

KIC 010547378

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})
010547378-01	OBS	5802.01	35.161168	147.911896	1022.1	68.282	12.6	33.9	2.09	5485	13.10	77.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010547378-01	OBS	FP	0.00	0	1	0	0	MOD_ODDEVEN_DV—DEEP_V_SHAPED

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

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

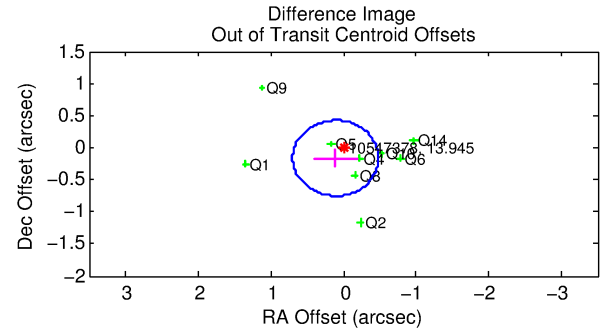
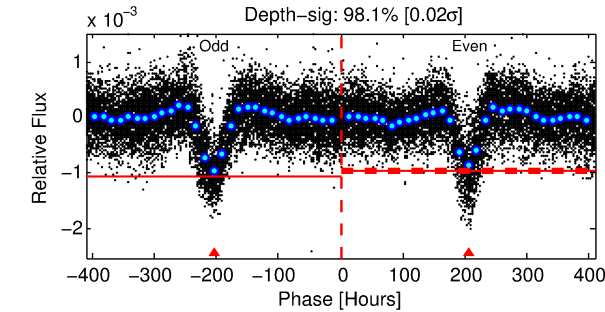
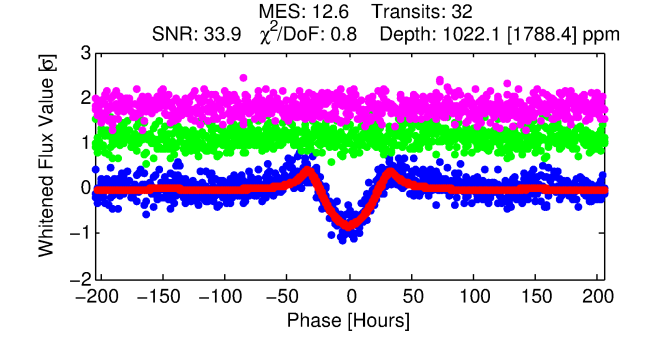
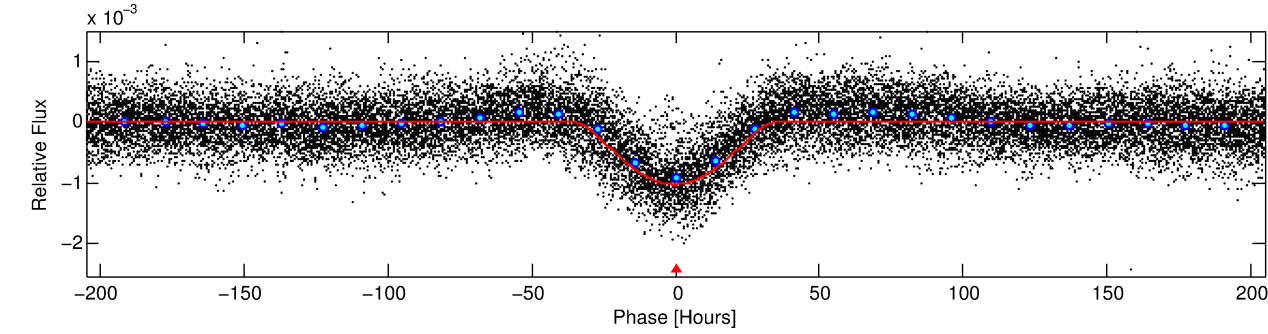
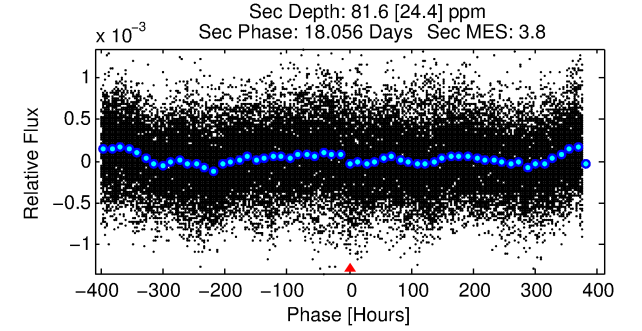
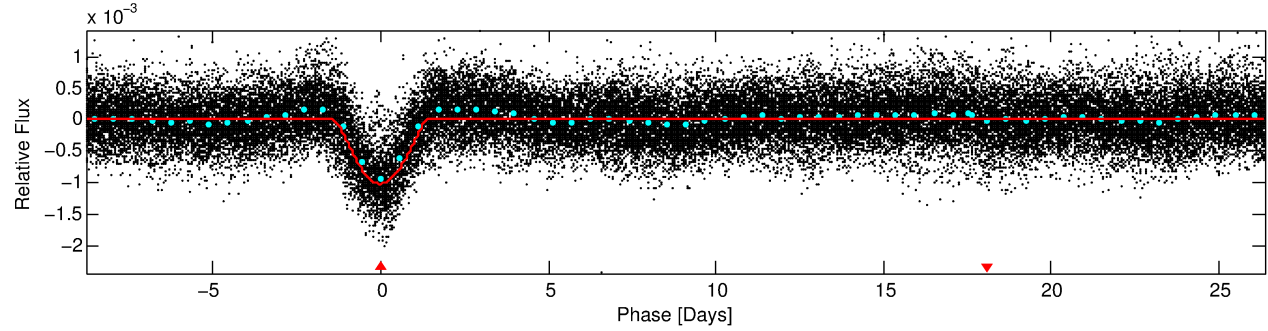
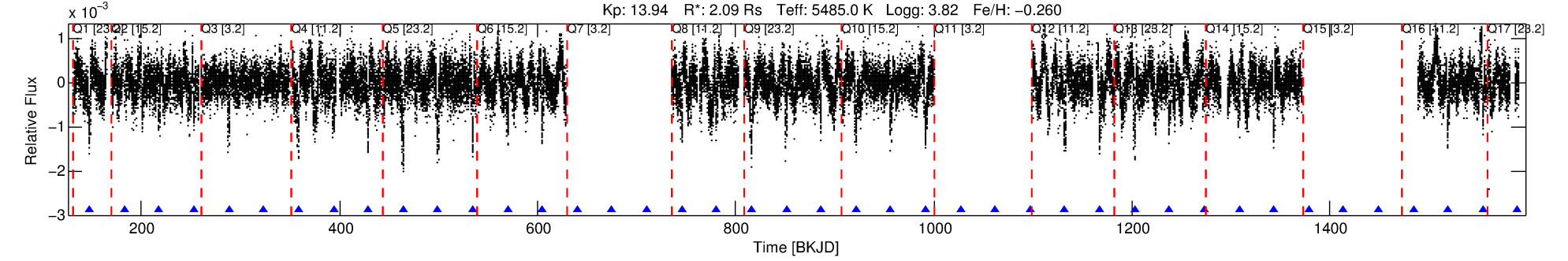
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010547378-01

