

KIC 002708614

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})
002708614-01	OBS	6289.01	52.884062	147.011871	12167.3	7.818	57.7	56.6	1.08	6483	20.30	22.49

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002708614-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—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.

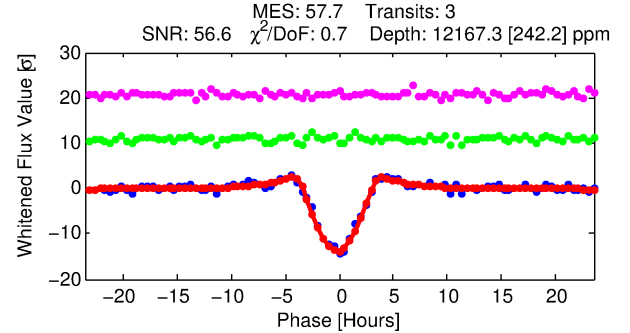
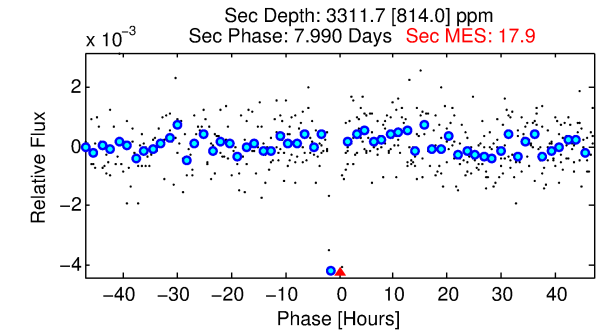
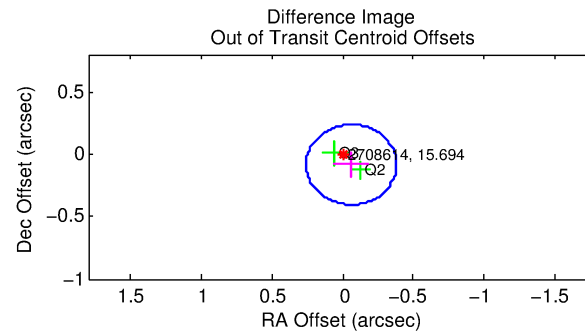
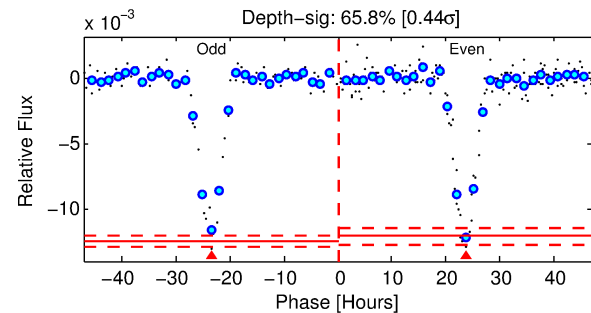
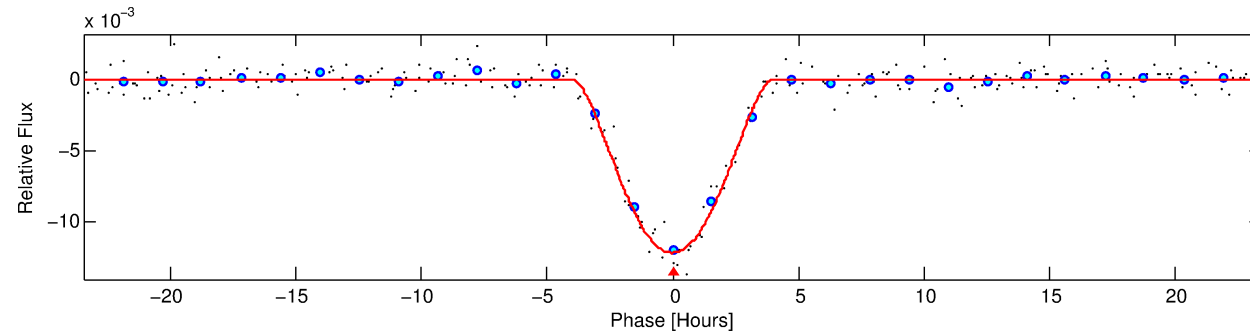
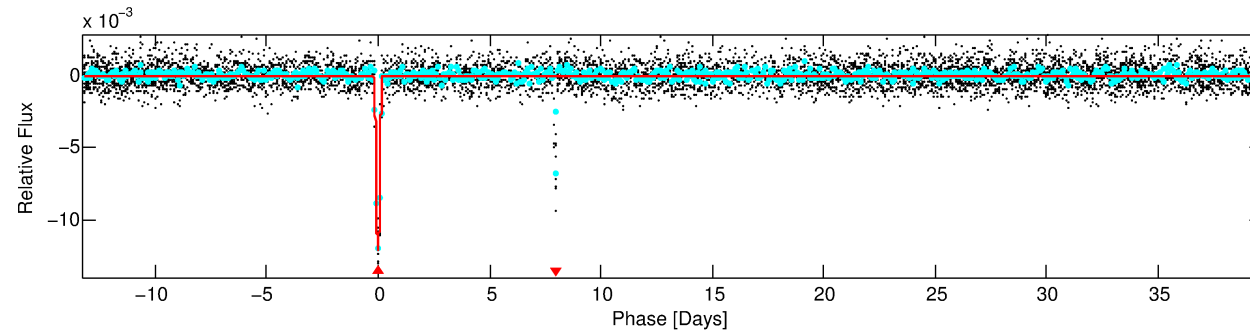
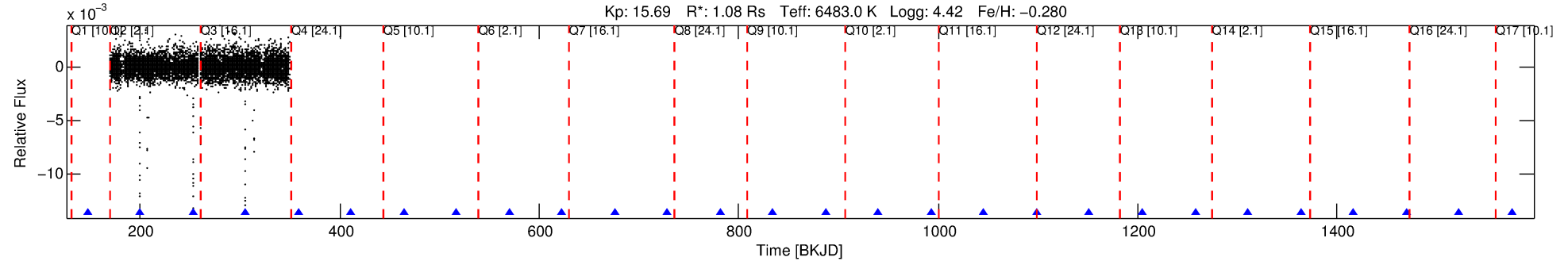
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002708614-01

No Significant Match Found

DV One-Page Summary

KIC: 2708614 Candidate: 1 of 1 Period: 52.884 d
KOI: K06289.01 Corr: 0.986



DV Fit Results:

Period = 52.88406 [0.00155] d
Epoch = 147.0119 [0.0032] BKJD
Rp/R* = 0.1725 [0.1051]
a/R* = 32.25 [2.96]
b = 0.99 [0.15]
Seff = 22.49 [8.97]
Teq = 555 [55] K
Rp = 20.30 [13.86] Re
a = 0.2860 [0.0737] AU
Ag = 361.68 [469.19] [0.77 σ]
Teffp = 3744 [1171] K [2.72 σ]

