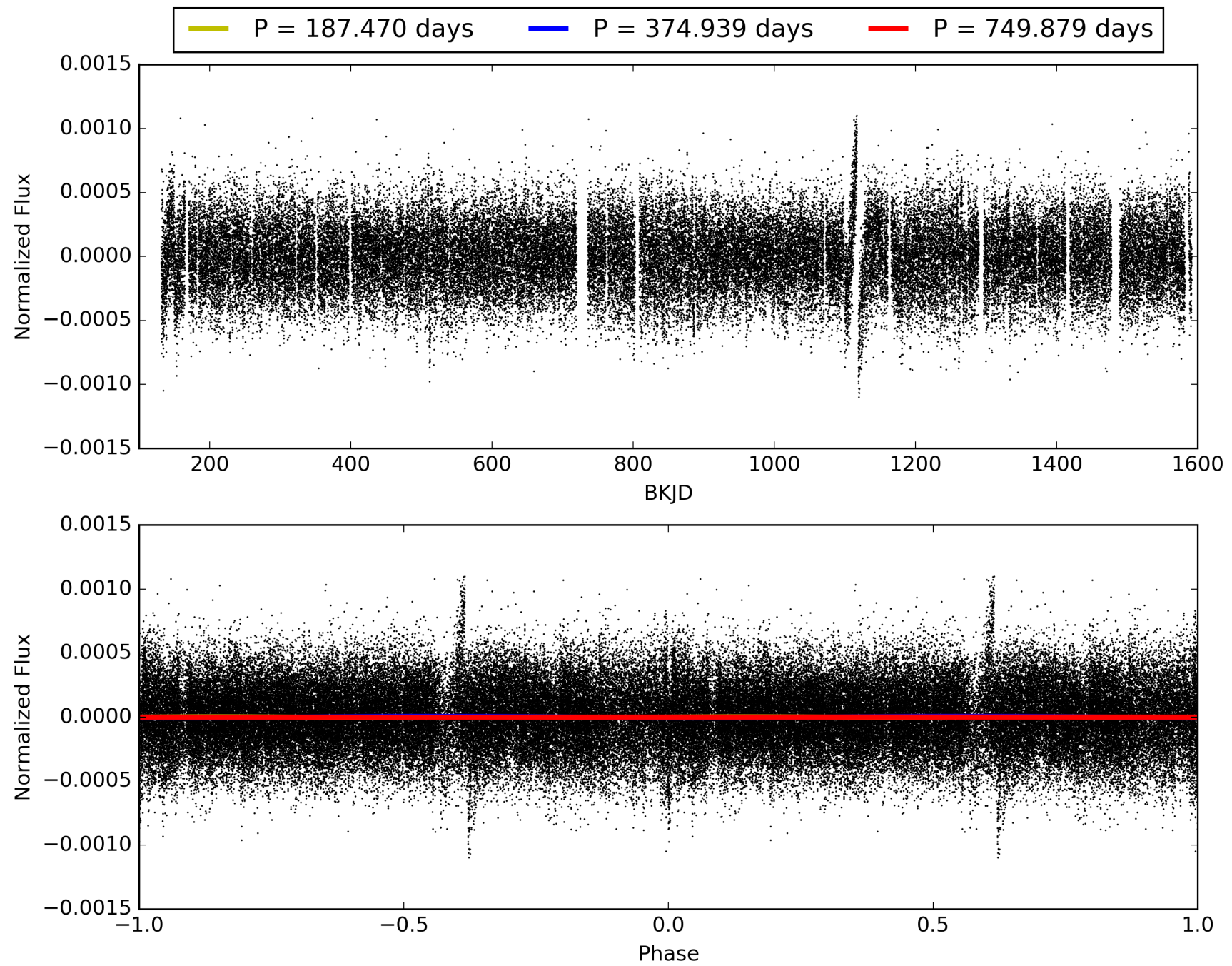
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:10:18 Z

