

KIC 006784820

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})
006784820-01	OBS	No	391.820665	148.660807	199.1	11.559	8.0	6.6	0.84	5337	1.37	0.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006784820-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—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.

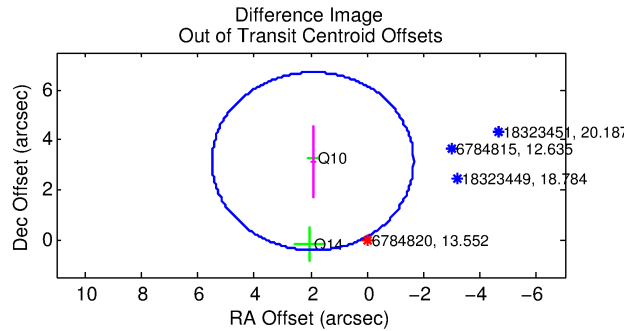
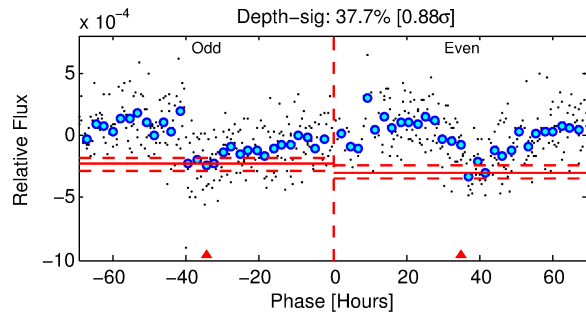
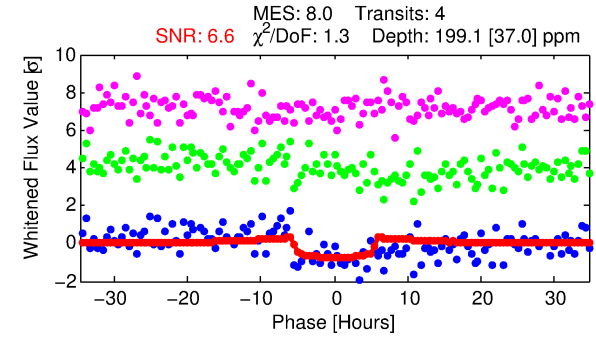
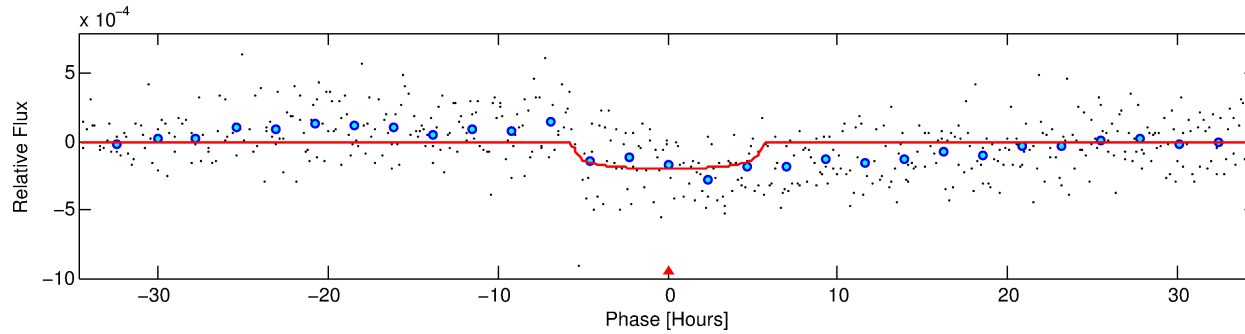
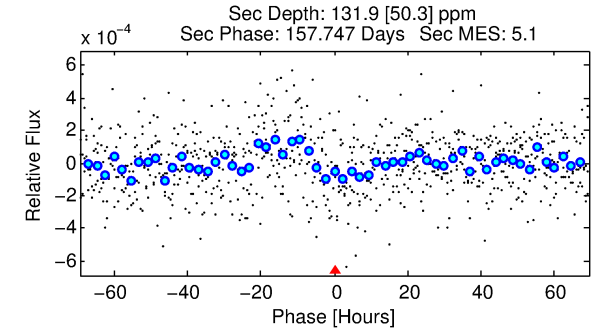
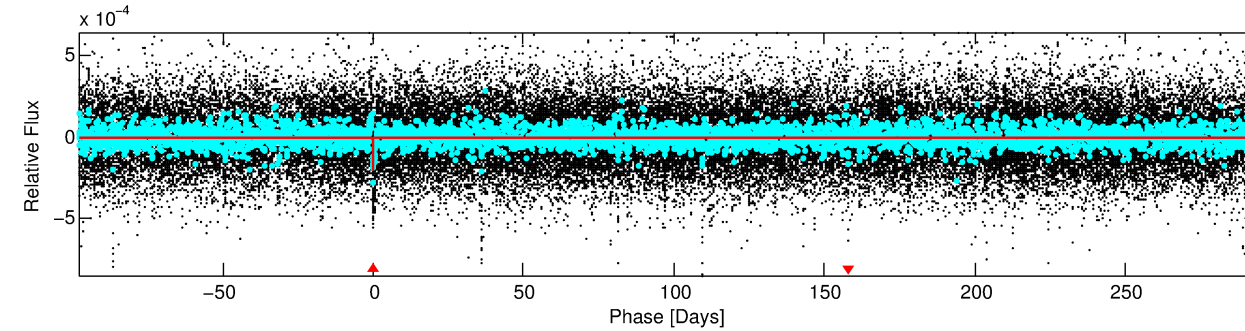
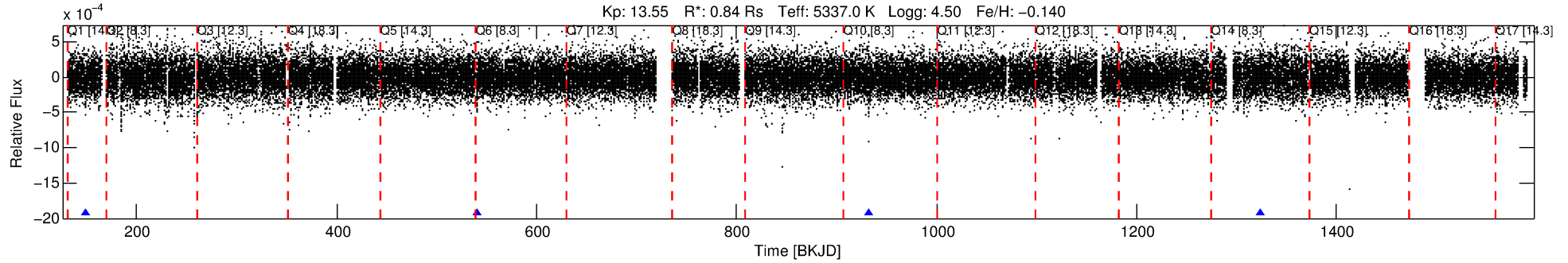
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006784820-01

No Significant Match Found

DV One-Page Summary

KIC: 6784820 Candidate: 1 of 1 Period: 391.821 d



DV Fit Results:

Period = 391.82067 [0.01183] d
Epoch = 148.6608 [0.0221] BKJD
Rp/R* = 0.0150 [0.0055]
a/R* = 138.43 [205.02]
b = 0.86 [0.44]
Seff = 0.54 [0.14]
Teq = 218 [14] K
Rp = 1.37 [0.55] Re
a = 0.9740 [0.1388] AU
Ag = 36693.61 [31232.47] [1.17σ]
Teffp = 4668 [980] K [4.54σ]

