

KIC 008552202

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})
008552202-01	OBS	0914.01	3.886645	134.759253	562.4	3.329	41.2	45.4	0.74	5662	2.07	246.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008552202-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS

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.

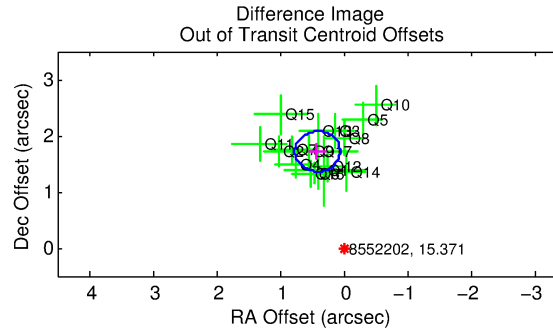
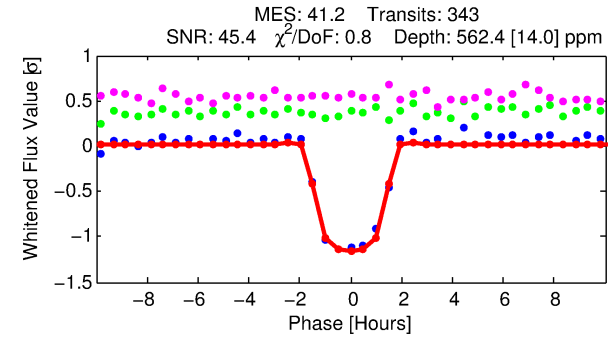
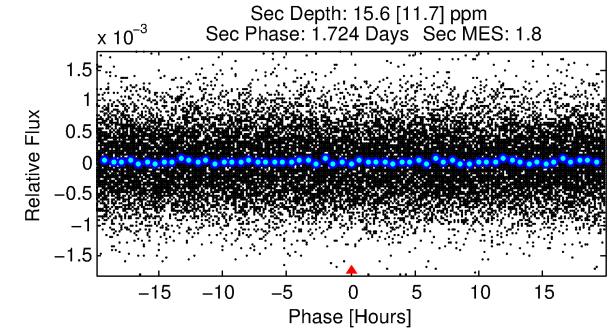
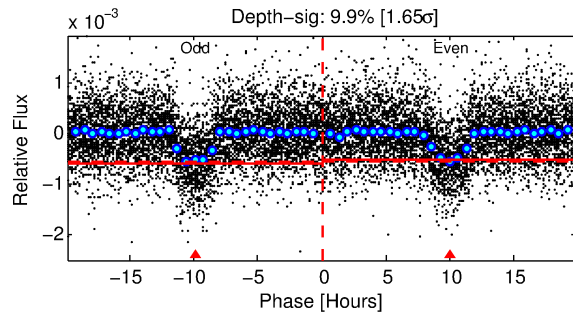
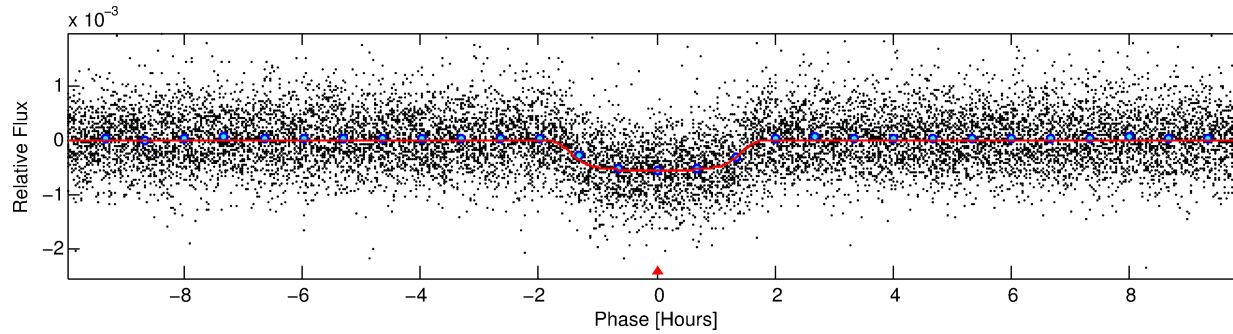
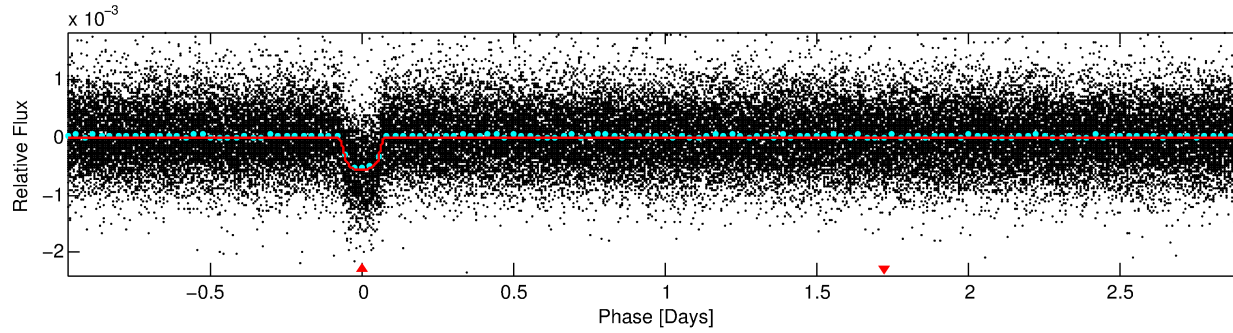
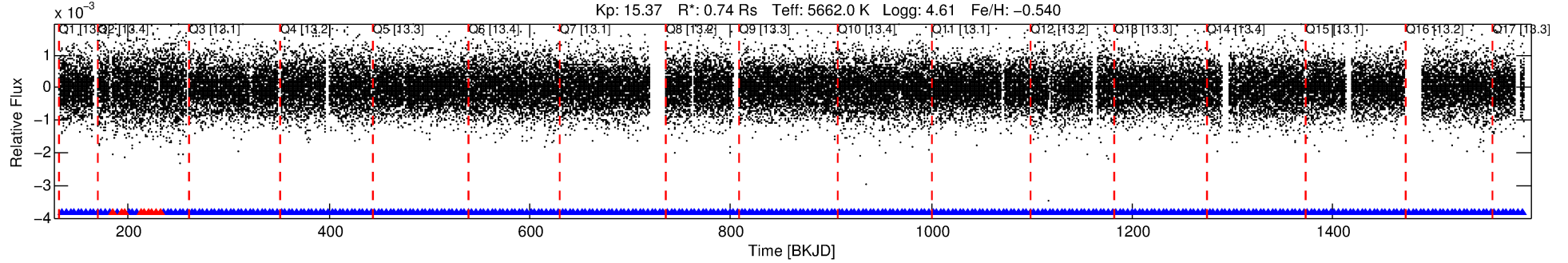
Ephemeris Match Information For 008552202-01

No Significant Match Found

DV One-Page Summary

KIC: 8552202 Candidate: 1 of 1 Period: 3.887 d
KOI: K00914.01 Corr: 0.977

Kp: 15.37 R*: 0.74 Rs Teff: 5662.0 K Logg: 4.61 Fe/H: -0.540



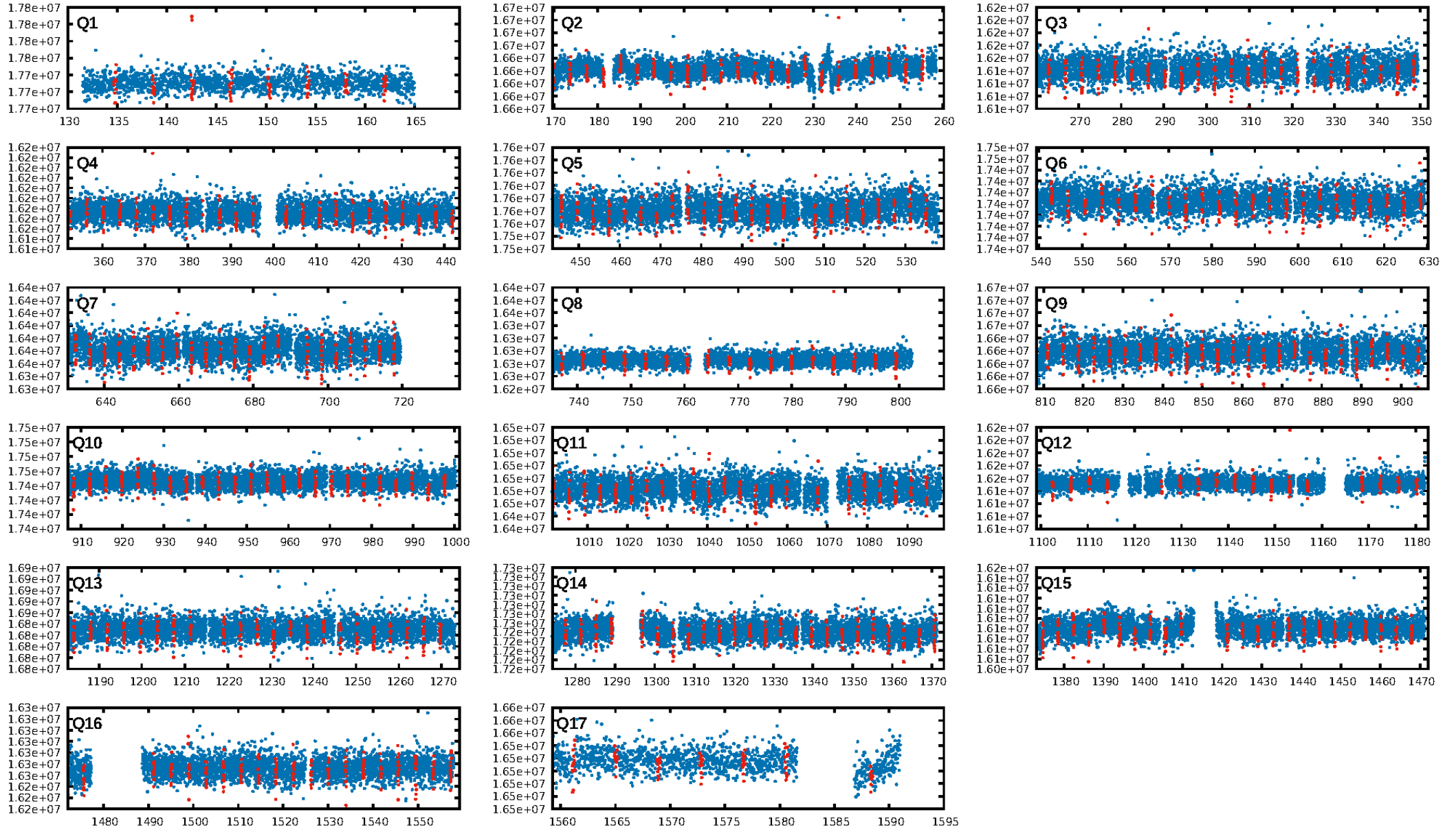
DV Fit Results:

Period = 3.88665 [0.00001] d
Epoch = 134.7593 [0.0013] BKJD
Rp/R* = 0.0257 [0.0016]
a/R* = 4.50 [1.26]
b = 0.90 [0.06]
Seff = 246.63 [61.22]
Teq = 1011 [63] K
Rp = 2.07 [0.41] Re
a = 0.0451 [0.0071] AU
Ag = 4.07 [3.24] [0.95σ]
Teff = 2219 [428] K [2.80σ]

