

KIC 010552151

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})
010552151-01	OBS	5805.01	525.768812	306.897595	926.6	9.712	12.9	13.9	3.93	5277	22.41	4.53

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010552151-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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 010552151-01

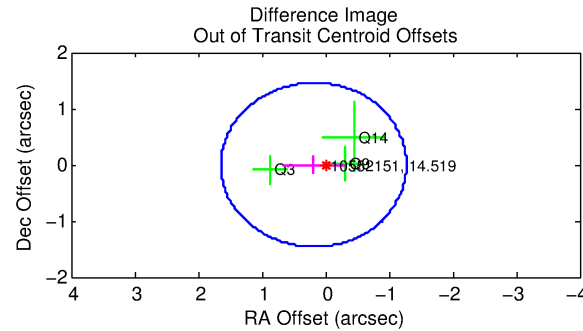
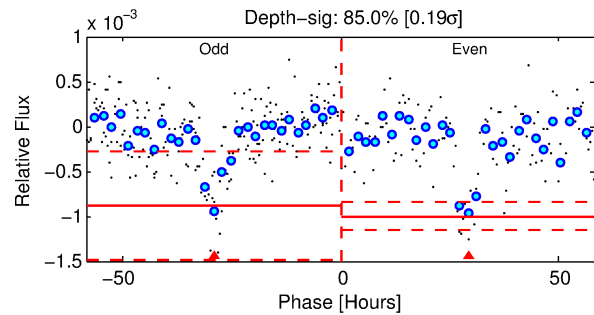
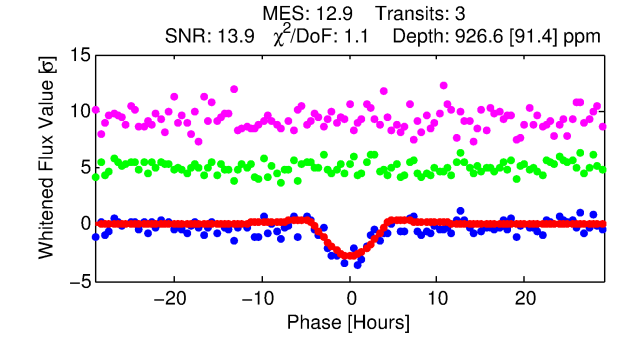
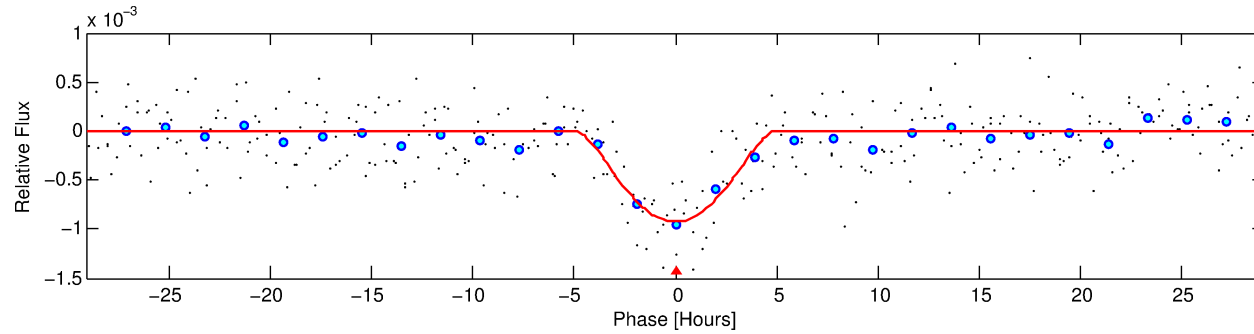
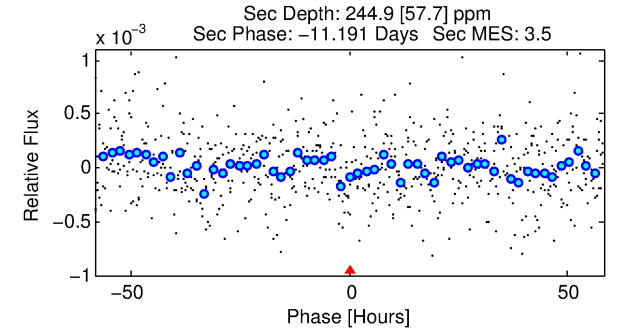
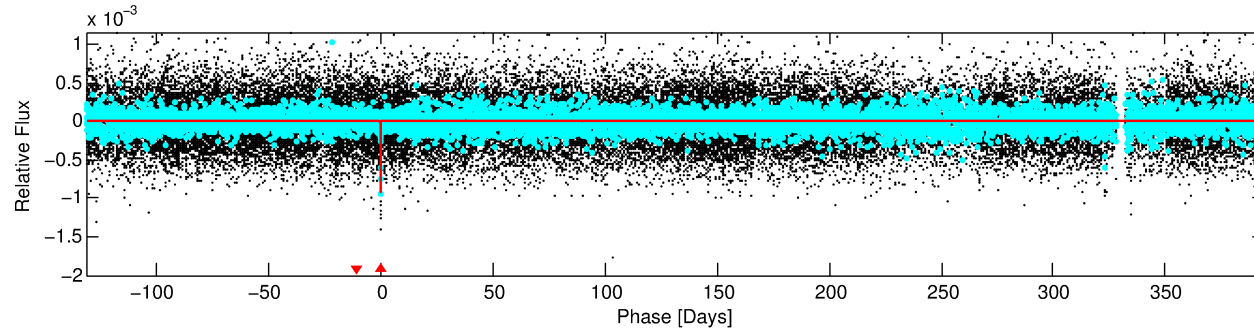
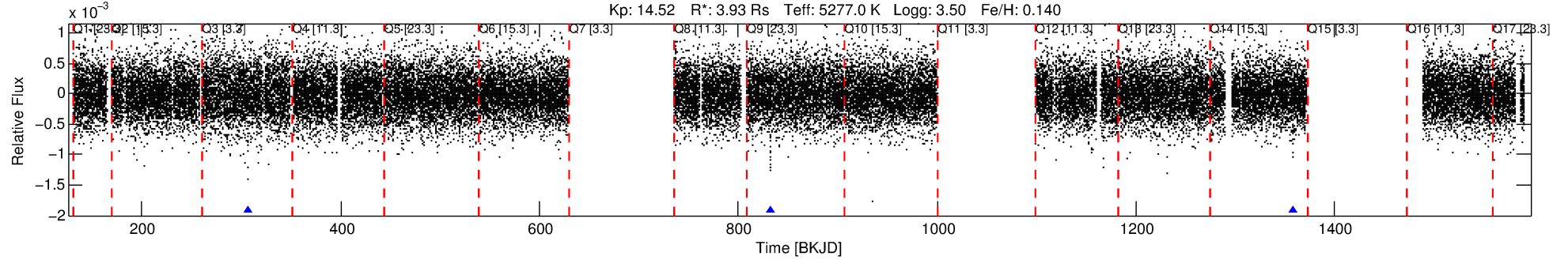
No Significant Match Found

DV One-Page Summary

KIC: 10552151 Candidate: 1 of 1 Period: 525.769 d

KOI: K05805 Corr: No Ephemeris Match

Kp: 14.52 R*: 3.93 Rs Teff: 5277.0 K Logg: 3.50 Fe/H: 0.140



DV Fit Results:

Period = 525.76881 [0.01020] d
Epoch = 306.8976 [0.0133] BKJD
Rp/R* = 0.0522 [0.1213]
a/R* = 142.62 [85.67]
b = 0.99 [0.19]
Seff = 4.53 [2.12]
Teff = 372 [43] K
Rp = 22.41 [52.63] Re
a = 1.5401 [0.4686] AU
Ag = 636.31 [2974.20] [0.21 sigma]
Teffp = 2888 [3359] K [0.75 sigma]

