

KIC 010963389

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})
010963389-01	OBS	No	246.480567	313.710399	294.8	17.146	9.2	6.3	1.12	6311	2.04	2.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010963389-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—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.

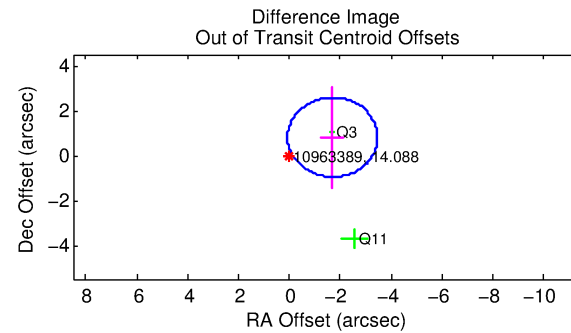
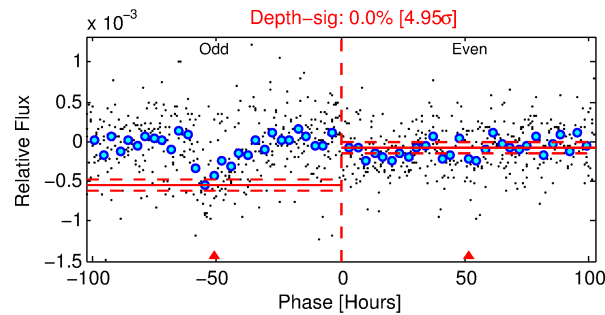
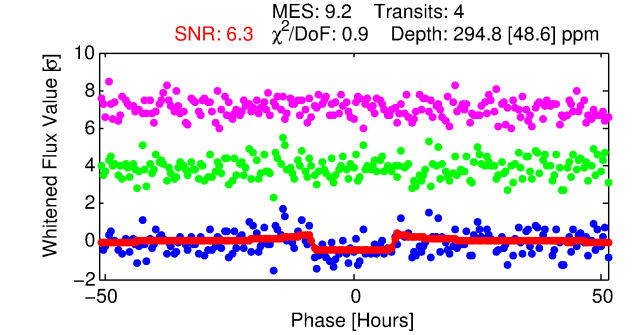
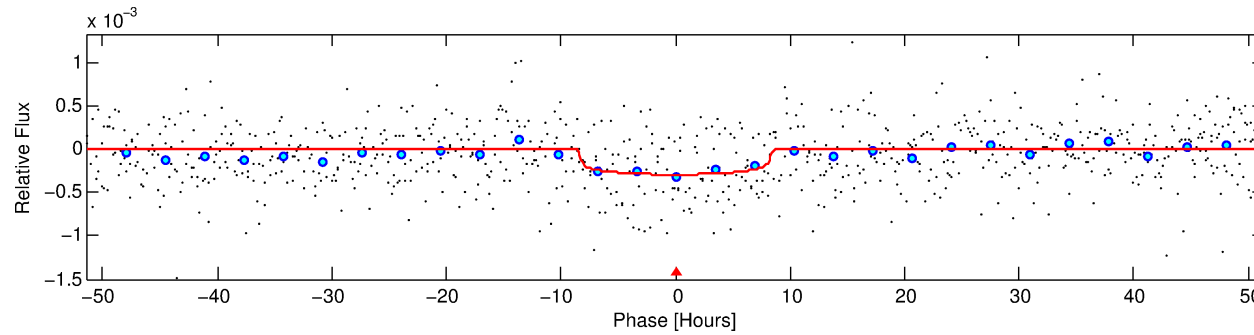
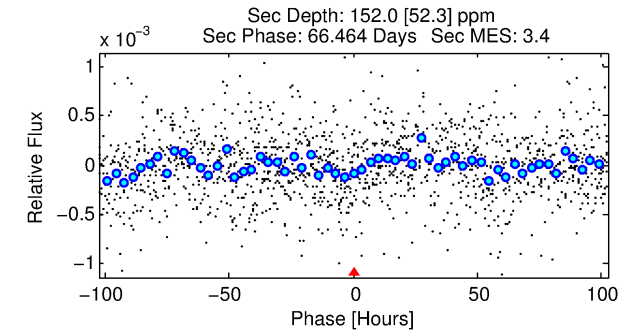
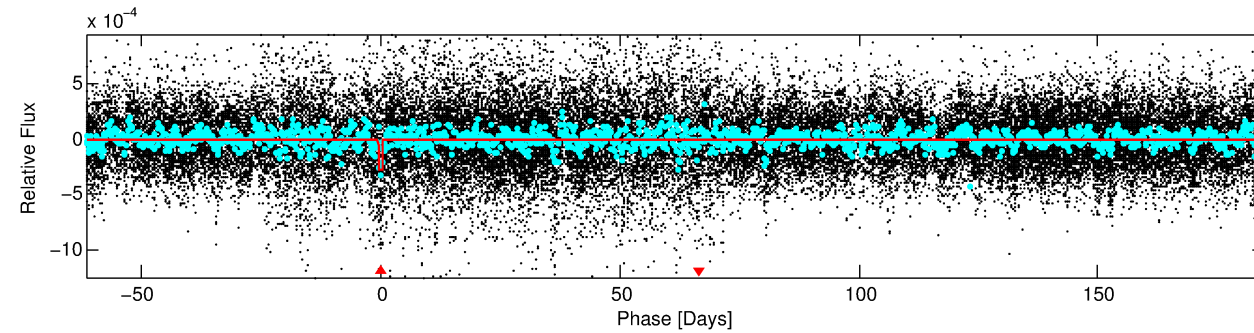
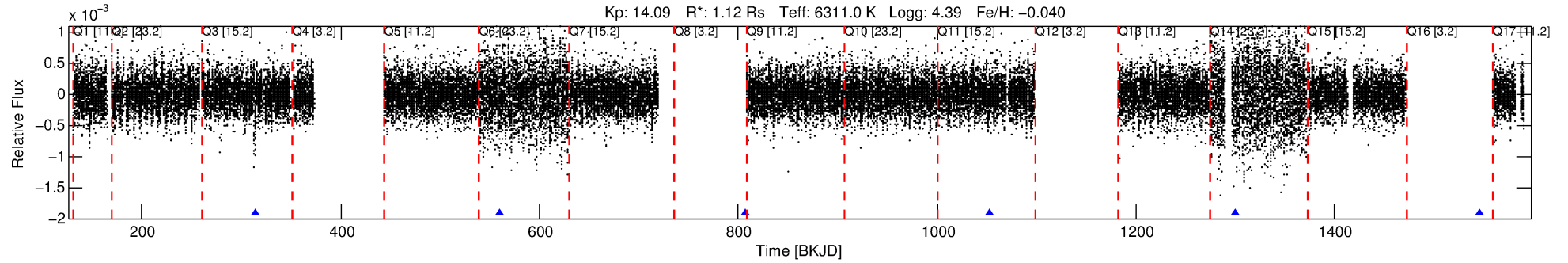
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010963389-01

No Significant Match Found

DV One-Page Summary

KIC: 10963389 Candidate: 1 of 1 Period: 246.481 d



DV Fit Results:

Period = 246.48057 [0.00842] d
Epoch = 313.7104 [0.0194] BKJD
Rp/R* = 0.0166 [0.0068]
a/R* = 86.42 [174.95]
b = 0.64 [1.85]
Seff = 2.77 [1.16]
Teff = 329 [34] K
Rp = 2.04 [1.07] Re
a = 0.8054 [0.2221] AU
Ag = 13055.79 [12672.19] [1.03 σ]
Teffp = 5438 [1215] K [4.20 σ]

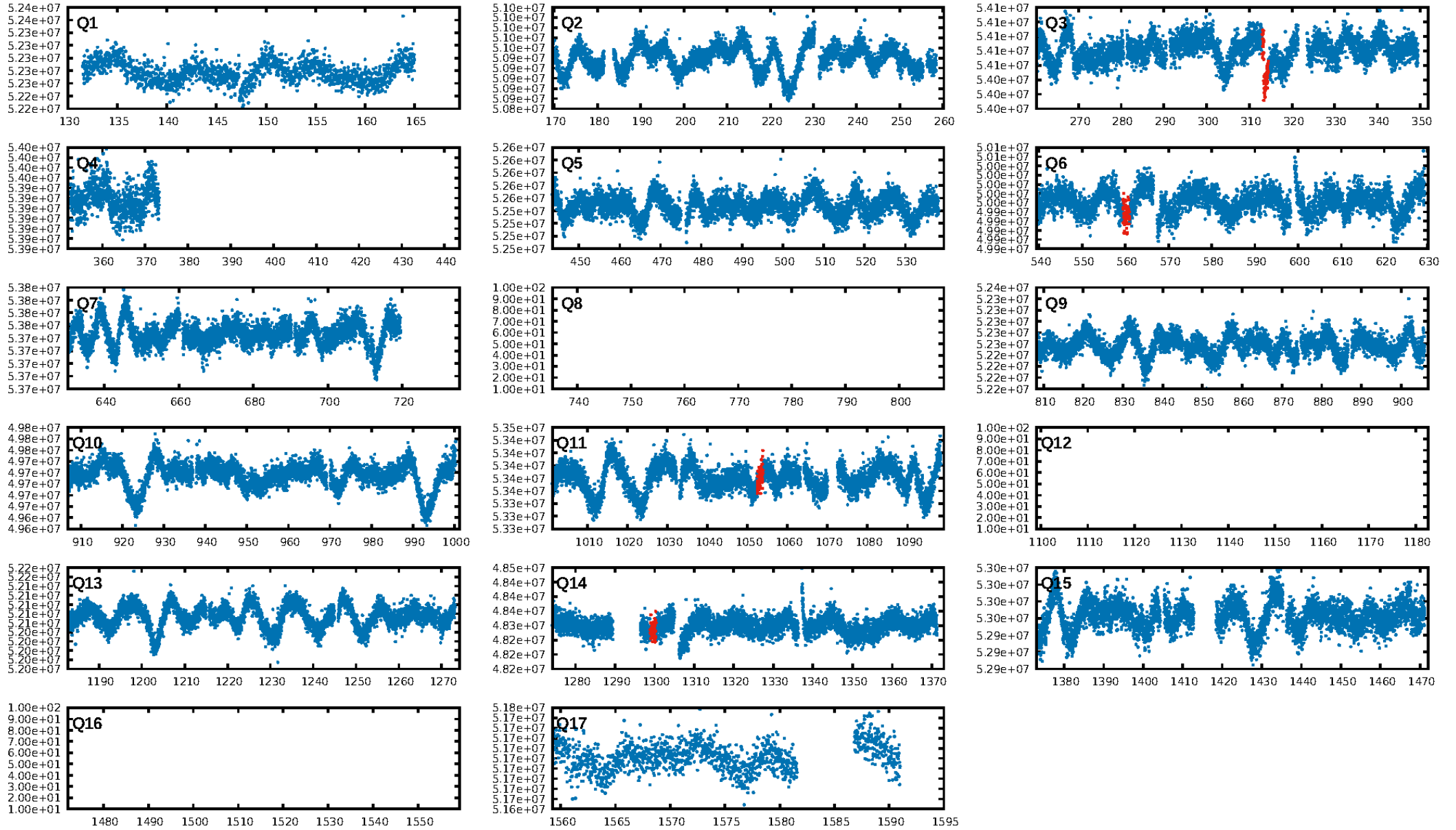
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: 2.79e-15
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -18.3
Centroid-sig: 41.3%
Centroid-so: 1.116 arcsec [1.21 σ]
OotOffset-rm: 1.879 arcsec [3.19 σ]
OotOffset-st: 0/2/0/0 [2]
KicOffset-st: 0/2/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [4/4]