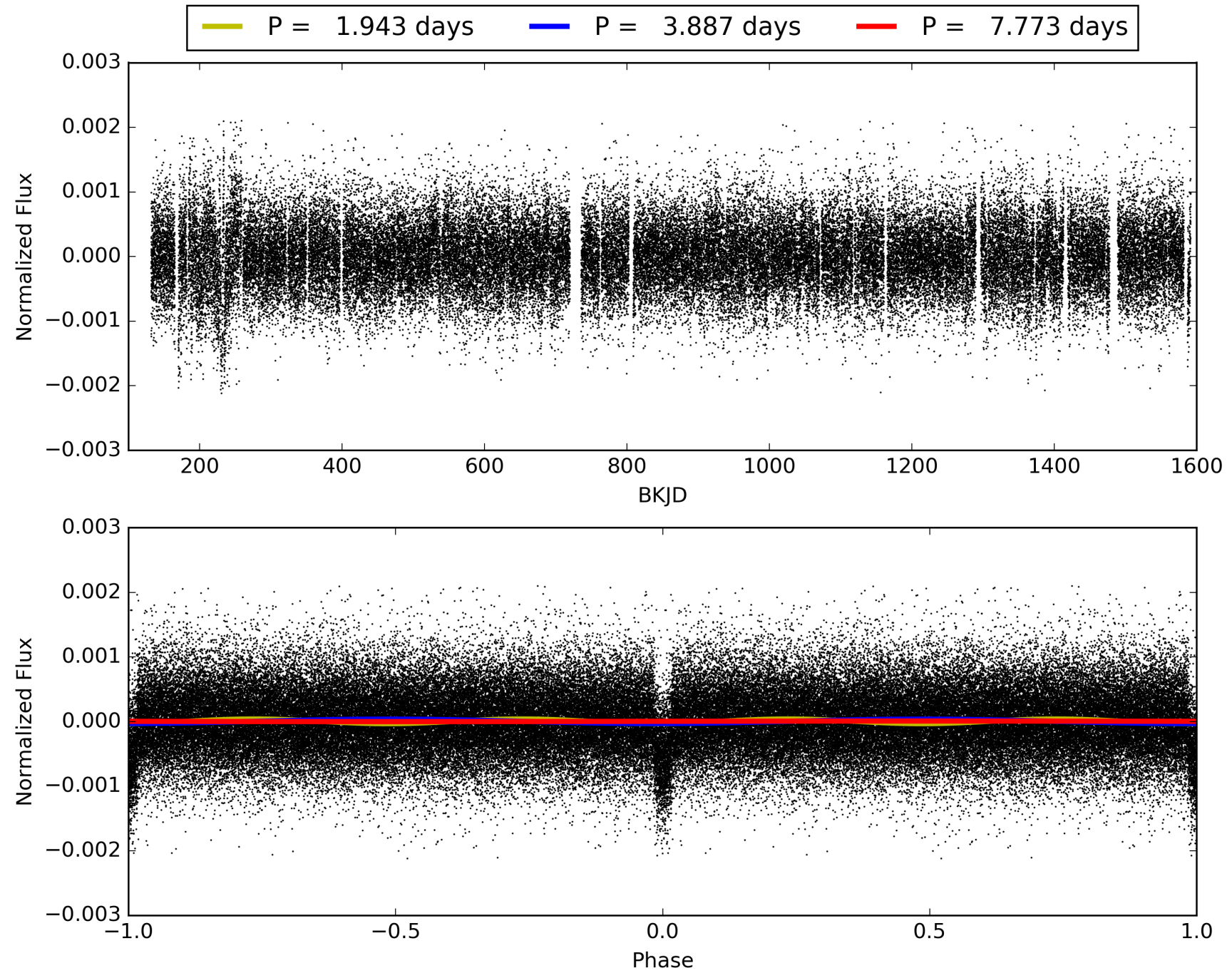
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.97 [319/328]
GhostDiagnostic-chr: 4.105
Centroid-sig: 0.0%
Centroid-so: 1.097 arcsec [6.07σ]
OotOffset-rm: 1.767 arcsec [14.81σ]
KicOffset-rm: 0.225 arcsec [1.74σ]
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 008552202-01, PDC Light Curves