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

TCE 008621839-01, PDC Light Curves

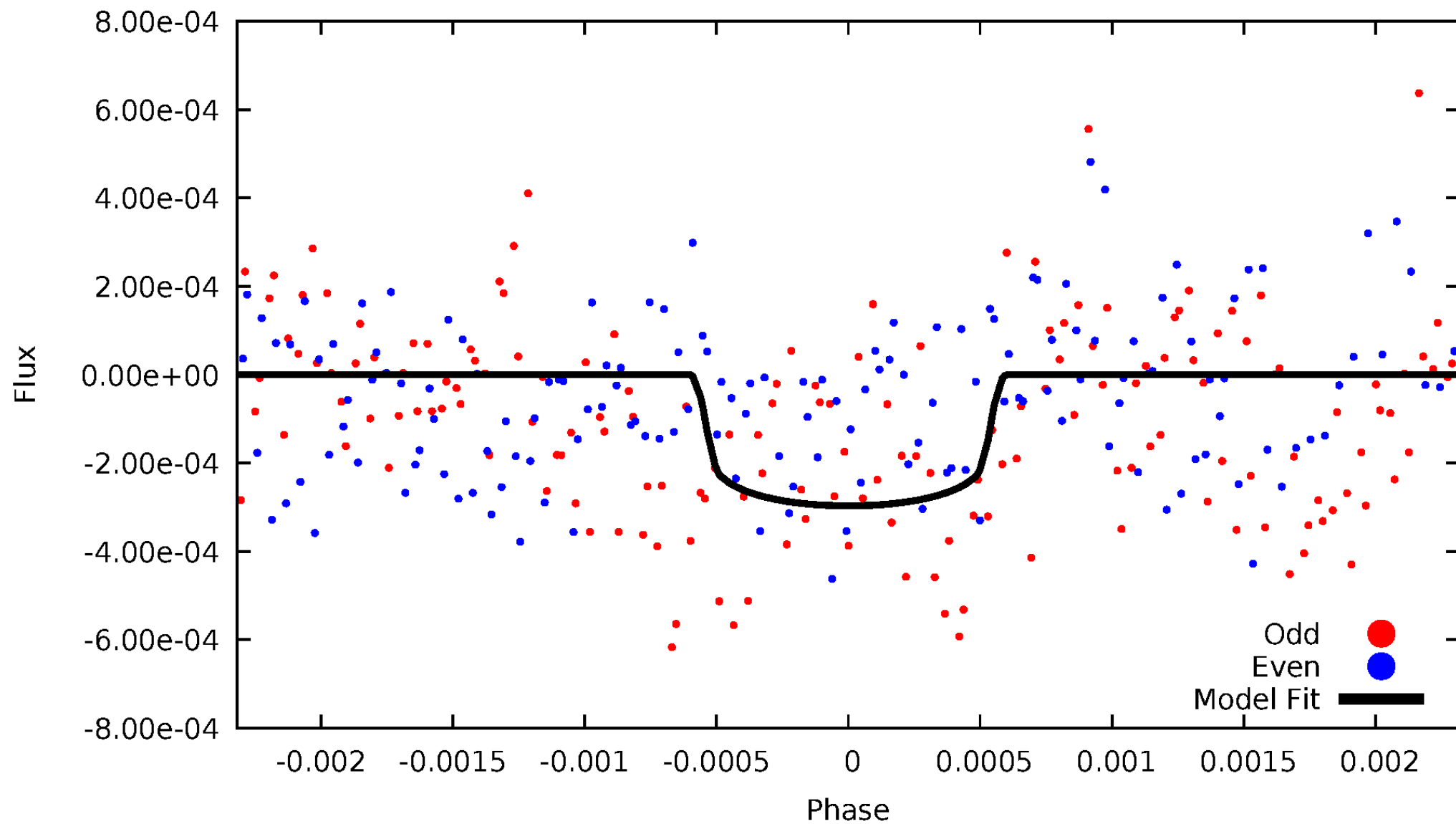


TCE 008621839-01



