

KIC 003962684

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})
003962684-01	OBS	4908.01	25.951366	154.898356	134.0	9.854	7.6	8.7	1.92	5109	2.28	76.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003962684-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—MOD_SEC_ALT—CENT_RESOLVED_OFFSET—EPHEM_MATCH

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.

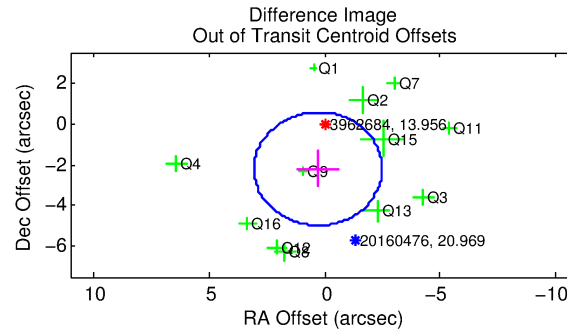
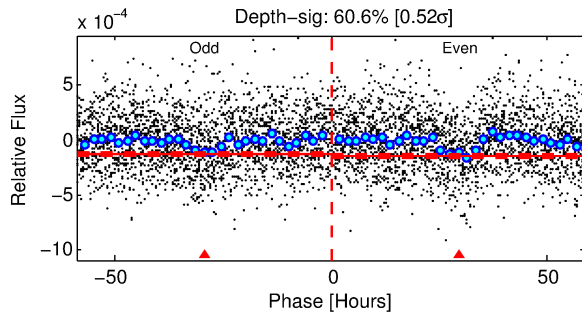
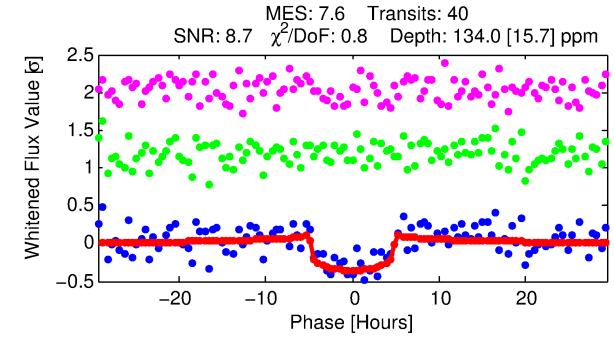
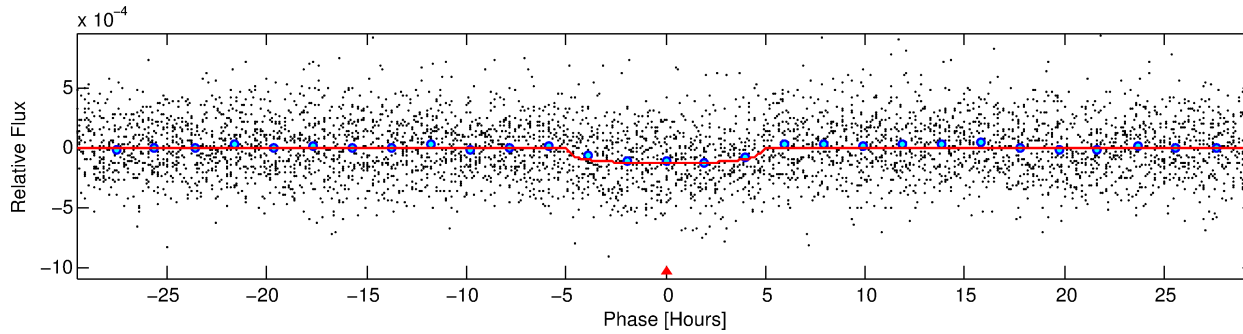
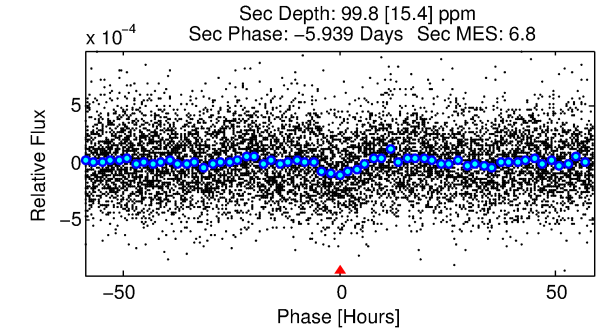
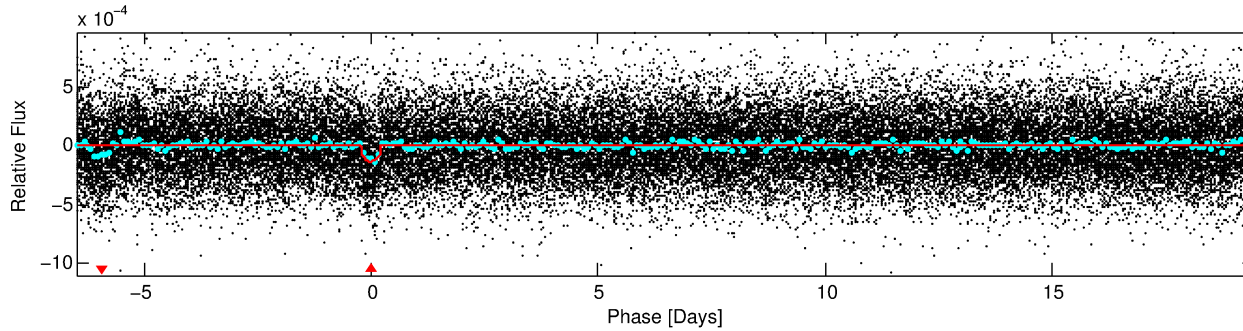
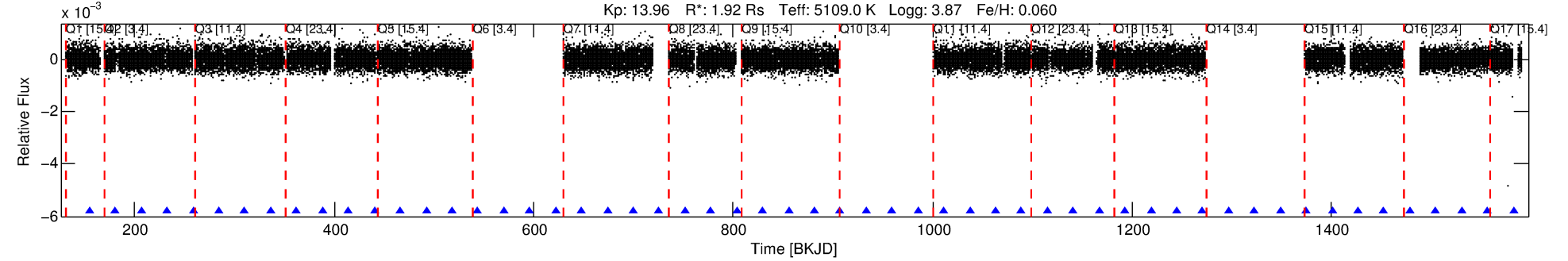
Ephemeris Match Information For 003962684-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
003962684-01	3962684	003858884-01	3858884	1:1	108.6	27	6	9.28	13.96	2974.30	Direct-PRF	0	0.23	0.18

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 3962684 Candidate: 1 of 1 Period: 25.951 d
KOI: K04908 Corr: No Ephemeris Match



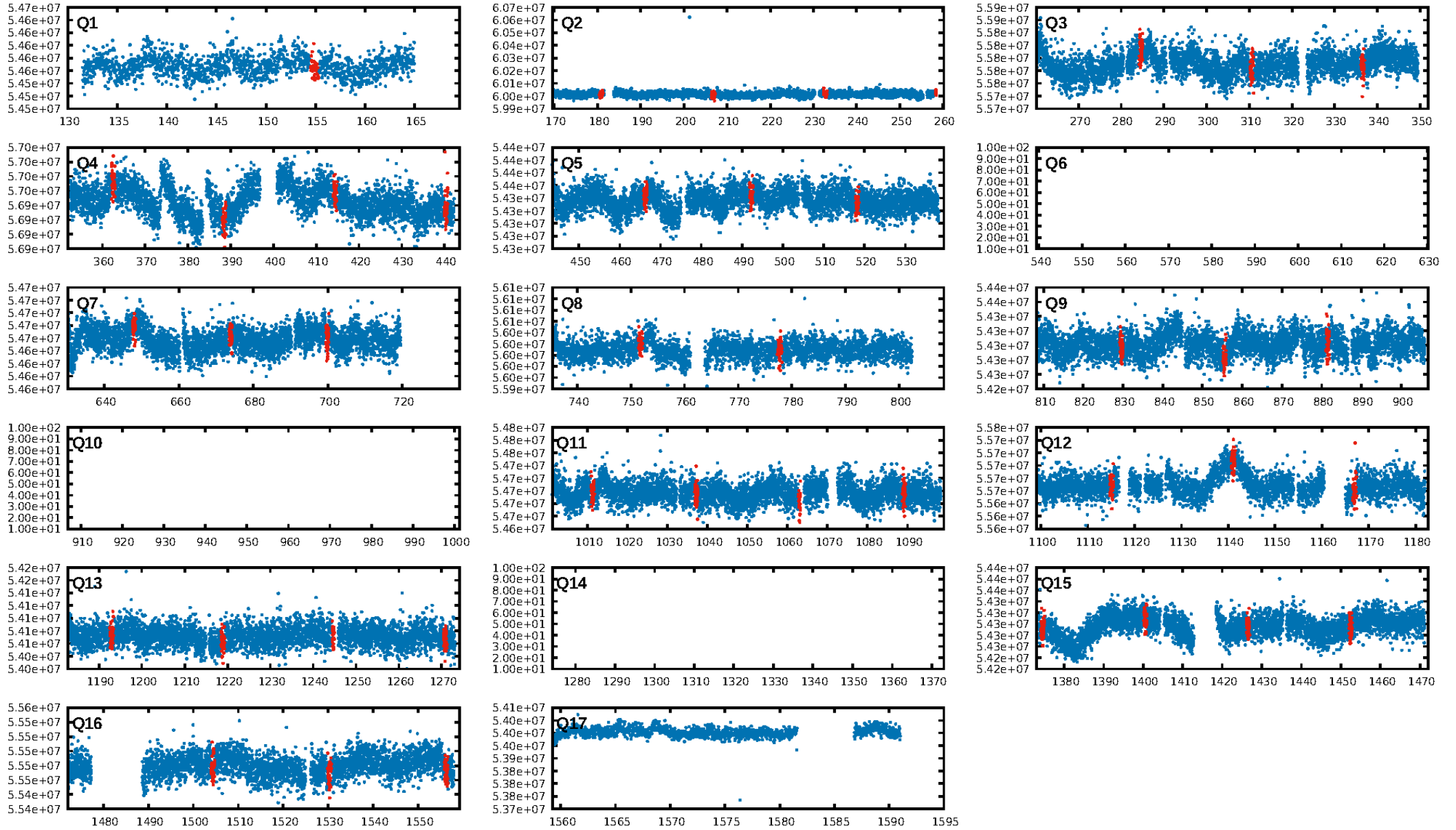
DV Fit Results:

Period = 25.95137 [0.00046] d
Epoch = 154.8984 [0.0137] BKJD
Rp/R* = 0.0109 [0.0089]
a/R* = 16.89 [49.39]
b = 0.56 [3.58]
Seff = 76.30 [86.59]
Teq = 754 [214] K
Rp = 2.28 [2.26] Re
a = 0.1719 [0.1116] AU
Ag = 312.88 [624.24] [0.50σ]
Teffp = 4901 [2023] K [2.04σ]

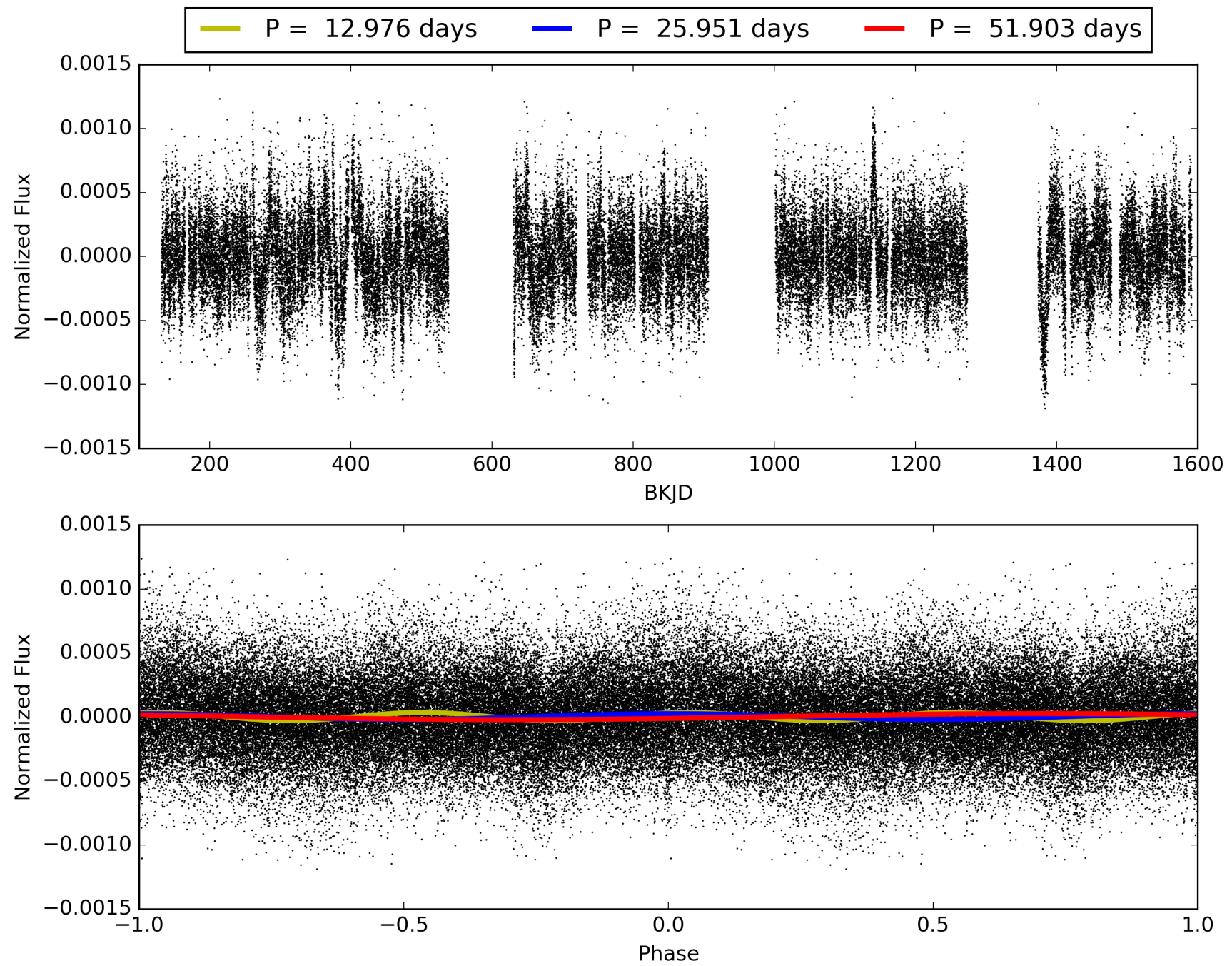
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 93.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.14e-13
RollingBand-fgt: 1.00 [39/39]
GhostDiagnostic-chr: 0.3654
Centroid-sig: 0.0%
Centroid-so: 2.562 arcsec [2.18σ]
OotOffset-rm: 2.222 arcsec [2.41σ]
KicOffset-rm: 2.456 arcsec [2.83σ]
OotOffset-st: 1/4/4/3 [12]
KicOffset-st: 1/4/4/3 [12]
DiffImageQuality-fgm: 0.00 [0/12]
DiffImageOverlap-fno: 1.00 [13/13]

