

KIC 010198937

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})
010198937-01	OBS	No	237.238351	235.876241	95.3	12.148	8.2	8.0	1.69	6795	1.86	7.60

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010198937-01	OBS	FP	0.01	1	0	0	0	MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

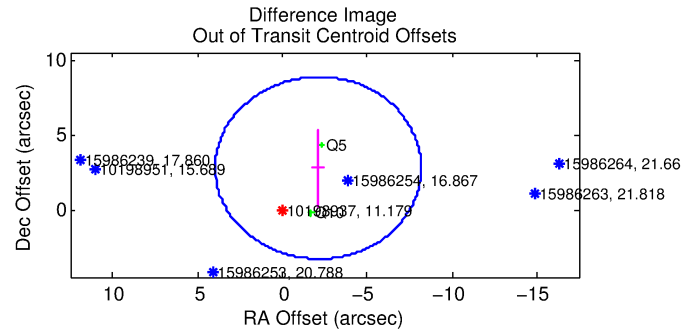
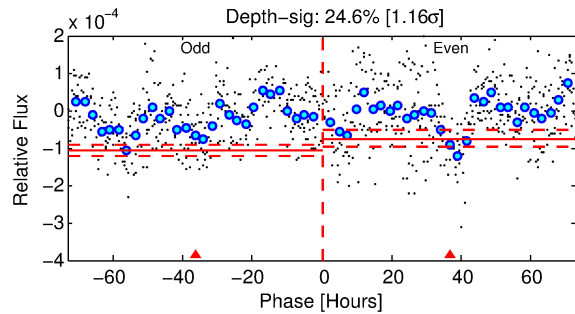
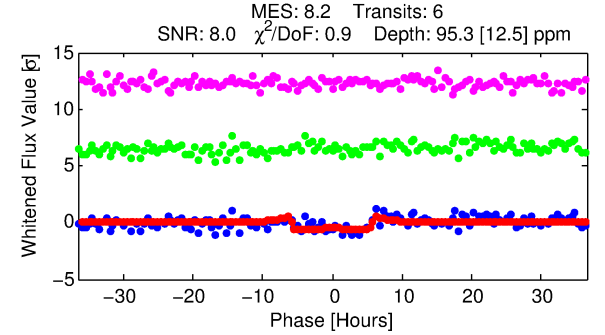
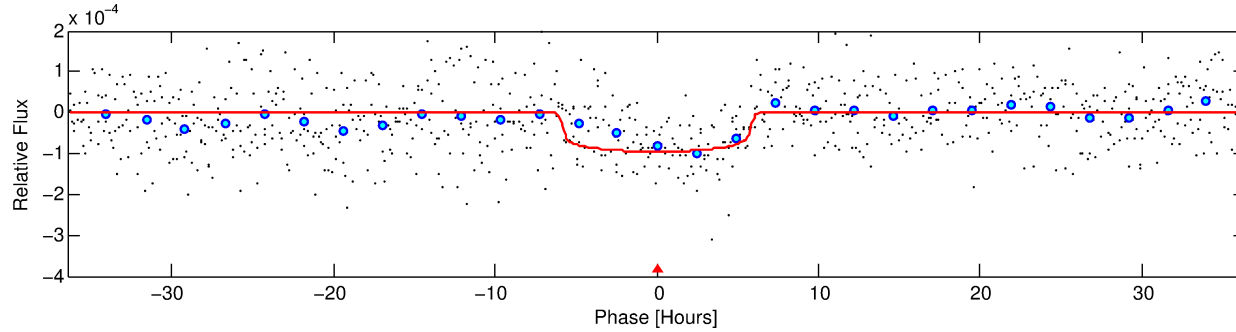
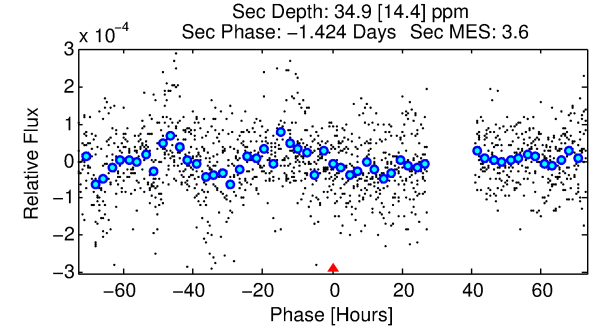
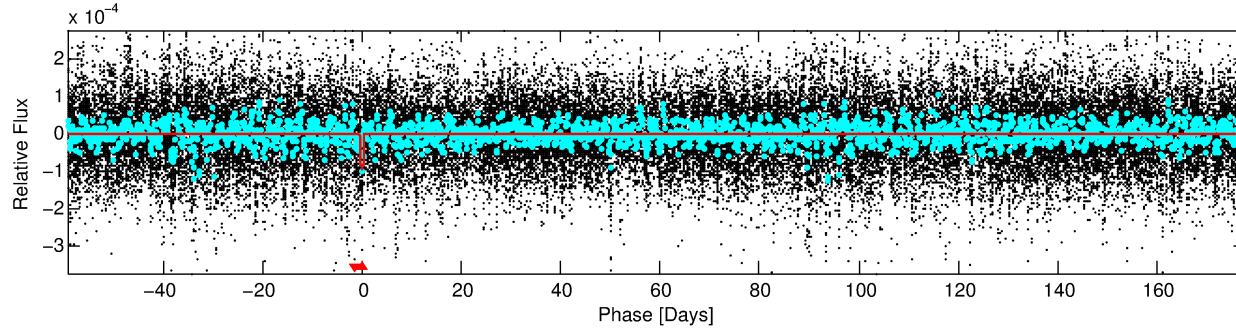
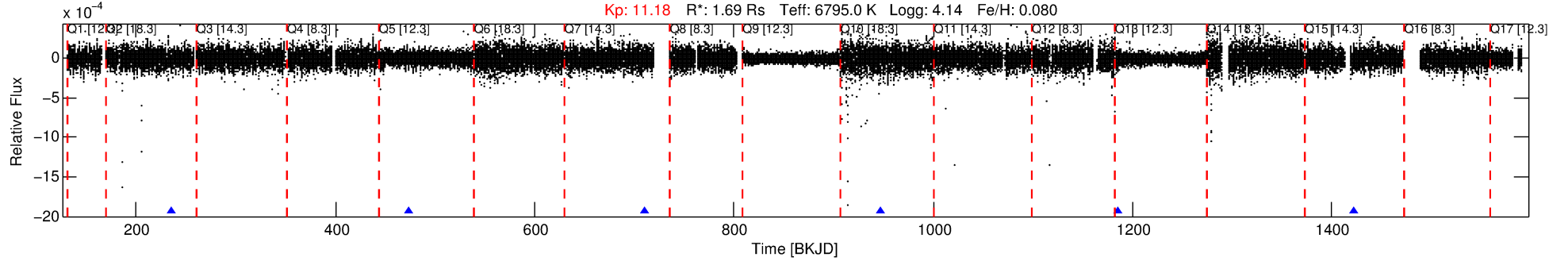
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010198937-01

No Significant Match Found

DV One-Page Summary

KIC: 10198937 Candidate: 1 of 1 Period: 237.238 d



DV Fit Results:

Period = 237.23835 [0.00368] d
Epoch = 235.8762 [0.0109] BKJD
Rp/R* = 0.0101 [0.0014]
a/R* = 82.86 [54.56]
b = 0.84 [0.22]
Seff = 7.60 [3.01]
Teq = 423 [42] K
Rp = 1.86 [0.65] Re
a = 0.8477 [0.2199] AU
Ag = 4001.74 [2452.35] [1.63σ]
Teffp = 5206 [682] K [7.00σ]

