

KIC 006452742

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})
006452742-01	OBS	6715.01	0.687770	131.868947	40217.9	2.601	5203.4	2138.4	0.93	5885	25.97	4583.64

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006452742-01	OBS	PC	0.61	0	1	0	0	MOD_SEC_DV—PLANET_OCCULT_DV—DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—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.

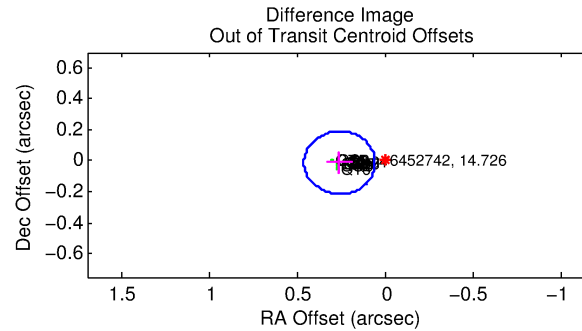
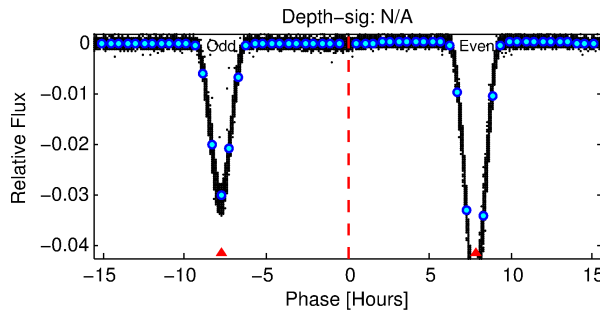
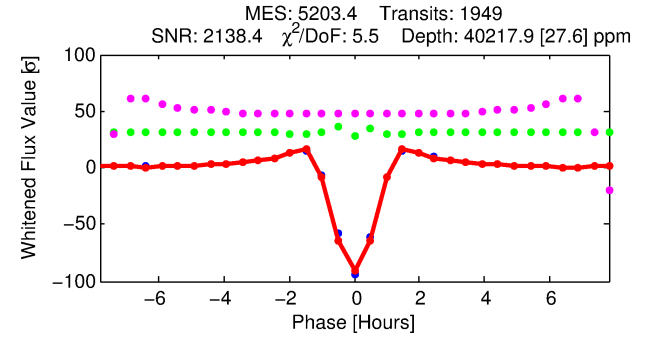
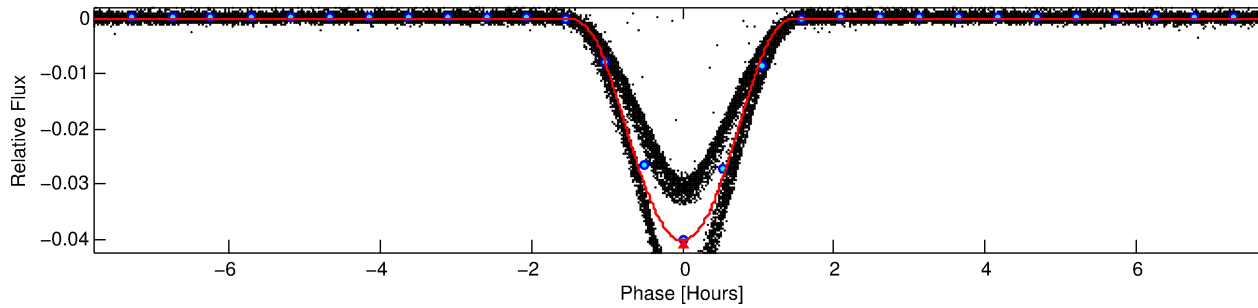
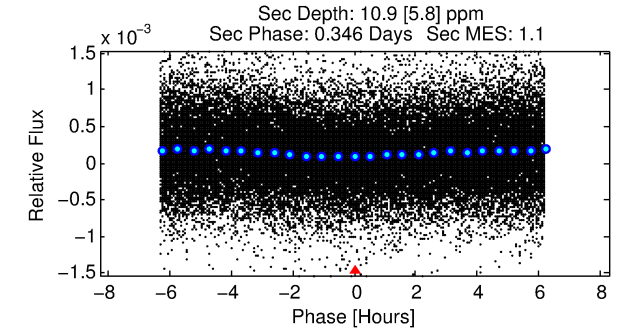
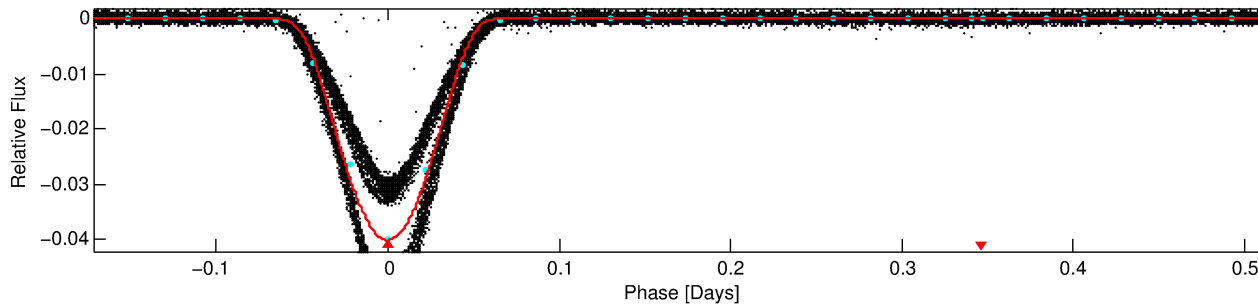
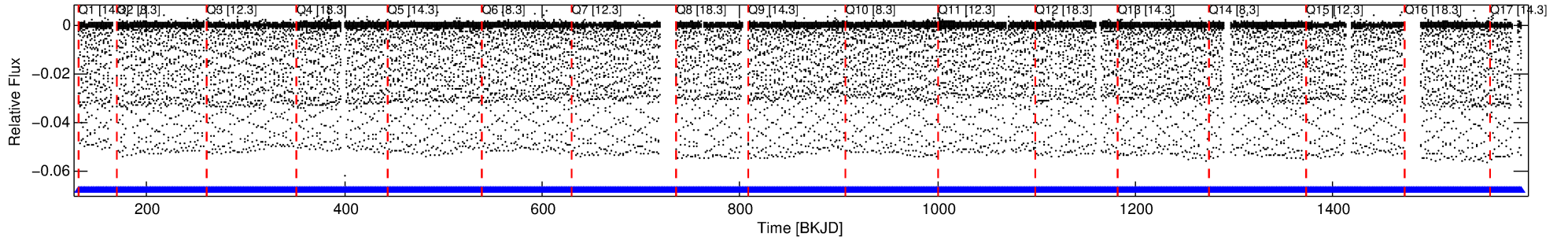
Ephemeris Match Information For 006452742-01

No Significant Match Found

DV One-Page Summary

KIC: 6452742 Candidate: 1 of 1 Period: 0.688 d
KOI: K06715.01 Corr: 0.986

Kp: 14.73 R*: 0.93 Rs Teff: 5885.0 K Logg: 4.41 Fe/H: -0.520



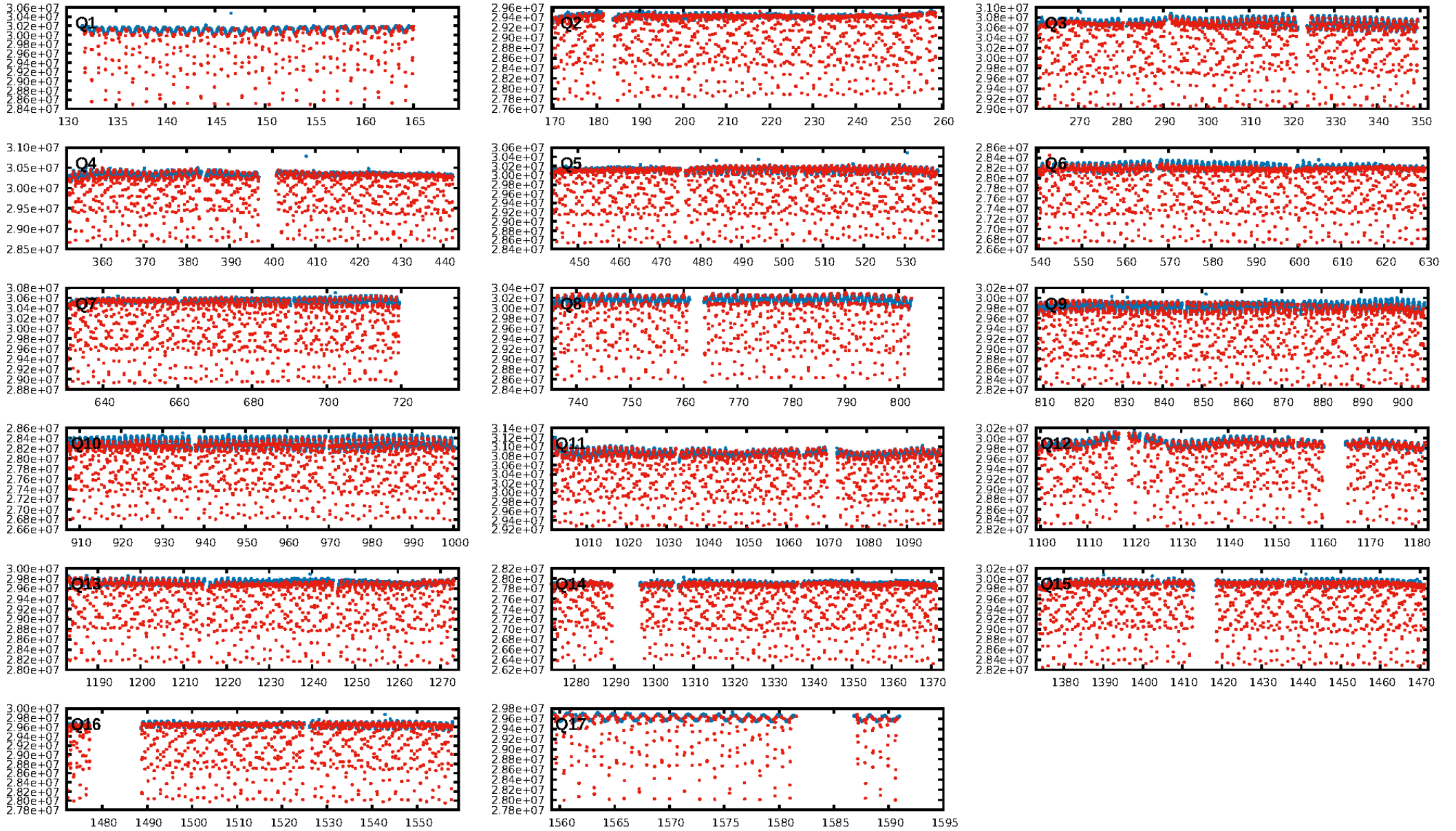
DV Fit Results:

Period = 0.68777 [0.00000] d
Epoch = 131.8689 [0.0000] BKJD
Rp/R* = 0.2551 [0.0034]
a/R* = 2.04 [0.00]
b = 0.90 [0.01]
Seff = 4583.64 [1570.30]
Teq = 2098 [180] K
Rp = 25.97 [6.75] Re
a = 0.0143 [0.0031] AU
Ag = 0.00 [0.00] [-887.94σ]
Teffp = 670 [91] K [-7.09σ]

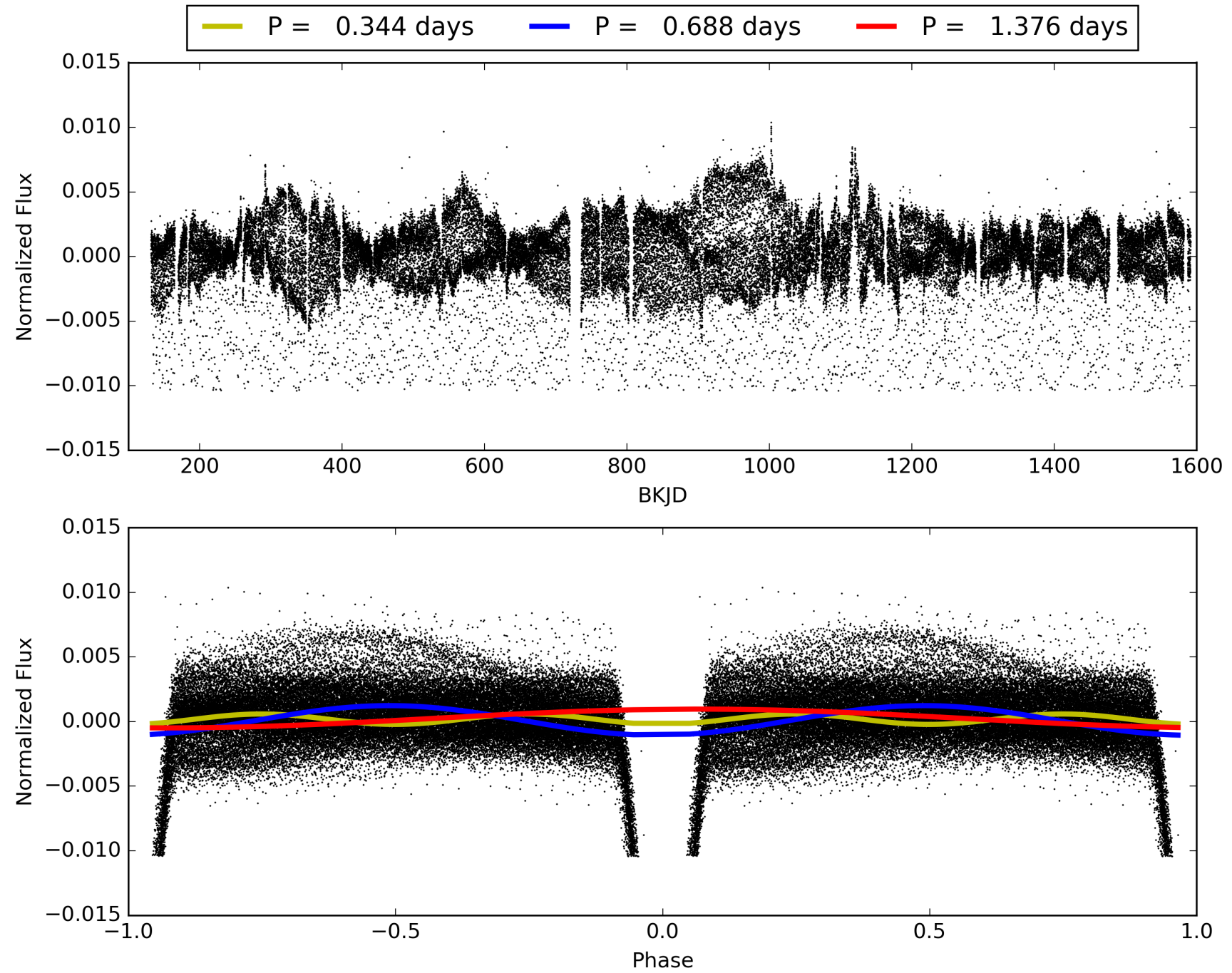
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1862/1862]
GhostDiagnostic-chr: 1.875
Centroid-sig: 0.0%
Centroid-so: 0.108 arcsec [60.33σ]
OotOffset-rm: 0.262 arcsec [3.89σ]
KicOffset-rm: 0.222 arcsec [2.88σ]
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 006452742-01, PDC Light Curves

