

KIC 008552999

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})
008552999-01	OBS	No	594.020467	174.767144	296.0	8.059	8.1	6.5	0.99	5758	2.04	0.51

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008552999-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—ALL_TRANS_CHASES—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.

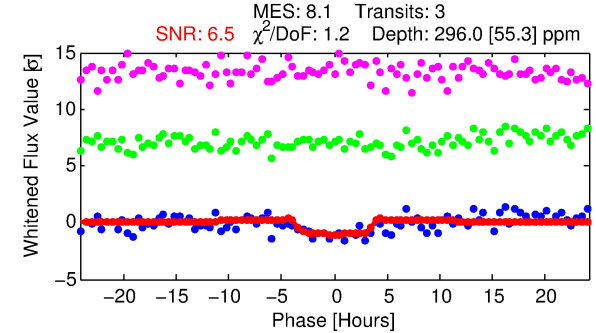
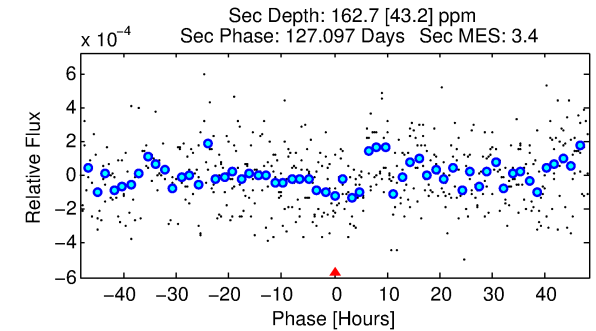
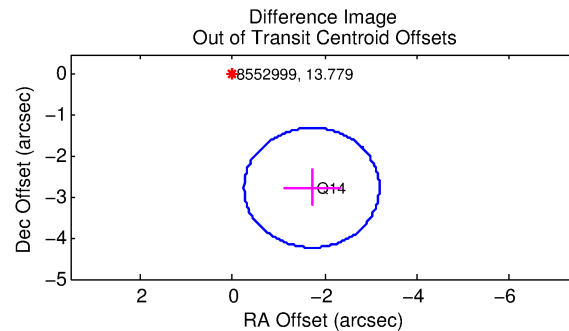
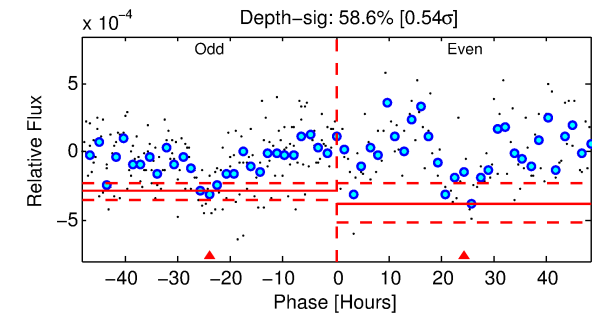
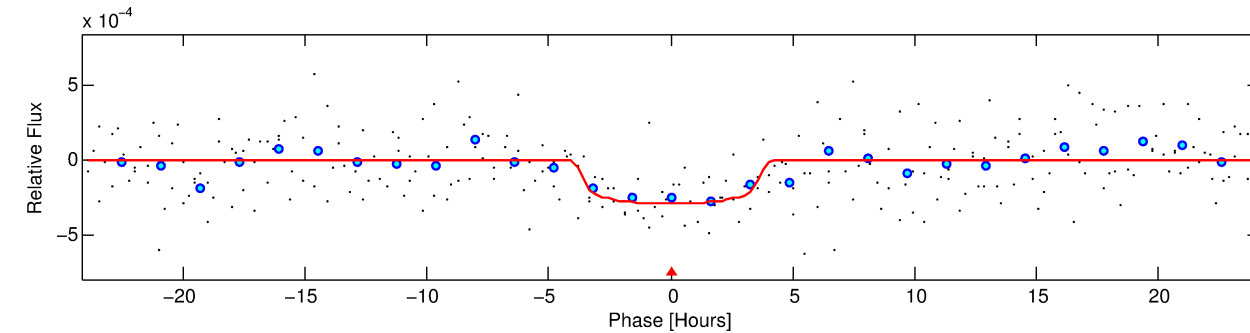
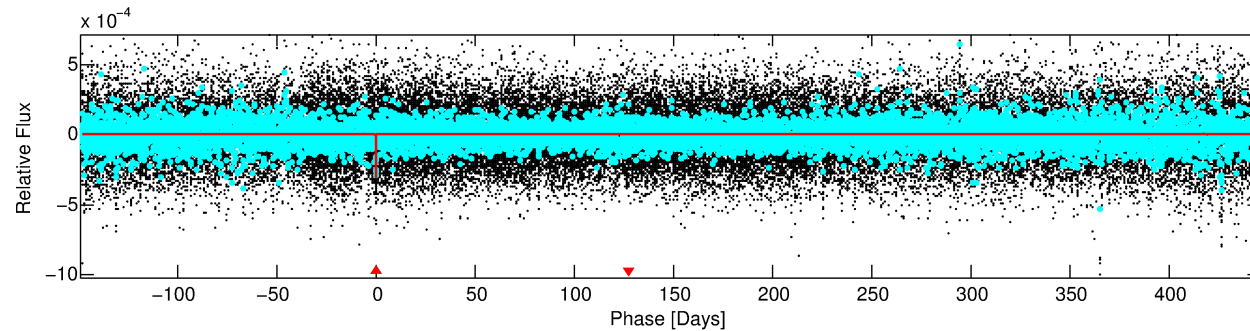
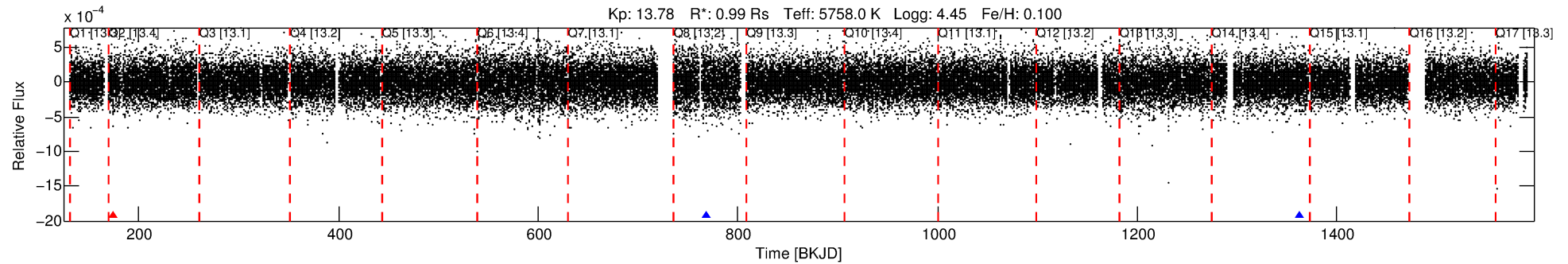
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008552999-01

No Significant Match Found

DV One-Page Summary

KIC: 8552999 Candidate: 1 of 1 Period: 594.020 d



DV Fit Results:

Period = 594.02047 [0.01278] d
Epoch = 174.7671 [0.0177] BKJD
Rp/R* = 0.0188 [0.0050]
a/R* = 267.59 [303.65]
b = 0.90 [0.24]
Seff = 0.51 [0.11]
Teq = 215 [12] K
Rp = 2.04 [0.62] Re
a = 1.3863 [0.1878] AU
Ag = 41480.39 [26185.20] [1.58 σ]
Teffp = 4744 [710] K [6.38 σ]

