

KIC 011720424

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})
011720424-01	OBS	3116.01	23.911356	150.516153	304.8	6.239	10.3	11.2	1.09	6338	2.56	59.86

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011720424-01	OBS	PC	0.98	0	0	0	0	NO_COMMENT

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 011720424-01

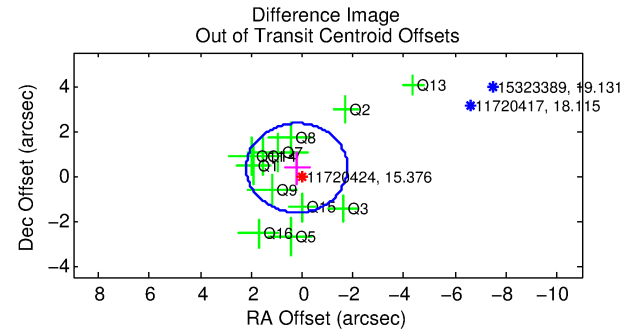
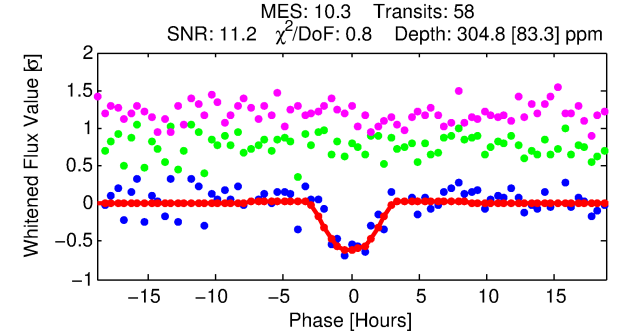
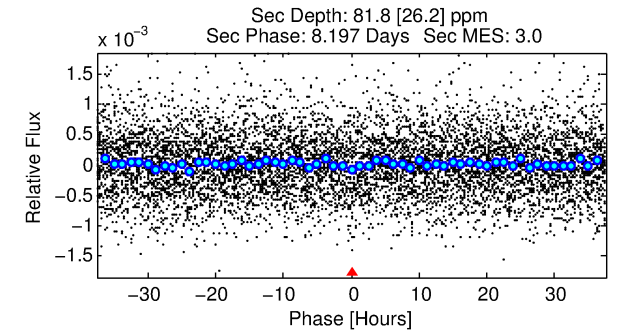
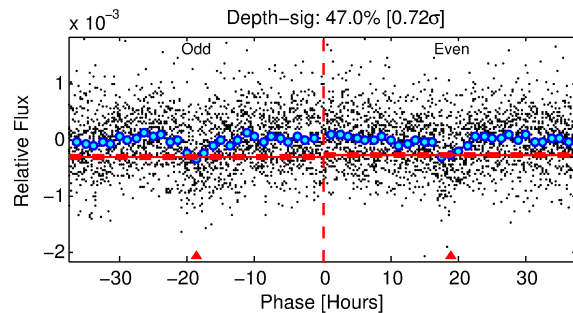
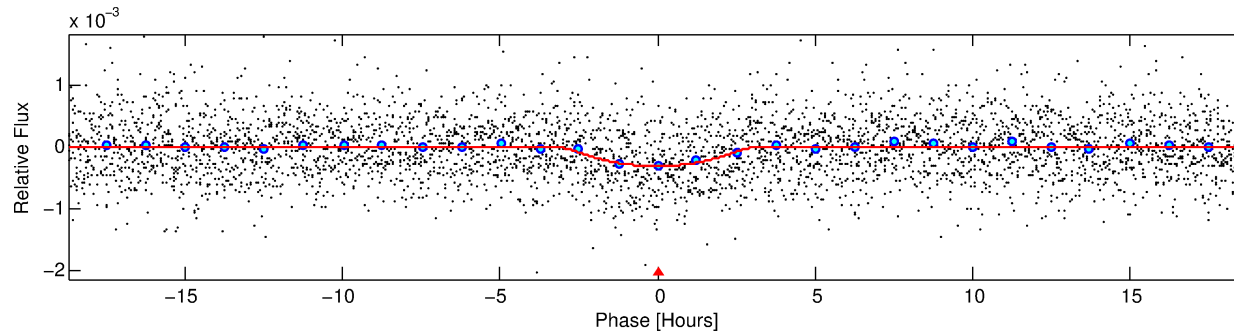
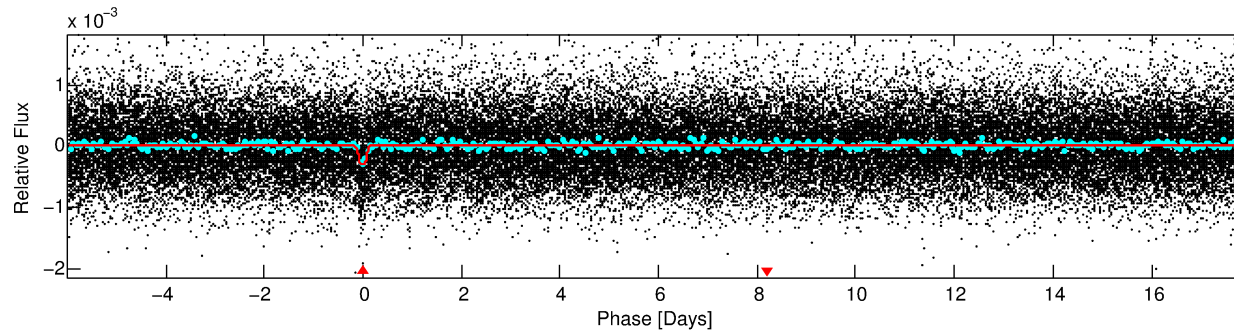
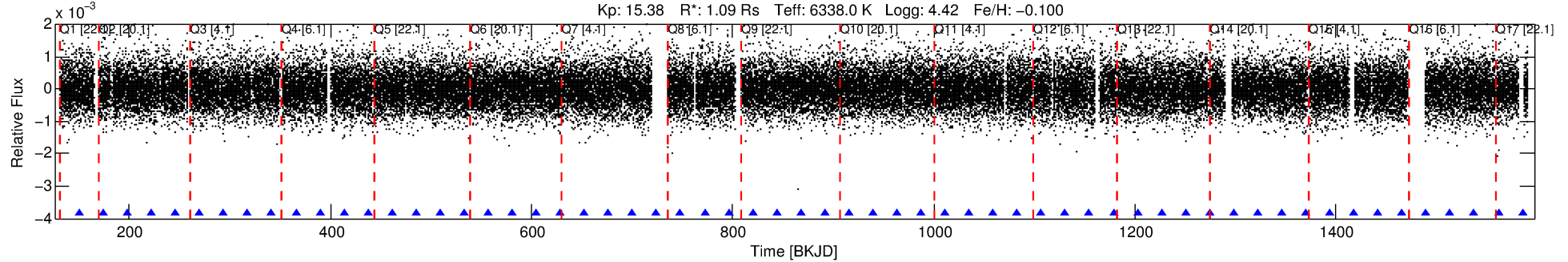
No Significant Match Found

DV One-Page Summary

KIC: 11720424 Candidate: 1 of 1 Period: 23.911 d

KOI: K03116.01 Corr: 0.900

Kp: 15.38 R*: 1.09 Rs Teff: 6338.0 K Logg: 4.42 Fe/H: -0.100



DV Fit Results:

Period = 23.91136 [0.00038] d
Epoch = 150.5162 [0.0128] BKJD
Rp/R* = 0.0215 [0.0049]
a/R* = 8.54 [2.07]
b = 0.98 [0.02]
Seff = 59.86 [23.96]
Teq = 709 [71] K
Rp = 2.56 [1.01] Re
a = 0.1696 [0.0450] AU
Ag = 196.92 [132.25] [1.48σ]
Teff = 4108 [586] K [5.75σ]

