

KIC 005959753

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})
005959753-01	OBS	0226.01	8.308651	138.108278	796.8	3.719	56.0	61.8	0.85	5022	3.01	73.73

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005959753-01	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.

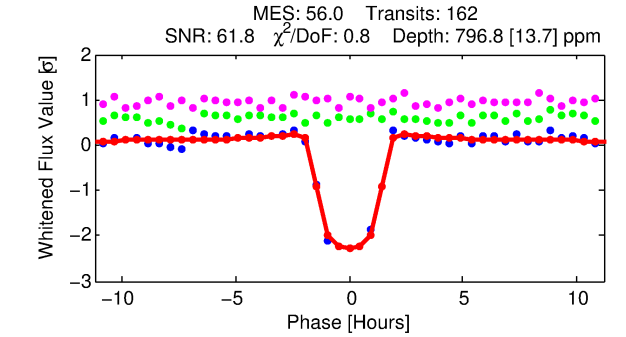
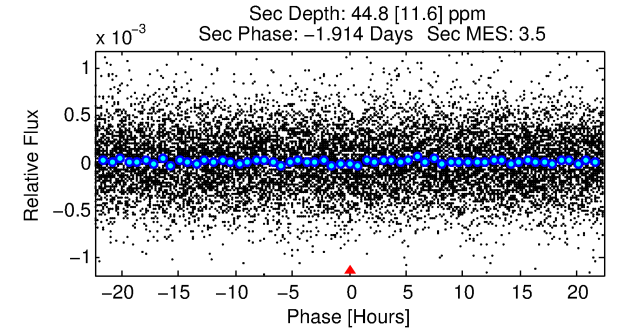
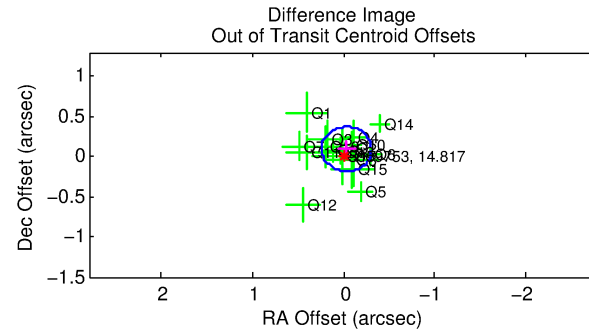
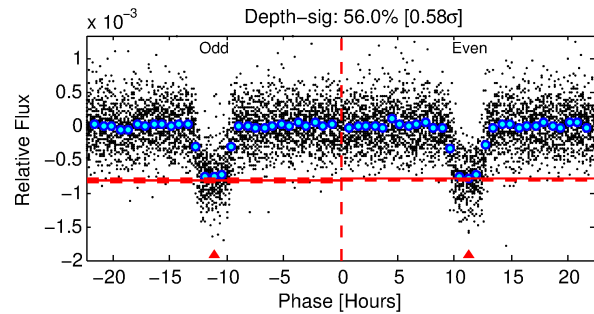
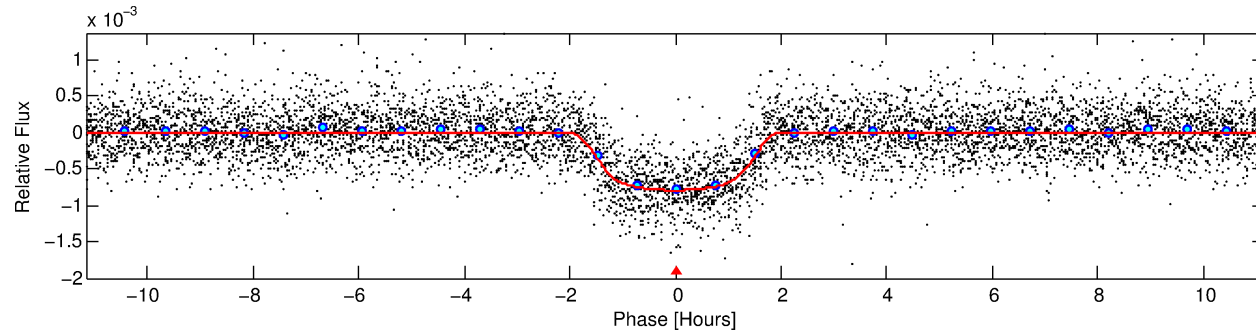
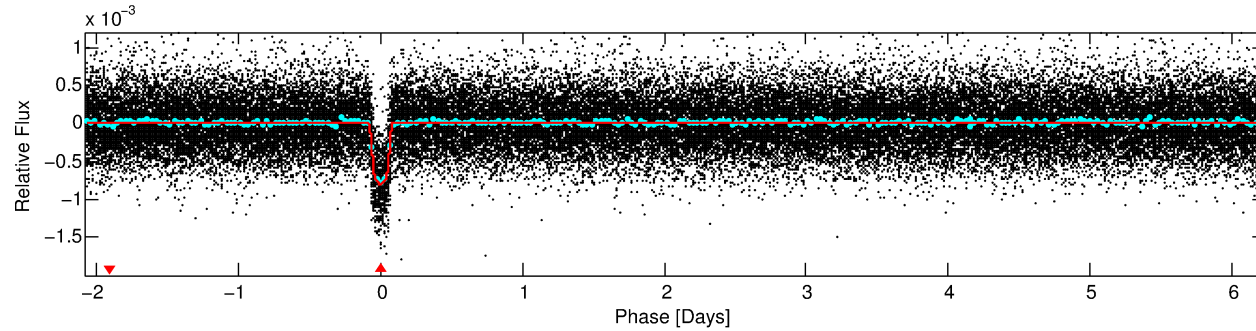
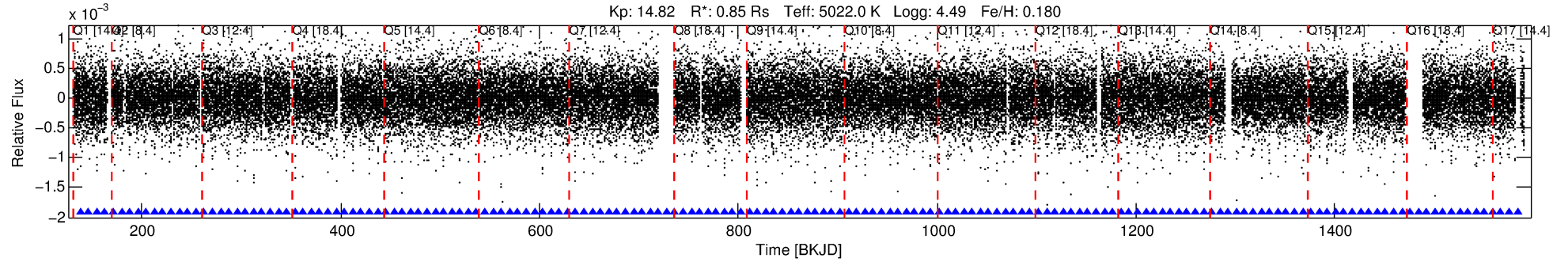
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005959753-01

No Significant Match Found

DV One-Page Summary

KIC: 5959753 Candidate: 1 of 1 Period: 8.309 d
KOI: K00226.01 Corr: 0.931



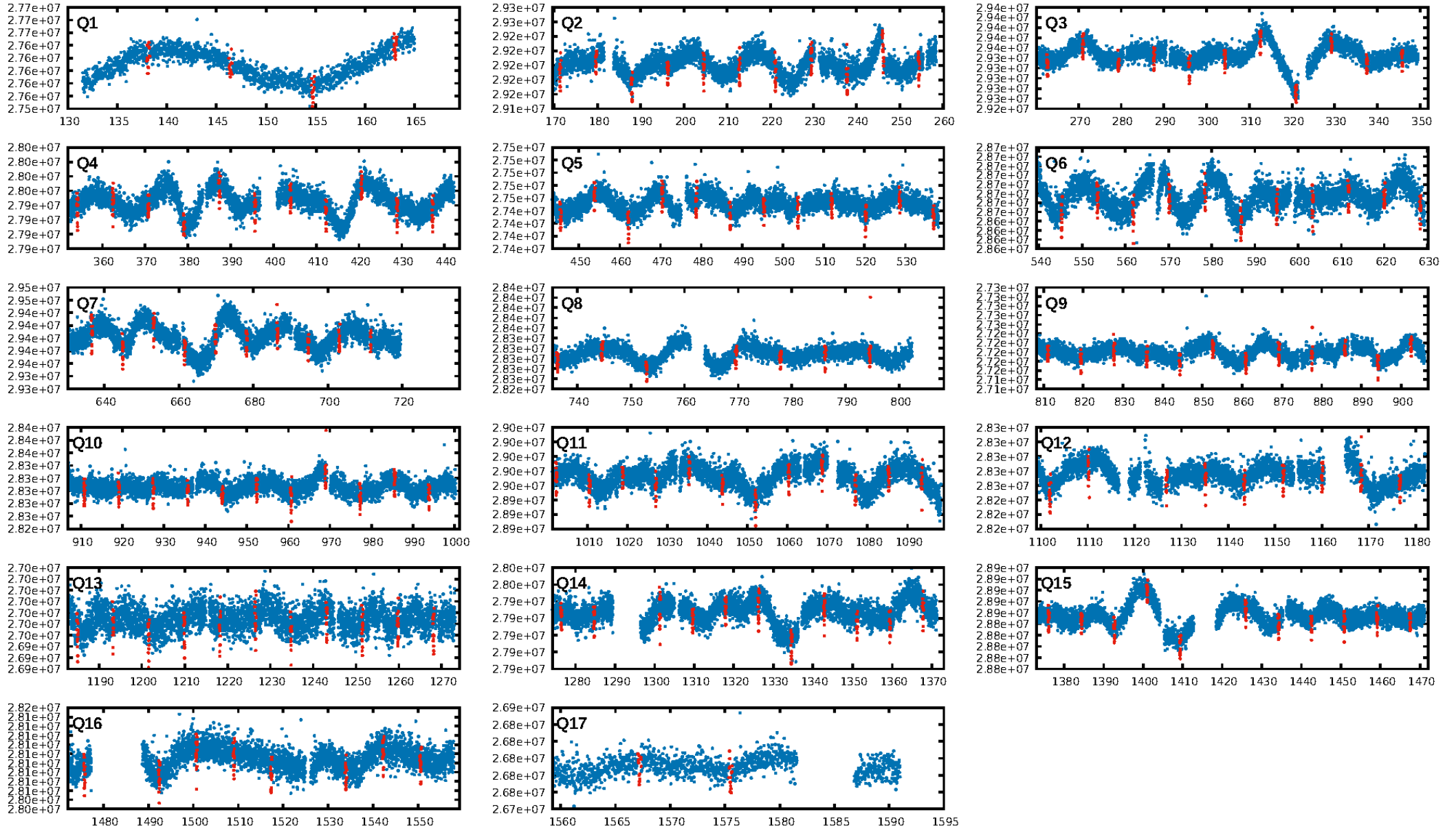
DV Fit Results:

Period = 8.30865 [0.00001] d
Epoch = 138.1083 [0.0012] BKJD
Rp/R* = 0.0325 [0.0008]
a/R* = 8.00 [0.71]
b = 0.92 [0.02]
Seff = 73.73 [10.61]
Teff = 747 [27] K
Rp = 3.01 [0.25] Re
a = 0.0746 [0.0059] AU
Ag = 15.13 [4.46] [3.17 σ]
Teffp = 2278 [155] K [9.72 σ]

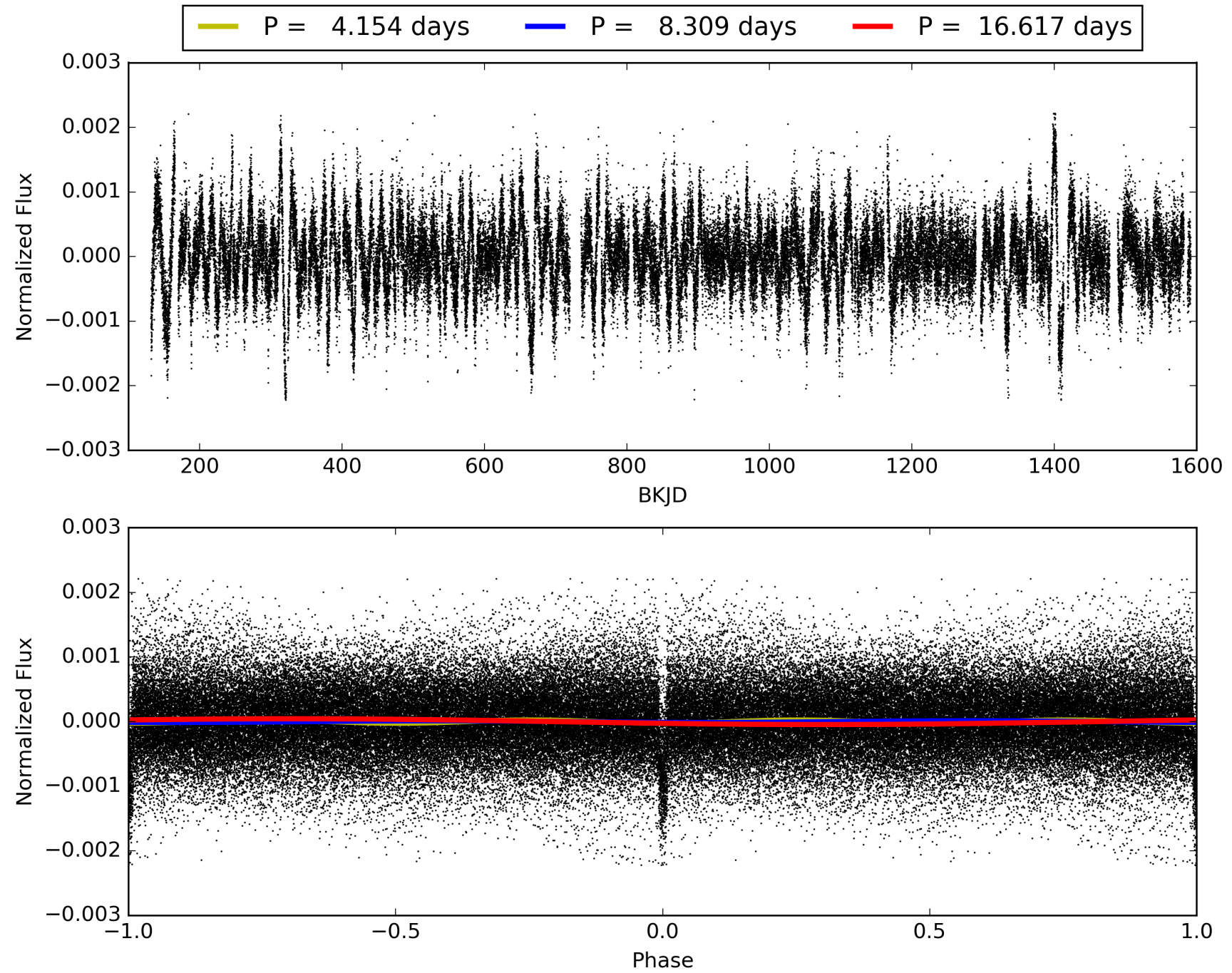
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [156/156]
GhostDiagnostic-chr: 5.074
Centroid-sig: 0.2%
Centroid-so: 0.456 arcsec [1.91 σ]
OotOffset-rm: 0.099 arcsec [1.07 σ]
KicOffset-rm: 0.348 arcsec [3.74 σ]
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 005959753-01, PDC Light Curves

