

KIC 010684670

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})
010684670-01	OBS	2317.01	3.788597	134.619191	144.5	3.727	14.8	16.6	1.04	5560	1.74	425.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010684670-01	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.

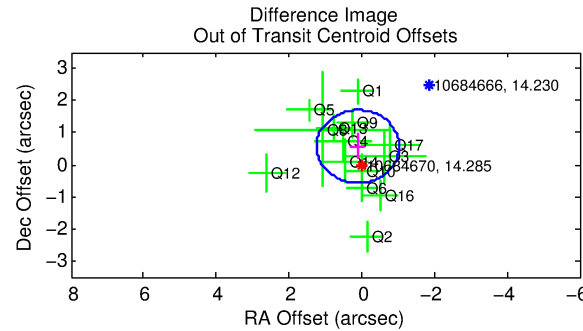
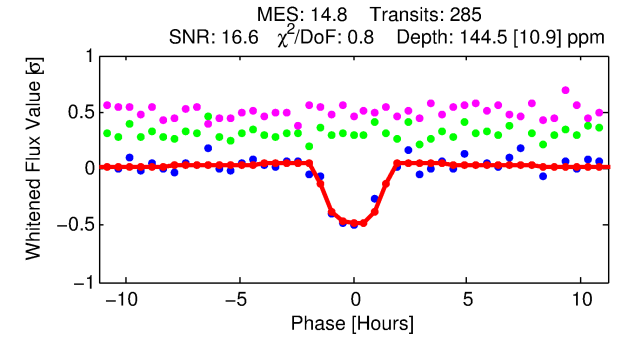
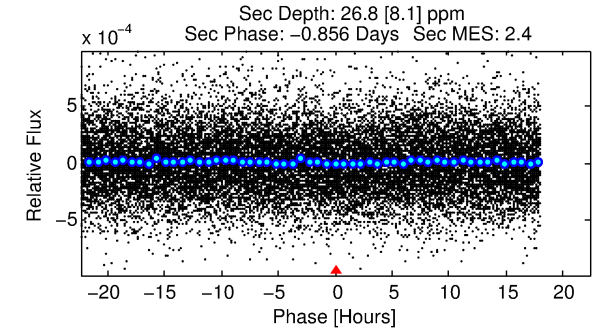
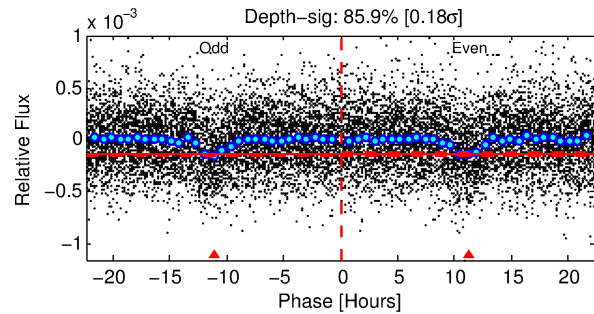
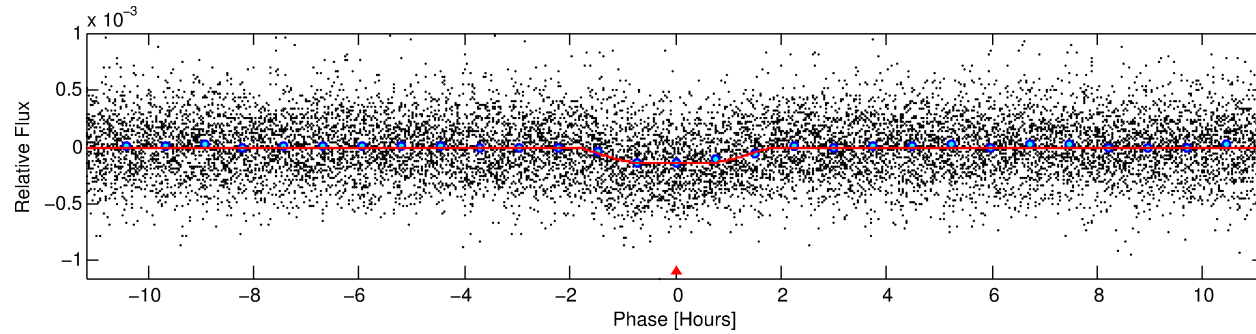
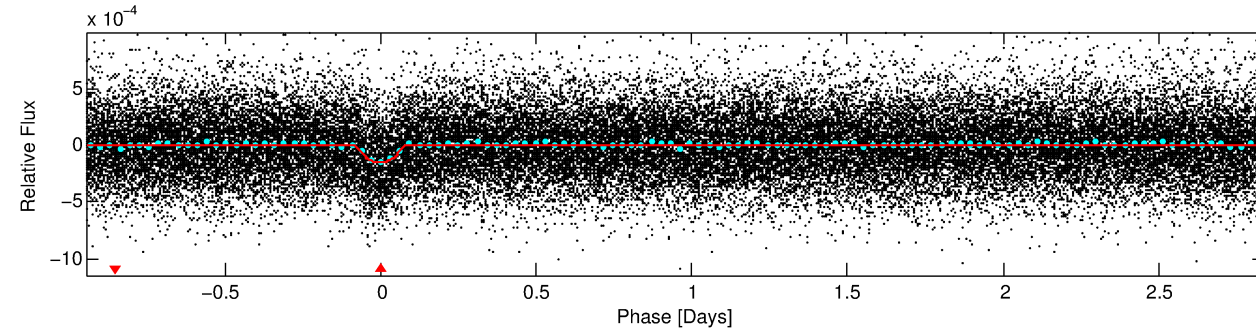
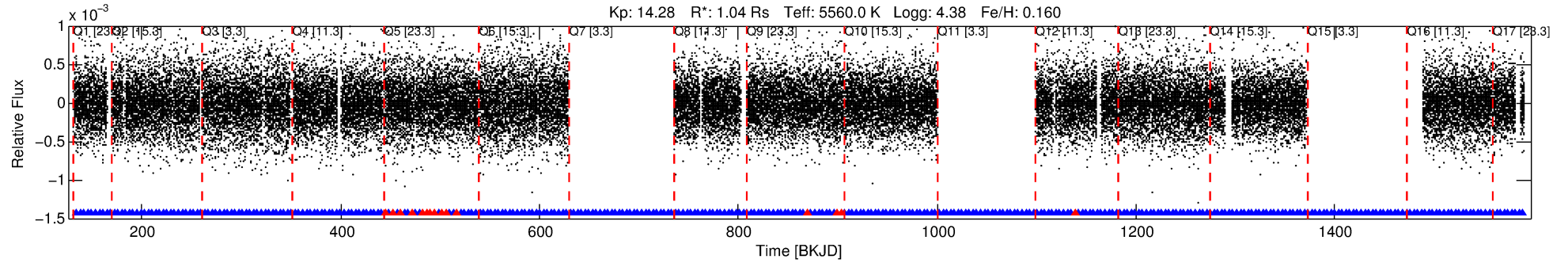
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010684670-01

No Significant Match Found

DV One-Page Summary

KIC: 10684670 Candidate: 1 of 1 Period: 3.789 d
KOI: K02317.01 Corr: 0.968



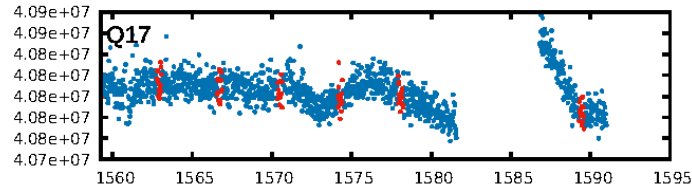
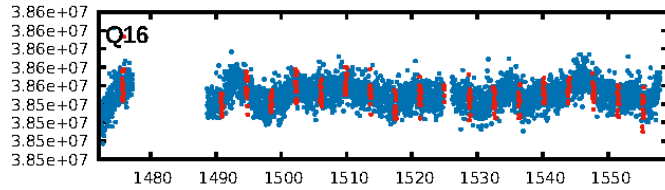
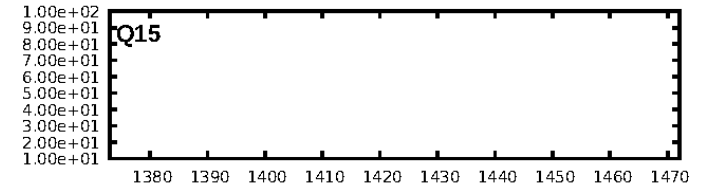
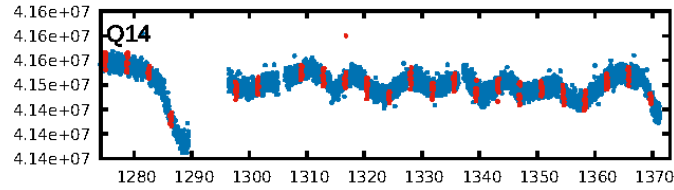
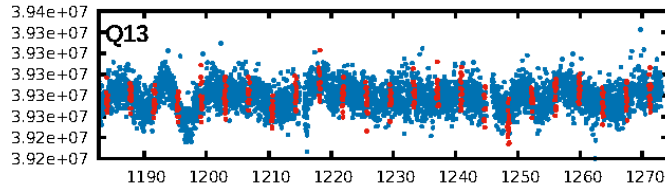
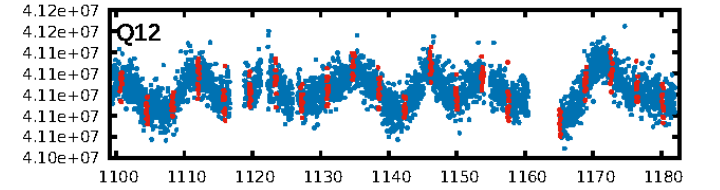
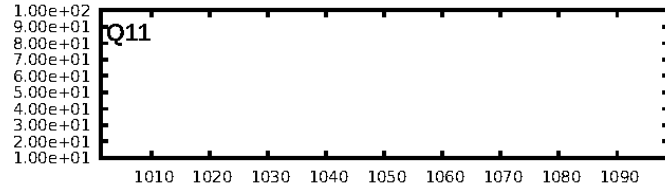
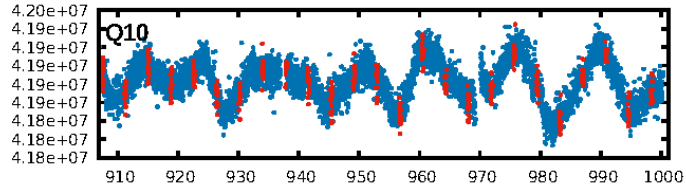
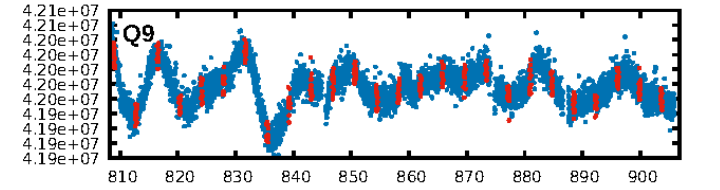
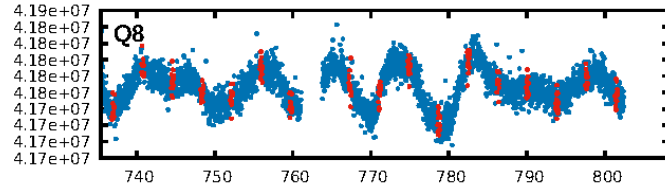
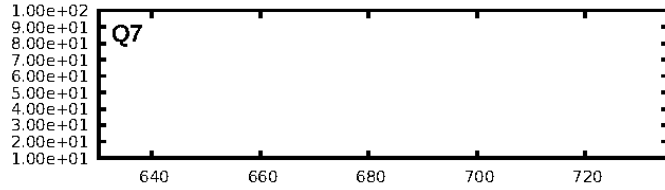
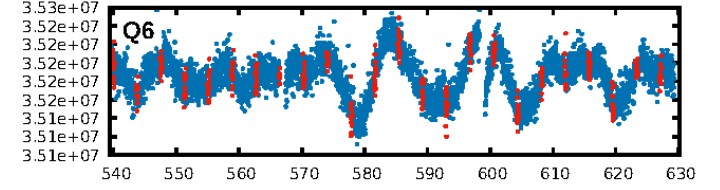
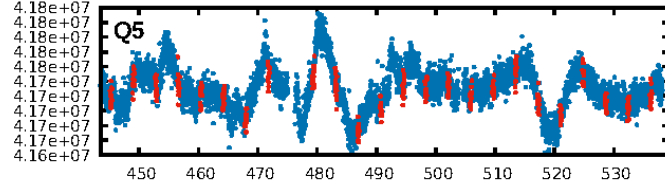
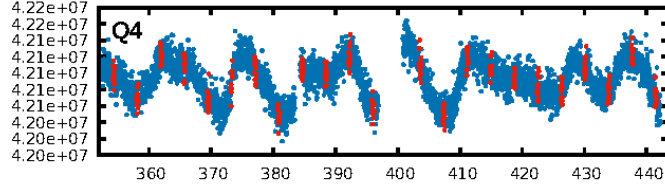
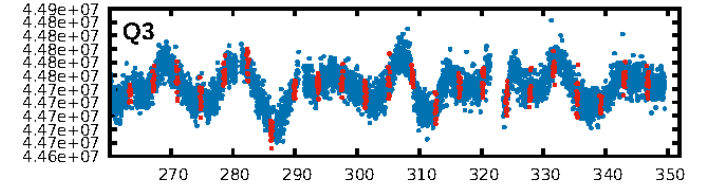
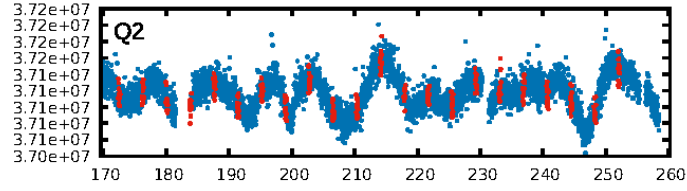
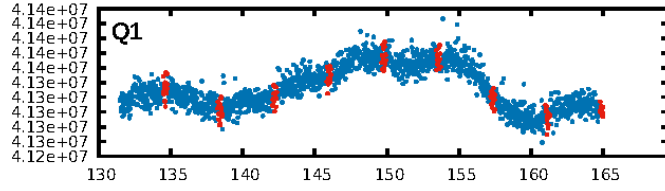
DV Fit Results:

Period = 3.78860 [0.00002] d
Epoch = 134.6192 [0.0040] BKJD
Rp/R* = 0.0153 [0.0009]
a/R* = 2.33 [0.33]
b = 0.98 [0.01]
Seff = 425.18 [85.62]
Teff = 1158 [58] K
Rp = 1.74 [0.27] Re
a = 0.0467 [0.0059] AU
Ag = 10.63 [4.00] [2.41 σ]
Teffp = 3232 [264] K [7.68 σ]

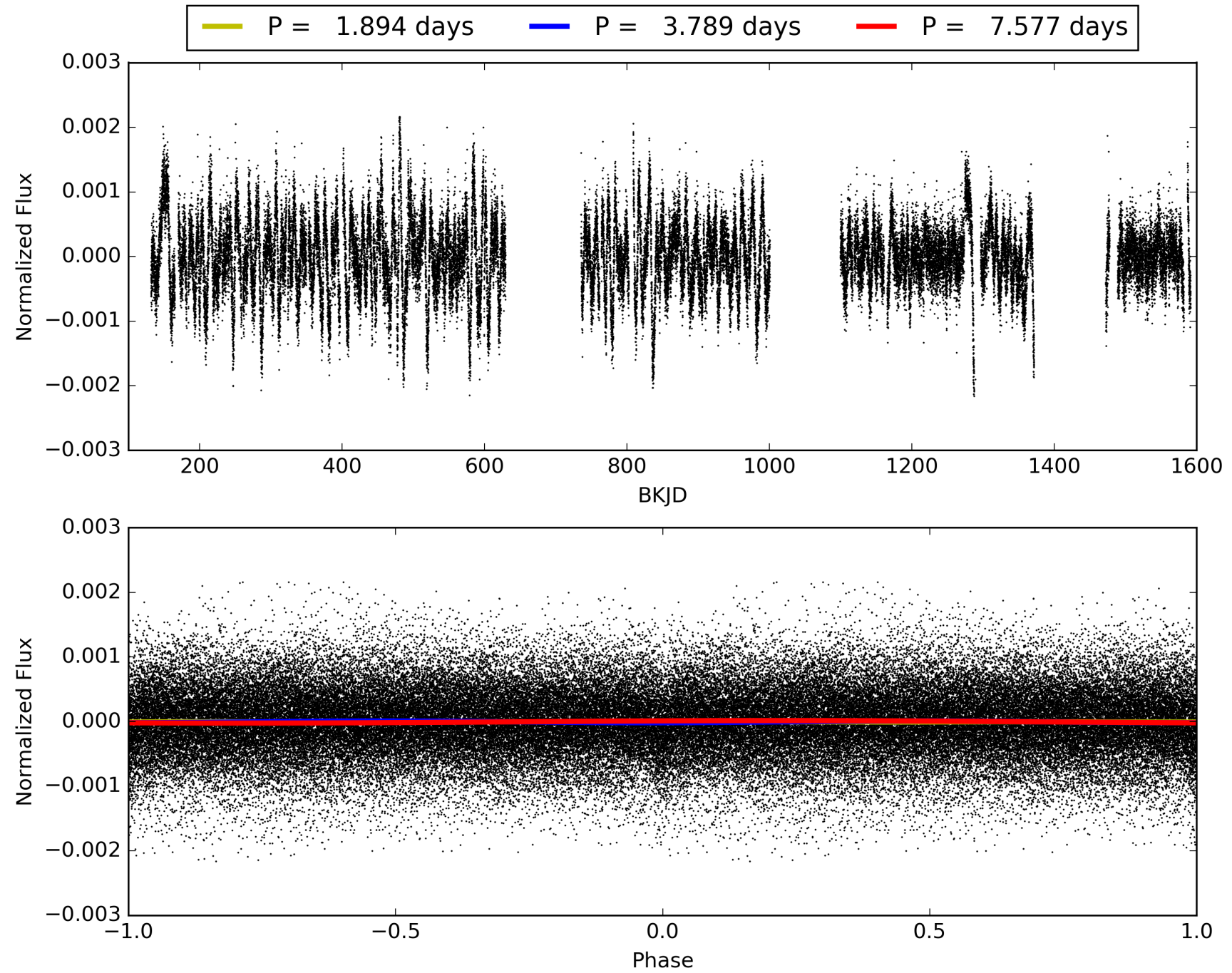
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.73e-48
RollingBand-fgt: 0.94 [255/270]
GhostDiagnostic-chr: 7.266
Centroid-sig: 6.2%
Centroid-so: 1.368 arcsec [1.66 σ]
OotOffset-rm: 0.573 arcsec [1.51 σ]
KicOffset-rm: 0.801 arcsec [2.31 σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 0.93 [13/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 010684670-01, PDC Light Curves