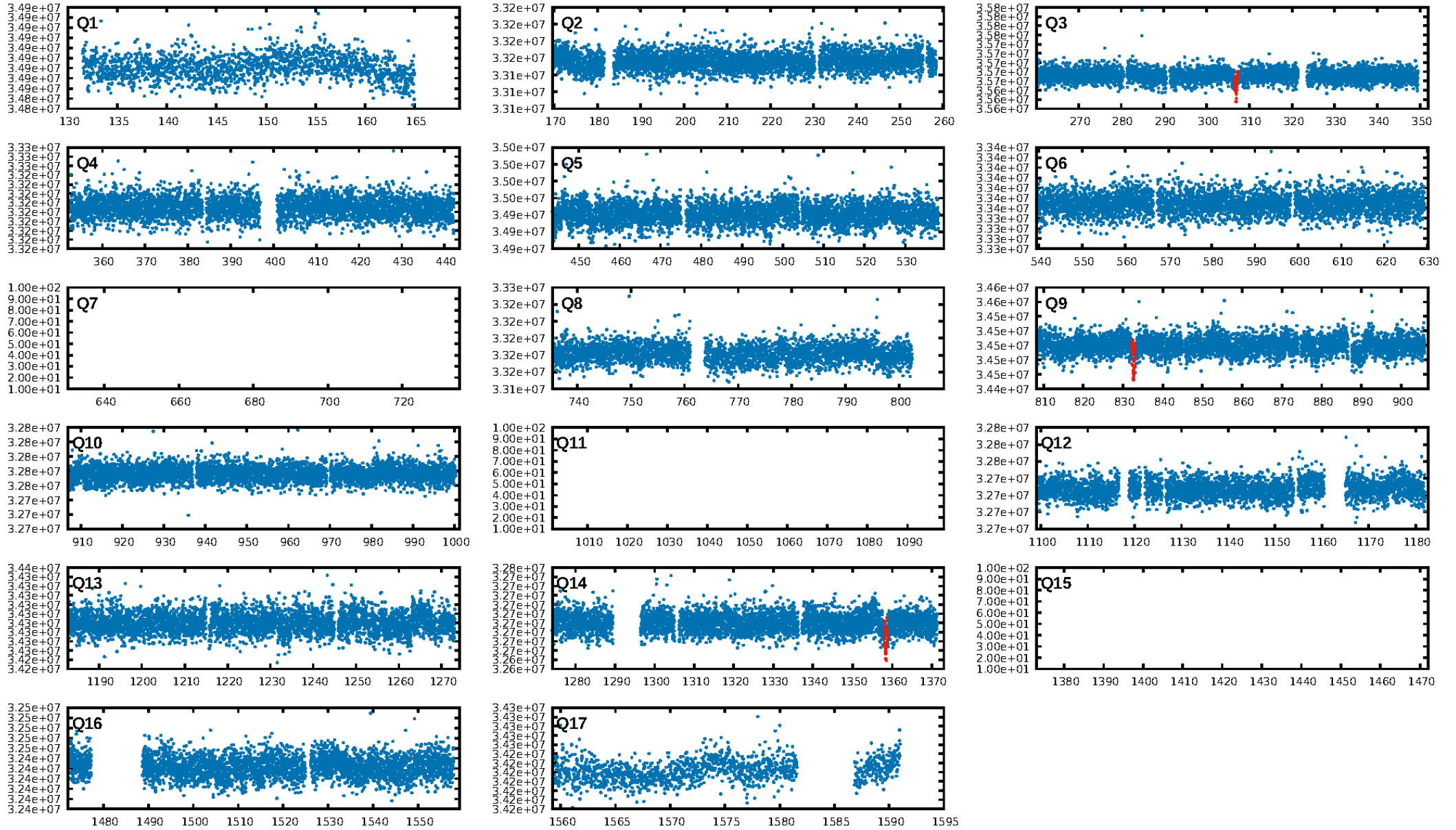
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 39.8%
ModelChiSquareGof-sig: 91.9%
Bootstrap-pfa: 1.53e-52
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 3.386
Centroid-sig: 98.3%
Centroid-so: 0.076 arcsec [0.08 sigma]
OotOffset-rm: 0.184 arcsec [0.38 sigma]
KicOffset-rm: 0.227 arcsec [0.55 sigma]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

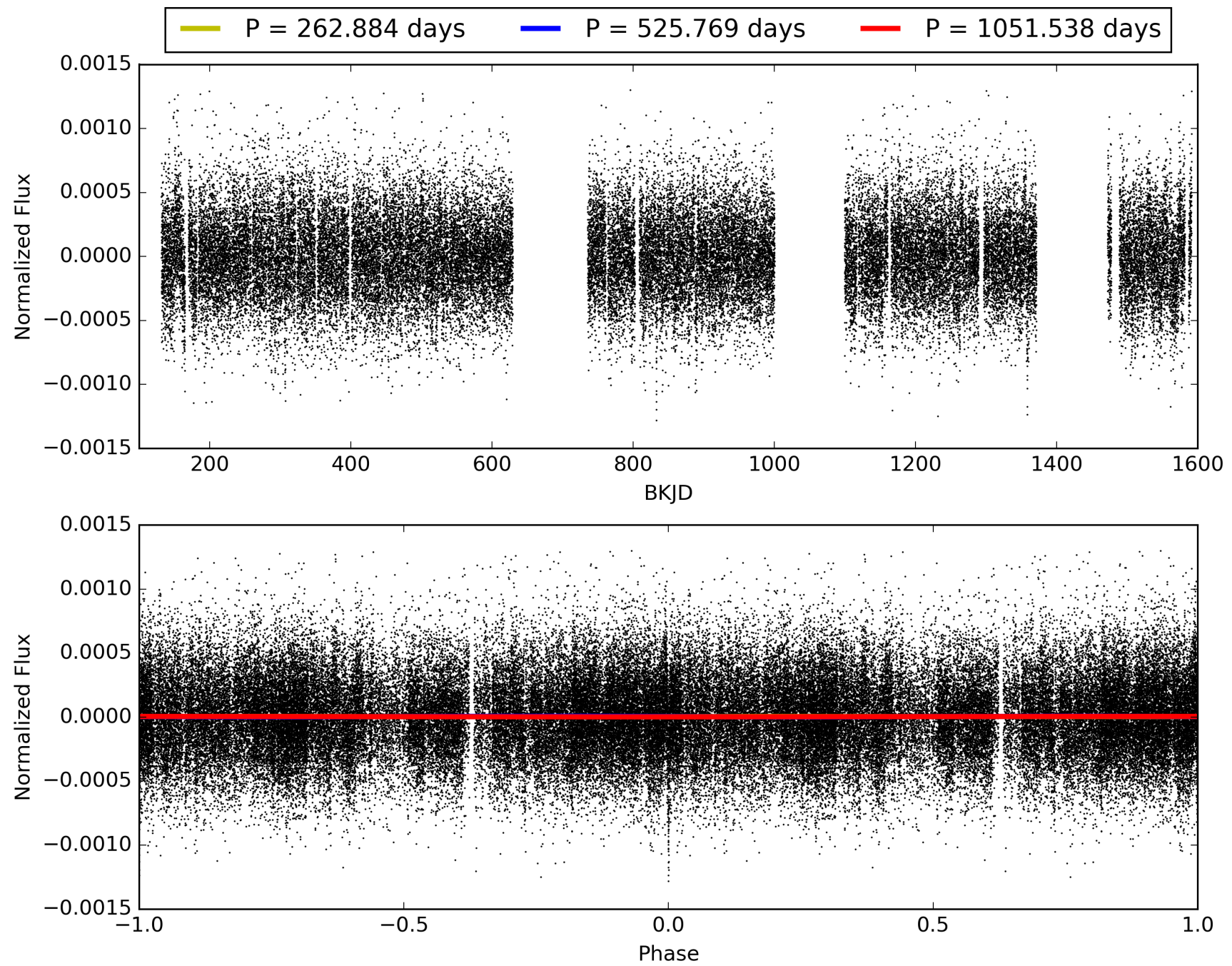
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 00:00:47 Z