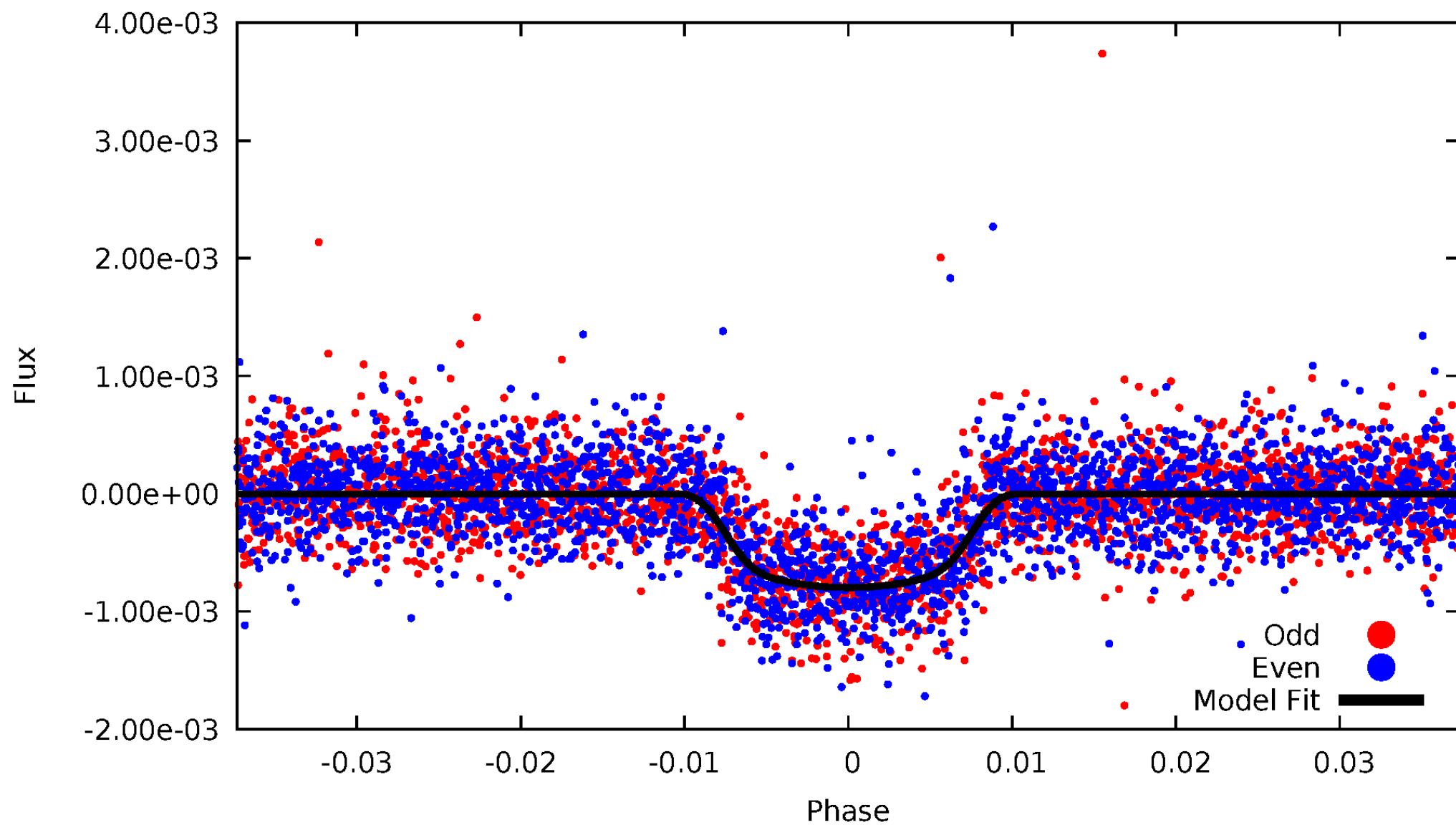


TCE 005959753-01



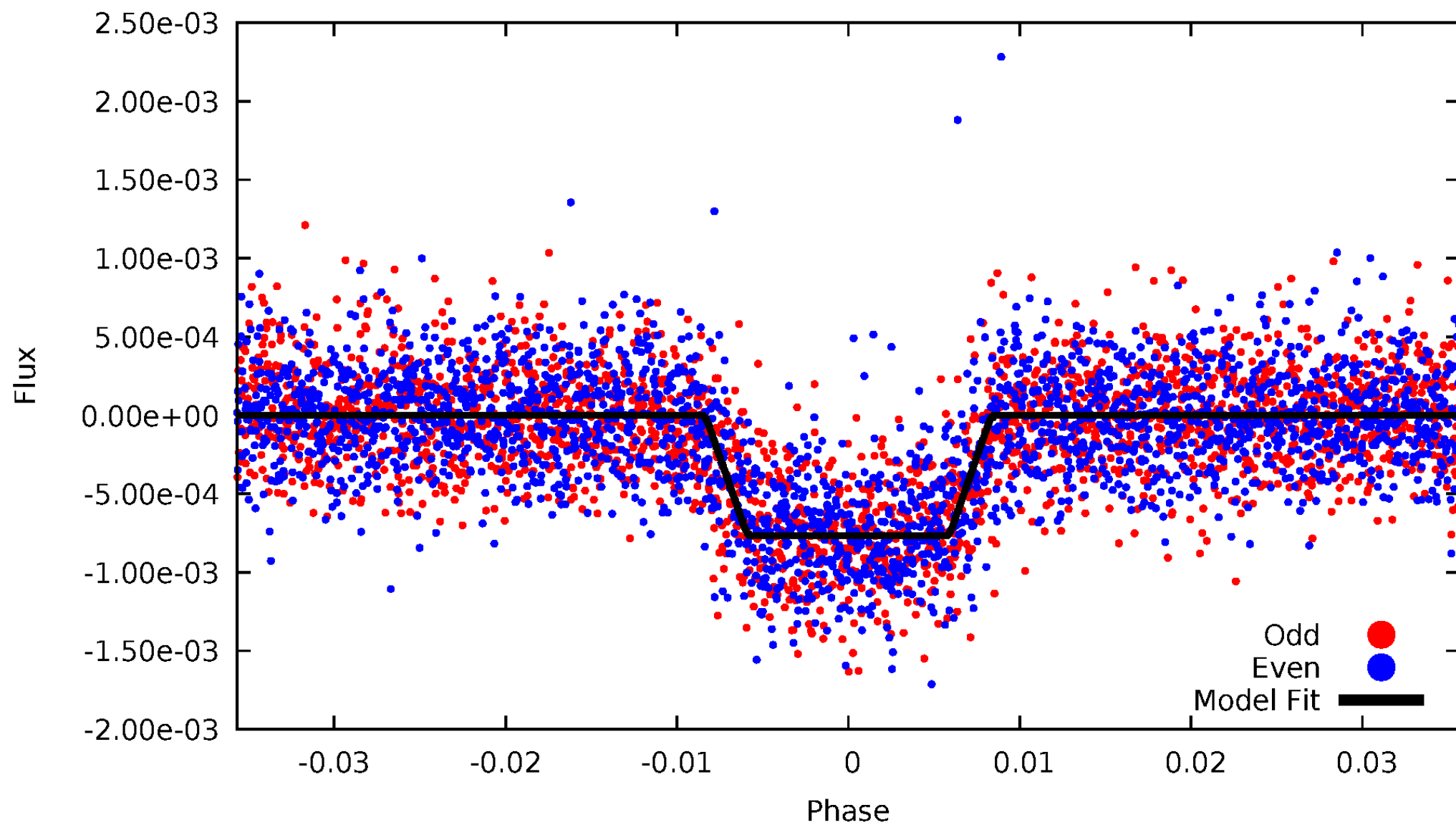
DV Odd/Even

TCE 005959753-01

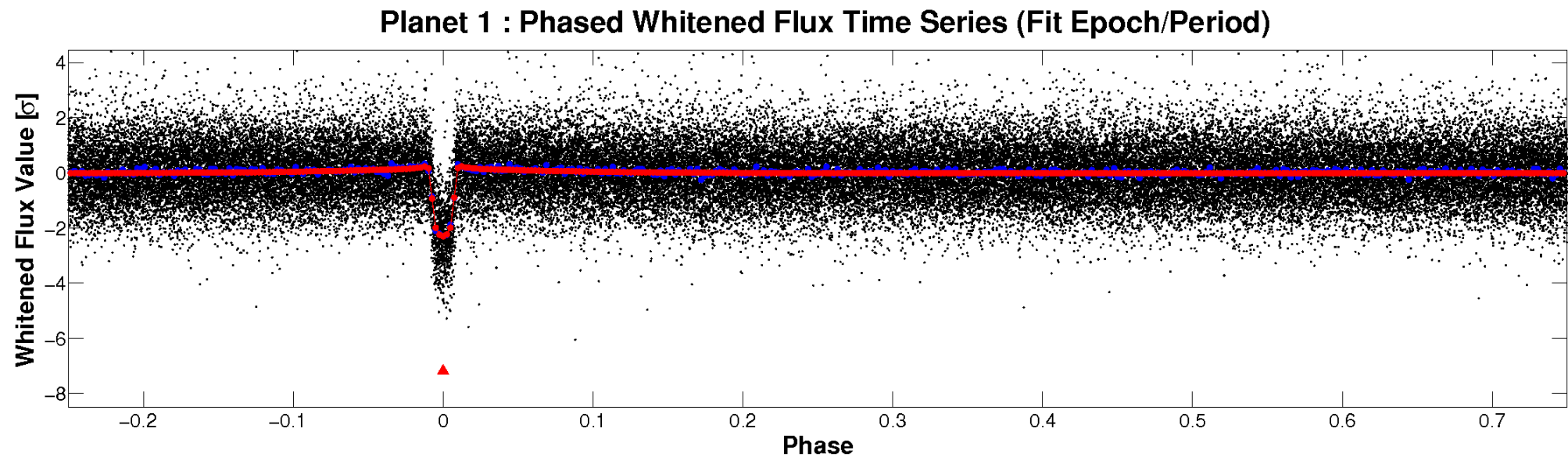
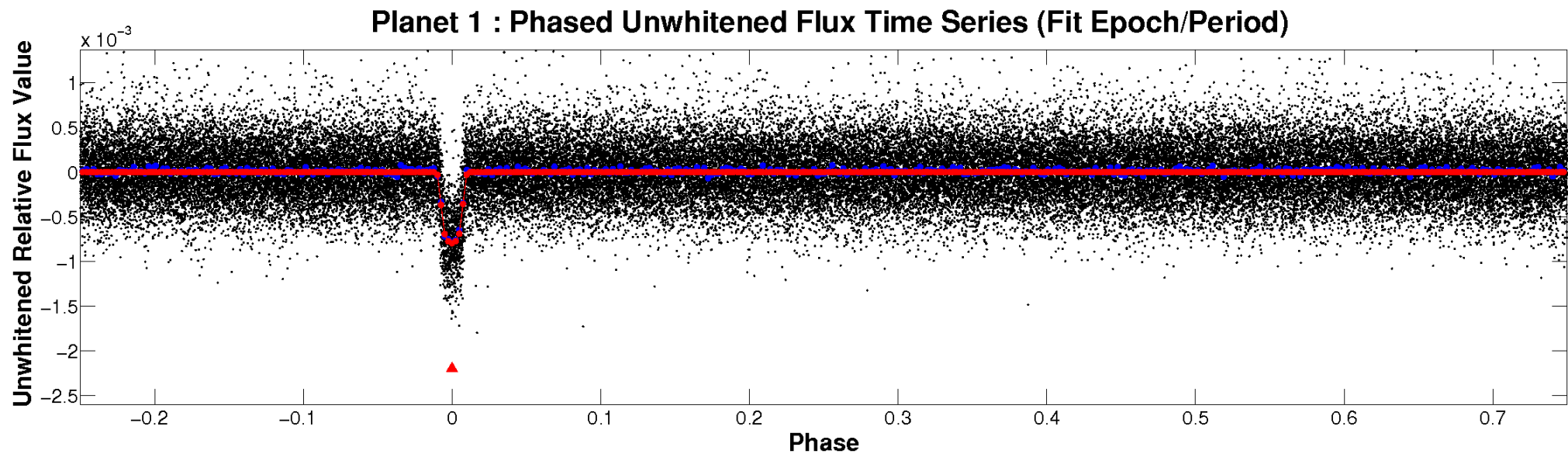