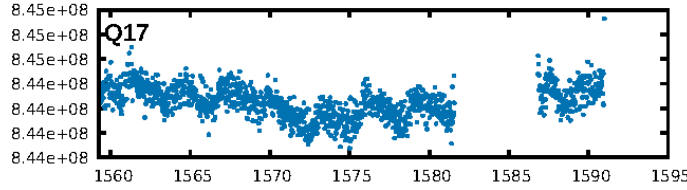
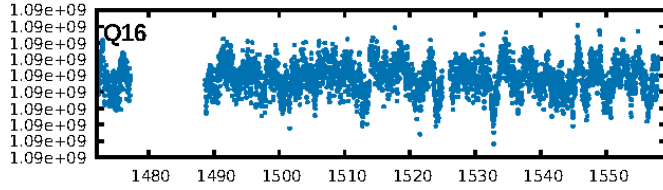
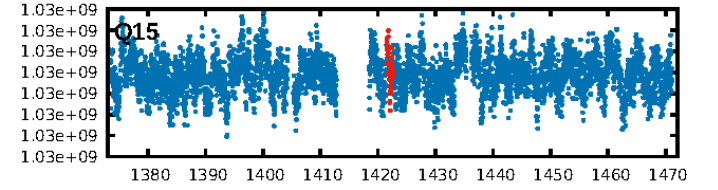
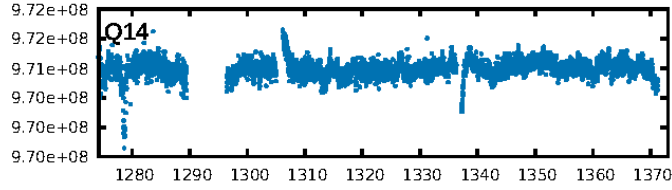
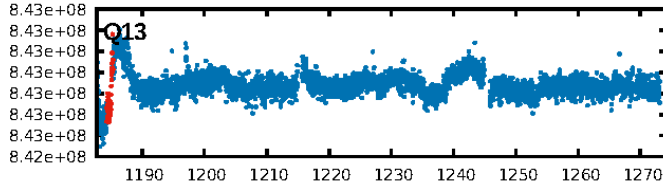
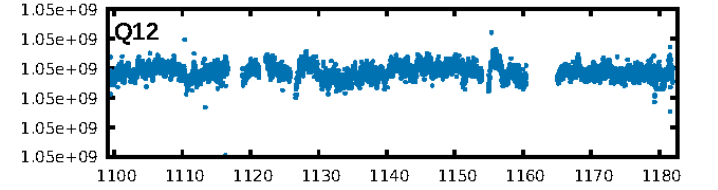
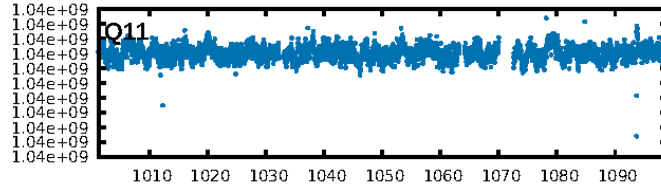
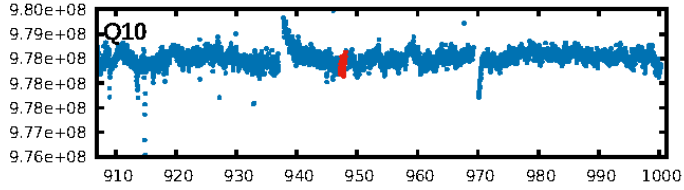
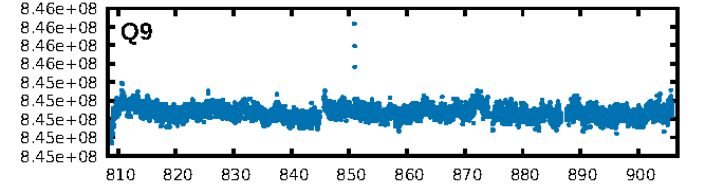
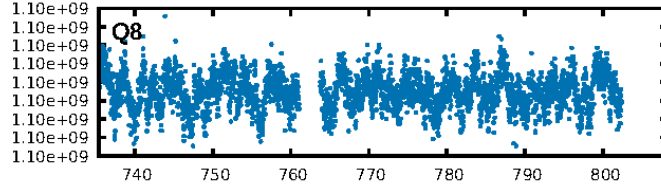
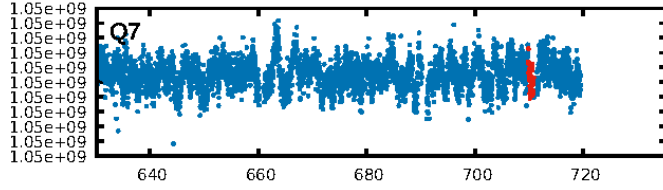
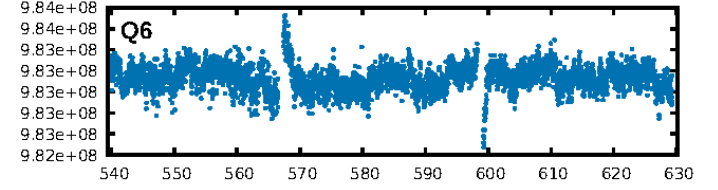
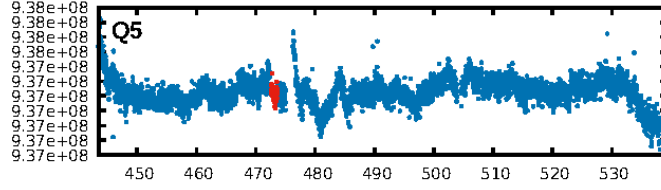
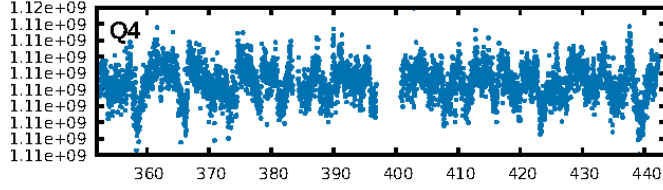
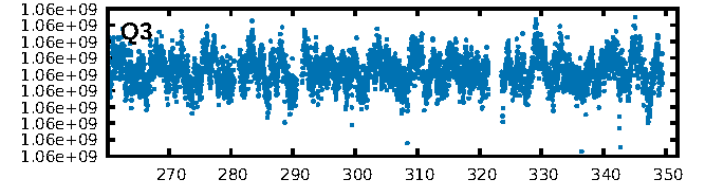
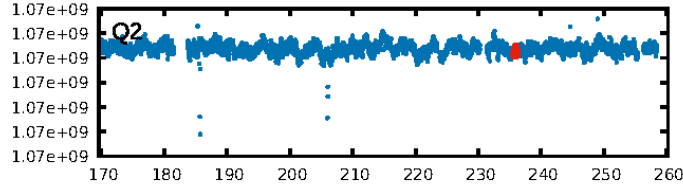
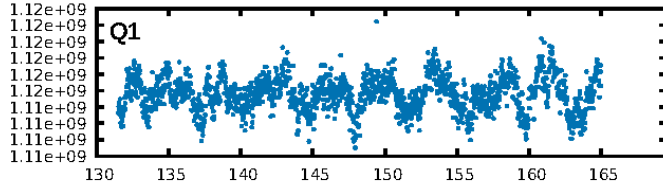
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 89.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.42e-11
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 1.356
Centroid-sig: 55.4%
Centroid-so: 0.970 arcsec [1.03σ]
OotOffset-rm: 3.498 arcsec [1.73σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-rm: 3.721 arcsec [1.73σ]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [4/4]

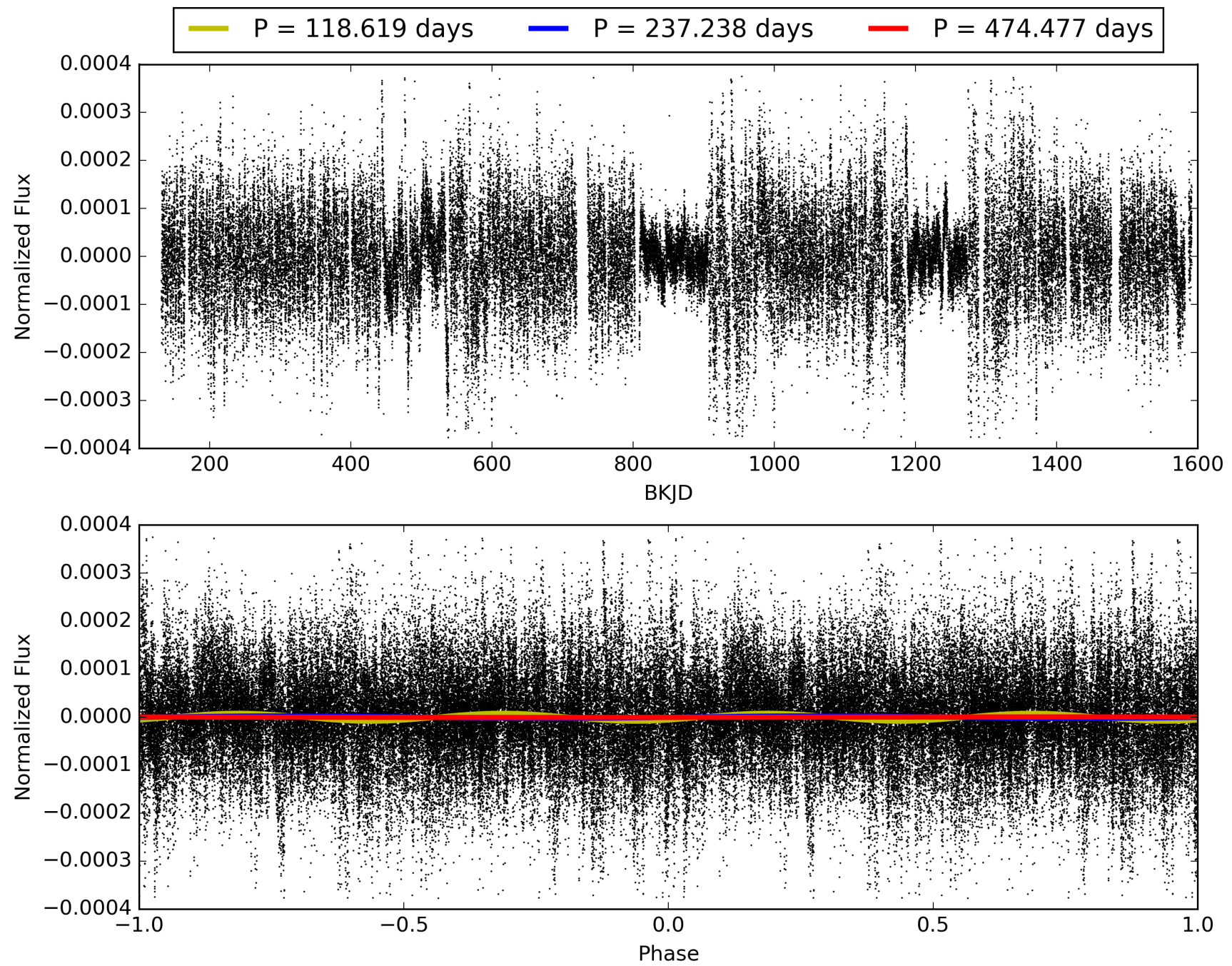
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 02:52:48 Z