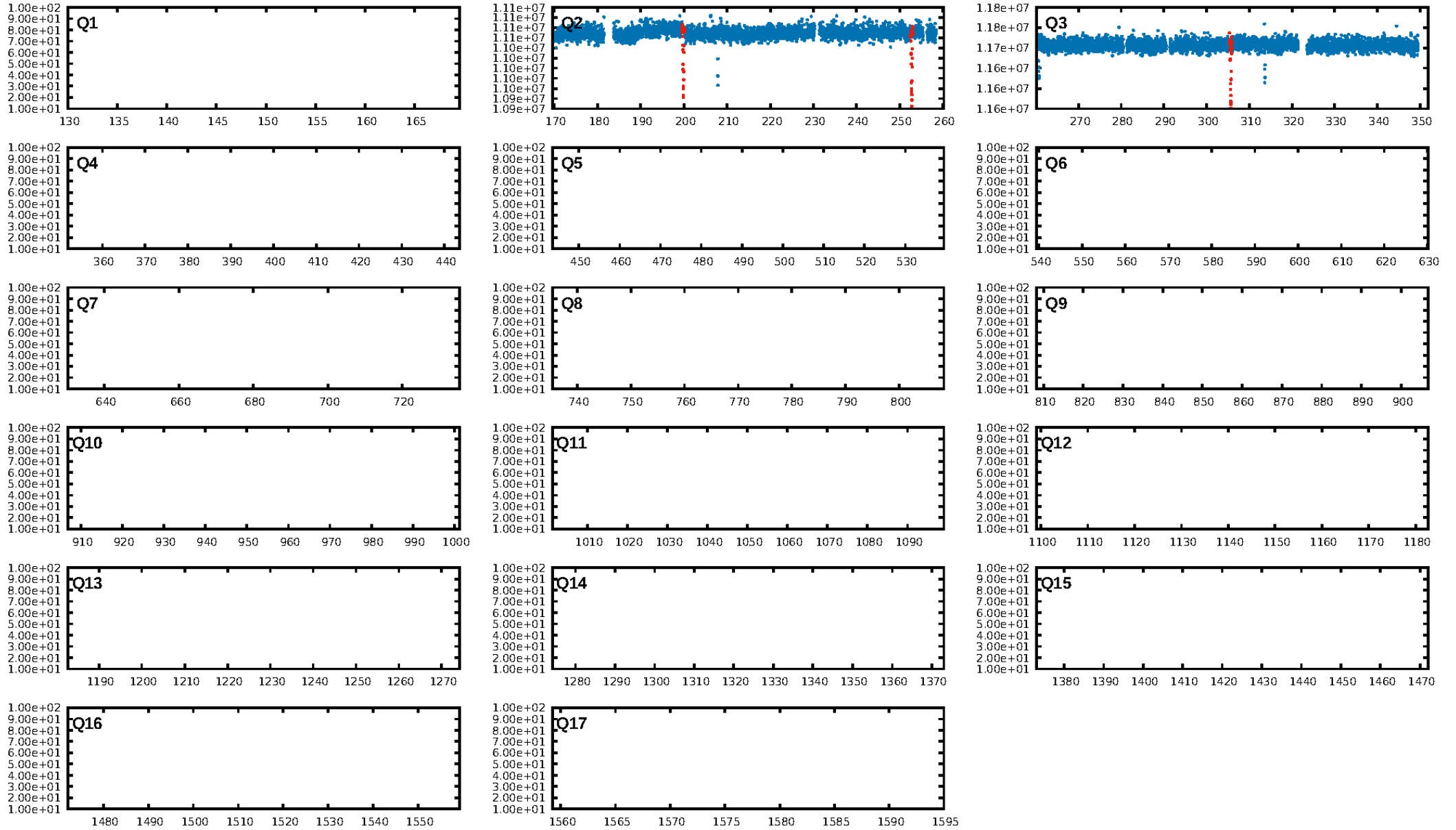
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 22.2%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 3.148
Centroid-sig: 49.8%
Centroid-so: 0.235 arcsec [1.02 σ]
OotOffset-rm: 0.104 arcsec [0.97 σ]
KicOffset-rm: 0.052 arcsec [0.40 σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

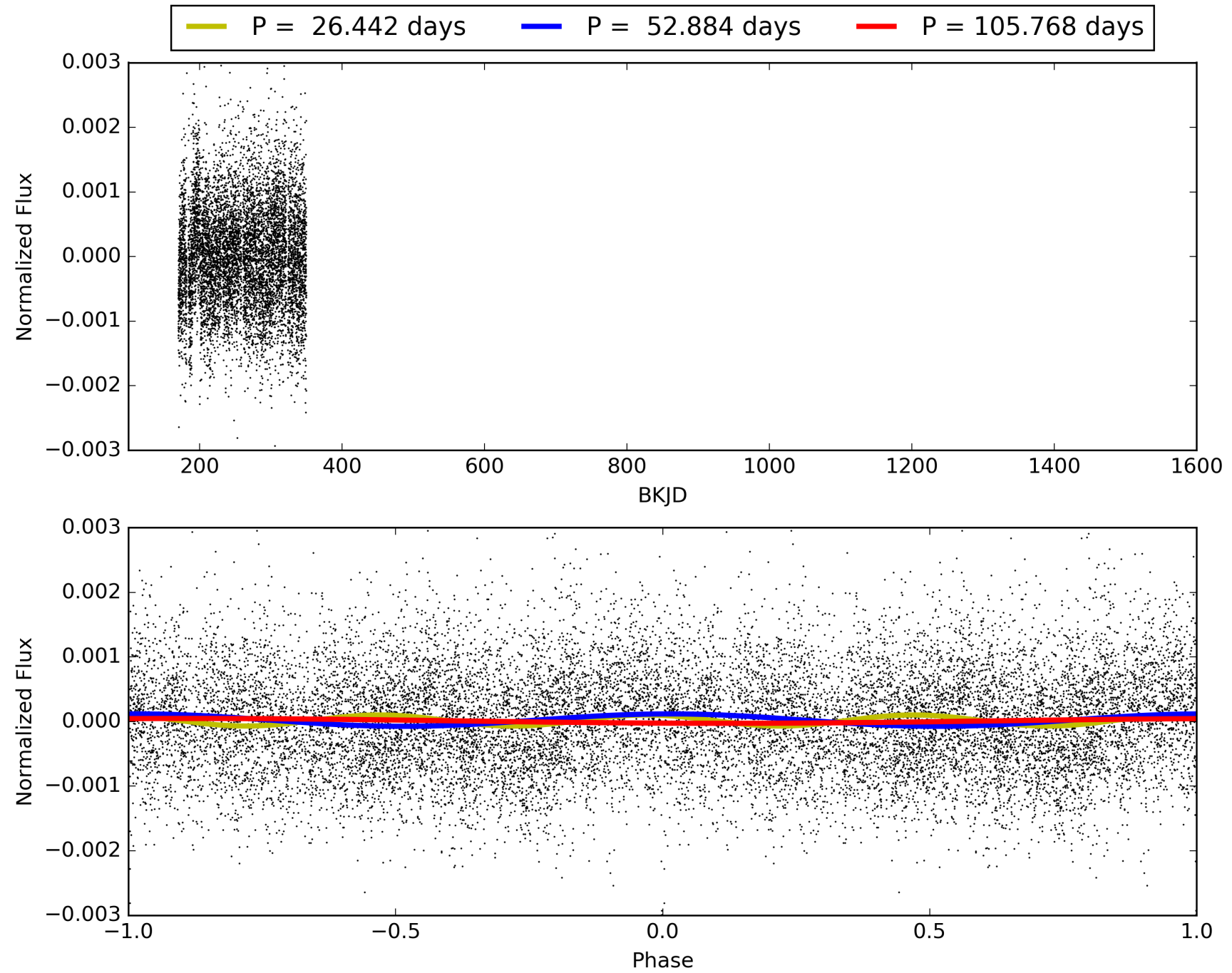
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 12:25:15 Z