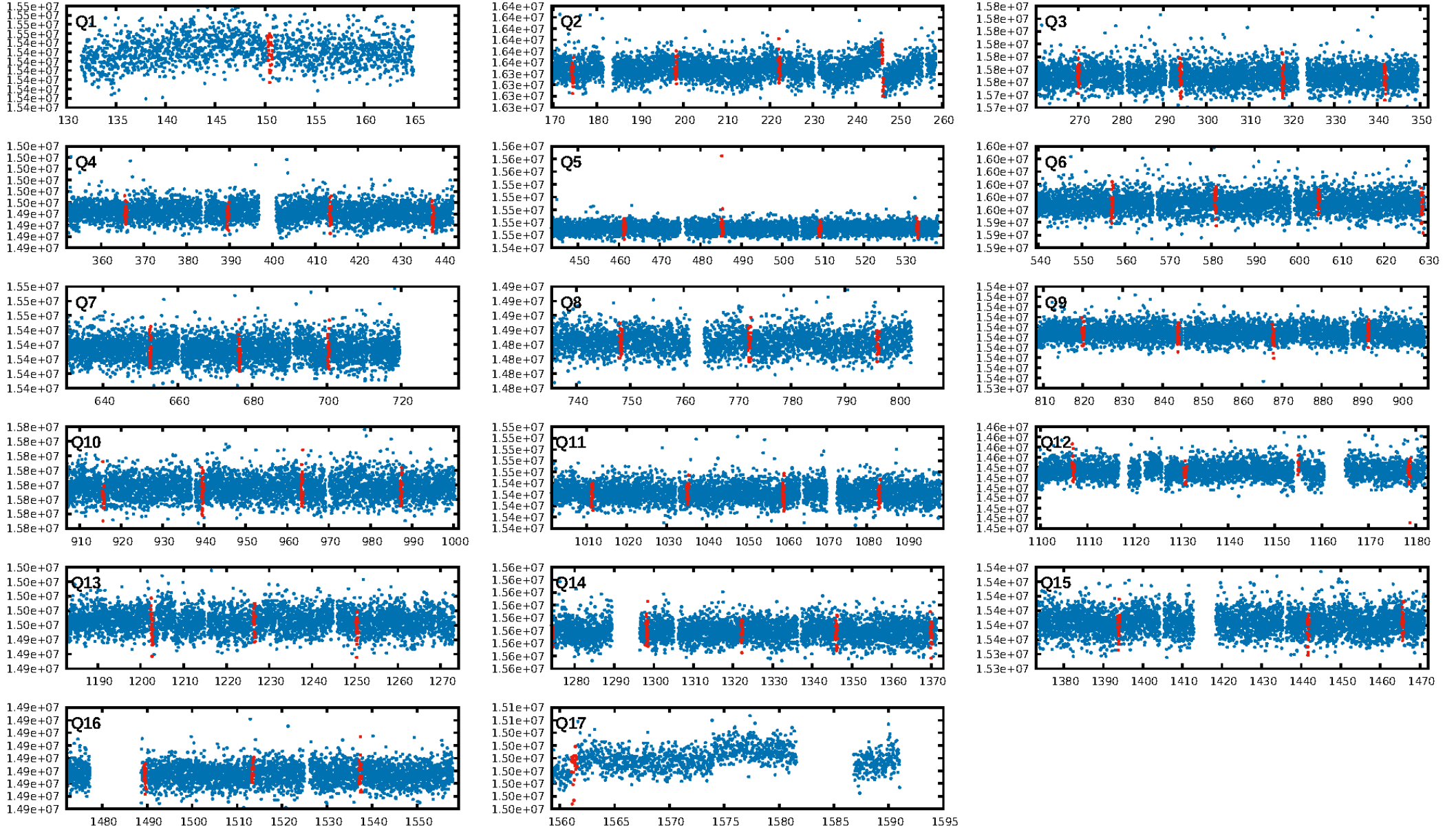
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 98.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.77e-25
RollingBand-fgt: 1.00 [56/56]
GhostDiagnostic-chr: 5.04
Centroid-sig: 3.0%
Centroid-so: 2.162 arcsec [1.69σ]
OotOffset-rm: 0.414 arcsec [0.62σ]
KicOffset-rm: 0.406 arcsec [0.57σ]
OotOffset-st: 2/4/2/4 [12]
KicOffset-st: 2/4/2/4 [12]
DiffImageQuality-fgm: 0.67 [8/12]
DiffImageOverlap-fno: 1.00 [16/16]

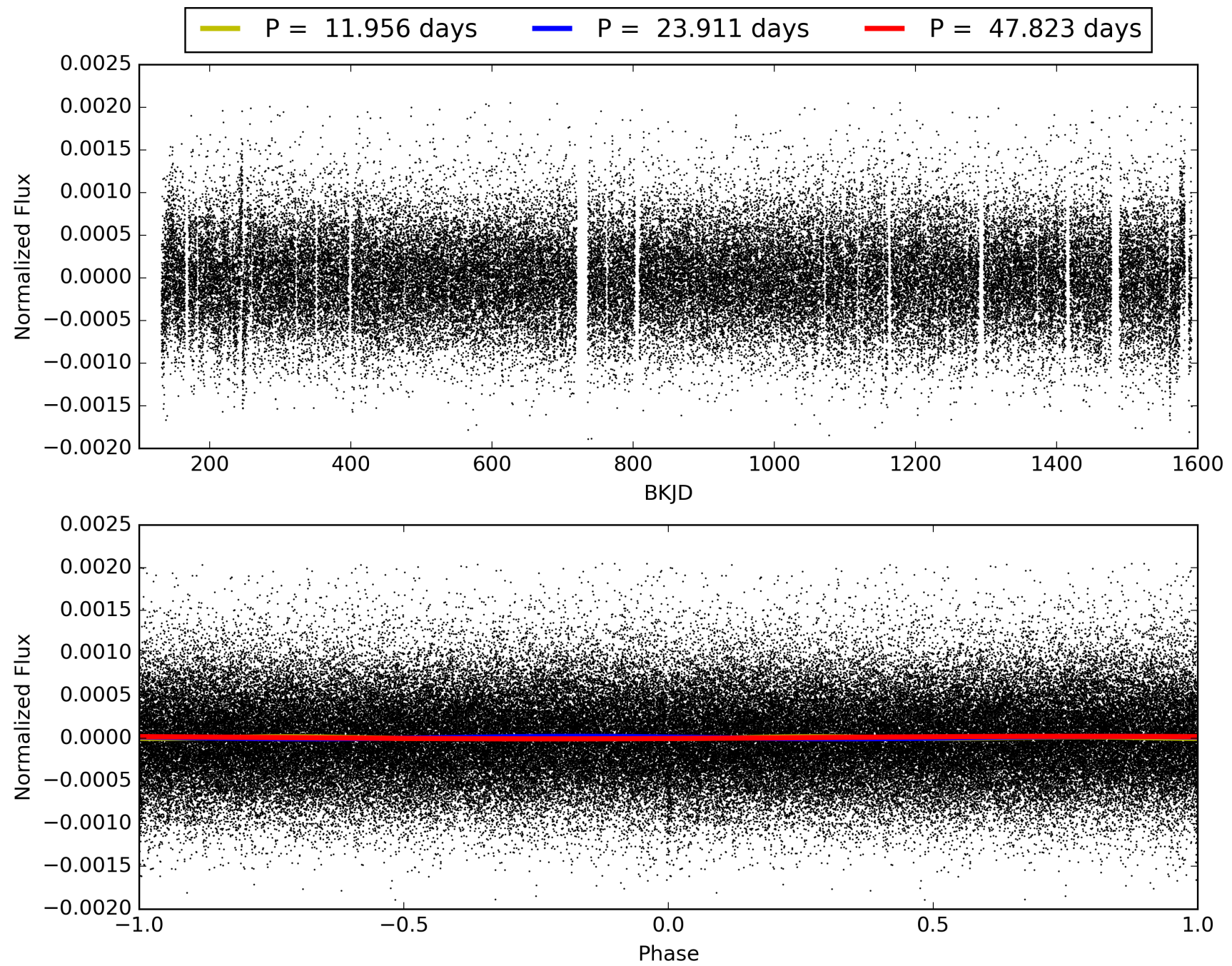
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:36:14 Z