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

TCE 010198937-01, PDC Light Curves

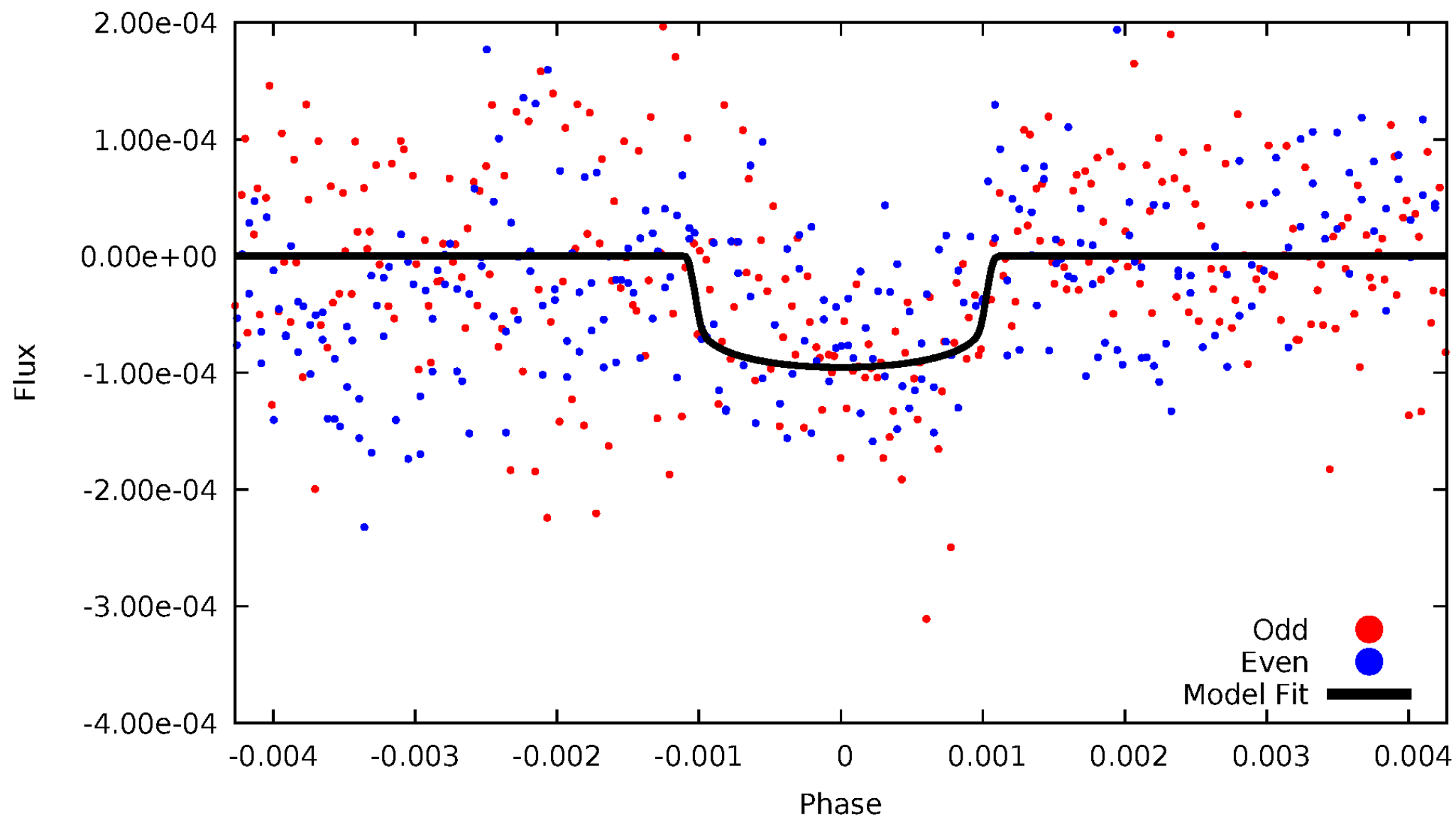


TCE 010198937-01



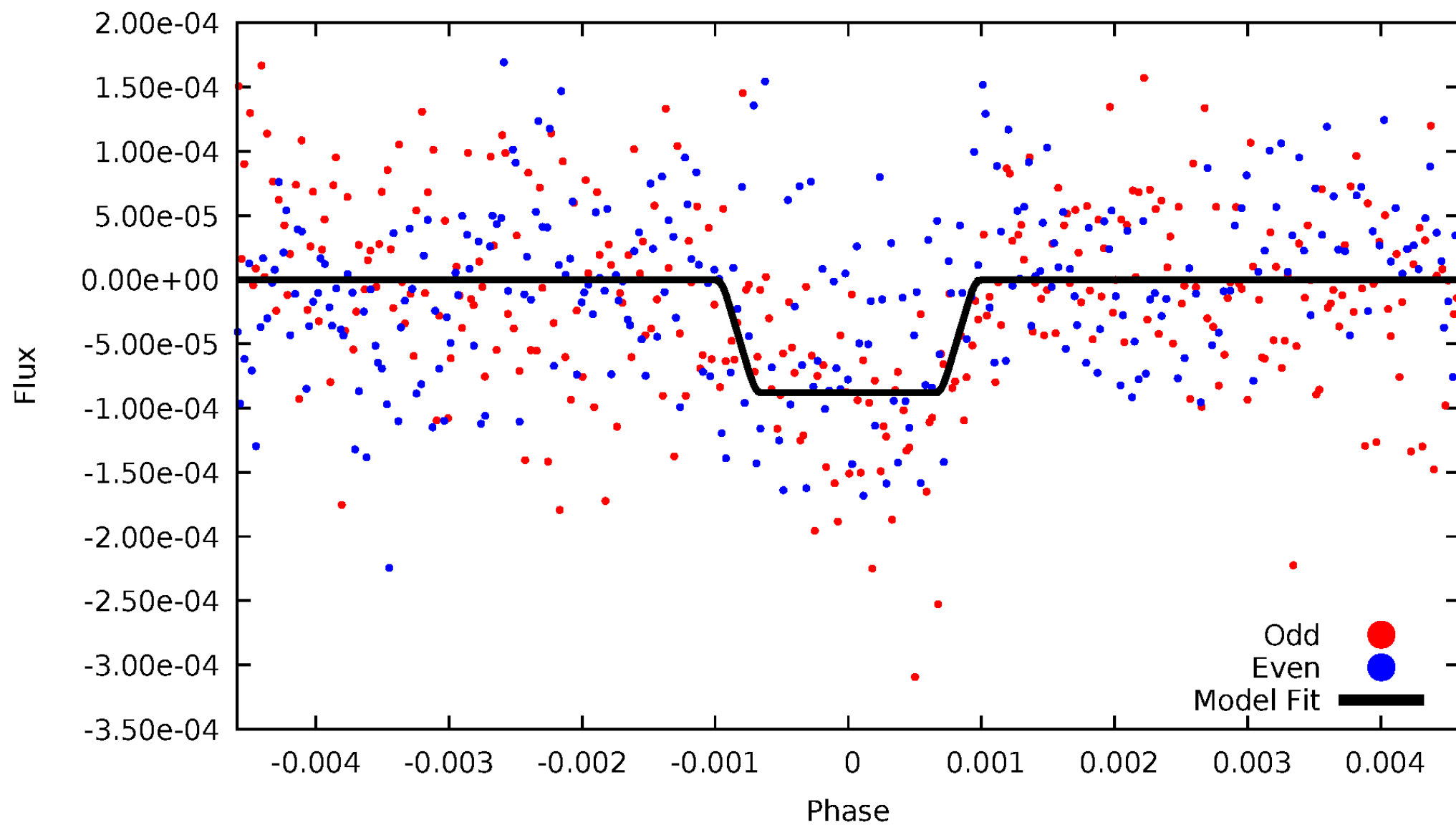
DV Odd/Even

TCE 010198937-01



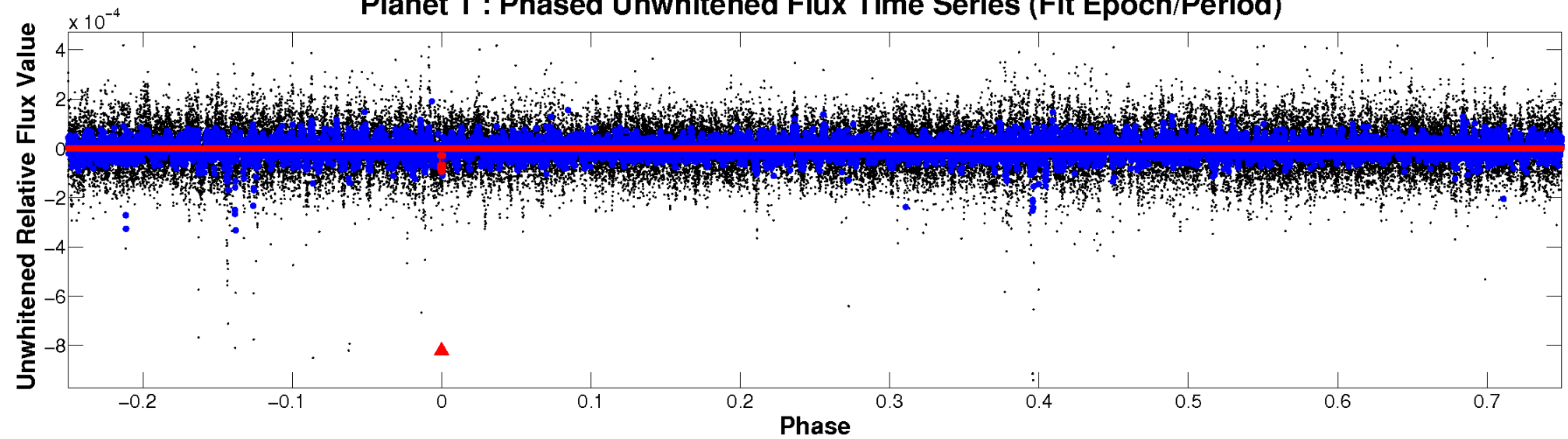
ALT Odd/Even

TCE 010198937-01

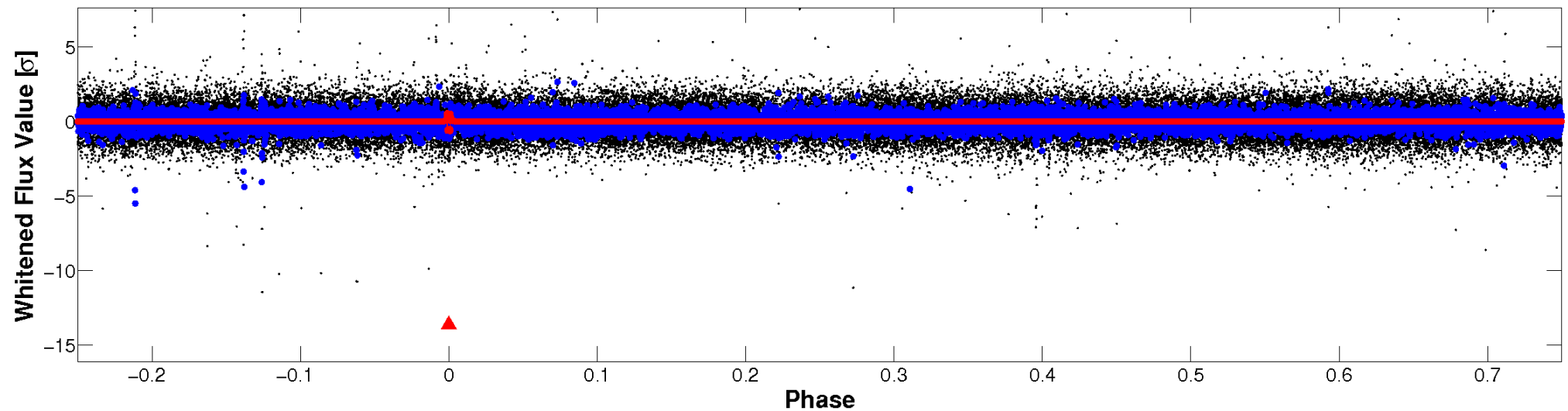


Non-Whitened Vs. Whitened Light Curve

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