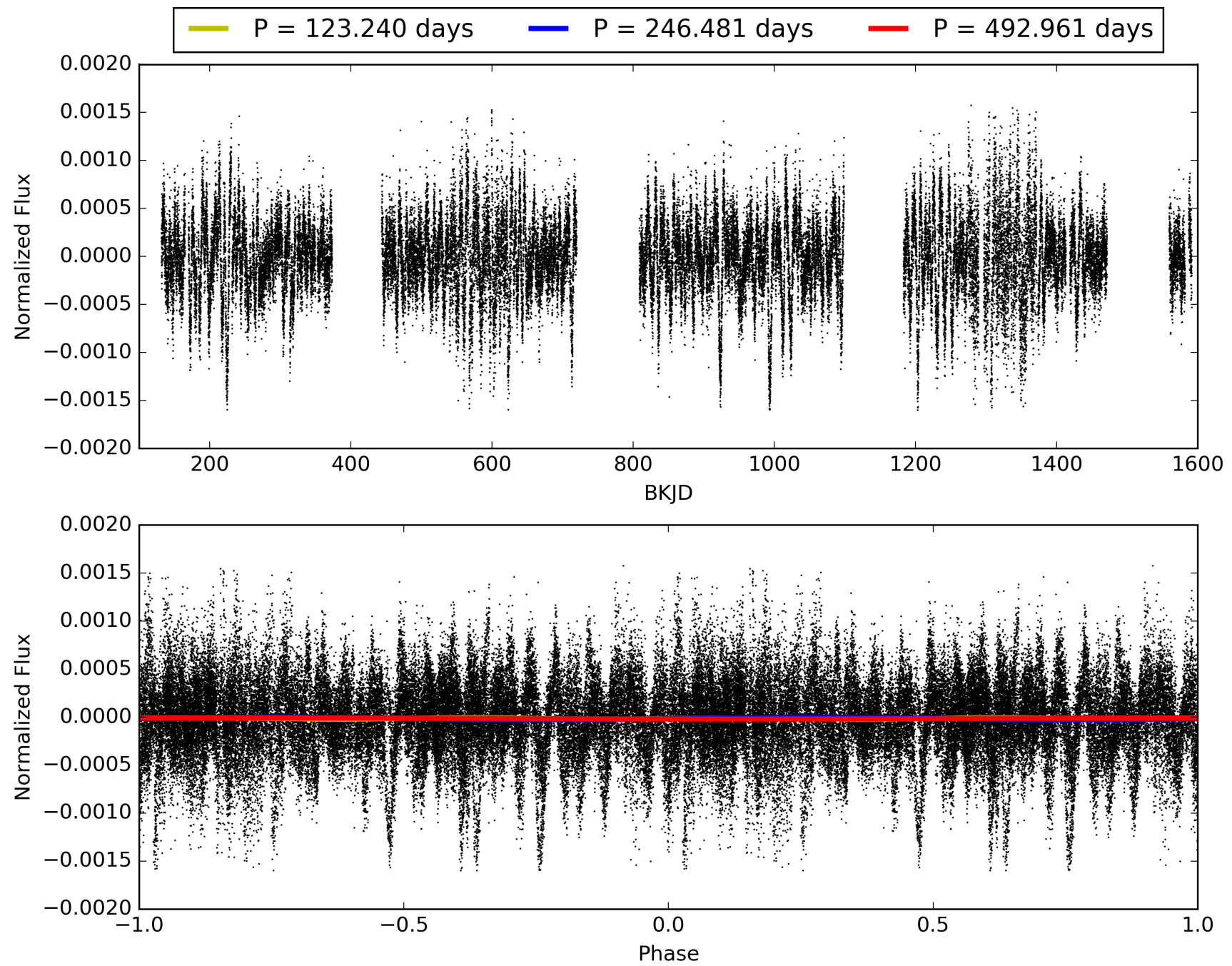
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 19:11:09 Z