TCE 003962684-01, PDC Light Curves

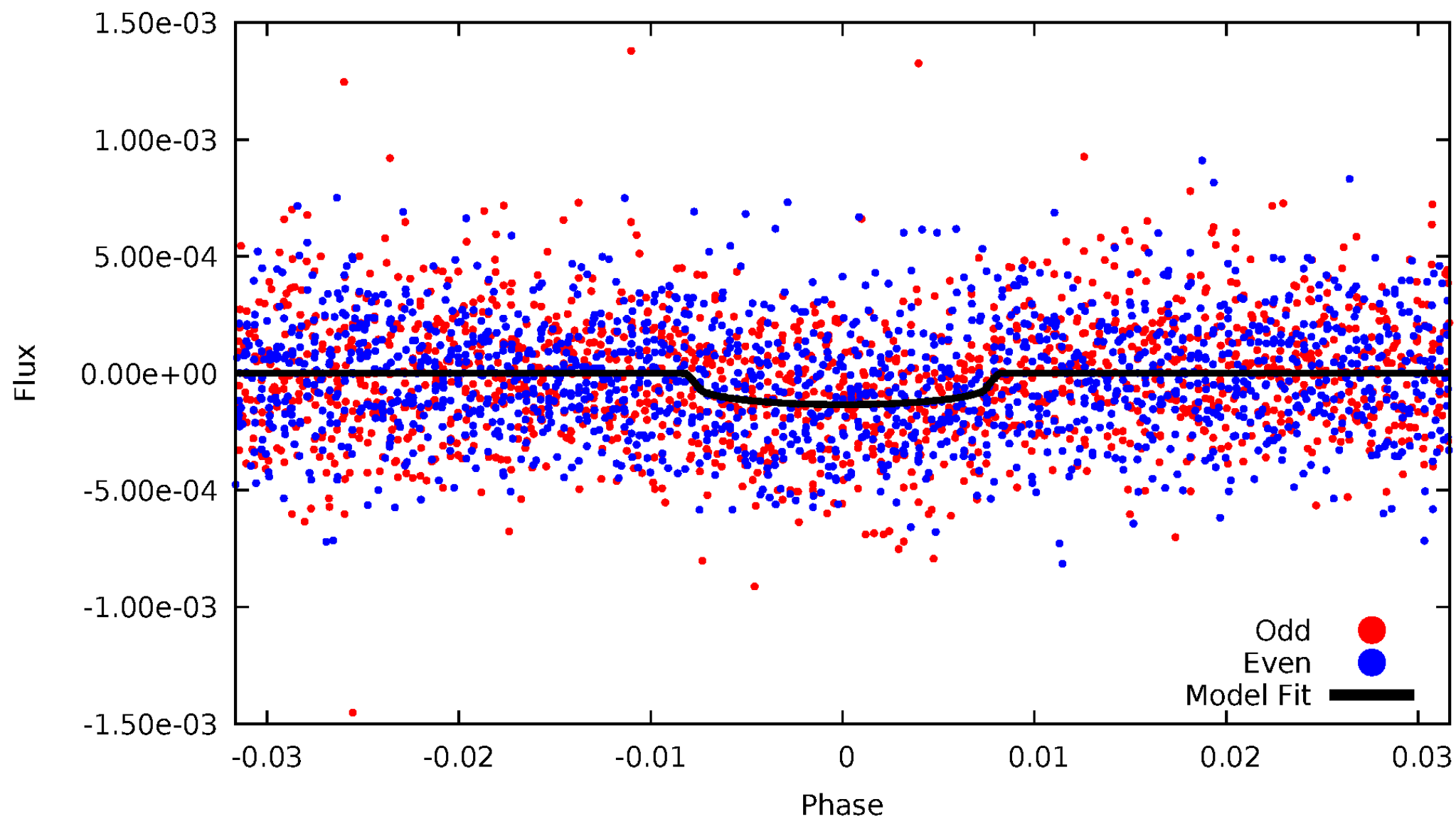


TCE 003962684-01



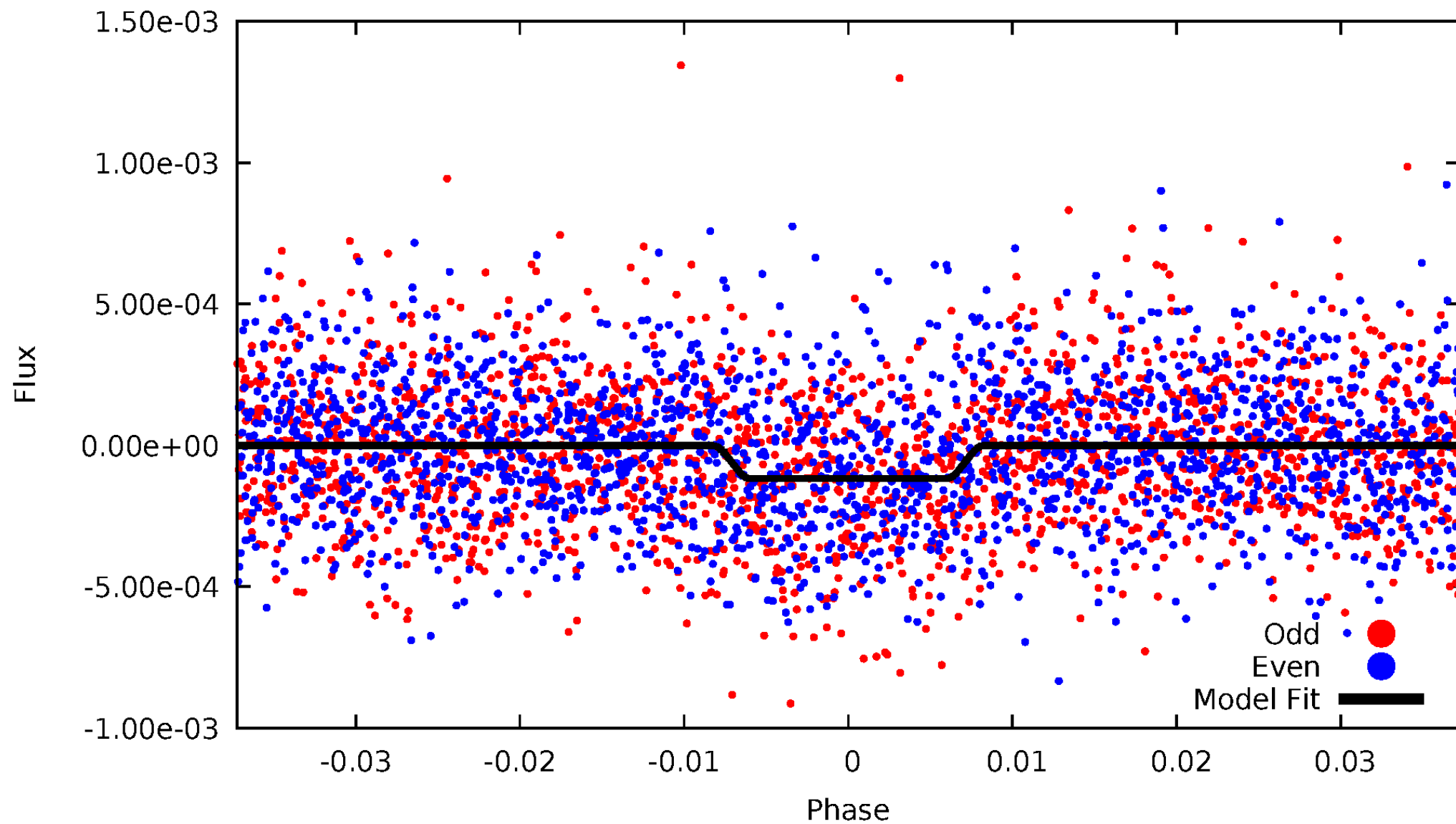
DV Odd/Even

TCE 003962684-01

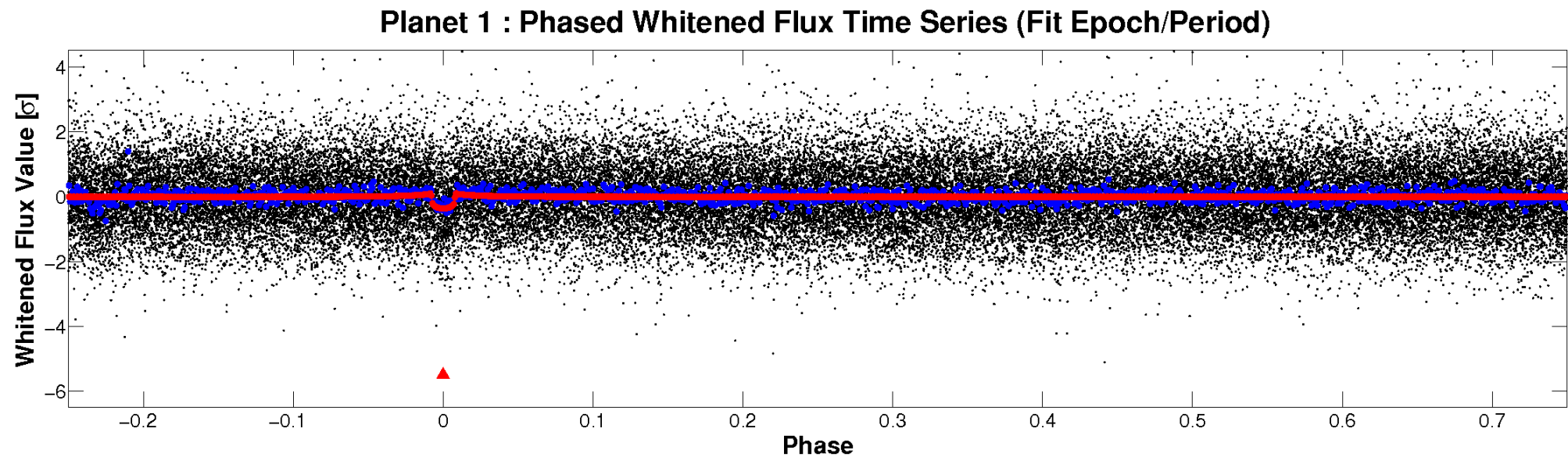
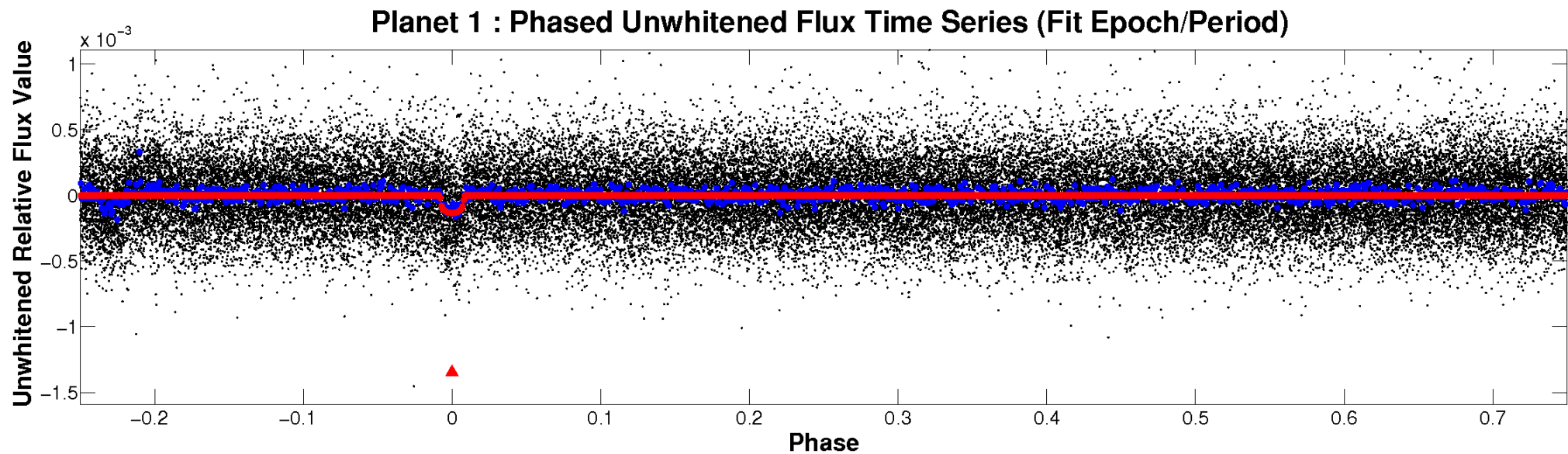