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

TCE 011720424-01, PDC Light Curves

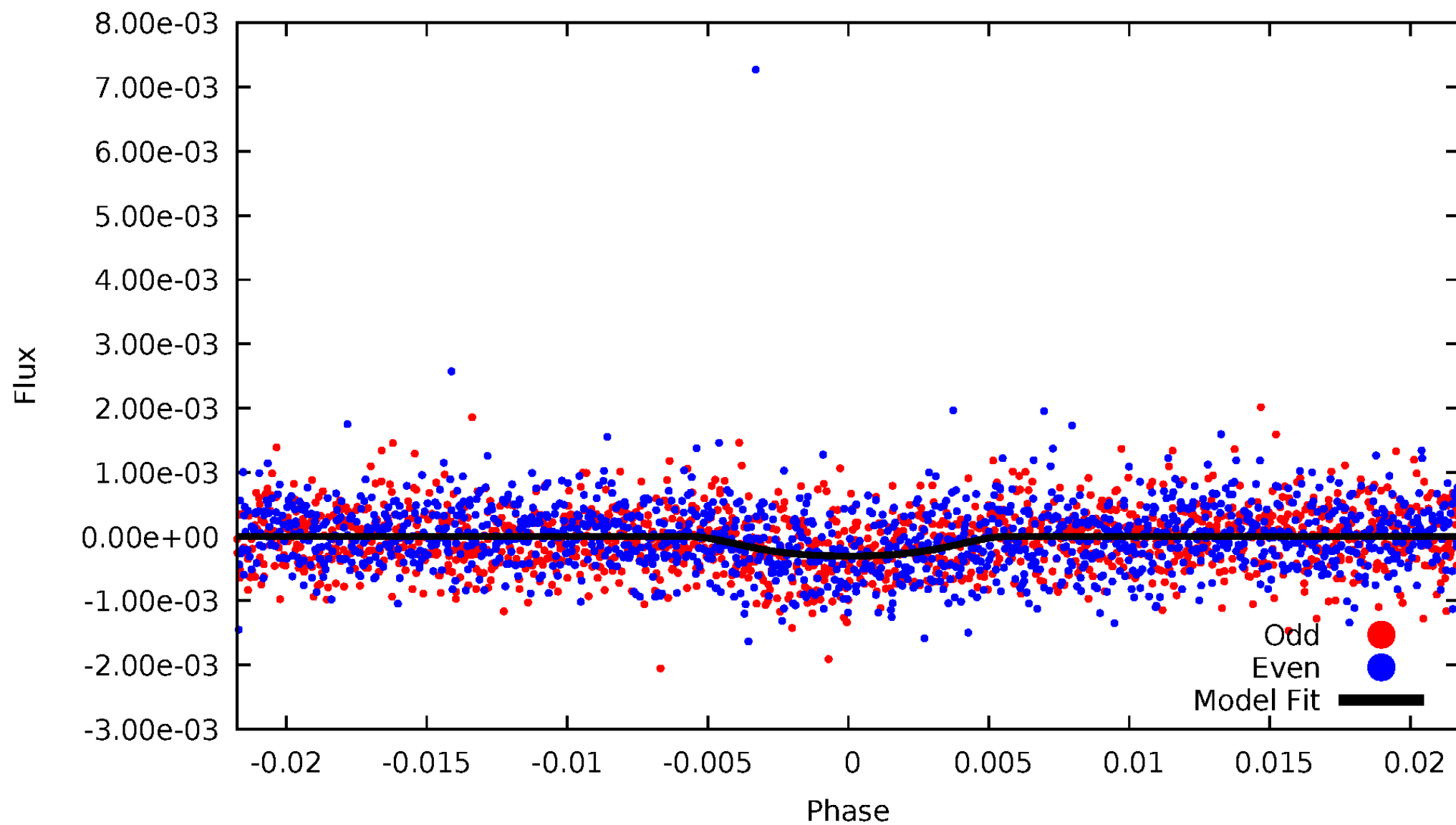


TCE 011720424-01



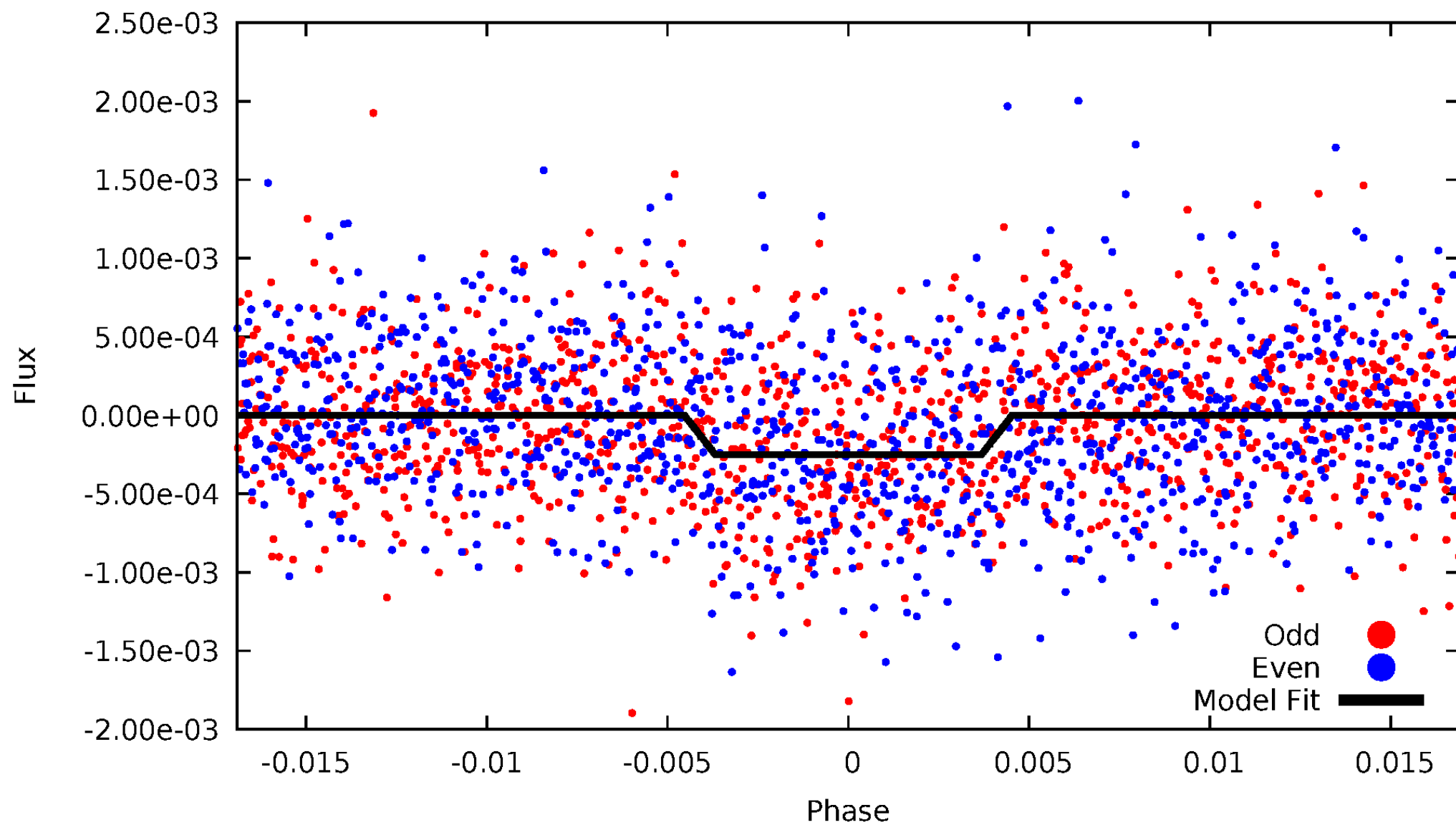
DV Odd/Even

TCE 011720424-01

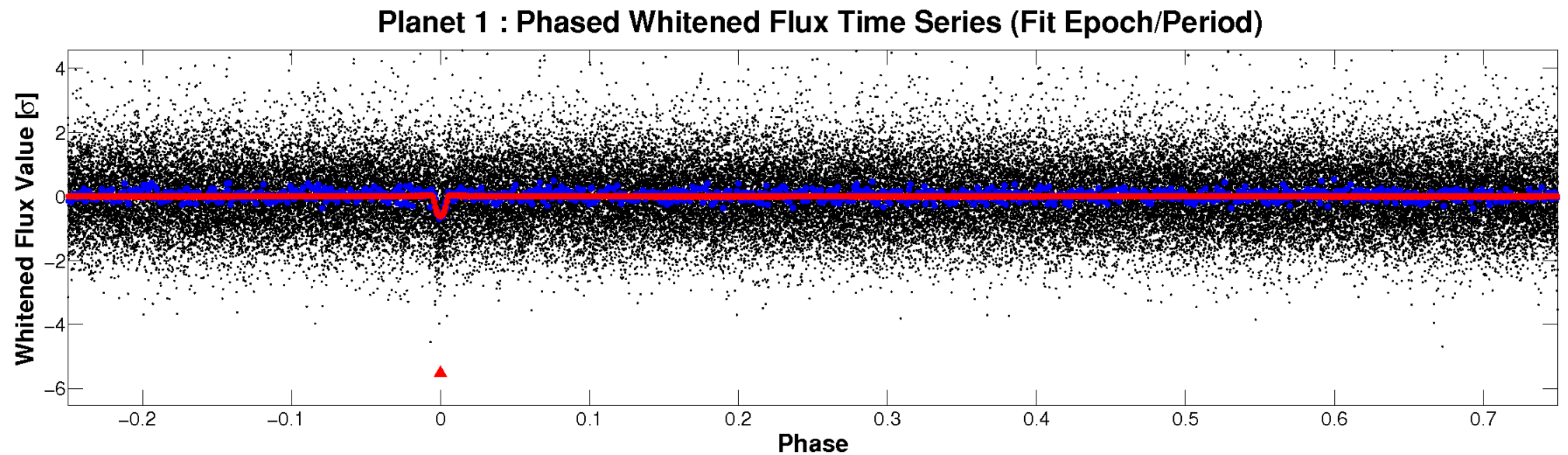
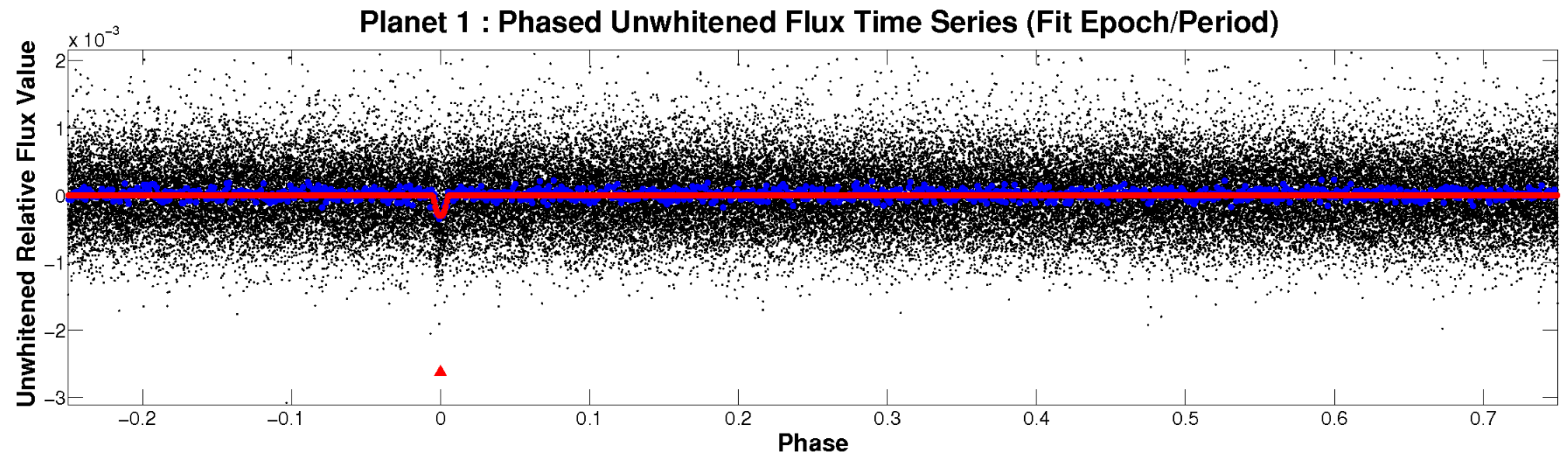