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

TCE 010552151-01, PDC Light Curves

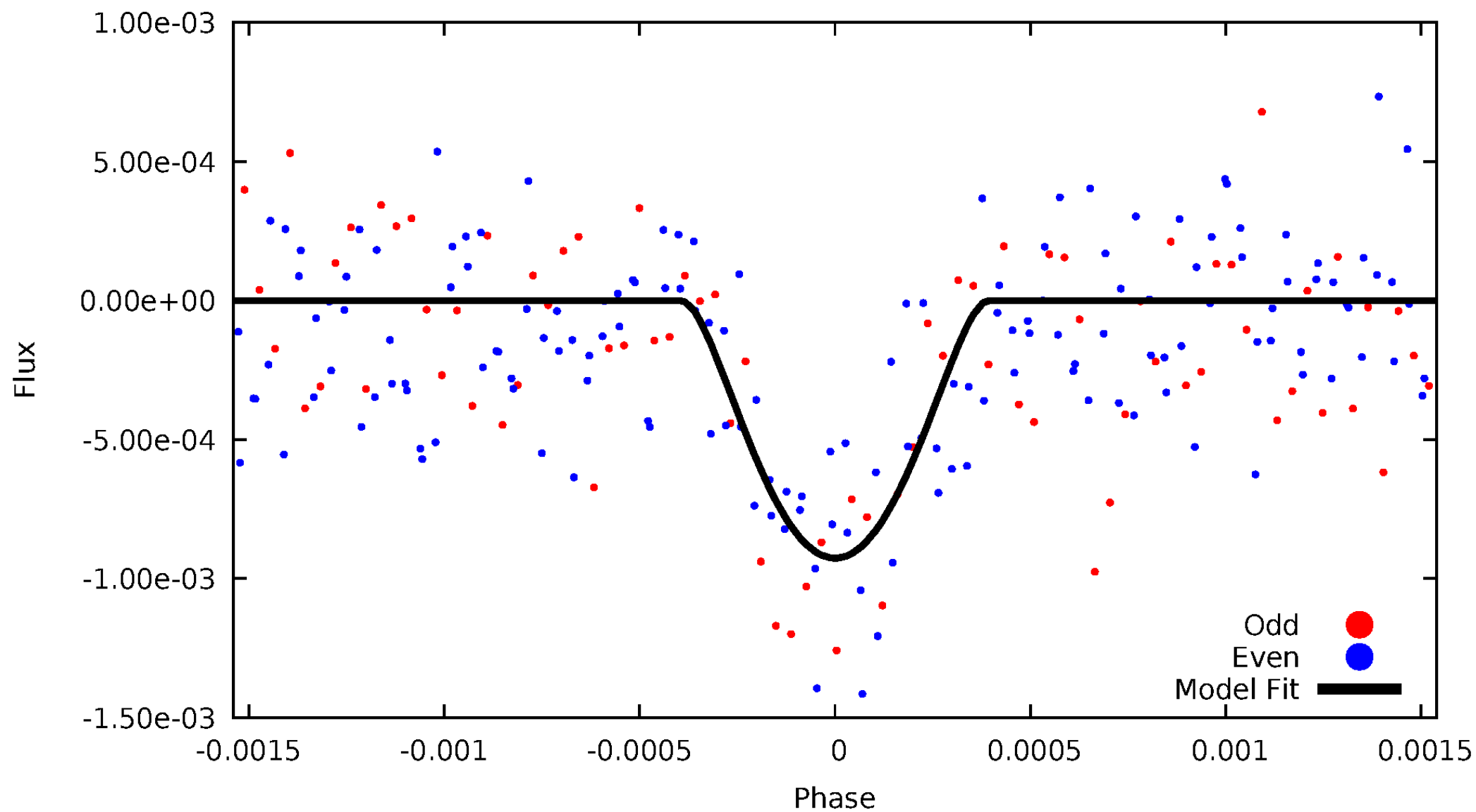


TCE 010552151-01