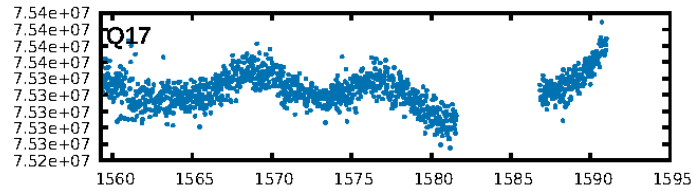
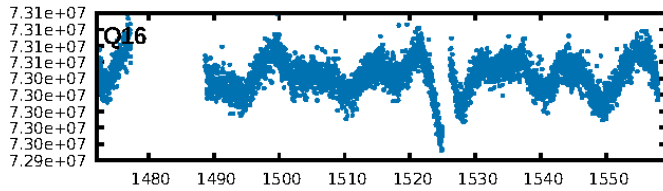
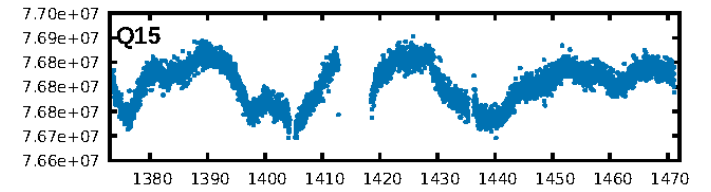
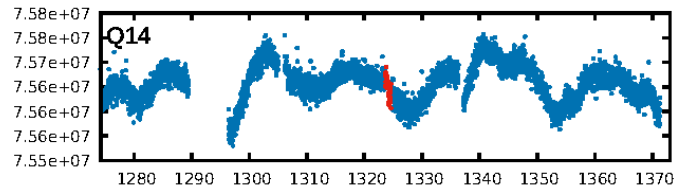
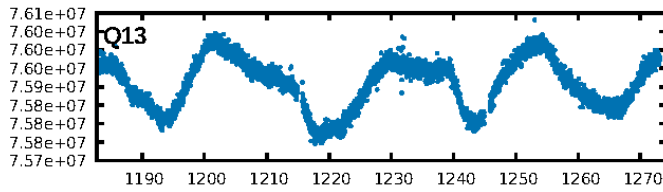
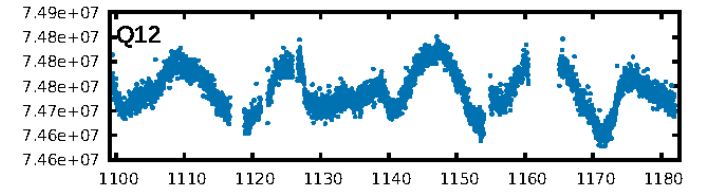
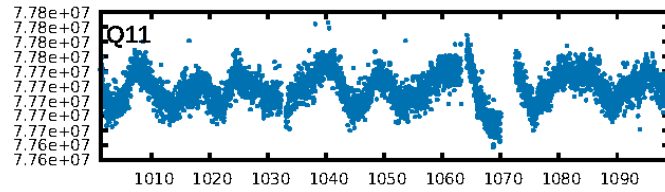
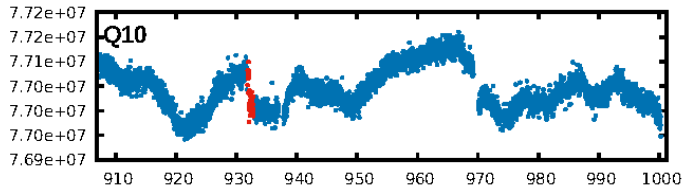
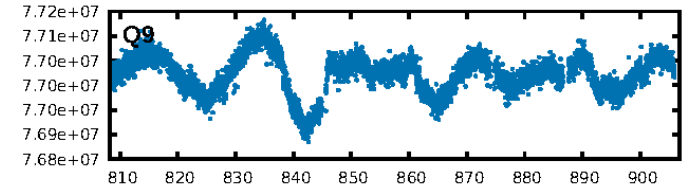
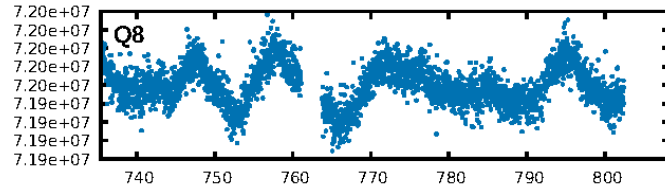
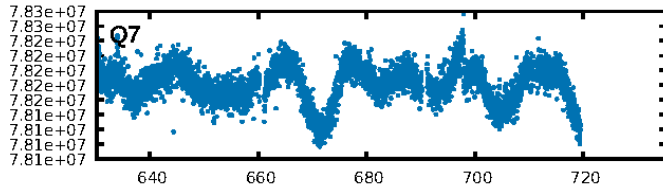
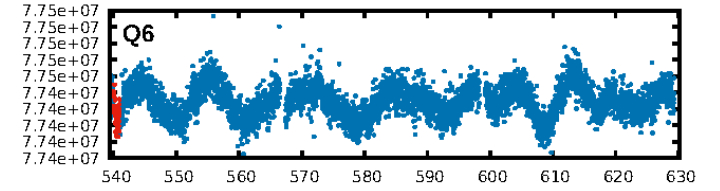
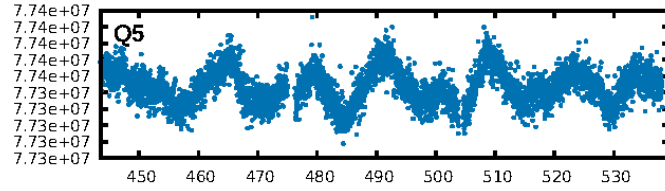
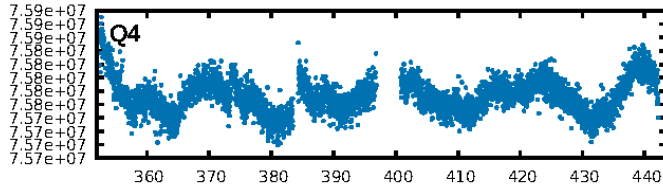
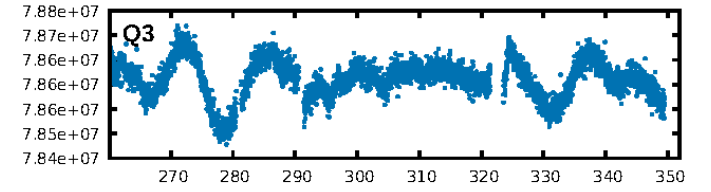
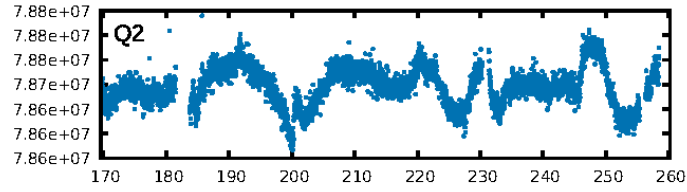
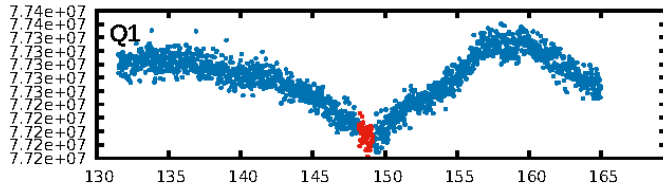
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.9%
ModelChiSquareGof-sig: 49.3%
Bootstrap-pfa: 4.68e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.425
Centroid-sig: 26.3%
Centroid-so: 1.825 arcsec [1.28σ]
OotOffset-rm: 3.677 arcsec [3.09σ]
KicOffset-rm: 3.903 arcsec [5.32σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

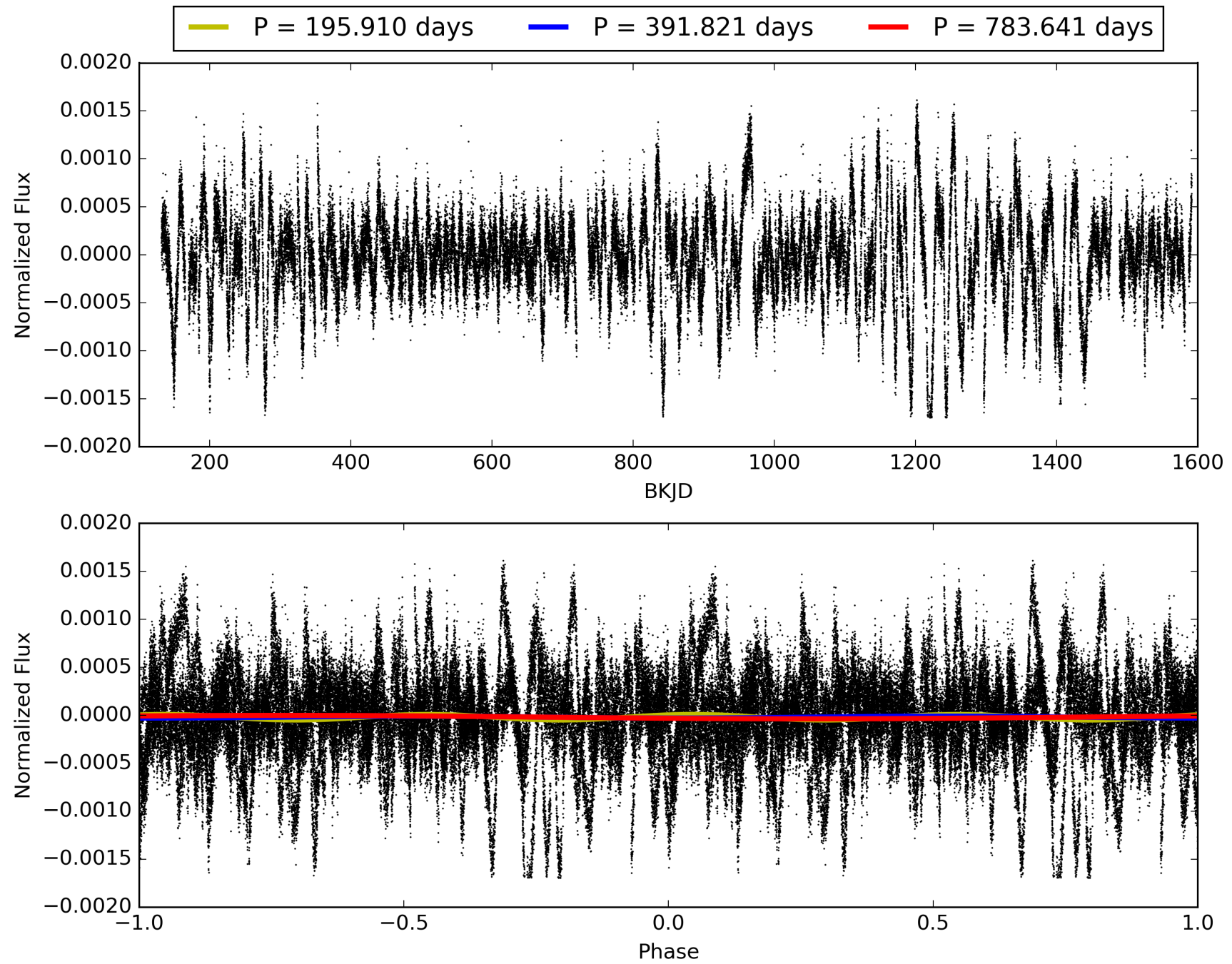
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:54:51 Z