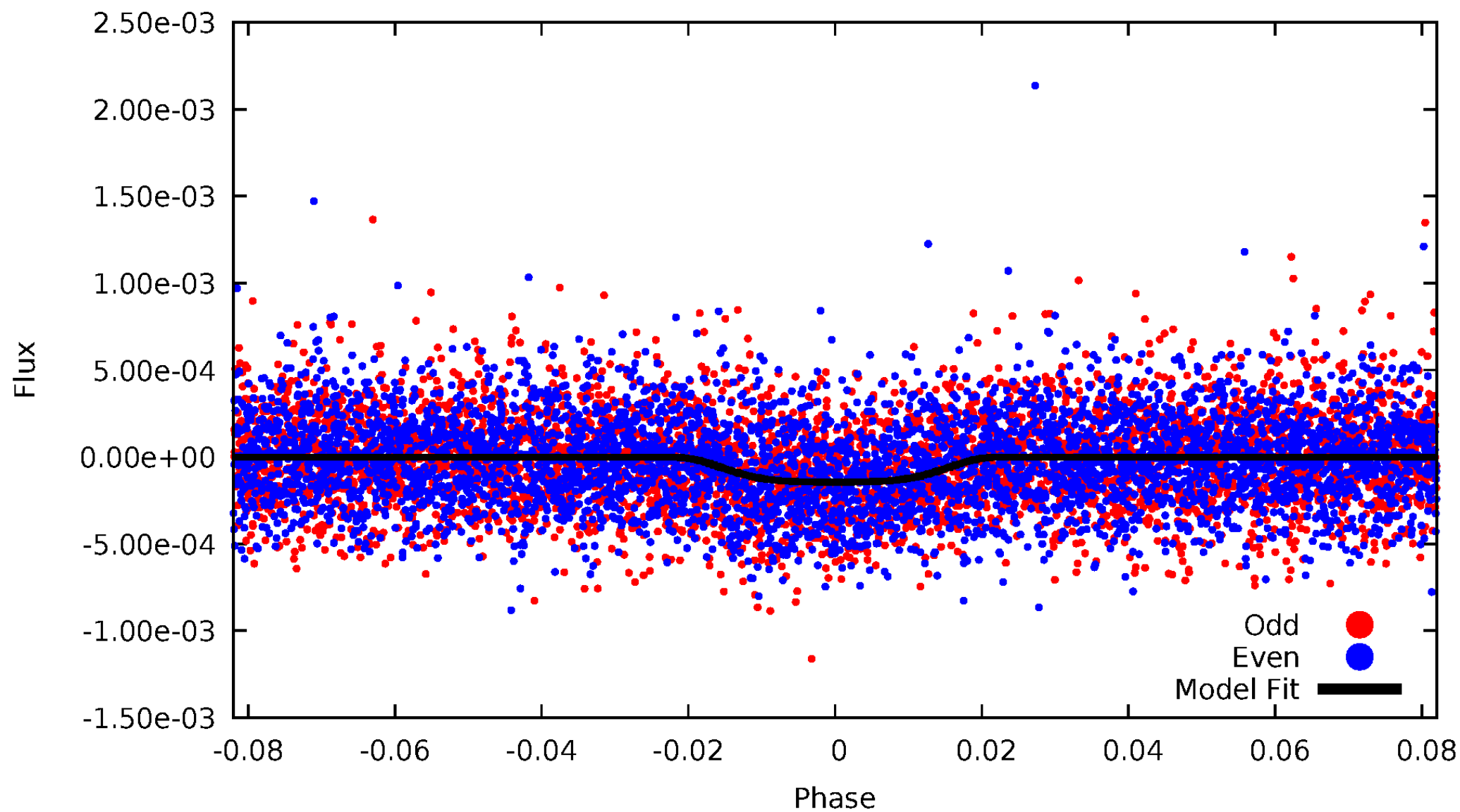


TCE 010684670-01



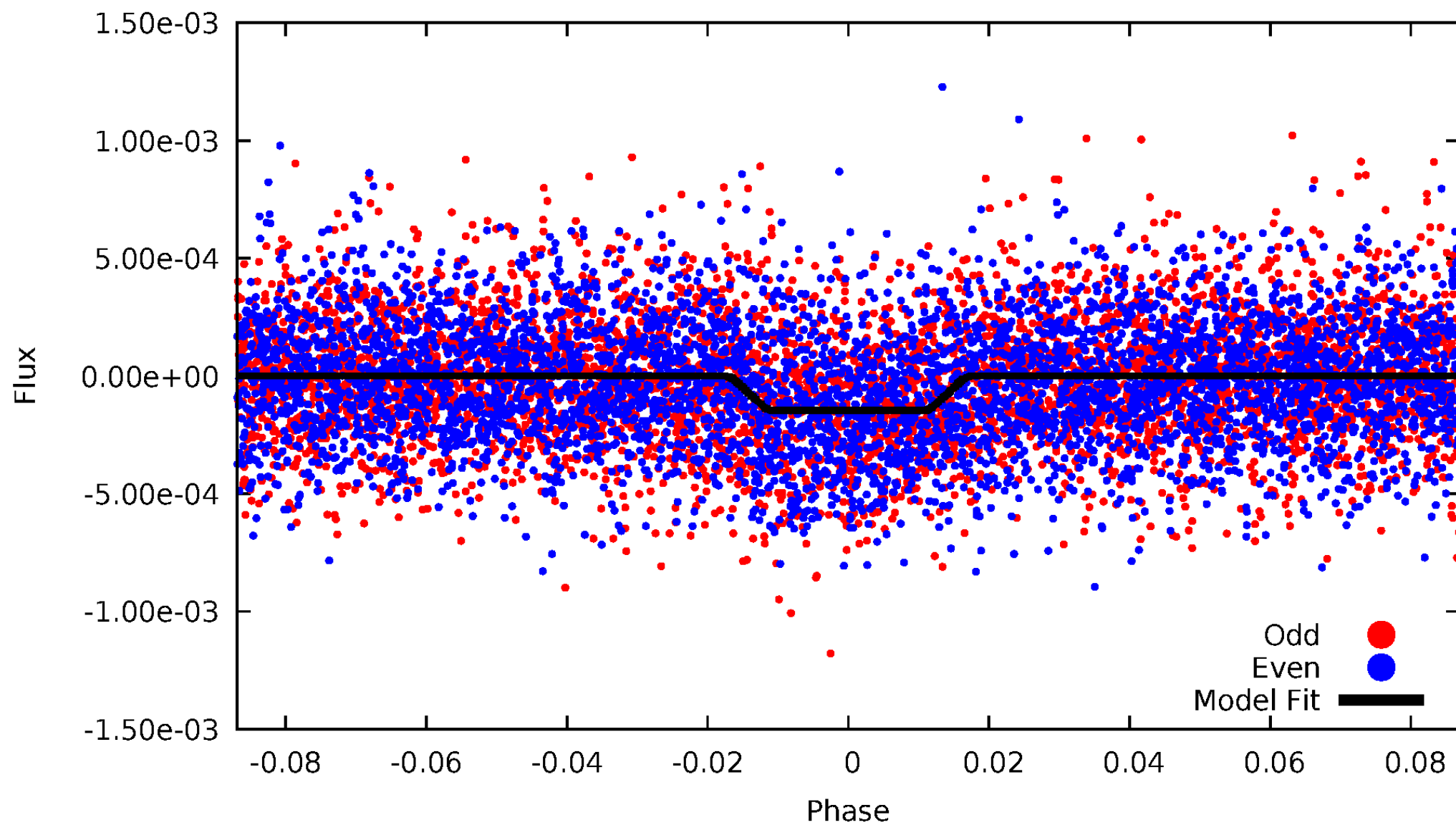
DV Odd/Even

TCE 010684670-01

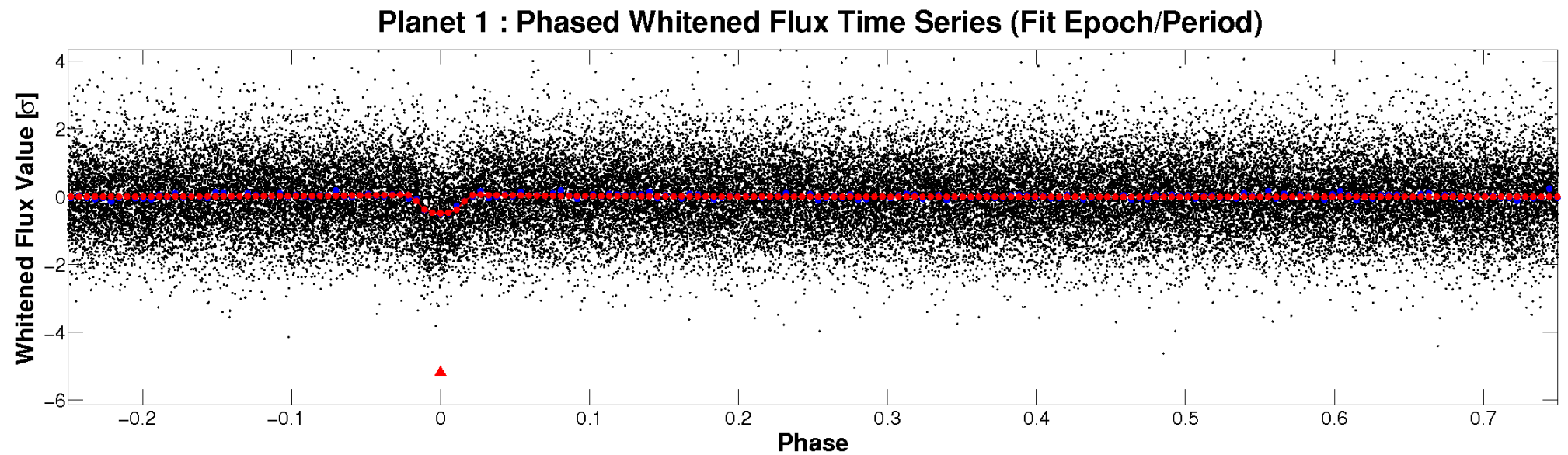
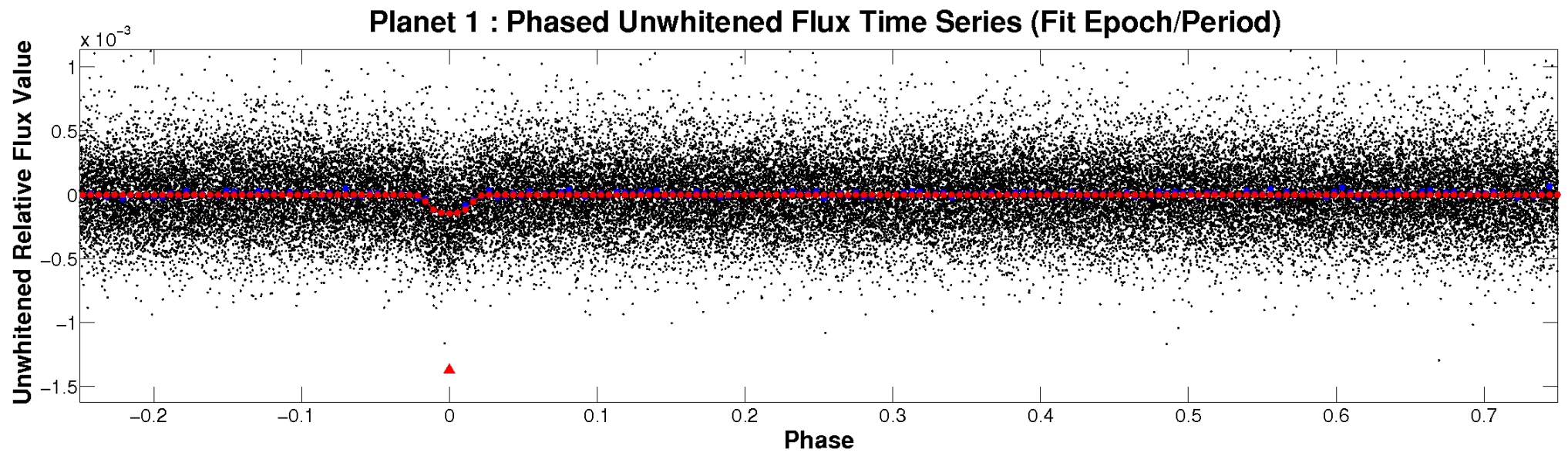