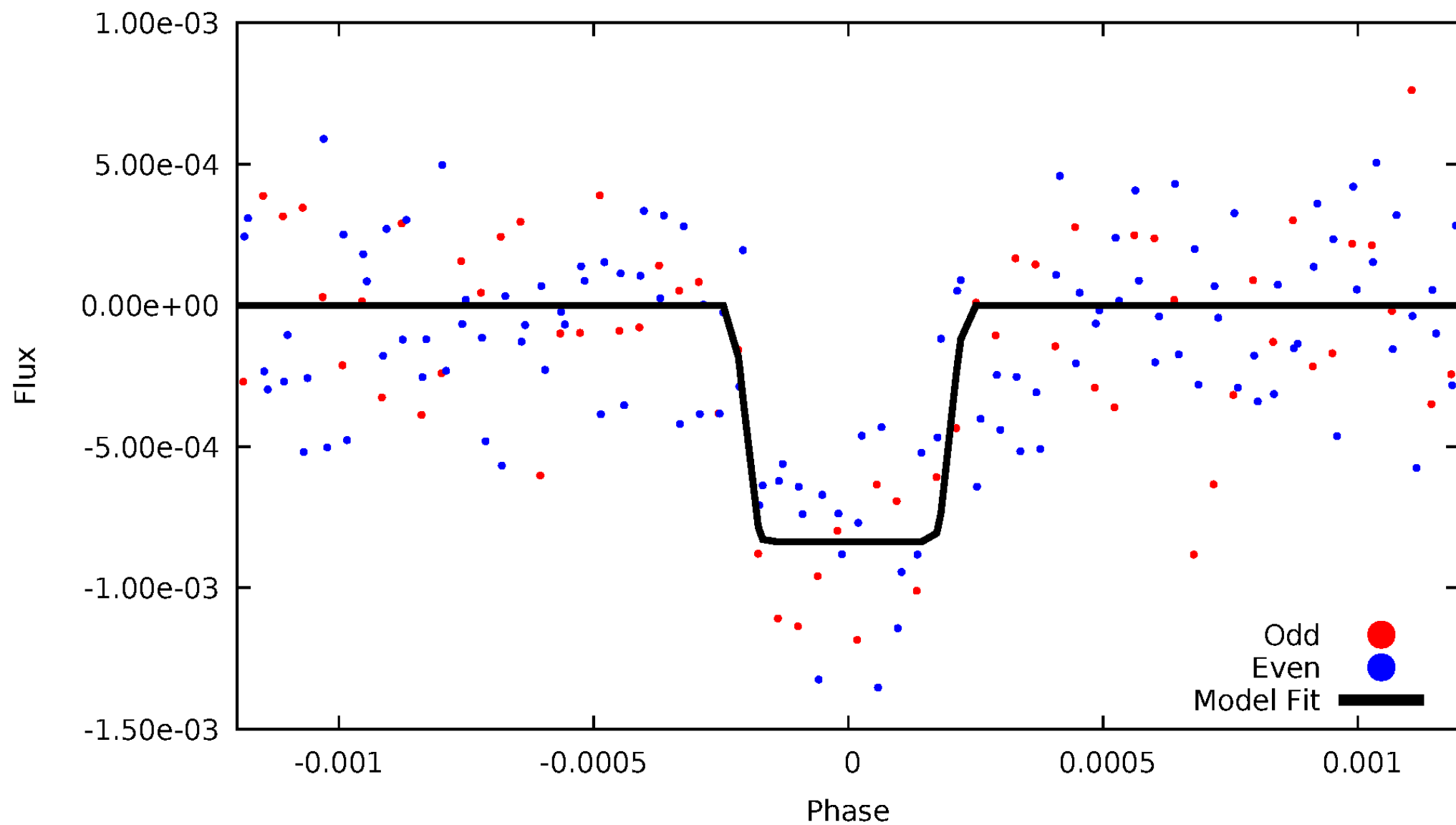
DV Odd/Even

TCE 010552151-01

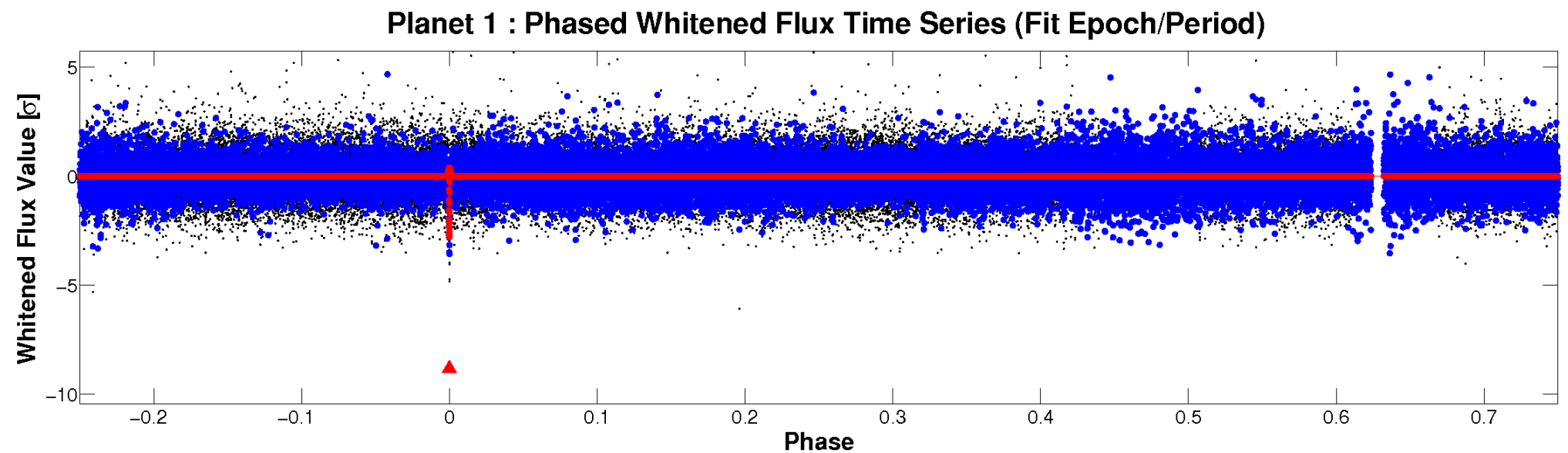
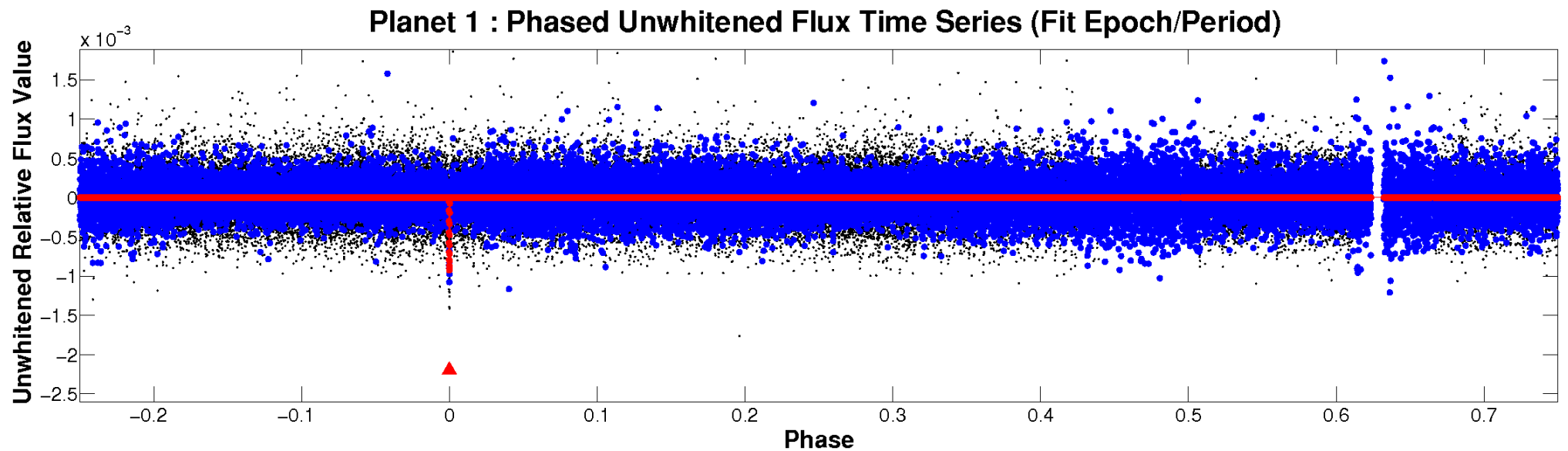