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

TCE 006784820-01, PDC Light Curves

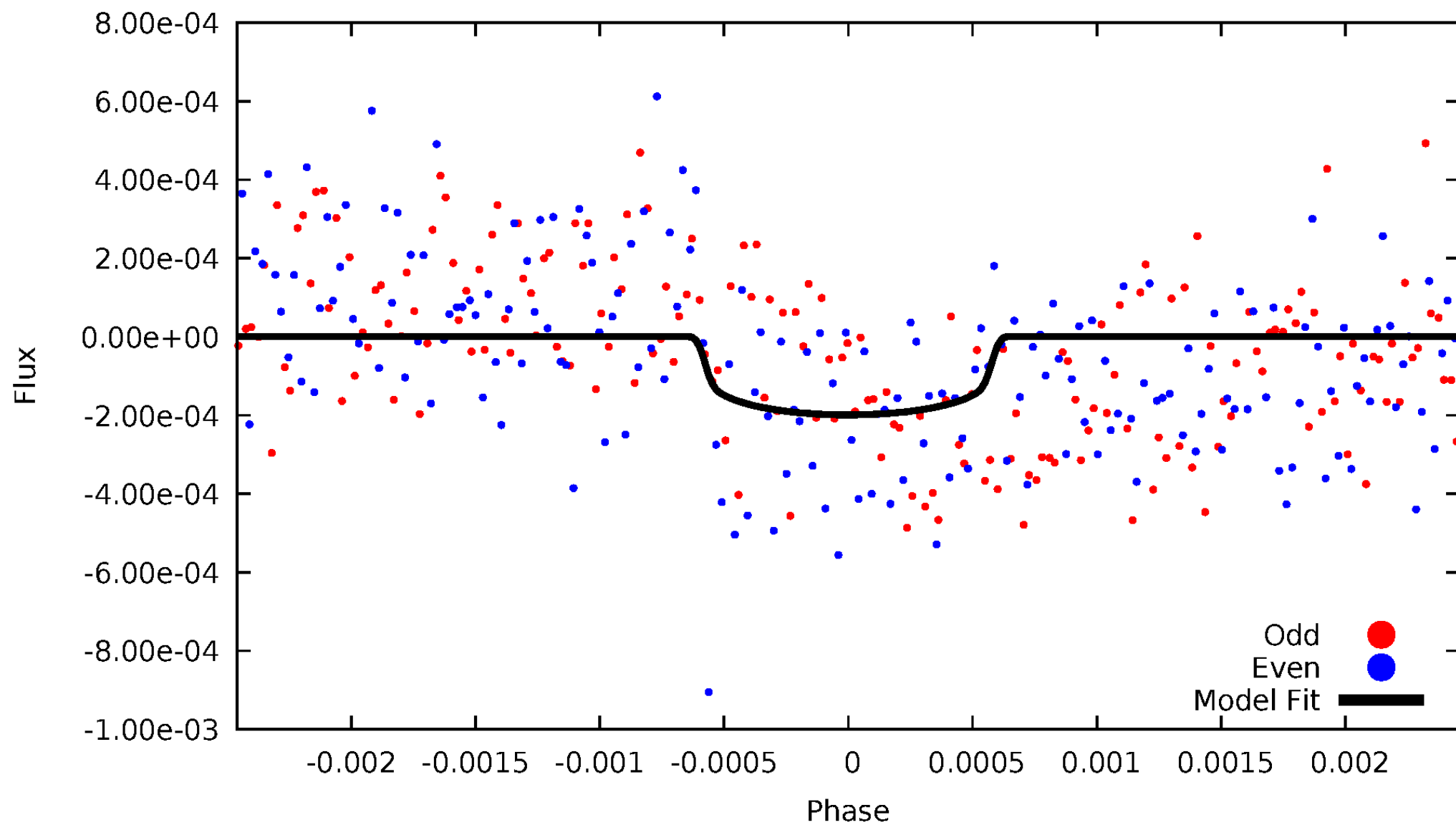


TCE 006784820-01



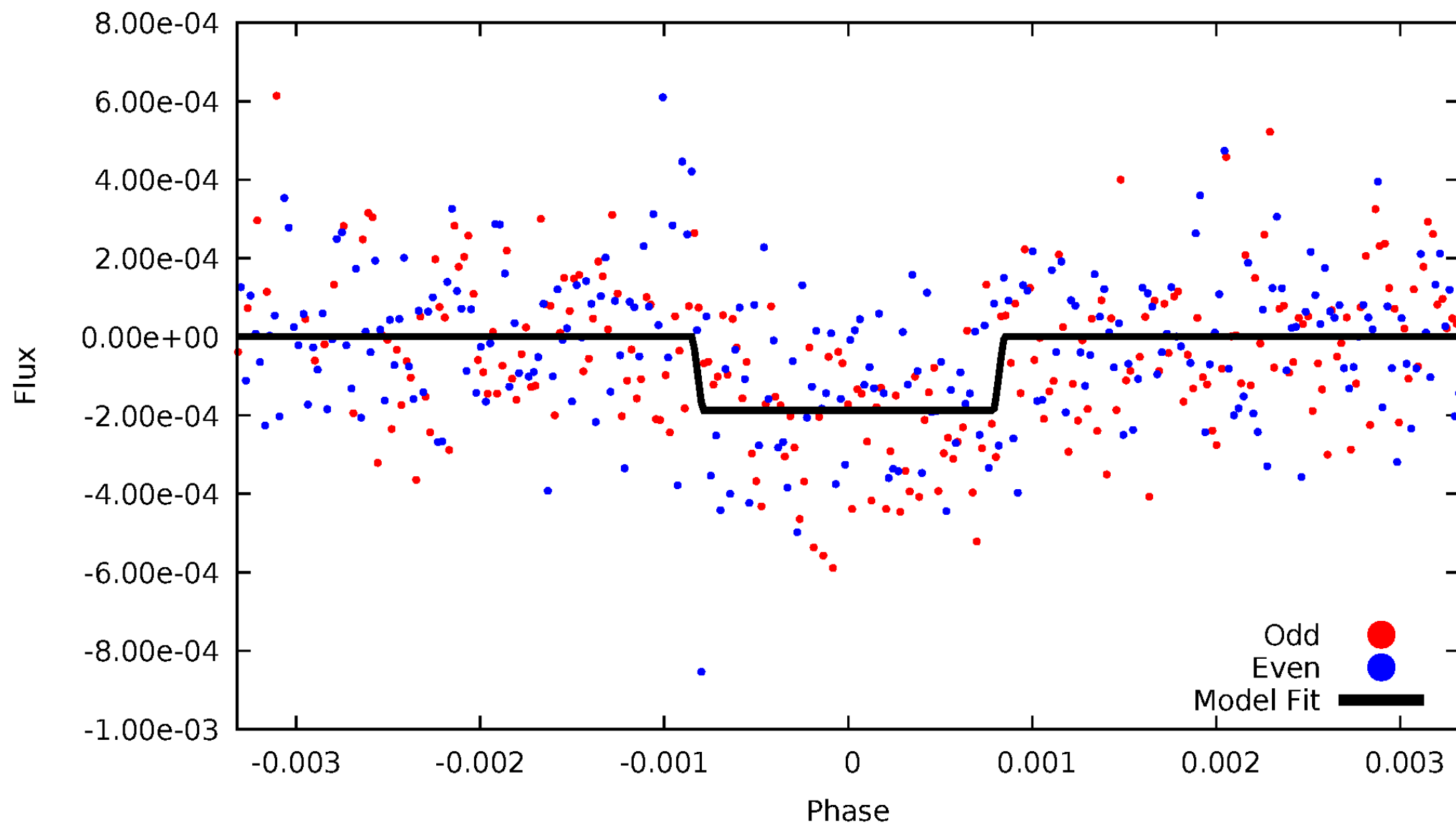
DV Odd/Even

TCE 006784820-01



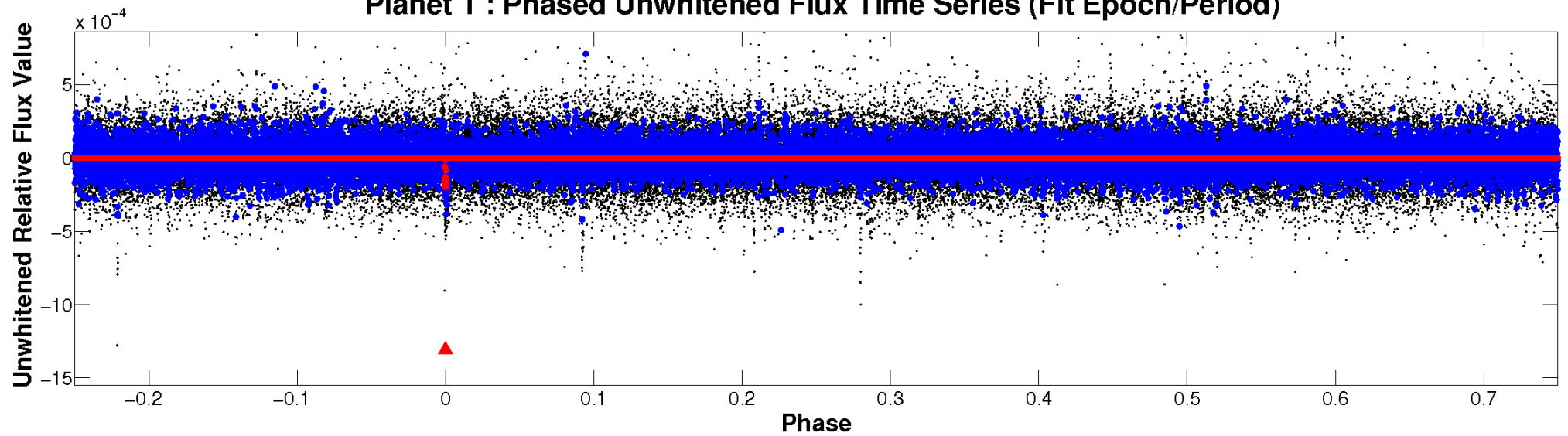
ALT Odd/Even

TCE 006784820-01

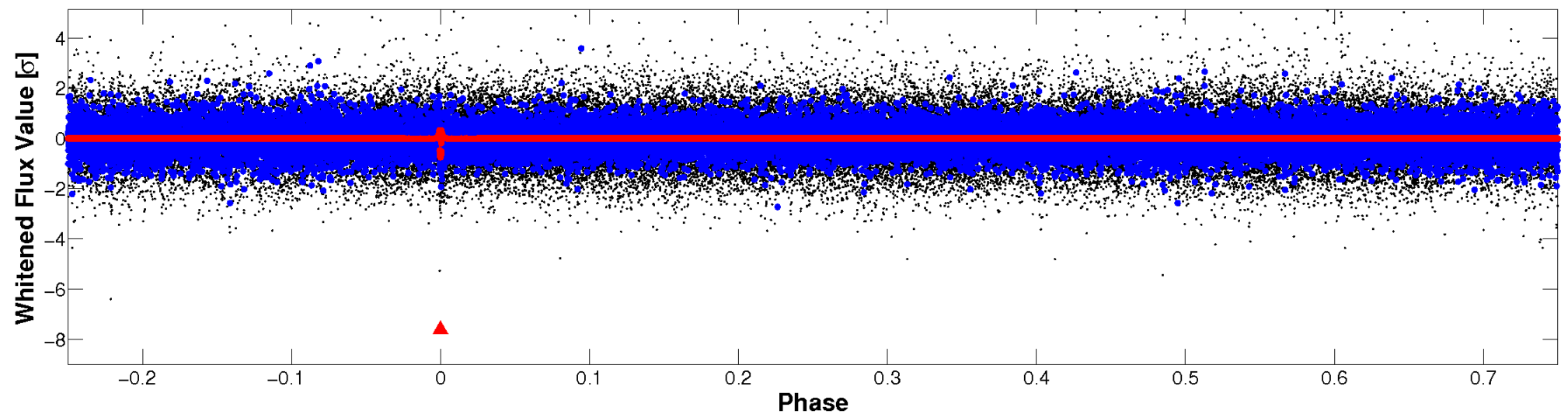


