

KIC 009517581

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})
009517581-01	OBS	No	560.842786	155.616493	390.8	22.338	7.4	7.7	0.84	5497	1.82	0.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009517581-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—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.

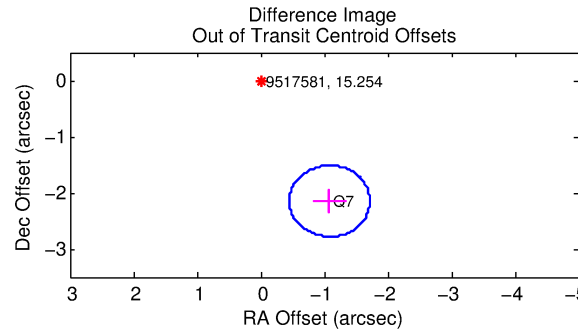
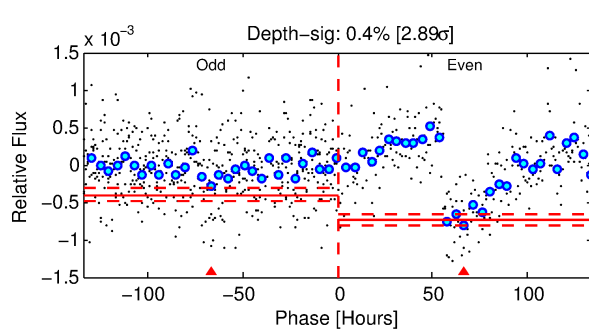
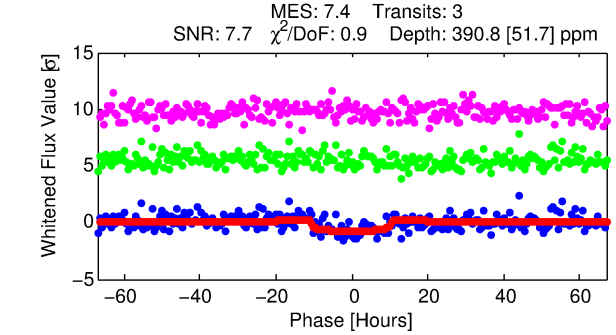
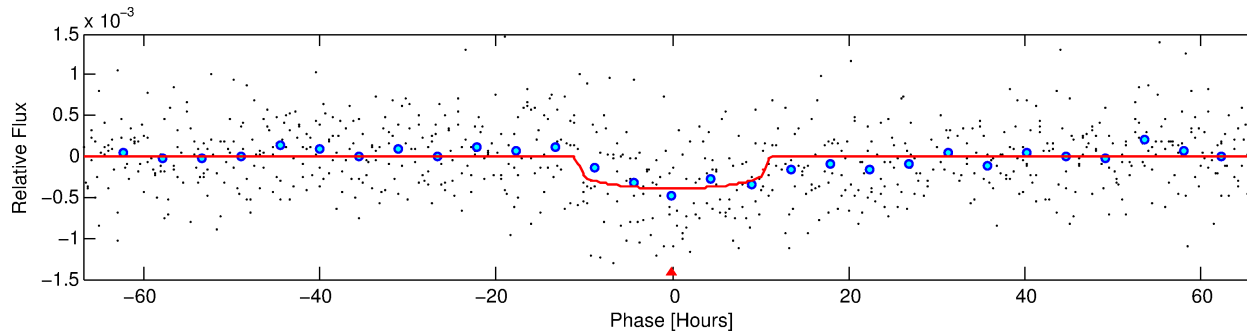
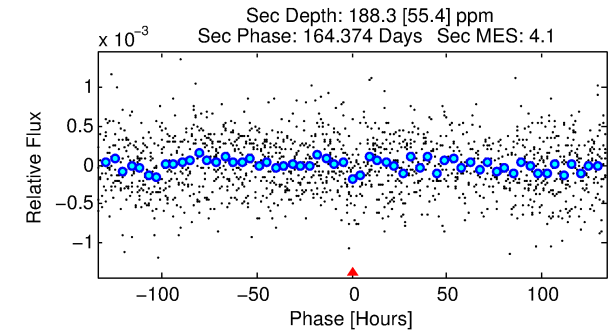
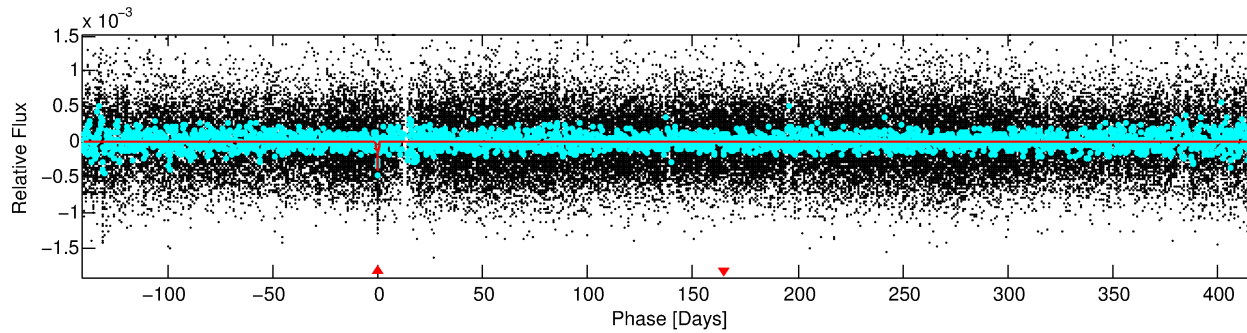
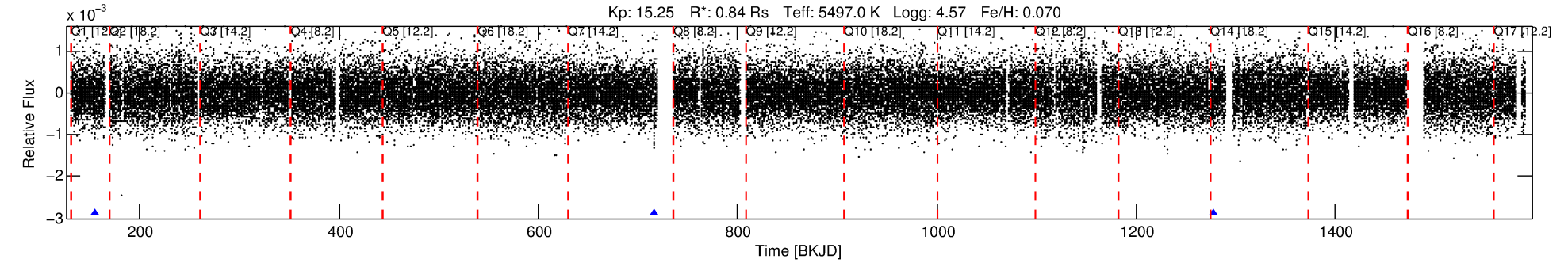
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009517581-01

No Significant Match Found

DV One-Page Summary

KIC: 9517581 Candidate: 1 of 1 Period: 560.843 d



DV Fit Results:

Period = 560.84279 [0.02433] d
Epoch = 155.6165 [0.0314] BKJD
Rp/R* = 0.0198 [0.0059]
a/R* = 128.93 [152.30]
b = 0.77 [0.64]
Seff = 0.34 [0.10]
Teq = 194 [14] K
Rp = 1.82 [0.66] Re
a = 1.3105 [0.2295] AU
Ag = 53925.64 [38467.06] [1.40σ]
Teffp = 4572 [772] K [5.67σ]