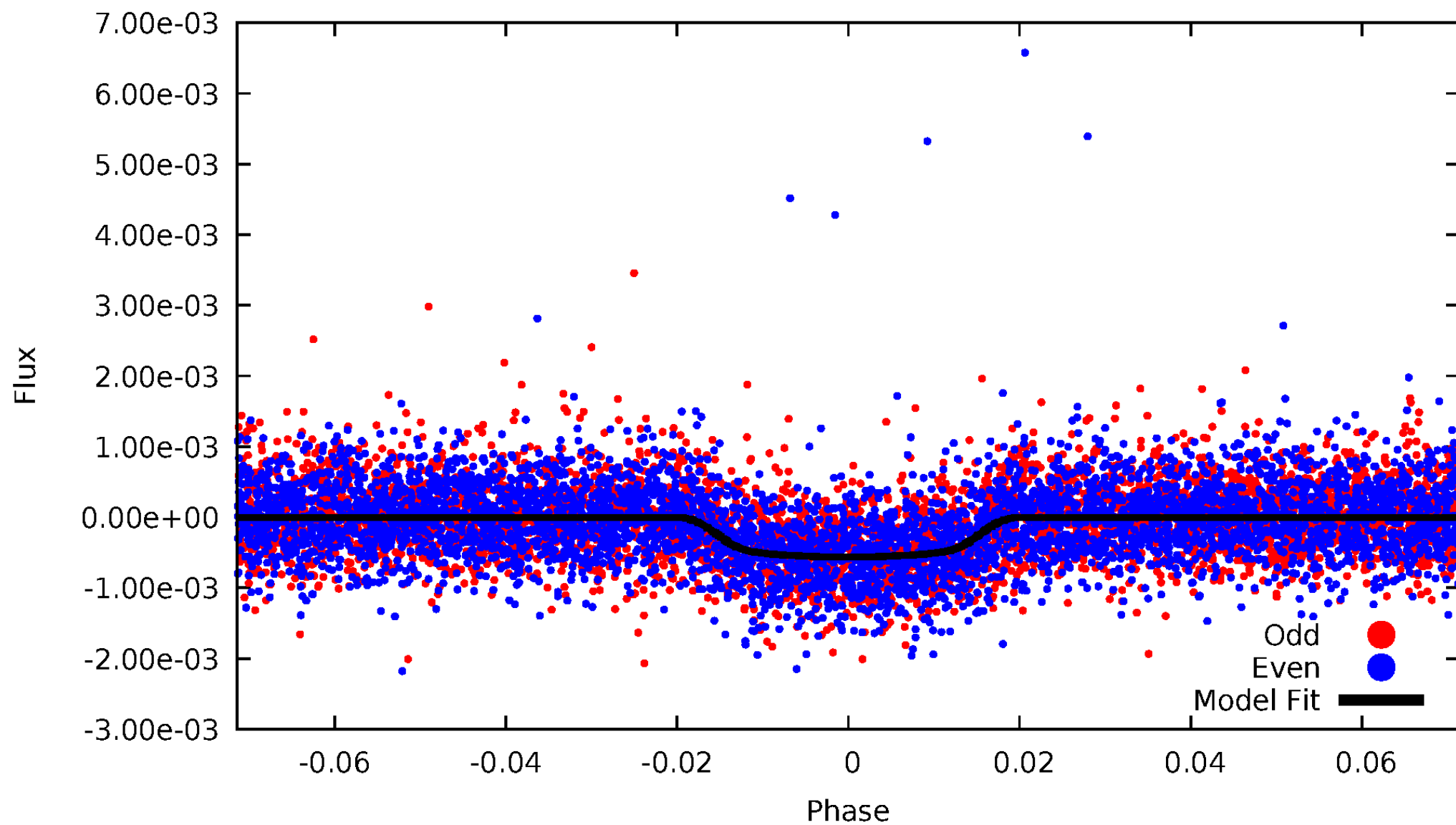


TCE 008552202-01



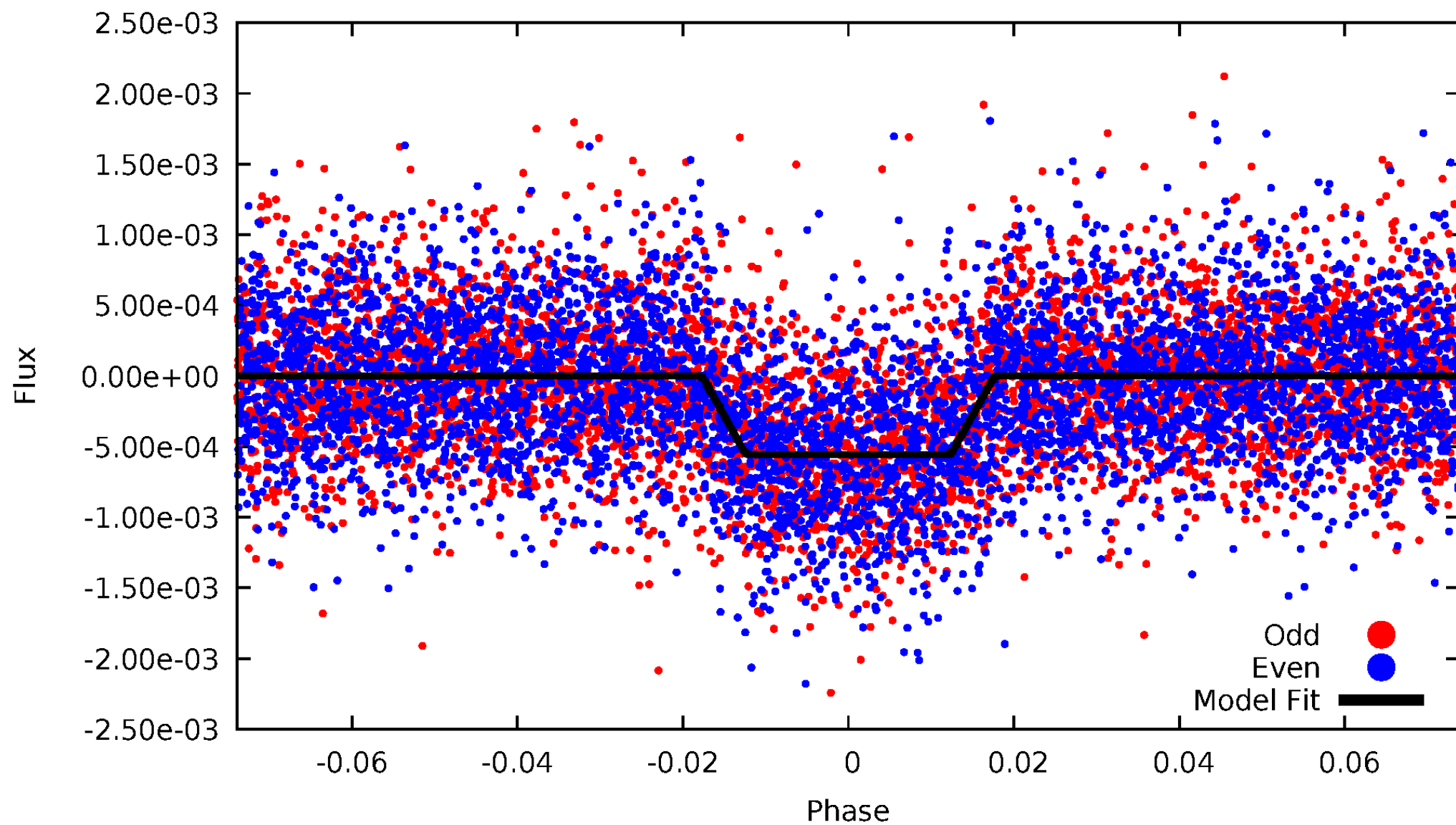
DV Odd/Even

TCE 008552202-01



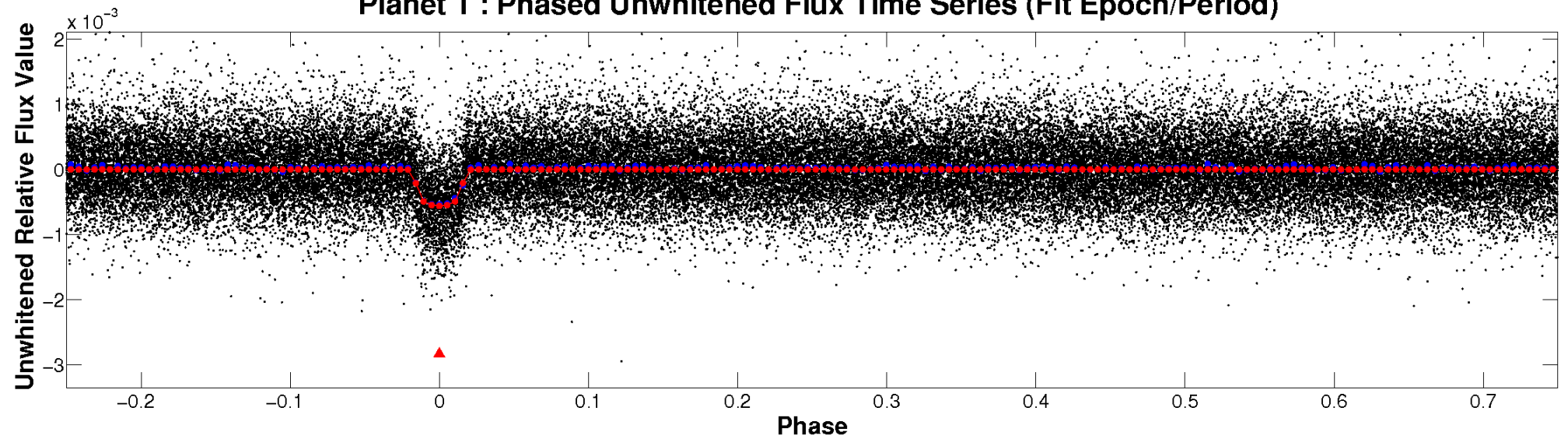
ALT Odd/Even

TCE 008552202-01

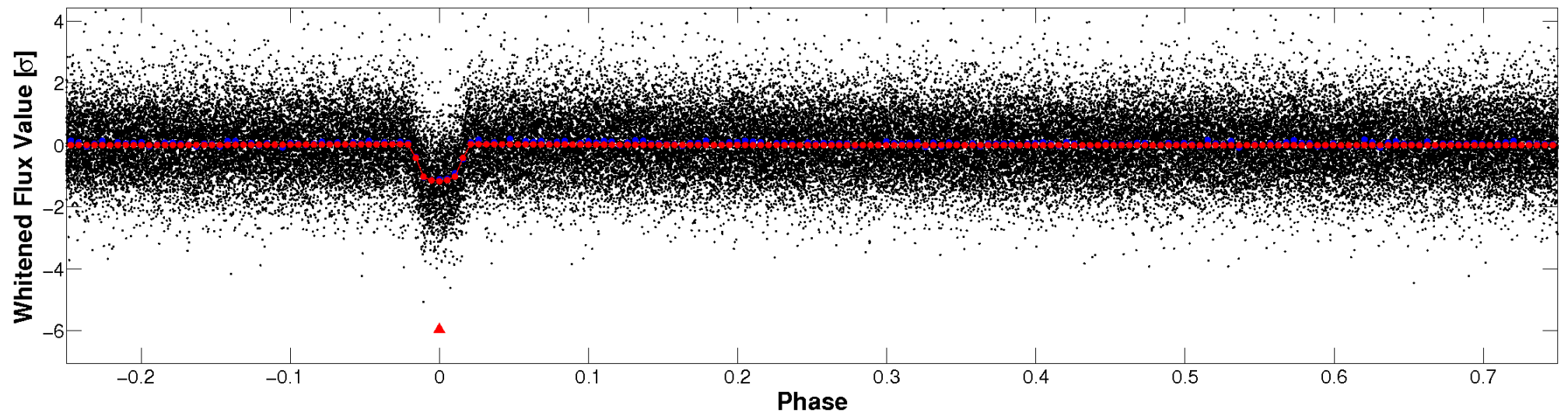


Non-Whitened Vs. Whitened Light Curve

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

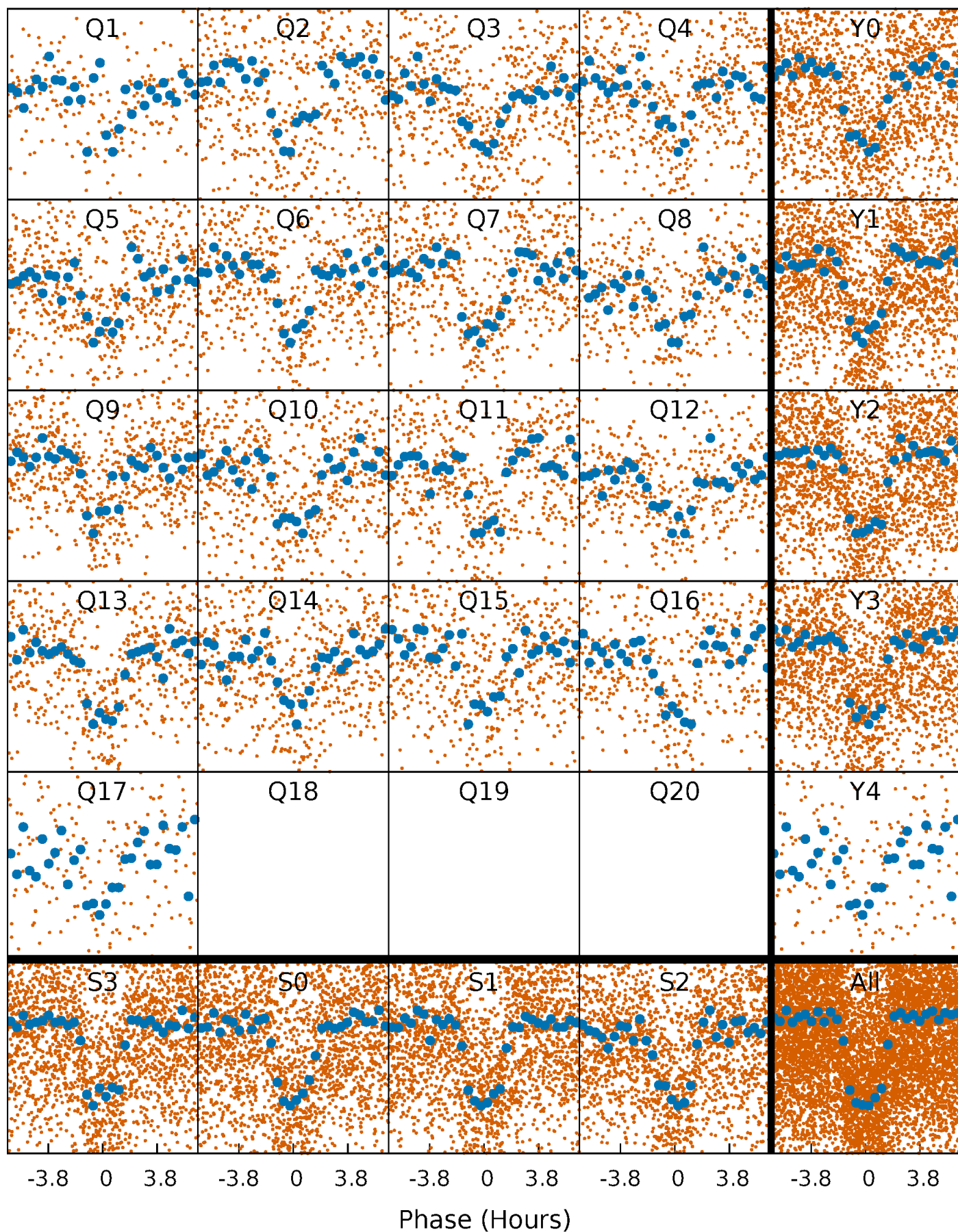


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



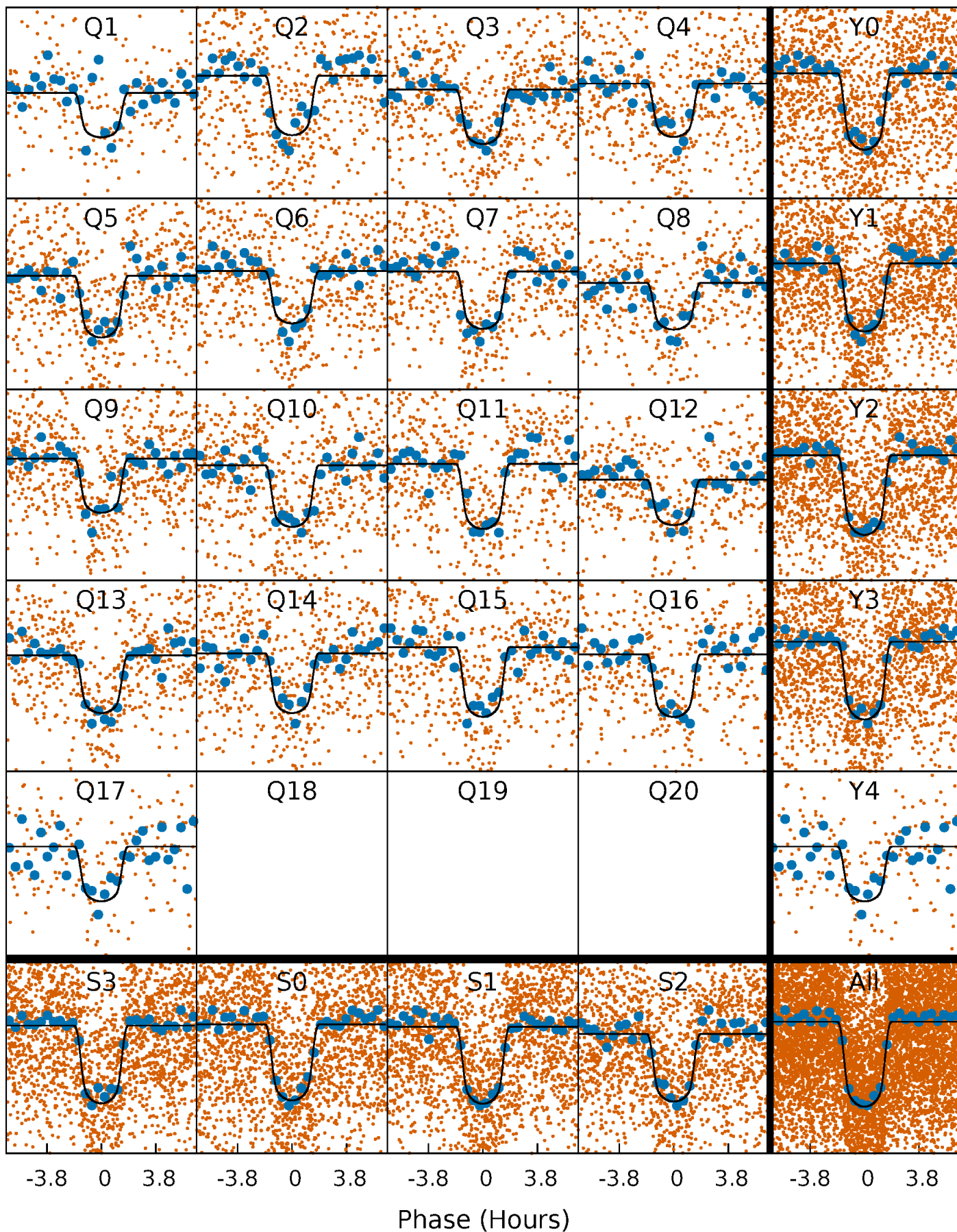
PDC Quarter-Phased Transit Curves

TCE 008552202-01 P= 3.886645 Days $T_0=134.759253$ (BKJD)