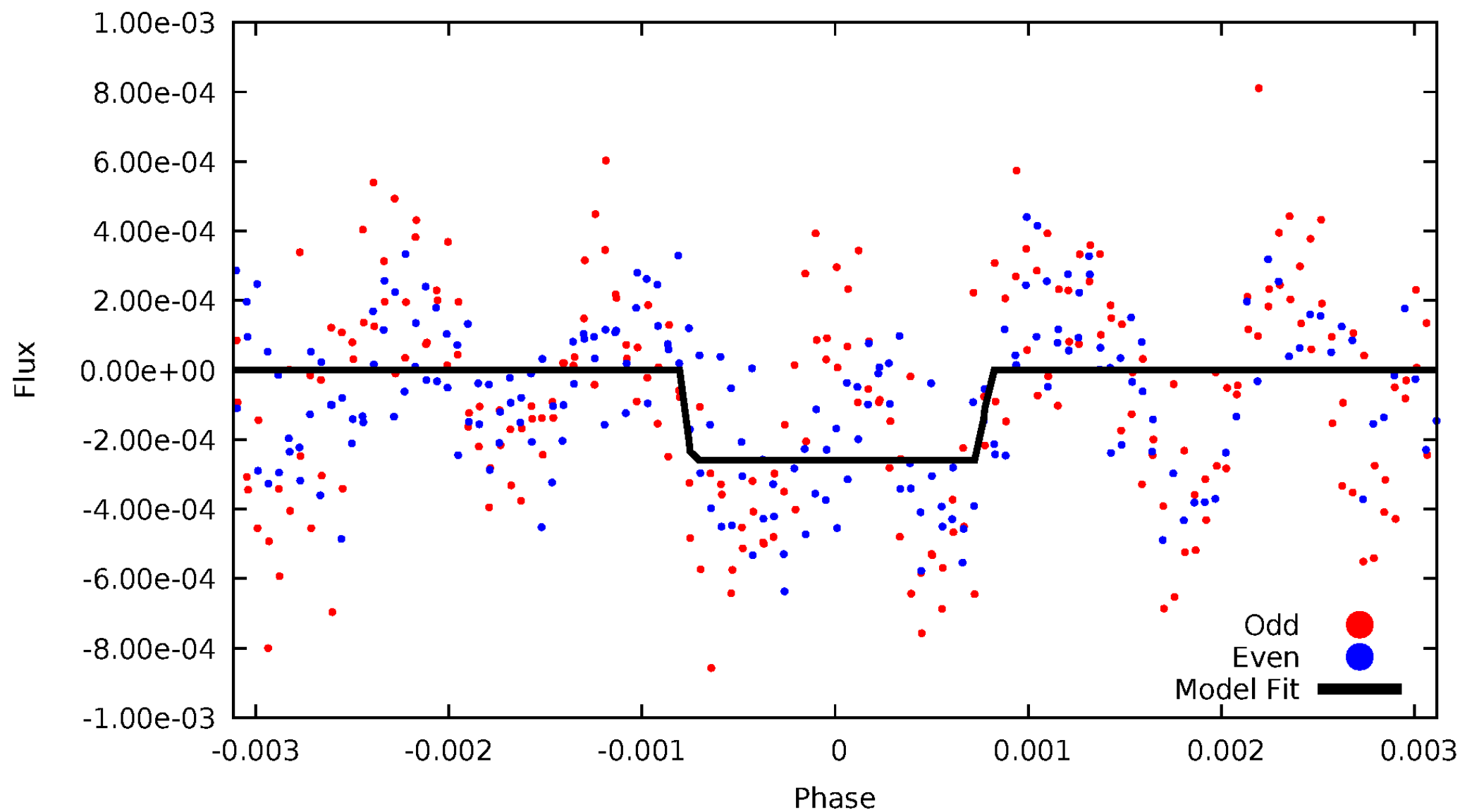
DV Odd/Even

TCE 008621839-01

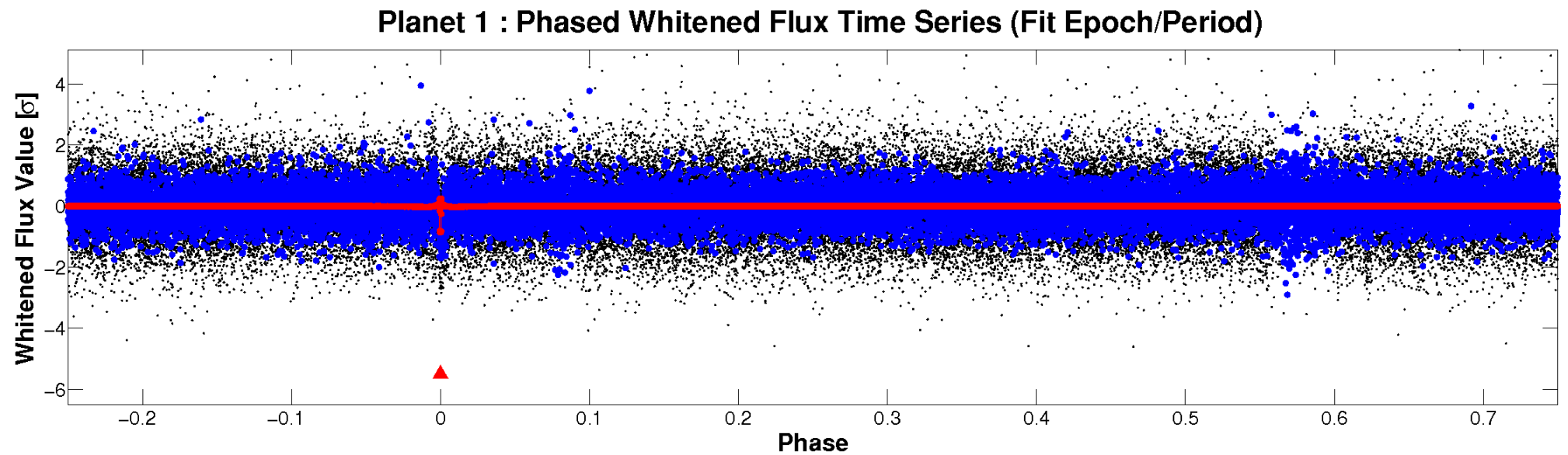
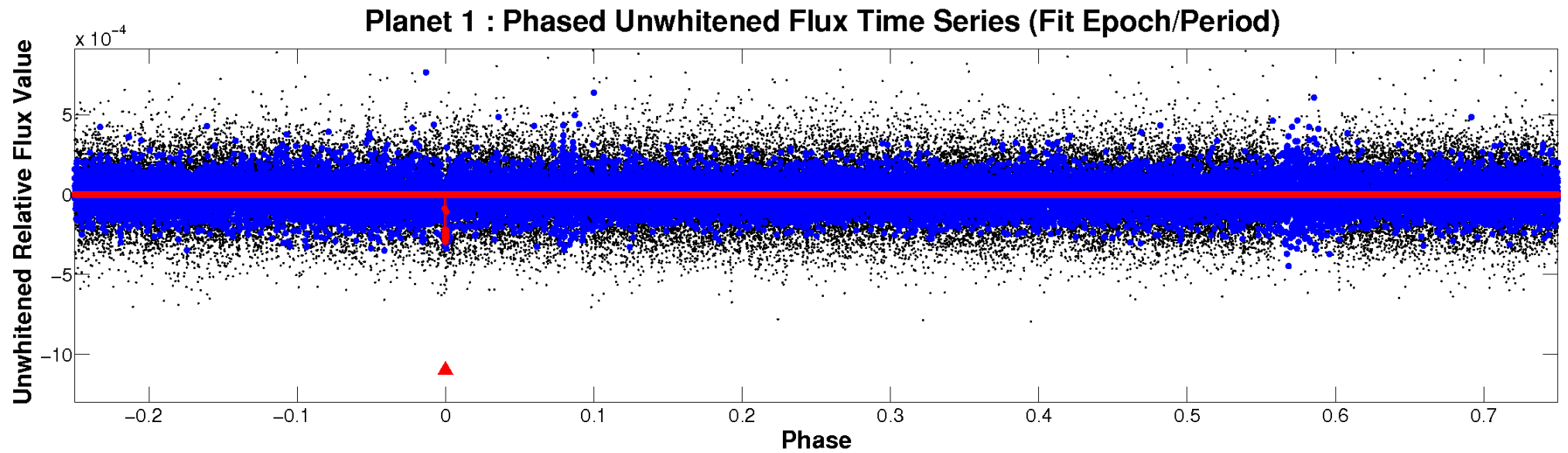