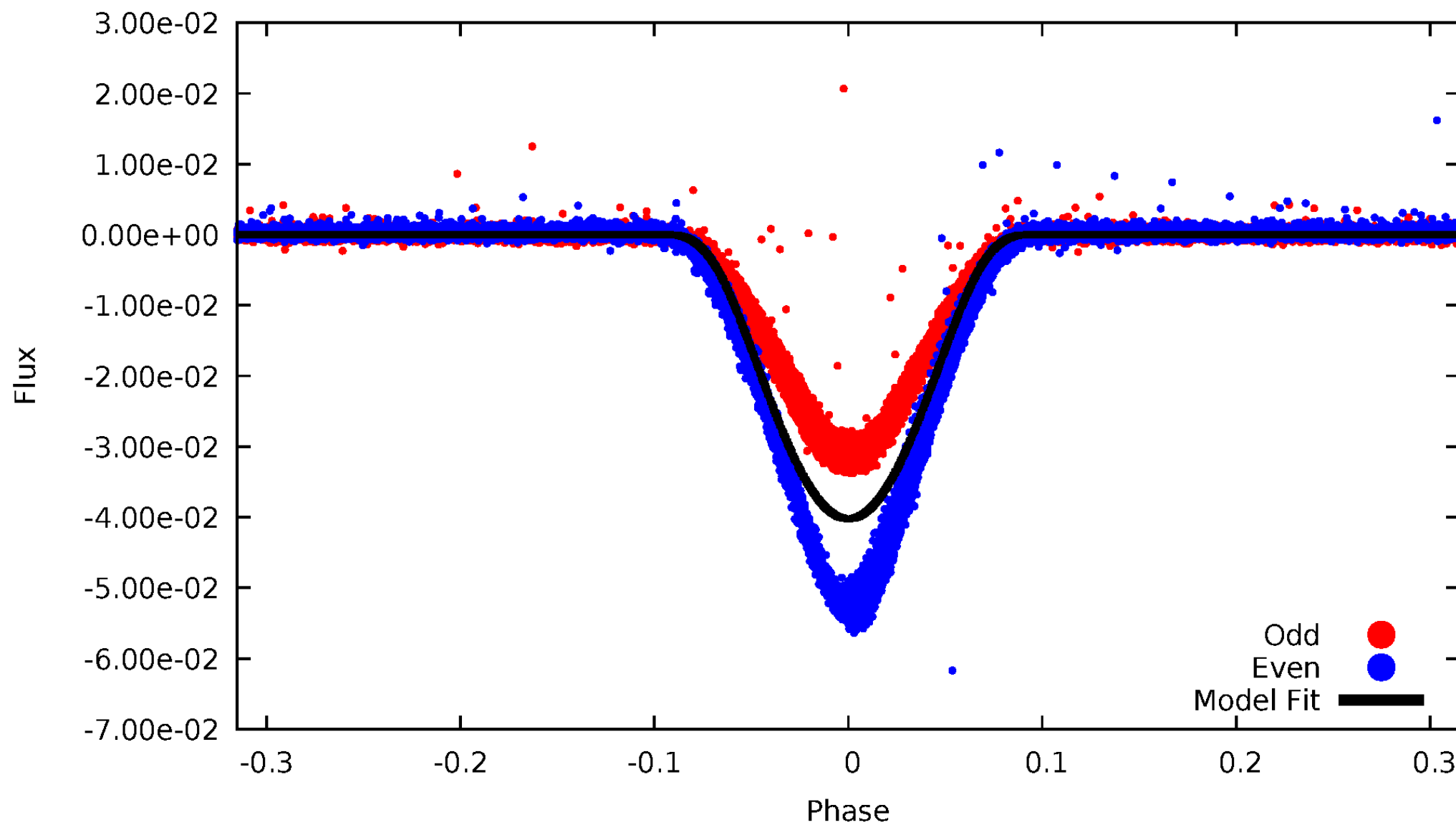


TCE 006452742-01



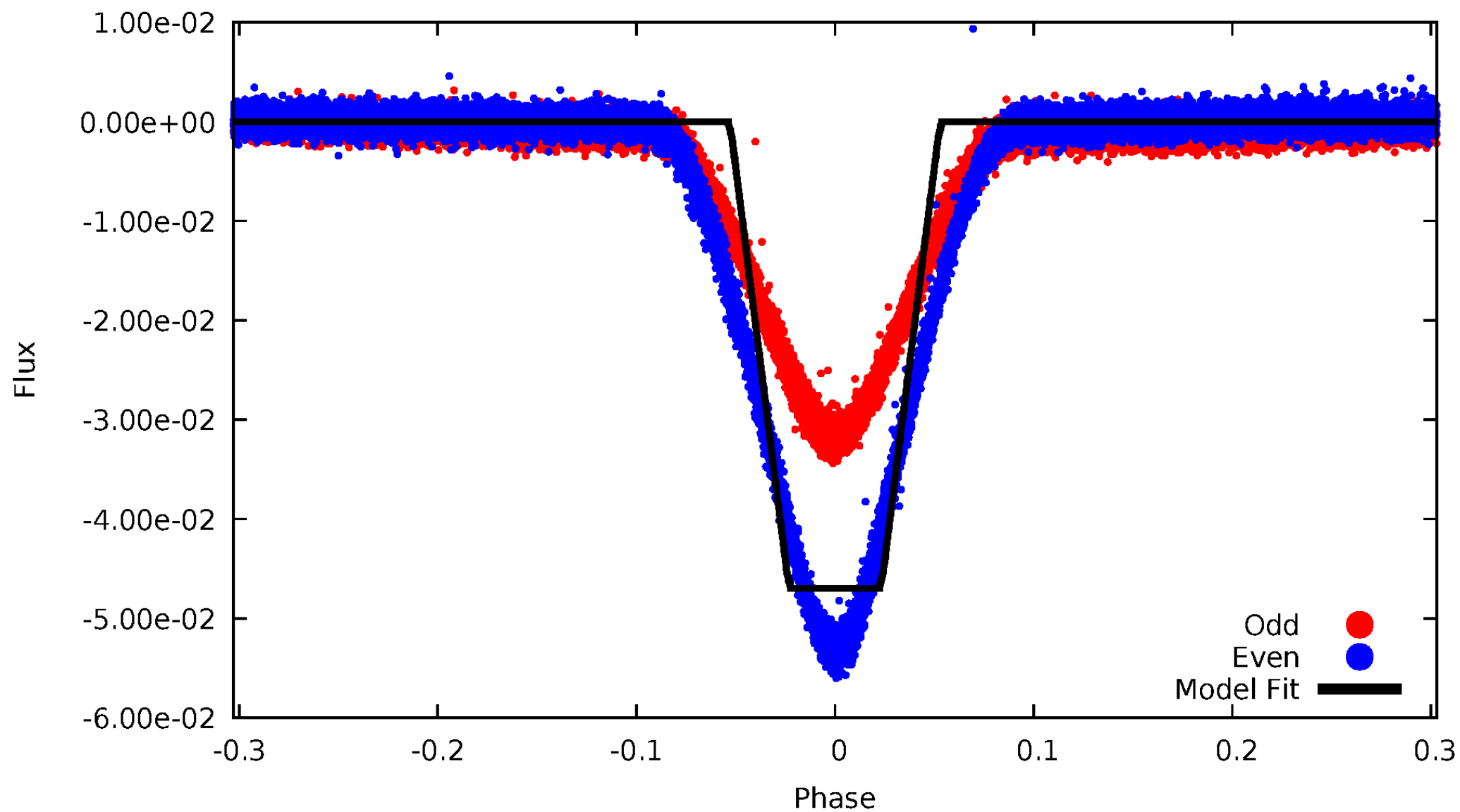
DV Odd/Even

TCE 006452742-01



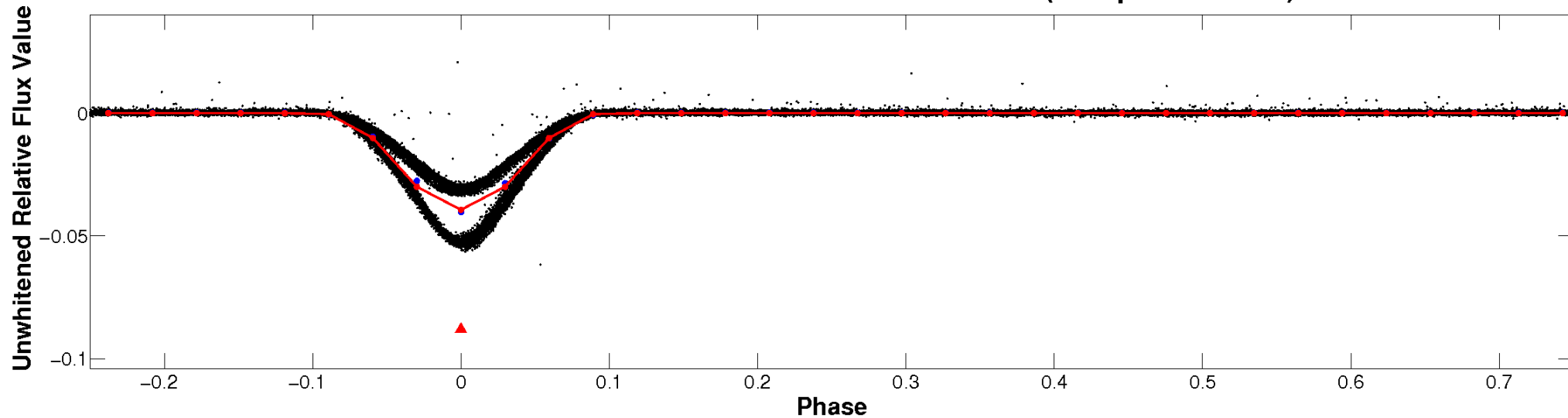
ALT Odd/Even

TCE 006452742-01

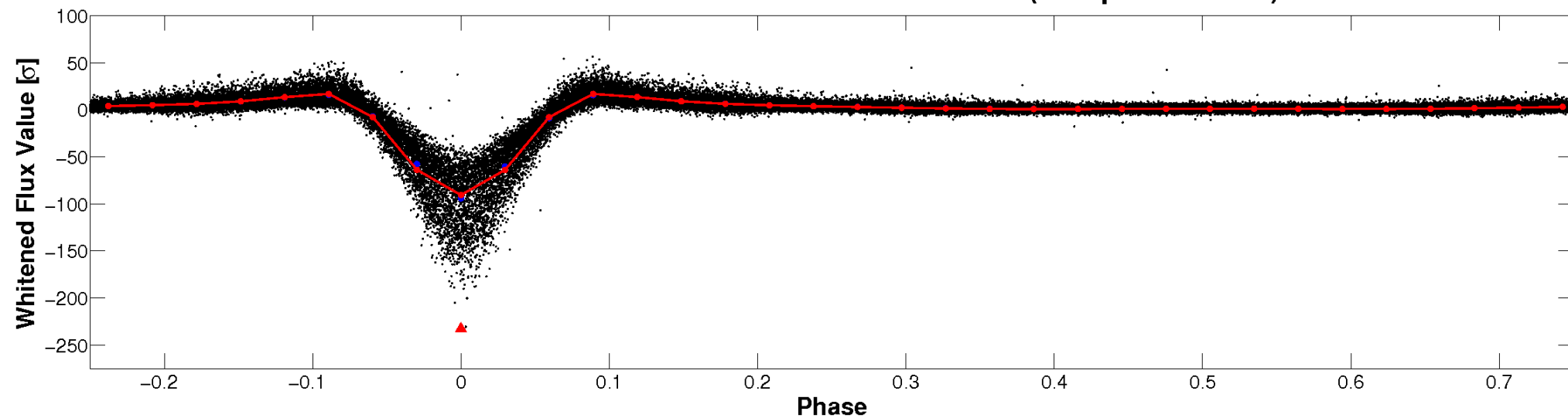


Non-Whitened Vs. Whitened Light Curve

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

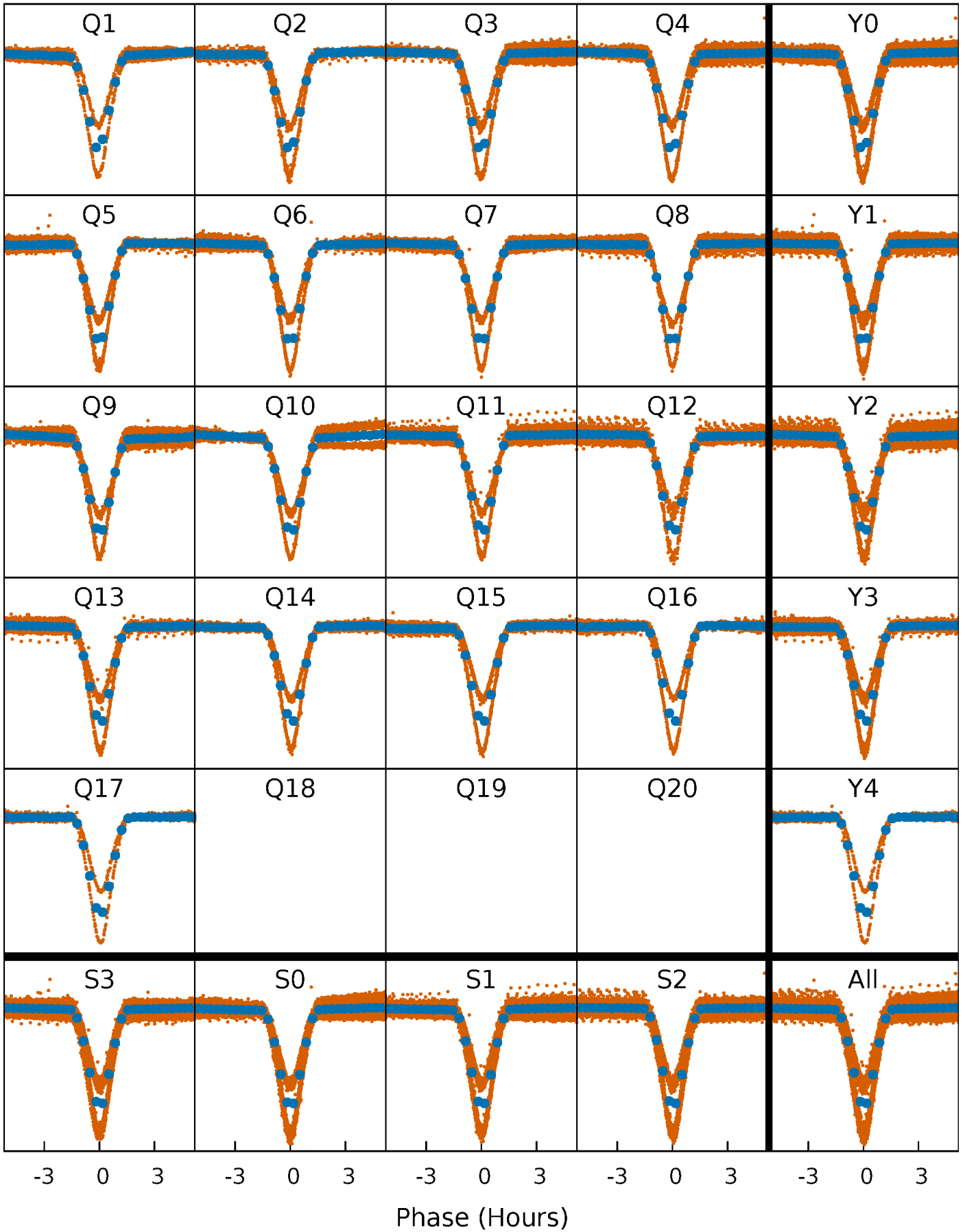


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