ALT Odd/Even

TCE 010552151-01

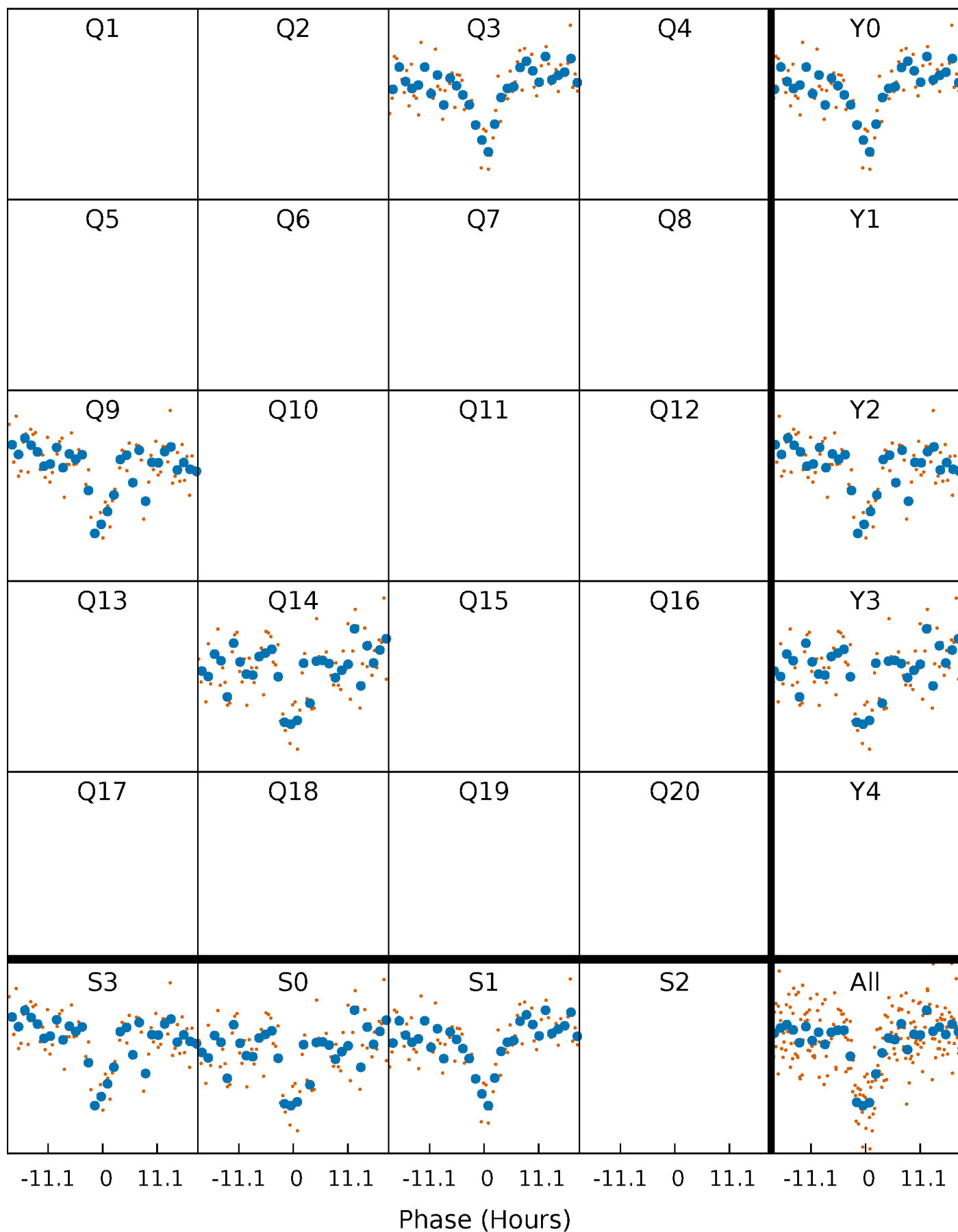


Non-Whitened Vs. Whitened Light Curve



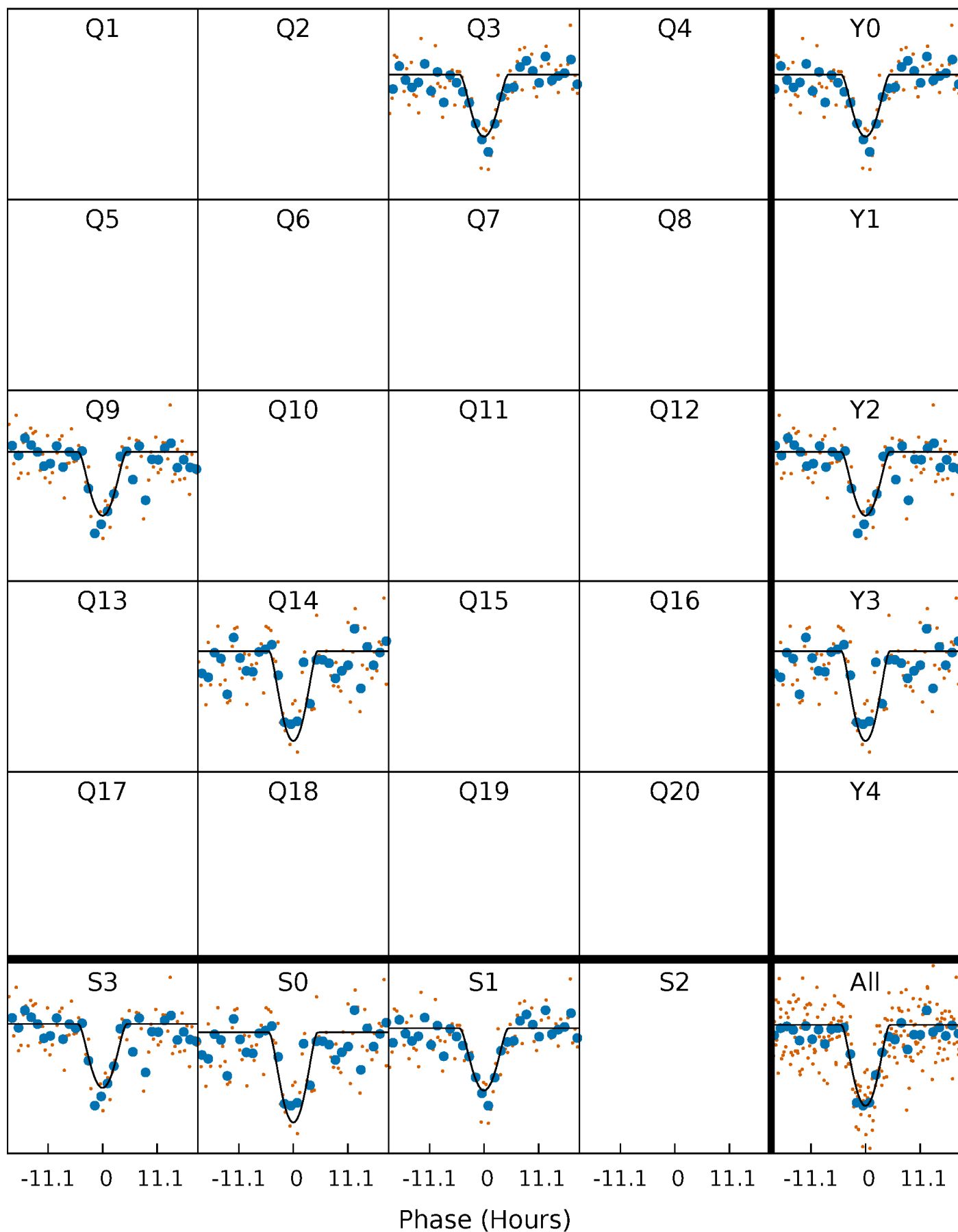
PDC Quarter-Phased Transit Curves

TCE 010552151-01 P=525.768812 Days $T_0=306.897595$ (BKJD)



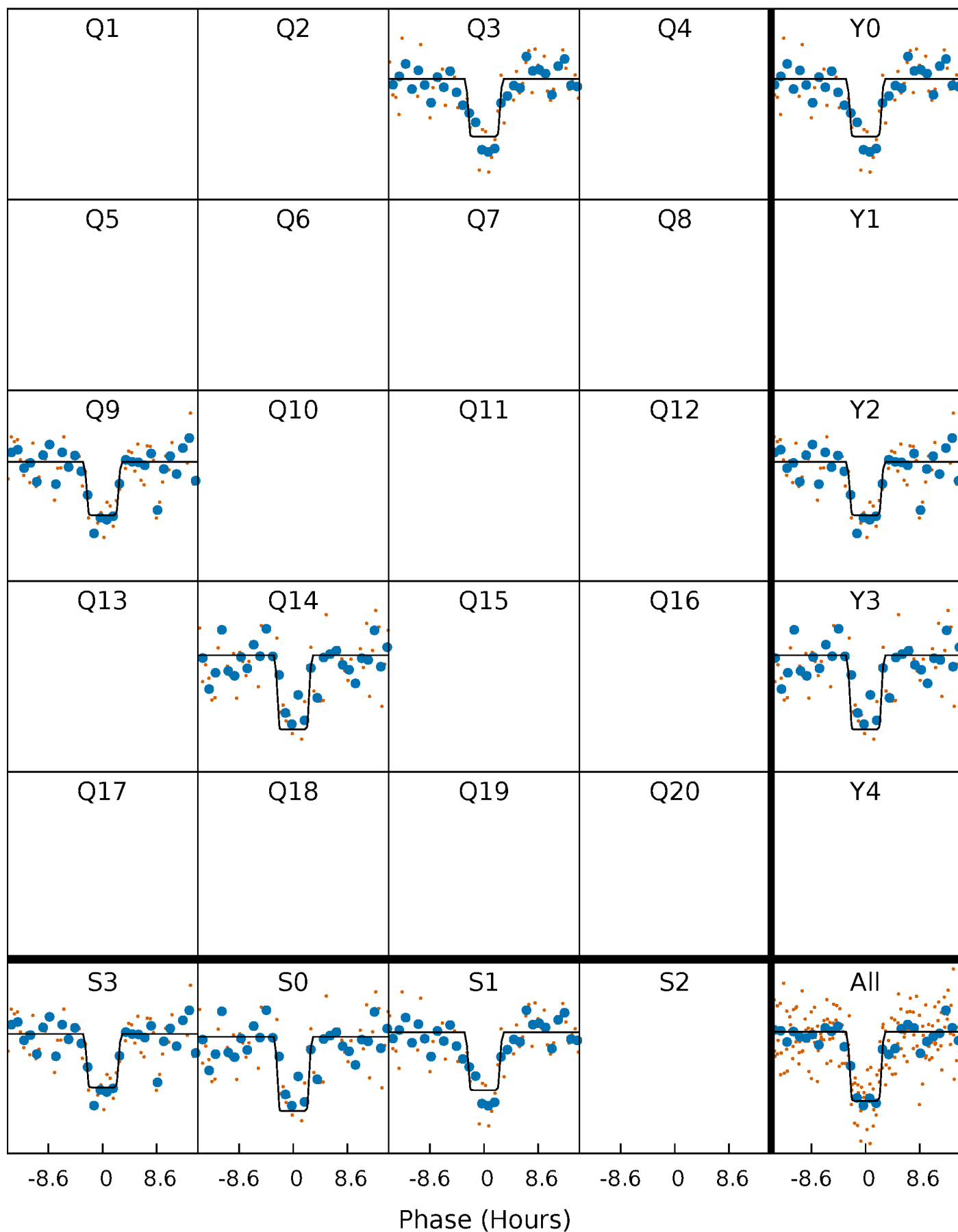
DV Quarter-Phased Transit Curves

TCE 010552151-01 P=525.768812 Days $T_0=306.897595$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