No Significant Match Found

DV One-Page Summary

KIC: 10547378 Candidate: 1 of 1 Period: 35.161 d
KOI: K05802.01 Corr: 0.848



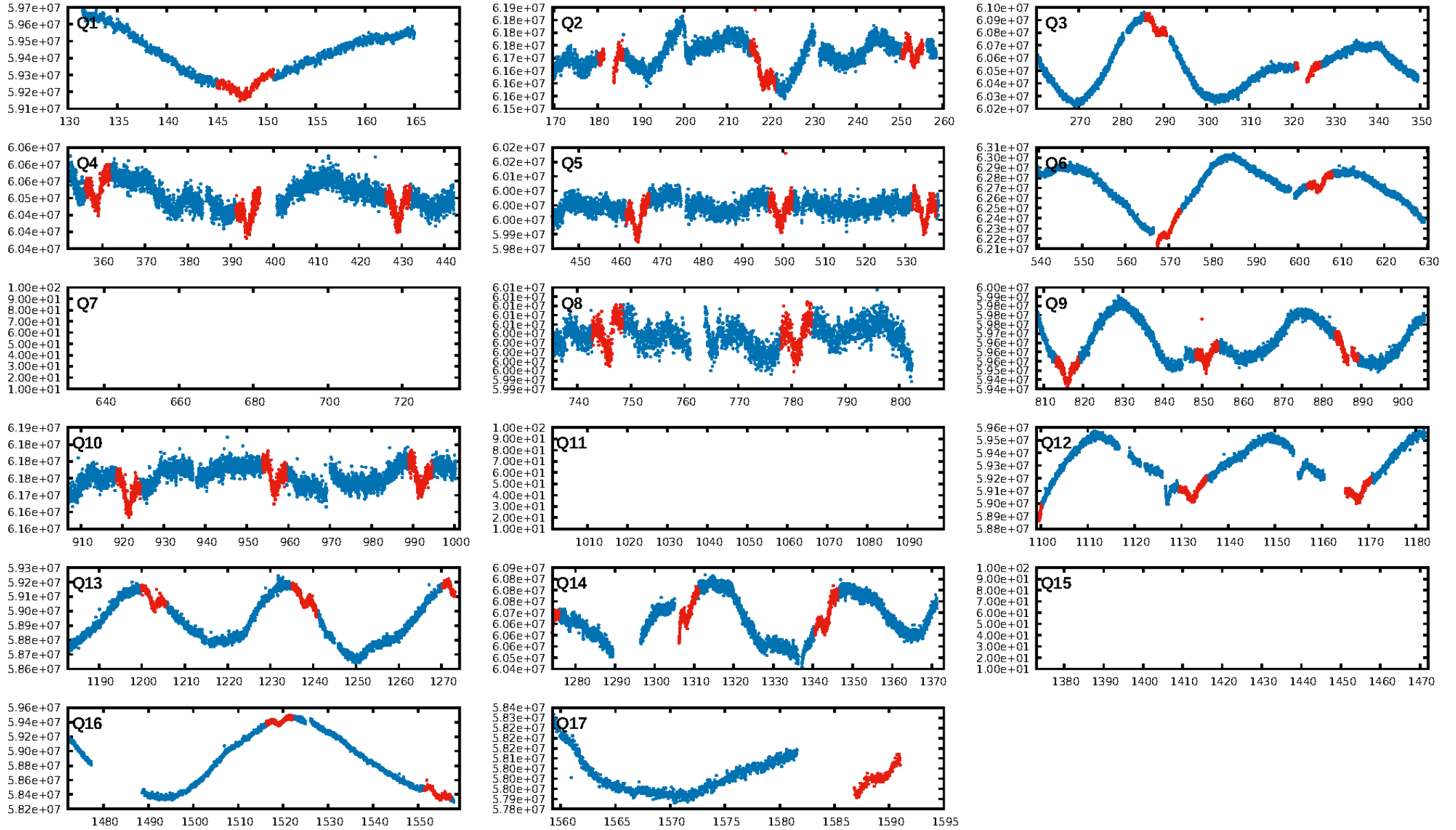
DV Fit Results:

Period = 35.16117 [0.00134] d
Epoch = 147.9119 [0.0303] BKJD
Rp/R* = 0.0575 [0.0264]
a/R* = 1.69 [0.09]
b = 1.00 [0.03]
Seff = 77.48 [85.28]
Teq = 757 [208] K
Rp = 13.10 [9.56] Re
a = 0.2135 [0.1359] AU
Ag = 11.92 [17.37] [0.63 σ]
Teffp = 2173 [530] K [2.49 σ]

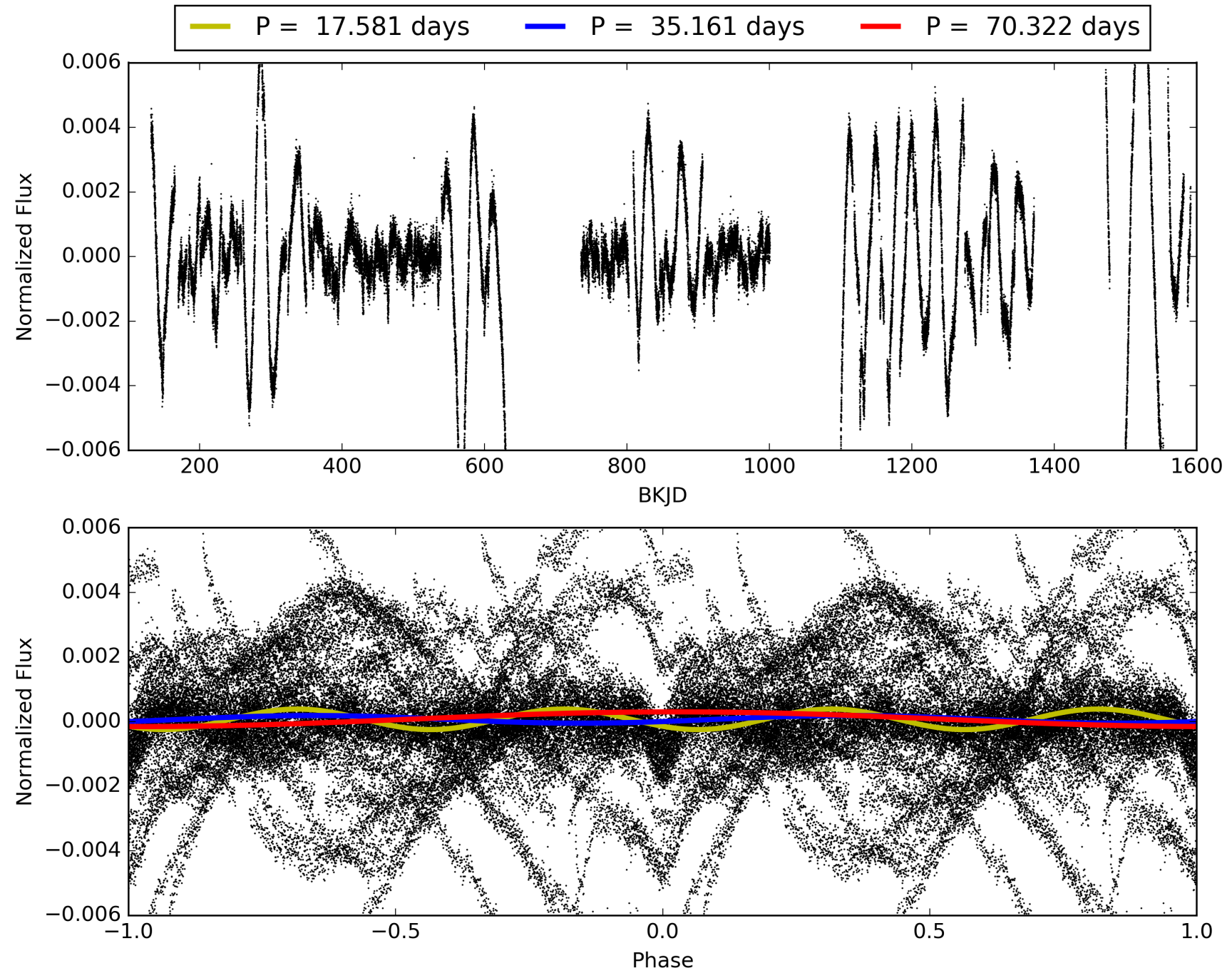
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.49e-37
RollingBand-fgt: 1.00 [30/30]
GhostDiagnostic-chr: 0.5808
Centroid-sig: 91.2%
Centroid-so: 0.263 arcsec [3.43 σ]
OotOffset-rm: 0.197 arcsec [1.01 σ]
KicOffset-rm: 0.171 arcsec [0.89 σ]
OotOffset-st: 4/0/2/3 [9]
KicOffset-st: 4/0/2/3 [9]
DiffImageQuality-fgm: 1.00 [9/9]
DiffImageOverlap-fno: 1.00 [9/9]