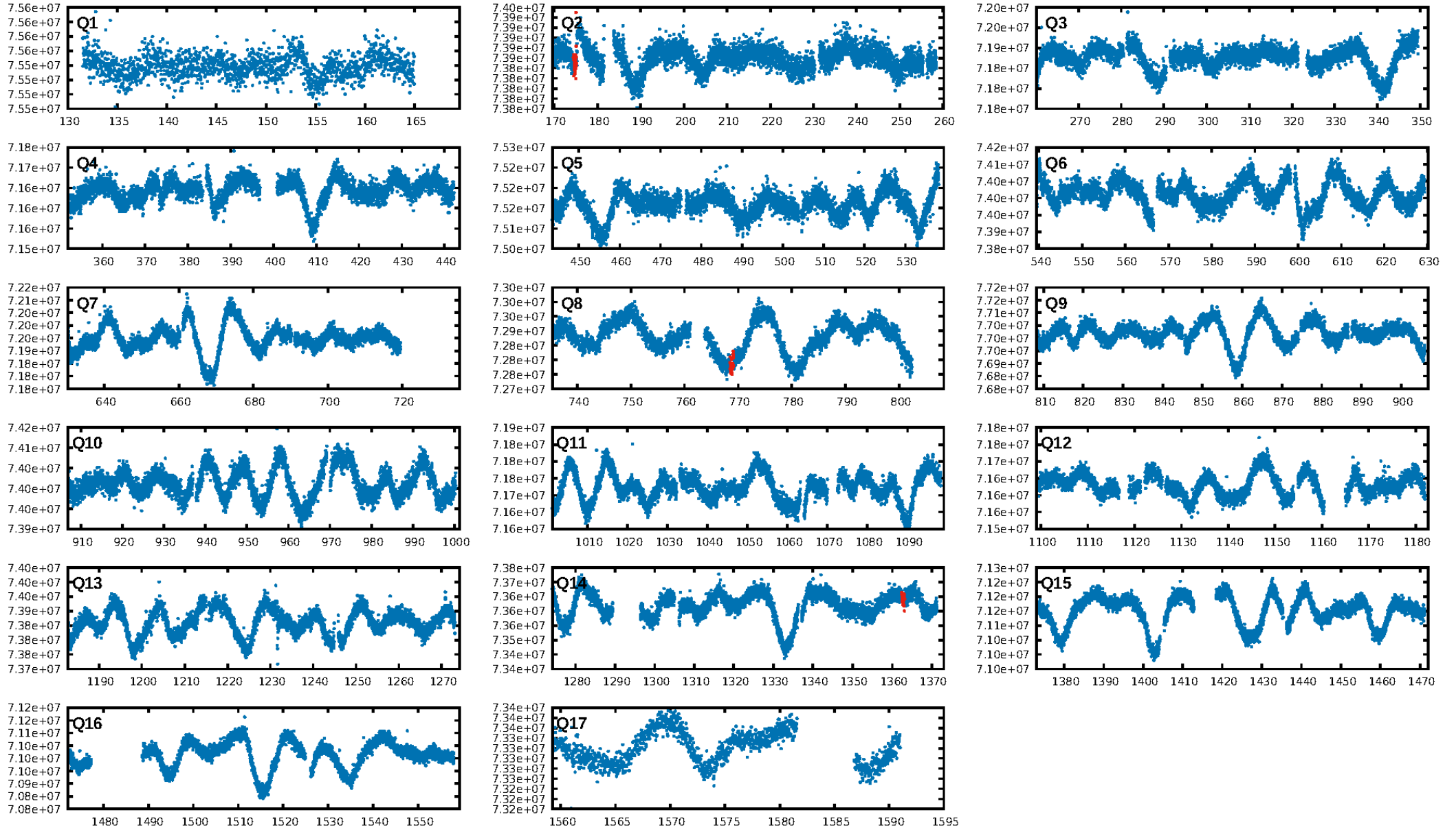
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 59.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.98e-11
RollingBand-fgt: 0.67 [2/3]
GhostDiagnostic-chr: 2.561
Centroid-sig: 1.1%
Centroid-so: 2.826 arcsec [2.01 σ]
OotOffset-rm: 3.259 arcsec [6.68 σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-rm: 3.040 arcsec [6.16 σ]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [3/3]

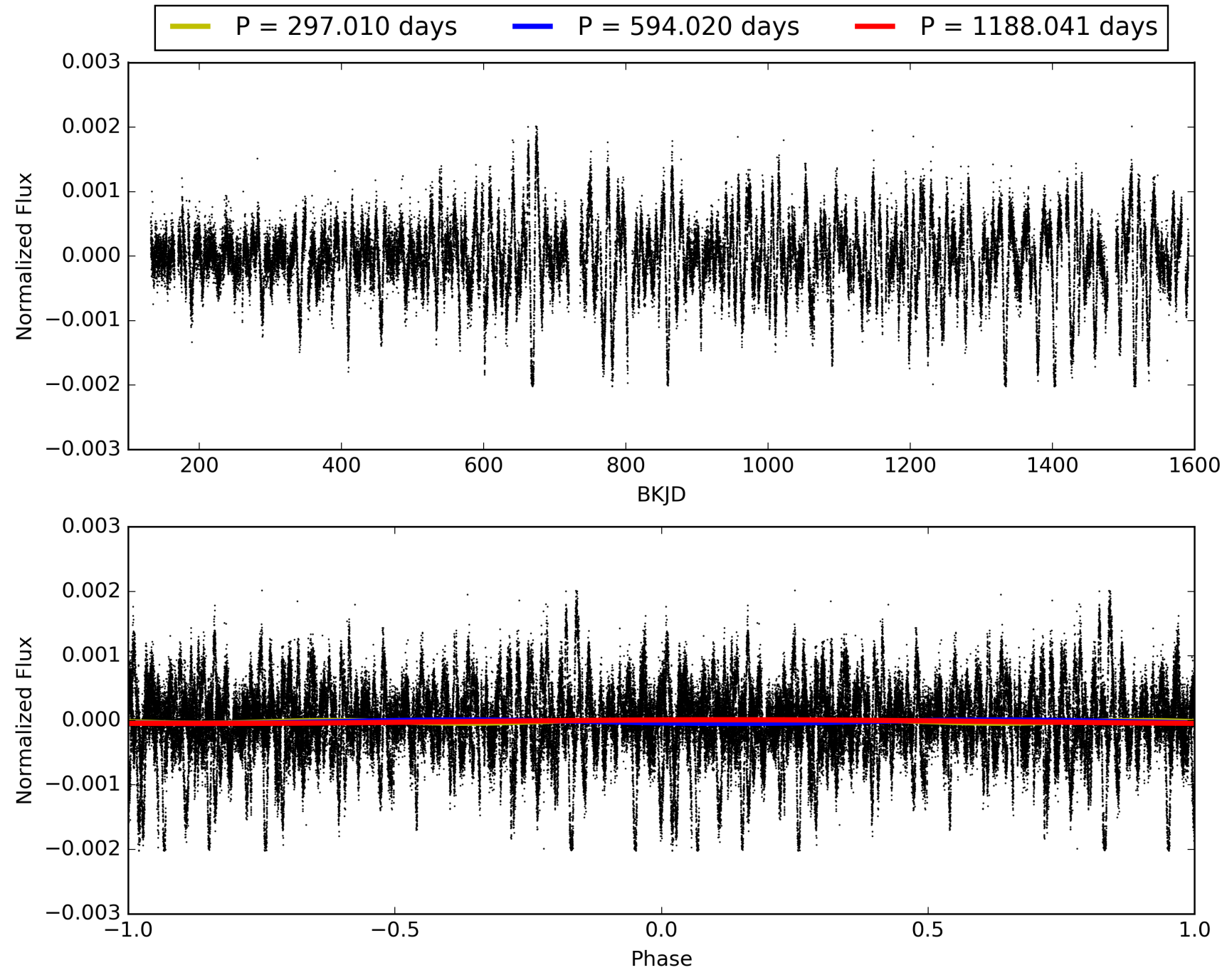
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:13:45 Z

