

KIC 004858610

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})
004858610-01	OBS	2844.01	2.722880	131.913106	145.3	2.679	14.1	15.0	0.87	5458	1.27	432.51

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004858610-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_OFFSET—HALO_GHOST

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

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

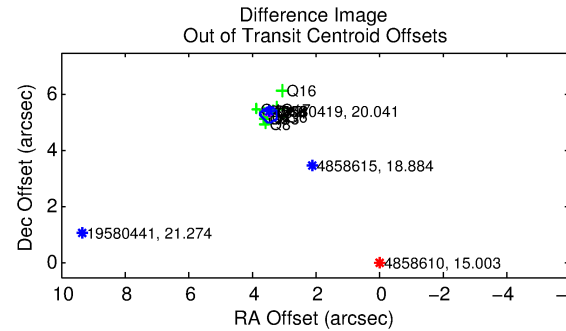
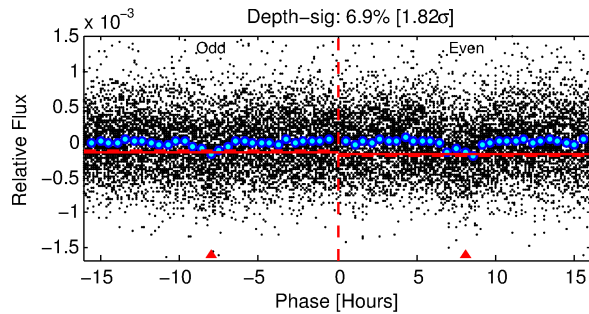
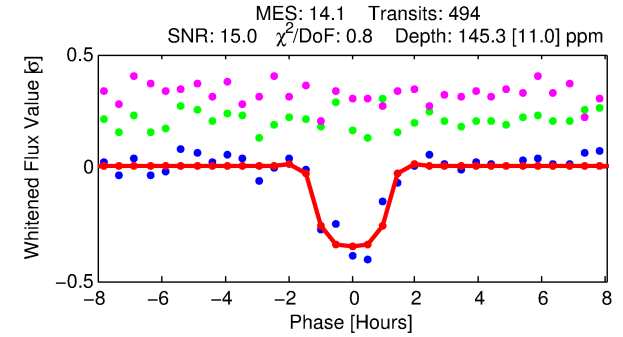
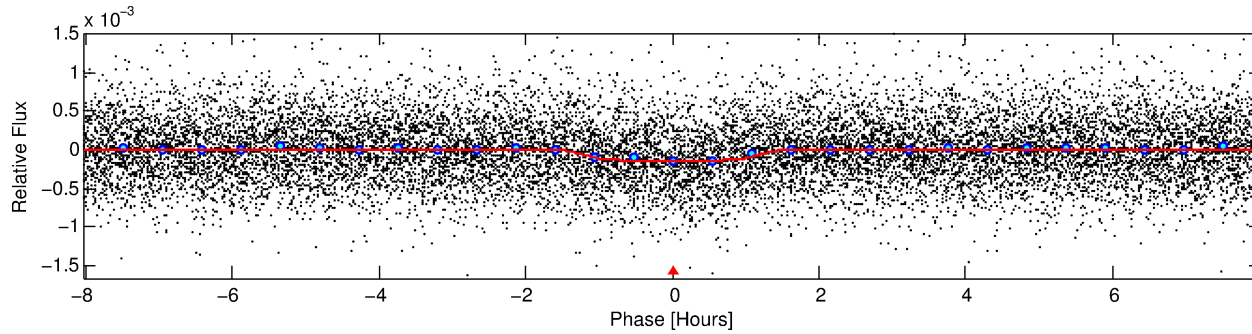
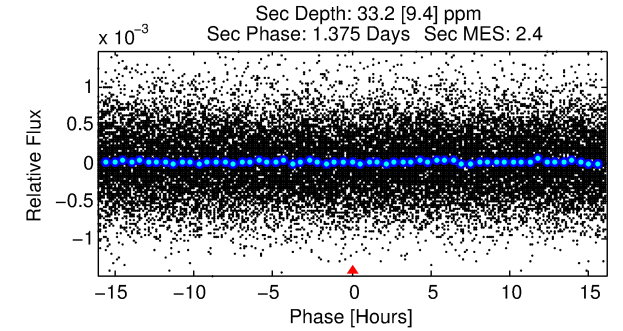
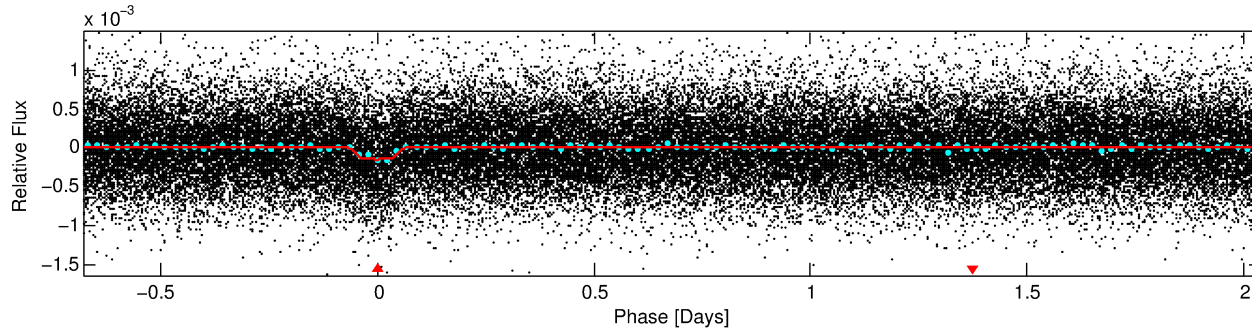
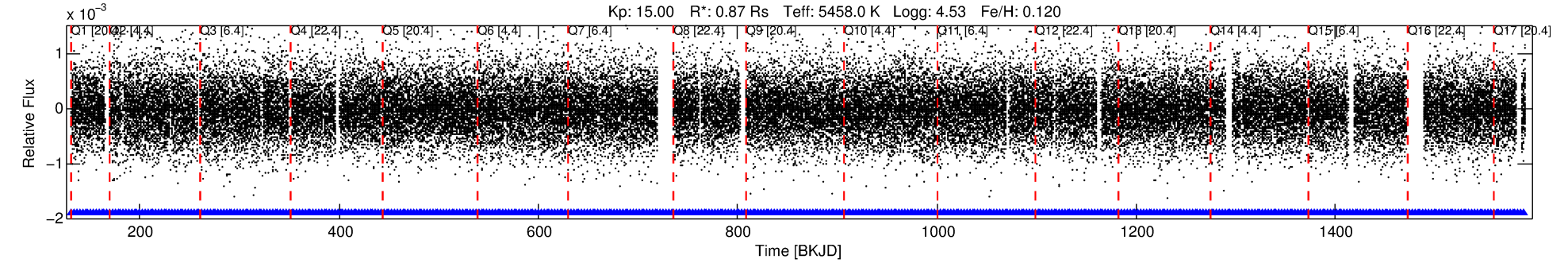
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004858610-01

No Significant Match Found

DV One-Page Summary

KIC: 4858610 Candidate: 1 of 1 Period: 2.723 d
KOI: K02844.01 Corr: 0.934



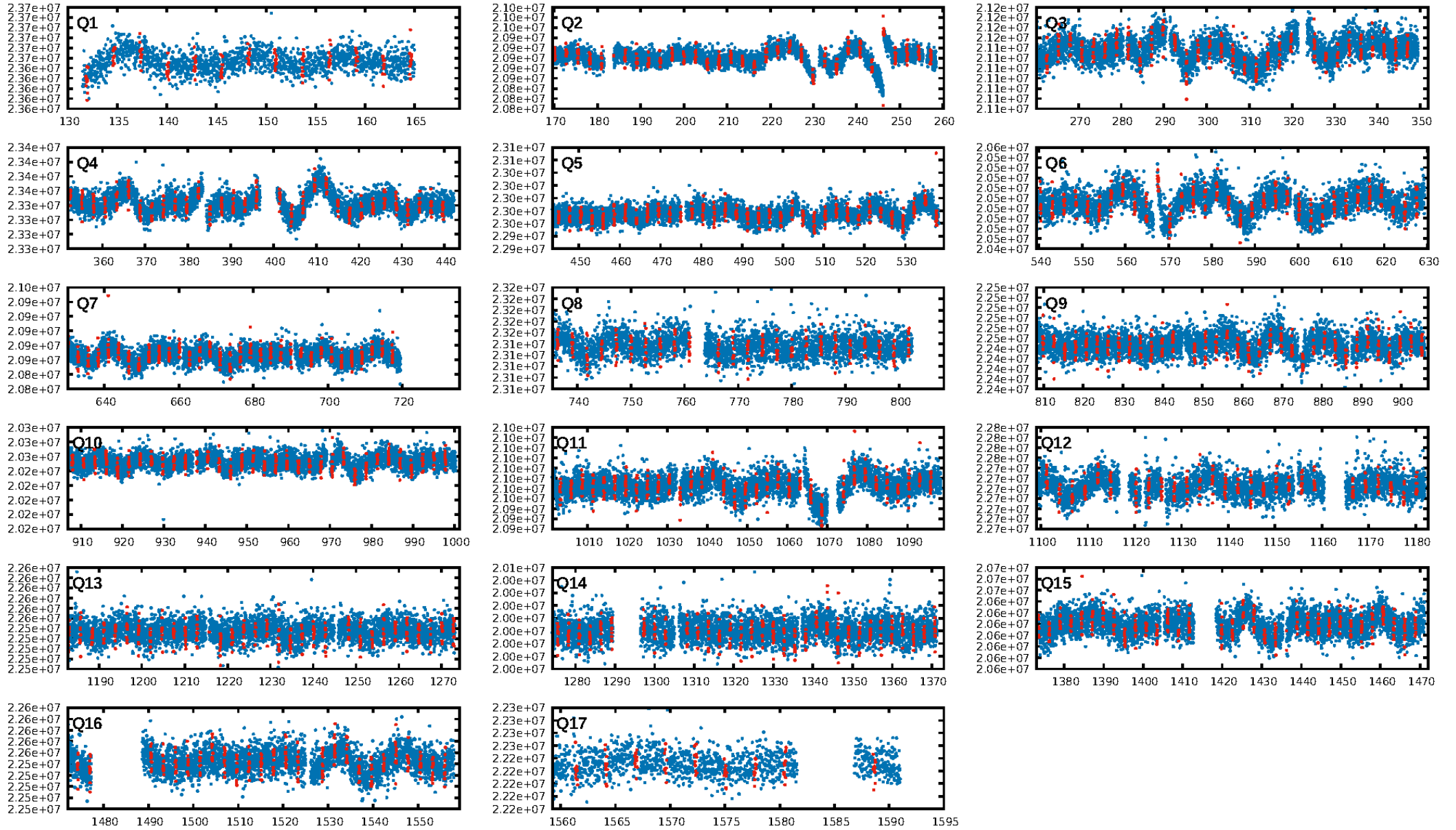
DV Fit Results:

Period = 2.72288 [0.00001] d
Epoch = 131.9131 [0.0028] BKJD
Rp/R* = 0.0133 [0.0064]
a/R* = 3.72 [7.29]
b = 0.90 [0.45]
Seff = 432.52 [136.50]
Teq = 1163 [92] K
Rp = 1.27 [0.67] Re
a = 0.0374 [0.0073] AU
Ag = 15.91 [16.57] [0.90σ]
Teffp = 3591 [906] K [2.67σ]

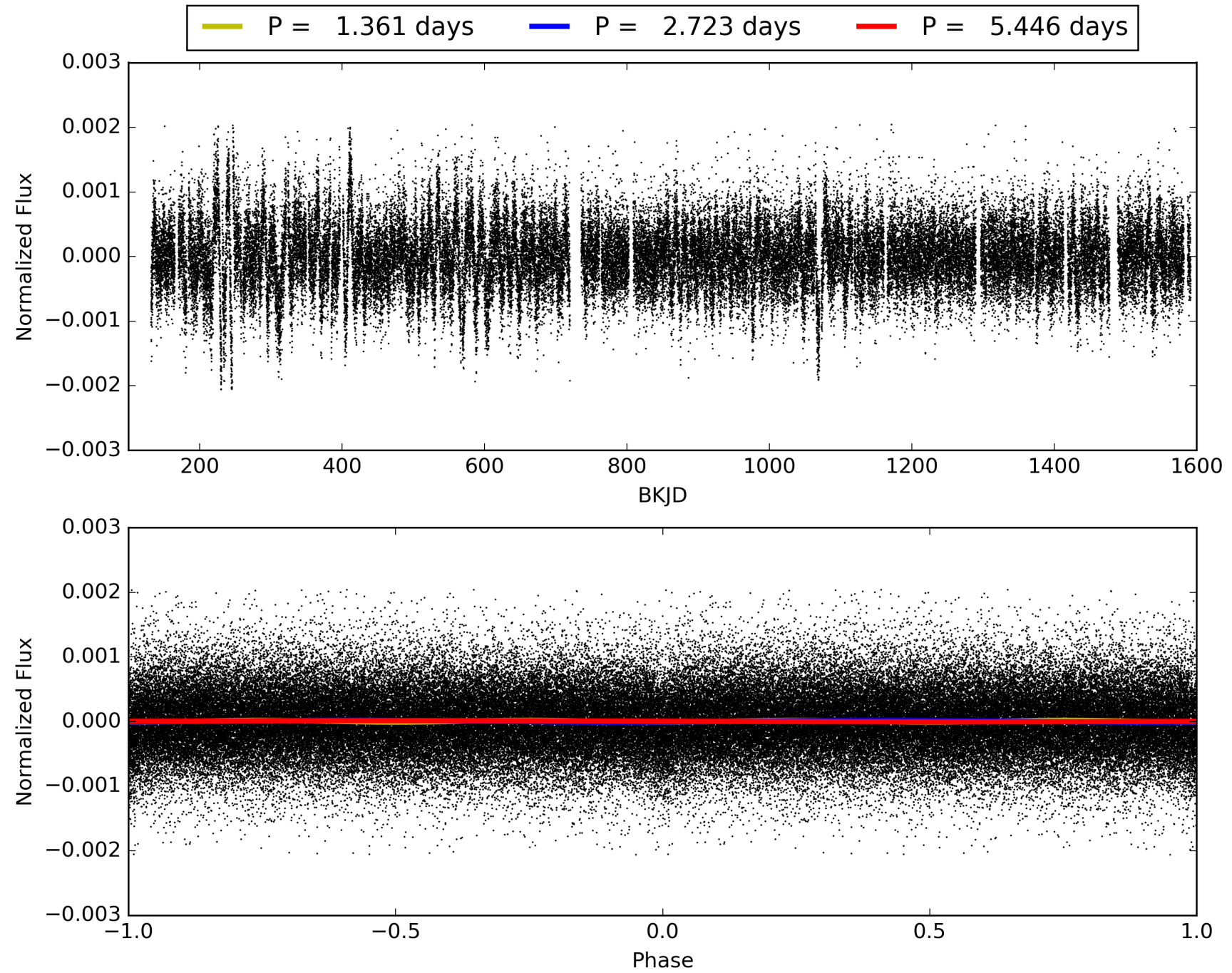
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.62e-44
RollingBand-fgt: 1.00 [472/472]
GhostDiagnostic-chr: 0.006616
Centroid-sig: 0.0%
Centroid-so: 21.876 arcsec [23.20σ]
OotOffset-rm: 6.305 arcsec [72.78σ]
KicOffset-rm: 6.385 arcsec [69.97σ]
OotOffset-st: 4/0/4/5 [13]
KicOffset-st: 4/0/4/5 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 004858610-01, PDC Light Curves