ALT Odd/Even

TCE 003962684-01

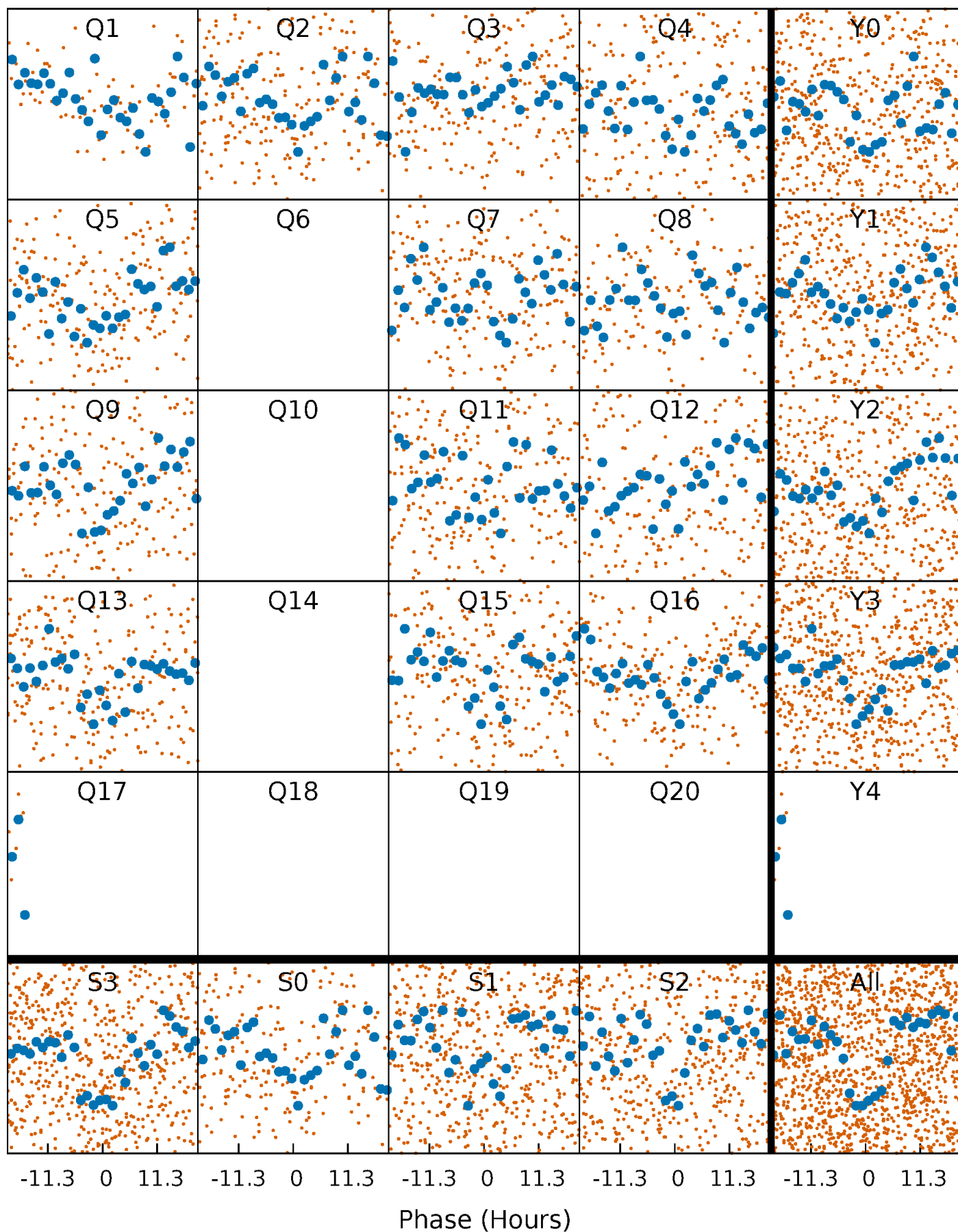


Non-Whitened Vs. Whitened Light Curve



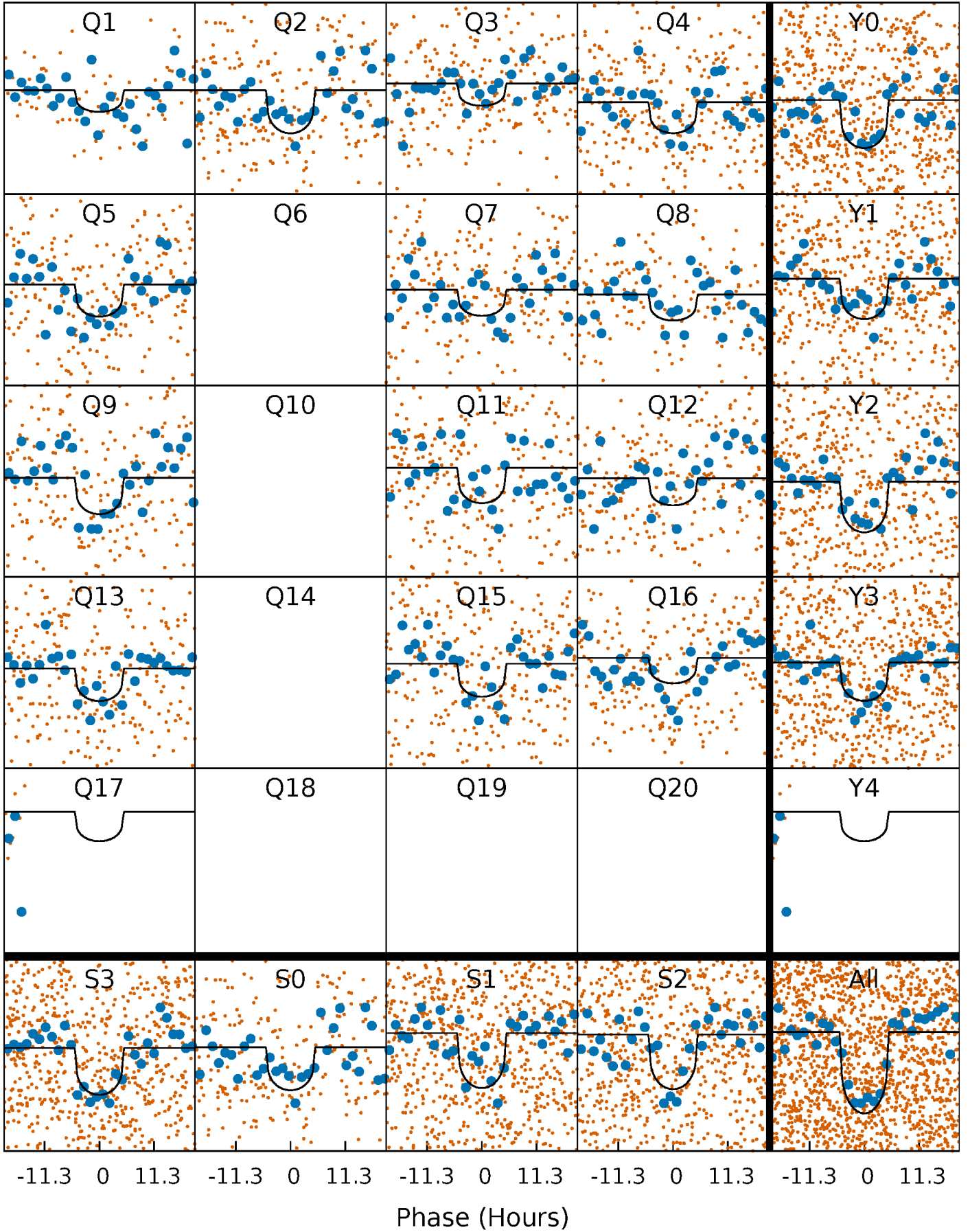
PDC Quarter-Phased Transit Curves

TCE 003962684-01 P= 25.951366 Days $T_0=154.898356$ (BKJD)



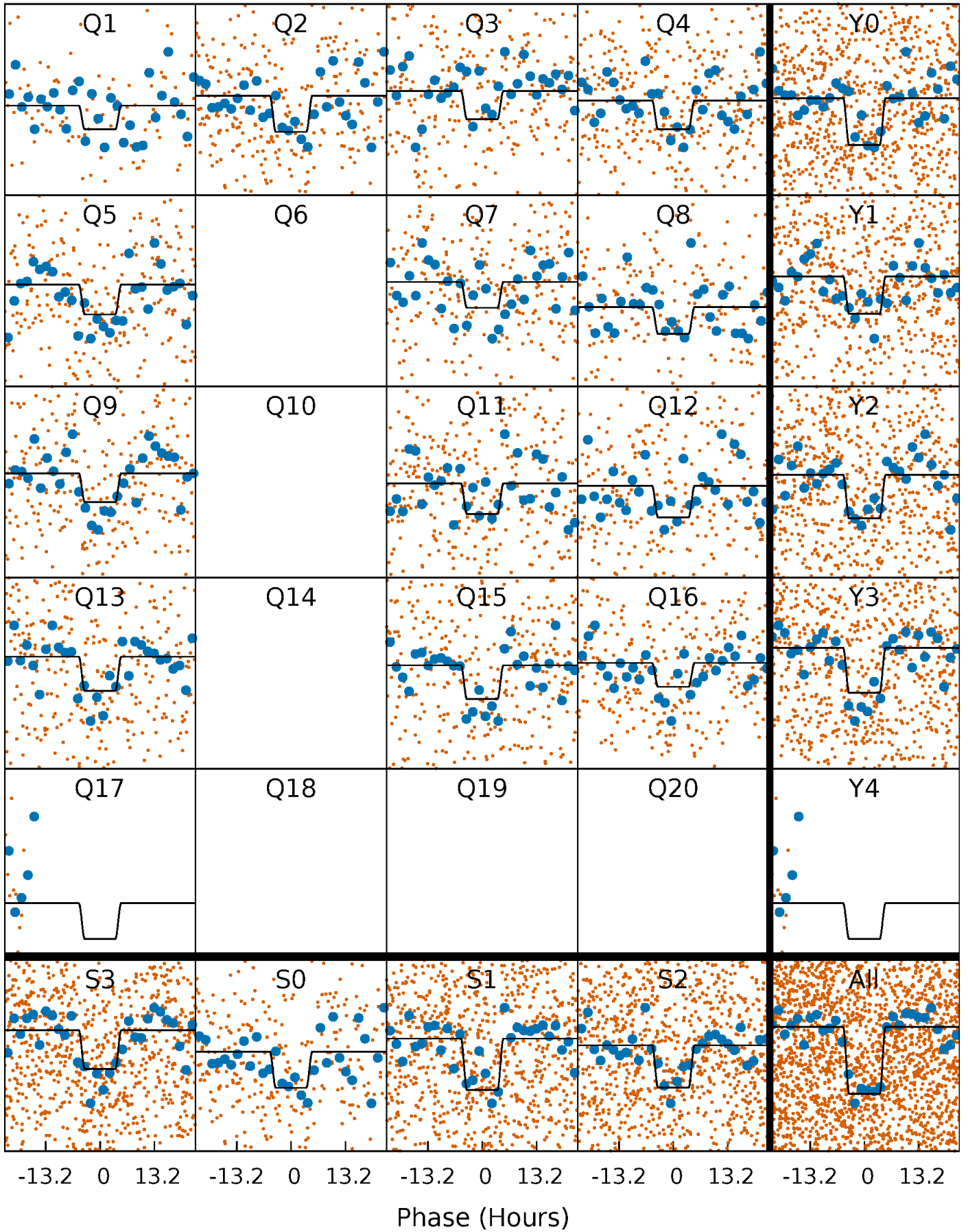
DV Quarter-Phased Transit Curves

TCE 003962684-01 P= 25.951366 Days $T_0=154.898356$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

