

KIC 004633458

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})
004633458-01	OBS	No	0.712827	132.097199	13.1	4.310	8.3	5.8	1.11	6339	0.43	6819.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004633458-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET

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

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

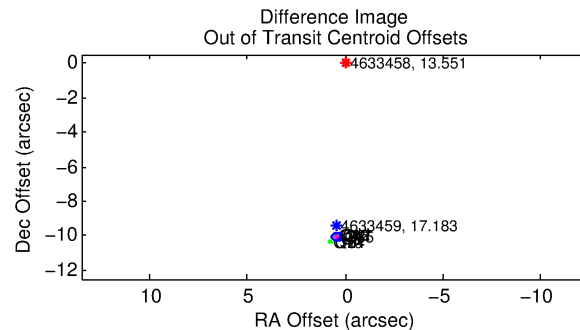
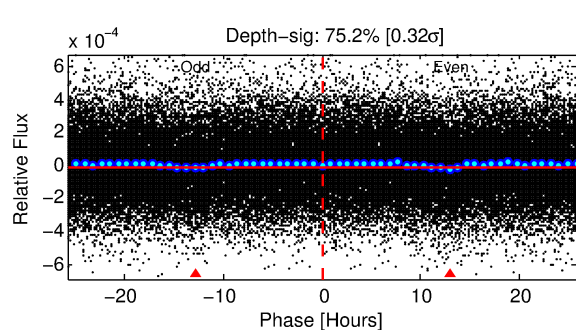
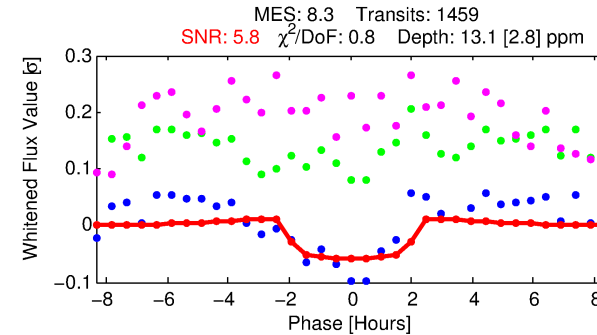
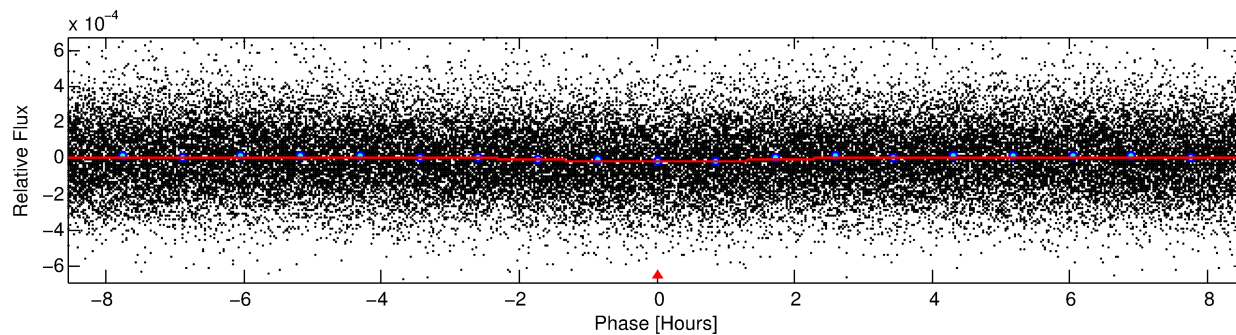
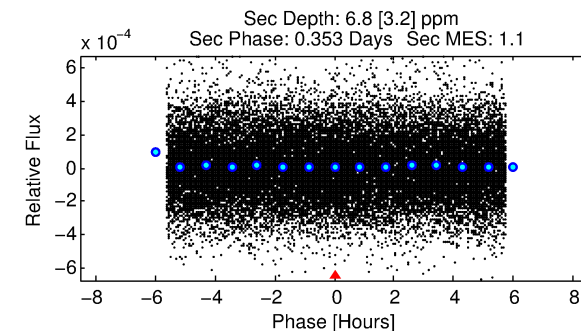
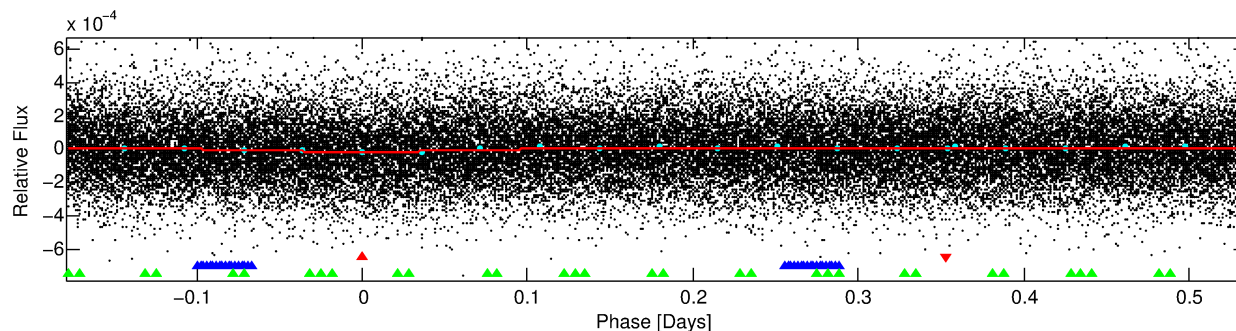
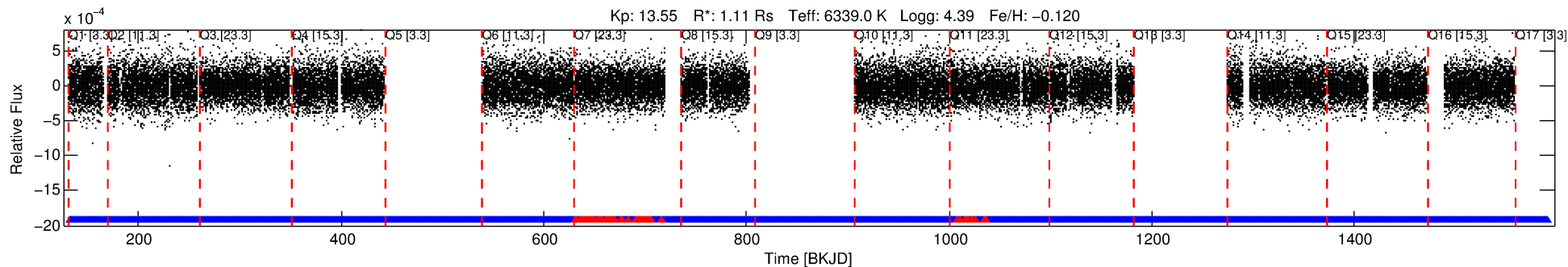
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004633458-01

