

KIC 005397422

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})
005397422-01	OBS	No	568.035694	303.487403	1703.4	11.071	13.2	7.7	0.65	4125	2.78	0.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005397422-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

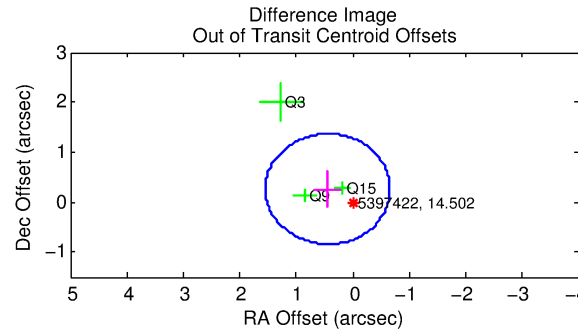
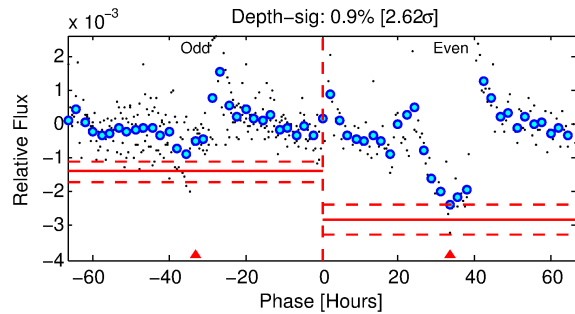
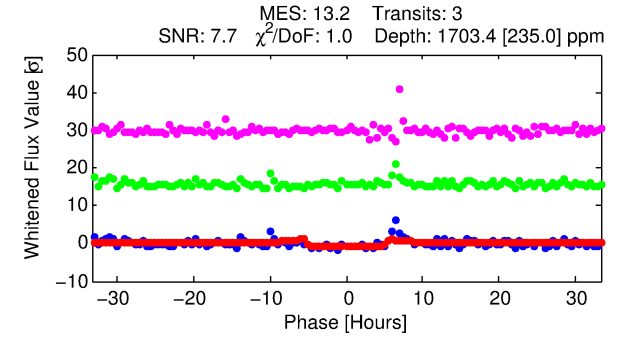
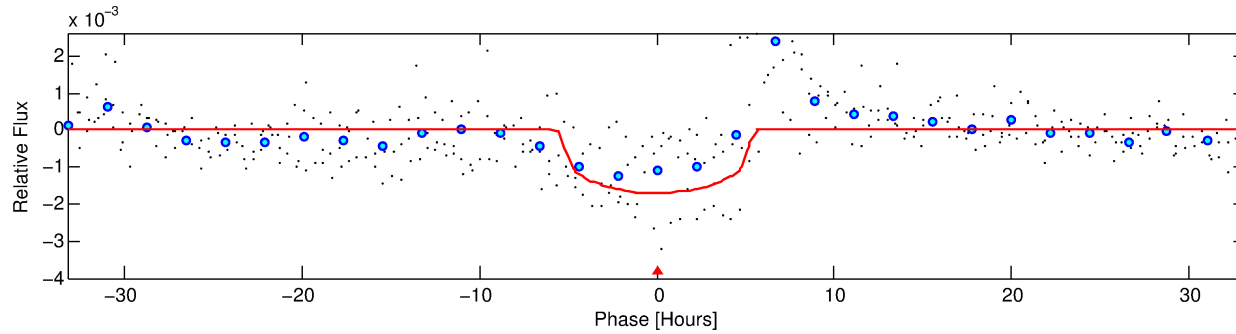
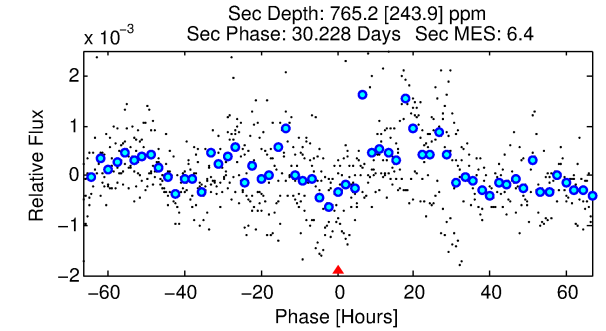
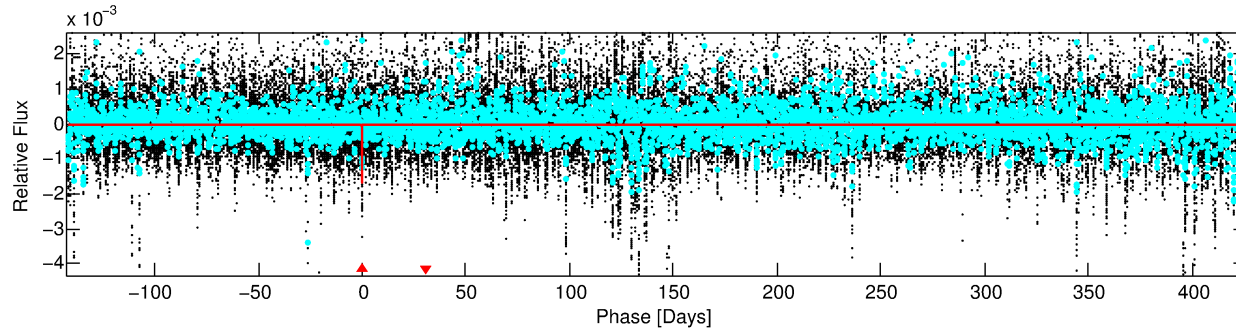
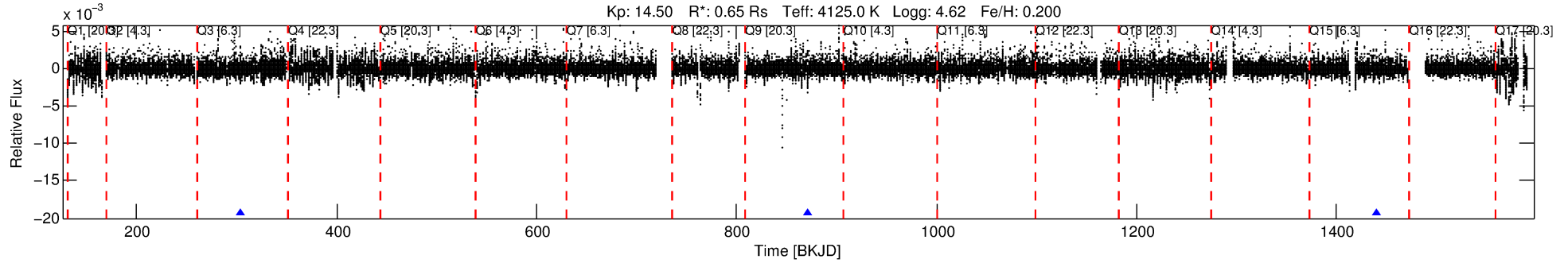
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005397422-01

No Significant Match Found

DV One-Page Summary

KIC: 5397422 Candidate: 1 of 1 Period: 568.036 d



DV Fit Results:

Period = 568.03569 [0.00728] d
Epoch = 303.4874 [0.0106] BKJD
Rp/R* = 0.0392 [0.0132]
a/R* = 325.41 [331.61]
b = 0.63 [1.00]
Seff = 0.08 [0.01]
Teq = 136 [6] K
Rp = 2.78 [0.97] Re
a = 1.1609 [0.0877] AU
Ag = 73469.16 [55068.48] [1.33 σ]
Teffp = 3464 [656] K [5.07 σ]