TCE 010547378-01, PDC Light Curves

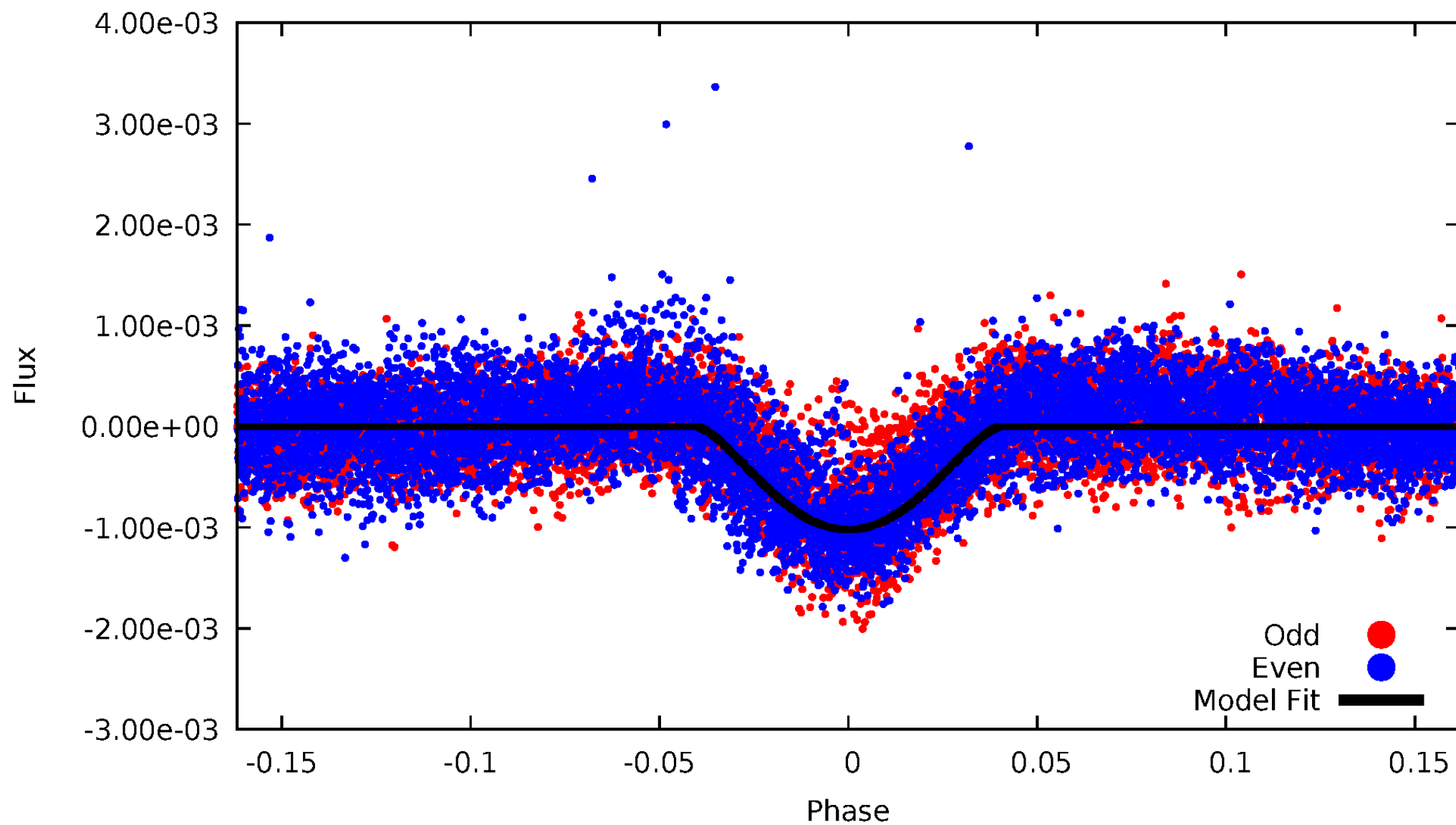


TCE 010547378-01



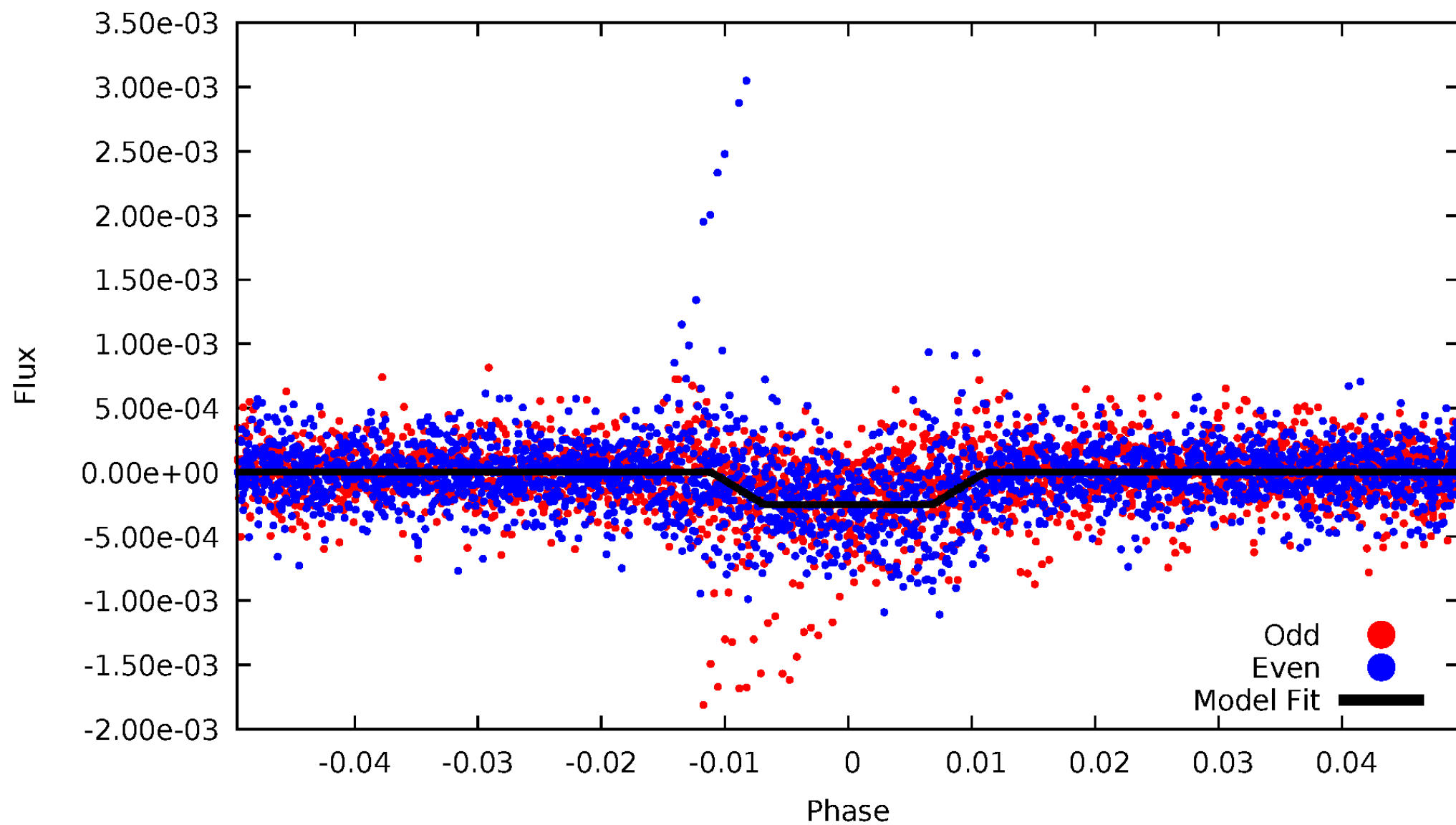
DV Odd/Even

TCE 010547378-01

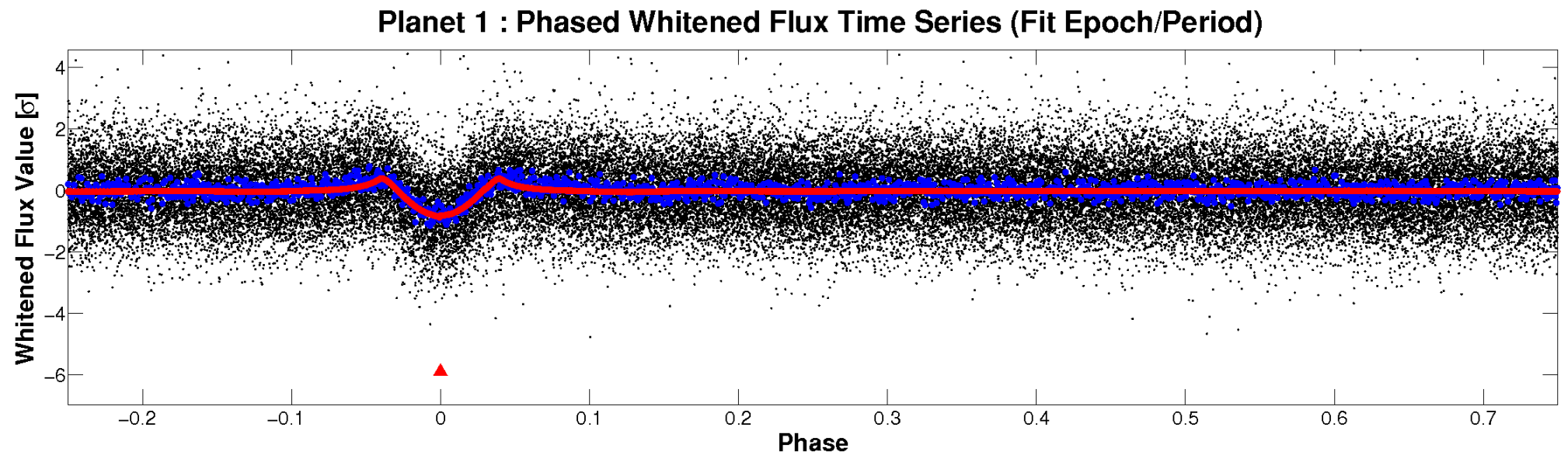
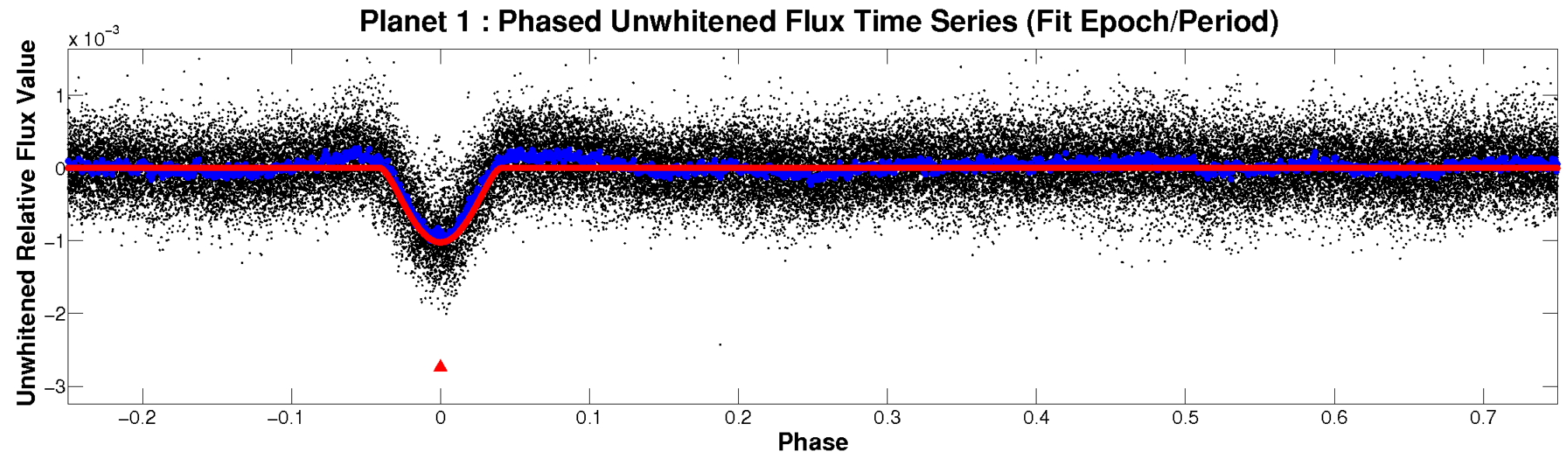