ALT Odd/Even

TCE 010684670-01

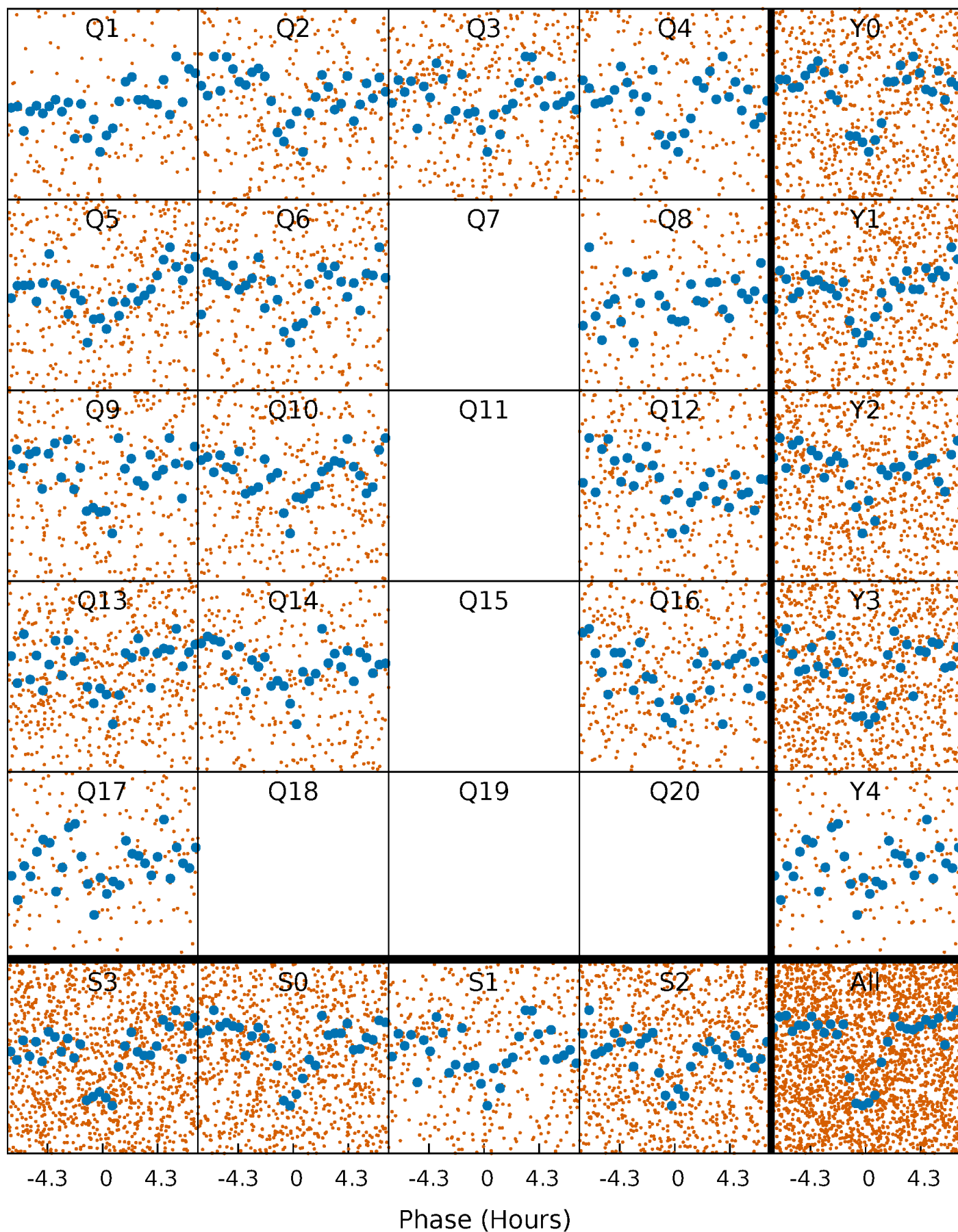


Non-Whitened Vs. Whitened Light Curve



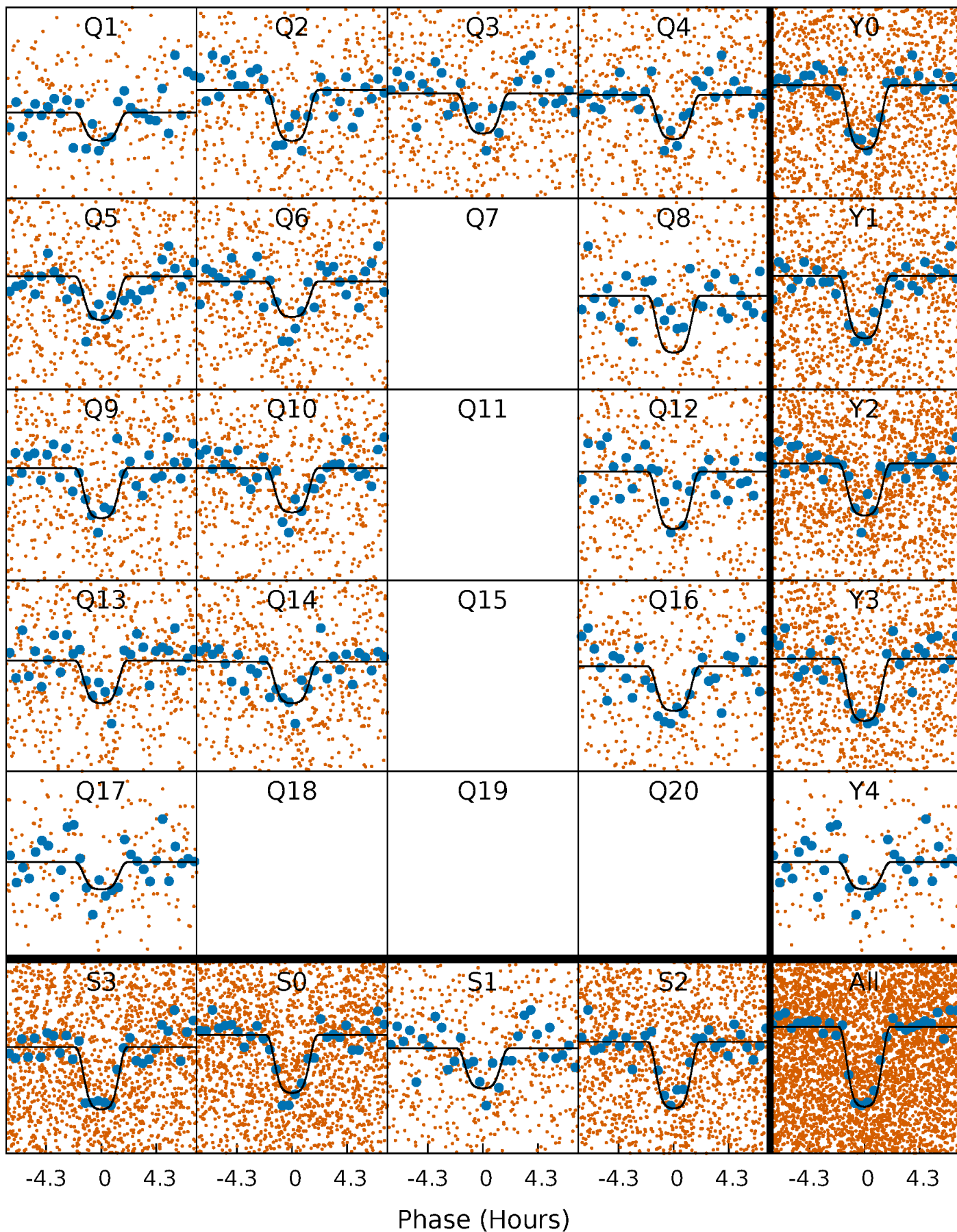
PDC Quarter-Phased Transit Curves

TCE 010684670-01 P= 3.788597 Days $T_0=134.619191$ (BKJD)



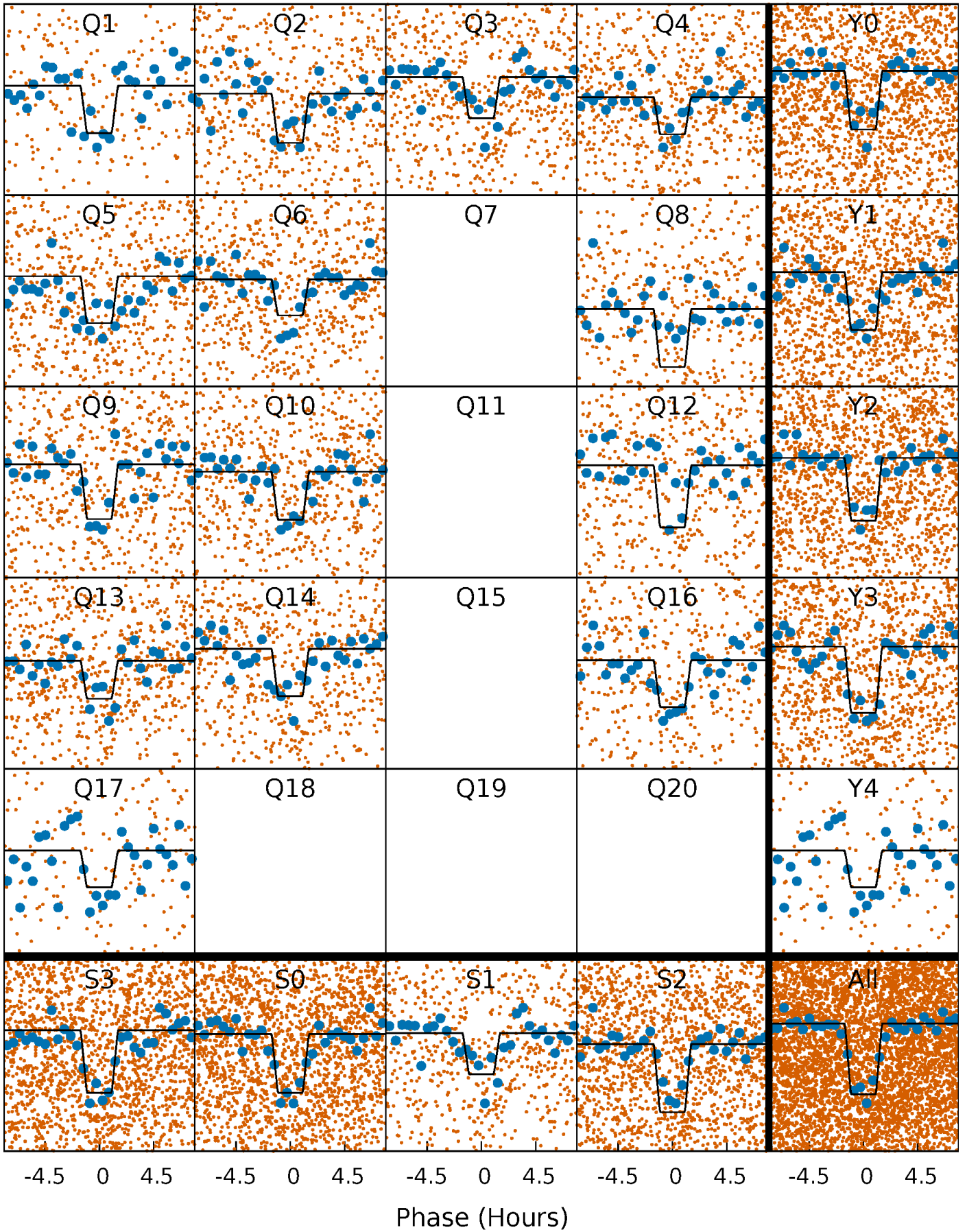
DV Quarter-Phased Transit Curves

TCE 010684670-01 P= 3.788597 Days $T_0=134.619191$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

