

KIC 010597693

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})
010597693-01	OBS	2958.01	31.608602	134.678203	334.7	3.618	14.3	15.1	1.03	6341	2.09	38.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010597693-01	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.

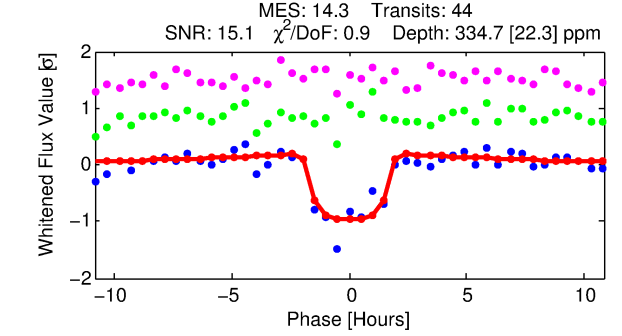
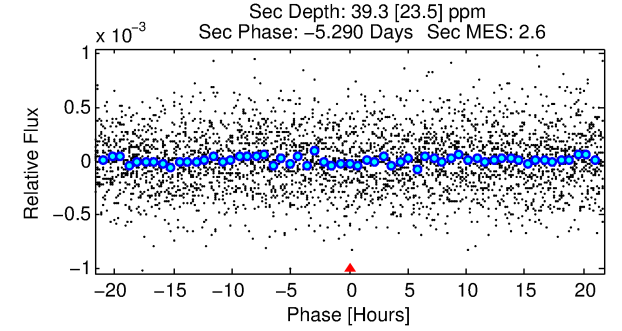
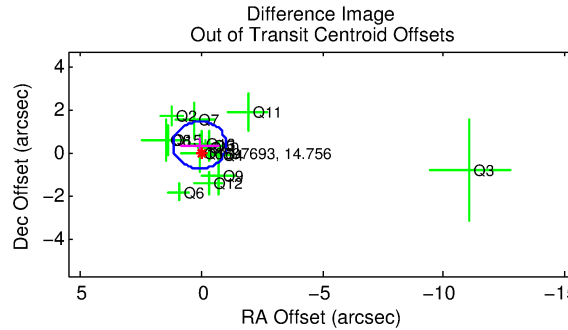
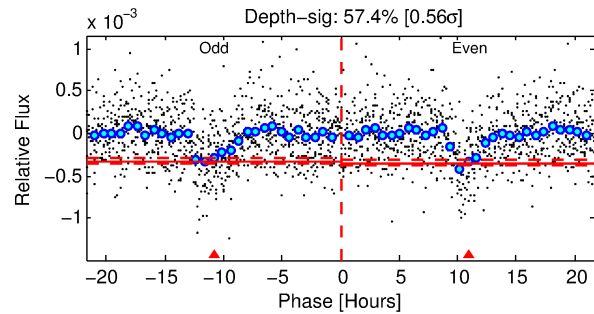
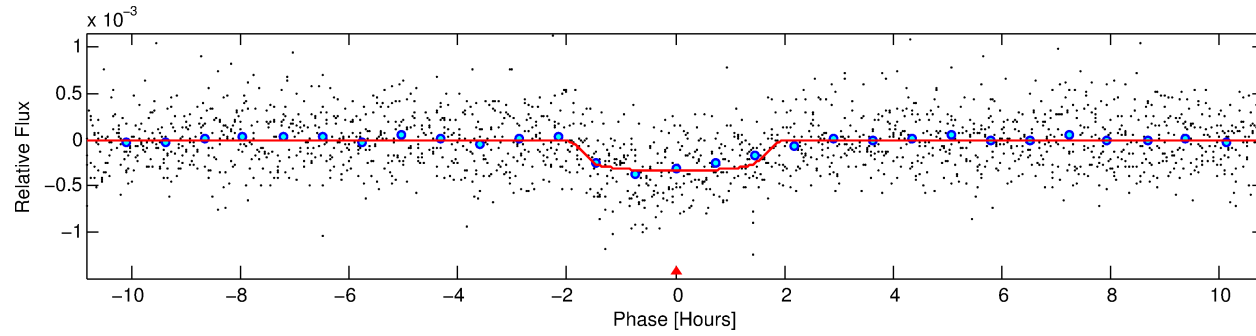
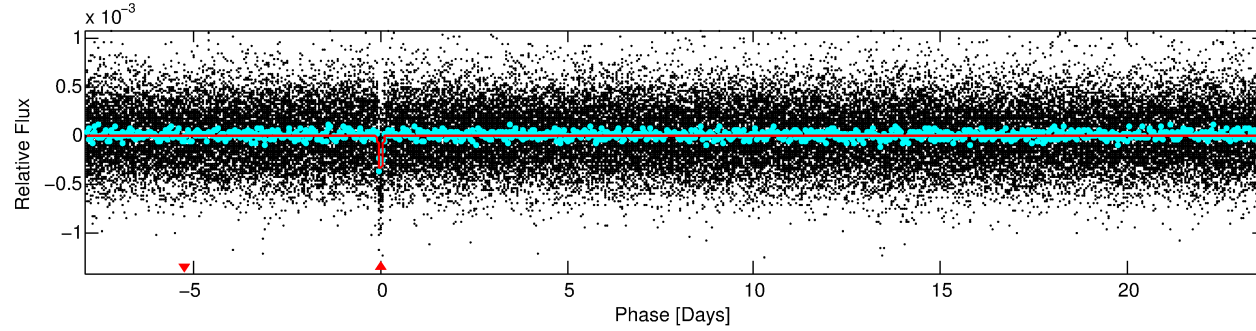
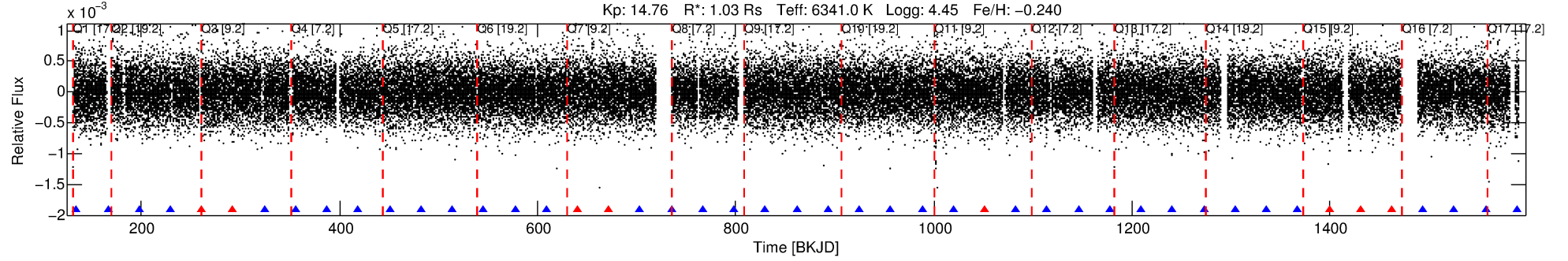
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010597693-01

No Significant Match Found

DV One-Page Summary

KIC: 10597693 Candidate: 1 of 1 Period: 31.609 d
KOI: K02958.01 Corr: 0.980



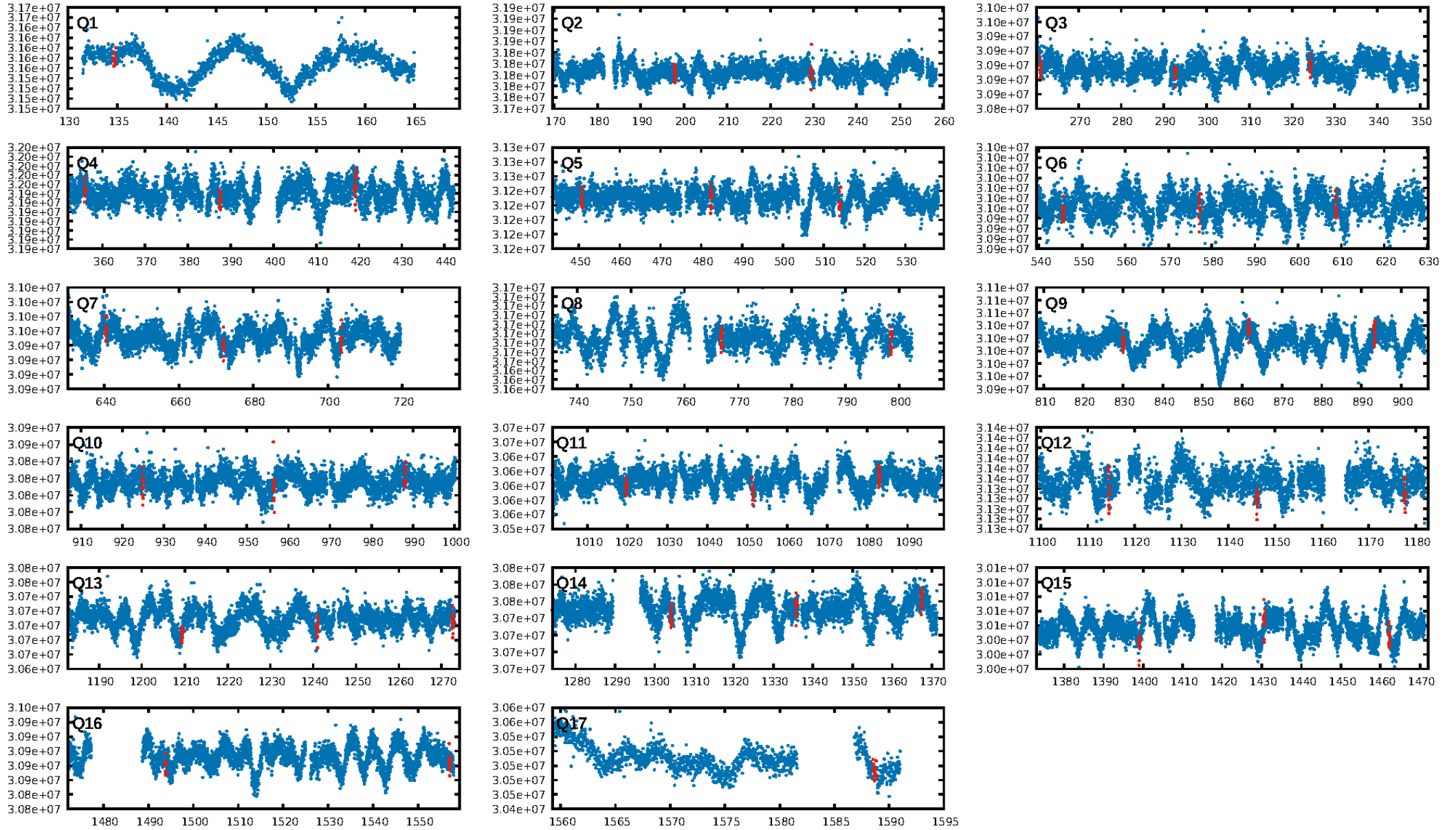
DV Fit Results:

Period = 31.60860 [0.00018] d
Epoch = 134.6782 [0.0048] BKJD
Rp/R* = 0.0185 [0.0081]
a/R* = 42.22 [98.86]
b = 0.80 [1.07]
Seff = 38.18 [15.90]
Teff = 634 [66] K
Rp = 2.09 [1.13] Re
a = 0.2012 [0.0547] AU
Ag = 200.67 [226.33] [0.88 σ]
Teffp = 3689 [981] K [3.11 σ]