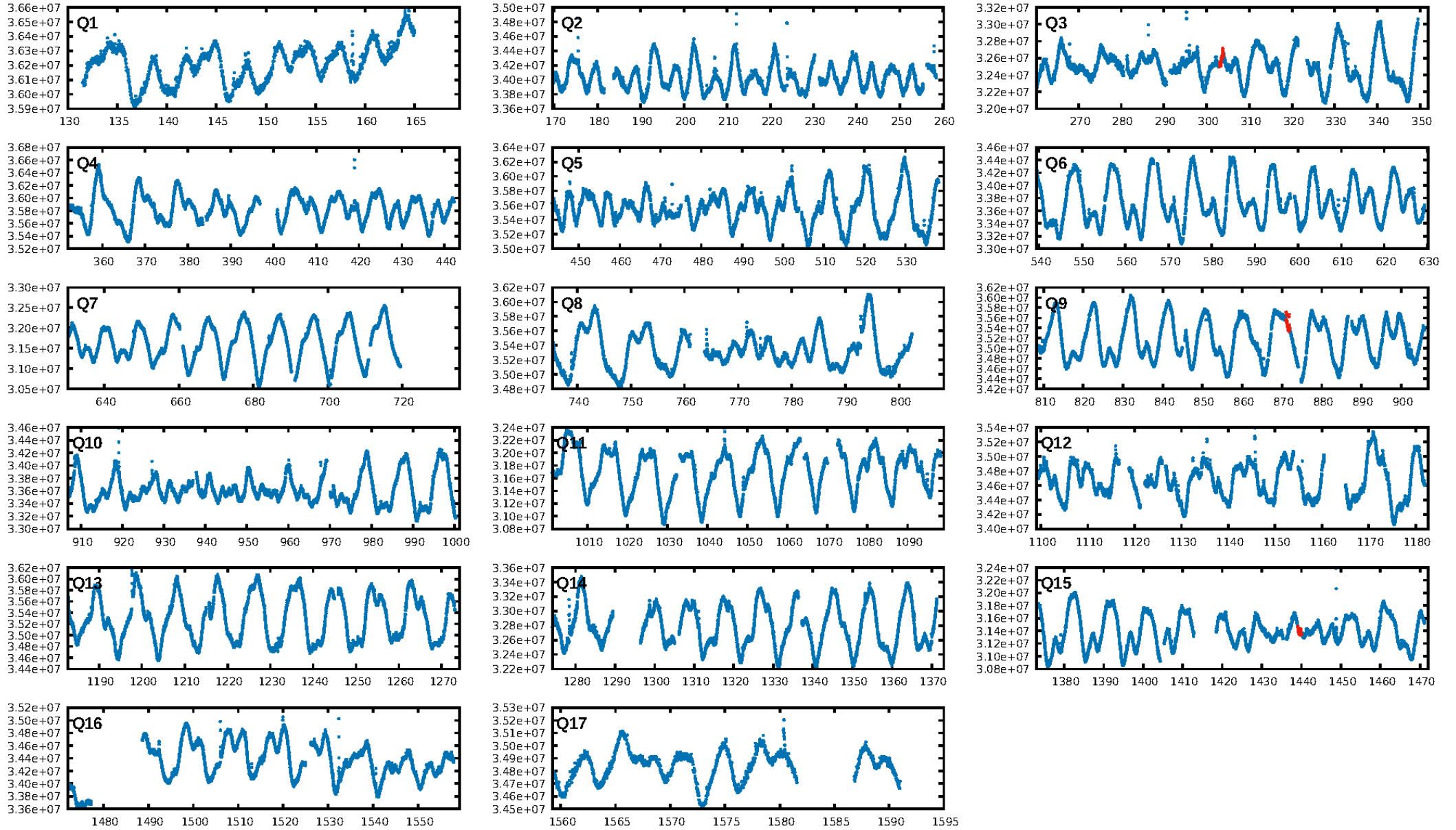
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 8.3%
ModelChiSquareGoF-sig: 97.5%
Bootstrap-pfa: 2.99e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.7901
Centroid-sig: 67.9%
Centroid-so: 1.070 arcsec [2.02 σ]
OotOffset-rm: 0.518 arcsec [1.41 σ]
OotOffset-st: 0.2/0/1 [3]
KicOffset-rm: 0.491 arcsec [1.49 σ]
KicOffset-st: 0.2/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

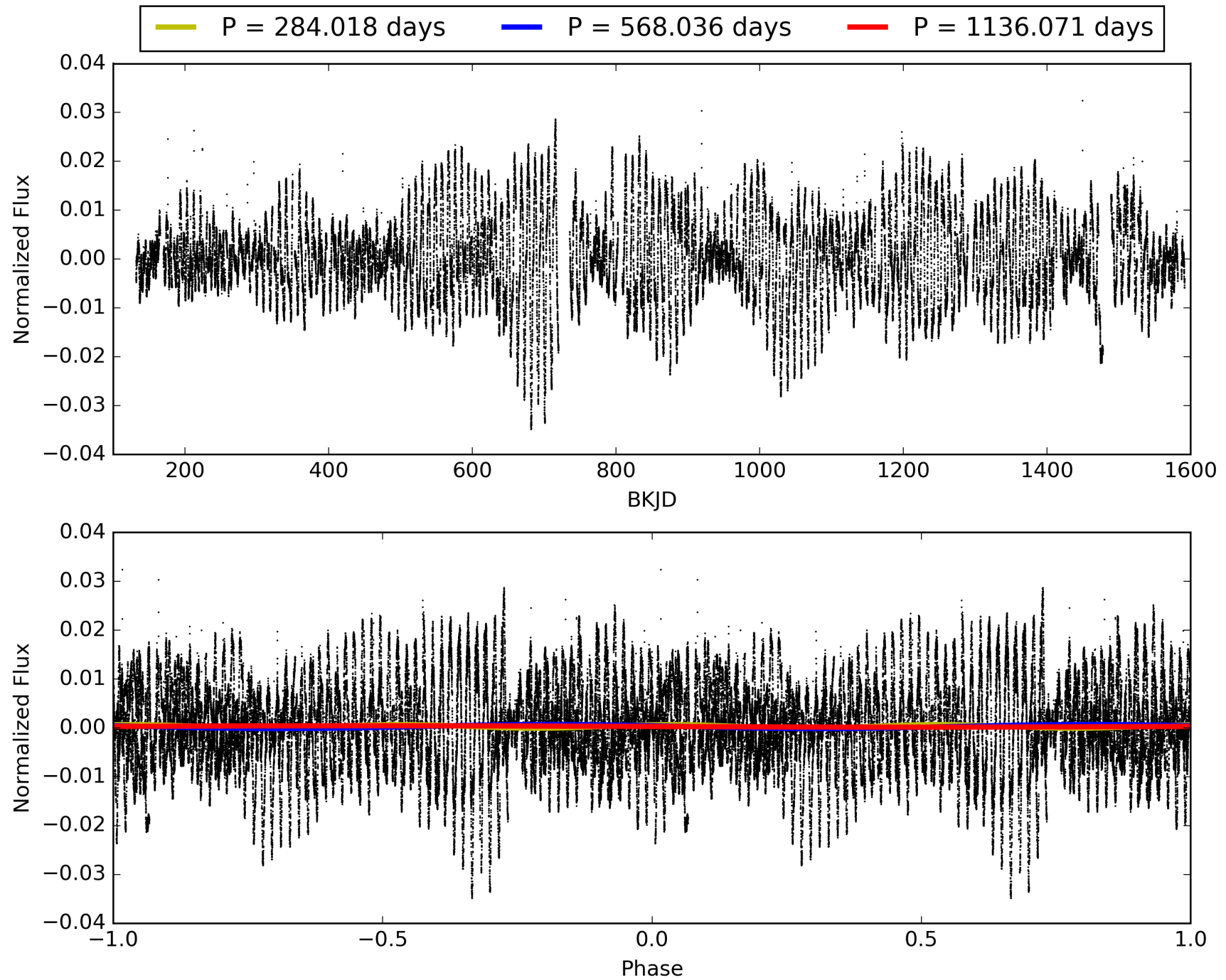
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 17:05:16 Z