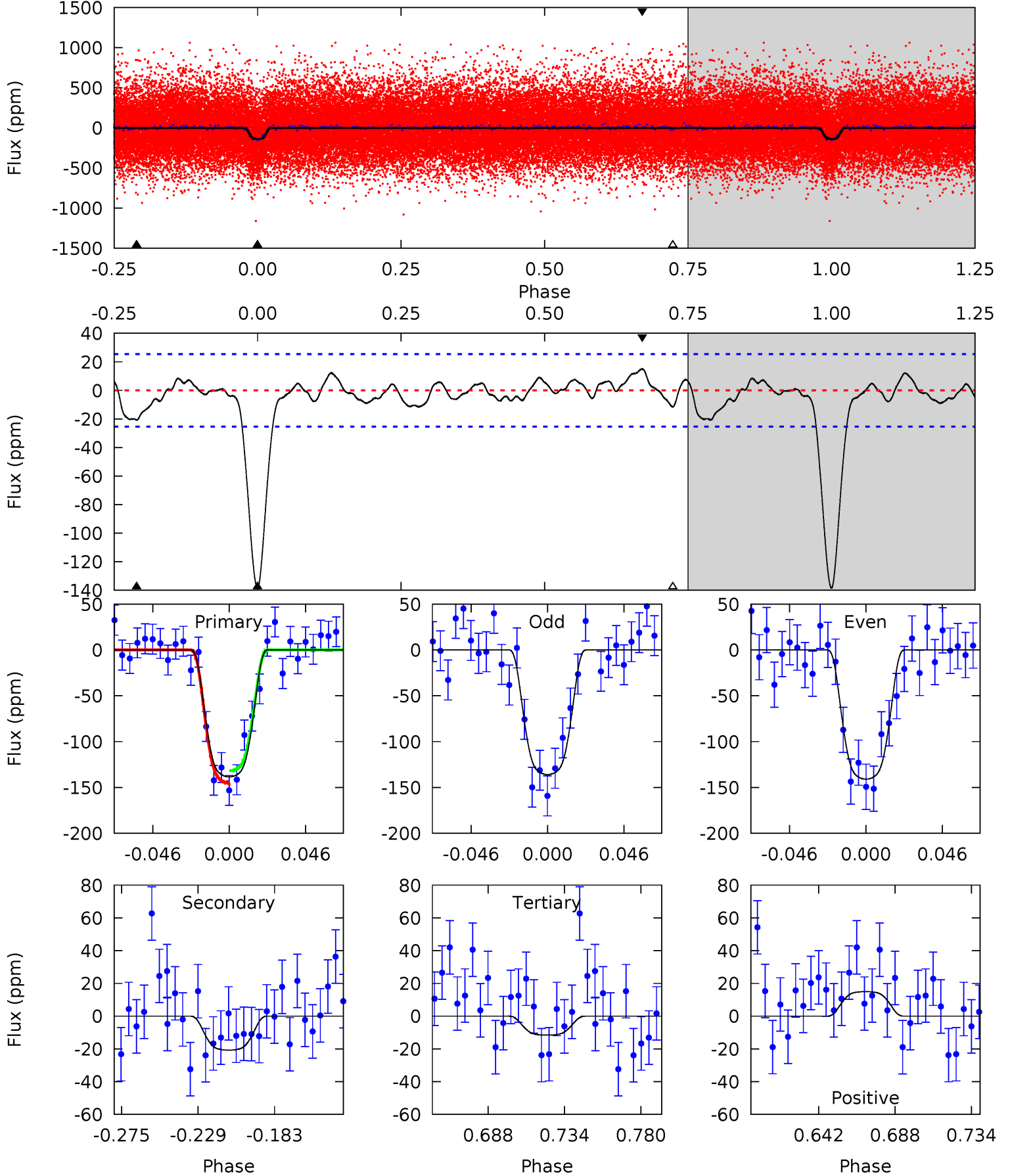
TCE 010684670-01 P= 3.788596 Days $T_0=134.616720$ (BKJD)



DV Model-Shift Uniqueness Test

010684670-01, P = 3.788597 Days, E = 130.830594 Days

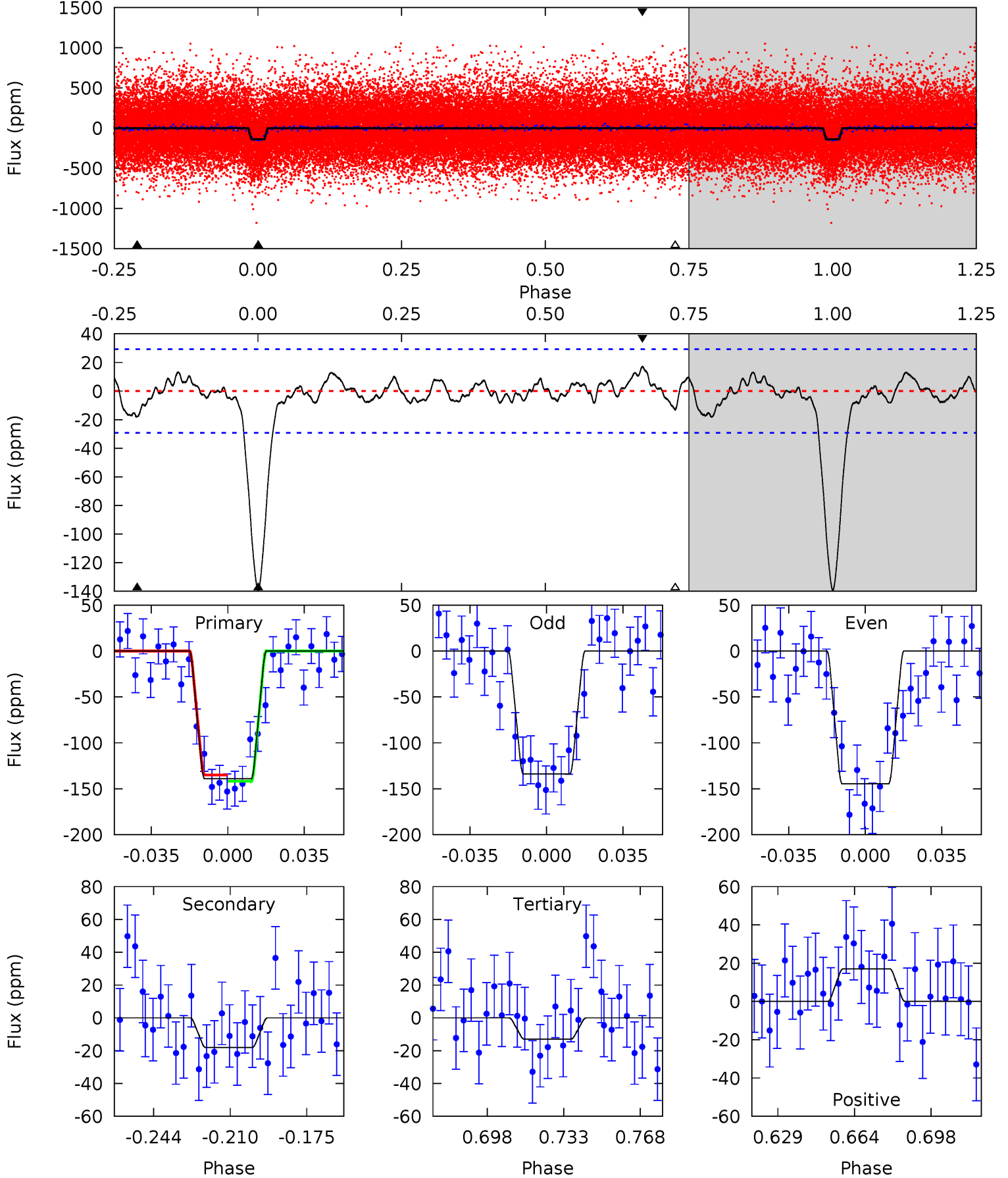
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.8	3.86	2.16	2.79	4.73	2.00	1.08	23.6	23.0	1.71	1.08	0.46	1.06	0.10	1.24



Alt Model-Shift Uniqueness Test

010684670-01, P = 3.788596 Days, E = 130.828124 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.8	2.95	2.12	2.79	4.78	2.11	0.96	20.6	20.0	0.83	0.16	0.88	1.03	0.11	0.57



Stellar Parameters For KIC 010684670

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5560^{+75}_{-75}	$4.379^{+0.110}_{-0.099}$	$0.160^{+0.150}_{-0.150}$	$1.040^{+0.149}_{-0.122}$	$0.943^{+0.060}_{-0.050}$	$1.183^{+0.529}_{-0.366}$
	+1%/-1%	+3%/-2%	+94%/-94%	+14%/-12%	+6%/-5%	+45%/-31%
Source	SPE90	SPE90	SPE90	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 010684670-01 / KOI 2317.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-21 ± 5	$1.74^{+0.18}_{-0.16}$	1617^{+63}_{-62}	3499^{+147}_{-179}	$8.314^{+2.740}_{-2.408}$
Alt.	-18 ± 6	$1.37^{+0.14}_{-0.12}$	1614^{+64}_{-60}	3674^{+217}_{-245}	11^{+5}_{-4}

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 $A_{\text{obs}} \gg 1.0$

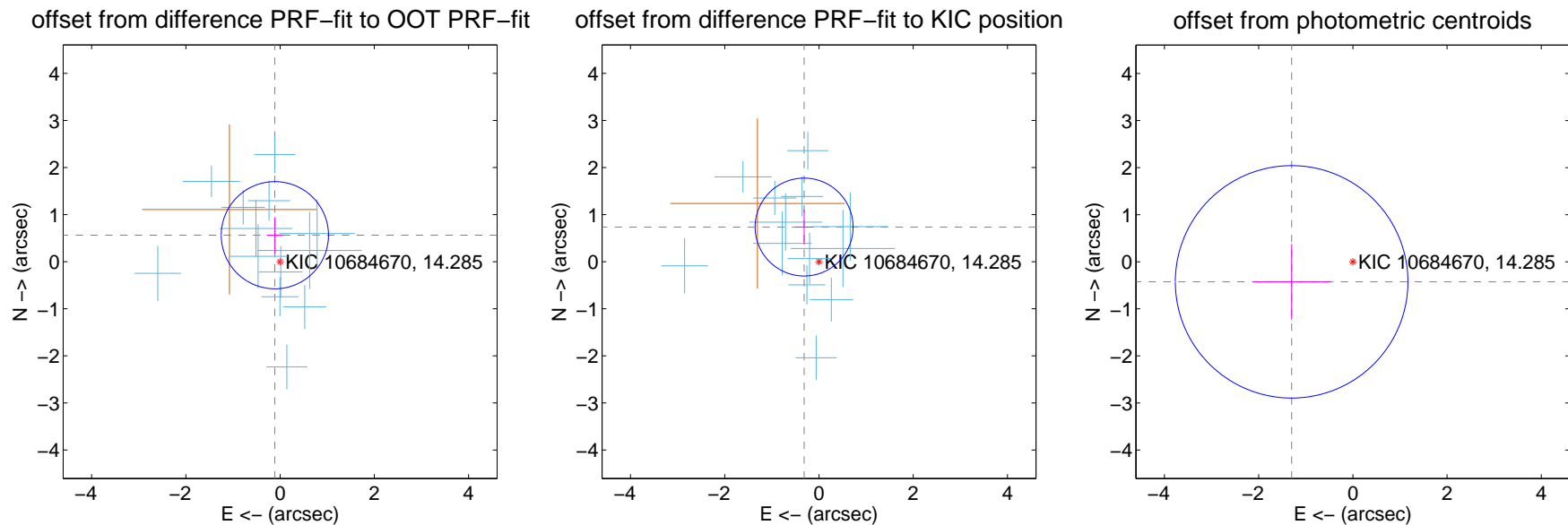
DV Centroid Data

Supplemental centroid analysis for 010684670-01. Kepler magnitude: 14.29. Transit SNR 16.60