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

TCE 008552999-01, PDC Light Curves

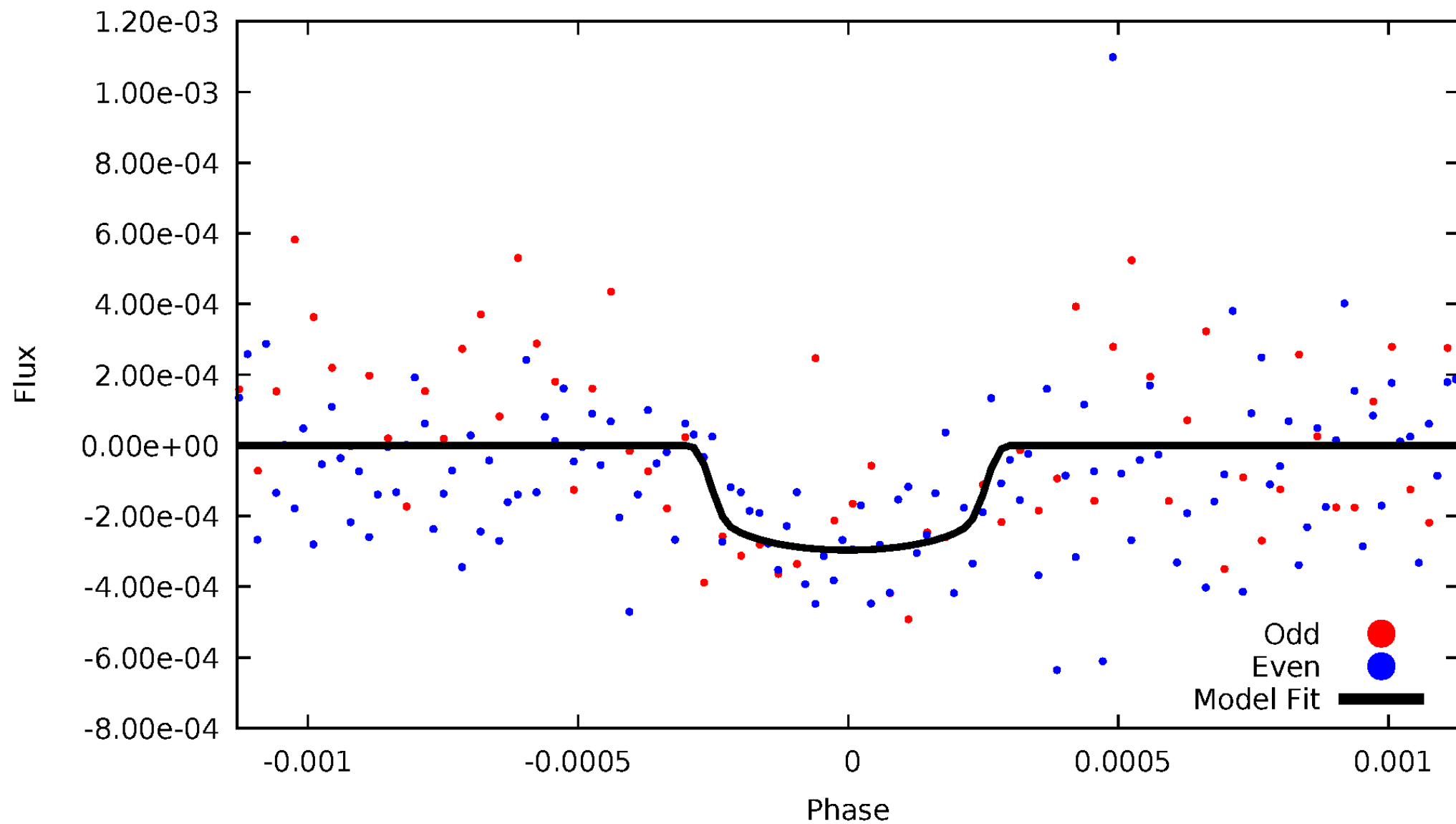


TCE 008552999-01