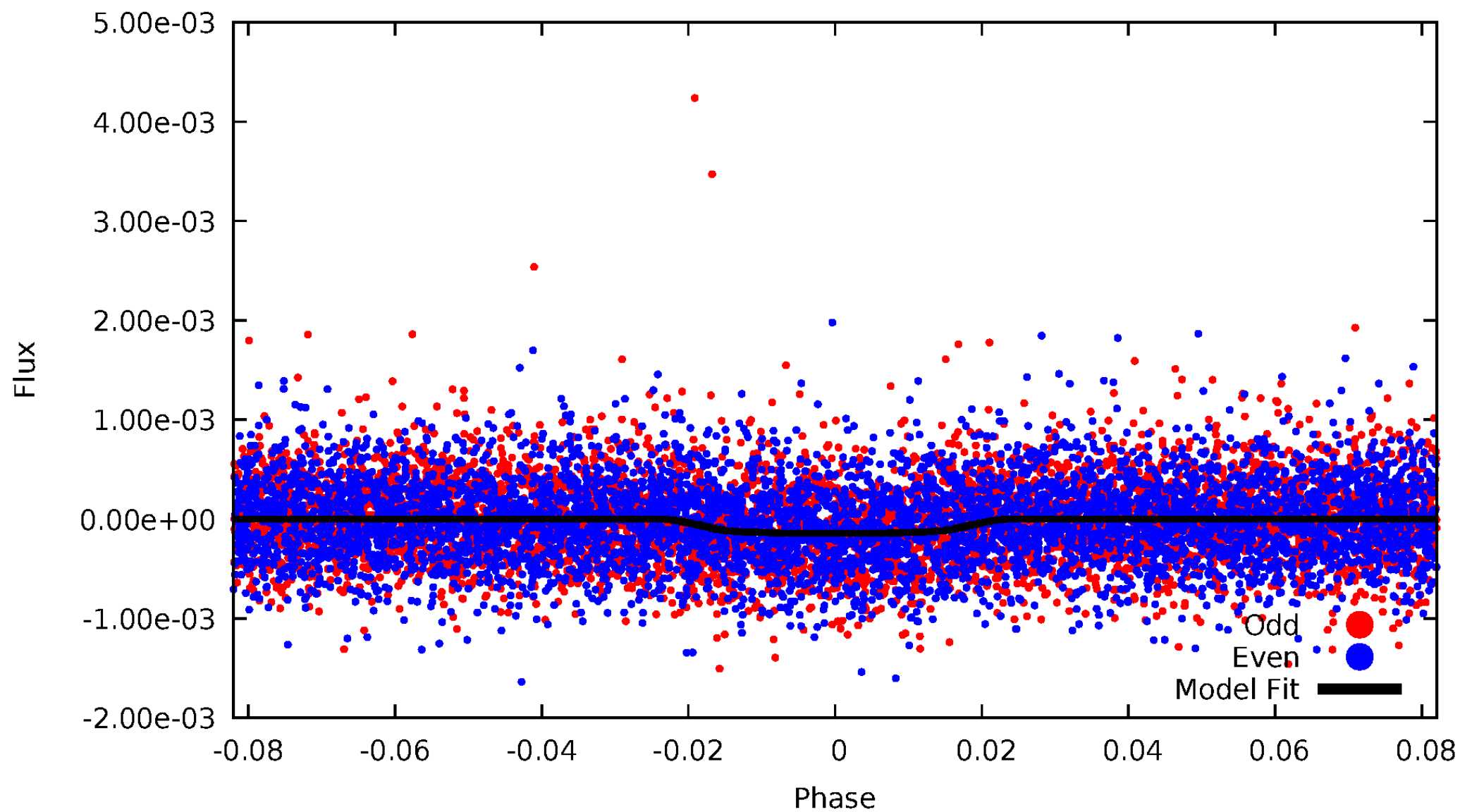


TCE 004858610-01



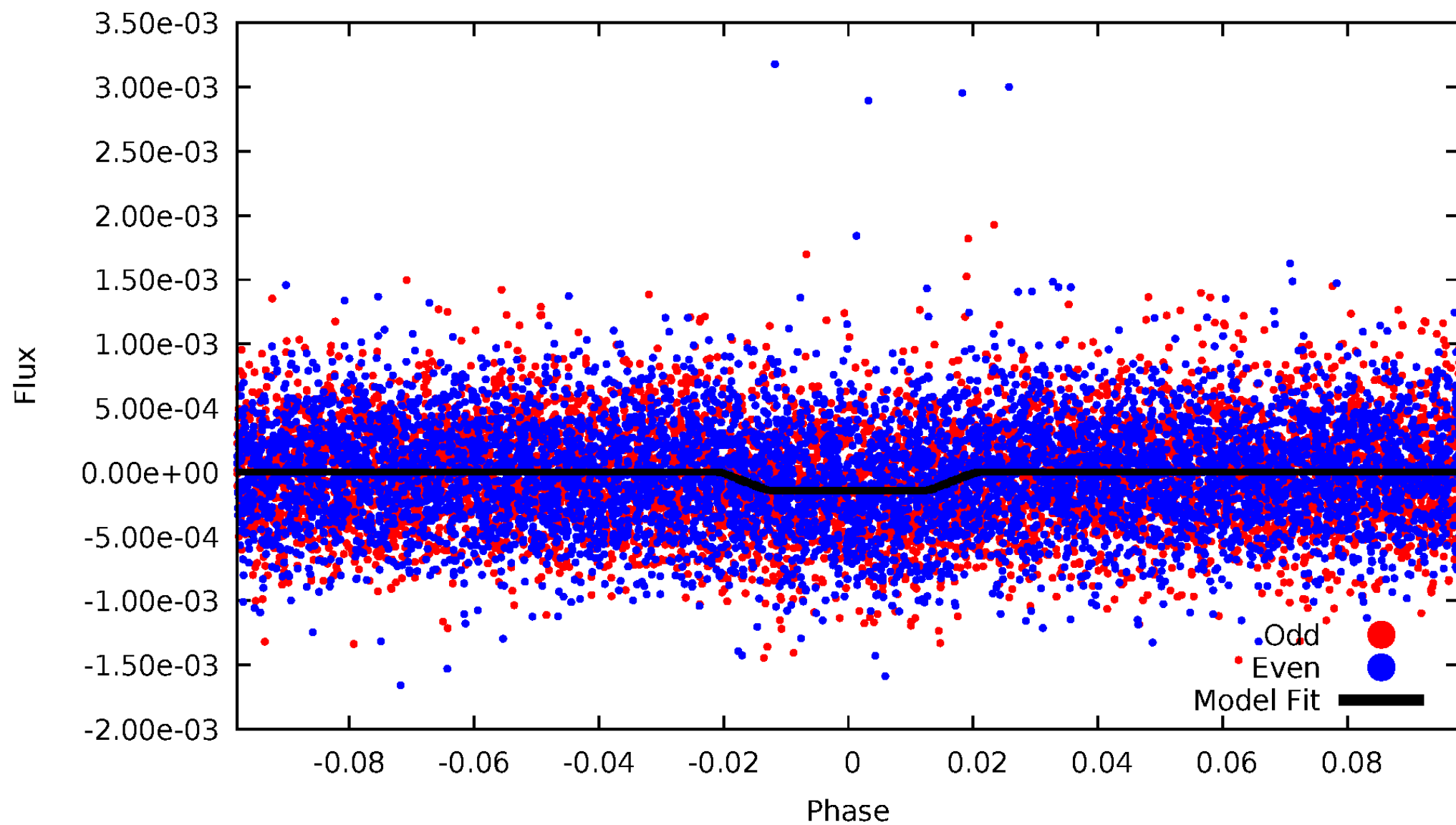
DV Odd/Even

TCE 004858610-01

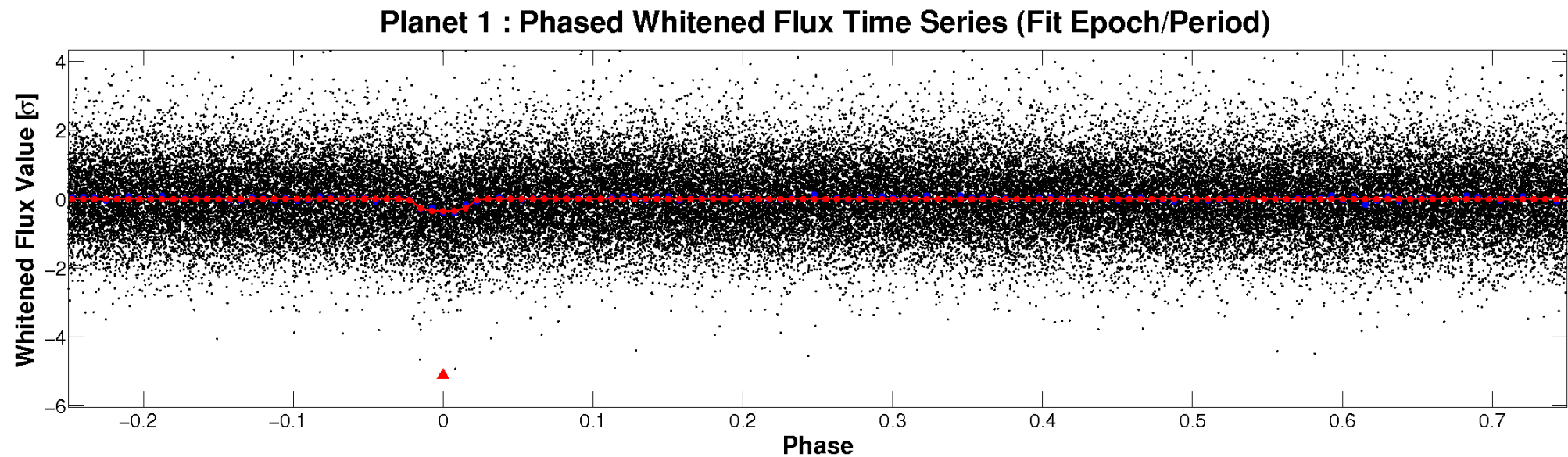
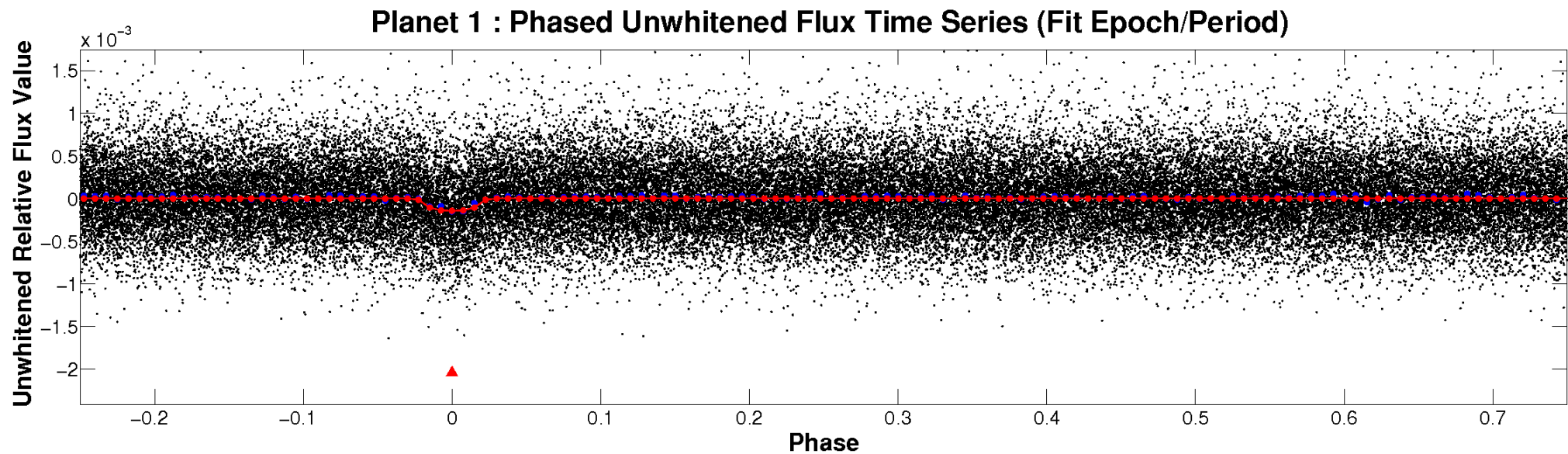