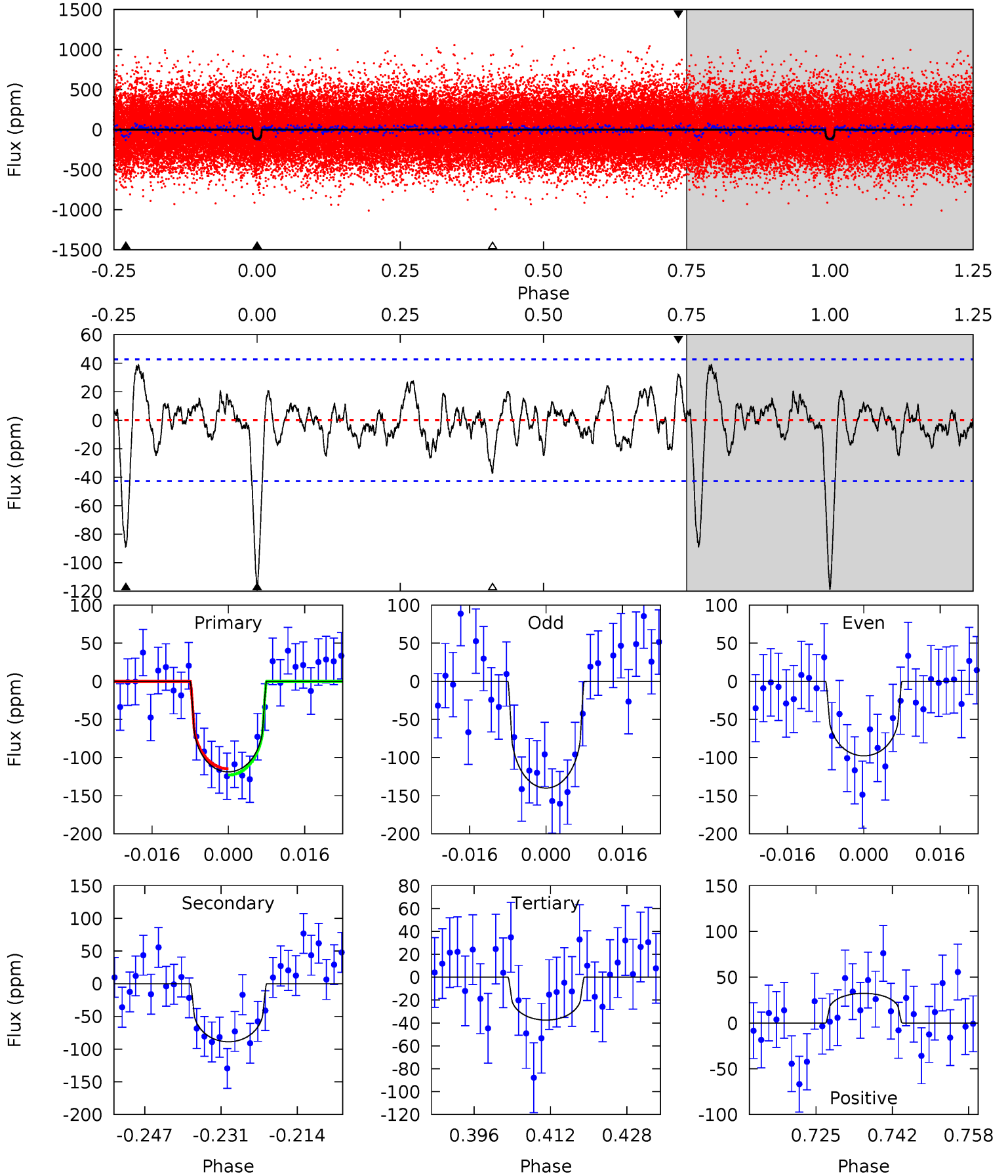
TCE 003962684-01 P= 25.952905 Days $T_0=154.860075$ (BKJD)



DV Model-Shift Uniqueness Test

003962684-01, P = 25.951366 Days, E = 128.946990 Days

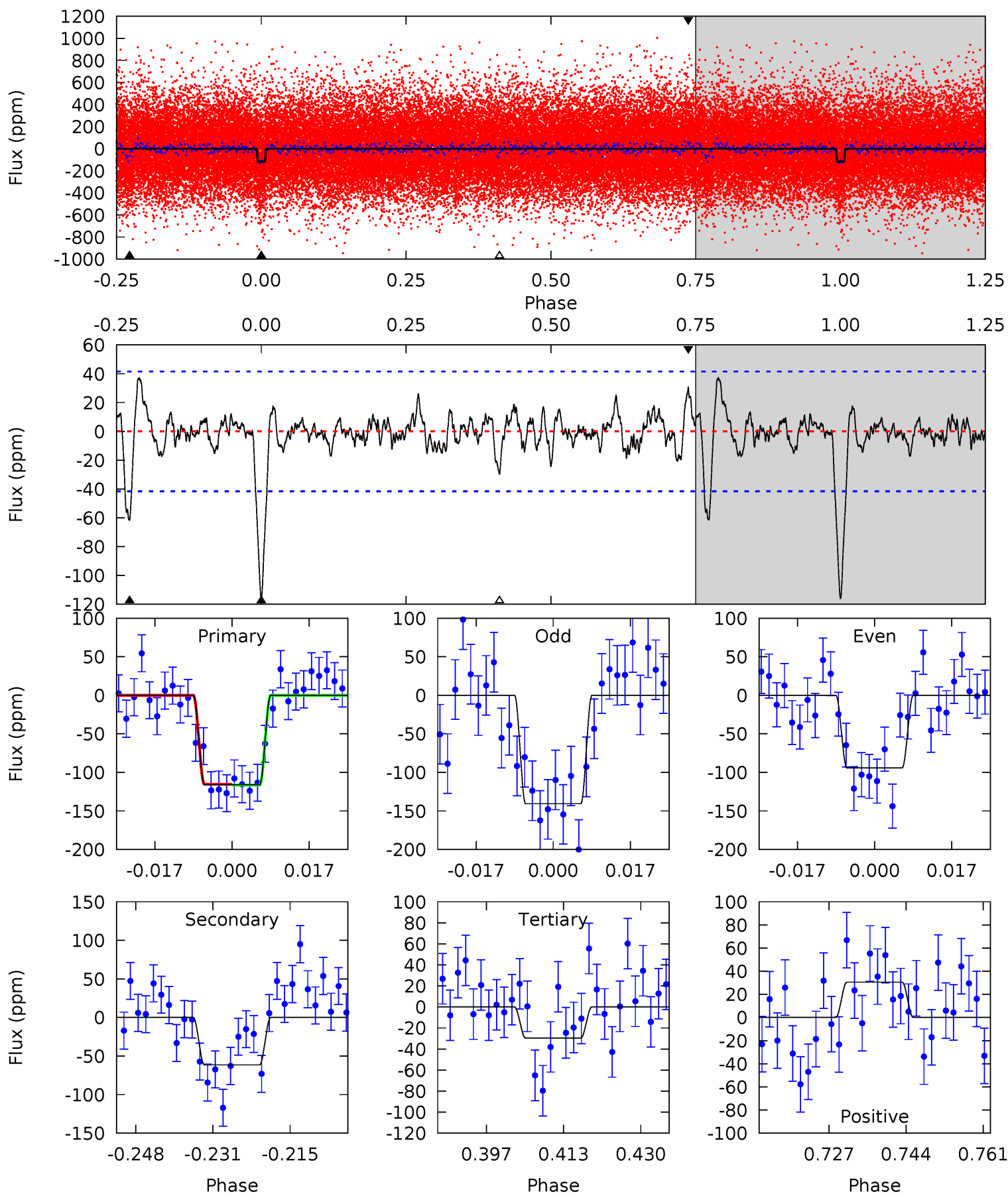
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	10.2	4.33	3.73	4.93	2.40	1.44	9.37	9.97	5.91	6.51	2.44	0.88	0.25	0.47



Alt Model-Shift Uniqueness Test

003962684-01, P = 25.952905 Days, E = 128.907170 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	7.28	3.50	3.62	4.93	2.40	1.12	10.2	10.1	3.78	3.66	2.77	0.87	0.24	0.07



Stellar Parameters For KIC 003962684

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5109^{+169}_{-138}	$3.873^{+0.693}_{-0.297}$	$0.060^{+0.250}_{-0.250}$	$1.922^{+1.074}_{-1.074}$	$1.006^{+0.211}_{-0.190}$	$0.199^{+2.089}_{-0.121}$
	+3%/-3%	+18%/-8%	+417%/-417%	+56%/-56%	+21%/-19%	+1048%/-61%
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 003962684-01 / KOI 4908.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-89 ± 9	$2.16^{+1.94}_{-1.31}$	1022^{+148}_{-164}	4684^{+2441}_{-827}	314^{+1777}_{-228}
Alt.	-61 ± 8	$2.20^{+1.94}_{-1.29}$	1024^{+152}_{-162}	4320^{+1918}_{-701}	198^{+1105}_{-140}

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 $A_{obs} \gg 1.0$

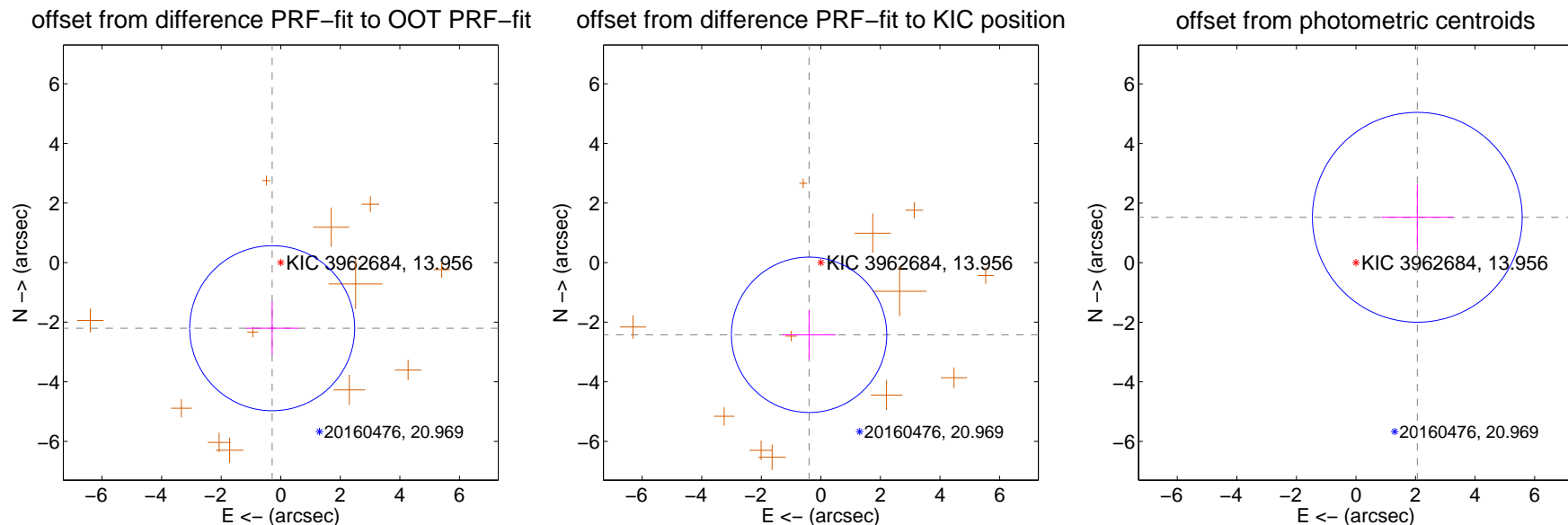
DV Centroid Data

Supplemental centroid analysis for 003962684-01. Kepler magnitude: 13.96. Transit SNR 8.66