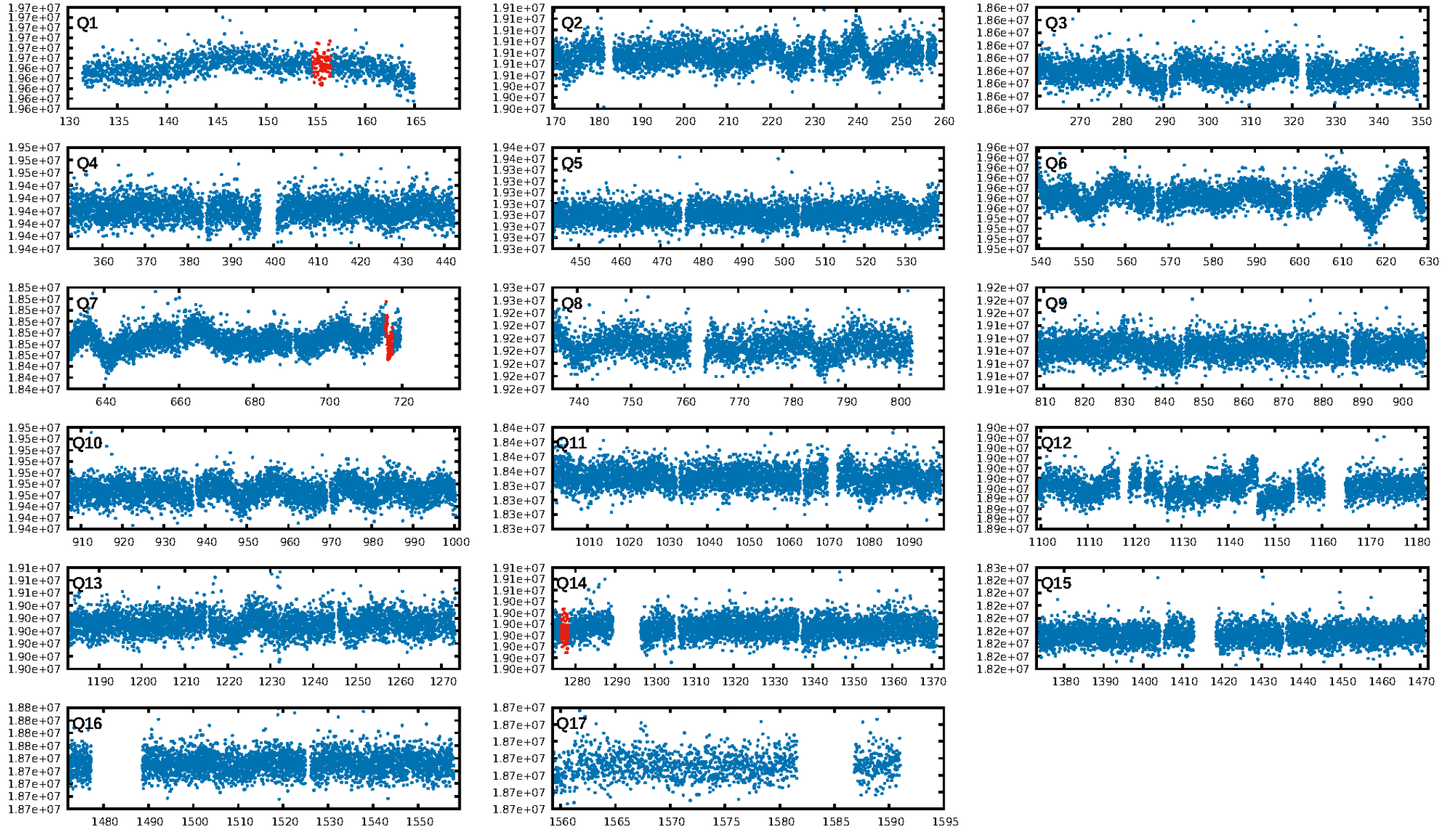
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 8.40e-10
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 0.495
Centroid-sig: 3.0%
Centroid-so: 3.056 arcsec [1.75σ]
OotOffset-rm: 2.406 arcsec [11.39σ]
KicOffset-rm: 2.612 arcsec [12.40σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [2/2]

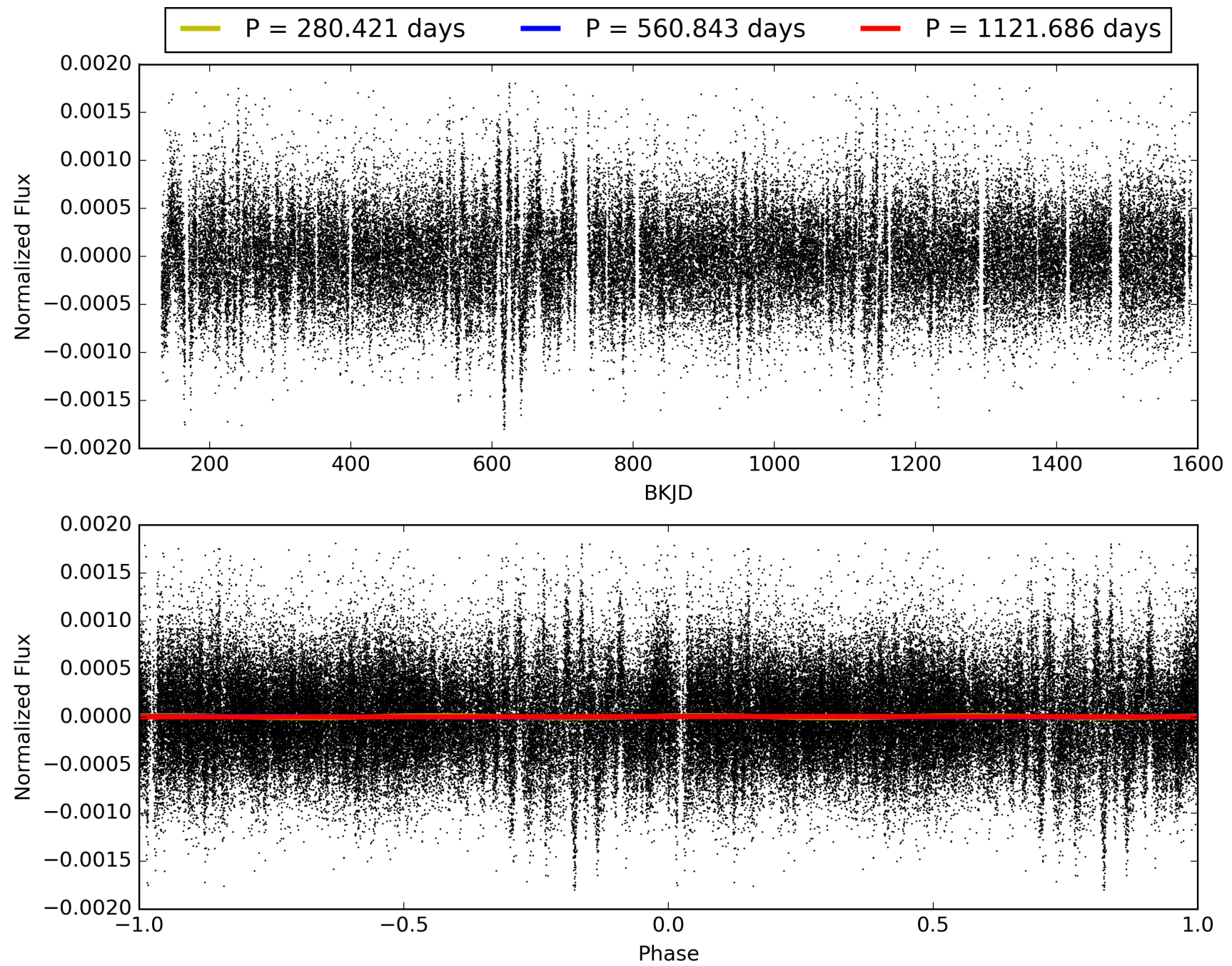
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:47:33 Z