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

TCE 010963389-01, PDC Light Curves

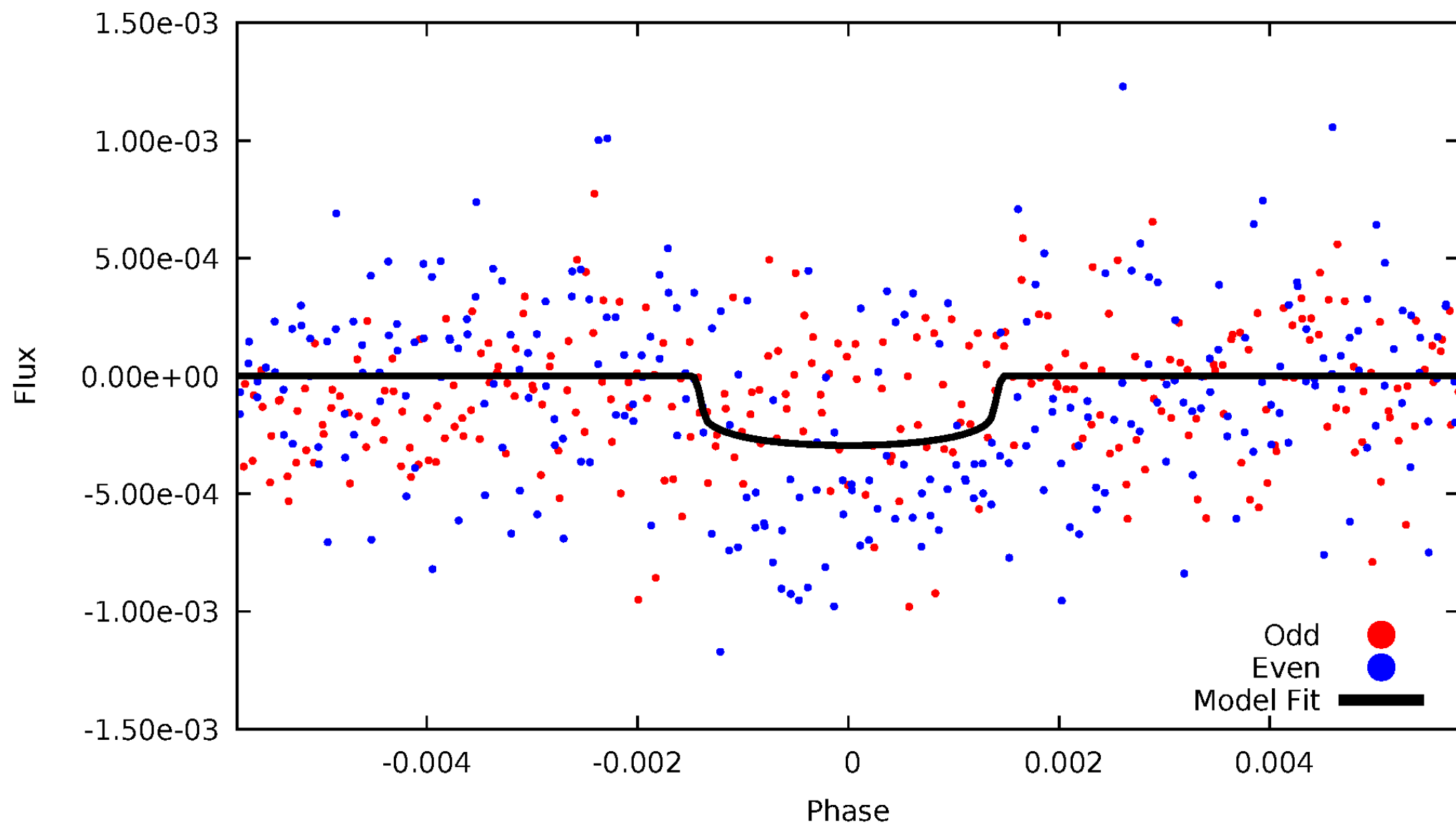


TCE 010963389-01



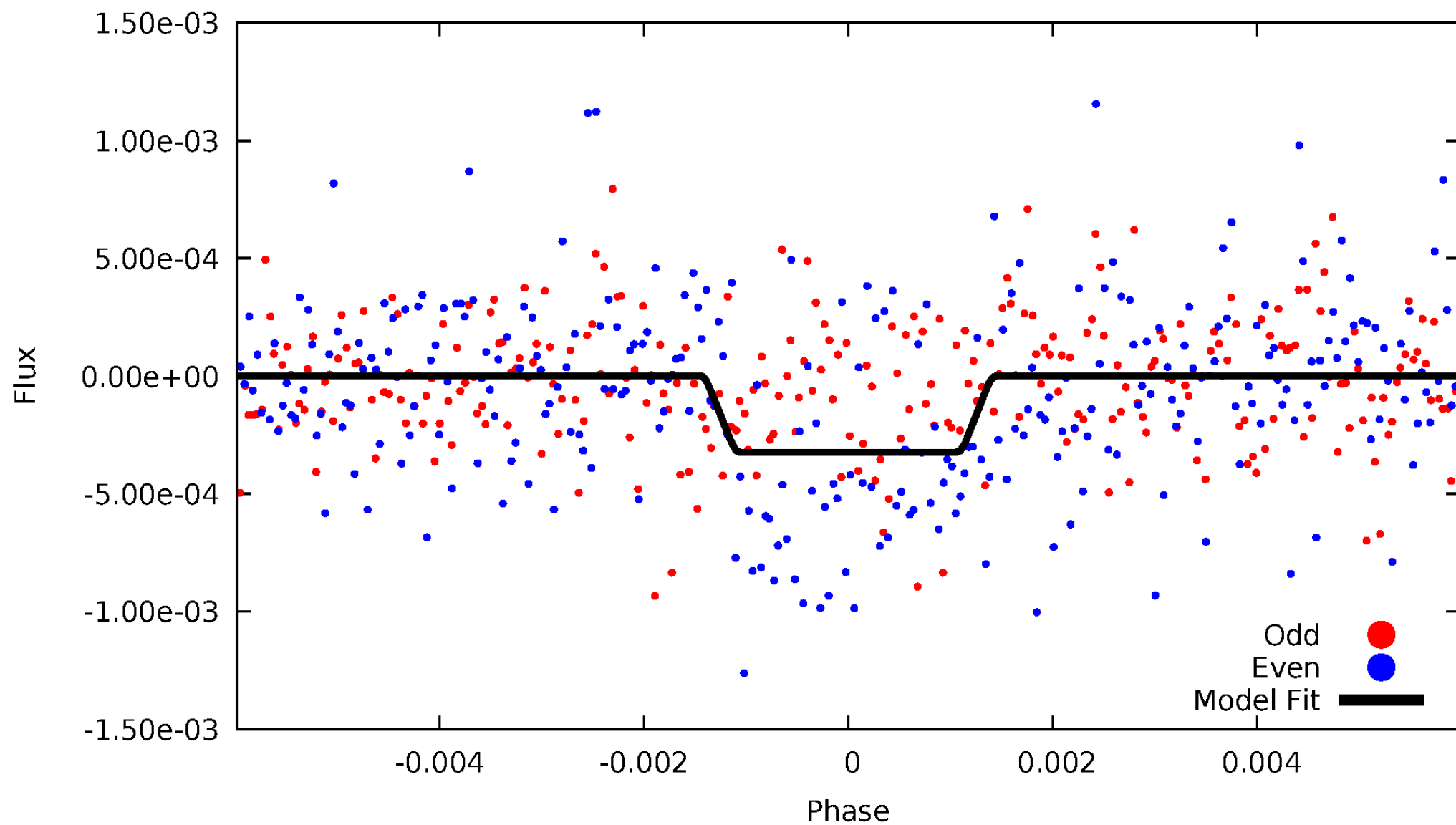
DV Odd/Even

TCE 010963389-01



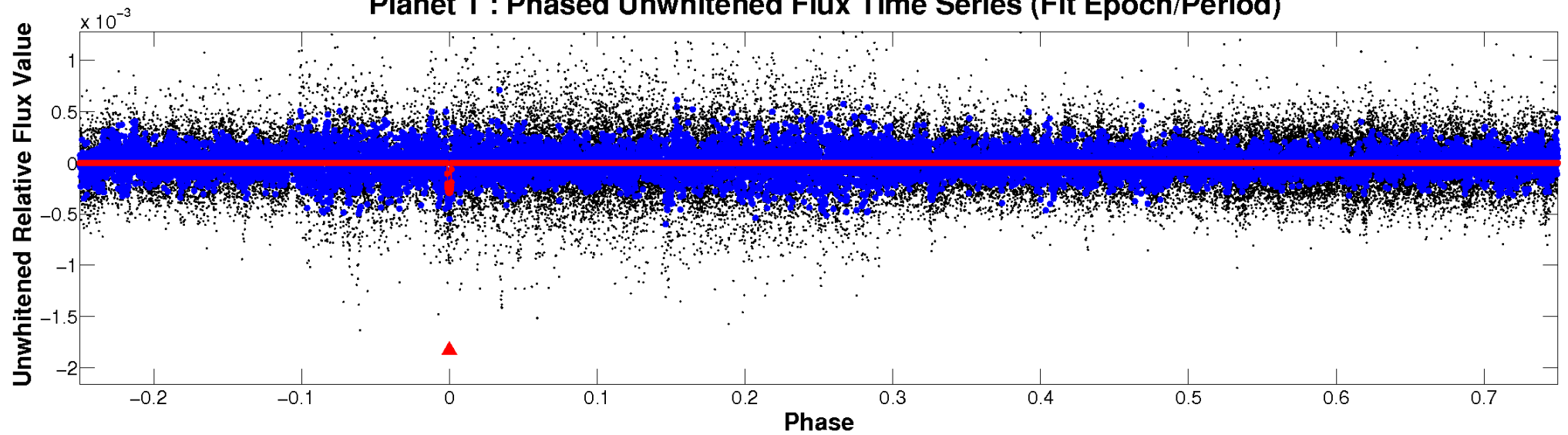
ALT Odd/Even

TCE 010963389-01

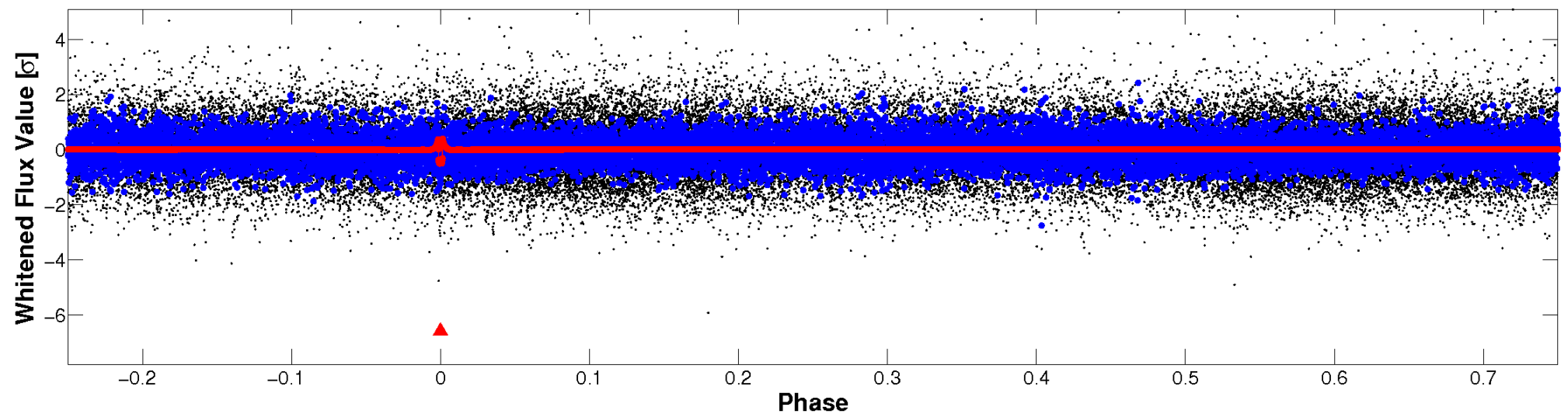


Non-Whitened Vs. Whitened Light Curve

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