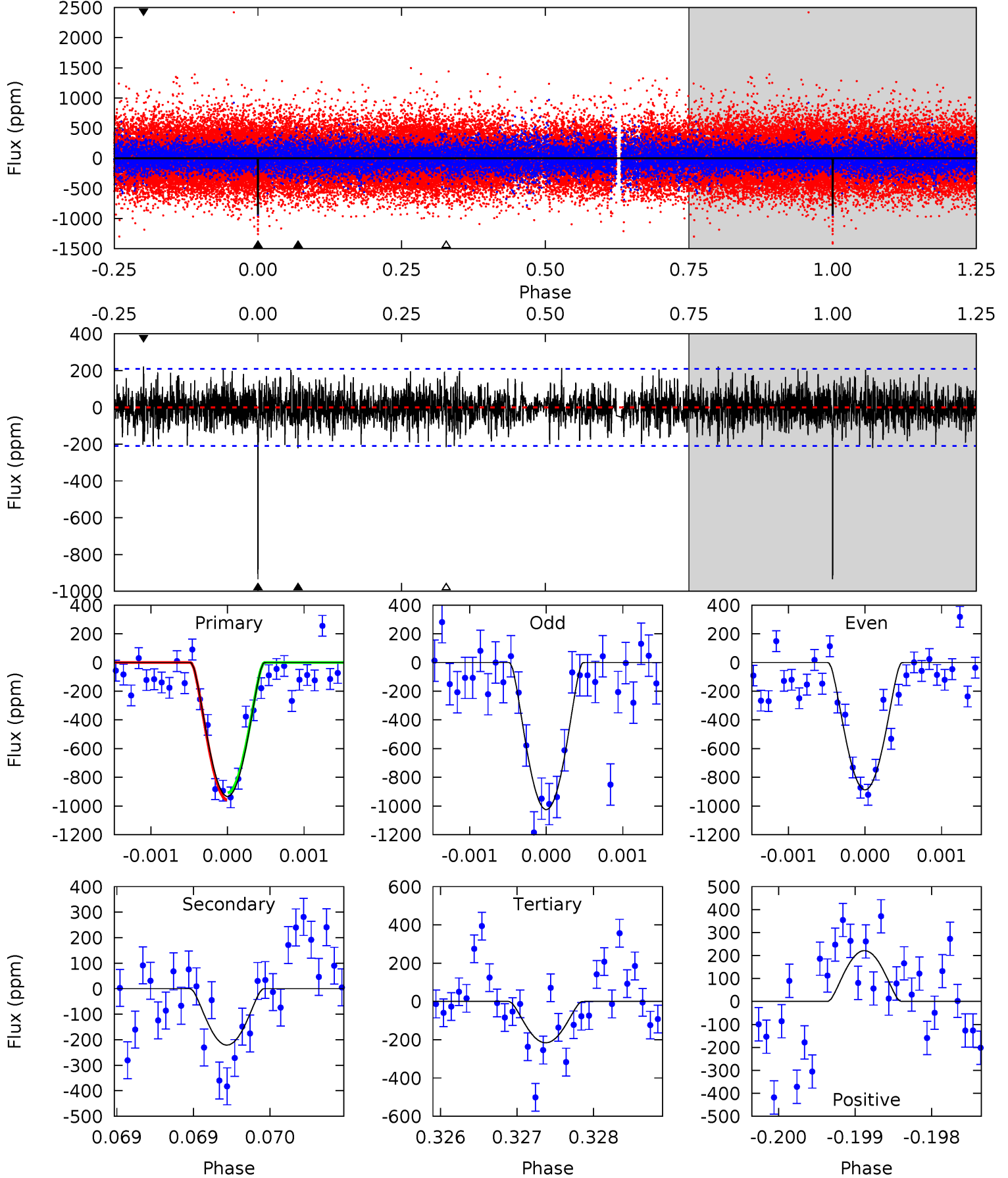
TCE 010552151-01 P=525.755499 Days $T_0=306.904127$ (BKJD)



DV Model-Shift Uniqueness Test

010552151-01, $P = 525.768812$ Days, $E = 306.897595$ Days

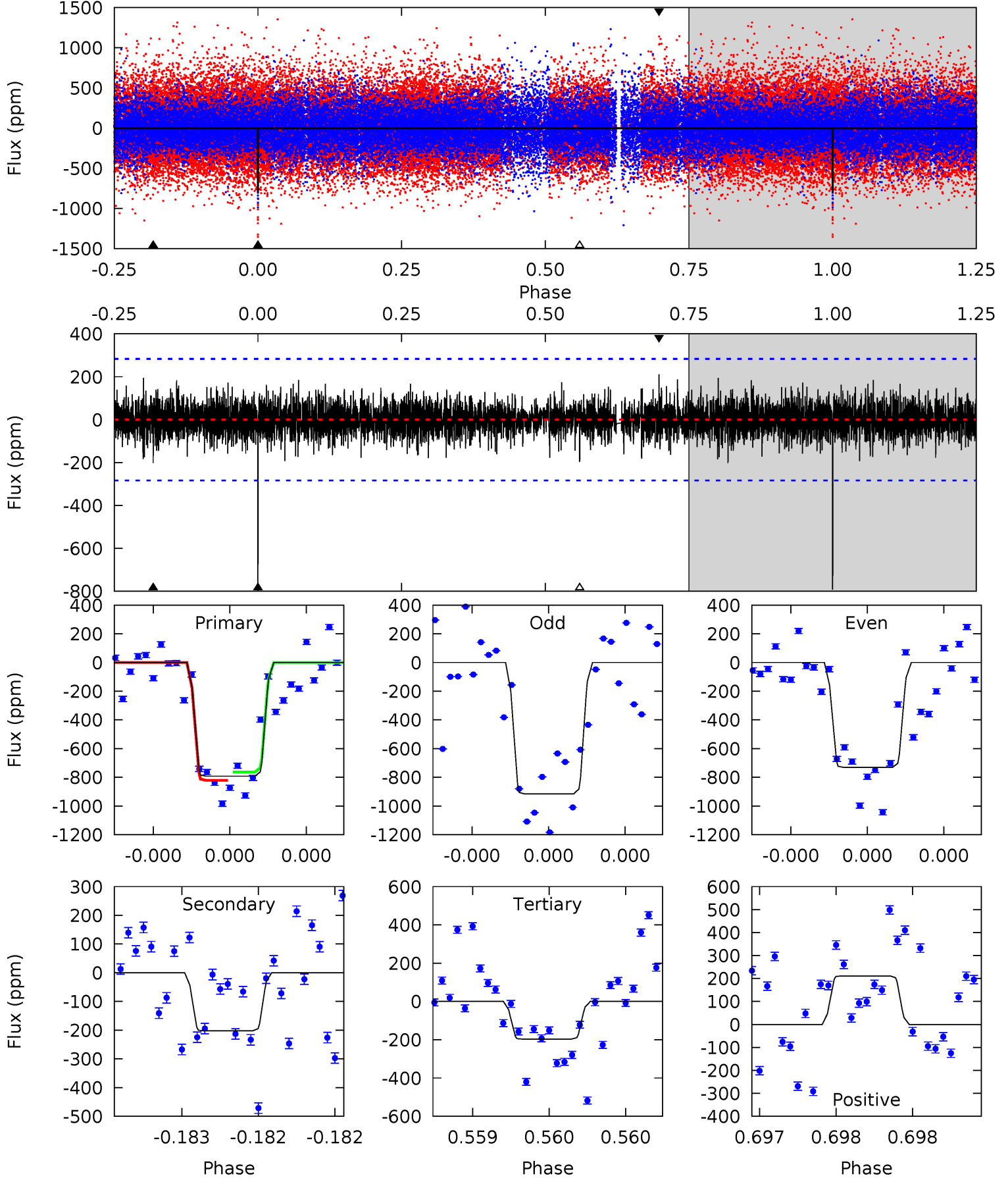
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.5	5.79	5.66	5.80	5.49	3.35	1.70	18.8	18.7	0.13	-0.01	1.73	0.91	0.19	0.66



Alt Model-Shift Uniqueness Test

010552151-01, P = 525.755499 Days, E = 306.904127 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.6	4.00	3.88	4.17	5.60	3.52	1.04	11.8	11.5	0.11	-0.17	1.73	0.91	0.21	0.58



Stellar Parameters For KIC 010552151

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5277^{+62}_{-115}	$3.495^{+0.259}_{-0.111}$	$0.140^{+0.150}_{-0.200}$	$3.931^{+0.792}_{-1.358}$	$1.764^{+0.163}_{-0.521}$	$0.041^{+0.073}_{-0.014}$
	+1%/-2%	+7%/-3%	+107%/-143%	+20%/-35%	+9%/-30%	+179%/-35%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 010552151-01 / KOI 5805.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-221 ± 38	$43.08^{+41.30}_{-29.90}$	511^{+28}_{-41}	2721^{+1153}_{-405}	152^{+1435}_{-113}
Alt.	-202 ± 51	$34.09^{+41.87}_{-23.32}$	511^{+29}_{-40}	2830^{+1317}_{-503}	215^{+2098}_{-173}

