

KIC 007610663

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})
007610663-01	OBS	4160.01	3.031989	133.983734	81.5	1.743	14.2	15.2	0.99	5755	1.08	614.81

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007610663-01	OBS	PC	0.99	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.

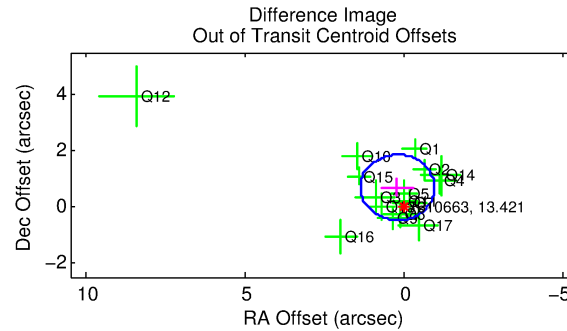
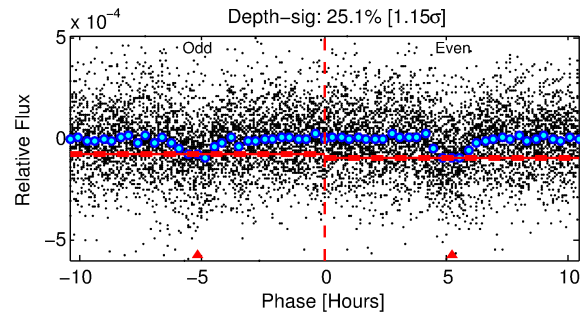
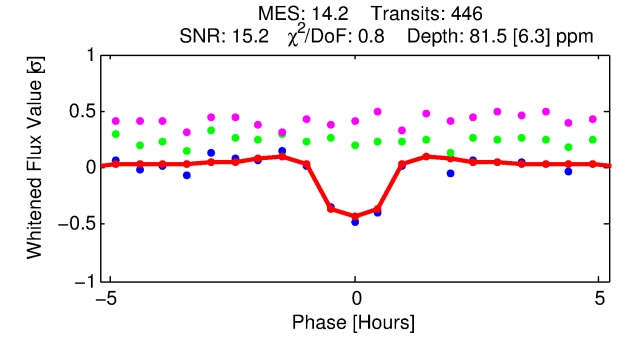
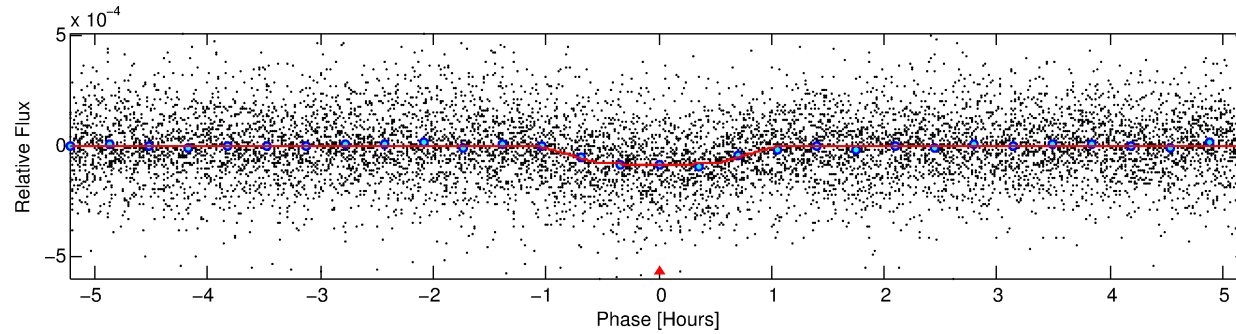
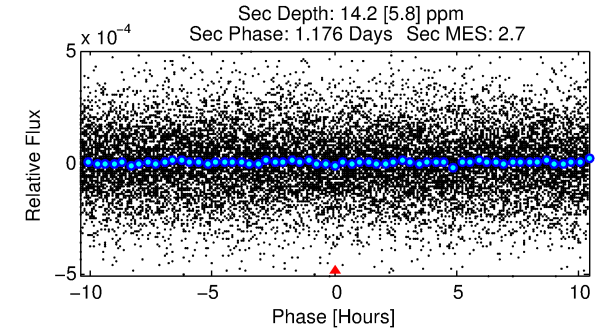
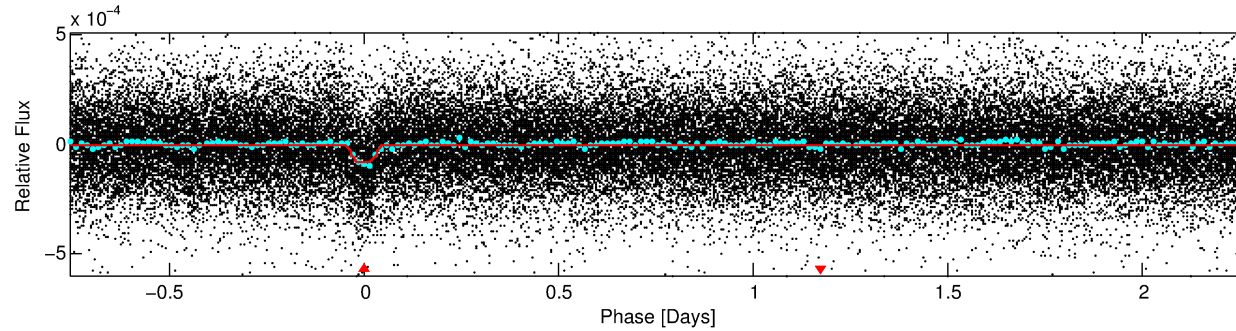
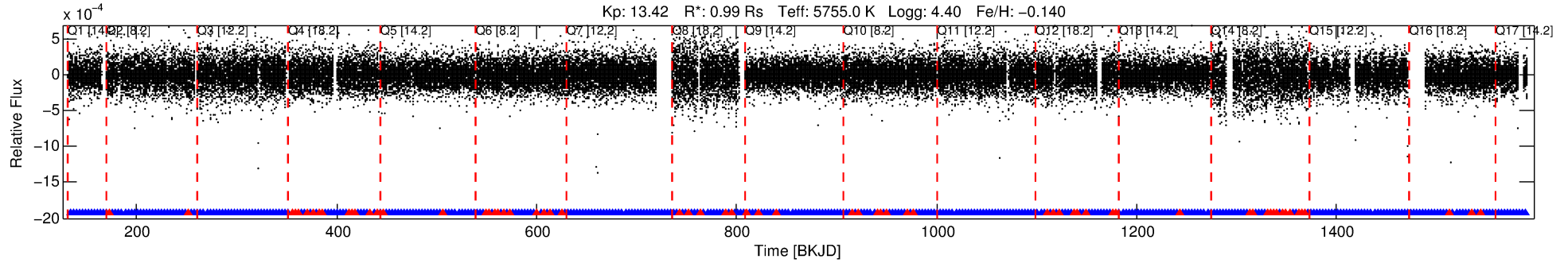
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007610663-01

No Significant Match Found

DV One-Page Summary

KIC: 7610663 Candidate: 1 of 1 Period: 3.032 d
KOI: K04160.01 Corr: 0.941



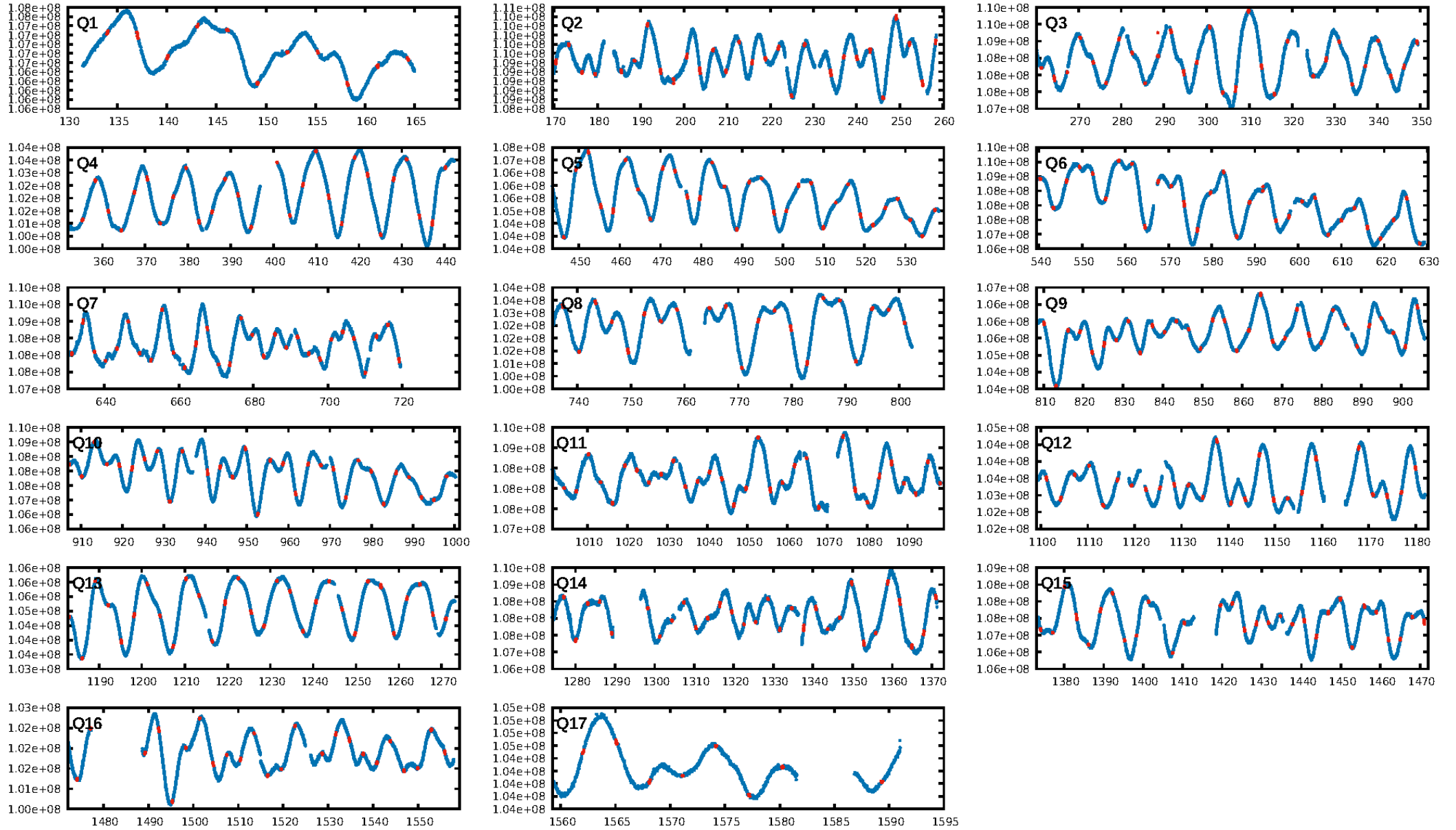
DV Fit Results:

Period = 3.03199 [0.00001] d
Epoch = 133.9837 [0.0016] BKJD
Rp/R* = 0.0099 [0.0034]
a/R* = 5.93 [9.62]
b = 0.91 [0.33]
Seff = 614.81 [219.80]
Teq = 1270 [113] K
Rp = 1.08 [0.48] Re
a = 0.0397 [0.0093] AU
Ag = 10.65 [9.23] [1.05σ]
Teffp = 3547 [713] K [3.15σ]

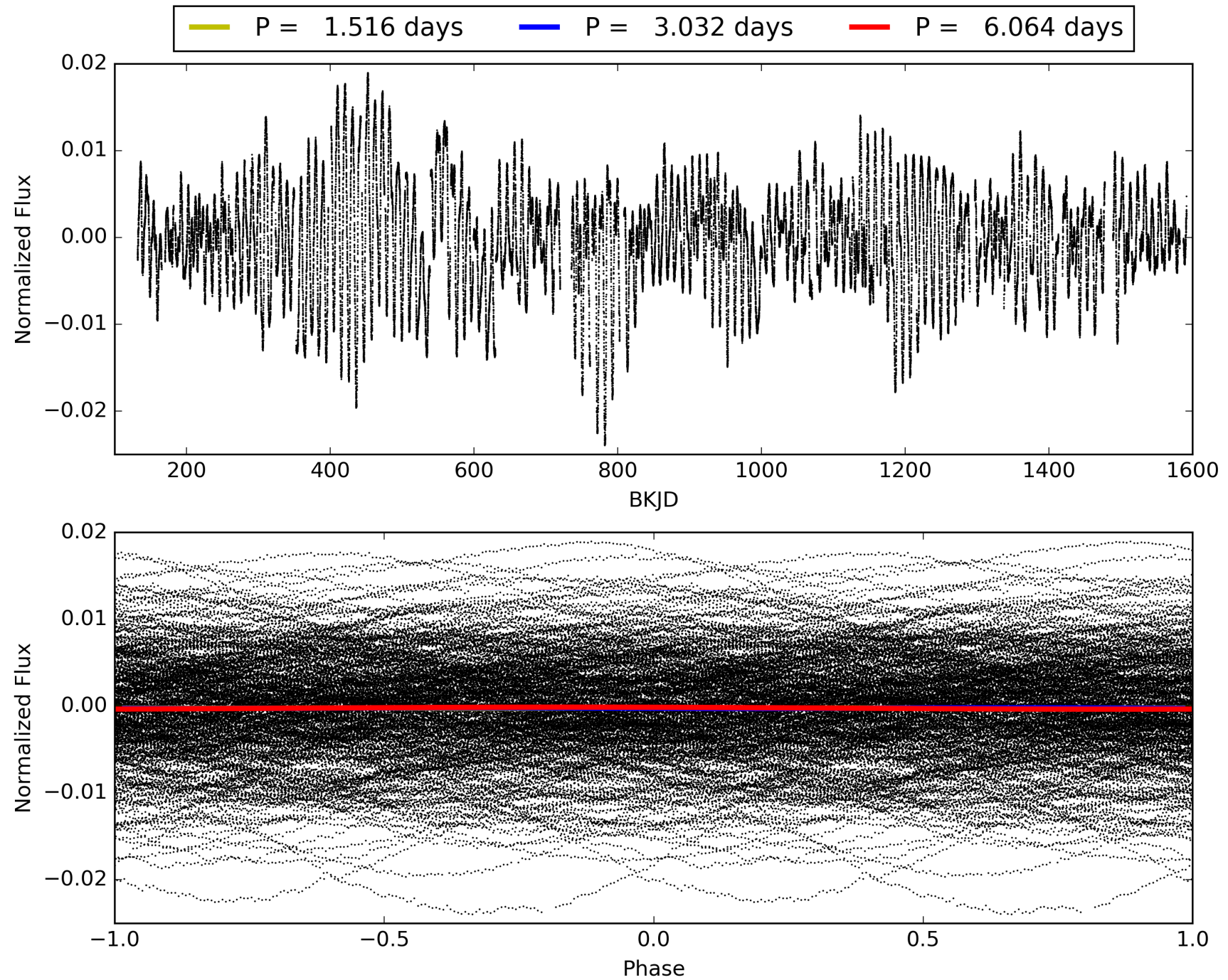
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.93e-43
RollingBand-fgt: 0.85 [362/427]
GhostDiagnostic-chr: 0.4577
Centroid-sig: 21.0%
Centroid-so: 0.753 arcsec [1.29σ]
OotOffset-rm: 0.720 arcsec [1.85σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-rm: 0.815 arcsec [2.13σ]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 0.94 [15/16]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007610663-01, PDC Light Curves