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

TCE 005397422-01, PDC Light Curves

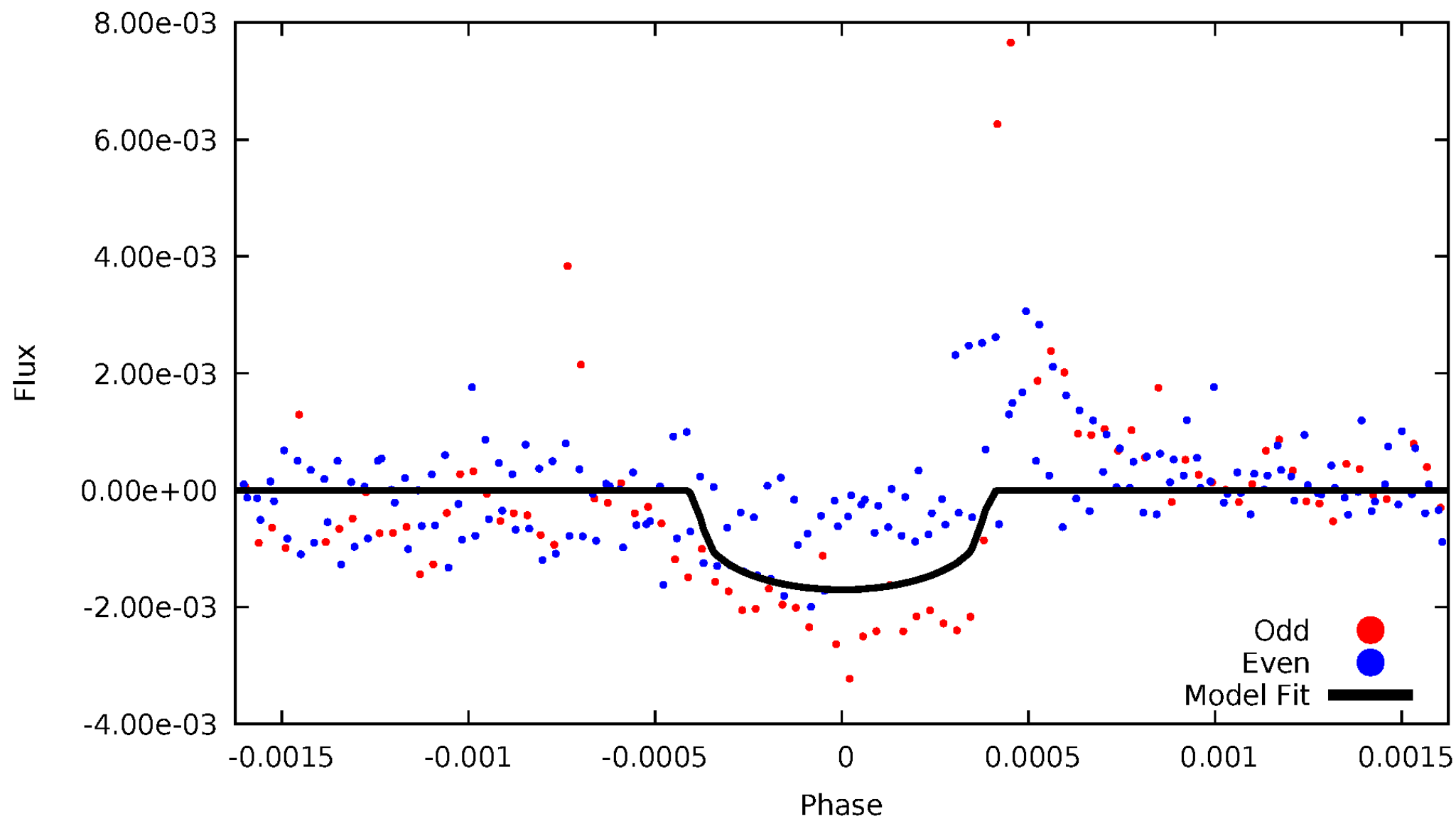


TCE 005397422-01



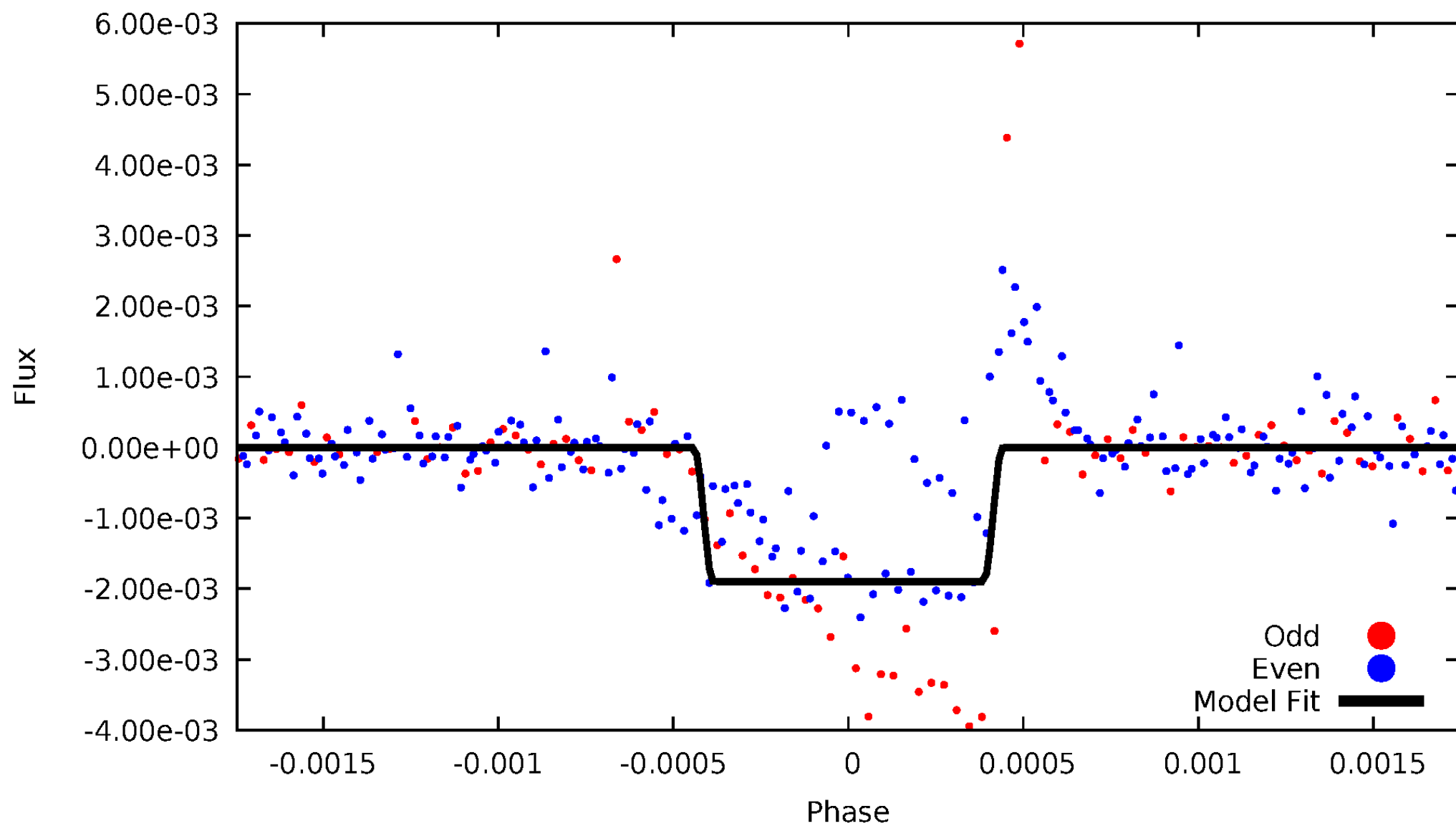
DV Odd/Even

TCE 005397422-01

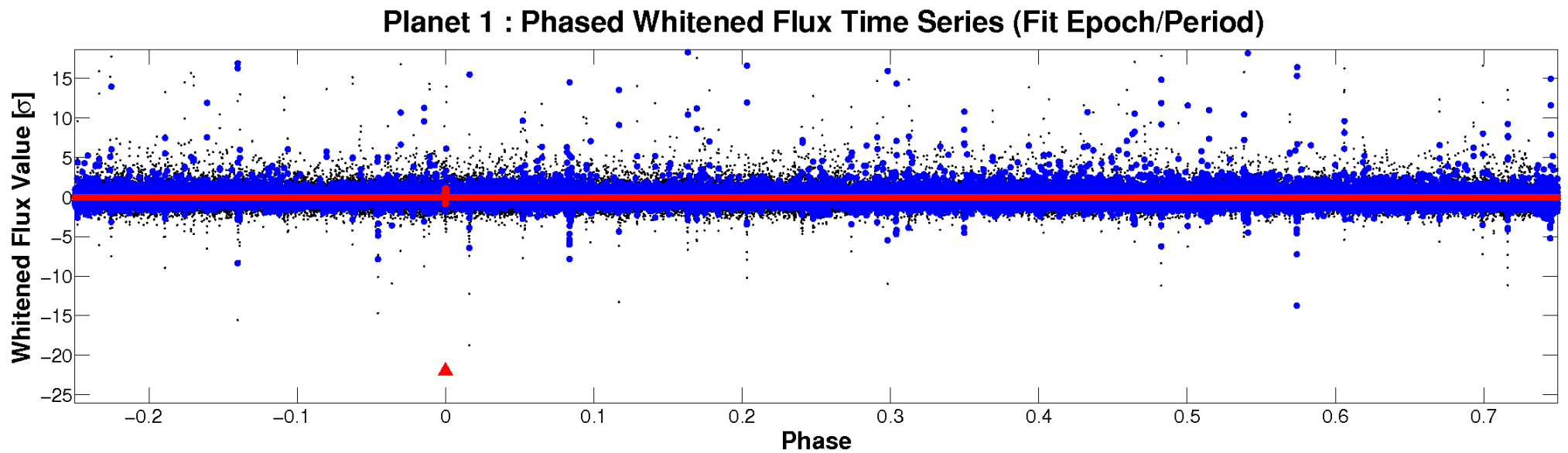
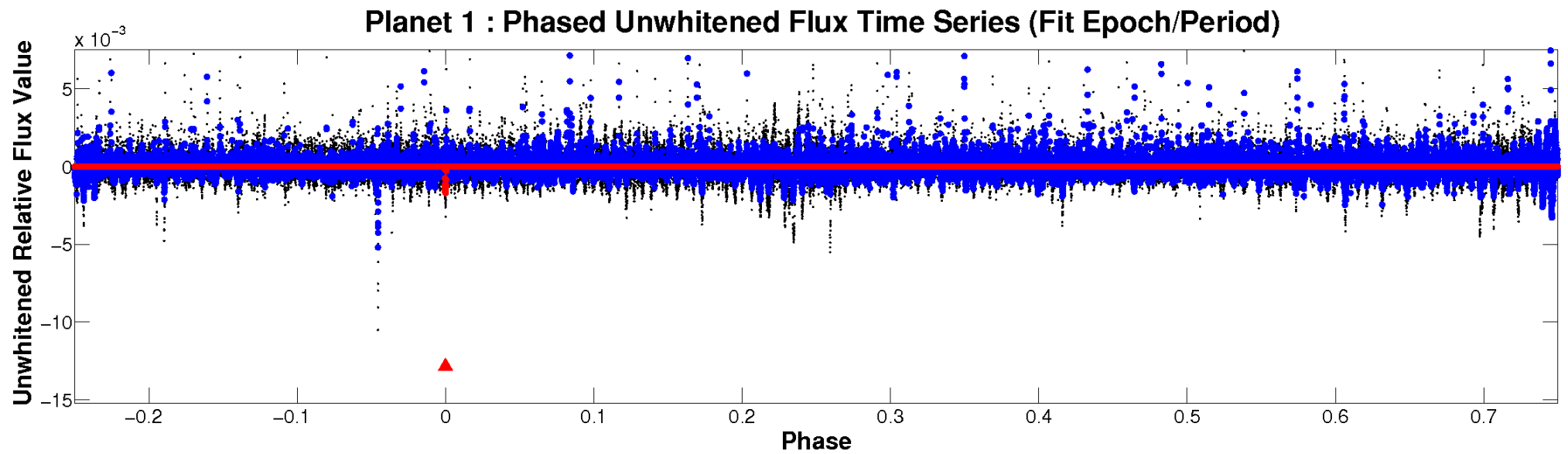