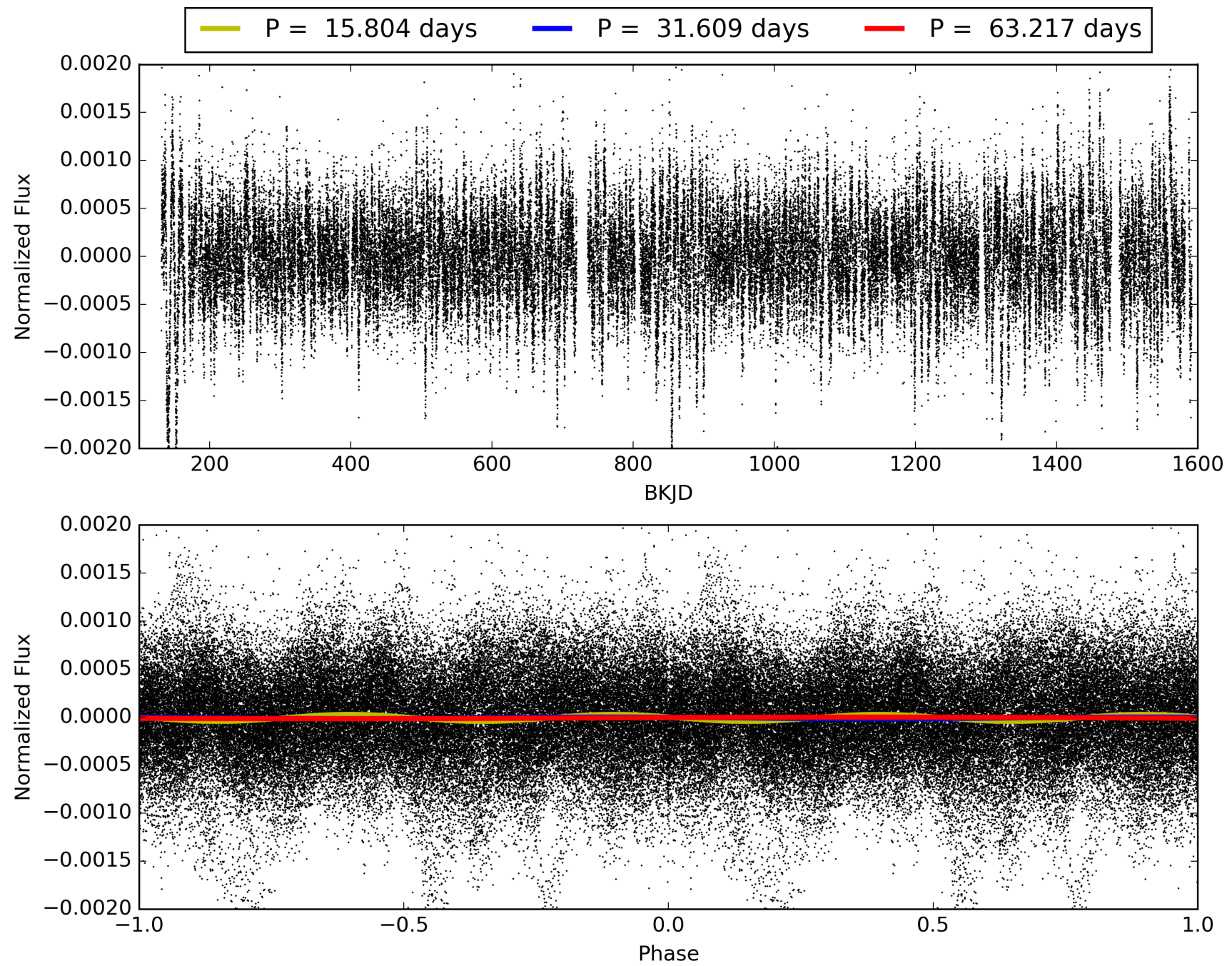
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 89.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.92e-47
RollingBand-fgt: 0.81 [34/42]
GhostDiagnostic-chr: 1.464
Centroid-sig: 3.3%
Centroid-so: 1.429 arcsec [1.55 σ]
OotOffset-rm: 0.380 arcsec [1.04 σ]
KicOffset-rm: 0.294 arcsec [0.65 σ]
OotOffset-st: 3/4/4/3 [14]
KicOffset-st: 3/4/4/3 [14]
DiffImageQuality-fgm: 0.79 [11/14]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 010597693-01, PDC Light Curves