ALT Odd/Even

TCE 010547378-01

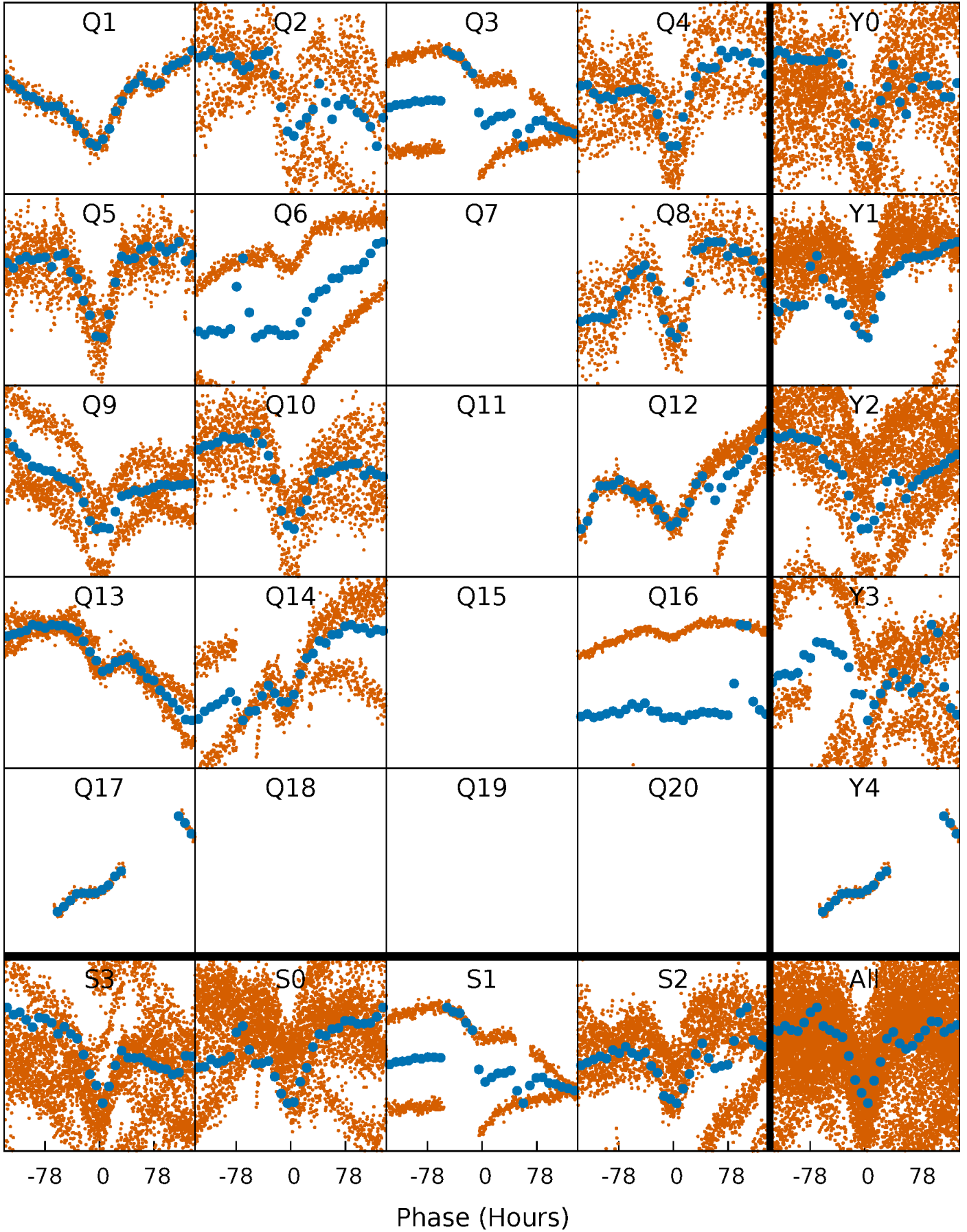


Non-Whitened Vs. Whitened Light Curve



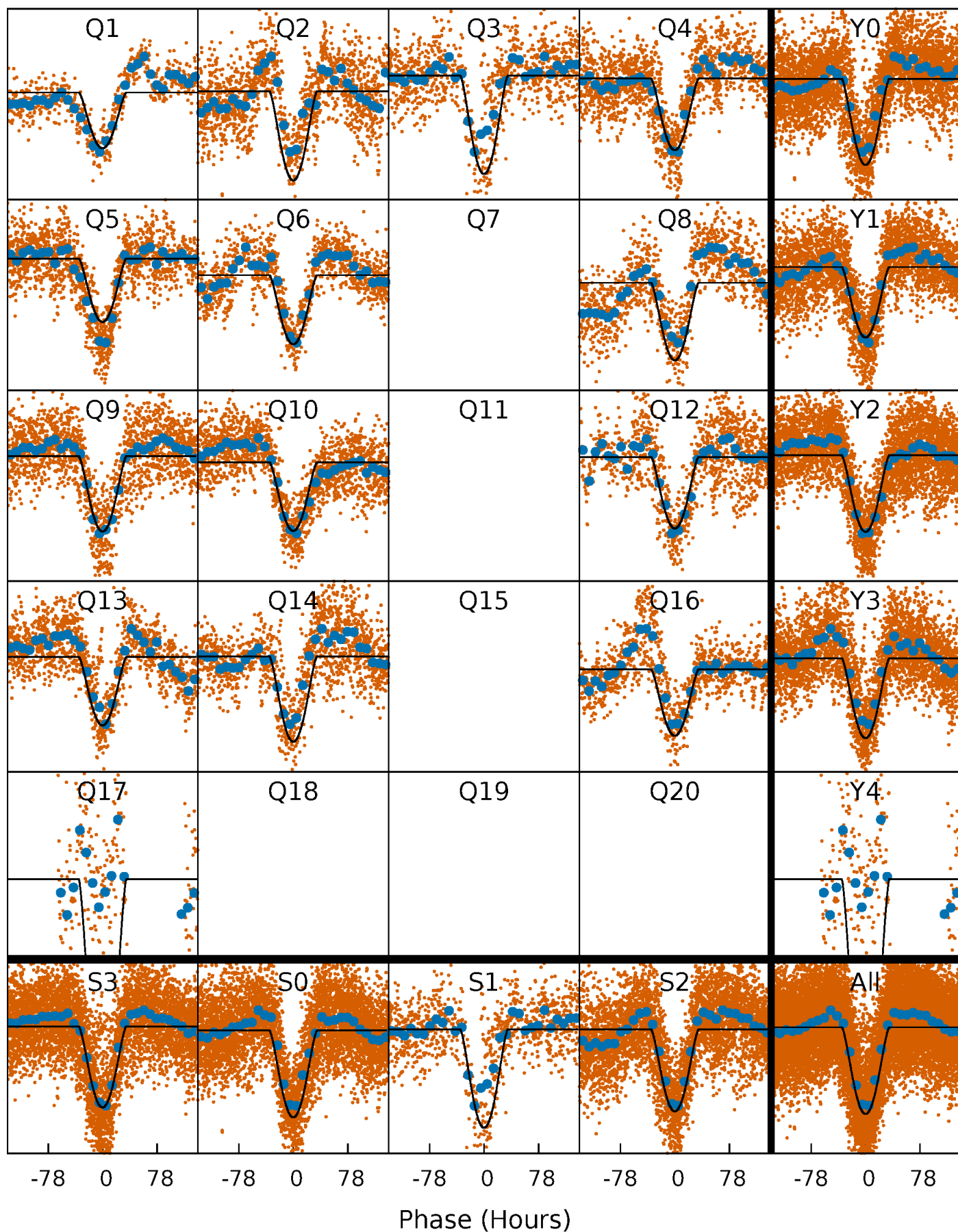
PDC Quarter-Phased Transit Curves

TCE 010547378-01 P= 35.161168 Days $T_0=147.911896$ (BKJD)



