

KIC 004165960

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})
004165960-01	OBS	0395.01	6.774507	137.137596	479.7	2.504	35.9	40.4	1.34	6517	4.93	522.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004165960-01	OBS	FP	0.00	0	0	1	0	CENT_UNRESOLVED_OFFSET

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

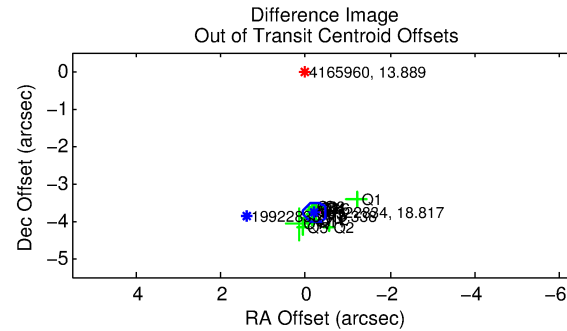
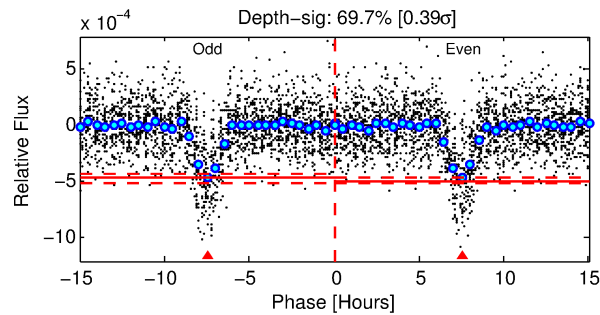
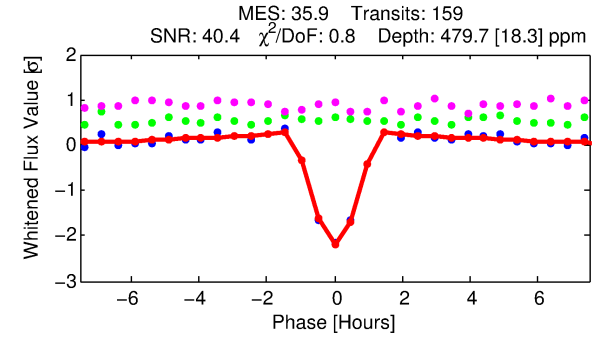
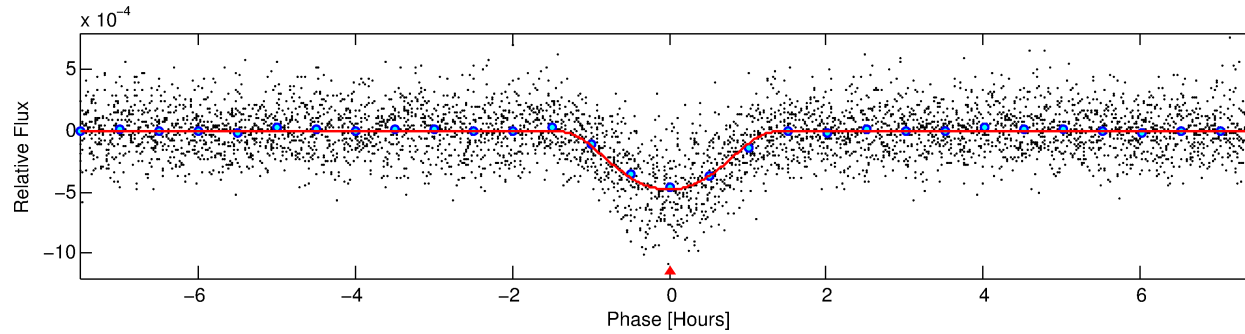
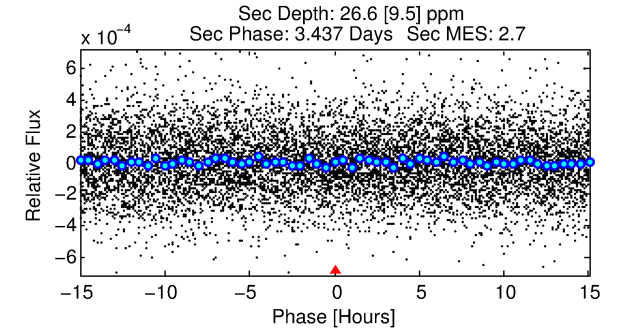
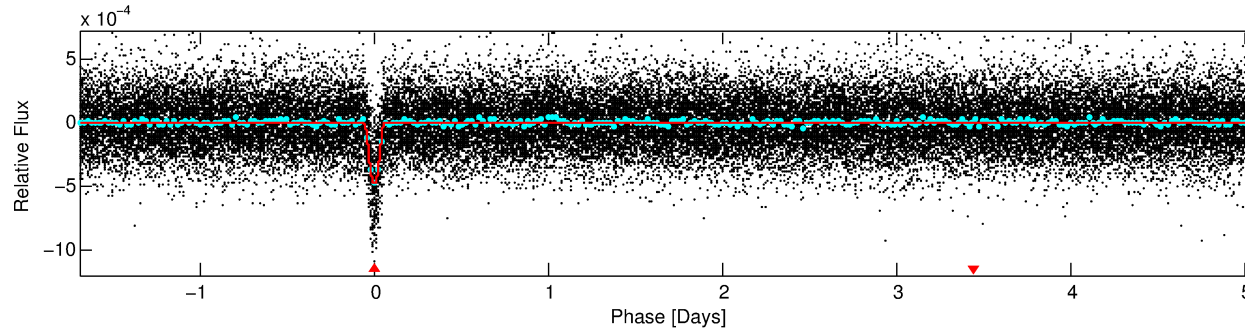
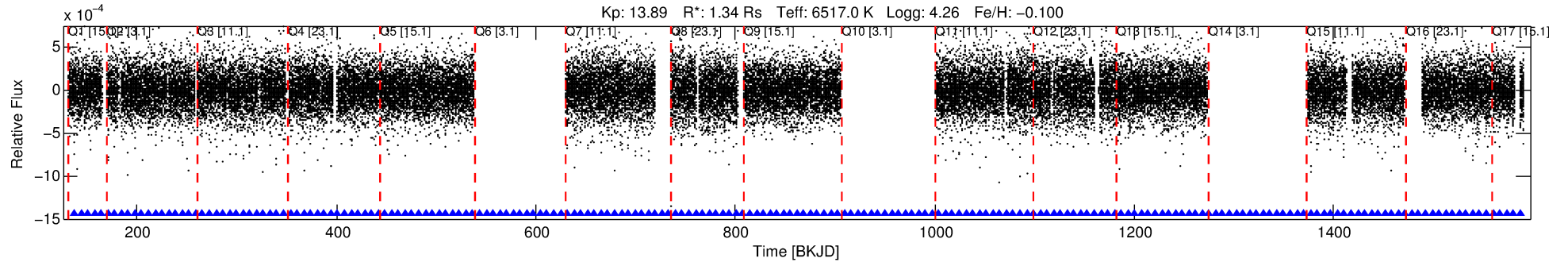
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004165960-01

No Significant Match Found

DV One-Page Summary

KIC: 4165960 Candidate: 1 of 1 Period: 6.775 d
KOI: K00395.01 Corr: 0.991



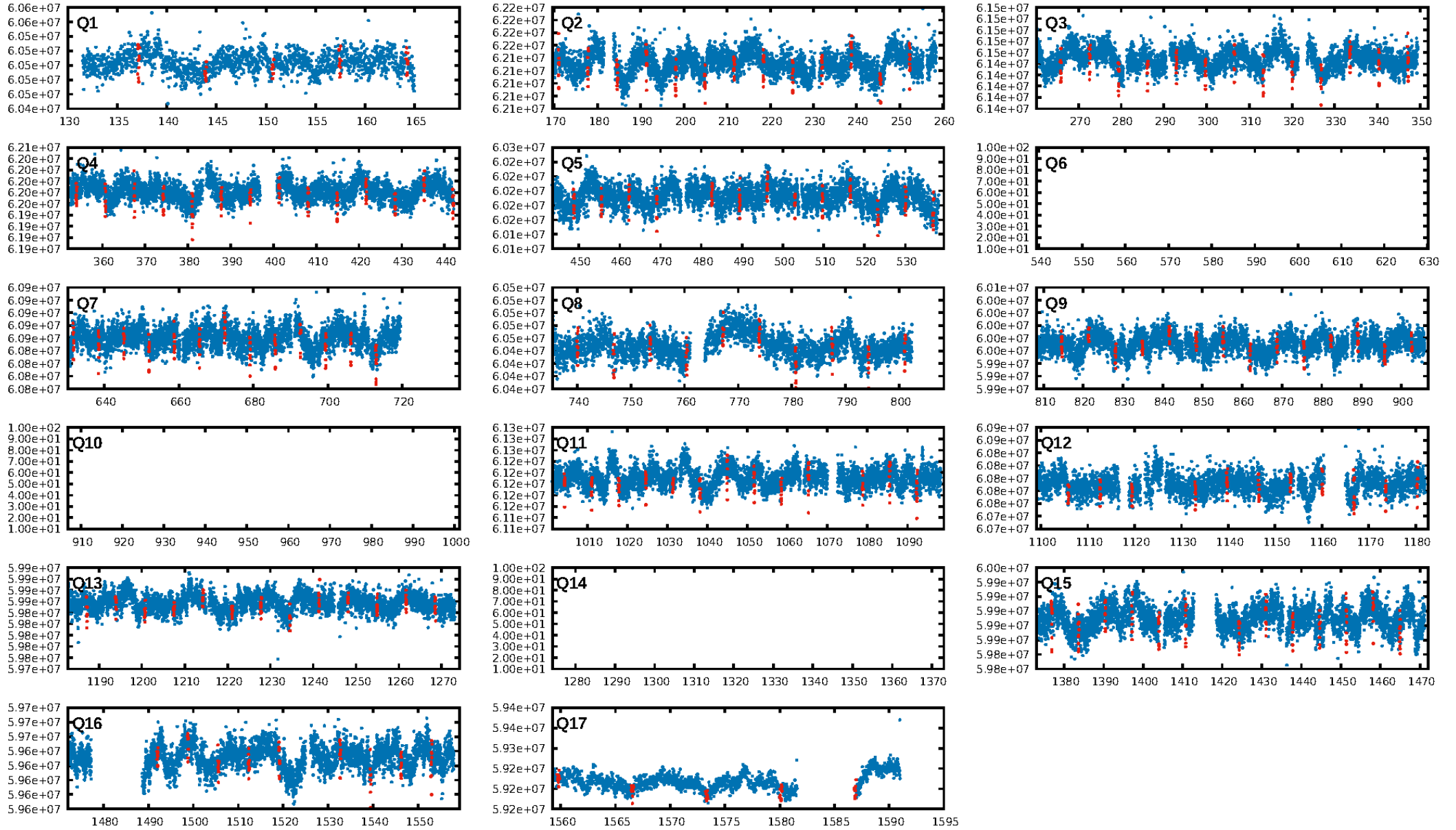
DV Fit Results:

Period = 6.77451 [0.00001] d
Epoch = 137.1376 [0.0012] BKJD
Rp/R* = 0.0337 [0.0205]
a/R* = 6.12 [1.21]
b = 0.99 [0.04]
Seff = 522.10 [117.00]
Teq = 1219 [68] K
Rp = 4.93 [3.12] Re
a = 0.0747 [0.0111] AU
Ag = 3.36 [4.32] [0.55σ]
Teffp = 2551 [809] K [1.64σ]