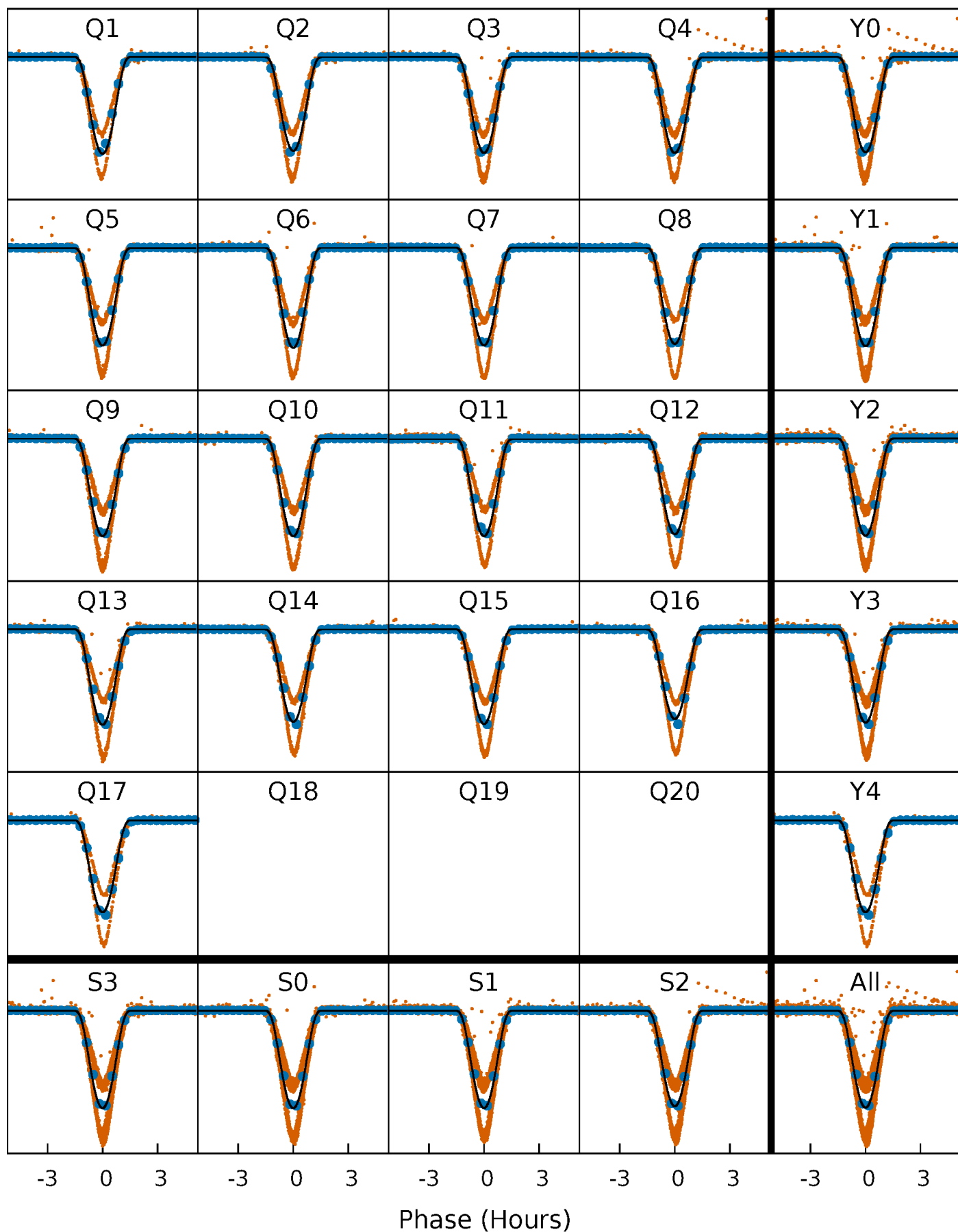
PDC Quarter-Phased Transit Curves

TCE 006452742-01 P= 0.687770 Days $T_0=131.868947$ (BKJD)



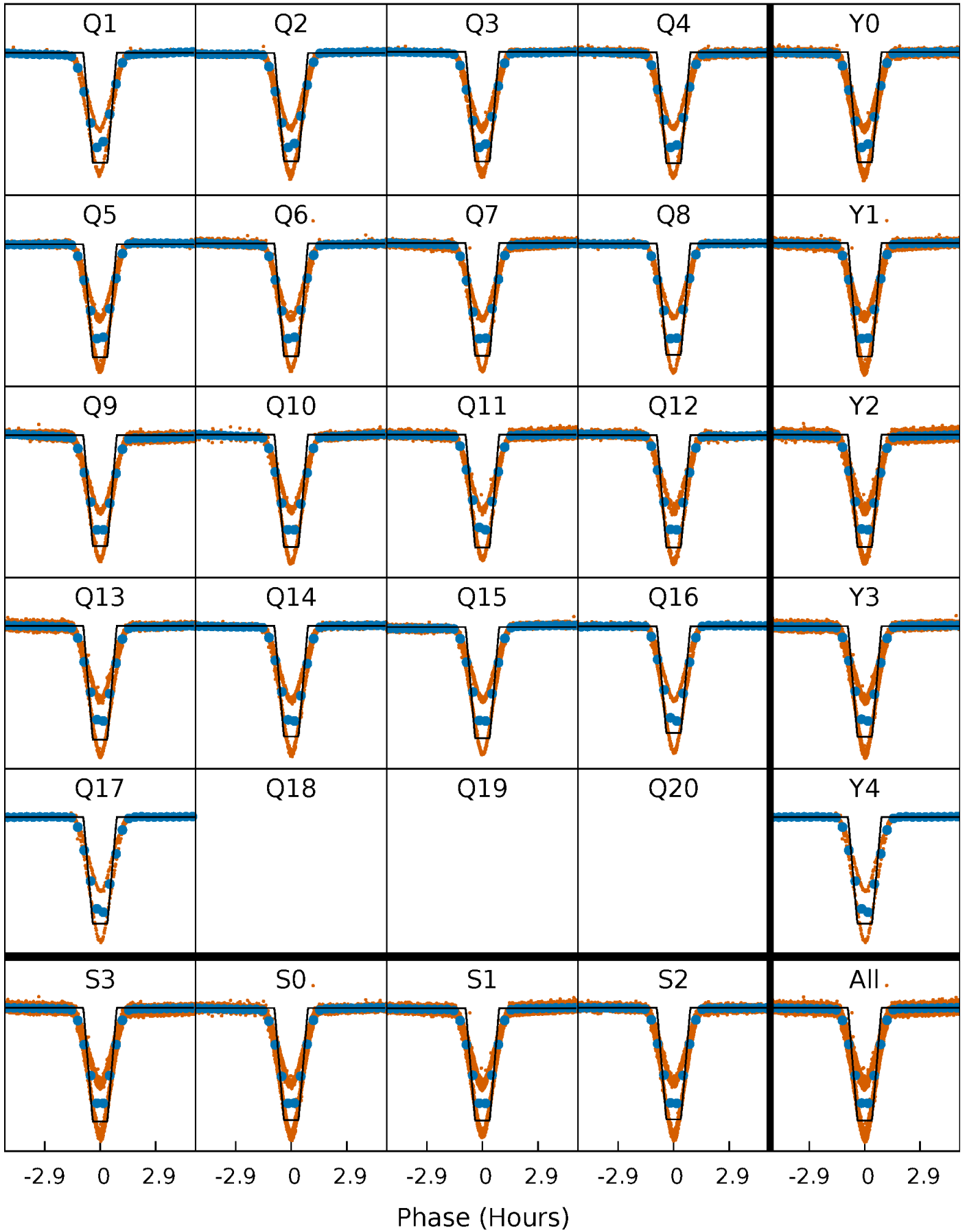
DV Quarter-Phased Transit Curves

TCE 006452742-01 P= 0.687770 Days $T_0=131.868947$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

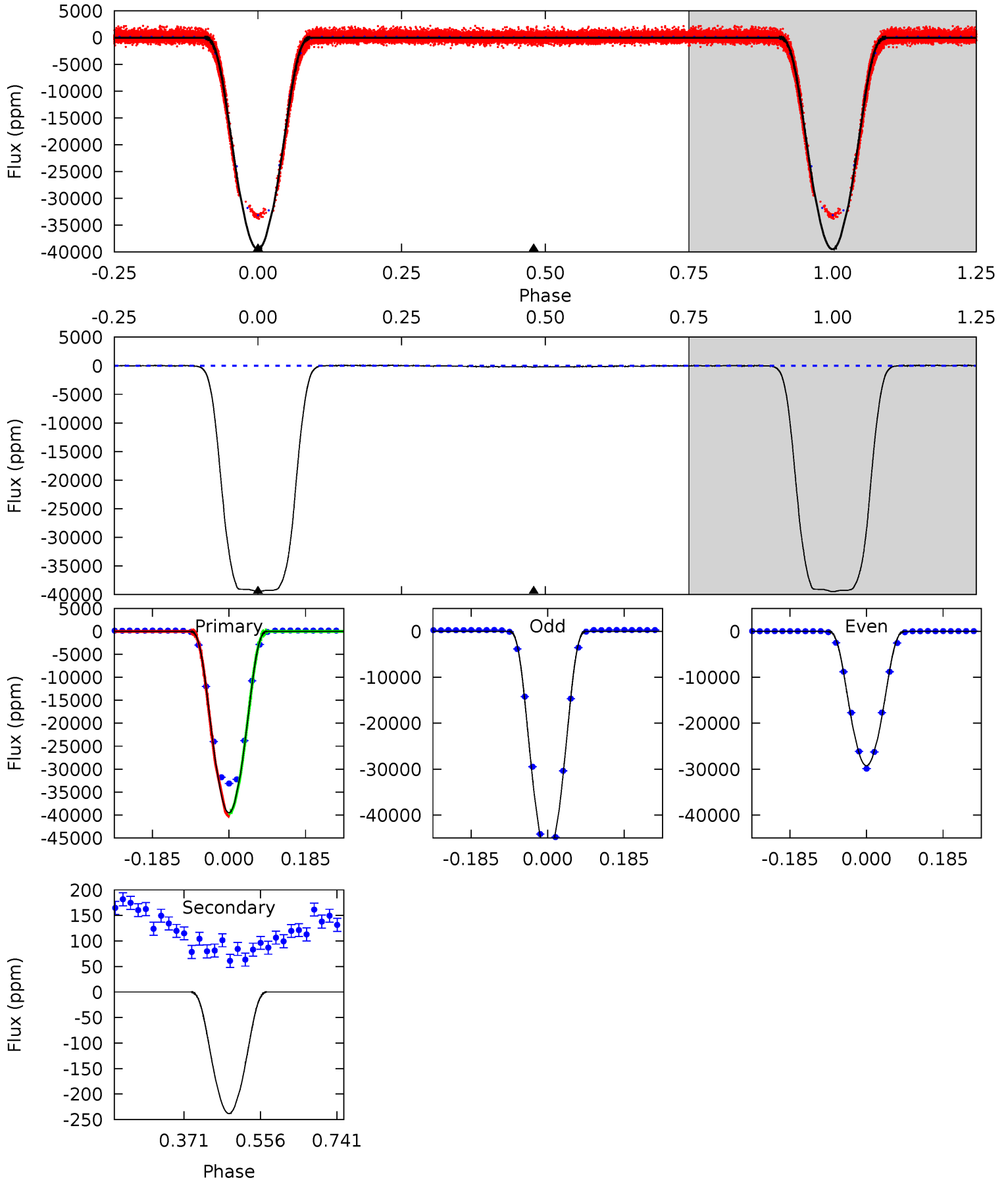
TCE 006452742-01 P= 0.687771 Days $T_0=131.868062$ (BKJD)