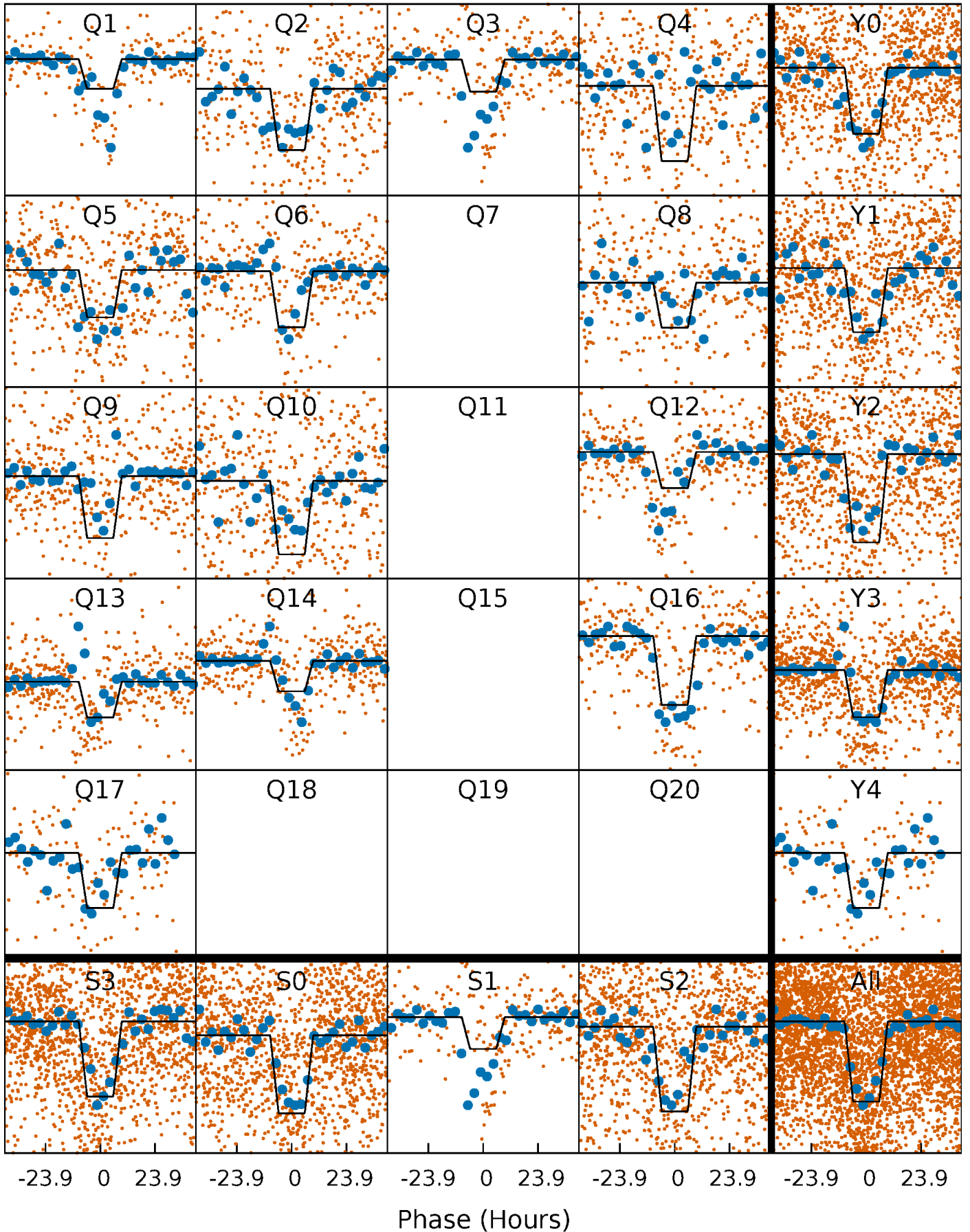
DV Quarter-Phased Transit Curves

TCE 010547378-01 P= 35.161168 Days $T_0=147.911896$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

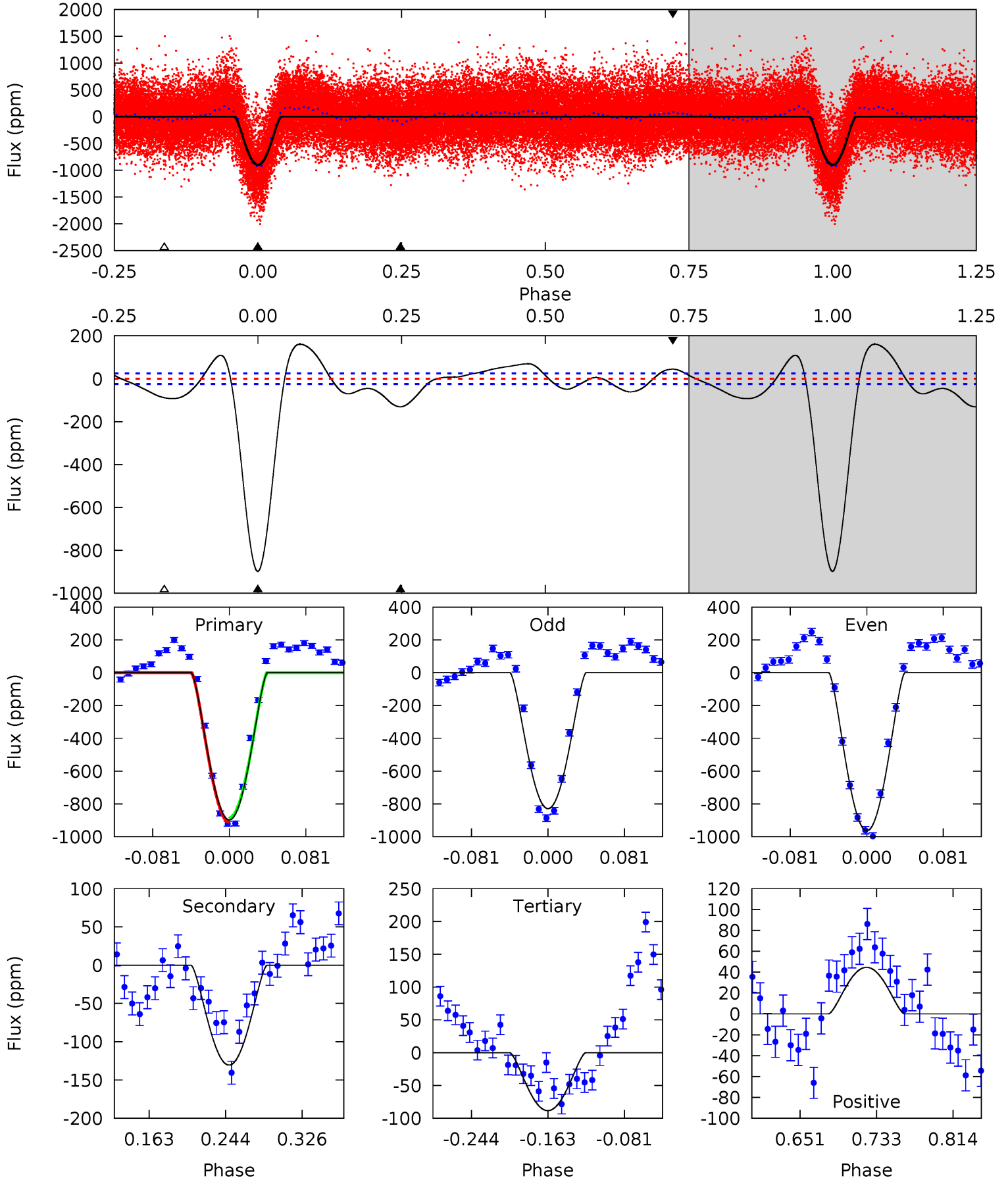
TCE 010547378-01 P= 35.157222 Days $T_0=148.172925$ (BKJD)



