

KIC 012108566

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})
012108566-01	OBS	No	76.172664	198.844077	1908.8	5.146	15.1	2.0	0.15	3128	0.66	0.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012108566-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

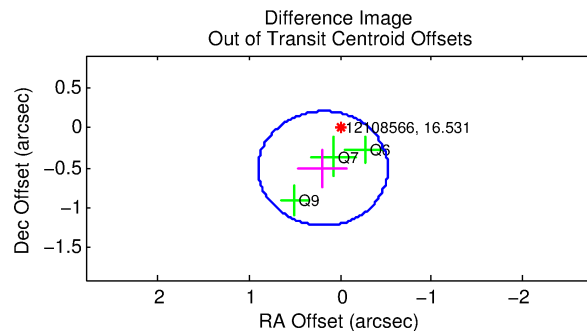
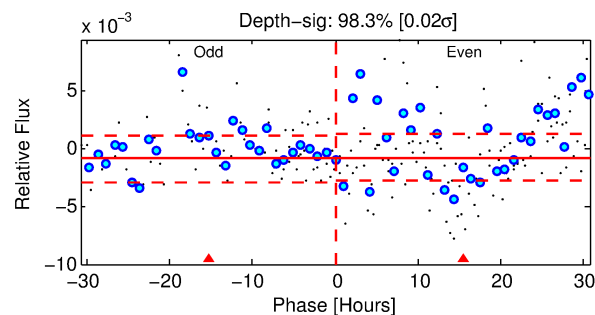
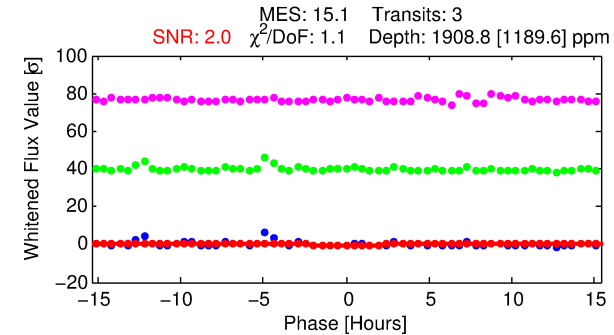
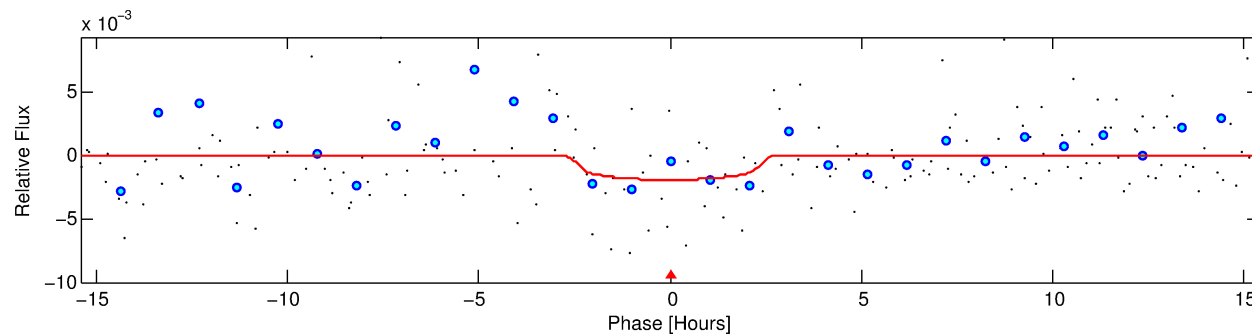
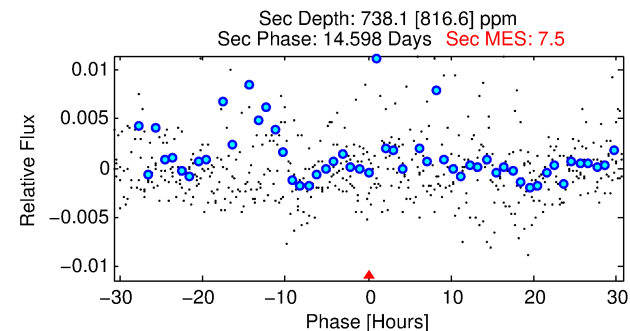
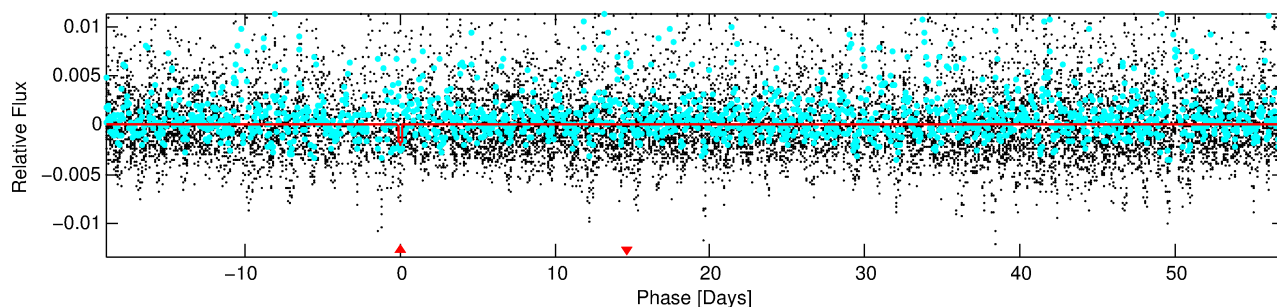
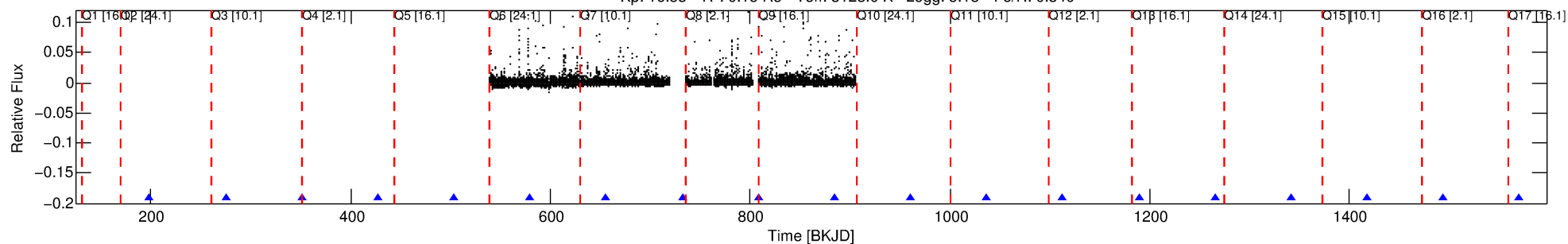
Ephemeris Match Information For 012108566-01

No Significant Match Found

DV One-Page Summary

KIC: 12108566 Candidate: 1 of 1 Period: 76.173 d

Kp: 16.53 R*: 0.15 Rs Teff: 3128.0 K Logg: 5.18 Fe/H: 0.340



DV Fit Results:

Period = 76.17266 [0.01717] d
Epoch = 198.8441 [0.1168] BKJD
Rp/R* = 0.0399 [0.2037]
a/R* = 110.21 [2198.63]
b = 0.36 [48.06]
Seff = 0.06 [0.02]
Teq = 128 [11] K
Rp = 0.66 [3.37] Re
a = 0.1764 [0.0498] AU
Ag = 29276.02 [301042.44] [0.10σ]
Teff = 2582 [6634] K [0.37σ]