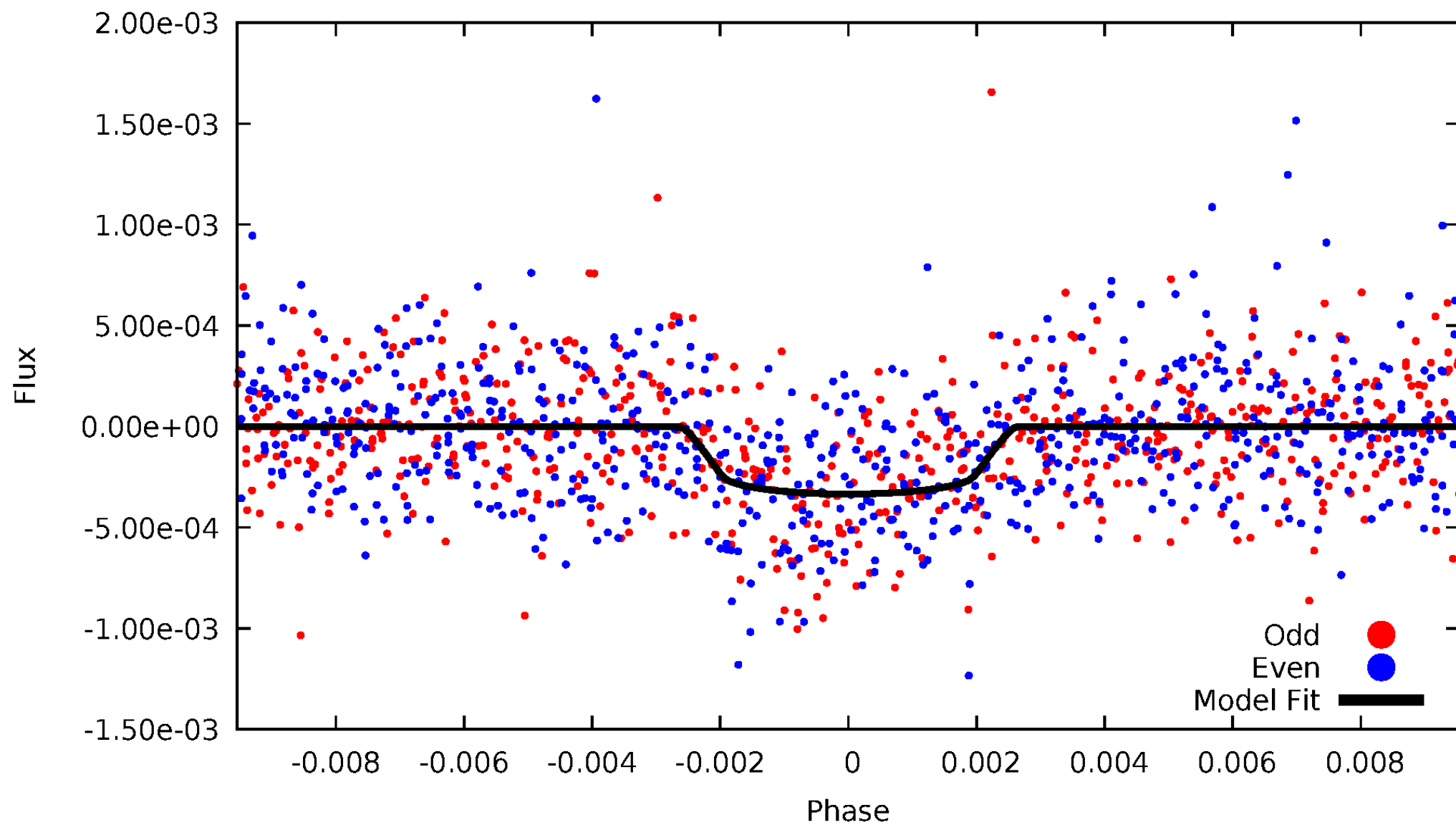


TCE 010597693-01



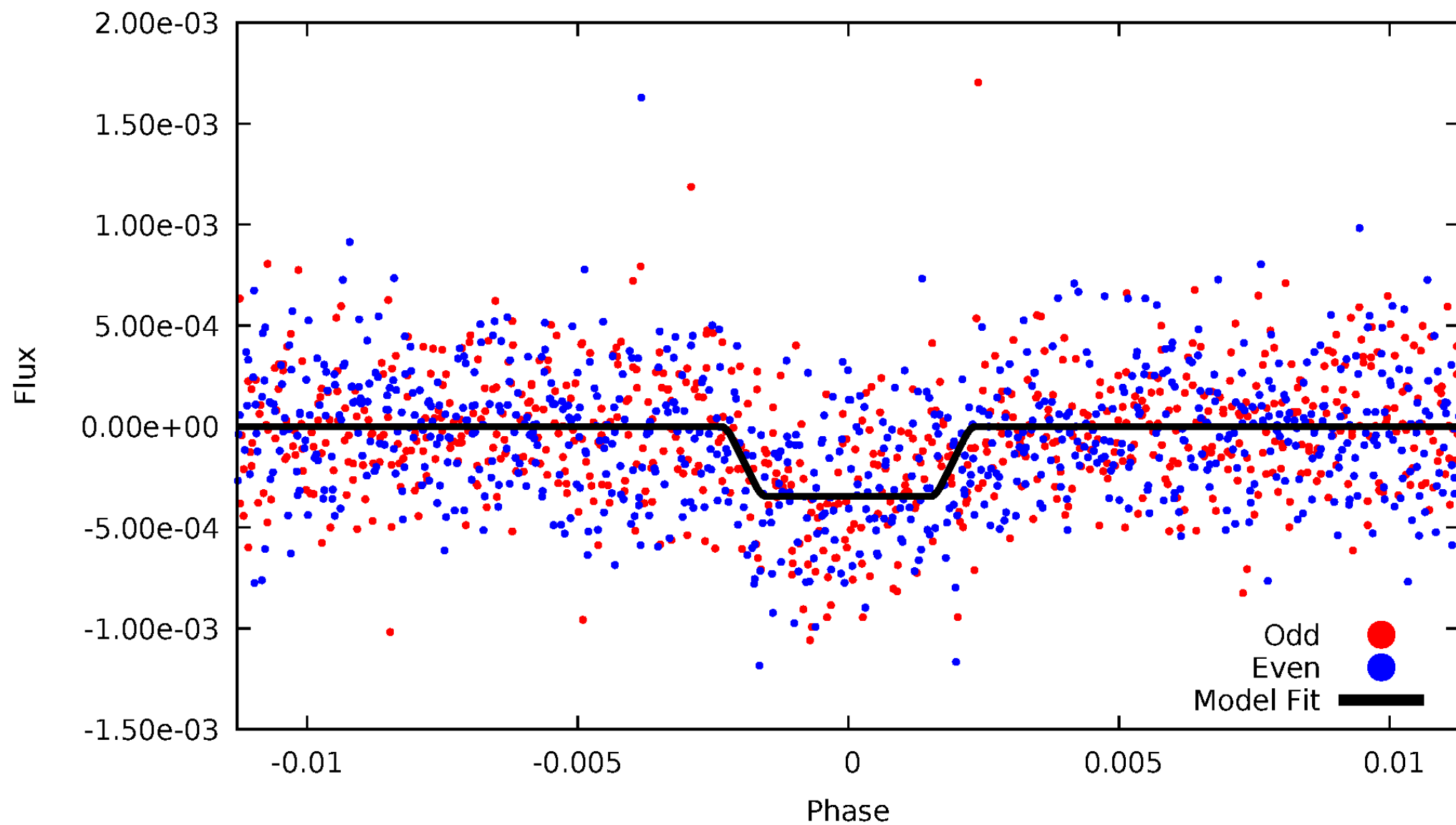
DV Odd/Even

TCE 010597693-01

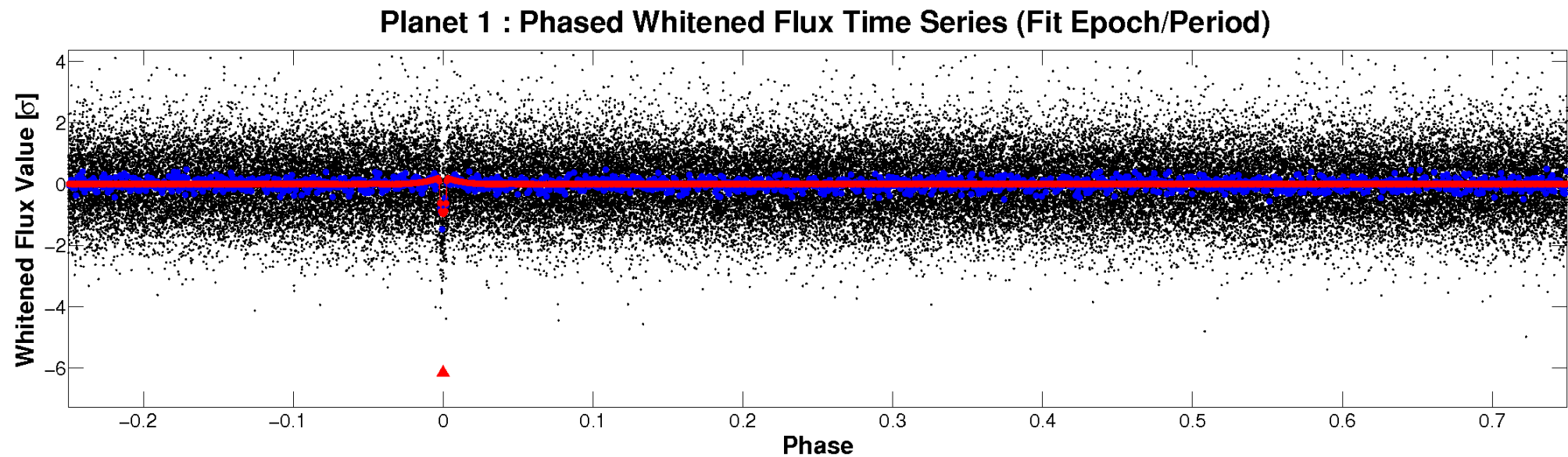
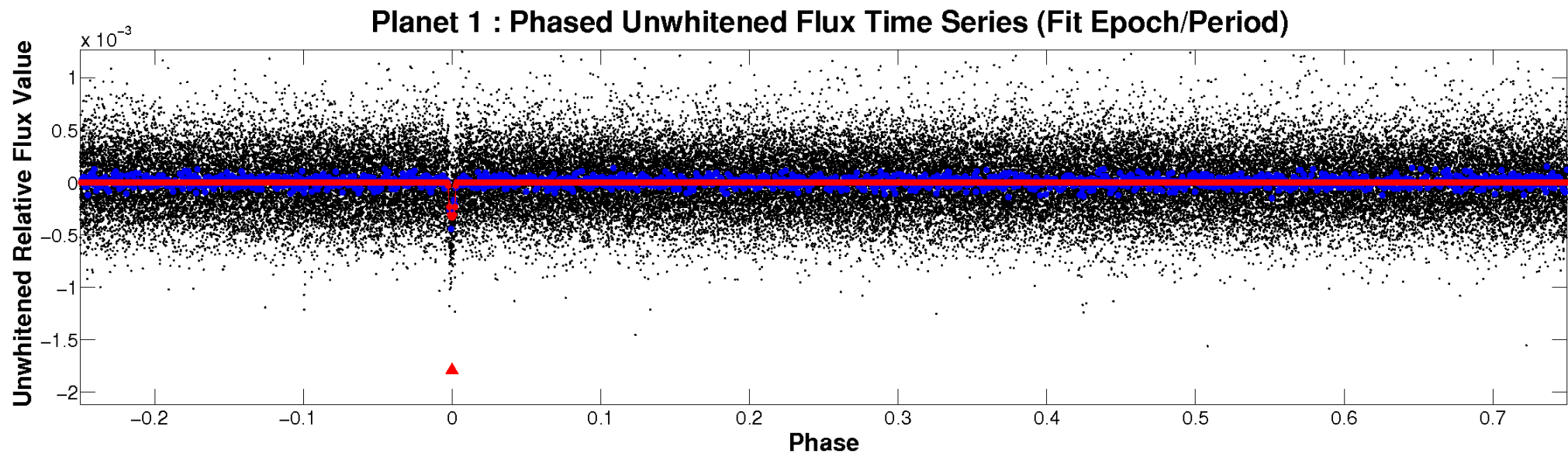


ALT Odd/Even

TCE 010597693-01

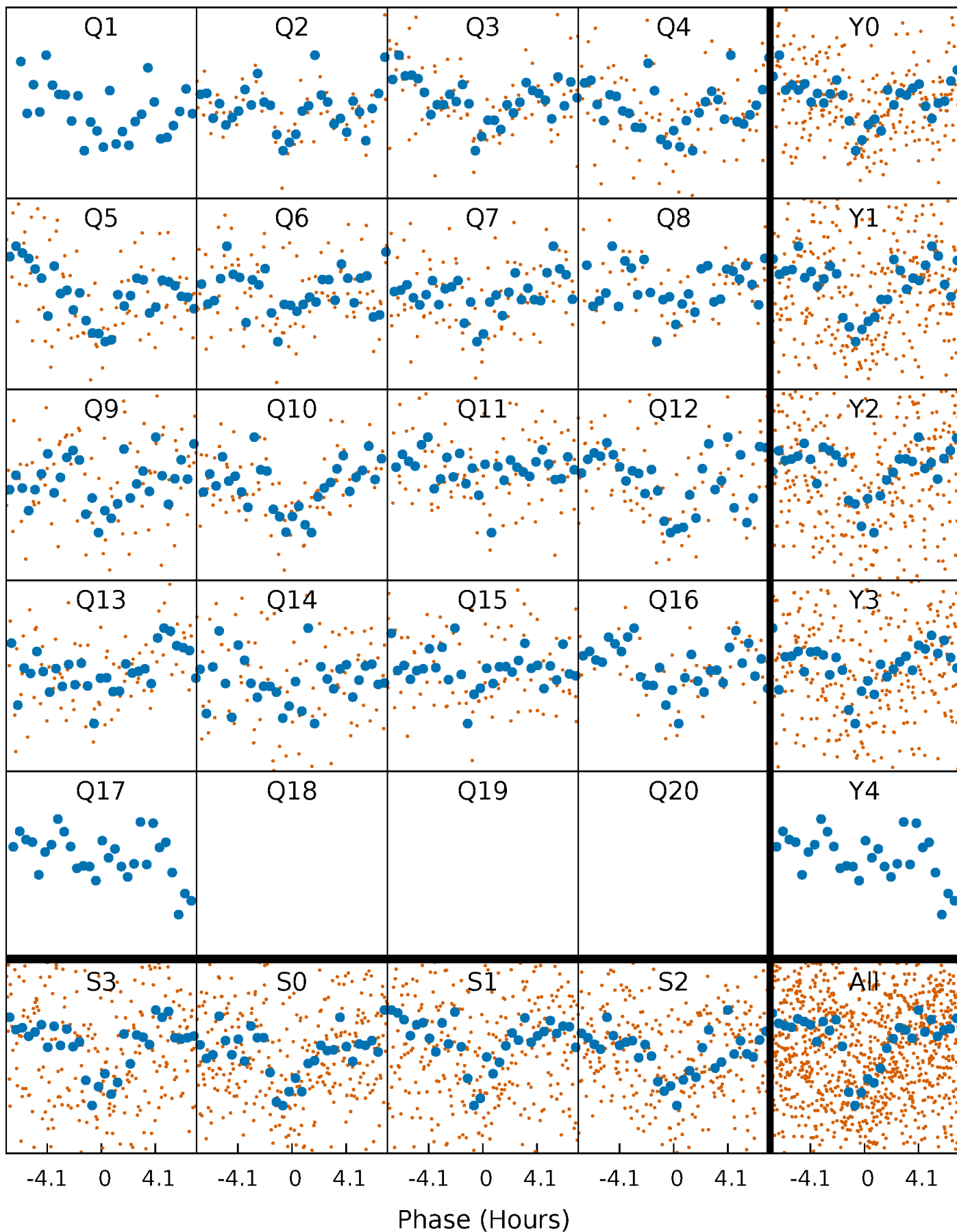


Non-Whitened Vs. Whitened Light Curve



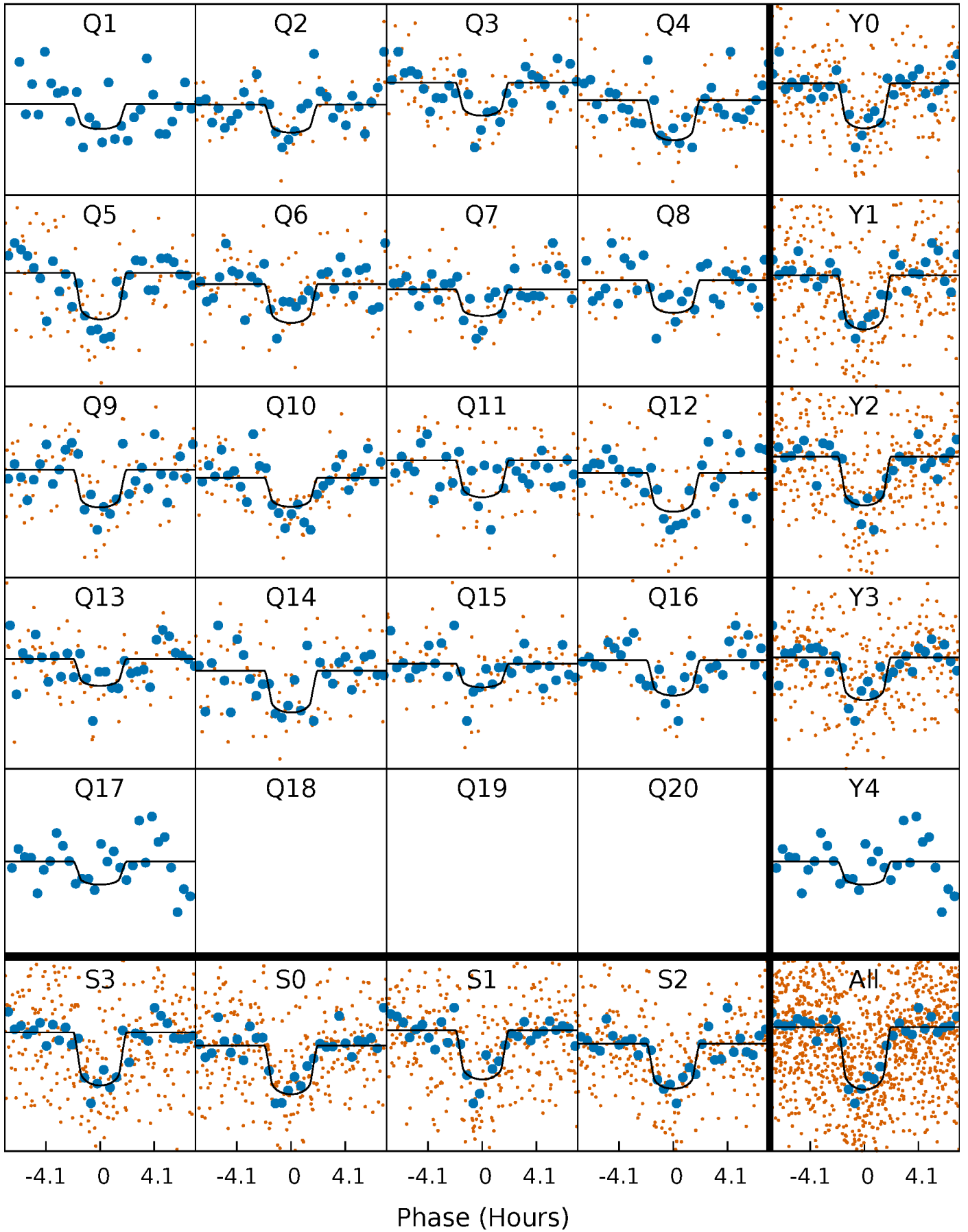
PDC Quarter-Phased Transit Curves

TCE 010597693-01 P= 31.608602 Days $T_0=134.678203$ (BKJD)