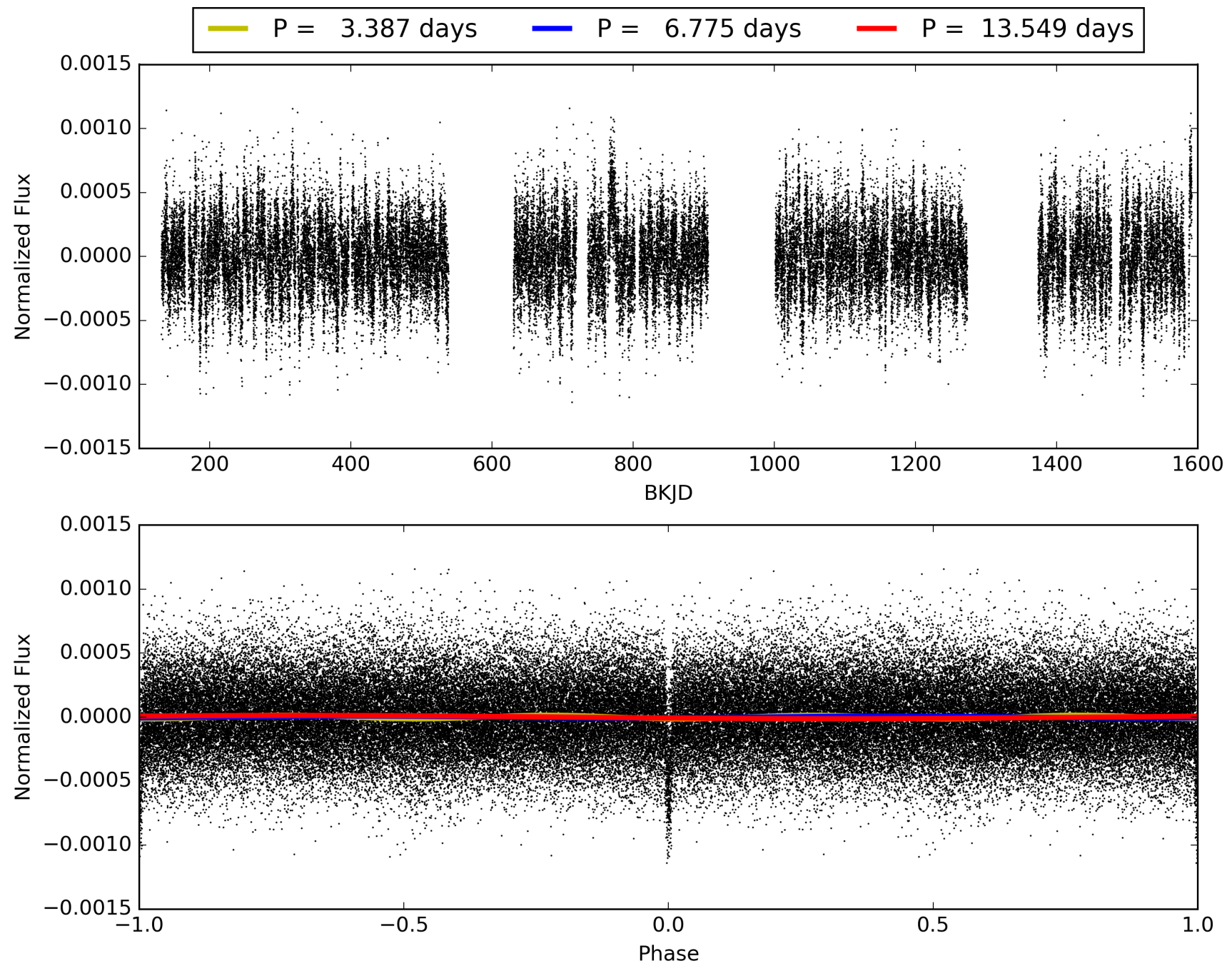
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.06e-272
RollingBand-fgt: 1.00 [149/149]
GhostDiagnostic-chr: 1.136
Centroid-sig: 0.0%
Centroid-so: 4.565 arcsec [16.28σ]
OotOffset-rm: 3.785 arcsec [42.56σ]
KicOffset-rm: 3.823 arcsec [43.60σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 004165960-01, PDC Light Curves