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

TCE 002708614-01, PDC Light Curves

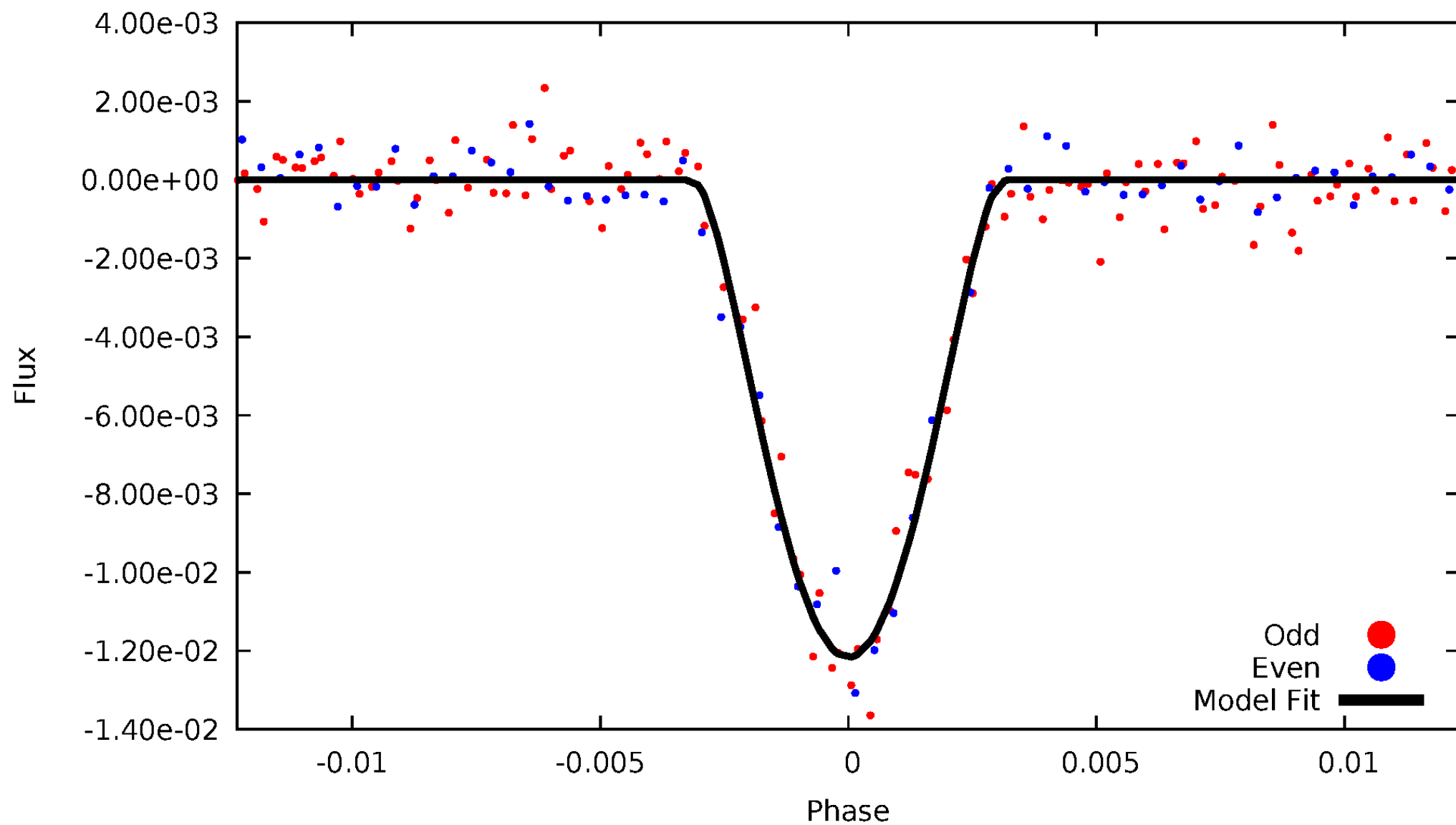


TCE 002708614-01



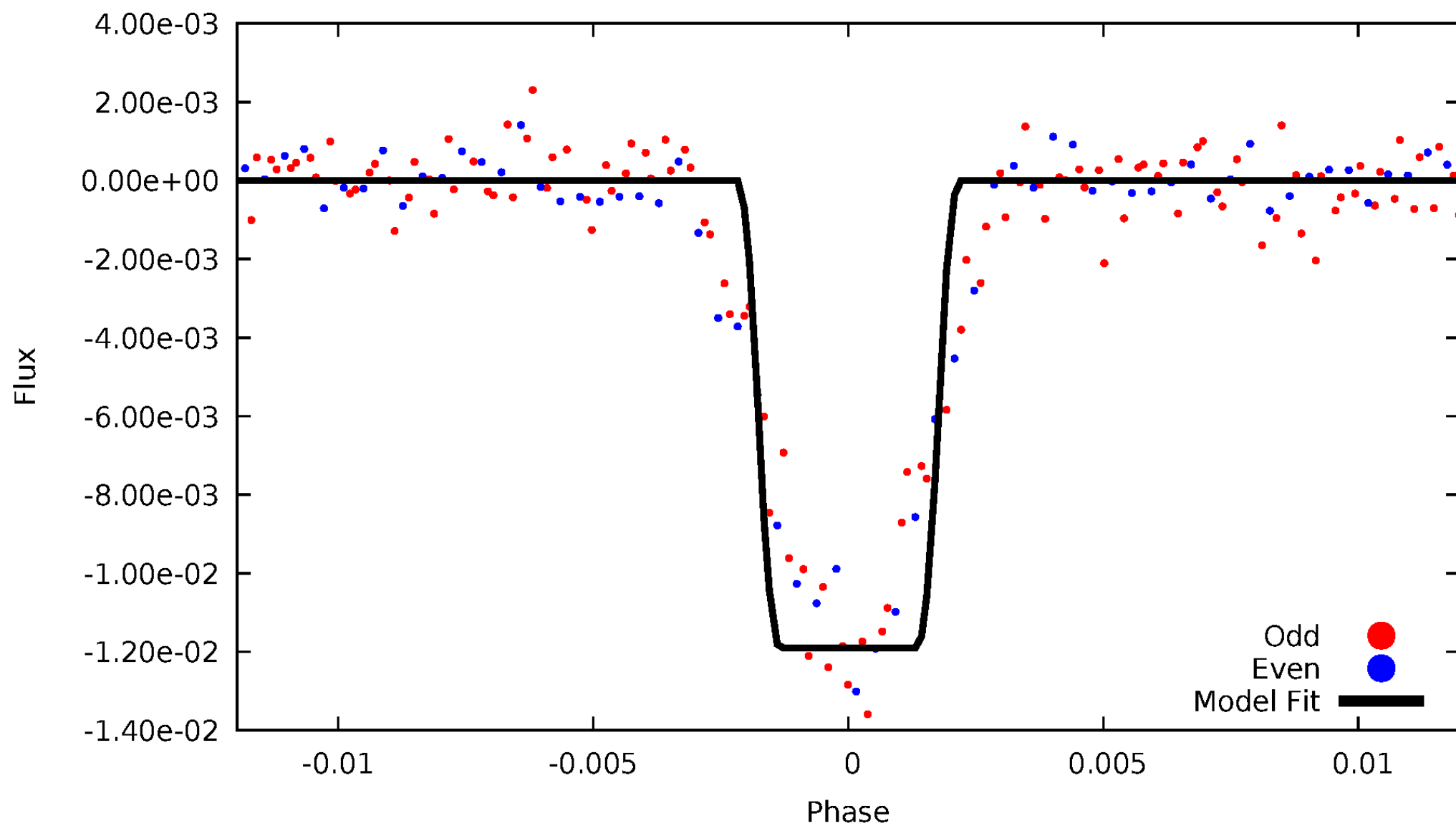
DV Odd/Even

TCE 002708614-01