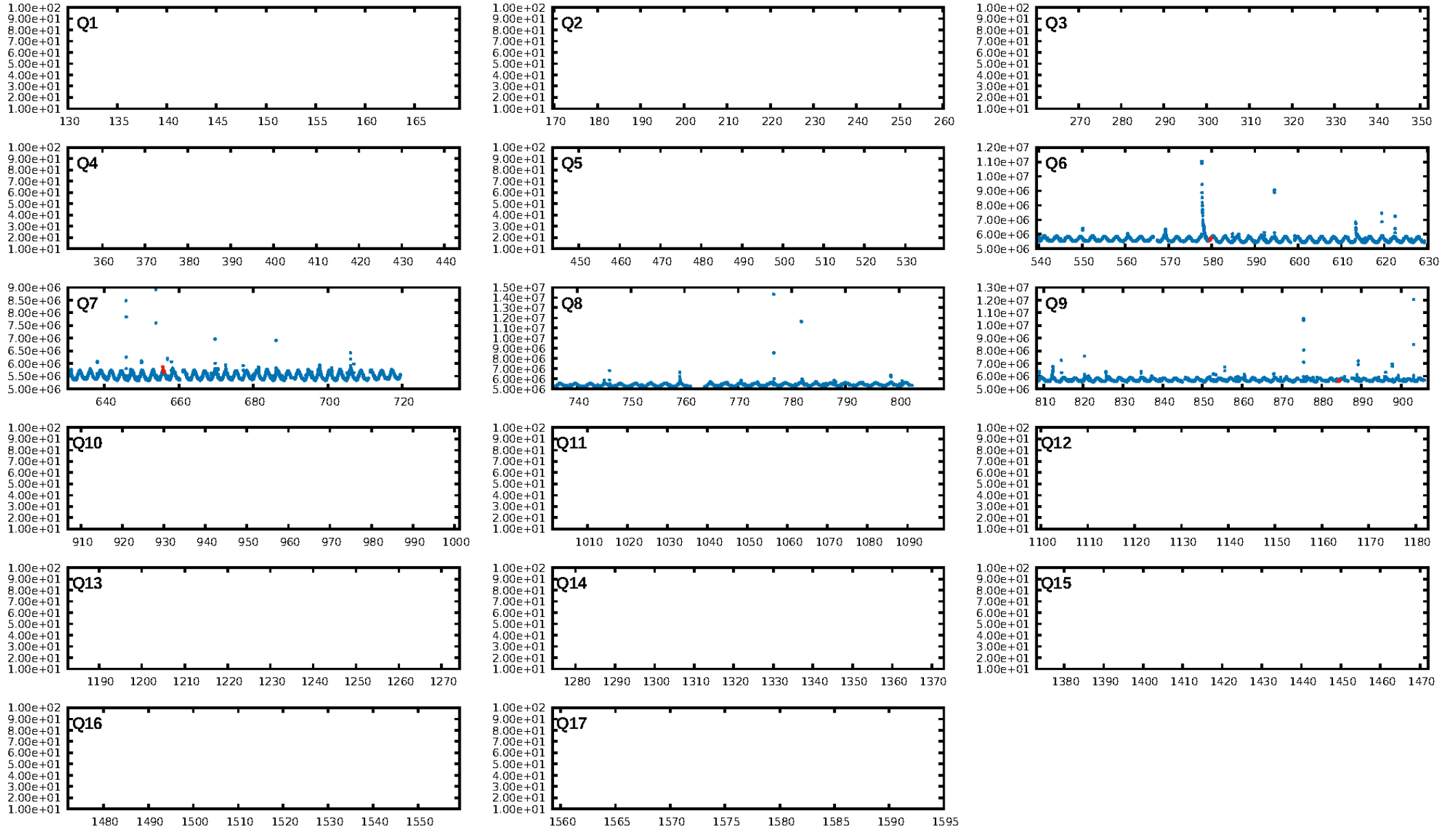
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 29.5%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 5.34e-22
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.842
Centroid-sig: 30.3%
Centroid-so: 3.252 arcsec [1.28σ]
OotOffset-rm: 0.543 arcsec [2.28σ]
KicOffset-rm: 1.213 arcsec [4.33σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

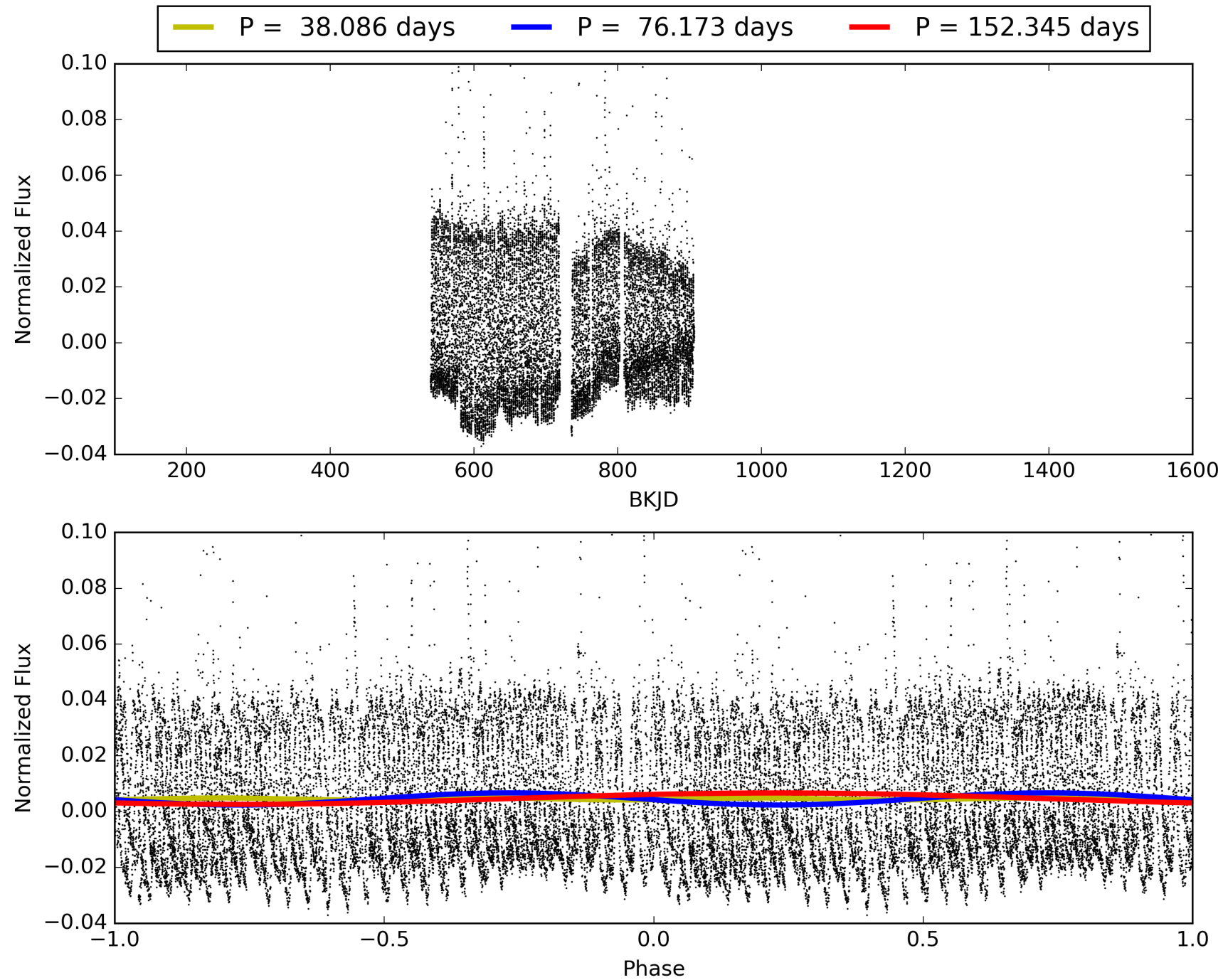
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 03:04:47 Z

