

KIC 009353314

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})
009353314-01	OBS	1900.01	5.185013	131.879867	425.8	2.311	33.1	36.7	0.56	4325	1.40	42.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009353314-01	OBS	PC	1.00	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.

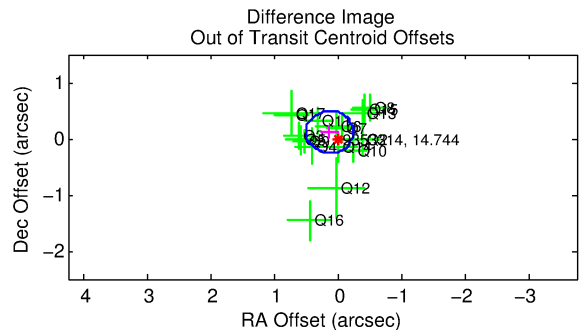
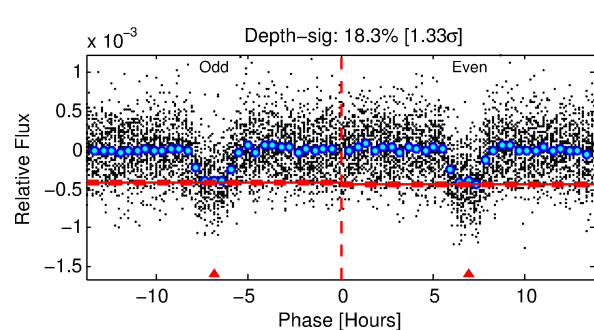
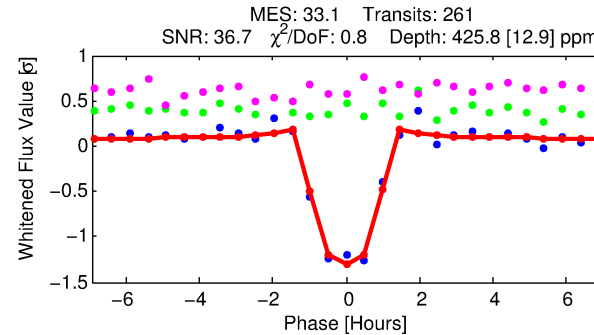
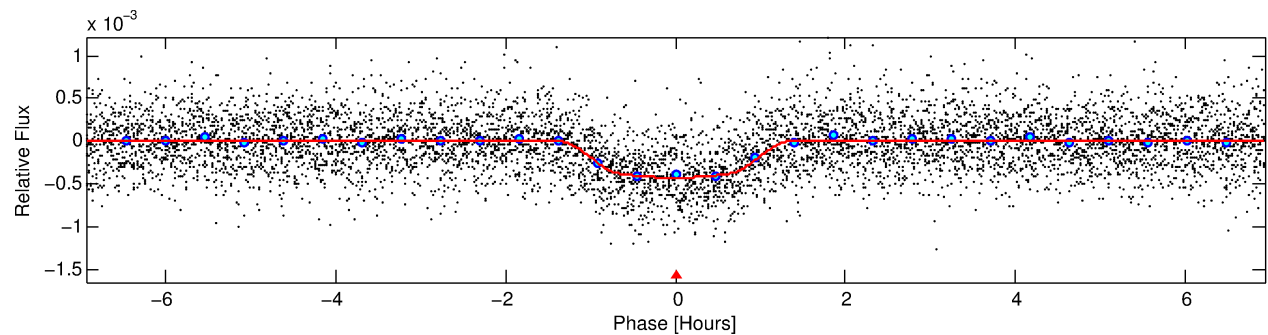
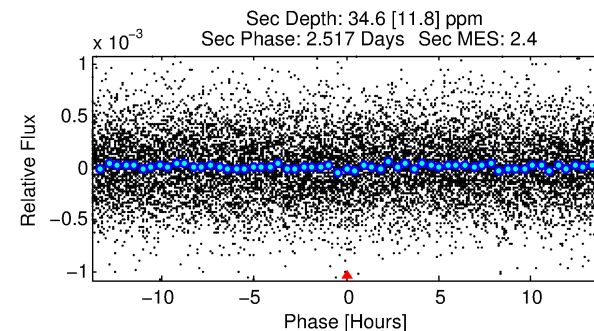
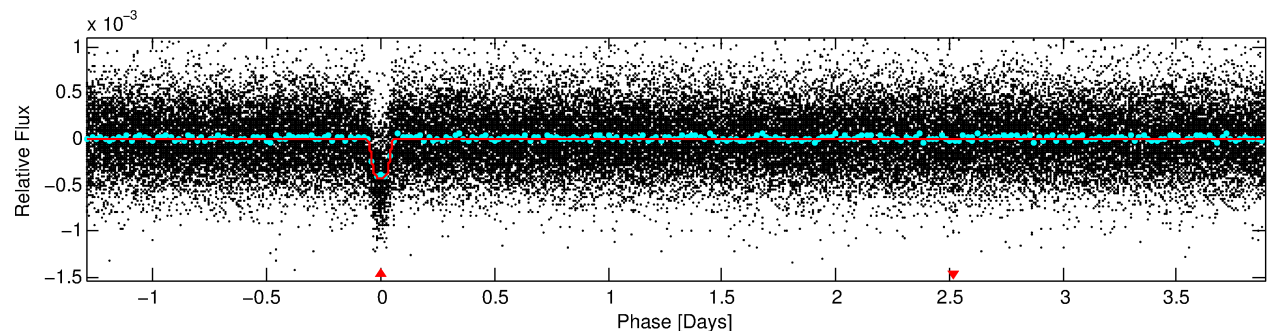
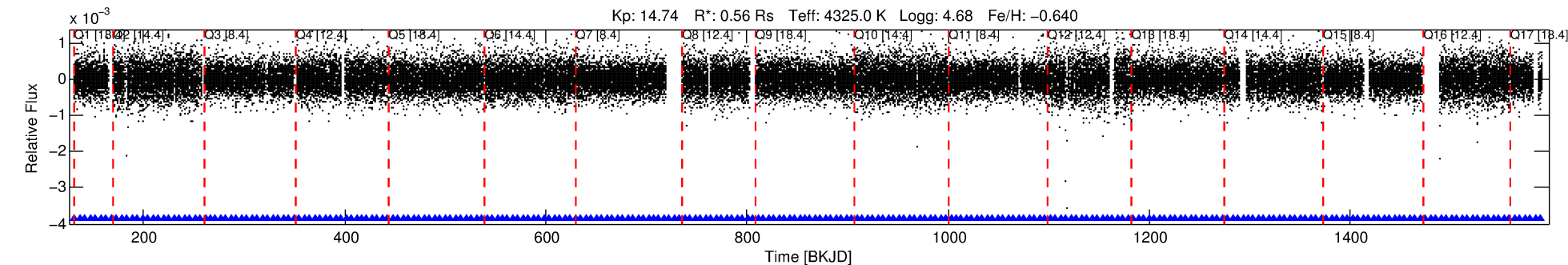
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009353314-01

No Significant Match Found

DV One-Page Summary

KIC: 9353314 Candidate: 1 of 1 Period: 5.185 d
KOI: K01900.01 Corr: 0.970



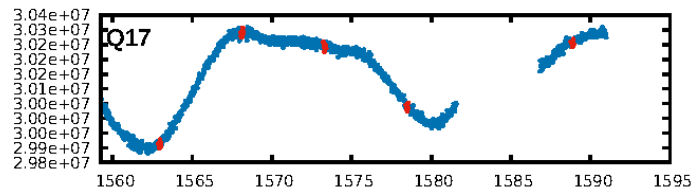
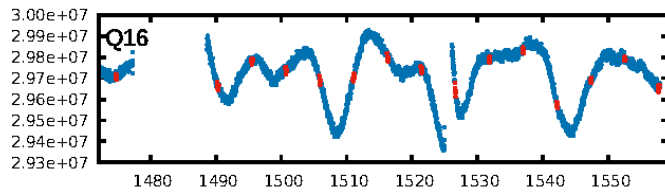
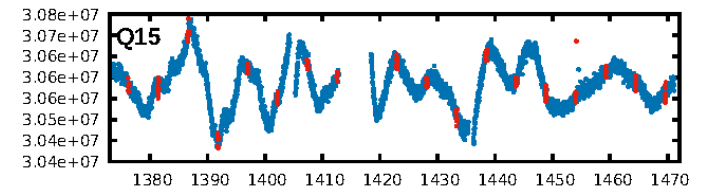
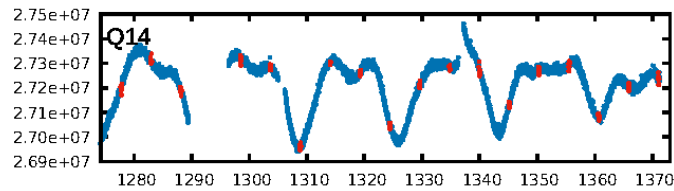
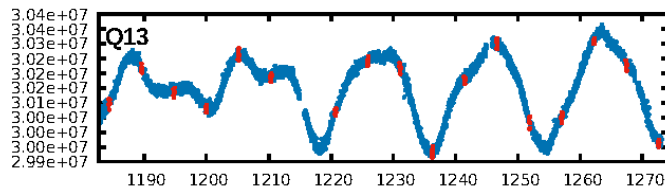
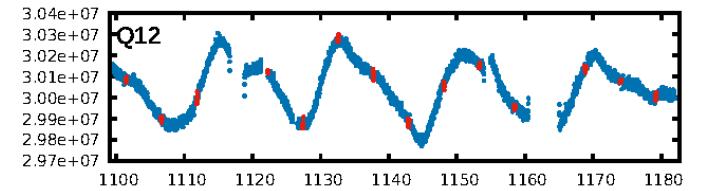
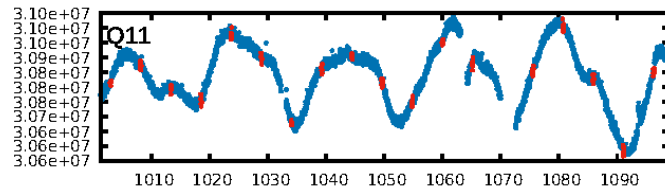
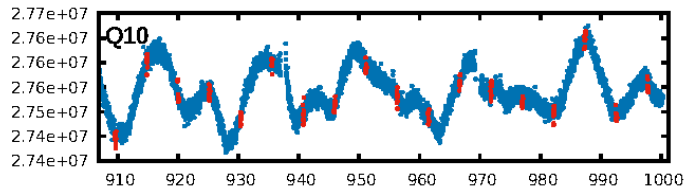
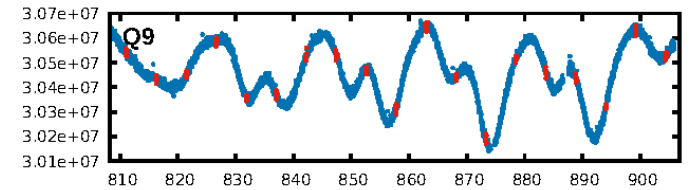
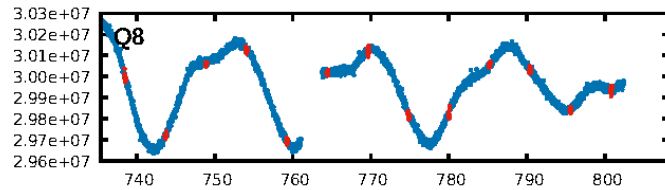
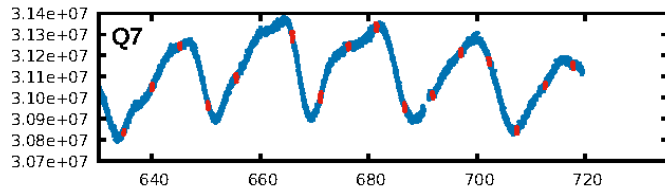
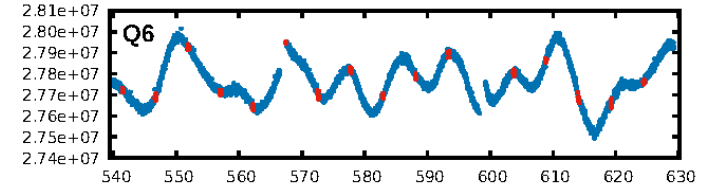
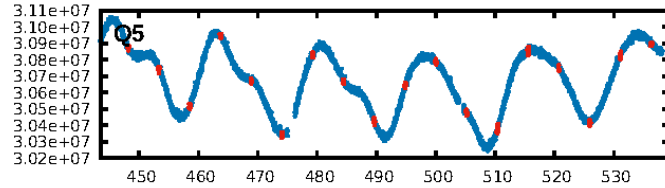
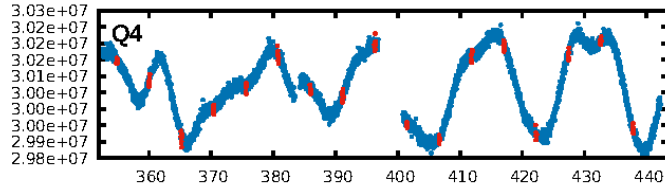
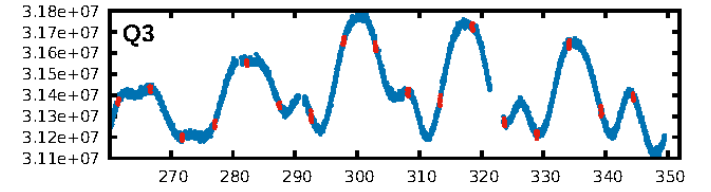
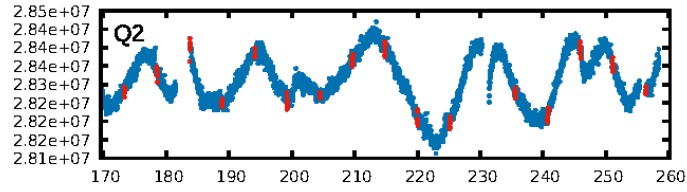
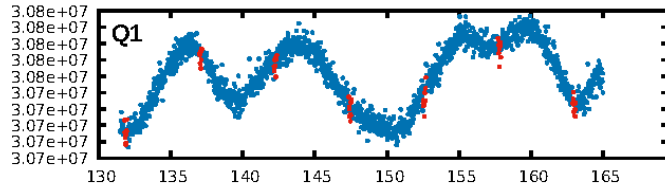
DV Fit Results:

Period = 5.18501 [0.00001] d
Epoch = 131.8799 [0.0011] BKJD
Rp/R* = 0.0229 [0.0031]
a/R* = 8.36 [4.67]
b = 0.90 [0.12]
Seff = 42.72 [7.06]
Teq = 652 [27] K
Rp = 1.40 [0.24] Re
a = 0.0480 [0.0039] AU
Ag = 22.37 [10.08] [2.12σ]
Teffp = 2192 [248] K [6.17σ]

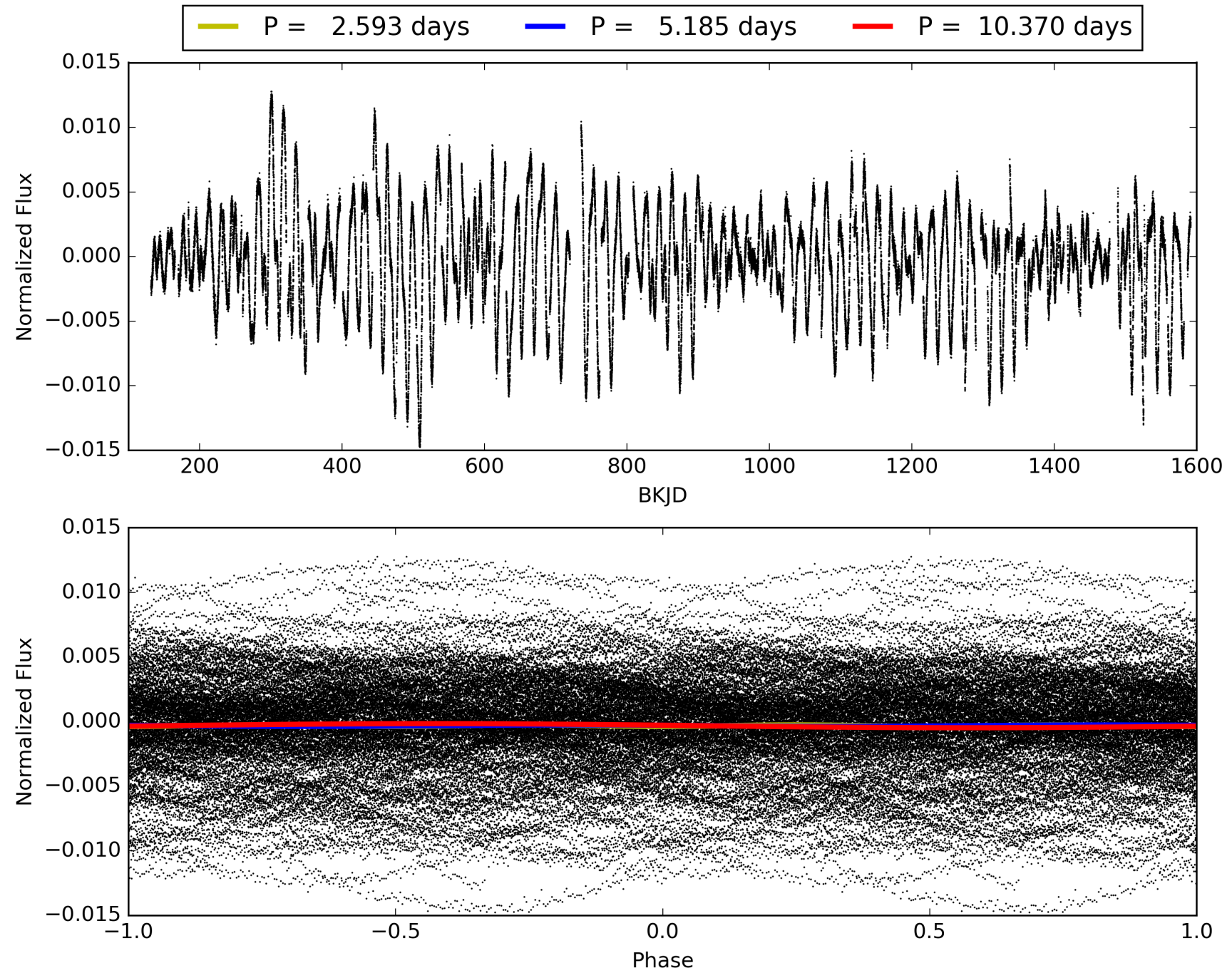
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.18e-229
RollingBand-fgt: 1.00 [249/249]
GhostDiagnostic-chr: 6.284
Centroid-sig: 92.3%
Centroid-so: 0.220 arcsec [0.66σ]
OotOffset-rm: 0.179 arcsec [1.44σ]
KicOffset-rm: 0.177 arcsec [1.36σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 009353314-01, PDC Light Curves