ALT Odd/Even

TCE 005397422-01

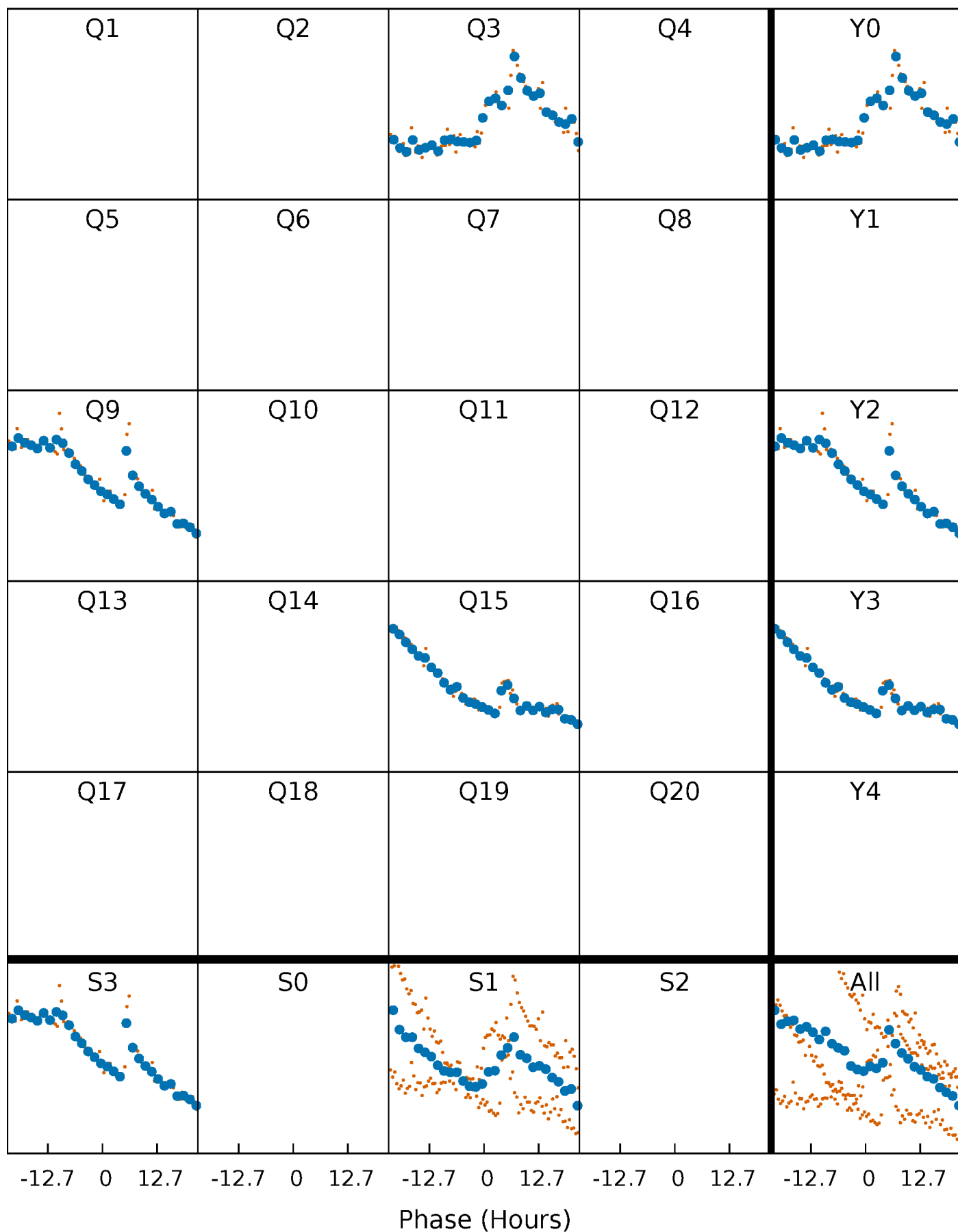


Non-Whitened Vs. Whitened Light Curve



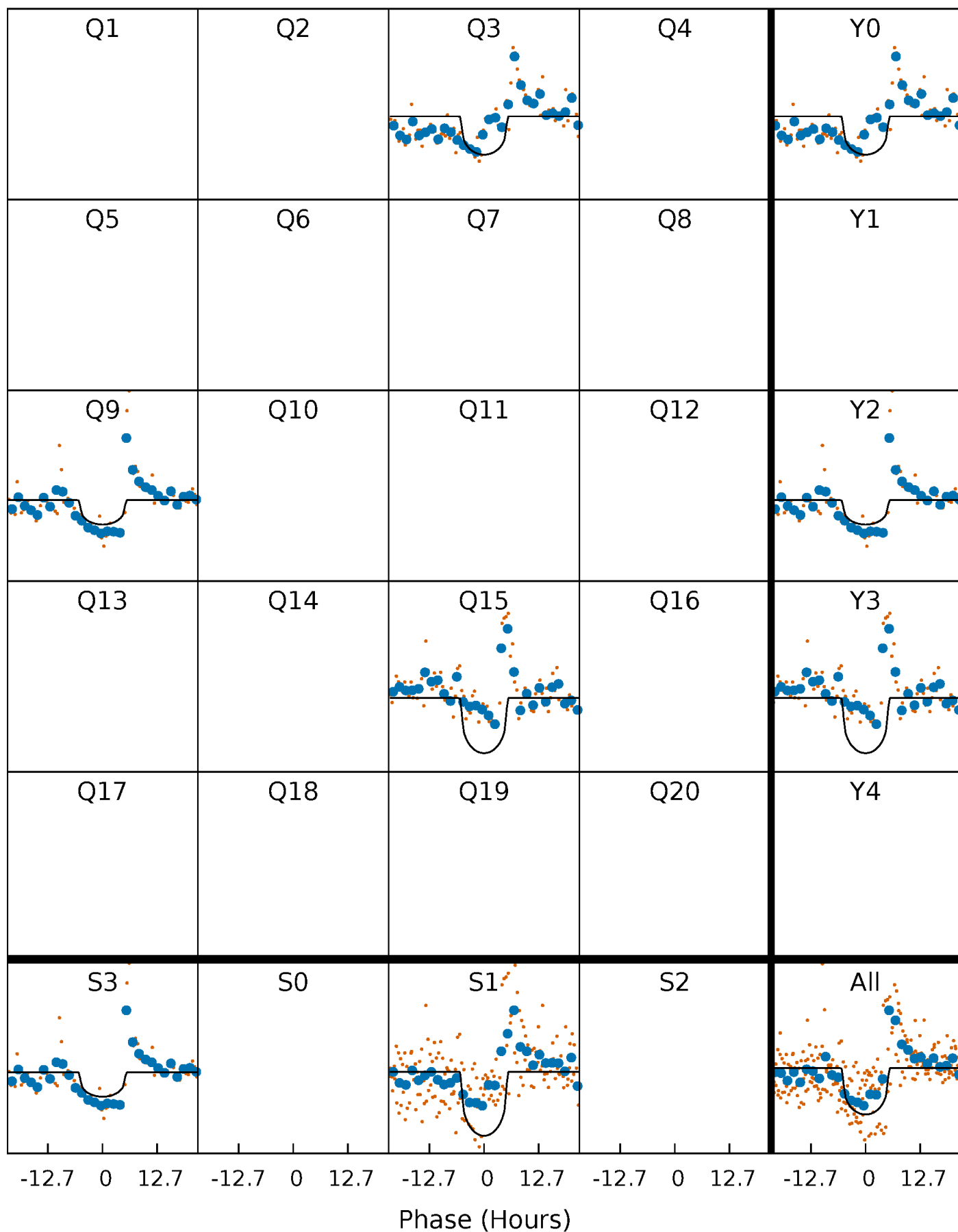
PDC Quarter-Phased Transit Curves

TCE 005397422-01 P=568.035694 Days $T_0=303.487404$ (BKJD)