ALT Odd/Even

TCE 004858610-01

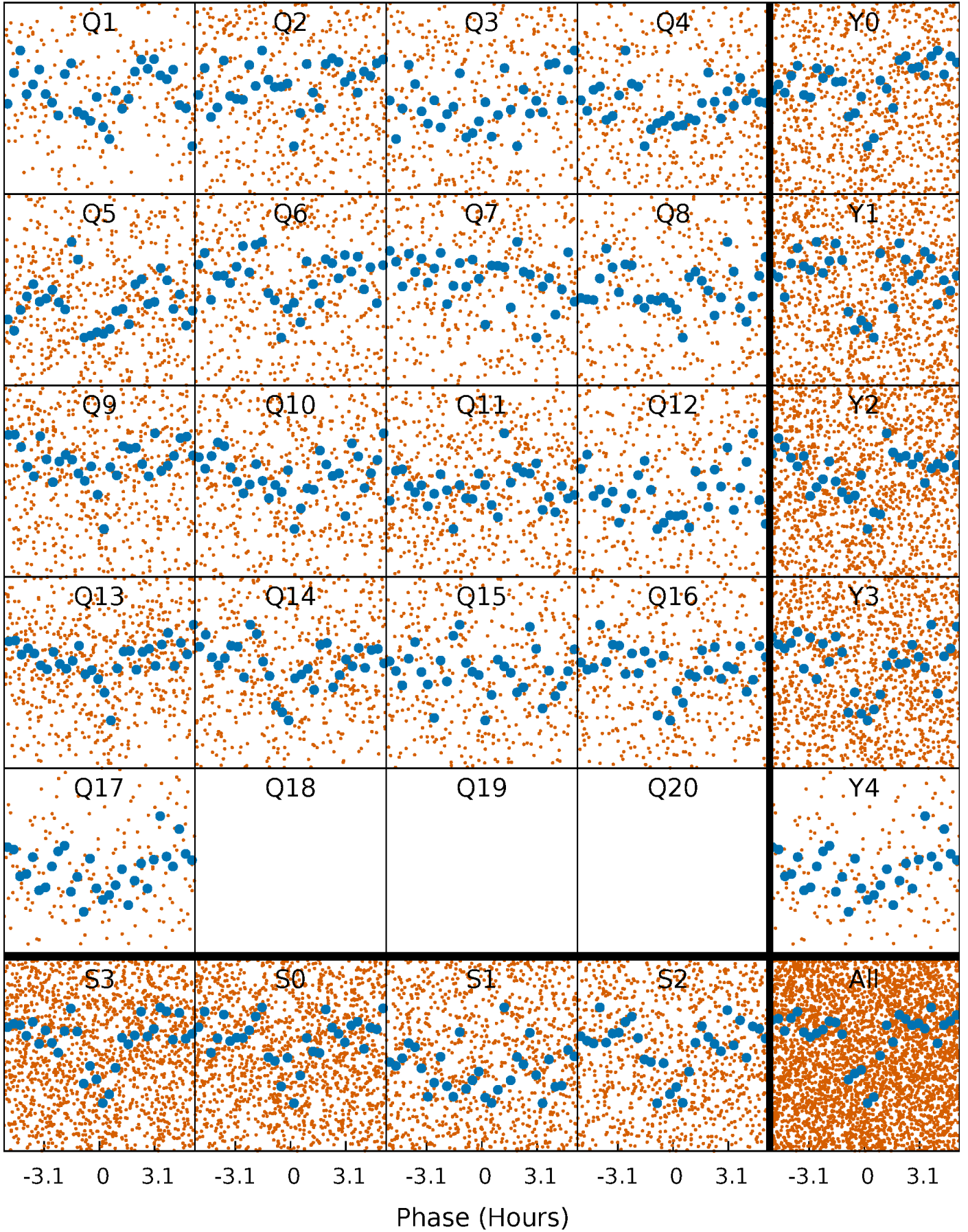


Non-Whitened Vs. Whitened Light Curve



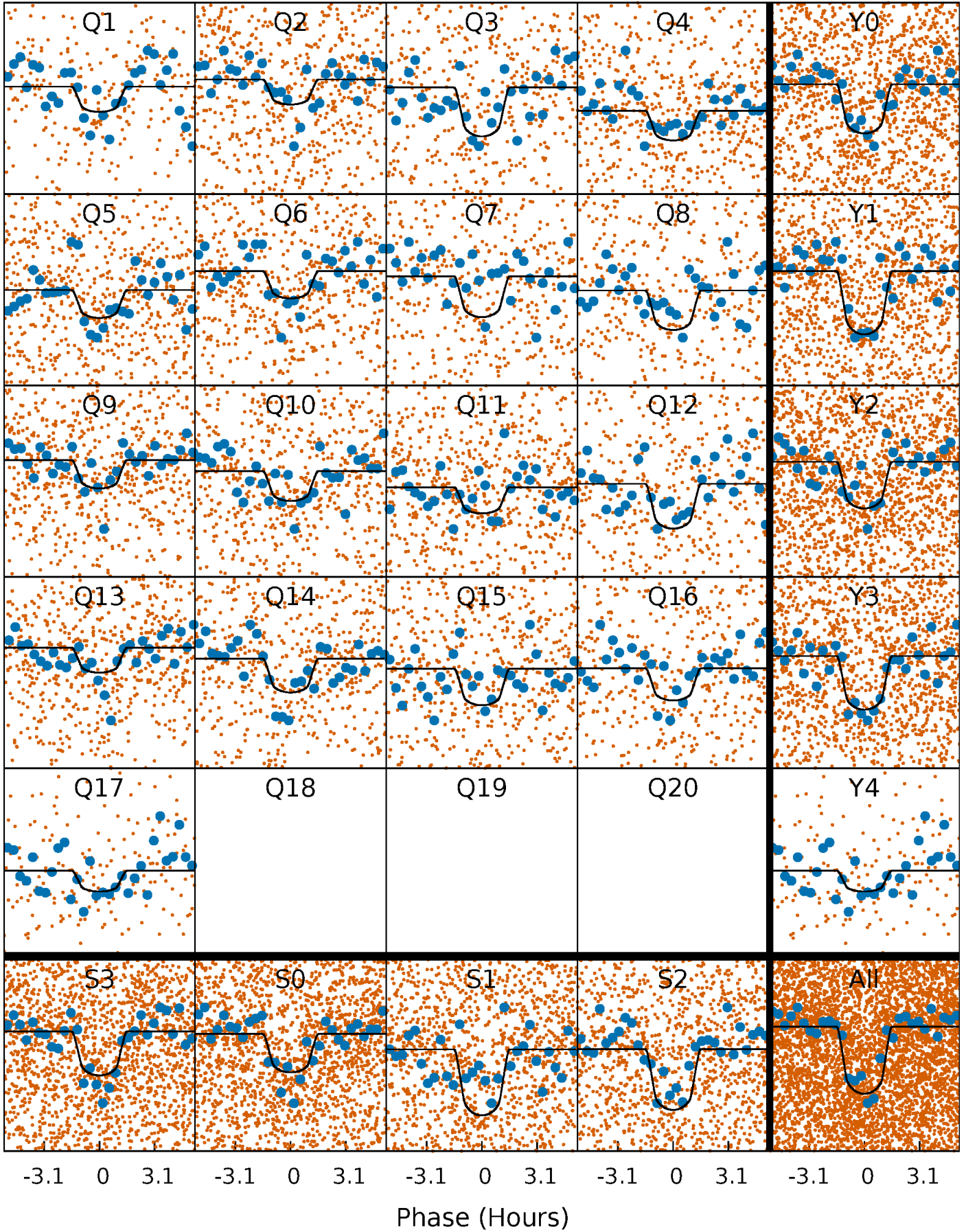
PDC Quarter-Phased Transit Curves

TCE 004858610-01 P= 2.722880 Days $T_0=131.913106$ (BKJD)



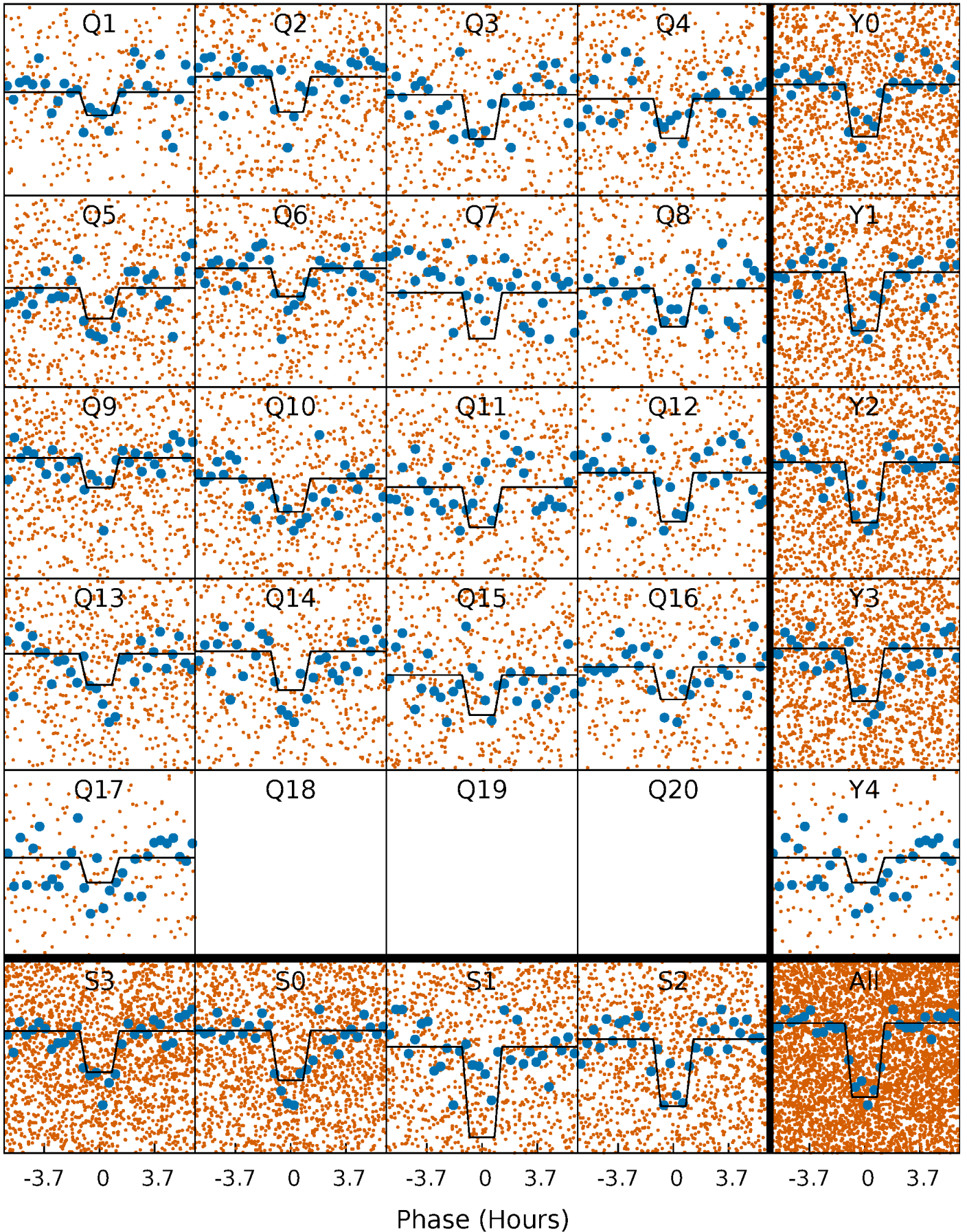
DV Quarter-Phased Transit Curves

TCE 004858610-01 P= 2.722880 Days $T_0=131.913106$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