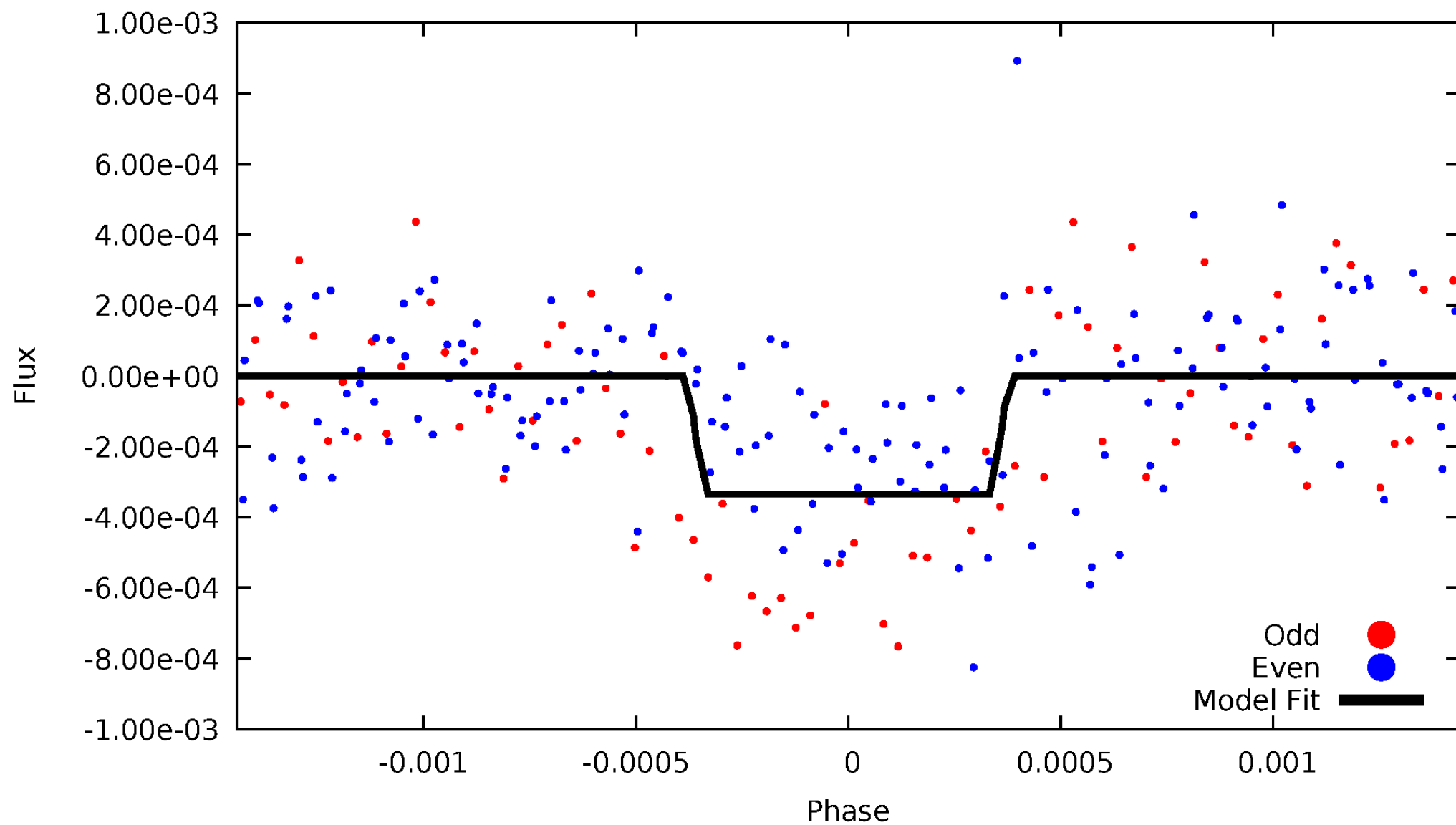
DV Odd/Even

TCE 008552999-01

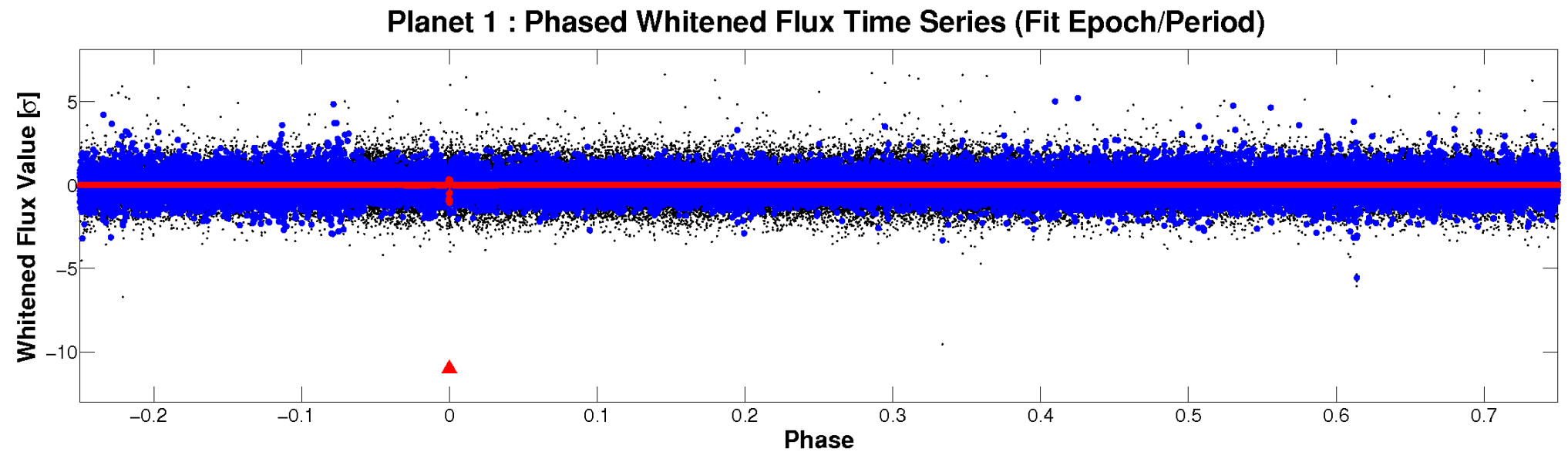
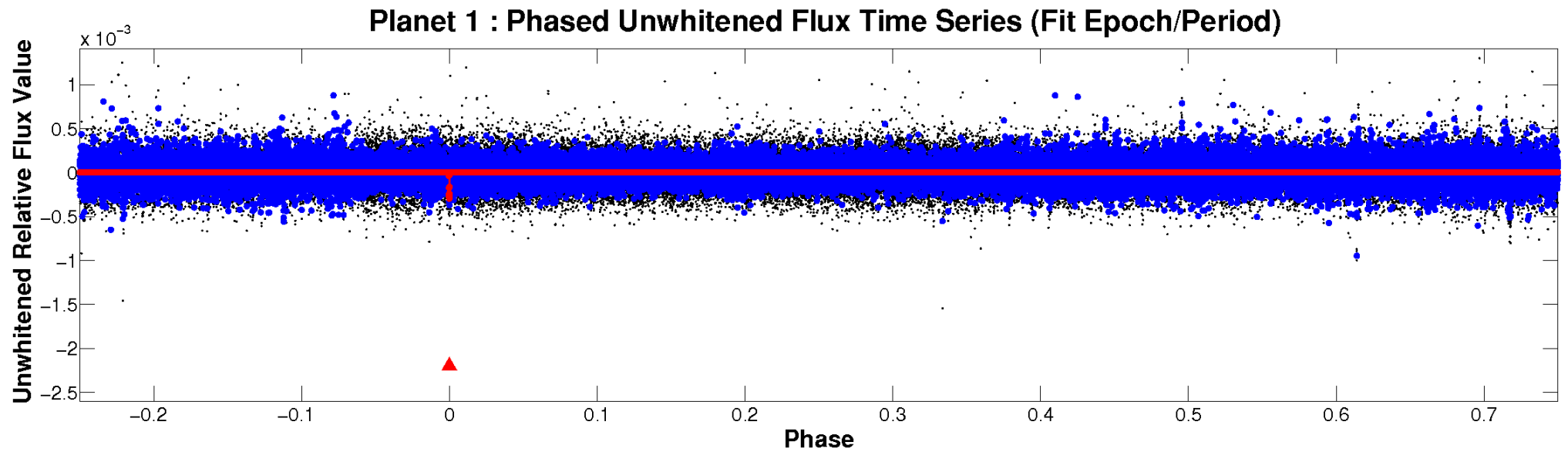