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

TCE 009517581-01, PDC Light Curves

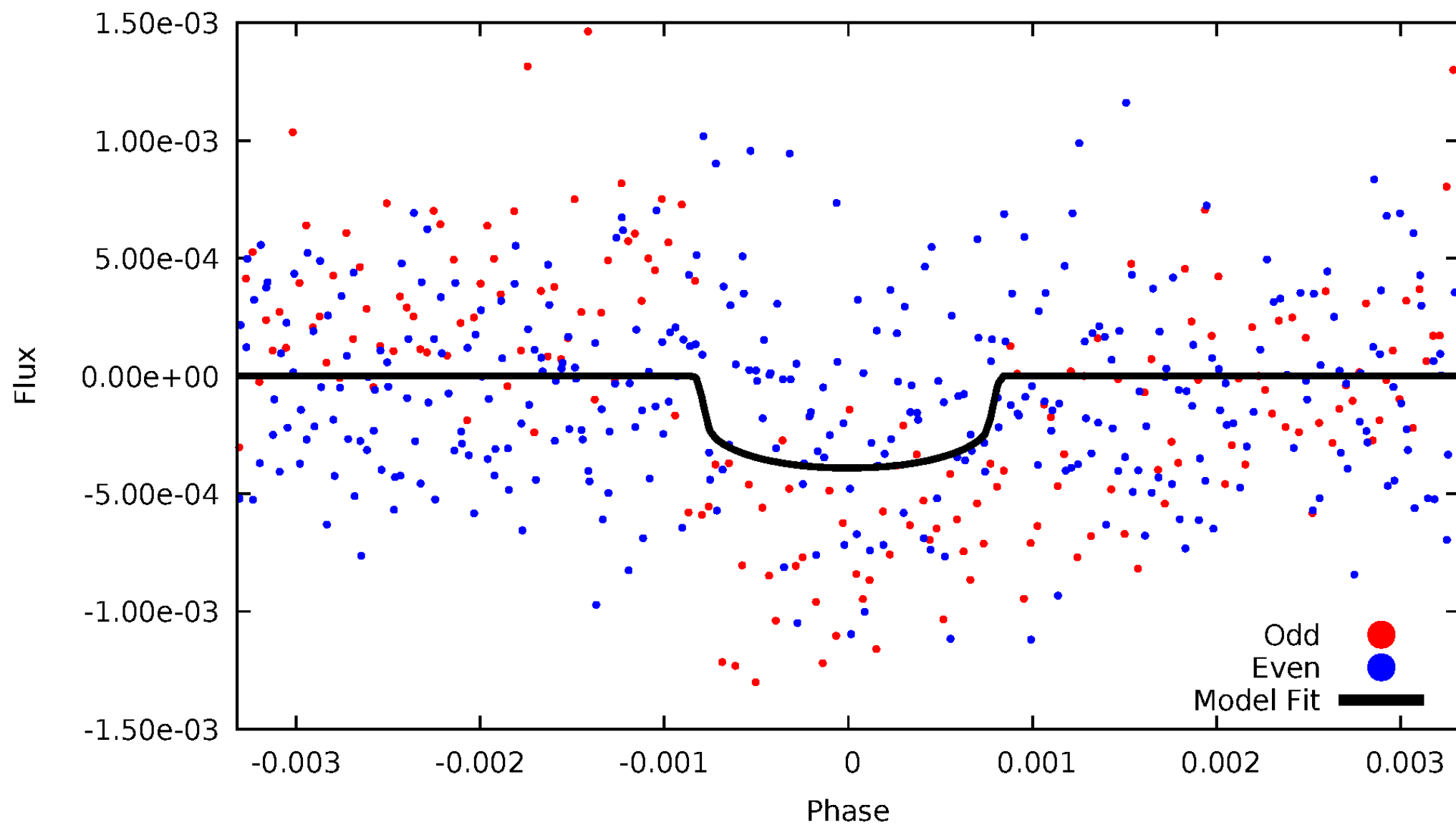


TCE 009517581-01



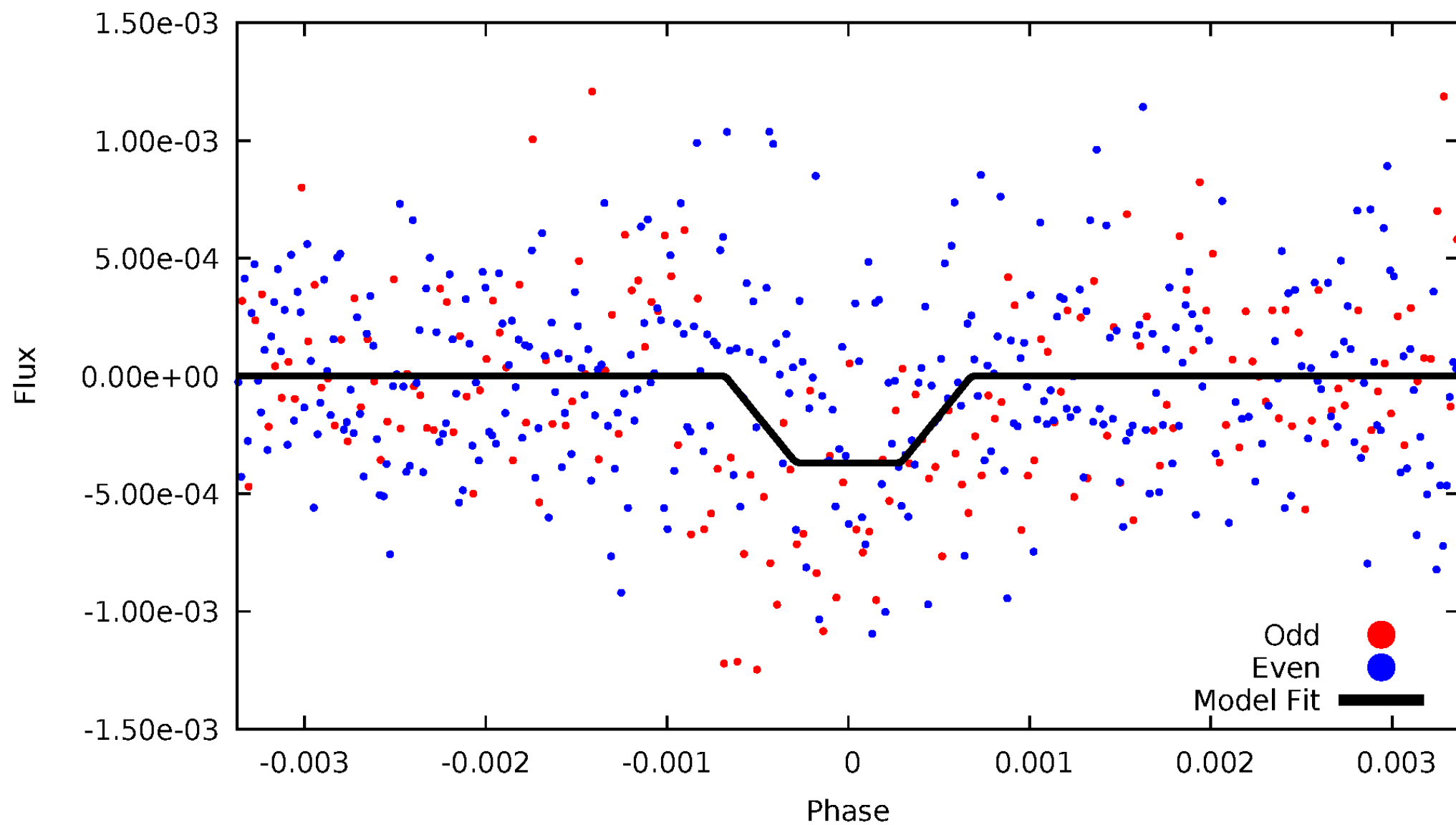
DV Odd/Even

TCE 009517581-01



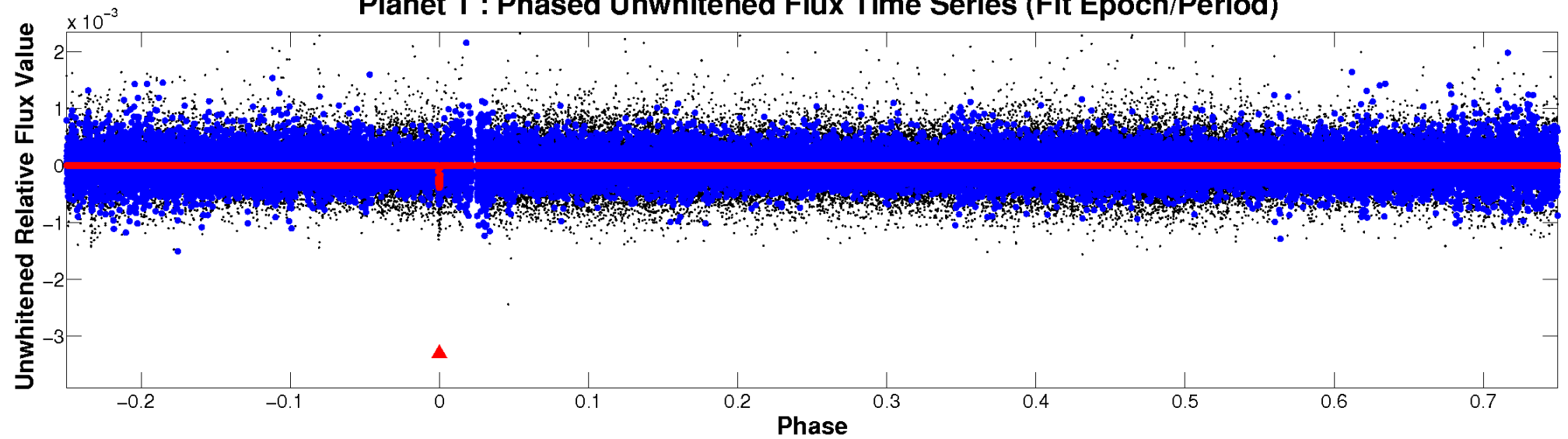
ALT Odd/Even