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

TCE 012108566-01, PDC Light Curves

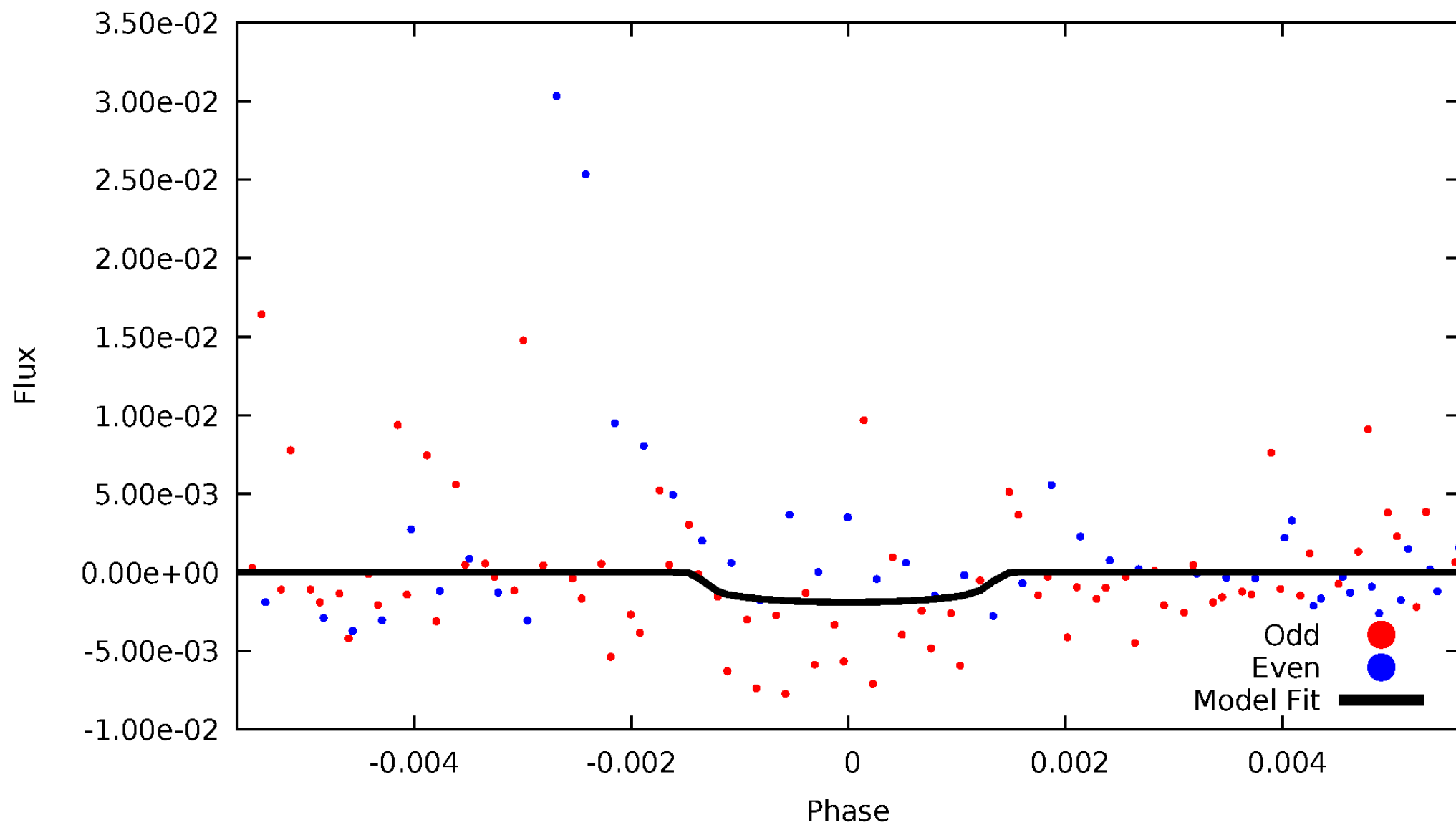


TCE 012108566-01



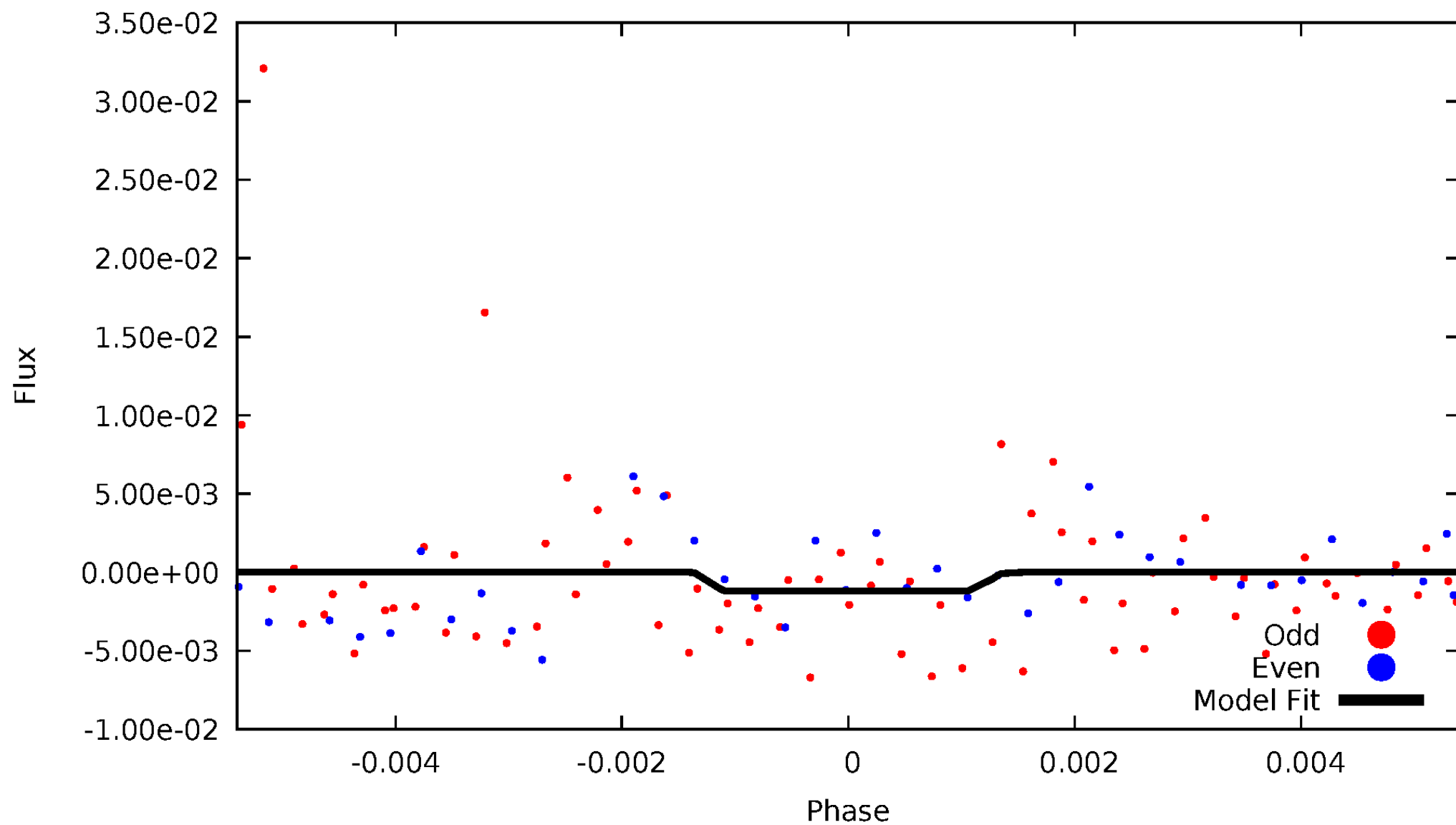
DV Odd/Even

TCE 012108566-01



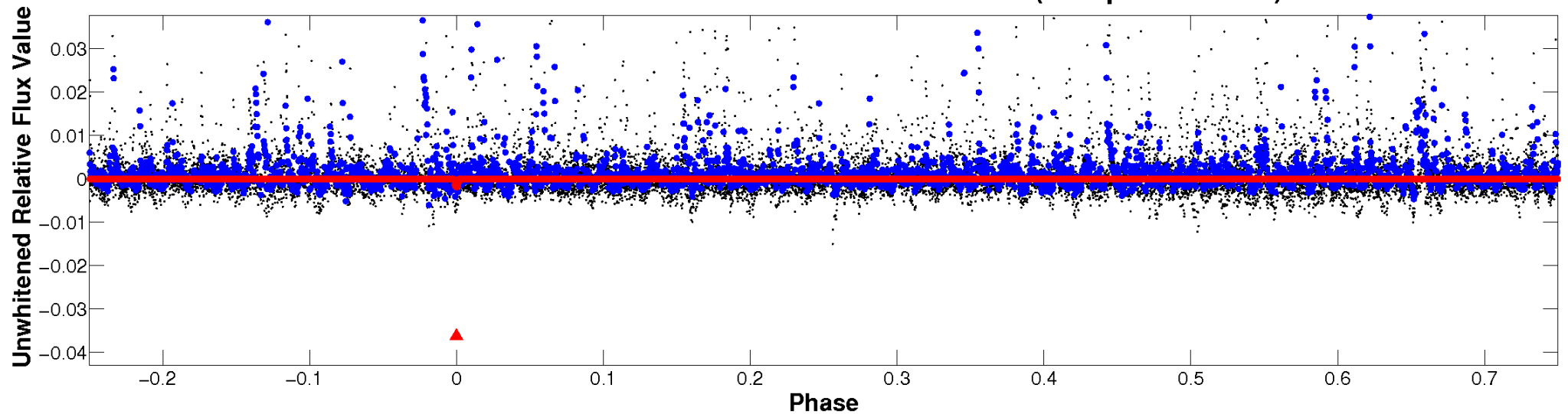
ALT Odd/Even