ALT Odd/Even

TCE 008552999-01

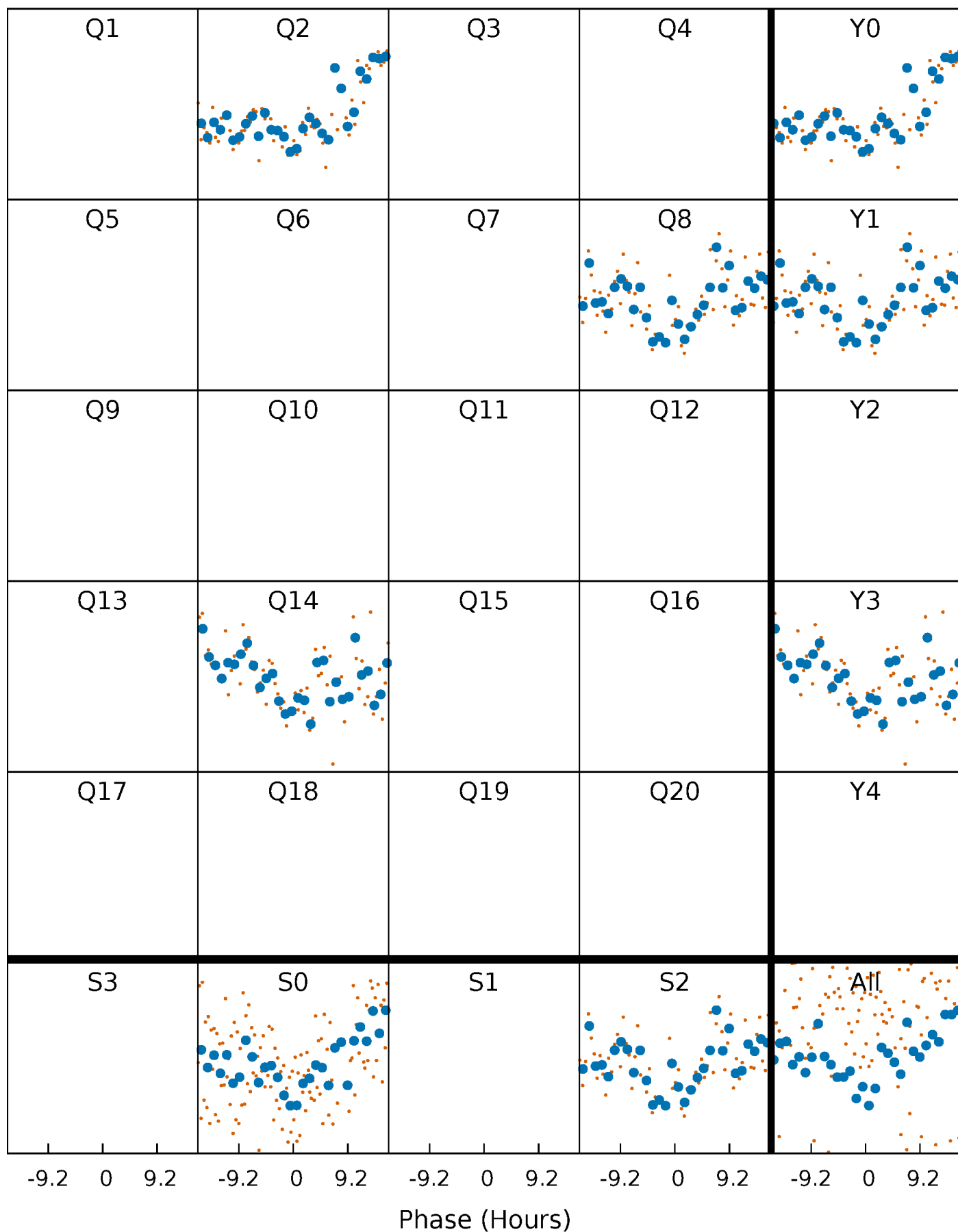


Non-Whitened Vs. Whitened Light Curve



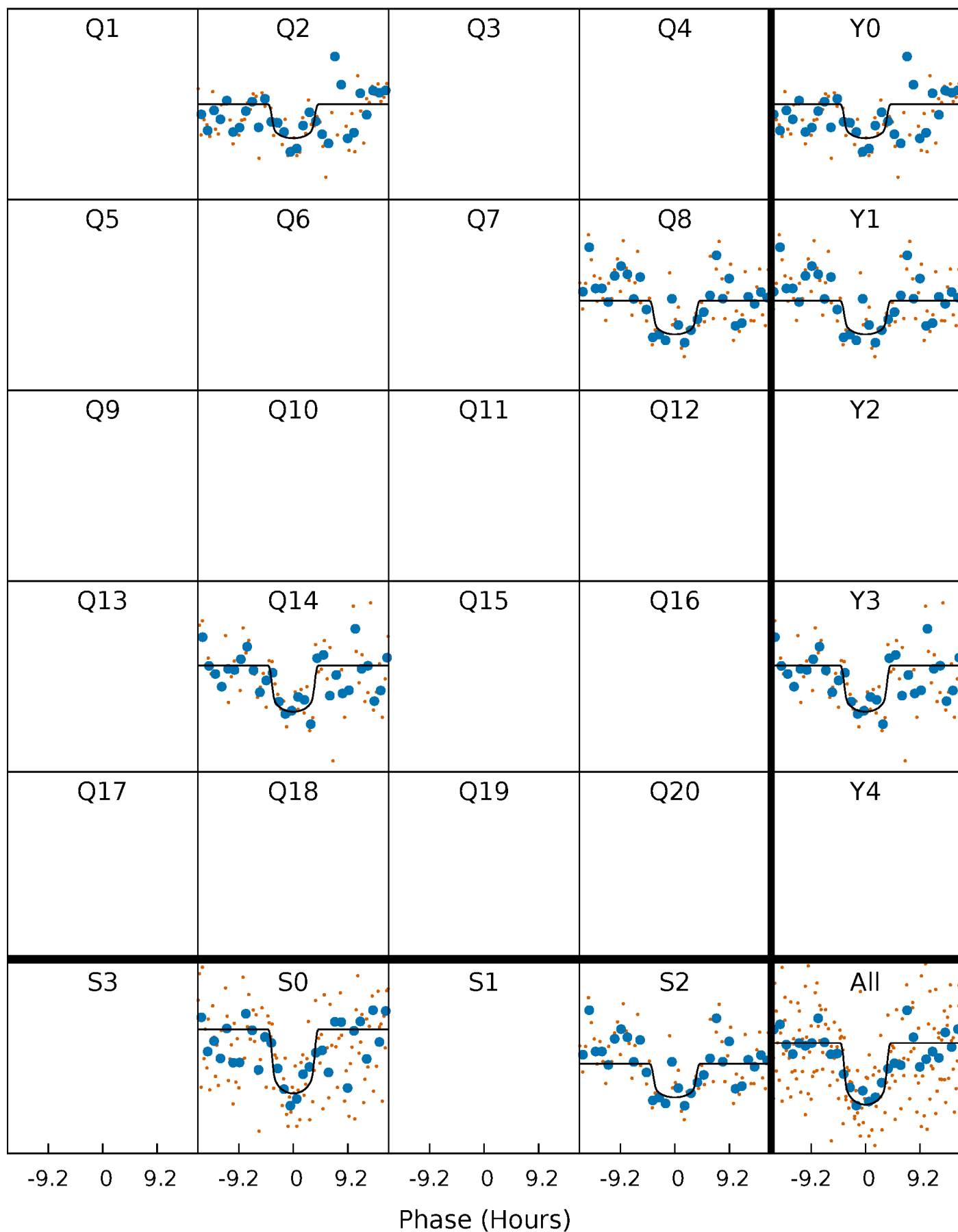
PDC Quarter-Phased Transit Curves

TCE 008552999-01 P=594.020467 Days $T_0=174.767144$ (BKJD)



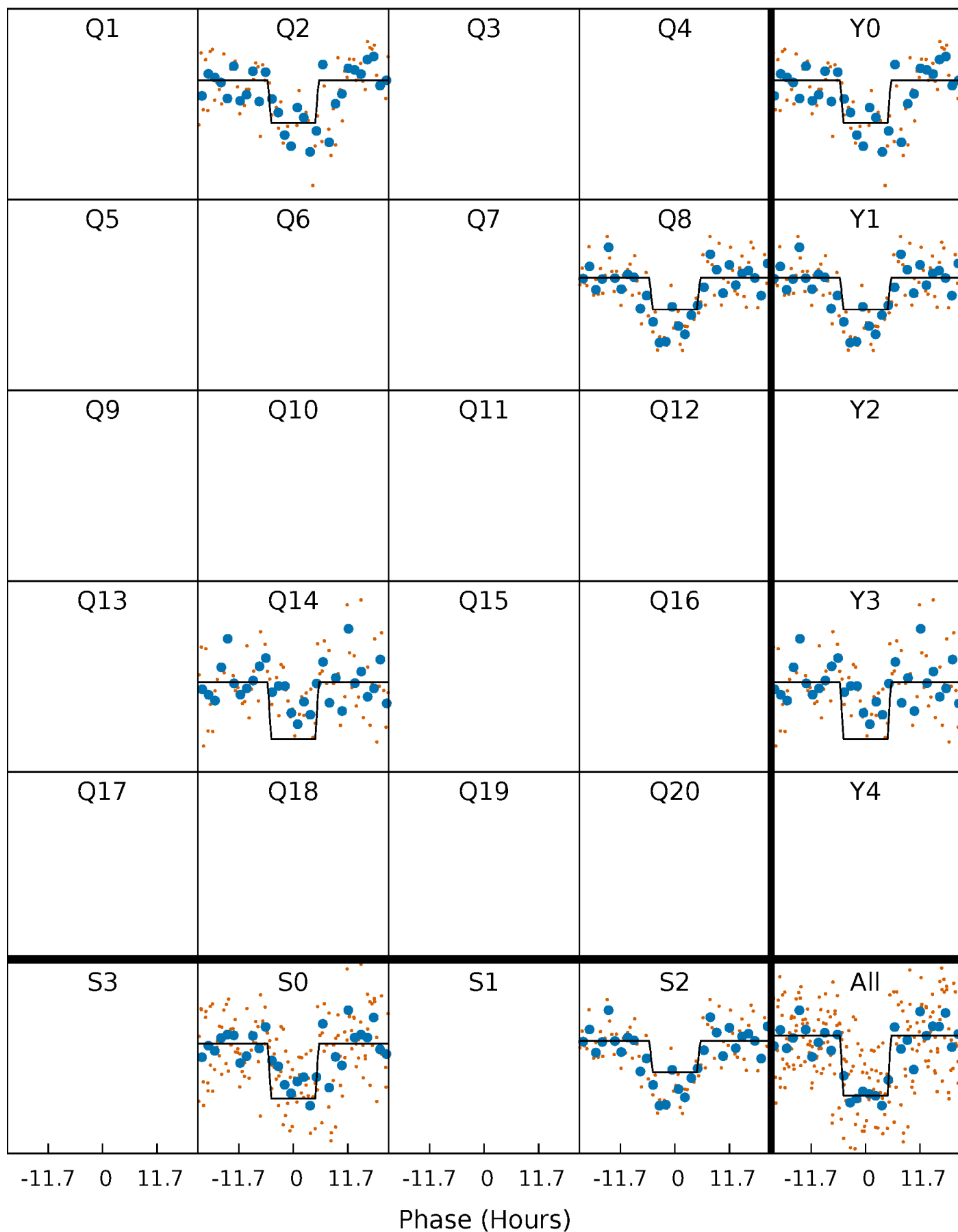
DV Quarter-Phased Transit Curves

TCE 008552999-01 P=594.020467 Days $T_0=174.767144$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