TCE 009517581-01

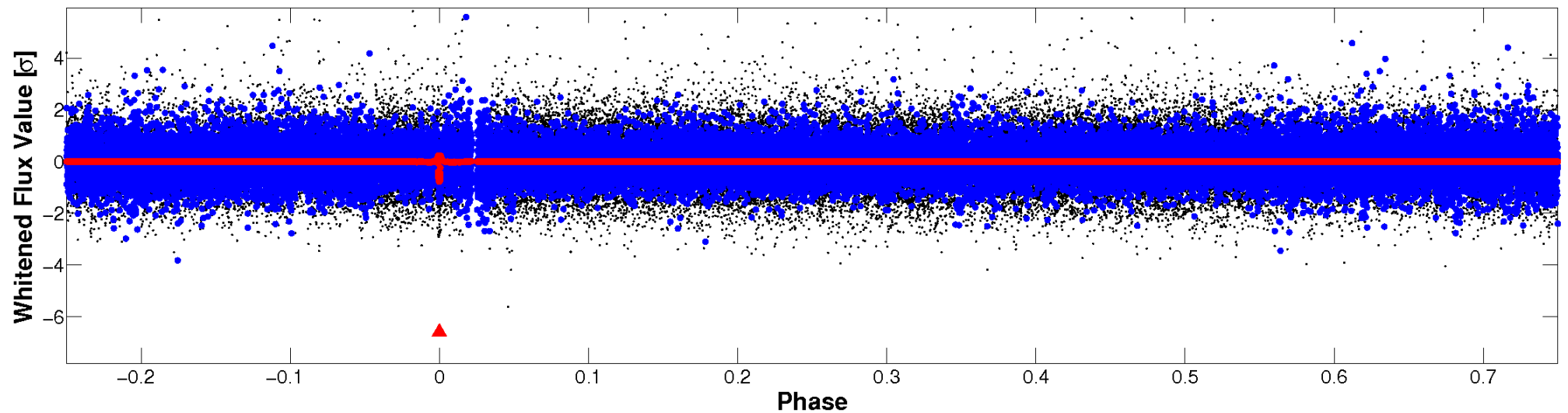


Non-Whitened Vs. Whitened Light Curve

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

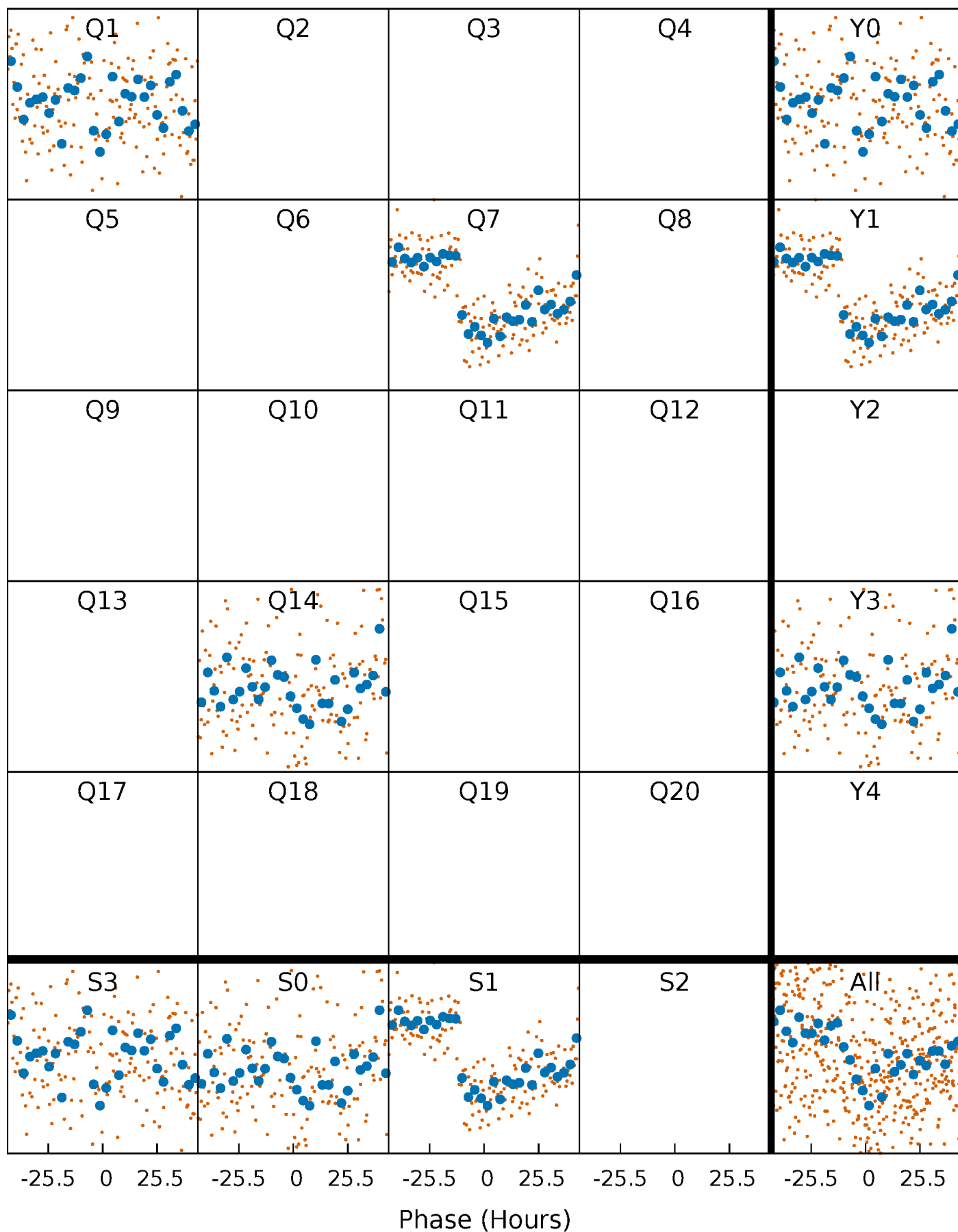


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



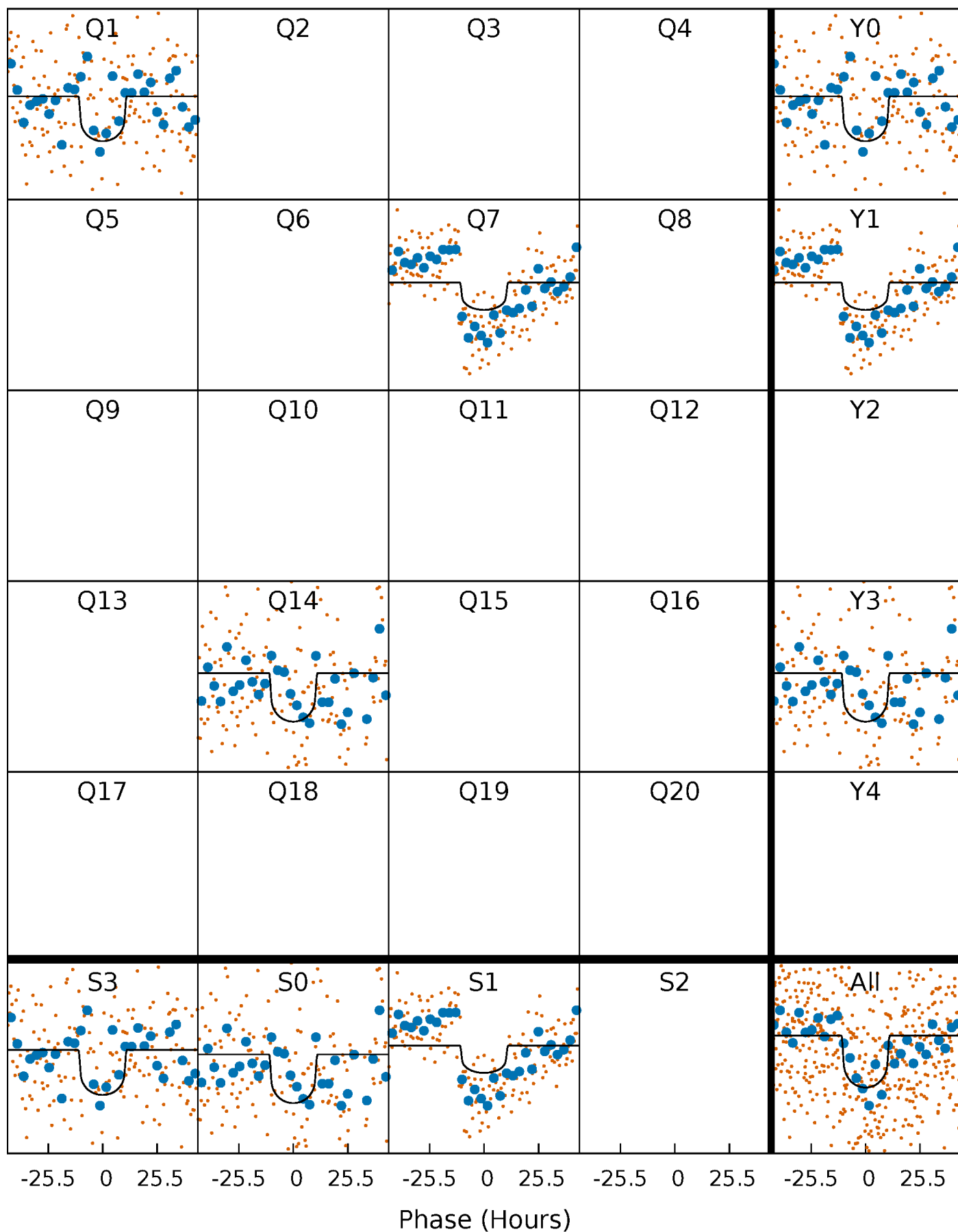