Non-Whitened Vs. Whitened Light Curve

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

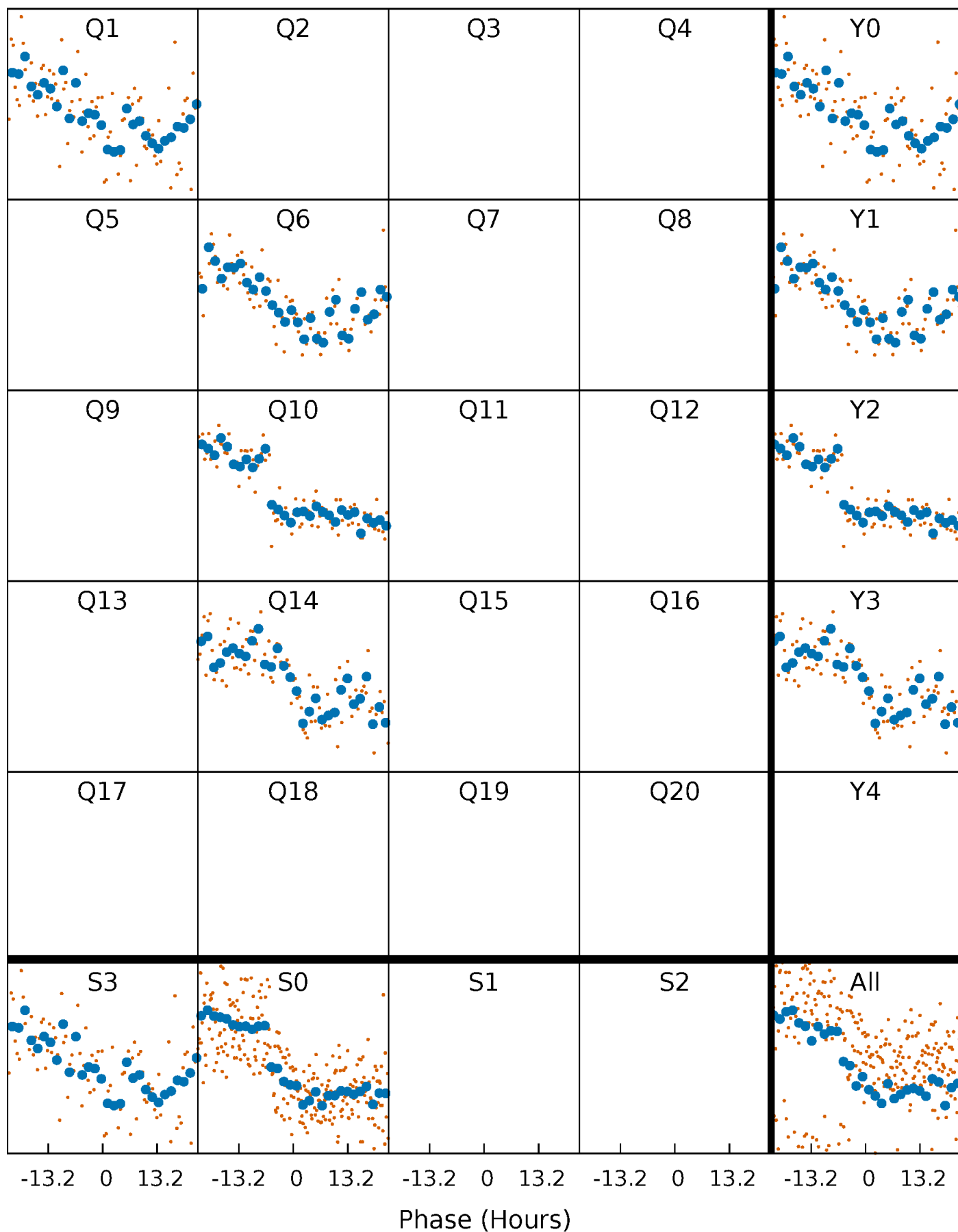


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



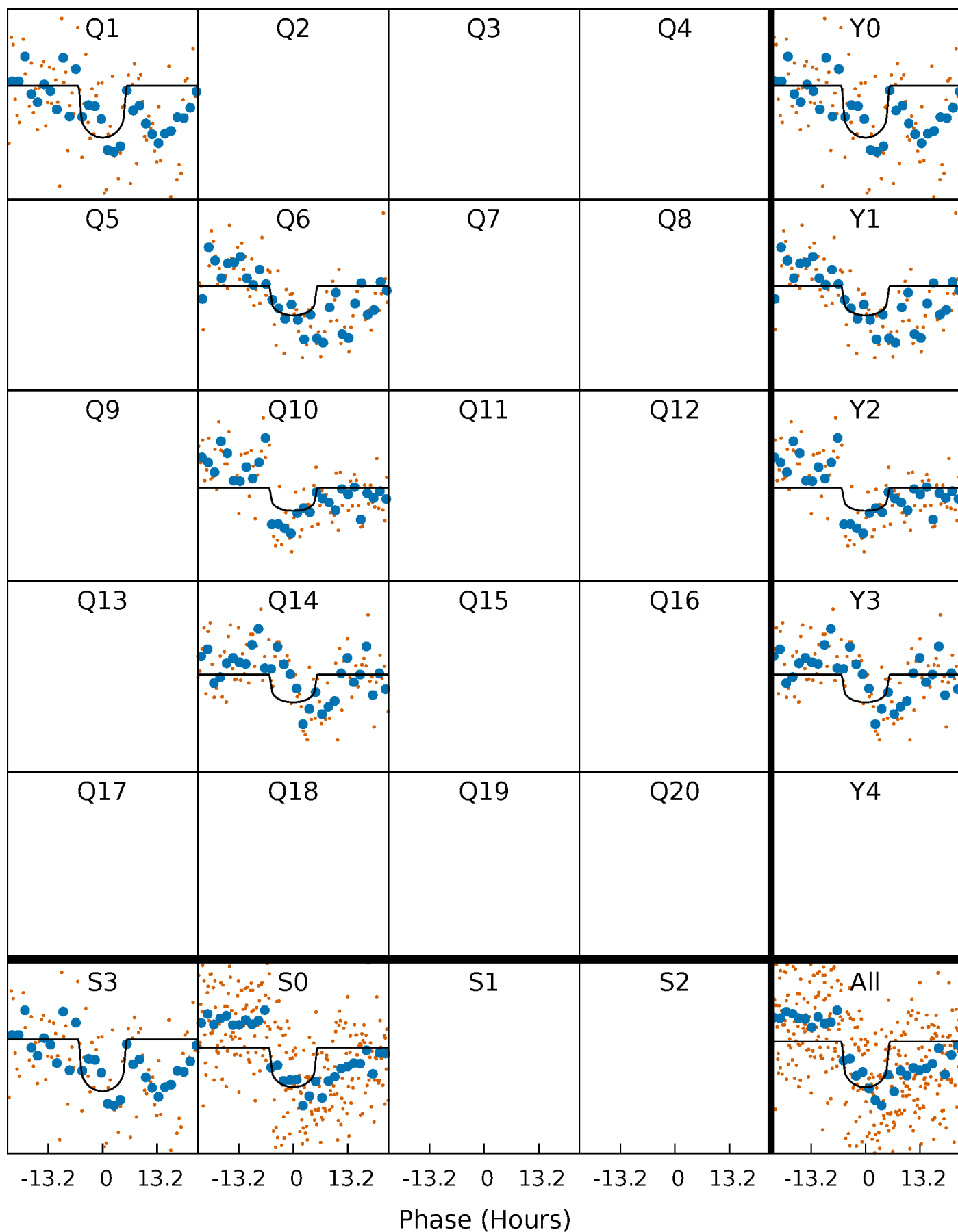
PDC Quarter-Phased Transit Curves

TCE 006784820-01 P=391.820665 Days $T_0=148.660807$ (BKJD)