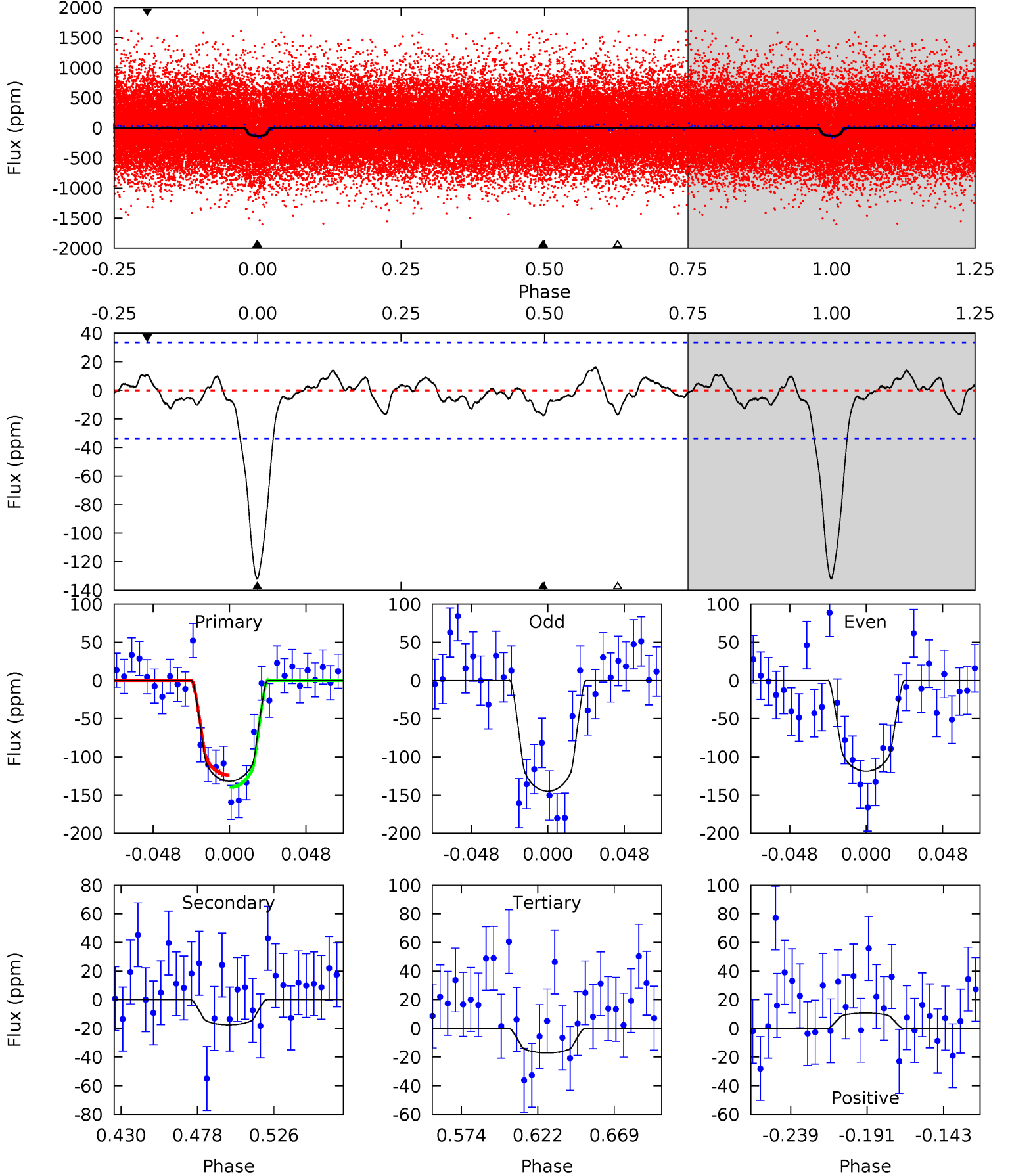
TCE 004858610-01 P= 2.722836 Days $T_0=131.922040$ (BKJD)



DV Model-Shift Uniqueness Test

004858610-01, P = 2.722880 Days, E = 129.190226 Days

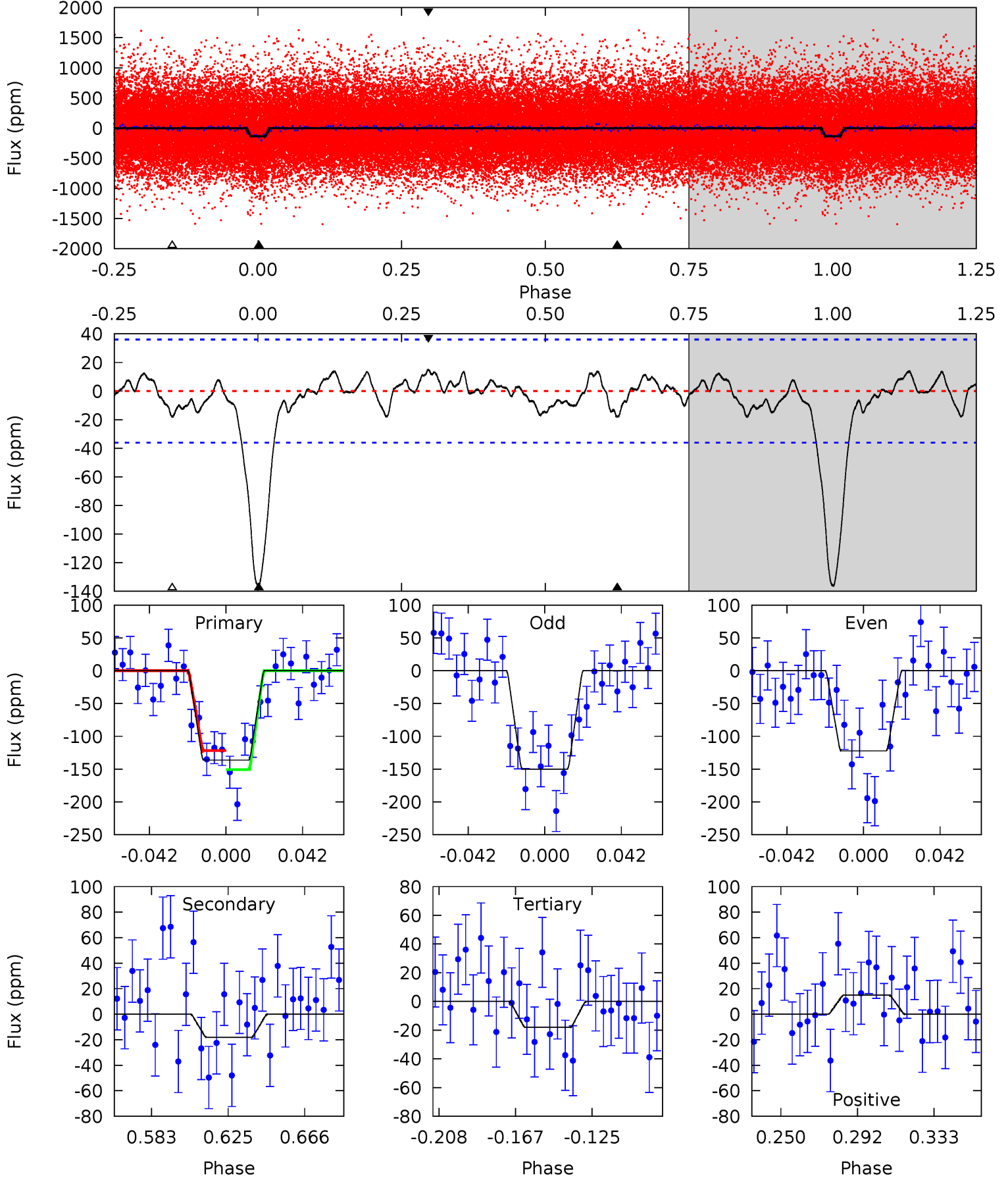
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.5	2.46	2.40	1.52	4.72	1.98	0.96	16.1	17.0	0.05	0.94	1.85	0.95	0.11	1.12



Alt Model-Shift Uniqueness Test

004858610-01, P = 2.722836 Days, E = 129.199204 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.9	2.37	2.36	1.98	4.75	2.04	1.03	15.6	15.9	0.01	0.39	1.82	0.88	0.10	1.92



Stellar Parameters For KIC 004858610

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5458^{+180}_{-180}	$4.530^{+0.042}_{-0.158}$	$0.120^{+0.250}_{-0.300}$	$0.872^{+0.200}_{-0.086}$	$0.938^{+0.083}_{-0.092}$	$1.995^{+0.416}_{-0.865}$
	+3%/-3%	+1%/-3%	+208%/-250%	+23%/-10%	+9%/-10%	+21%/-43%
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 004858610-01 / KOI 2844.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-18 ± 7	$1.31^{+0.61}_{-0.63}$	1659^{+106}_{-81}	3518^{+936}_{-532}	$7.710^{+22.343}_{-4.938}$
Alt.	-18 ± 8	$1.17^{+0.65}_{-0.57}$	1659^{+96}_{-75}	3617^{+1068}_{-507}	$9.206^{+26.282}_{-5.619}$

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 $A_{obs} \gg 1.0$

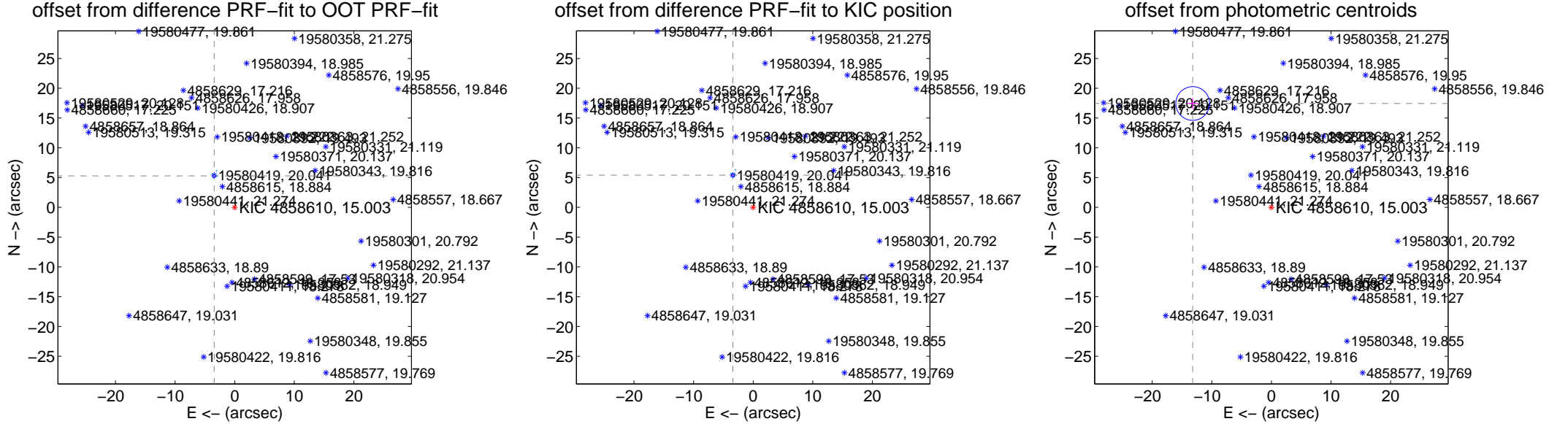
DV Centroid Data

Supplemental centroid analysis for 004858610-01. Kepler magnitude: 15.00. Transit SNR 14.98