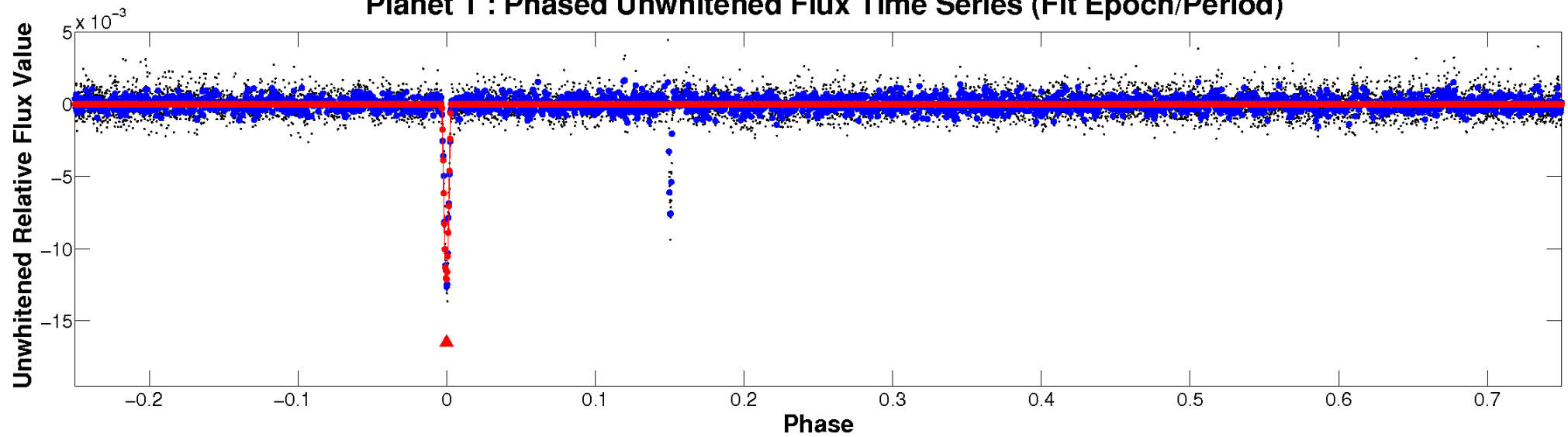
ALT Odd/Even

TCE 002708614-01

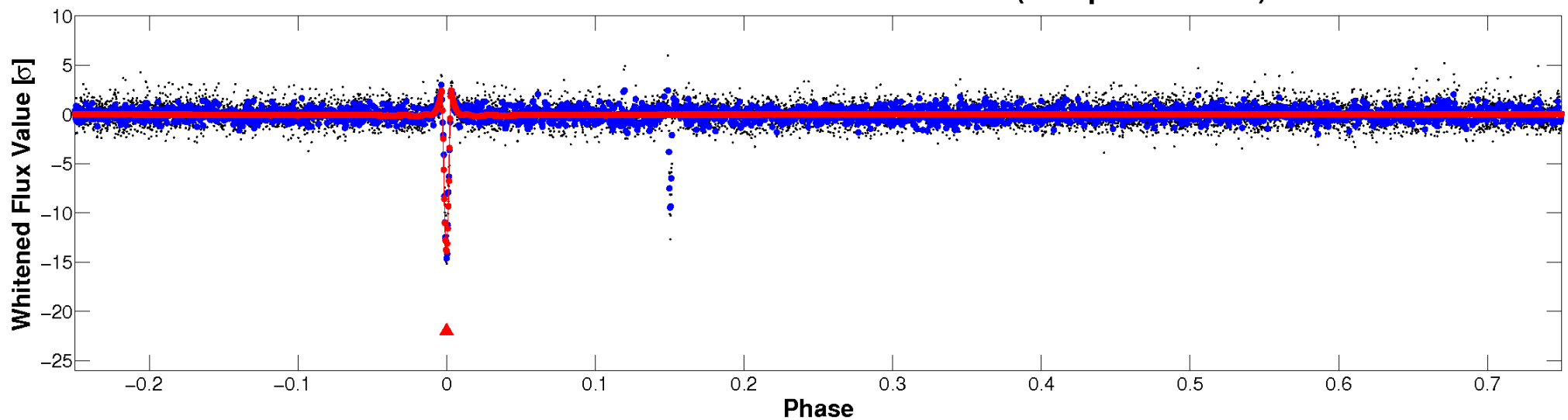


Non-Whitened Vs. Whitened Light Curve

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