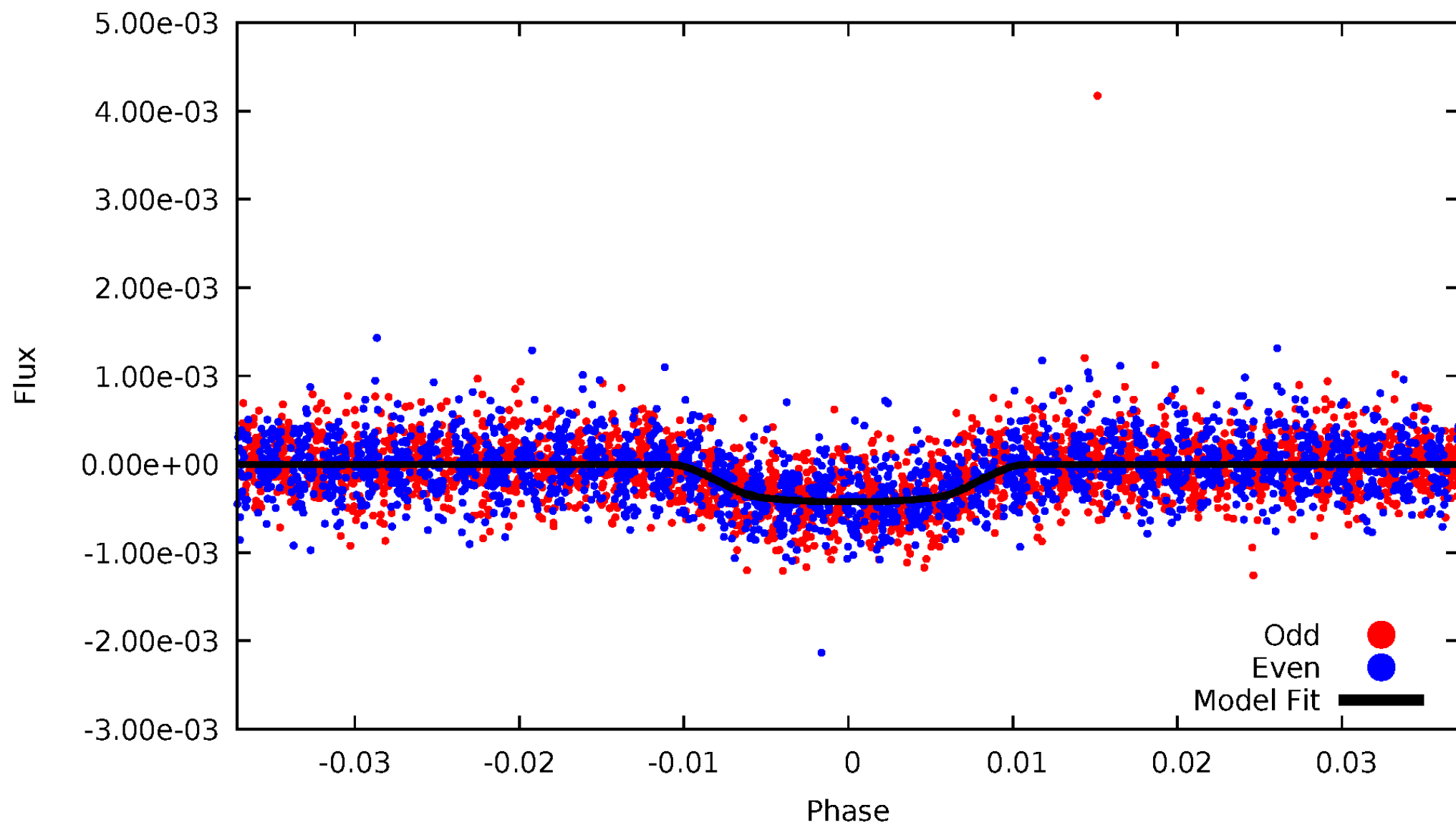


TCE 009353314-01



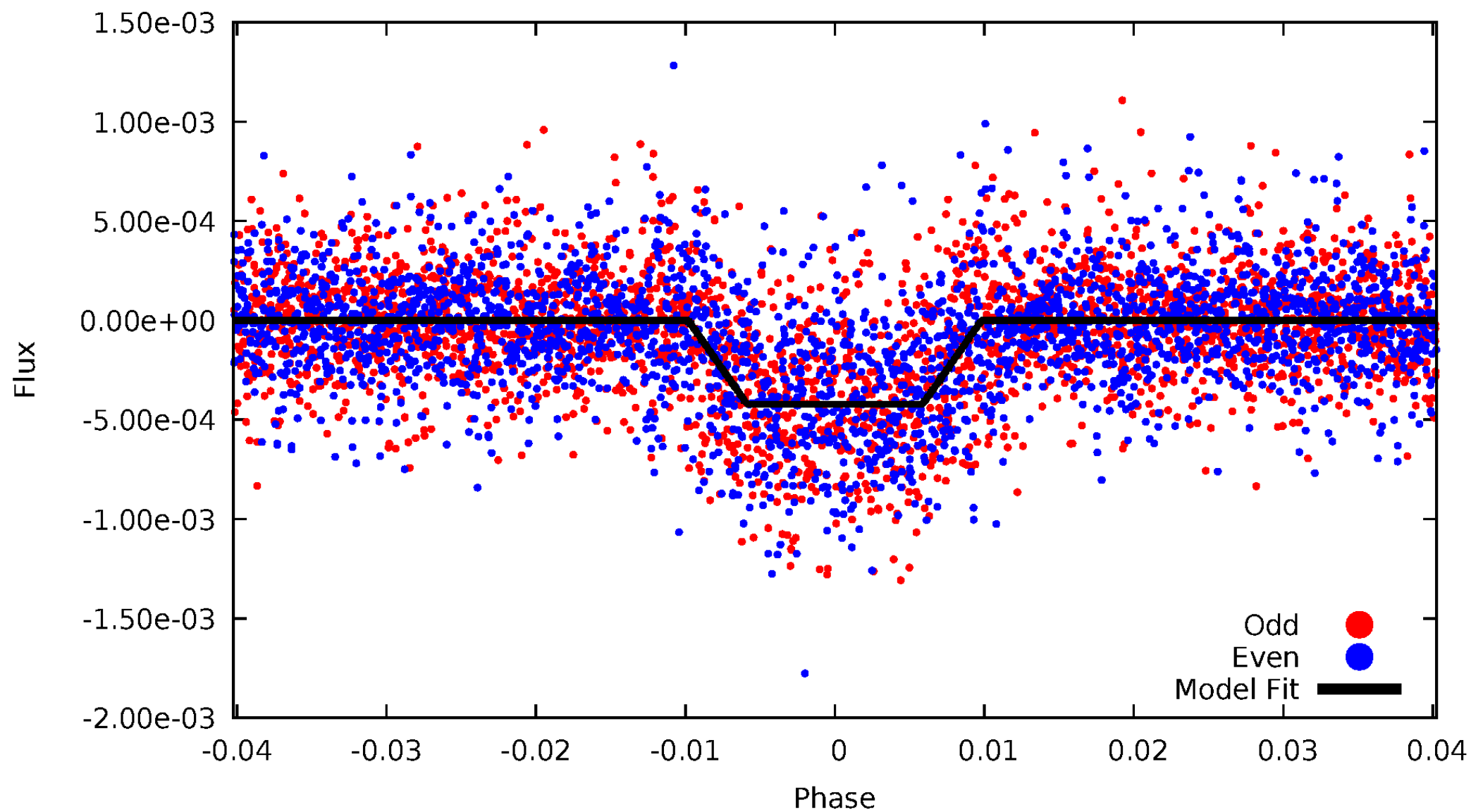
DV Odd/Even

TCE 009353314-01



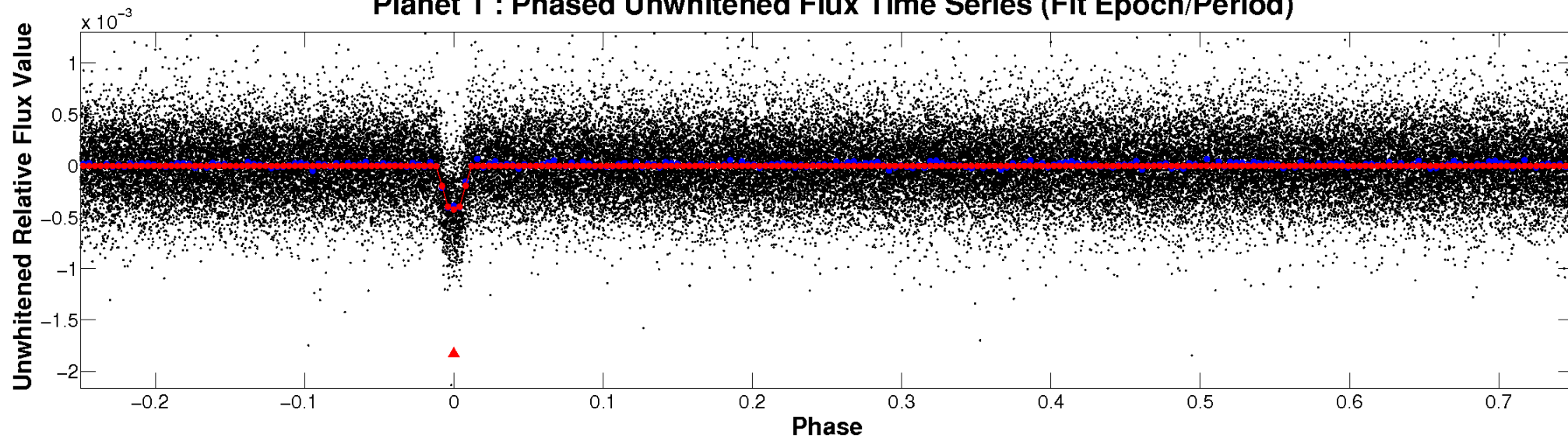
ALT Odd/Even

TCE 009353314-01

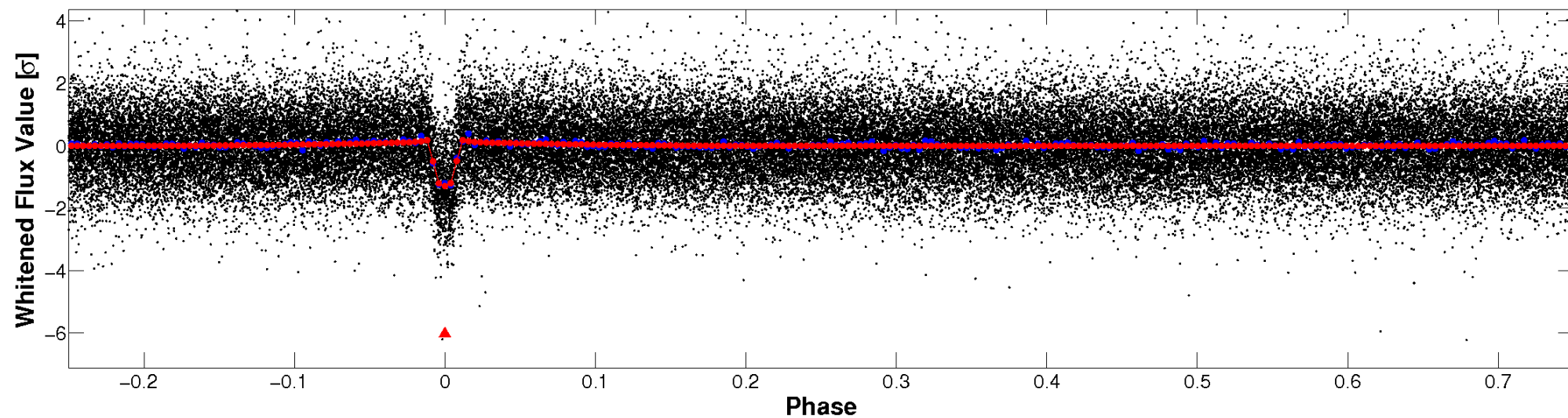


Non-Whitened Vs. Whitened Light Curve

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

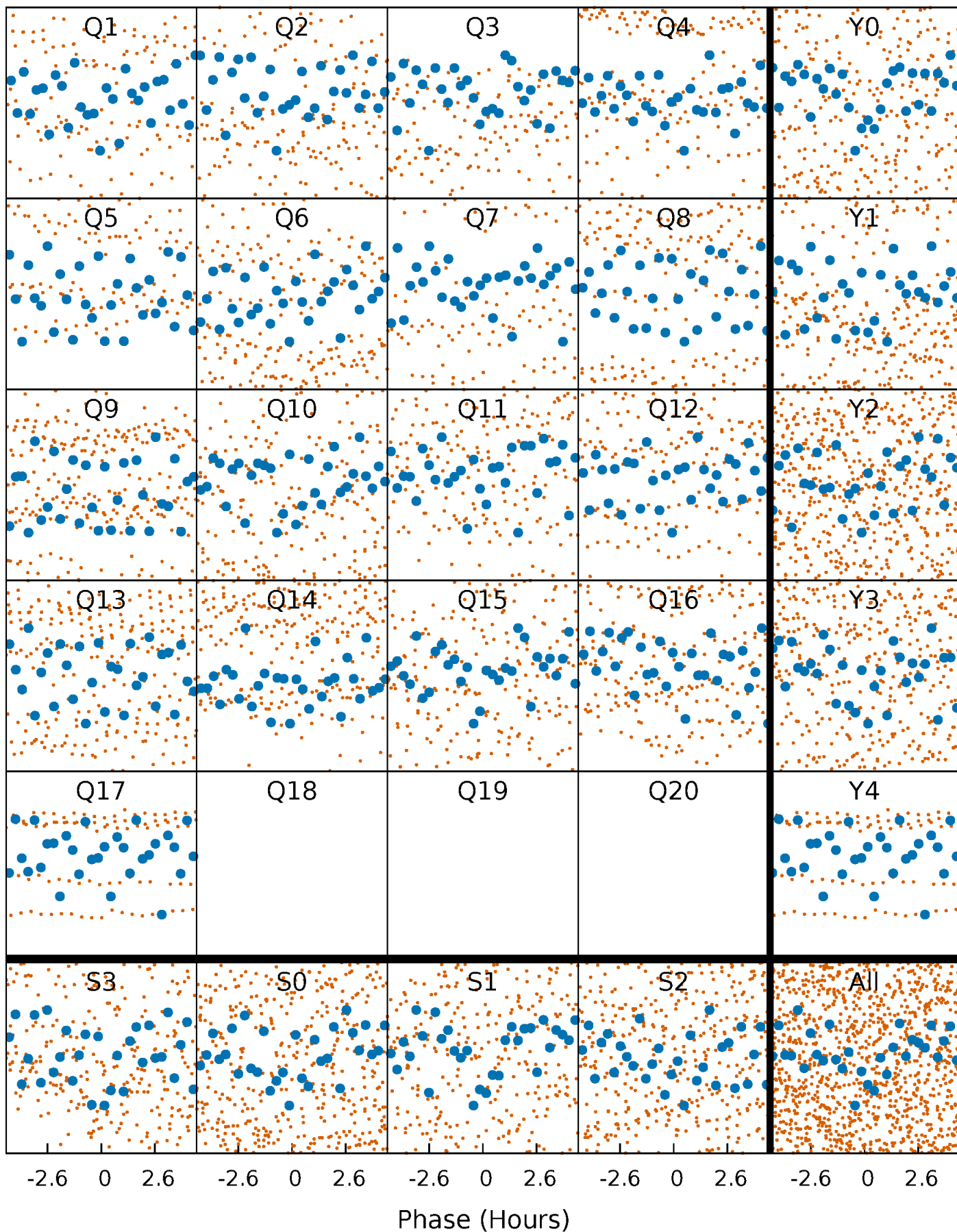