No Significant Match Found

DV One-Page Summary

KIC: 4633458 Candidate: 1 of 3 Period: 0.713 d



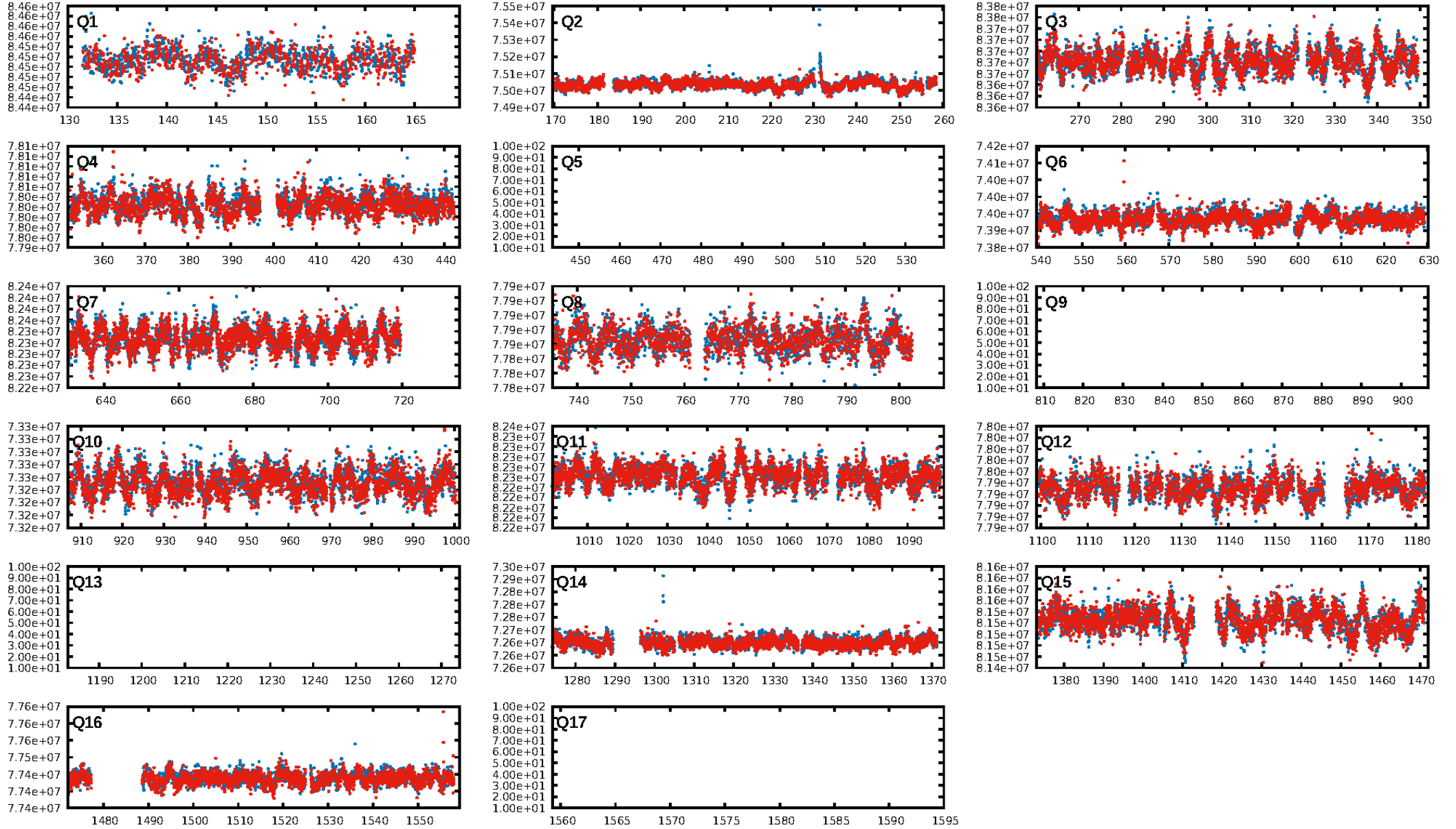
DV Fit Results:

Period = 0.71283 [0.00002] d
Epoch = 132.0972 [0.0071] BKJD
Rp/R* = 0.0036 [0.0021]
a/R* = 1.23 [1.28]
b = 0.71 [2.25]
Seff = 6819.22 [2793.39]
Teq = 2317 [237] K
Rp = 0.43 [0.30] Re
a = 0.0162 [0.0044] AU
Ag = 5.31 [7.13] [0.60σ]
Teff = 5438 [1756] K [1.76σ]

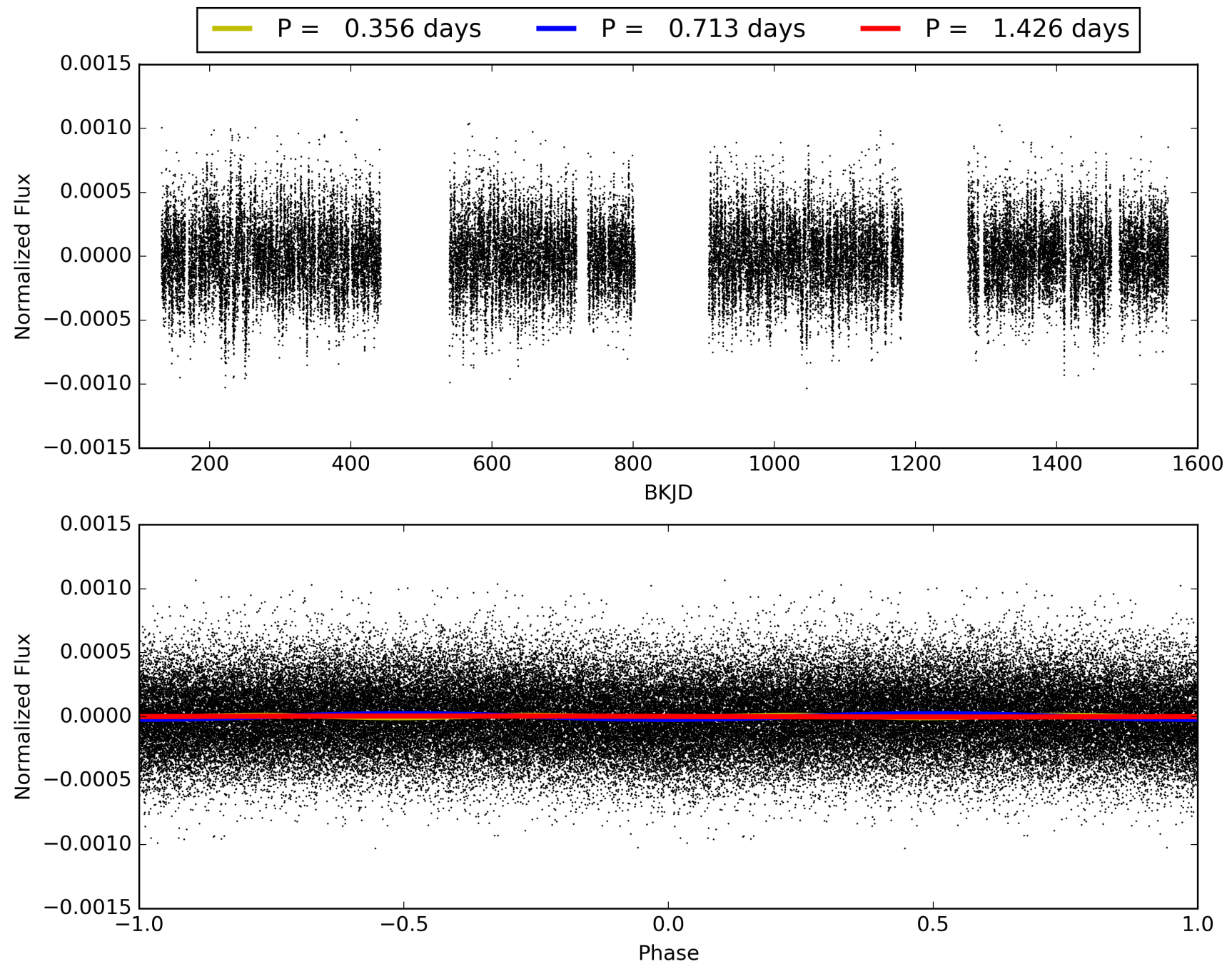
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [33.84σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 5.51e-12
RollingBand-fgt: 0.95 [1344/1412]
GhostDiagnostic-chr: -2.59
Centroid-sig: 0.4%
Centroid-so: 4.515 arcsec [1.78σ]
OotOffset-rm: 10.083 arcsec [123.22σ]
KicOffset-rm: 10.130 arcsec [127.82σ]
OotOffset-st: 4/4/4/1 [13]
KicOffset-st: 4/4/4/1 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [13/13]