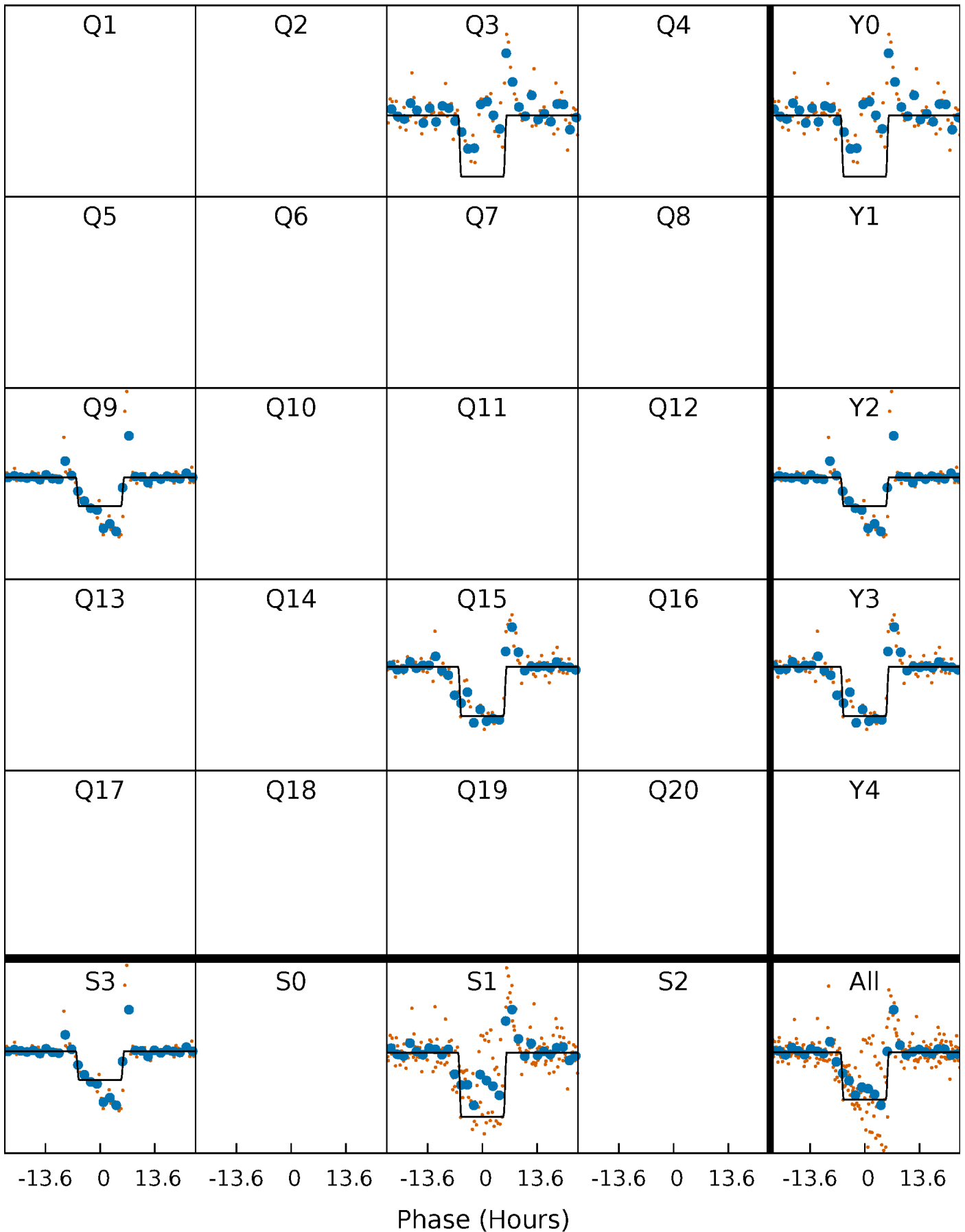
DV Quarter-Phased Transit Curves

TCE 005397422-01 $P=568.035694$ Days $T_0=303.487404$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

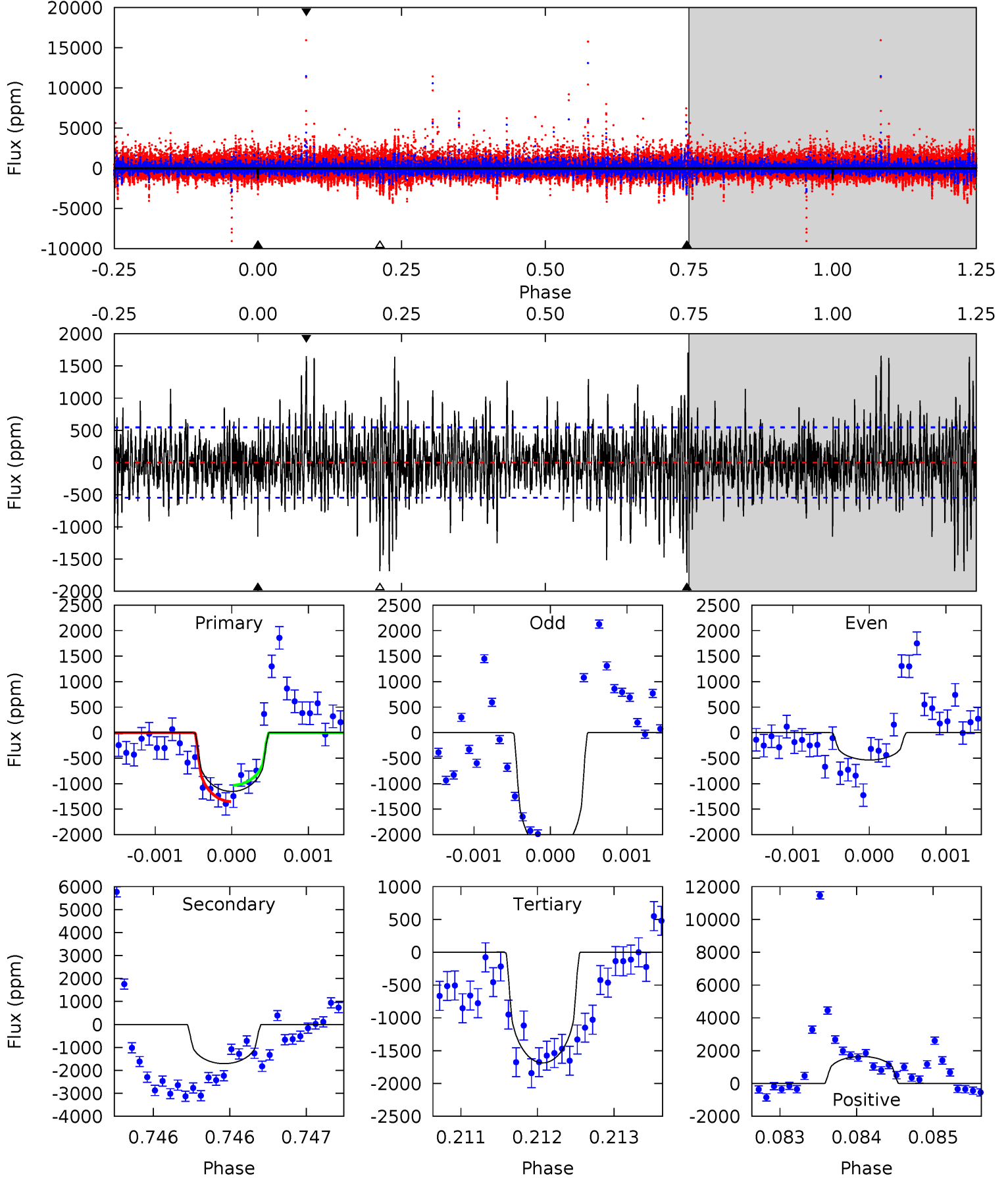
TCE 005397422-01 P=567.984856 Days $T_0=303.517568$ (BKJD)