PDC Quarter-Phased Transit Curves

TCE 009517581-01 P=560.842785 Days $T_0=155.616493$ (BKJD)



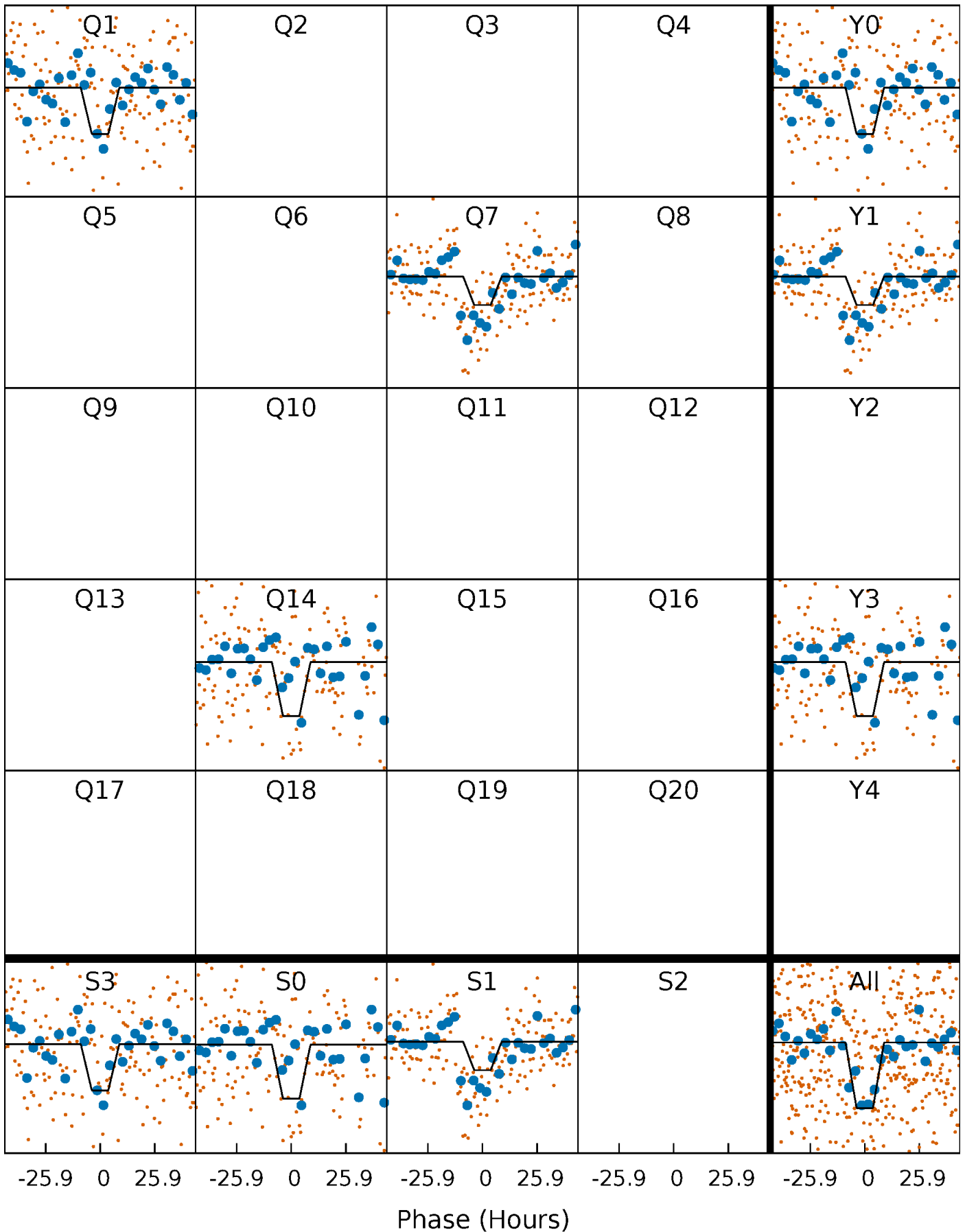
DV Quarter-Phased Transit Curves

TCE 009517581-01 P=560.842785 Days $T_0=155.616493$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