There are 0 quarters with good PRF difference image offsets

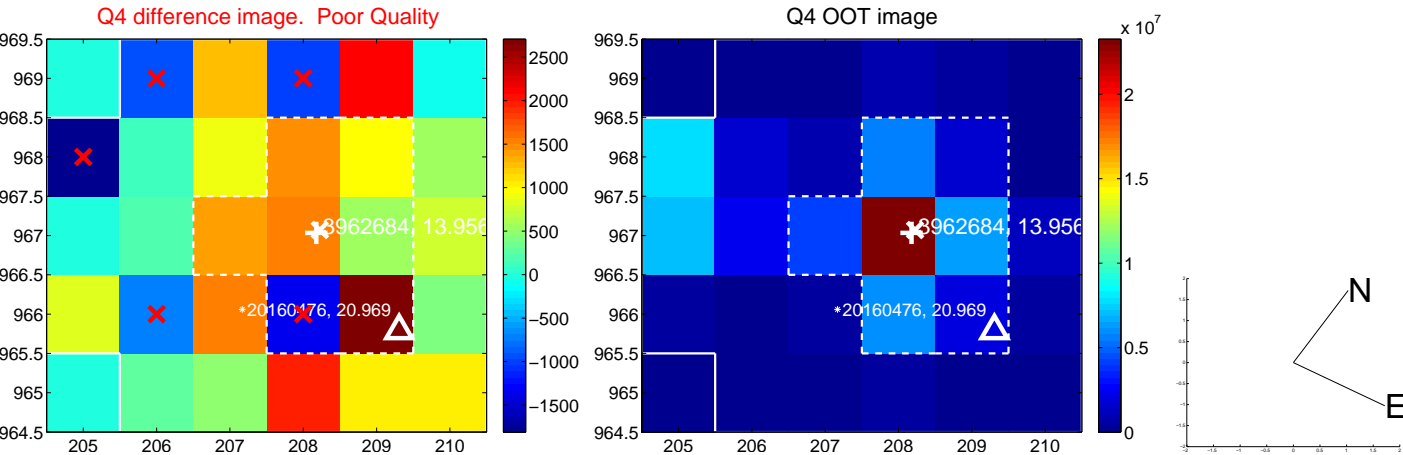
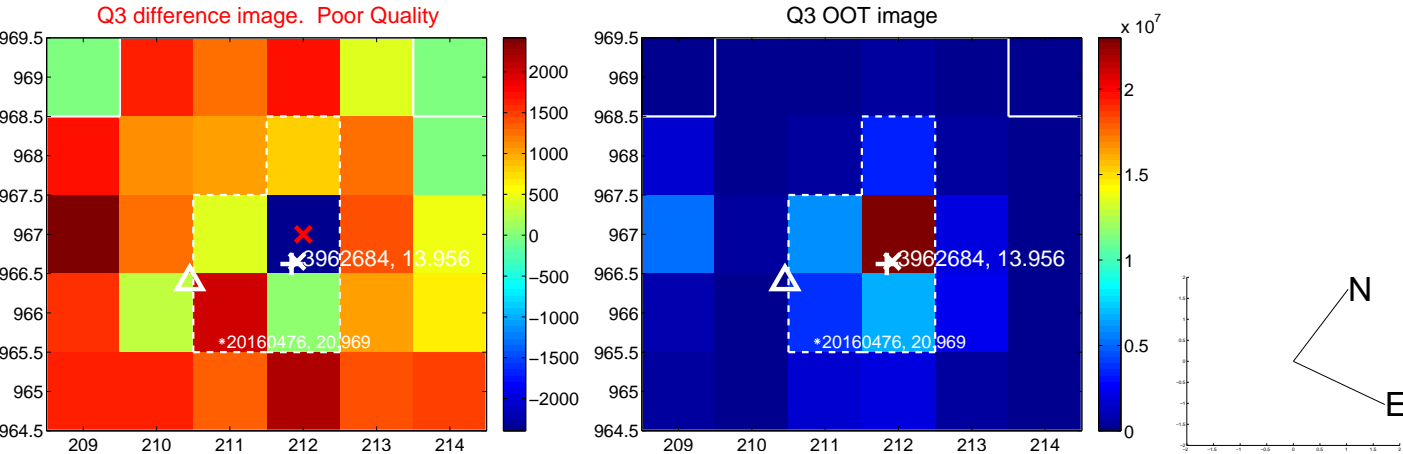
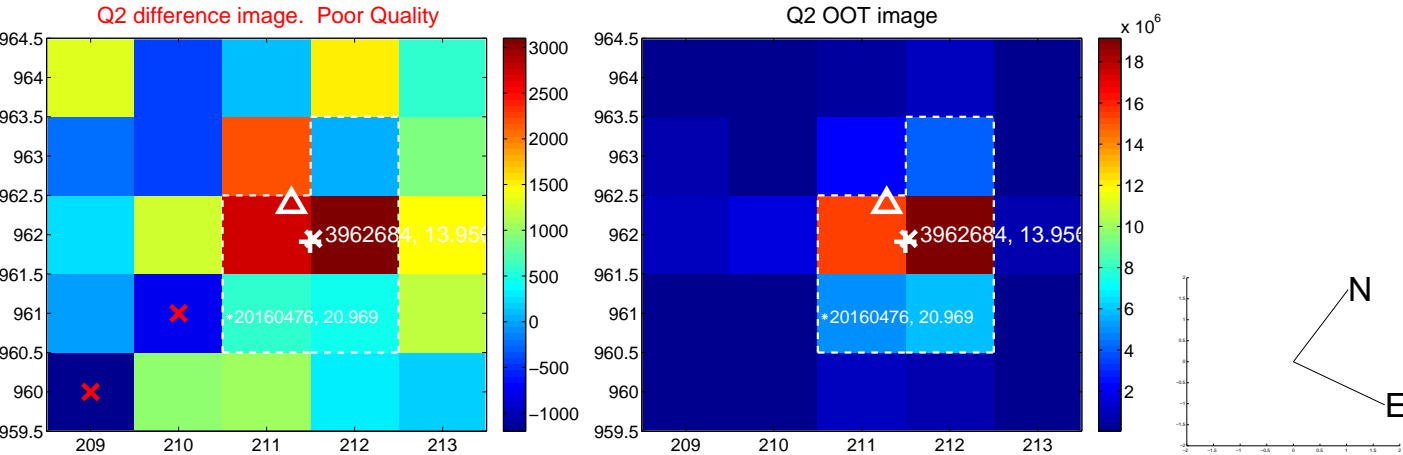
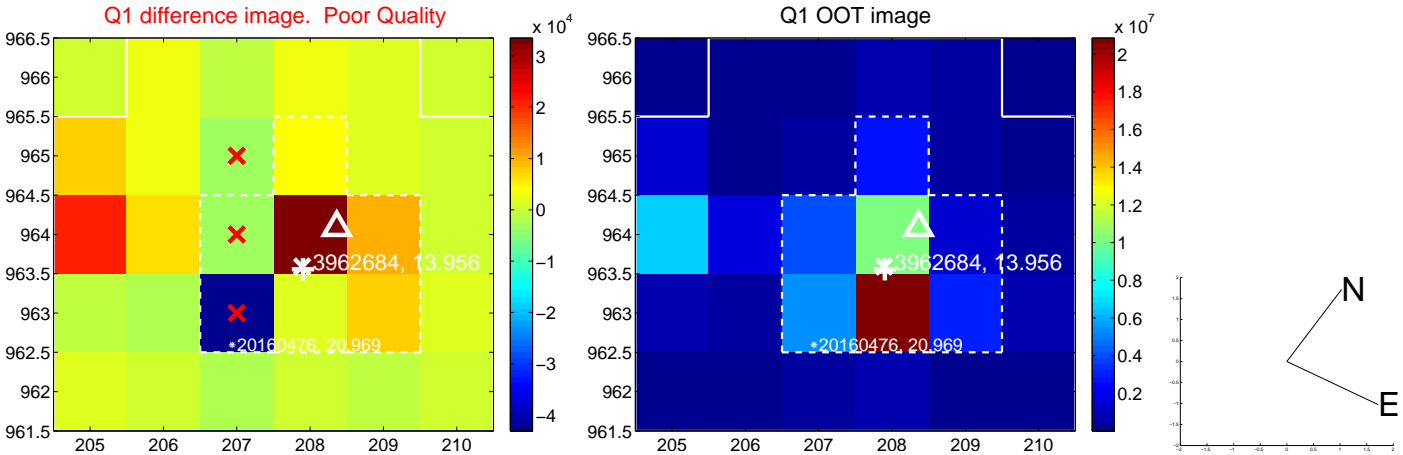
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.222 ± 0.923	2.41	0.287 ± 0.882	-2.203 ± 0.887
PRF-fit source offset from KIC position	2.456 ± 0.869	2.83	0.395 ± 0.898	-2.424 ± 0.825
photometric centroid source offset	2.56 ± 1.17	2.18	-2.06 ± 1.21	1.52 ± 1.11