DV Model-Shift Uniqueness Test

006452742-01, P = 0.687770 Days, E = 131.181177 Days

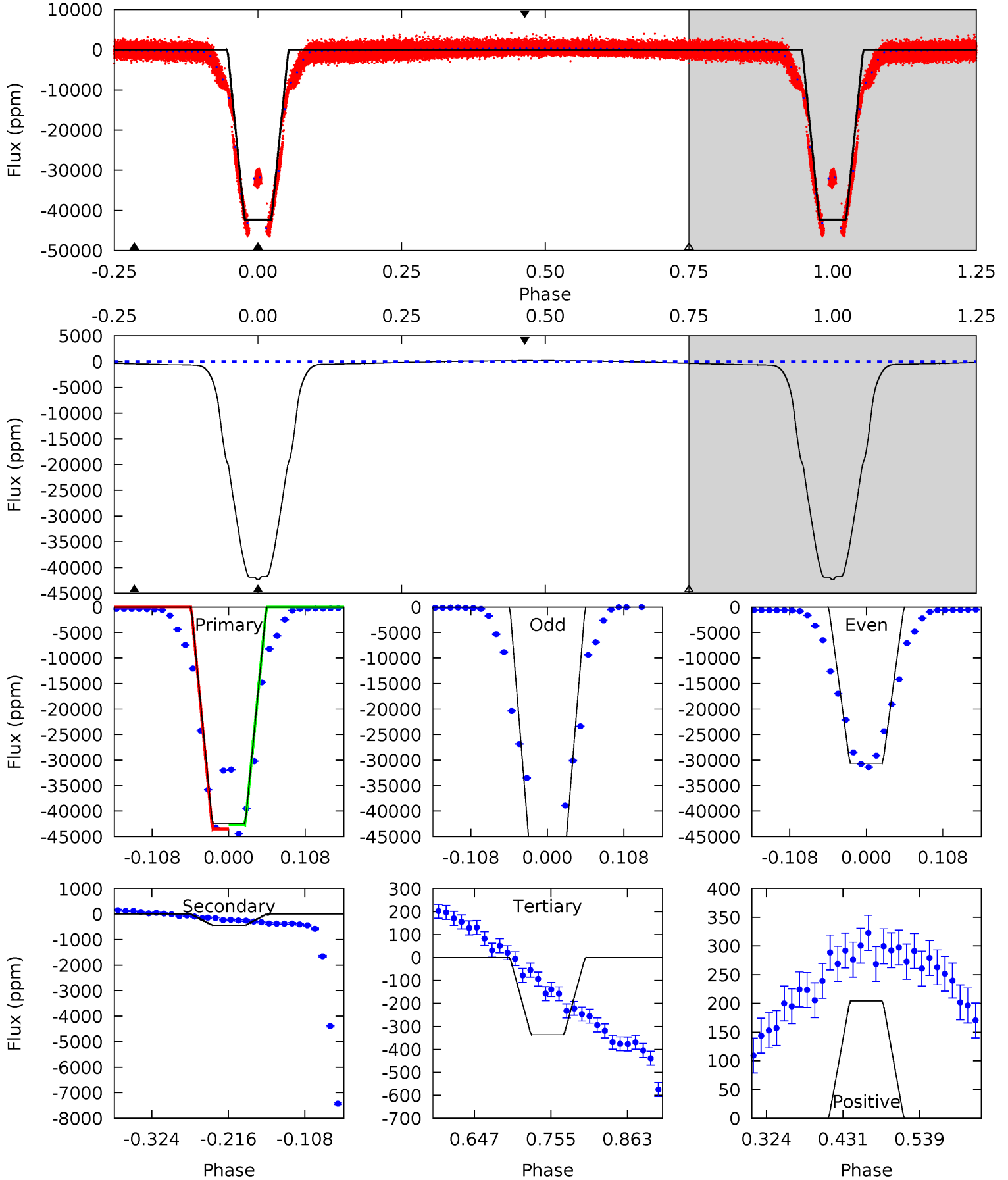
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5902	35.6	0	0	4.43	1.32	5.95	5902	5902	35.6	35.6	2075	1.20	0.00	0



Alt Model-Shift Uniqueness Test

006452742-01, P = 0.687771 Days, E = 131.180291 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2530	26.4	20.1	12.2	4.55	1.61	13.1	2510	2518	6.36	14.2	762.3	1.18	0.00	0



Stellar Parameters For KIC 006452742

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5885^{+159}_{-177}	$4.413^{+0.144}_{-0.176}$	$-0.520^{+0.300}_{-0.300}$	$0.933^{+0.242}_{-0.162}$	$0.821^{+0.105}_{-0.061}$	$1.424^{+0.959}_{-0.663}$
	+3%/-3%	+3%/-4%	+58%/-58%	+26%/-17%	+13%/-7%	+67%/-47%
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 006452742-01 / KOI 6715.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-238 ± 7	$26.22^{+3.98}_{-2.73}$	2939^{+212}_{-174}	-2995^{+115}_{-136}	$0.039^{+0.009}_{-0.009}$
Alt.	-443 ± 17	$22.31^{+3.43}_{-2.25}$	2957^{+207}_{-183}	-2893^{+138}_{-160}	$0.101^{+0.023}_{-0.025}$

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 $A_{obs} \gg 1.0$

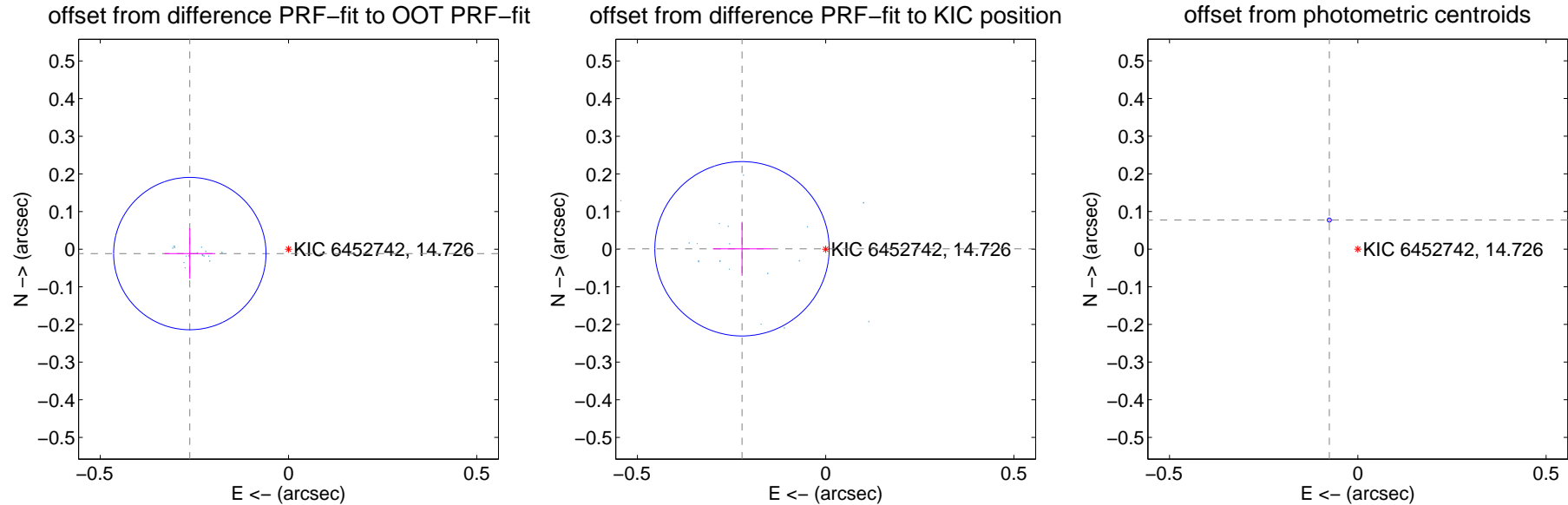
DV Centroid Data

Supplemental centroid analysis for 006452742-01. Kepler magnitude: 14.73. Transit SNR 2138.39