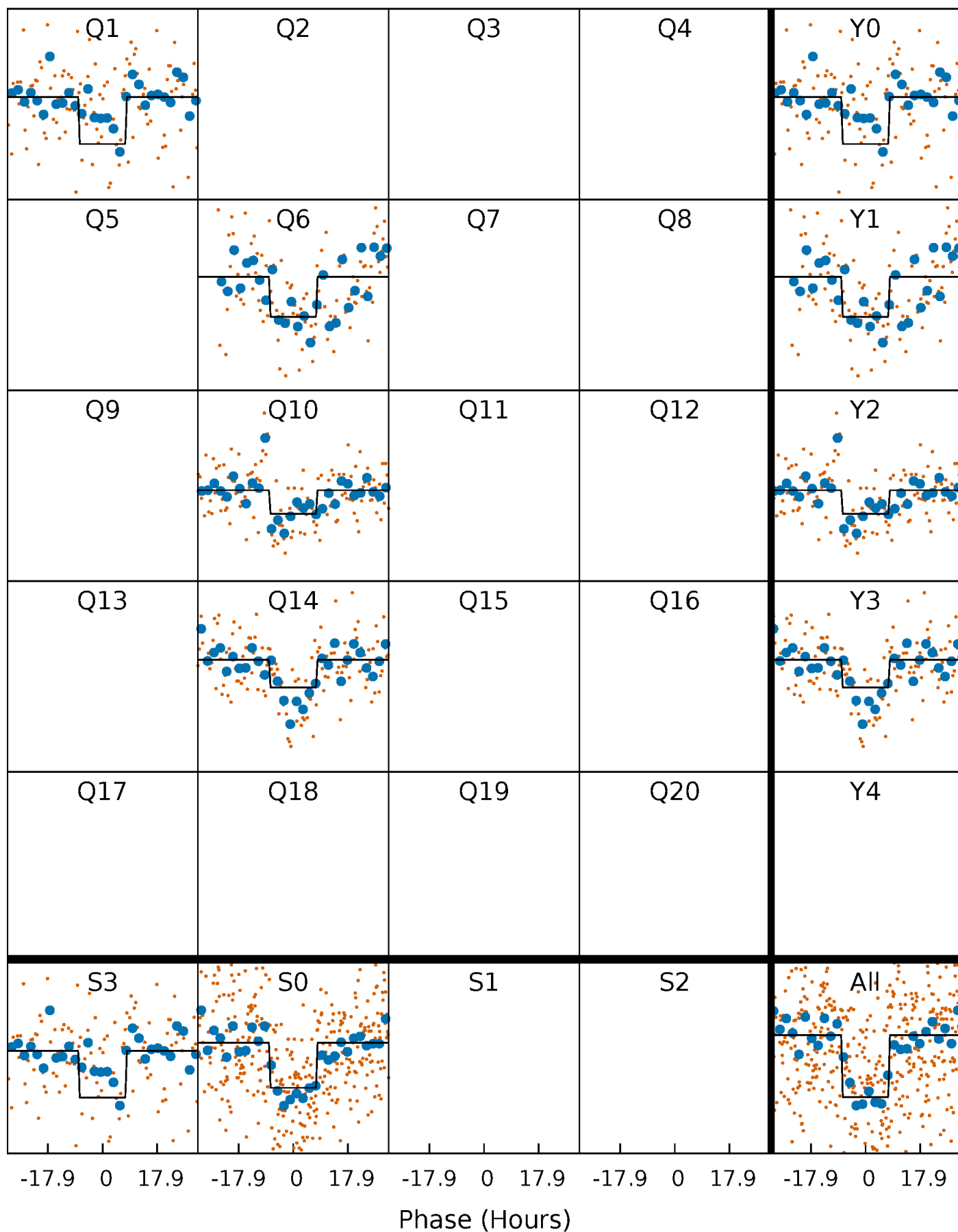
DV Quarter-Phased Transit Curves

TCE 006784820-01 P=391.820665 Days $T_0=148.660807$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

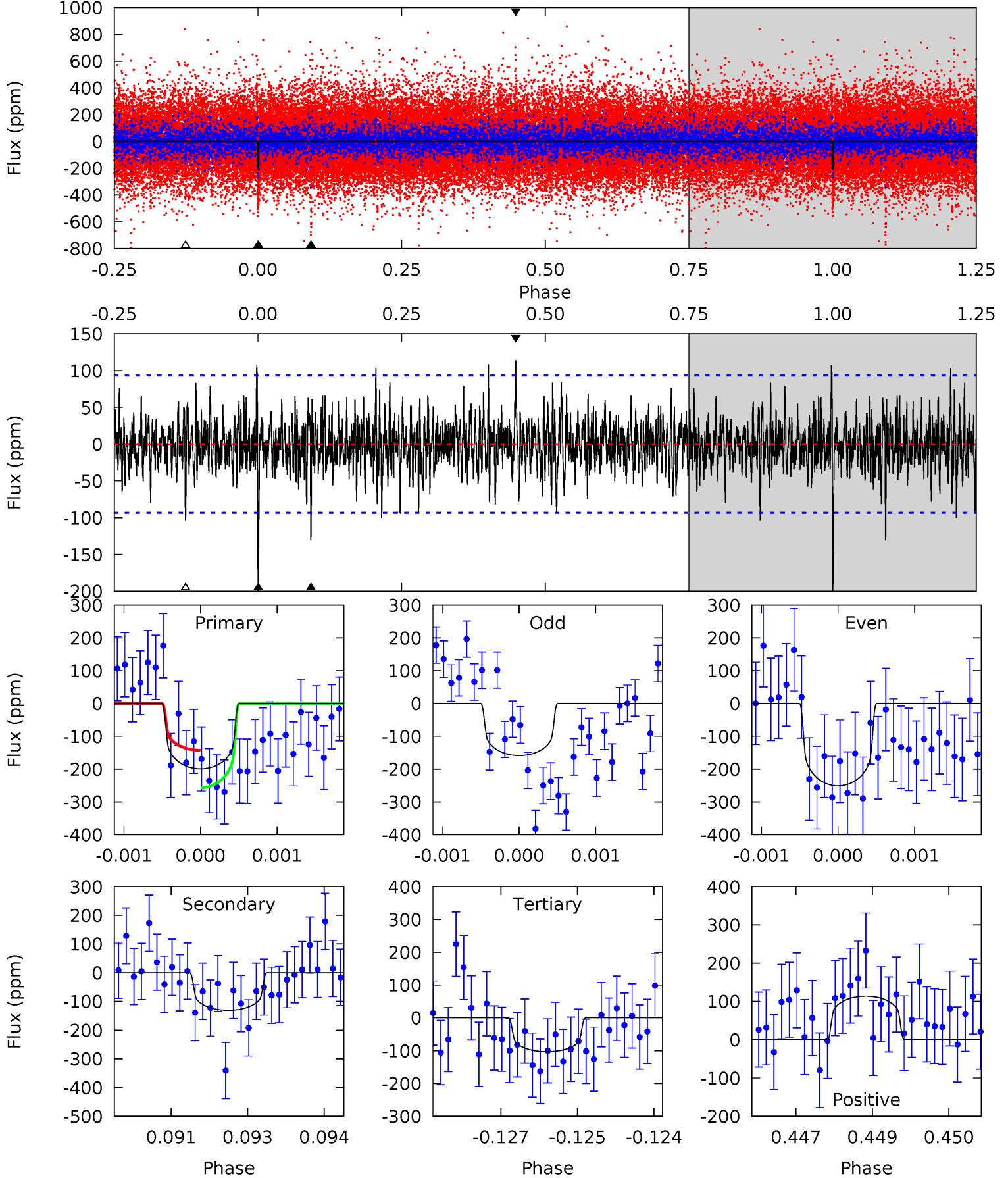
TCE 006784820-01 P=391.902058 Days $T_0=148.591233$ (BKJD)



DV Model-Shift Uniqueness Test

006784820-01, P = 391.820665 Days, E = 148.660807 Days

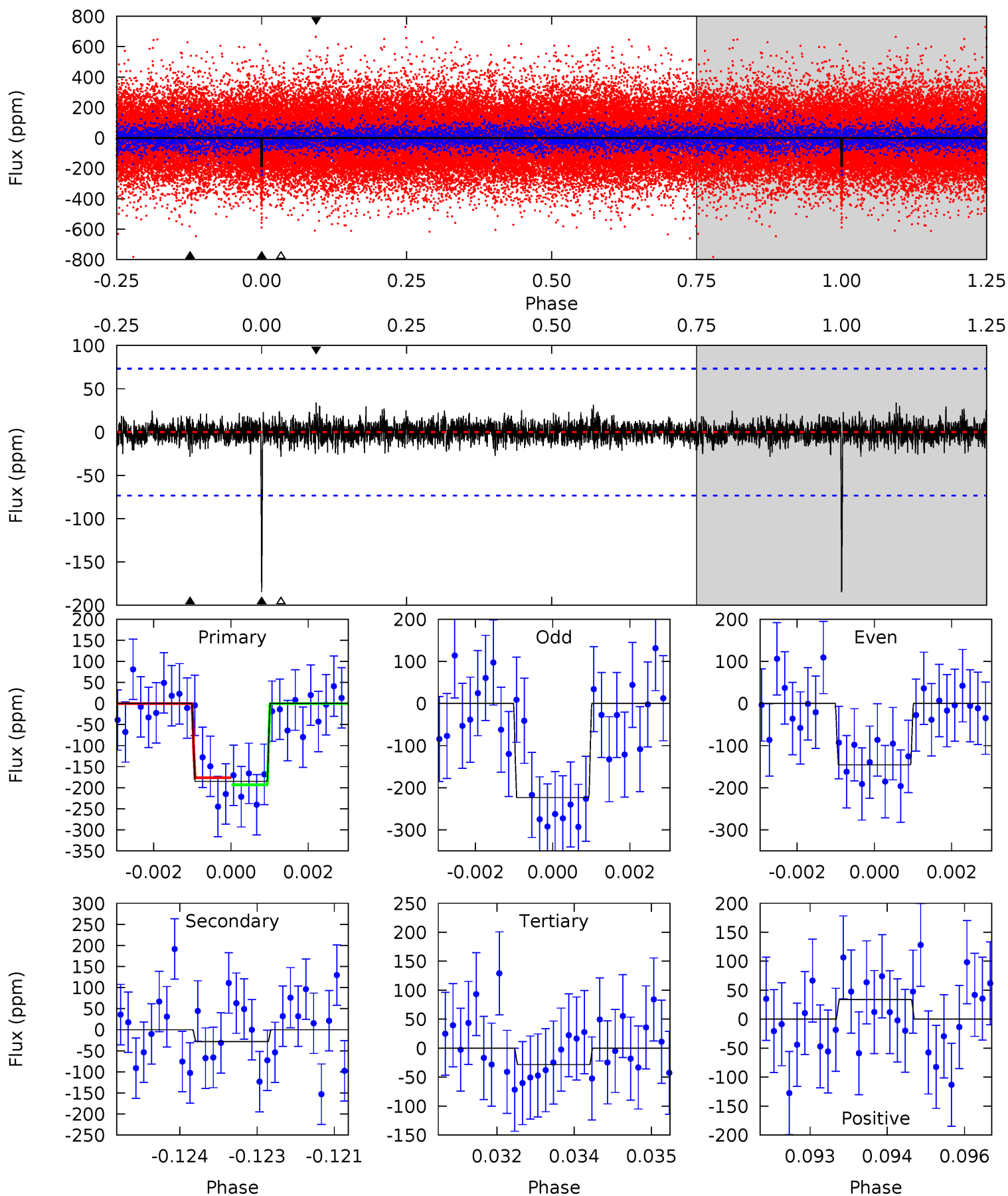
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	7.59	5.99	6.60	5.41	3.22	1.63	5.57	4.96	1.60	0.99	2.68	0.98	0.36	3.32