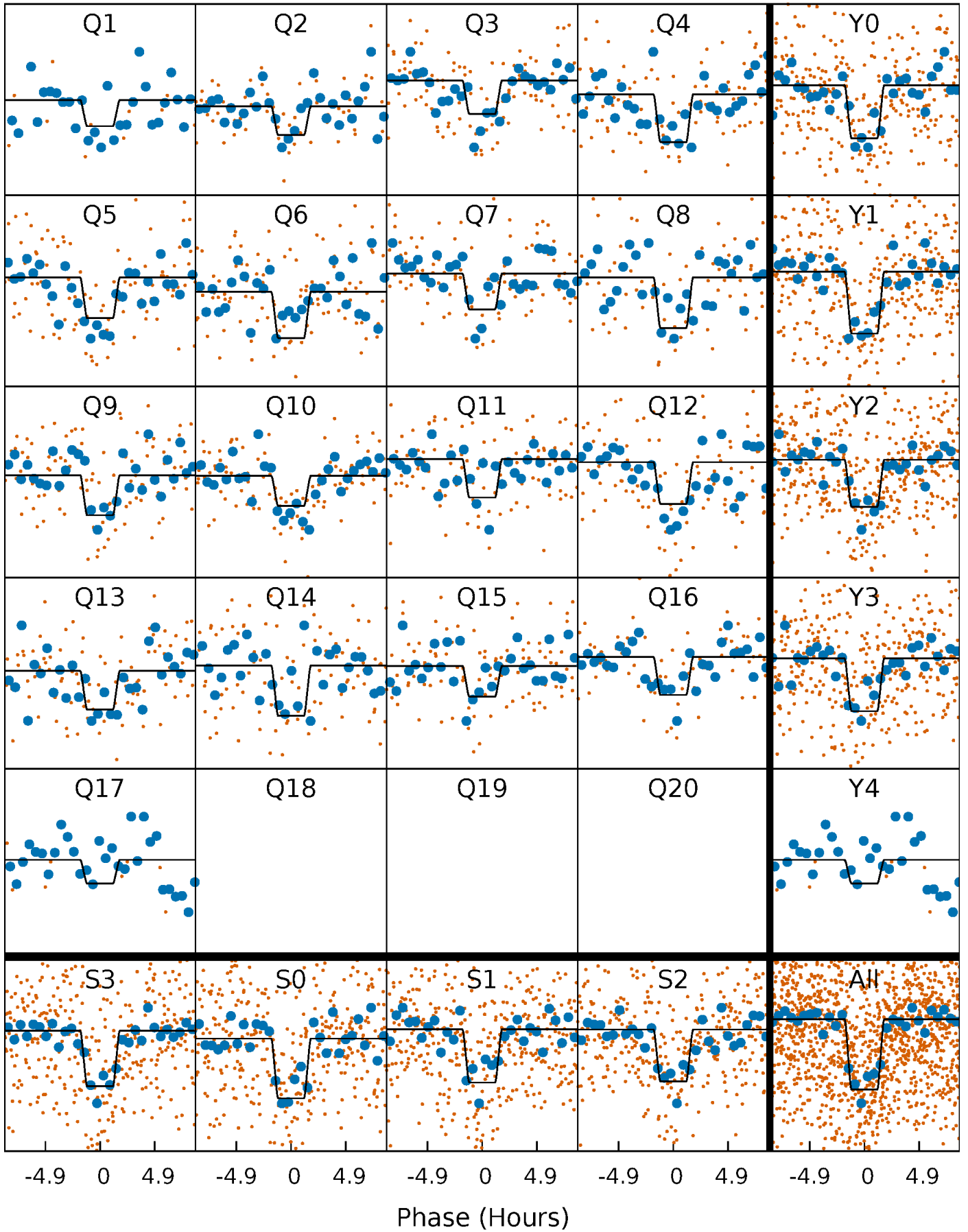
DV Quarter-Phased Transit Curves

TCE 010597693-01 P= 31.608602 Days $T_0=134.678203$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

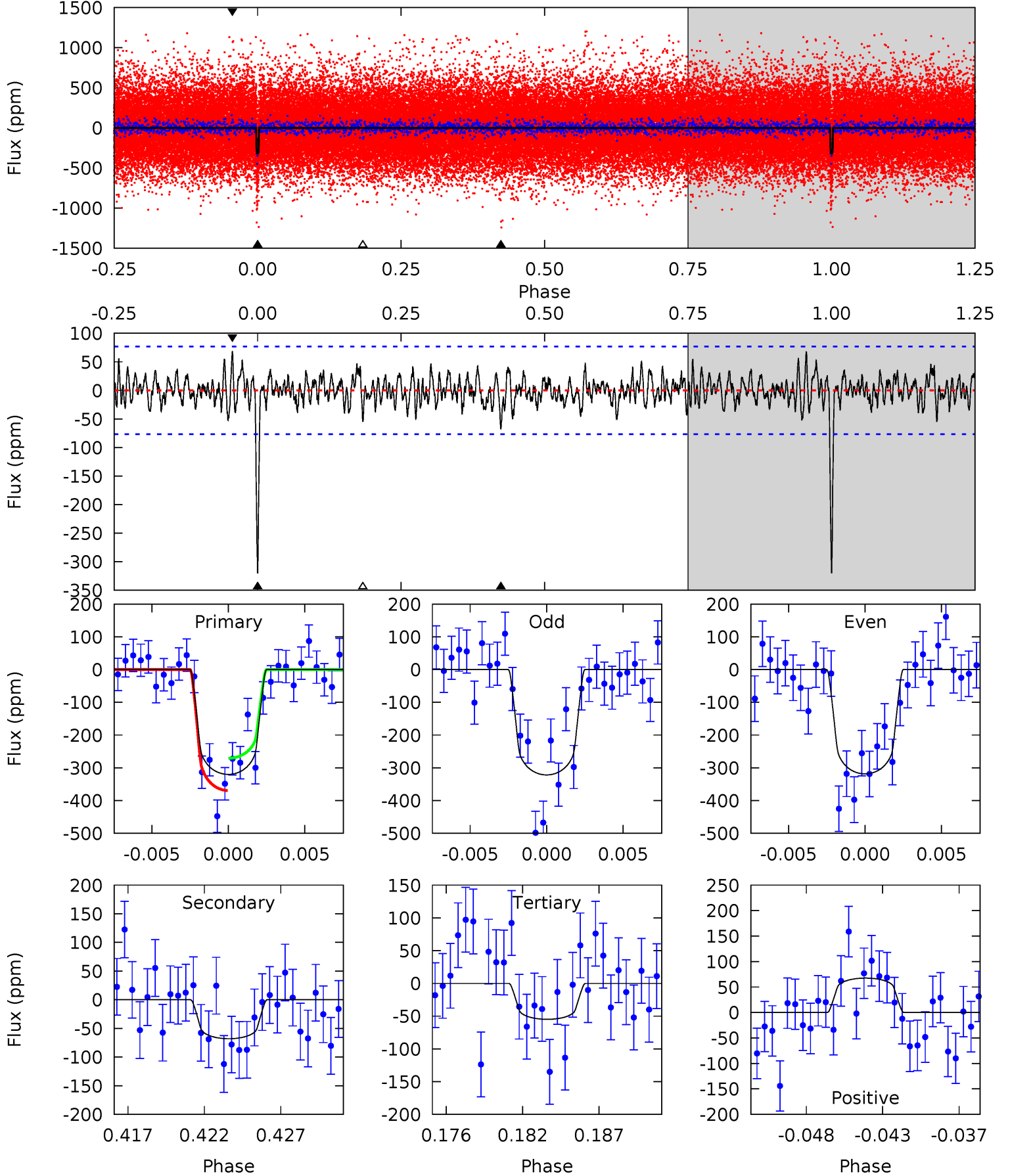
TCE 010597693-01 P= 31.608679 Days $T_0=134.672797$ (BKJD)



DV Model-Shift Uniqueness Test

010597693-01, $P = 31.608602$ Days, $E = 103.069601$ Days

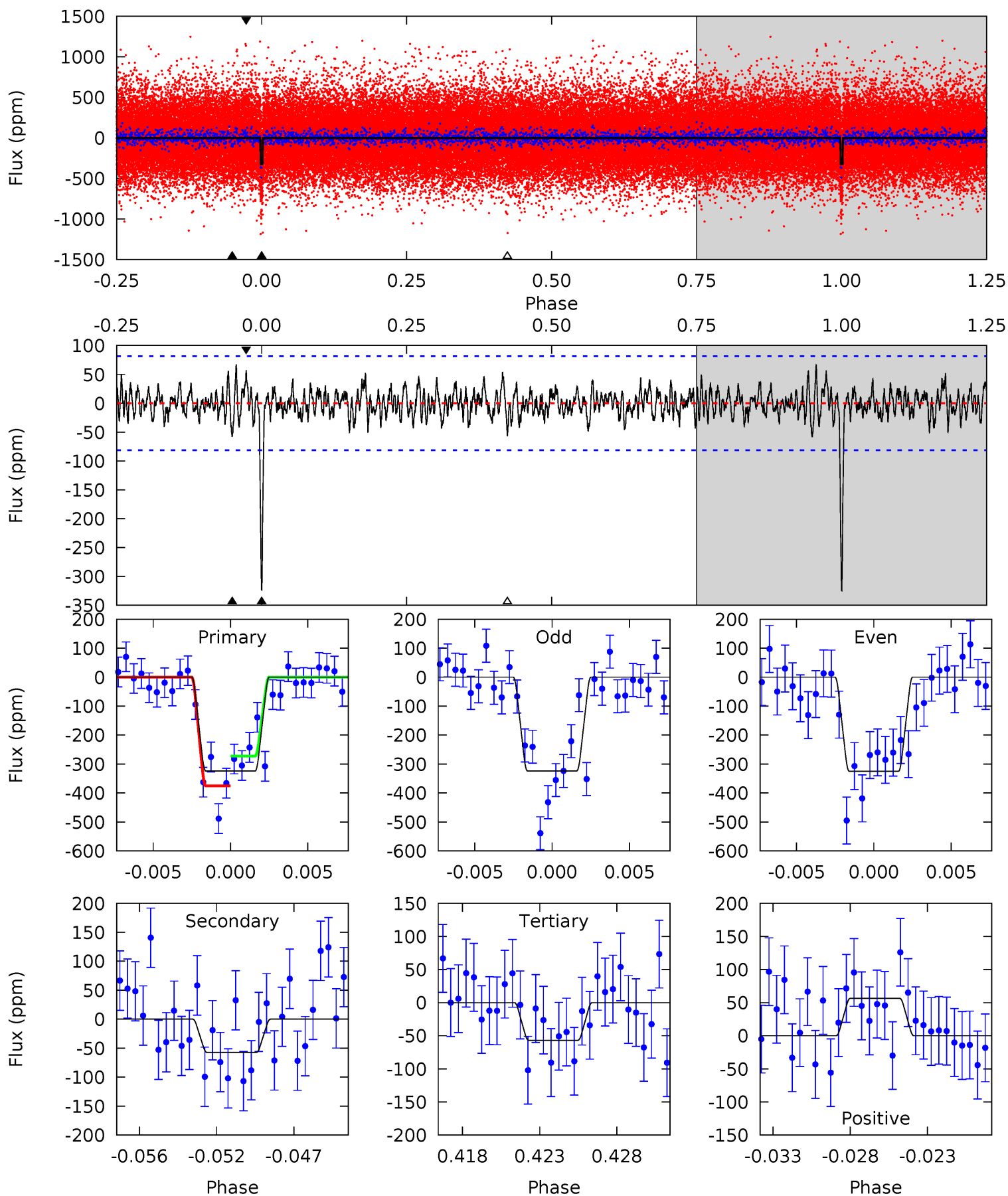
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.5	4.56	3.68	4.53	5.15	2.79	1.29	17.8	16.9	0.88	0.03	0.11	1.05	0.17	3.31