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



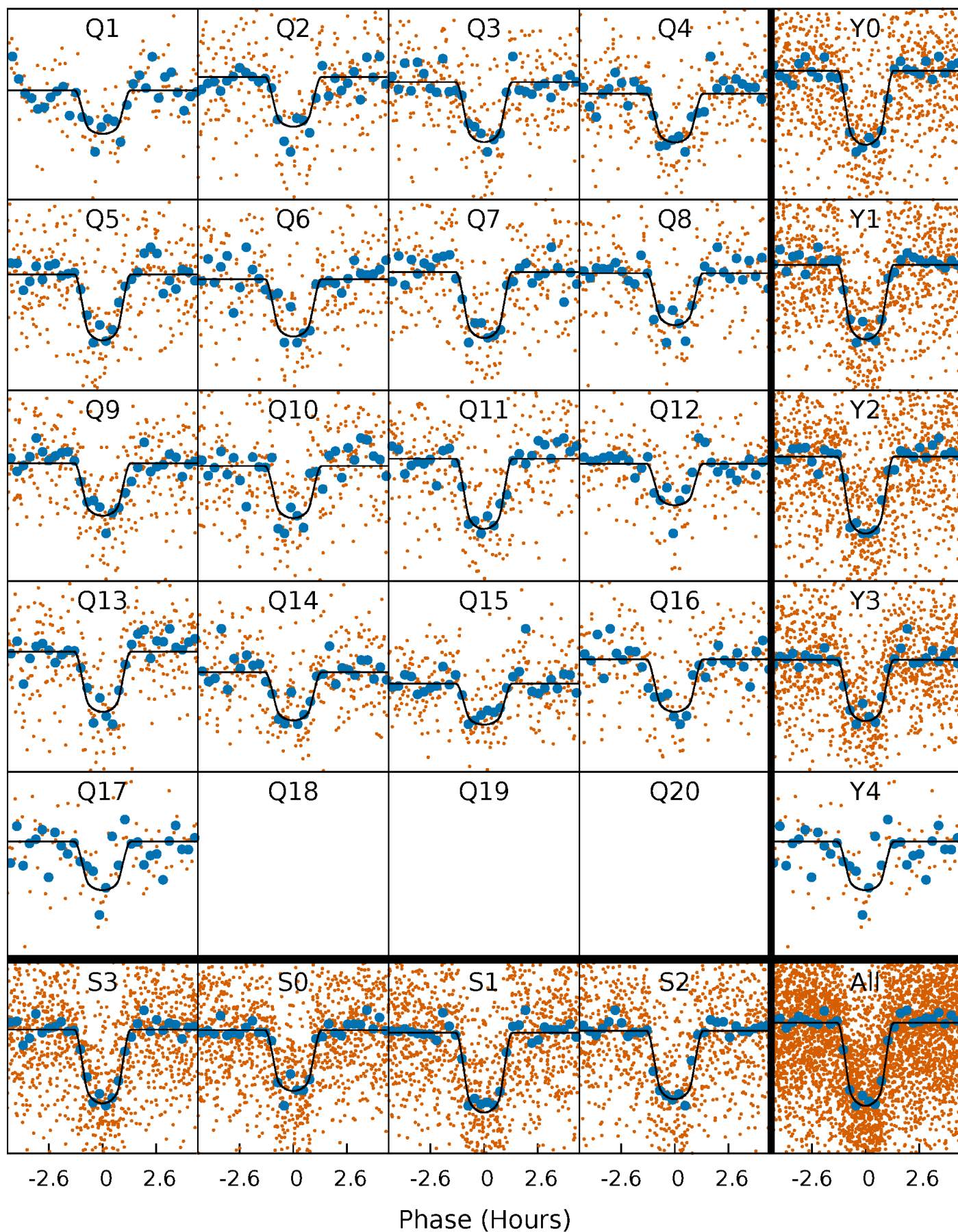
PDC Quarter-Phased Transit Curves

TCE 009353314-01 P= 5.185013 Days $T_0=131.879867$ (BKJD)



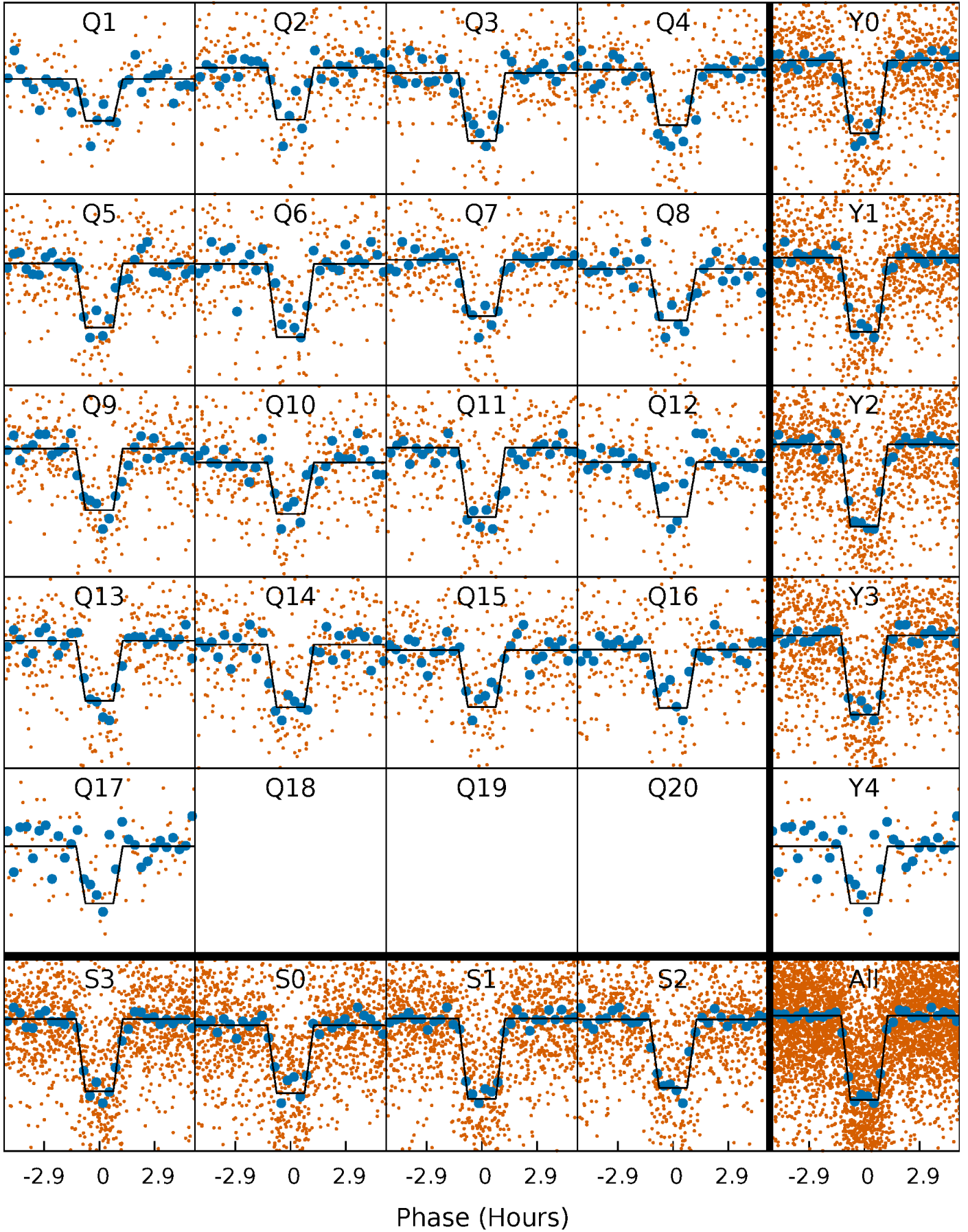
DV Quarter-Phased Transit Curves

TCE 009353314-01 P= 5.185013 Days $T_0=131.879867$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