There are 13 quarters with good PRF difference image offsets

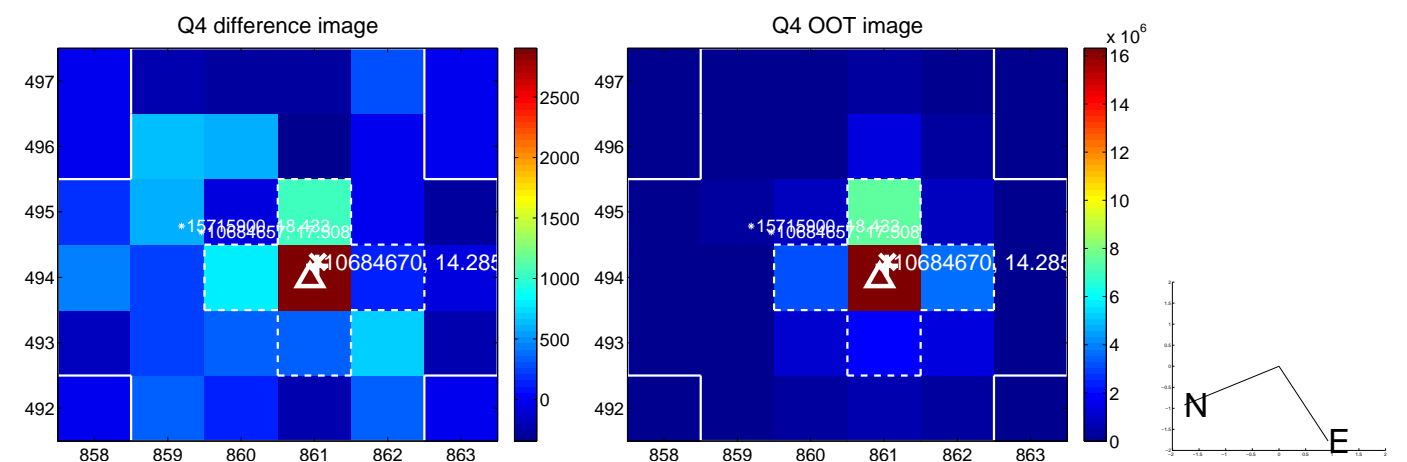
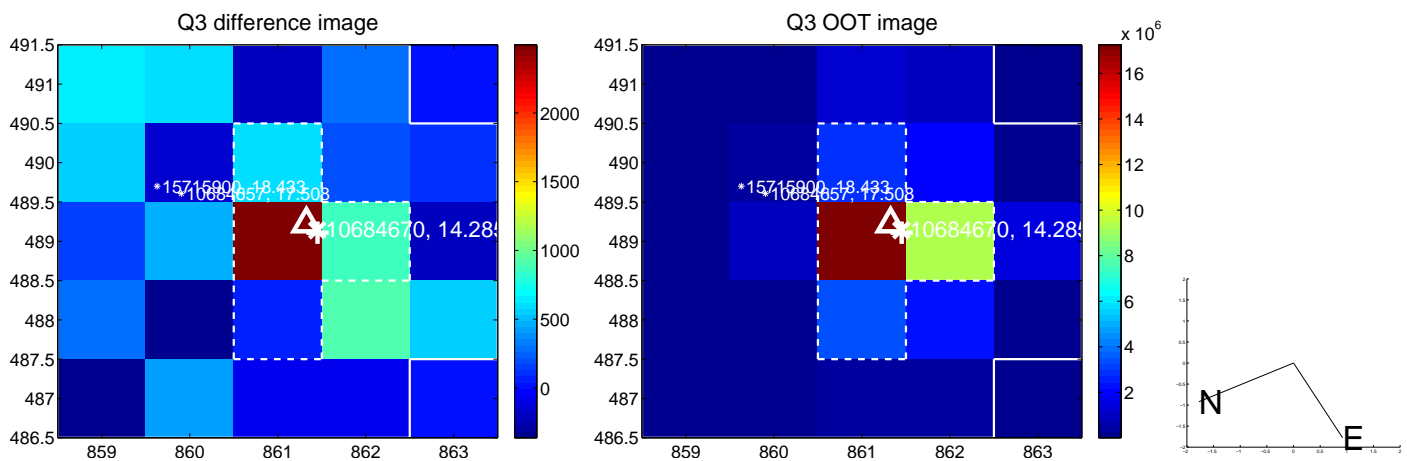
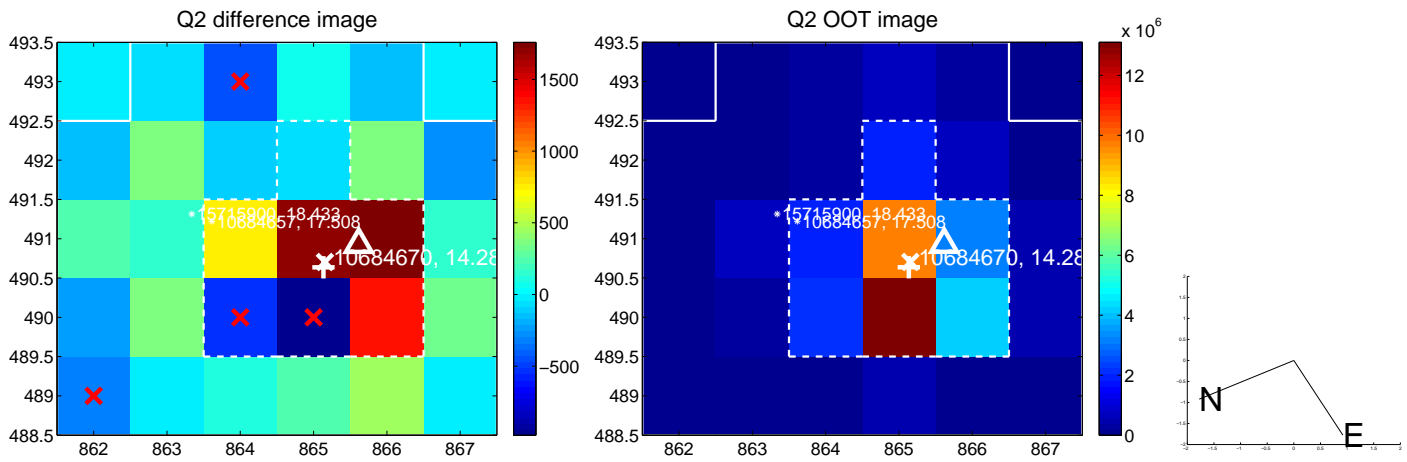
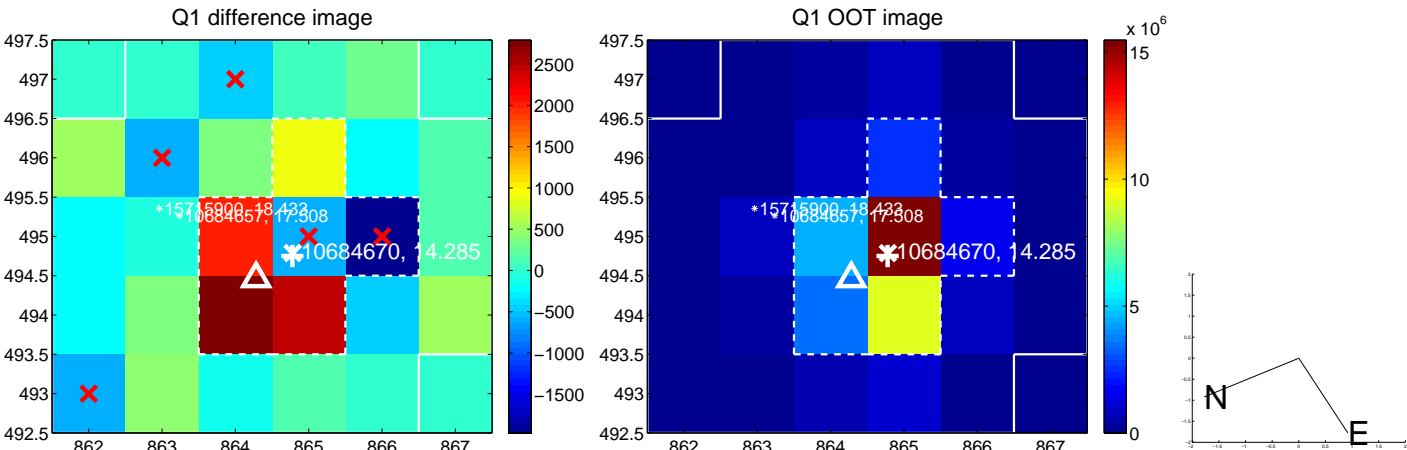
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.573 ± 0.379	1.51	0.111 ± 0.174	0.562 ± 0.385
PRF-fit source offset from KIC position	0.801 ± 0.346	2.31	0.316 ± 0.172	0.736 ± 0.370
photometric centroid source offset	1.37 ± 0.82	1.66	1.30 ± 0.83	-0.43 ± 0.80