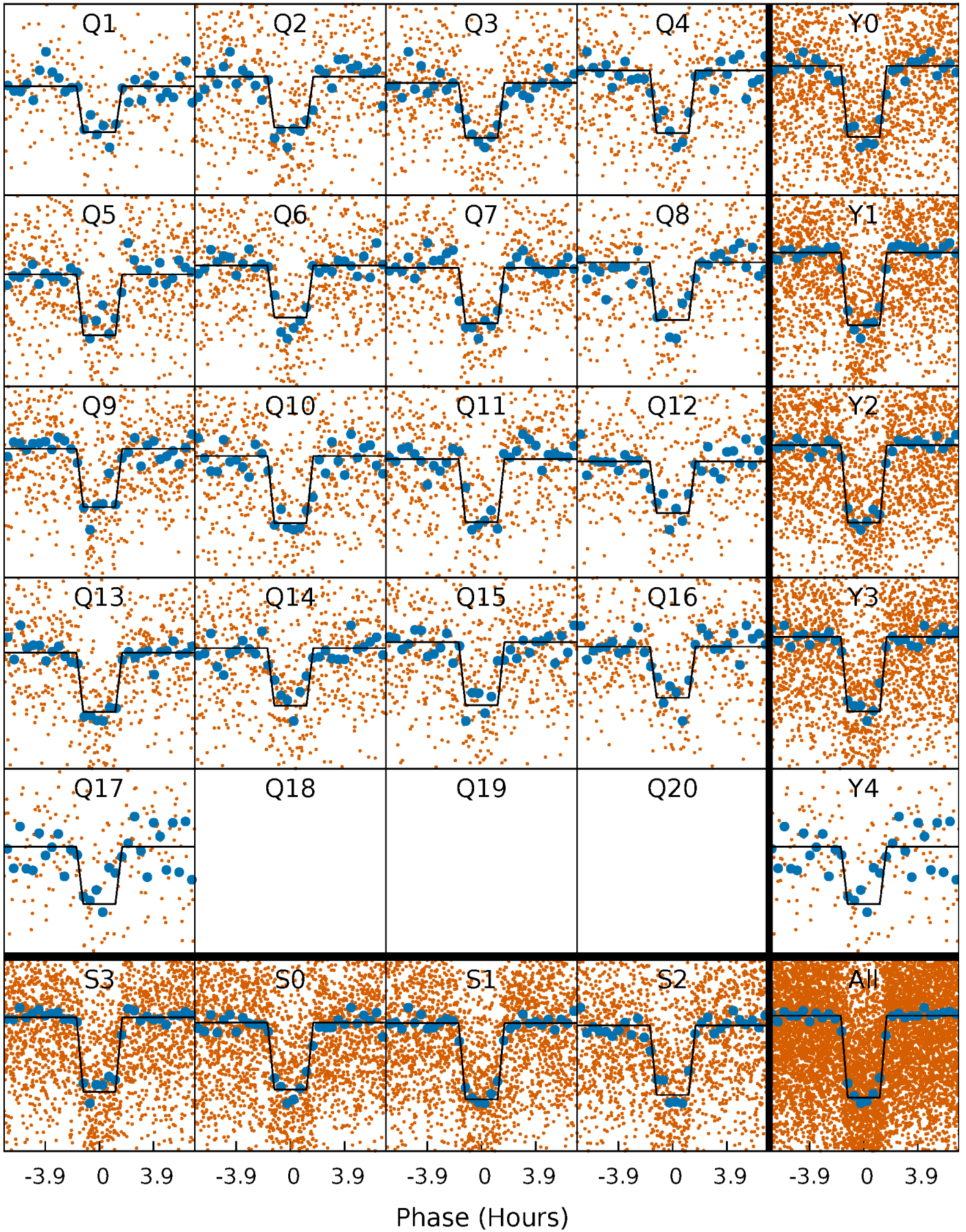
DV Quarter-Phased Transit Curves

TCE 008552202-01 P= 3.886645 Days $T_0=134.759253$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

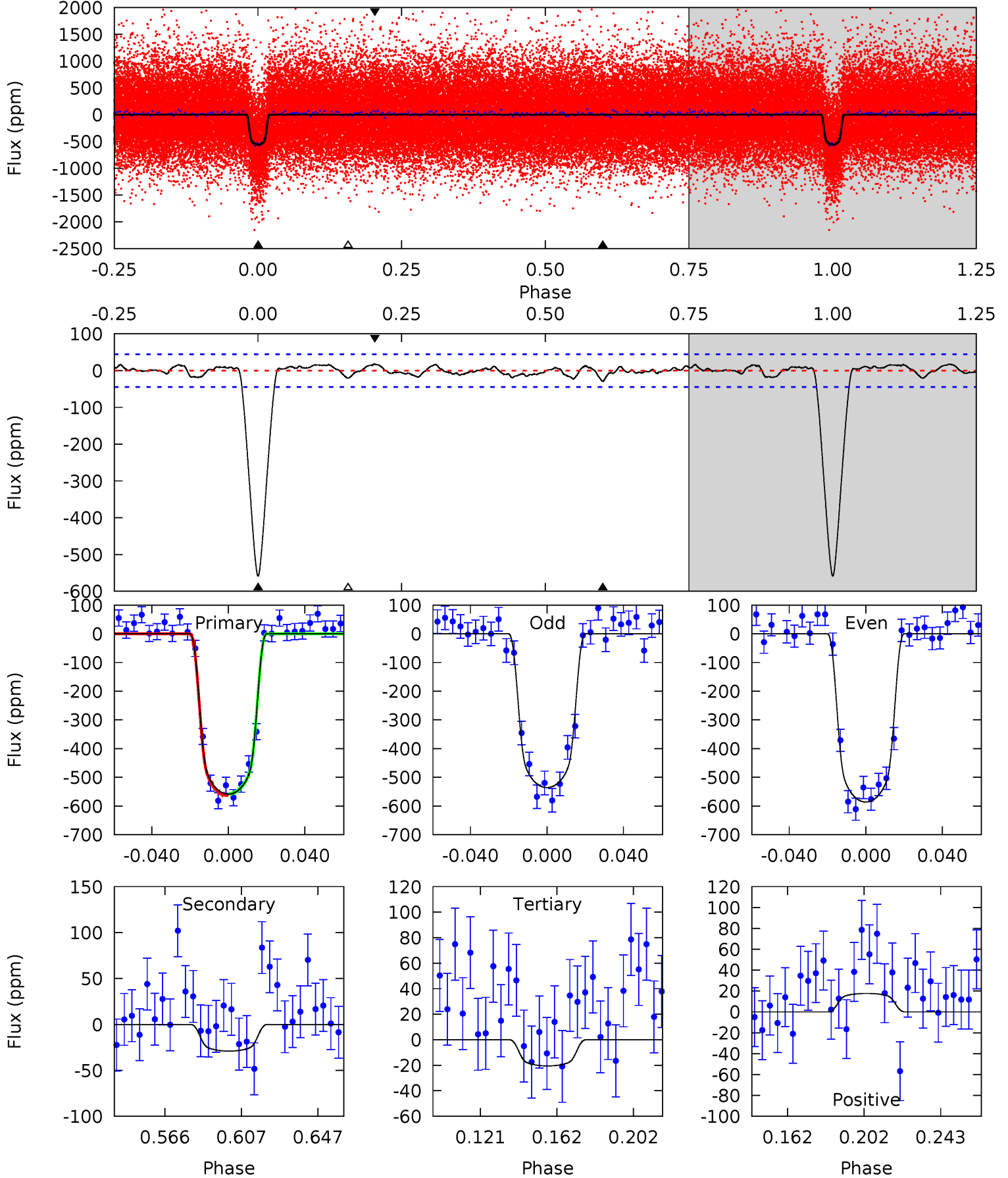
TCE 008552202-01 P= 3.886670 Days $T_0=134.755524$ (BKJD)



DV Model-Shift Uniqueness Test

008552202-01, P = 3.886645 Days, E = 130.872608 Days

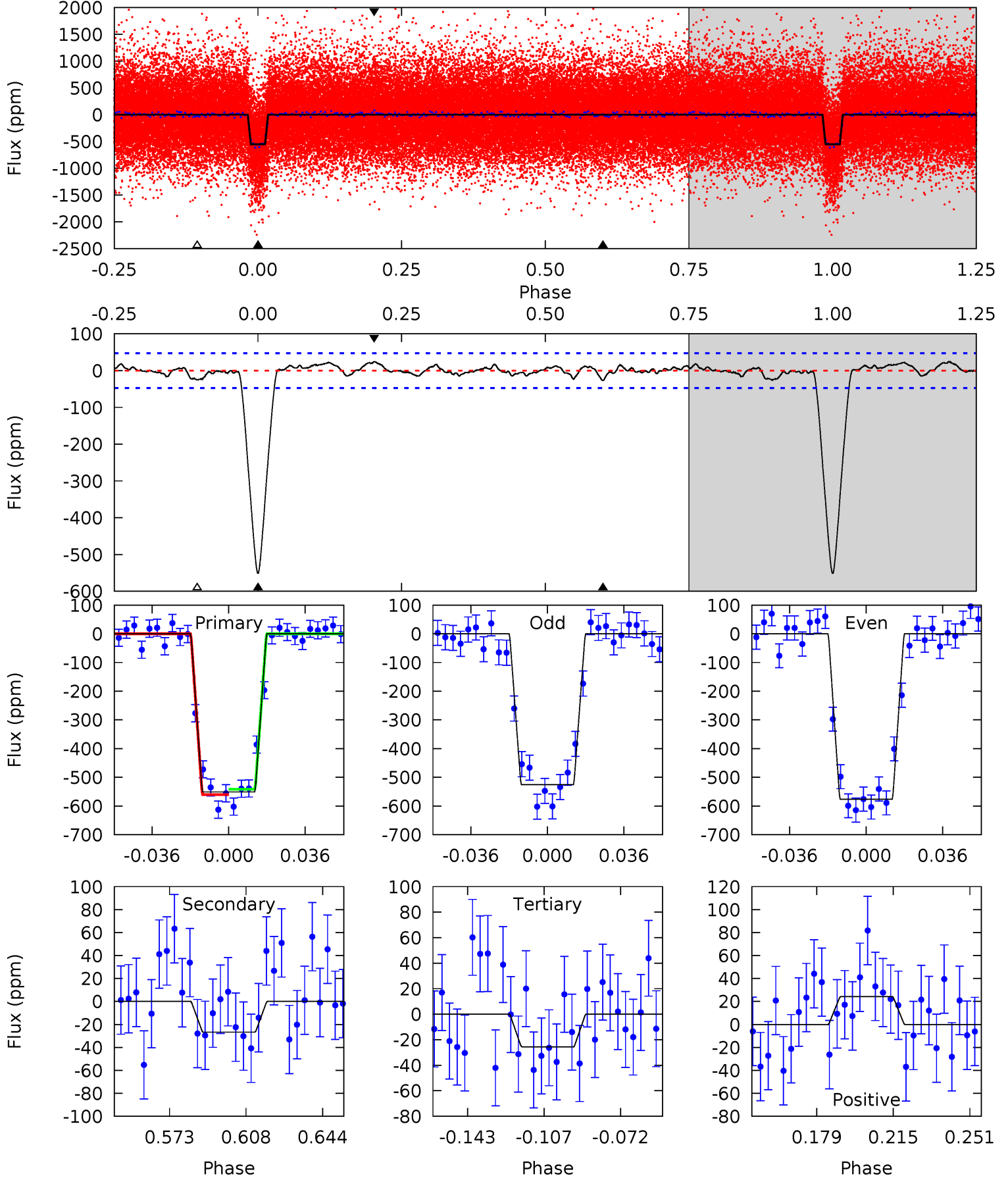
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
59.6	3.10	2.19	1.89	4.75	2.05	1.00	57.4	57.7	0.91	1.21	2.69	1.00	0.03	0.30