There are 13 quarters with good PRF difference image offsets

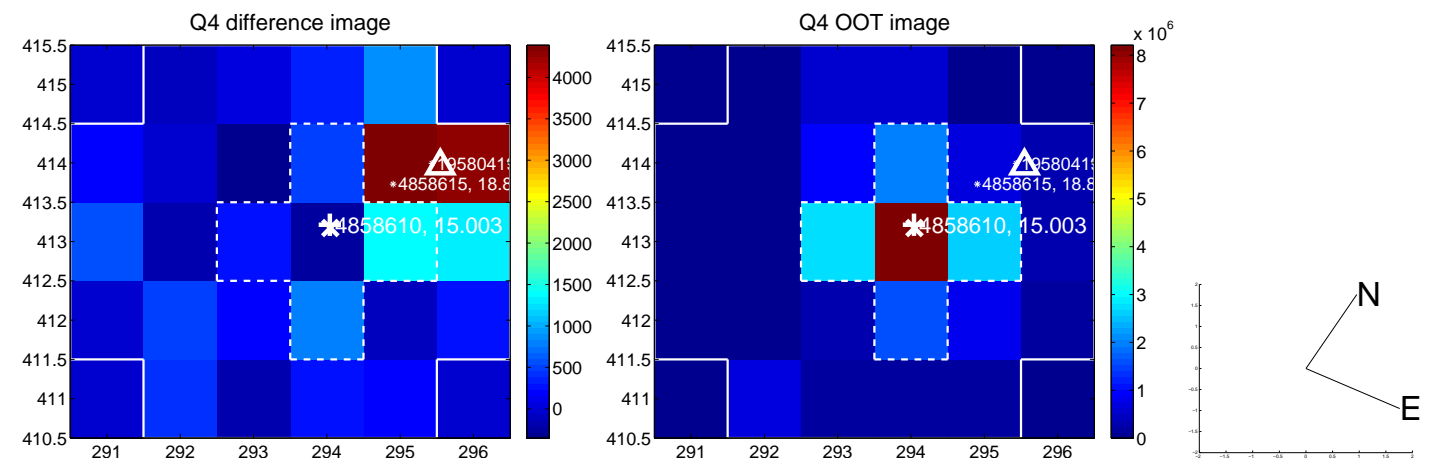
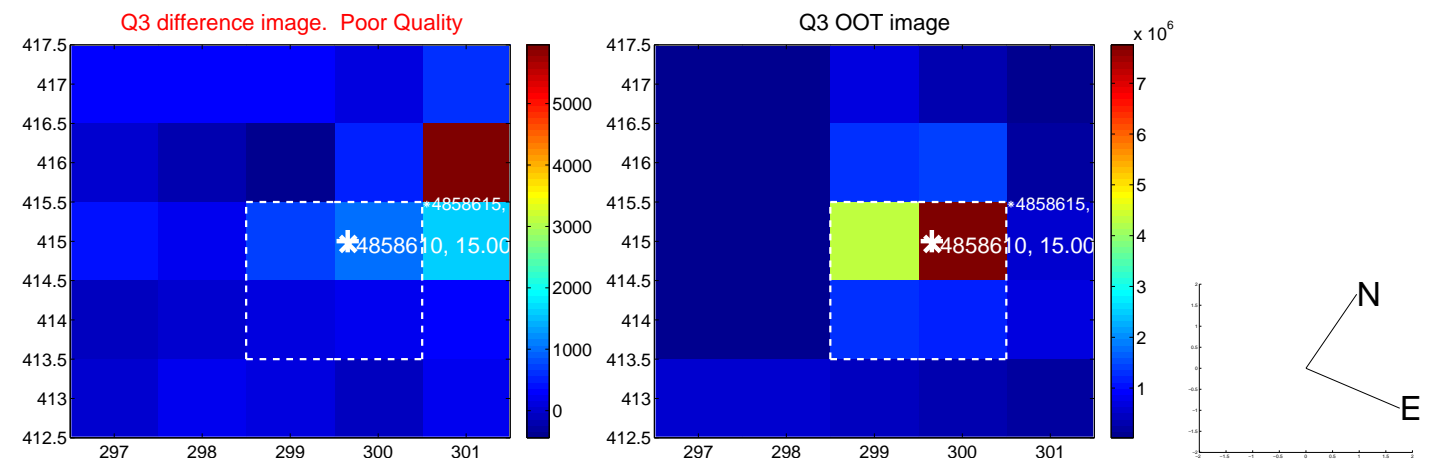
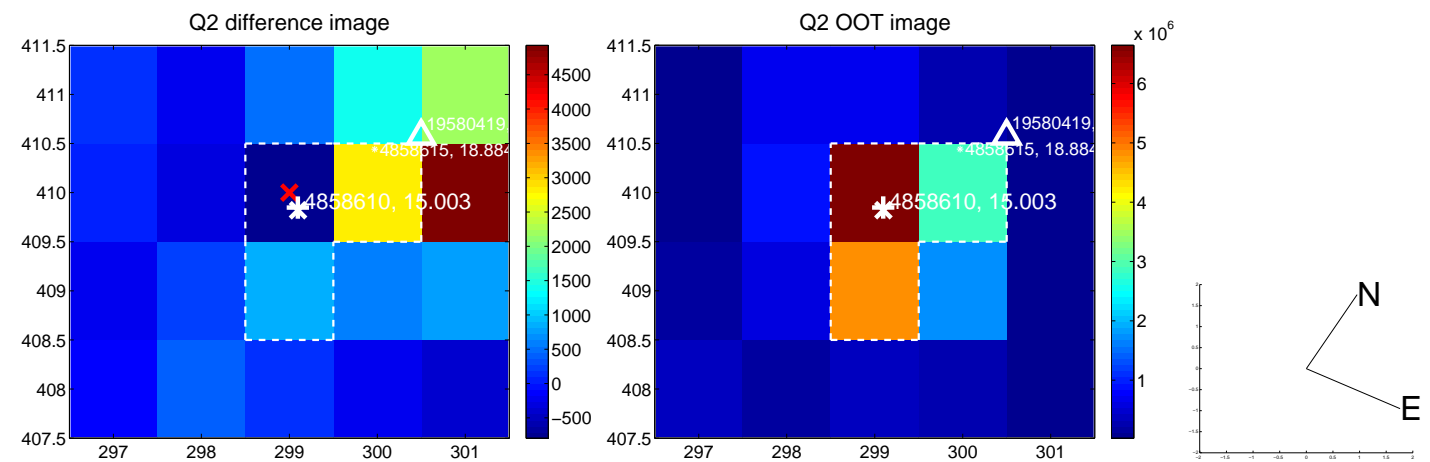
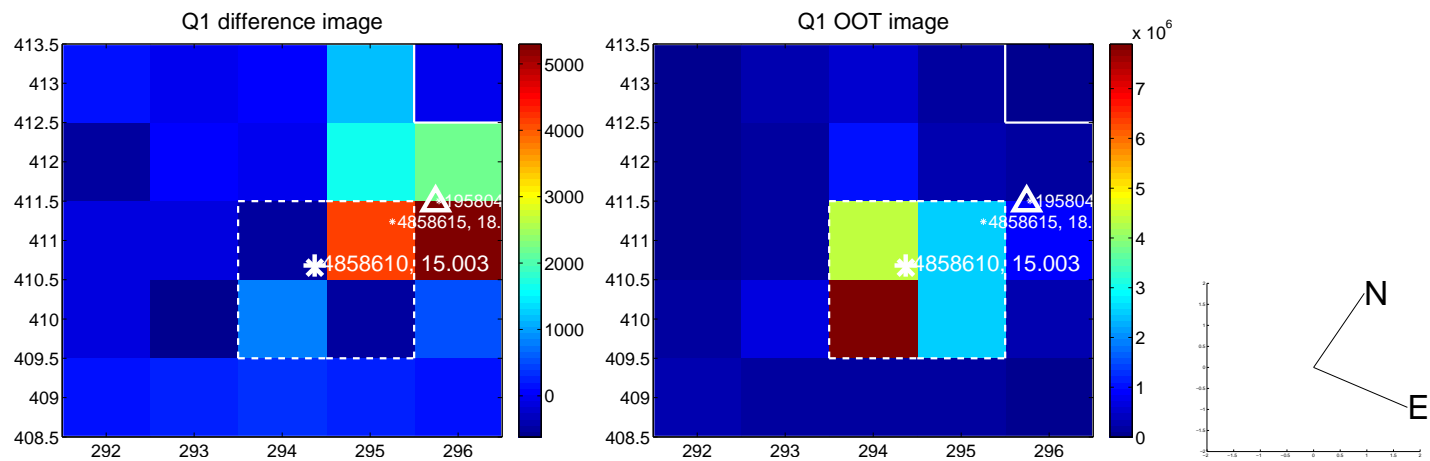
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.305 \pm 0.087	72.78	3.448 \pm 0.094	5.279 \pm 0.098
PRF-fit source offset from KIC position	6.385 \pm 0.091	69.97	3.402 \pm 0.094	5.404 \pm 0.109
photometric centroid source offset	21.88 \pm 0.94	23.20	13.20 \pm 0.97	17.44 \pm 0.93