Alt Model-Shift Uniqueness Test

010597693-01, P = 31.608679 Days, E = 103.064118 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.6	3.64	3.60	3.58	5.17	2.83	1.19	17.0	17.0	0.04	0.06	0.03	0.99	0.17	3.27



Stellar Parameters For KIC 010597693

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6341^{+169}_{-207}	$4.446^{+0.054}_{-0.216}$	$-0.240^{+0.250}_{-0.300}$	$1.033^{+0.334}_{-0.111}$	$1.083^{+0.143}_{-0.143}$	$1.383^{+0.396}_{-0.732}$
	+3%/-3%	+1%/-5%	+104%/-125%	+32%/-11%	+13%/-13%	+29%/-53%
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 010597693-01 / KOI 2958.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-68 ± 15	$2.17^{+1.14}_{-0.88}$	904^{+71}_{-42}	4404^{+1174}_{-568}	312^{+571}_{-173}
Alt.	-57 ± 16	$2.28^{+1.04}_{-0.98}$	906^{+67}_{-44}	4248^{+1133}_{-542}	246^{+496}_{-141}

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

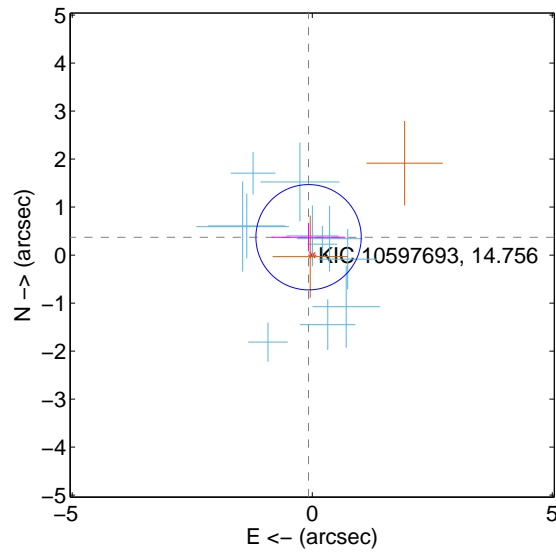
Supplemental centroid analysis for 010597693-01. Kepler magnitude: 14.76. Transit SNR 15.06

There are 11 quarters with good PRF difference image offsets

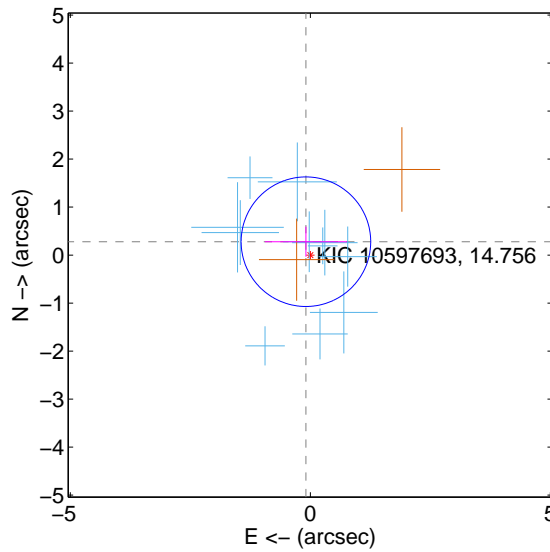
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.380 ± 0.366	1.04	0.077 ± 0.768	0.372 ± 0.297
PRF-fit source offset from KIC position	0.294 ± 0.450	0.65	0.092 ± 0.857	0.279 ± 0.313
photometric centroid source offset	1.43 ± 0.92	1.55	0.81 ± 0.94	-1.18 ± 0.92

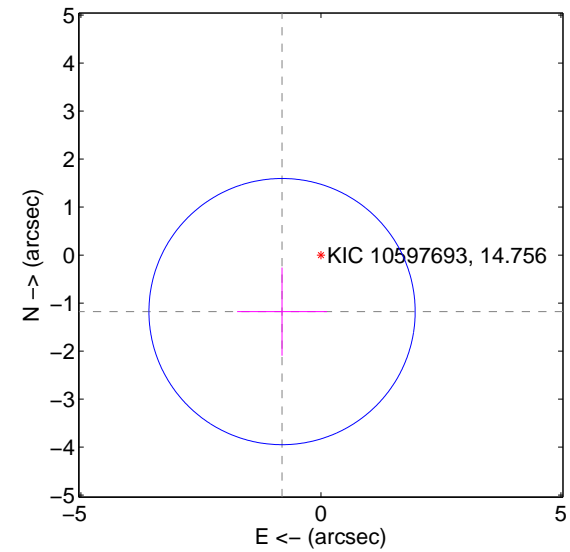
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

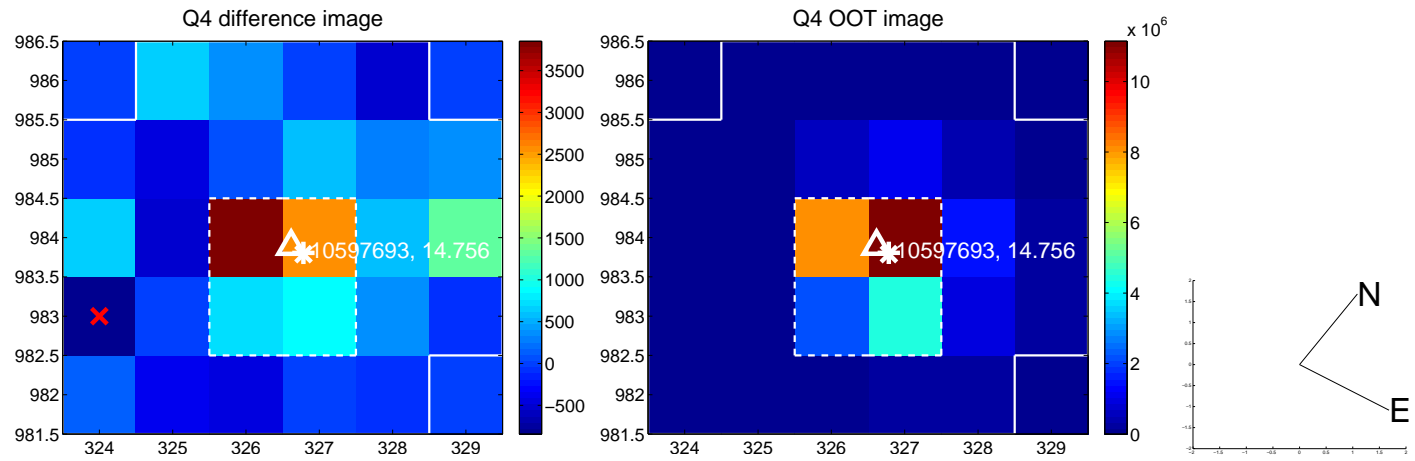
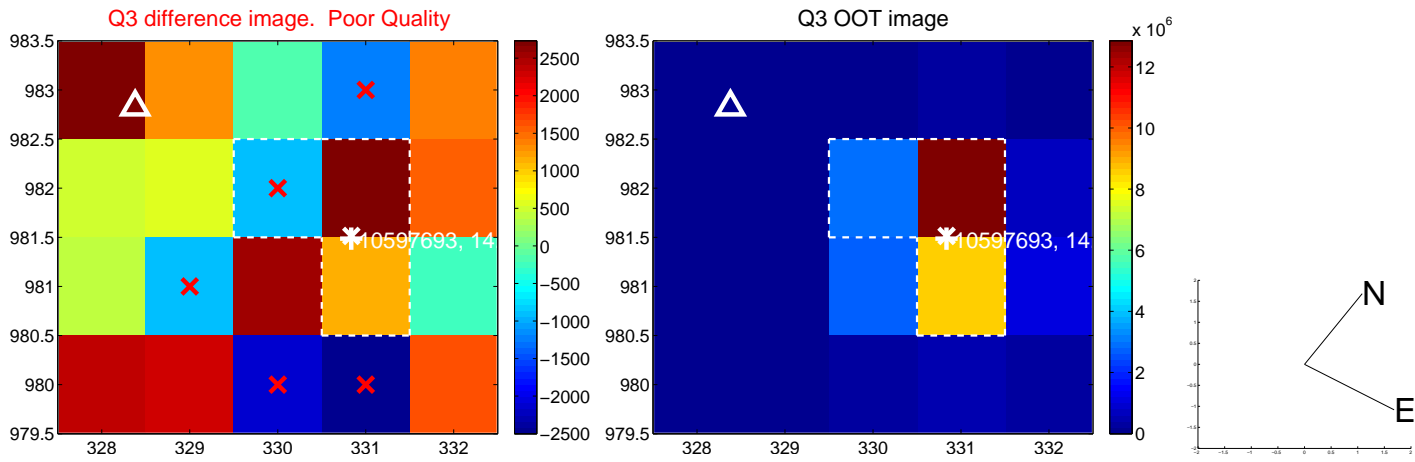
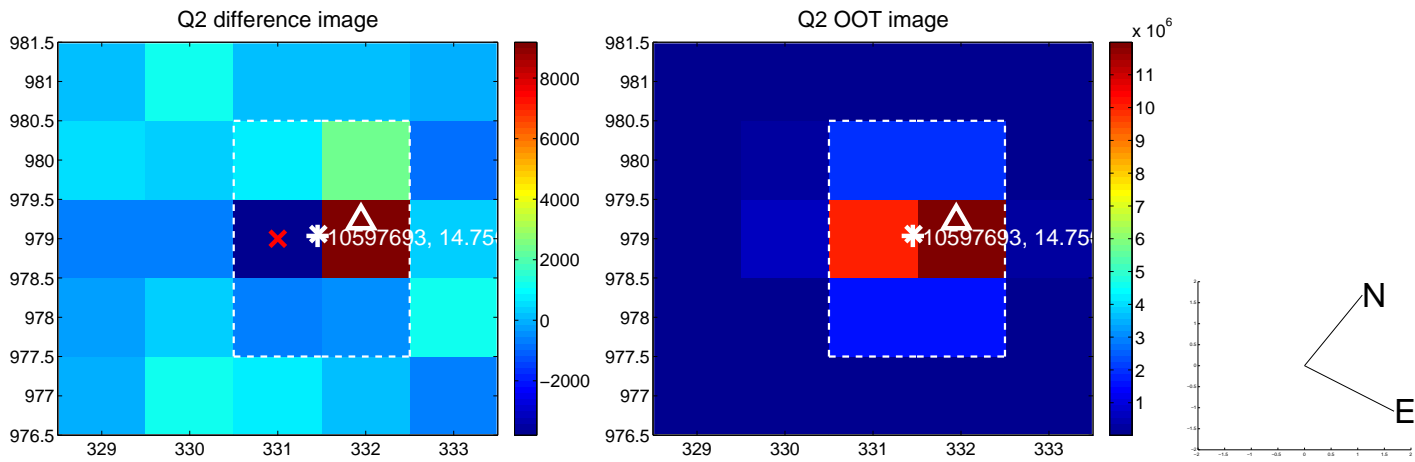
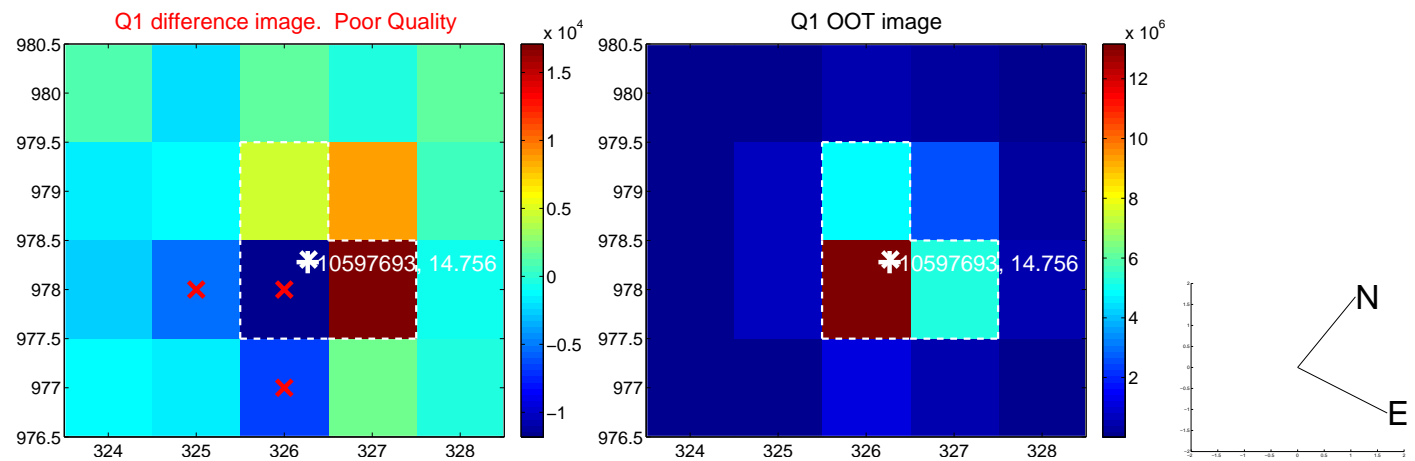