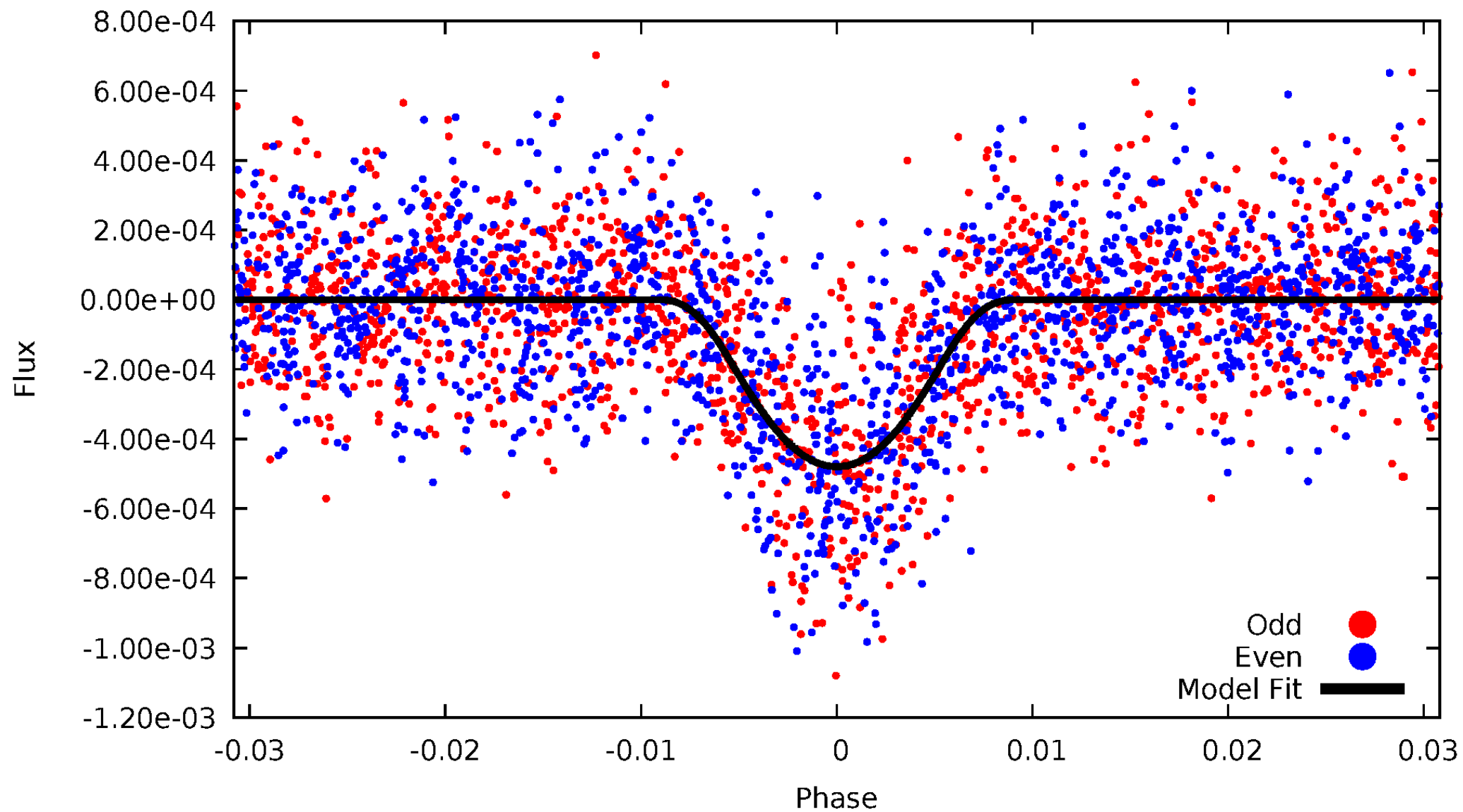


TCE 004165960-01



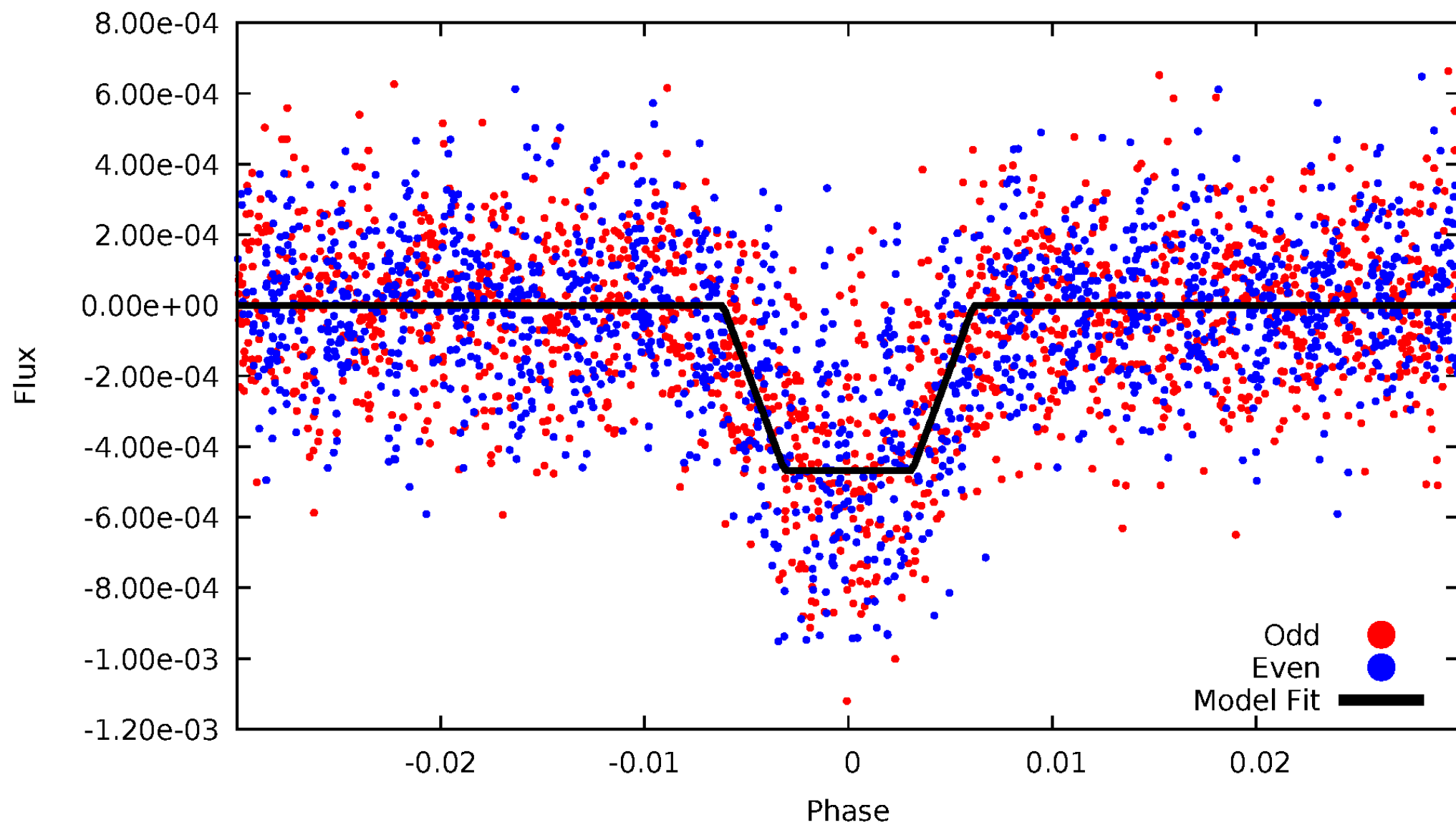
DV Odd/Even

TCE 004165960-01

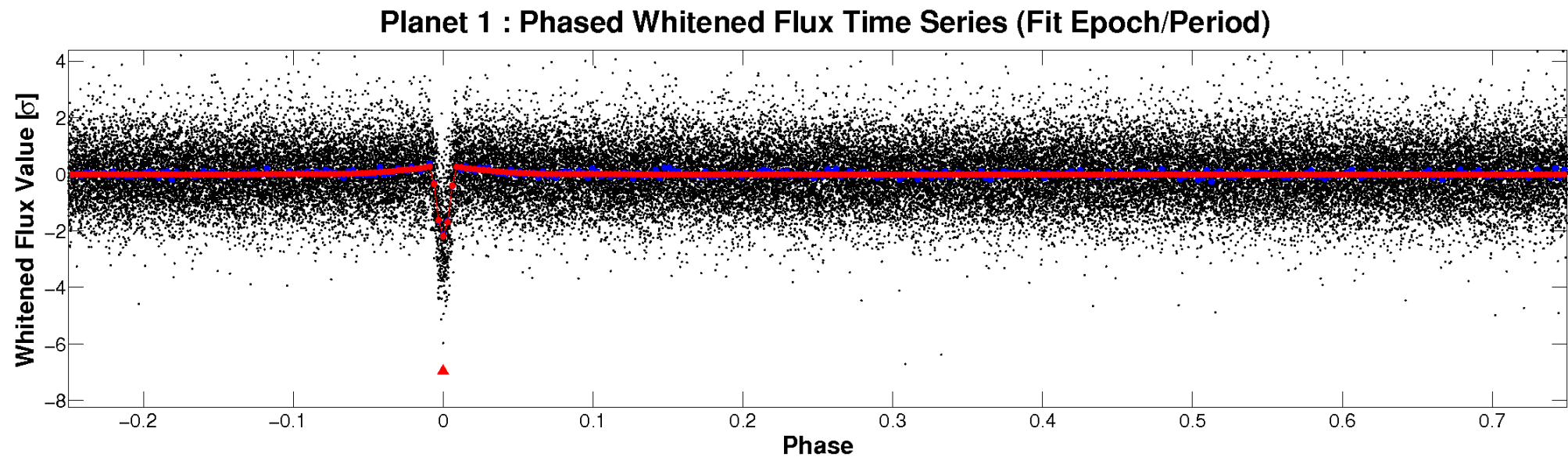
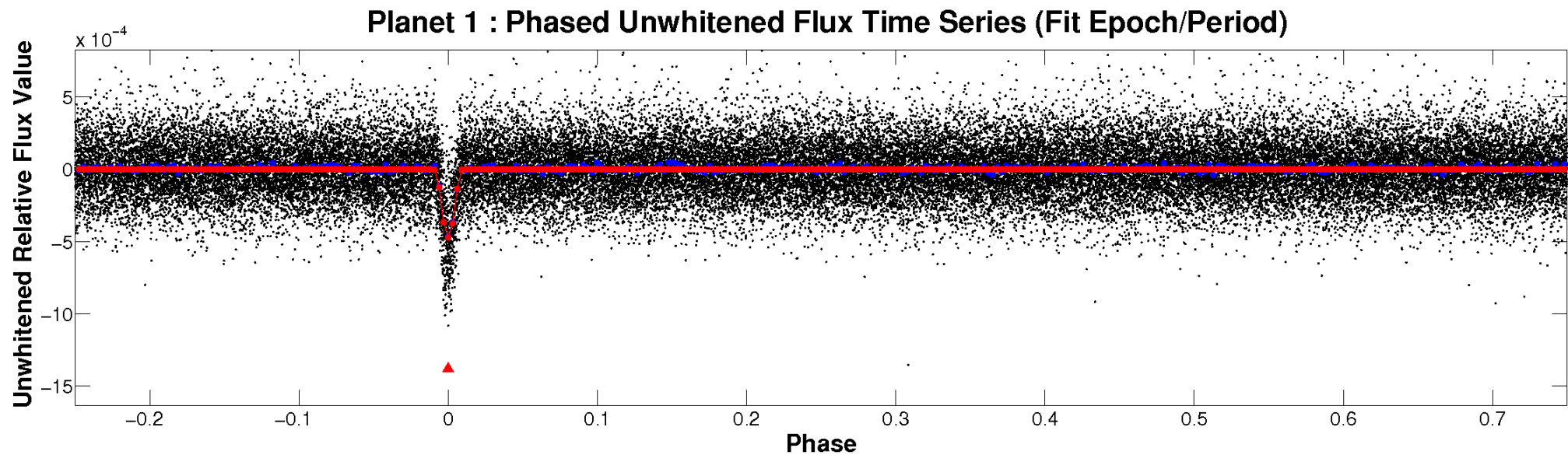


ALT Odd/Even

TCE 004165960-01

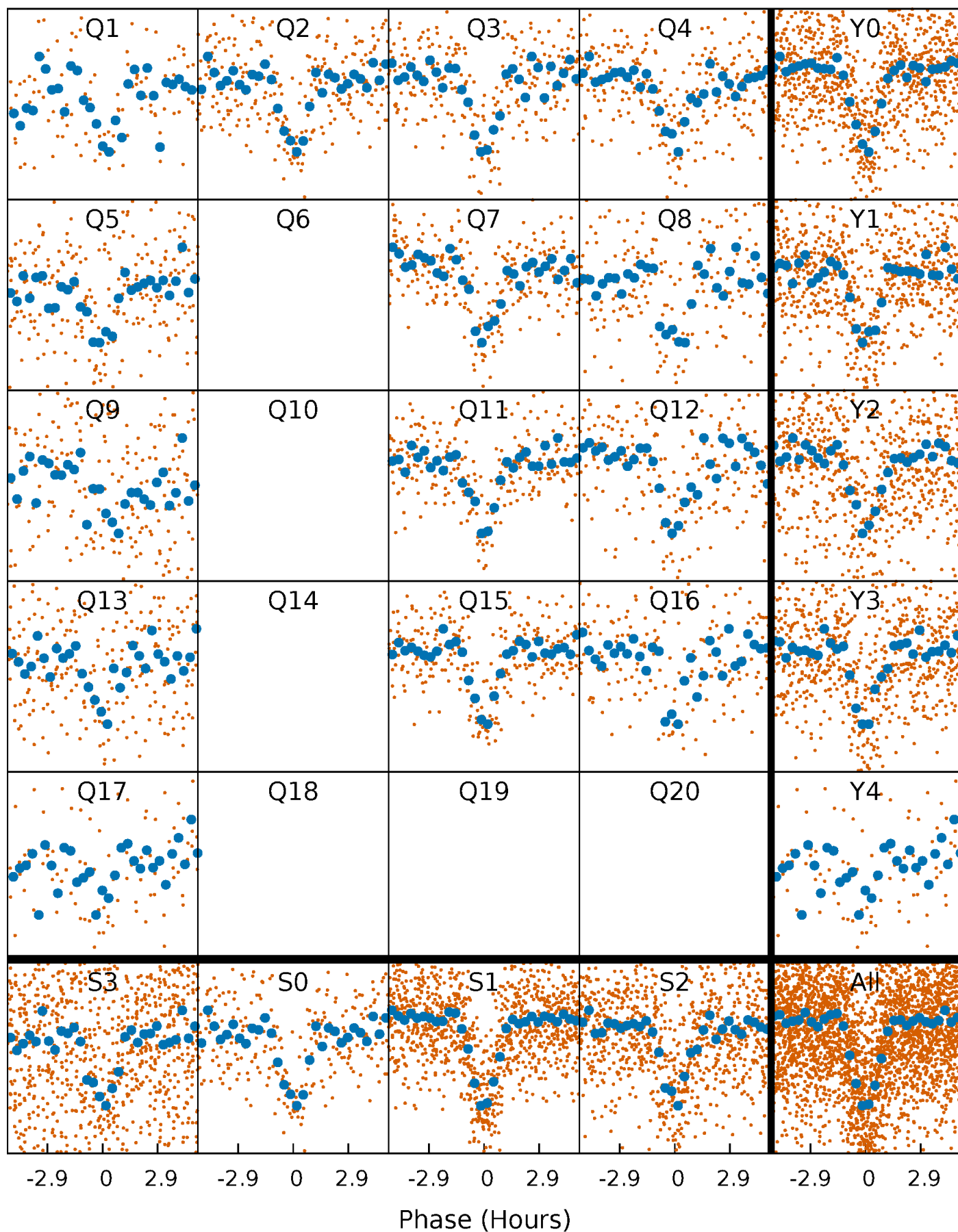


Non-Whitened Vs. Whitened Light Curve



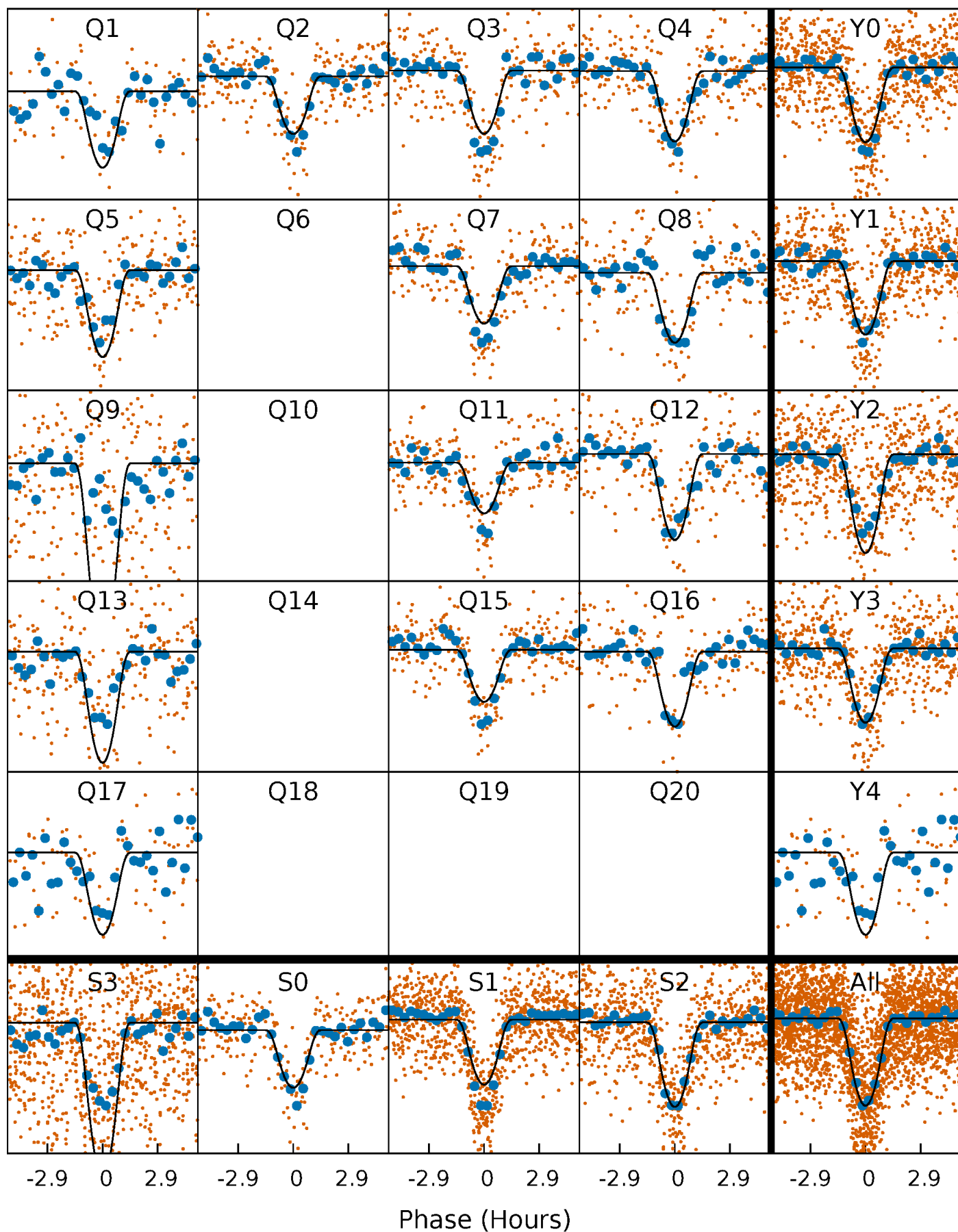
PDC Quarter-Phased Transit Curves

TCE 004165960-01 P= 6.774507 Days $T_0=137.137596$ (BKJD)