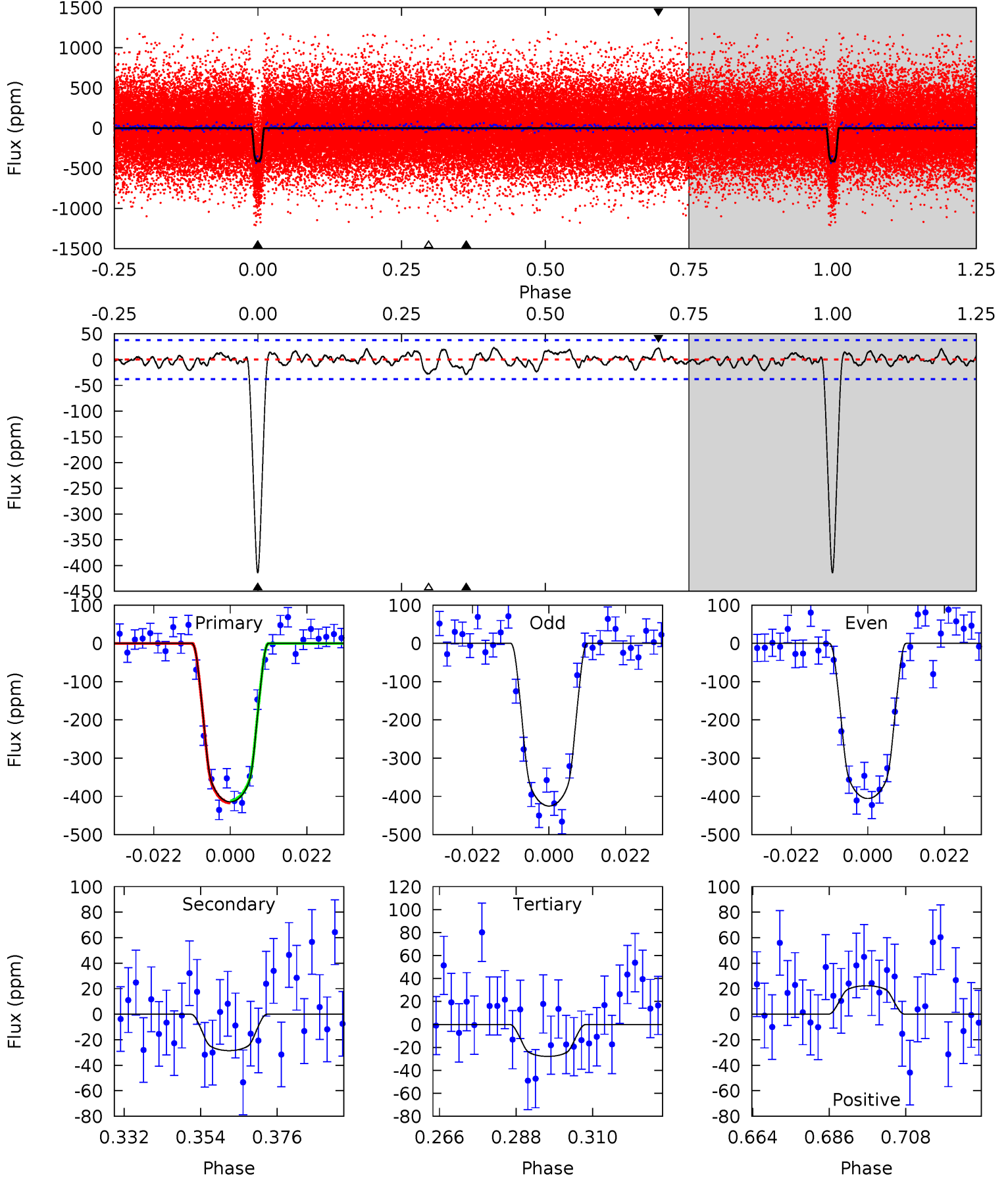
TCE 009353314-01 P= 5.184986 Days $T_0=131.882123$ (BKJD)



DV Model-Shift Uniqueness Test

009353314-01, P = 5.185013 Days, E = 126.694854 Days

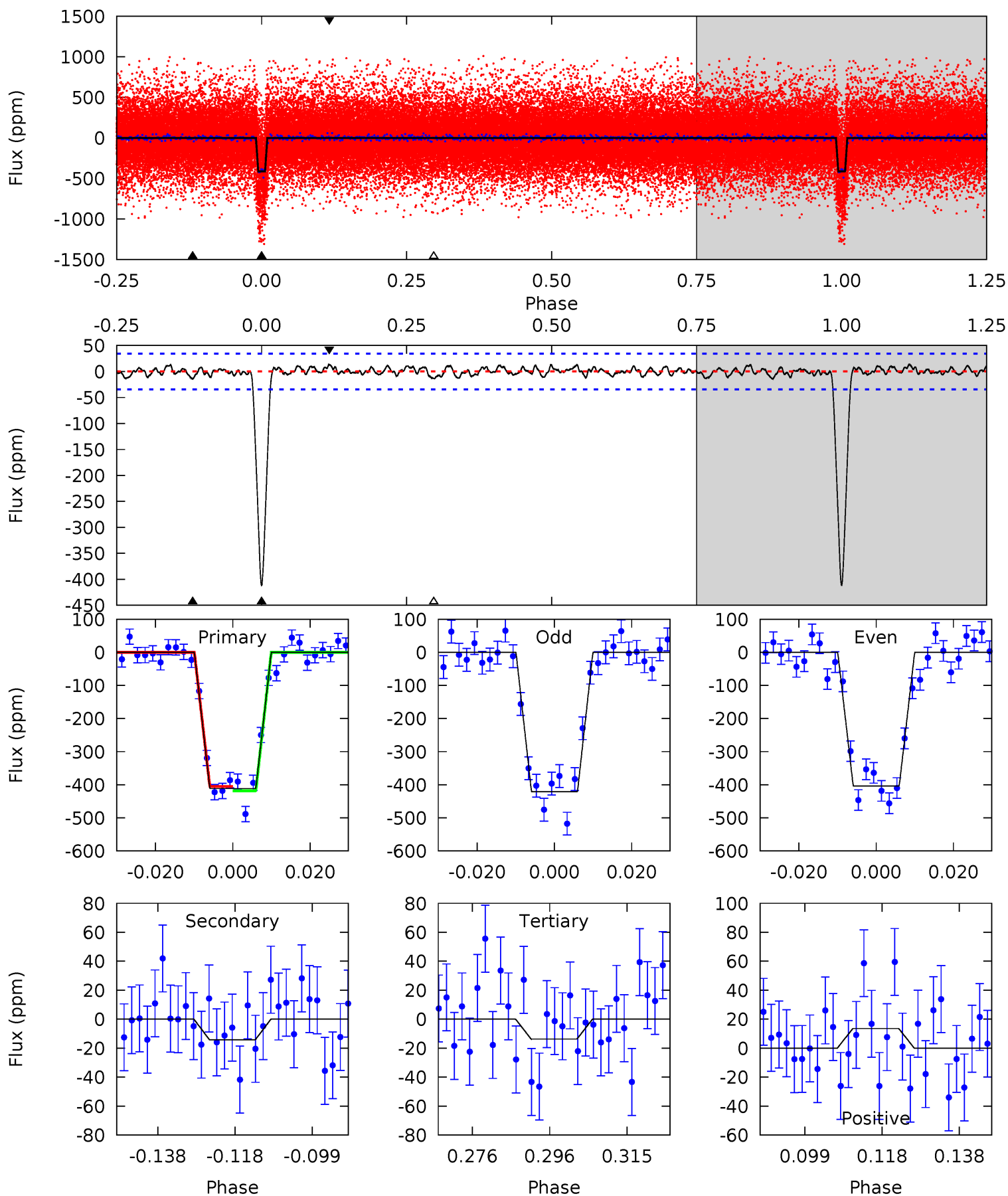
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
53.4	3.68	3.60	2.88	4.87	2.29	1.26	49.8	50.5	0.09	0.81	1.27	1.00	0.05	0.34



Alt Model-Shift Uniqueness Test

009353314-01, P = 5.184986 Days, E = 126.697137 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
58.4	2.01	1.94	1.92	4.89	2.33	0.83	56.5	56.5	0.07	0.09	1.22	1.02	0.03	0.94



Stellar Parameters For KIC 009353314

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4325^{+131}_{-131}	$4.680^{+0.059}_{-0.027}$	$-0.640^{+0.300}_{-0.300}$	$0.560^{+0.045}_{-0.056}$	$0.547^{+0.056}_{-0.038}$	$4.387^{+1.183}_{-0.599}$
	+3%/-3%	+1%/-1%	+47%/-47%	+8%/-10%	+10%/-7%	+27%/-14%
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 009353314-01 / KOI 1900.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-29 ± 8	$1.39^{+0.20}_{-0.20}$	904^{+32}_{-32}	2738^{+144}_{-150}	19^{+8}_{-6}
Alt.	-14 ± 7	$1.25^{+0.19}_{-0.19}$	904^{+33}_{-29}	2550^{+198}_{-225}	11^{+8}_{-5}

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 $A_{obs} \gg 1.0$

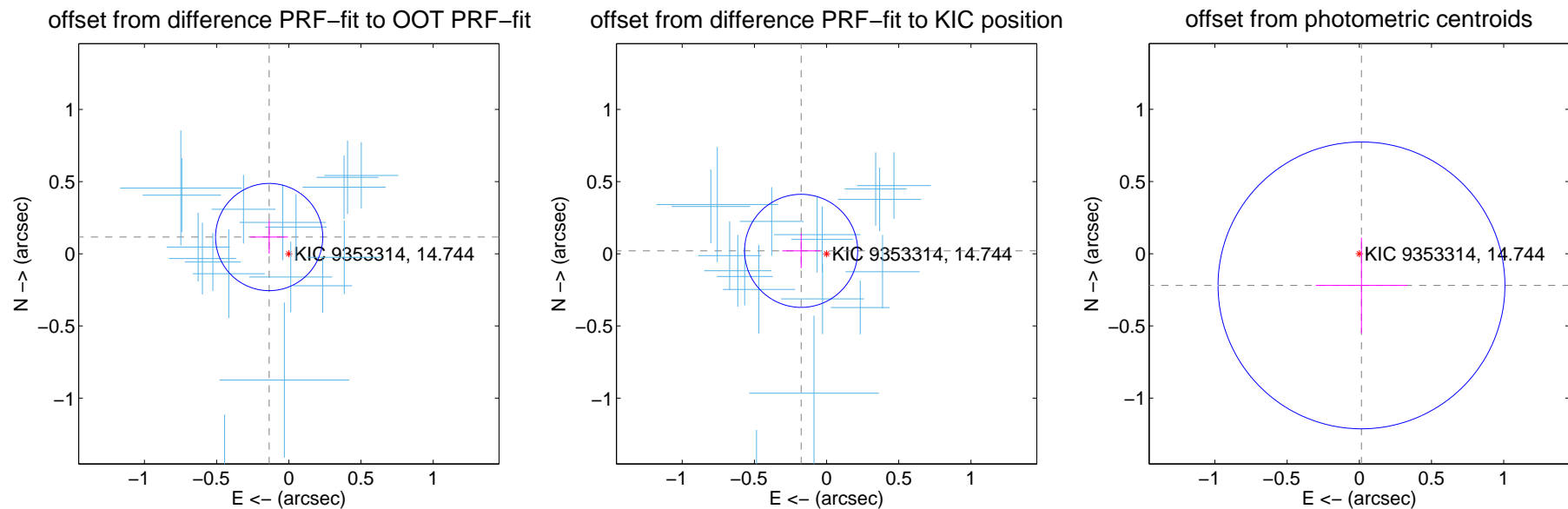
DV Centroid Data

Supplemental centroid analysis for 009353314-01. Kepler magnitude: 14.74. Transit SNR 36.74