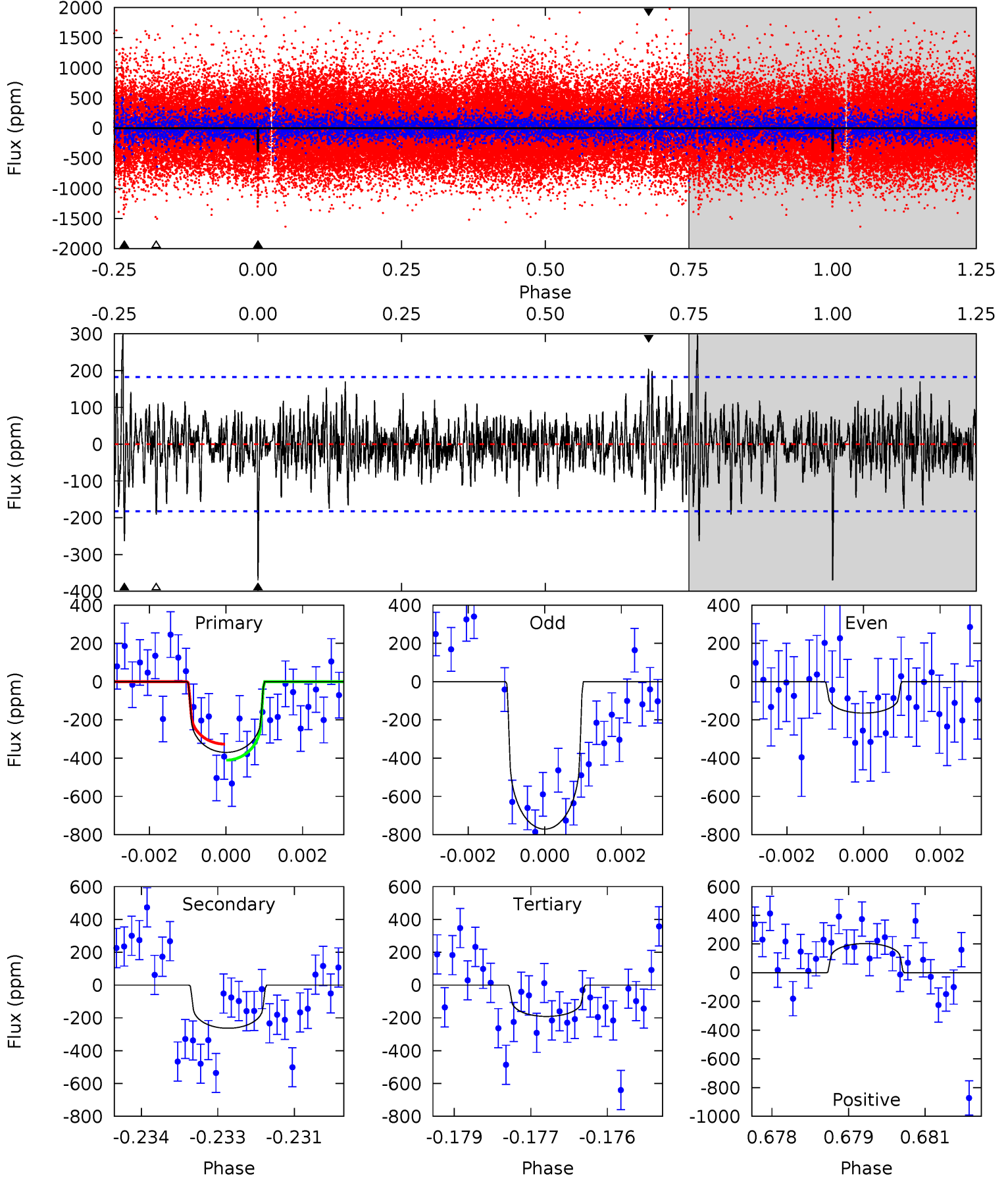
TCE 009517581-01 P=560.908033 Days $T_0=155.550886$ (BKJD)



DV Model-Shift Uniqueness Test

009517581-01, P = 560.842785 Days, E = 155.616493 Days

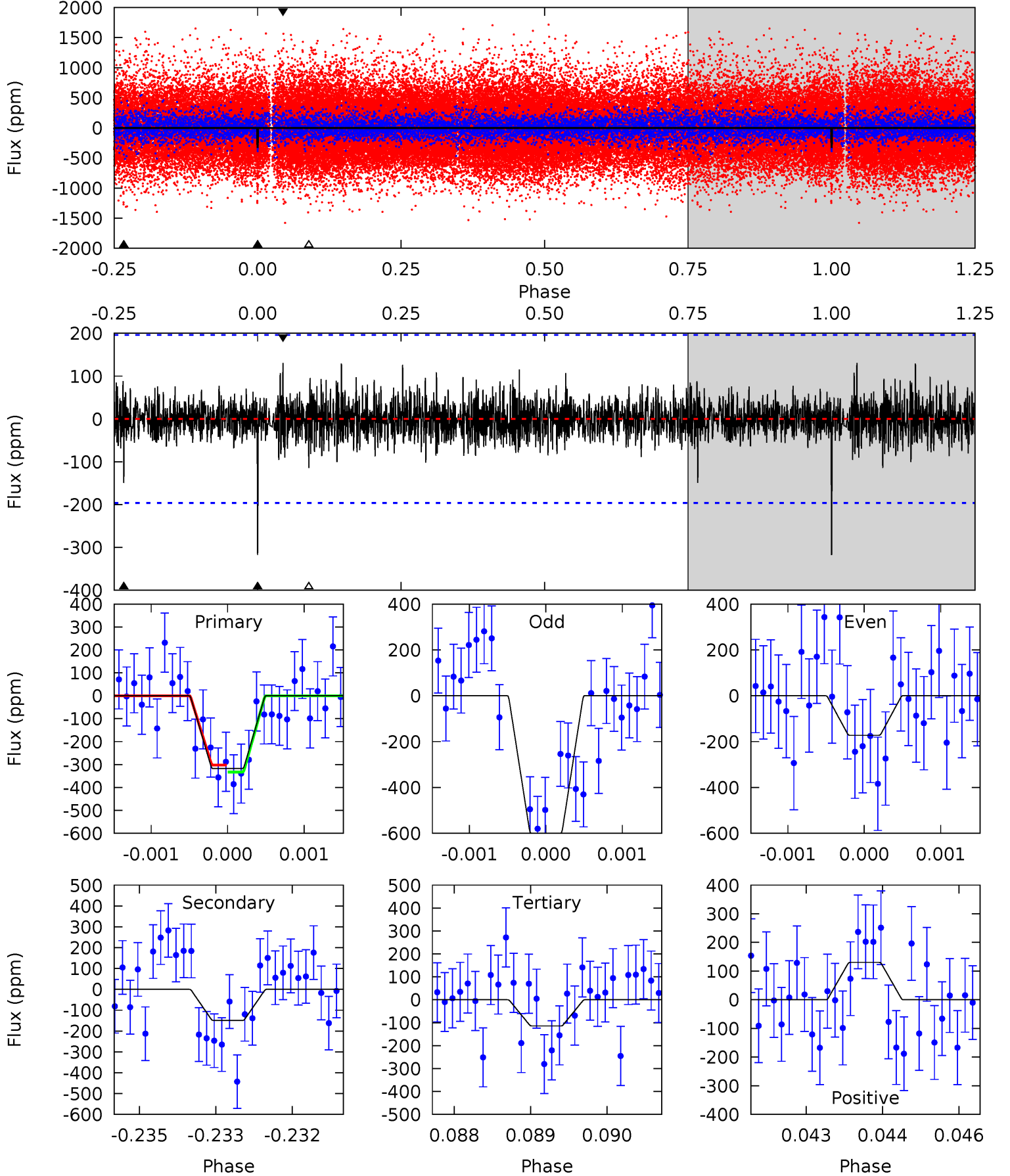
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.9	7.73	5.61	5.98	5.36	3.14	1.57	5.24	4.88	2.12	1.75	8.42	2.11	0.45	1.23