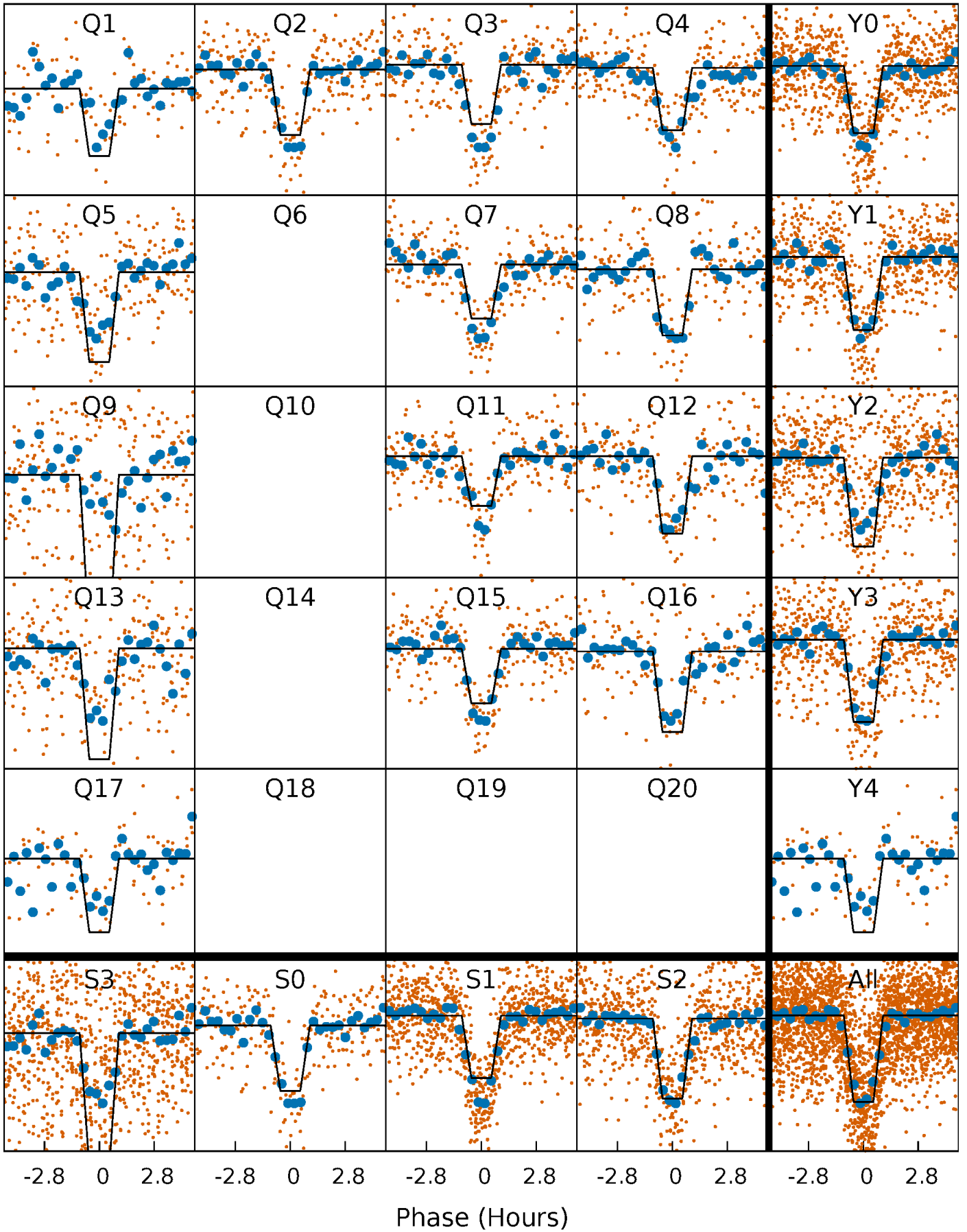
DV Quarter-Phased Transit Curves

TCE 004165960-01 P= 6.774507 Days $T_0=137.137596$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

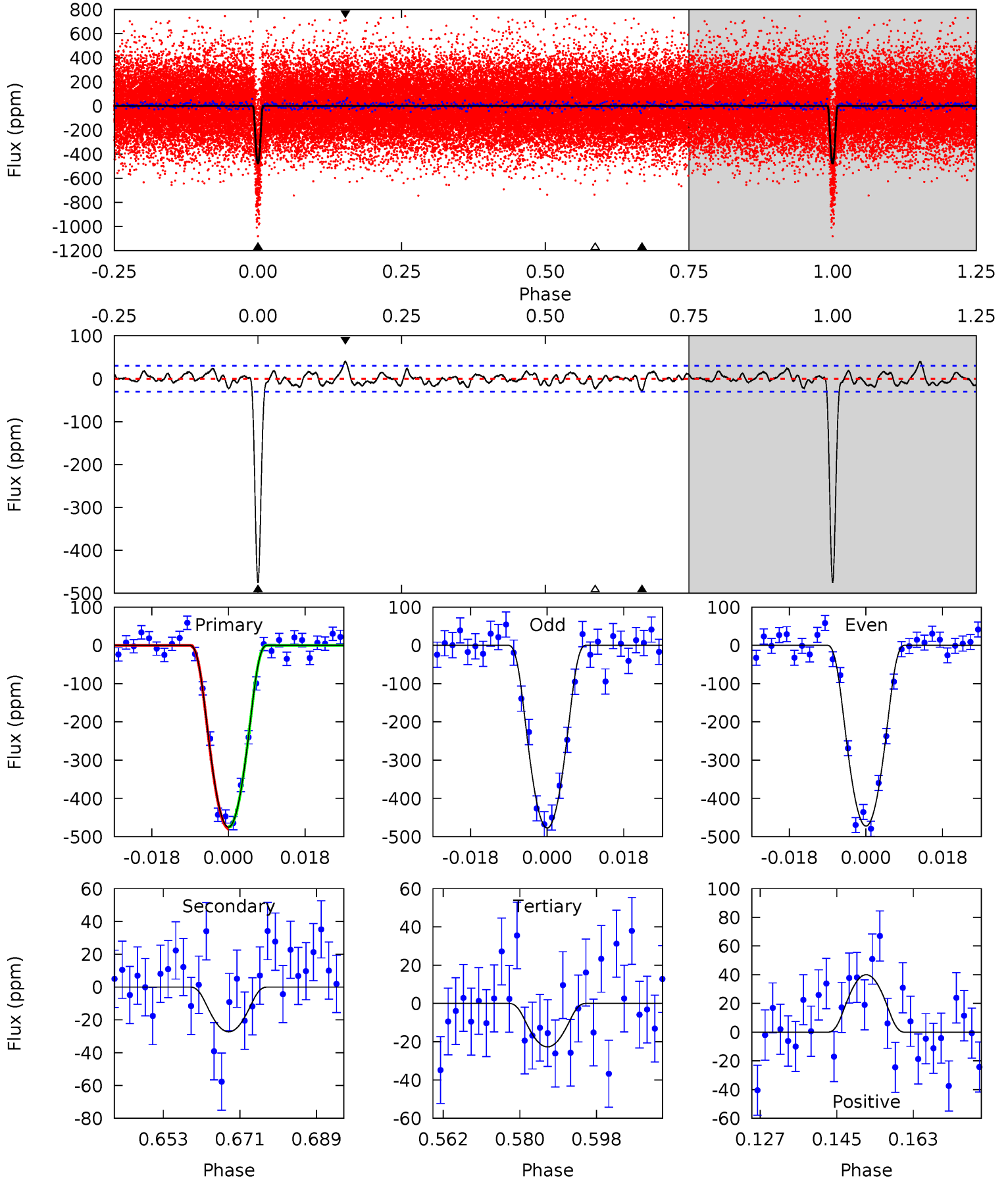
TCE 004165960-01 P= 6.774502 Days $T_0=137.138560$ (BKJD)



DV Model-Shift Uniqueness Test

004165960-01, P = 6.774507 Days, E = 130.363089 Days

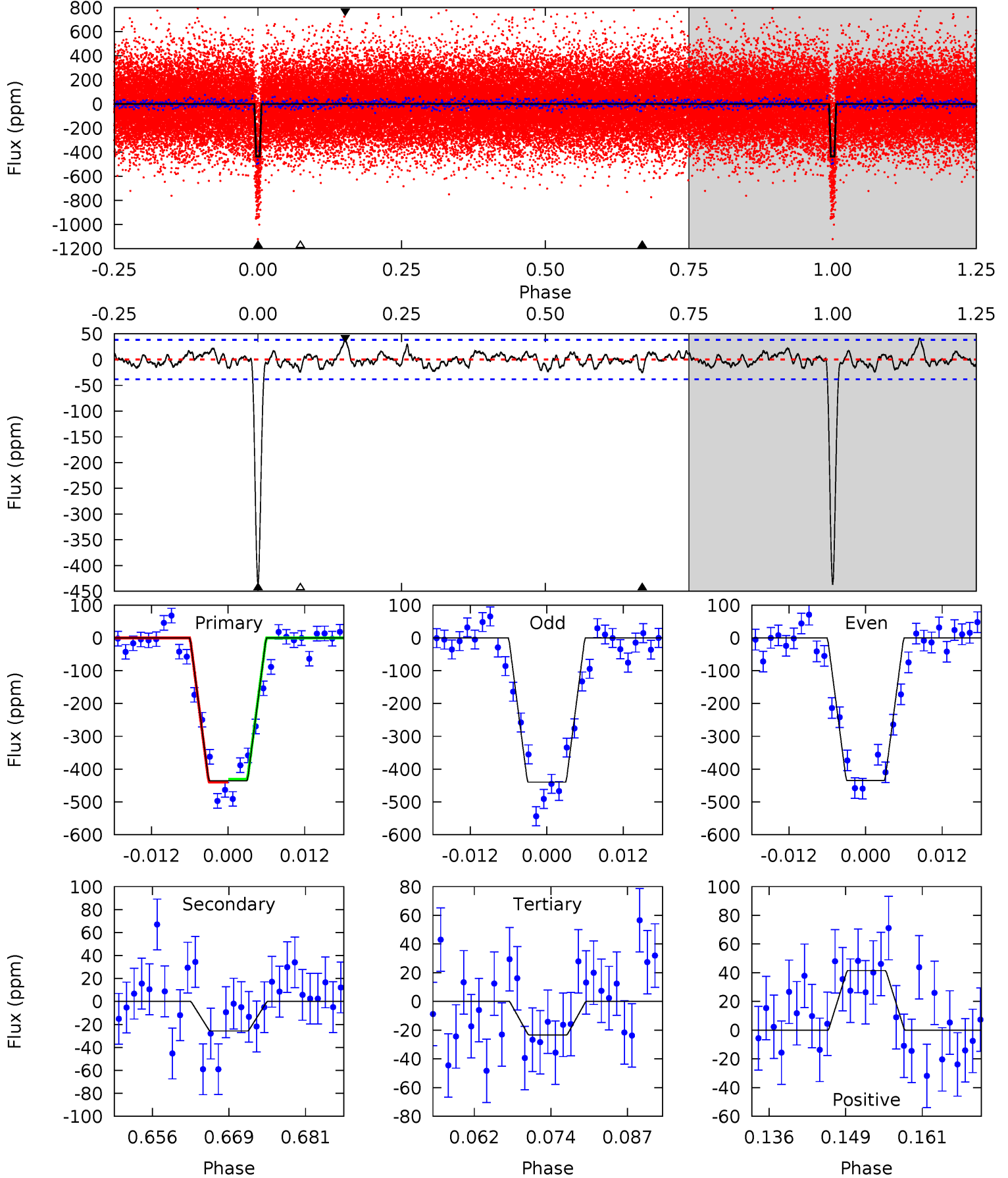
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
77.8	4.47	3.72	6.55	4.91	2.36	1.62	74.1	71.2	0.75	-2.09	0.41	0.96	0.08	0.19