Alt Model-Shift Uniqueness Test

006784820-01, P = 391.902058 Days, E = 148.591233 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	2.08	2.07	2.49	5.36	3.14	0.55	11.4	11.0	0.00	-0.41	2.85	0.91	0.16	0.62



Stellar Parameters For KIC 006784820

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5337^{+204}_{-185}	$4.498^{+0.085}_{-0.114}$	$-0.140^{+0.300}_{-0.300}$	$0.836^{+0.141}_{-0.106}$	$0.802^{+0.104}_{-0.070}$	$1.936^{+0.675}_{-0.656}$
	+4%/-3%	+2%/-3%	+214%/-214%	+17%/-13%	+13%/-9%	+35%/-34%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 006784820-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-131 ± 17	$1.40^{+0.54}_{-0.53}$	308^{+16}_{-14}	4736^{+1237}_{-562}	35194^{+55184}_{-17565}
Alt.	-28 ± 14	$1.28^{+0.55}_{-0.48}$	307^{+16}_{-16}	3668^{+730}_{-497}	8639^{+14683}_{-5298}

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

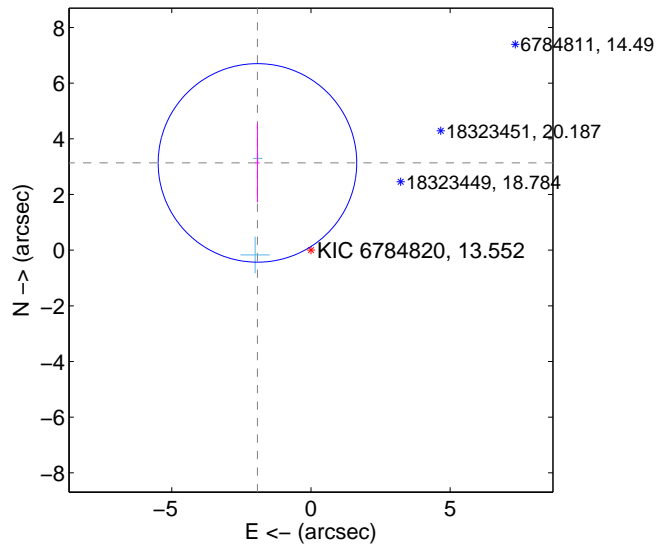
Supplemental centroid analysis for 006784820-01. Kepler magnitude: 13.55. Transit SNR 6.60

There are 2 quarters with good PRF difference image offsets

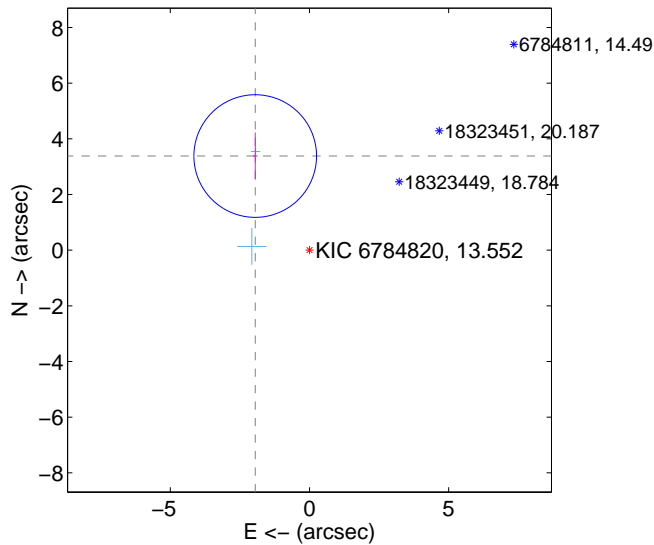
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.677 ± 1.189	3.09	1.922 ± 0.077	3.135 ± 1.417
PRF-fit source offset from KIC position	3.903 ± 0.734	5.32	1.949 ± 0.081	3.381 ± 0.846
photometric centroid source offset	1.83 ± 1.42	1.28	-1.81 ± 1.42	0.21 ± 1.20

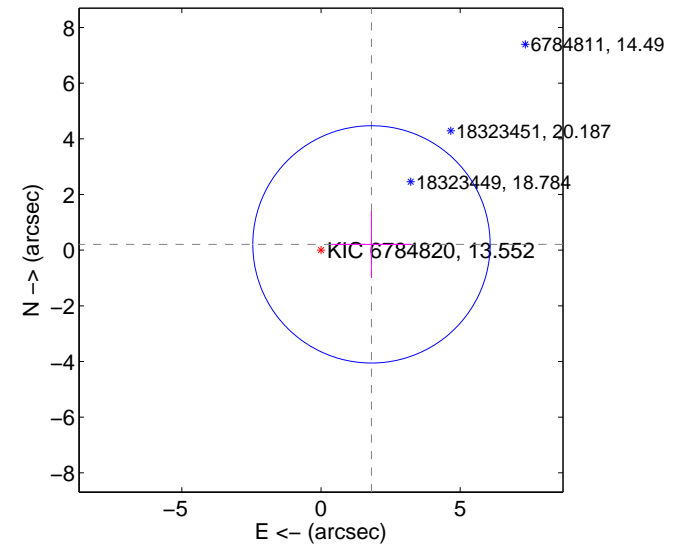
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