Alt Model-Shift Uniqueness Test

008552202-01, P = 3.886670 Days, E = 130.868854 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
55.4	2.68	2.56	2.43	4.78	2.10	0.98	52.8	53.0	0.12	0.25	2.57	1.02	0.04	0.94



Stellar Parameters For KIC 008552202

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5662^{+153}_{-153}	$4.610^{+0.032}_{-0.120}$	$-0.540^{+0.300}_{-0.300}$	$0.738^{+0.140}_{-0.060}$	$0.813^{+0.080}_{-0.080}$	$2.844^{+0.459}_{-1.028}$
	+3%/-3%	+1%/-3%	+56%/-56%	+19%/-8%	+10%/-10%	+16%/-36%
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 008552202-01 / KOI 0914.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-29 ± 9	$2.12^{+0.20}_{-0.19}$	1434^{+61}_{-53}	3154^{+170}_{-187}	$6.909^{+2.662}_{-2.329}$
Alt.	-27 ± 10	$1.95^{+0.22}_{-0.19}$	1435^{+65}_{-54}	3216^{+185}_{-237}	$7.662^{+3.409}_{-2.999}$

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

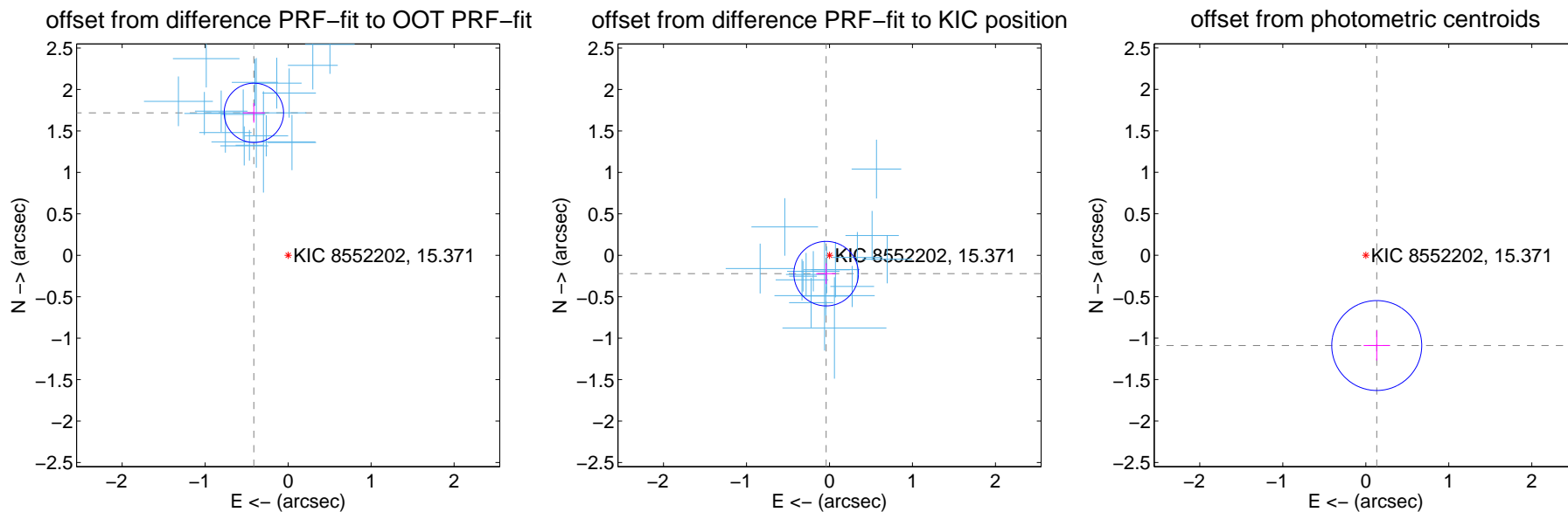
DV Centroid Data

Supplemental centroid analysis for 008552202-01. Kepler magnitude: 15.37. Transit SNR 45.36

There are 17 quarters with good PRF difference image offsets

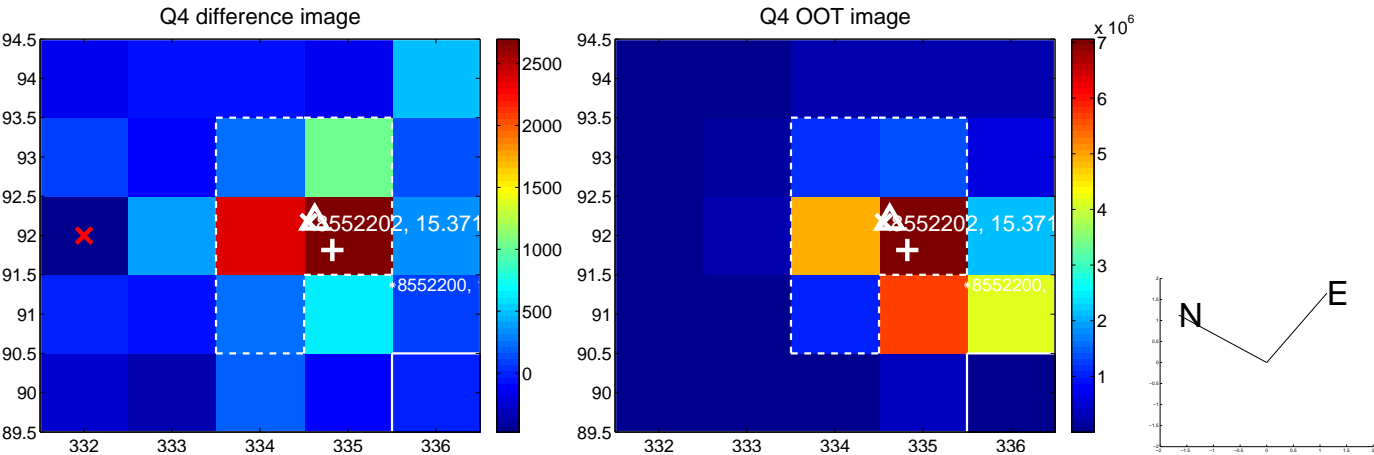
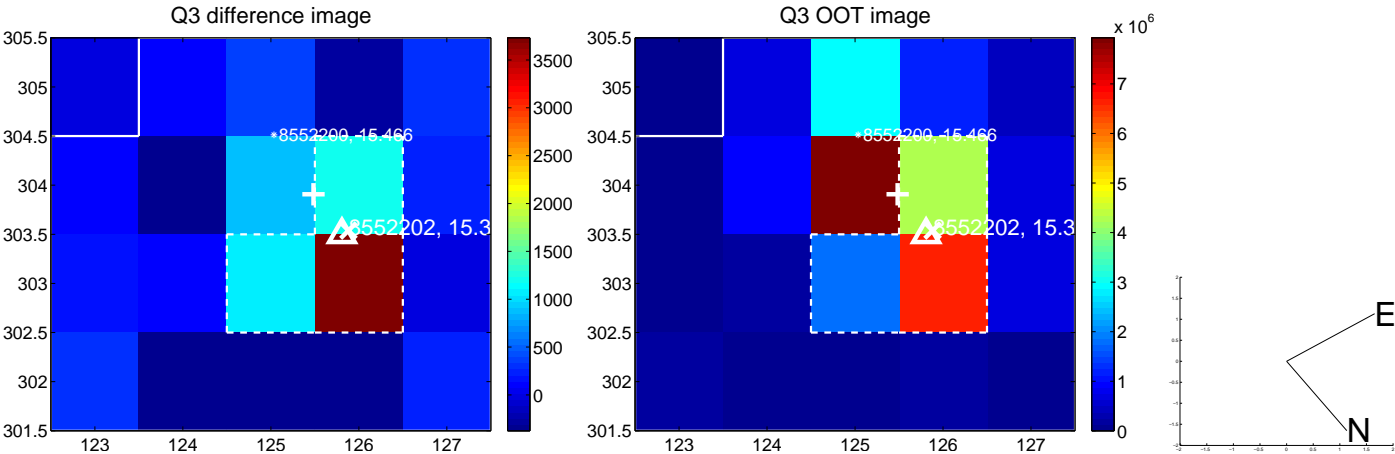
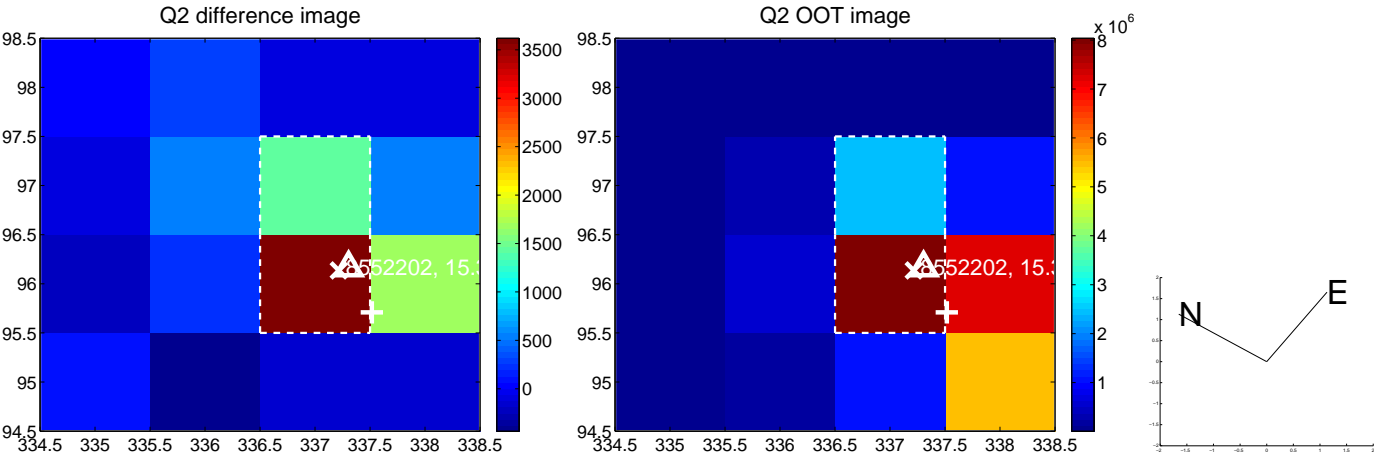
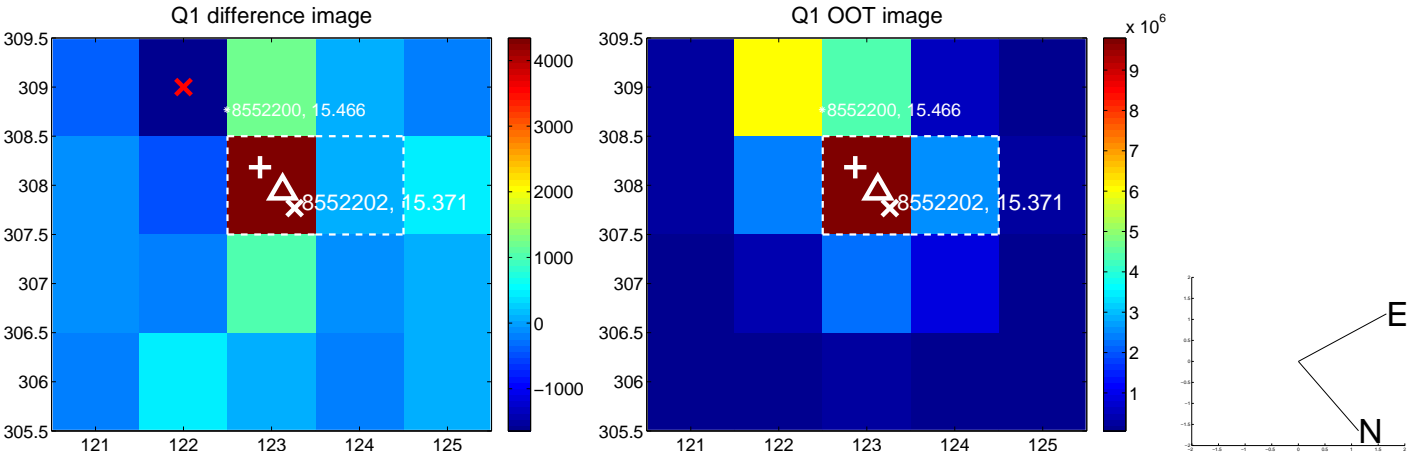
The OOT PRF centroid is offset from the target star catalog position by about 2.23 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.767 ± 0.119	14.81	0.413 ± 0.132	1.718 ± 0.119
PRF-fit source offset from KIC position	0.225 ± 0.130	1.74	0.040 ± 0.119	-0.222 ± 0.126
photometric centroid source offset	1.10 ± 0.18	6.07	-0.13 ± 0.16	-1.09 ± 0.18