offset from photometric centroids

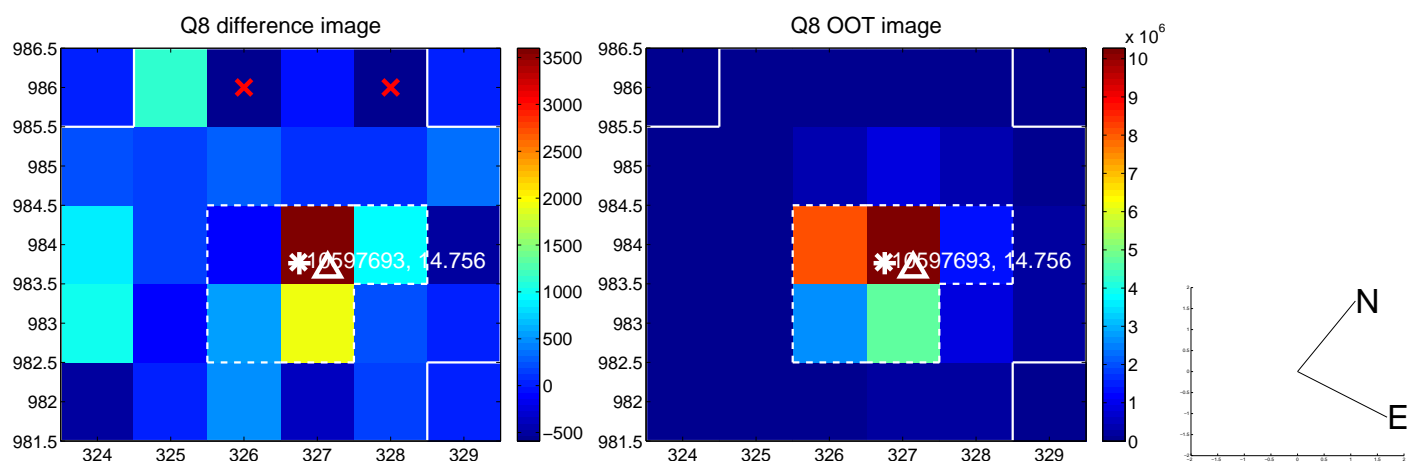
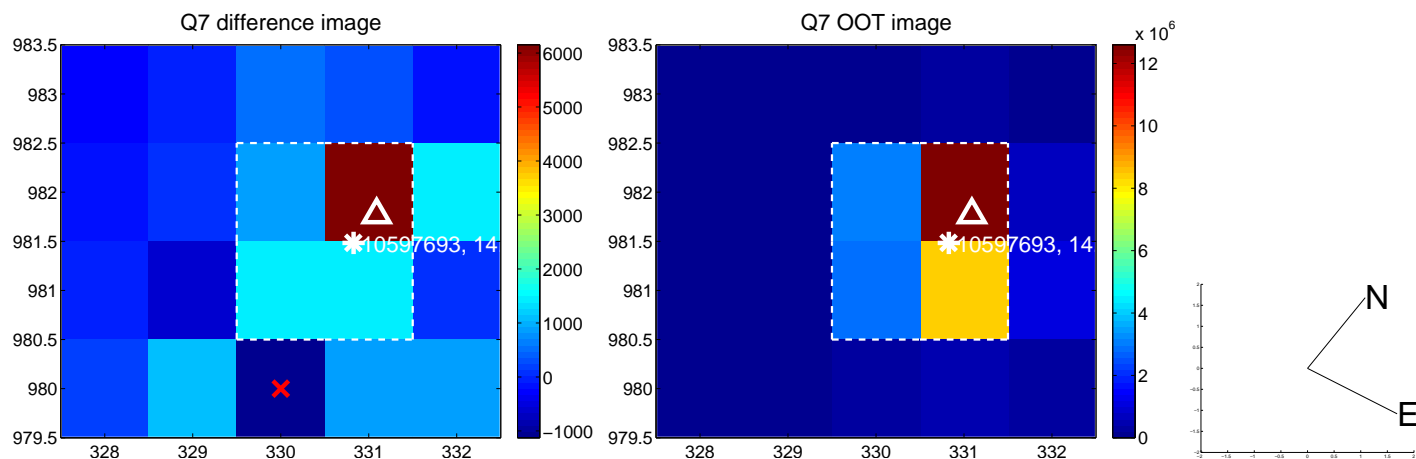
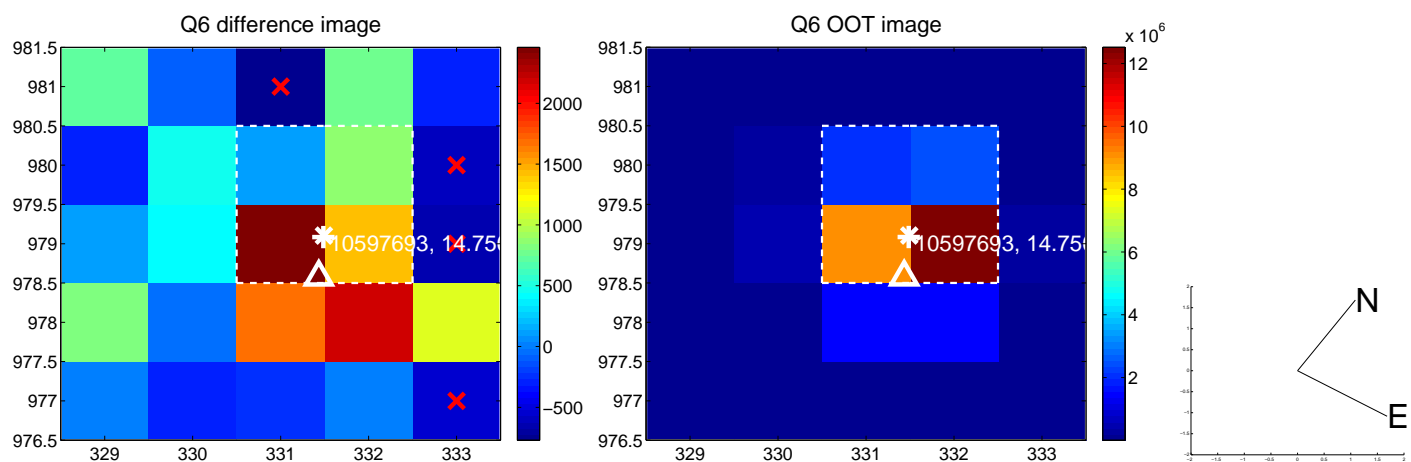
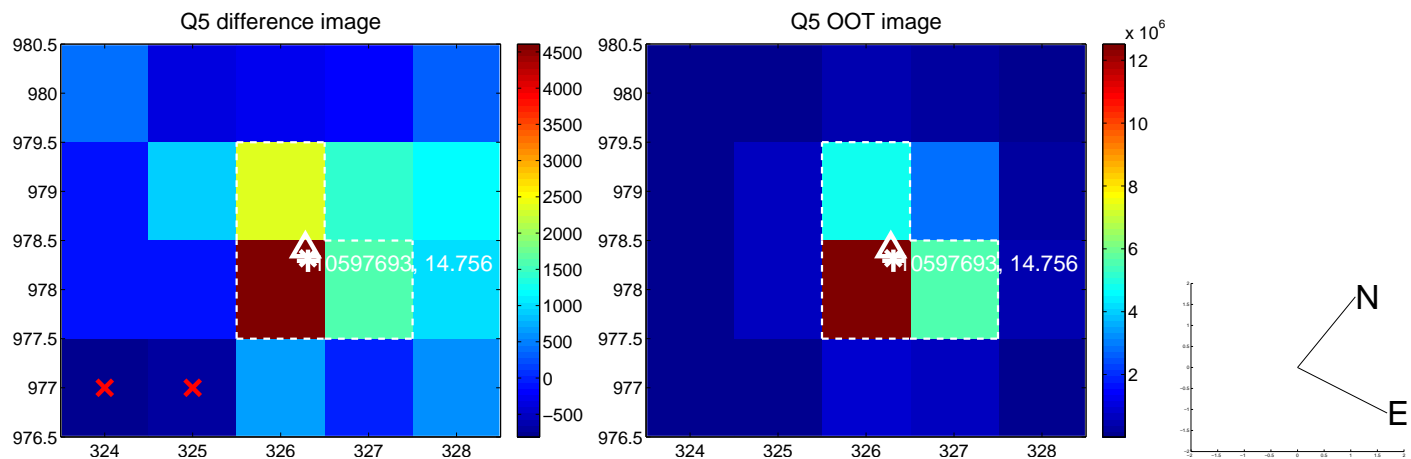