ALT Odd/Even

TCE 008621839-01

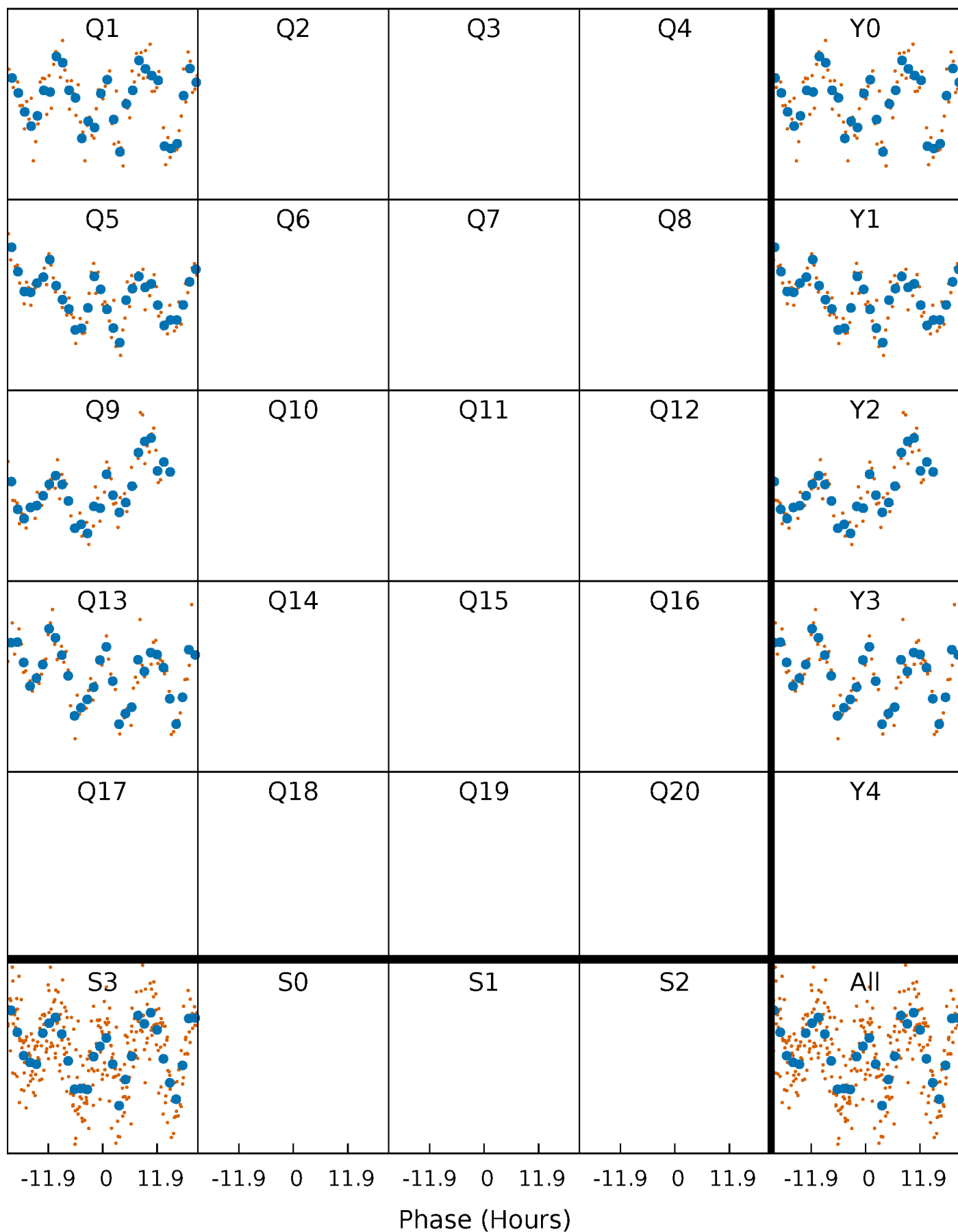


Non-Whitened Vs. Whitened Light Curve



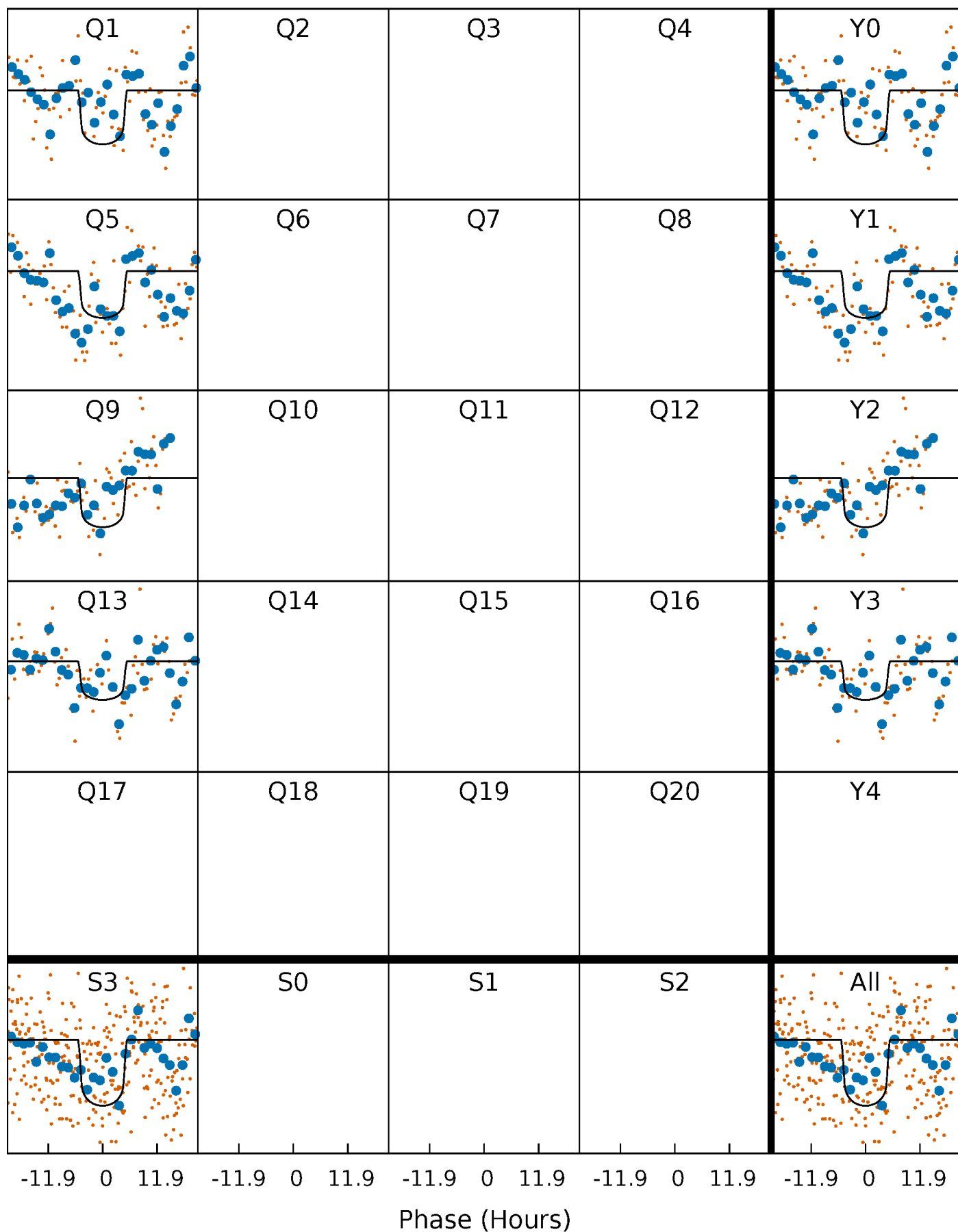
PDC Quarter-Phased Transit Curves

TCE 008621839-01 P=374.939292 Days $T_0=136.168014$ (BKJD)



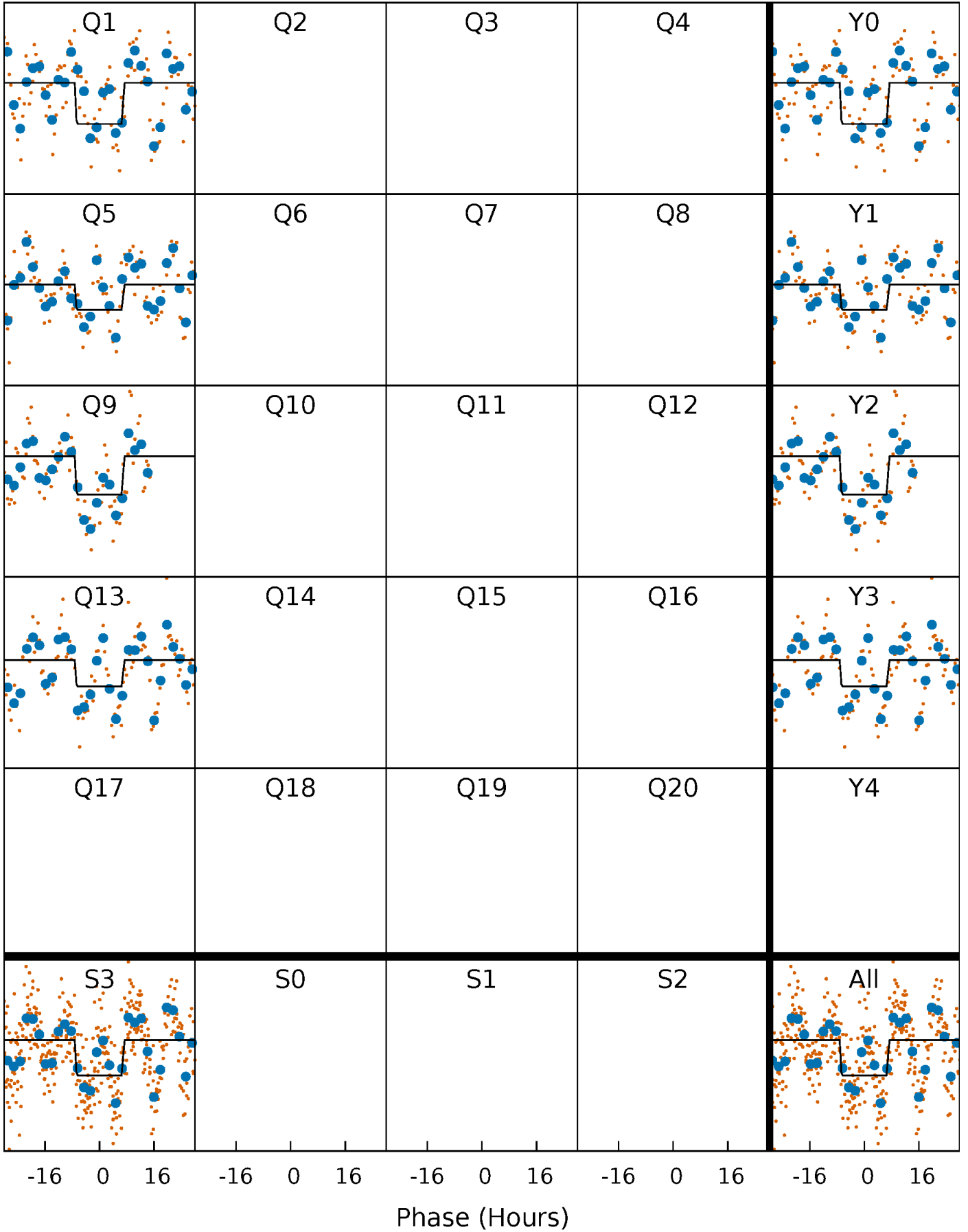
DV Quarter-Phased Transit Curves

TCE 008621839-01 $P=374.939292$ Days $T_0=136.168014$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