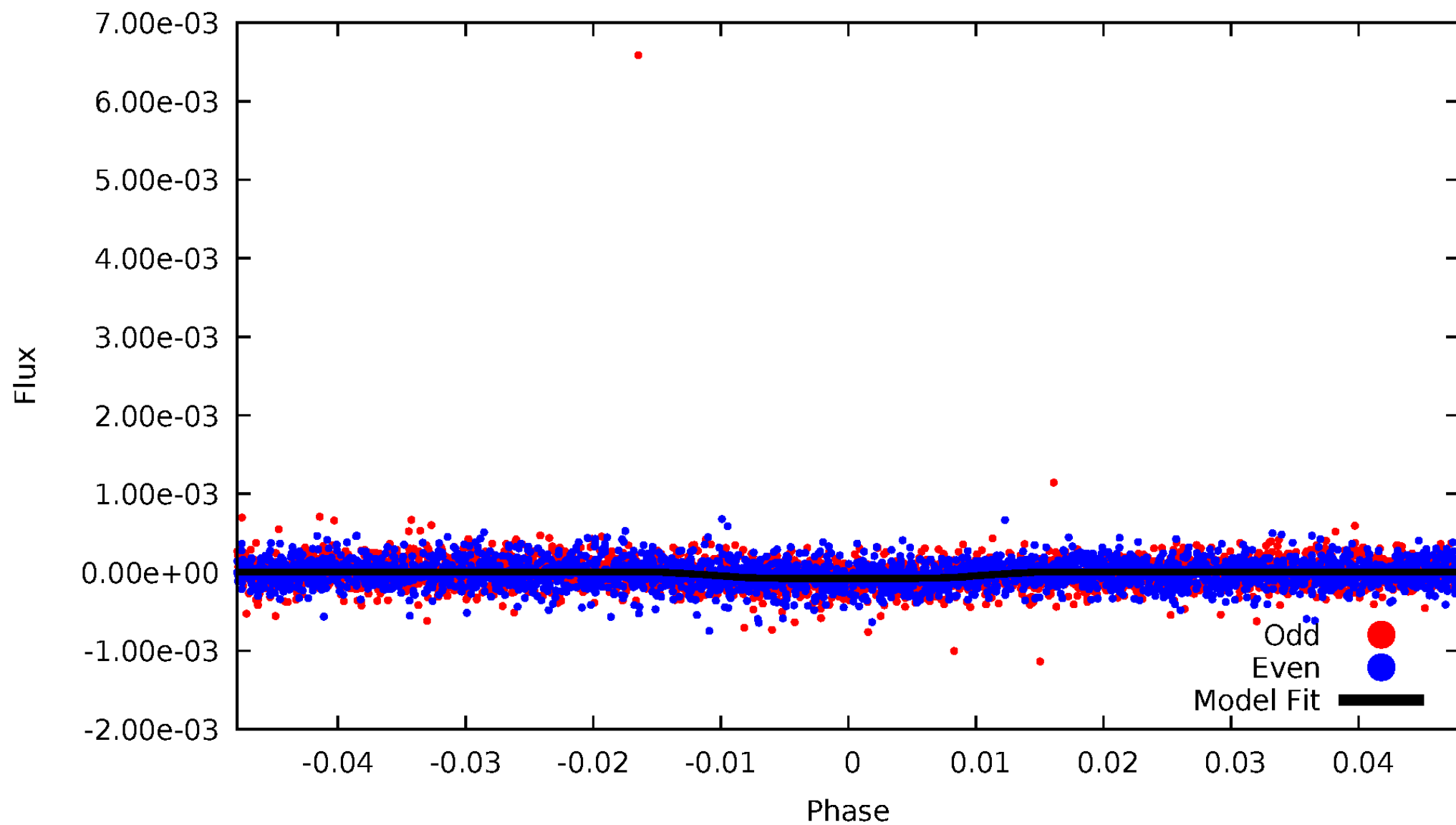


TCE 007610663-01



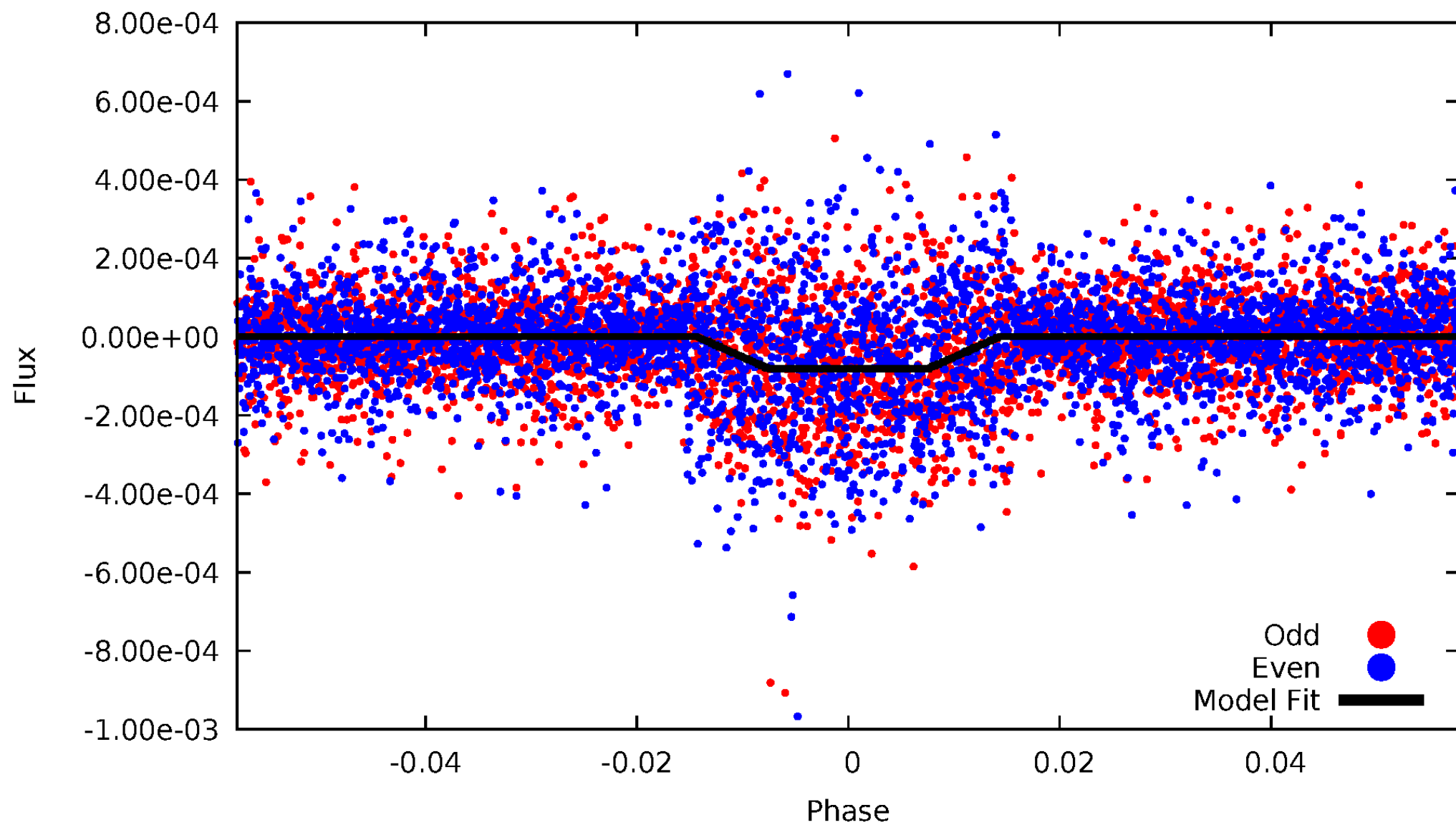
DV Odd/Even

TCE 007610663-01



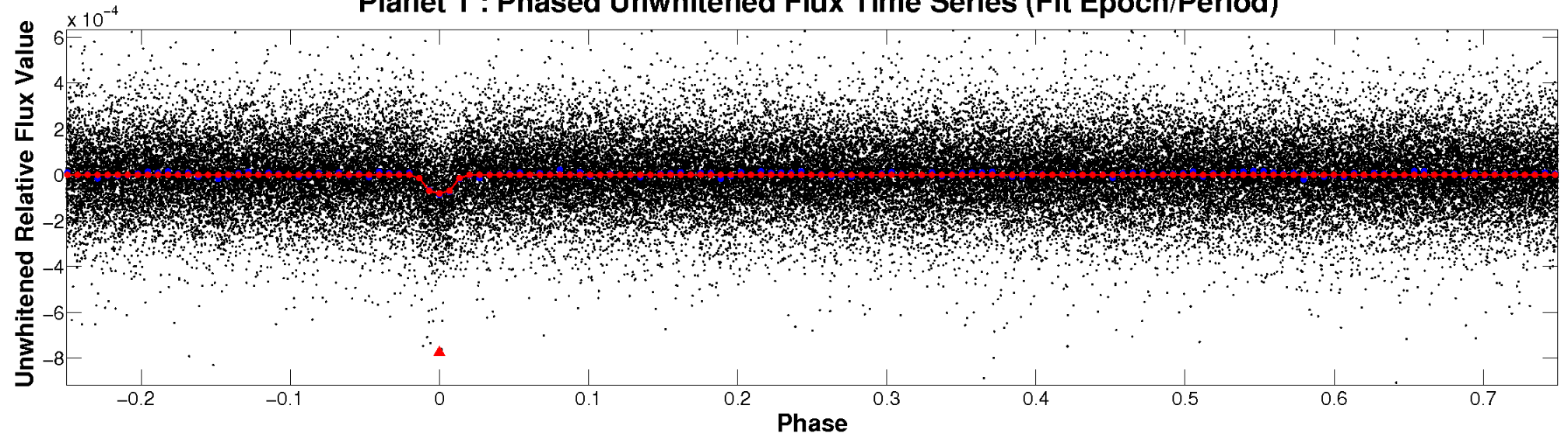
ALT Odd/Even

TCE 007610663-01

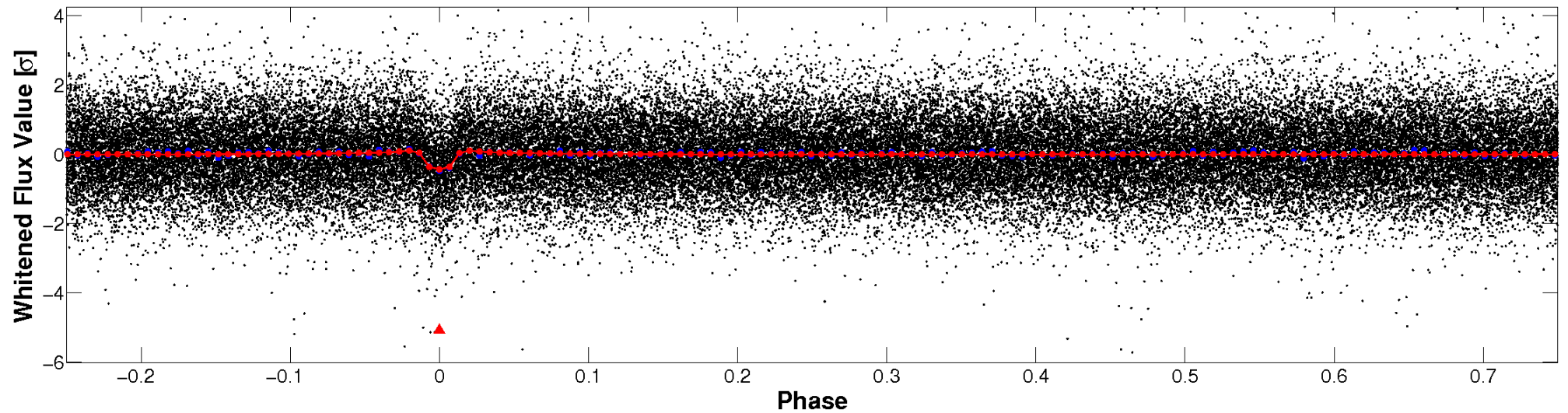


Non-Whitened Vs. Whitened Light Curve

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

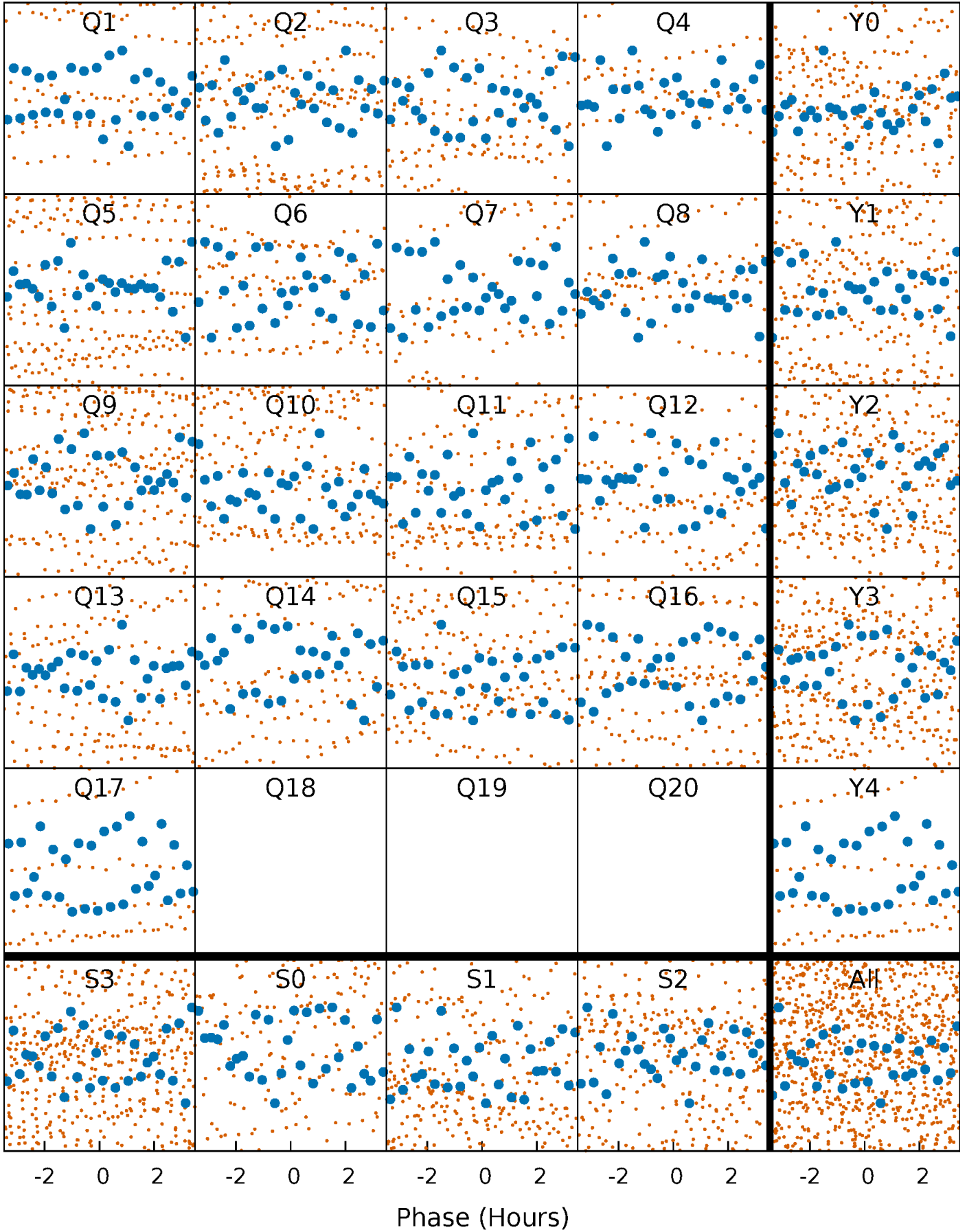


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