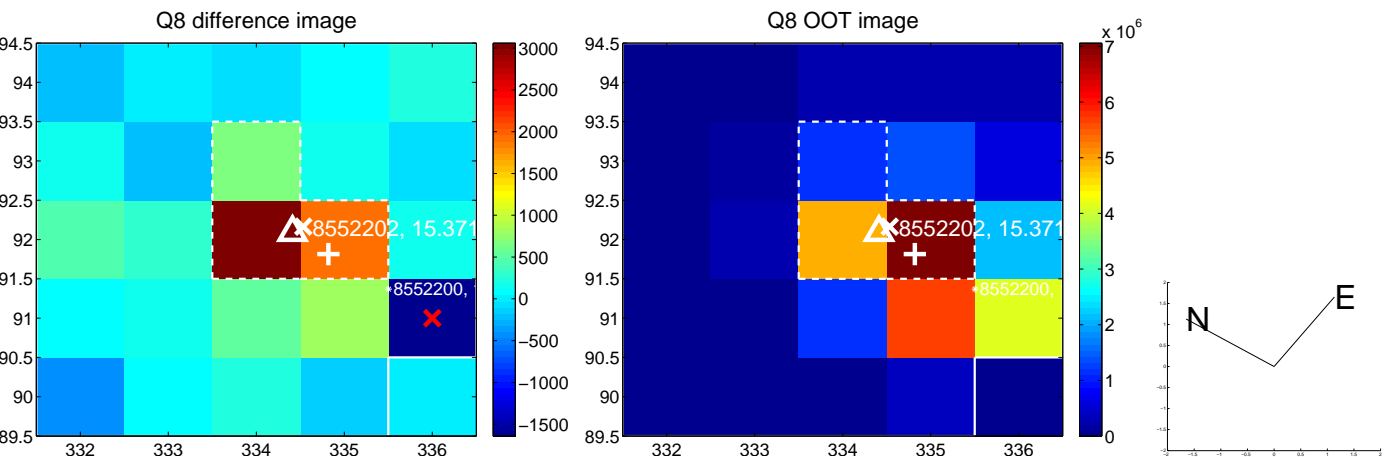
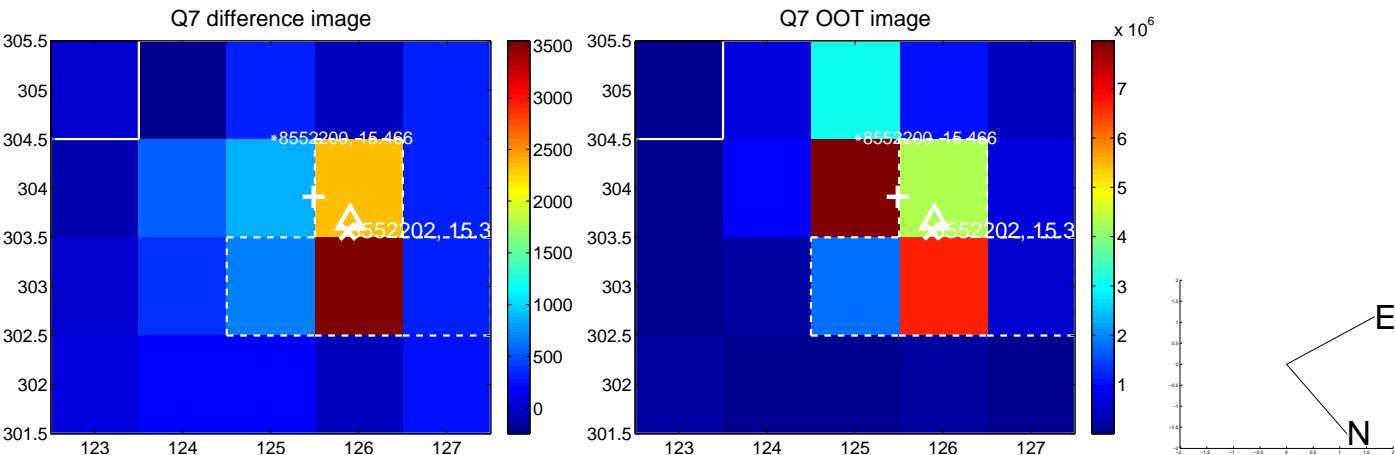
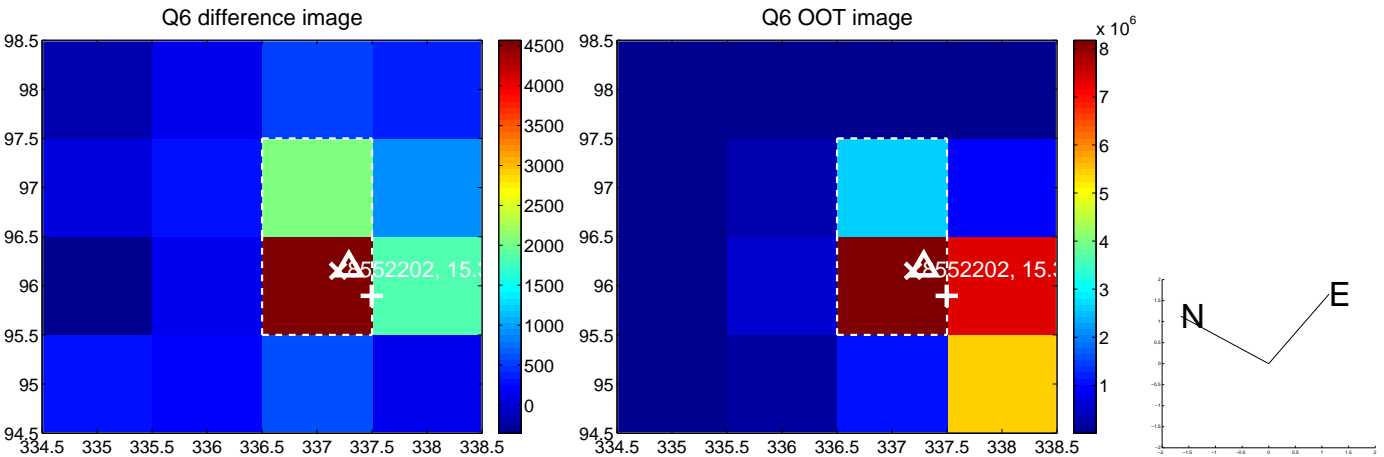
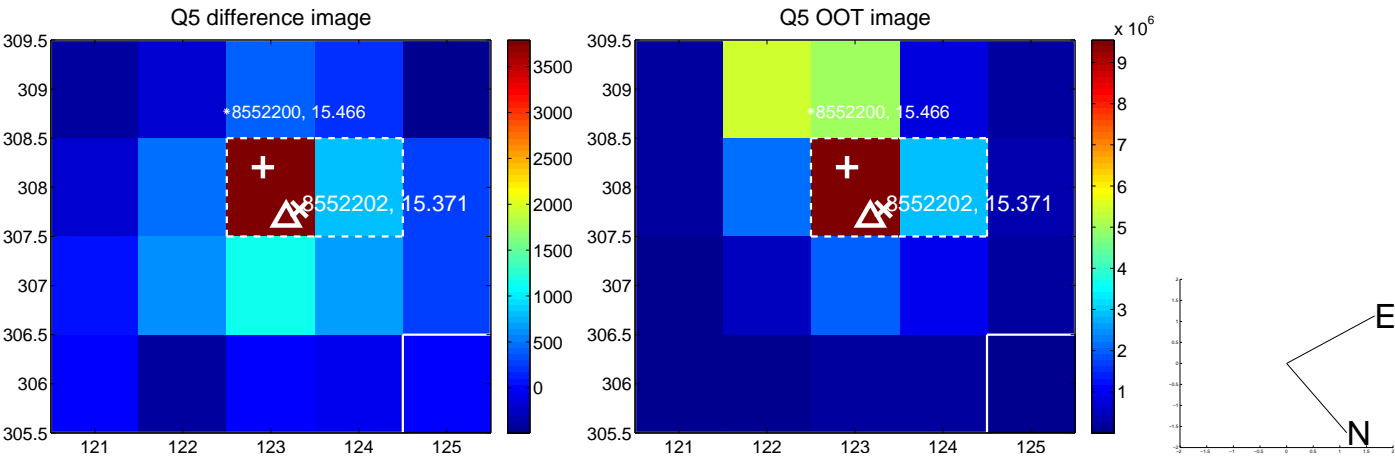