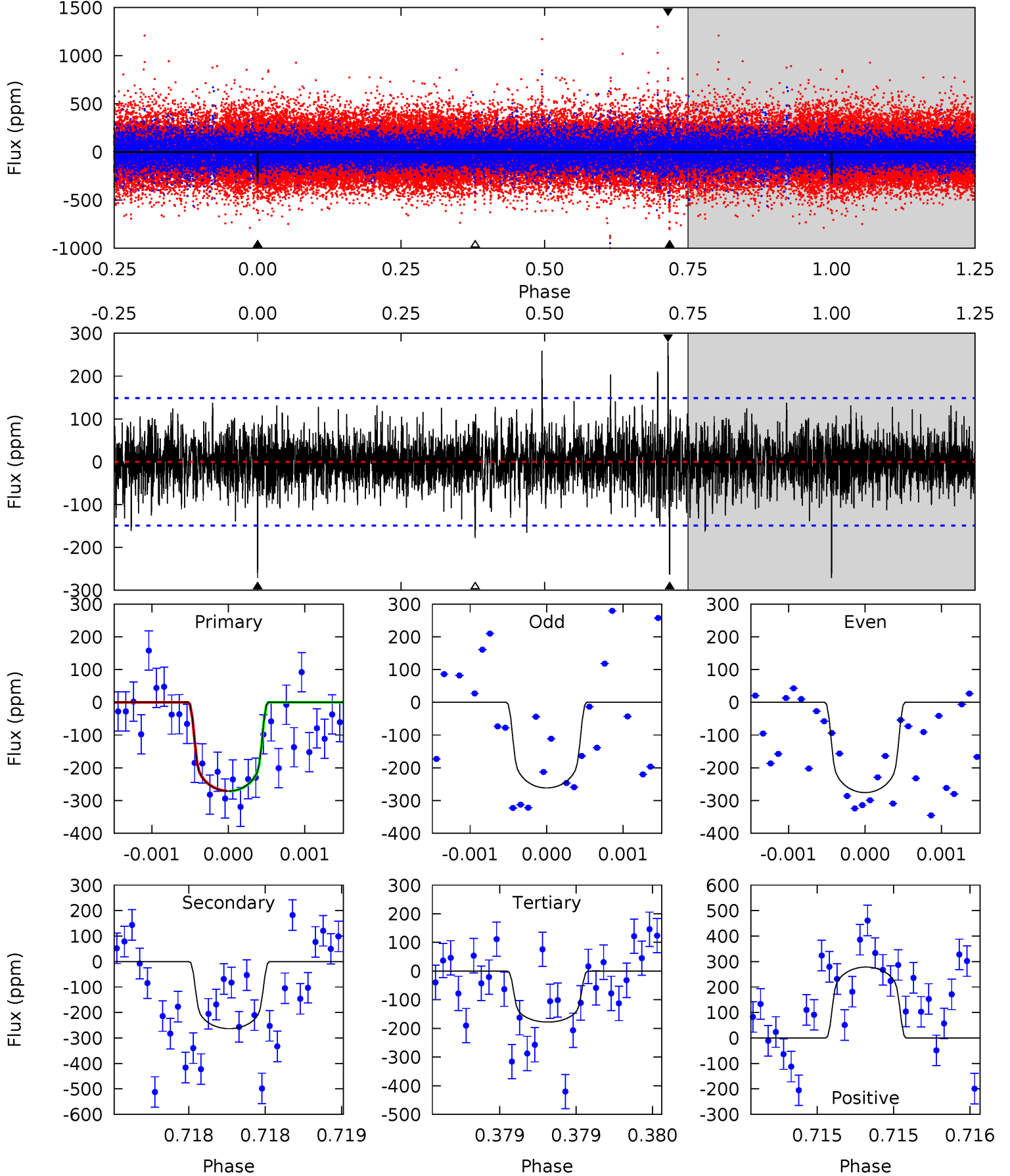
TCE 008552999-01 P=593.962722 Days $T_0=174.821601$ (BKJD)



DV Model-Shift Uniqueness Test

008552999-01, P = 594.020467 Days, E = 174.767144 Days

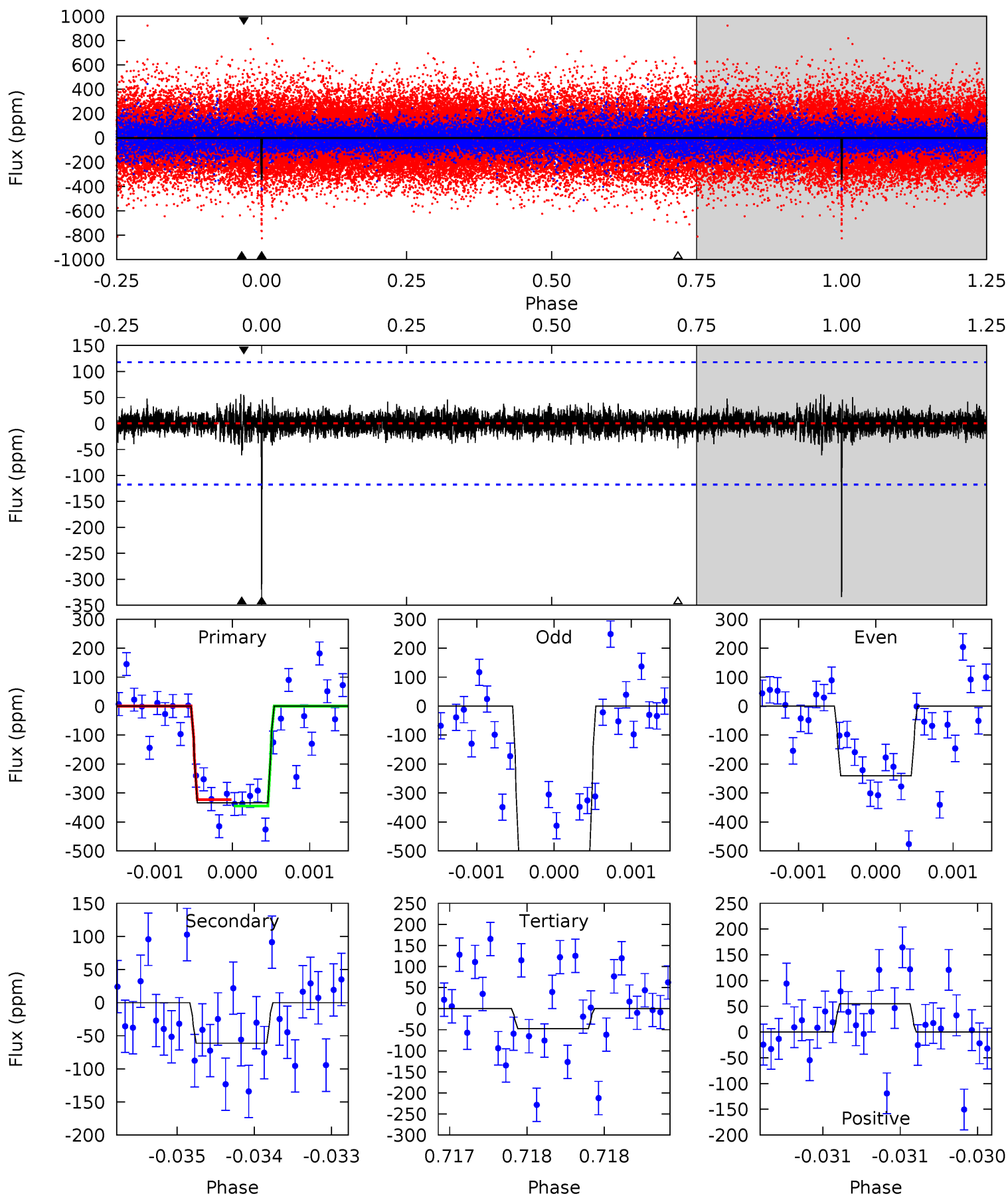
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	9.84	6.64	10.4	5.55	3.45	1.61	3.48	-0.27	3.20	-0.55	0.24	1.01	0.51	0.02



Alt Model-Shift Uniqueness Test

008552999-01, P = 593.962722 Days, E = 174.821601 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	2.87	2.24	2.56	5.51	3.38	0.56	13.4	13.1	0.63	0.31	6.30	0.94	0.14	0.50



Stellar Parameters For KIC 008552999

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5758^{+78}_{-86}	$4.447^{+0.051}_{-0.119}$	$0.100^{+0.150}_{-0.150}$	$0.993^{+0.149}_{-0.069}$	$1.005^{+0.056}_{-0.062}$	$1.447^{+0.297}_{-0.481}$
	+1%/-1%	+1%/-3%	+150%/-150%	+15%/-7%	+6%/-6%	+20%/-33%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 008552999-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-264 ± 27	$2.07^{+0.58}_{-0.60}$	302^{+12}_{-8}	5385^{+980}_{-538}	66005^{+62958}_{-27100}
Alt.	-61 ± 21	$2.01^{+0.60}_{-0.54}$	303^{+11}_{-8}	4051^{+579}_{-432}	15372^{+16502}_{-7406}