ALT Odd/Even

TCE 011720424-01

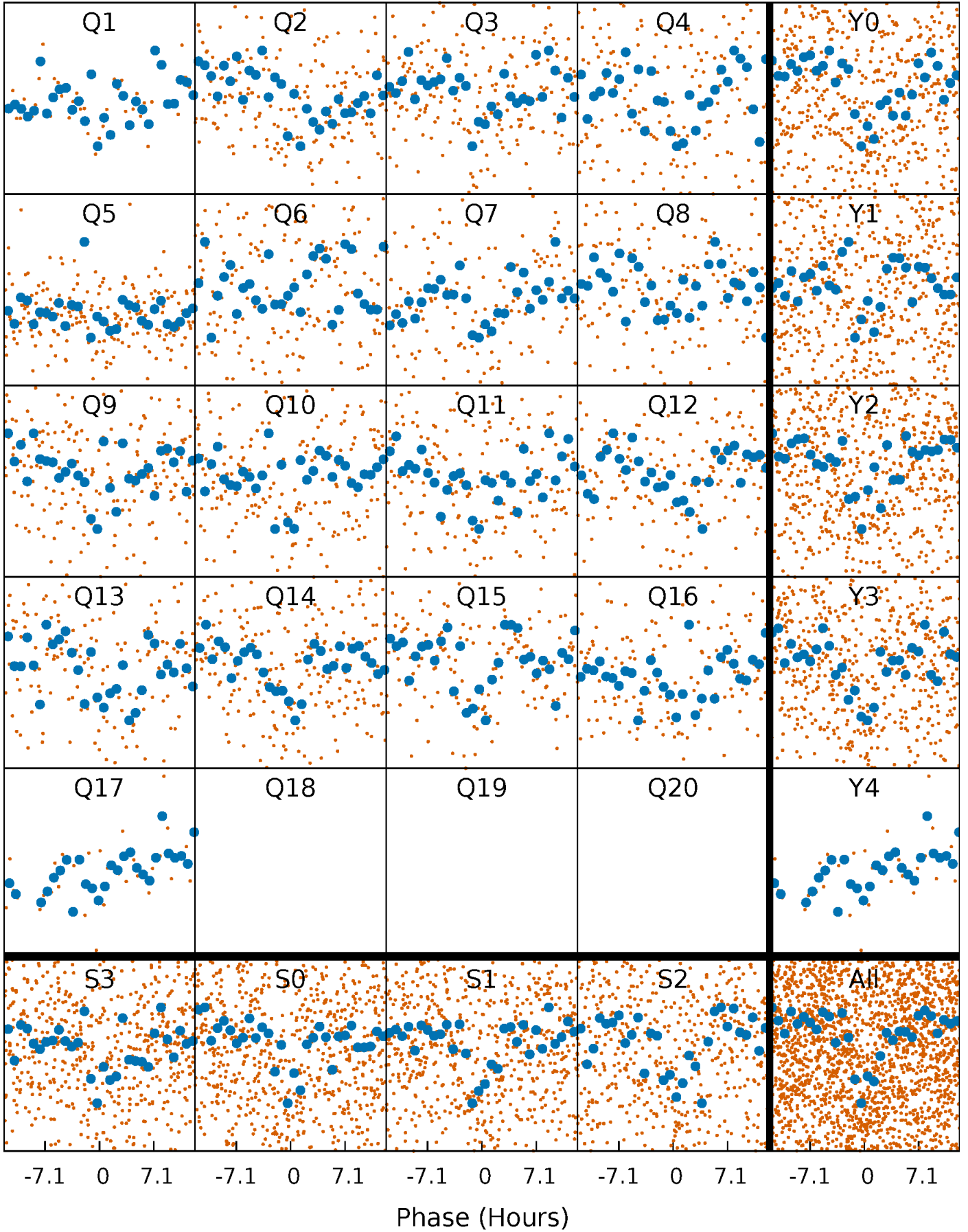


Non-Whitened Vs. Whitened Light Curve



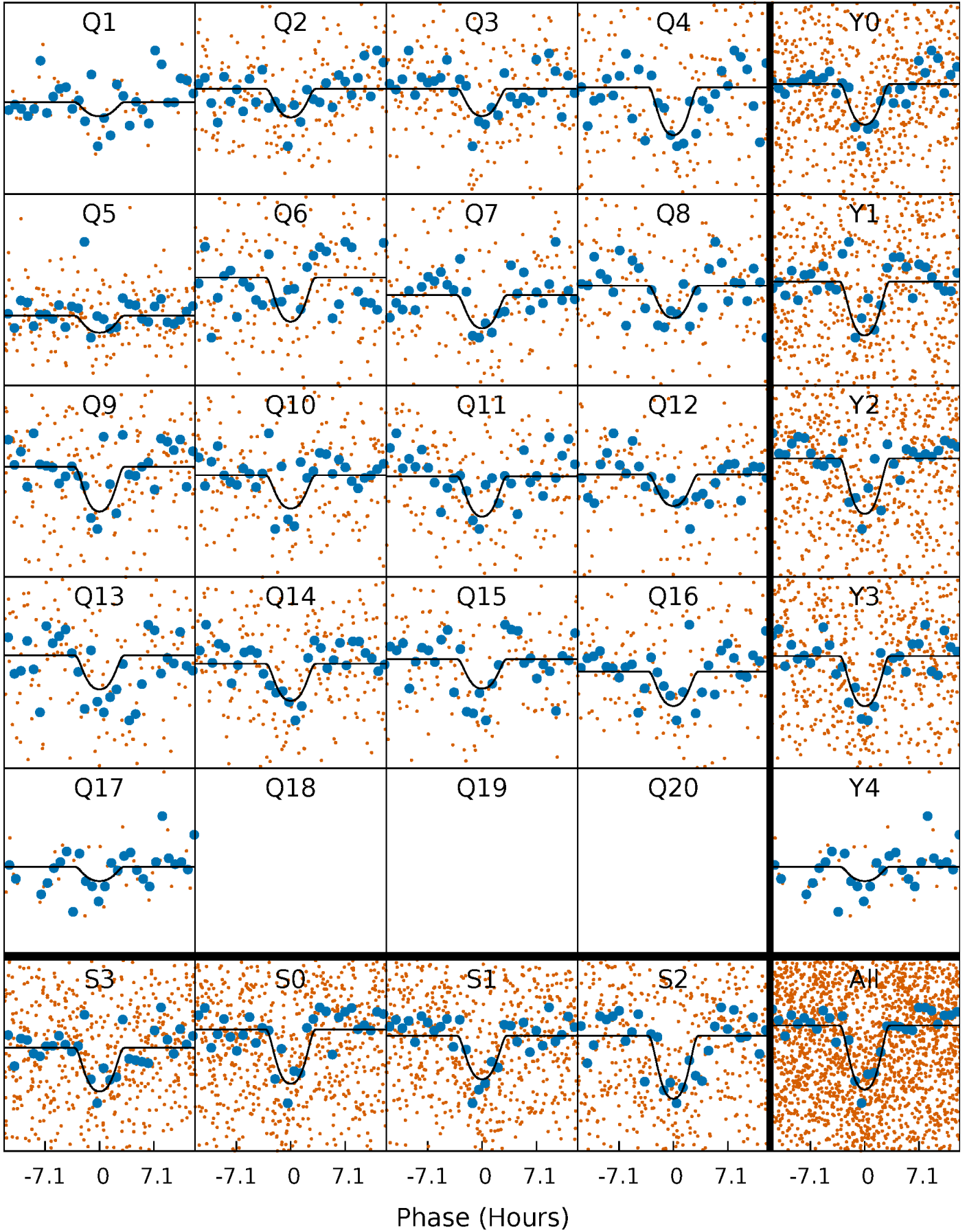
PDC Quarter-Phased Transit Curves

TCE 011720424-01 P= 23.911356 Days $T_0=150.516153$ (BKJD)