TCE 012108566-01

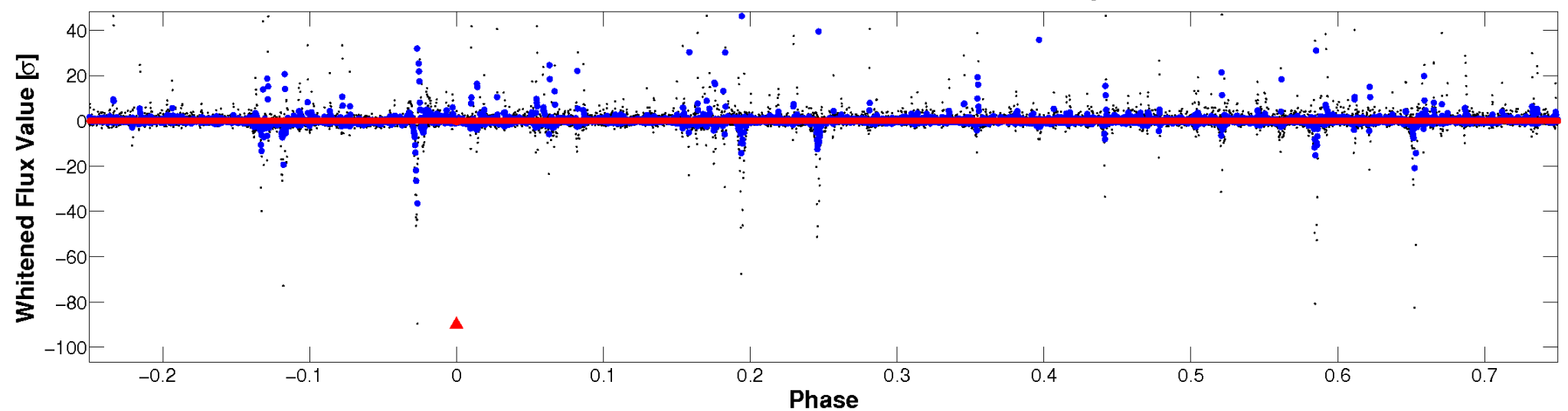


Non-Whitened Vs. Whitened Light Curve

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

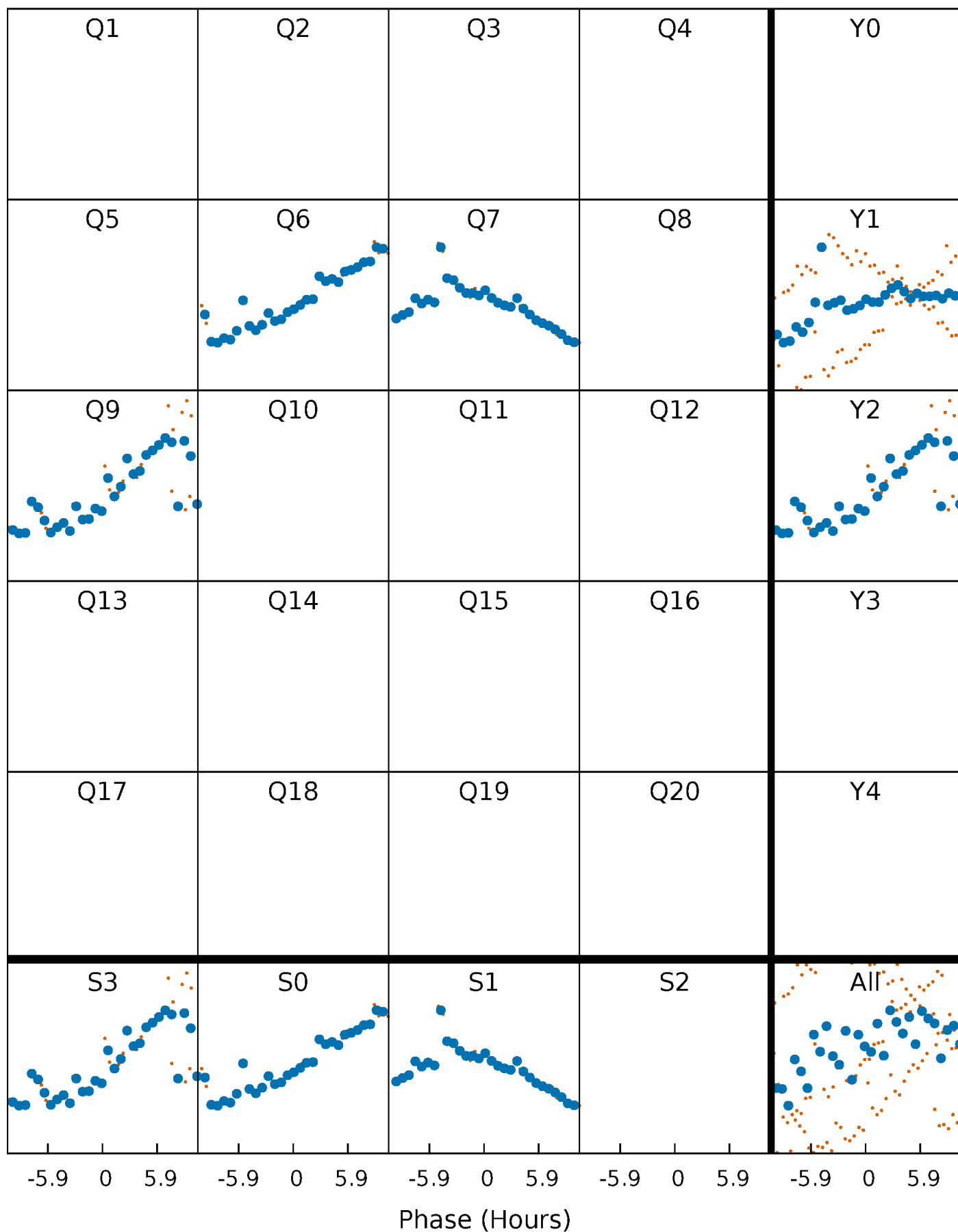


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



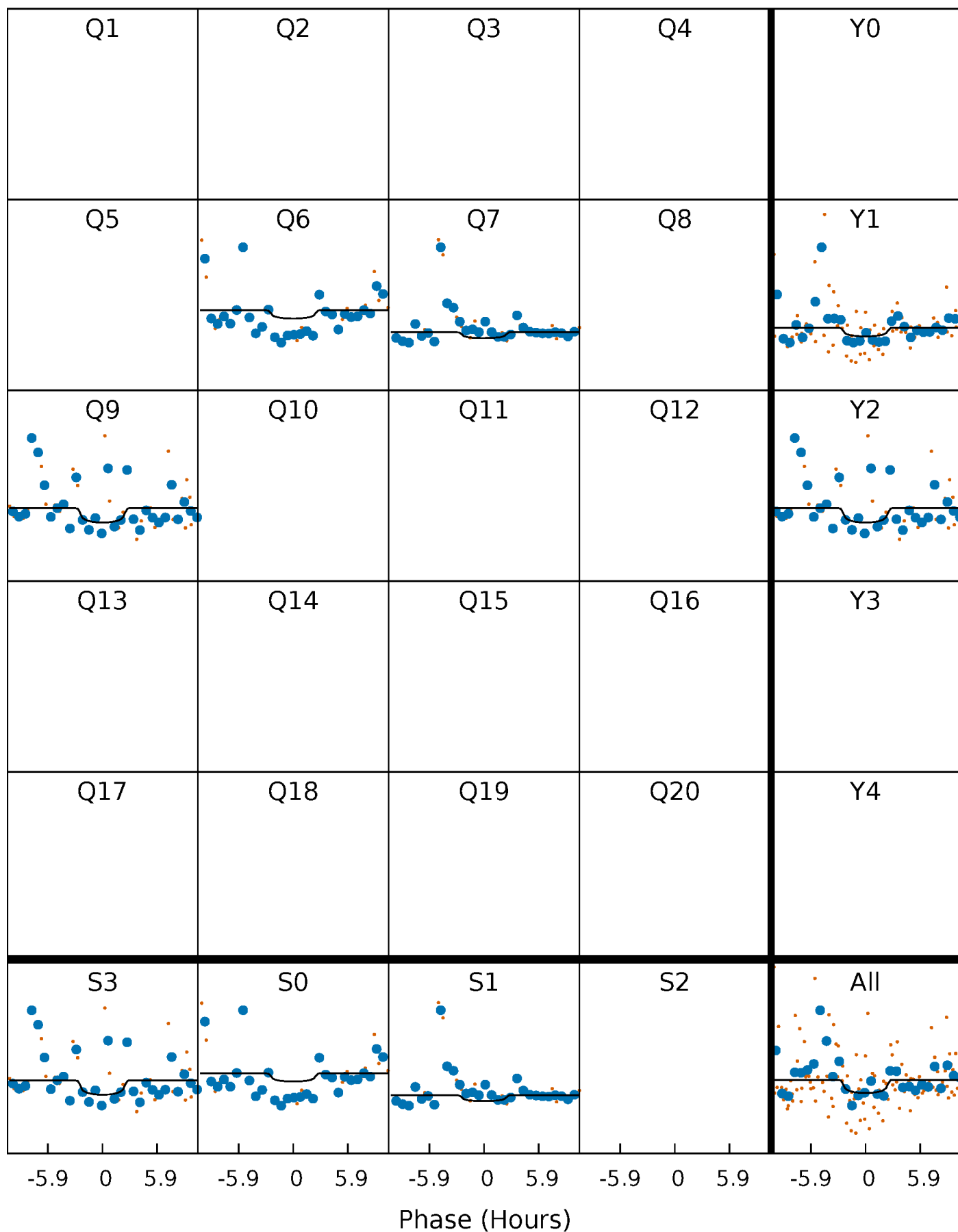