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

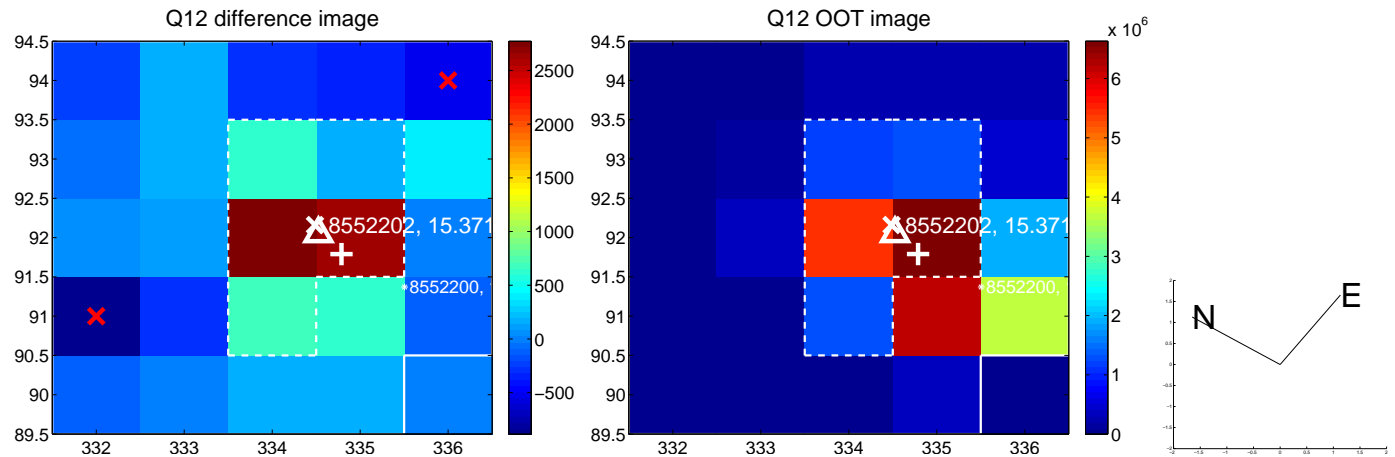
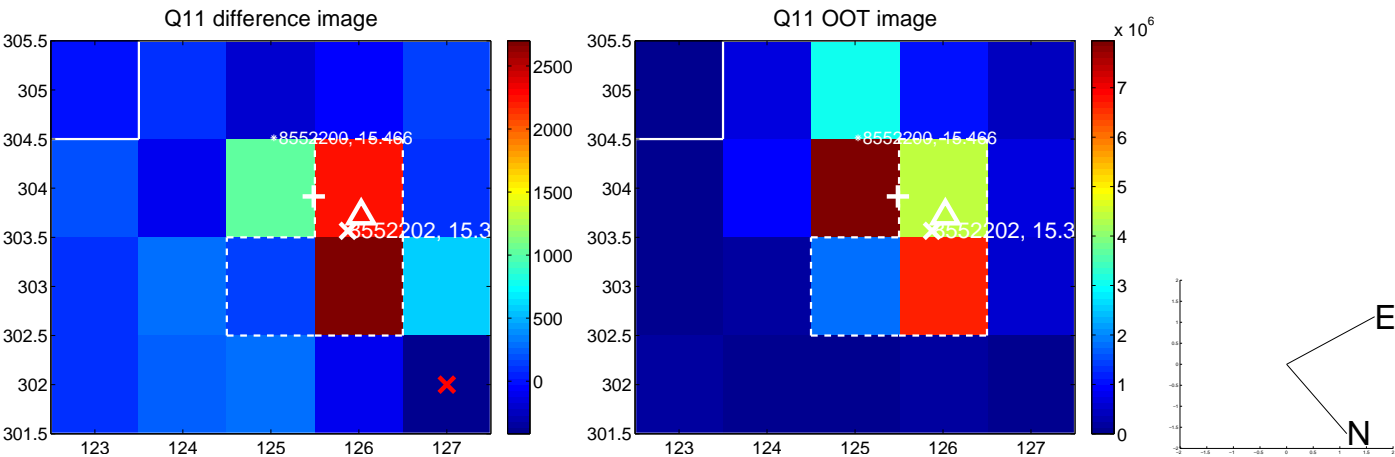
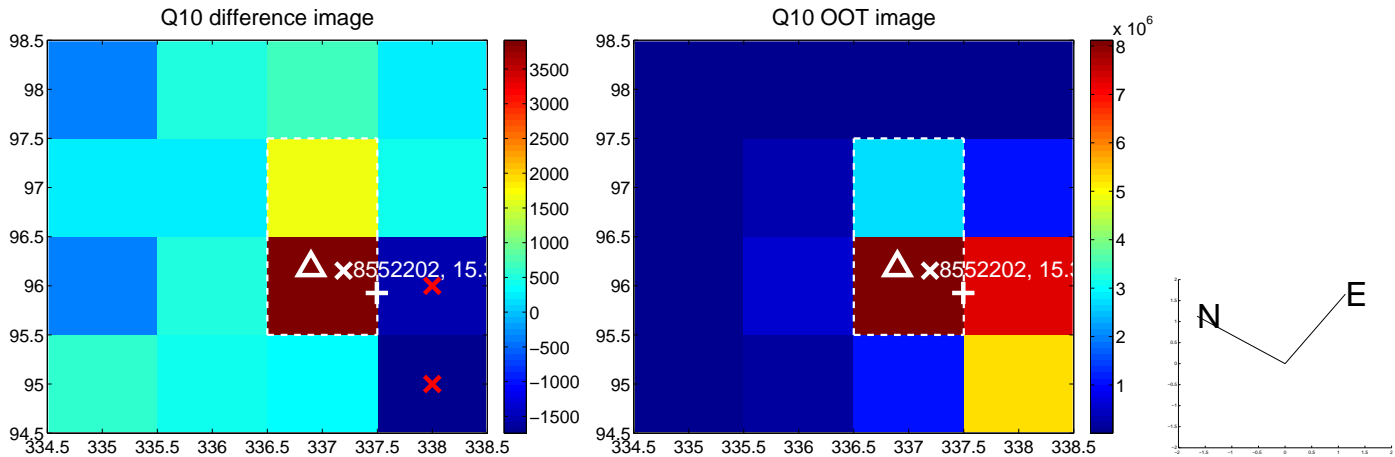
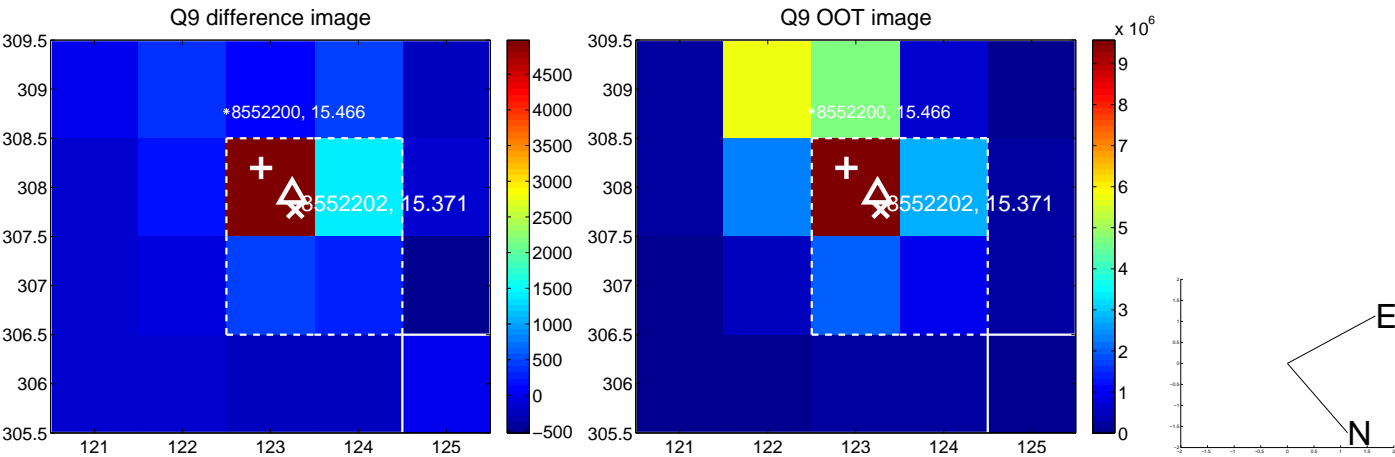
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