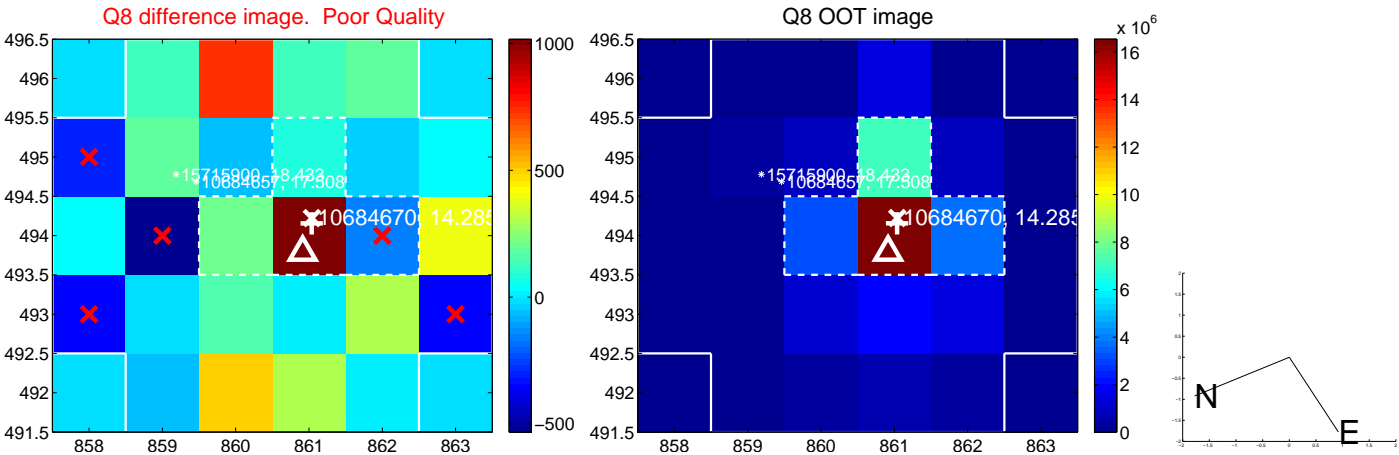
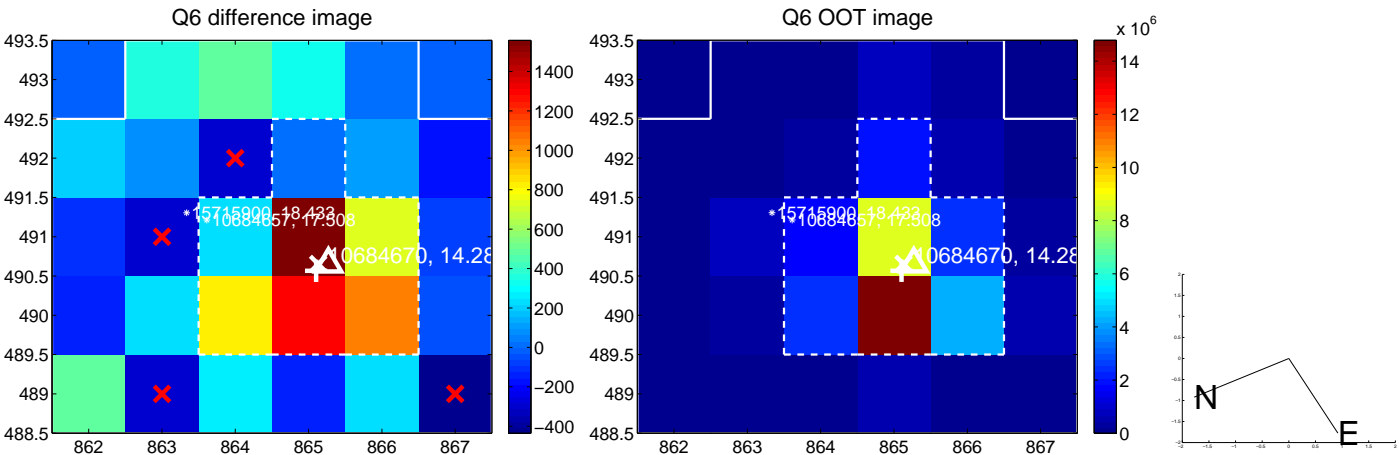
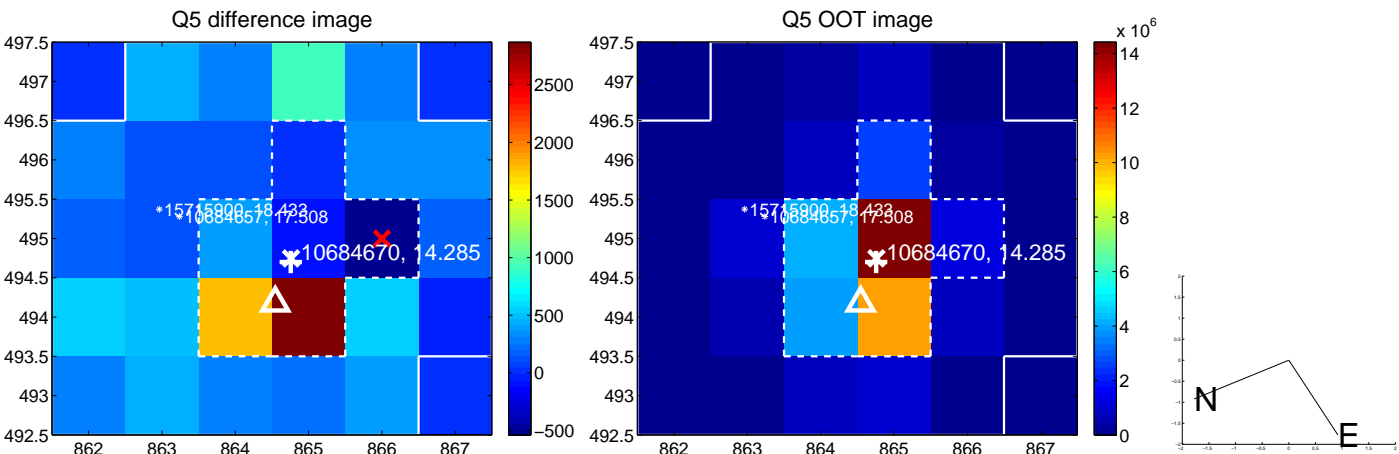


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

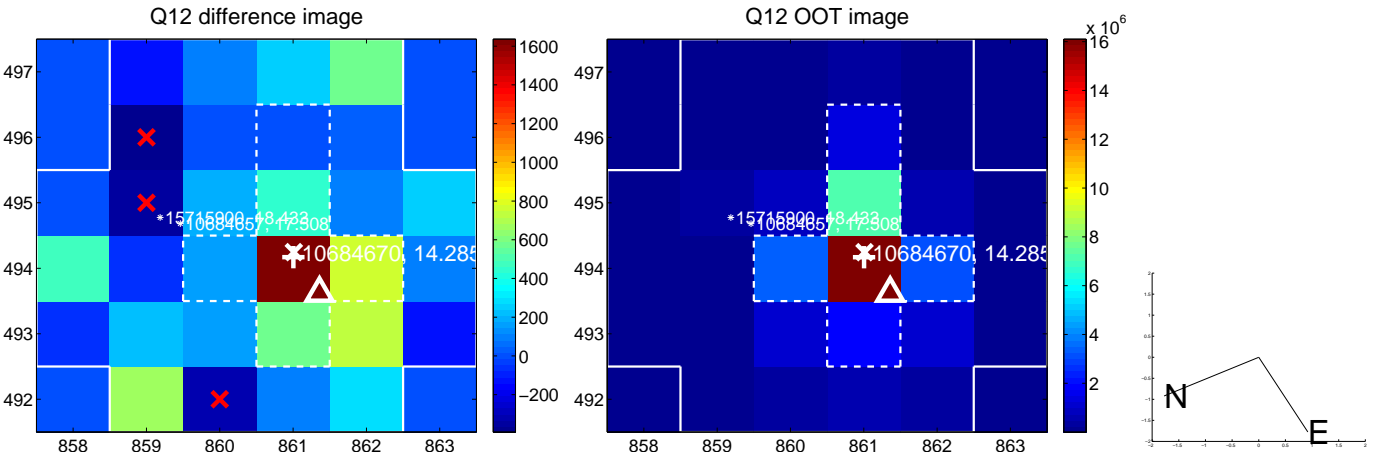
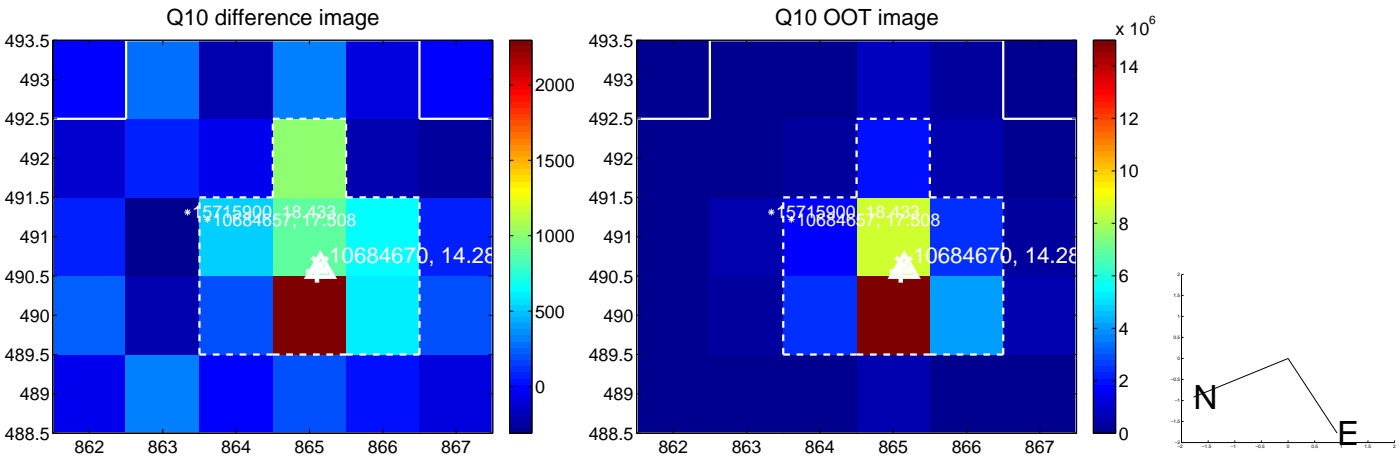
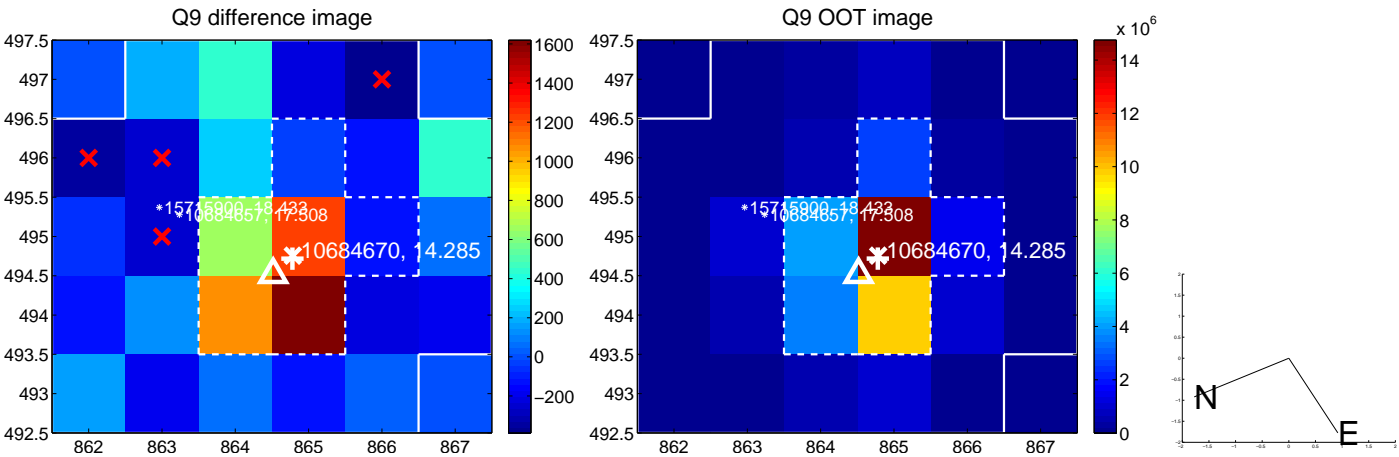
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