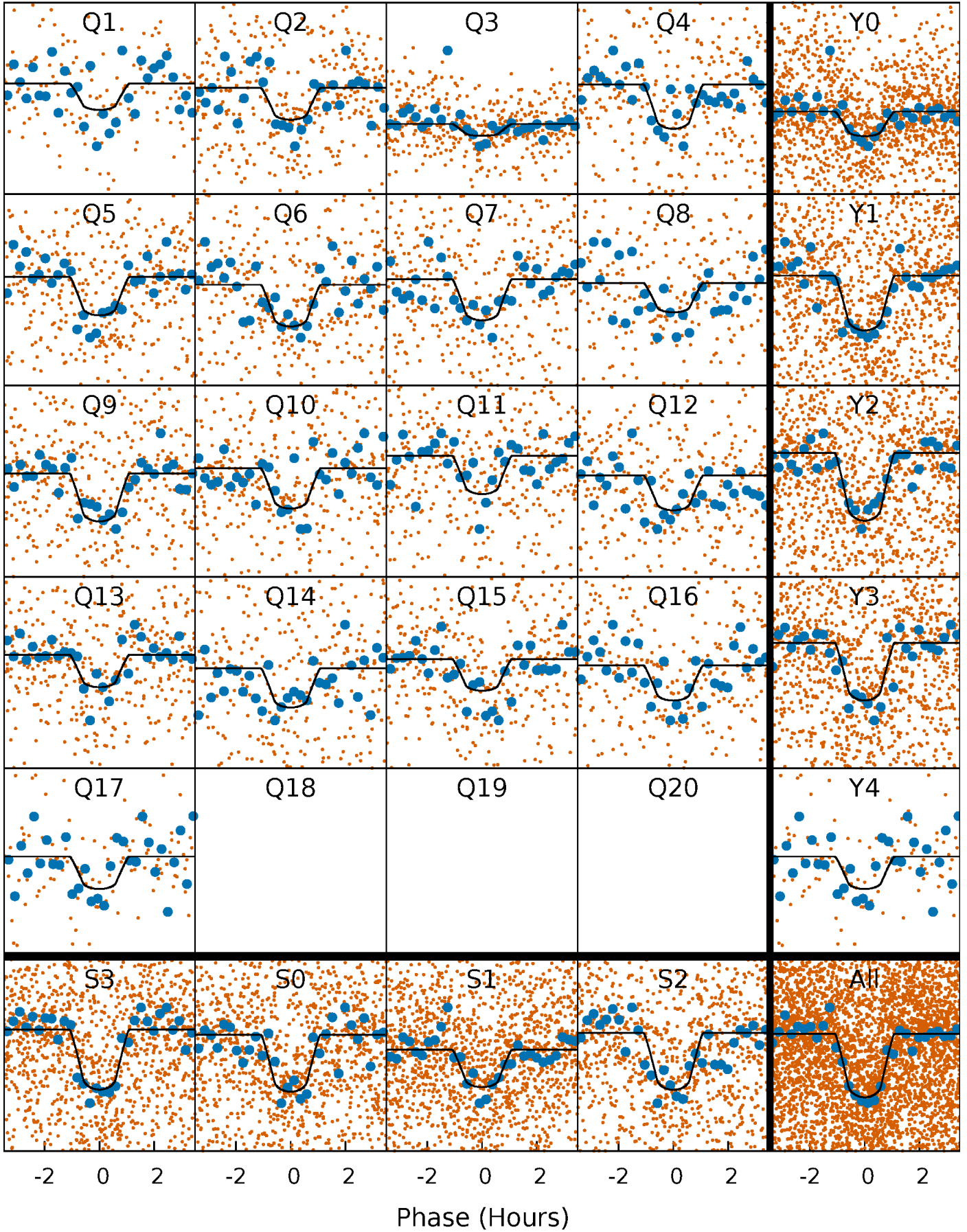
PDC Quarter-Phased Transit Curves

TCE 007610663-01 P= 3.031989 Days $T_0=133.983734$ (BKJD)



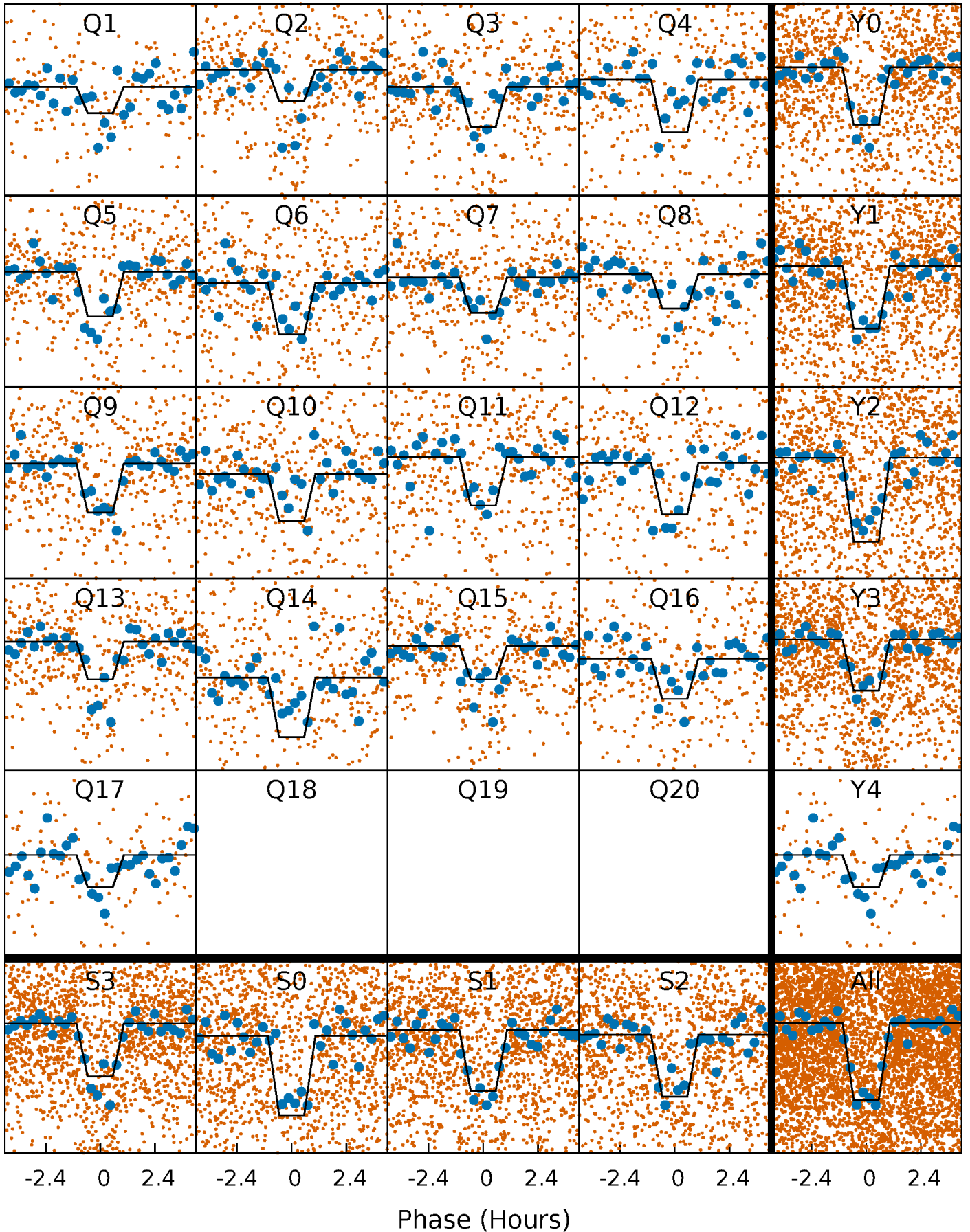
DV Quarter-Phased Transit Curves

TCE 007610663-01 P= 3.031989 Days $T_0=133.983734$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

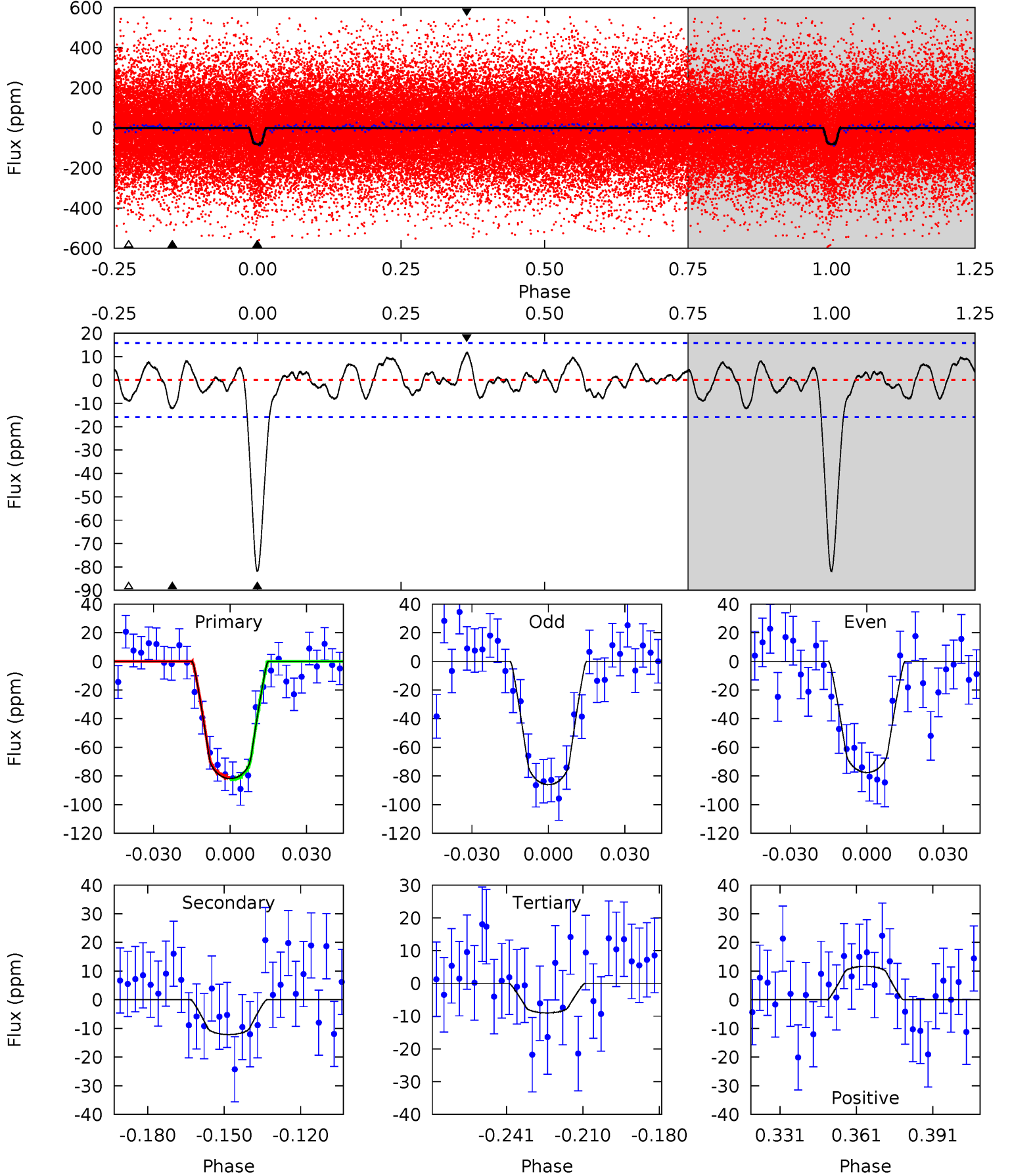
TCE 007610663-01 P= 3.031976 Days $T_0=133.984086$ (BKJD)