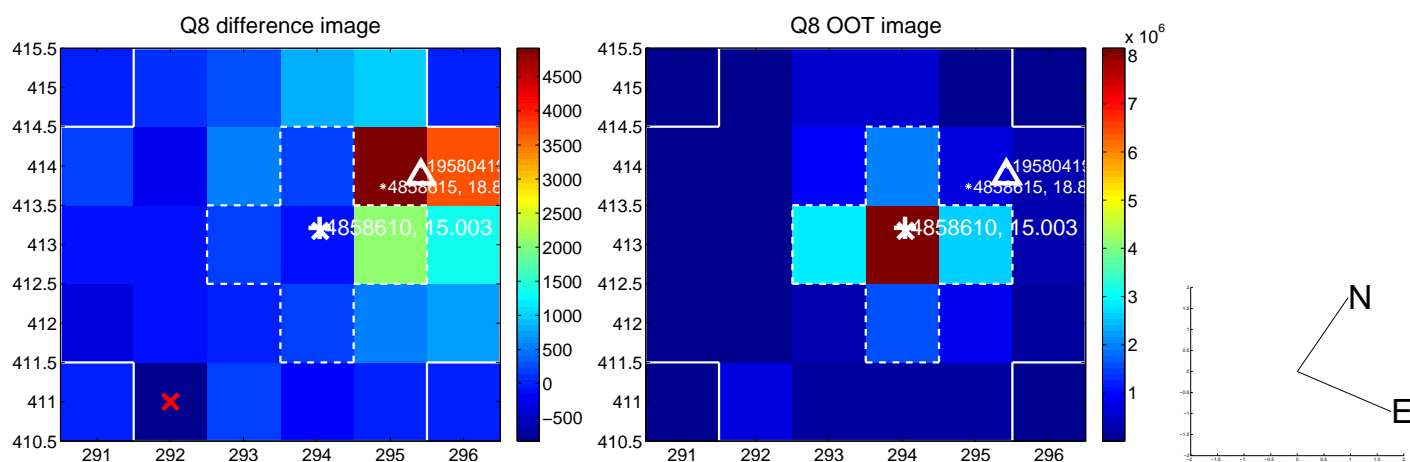
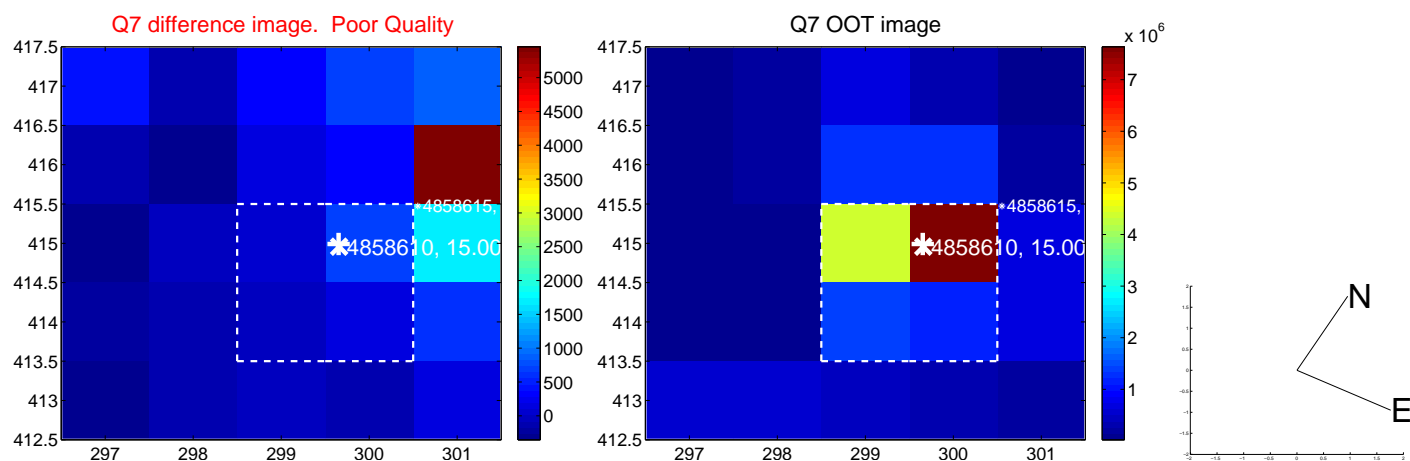
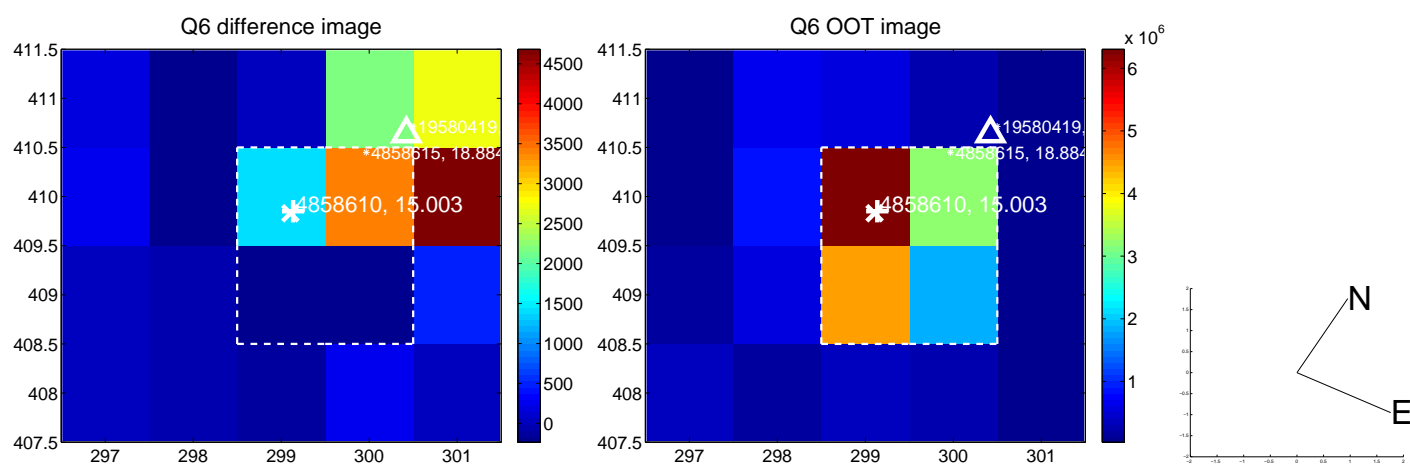
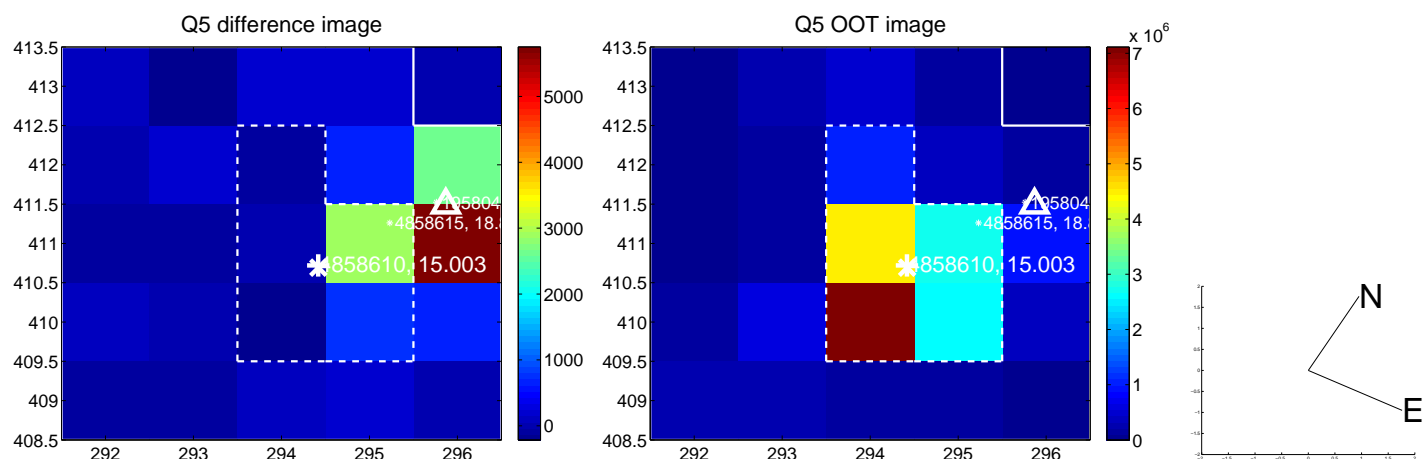