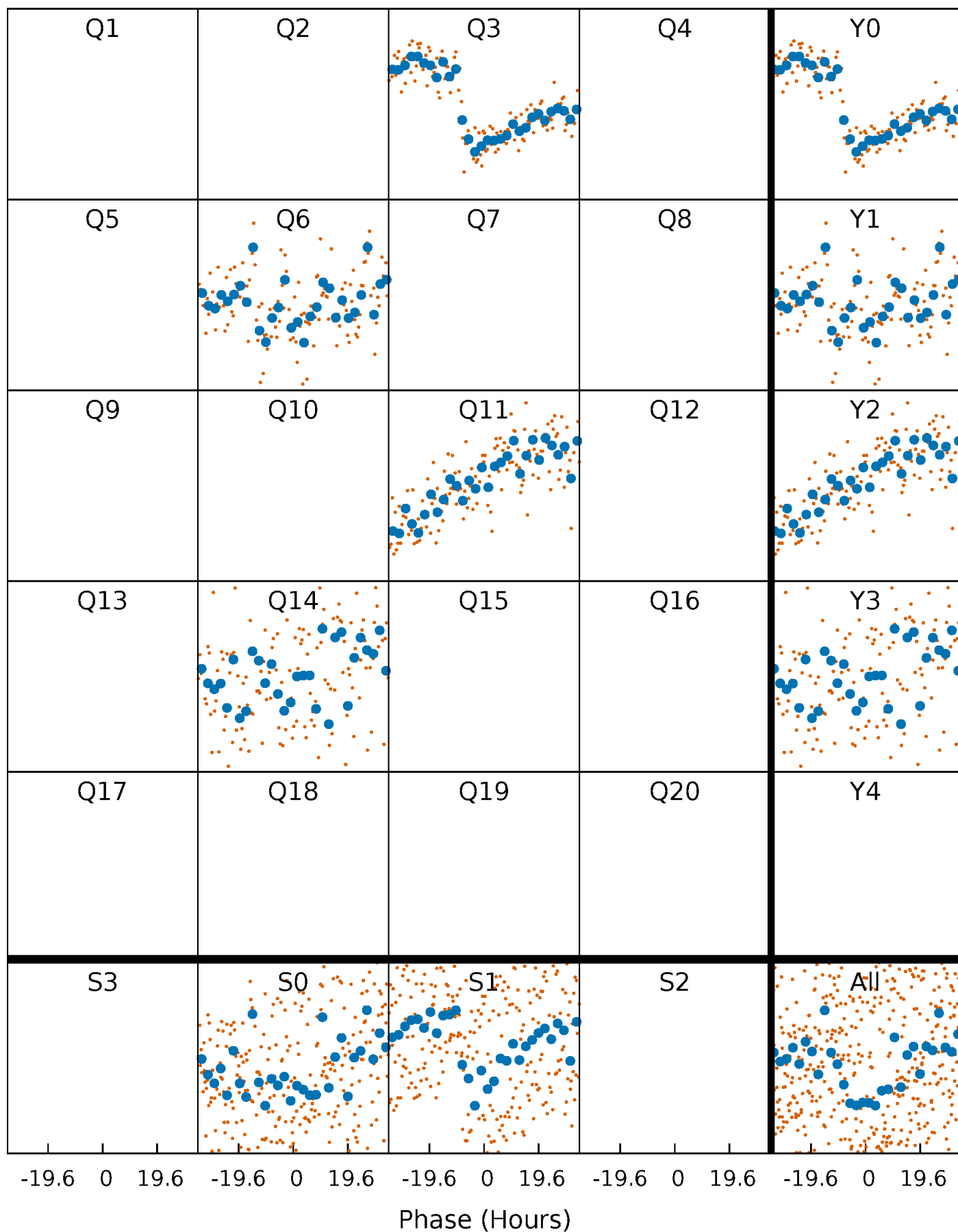


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



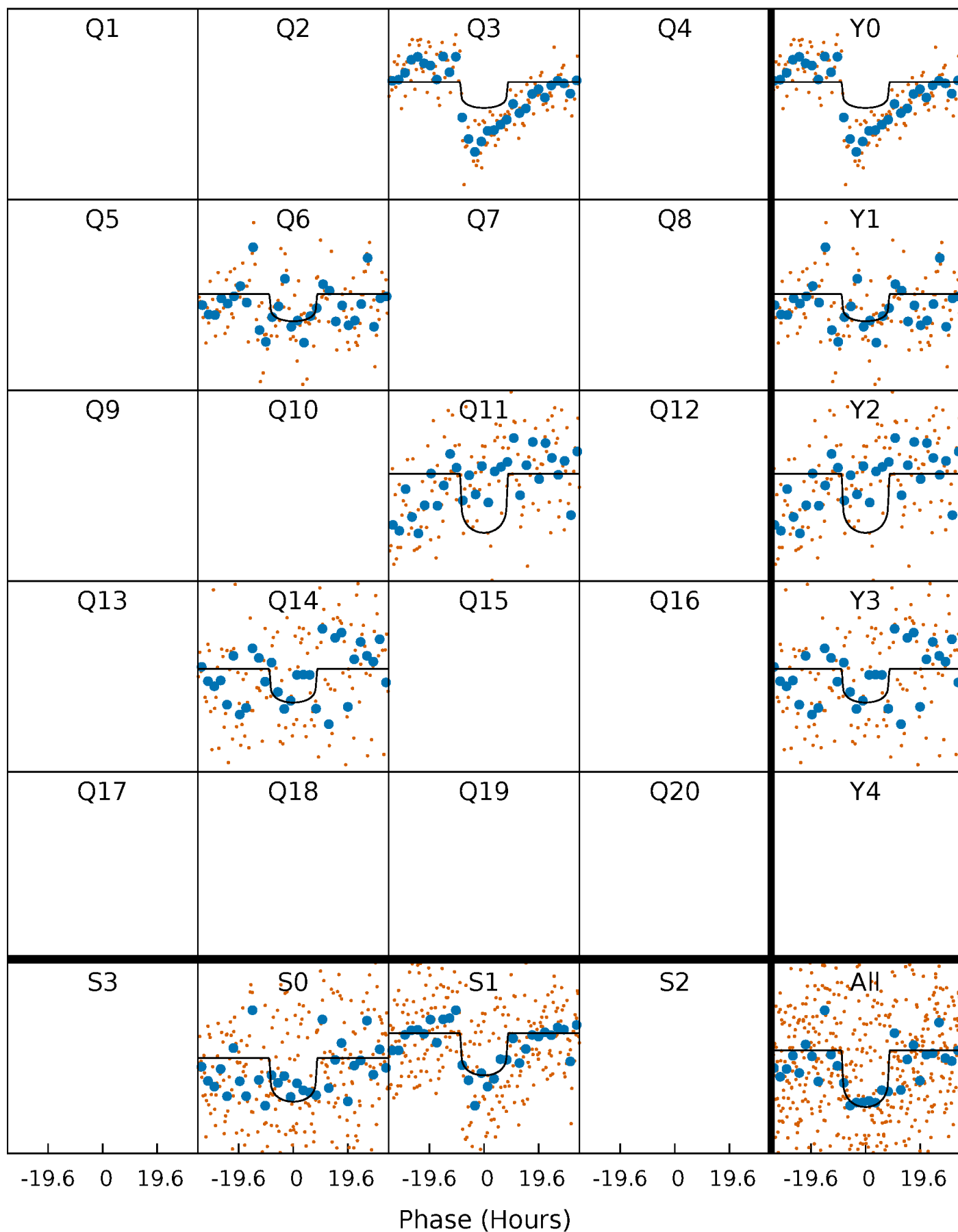
PDC Quarter-Phased Transit Curves

TCE 010963389-01 P=246.480567 Days $T_0=313.710399$ (BKJD)



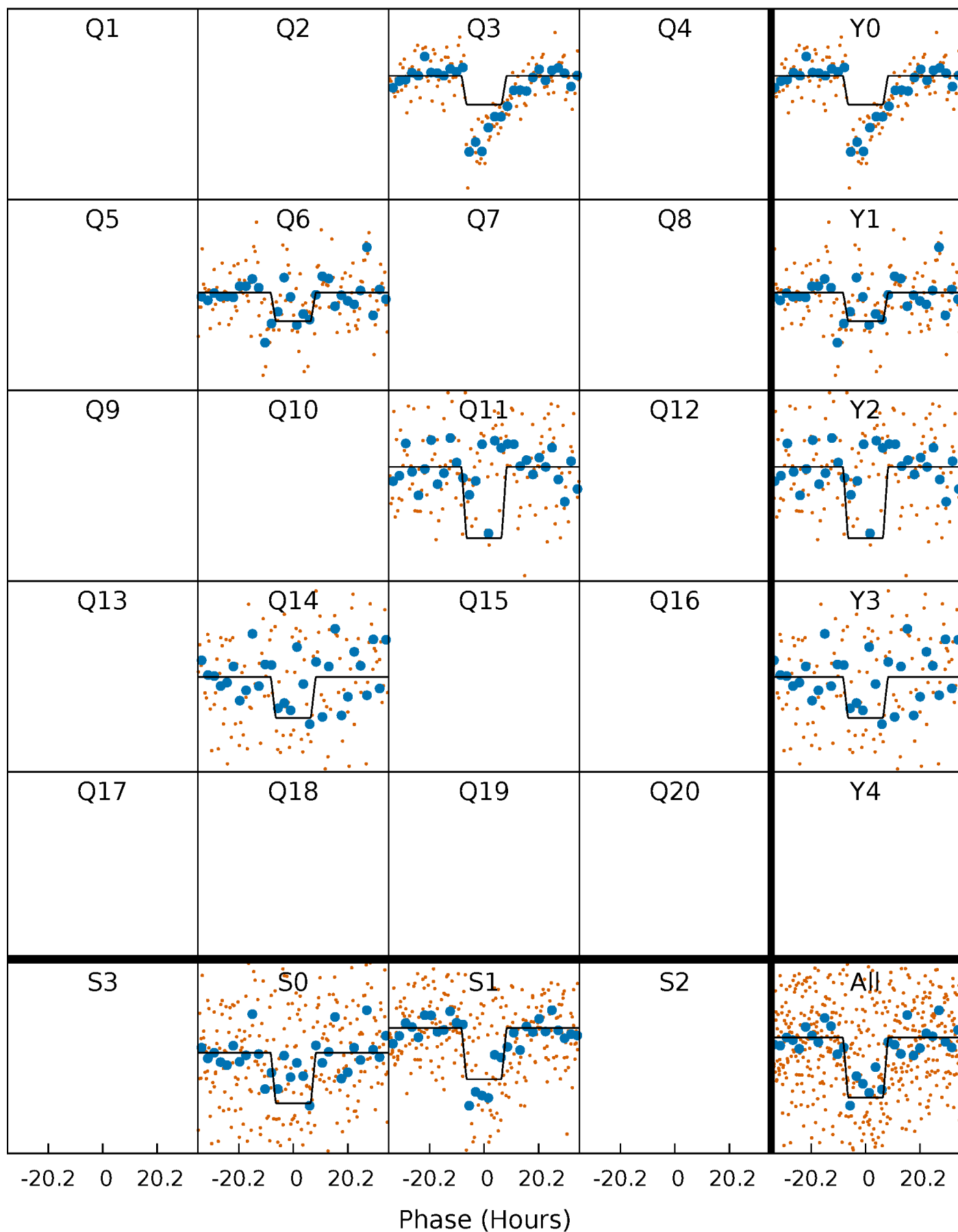
DV Quarter-Phased Transit Curves

TCE 010963389-01 P=246.480567 Days $T_0=313.710399$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