DV Model-Shift Uniqueness Test

007610663-01, P = 3.031989 Days, E = 130.951745 Days

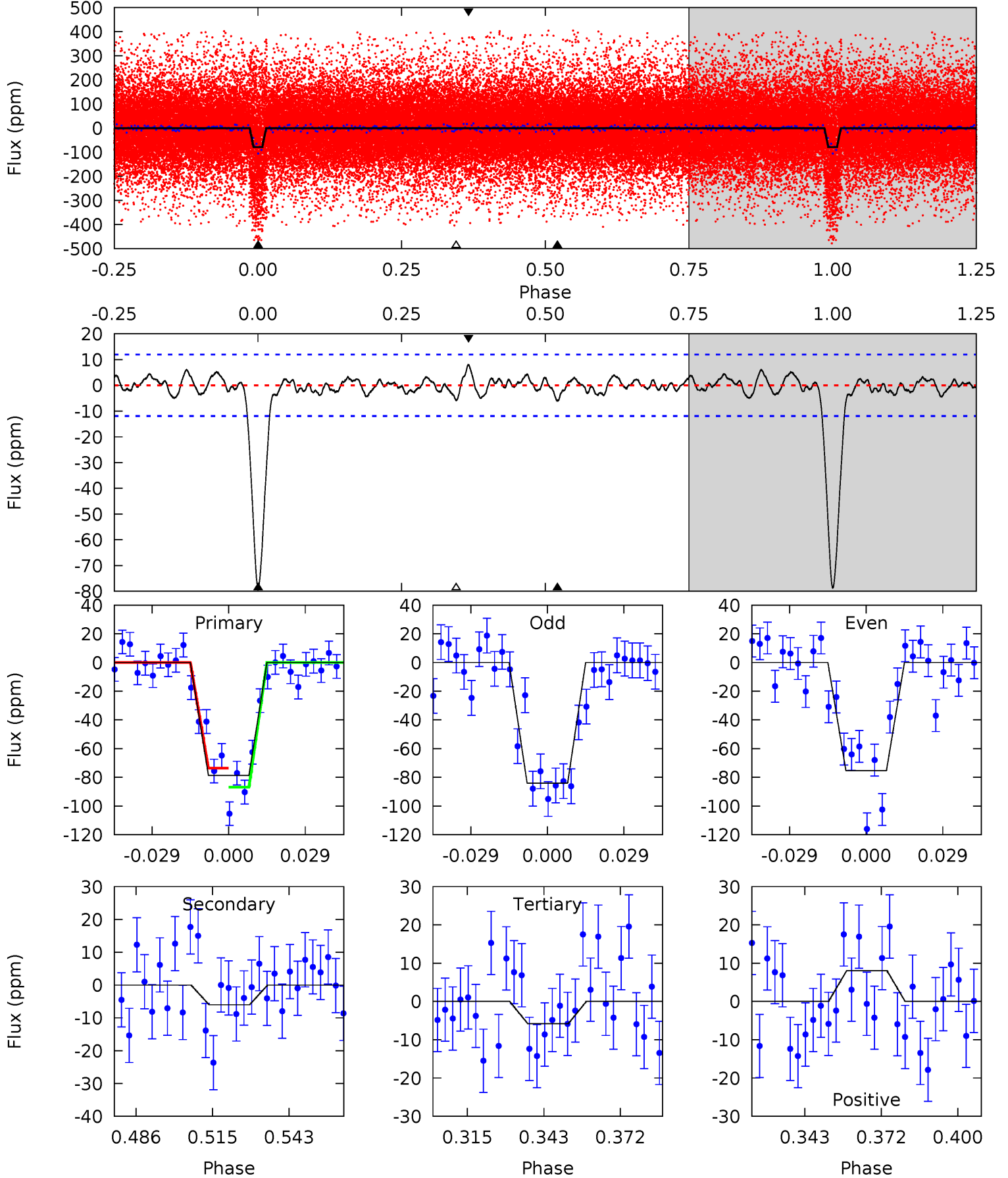
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.9	3.70	2.75	3.56	4.81	2.17	1.34	22.2	21.4	0.95	0.14	1.30	1.04	0.13	0.26



Alt Model-Shift Uniqueness Test

007610663-01, P = 3.031976 Days, E = 130.952110 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.8	2.43	2.35	3.23	4.82	2.19	0.96	29.4	28.6	0.08	-0.80	1.77	0.98	0.09	2.69



Stellar Parameters For KIC 007610663

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5755^{+154}_{-154}	$4.402^{+0.124}_{-0.186}$	$-0.140^{+0.300}_{-0.300}$	$0.993^{+0.278}_{-0.149}$	$0.909^{+0.124}_{-0.082}$	$1.305^{+0.716}_{-0.624}$
	+3%/-3%	+3%/-4%	+214%/-214%	+28%/-15%	+14%/-9%	+55%/-48%
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 007610663-01 / KOI 4160.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-12 ± 3	$1.09^{+0.43}_{-0.40}$	1783^{+122}_{-86}	3758^{+685}_{-403}	$8.758^{+13.182}_{-4.493}$
Alt.	-6 ± 2	$0.98^{+0.40}_{-0.37}$	1781^{+123}_{-93}	3434^{+662}_{-442}	$5.116^{+9.756}_{-2.929}$

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 $A_{obs} \gg 1.0$

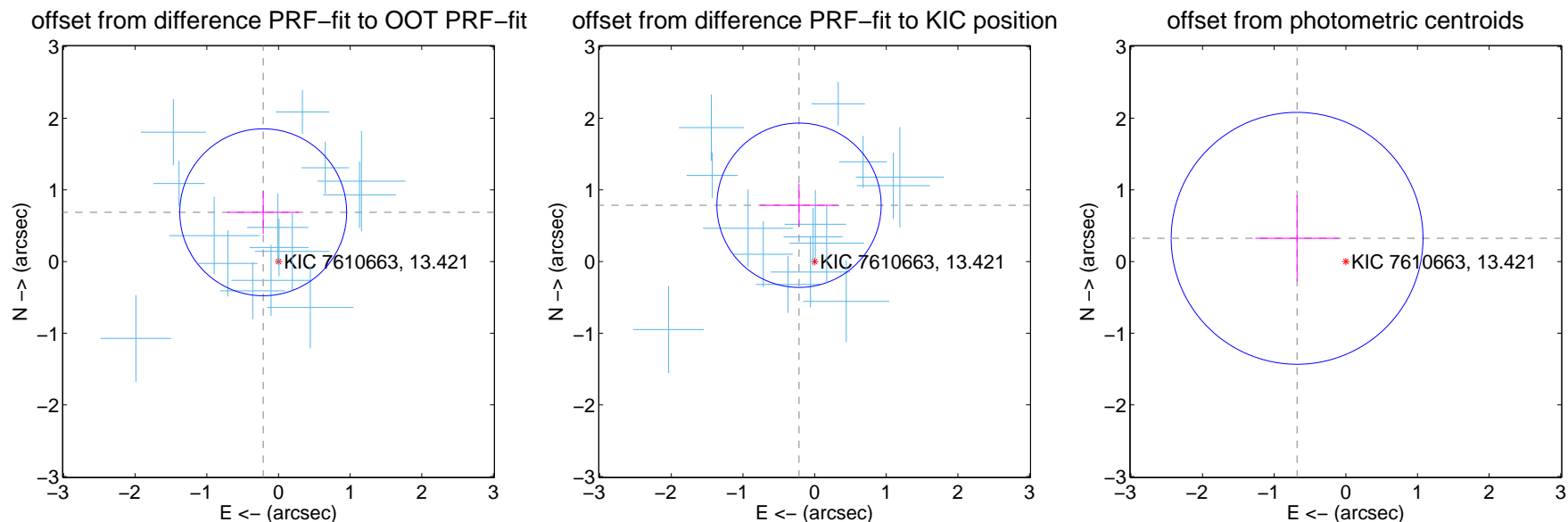
DV Centroid Data

Supplemental centroid analysis for 007610663-01. Kepler magnitude: 13.42. Transit SNR 15.16

There are 15 quarters with good PRF difference image offsets

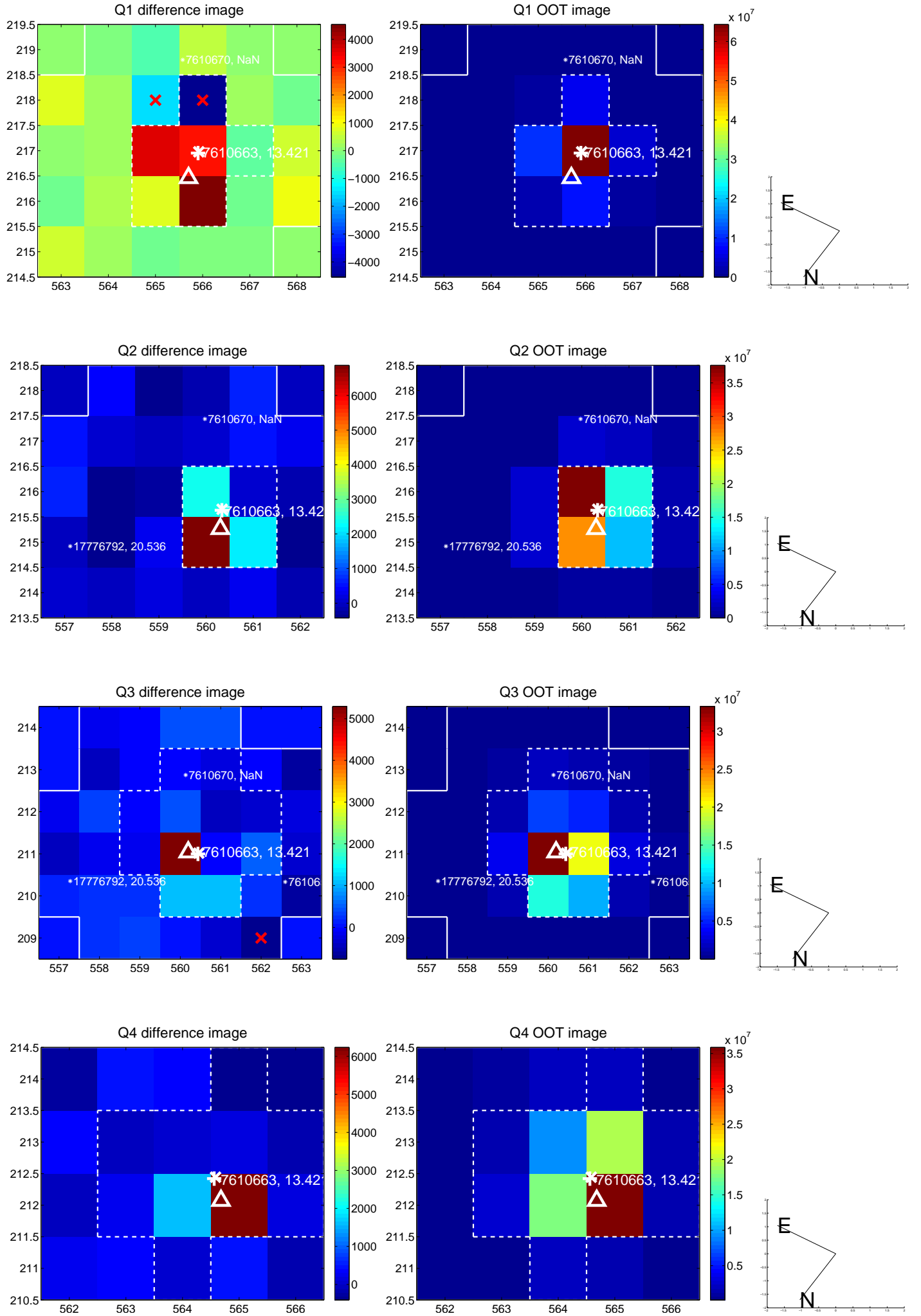
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.720 ± 0.388	1.85	0.213 ± 0.499	0.687 ± 0.300
PRF-fit source offset from KIC position	0.815 ± 0.382	2.13	0.218 ± 0.547	0.786 ± 0.300
photometric centroid source offset	0.75 ± 0.59	1.29	0.68 ± 0.58	0.32 ± 0.60