TCE 004633458-01, PDC Light Curves

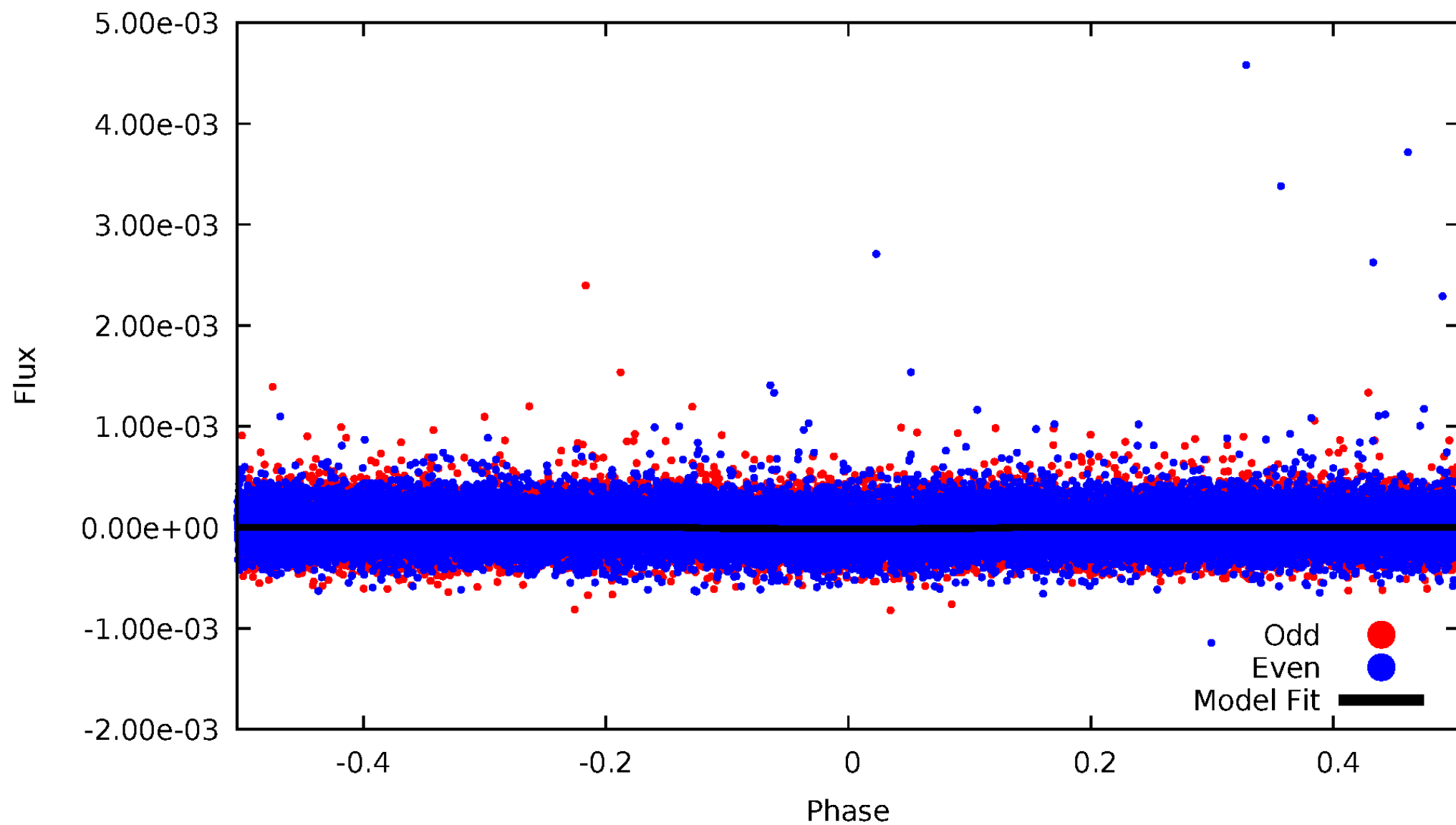


TCE 004633458-01



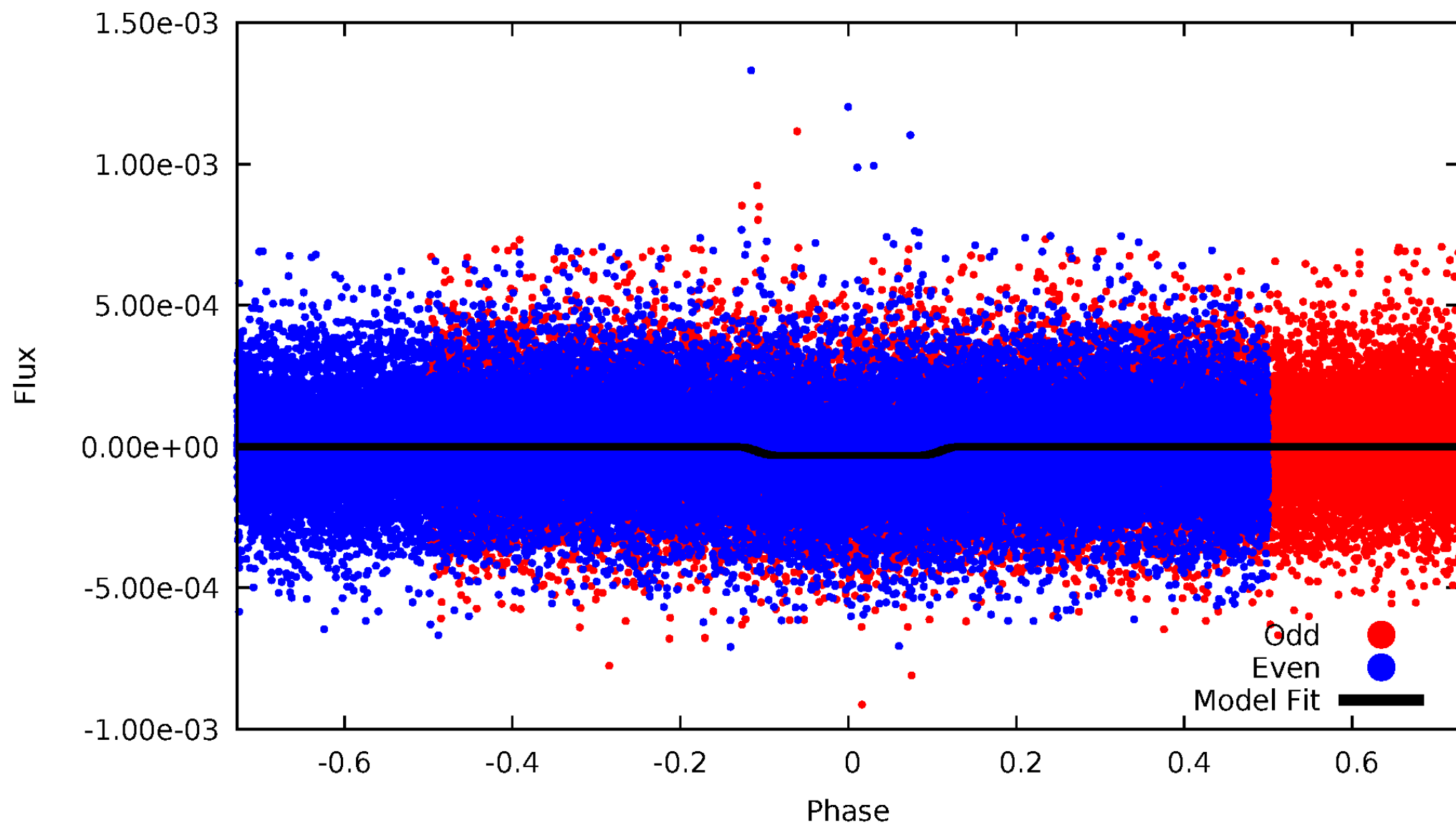
DV Odd/Even