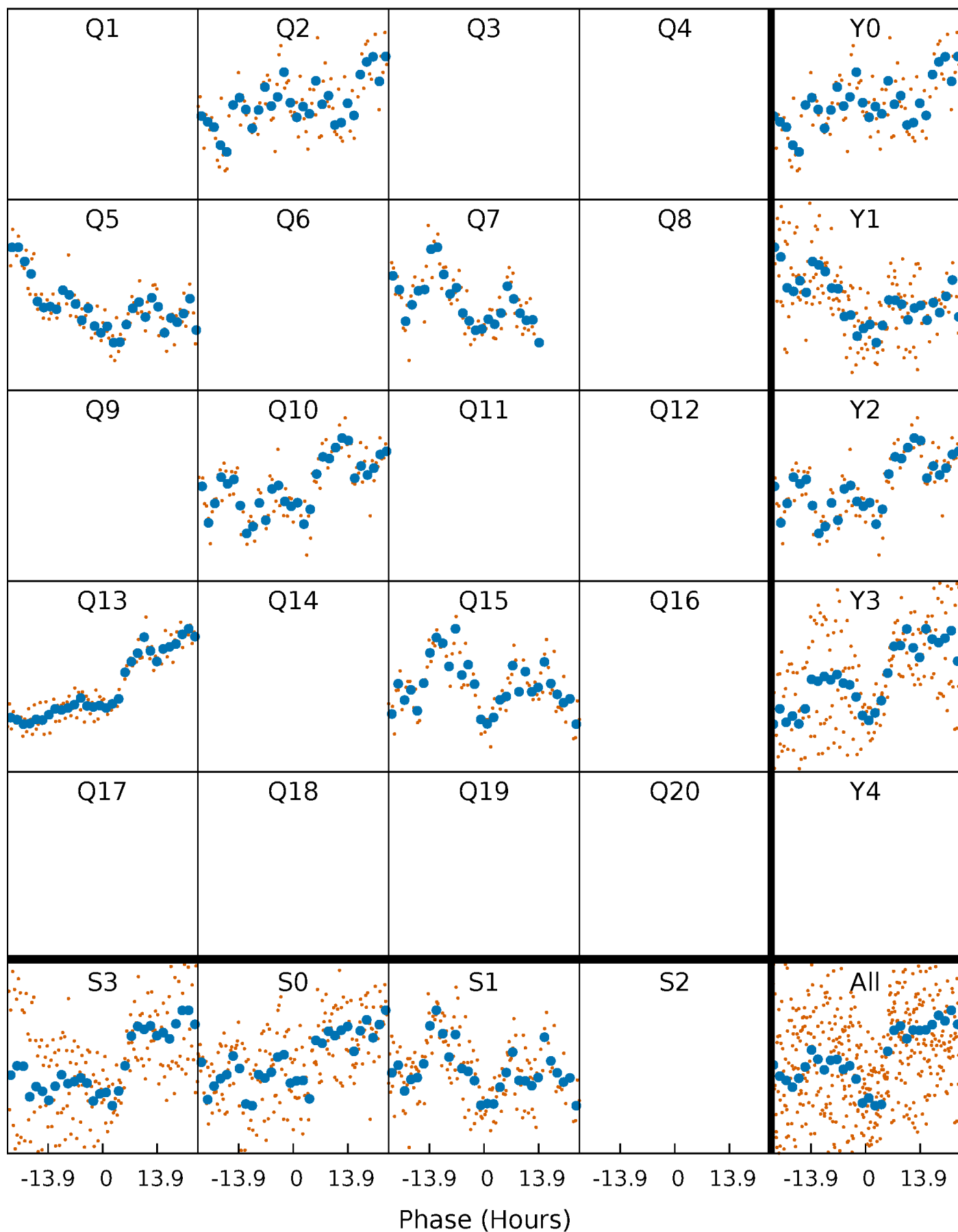


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



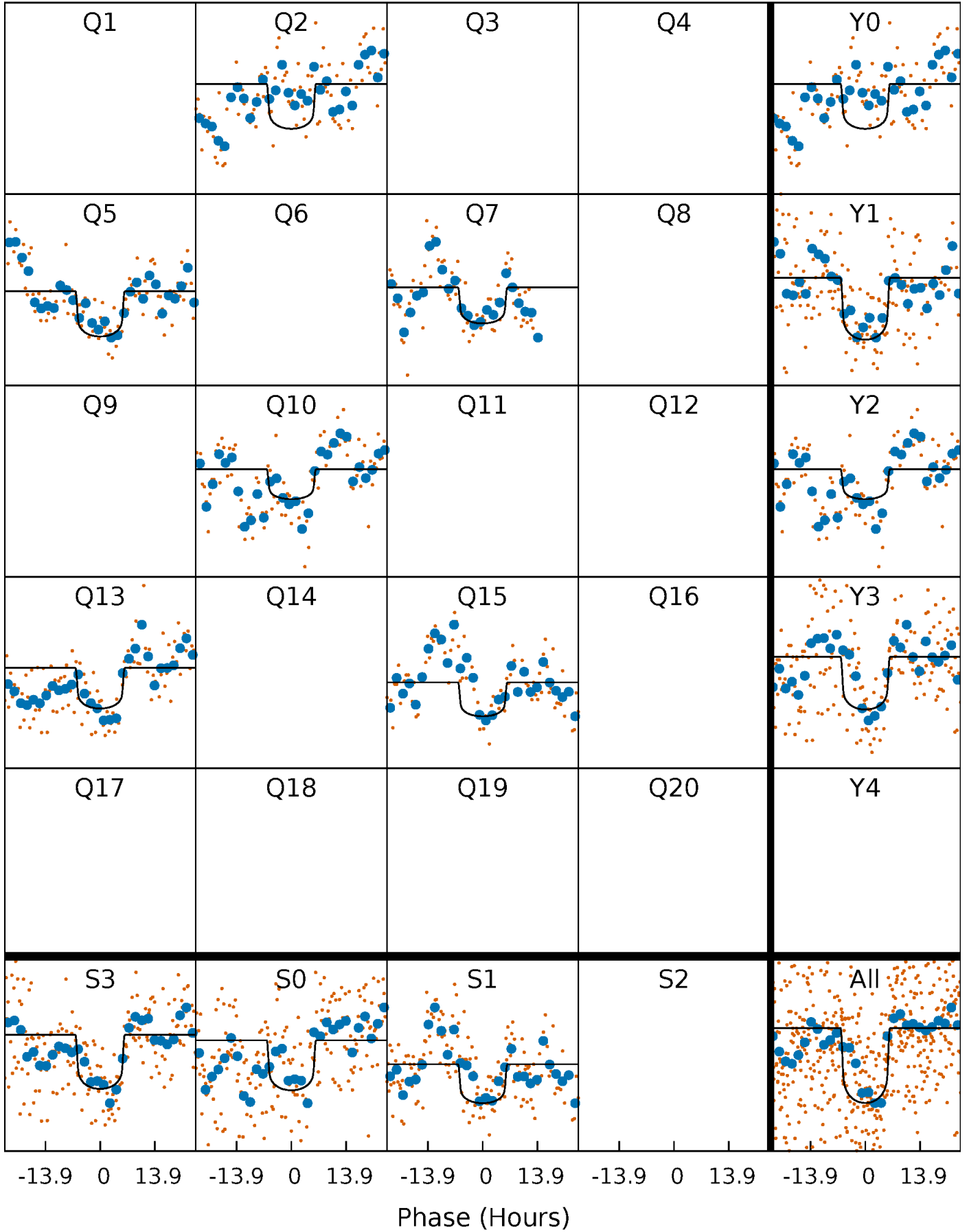
PDC Quarter-Phased Transit Curves

TCE 010198937-01 P=237.238351 Days $T_0=235.876241$ (BKJD)



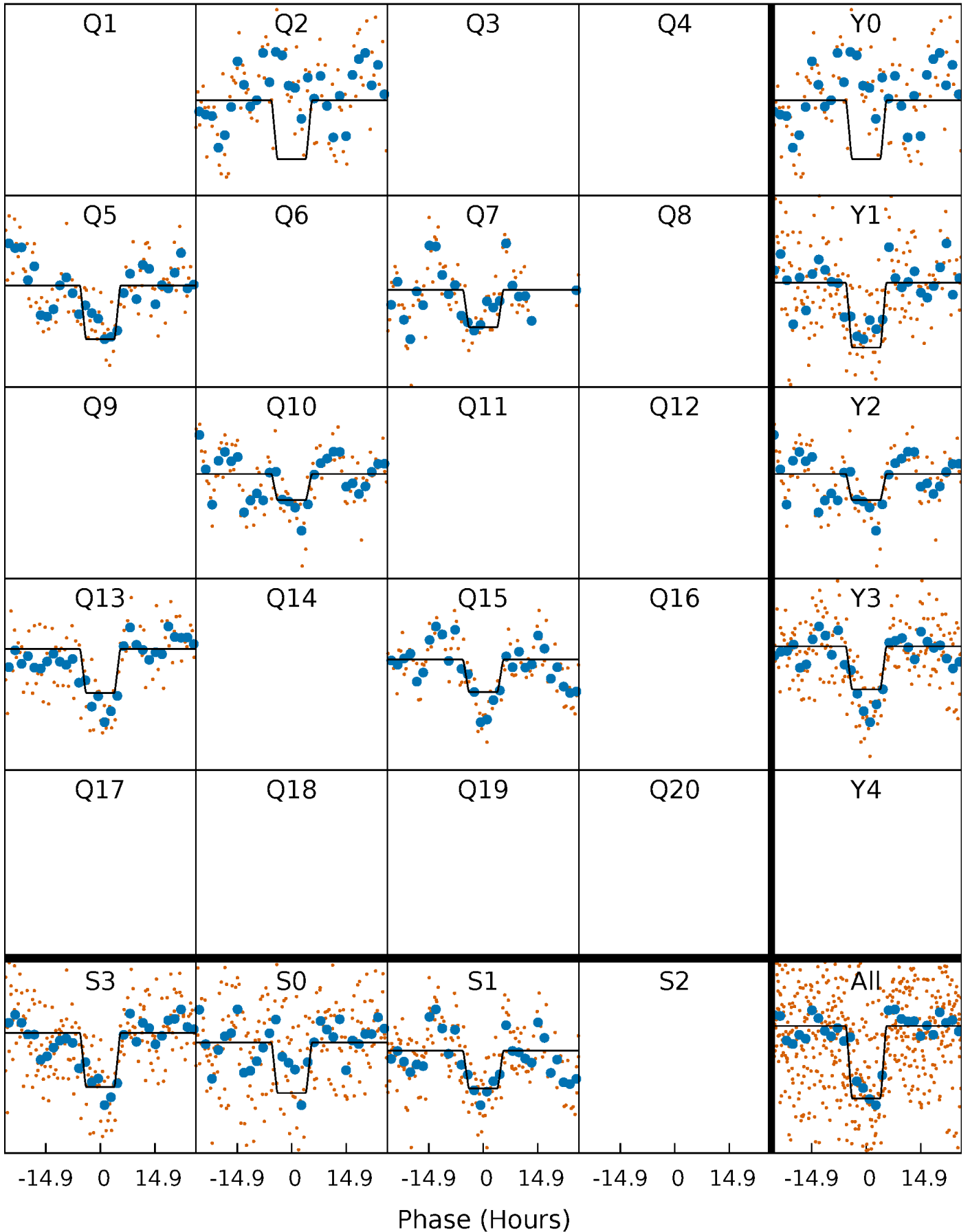
DV Quarter-Phased Transit Curves

TCE 010198937-01 P=237.238351 Days $T_0=235.876241$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