PDC Quarter-Phased Transit Curves

TCE 012108566-01 P= 76.172664 Days $T_0=198.844077$ (BKJD)



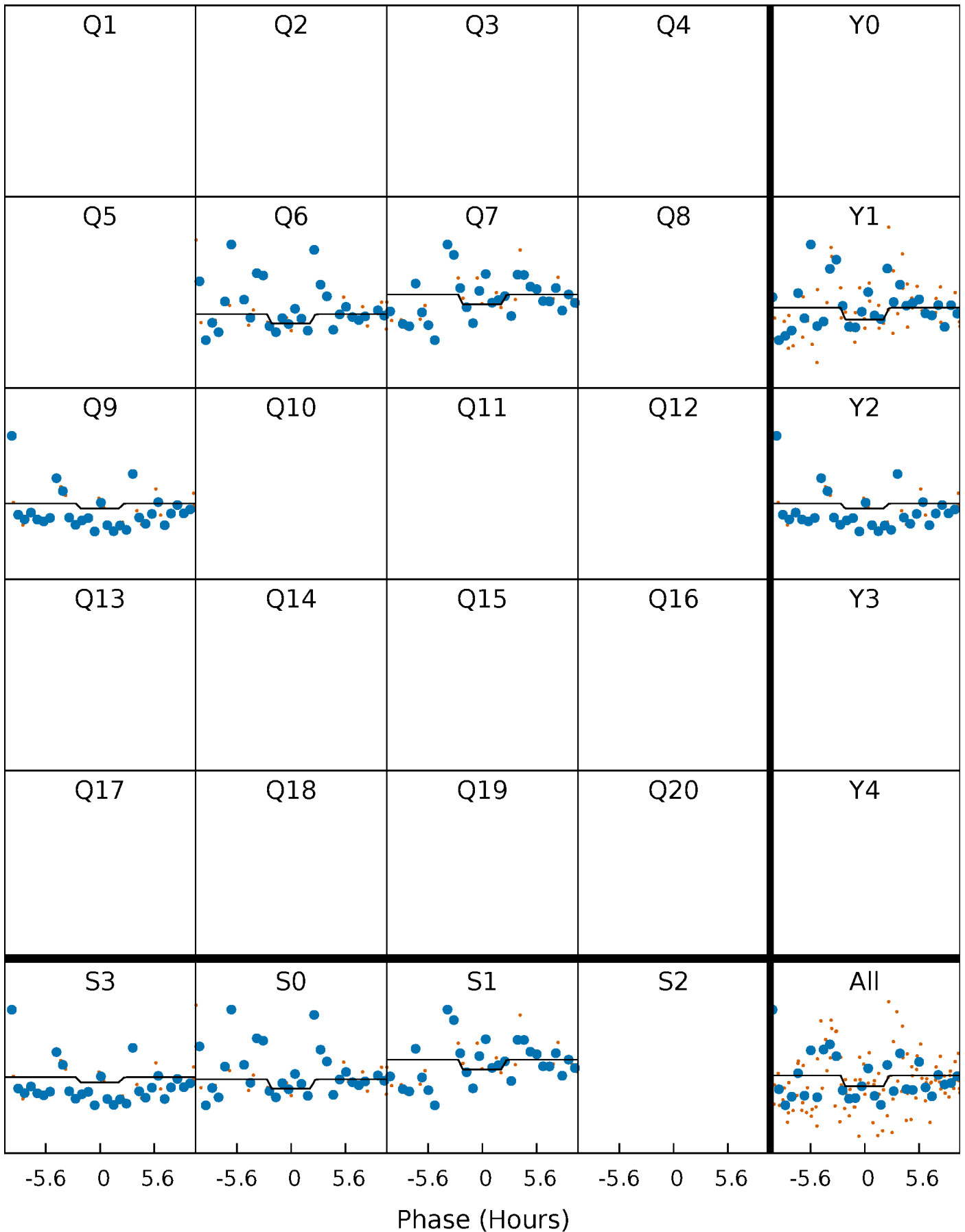
DV Quarter-Phased Transit Curves

TCE 012108566-01 P= 76.172664 Days $T_0=198.844077$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