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

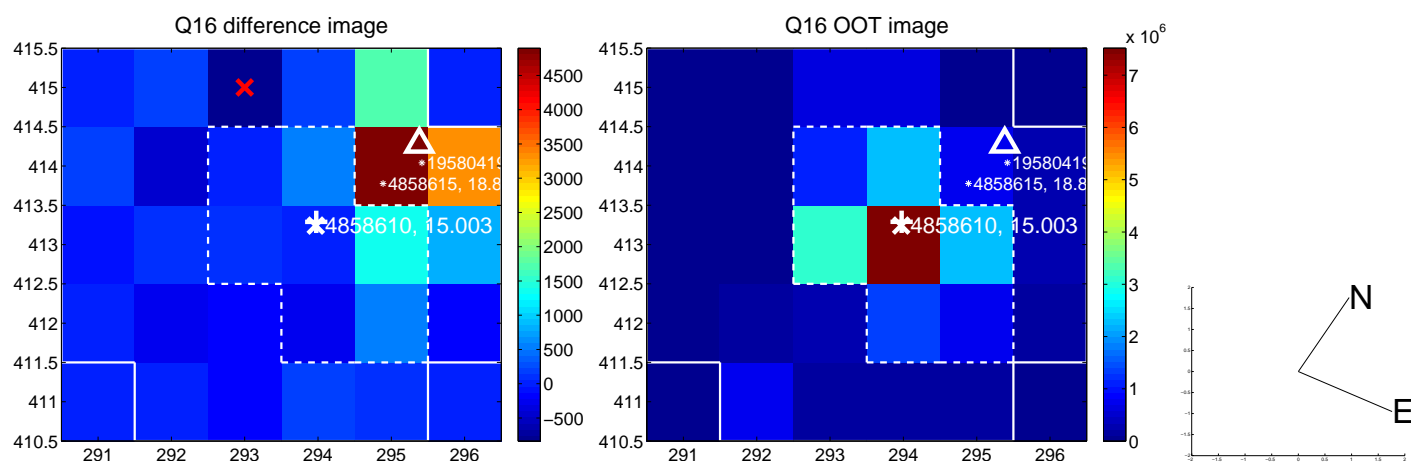
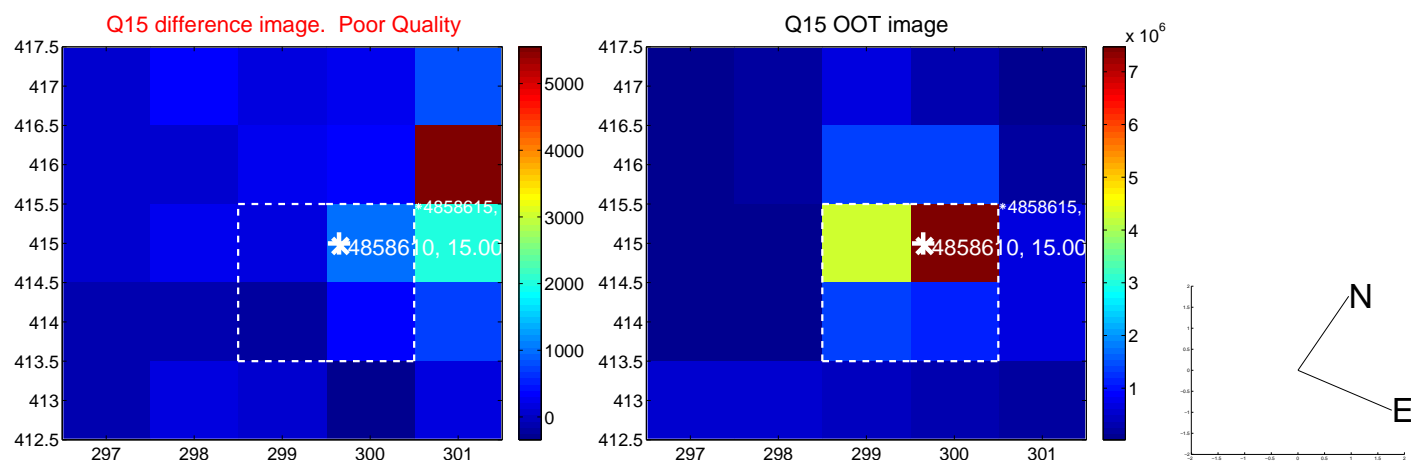
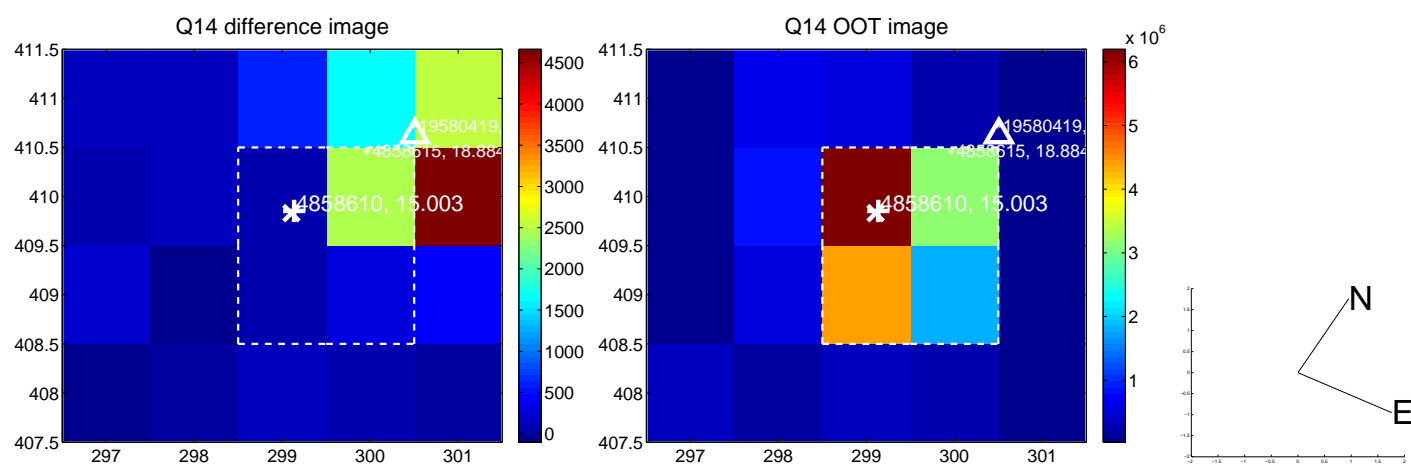
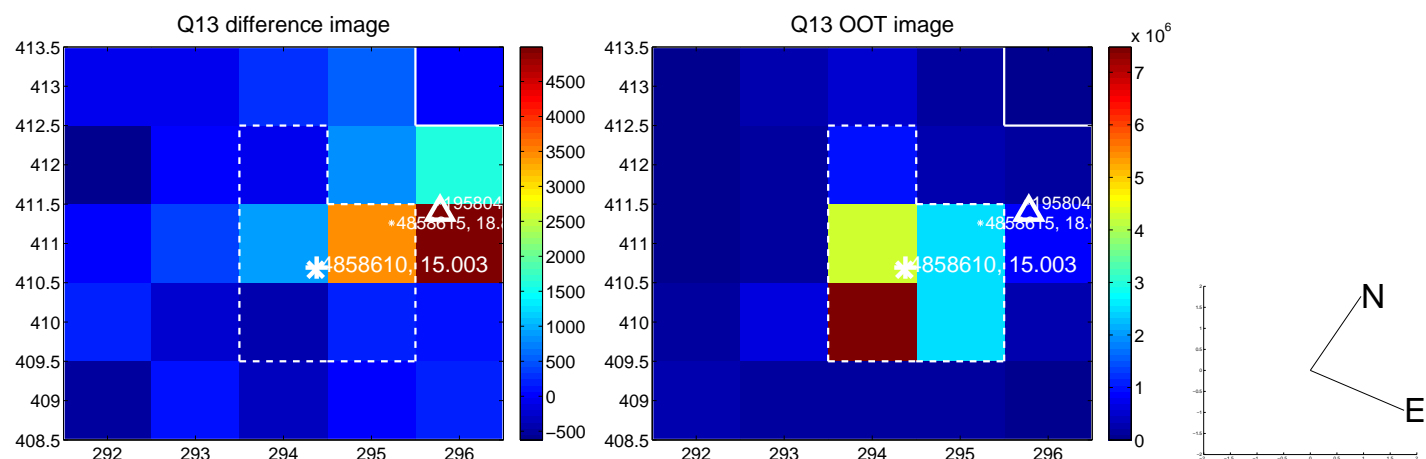
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



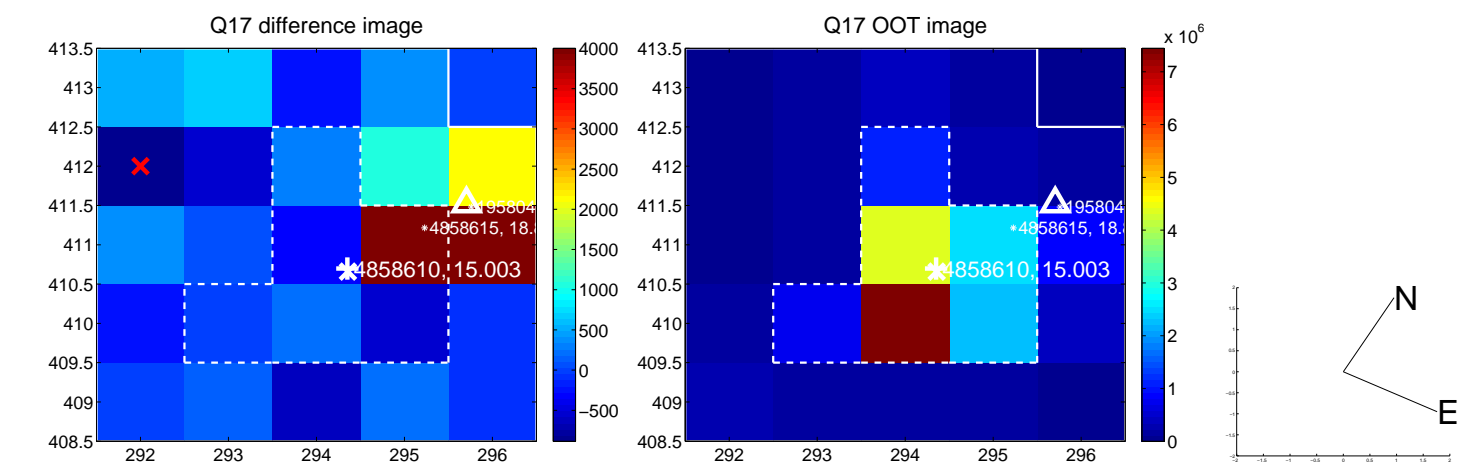
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



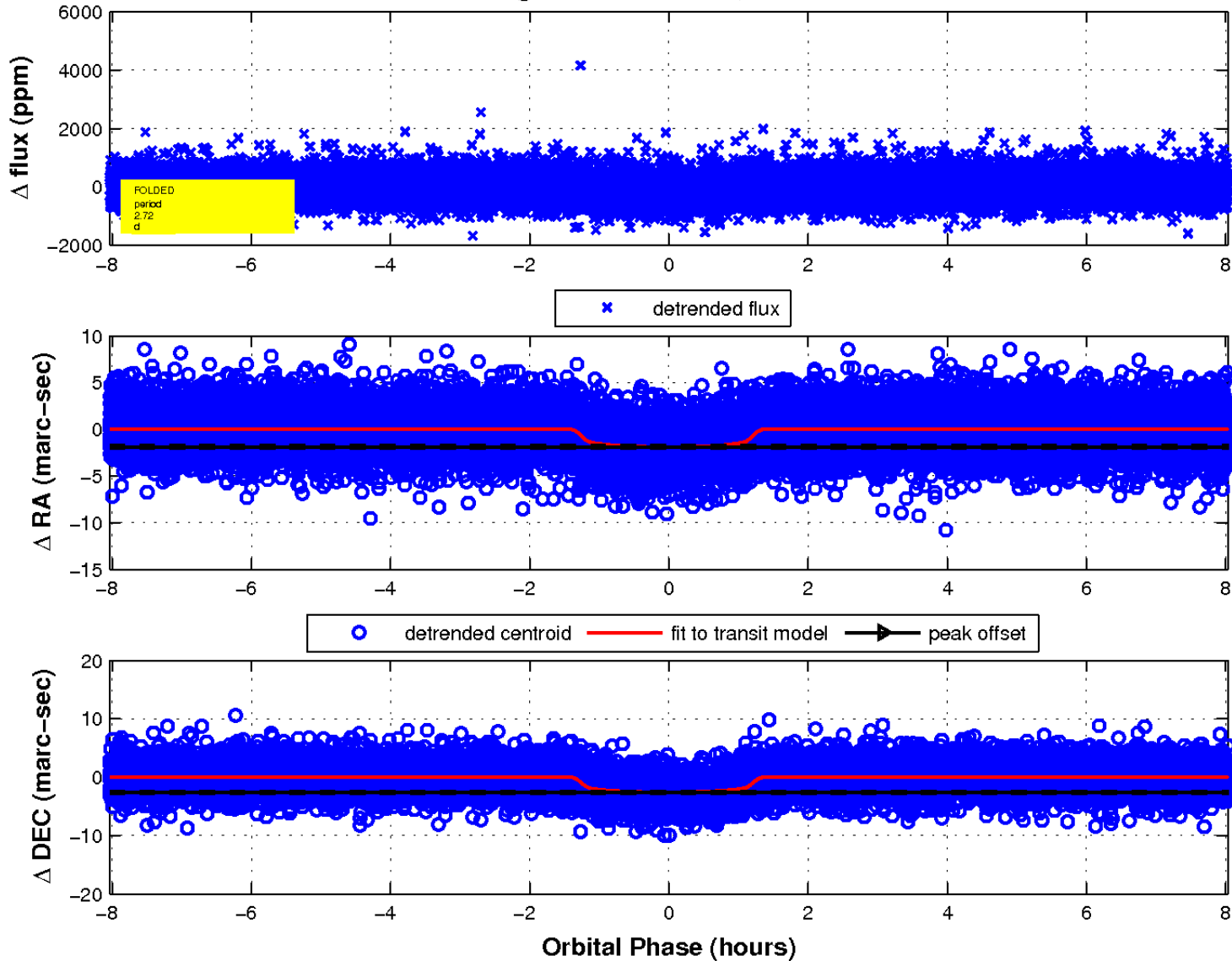
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