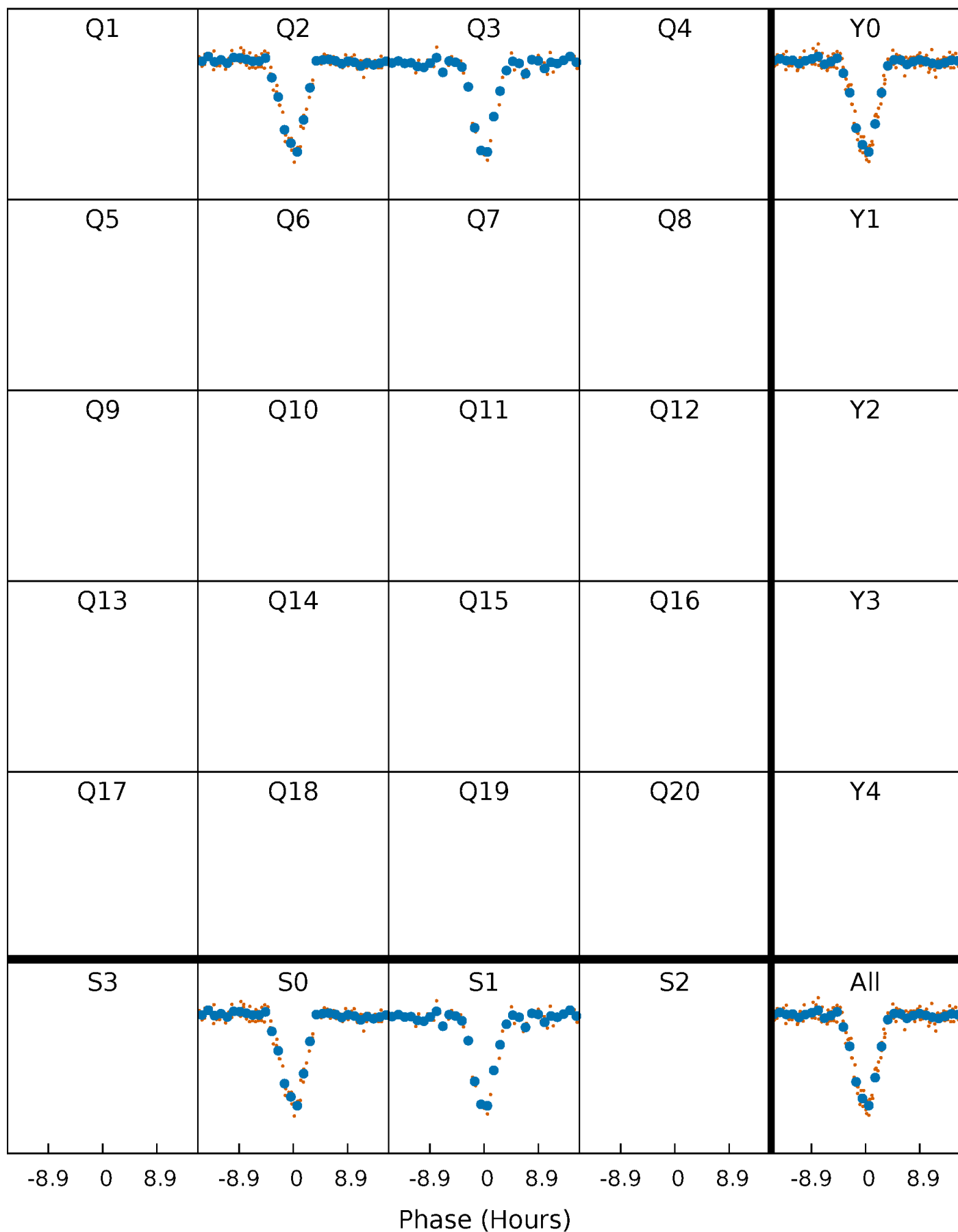


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



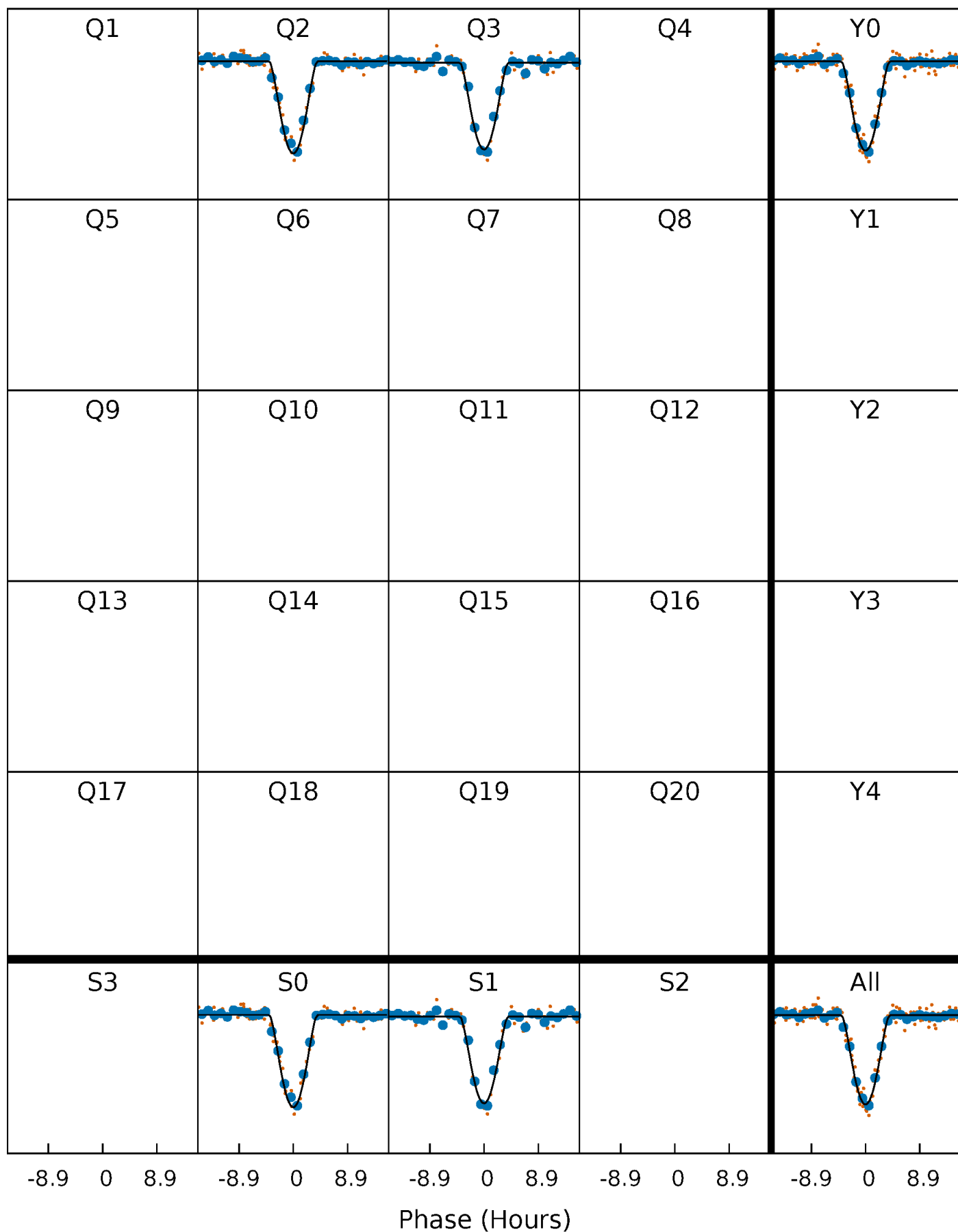
PDC Quarter-Phased Transit Curves

TCE 002708614-01 P= 52.884062 Days $T_0=147.011871$ (BKJD)