Alt Model-Shift Uniqueness Test

004165960-01, P = 6.774502 Days, E = 130.364058 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
56.8	3.35	3.04	5.42	4.99	2.50	1.30	53.7	51.3	0.31	-2.07	0.33	0.99	0.09	0.55



Stellar Parameters For KIC 004165960

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6517^{+71}_{-84}	$4.265^{+0.080}_{-0.120}$	$-0.100^{+0.150}_{-0.150}$	$1.342^{+0.235}_{-0.157}$	$1.212^{+0.092}_{-0.102}$	$0.706^{+0.240}_{-0.250}$
	+1%/-1%	+2%/-3%	+150%/-150%	+18%/-12%	+8%/-8%	+34%/-35%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 004165960-01 / KOI 0395.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-27 ± 6	$5.35^{+2.98}_{-2.87}$	1711^{+66}_{-59}	3068^{+845}_{-437}	$2.876^{+10.317}_{-1.737}$
Alt.	-26 ± 8	$3.80^{+3.00}_{-2.32}$	1706^{+80}_{-52}	3359^{+1402}_{-587}	$5.167^{+30.152}_{-3.599}$

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

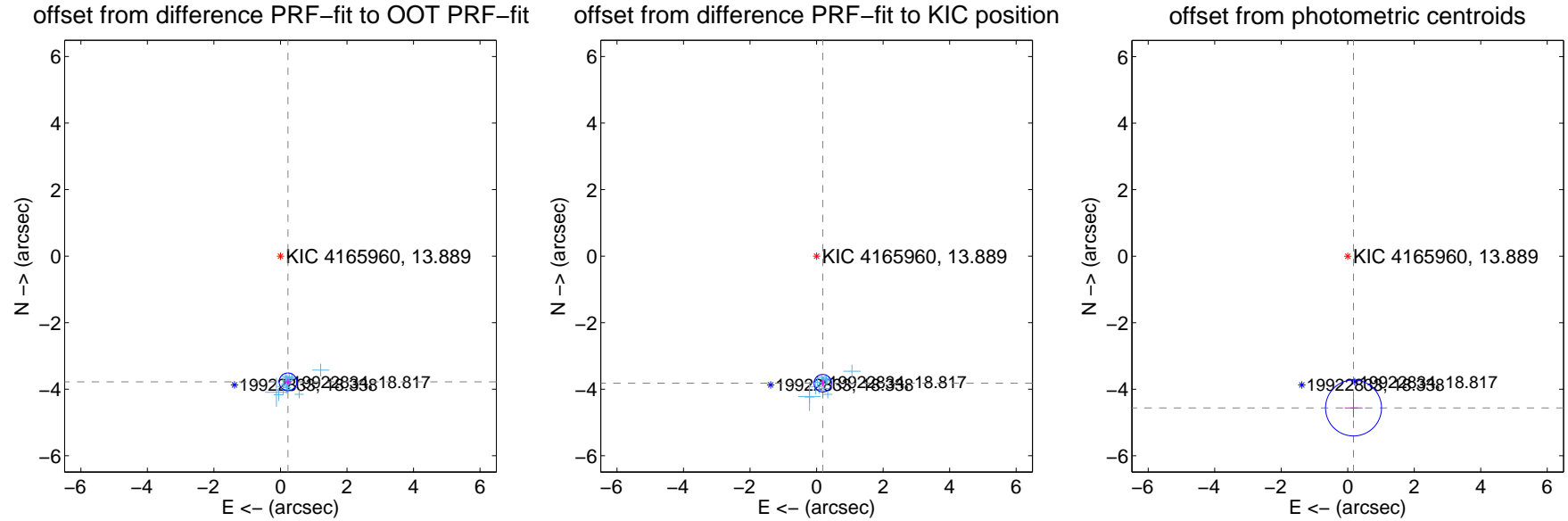
DV Centroid Data

Supplemental centroid analysis for 004165960-01. Kepler magnitude: 13.89. Transit SNR 40.36

There are 14 quarters with good PRF difference image offsets

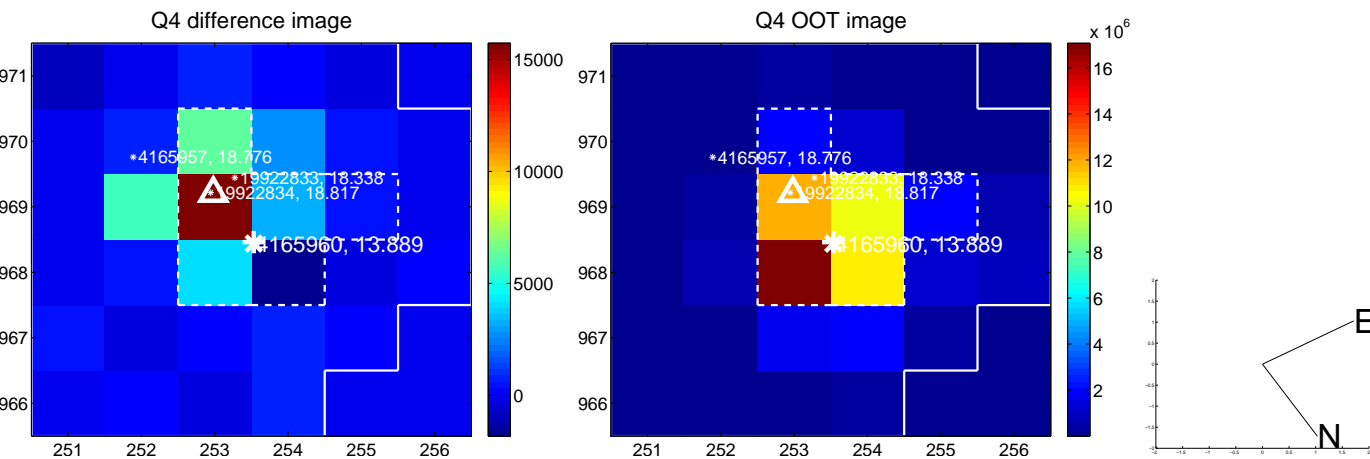
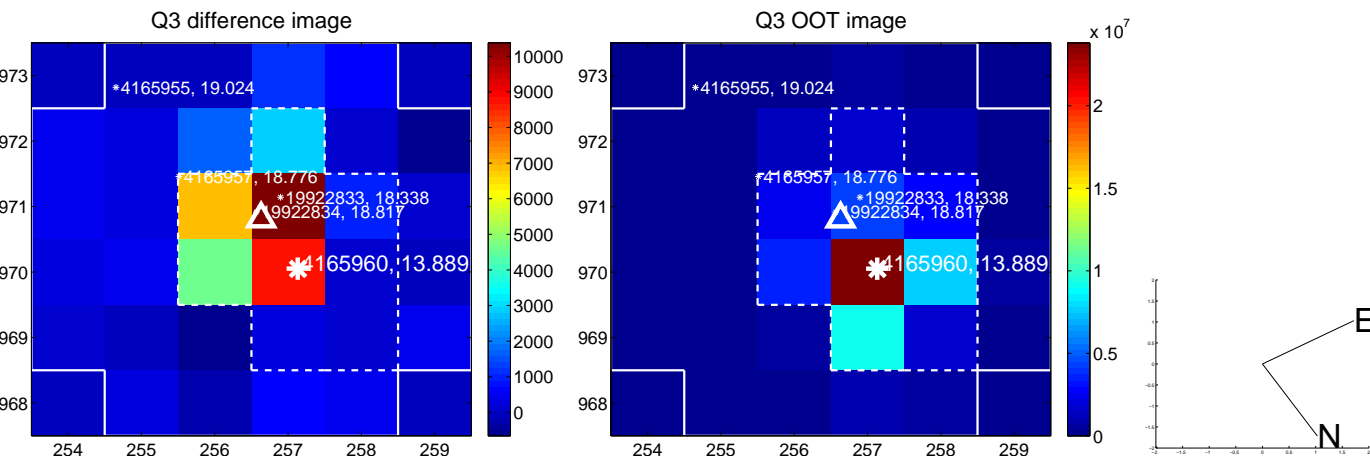
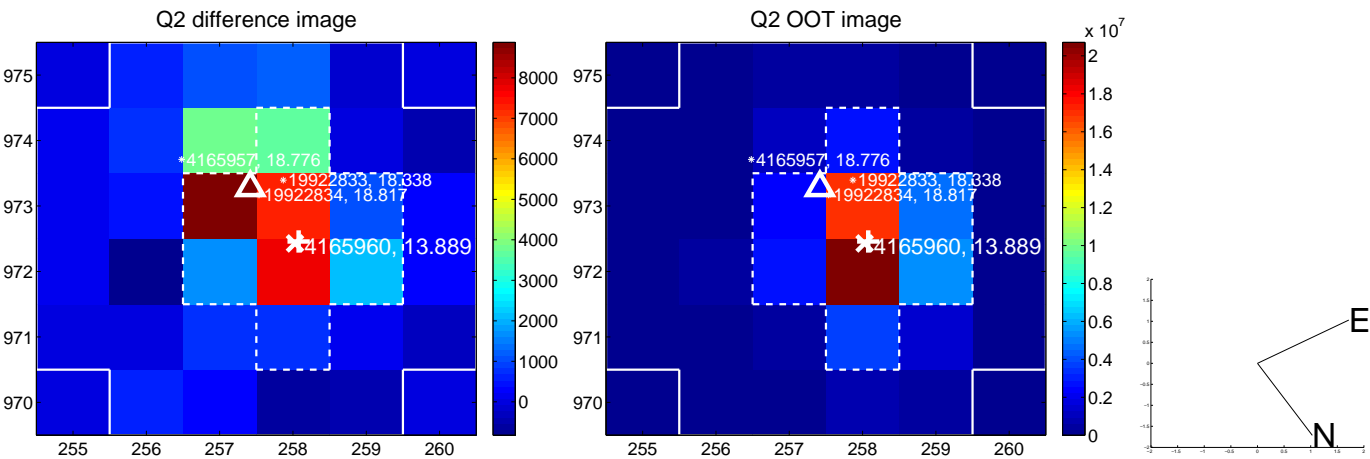
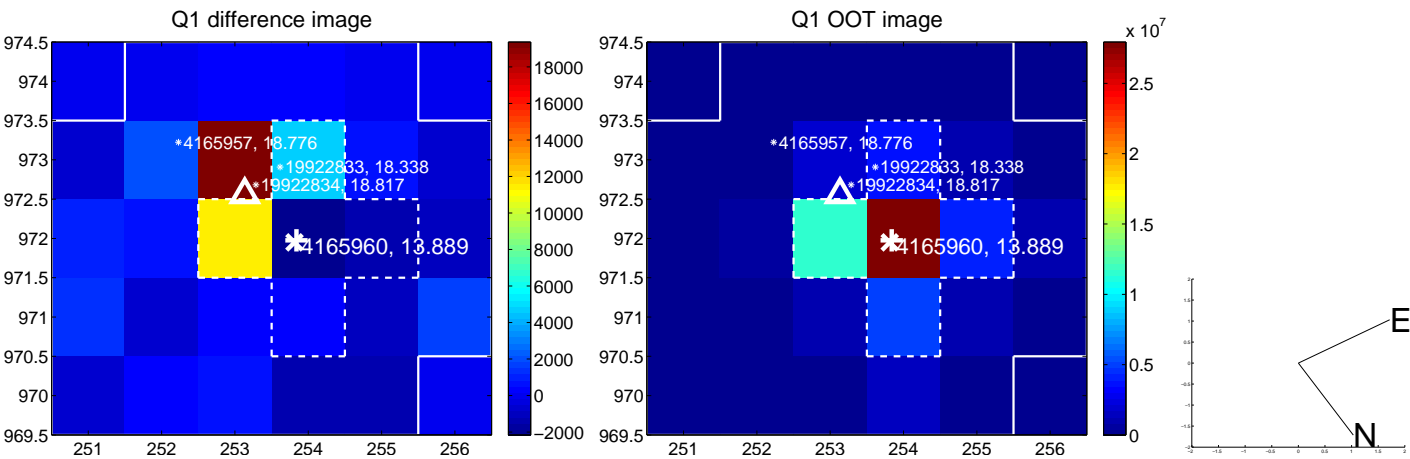
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.785 ± 0.089	42.56	-0.226 ± 0.107	-3.778 ± 0.091
PRF-fit source offset from KIC position	3.823 ± 0.088	43.60	-0.185 ± 0.085	-3.819 ± 0.088
photometric centroid source offset	4.57 ± 0.28	16.28	-0.17 ± 0.27	-4.56 ± 0.28