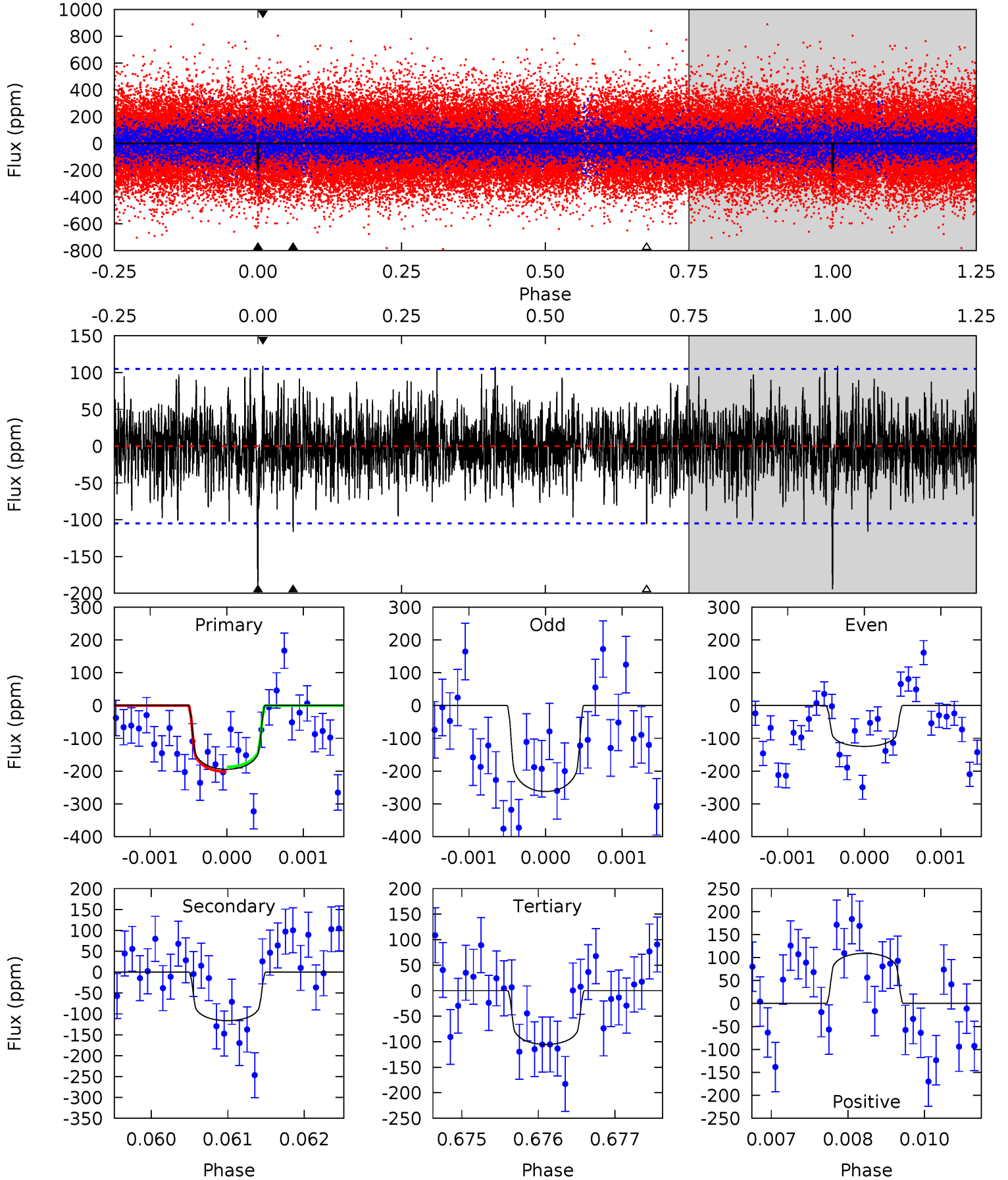
TCE 008621839-01 P=374.955826 Days $T_0=136.107649$ (BKJD)



DV Model-Shift Uniqueness Test

008621839-01, P = 374.939292 Days, E = 136.168014 Days

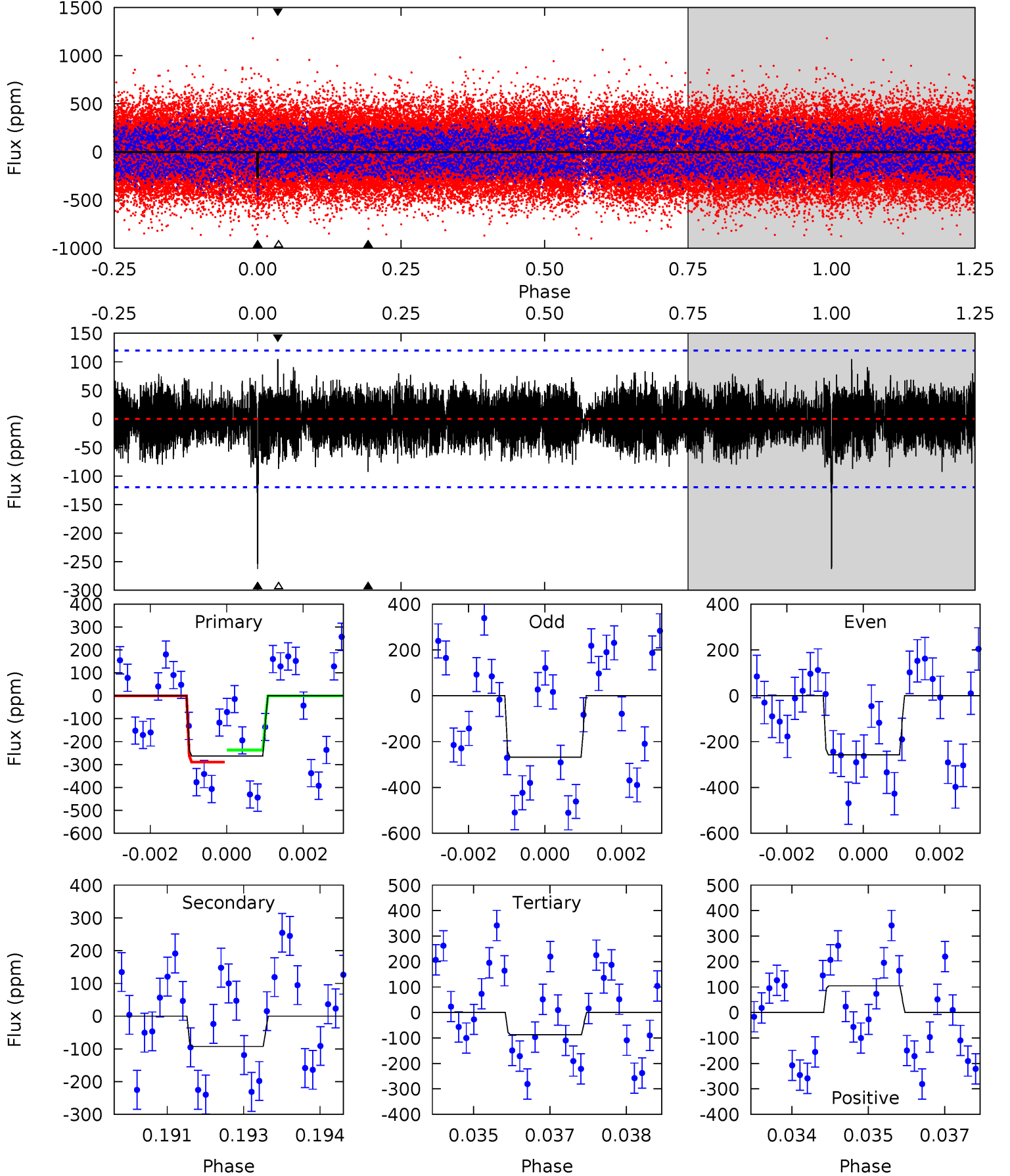
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.0	6.00	5.43	5.63	5.42	3.24	1.62	4.60	4.40	0.57	0.36	3.57	1.10	0.36	0.38