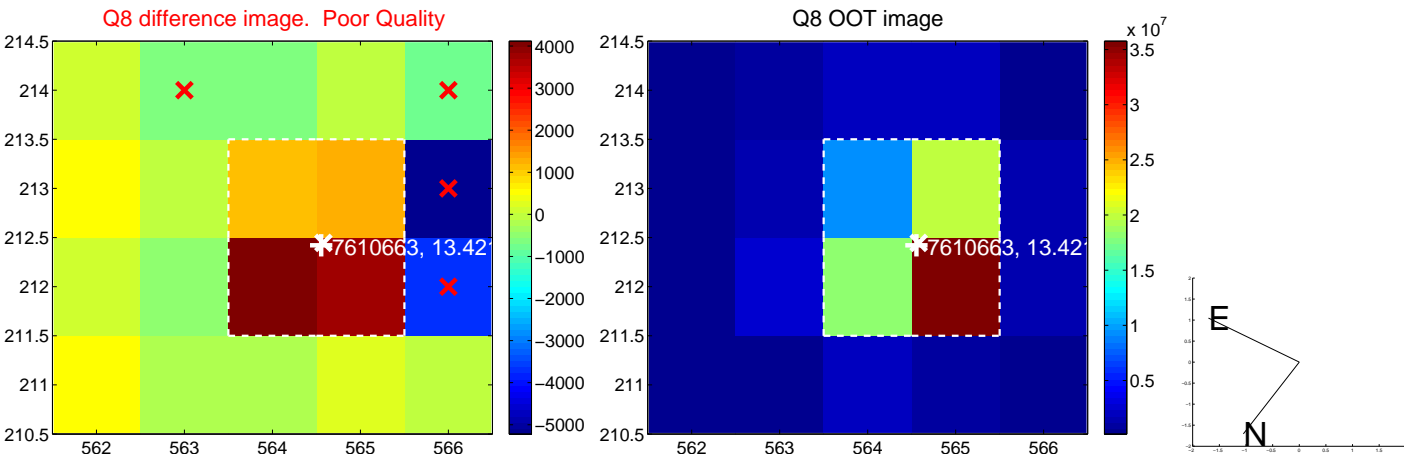
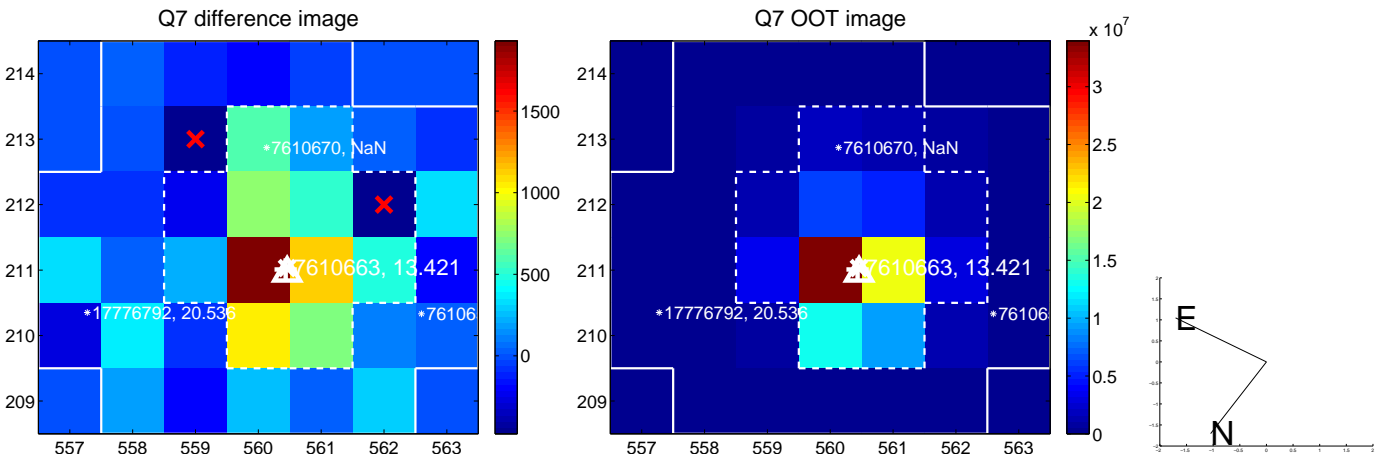
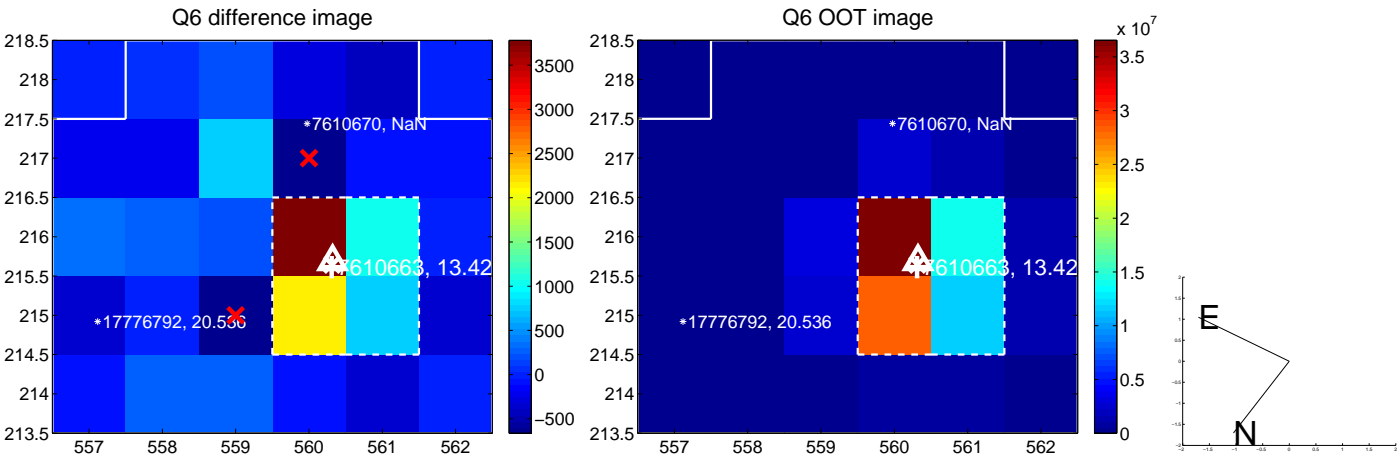
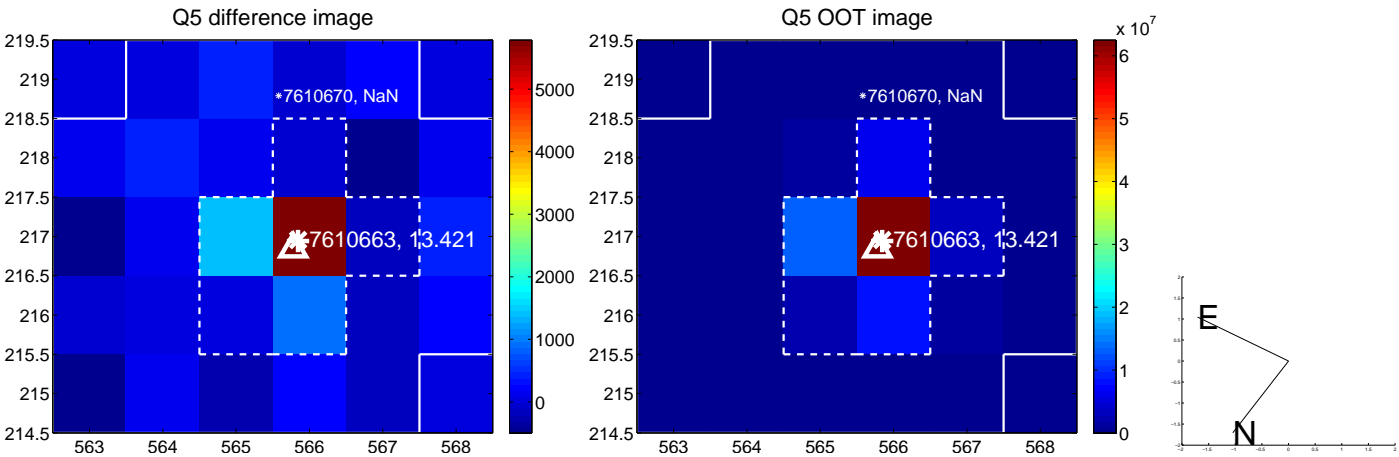