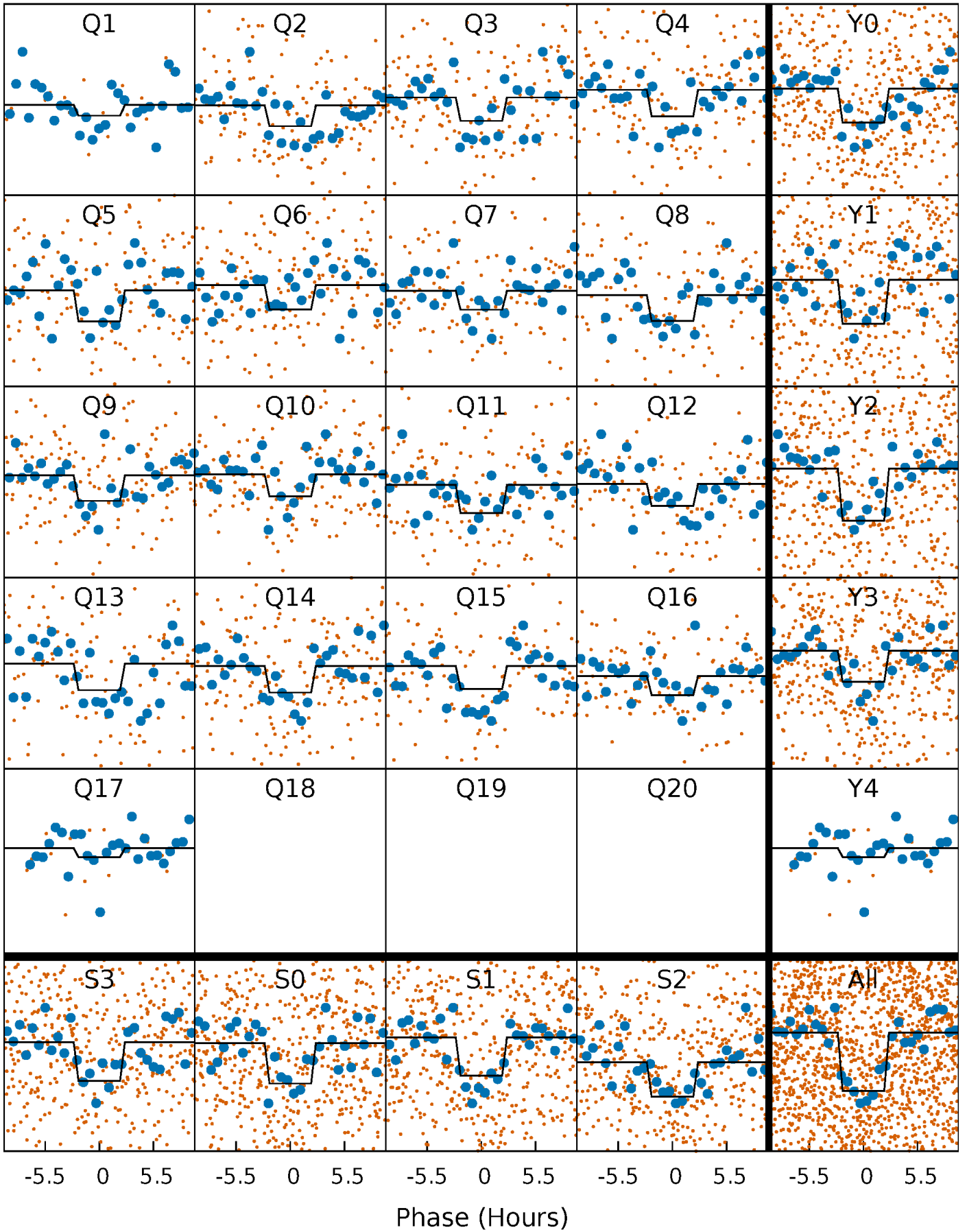
DV Quarter-Phased Transit Curves

TCE 011720424-01 P= 23.911356 Days $T_0=150.516153$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

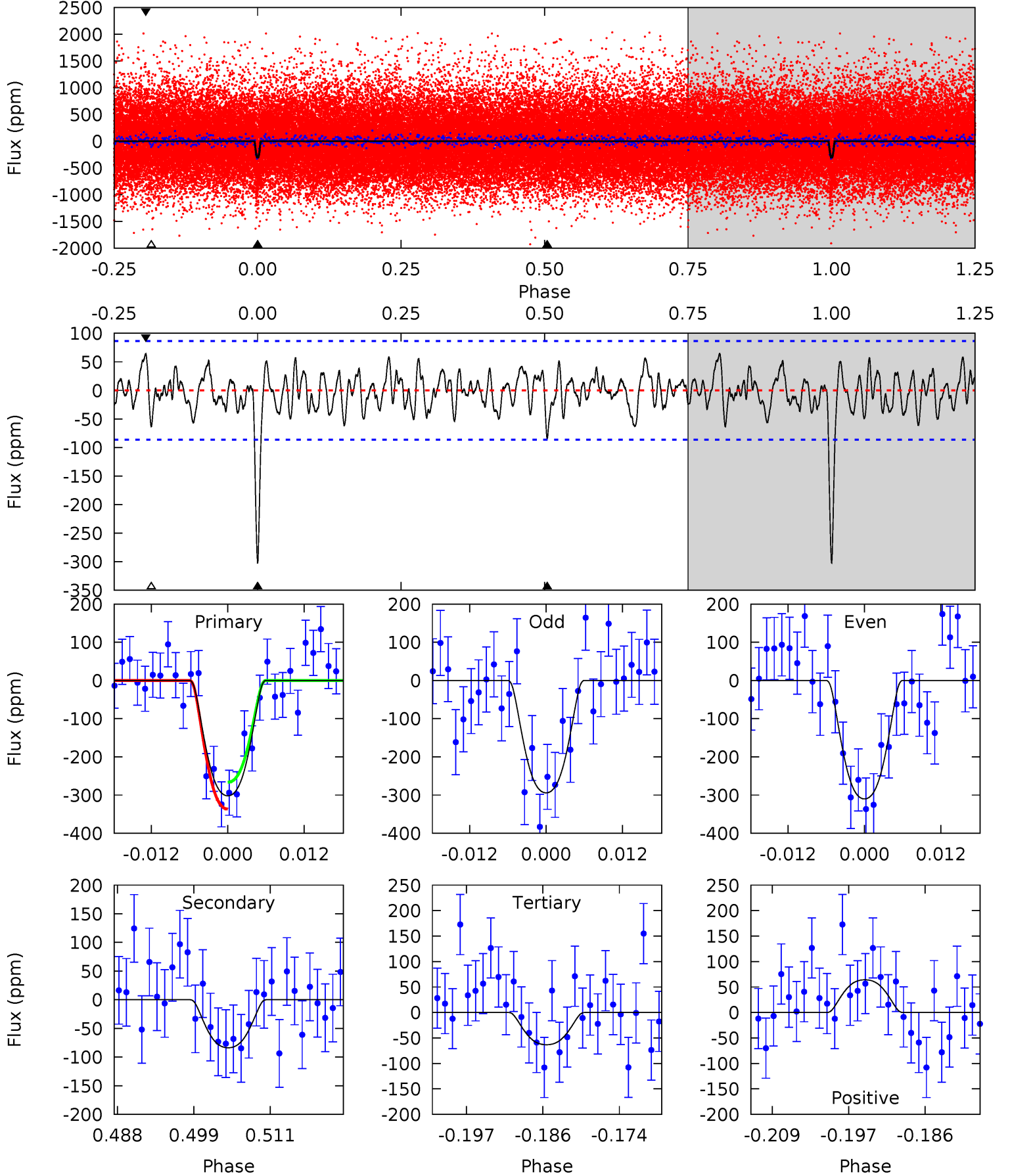
TCE 011720424-01 P= 23.910663 Days $T_0=150.540119$ (BKJD)