Alt Model-Shift Uniqueness Test

009517581-01, P = 560.908033 Days, E = 155.550886 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.73	4.10	3.14	3.58	5.39	3.20	0.90	5.59	5.15	0.96	0.51	5.58	1.43	0.29	0.42



Stellar Parameters For KIC 009517581

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5497^{+147}_{-164}	$4.570^{+0.027}_{-0.144}$	$0.070^{+0.250}_{-0.300}$	$0.839^{+0.171}_{-0.069}$	$0.952^{+0.065}_{-0.106}$	$2.272^{+0.327}_{-0.946}$
	+3%/-3%	+1%/-3%	+357%/-429%	+20%/-8%	+7%/-11%	+14%/-42%
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 009517581-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-263 ± 34	$1.84^{+0.63}_{-0.56}$	276^{+14}_{-10}	5047^{+1000}_{-536}	70968^{+80223}_{-31426}
Alt.	-149 ± 36	$1.84^{+0.58}_{-0.52}$	277^{+15}_{-10}	4518^{+741}_{-499}	39567^{+44194}_{-18348}

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

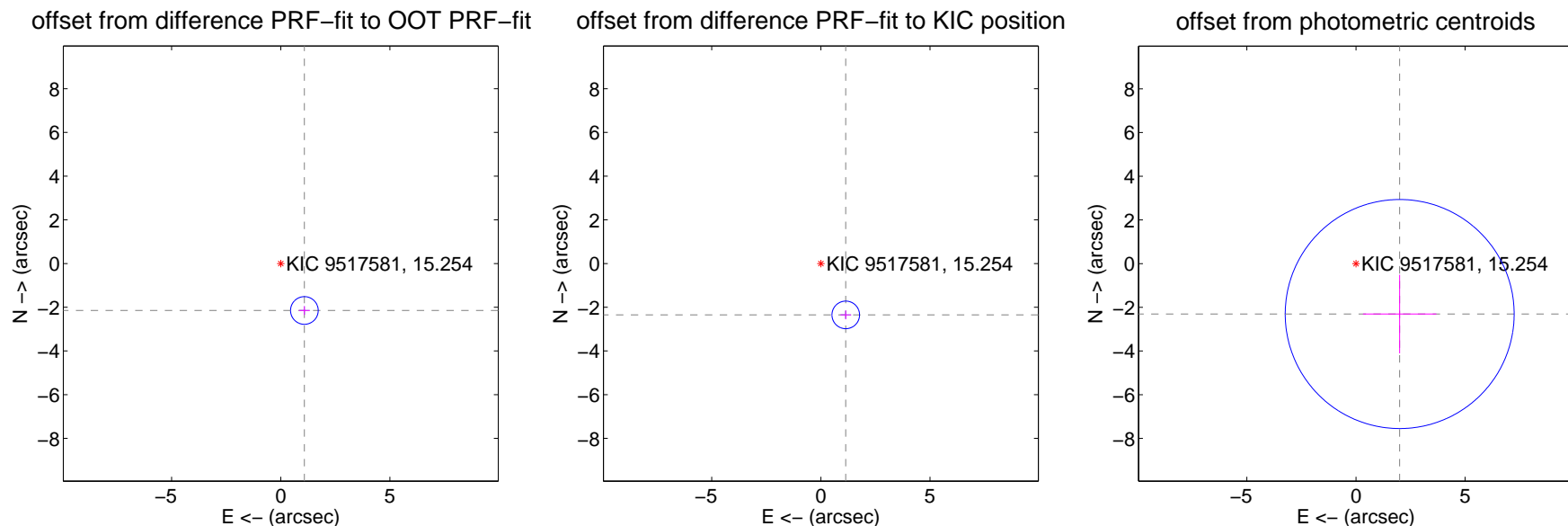
DV Centroid Data

Supplemental centroid analysis for 009517581-01. Kepler magnitude: 15.25. Transit SNR 7.67

There are 1 quarters with good PRF difference image offsets

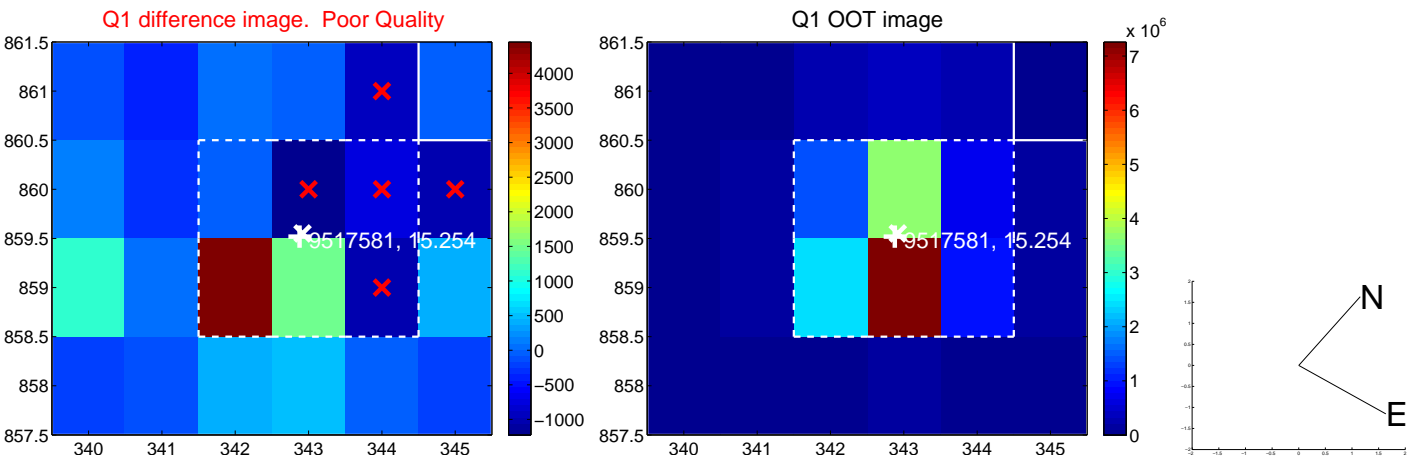
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.406 ± 0.211	11.39	-1.082 ± 0.247	-2.148 ± 0.201
PRF-fit source offset from KIC position	2.612 ± 0.211	12.40	-1.140 ± 0.247	-2.350 ± 0.201
photometric centroid source offset	3.06 ± 1.75	1.75	-2.00 ± 1.68	-2.31 ± 1.80