TCE 004633458-01



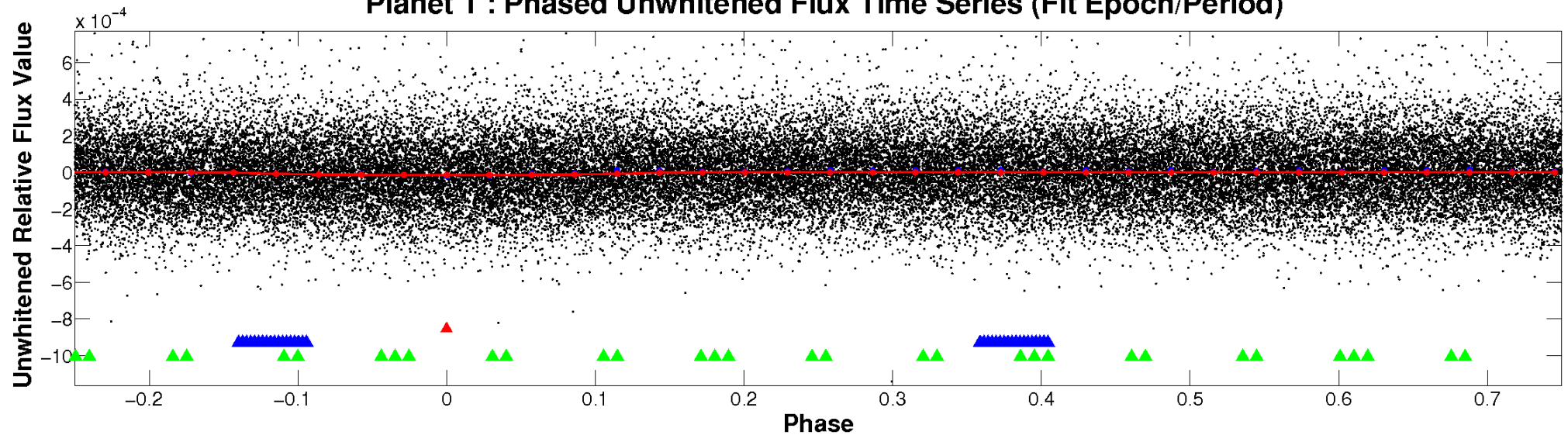
ALT Odd/Even

TCE 004633458-01

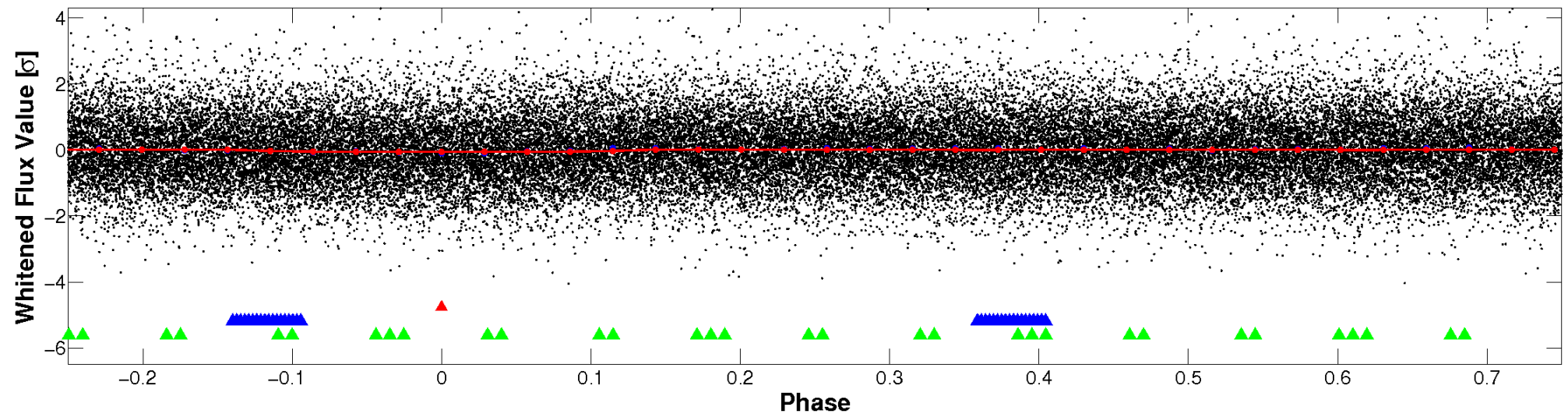


Non-Whitened Vs. Whitened Light Curve