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 $A_{obs} \gg 1.0$

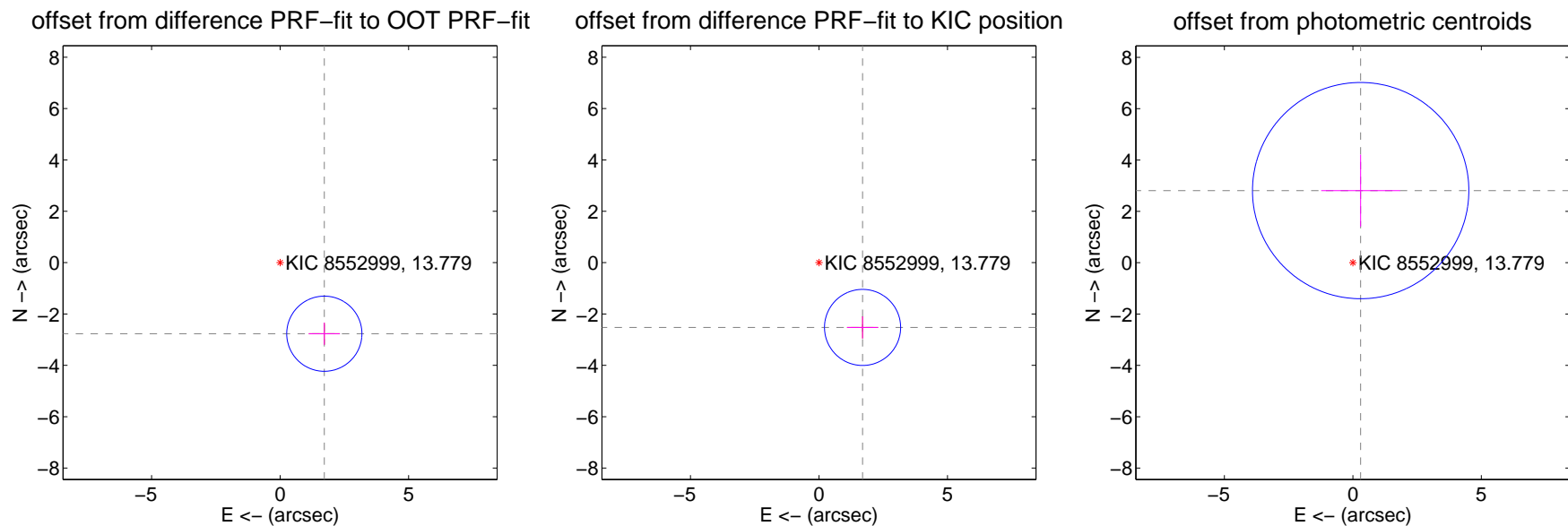
DV Centroid Data

Supplemental centroid analysis for 008552999-01. Kepler magnitude: 13.78. Transit SNR 6.48

There are 0 quarters with good PRF difference image offsets

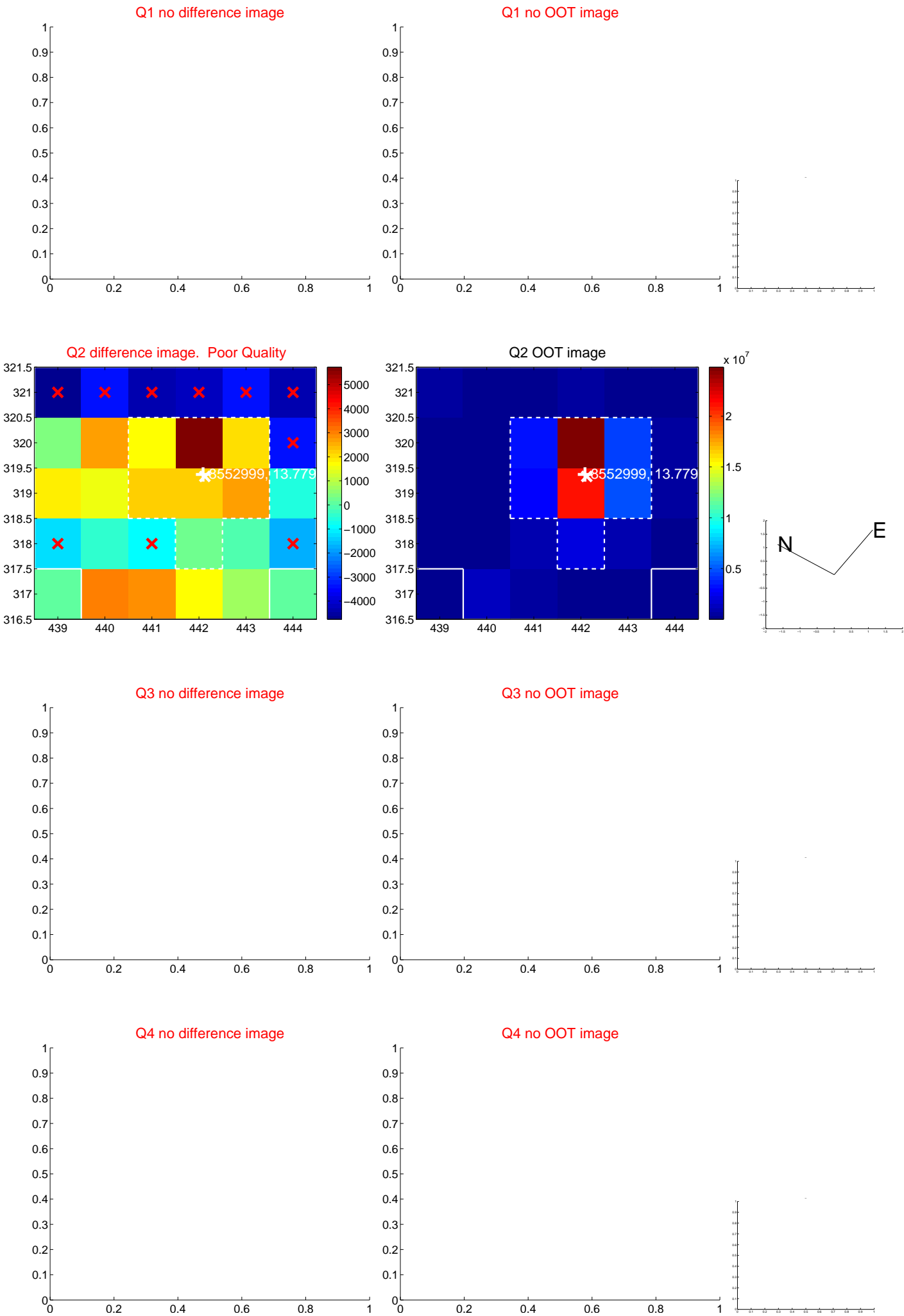
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.259 ± 0.488	6.68	-1.721 ± 0.608	-2.768 ± 0.432
PRF-fit source offset from KIC position	3.040 ± 0.494	6.16	-1.696 ± 0.608	-2.523 ± 0.432
photometric centroid source offset	2.83 ± 1.40	2.01	-0.30 ± 1.54	2.81 ± 1.40