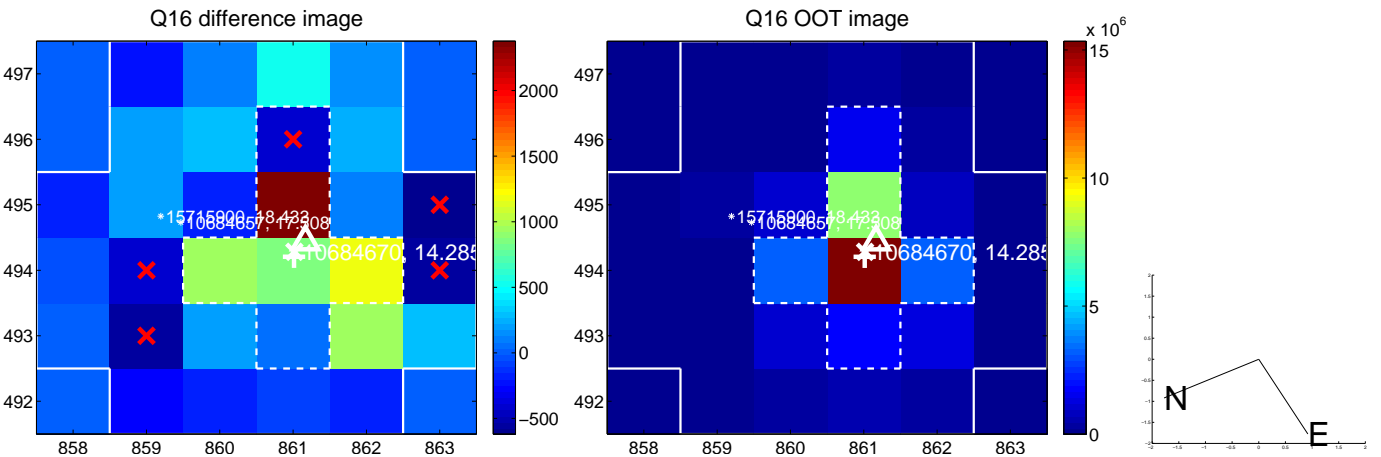
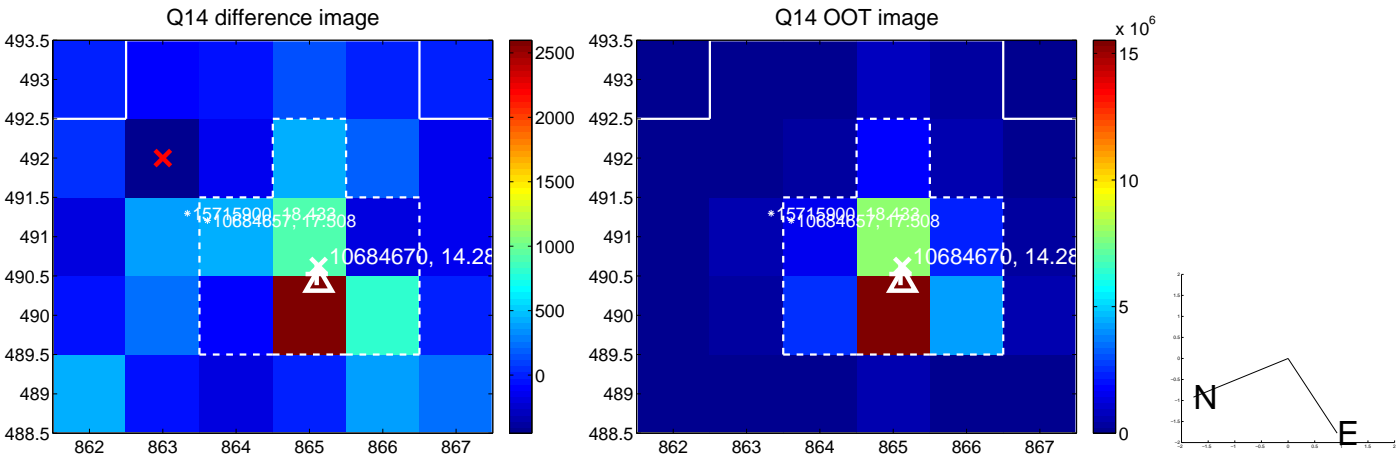
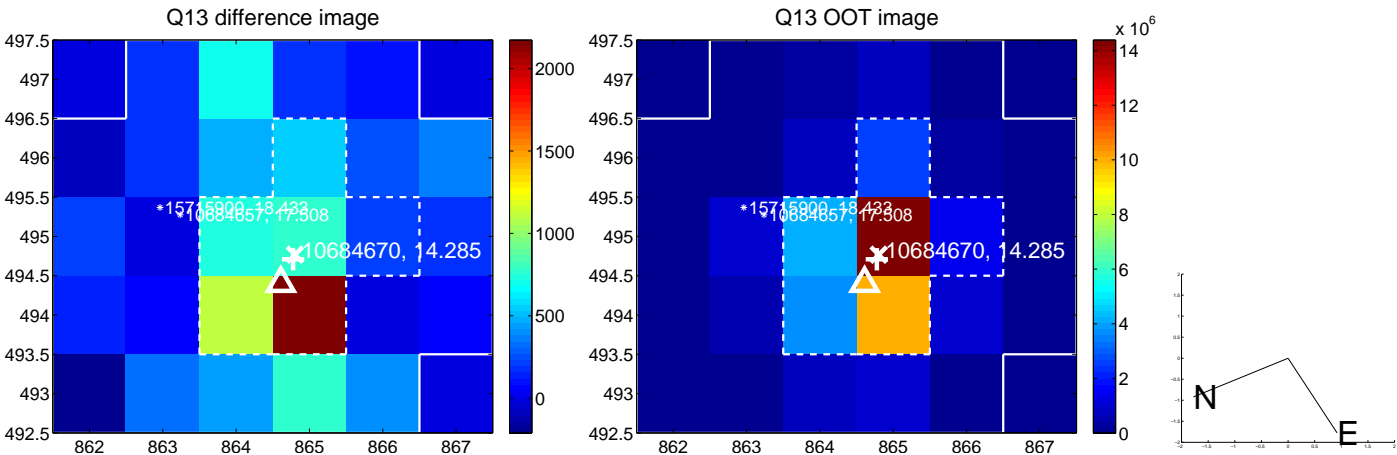
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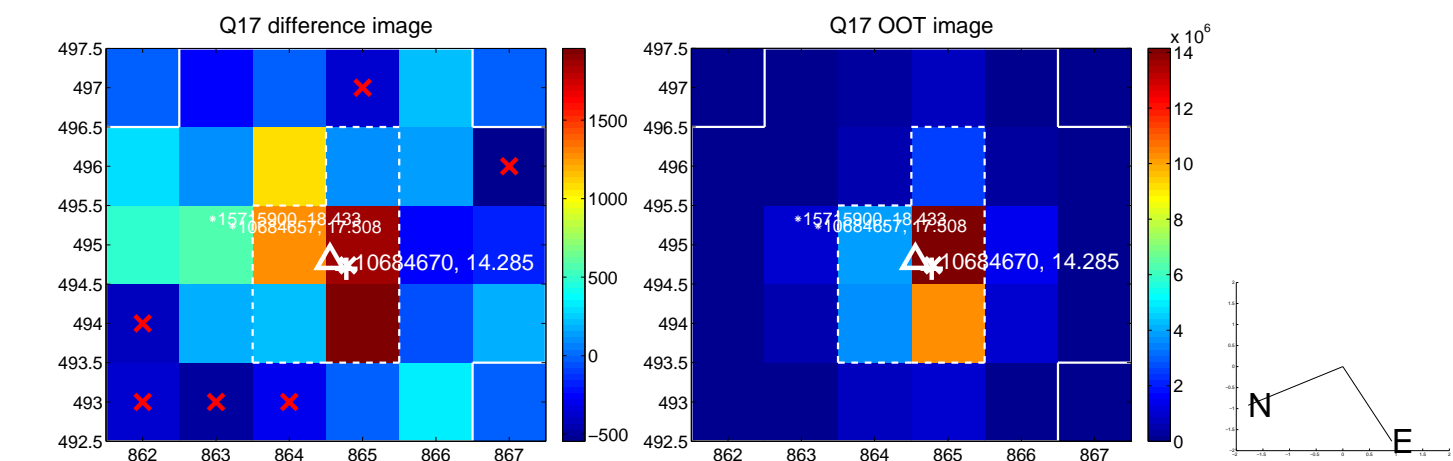
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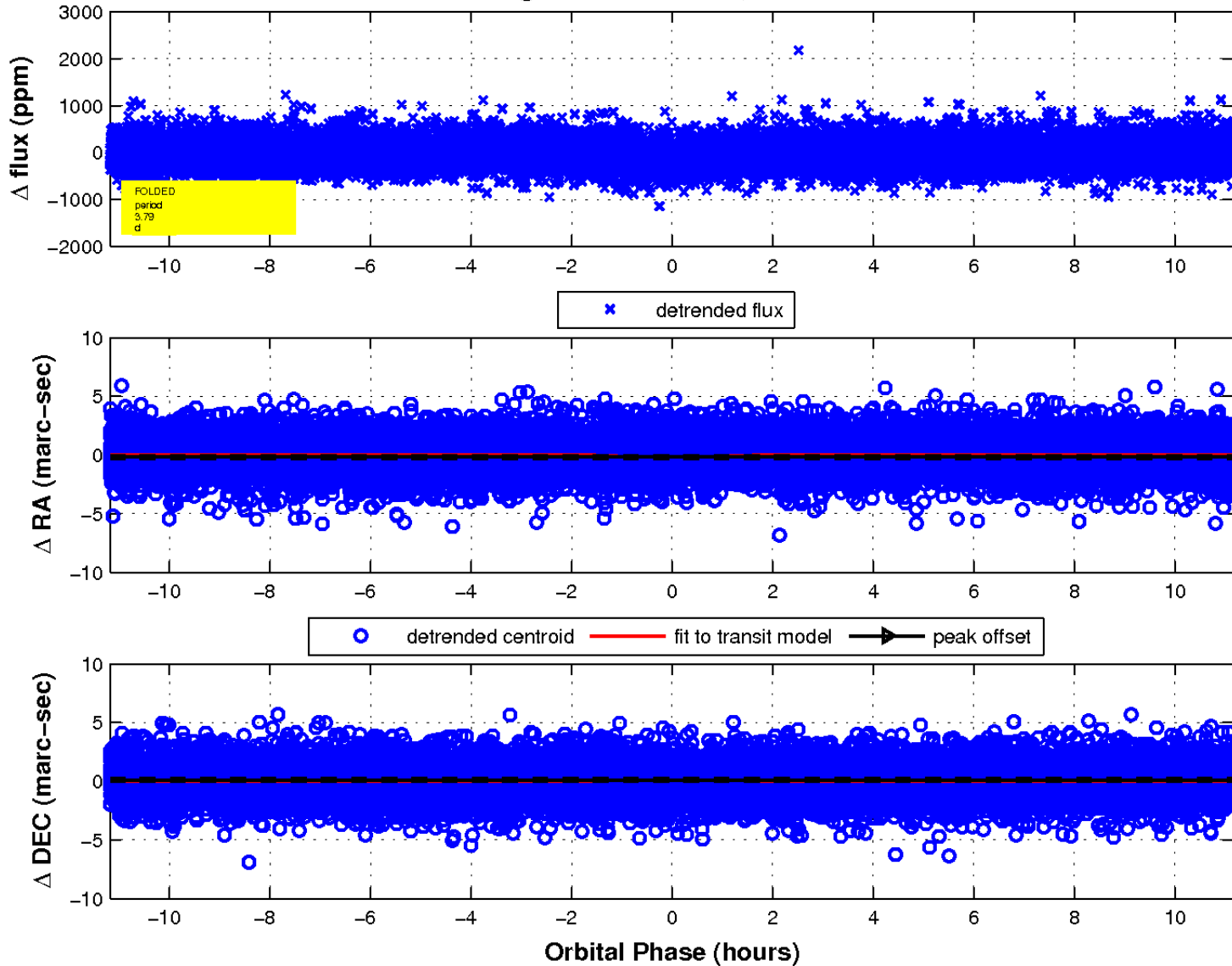
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