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

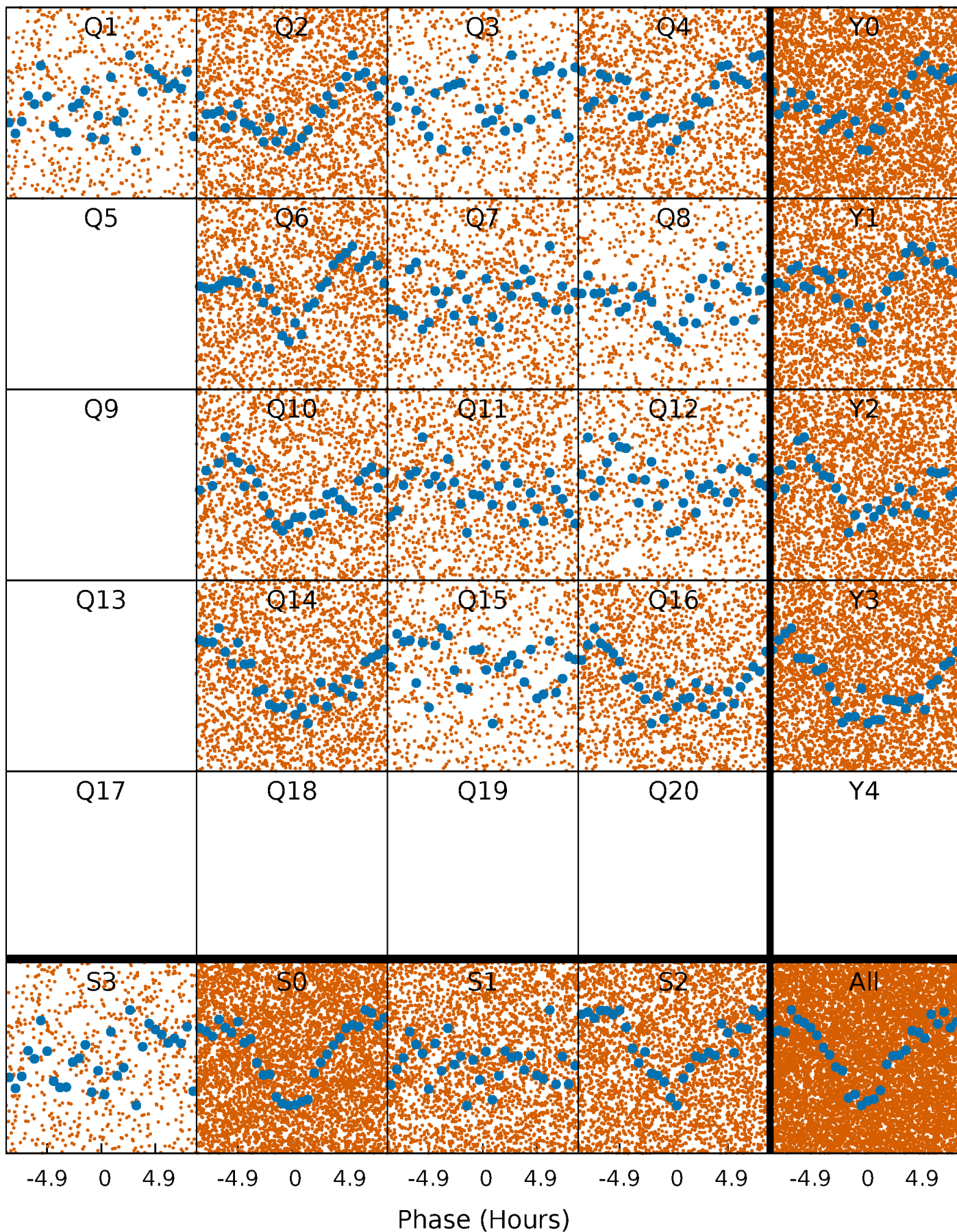


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