DV Model-Shift Uniqueness Test

011720424-01, $P = 23.911356$ Days, $E = 126.604797$ Days

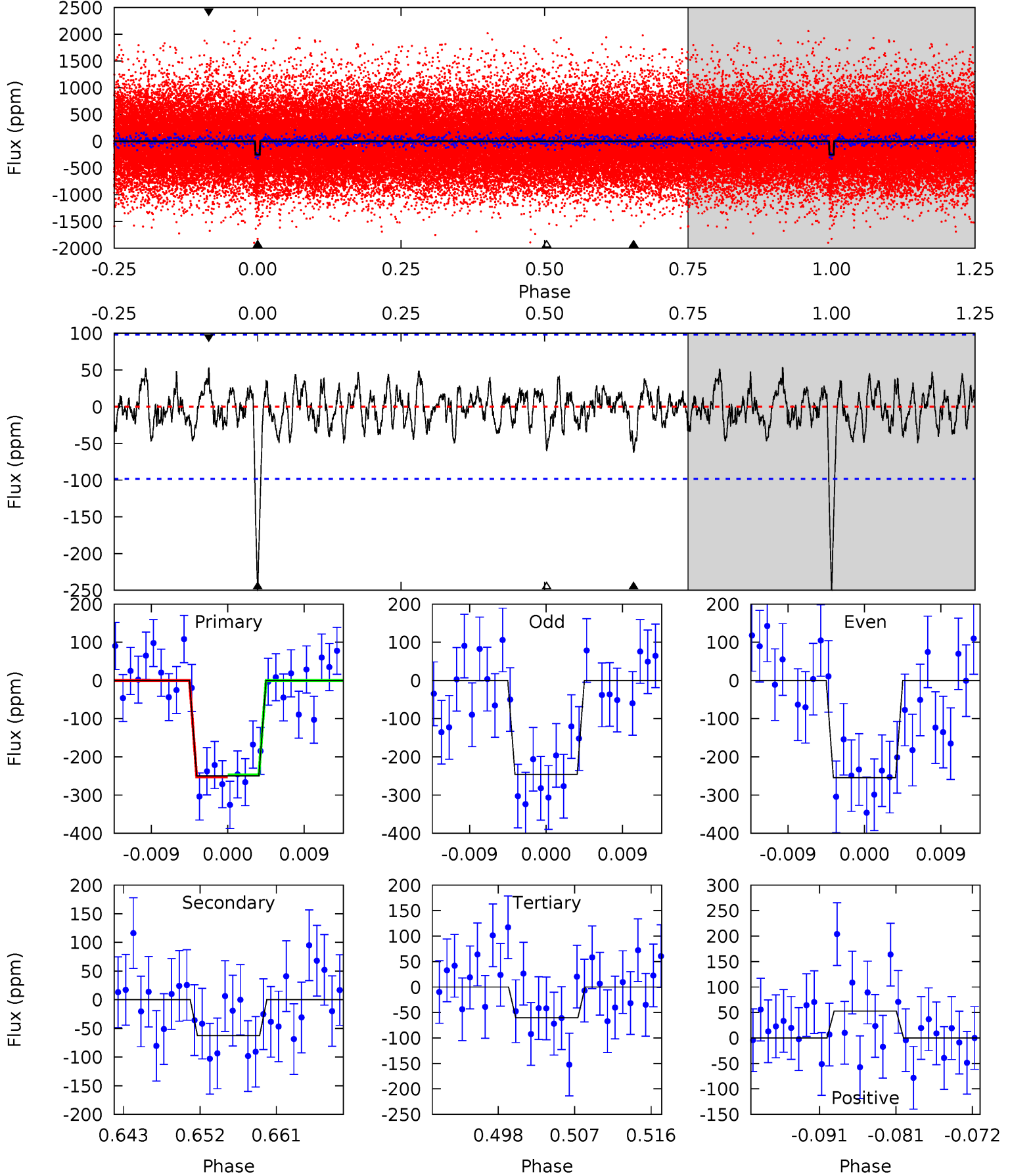
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.5	4.84	3.66	3.71	5.00	2.52	1.47	13.8	13.7	1.18	1.13	0.46	1.03	0.18	2.04



Alt Model-Shift Uniqueness Test

011720424-01, P = 23.910663 Days, E = 126.629456 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	3.20	3.09	2.71	5.05	2.61	1.03	9.75	10.1	0.12	0.49	0.21	1.02	0.17	0.14



Stellar Parameters For KIC 011720424

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6338^{+172}_{-210}	$4.418^{+0.067}_{-0.202}$	$-0.100^{+0.250}_{-0.300}$	$1.091^{+0.353}_{-0.118}$	$1.137^{+0.154}_{-0.154}$	$1.233^{+0.344}_{-0.642}$
	+3%/-3%	+2%/-5%	+250%/-300%	+32%/-11%	+14%/-14%	+28%/-52%
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 011720424-01 / KOI 3116.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-84 ± 17	$2.68^{+0.71}_{-0.66}$	1005^{+75}_{-46}	4352^{+523}_{-359}	183^{+143}_{-76}
Alt.	-62 ± 19	$1.97^{+0.62}_{-0.65}$	1005^{+74}_{-49}	4639^{+868}_{-633}	248^{+316}_{-133}

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 $A_{\text{obs}} \gg 1.0$

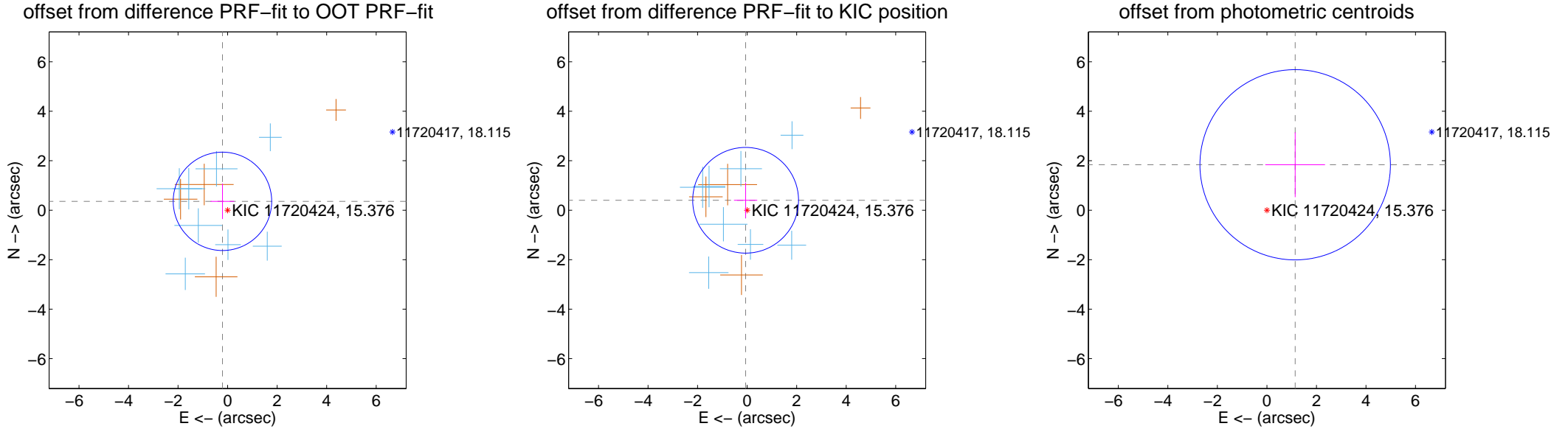
DV Centroid Data

Supplemental centroid analysis for 011720424-01. Kepler magnitude: 15.38. Transit SNR 11.25