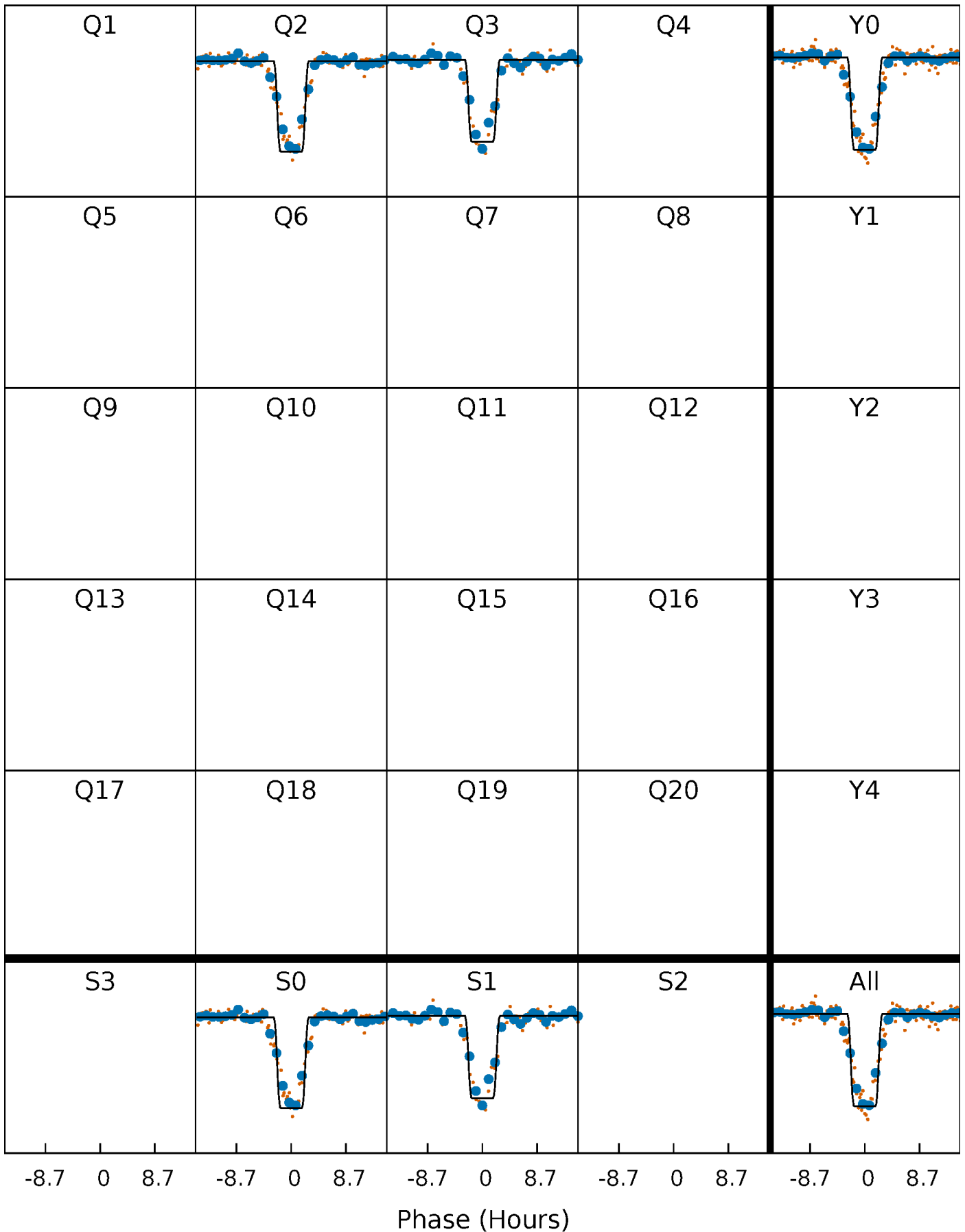
DV Quarter-Phased Transit Curves

TCE 002708614-01 P= 52.884062 Days $T_0=147.011871$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

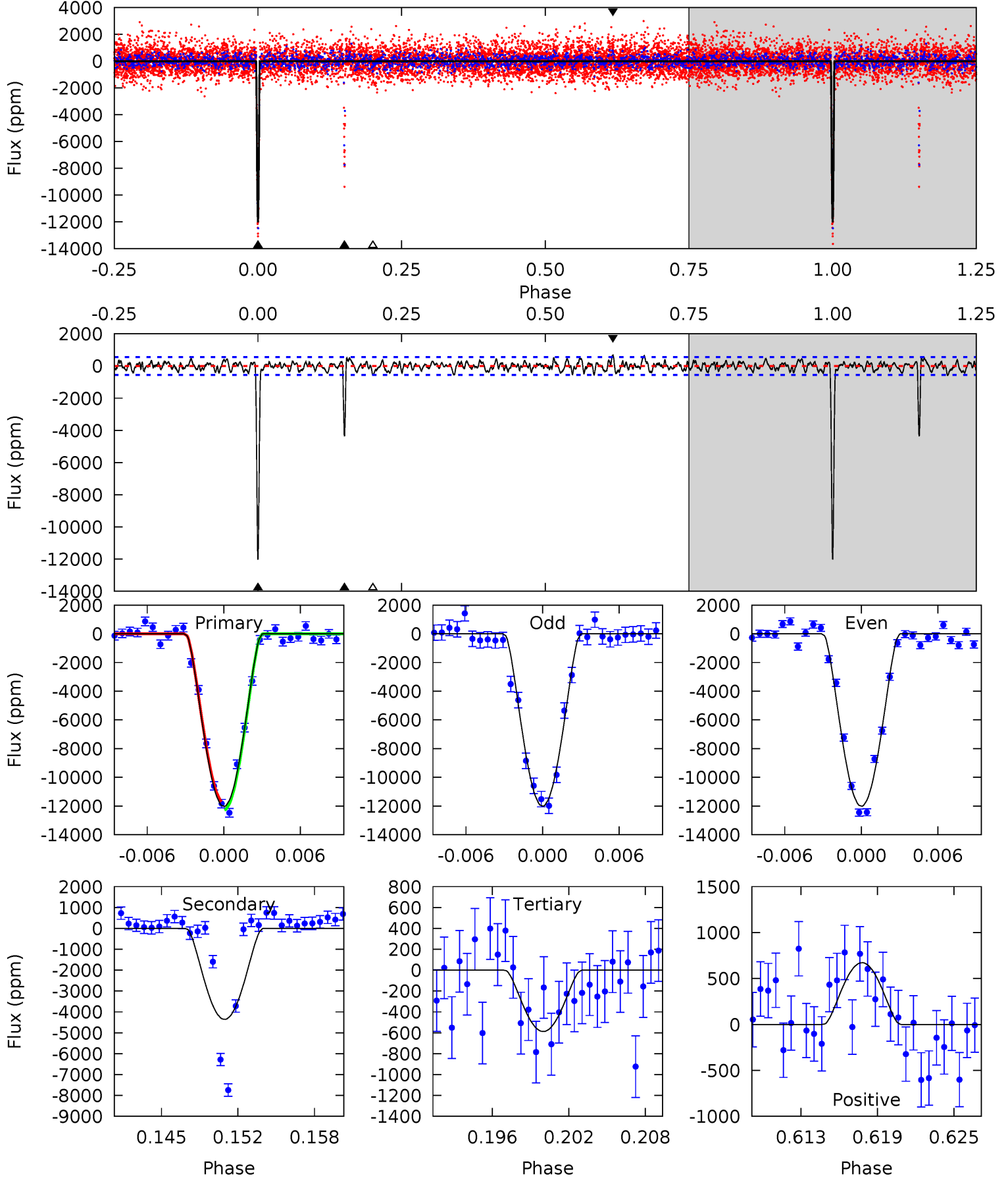
TCE 002708614-01 P= 52.887998 Days $T_0=147.003464$ (BKJD)