There are 17 quarters with good PRF difference image offsets

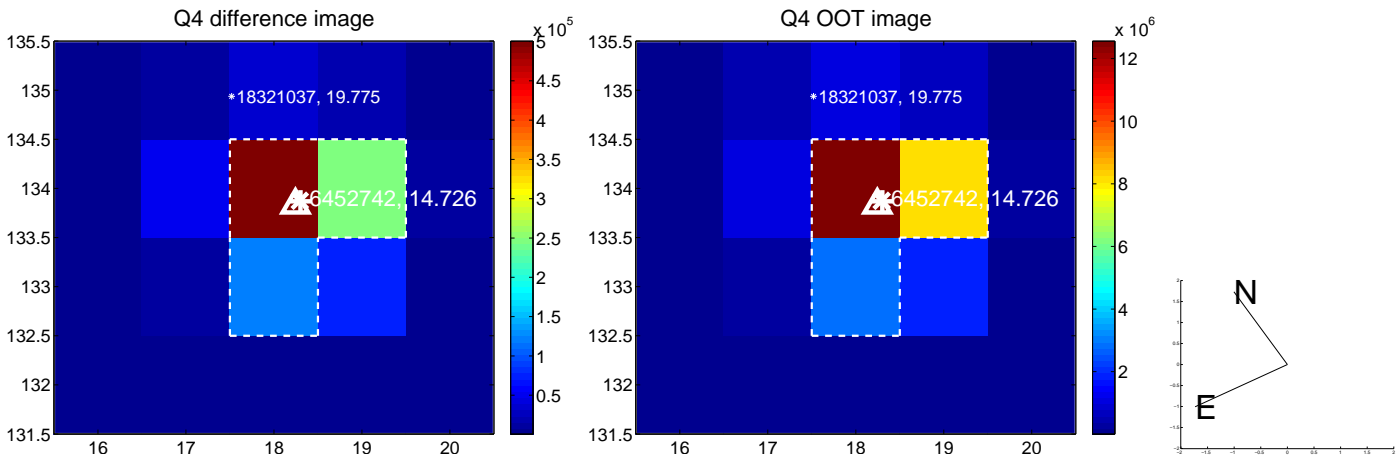
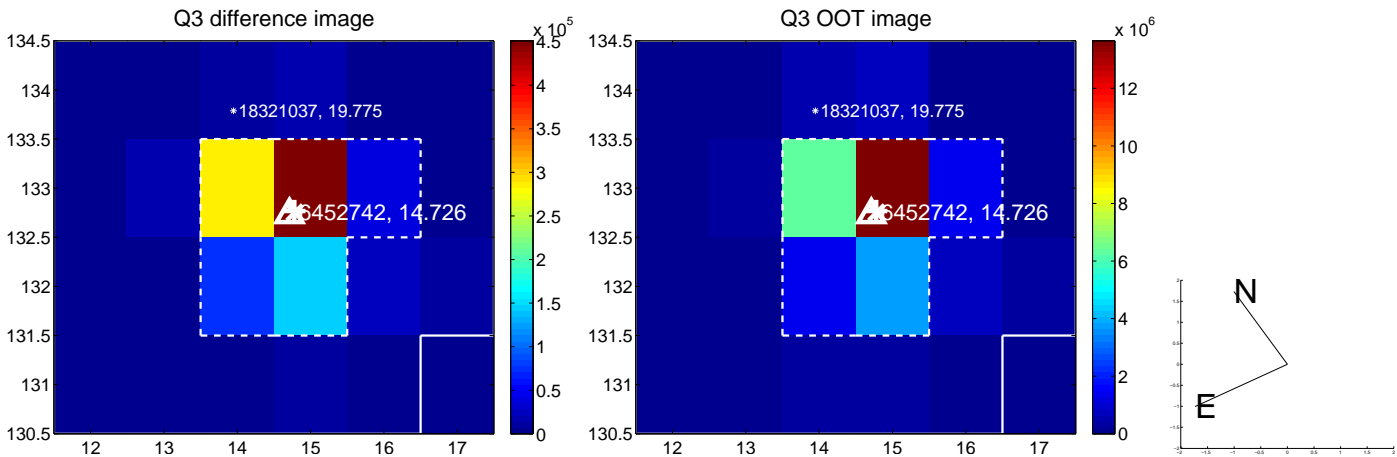
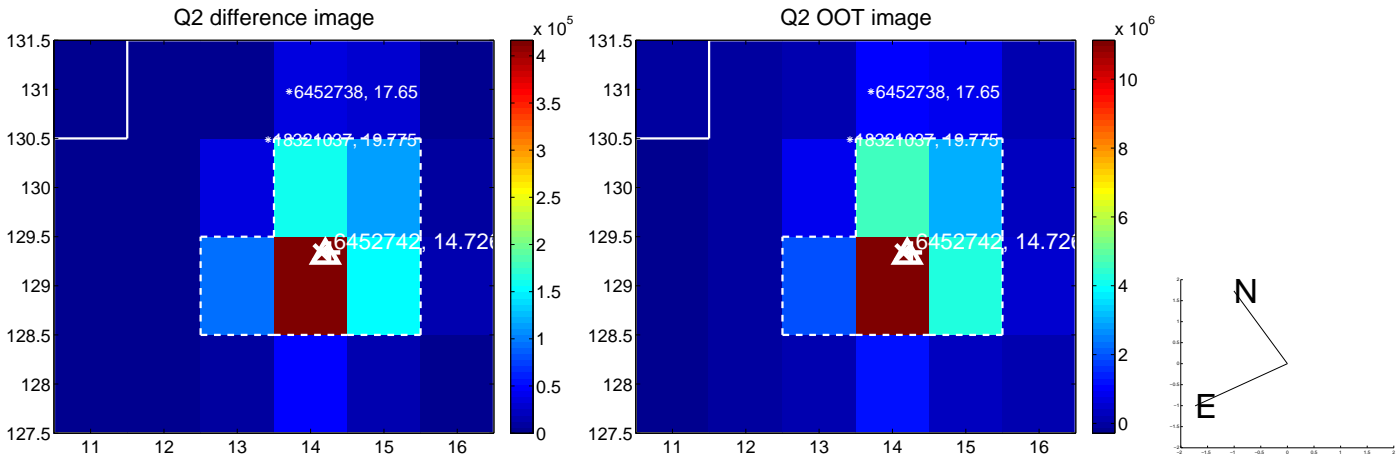
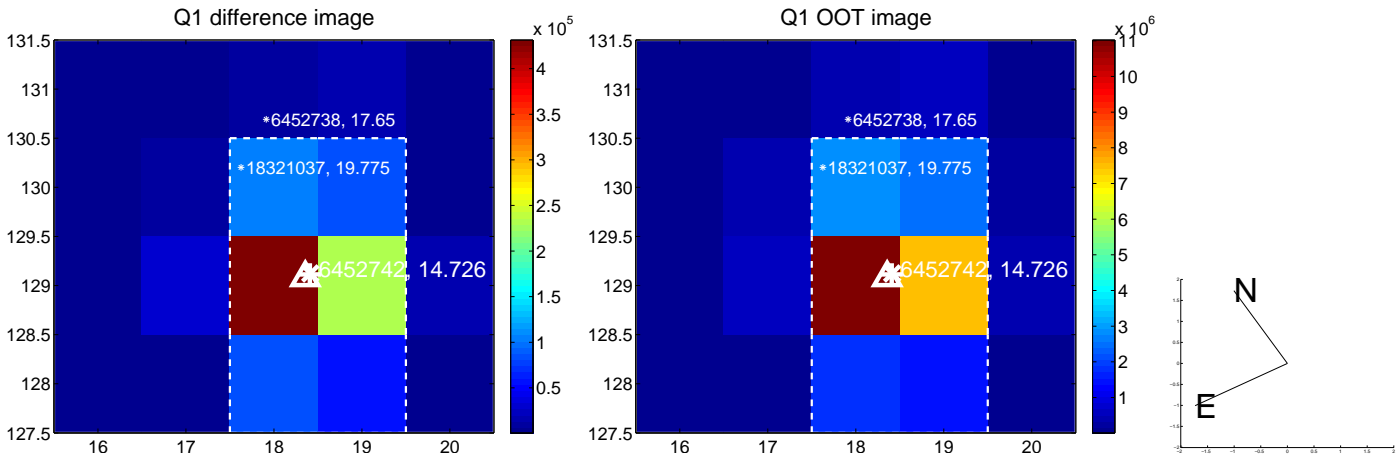
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.262 ± 0.067	3.89	0.262 ± 0.067	-0.012 ± 0.067
PRF-fit source offset from KIC position	0.222 ± 0.077	2.88	0.222 ± 0.077	0.001 ± 0.072
photometric centroid source offset	0.11 ± 0.00	60.33	0.08 ± 0.00	0.08 ± 0.00