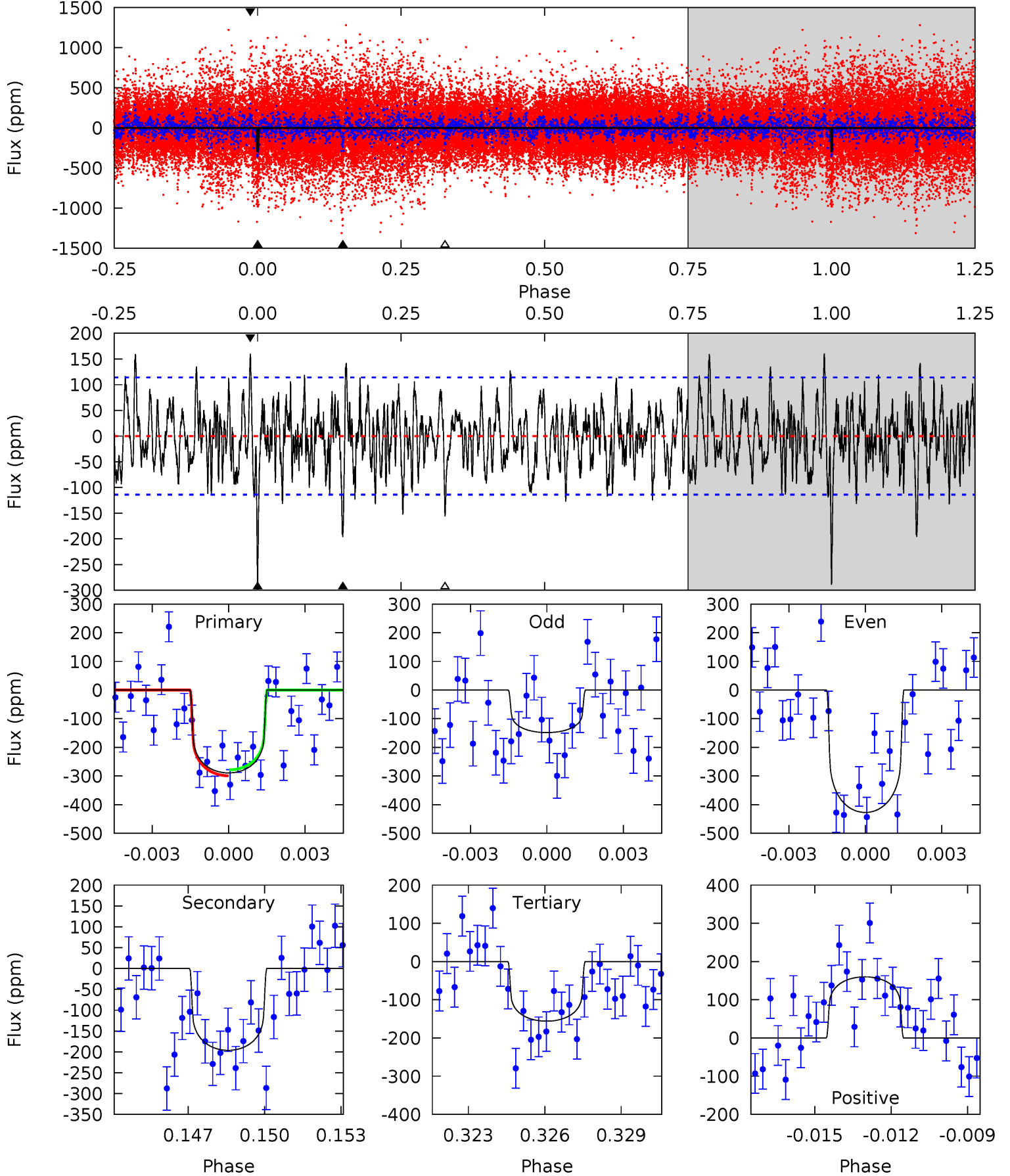
TCE 010963389-01 P=246.503657 Days $T_0=313.662581$ (BKJD)



DV Model-Shift Uniqueness Test

010963389-01, P = 246.480567 Days, E = 67.229832 Days

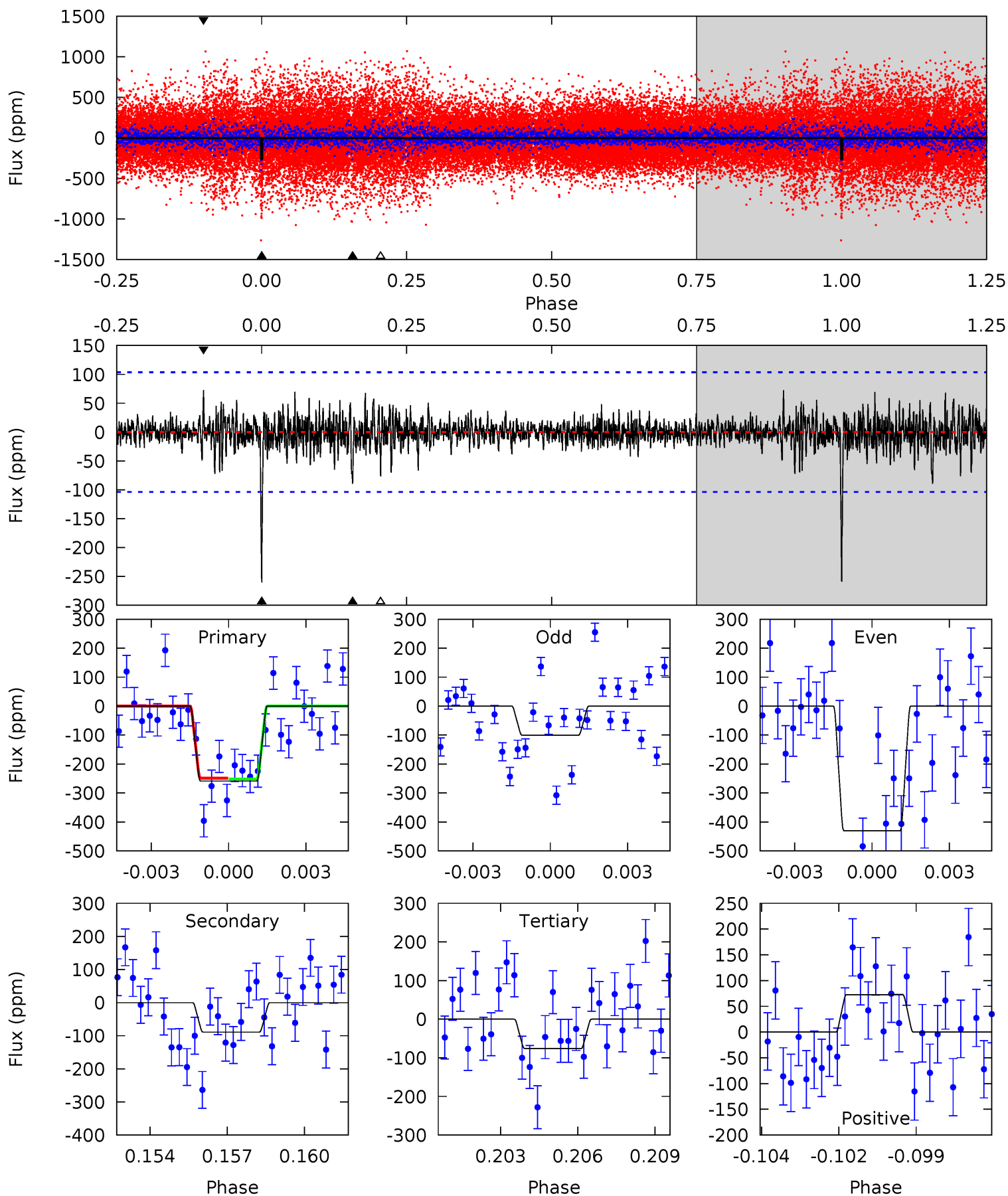
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.3	9.05	7.20	7.38	5.26	2.97	2.29	6.14	5.96	1.86	1.68	6.41	1.33	0.36	0.47



Alt Model-Shift Uniqueness Test

010963389-01, $P = 246.503657$ Days, $E = 67.158924$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.1	4.53	3.87	3.68	5.26	2.98	0.88	9.28	9.47	0.66	0.85	8.32	1.50	0.22	0.06



Stellar Parameters For KIC 010963389

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6311^{+155}_{-202}	$4.395^{+0.072}_{-0.217}$	$-0.040^{+0.250}_{-0.300}$	$1.125^{+0.371}_{-0.132}$	$1.146^{+0.171}_{-0.156}$	$1.134^{+0.341}_{-0.617}$
	+2%/-3%	+2%/-5%	+625%/-750%	+33%/-12%	+15%/-14%	+30%/-54%
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 010963389-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-196 ± 22	$2.13^{+0.95}_{-0.85}$	467^{+34}_{-23}	5755^{+1828}_{-820}	14904^{+28323}_{-7690}
Alt.	-89 ± 20	$2.38^{+0.90}_{-0.90}$	469^{+34}_{-25}	4641^{+973}_{-565}	5416^{+8715}_{-2691}