DV Model-Shift Uniqueness Test

002708614-01, P = 52.884062 Days, E = 147.011871 Days

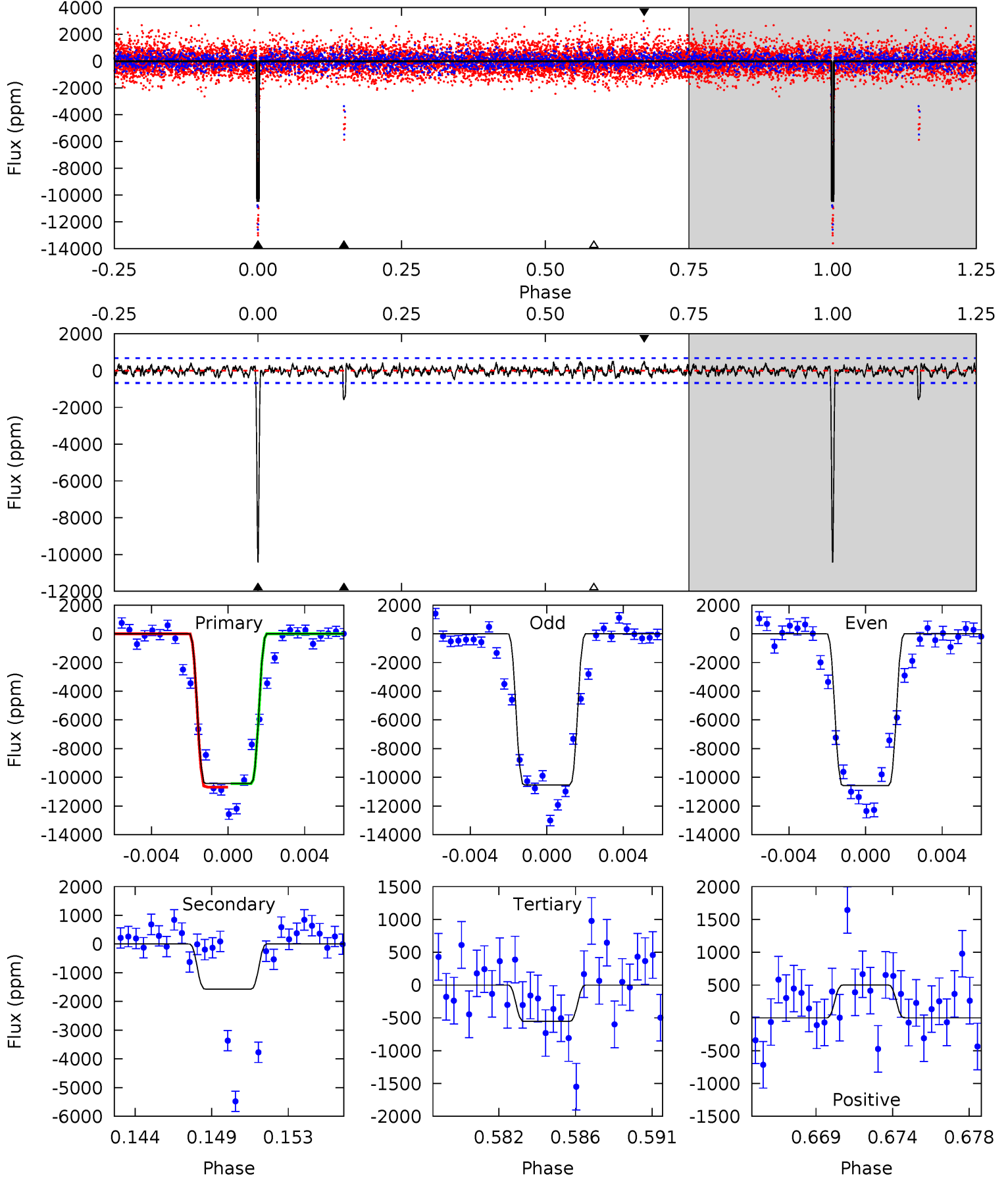
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
111.4	40.4	5.45	6.22	5.11	2.73	1.91	105.9	105.1	34.9	34.1	0.04	1.00	0.05	2.57



Alt Model-Shift Uniqueness Test

002708614-01, P = 52.887998 Days, E = 147.003464 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
79.8	12.0	4.24	3.83	5.18	2.85	1.24	75.6	76.0	7.78	8.19	0.19	0.99	0.05	0.90



Stellar Parameters For KIC 002708614

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6483^{+155}_{-233}	$4.420^{+0.067}_{-0.202}$	$-0.280^{+0.250}_{-0.300}$	$1.078^{+0.333}_{-0.133}$	$1.114^{+0.161}_{-0.146}$	$1.254^{+0.435}_{-0.660}$
	+2%/-4%	+2%/-5%	+89%/-107%	+31%/-12%	+14%/-13%	+35%/-53%
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 002708614-01 / KOI 6289.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-4360 ± 108	$22.39^{+13.08}_{-12.91}$	792^{+52}_{-41}	4176^{+1754}_{-588}	392^{+1782}_{-238}
Alt.	-1571 ± 131	$16.74^{+11.85}_{-10.93}$	787^{+59}_{-39}	3855^{+2061}_{-613}	255^{+1758}_{-171}

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 $A_{obs} \gg 1.0$

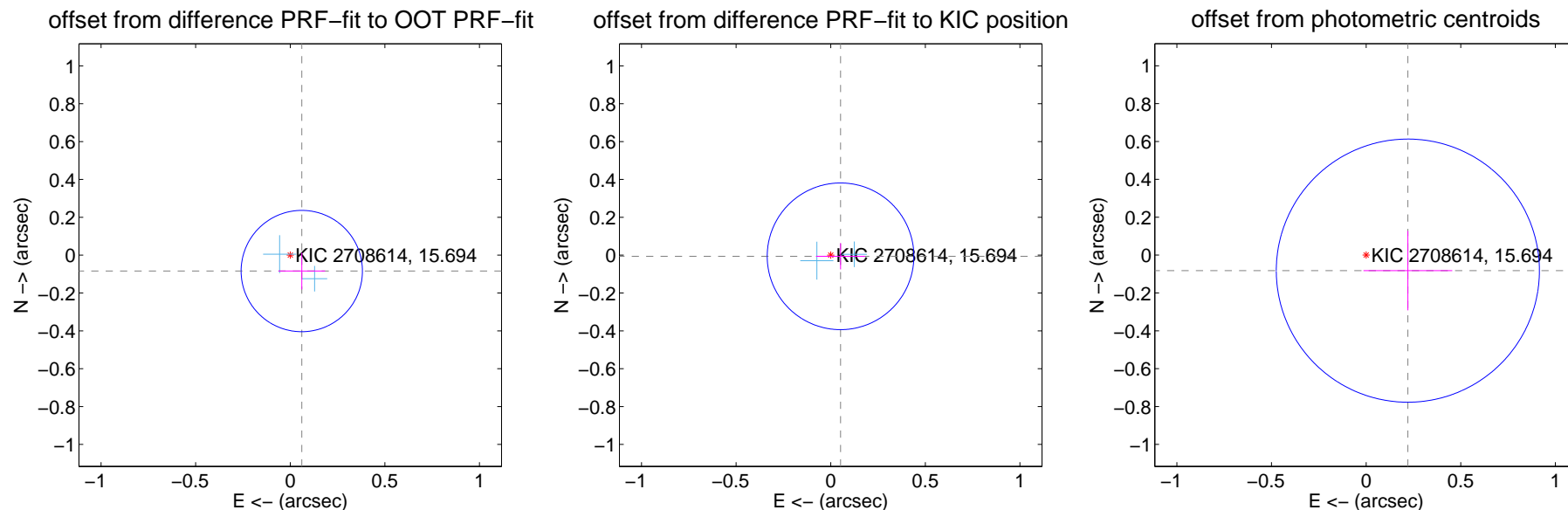
DV Centroid Data

Supplemental centroid analysis for 002708614-01. Kepler magnitude: 15.69. Transit SNR 56.61