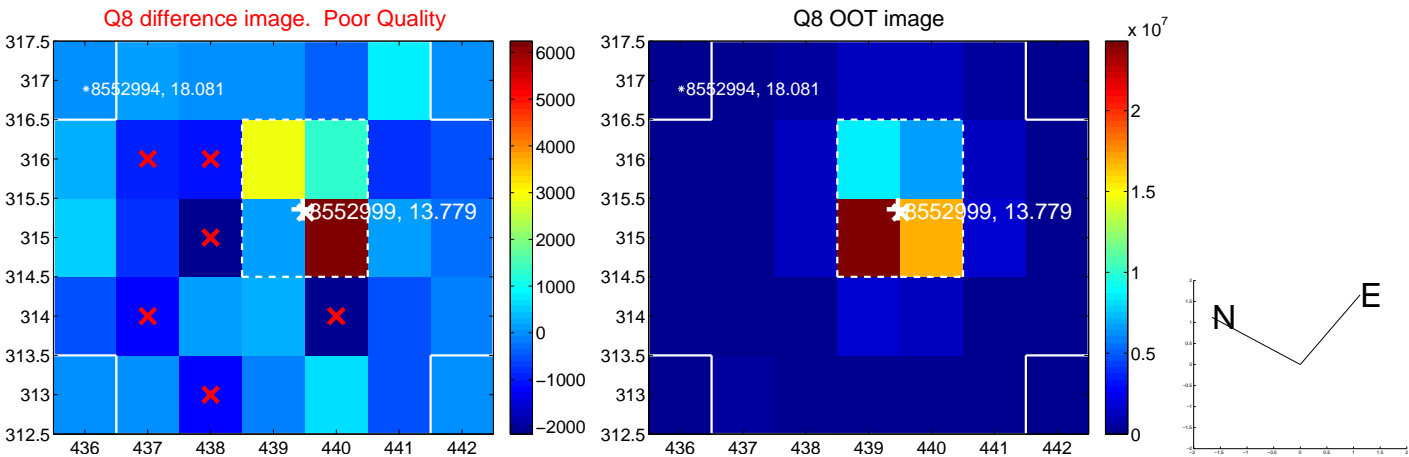


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



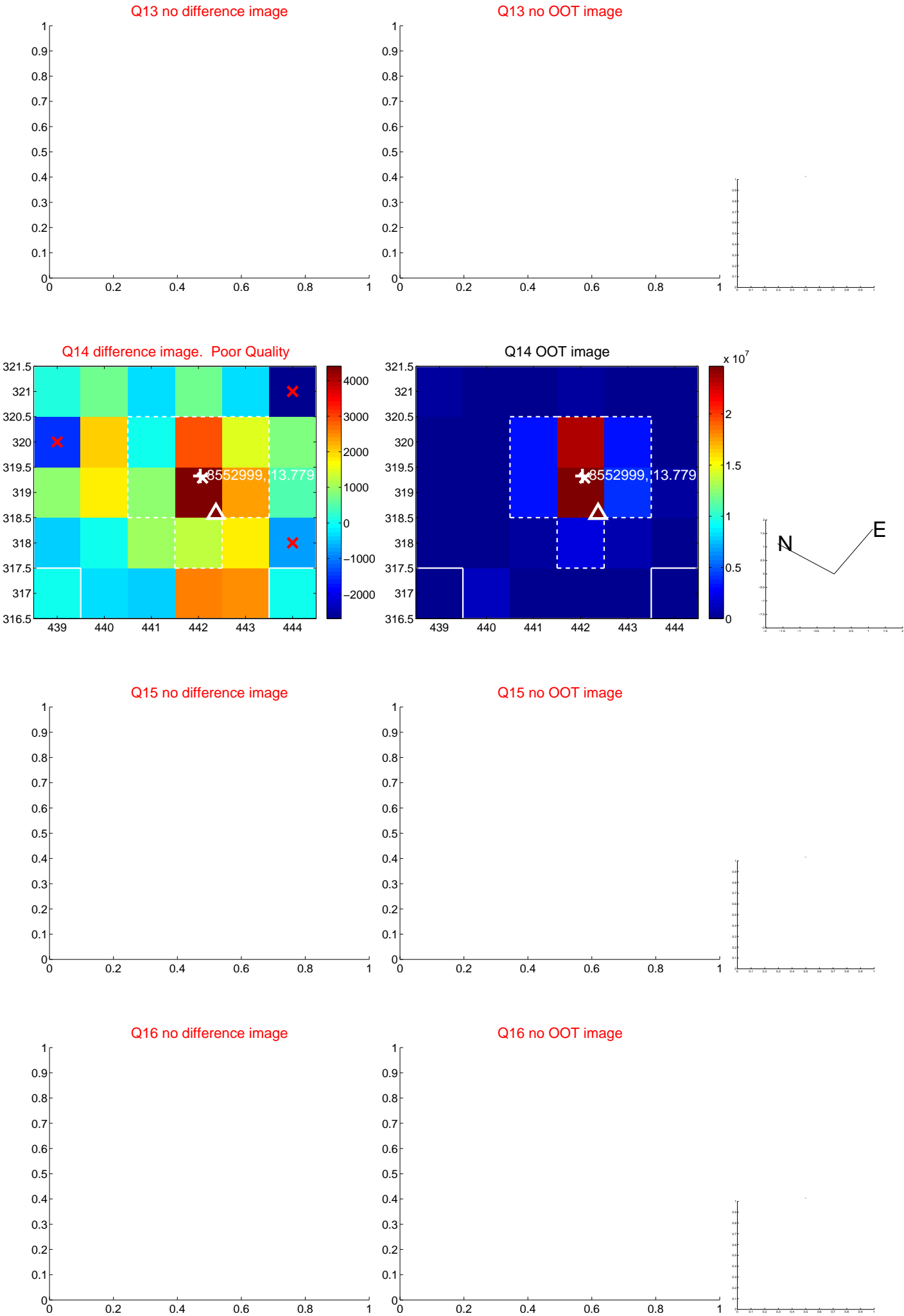
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



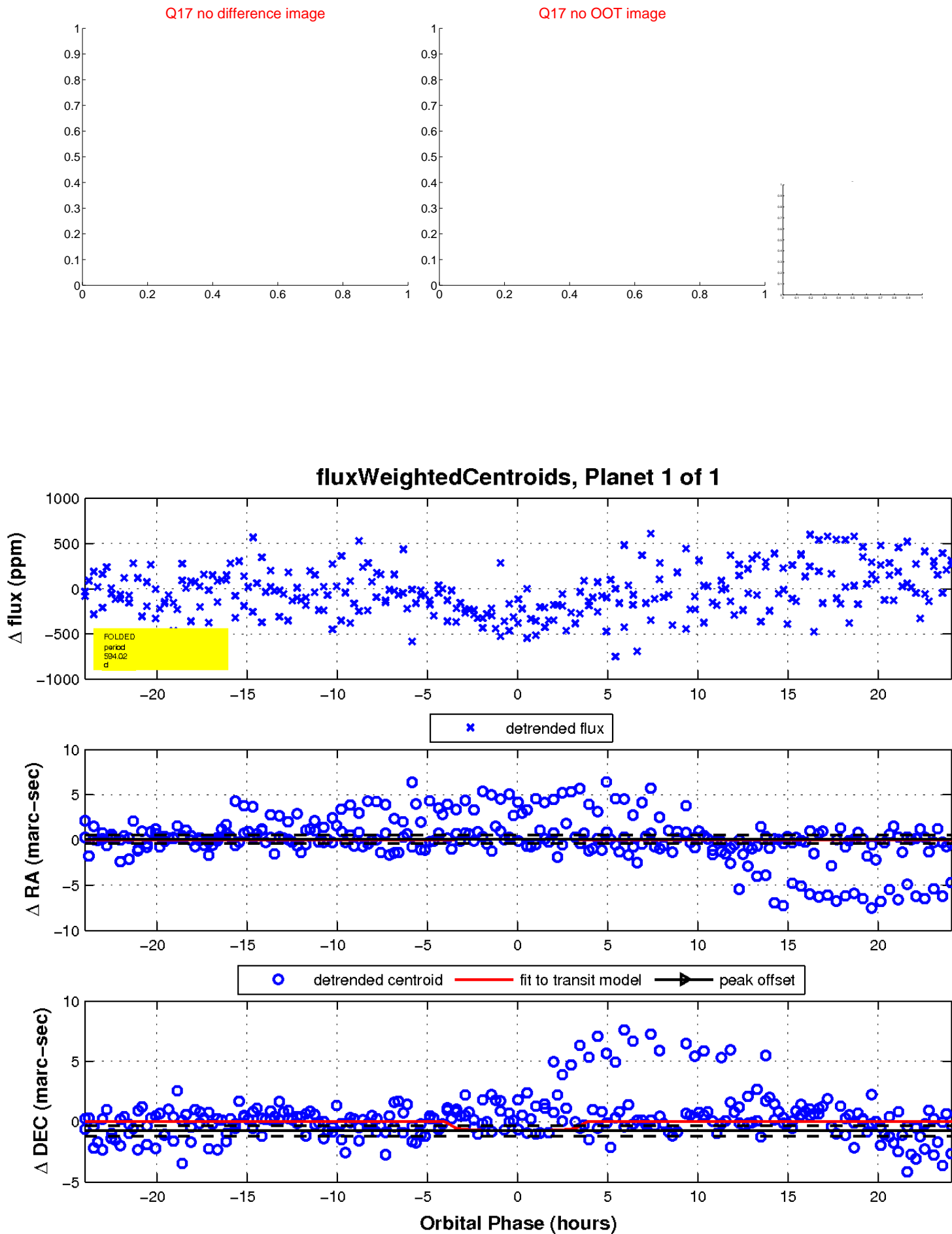
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