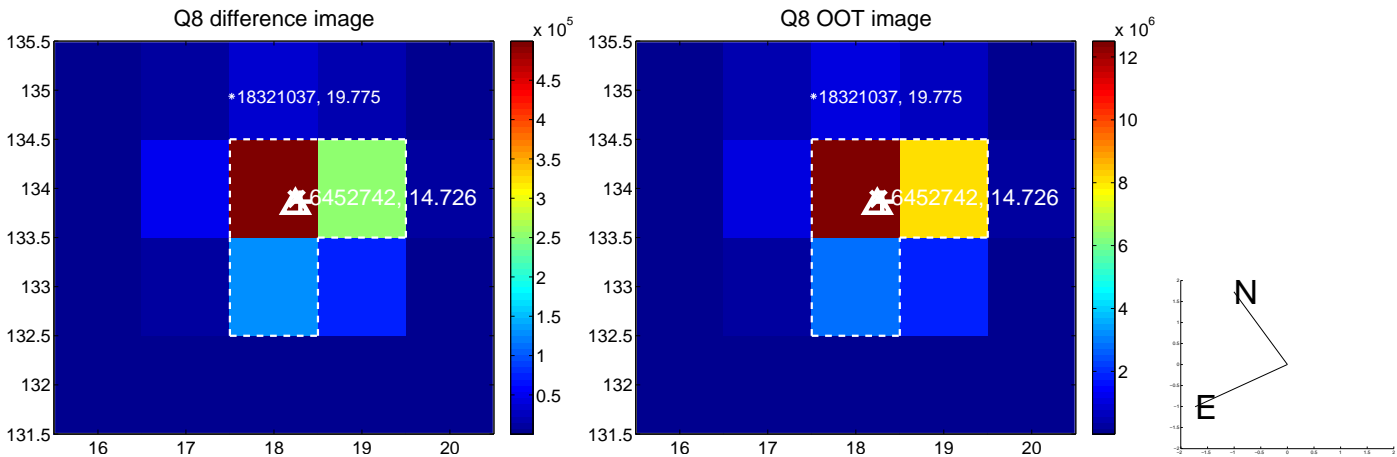
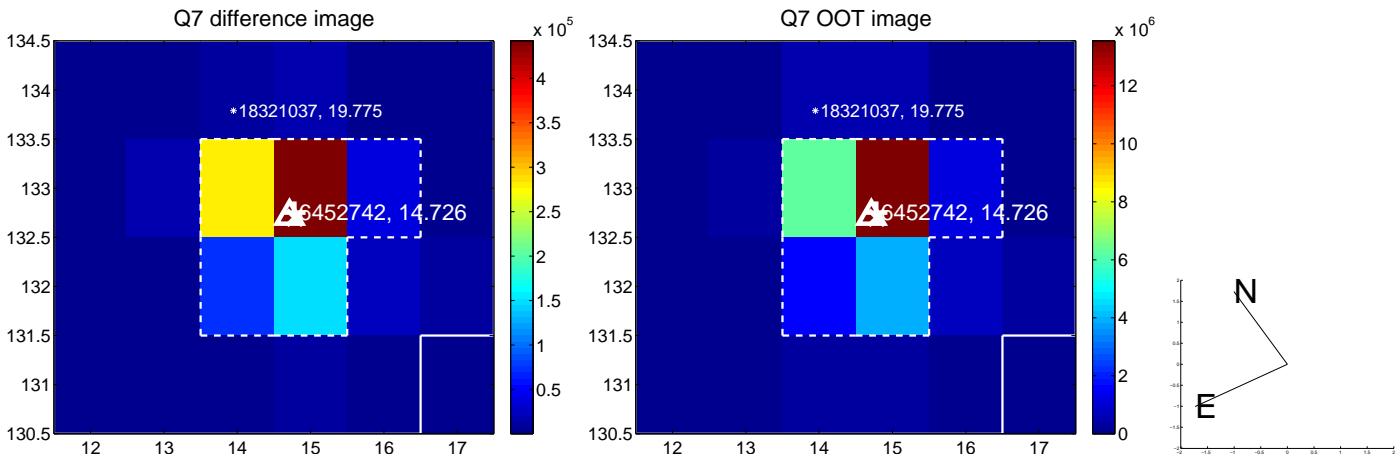
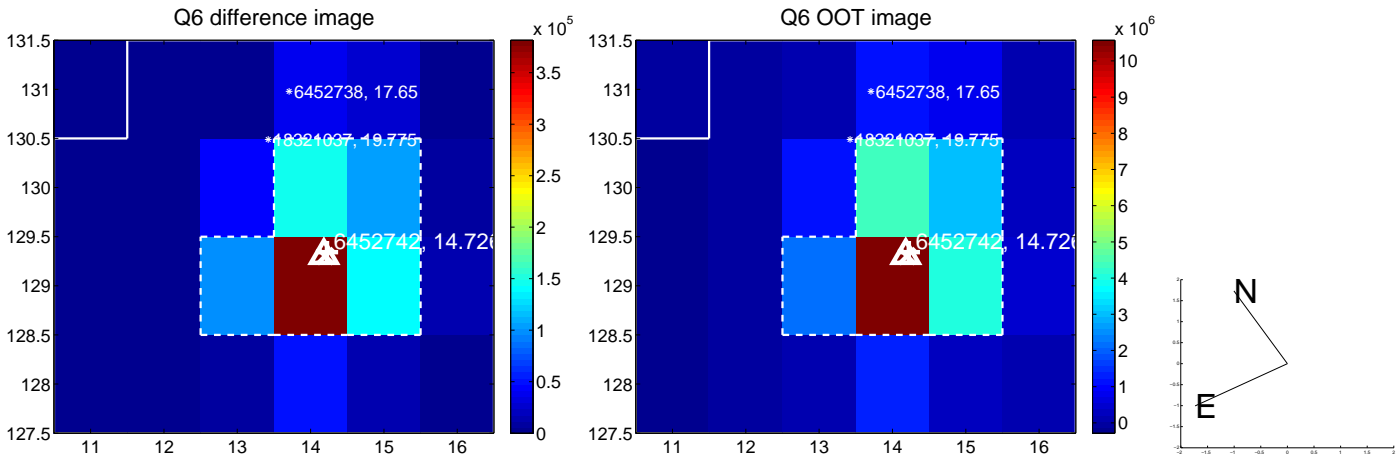
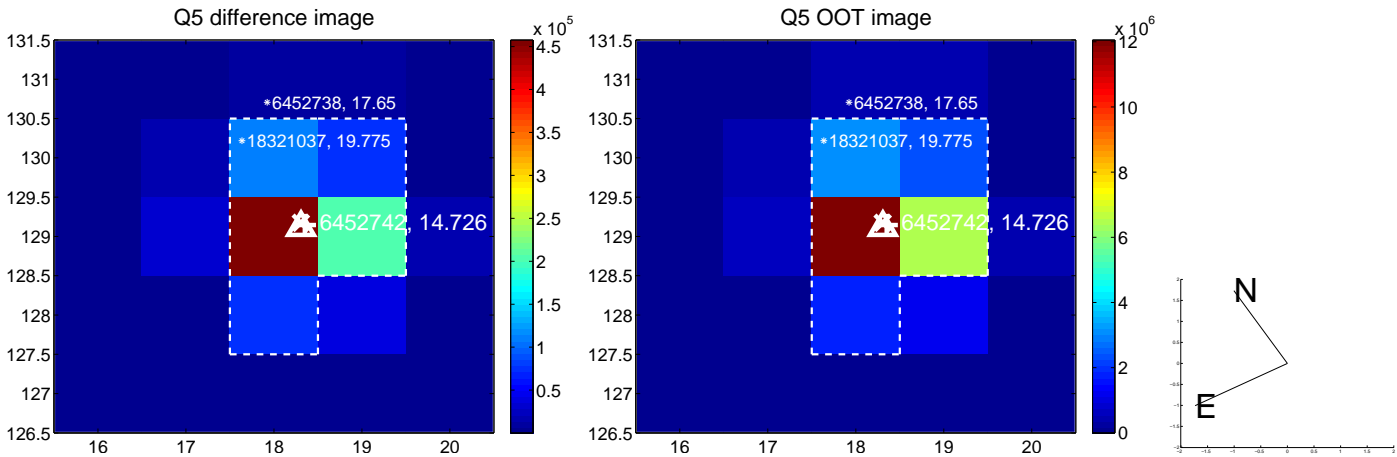


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

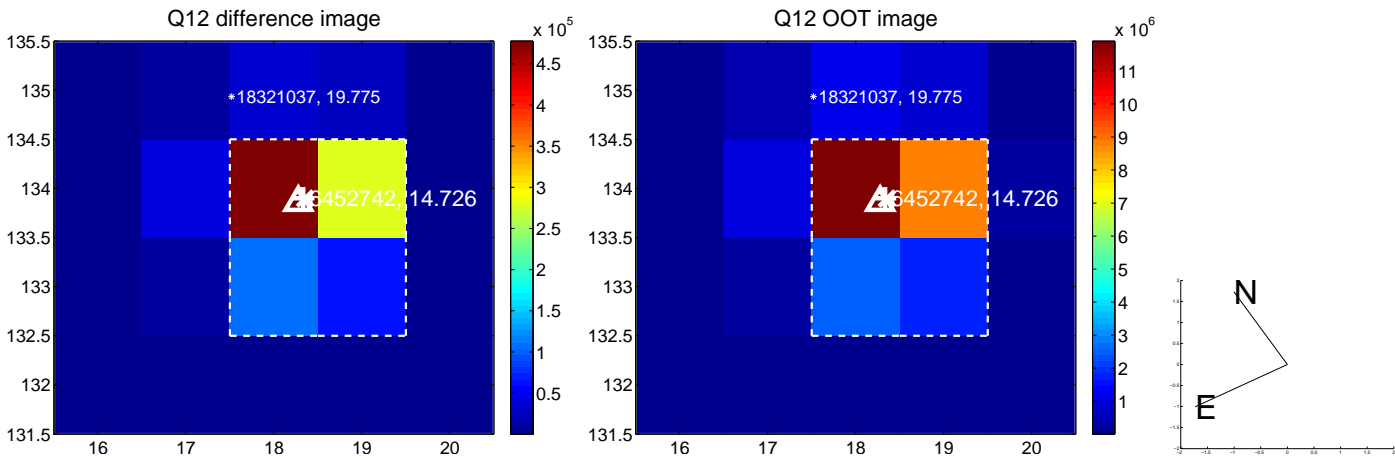
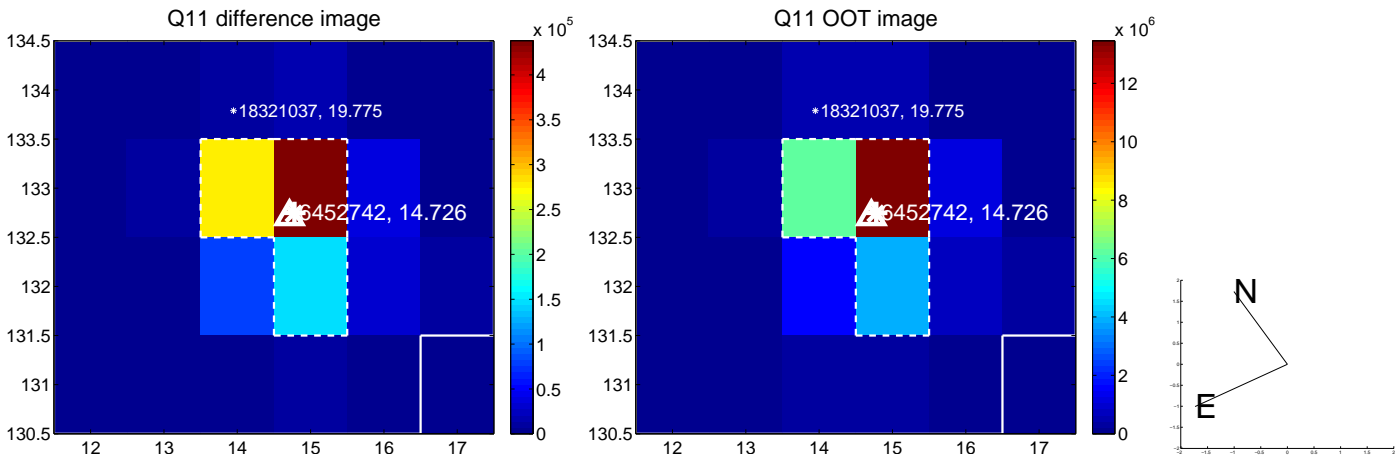
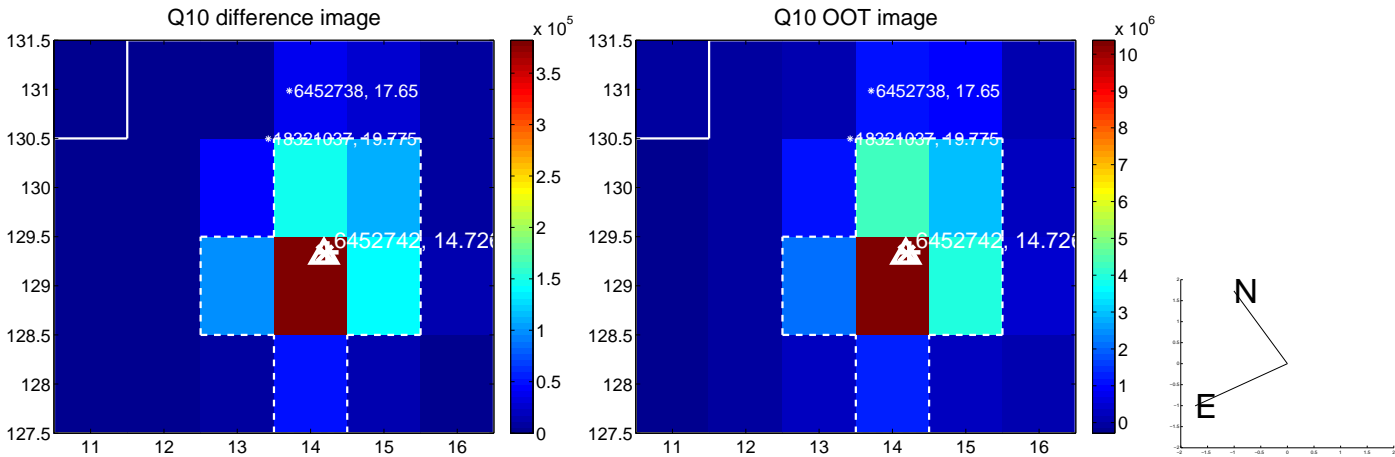
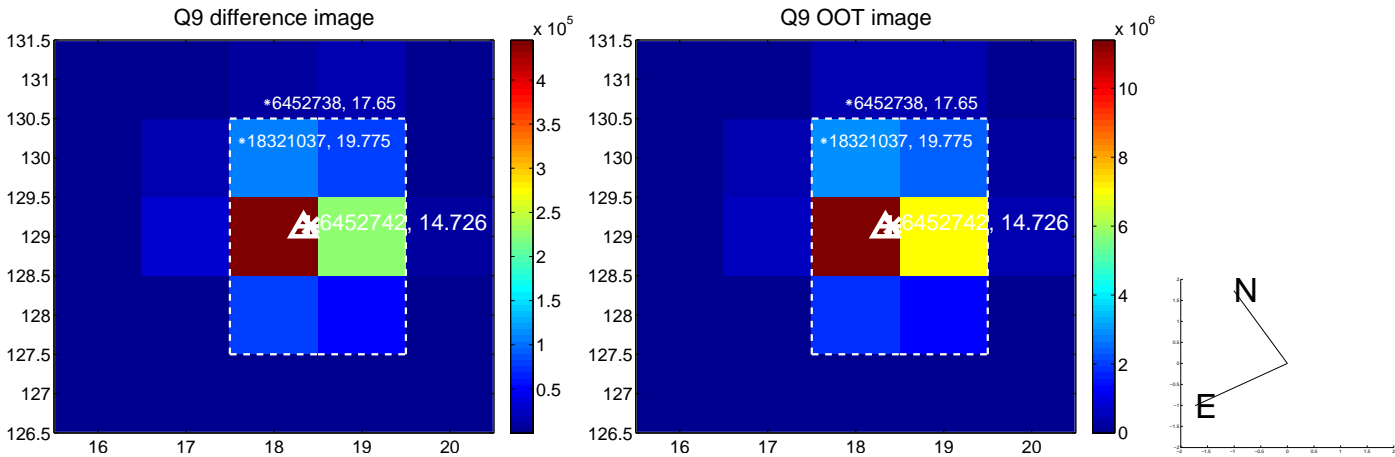
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