DV Model-Shift Uniqueness Test

005397422-01, P = 568.035694 Days, E = 303.487404 Days

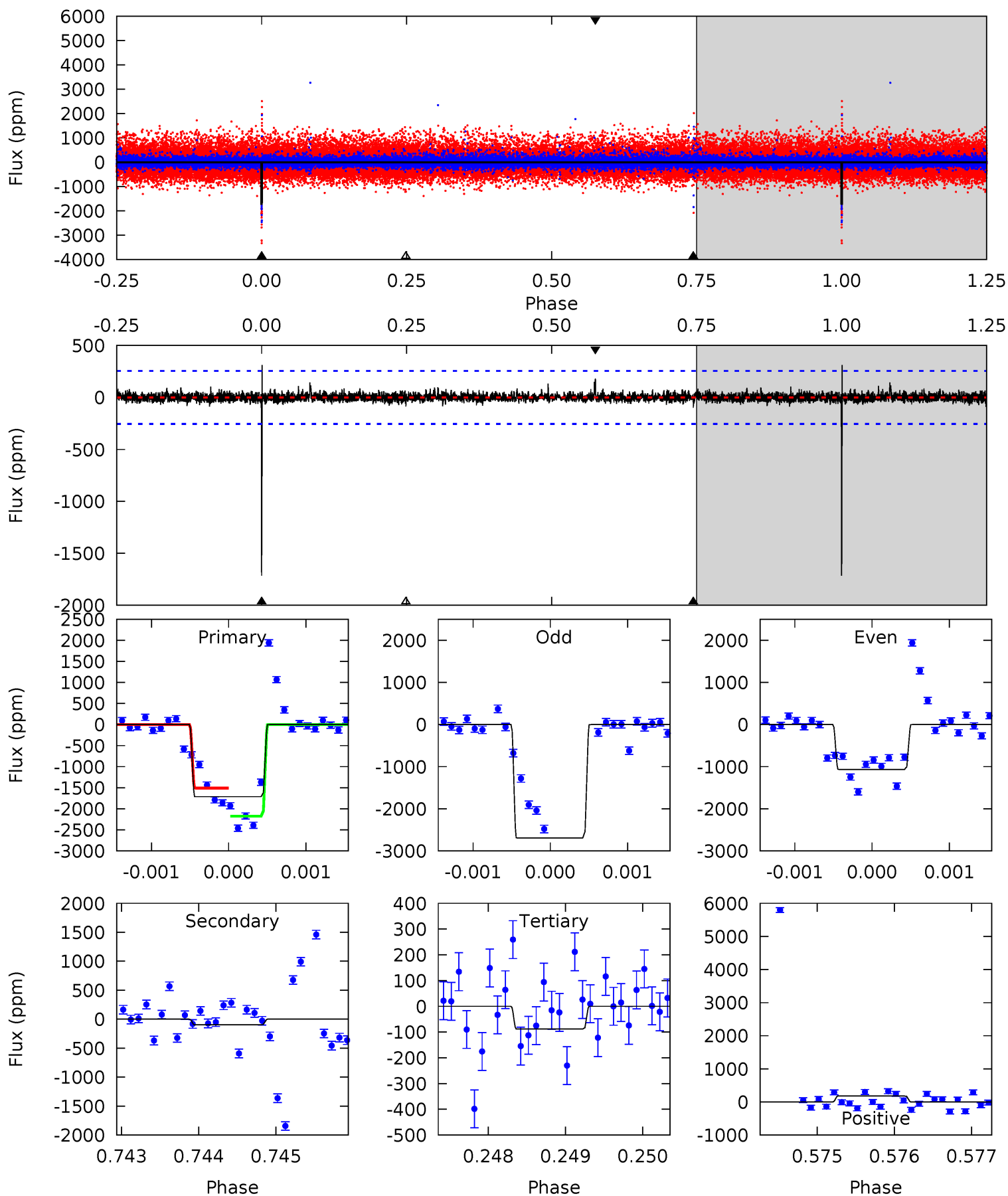
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	17.1	16.9	16.5	5.48	3.33	3.92	-5.34	-4.95	0.22	0.61	8.46	1.26	0.50	1.61



Alt Model-Shift Uniqueness Test

005397422-01, P = 567.984856 Days, E = 303.517568 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
36.8	2.11	1.90	3.88	5.47	3.33	0.50	34.9	32.9	0.22	-1.76	19.8	0.89	0.15	6.85



Stellar Parameters For KIC 005397422

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4125^{+144}_{-158}	$4.624^{+0.053}_{-0.018}$	$0.200^{+0.200}_{-0.300}$	$0.649^{+0.031}_{-0.062}$	$0.646^{+0.044}_{-0.058}$	$3.329^{+0.781}_{-0.288}$
	+3%/-4%	+1%/-0%	+100%/-150%	+5%/-10%	+7%/-9%	+23%/-9%
Source	KIC0	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 005397422-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1708 ± 100	$2.68^{+0.87}_{-0.95}$	188^{+8}_{-7}	4244^{+776}_{-441}	$177169^{+246395}_{-76556}$
Alt.	-98 ± 47	$3.03^{+0.96}_{-0.90}$	189^{+7}_{-8}	2638^{+298}_{-263}	7674^{+9660}_{-4234}

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 $A_{obs} \gg 1.0$

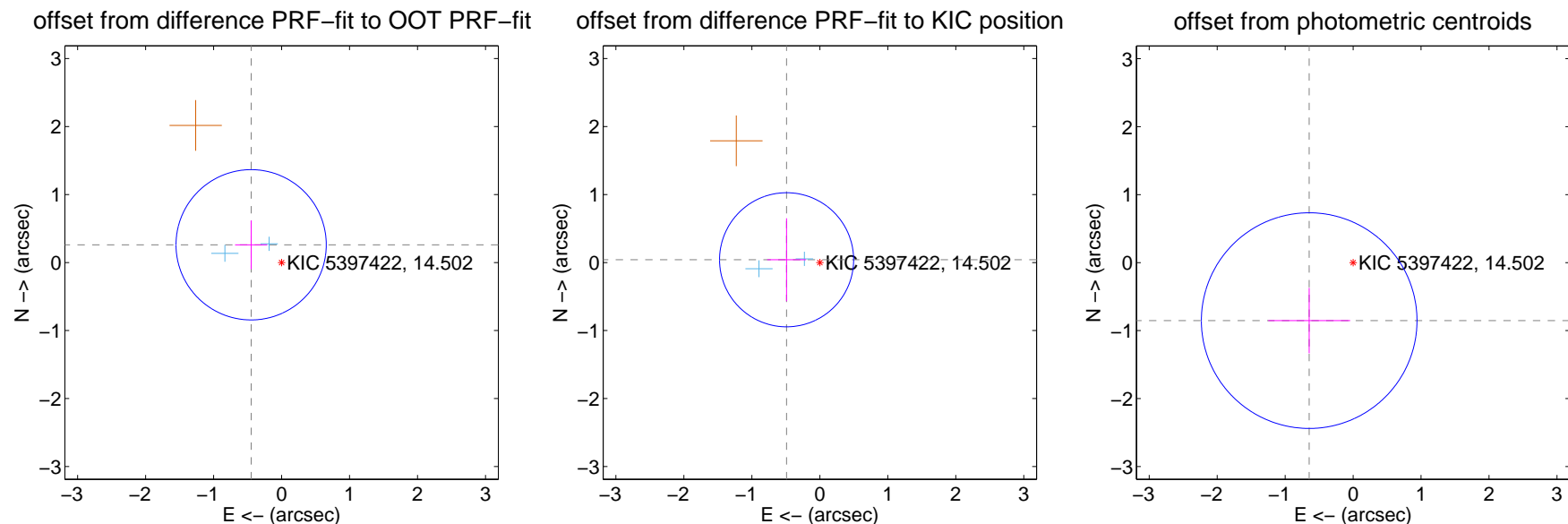
DV Centroid Data

Supplemental centroid analysis for 005397422-01. Kepler magnitude: 14.50. Transit SNR 7.66