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 $A_{obs} \gg 1.0$

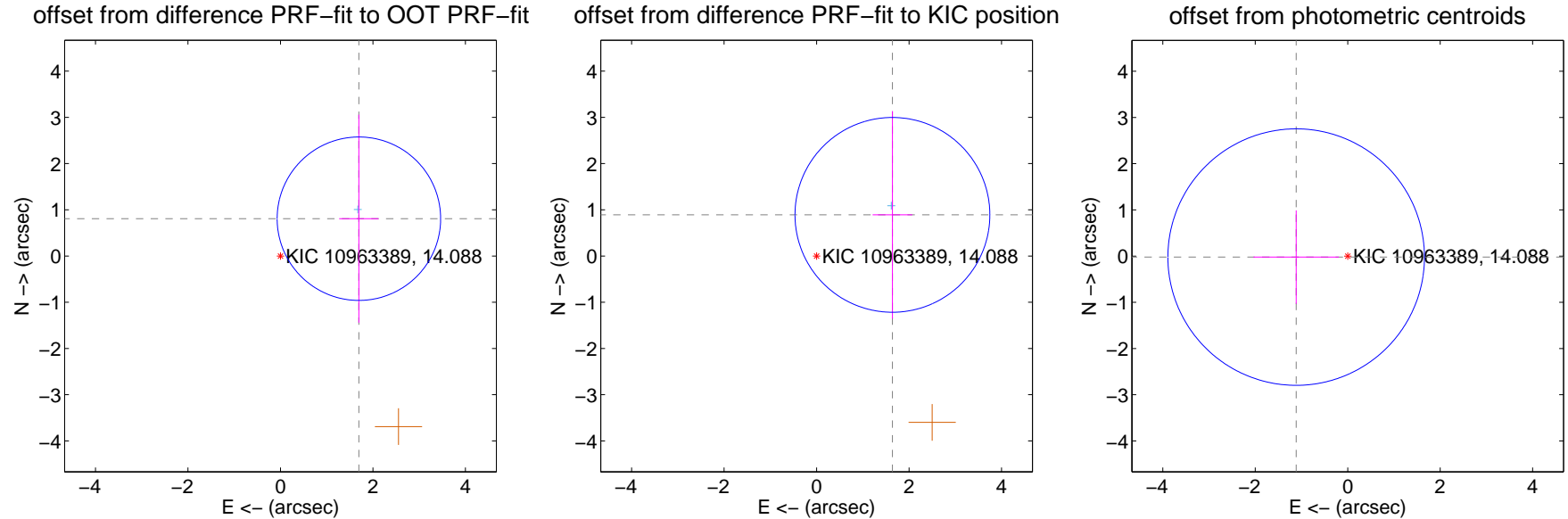
DV Centroid Data

Supplemental centroid analysis for 010963389-01. Kepler magnitude: 14.09. Transit SNR 6.26

There are 1 quarters with good PRF difference image offsets

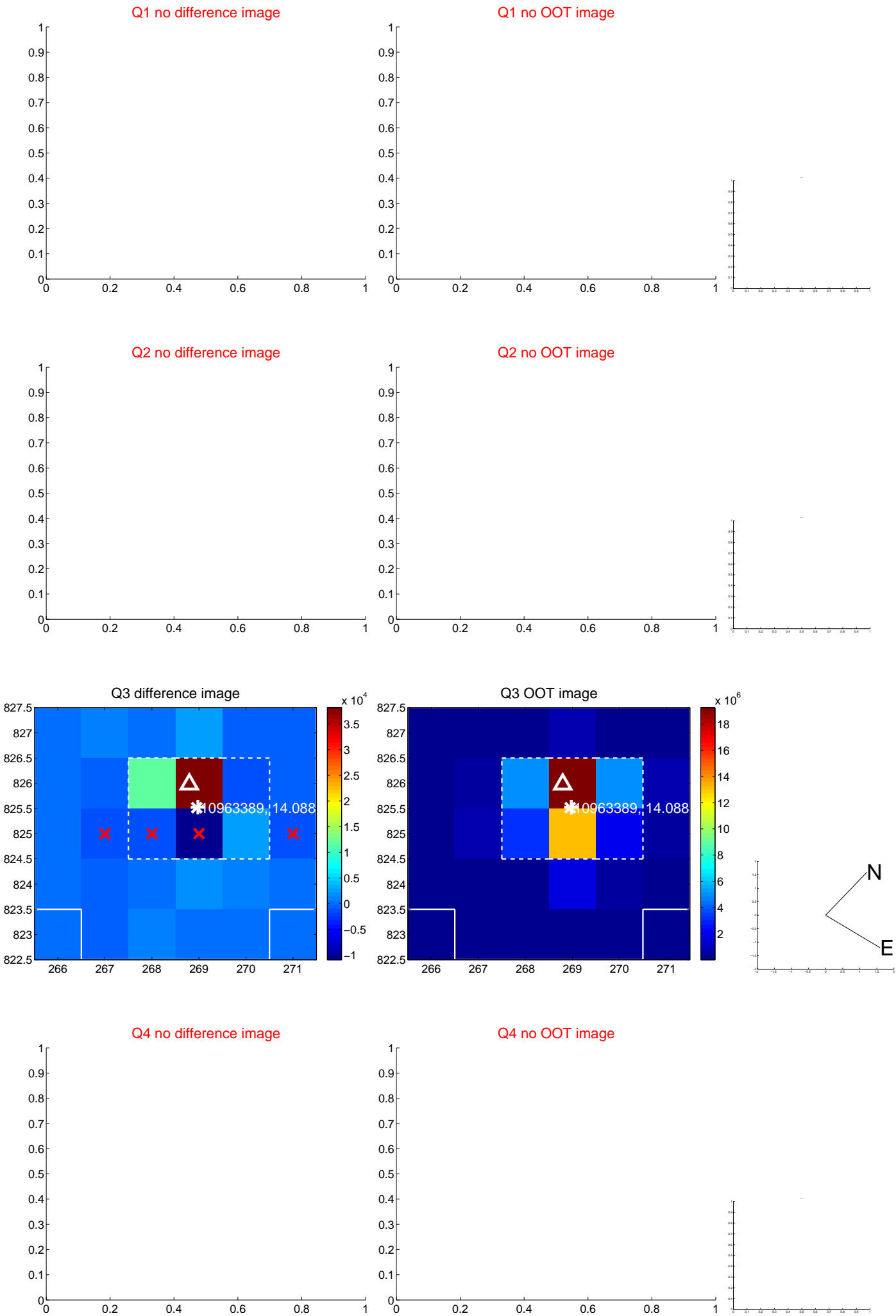
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.879 ± 0.589	3.19	-1.697 ± 0.427	0.807 ± 2.249
PRF-fit source offset from KIC position	1.867 ± 0.702	2.66	-1.641 ± 0.428	0.891 ± 2.245
photometric centroid source offset	1.12 ± 0.93	1.21	1.12 ± 0.93	-0.02 ± 1.01