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

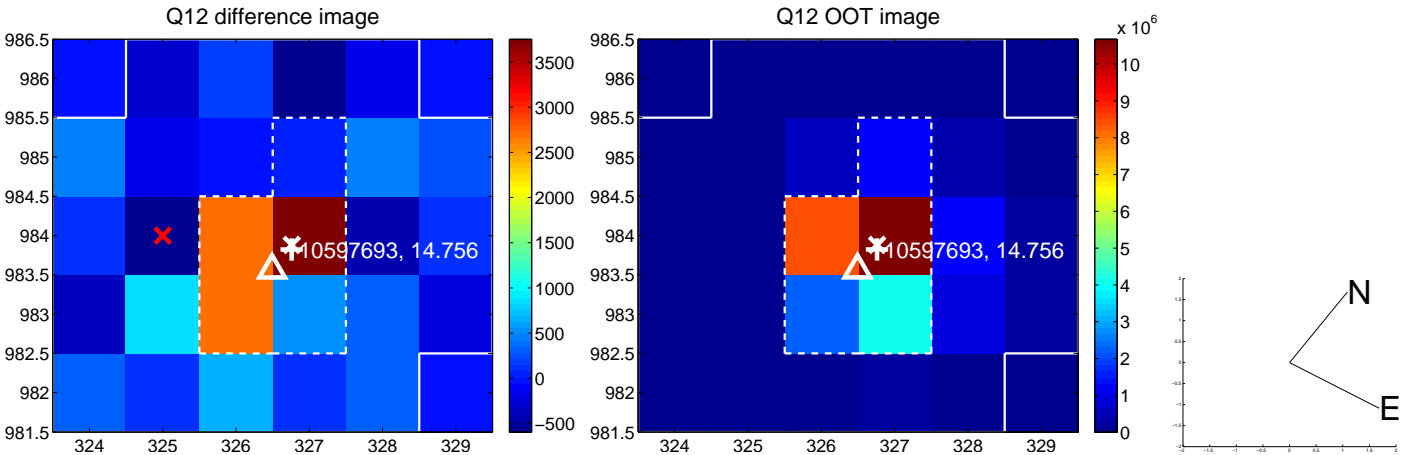
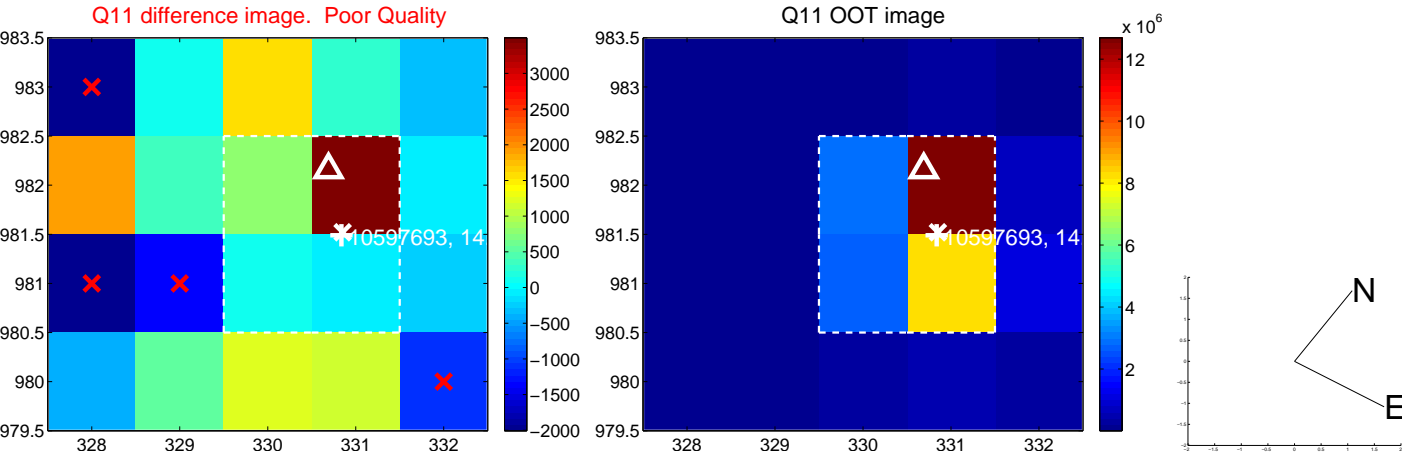
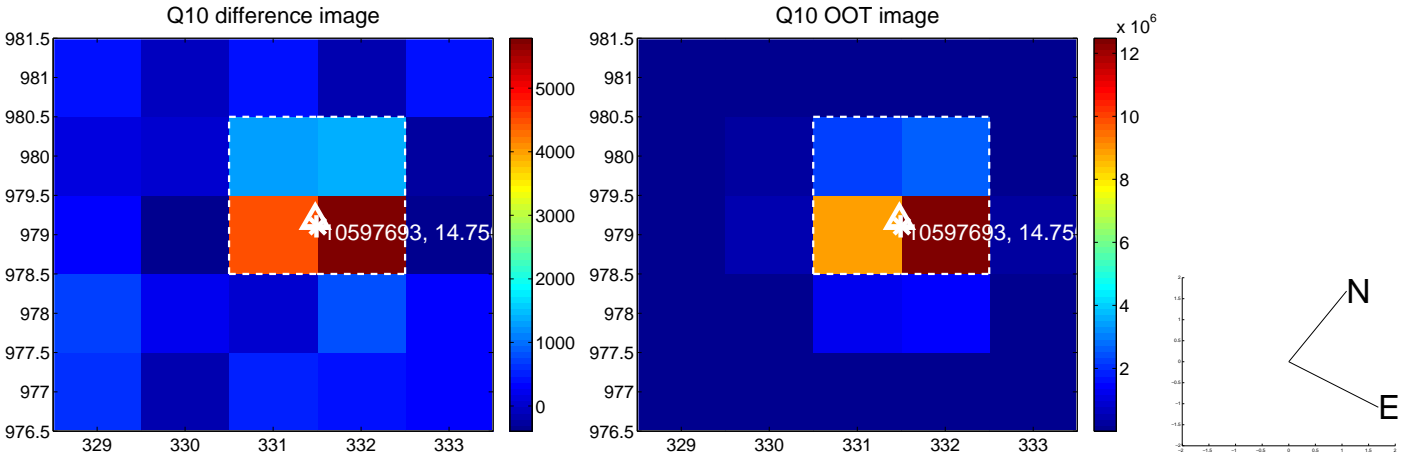
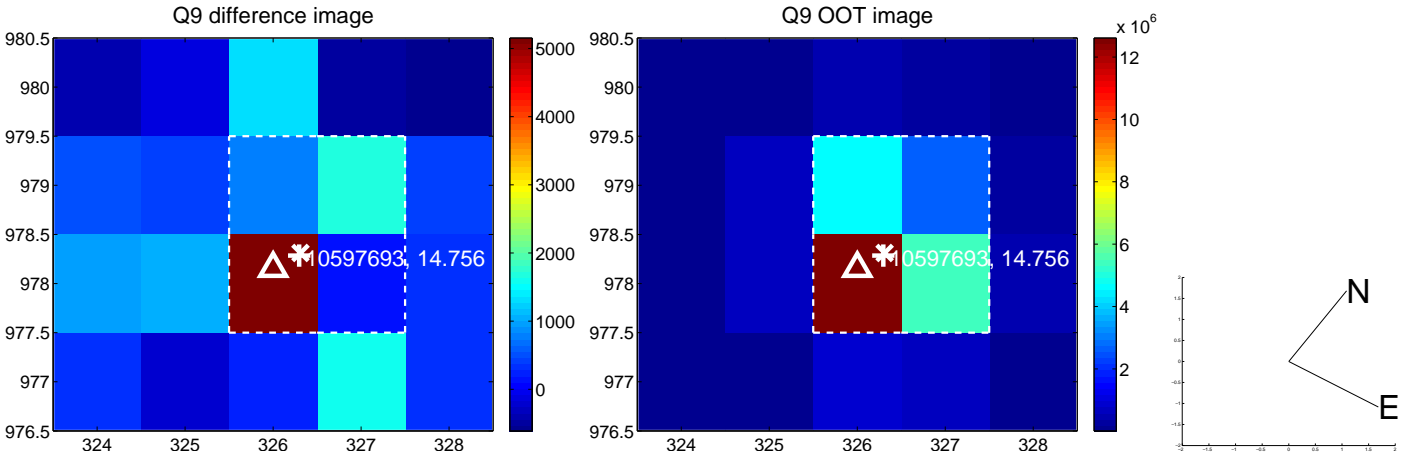
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