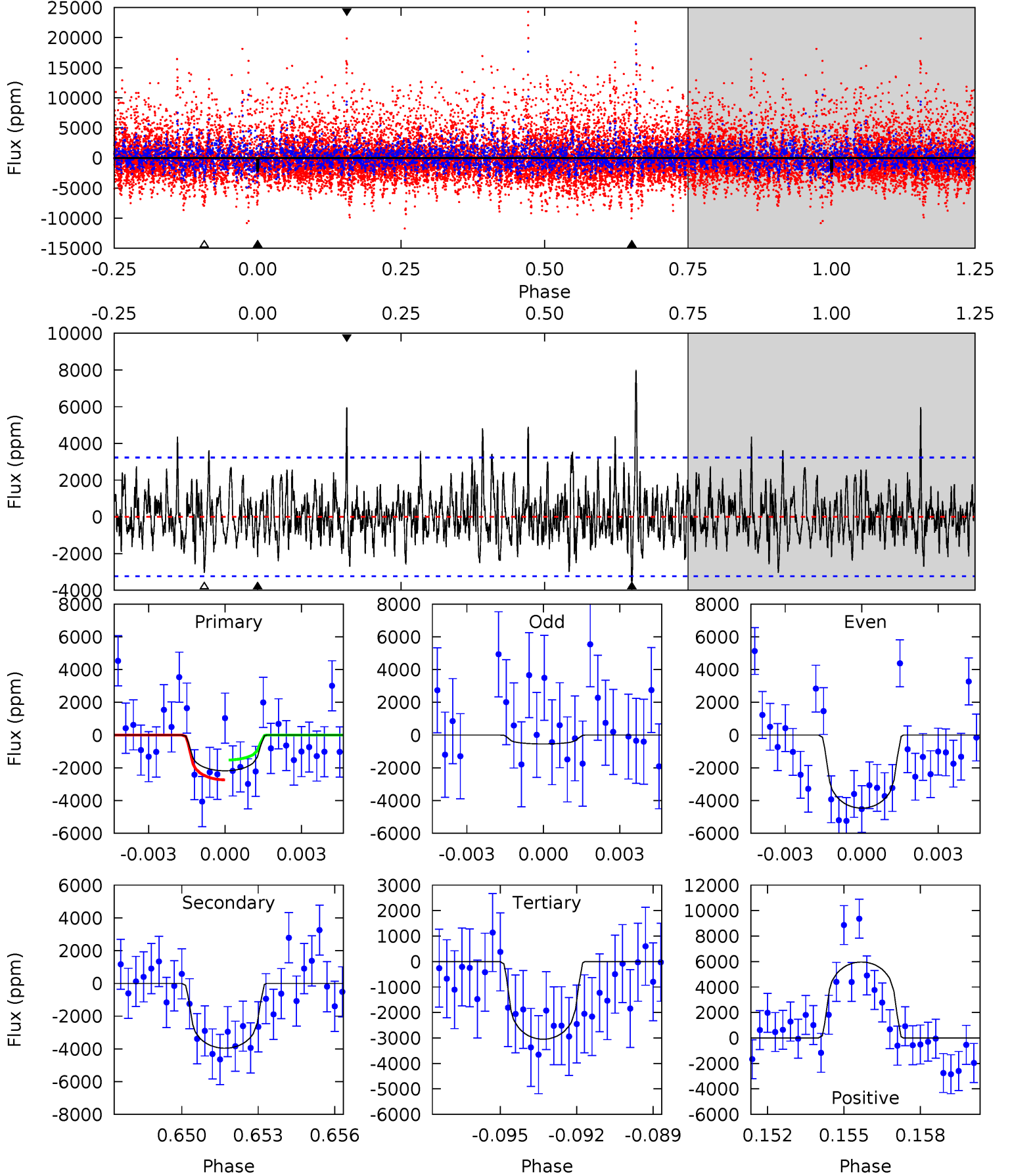
TCE 012108566-01 P= 76.136702 Days $T_0=199.040523$ (BKJD)



DV Model-Shift Uniqueness Test

012108566-01, $P = 76.172664$ Days, $E = 198.844077$ Days

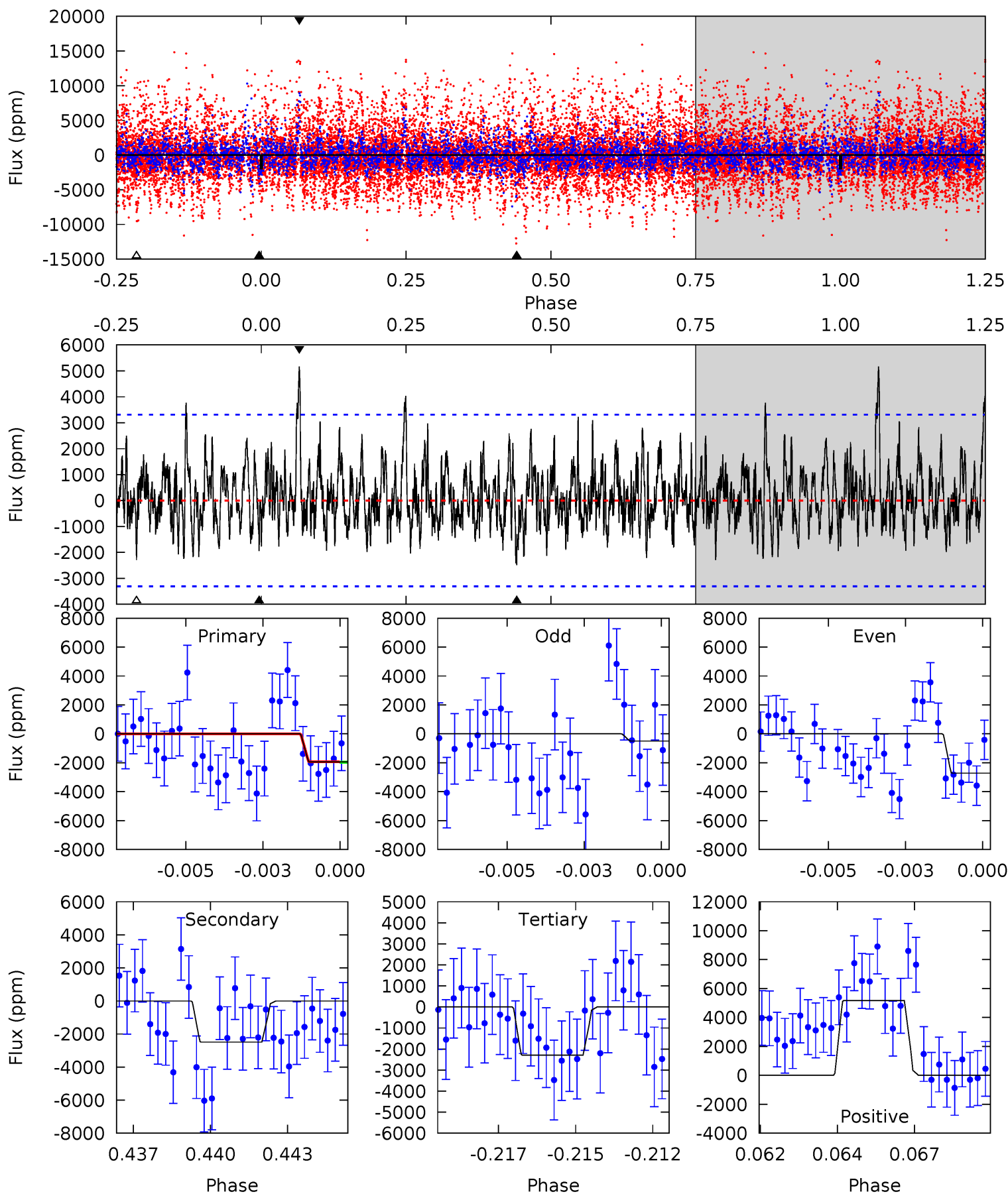
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.56	6.45	4.97	9.72	5.26	2.98	1.92	-1.41	-6.16	1.48	-3.26	1.73	3.64	0.67	1.00