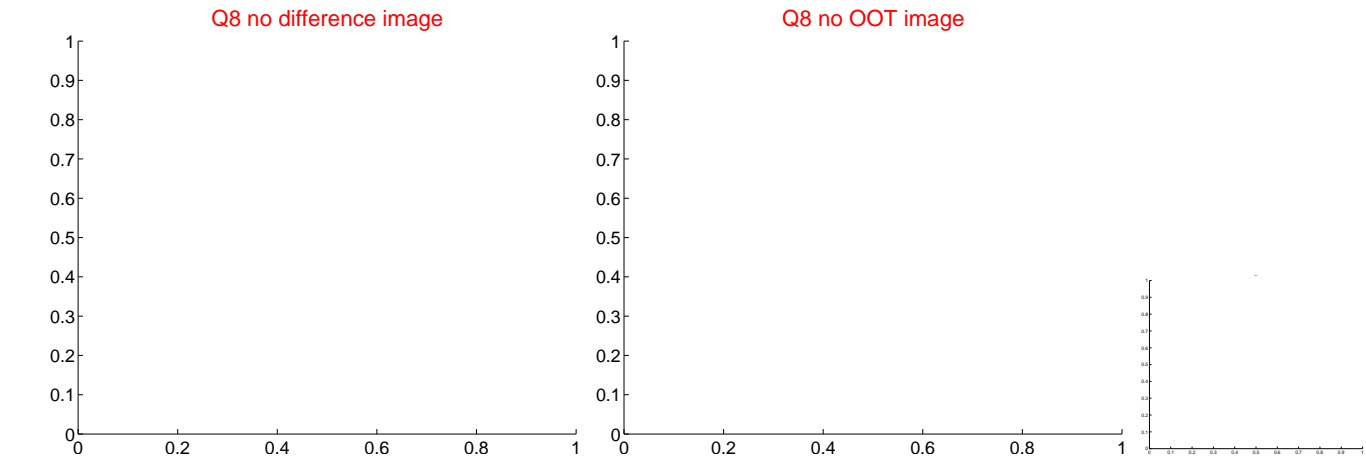
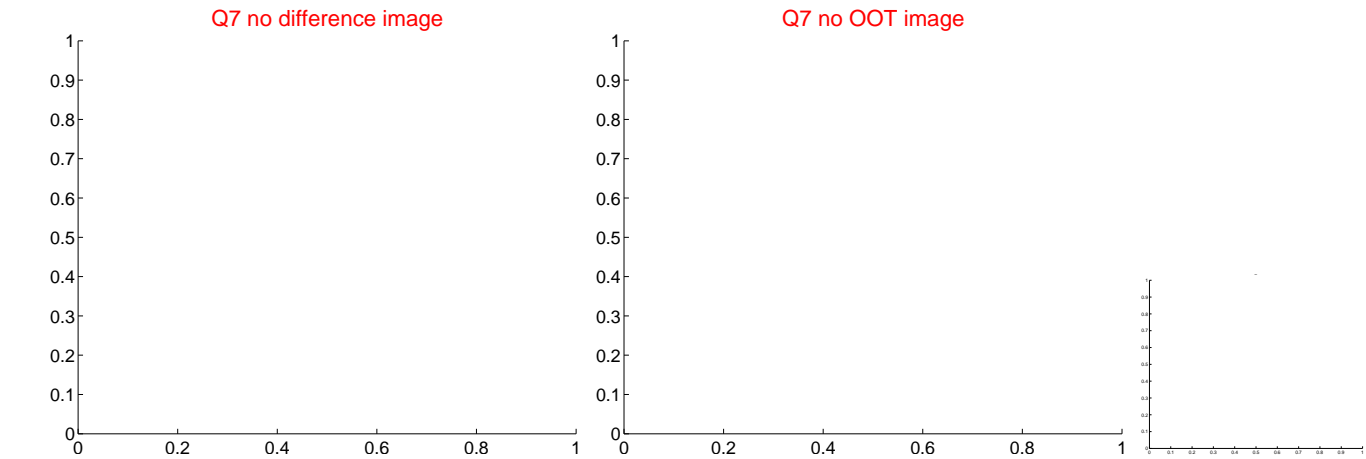
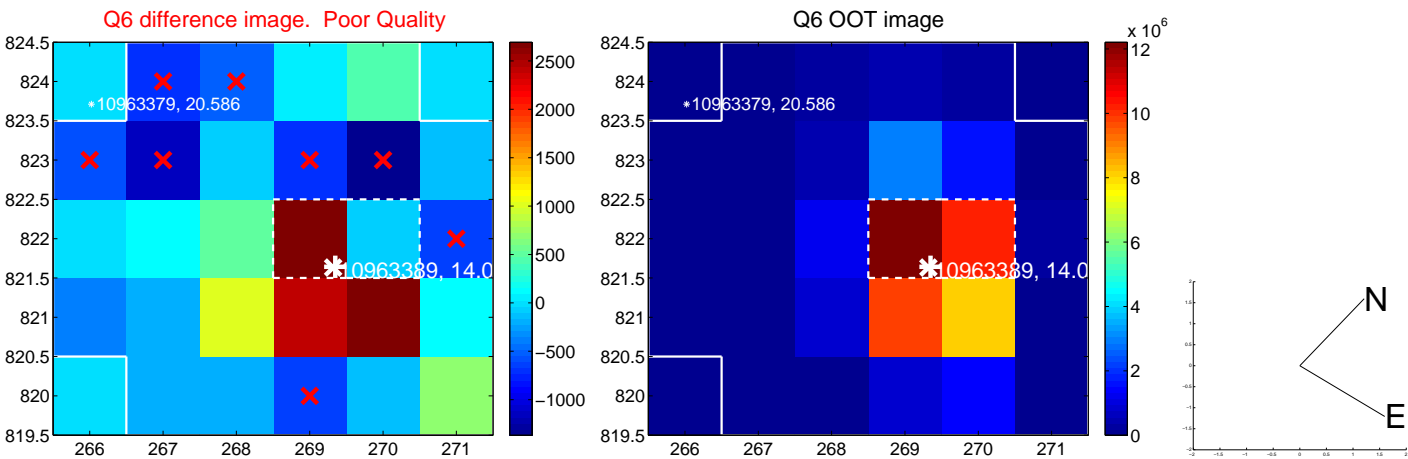
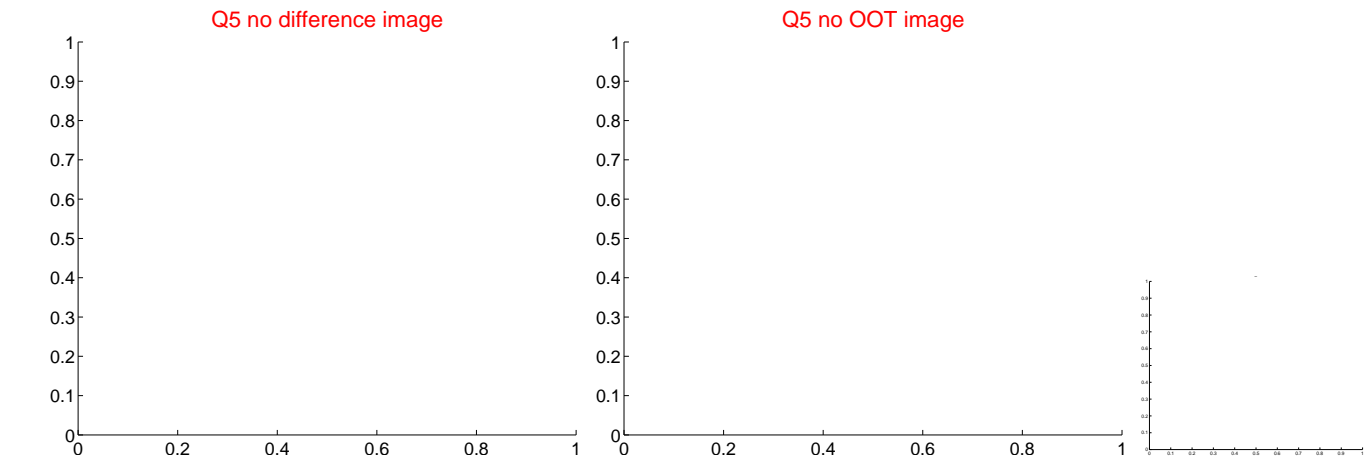