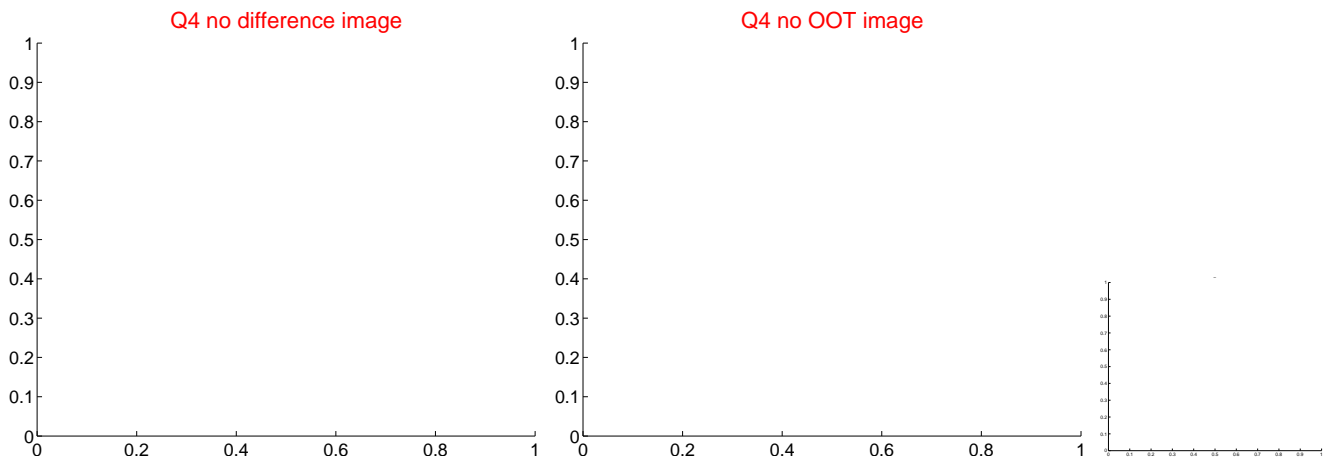
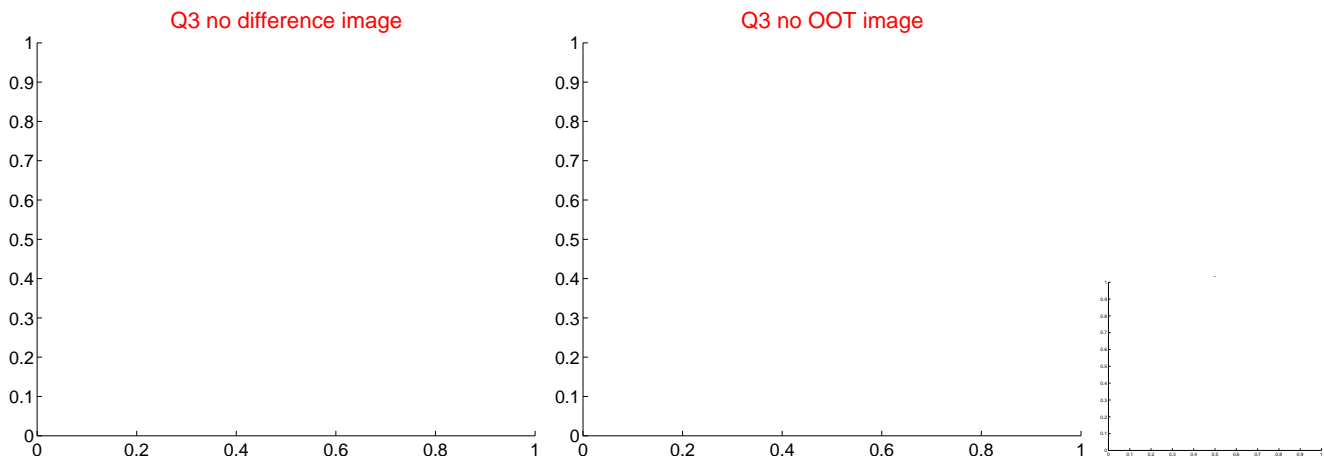
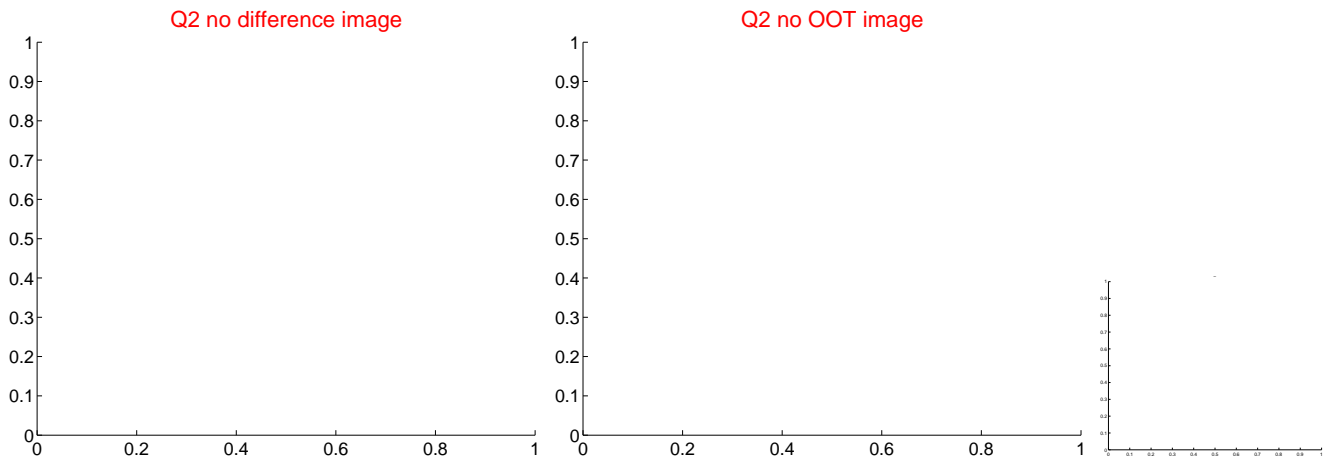
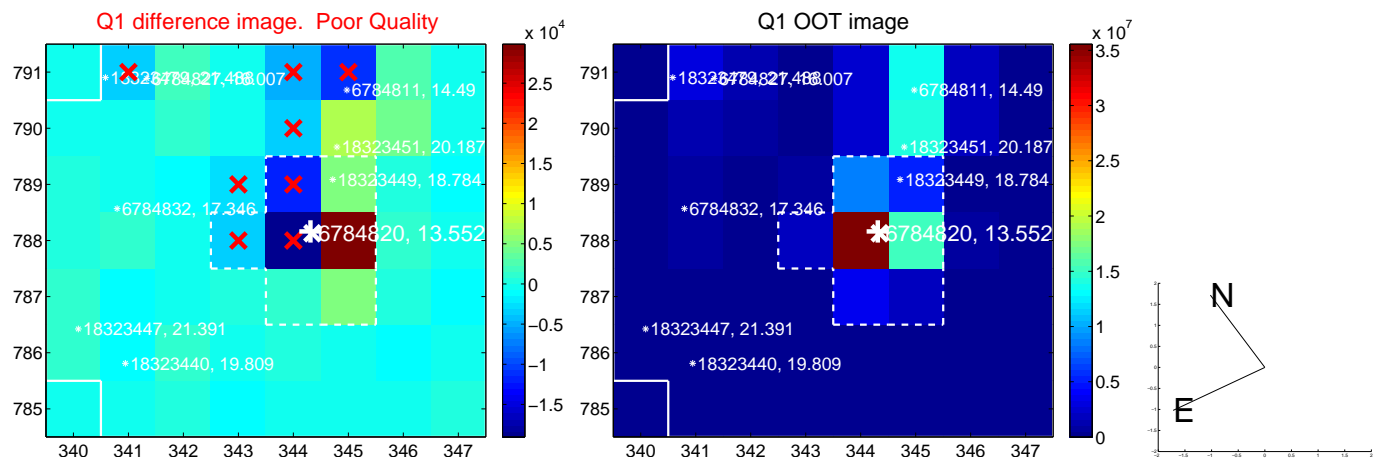


offset from photometric centroids



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 ×: 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.