ALT Odd/Even

TCE 005959753-01

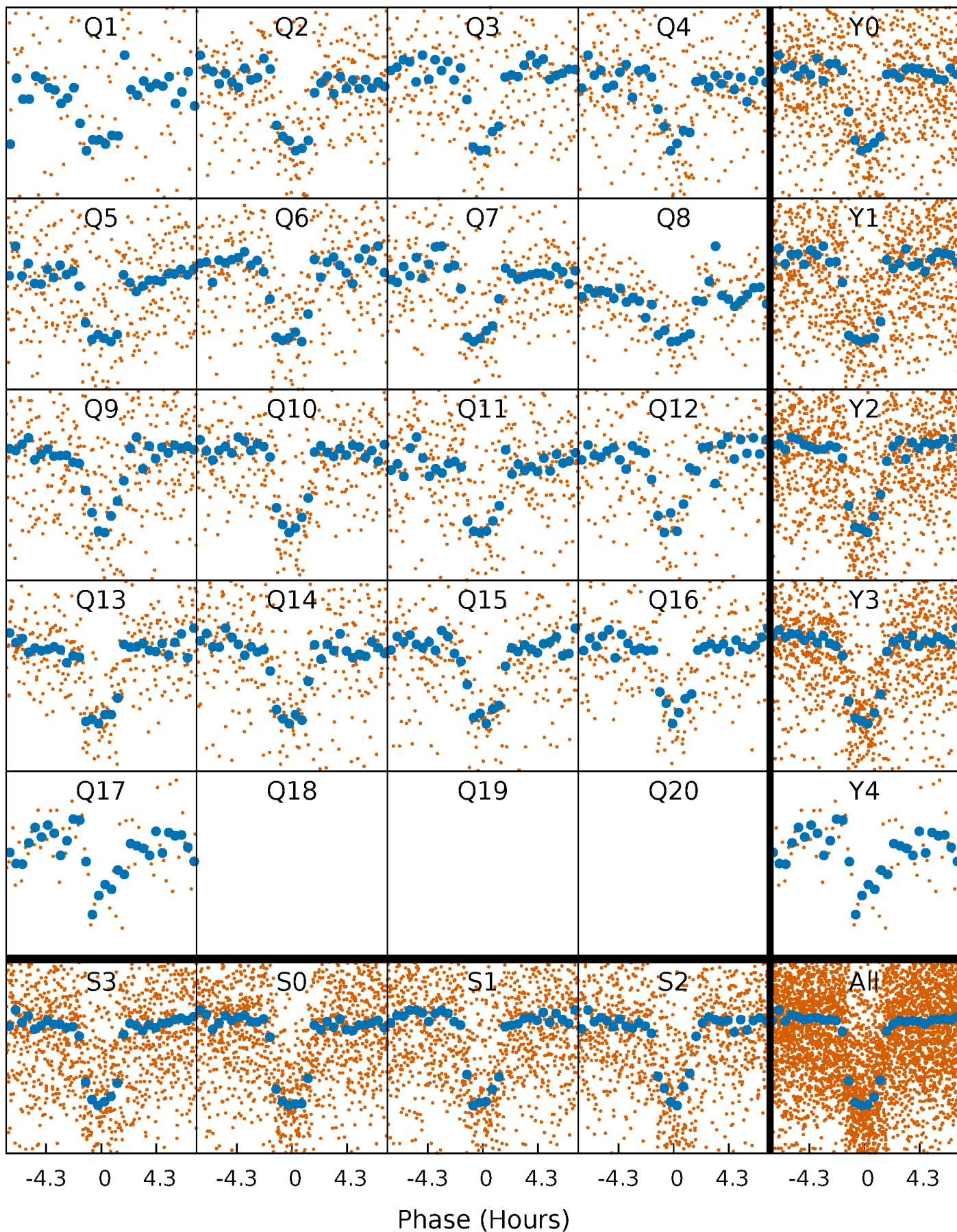


Non-Whitened Vs. Whitened Light Curve



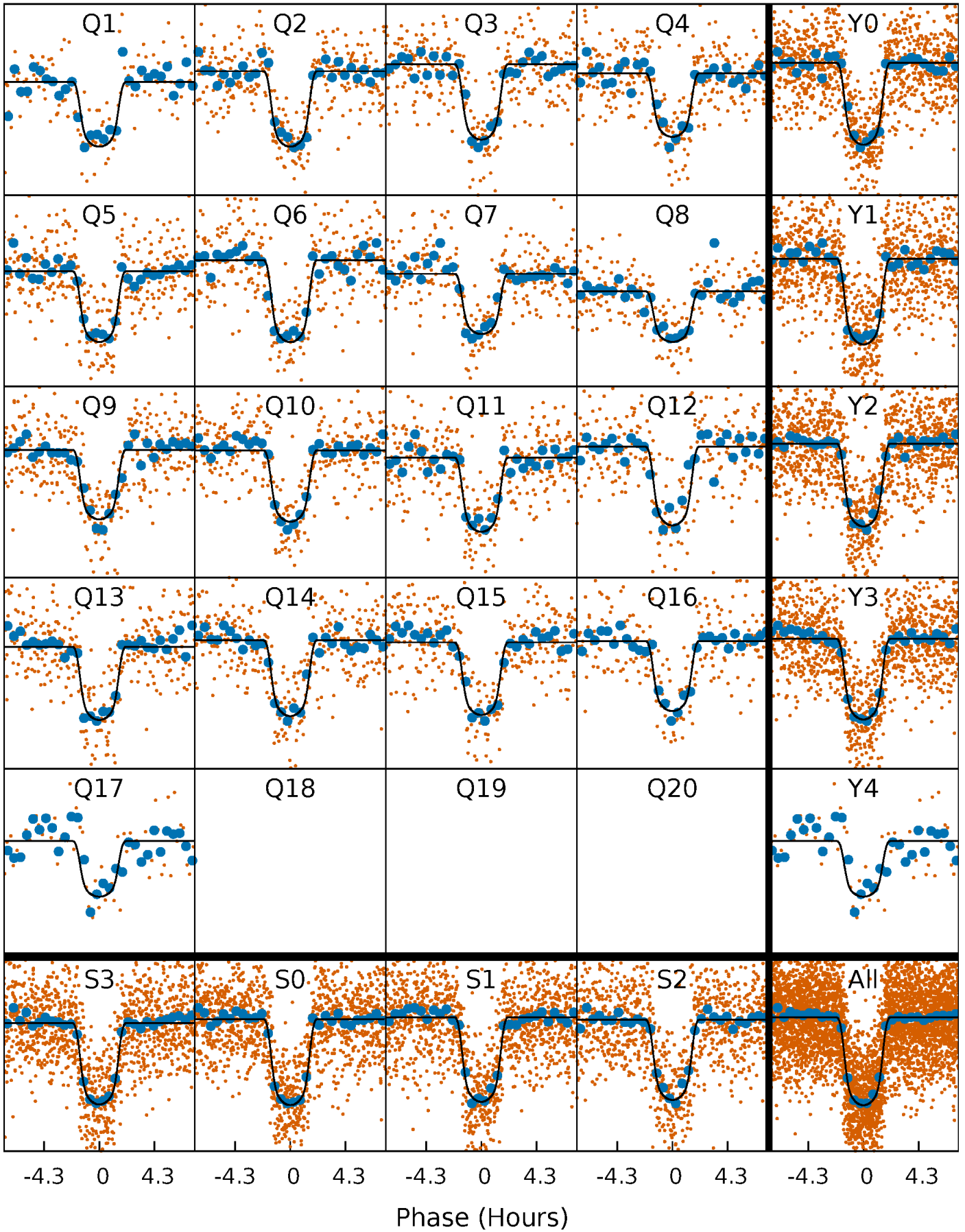
PDC Quarter-Phased Transit Curves

TCE 005959753-01 P= 8.308651 Days $T_0=138.108279$ (BKJD)



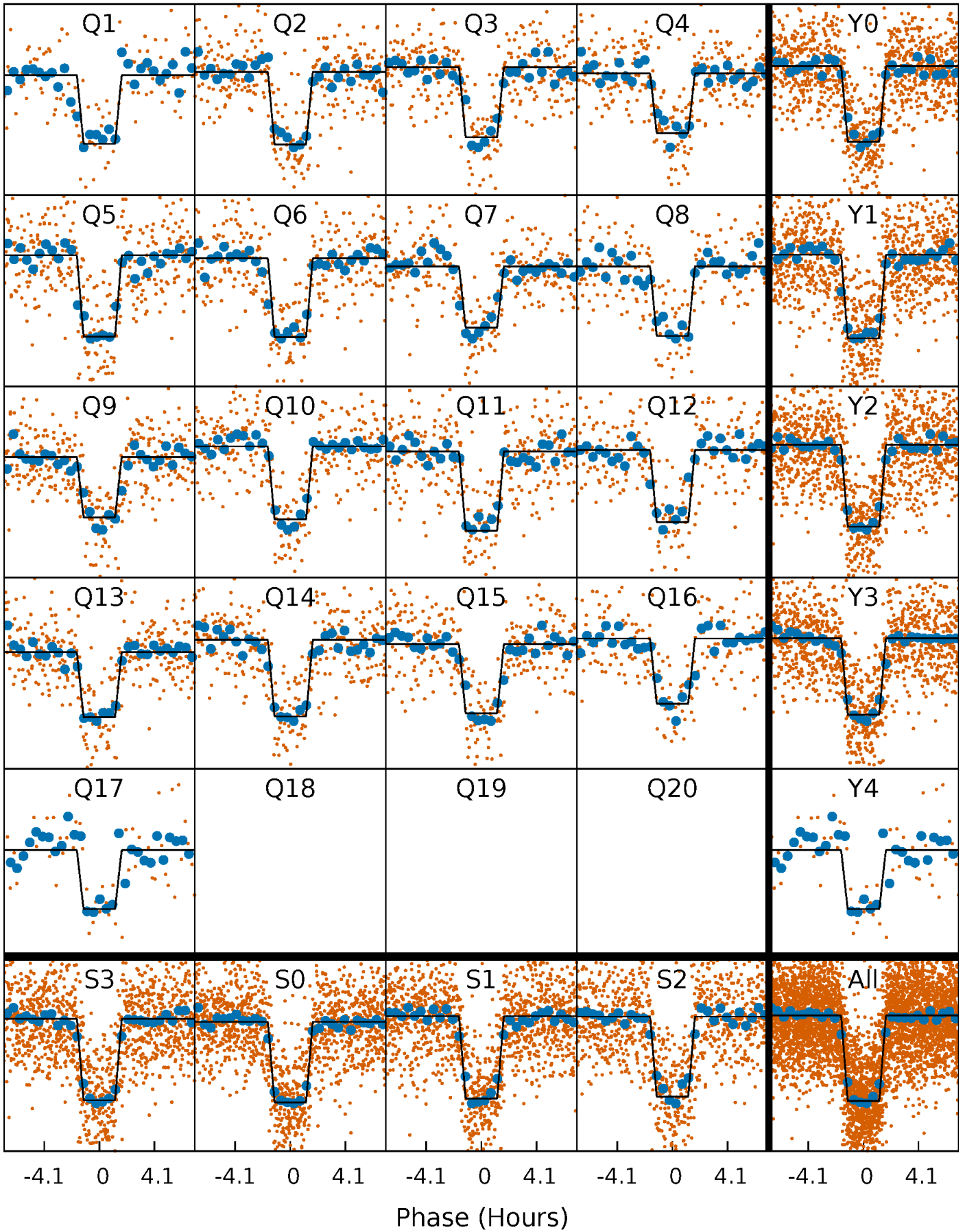
DV Quarter-Phased Transit Curves

TCE 005959753-01 P= 8.308651 Days $T_0=138.108279$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

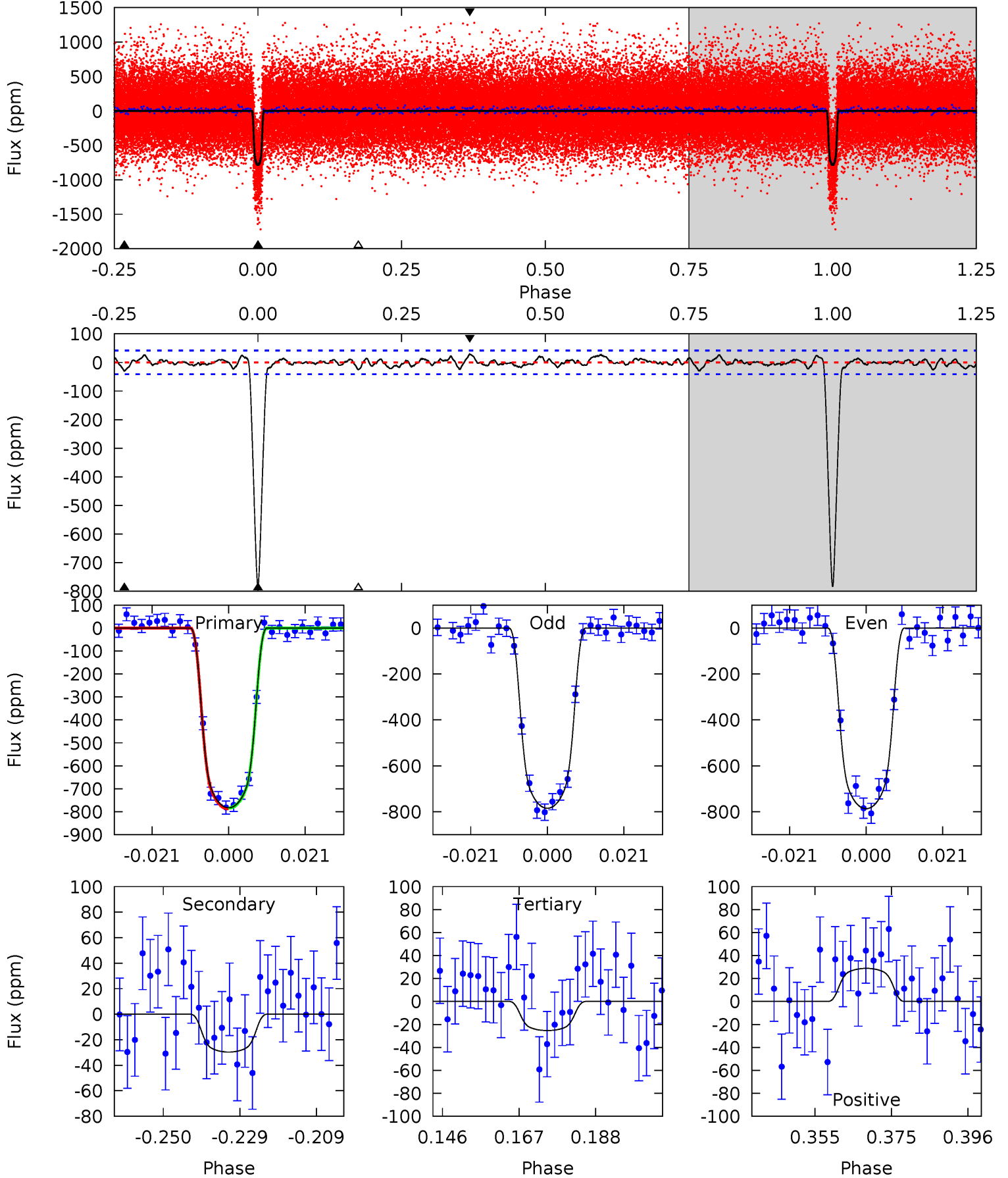
TCE 005959753-01 P= 8.308627 Days $T_0=138.110027$ (BKJD)