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 $A_{obs} \gg 1.0$

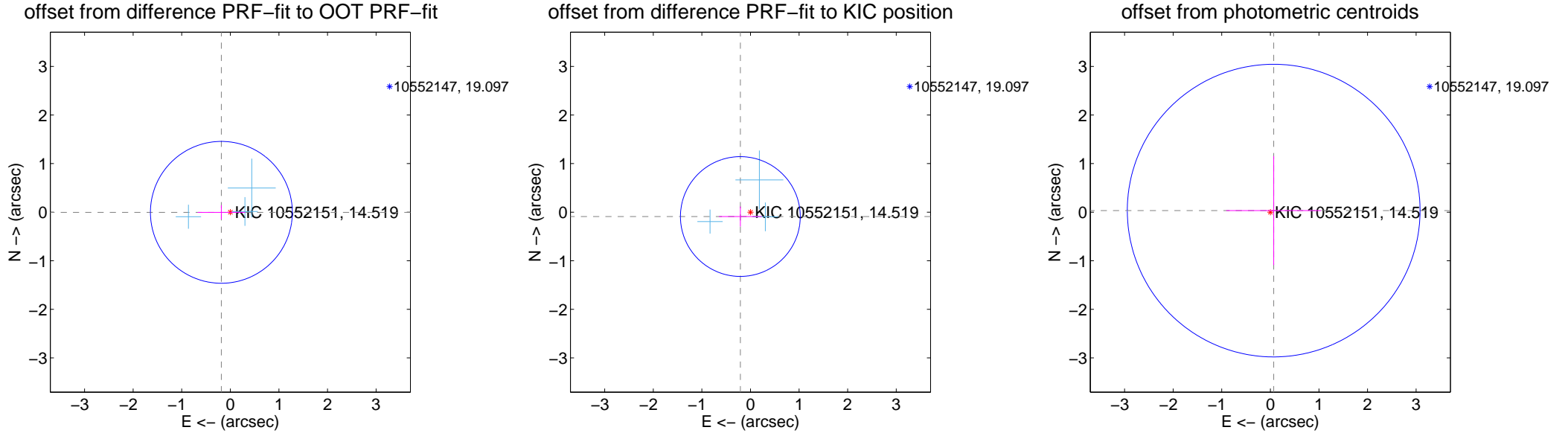
DV Centroid Data

Supplemental centroid analysis for 010552151-01. Kepler magnitude: 14.52. Transit SNR 13.89

There are 3 quarters with good PRF difference image offsets

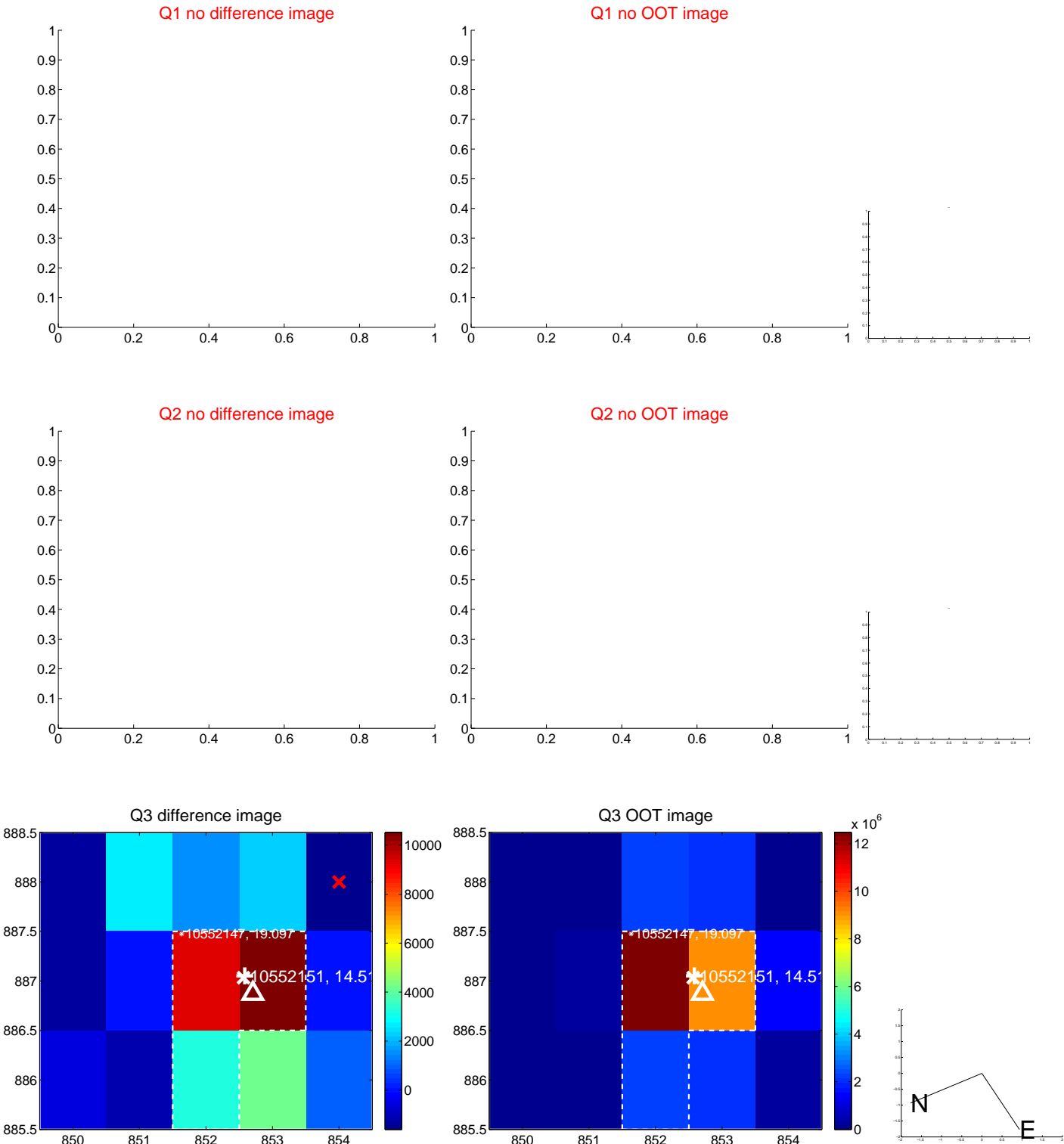
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.184 ± 0.487	0.38	0.184 ± 0.487	-0.004 ± 0.146
PRF-fit source offset from KIC position	0.227 ± 0.411	0.55	0.208 ± 0.439	-0.090 ± 0.206
photometric centroid source offset	0.08 ± 1.00	0.08	-0.07 ± 0.98	0.03 ± 1.12



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.