DV Model-Shift Uniqueness Test

010547378-01, P = 35.161168 Days, E = 112.750728 Days

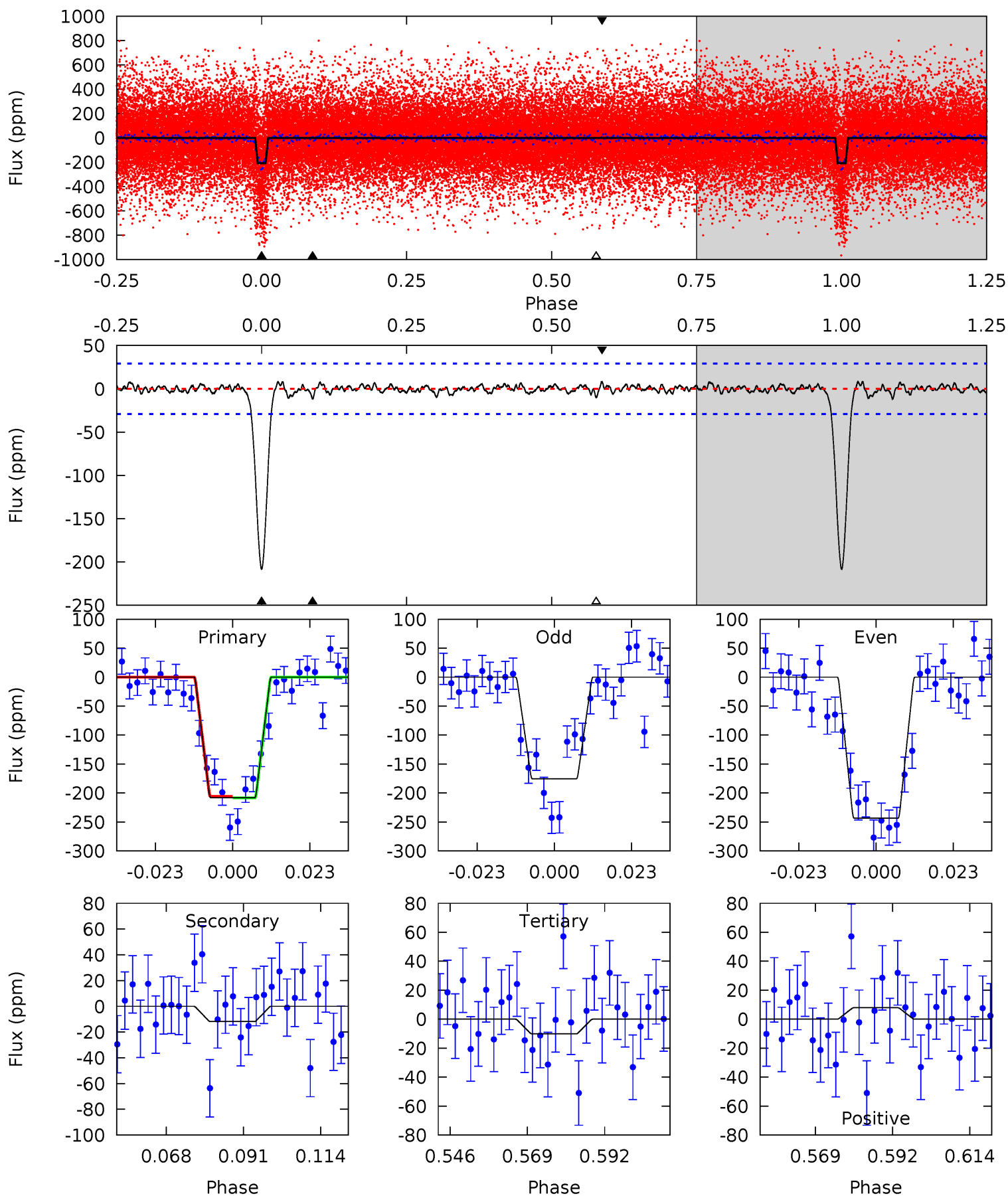
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
167.8	24.4	16.5	8.34	4.61	1.74	9.78	151.3	159.5	7.88	16.1	12.6	0.97	0.15	2.14



Alt Model-Shift Uniqueness Test

010547378-01, P = 35.157222 Days, E = 113.015703 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.8	1.98	1.70	1.32	4.87	2.28	0.55	33.1	33.5	0.28	0.66	5.68	0.20	0.04	0.19



Stellar Parameters For KIC 010547378

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5485^{+194}_{-155}	$3.820^{+0.667}_{-0.222}$	$-0.260^{+0.350}_{-0.250}$	$2.087^{+0.790}_{-1.184}$	$1.049^{+0.175}_{-0.213}$	$0.163^{+1.666}_{-0.090}$
	+4%/-3%	+17%/-6%	+135%/-96%	+38%/-57%	+17%/-20%	+1024%/-55%
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 010547378-01 / KOI 5802.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-131 ± 5	$11.61^{+7.83}_{-6.46}$	1032^{+119}_{-181}	3064^{+730}_{-312}	24^{+100}_{-15}
Alt.	-12 ± 6	$5.07^{+4.70}_{-3.52}$	1027^{+125}_{-164}	2724^{+1024}_{-466}	11^{+80}_{-8}

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

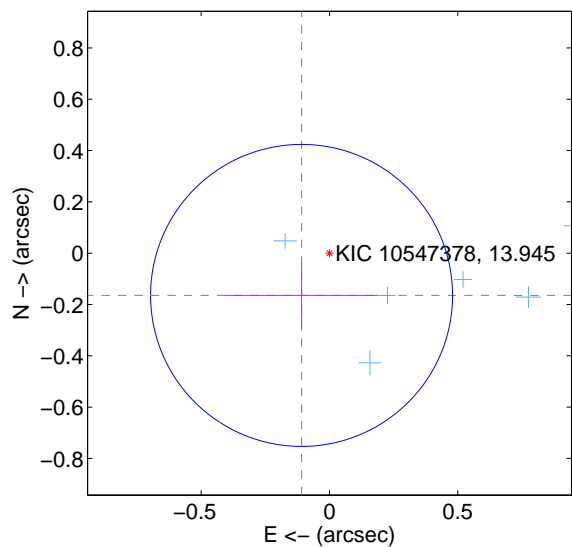
Supplemental centroid analysis for 010547378-01. Kepler magnitude: 13.95. Transit SNR 33.90

There are 9 quarters with good PRF difference image offsets

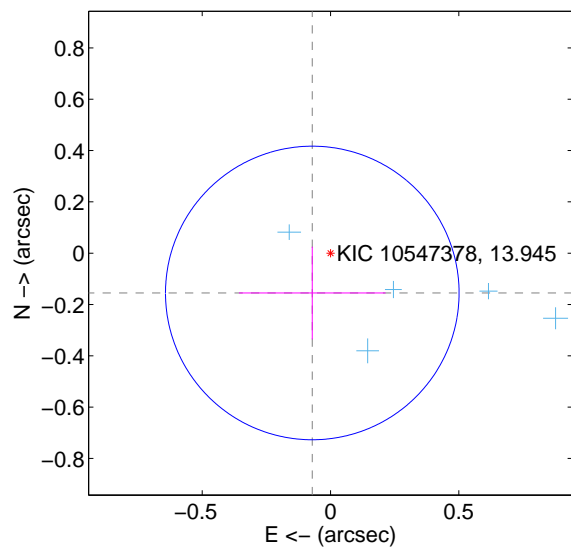
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.197 ± 0.196	1.01	0.109 ± 0.300	-0.165 ± 0.126
PRF-fit source offset from KIC position	0.171 ± 0.191	0.89	0.071 ± 0.286	-0.155 ± 0.180
photometric centroid source offset	0.26 ± 0.08	3.43	-0.25 ± 0.08	-0.07 ± 0.08

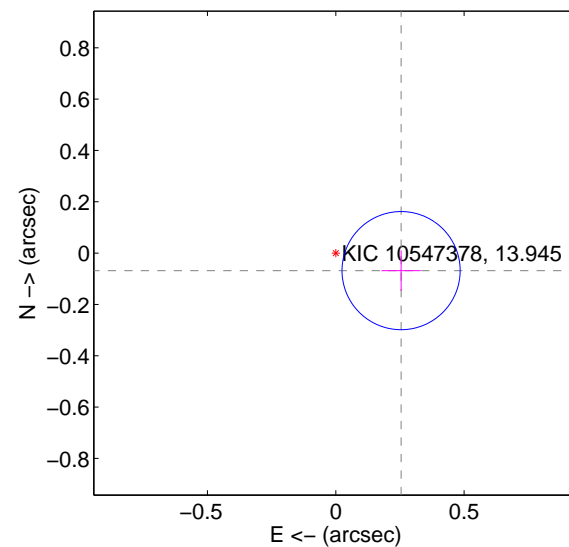
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