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.518 ± 0.368	1.41	0.448 ± 0.237	0.261 ± 0.358
PRF-fit source offset from KIC position	0.491 ± 0.329	1.49	0.489 ± 0.286	0.041 ± 0.611
photometric centroid source offset	1.07 ± 0.53	2.02	0.65 ± 0.60	-0.85 ± 0.48



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



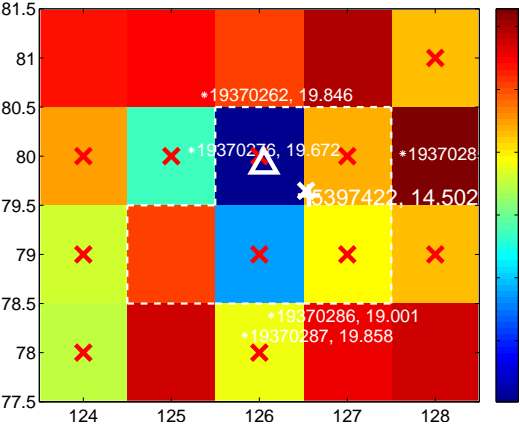
Q2 no difference image



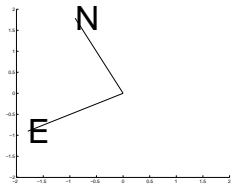
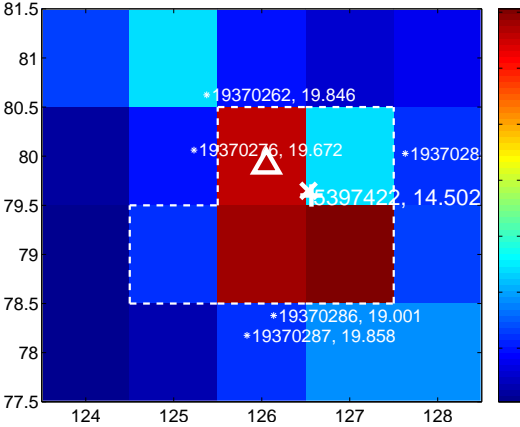
Q2 no OOT image



Q3 difference image. Poor Quality



Q3 OOT image



Q4 no difference image



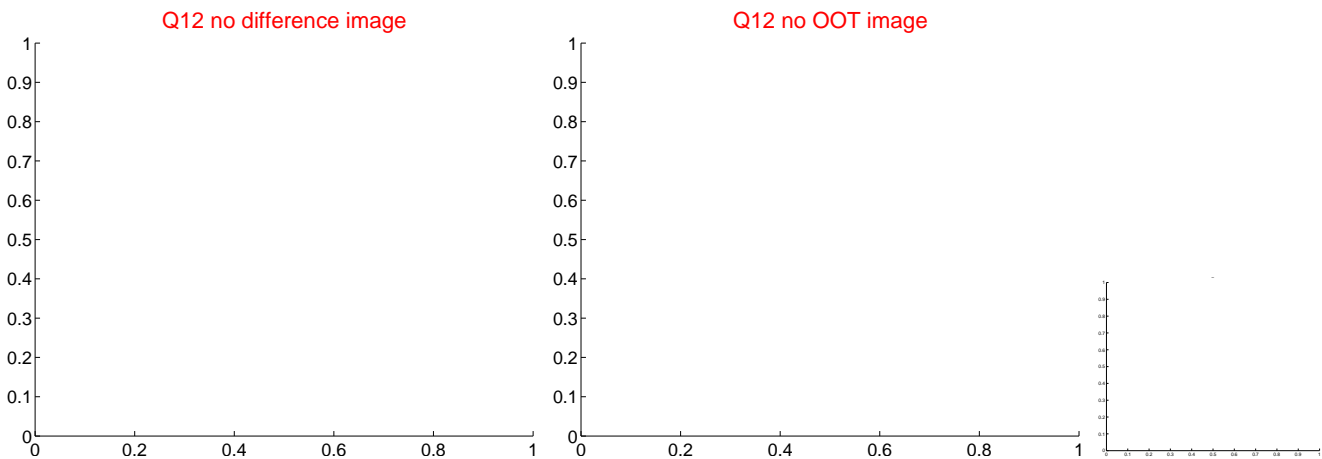
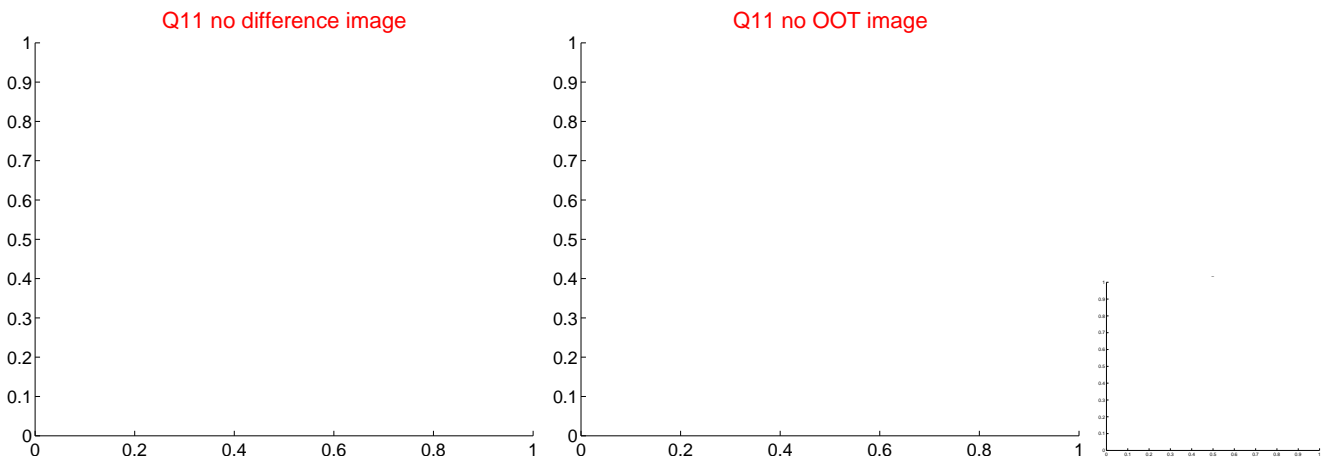
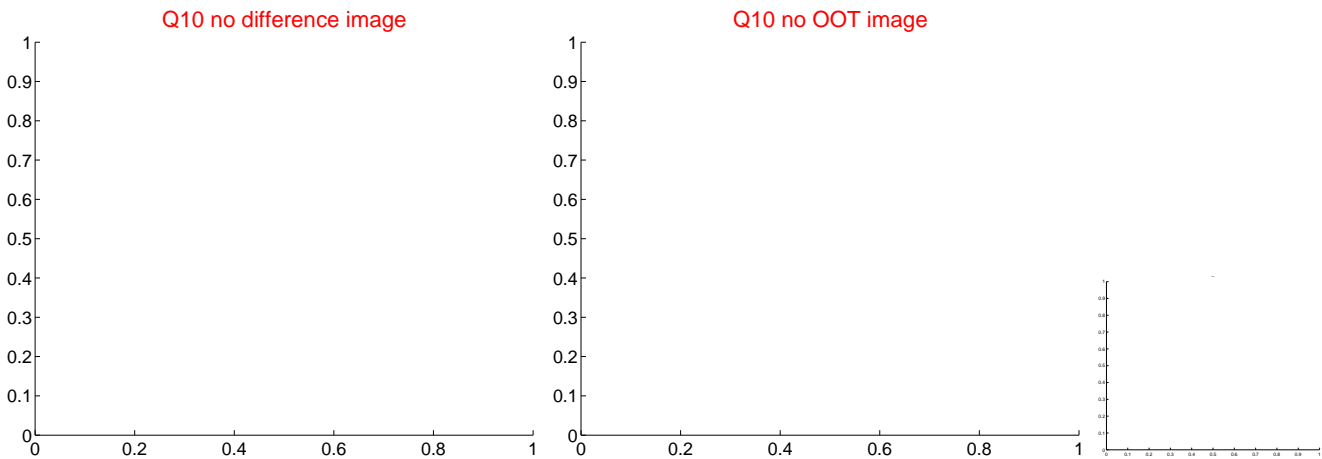
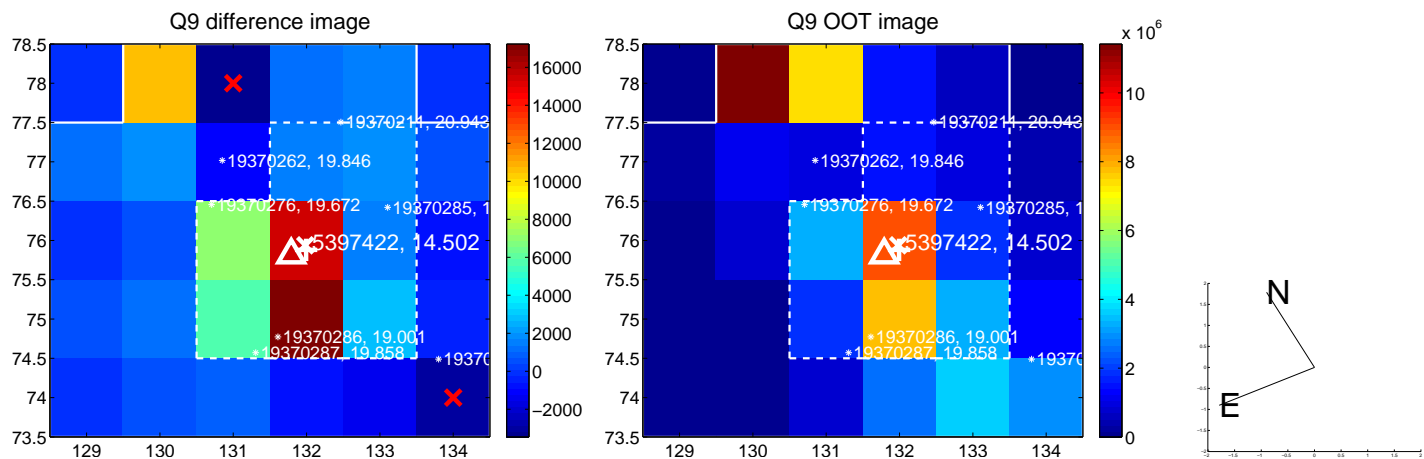
Q4 no OOT image