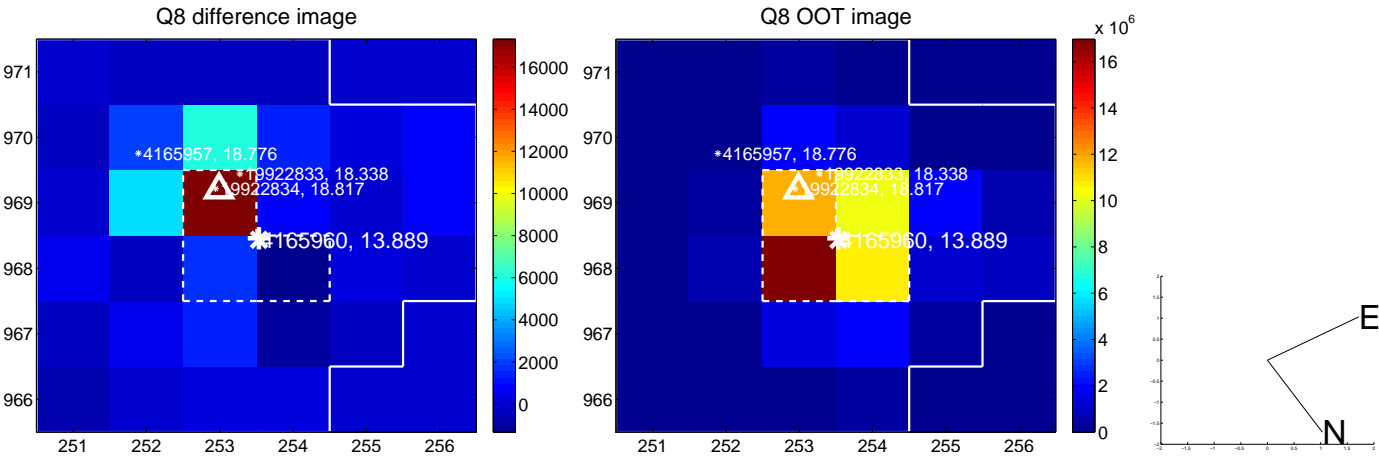
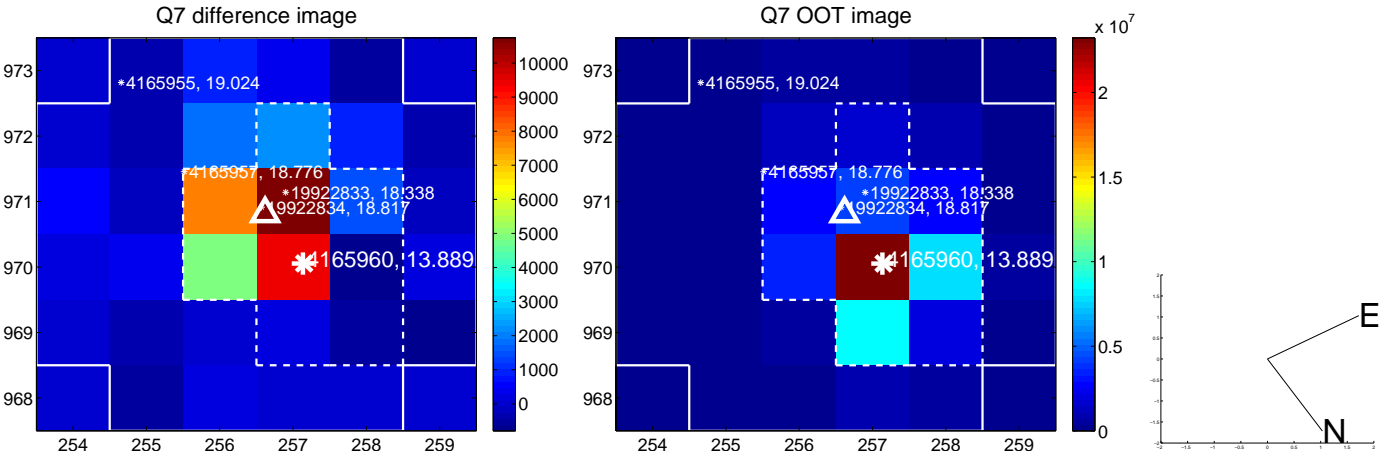
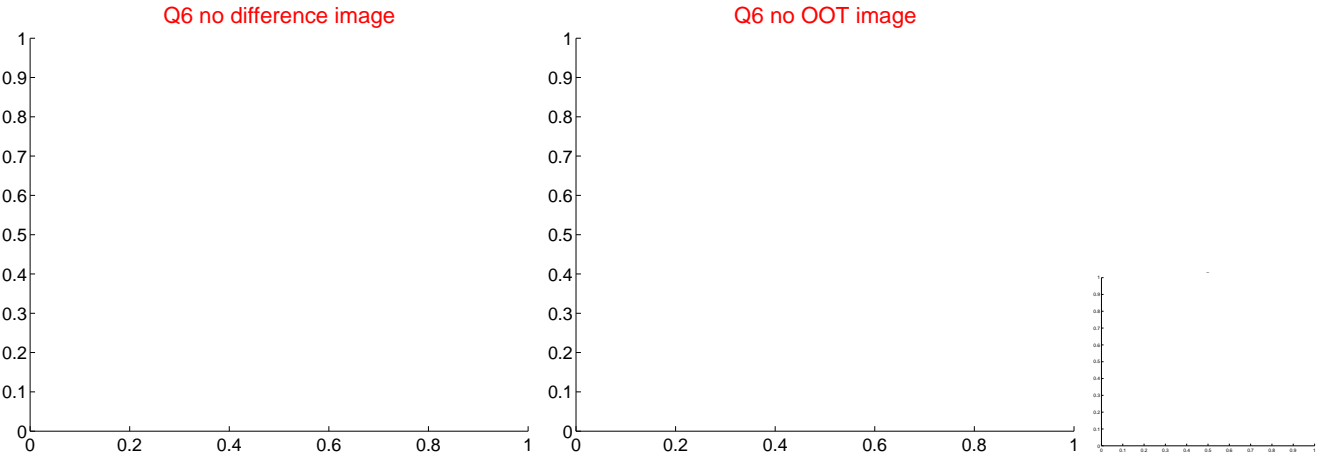
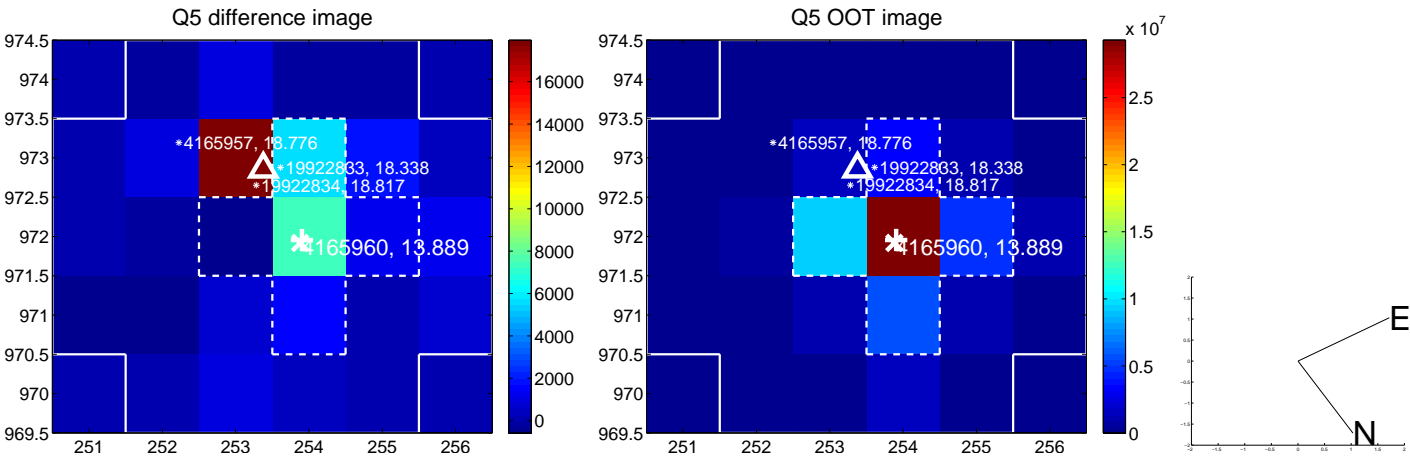


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000 are from the UKIRT catalog.