There are 8 quarters with good PRF difference image offsets

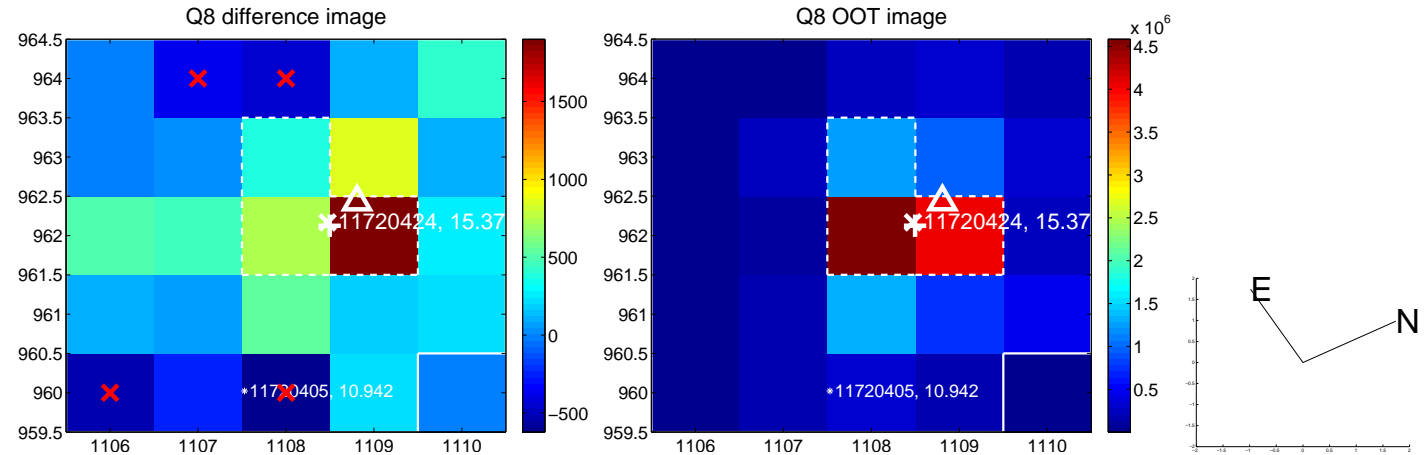
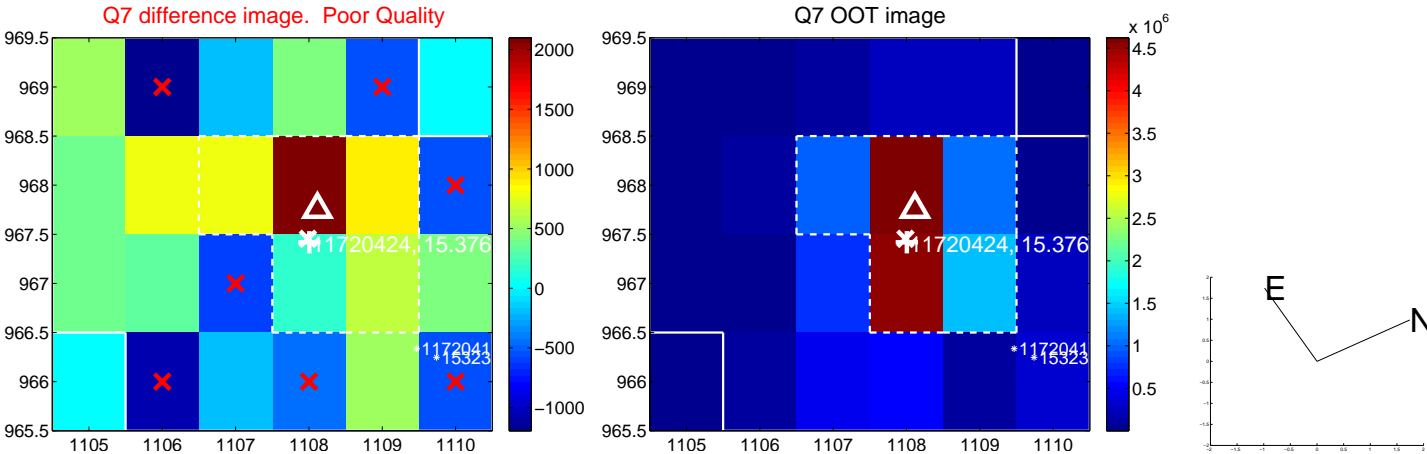
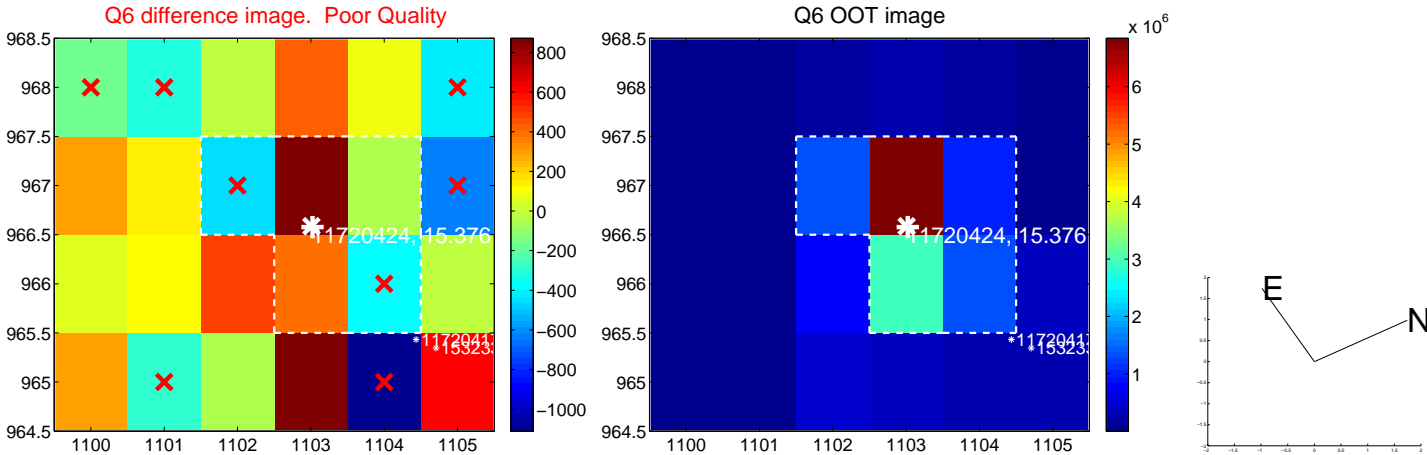
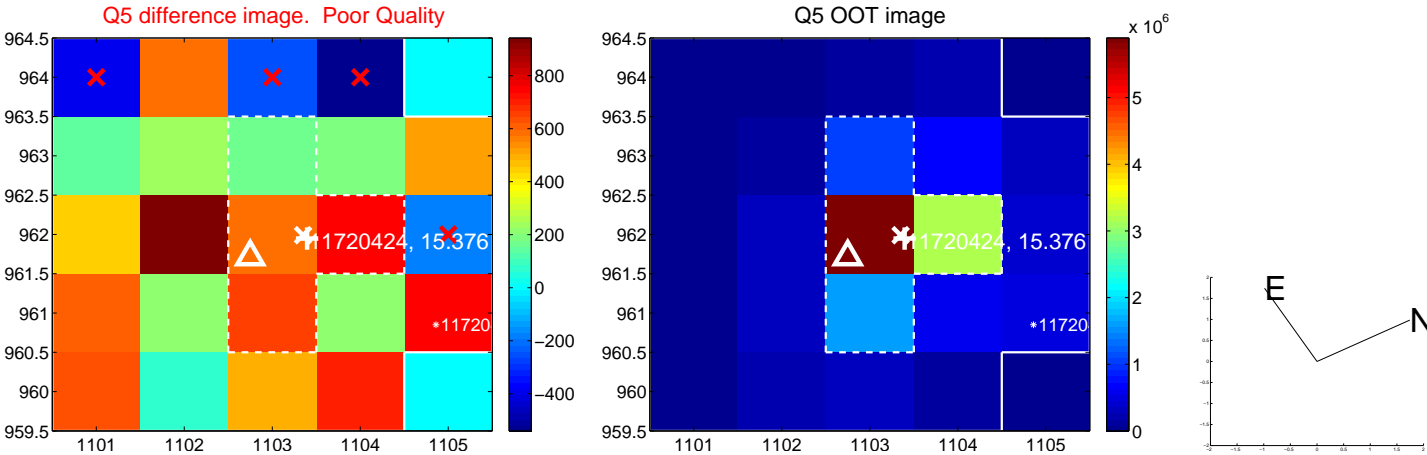
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.414 ± 0.663	0.62	0.208 ± 0.475	0.358 ± 0.715
PRF-fit source offset from KIC position	0.406 ± 0.712	0.57	0.061 ± 0.468	0.401 ± 0.717
photometric centroid source offset	2.16 ± 1.28	1.69	-1.14 ± 1.21	1.84 ± 1.31