DV Model-Shift Uniqueness Test

005959753-01, P = 8.308651 Days, E = 129.799628 Days

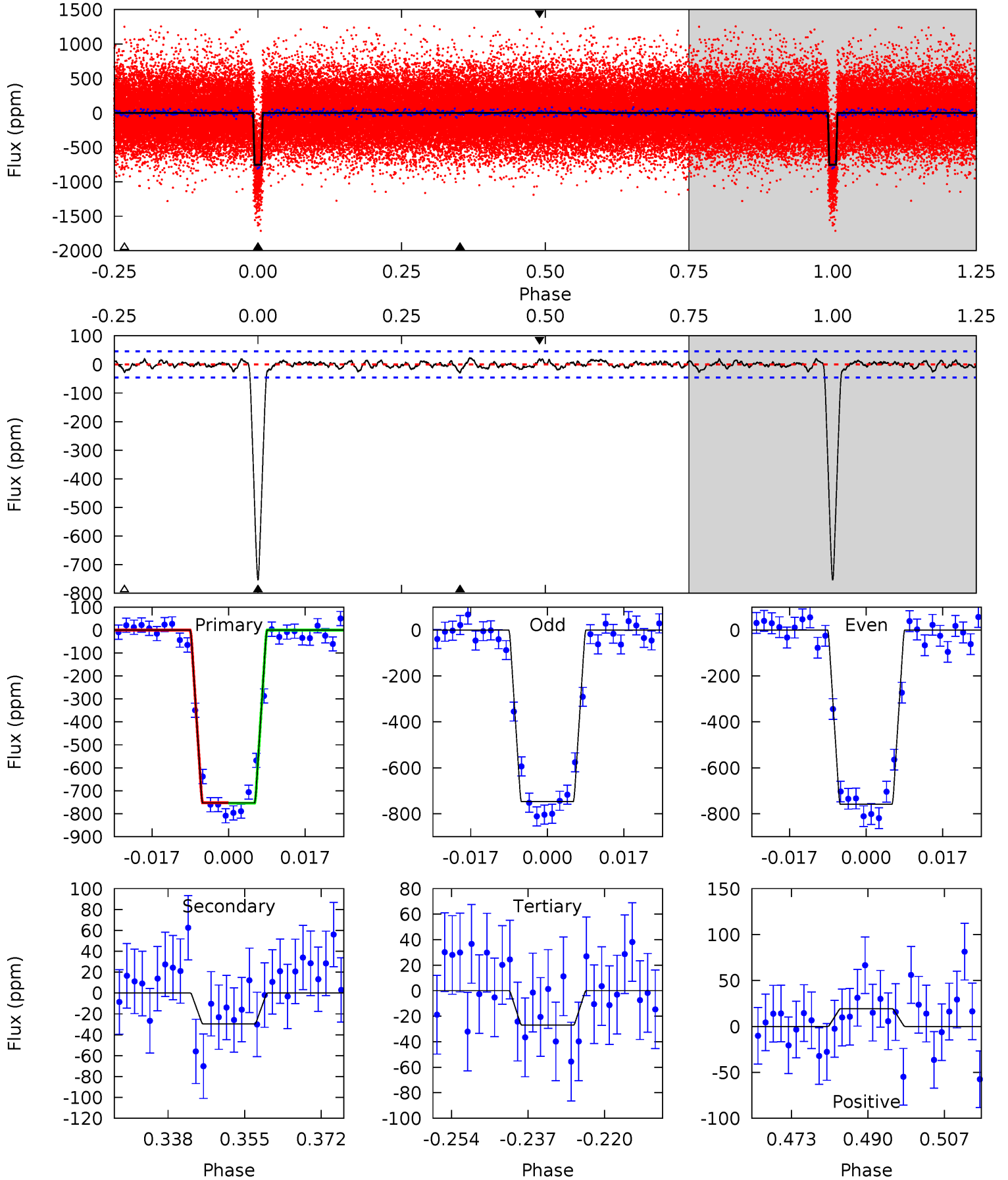
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
92.7	3.52	3.00	3.41	4.88	2.31	1.17	89.7	89.3	0.51	0.10	0.10	1.00	0.04	0.23



Alt Model-Shift Uniqueness Test

005959753-01, P = 8.308627 Days, E = 129.801400 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
81.3	3.20	2.91	2.07	4.92	2.39	0.93	78.4	79.2	0.29	1.12	0.58	1.01	0.03	0.09



Stellar Parameters For KIC 005959753

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5022^{+80}_{-80}	$4.485^{+0.077}_{-0.033}$	$0.180^{+0.150}_{-0.150}$	$0.849^{+0.040}_{-0.066}$	$0.804^{+0.052}_{-0.028}$	$1.846^{+0.541}_{-0.193}$
	+2%/-2%	+2%/-1%	+83%/-83%	+5%/-8%	+6%/-3%	+29%/-10%
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 005959753-01 / KOI 0226.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-30 ± 8	$3.01^{+0.13}_{-0.16}$	1040^{+24}_{-27}	2763^{+102}_{-123}	10^{+3}_{-3}
Alt.	-30 ± 9	$2.55^{+0.12}_{-0.13}$	1038^{+22}_{-27}	2885^{+121}_{-141}	14^{+5}_{-5}

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

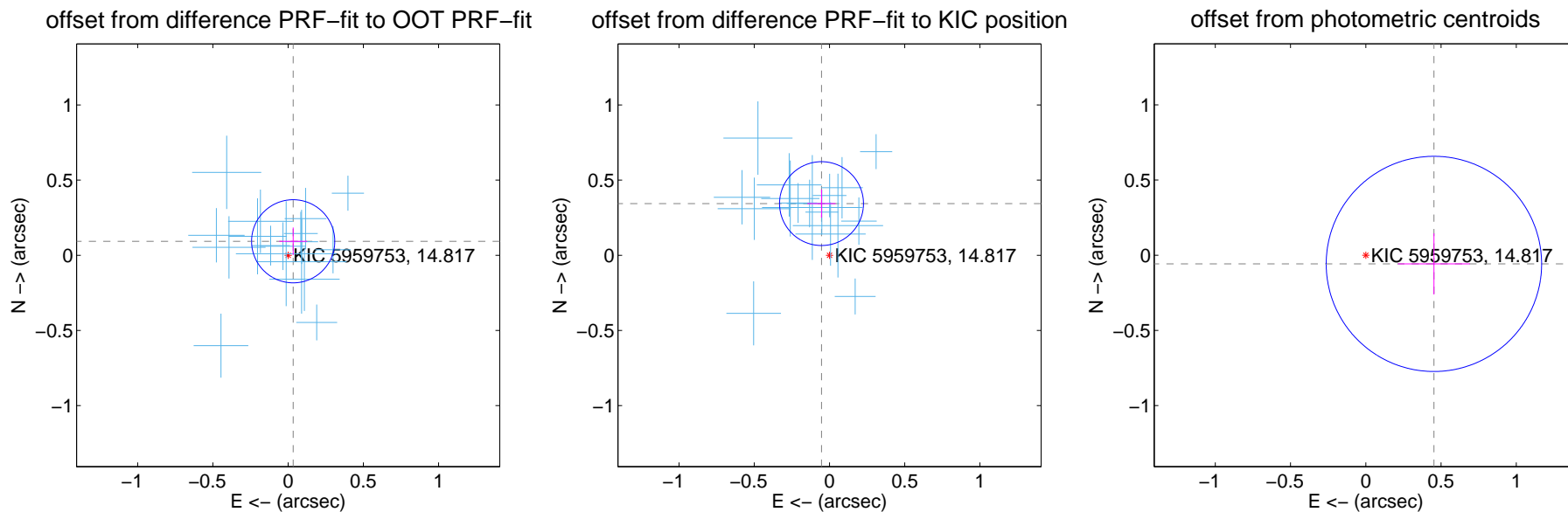
DV Centroid Data

Supplemental centroid analysis for 005959753-01. Kepler magnitude: 14.82. Transit SNR 61.80