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

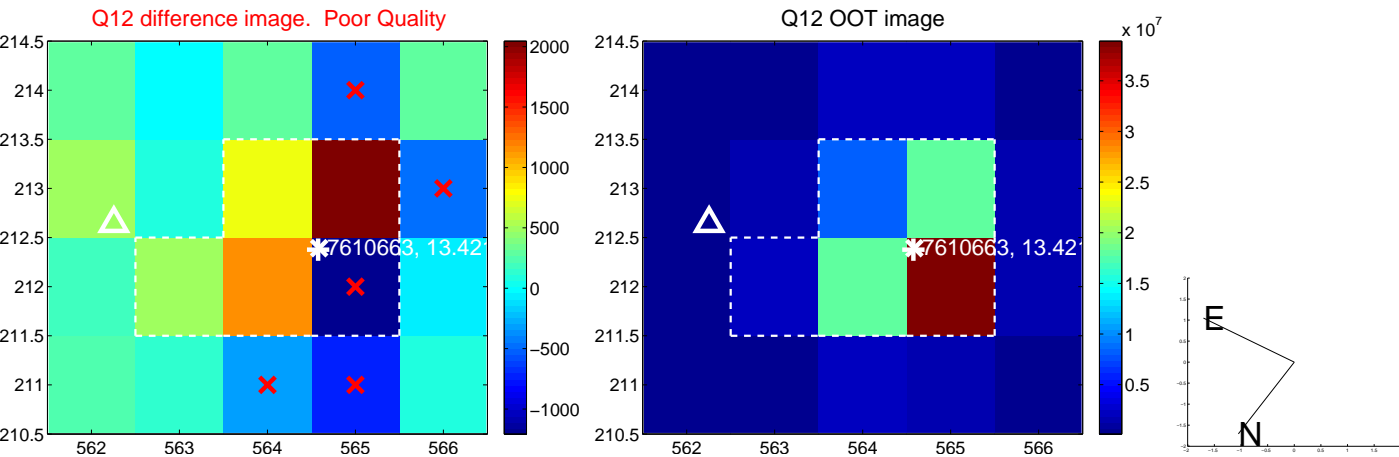
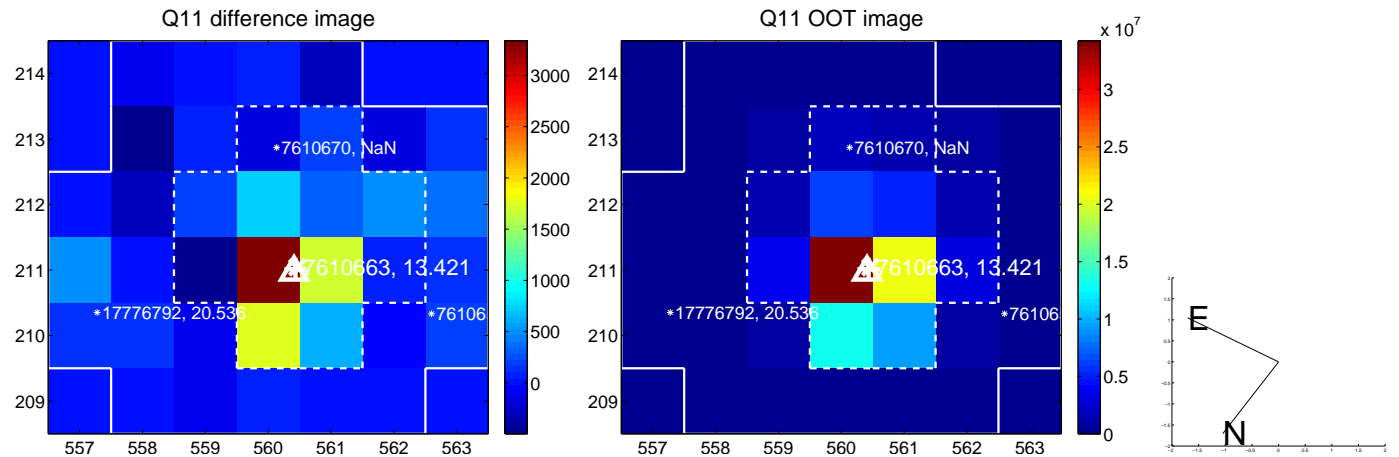
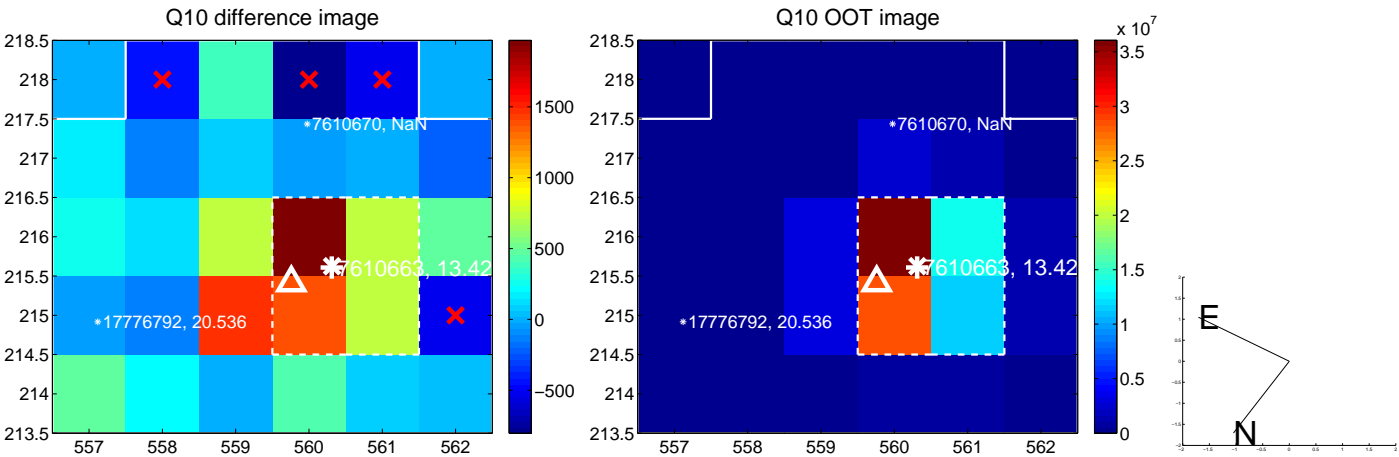
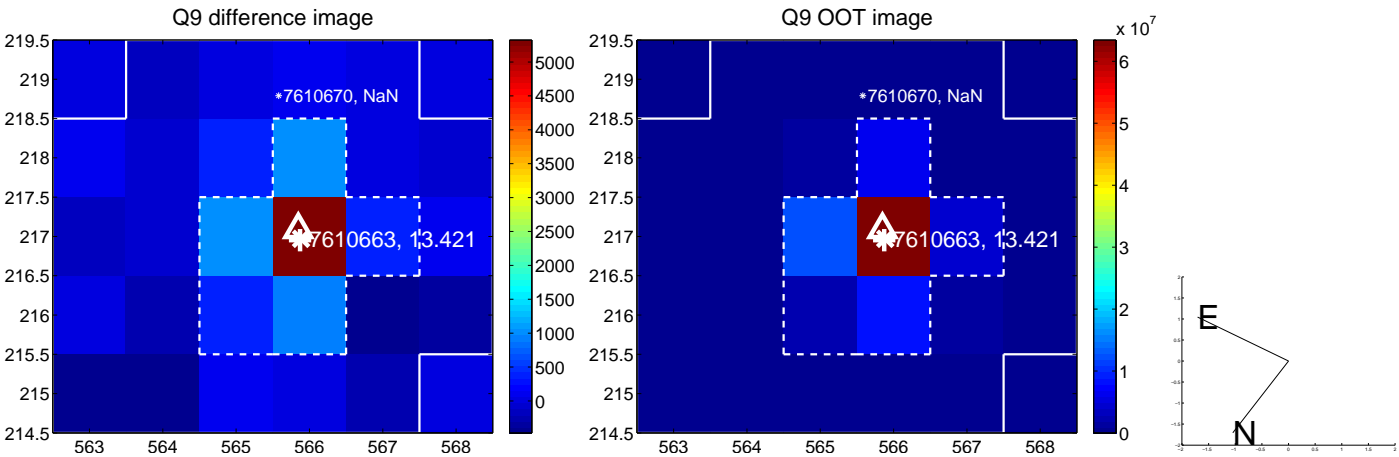
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