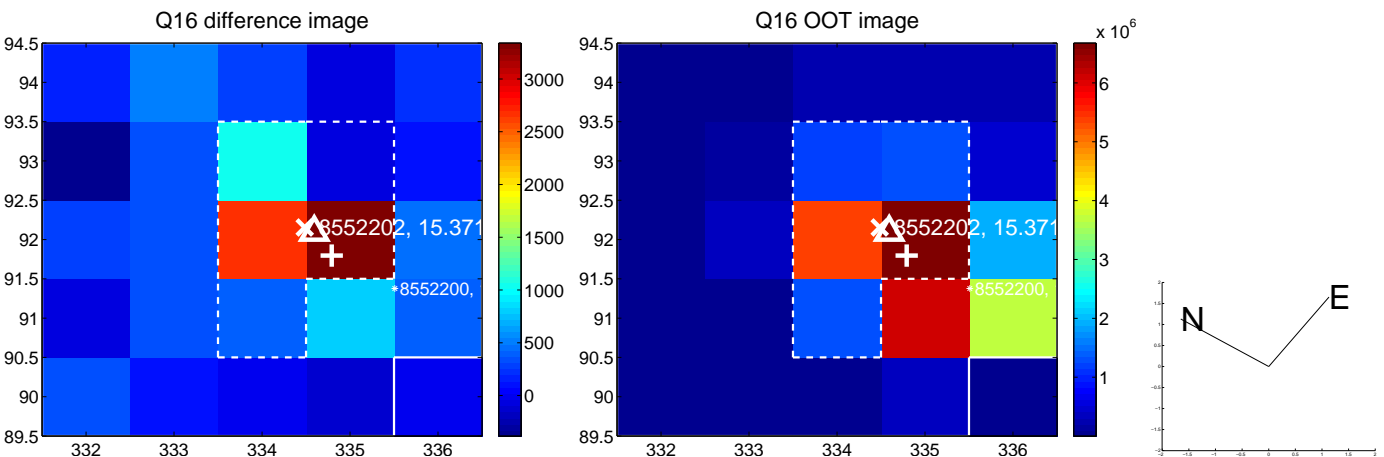
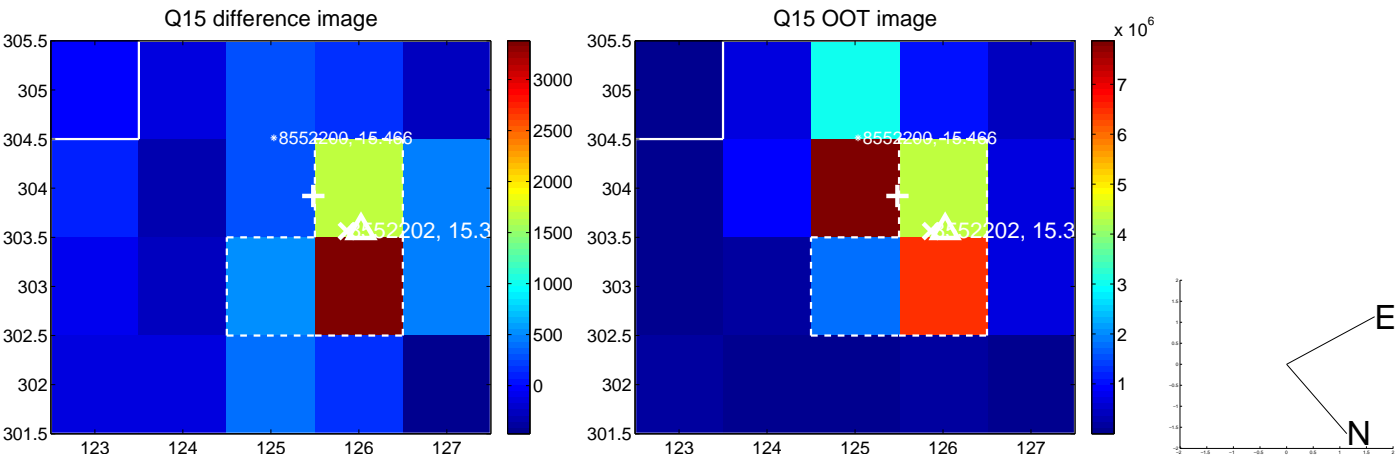
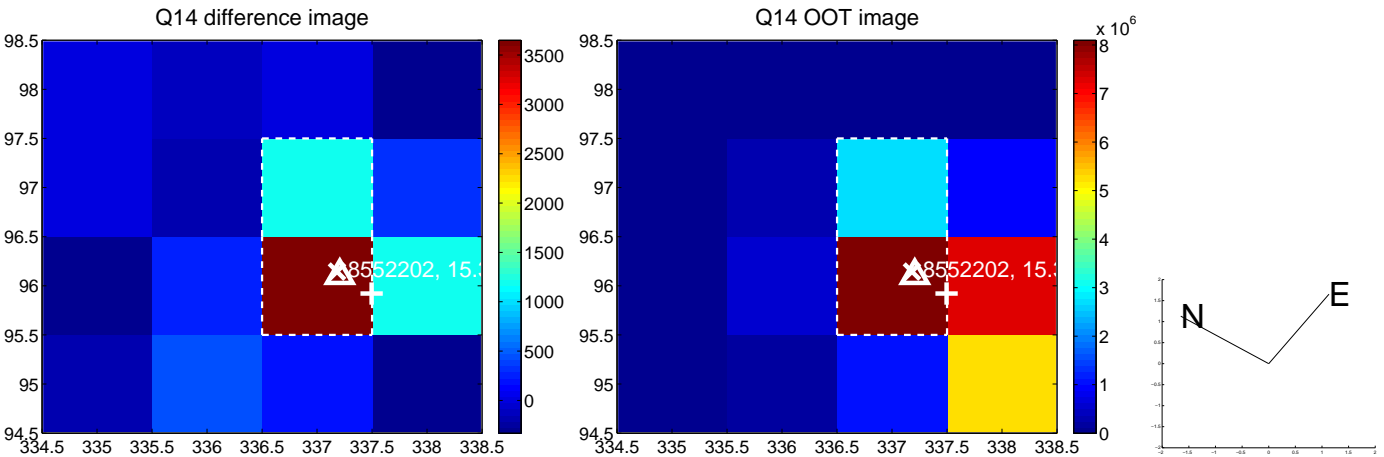
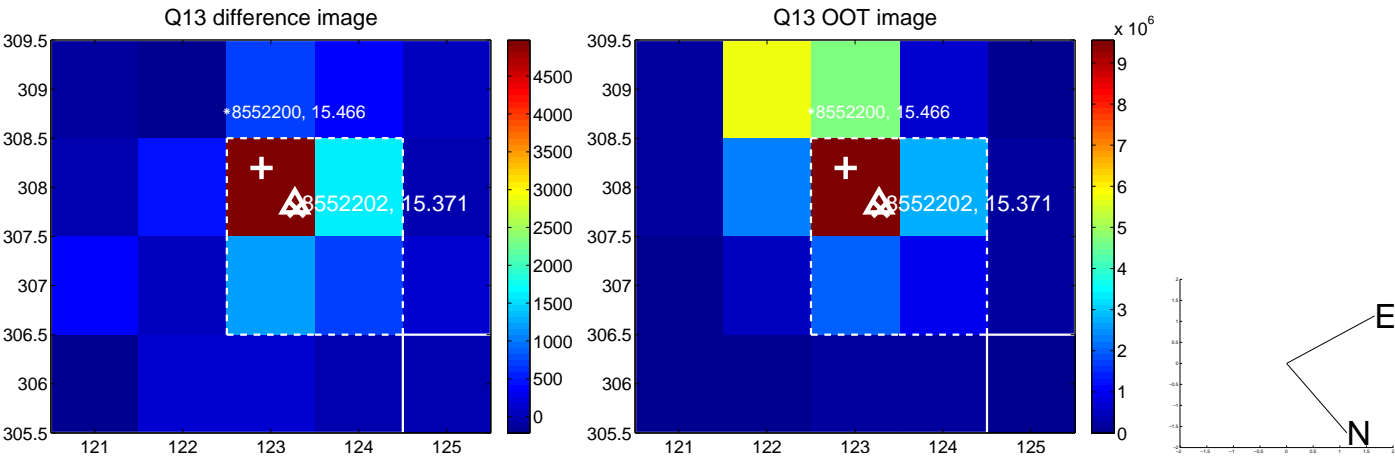
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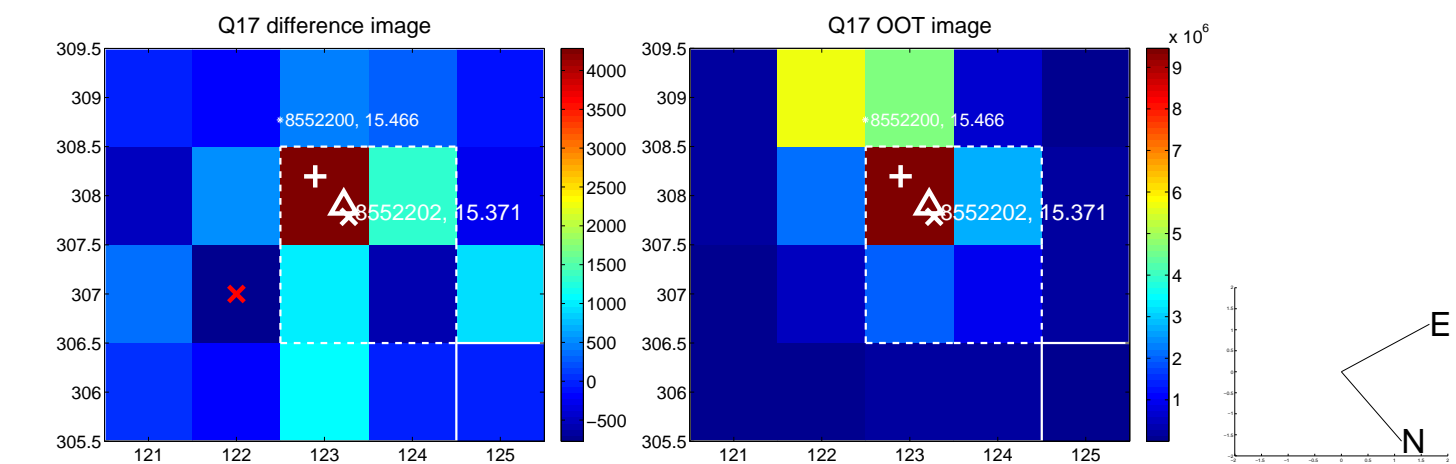
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



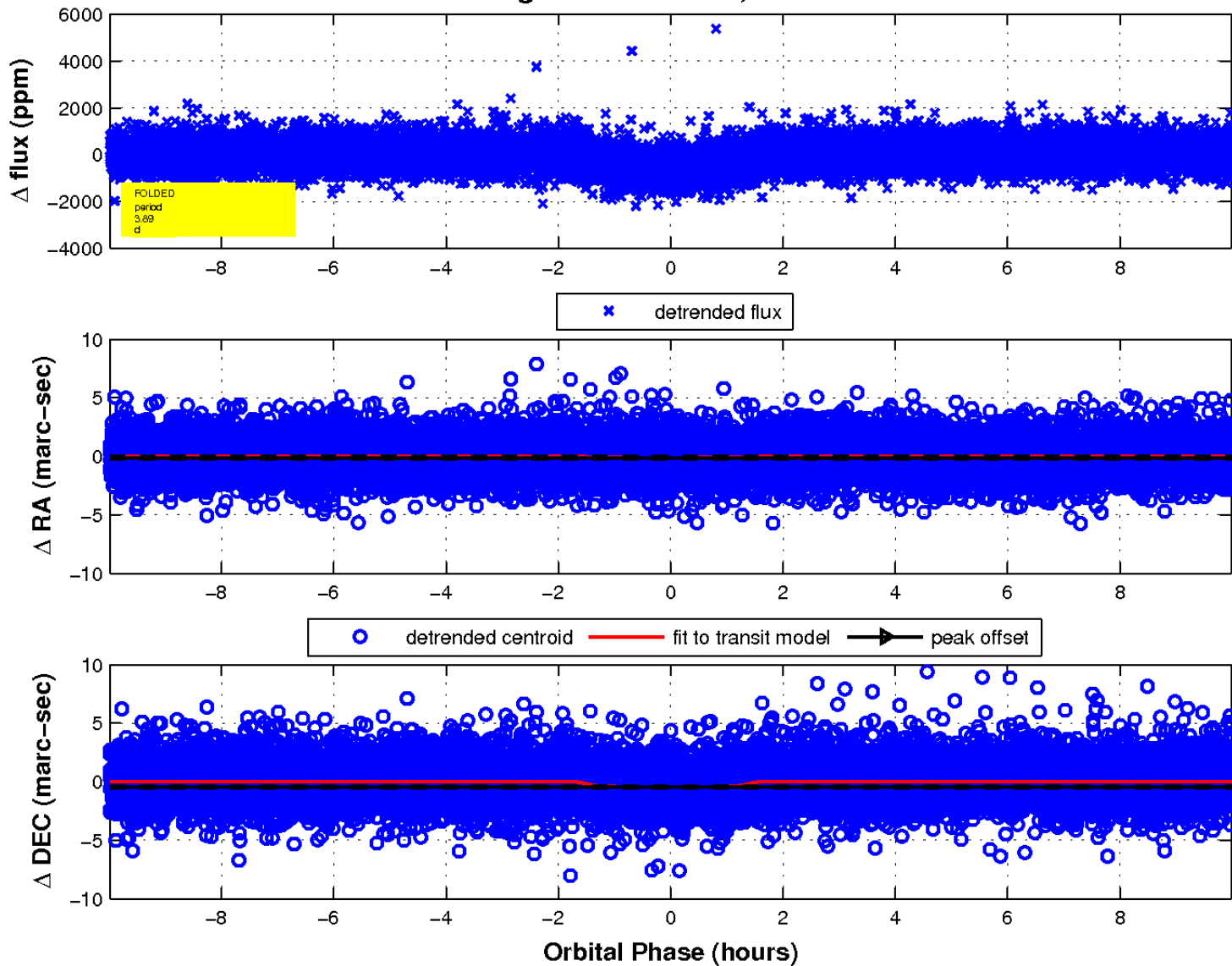
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