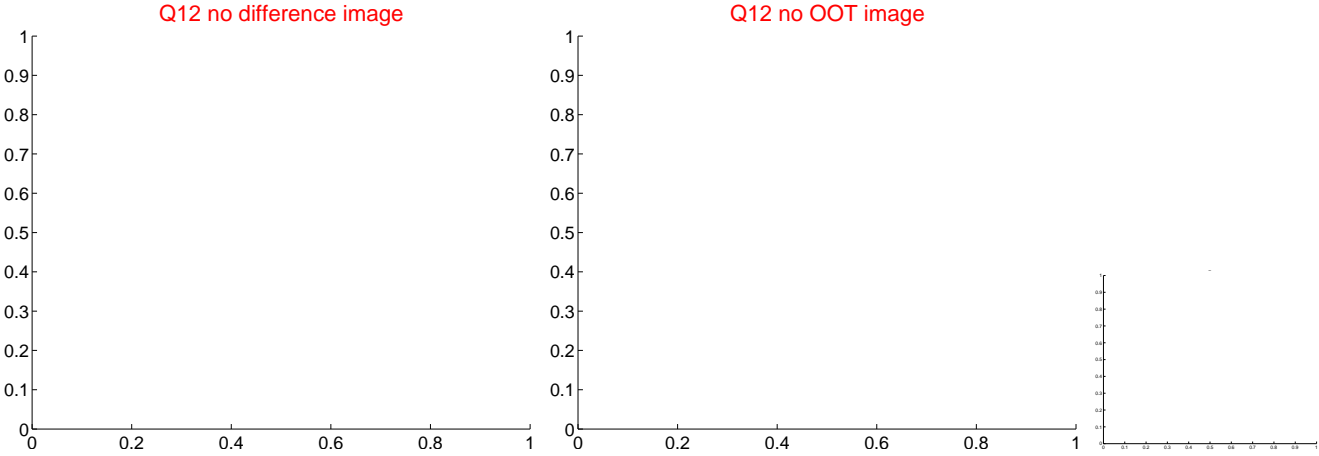
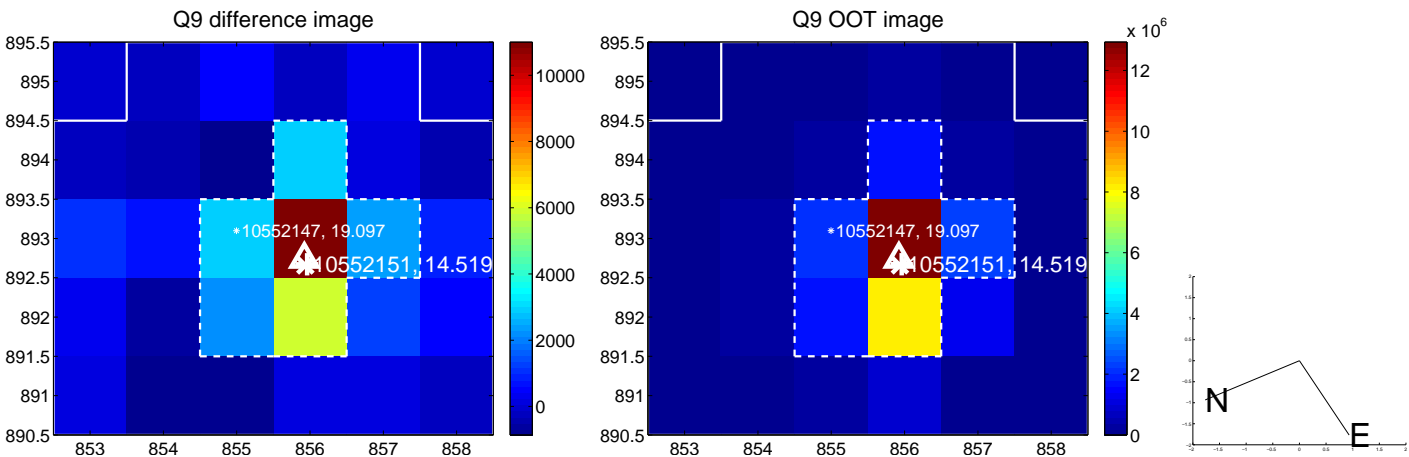
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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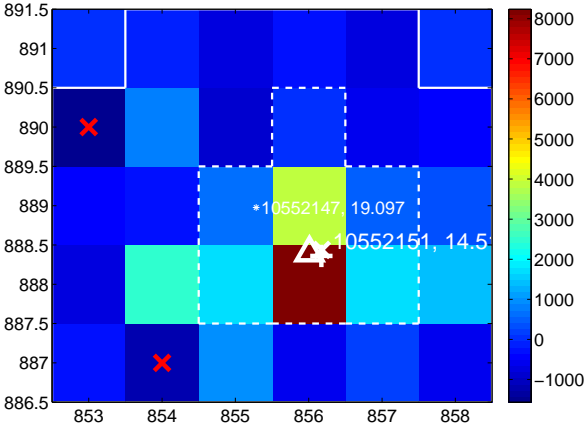
Q13 no difference image



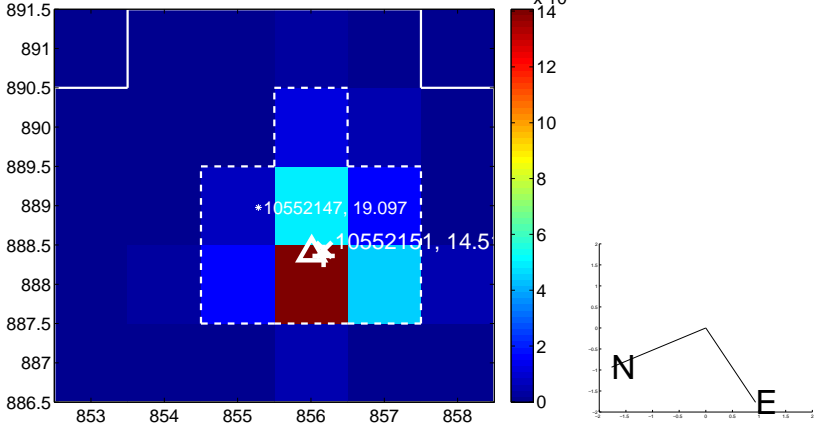
Q13 no OOT image



Q14 difference image



Q14 OOT image



Q15 no difference image



Q15 no OOT image



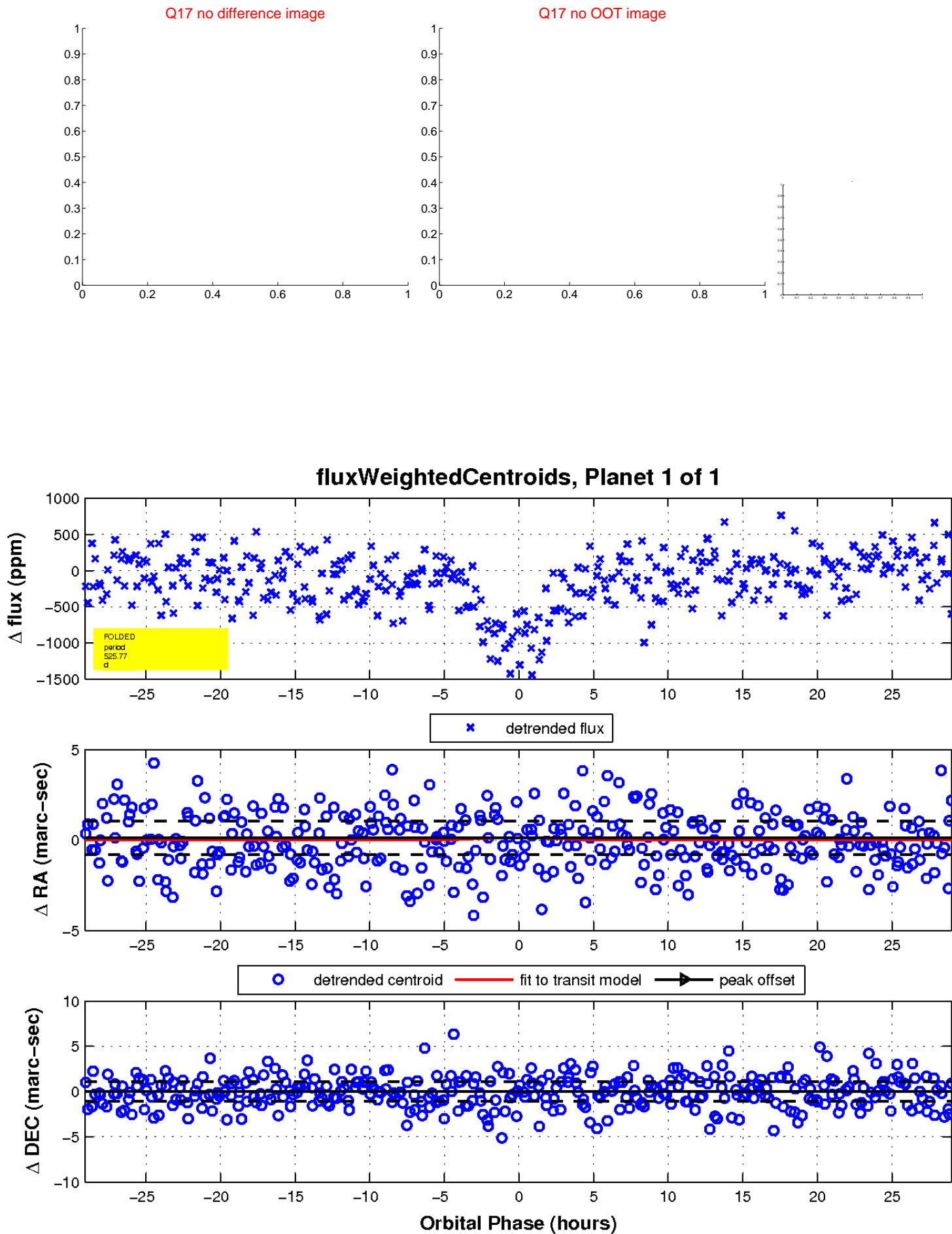
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