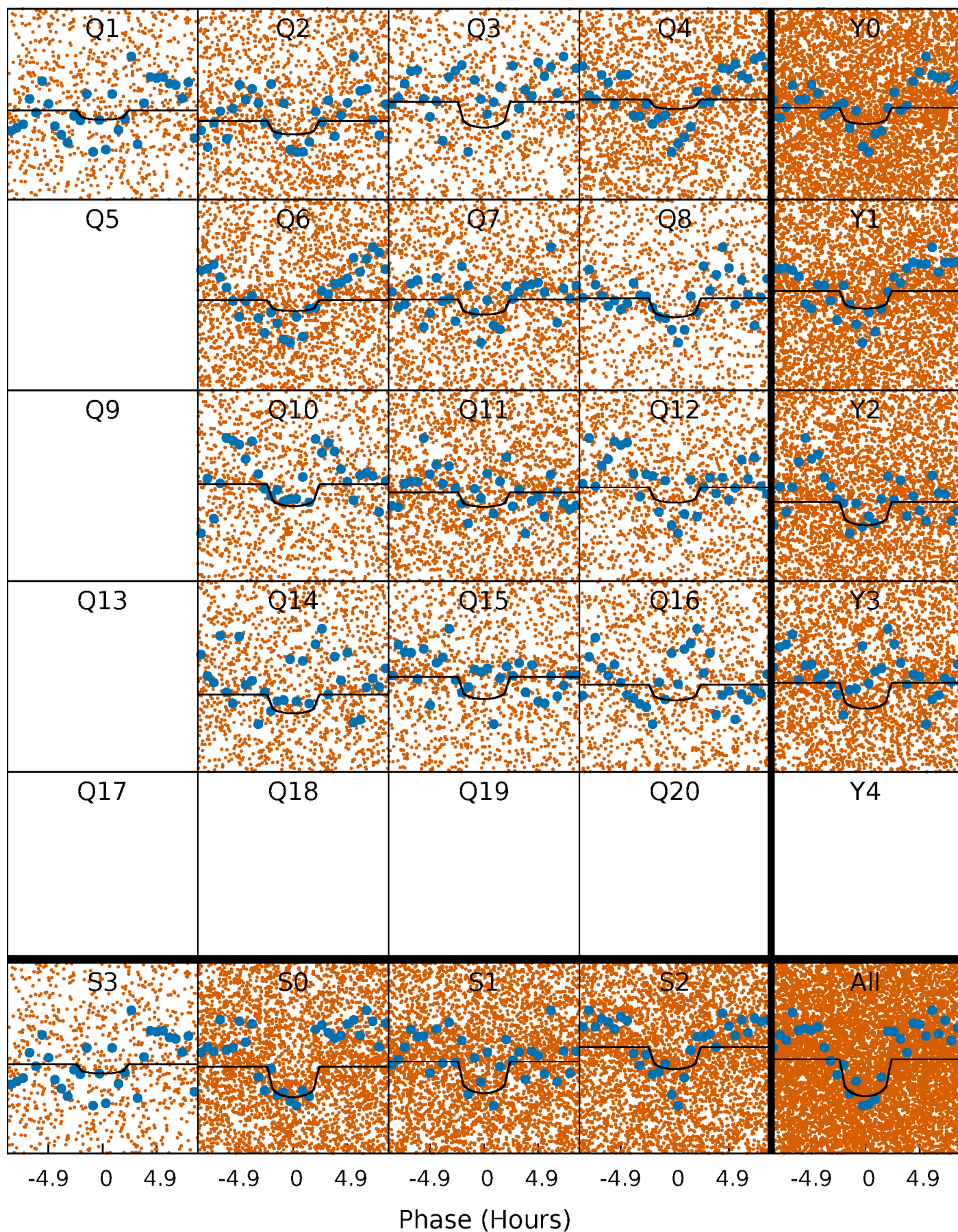
PDC Quarter-Phased Transit Curves

TCE 004633458-01 P= 0.712827 Days $T_0=132.097199$ (BKJD)