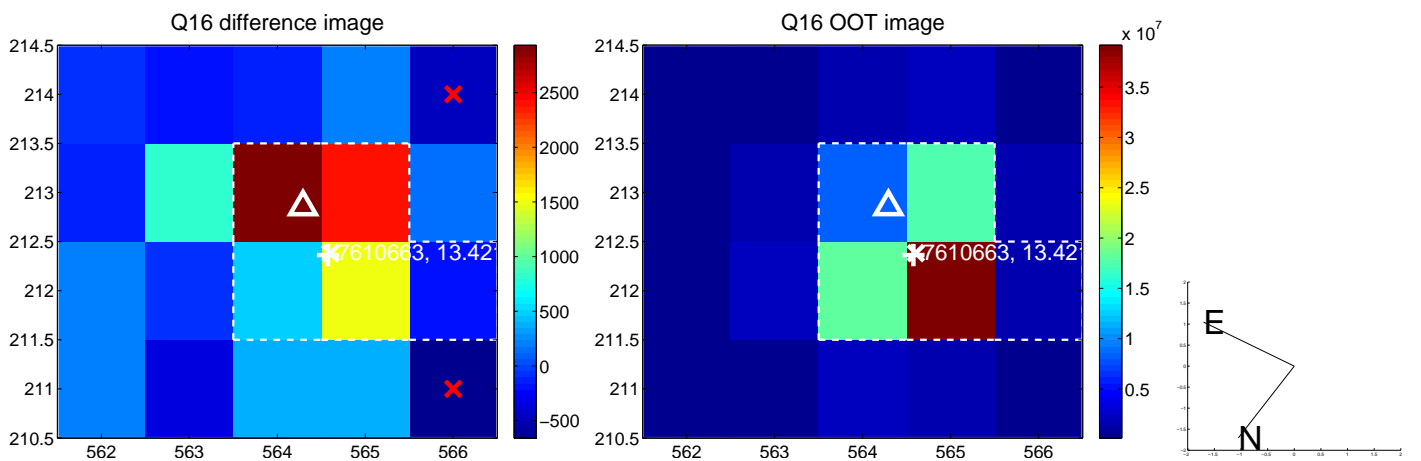
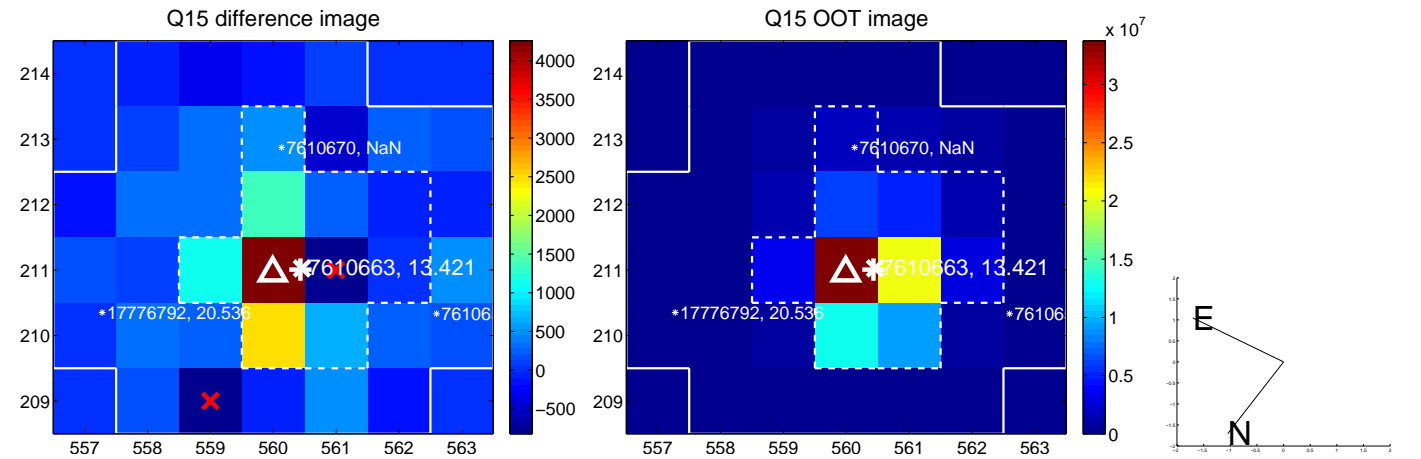
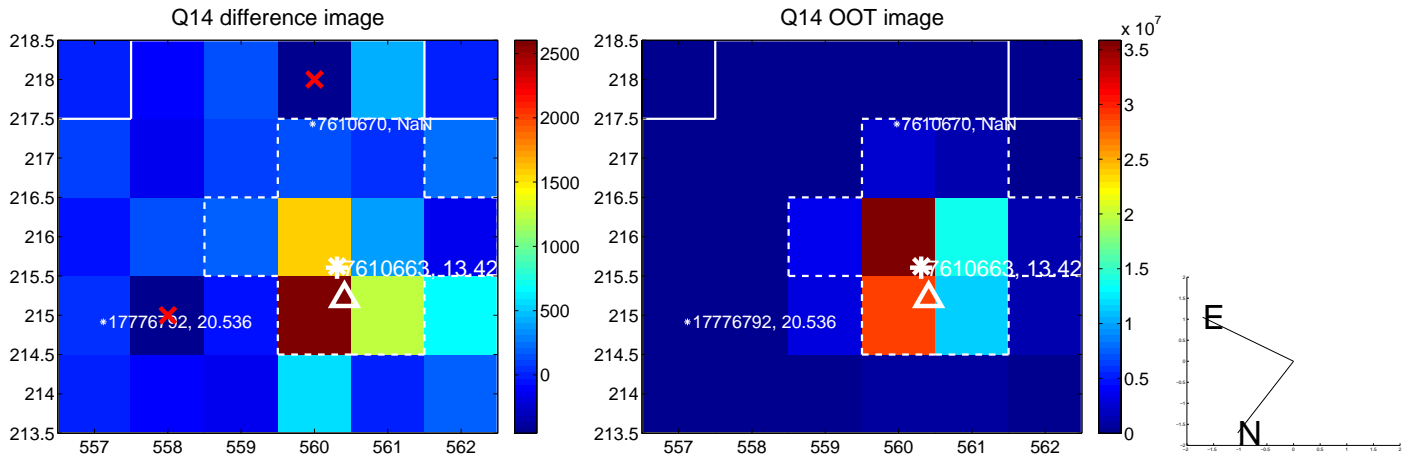
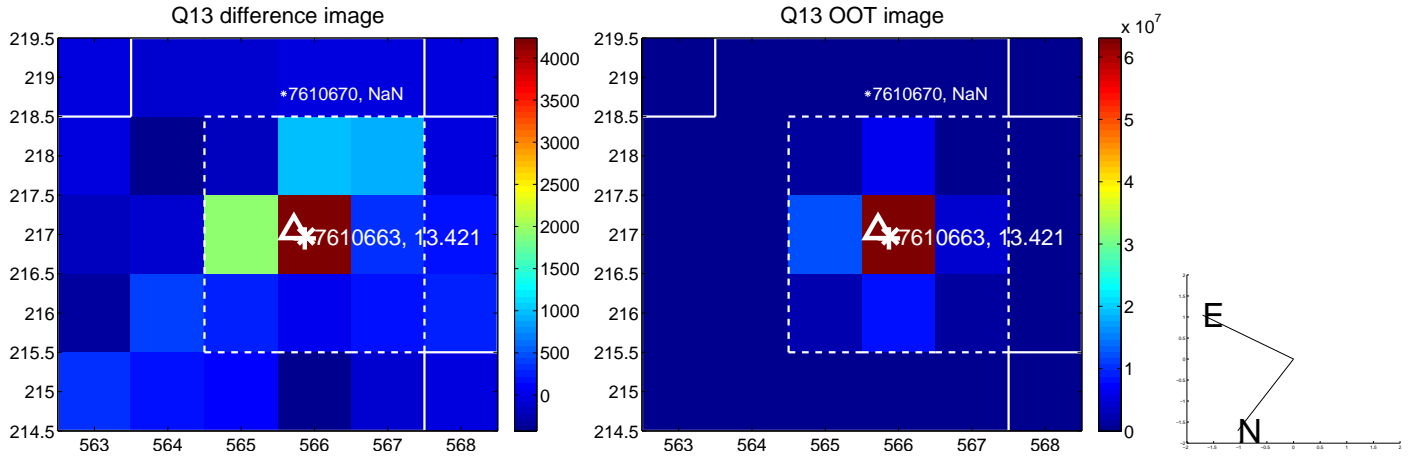
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



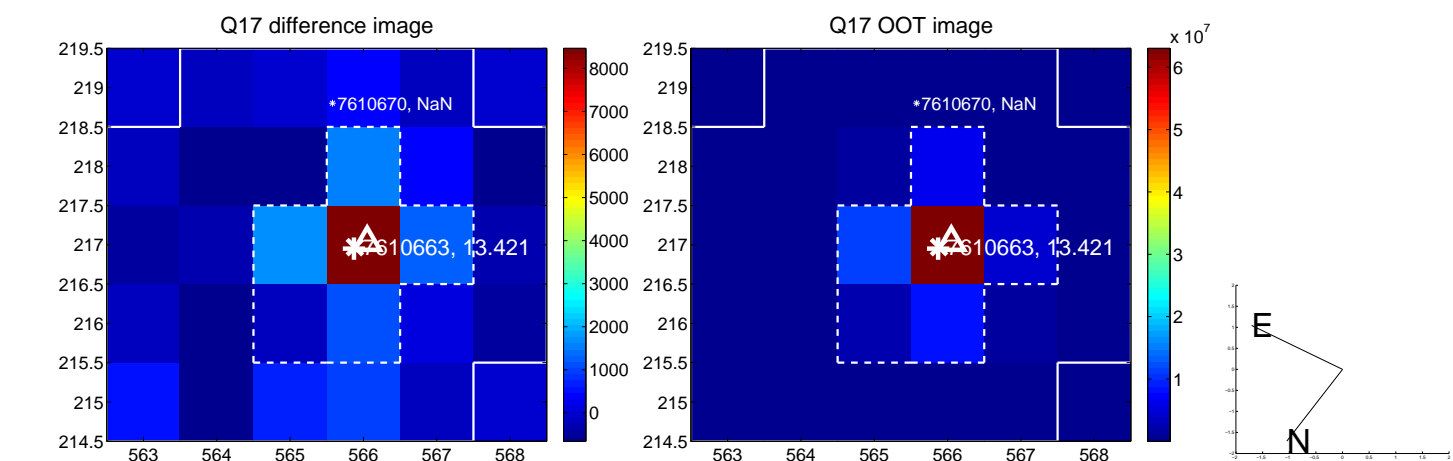
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



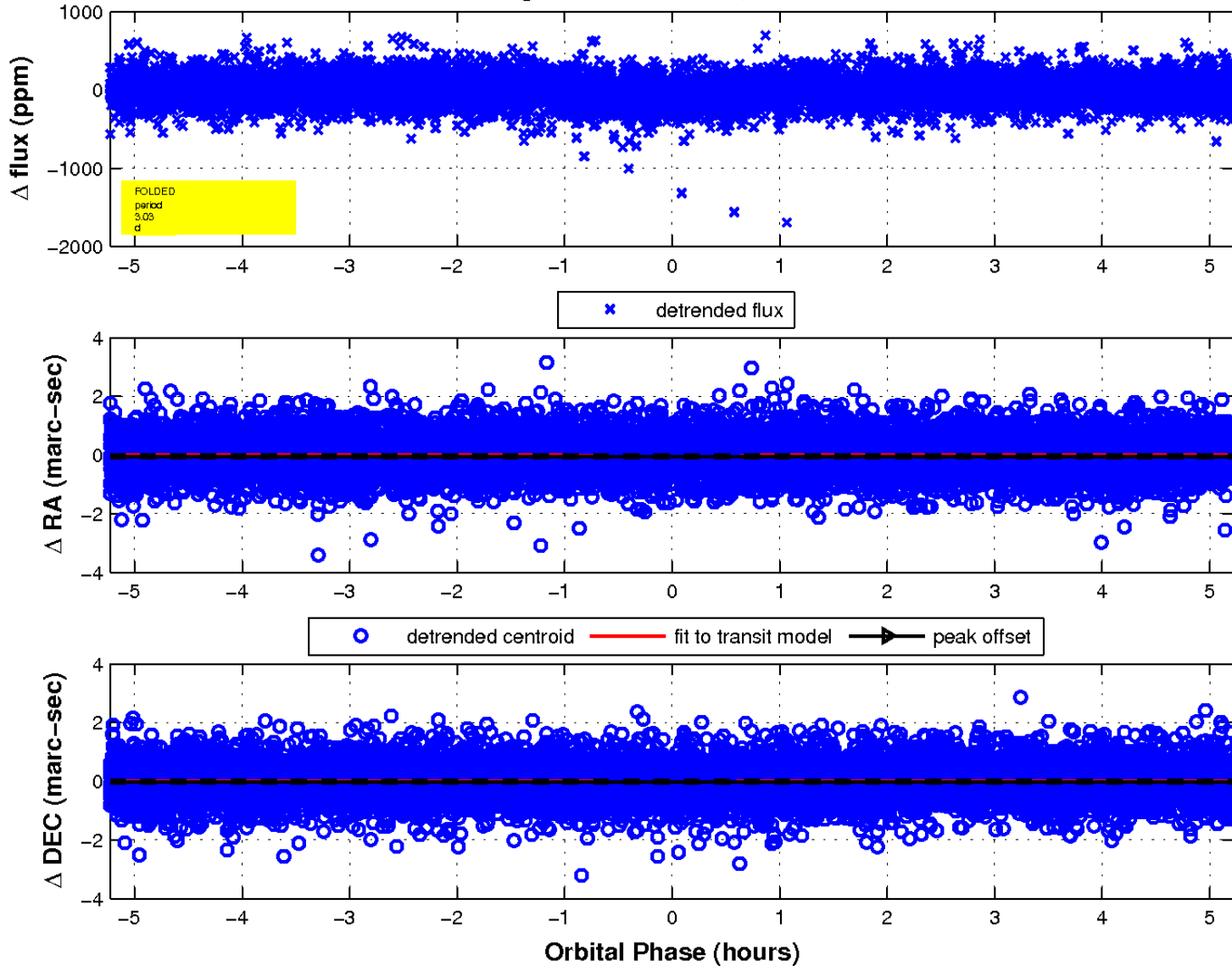
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