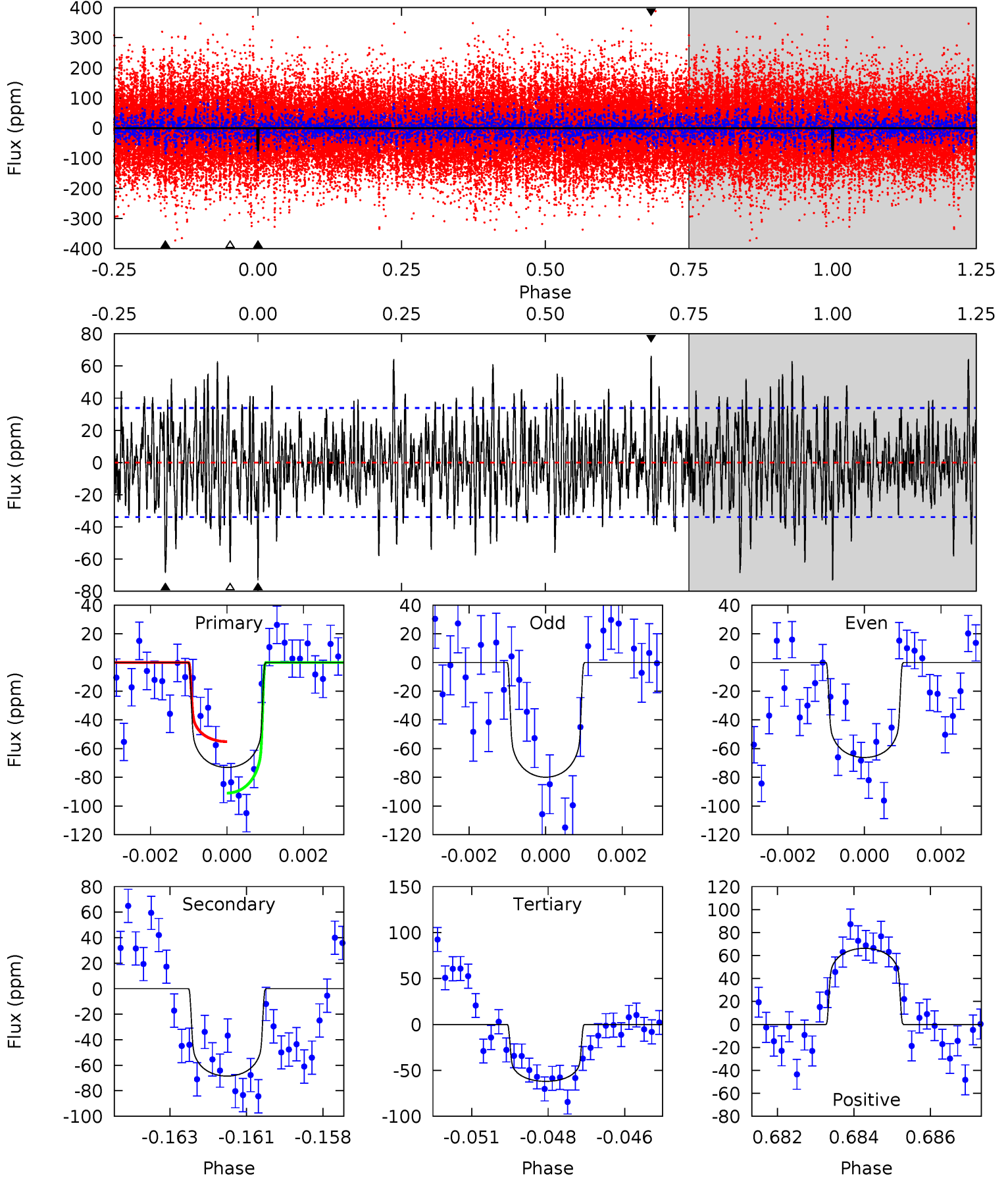
TCE 010198937-01 $P=237.240443$ Days $T_0=235.893875$ (BKJD)



DV Model-Shift Uniqueness Test

010198937-01, P = 237.238351 Days, E = 235.876241 Days

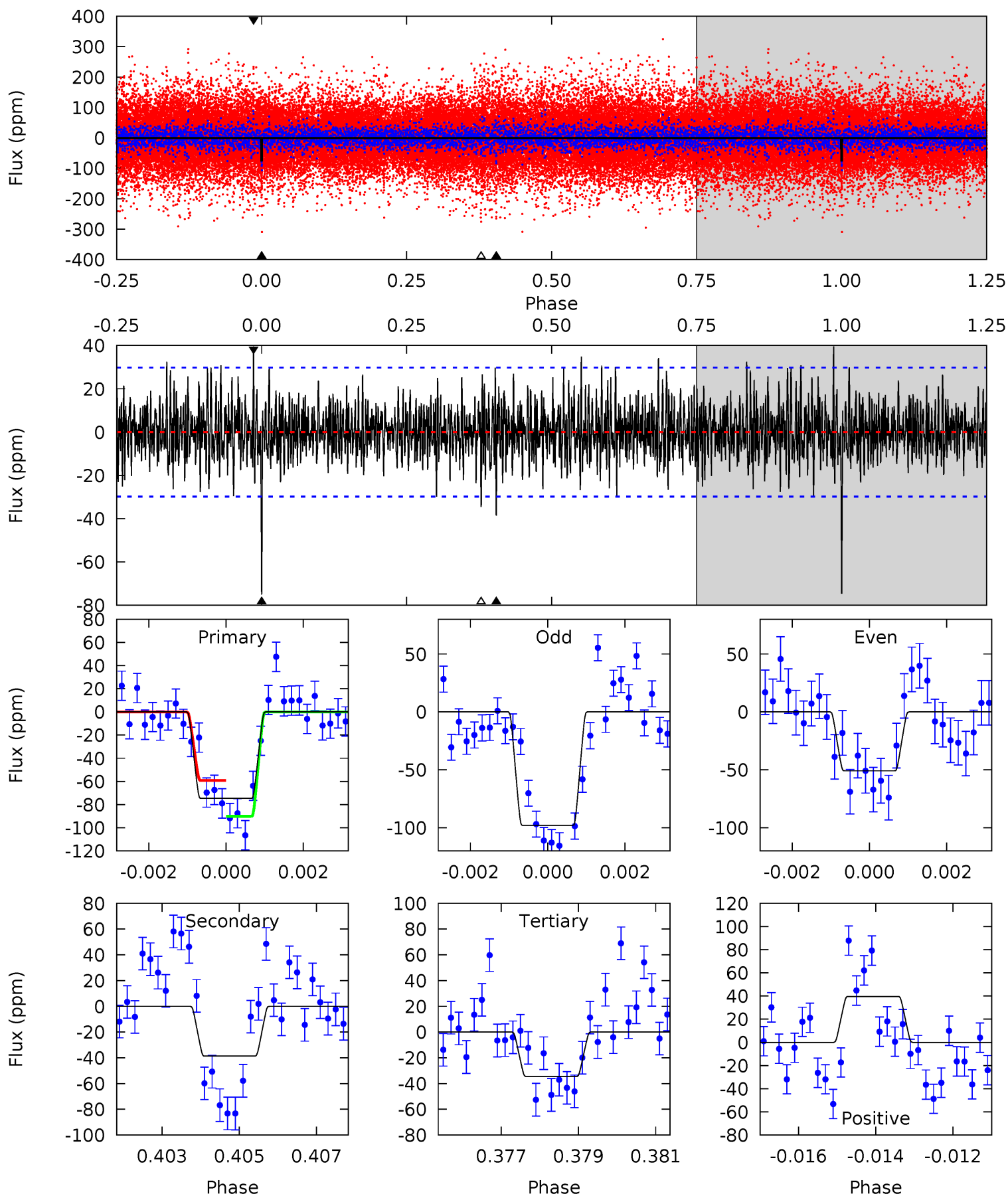
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	10.7	9.70	10.4	5.31	3.06	3.09	1.75	1.08	1.02	0.35	1.07	0.94	0.48	2.82



Alt Model-Shift Uniqueness Test

010198937-01, P = 237.240443 Days, E = 235.893875 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.4	6.90	6.17	7.08	5.33	3.09	1.81	7.18	6.27	0.73	-0.18	4.21	0.84	0.35	2.77



Stellar Parameters For KIC 010198937

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6795^{+189}_{-283}	$4.141^{+0.153}_{-0.187}$	$0.080^{+0.200}_{-0.350}$	$1.691^{+0.548}_{-0.365}$	$1.442^{+0.208}_{-0.231}$	$0.420^{+0.336}_{-0.215}$
	+3%/-4%	+4%/-5%	+250%/-438%	+32%/-22%	+14%/-16%	+80%/-51%
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 010198937-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-68 ± 6	$1.87^{+0.44}_{-0.35}$	591^{+47}_{-39}	6078^{+546}_{-446}	7529^{+4003}_{-2472}
Alt.	-39 ± 6	$1.74^{+0.39}_{-0.33}$	591^{+48}_{-44}	5498^{+473}_{-421}	5022^{+2532}_{-1789}

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

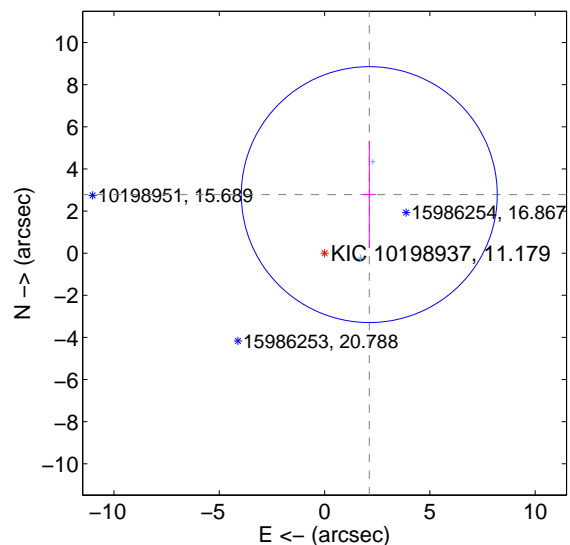
Supplemental centroid analysis for 010198937-01. **Kepler magnitude: 11.18.** Transit SNR 7.97