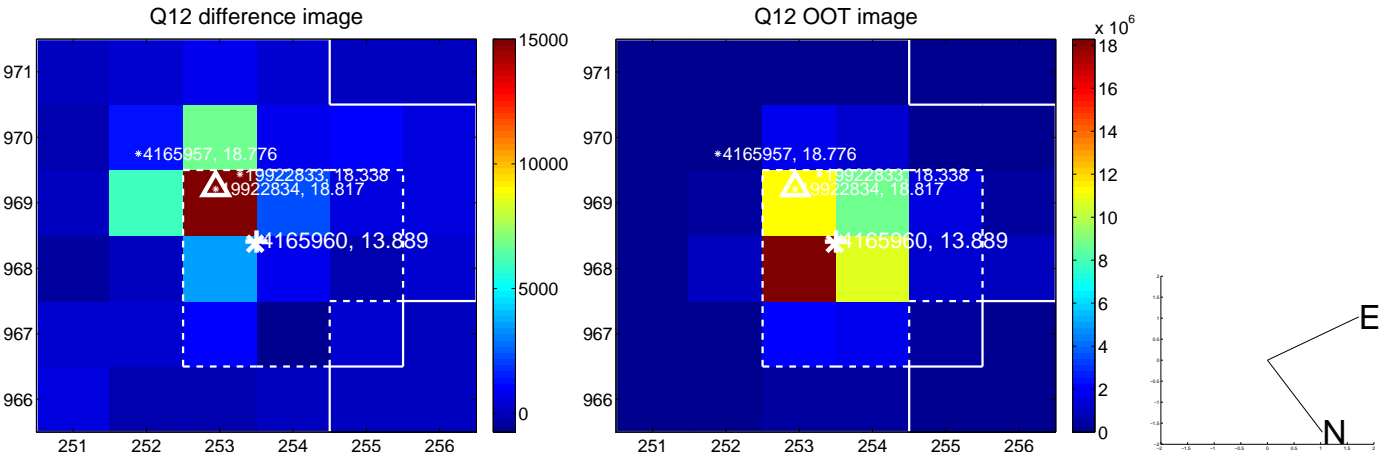
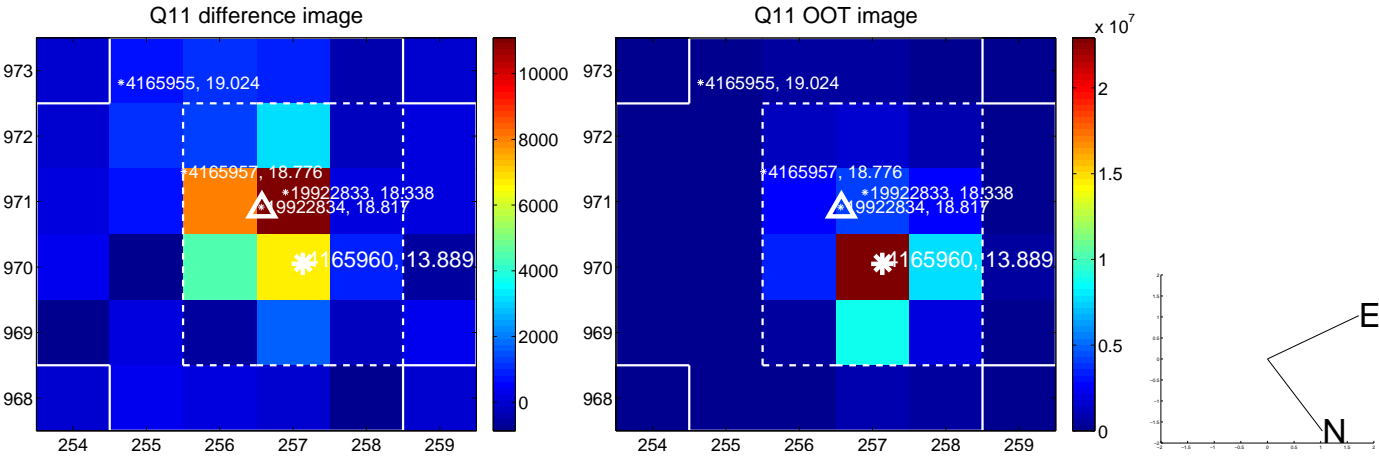
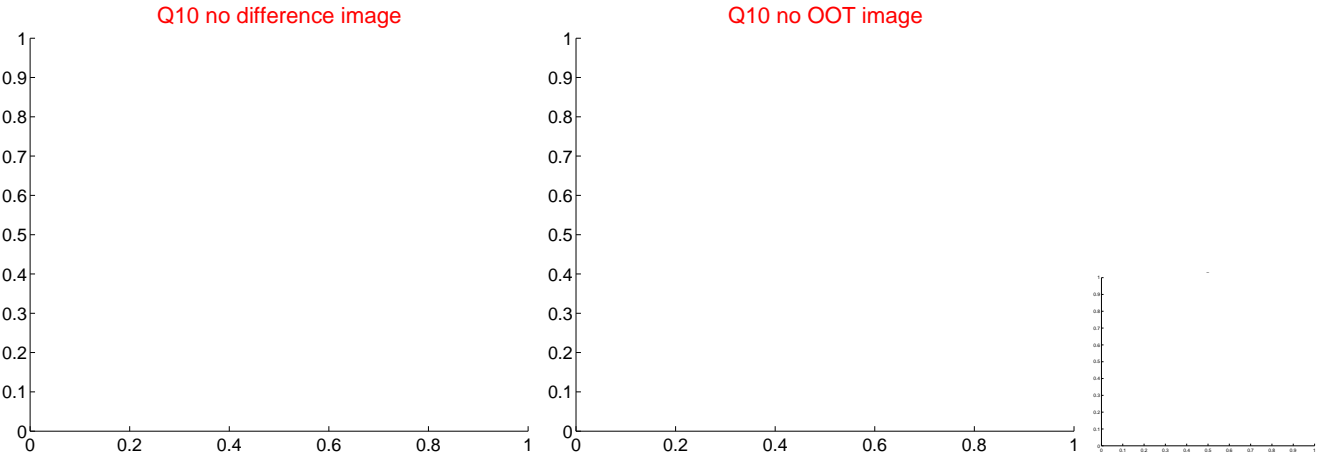
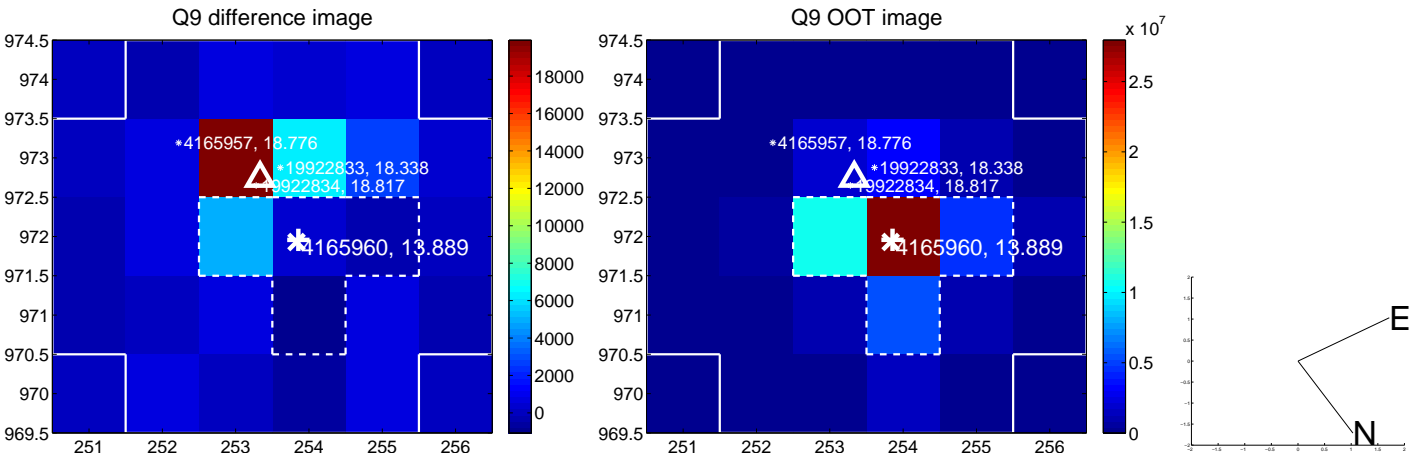
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