There are 2 quarters with good PRF difference image offsets

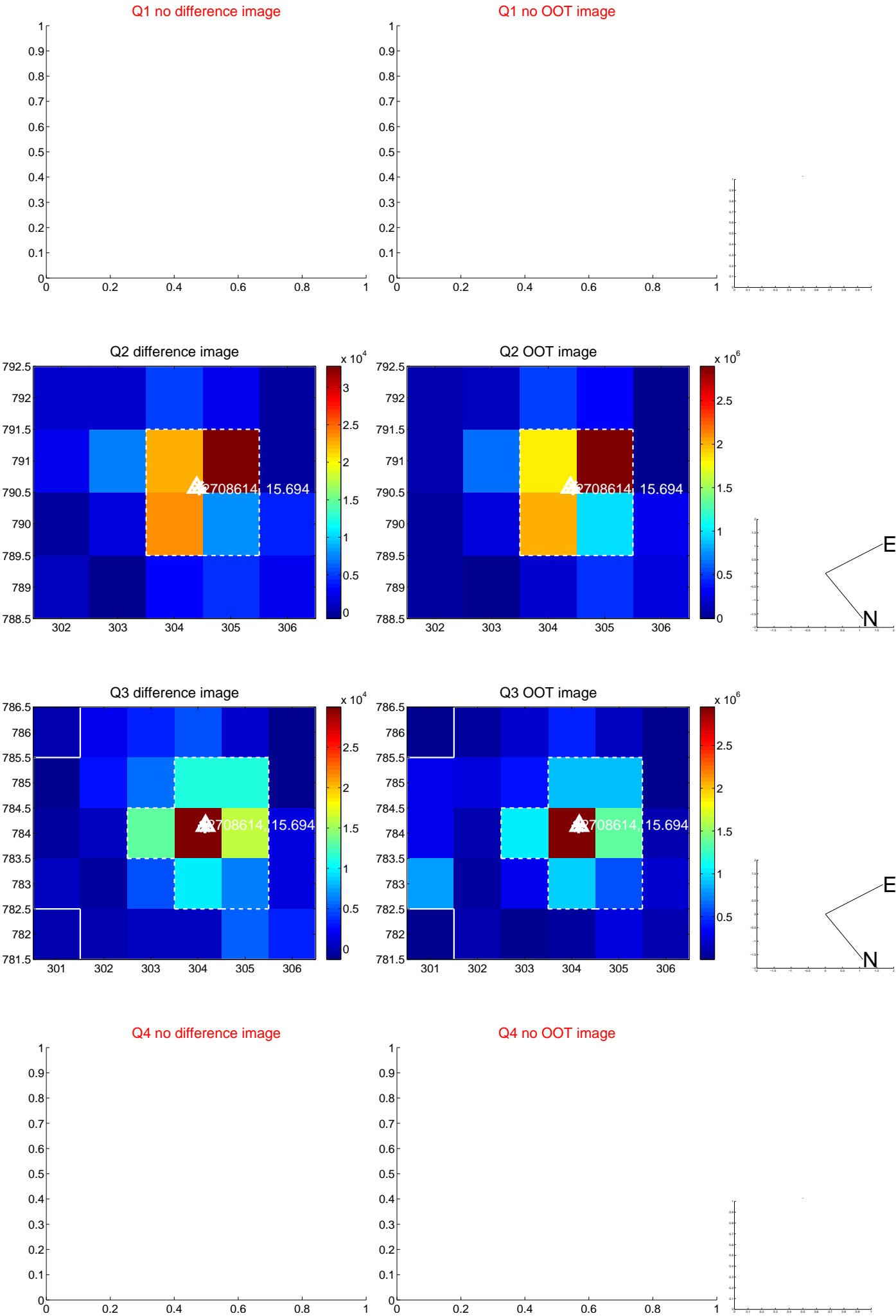
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.104 ± 0.107	0.97	-0.061 ± 0.124	-0.084 ± 0.097
PRF-fit source offset from KIC position	0.052 ± 0.129	0.40	-0.052 ± 0.130	-0.006 ± 0.069
photometric centroid source offset	0.24 ± 0.23	1.02	-0.22 ± 0.23	-0.08 ± 0.21



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.



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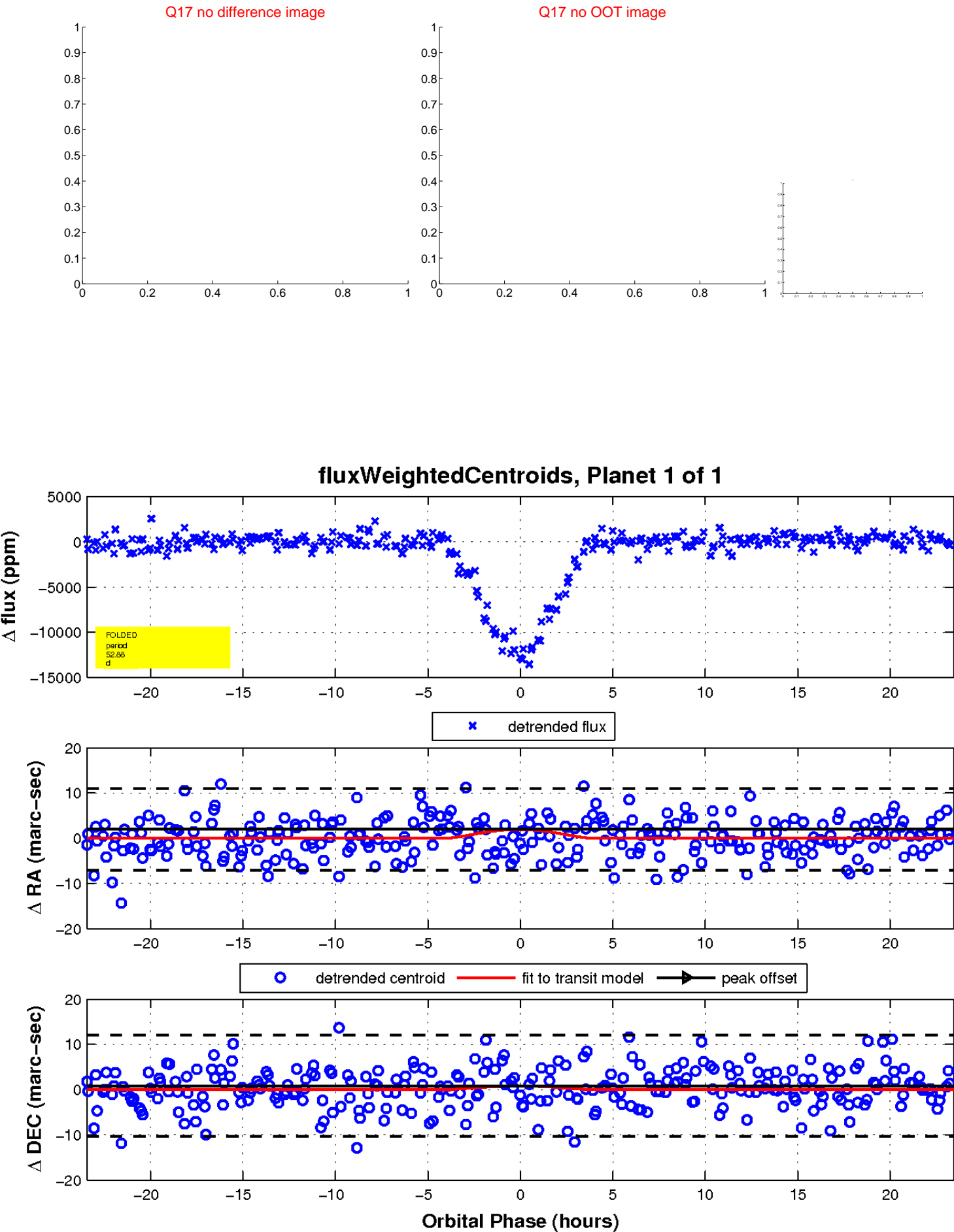
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UKIRT Image

Declination