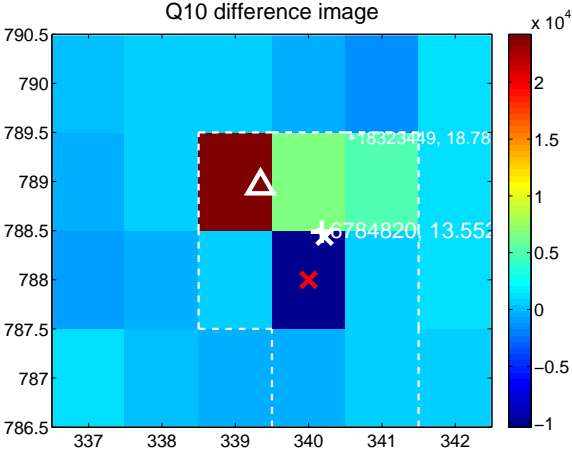
Q9 no difference image



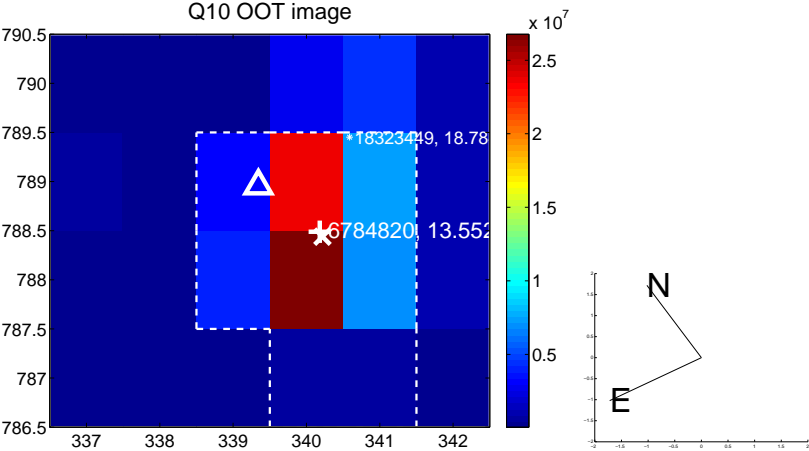
Q9 no OOT image



Q10 difference image



Q10 OOT image



Q11 no difference image



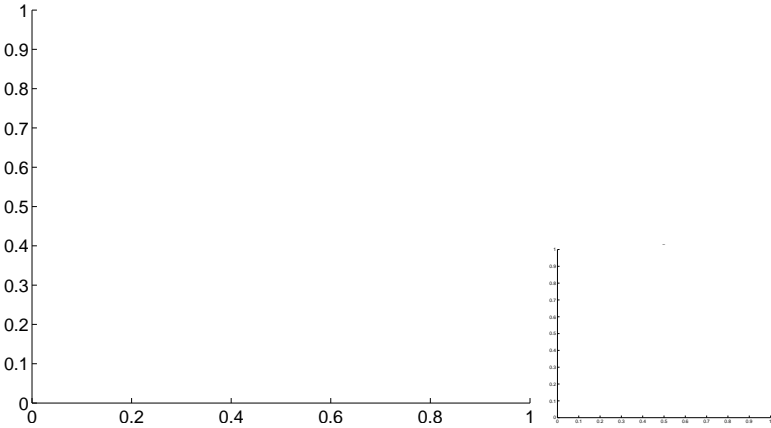
Q11 no OOT image



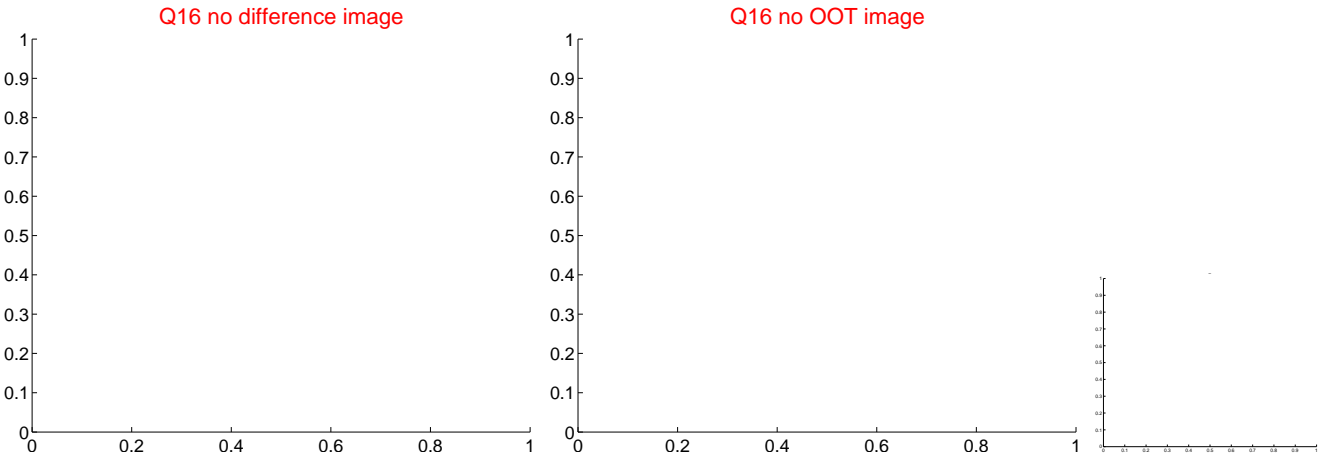
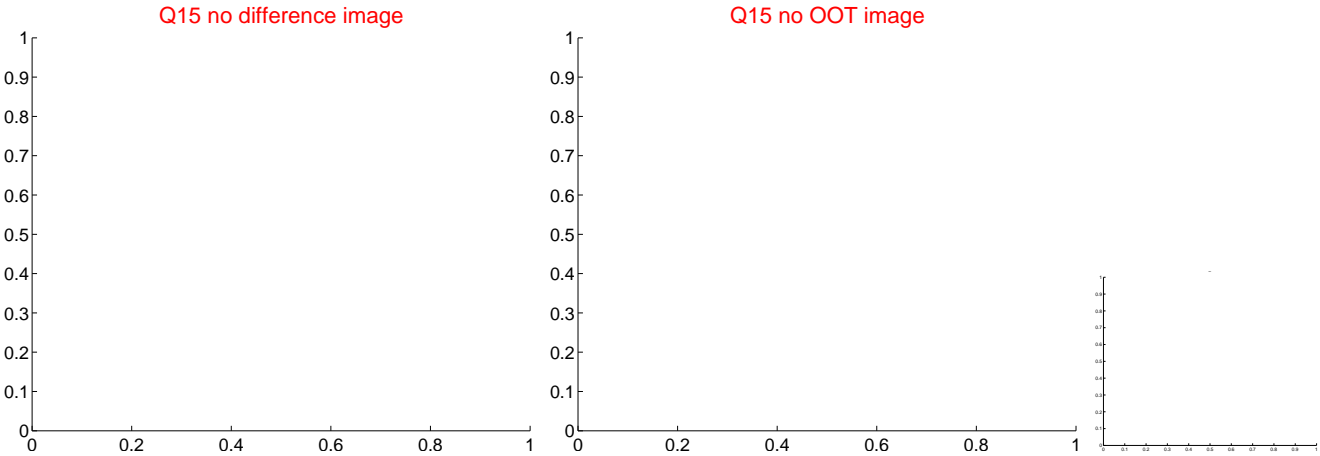
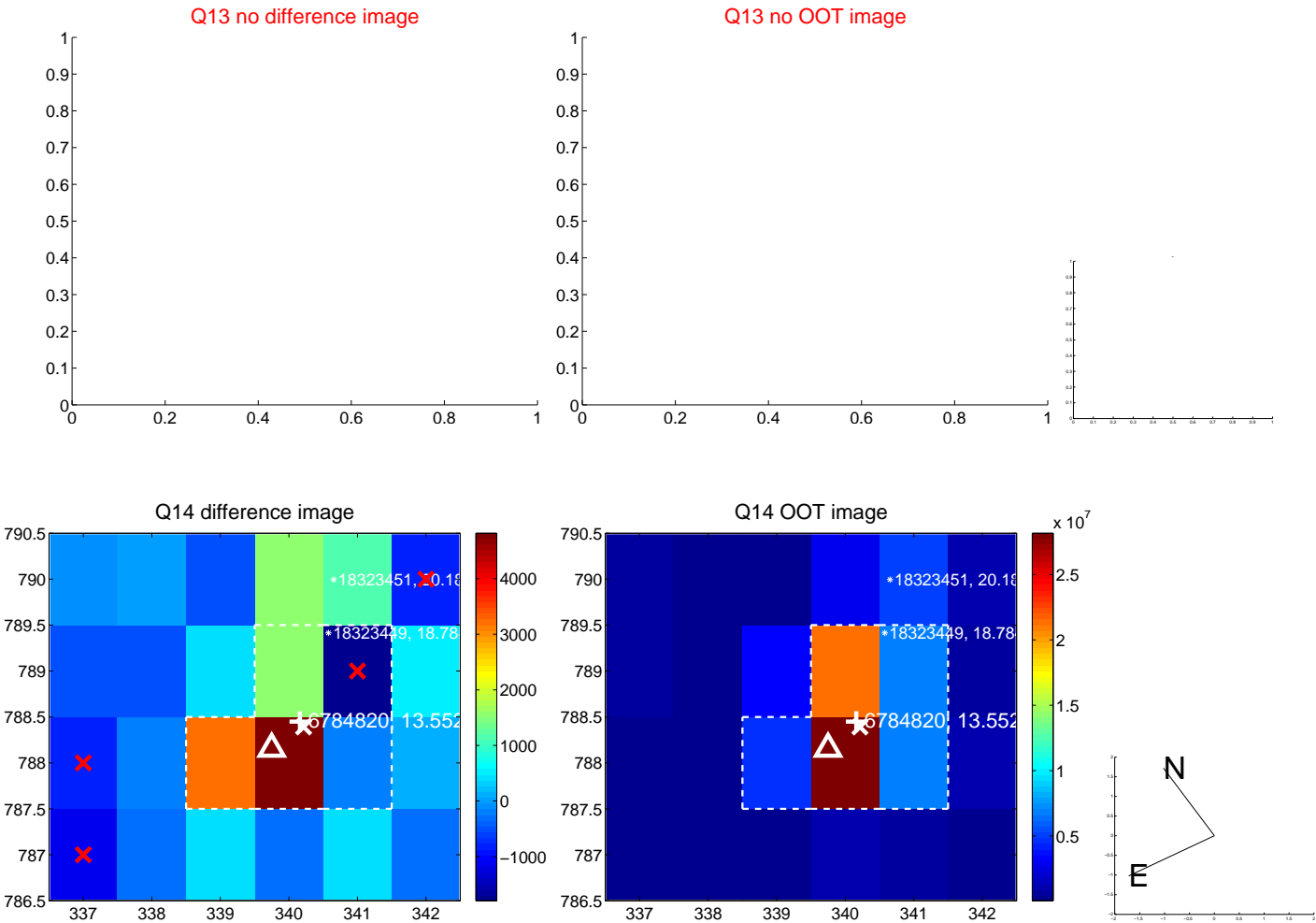
Q12 no difference image



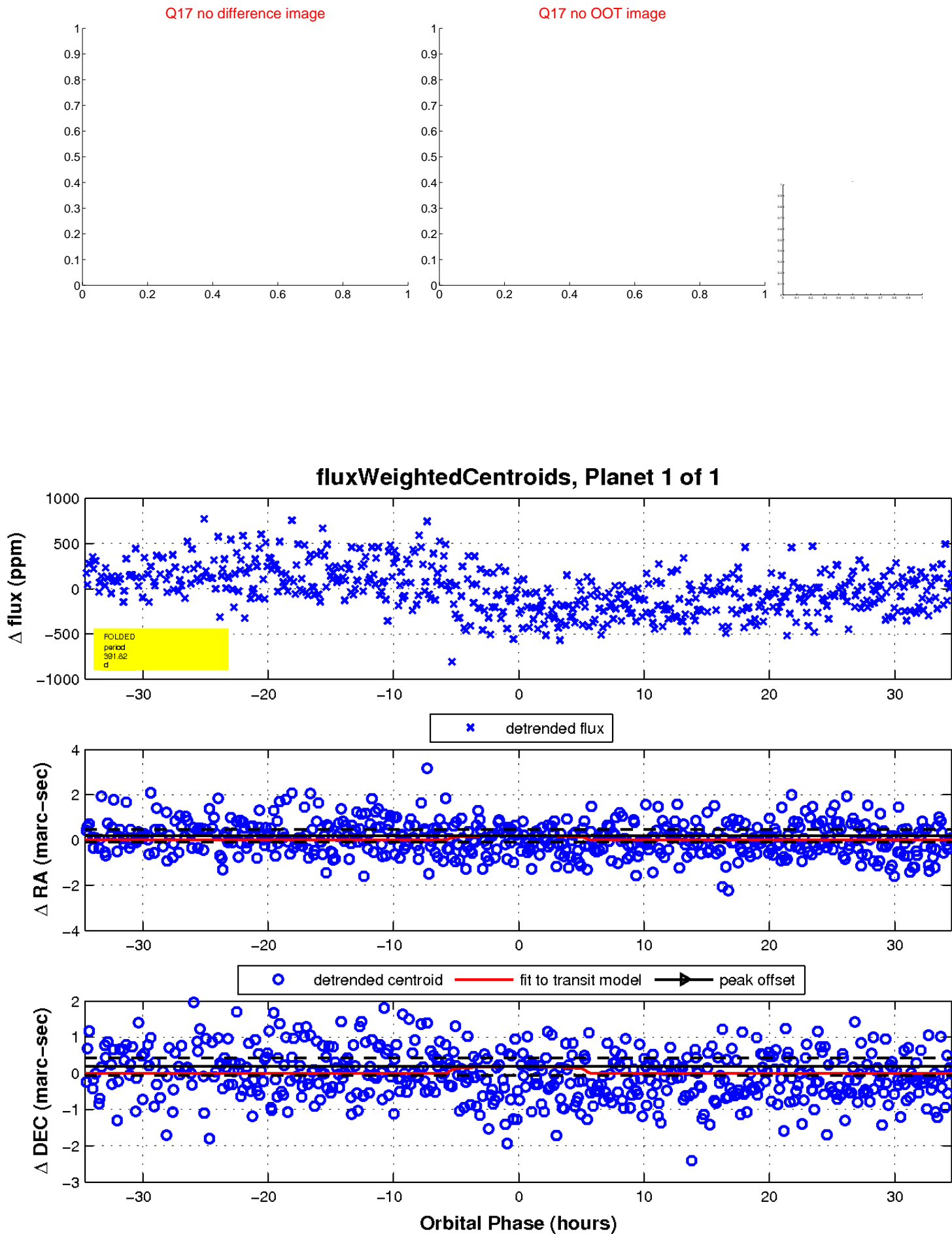
Q12 no OOT image



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