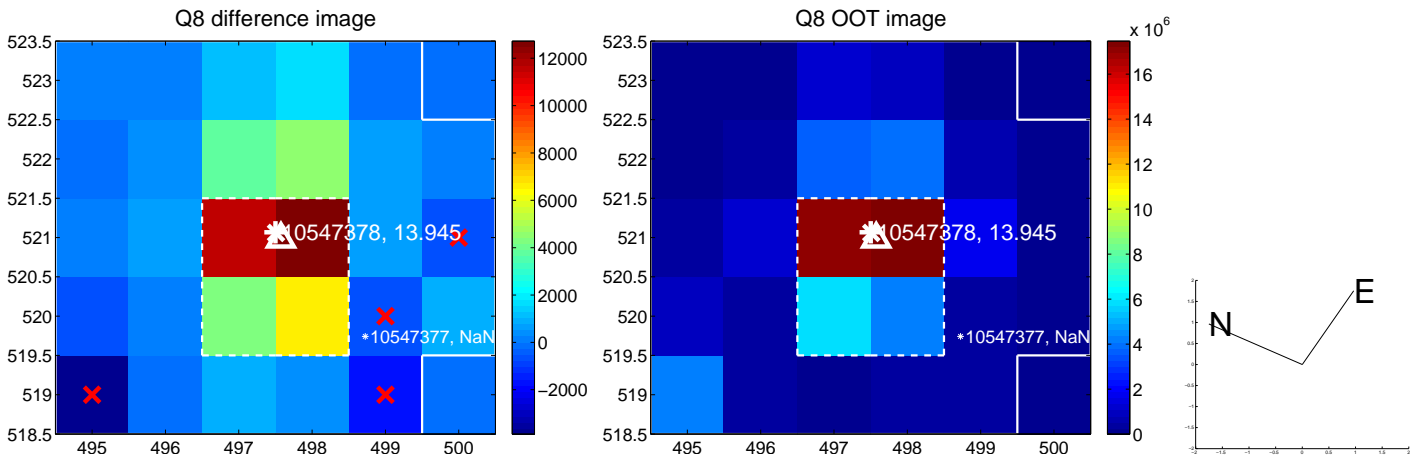
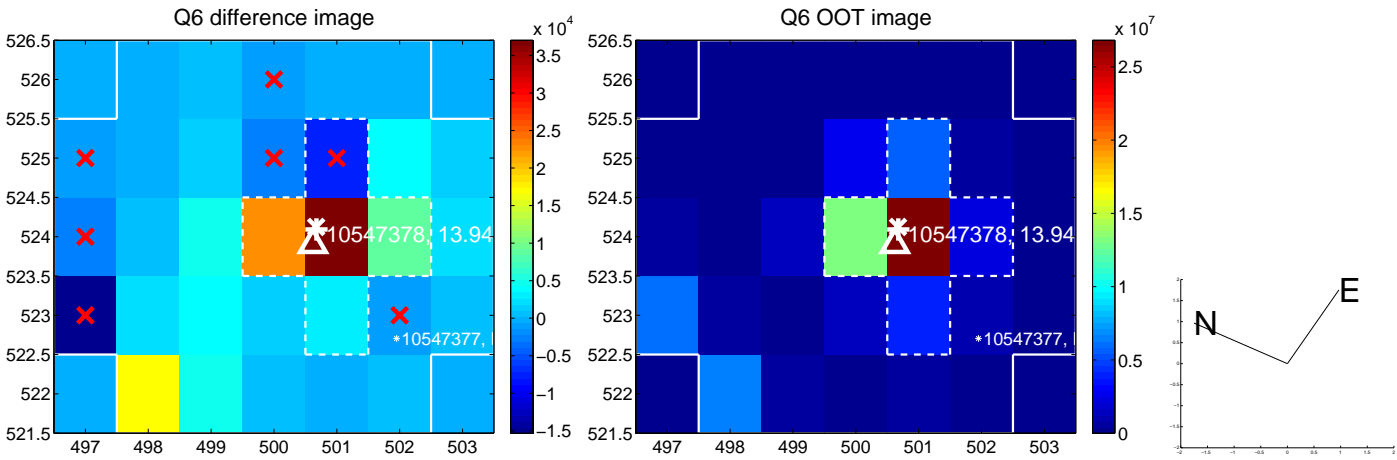
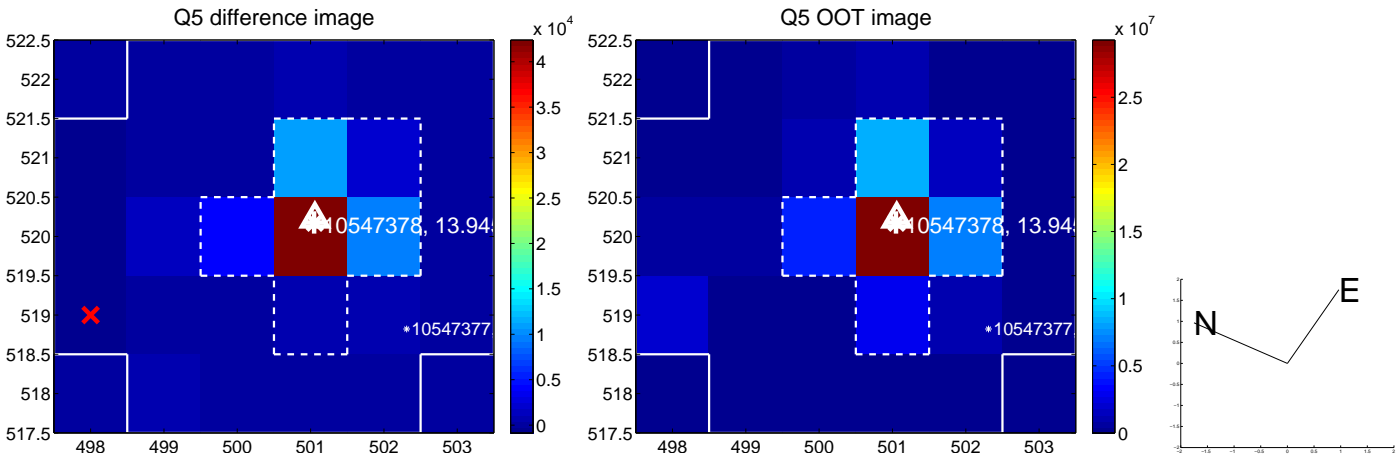


offset from photometric centroids

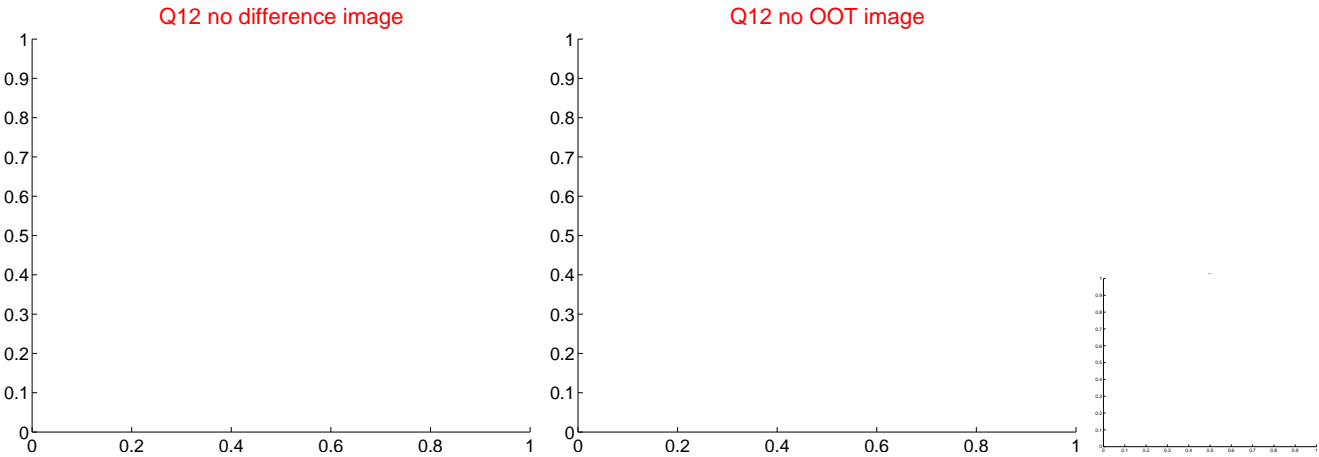
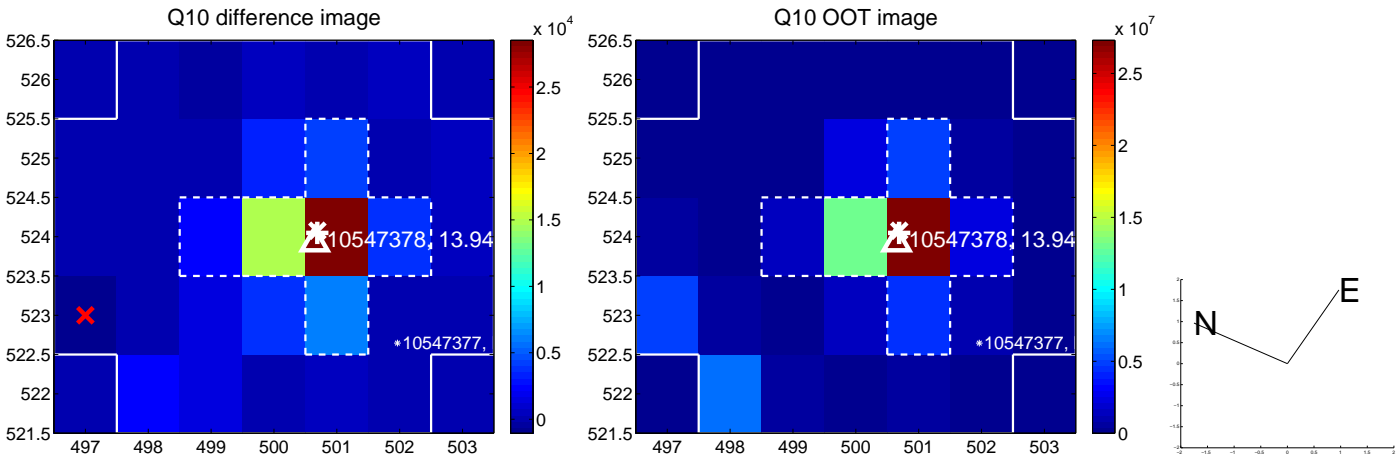
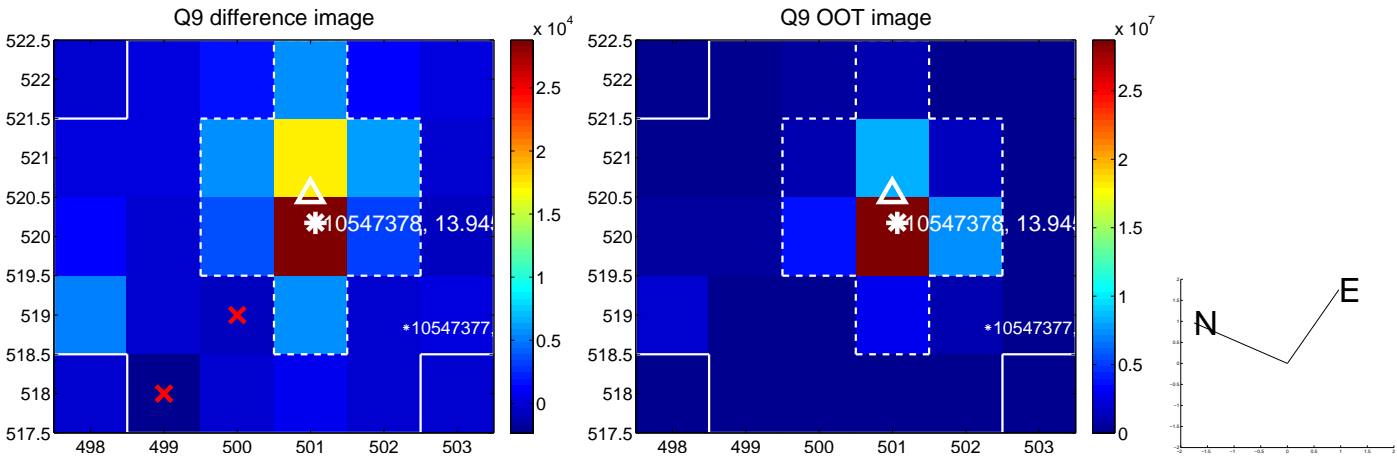