There are 2 quarters with good PRF difference image offsets

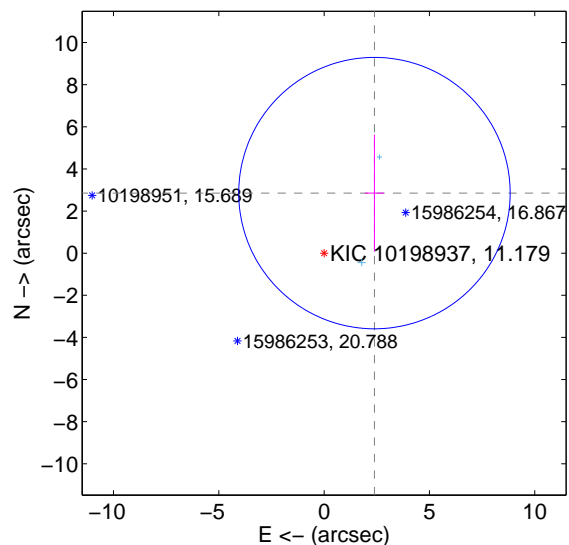
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.498 ± 2.025	1.73	-2.124 ± 0.307	2.780 ± 2.537
PRF-fit source offset from KIC position	3.721 ± 2.148	1.73	-2.389 ± 0.449	2.852 ± 2.776
photometric centroid source offset	0.97 ± 0.94	1.03	-0.88 ± 0.88	0.40 ± 1.21

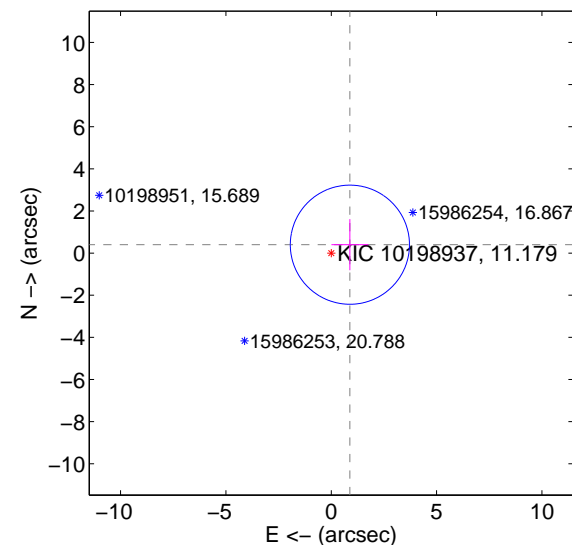
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

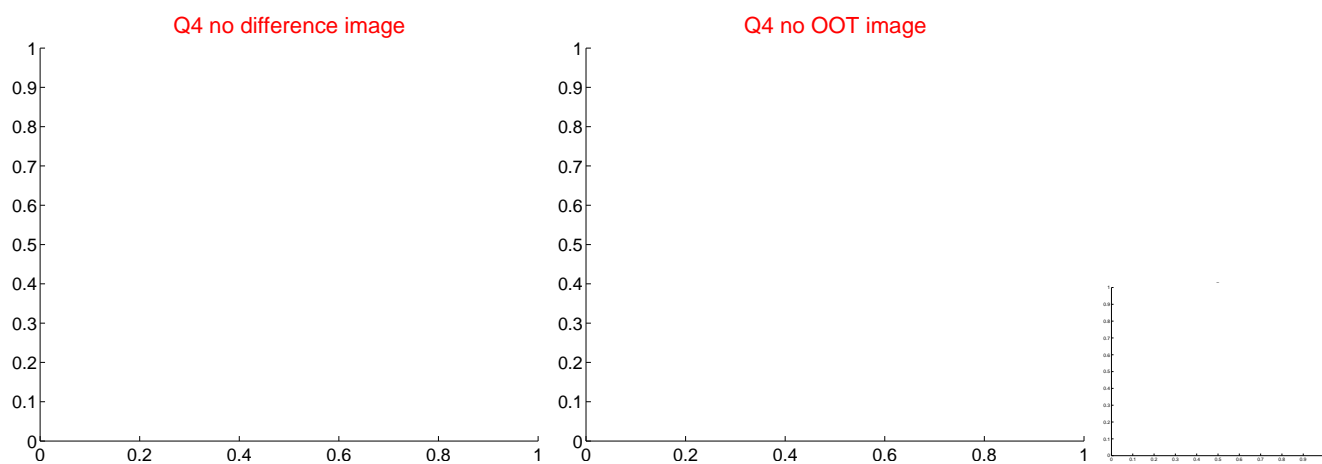
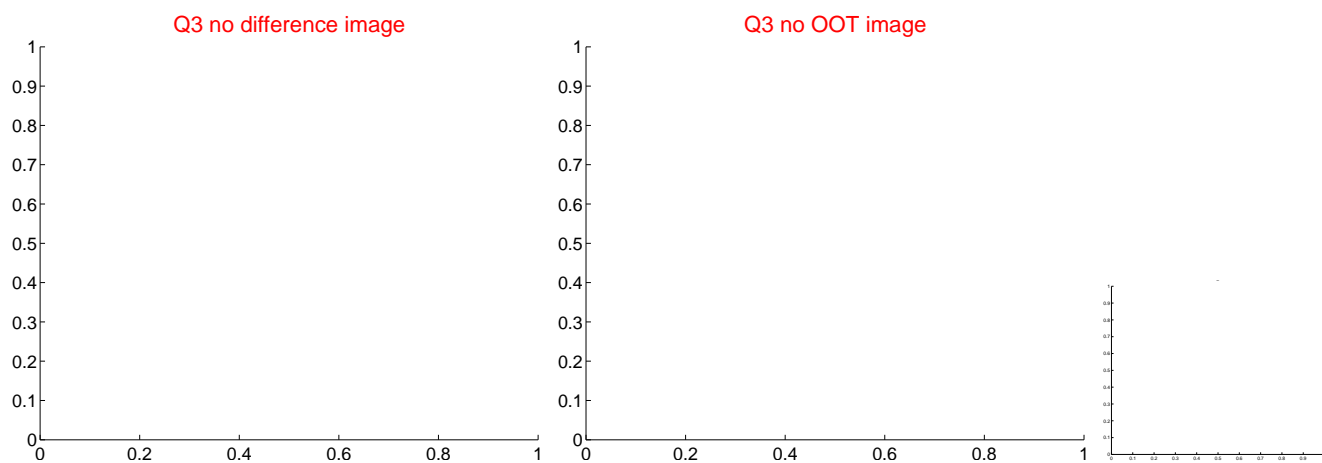
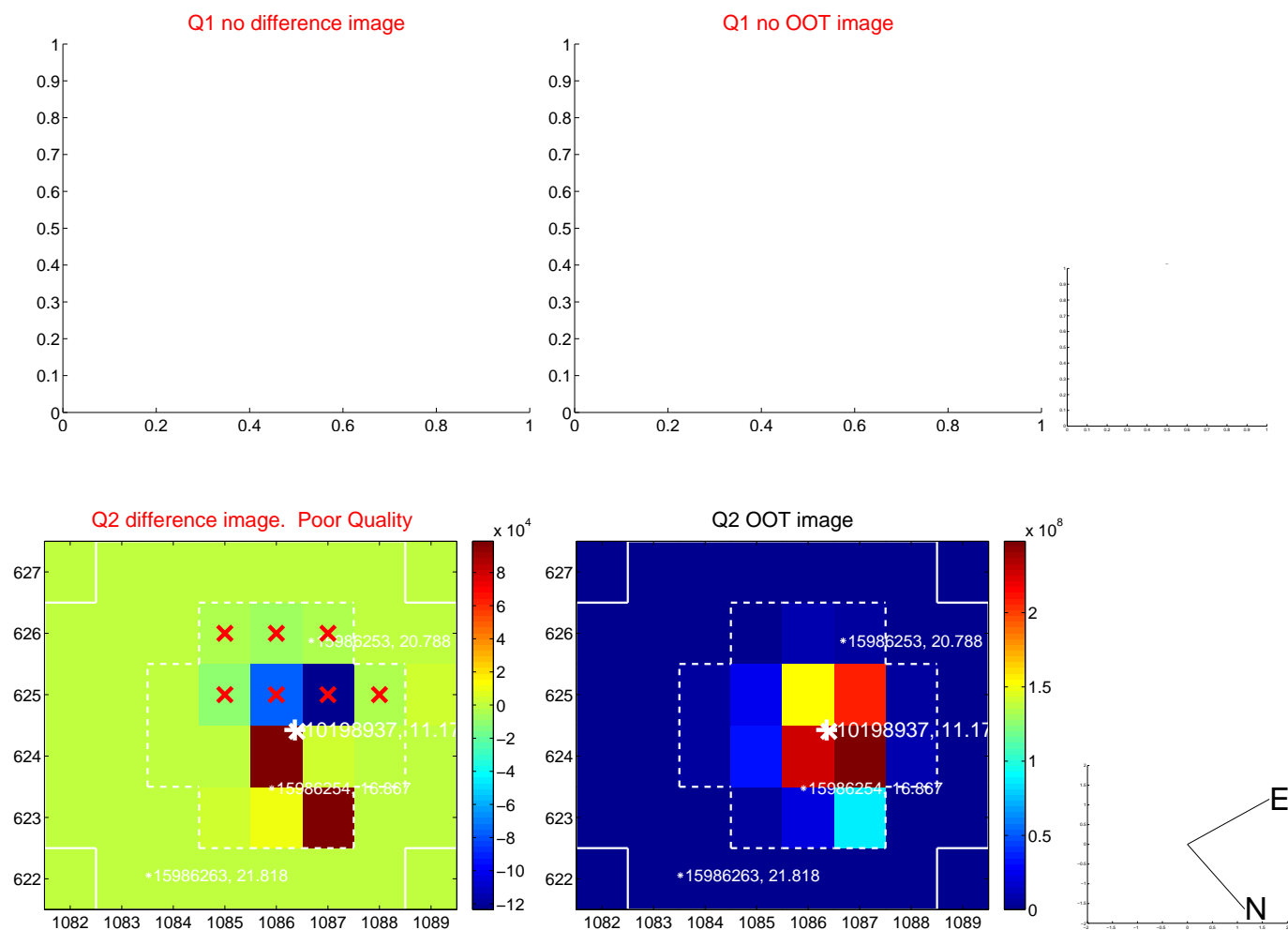