Alt Model-Shift Uniqueness Test

008621839-01, $P = 374.955826$ Days, $E = 136.107649$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.8	4.16	3.91	4.70	5.38	3.17	1.39	7.88	7.09	0.25	-0.54	0.23	0.98	0.28	1.17



Stellar Parameters For KIC 008621839

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6649^{+188}_{-235}	$4.097^{+0.246}_{-0.164}$	$-0.280^{+0.250}_{-0.300}$	$1.674^{+0.443}_{-0.492}$	$1.284^{+0.174}_{-0.239}$	$0.385^{+0.534}_{-0.184}$
	+3%/-4%	+6%/-4%	+89%/-107%	+26%/-29%	+14%/-19%	+139%/-48%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008621839-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-116 ± 19	$3.19^{+0.88}_{-0.79}$	502^{+37}_{-42}	5204^{+632}_{-455}	7540^{+6181}_{-2939}
Alt.	-93 ± 22	$2.85^{+0.91}_{-0.72}$	500^{+38}_{-43}	5173^{+791}_{-539}	7269^{+7314}_{-3104}

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 $A_{obs} \gg 1.0$

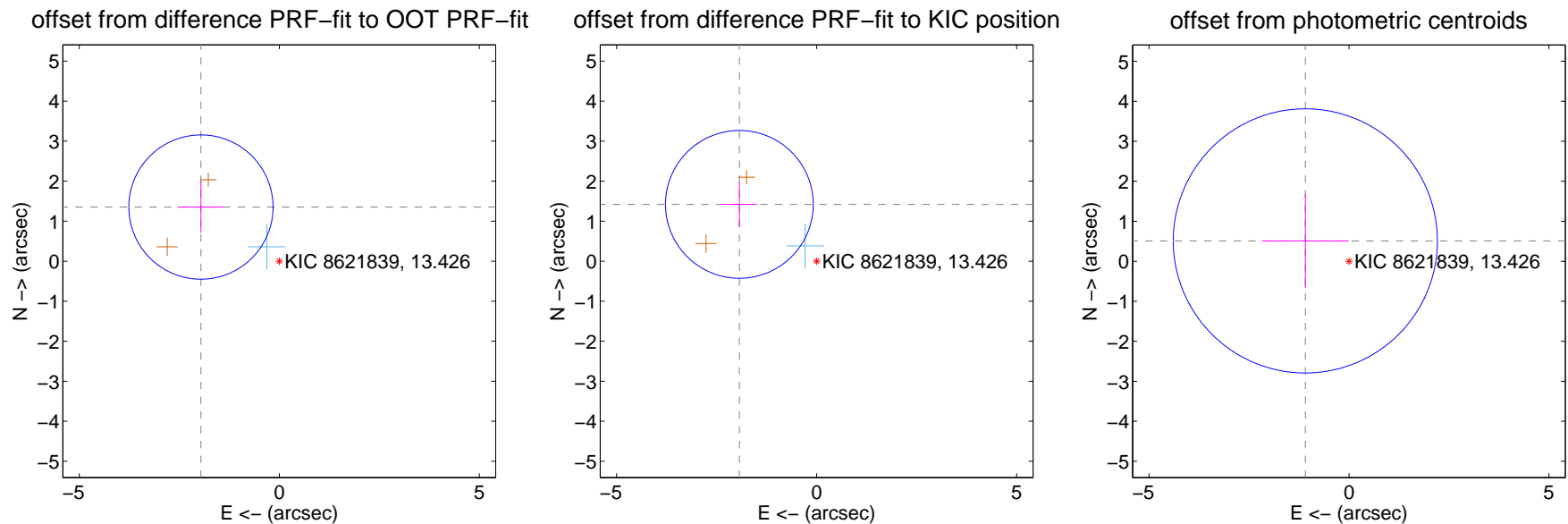
DV Centroid Data

Supplemental centroid analysis for 008621839-01. Kepler magnitude: 13.43. Transit SNR 7.20