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



white \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.

Q13 no difference image



Q13 no OOT image



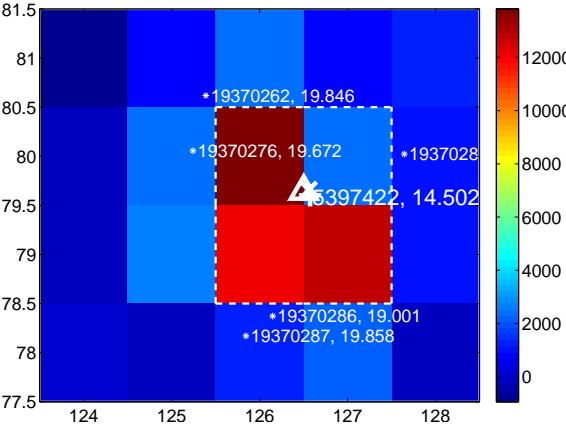
Q14 no difference image



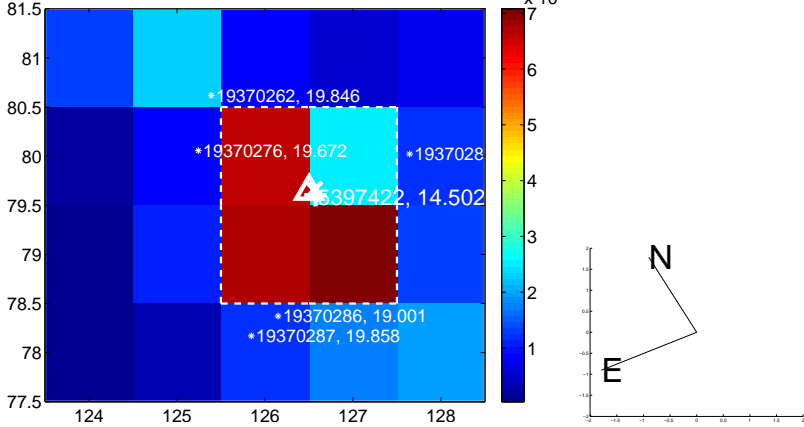
Q14 no OOT image



Q15 difference image



Q15 OOT image



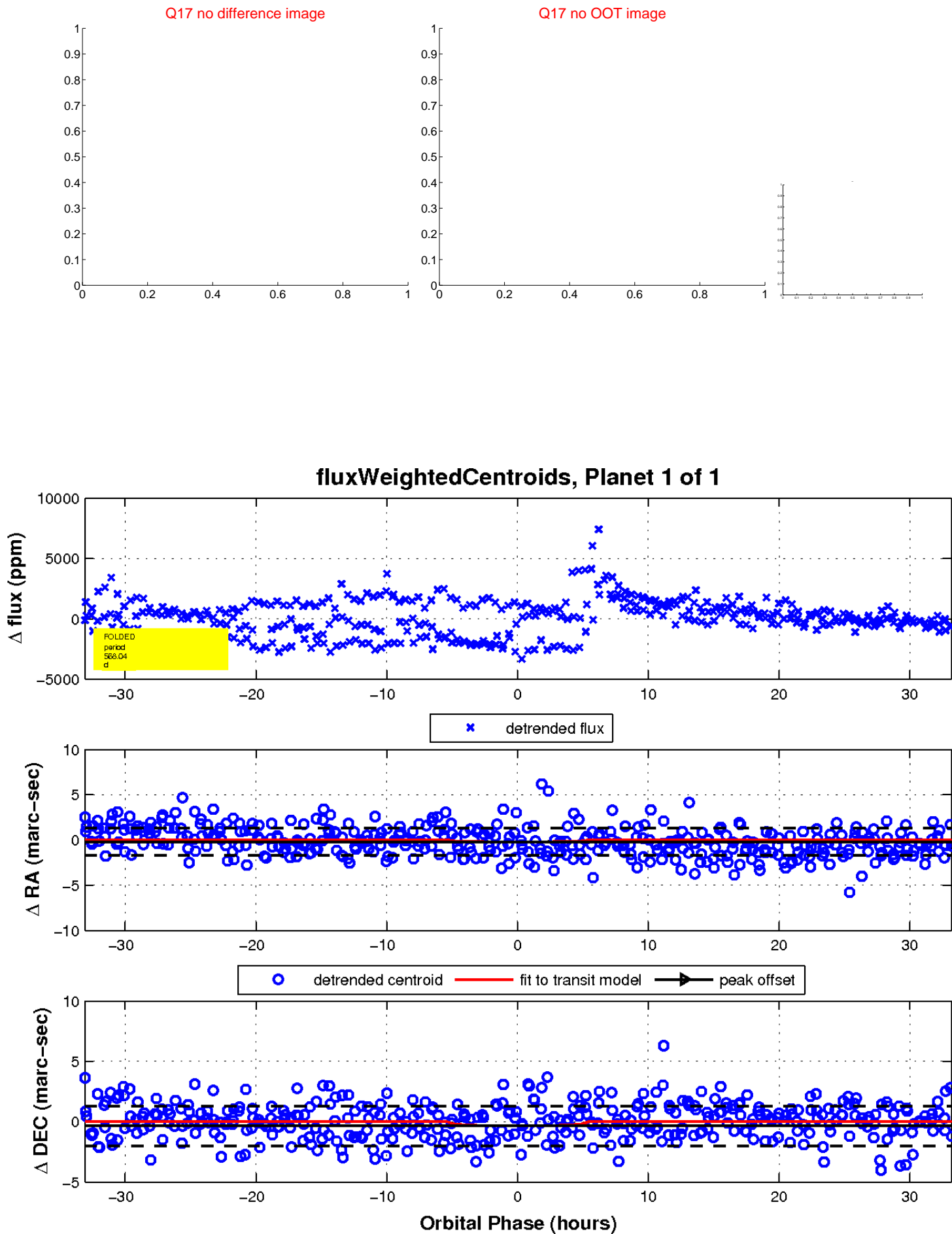
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