offset from photometric centroids

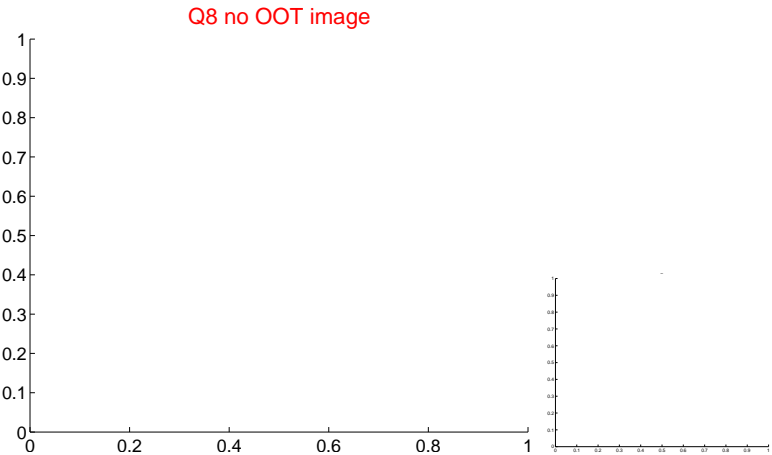
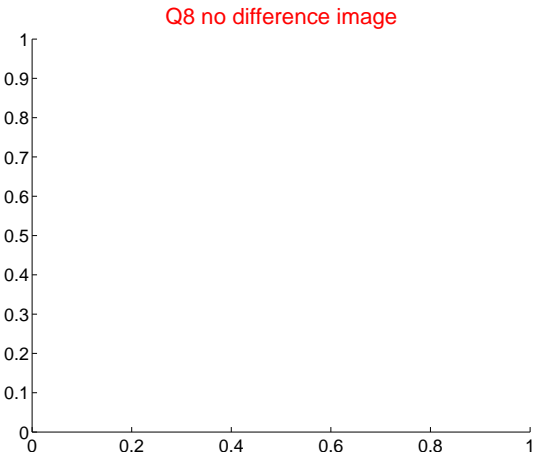
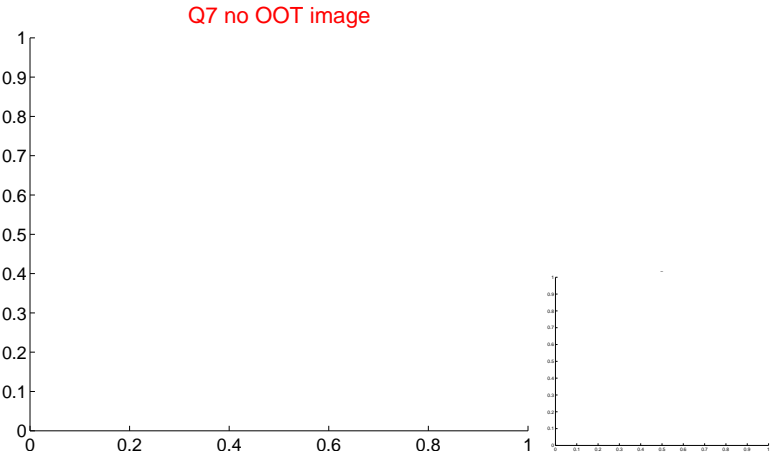
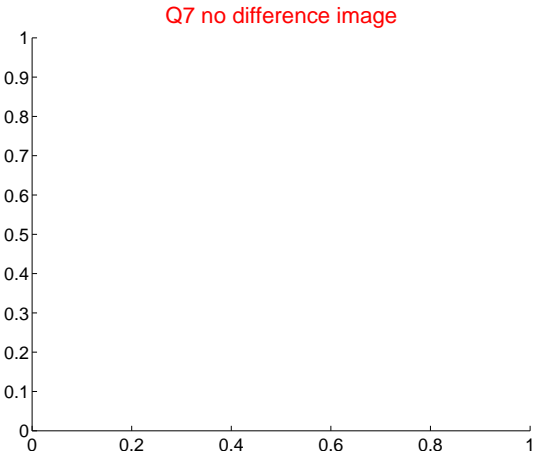
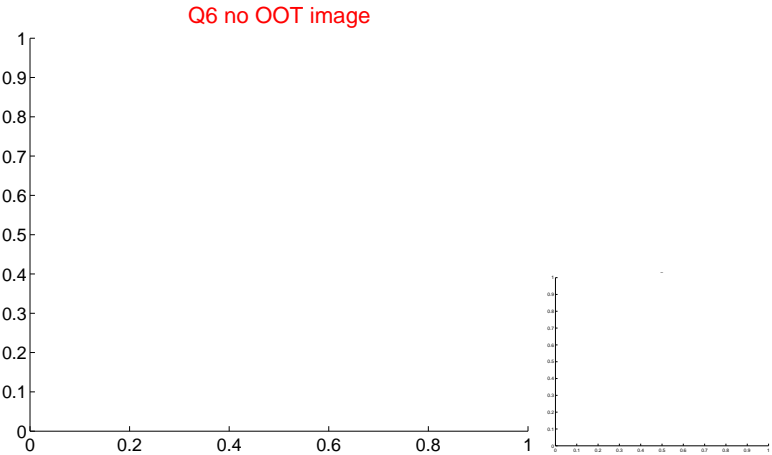
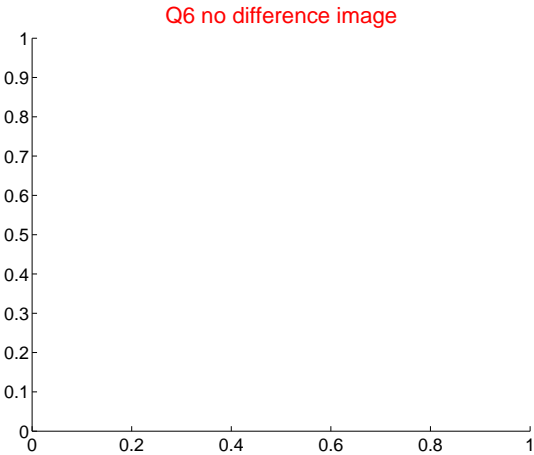
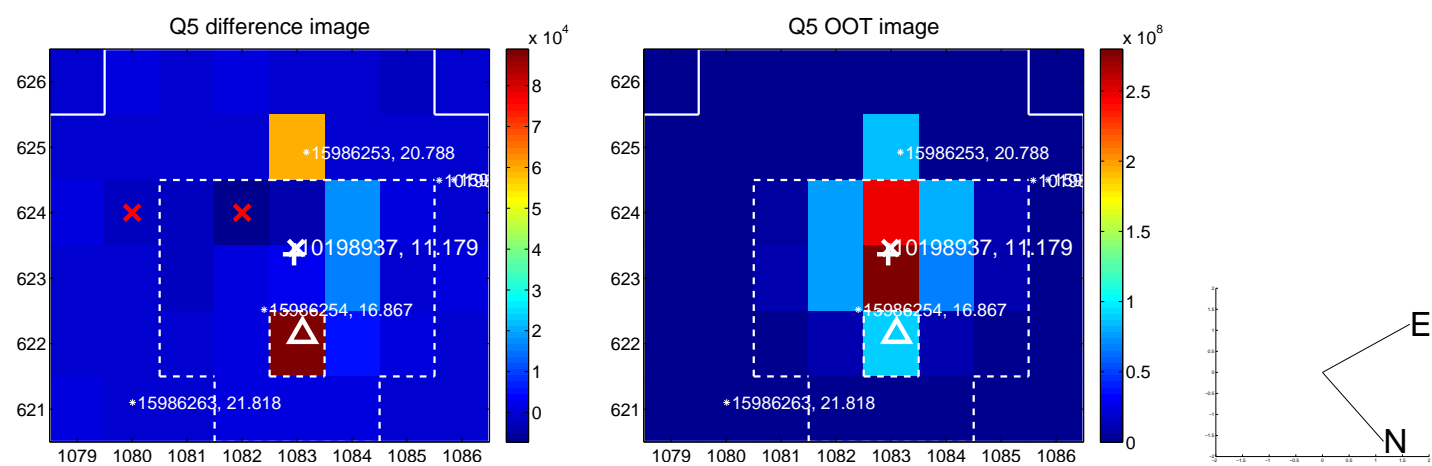