Alt Model-Shift Uniqueness Test

012108566-01, P = 76.136702 Days, E = 199.040523 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.09	3.97	3.65	8.23	5.27	3.00	1.56	-0.55	-5.13	0.32	-4.26	1.50	1.73	0.67	0.02



Stellar Parameters For KIC 012108566

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3128^{+78}_{-37}	$5.181^{+0.040}_{-0.128}$	$0.340^{+0.150}_{-0.200}$	$0.151^{+0.060}_{-0.011}$	$0.126^{+0.063}_{-0.011}$	$51.520^{+9.008}_{-24.470}$
	+2%/-1%	+1%/-2%	+44%/-59%	+40%/-7%	+50%/-9%	+17%/-47%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 012108566-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-3960 ± 614	$2.68^{+2.79}_{-1.87}$	181^{+10}_{-6}	2476^{+982}_{-368}	$9292^{+101408}_{-7010}$
Alt.	-2490 ± 628	$2.58^{+2.76}_{-1.73}$	181^{+10}_{-6}	2347^{+845}_{-348}	6351^{+54763}_{-4902}

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

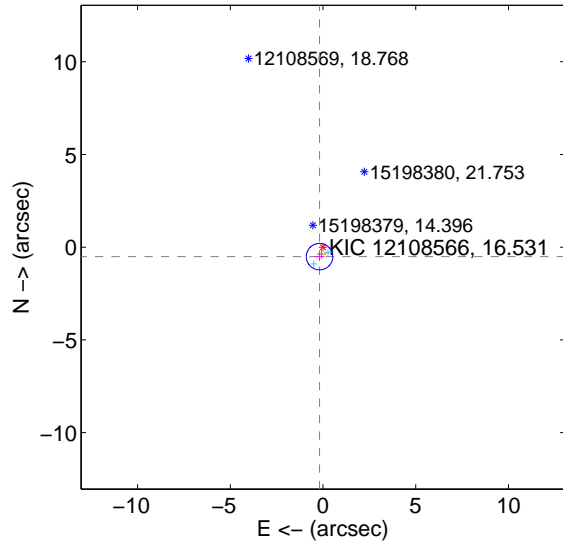
Supplemental centroid analysis for 012108566-01. Kepler magnitude: 16.53. Transit SNR 2.04

There are 2 quarters with good PRF difference image offsets

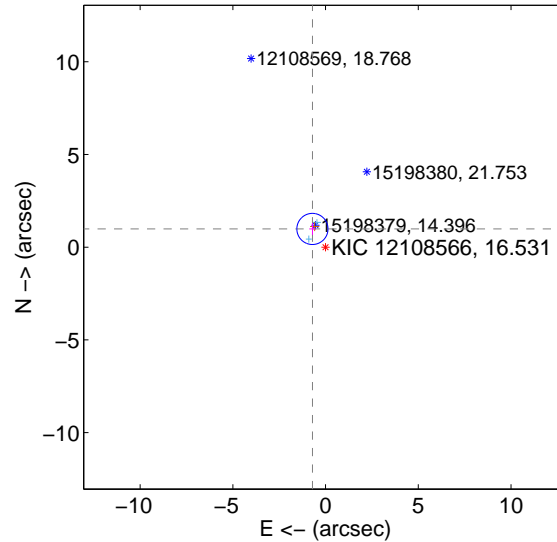
The direct PRF centroid is offset from the target star catalog position by about 1.40 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.543 ± 0.238	2.28	0.188 ± 0.265	-0.510 ± 0.234
PRF-fit source offset from KIC position	1.213 ± 0.280	4.33	0.709 ± 0.171	0.984 ± 0.322
photometric centroid source offset	3.25 ± 2.54	1.28	3.23 ± 2.54	0.39 ± 2.88

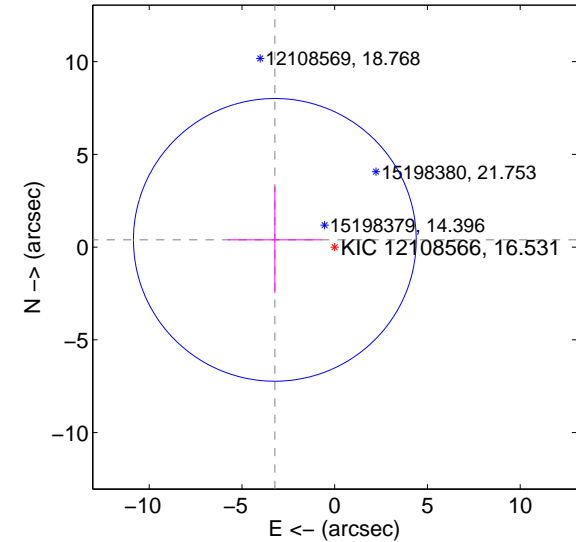
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