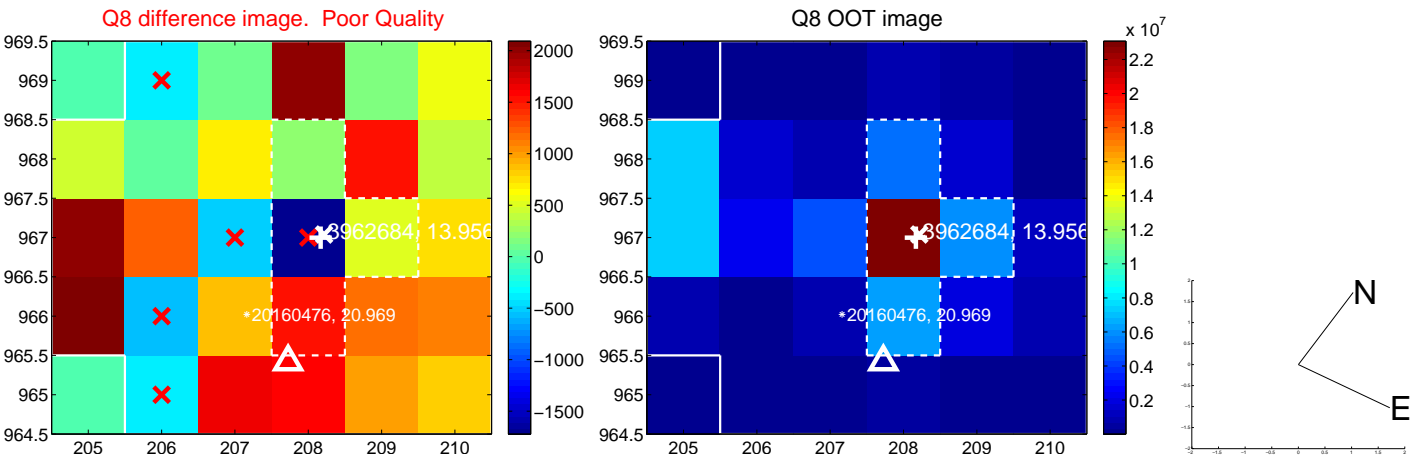
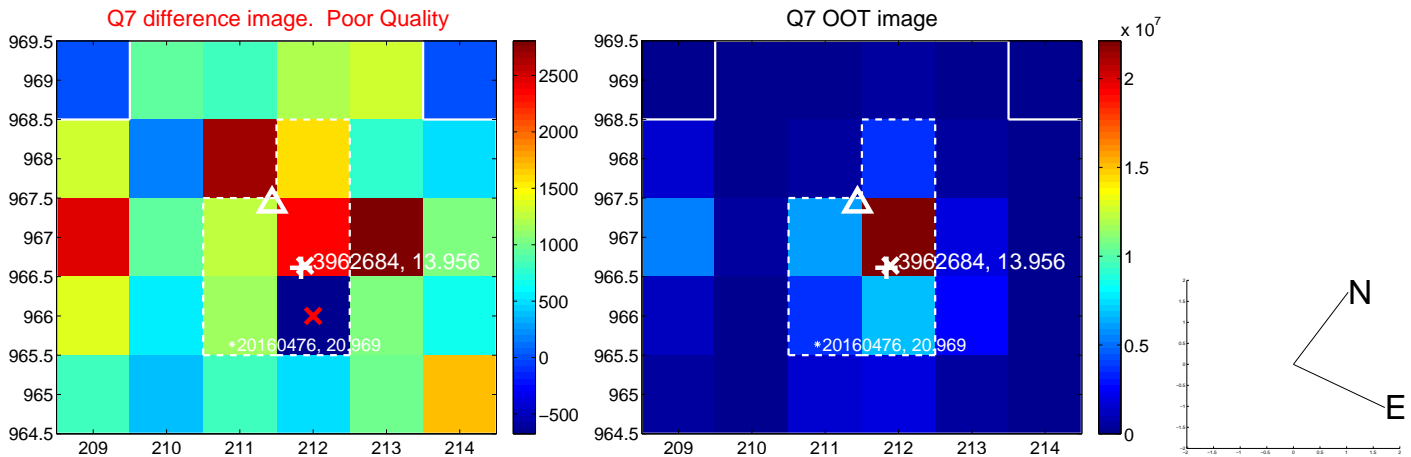
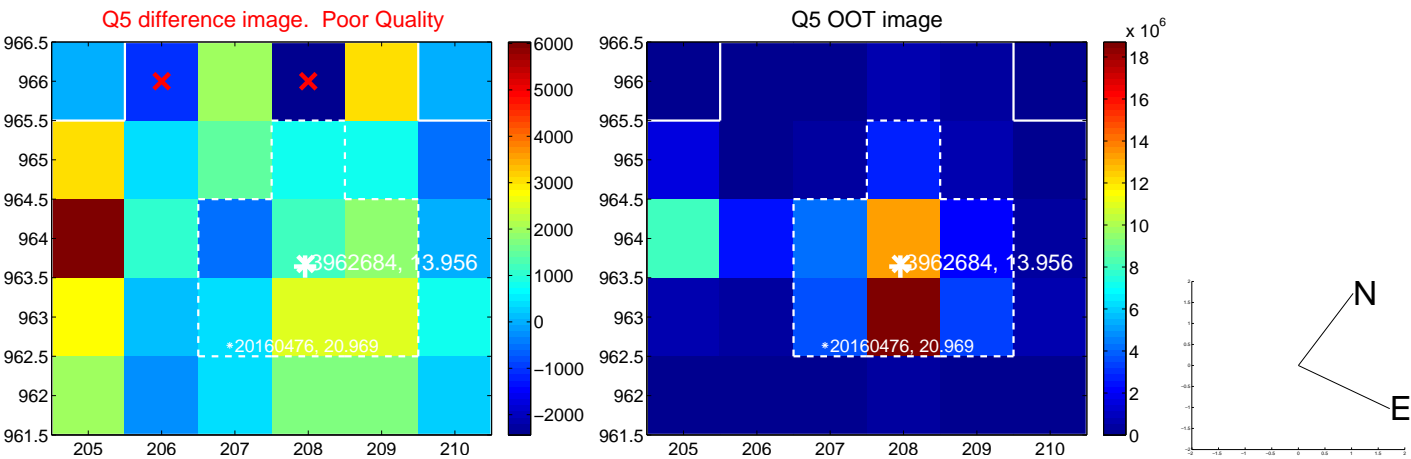


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

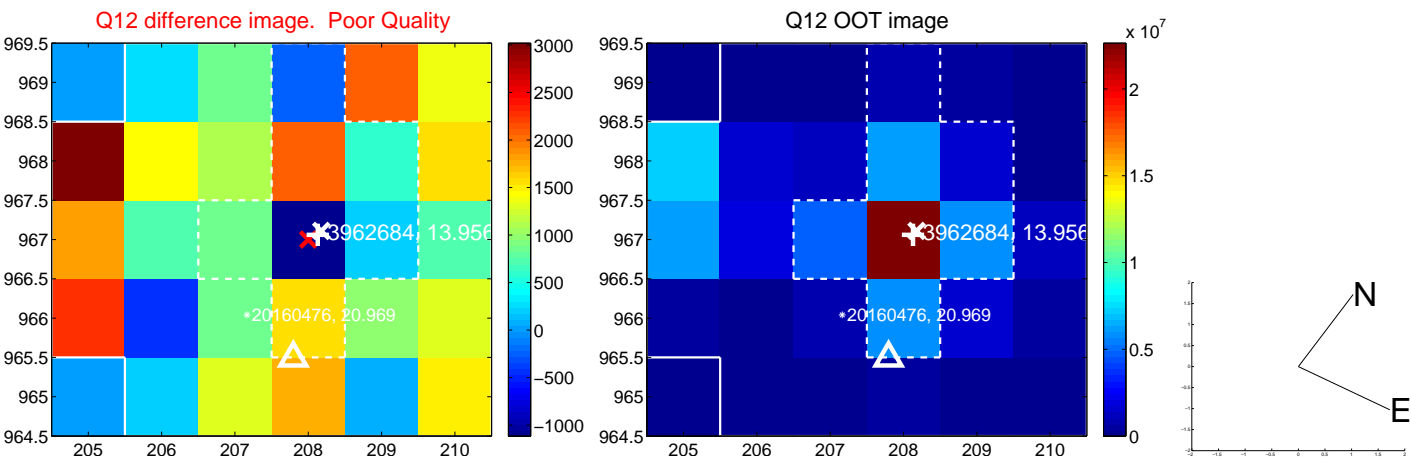
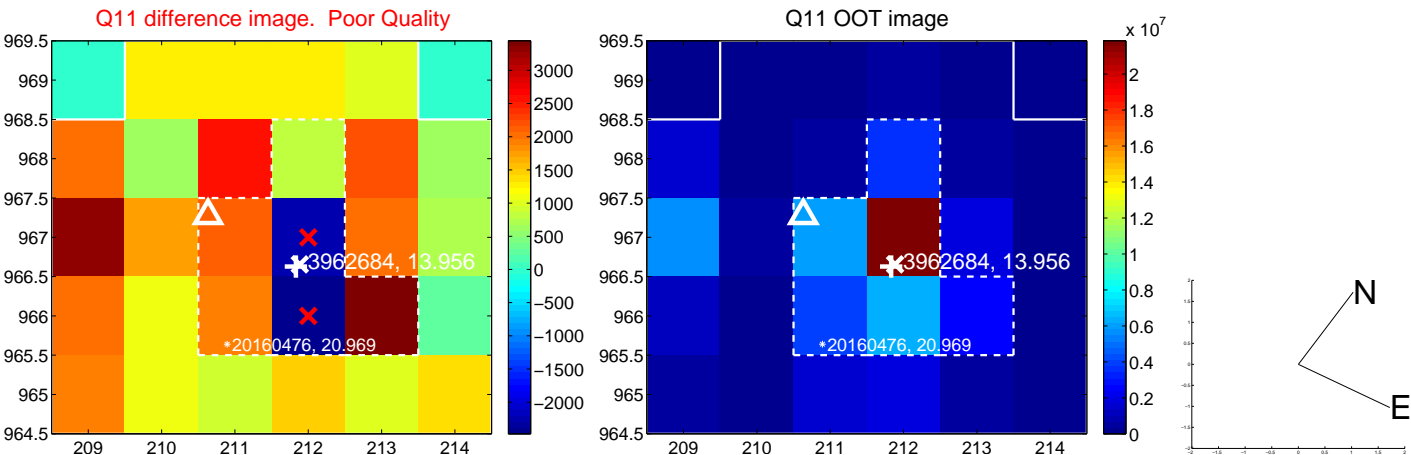
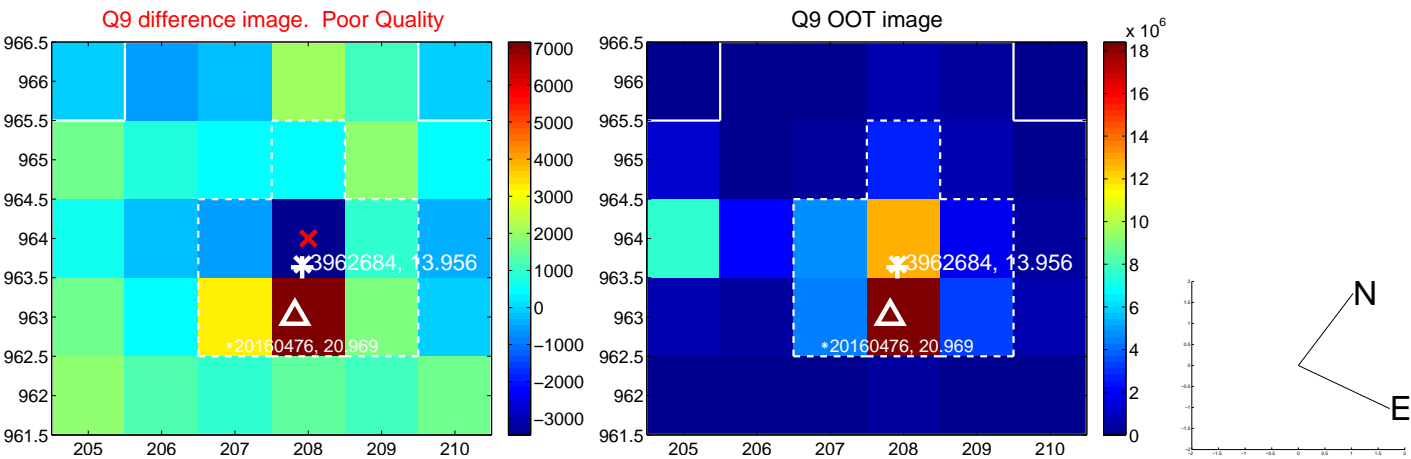
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