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

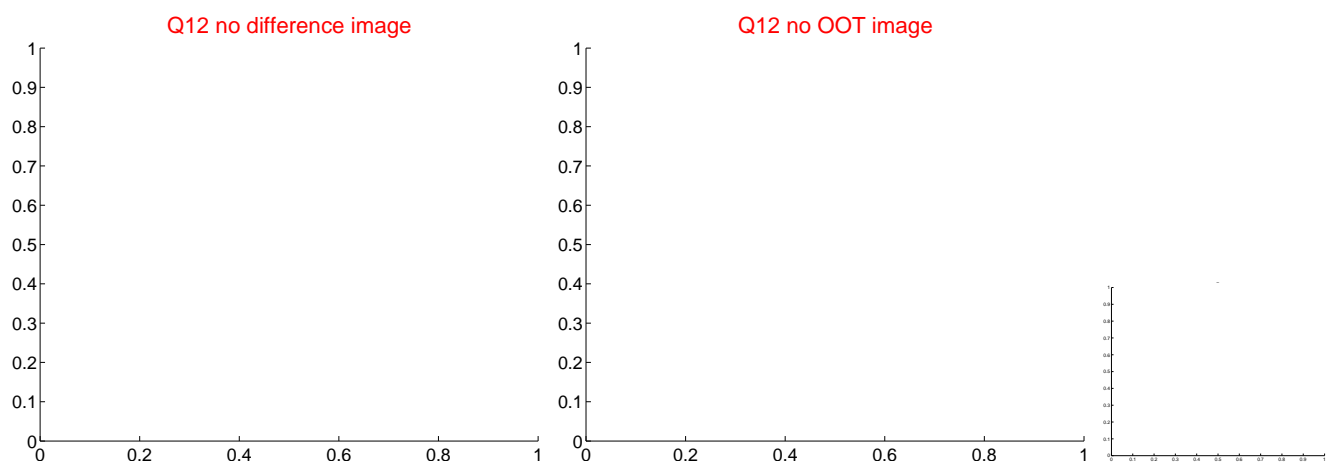
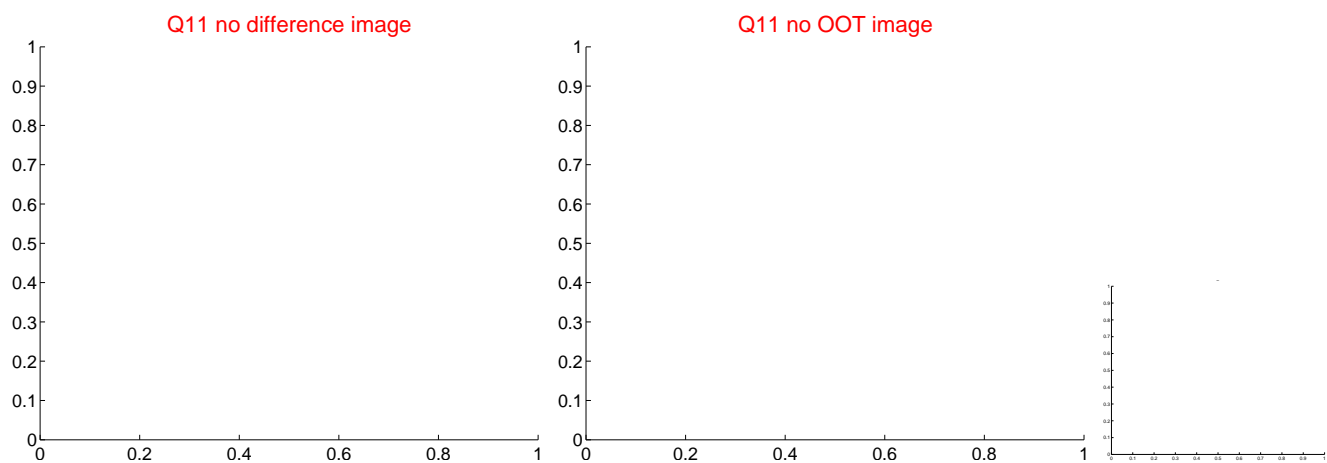
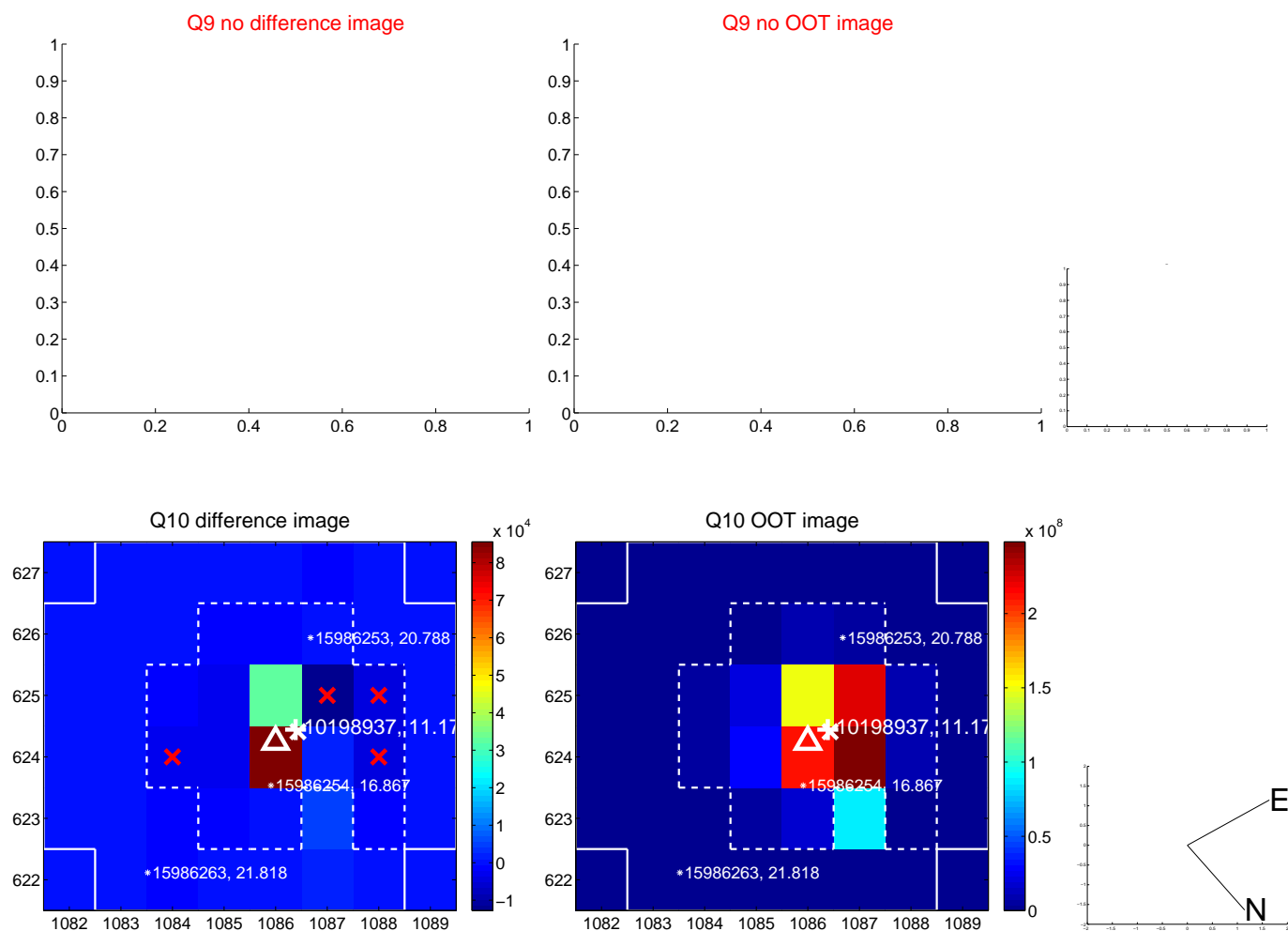
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



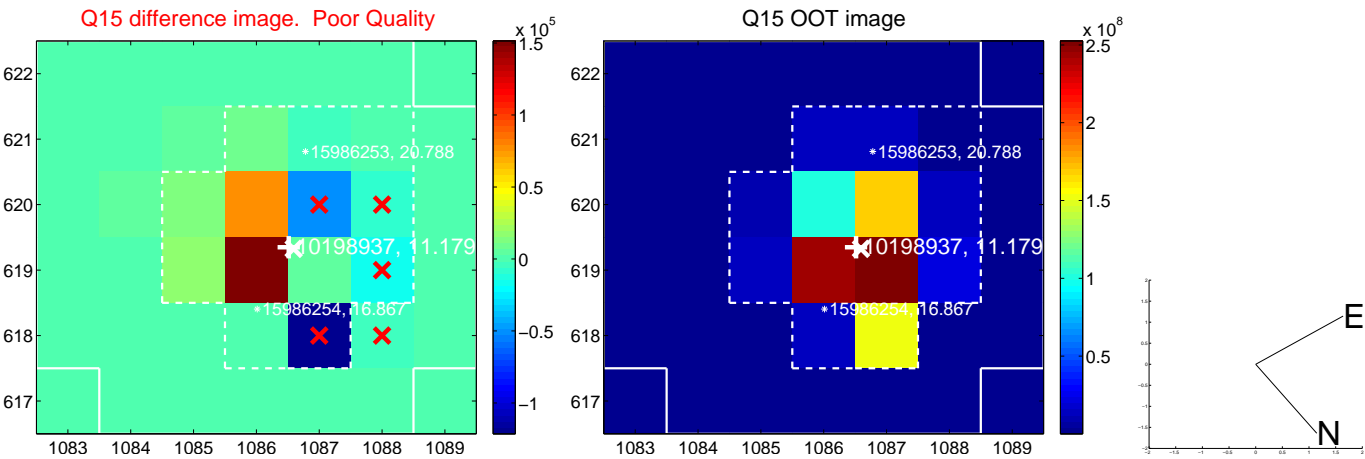
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



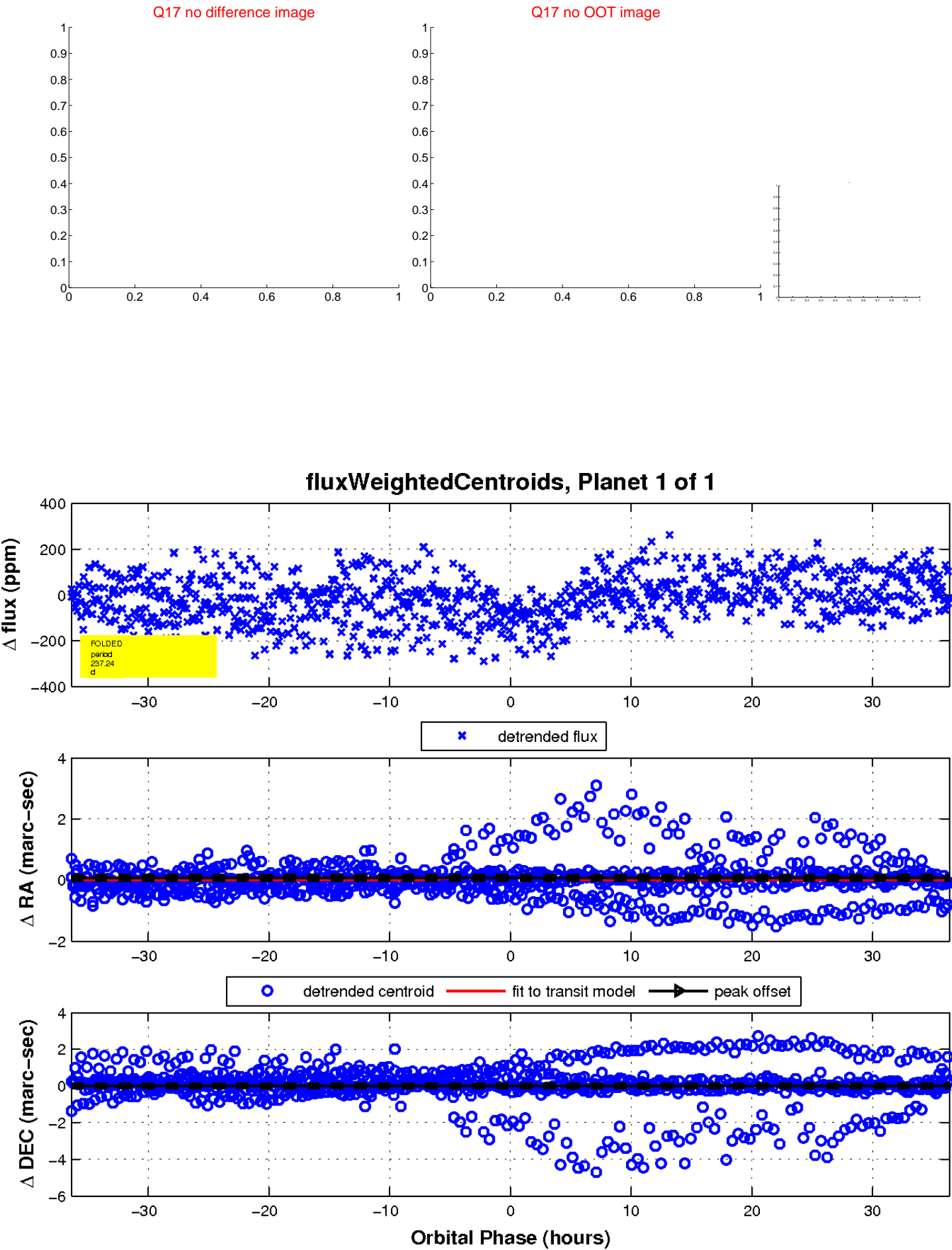
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



white ×: 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.



UKIRT Image