There are 17 quarters with good PRF difference image offsets

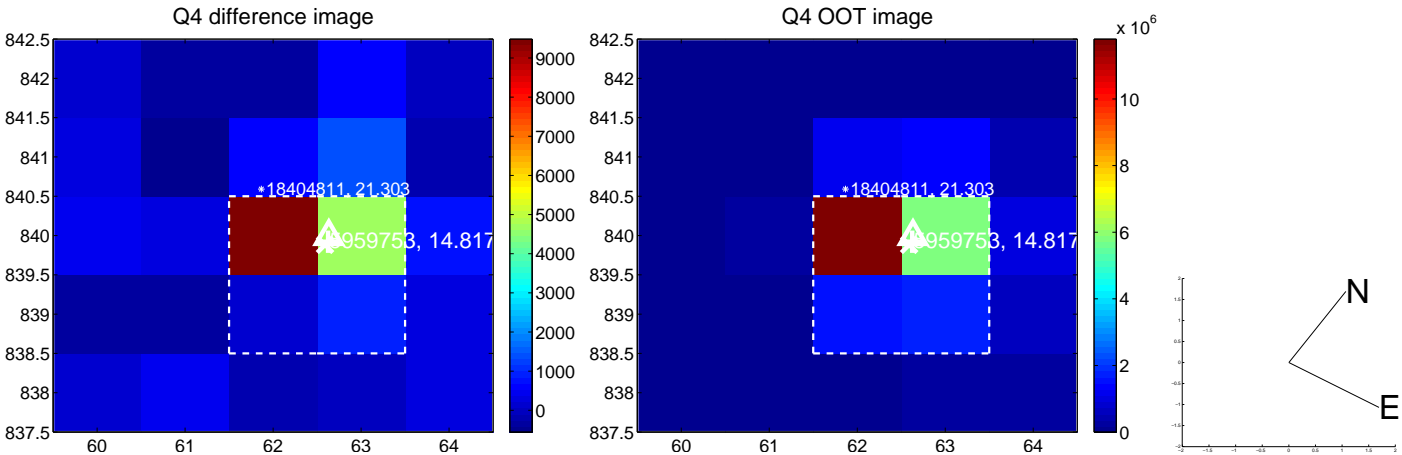
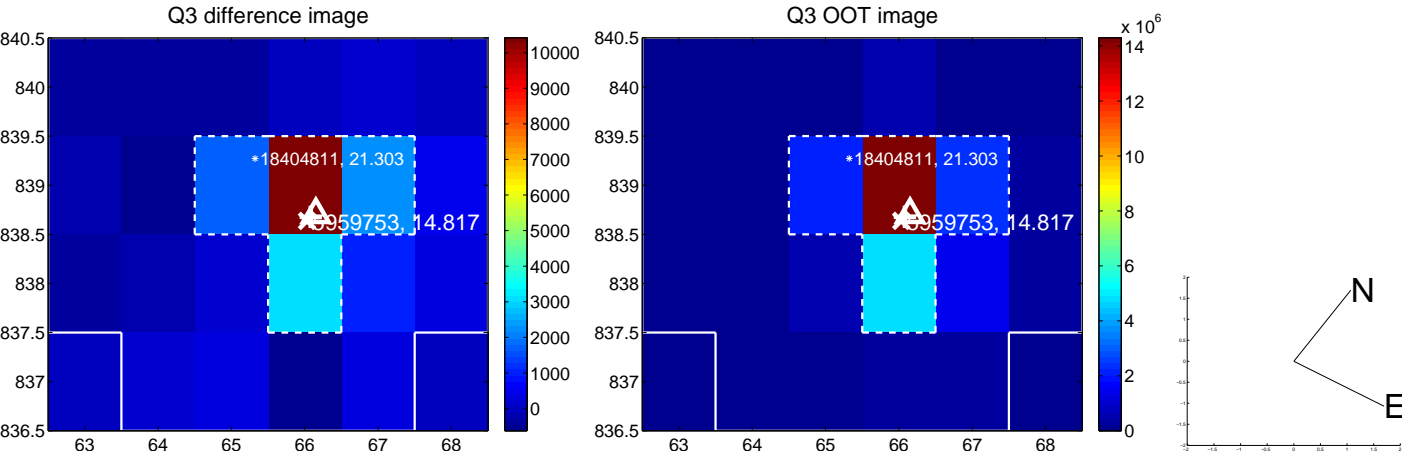
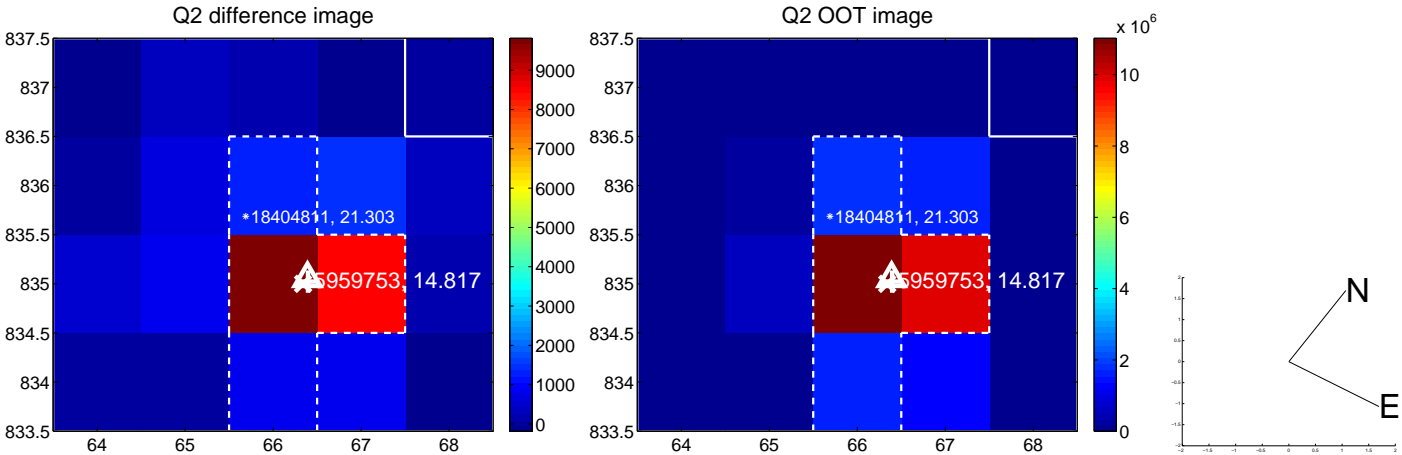
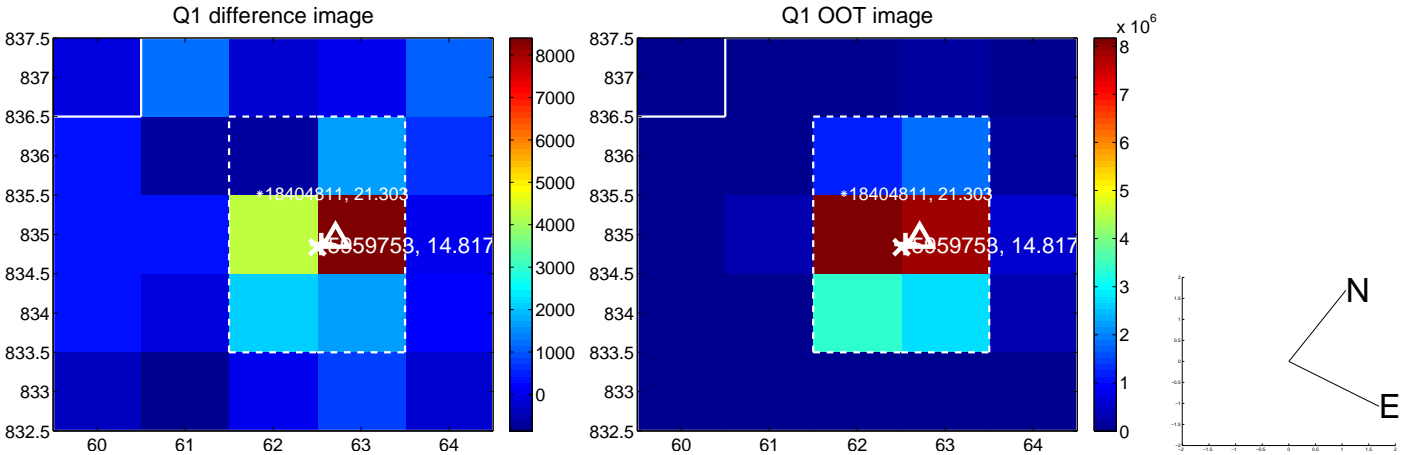
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.099 ± 0.092	1.07	-0.034 ± 0.092	0.093 ± 0.092
PRF-fit source offset from KIC position	0.348 ± 0.093	3.74	0.053 ± 0.094	0.344 ± 0.093
photometric centroid source offset	0.46 ± 0.24	1.91	-0.45 ± 0.24	-0.06 ± 0.20