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

Q9 no difference image



Q9 no OOT image



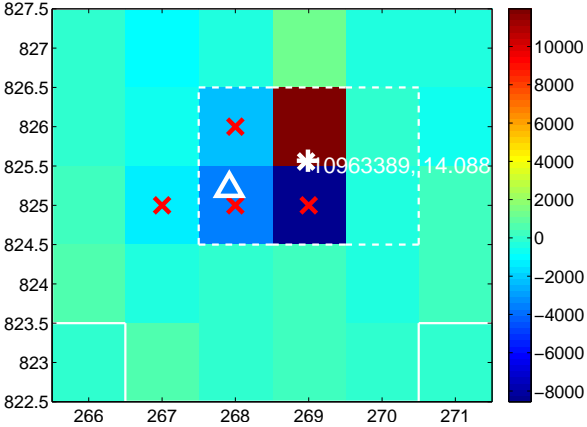
Q10 no difference image



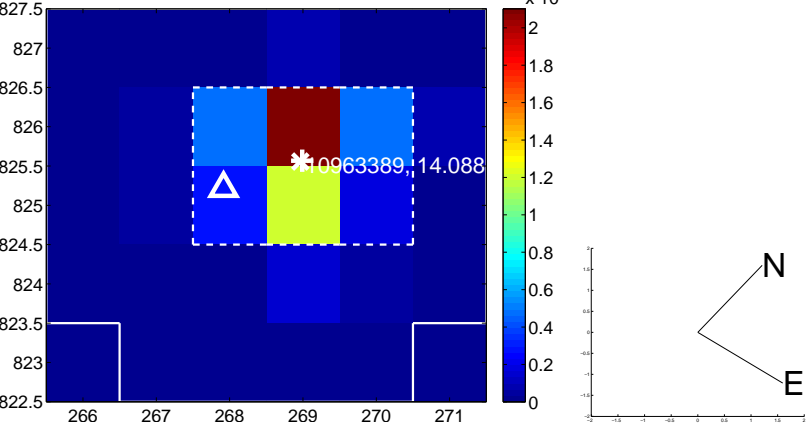
Q10 no OOT image



Q11 difference image. Poor Quality



Q11 OOT image



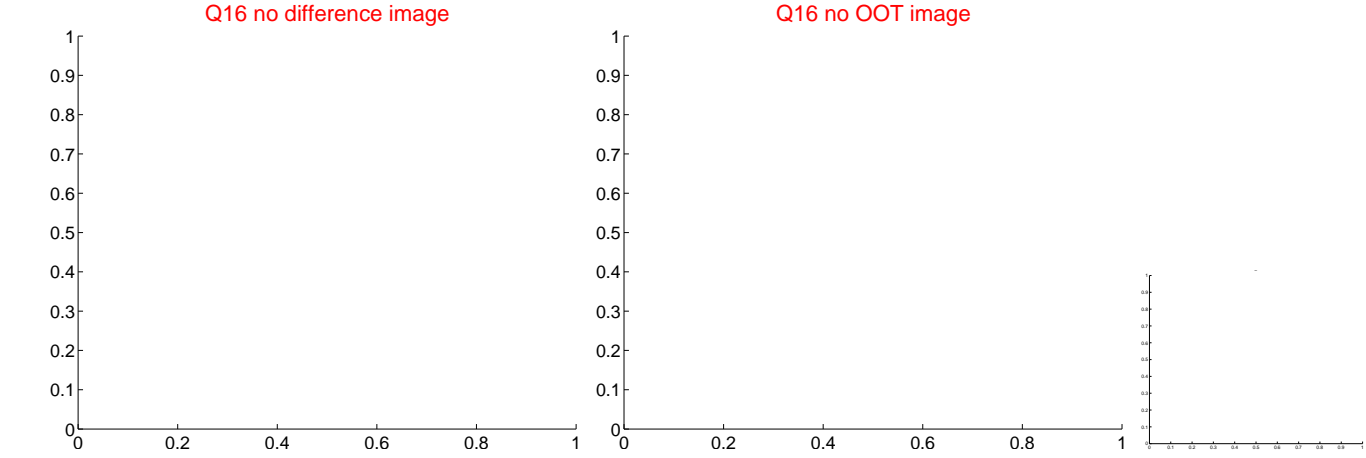
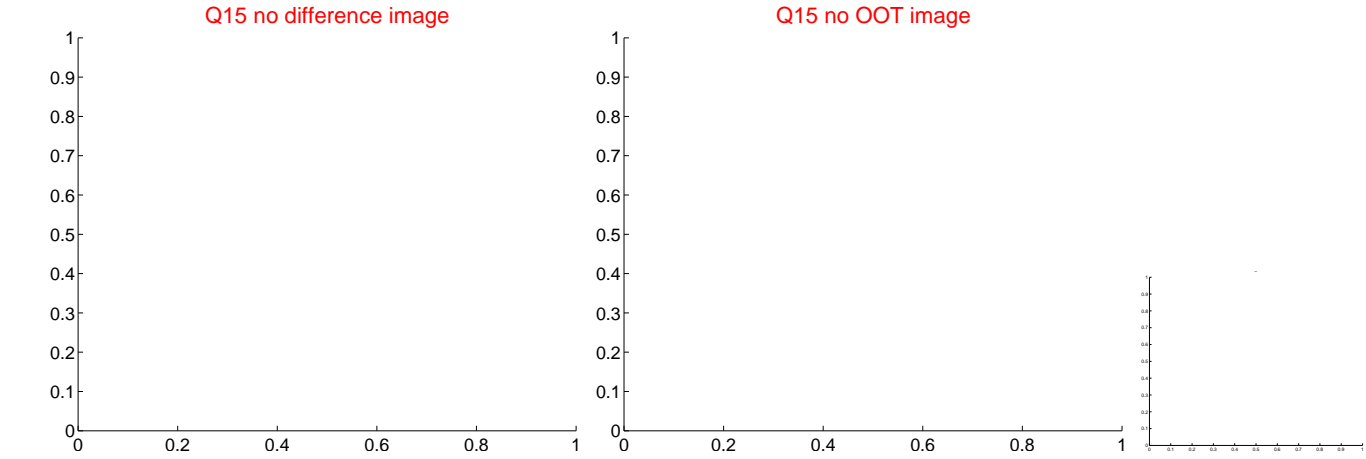
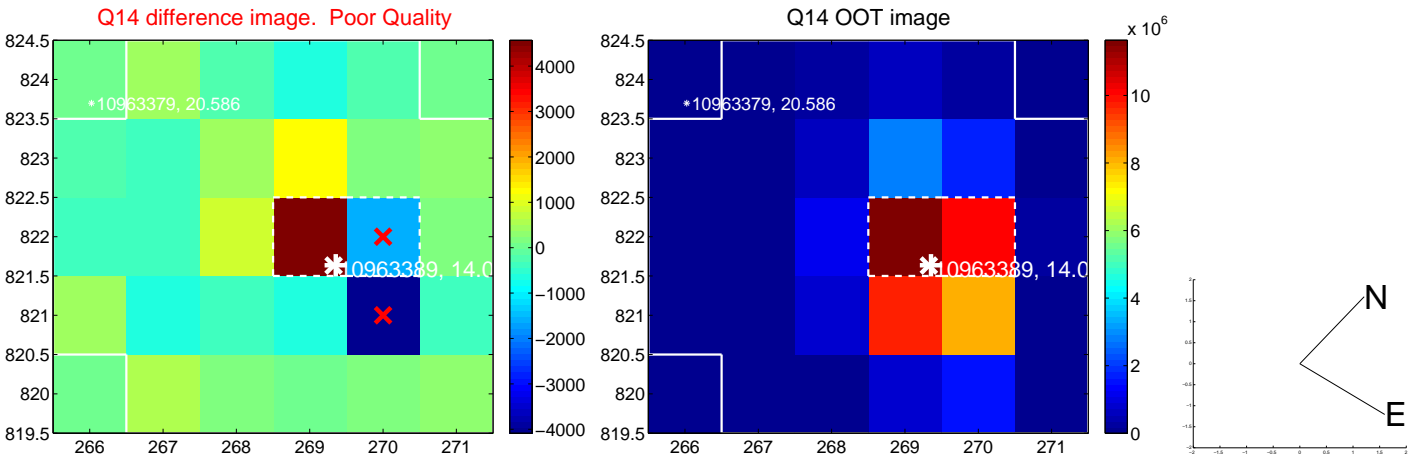
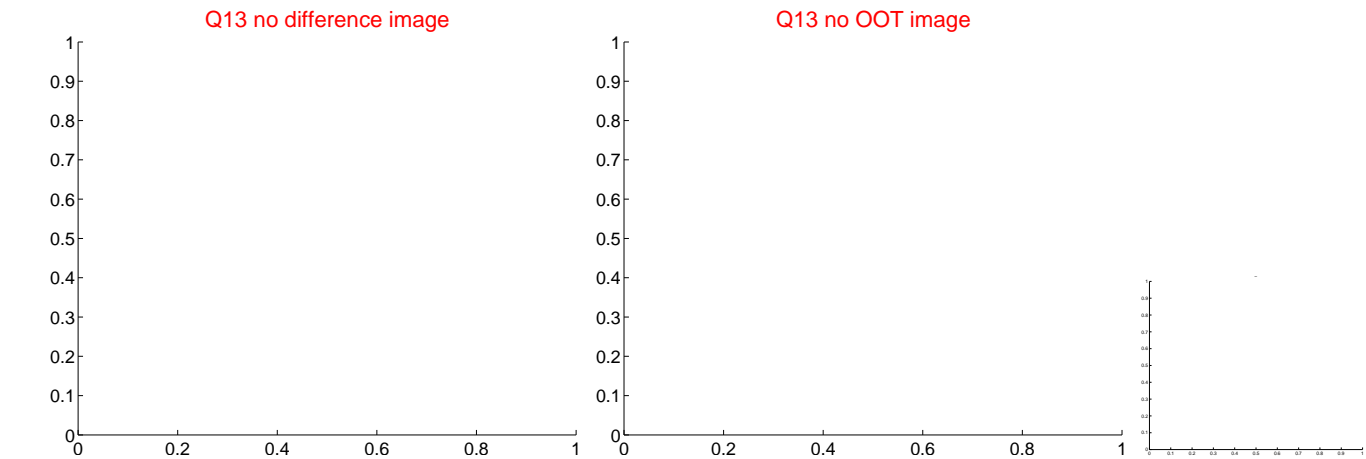
Q12 no difference image



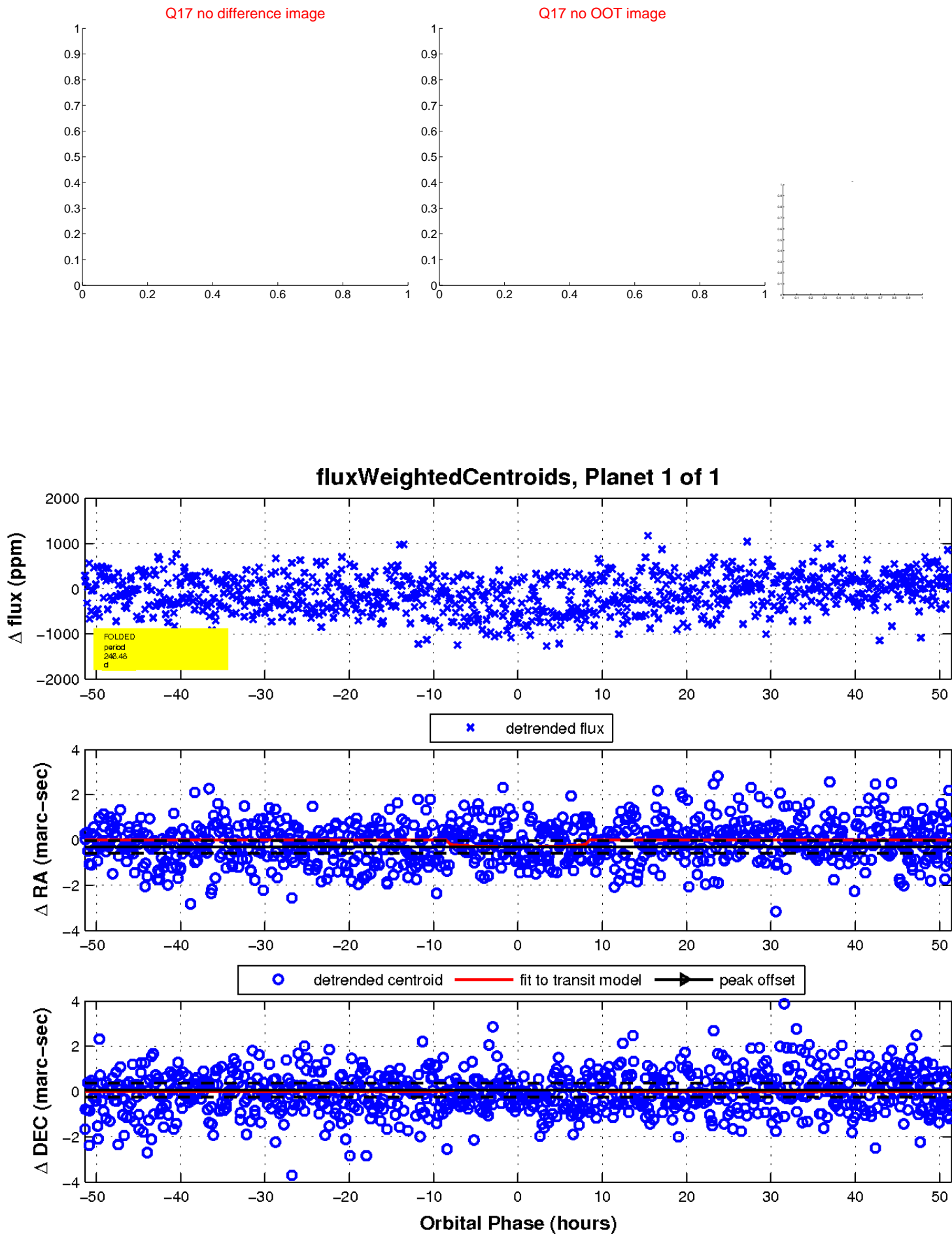
Q12 no OOT image



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.



UKIRT Image

Declination