There are 1 quarters with good PRF difference image offsets

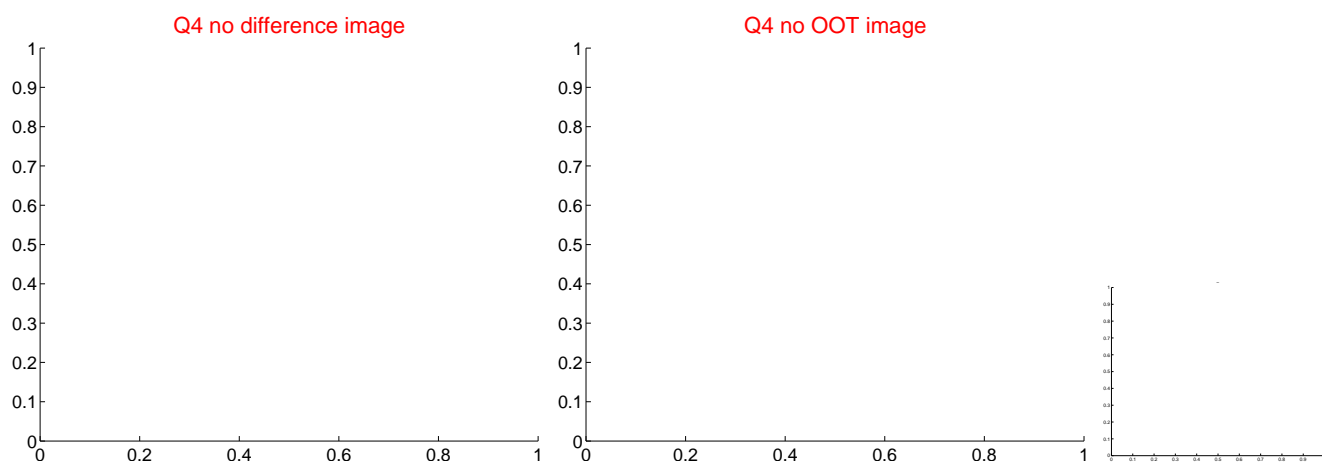
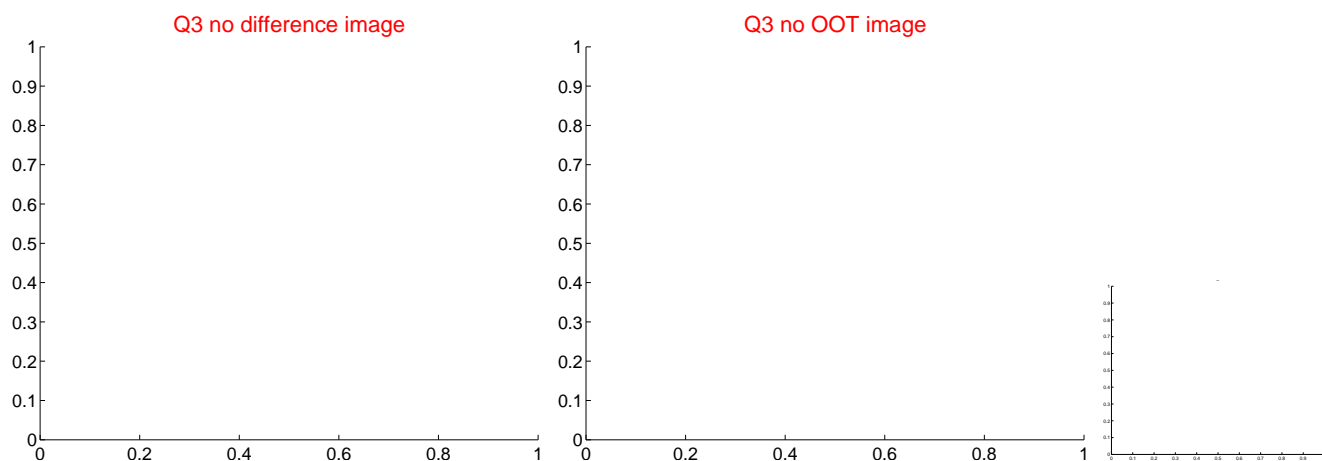
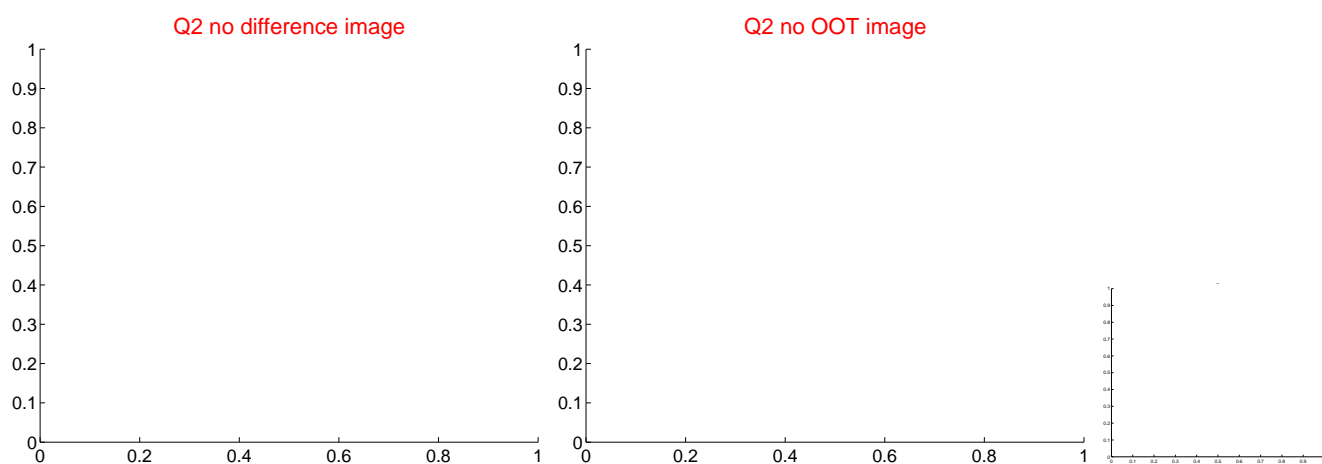
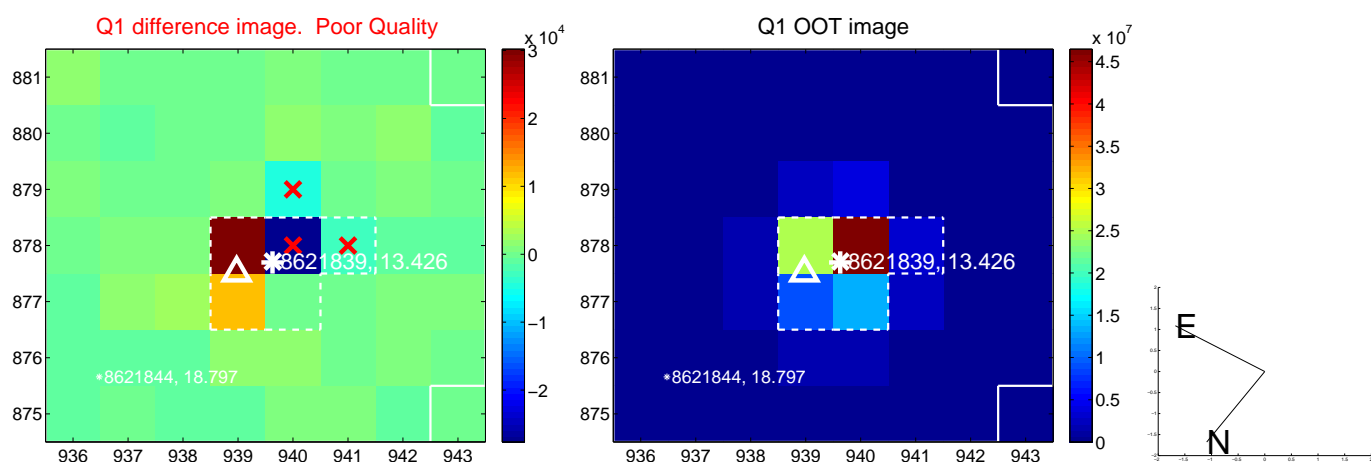
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.381 \pm 0.601	3.96	1.959 \pm 0.579	1.353 \pm 0.644
PRF-fit source offset from KIC position	2.397 \pm 0.616	3.89	1.932 \pm 0.444	1.420 \pm 0.571
photometric centroid source offset	1.20 \pm 1.10	1.09	1.09 \pm 1.08	0.51 \pm 1.18