There are 17 quarters with good PRF difference image offsets

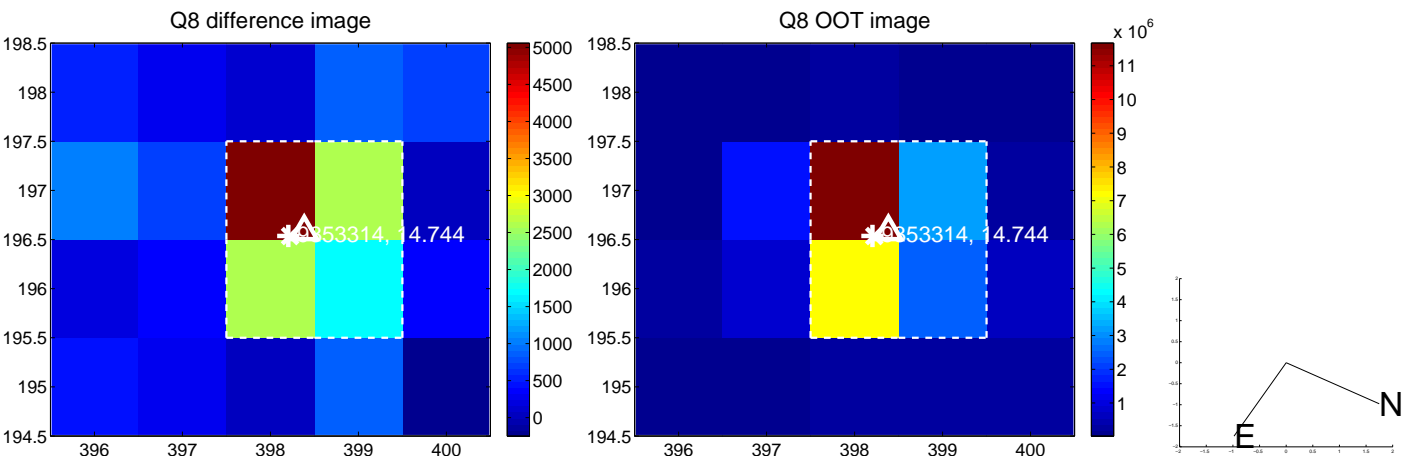
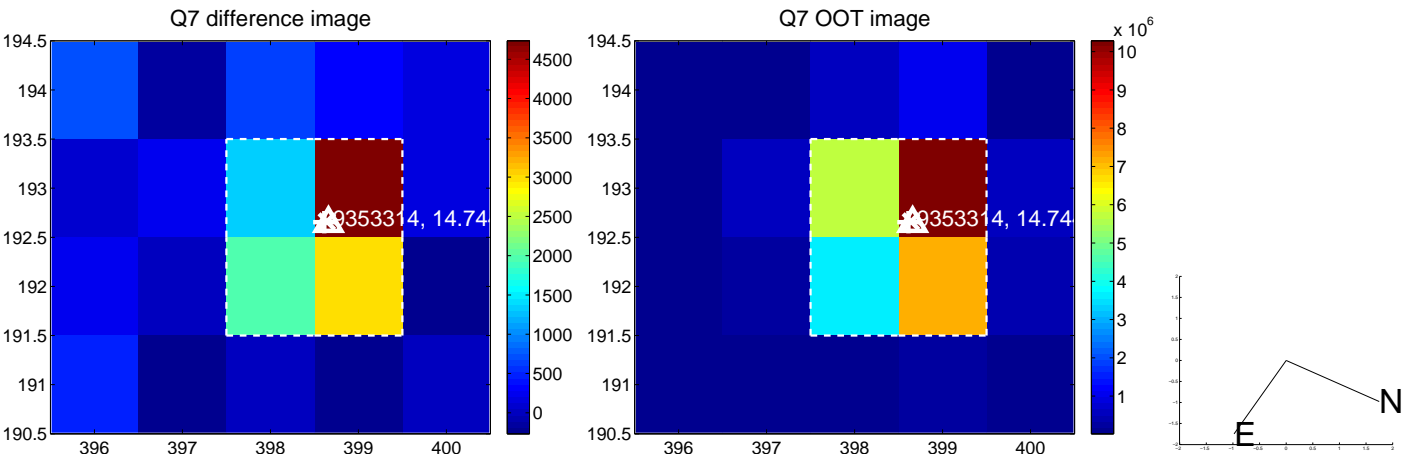
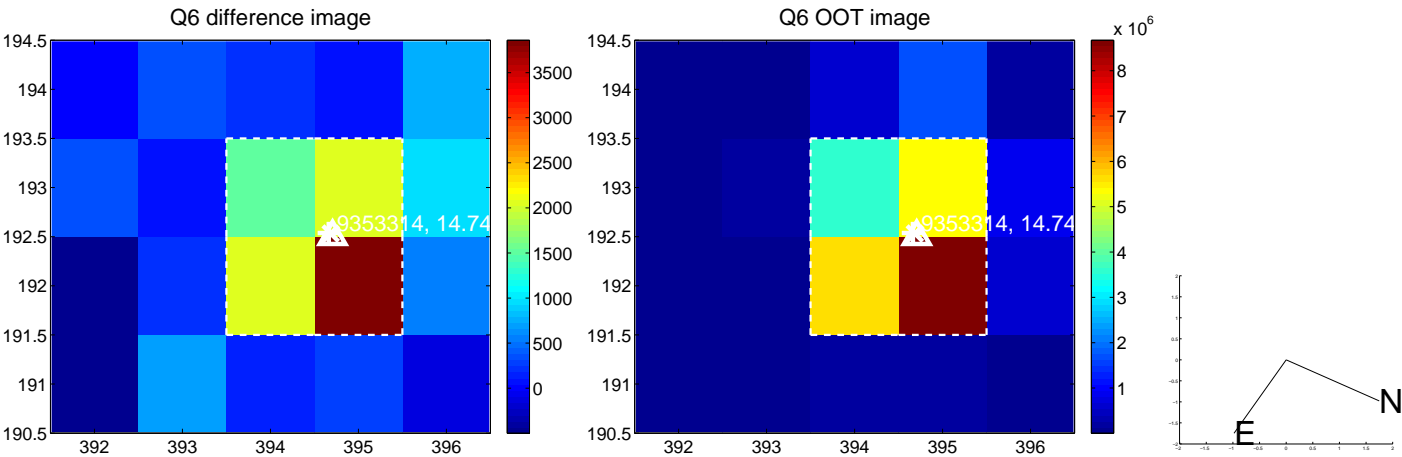
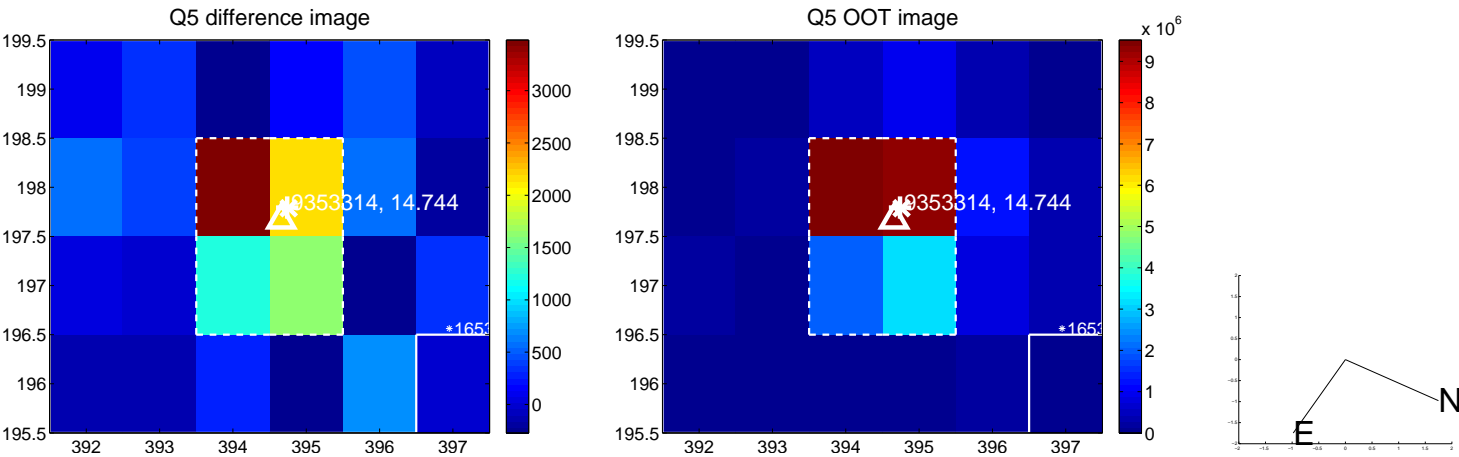
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.179 ± 0.124	1.44	0.136 ± 0.130	0.116 ± 0.115
PRF-fit source offset from KIC position	0.177 ± 0.131	1.36	0.176 ± 0.131	0.020 ± 0.120
photometric centroid source offset	0.22 ± 0.33	0.66	-0.01 ± 0.32	-0.22 ± 0.33