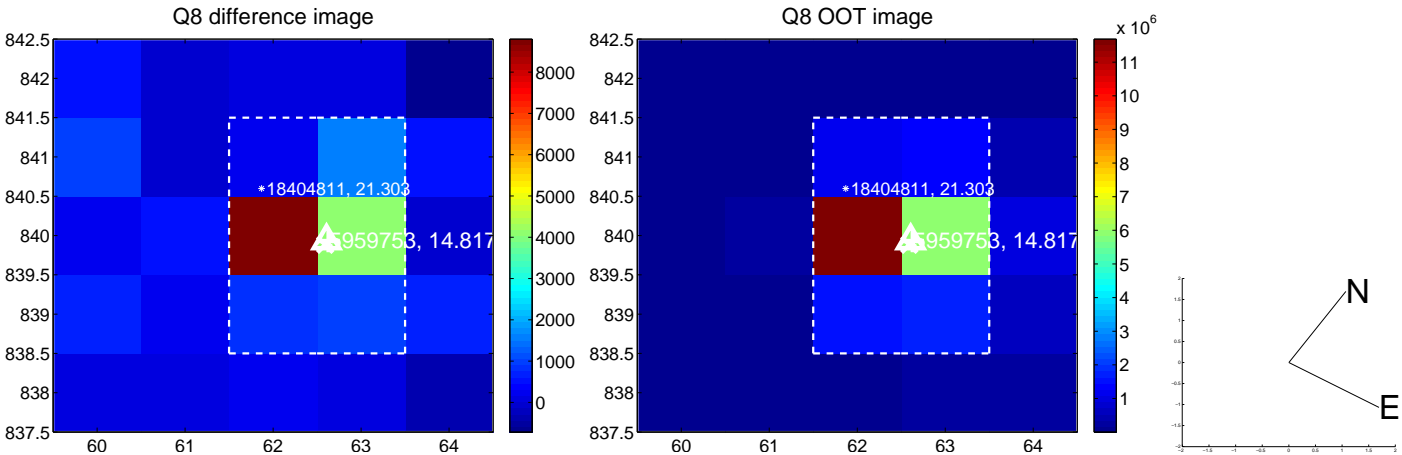
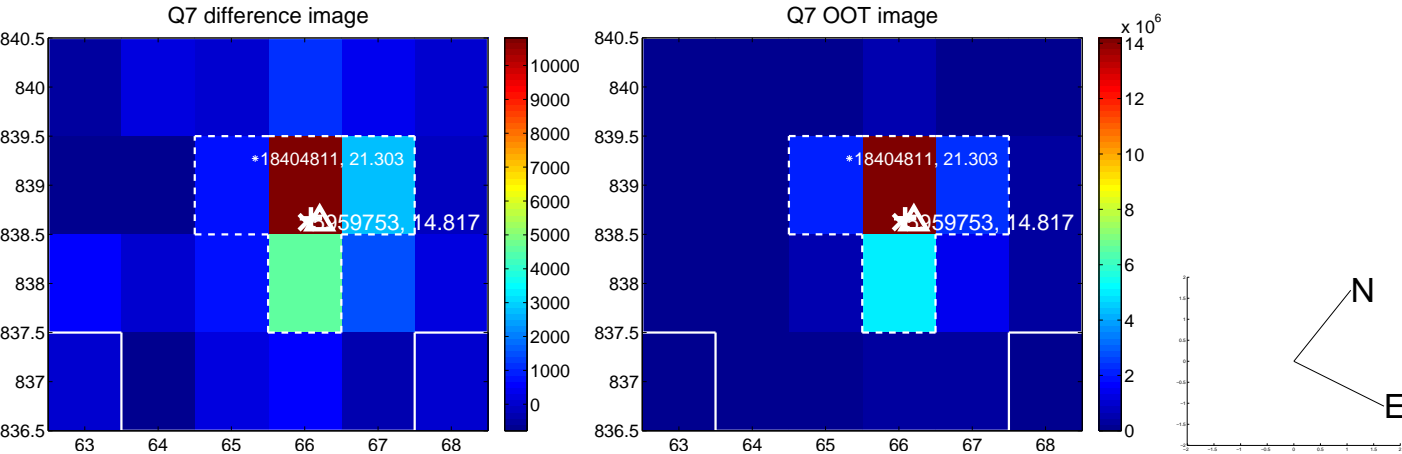
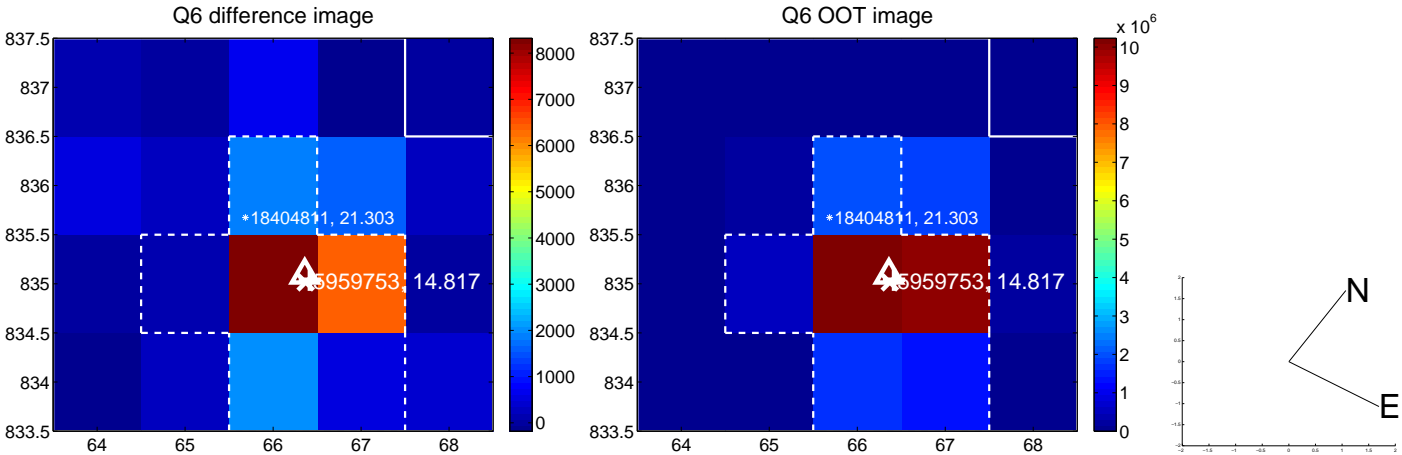
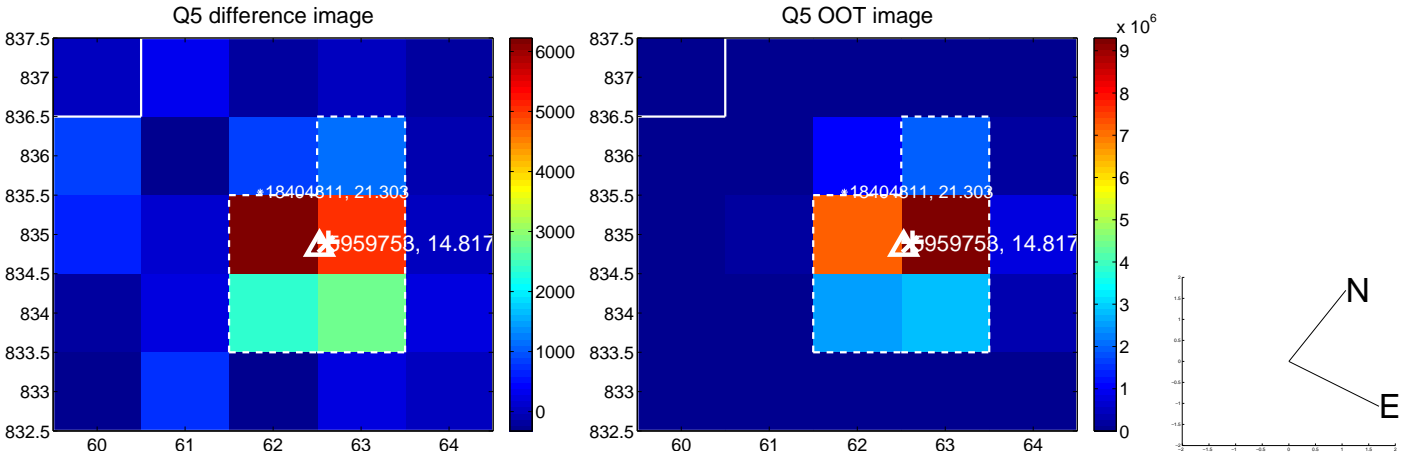