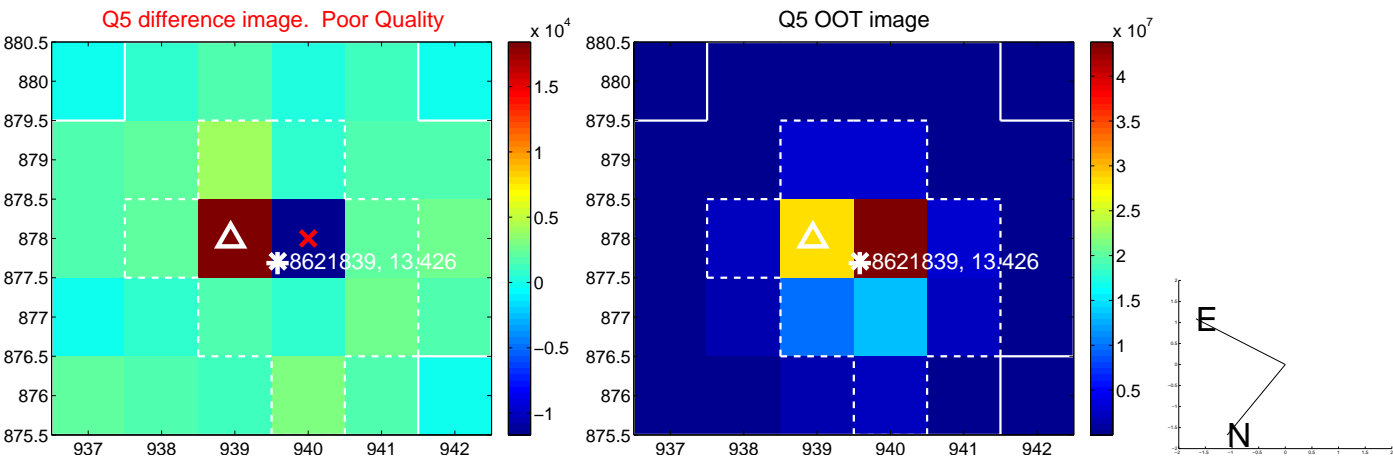


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



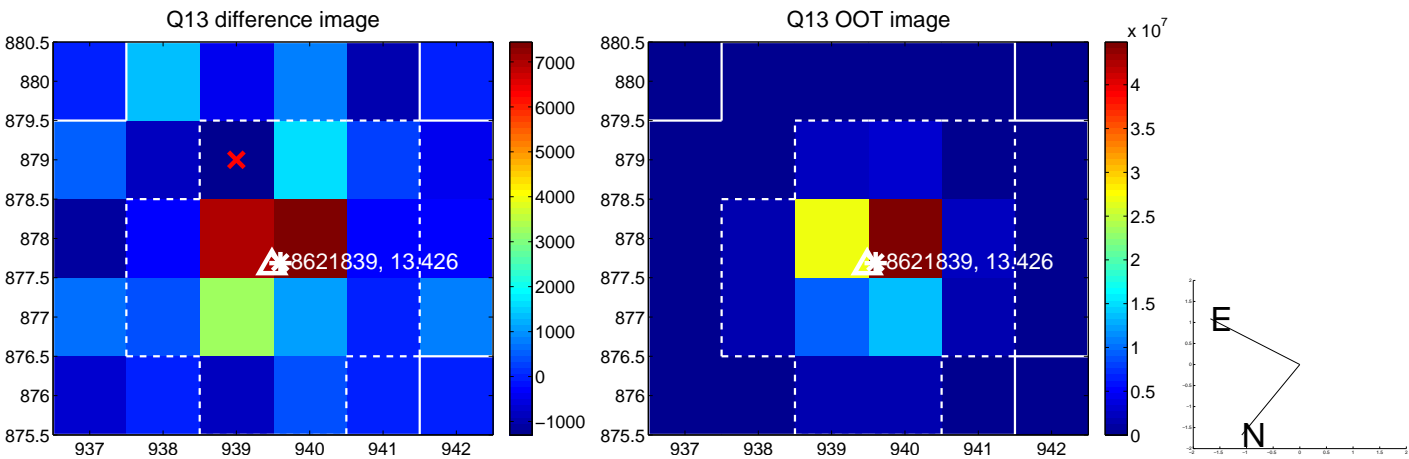
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



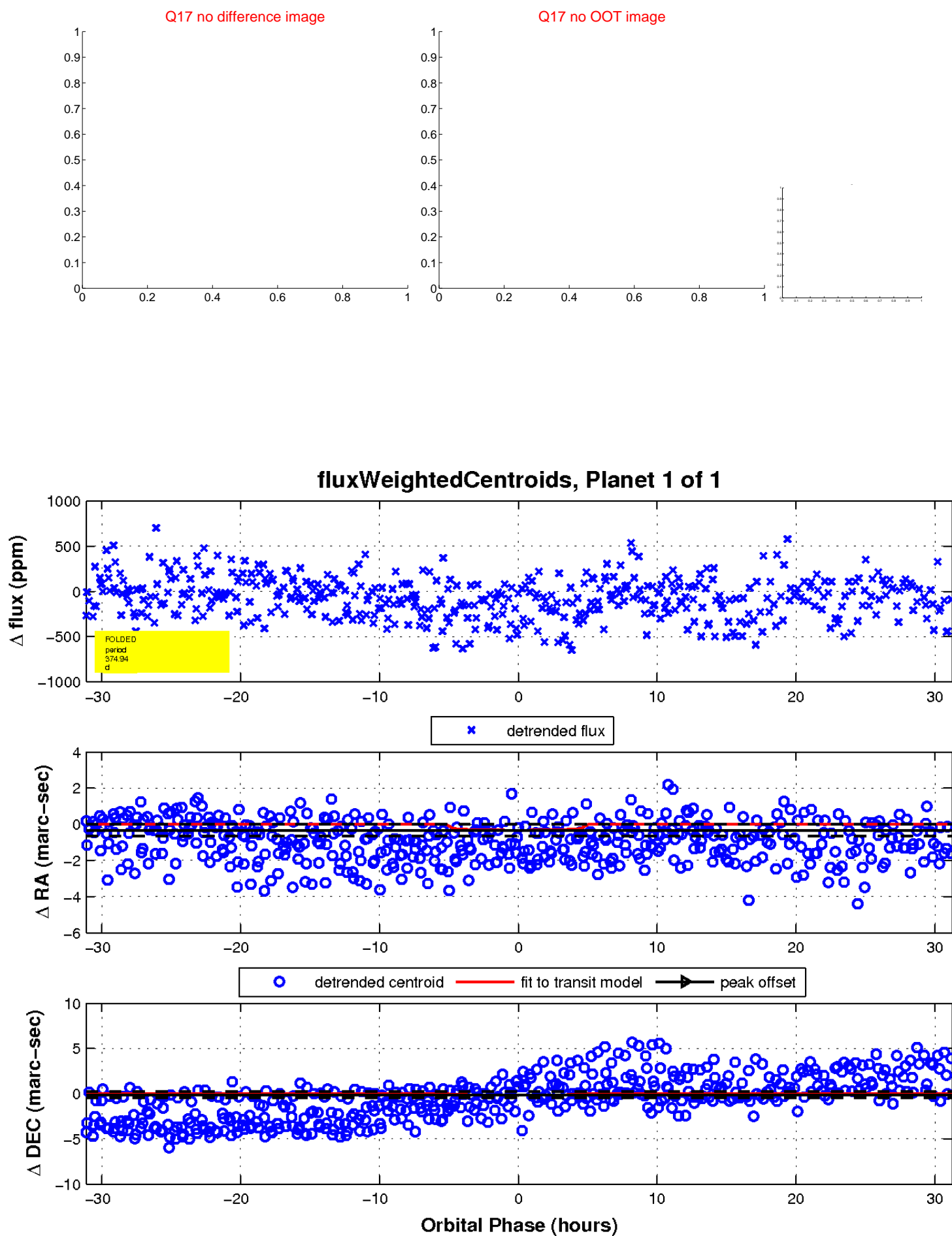
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