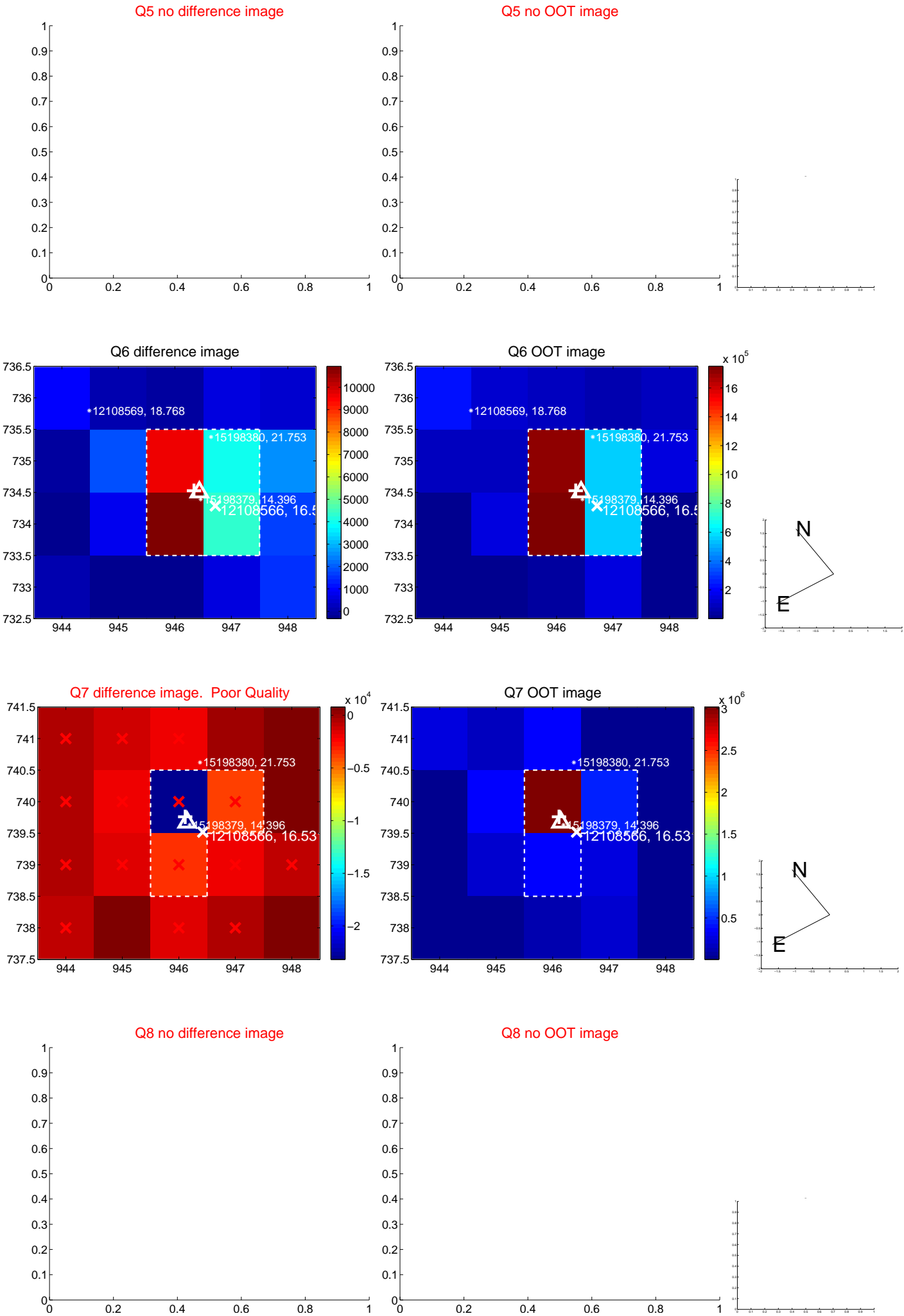


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

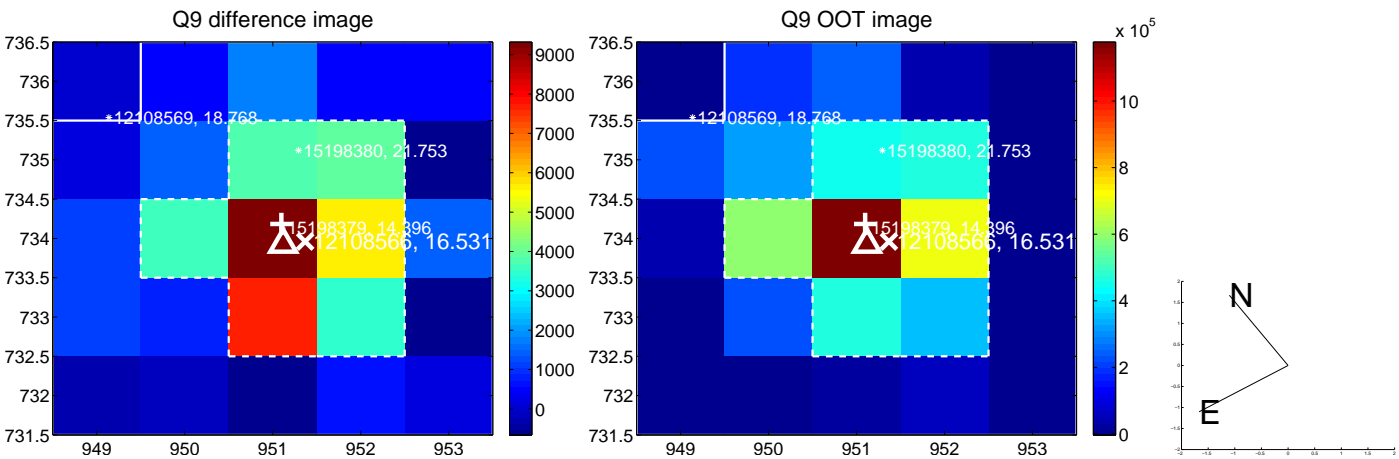
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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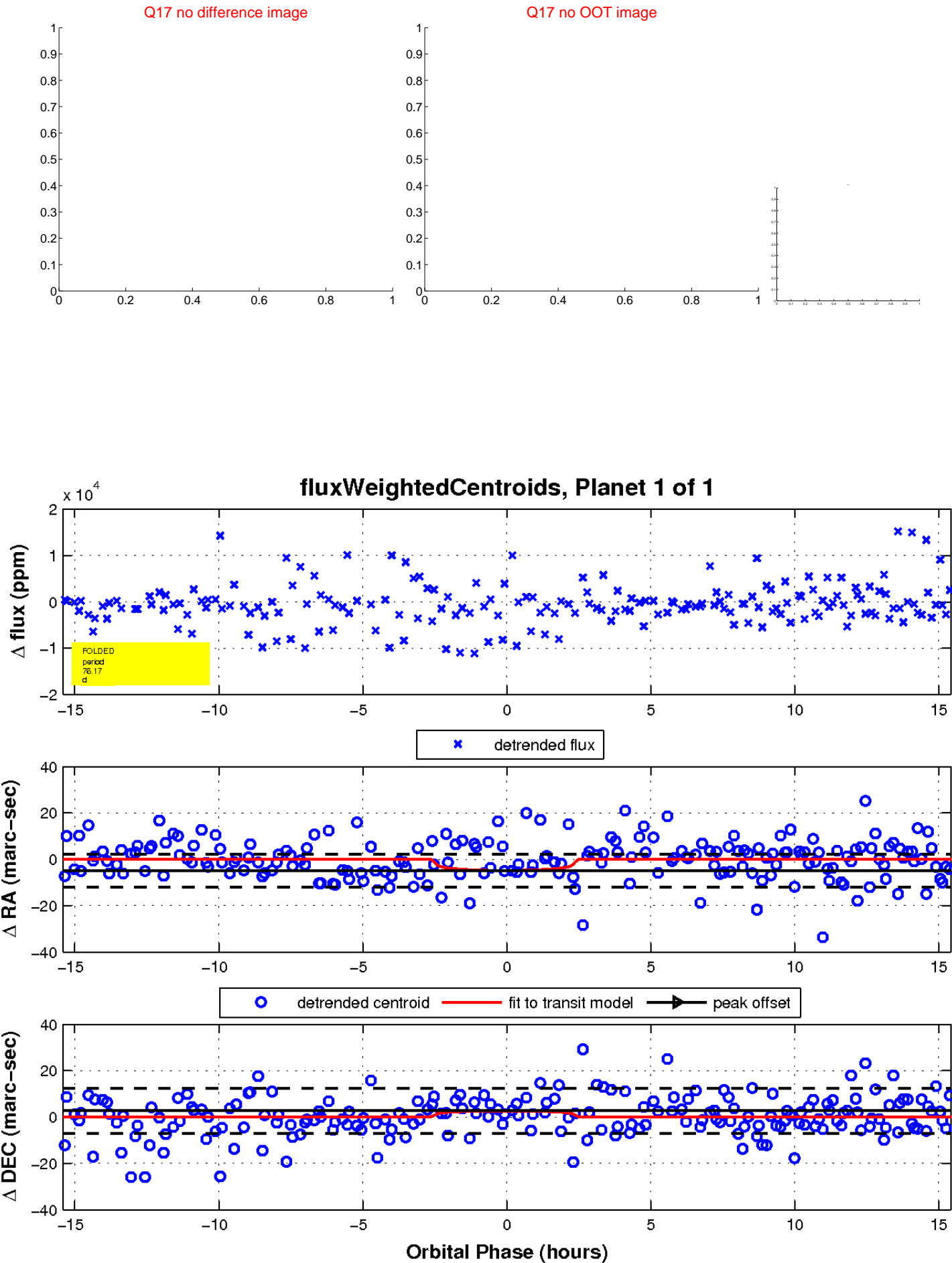
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UKIRT Image

Declination