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

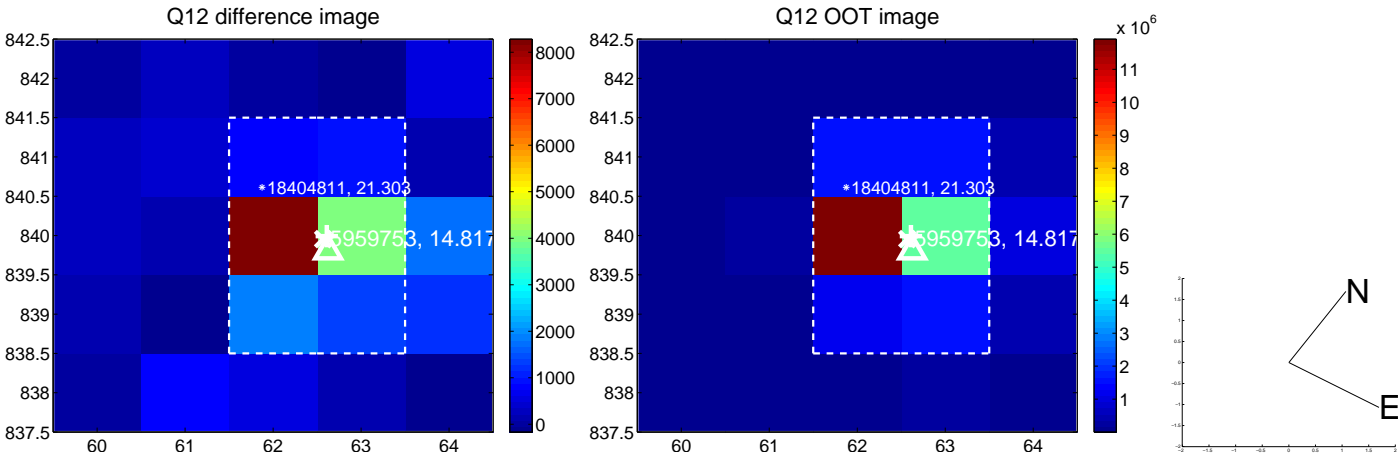
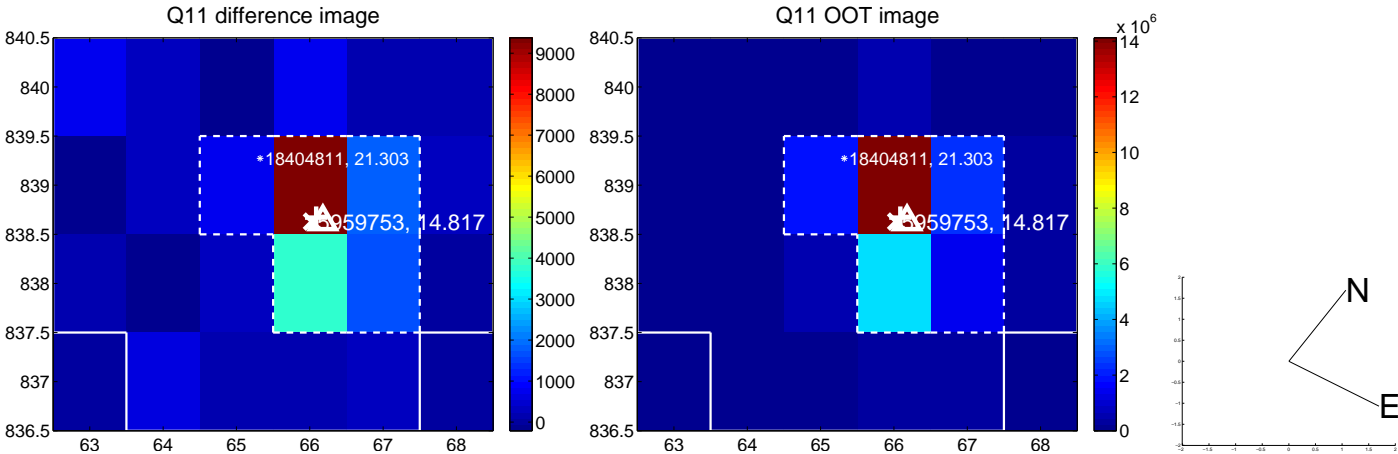
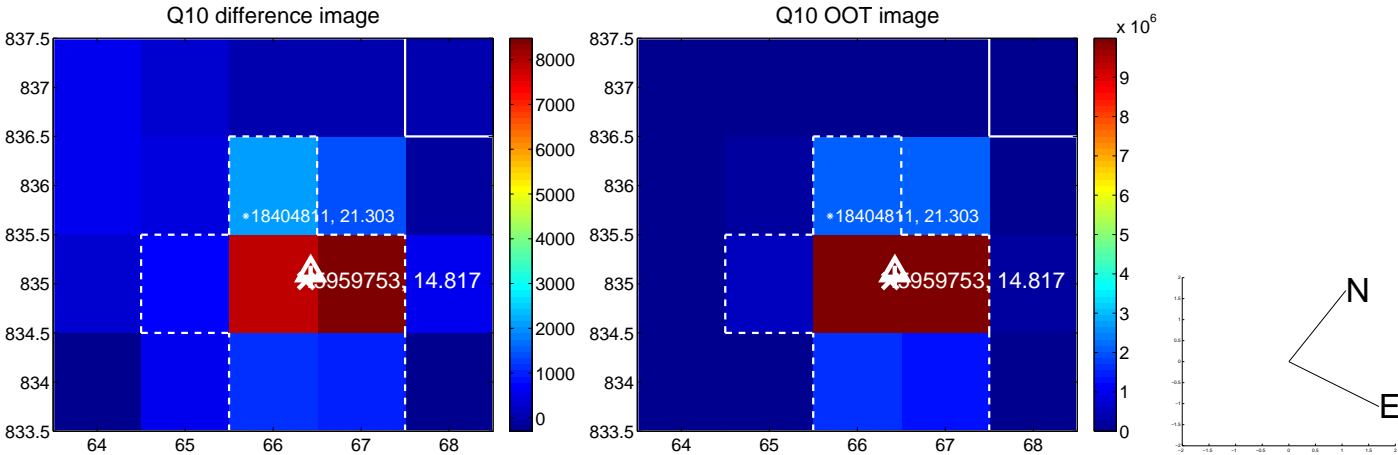
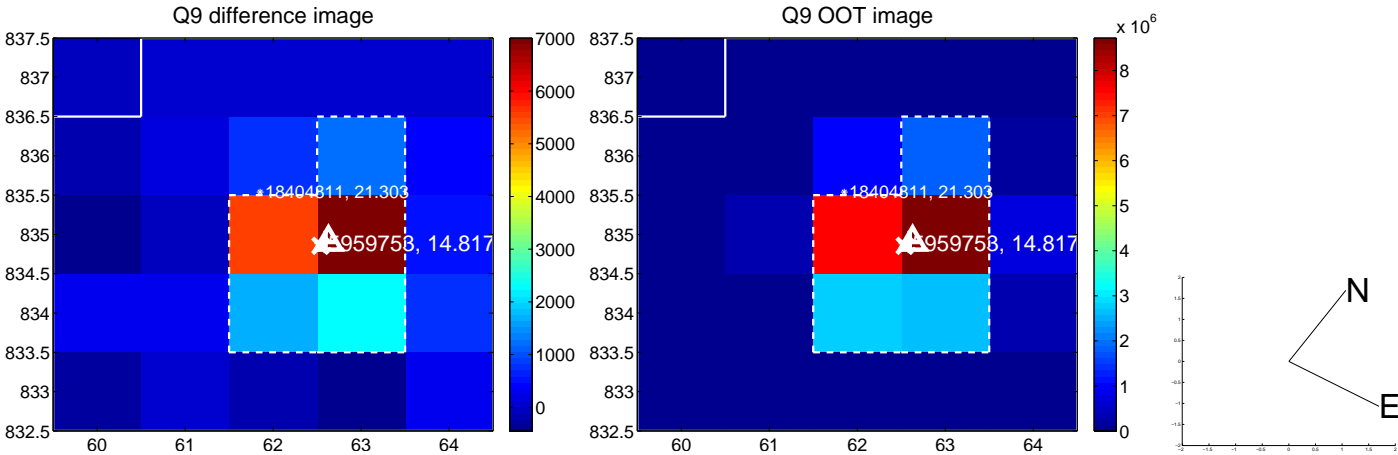
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



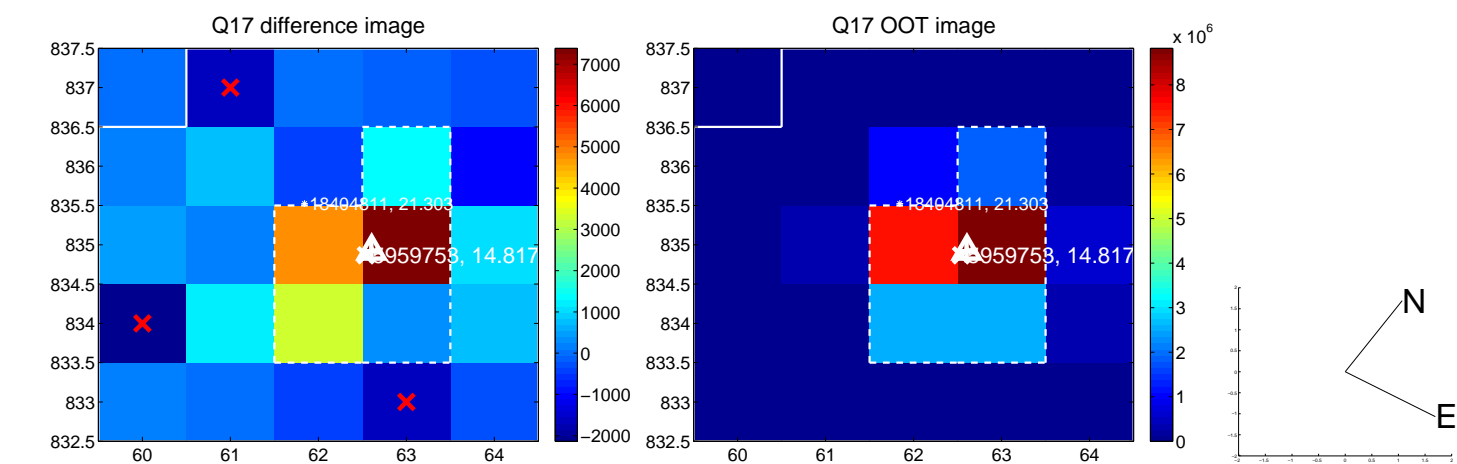
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



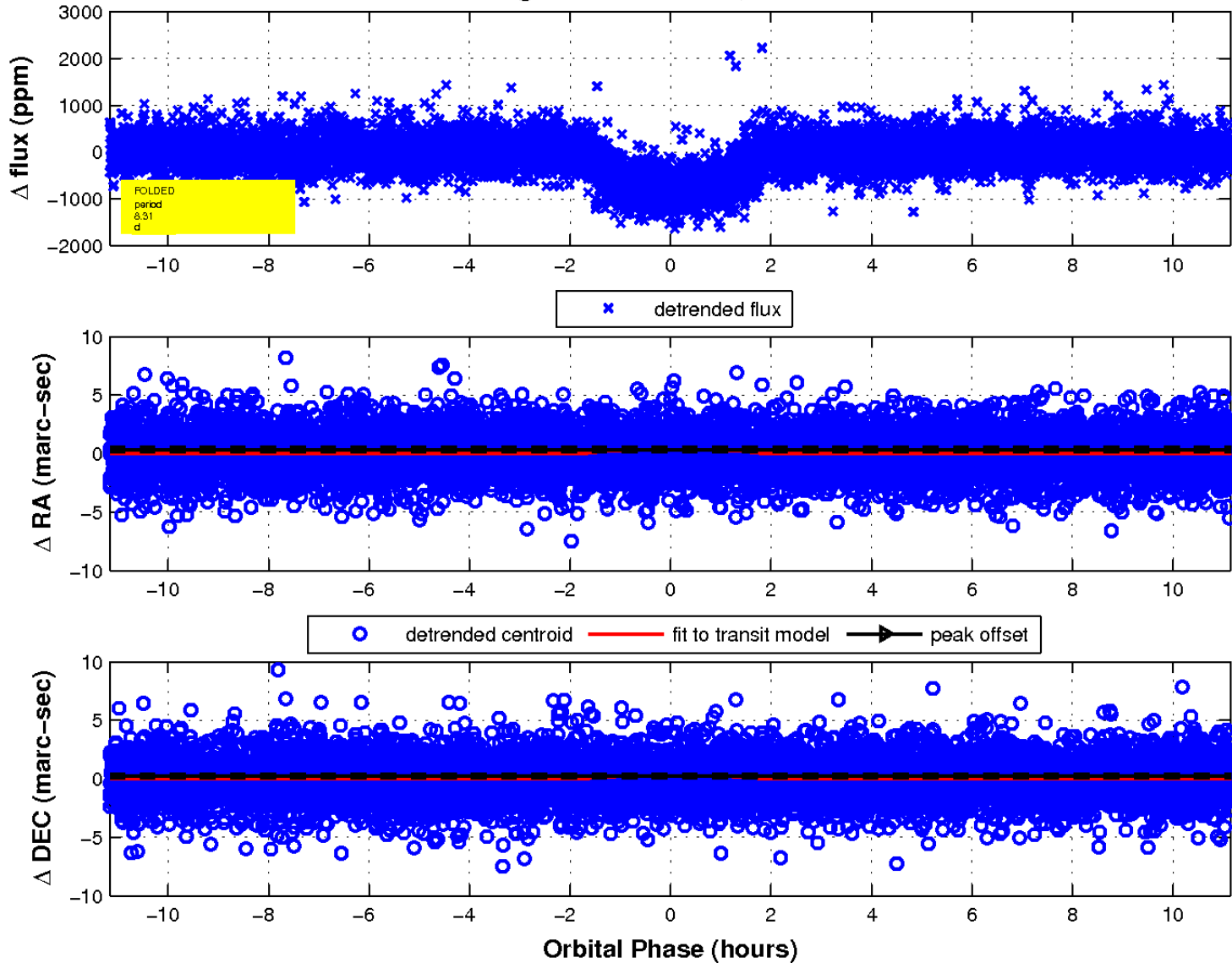
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