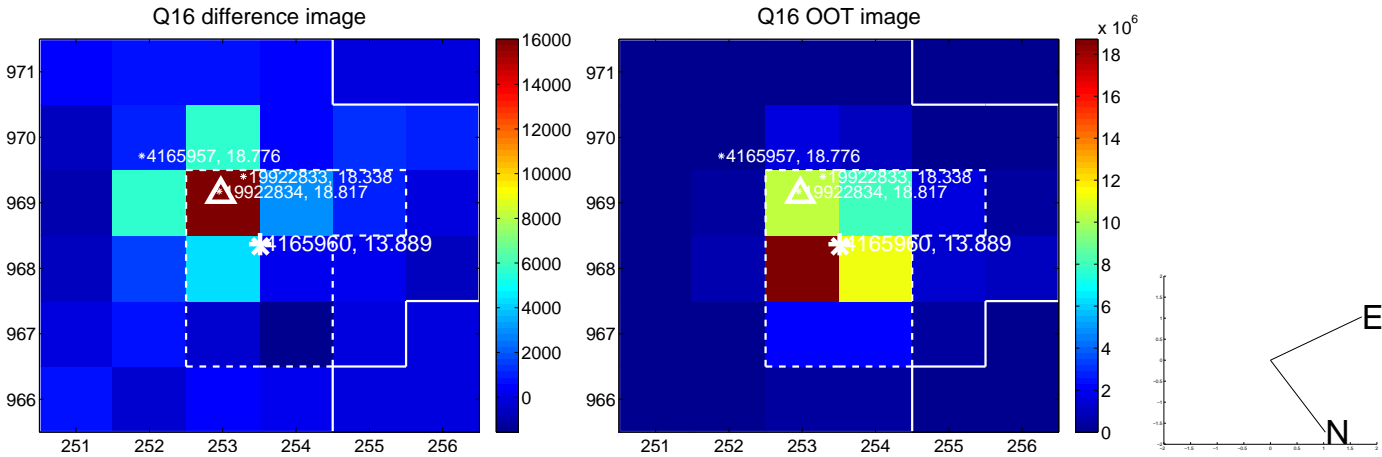
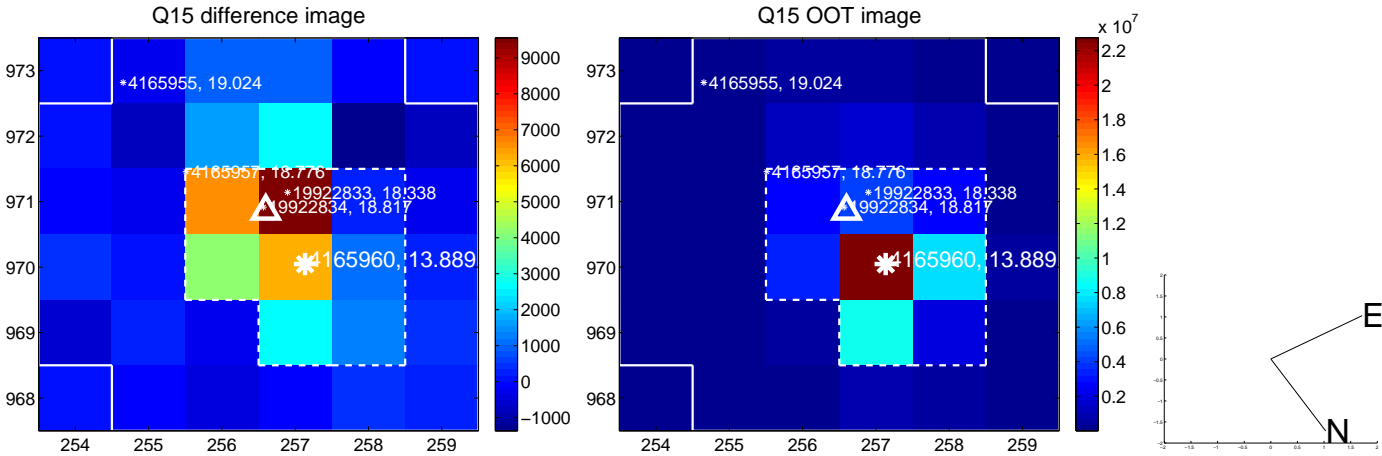
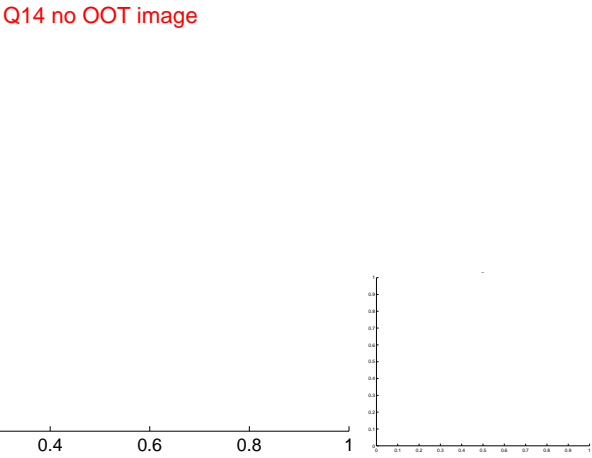
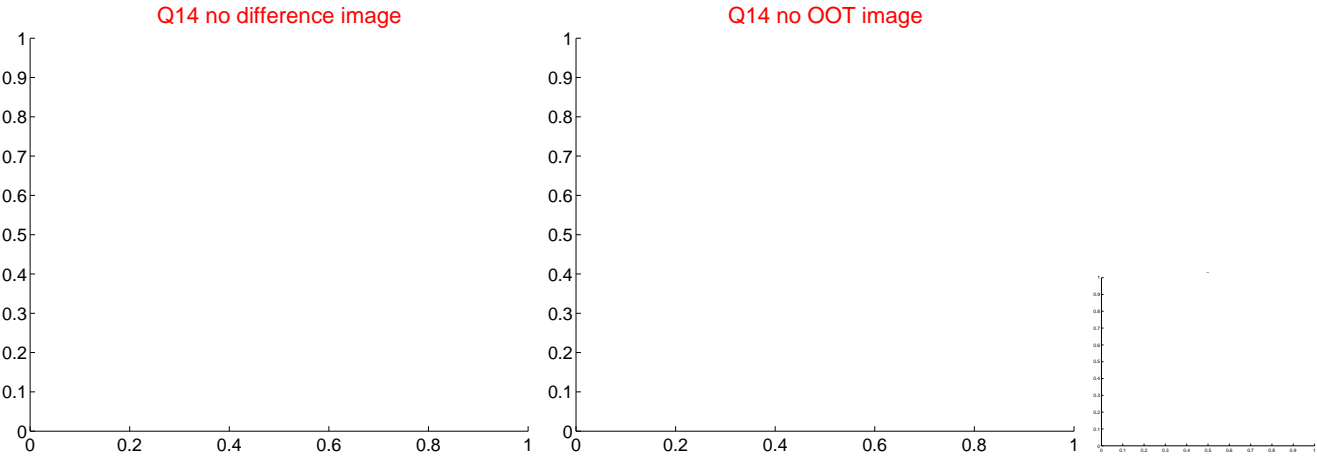
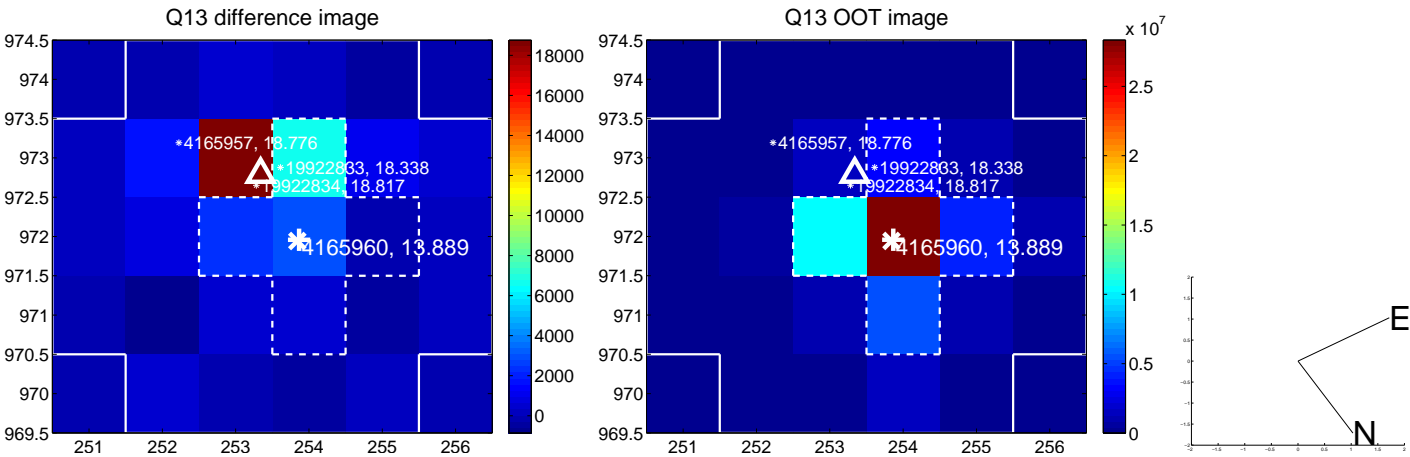
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



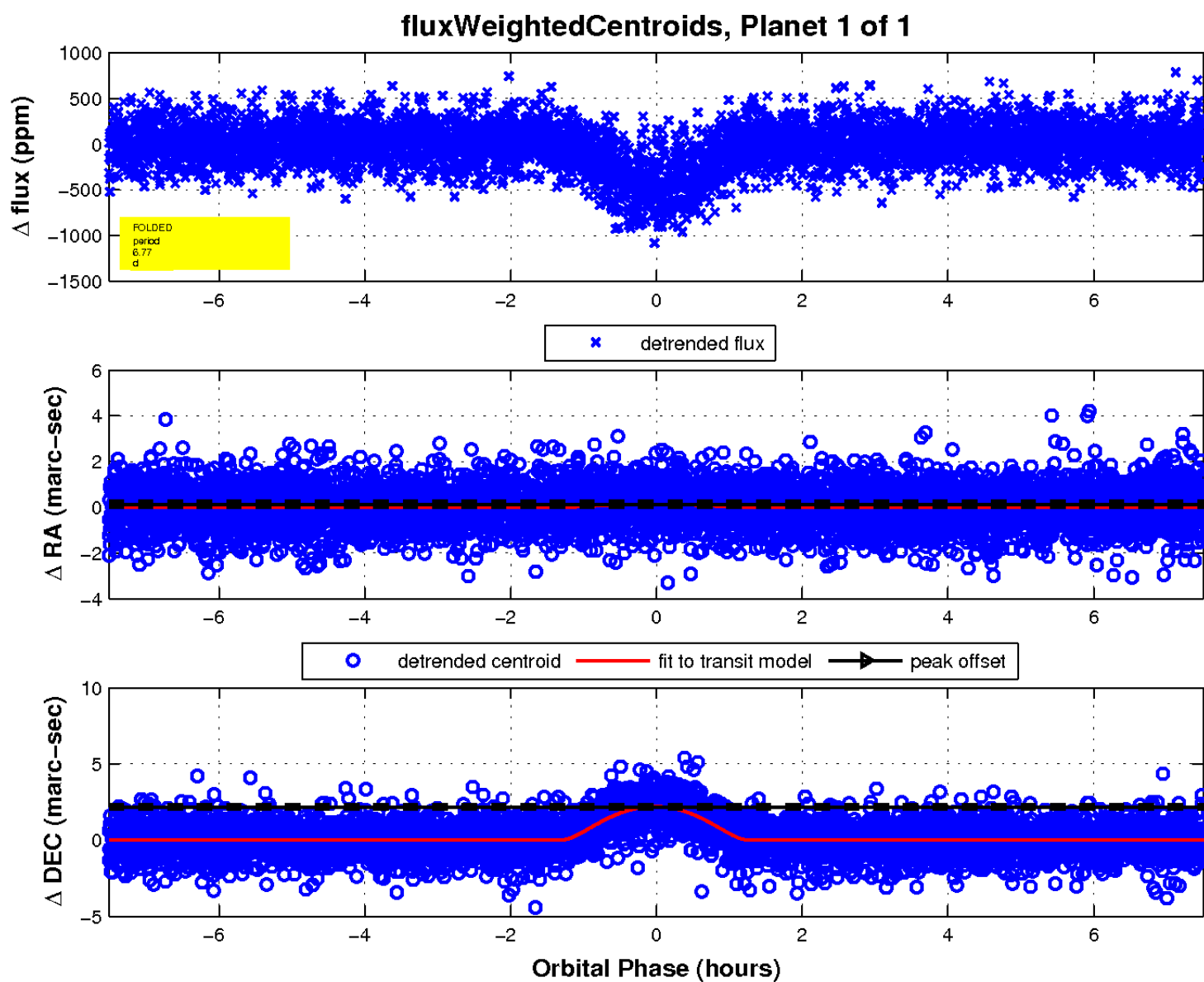
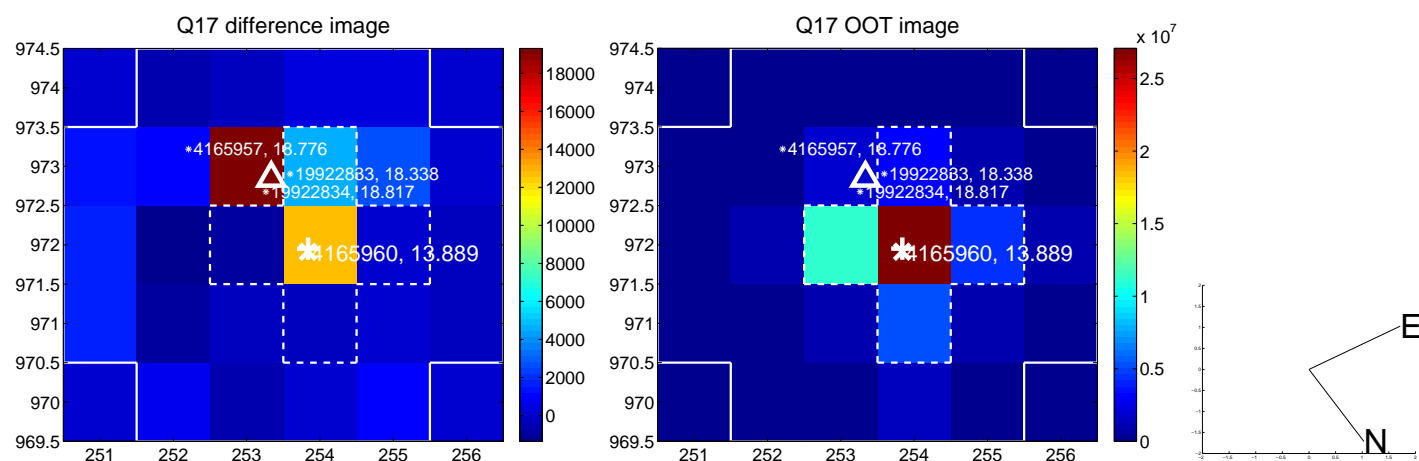
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