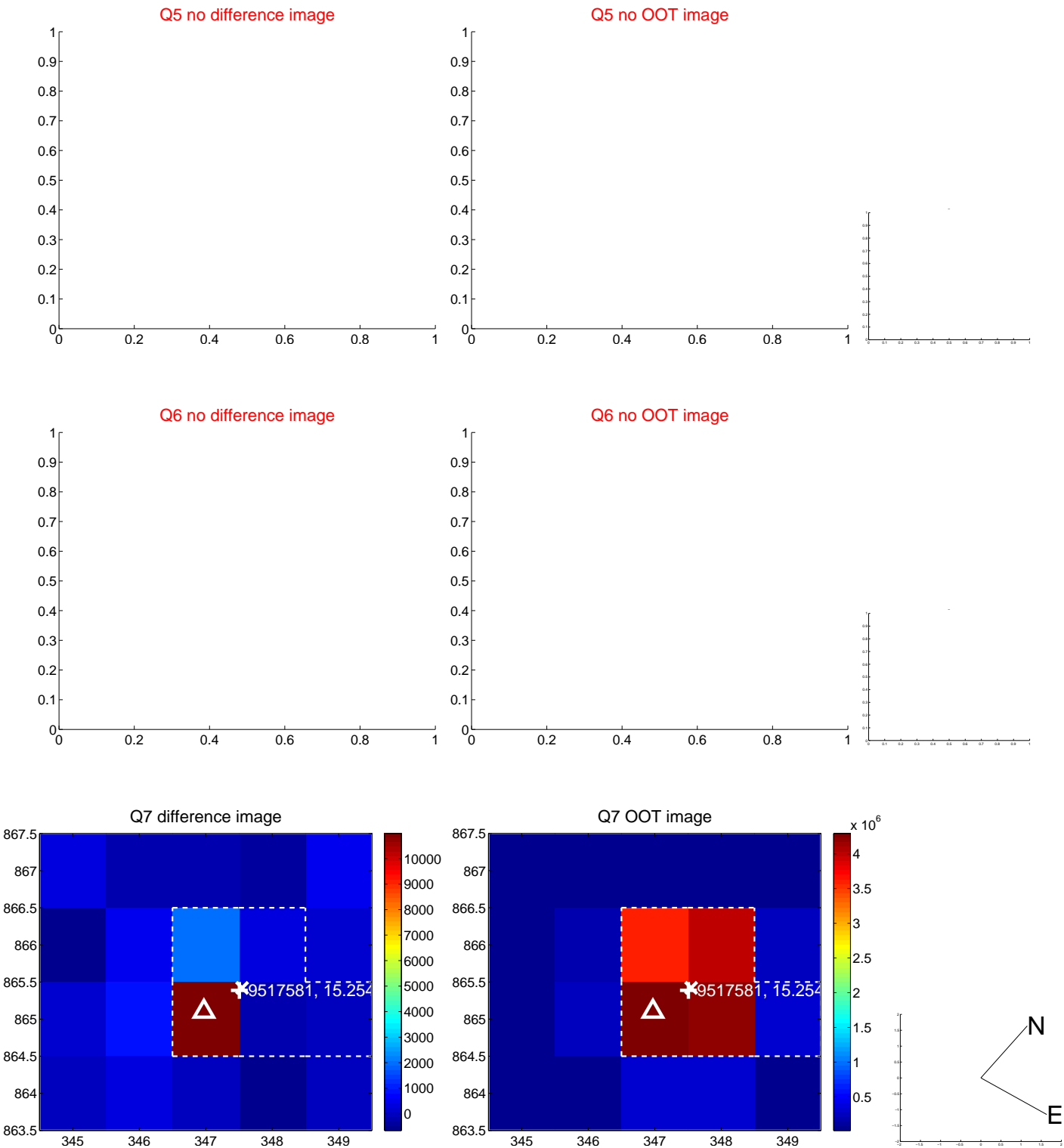


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



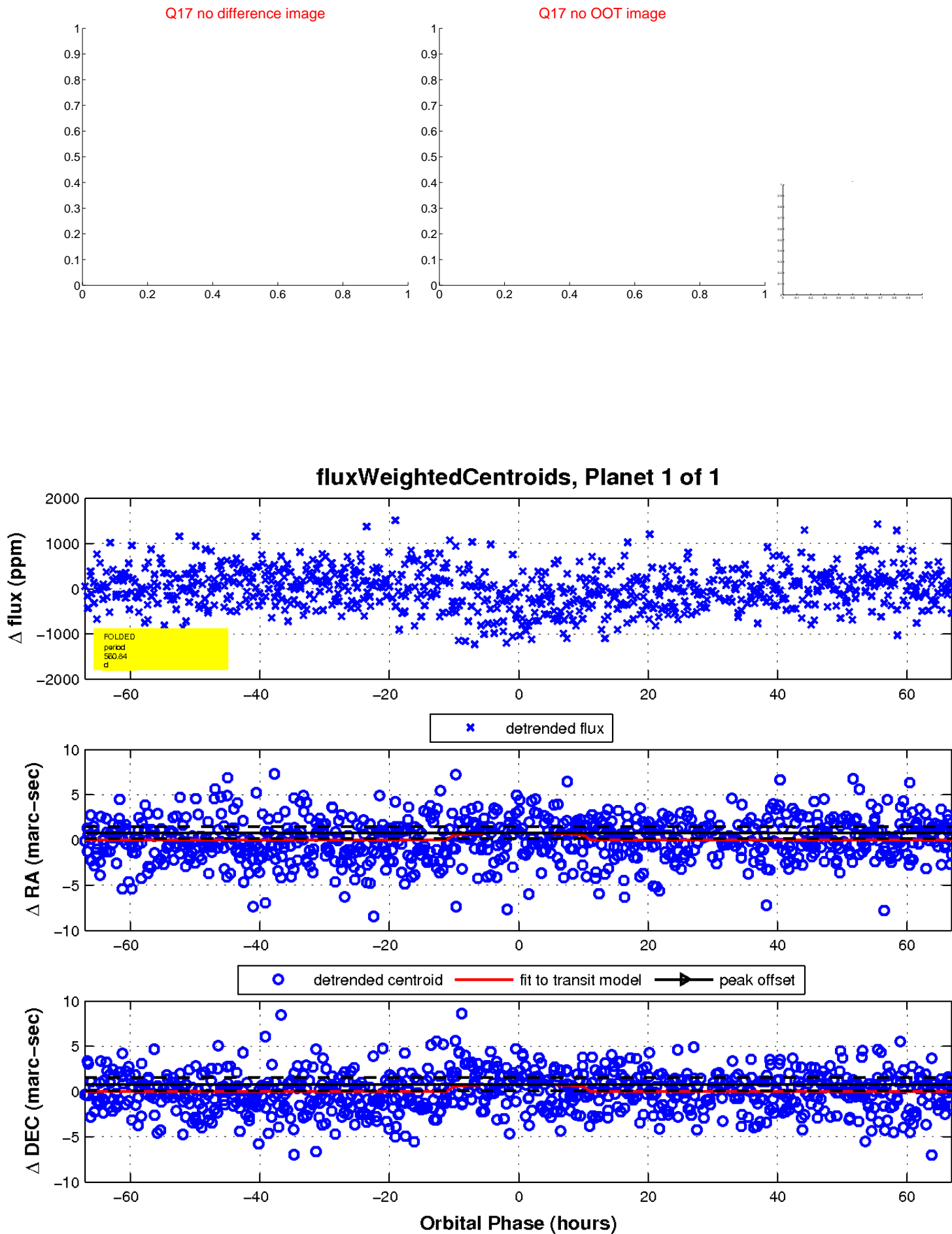
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