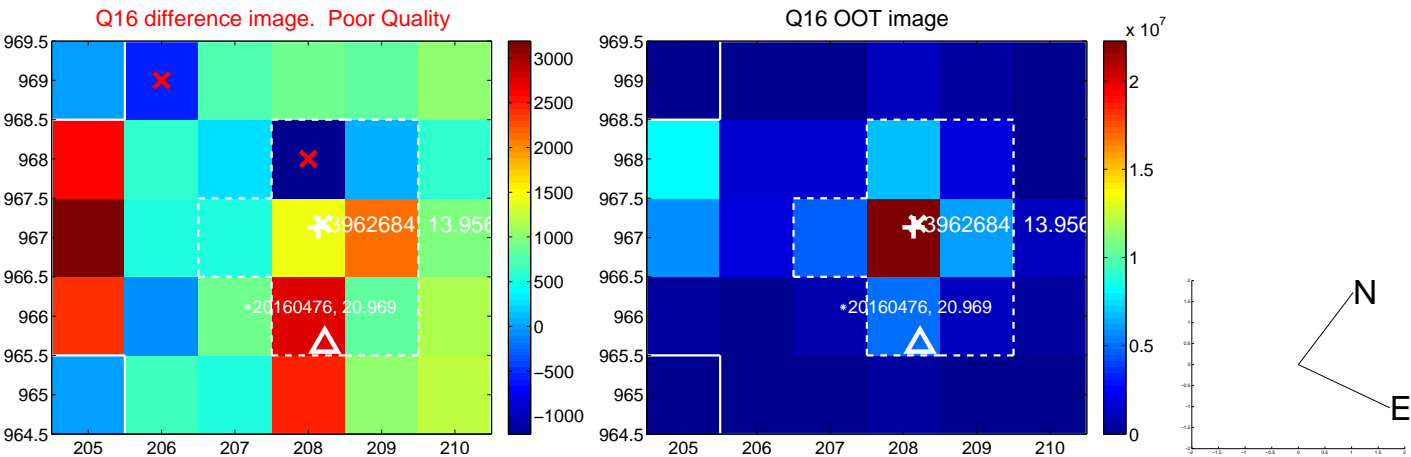
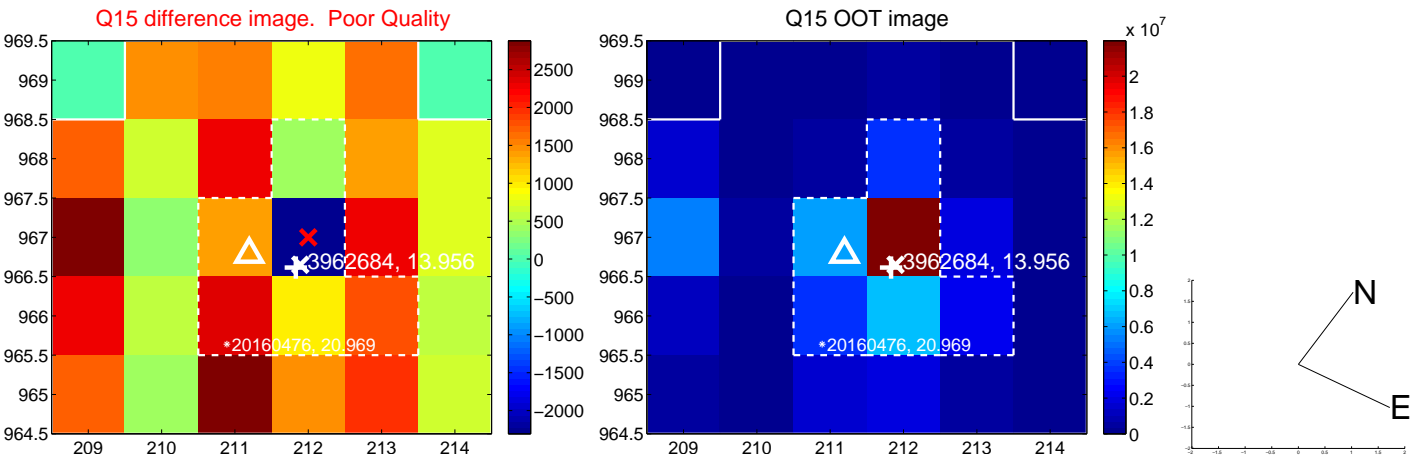
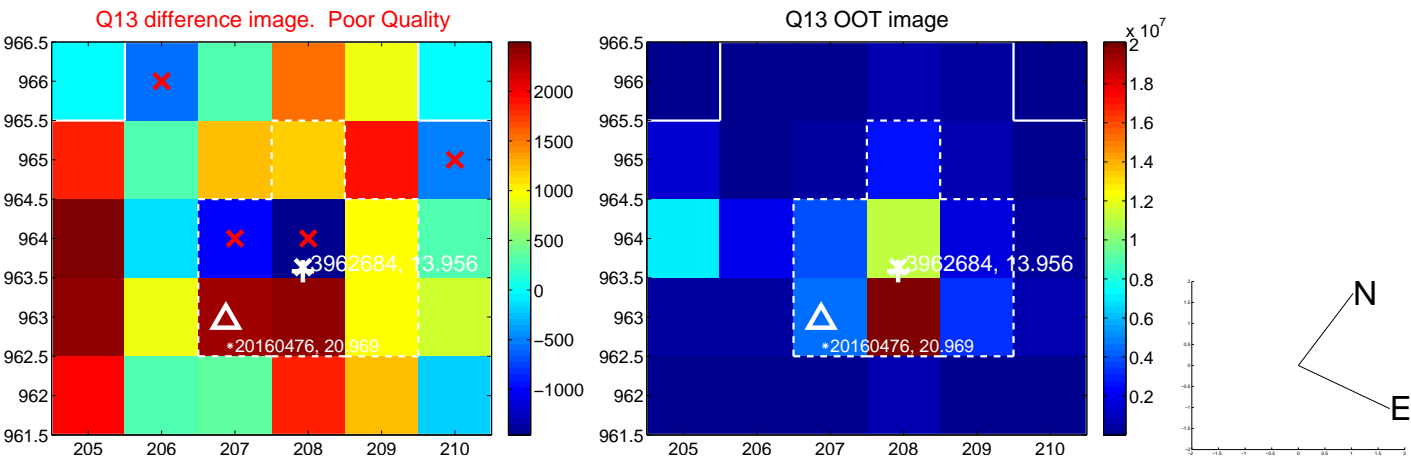
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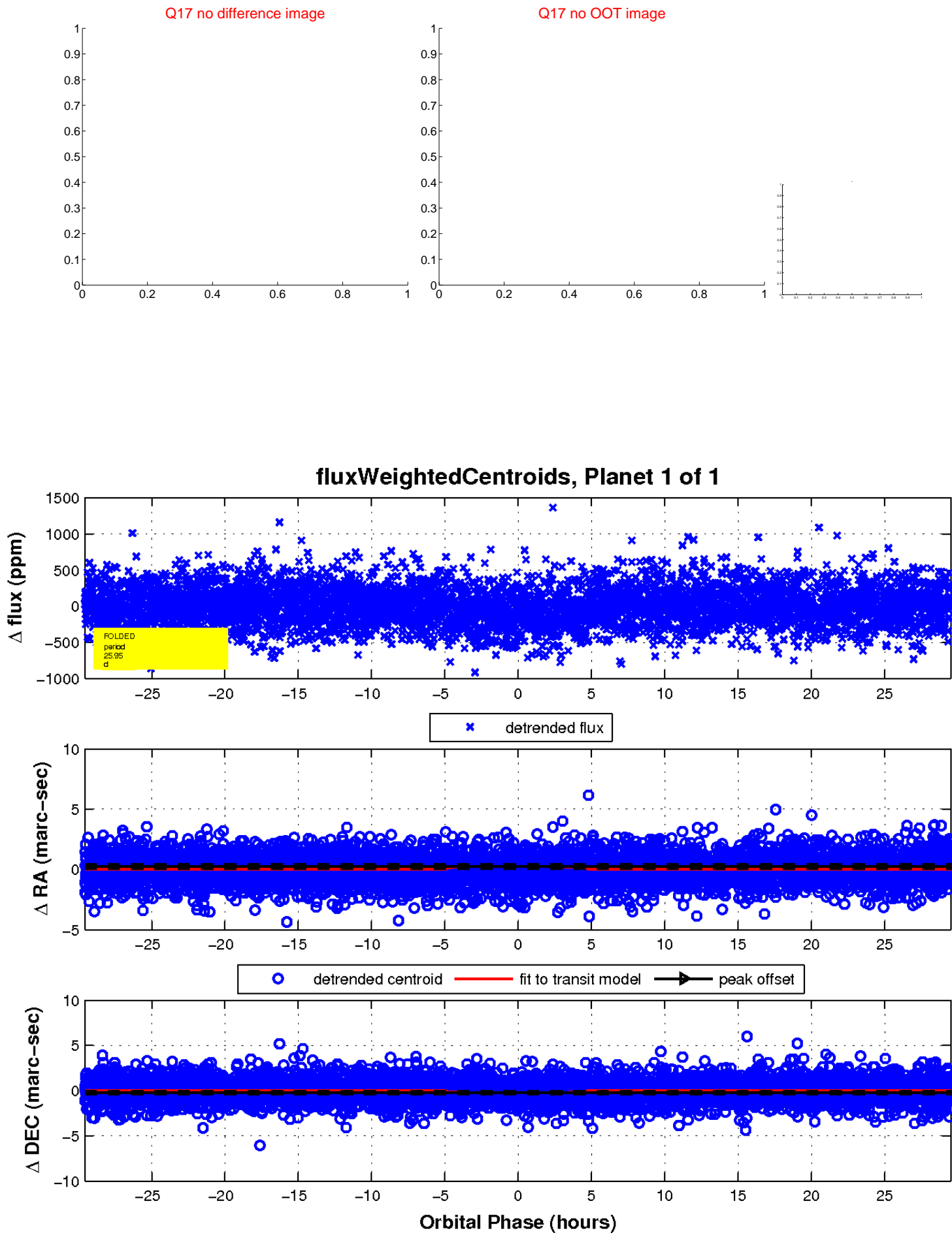
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UKIRT Image