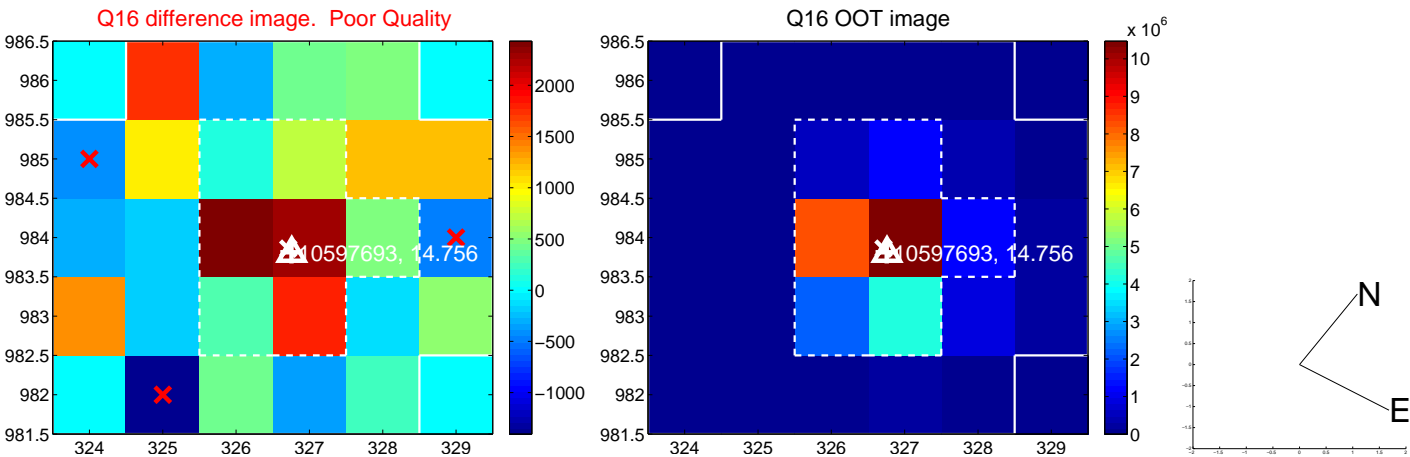
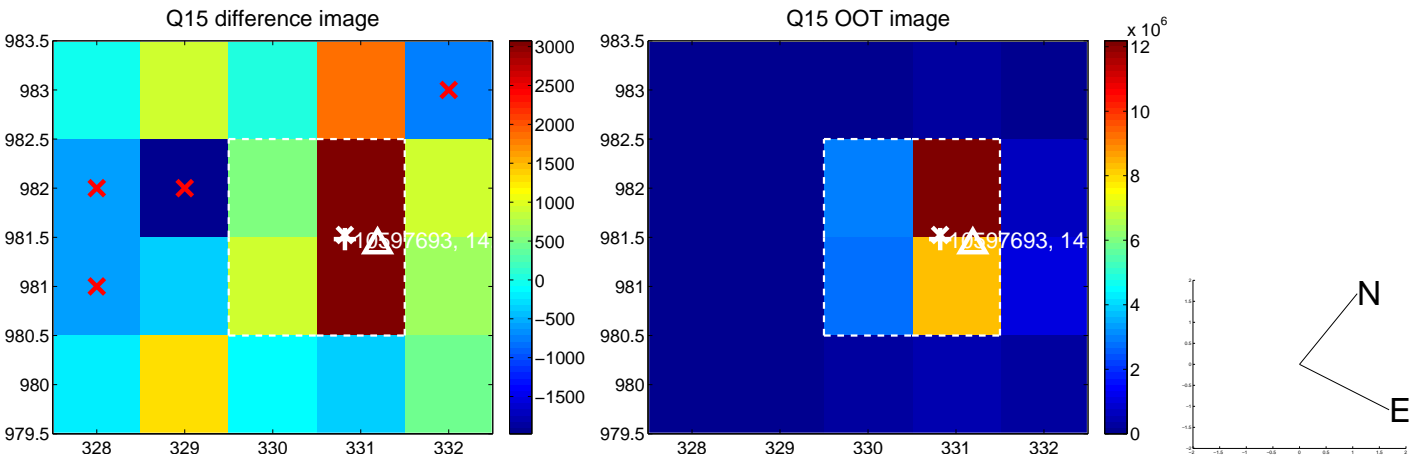
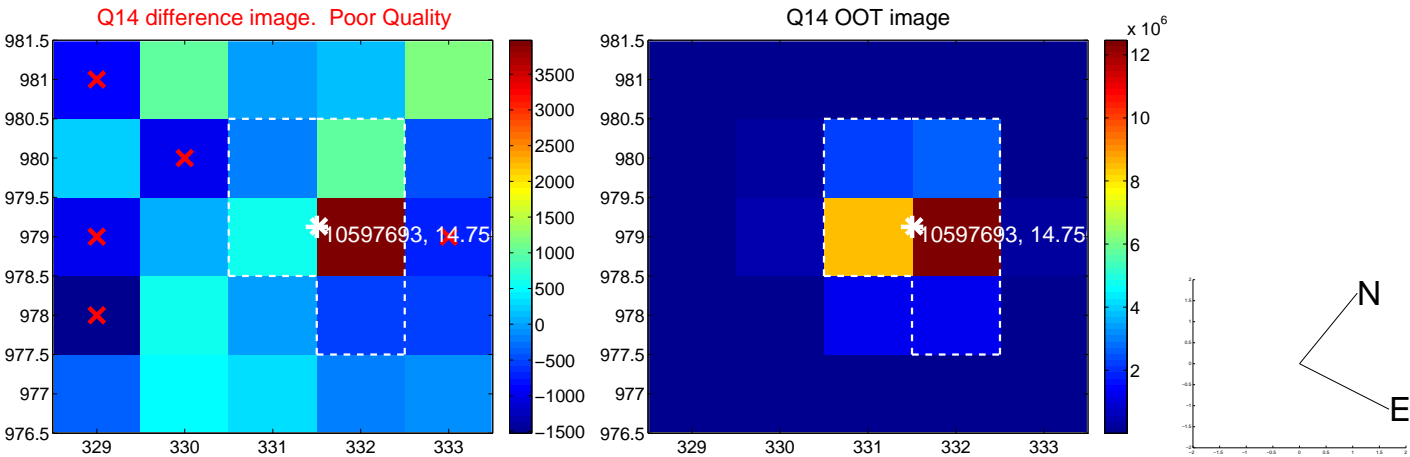
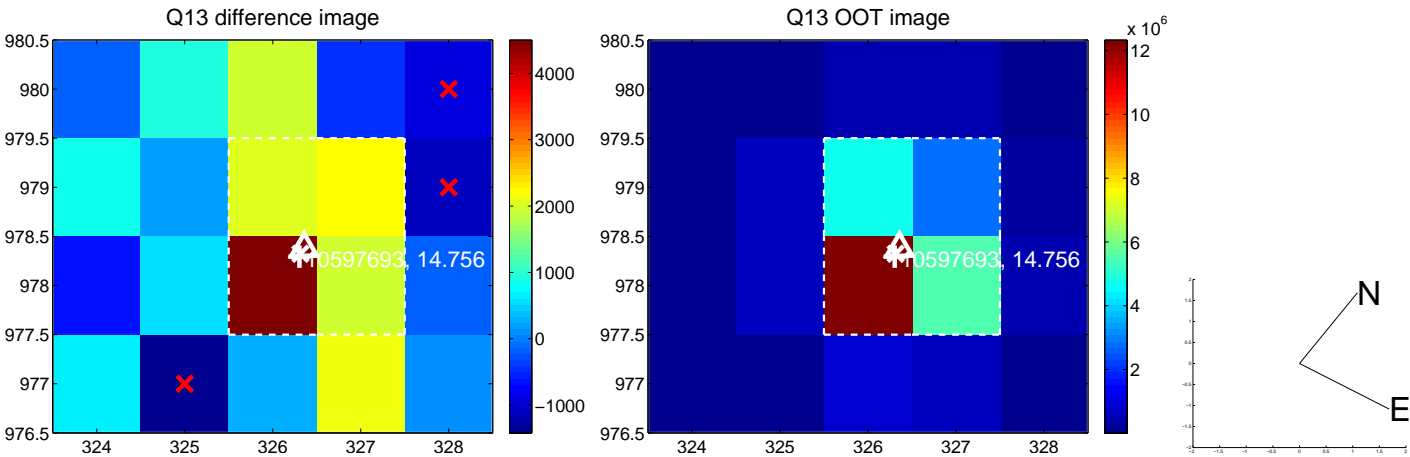
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



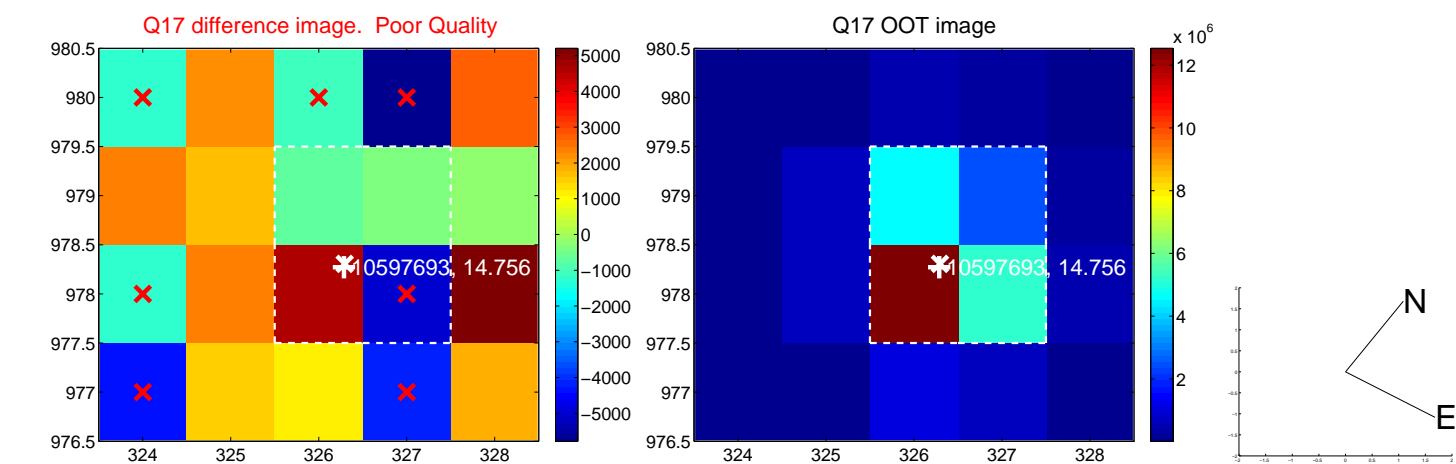
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



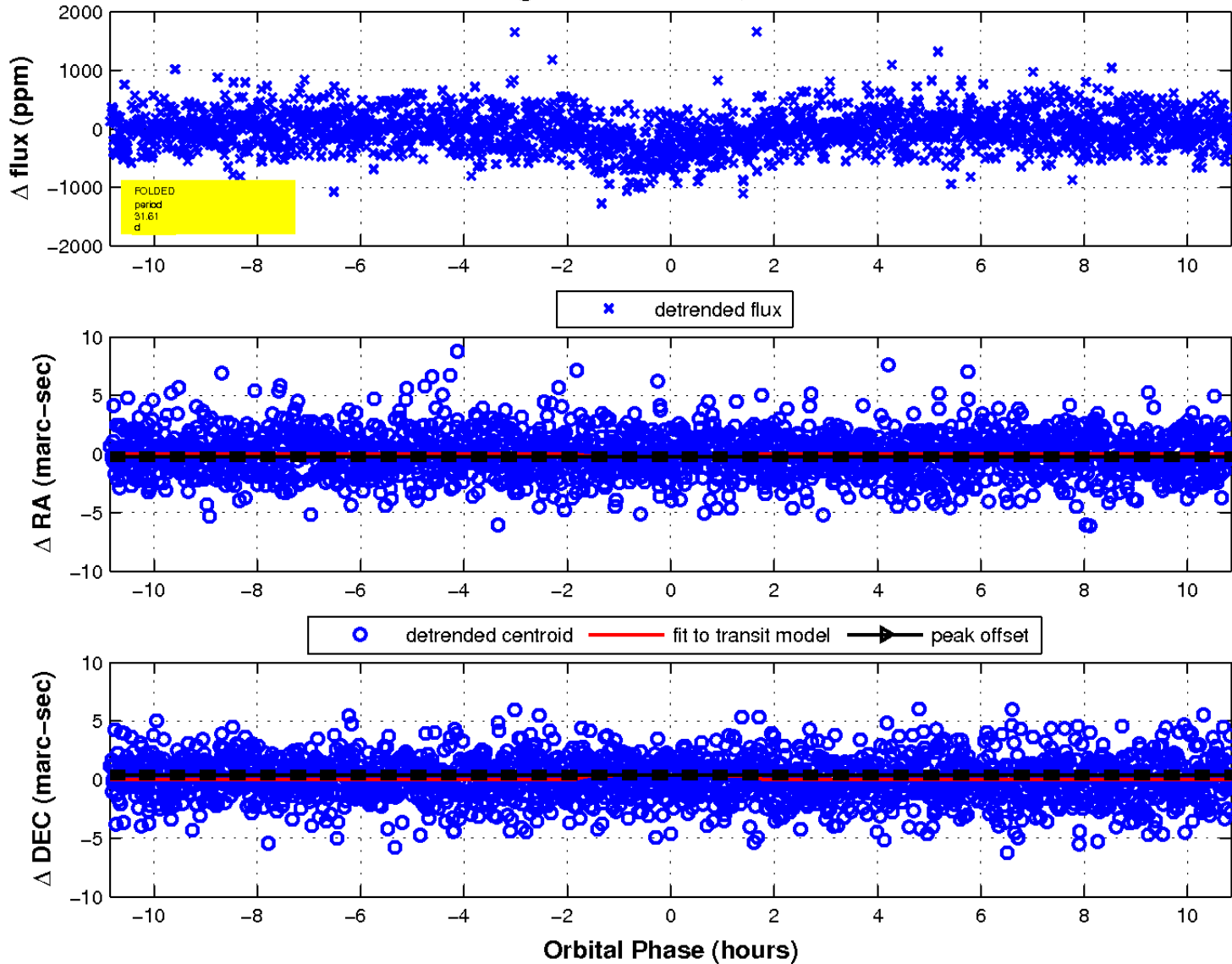
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