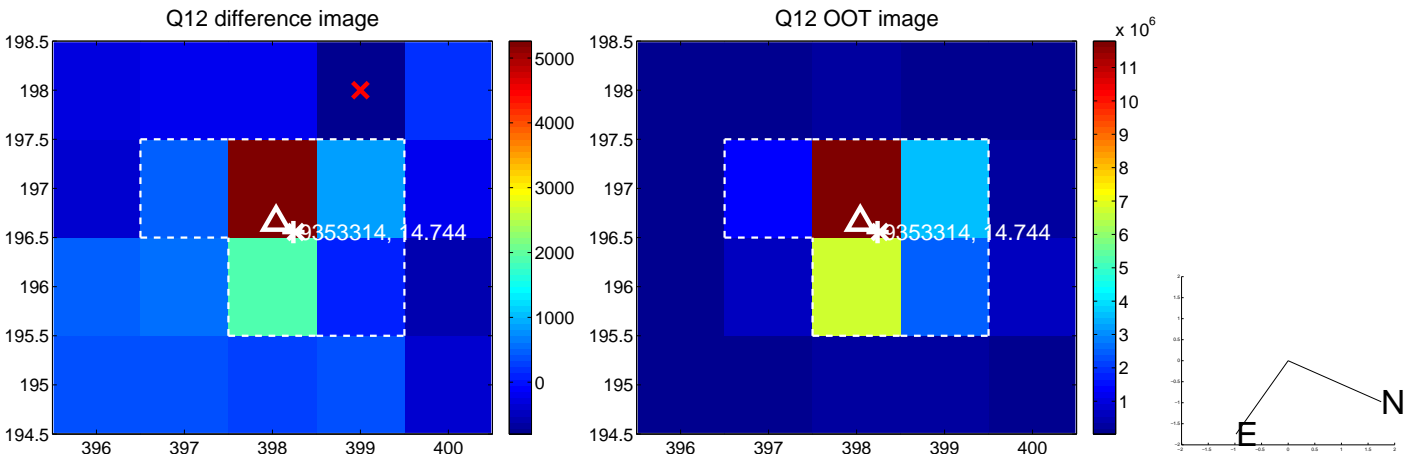
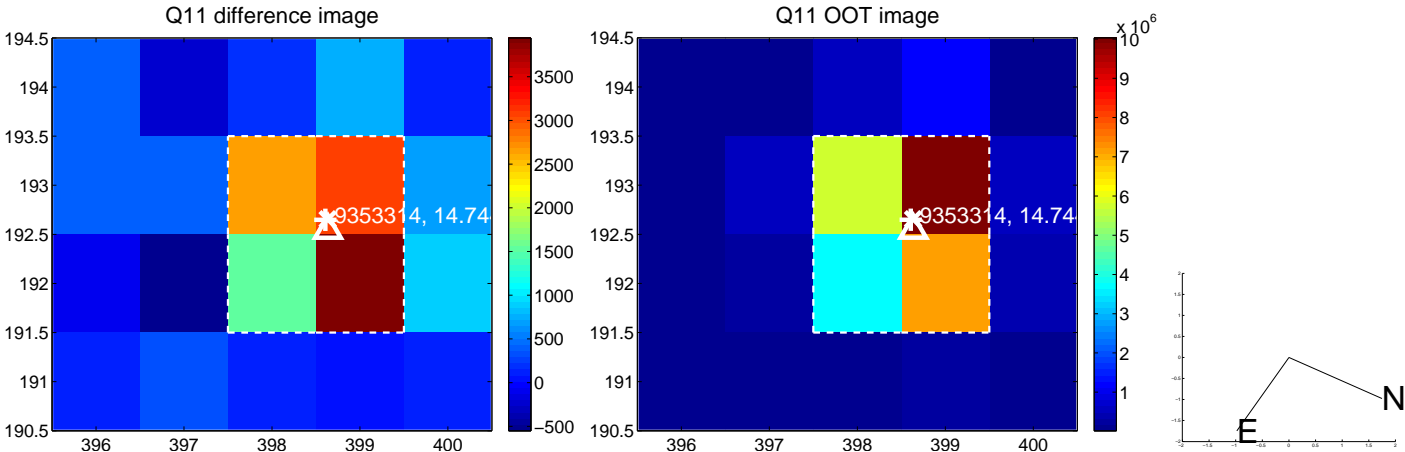
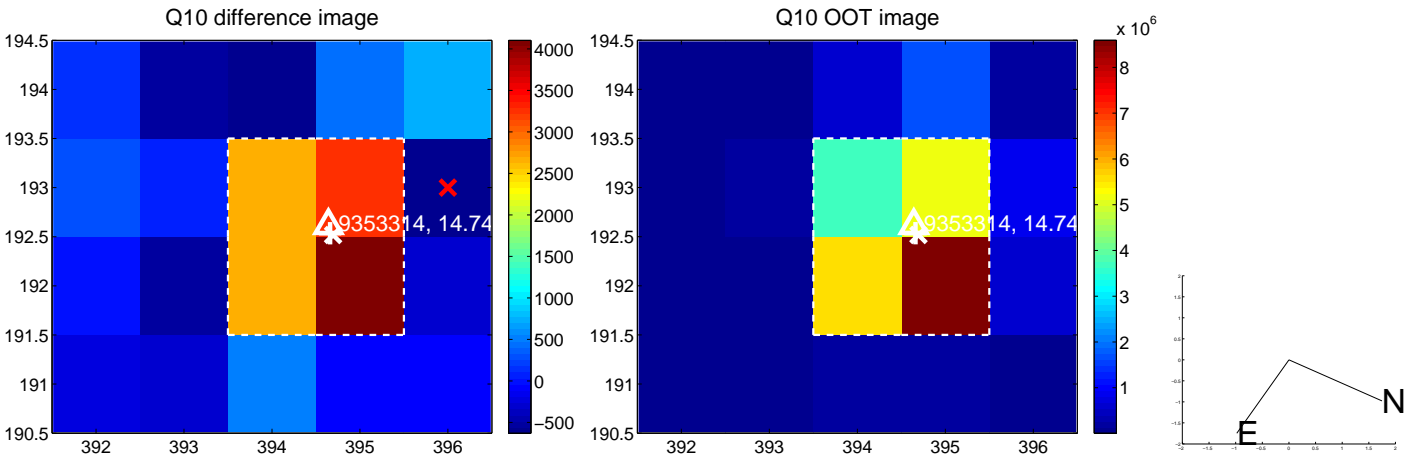
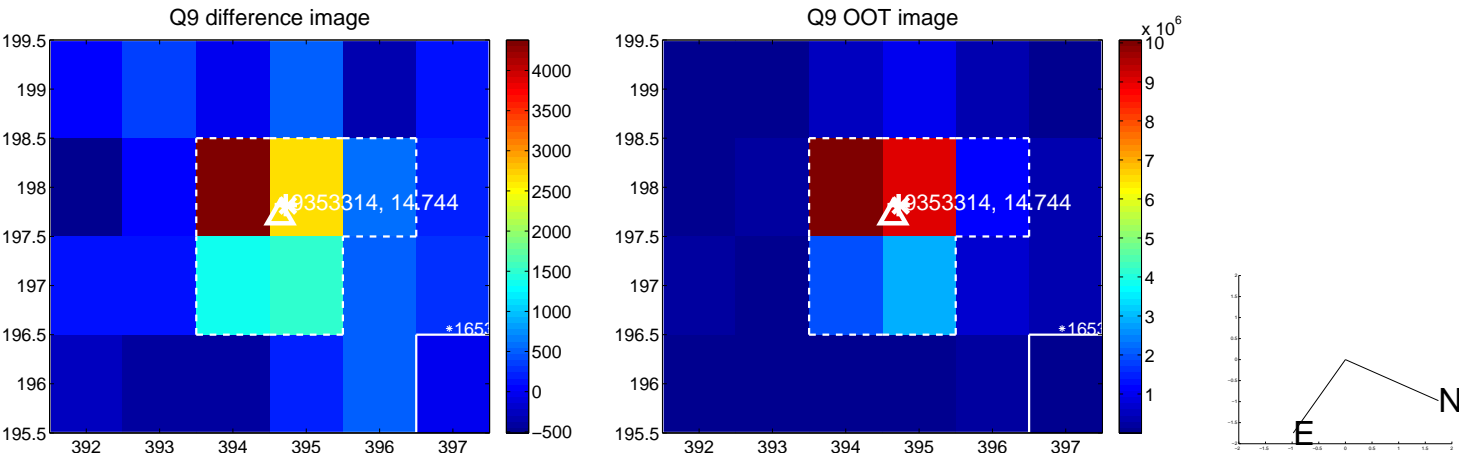