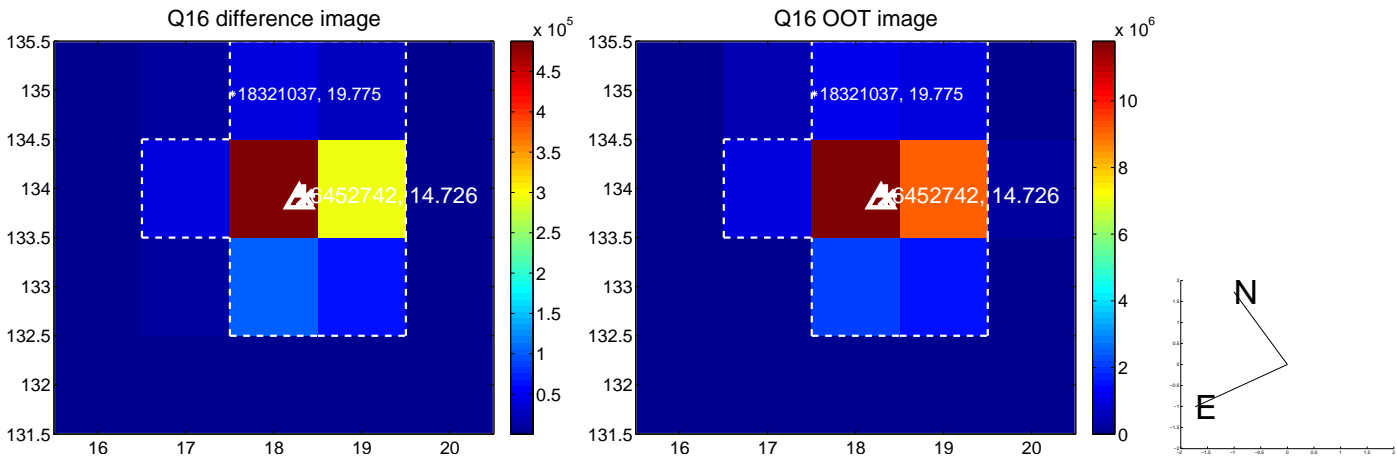
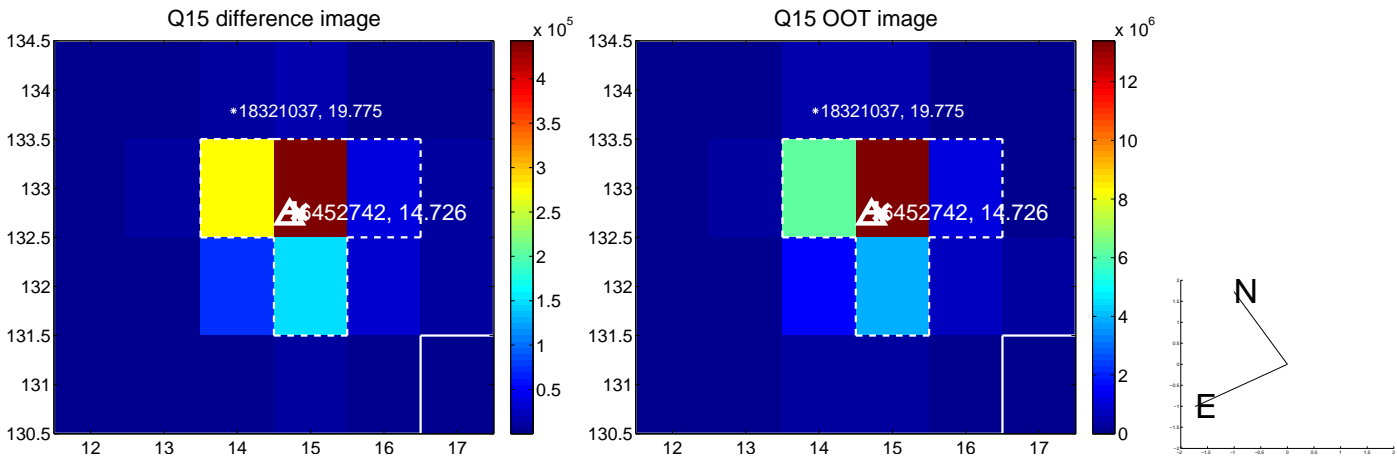
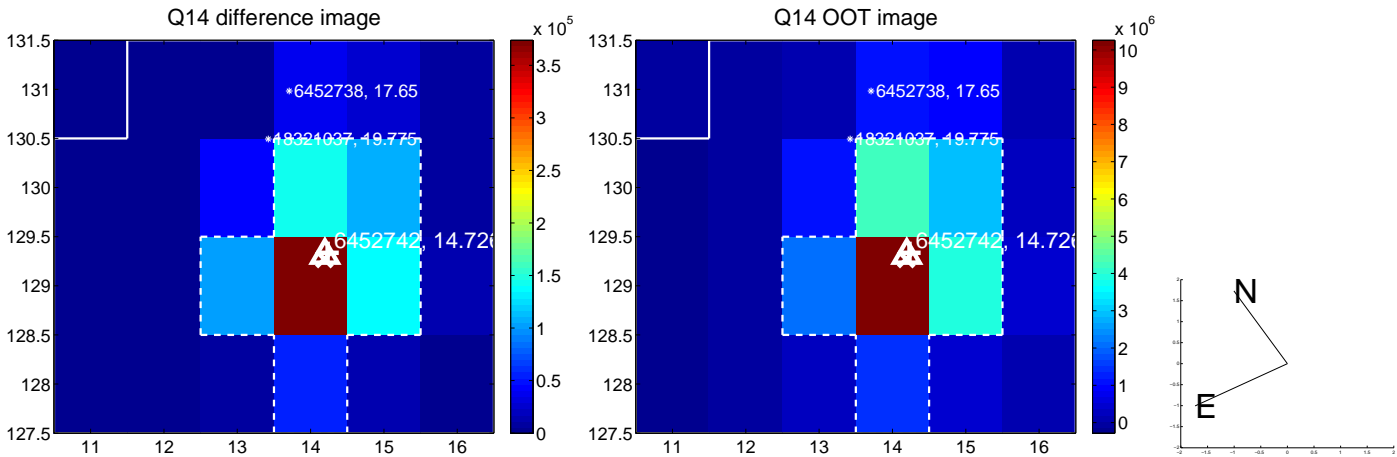
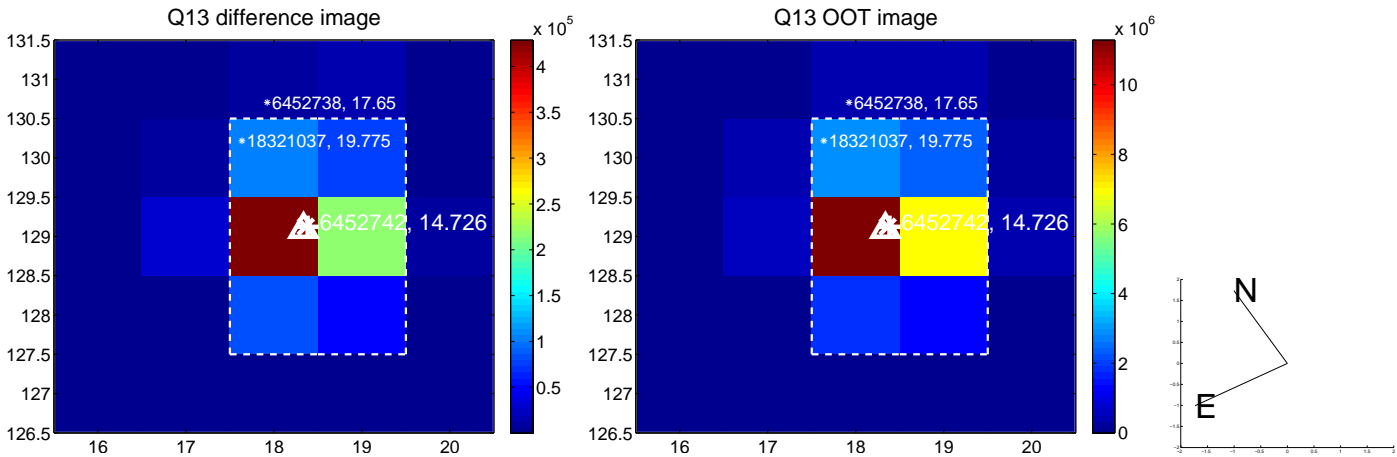
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