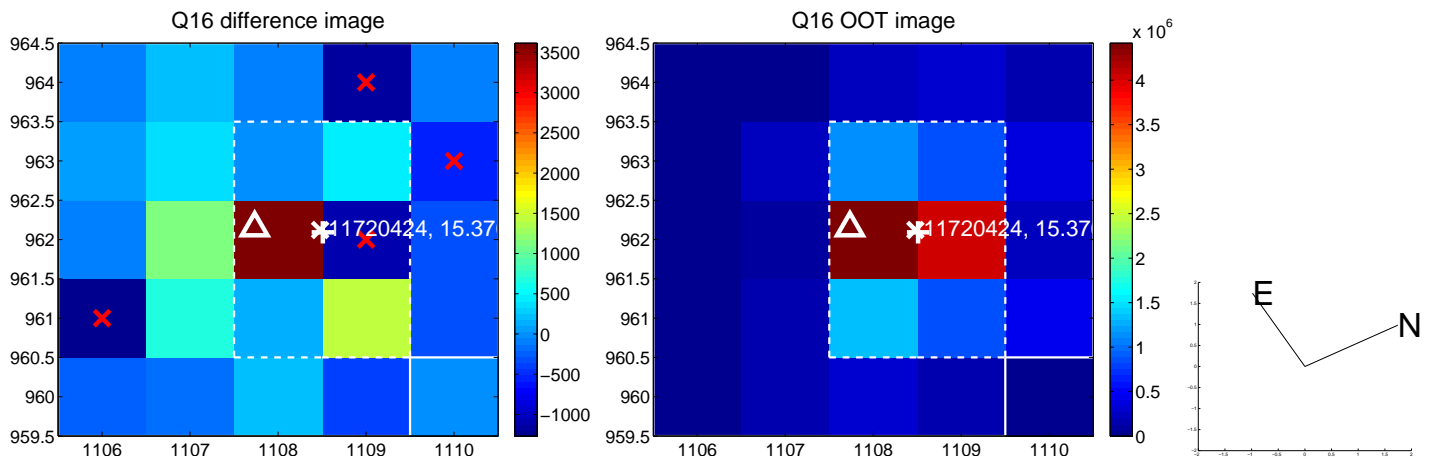
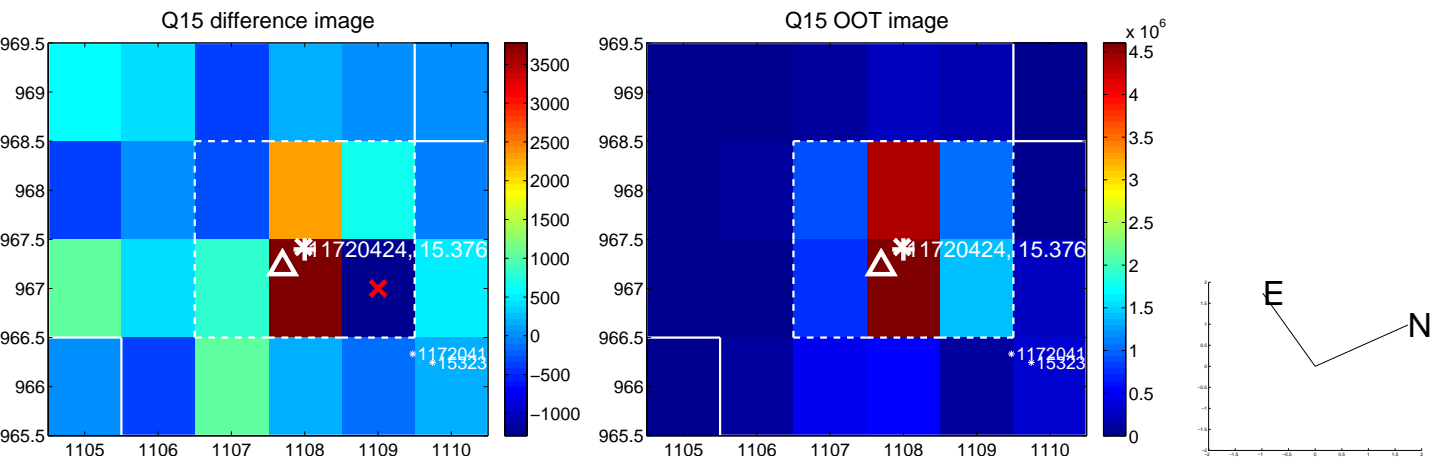
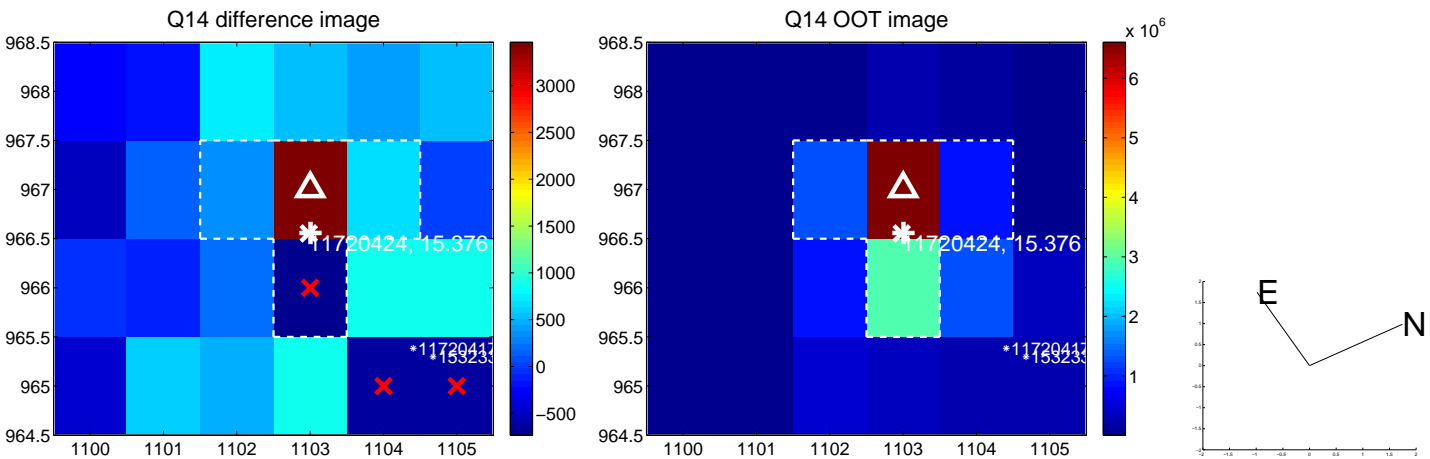
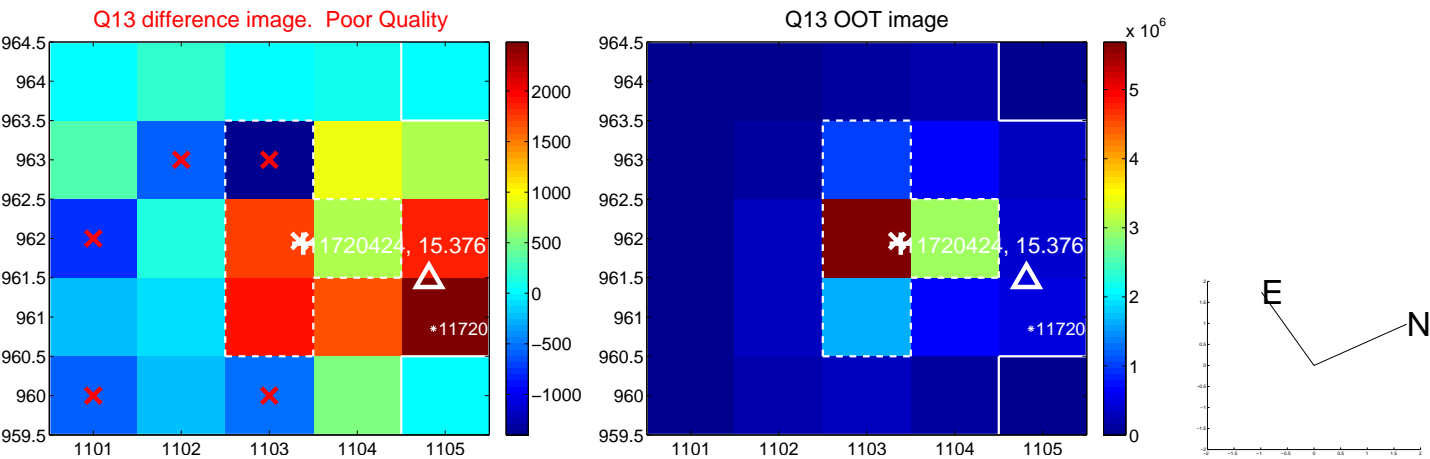


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

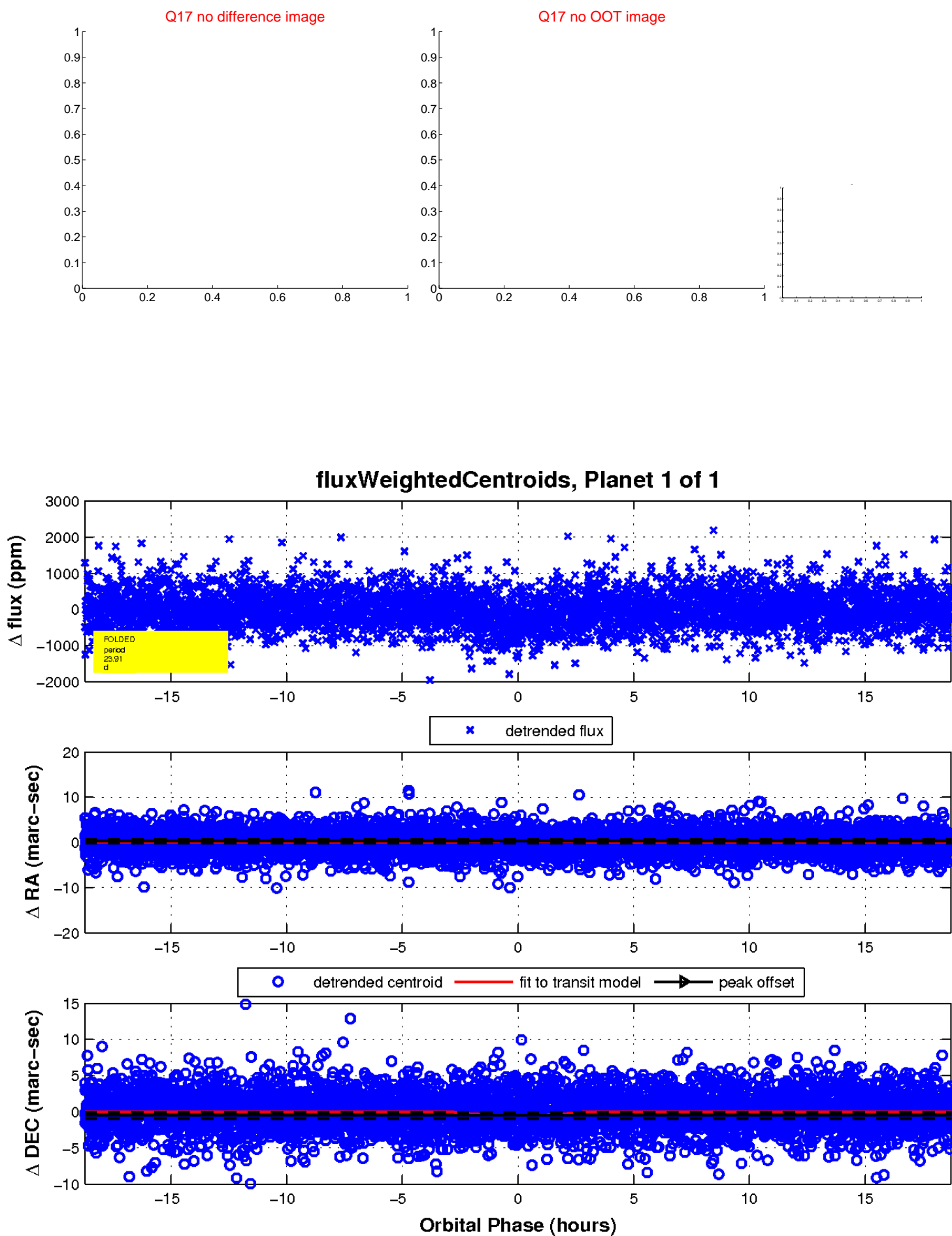
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \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