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

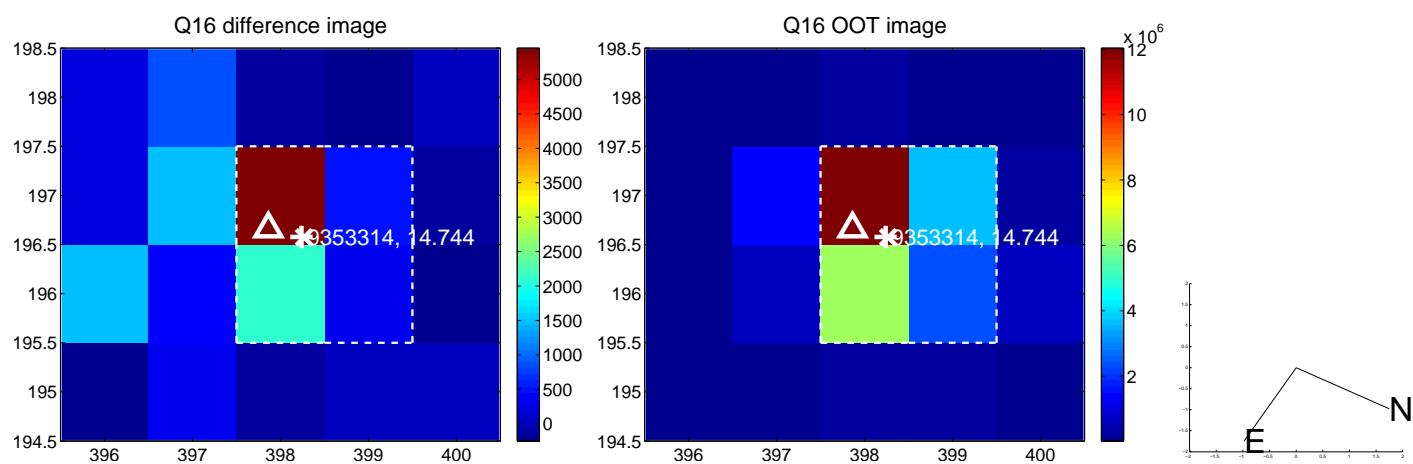
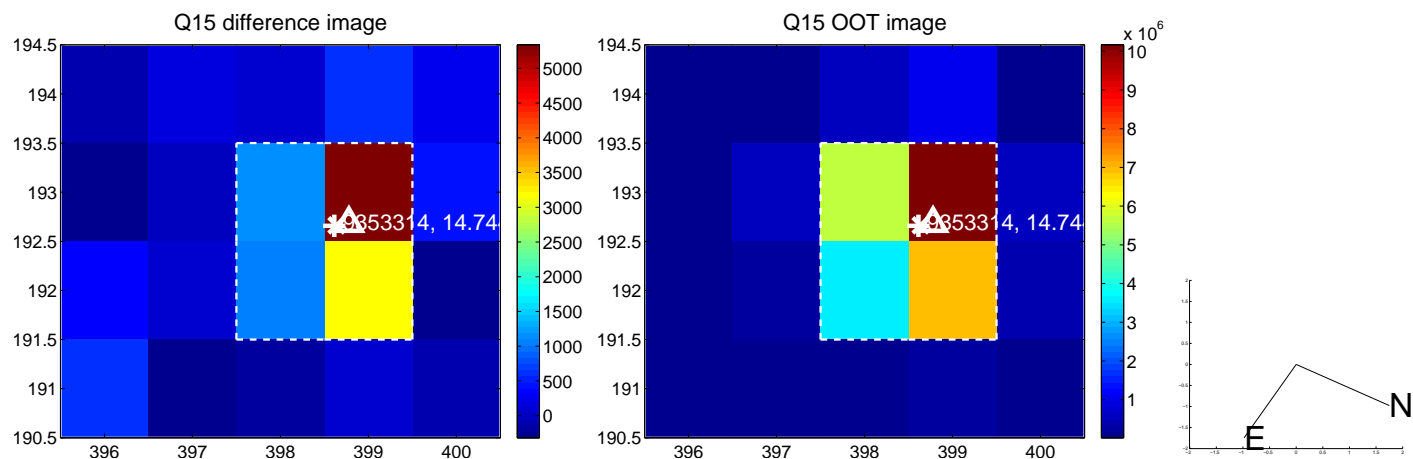
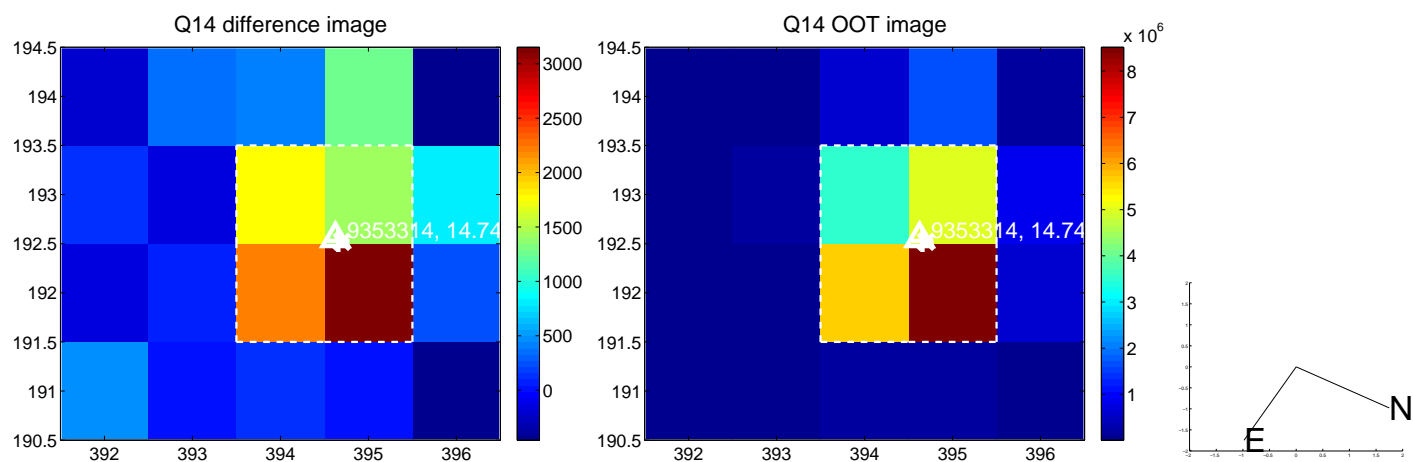
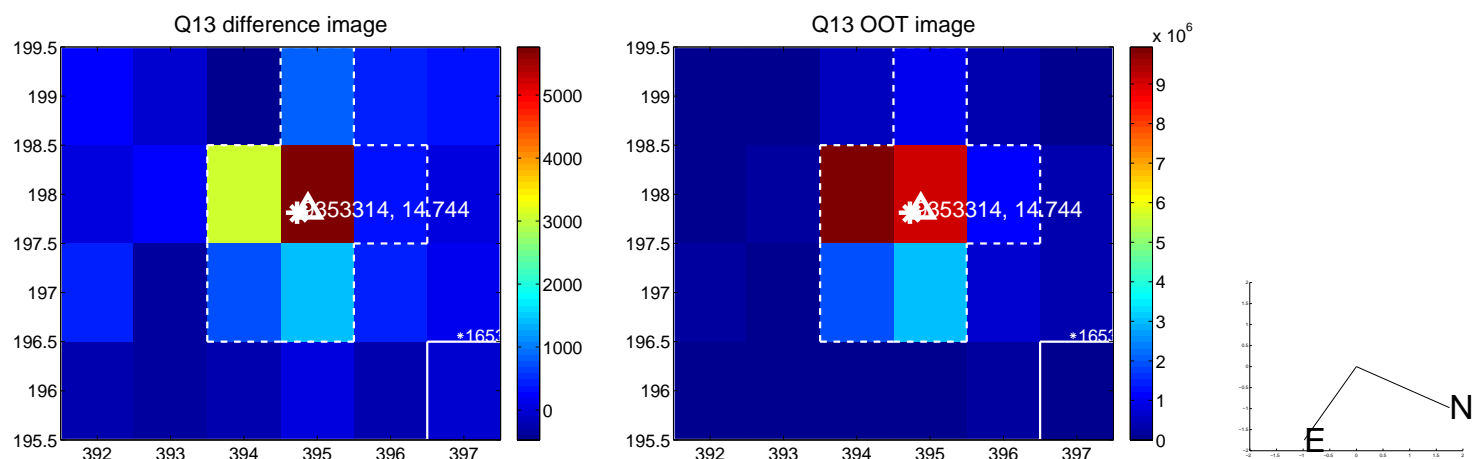
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



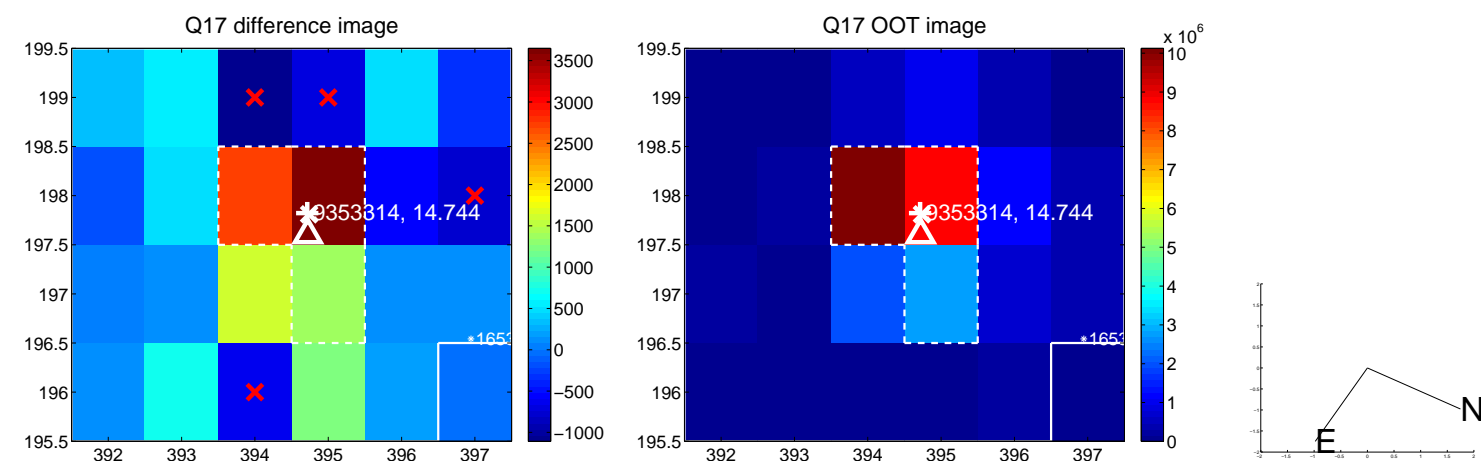
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



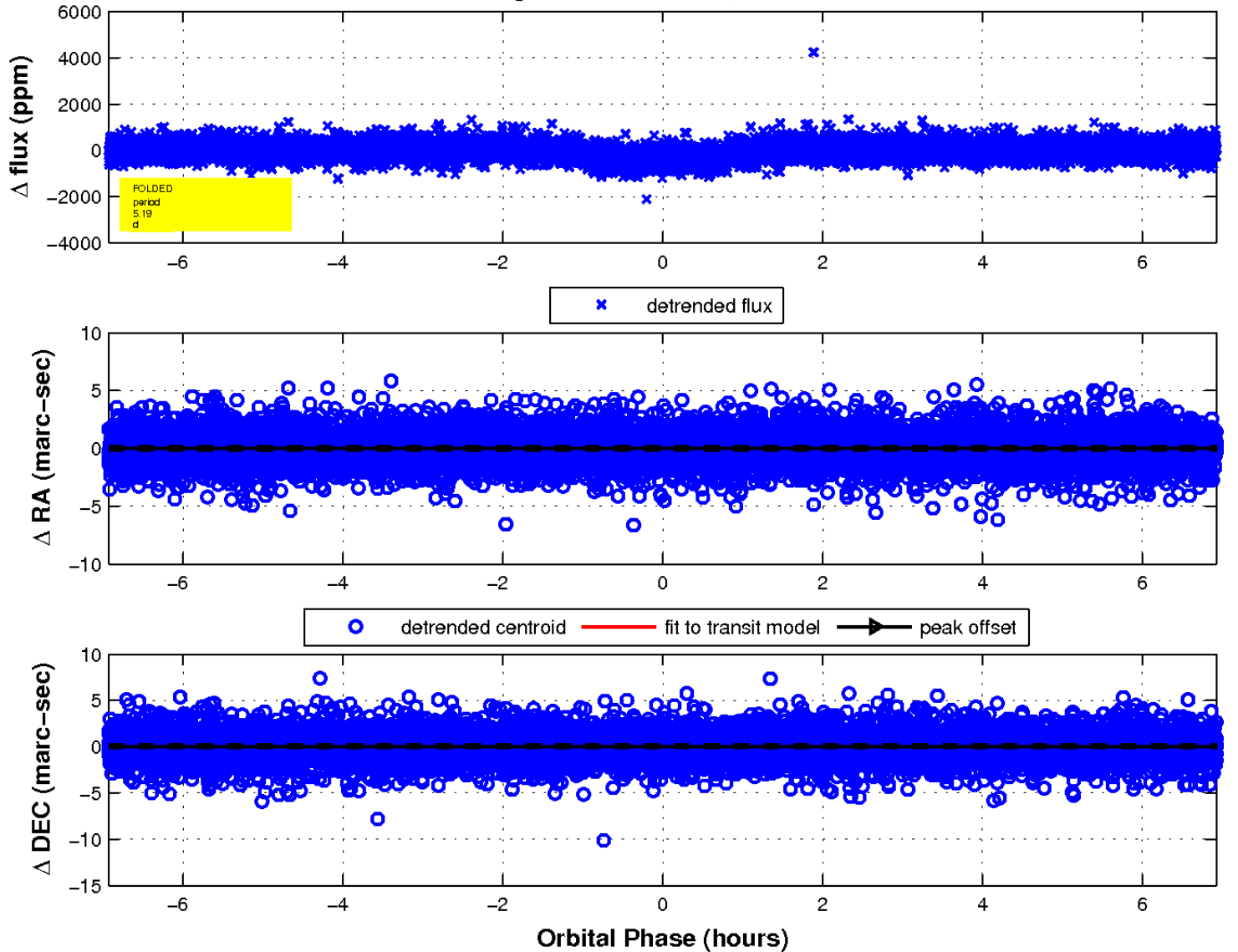
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