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

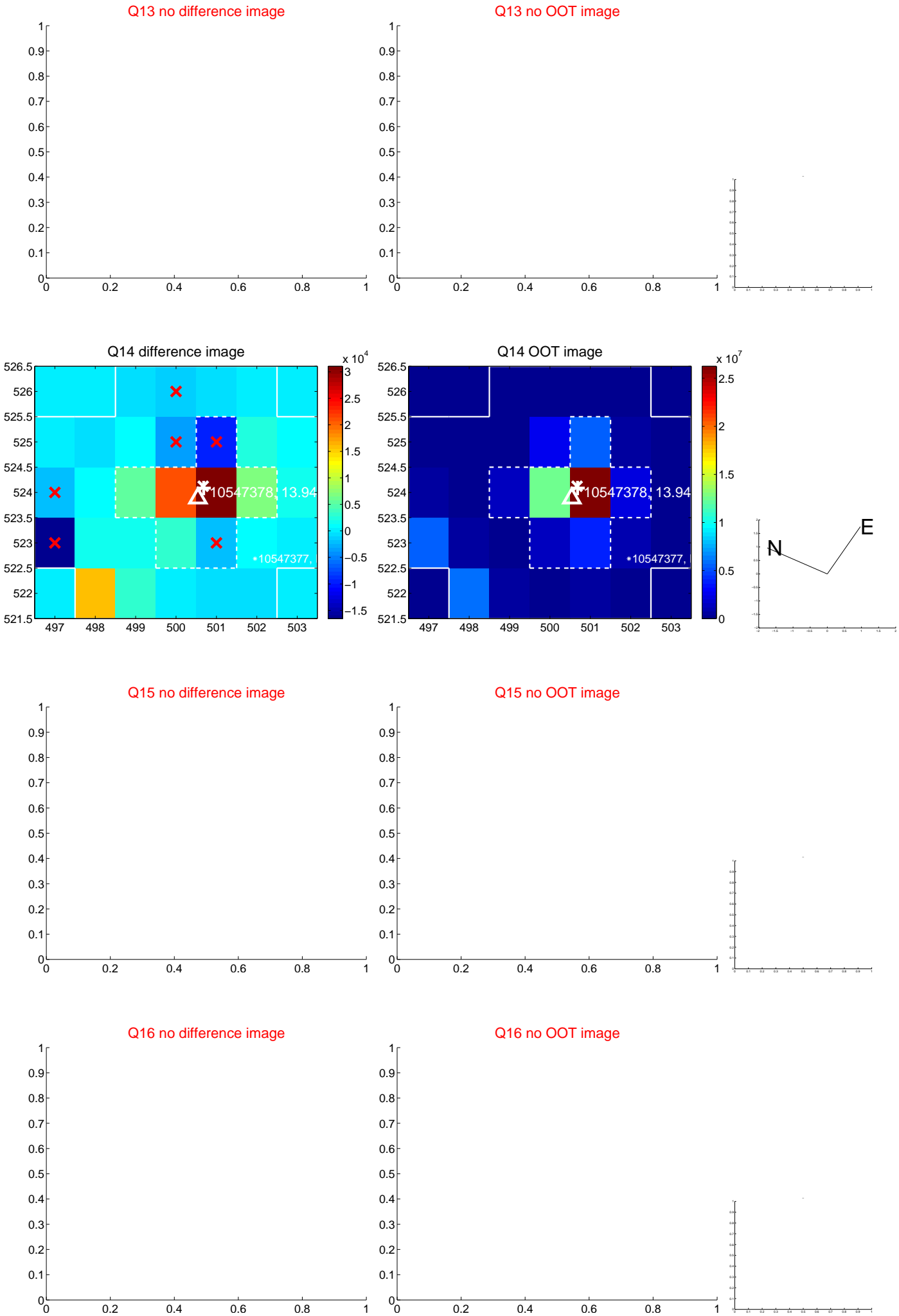
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



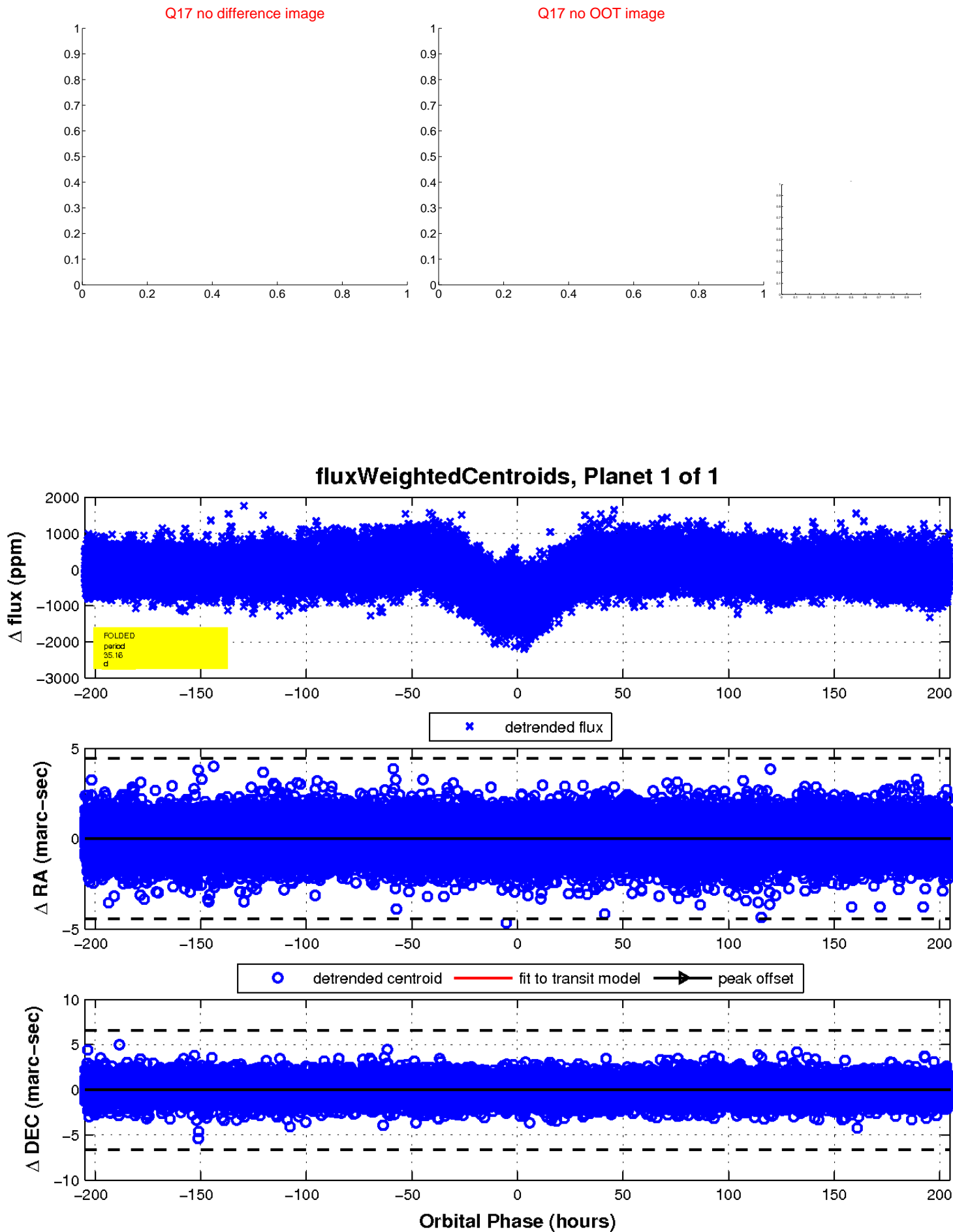
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