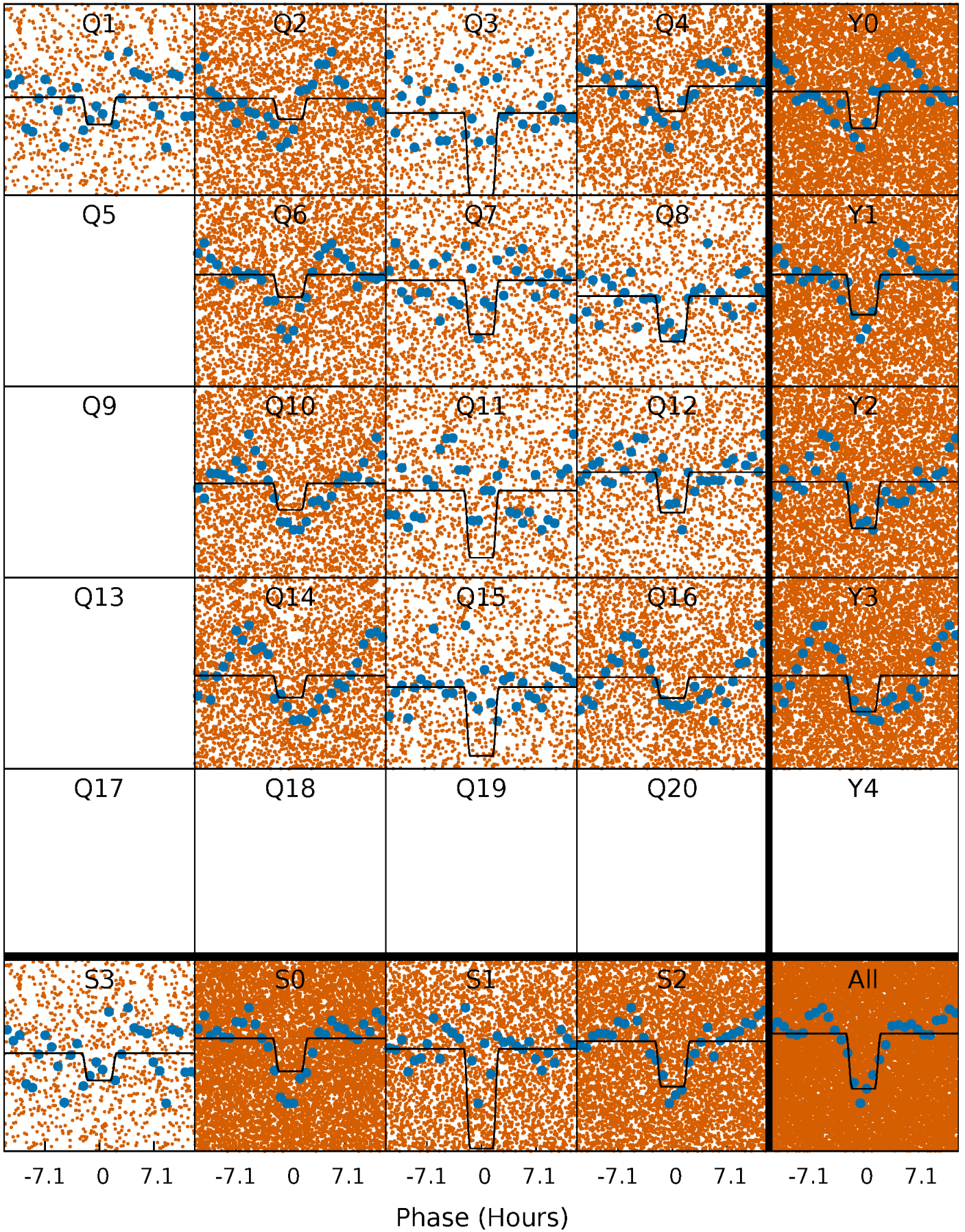
DV Quarter-Phased Transit Curves

TCE 004633458-01 P= 0.712827 Days $T_0=132.097199$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

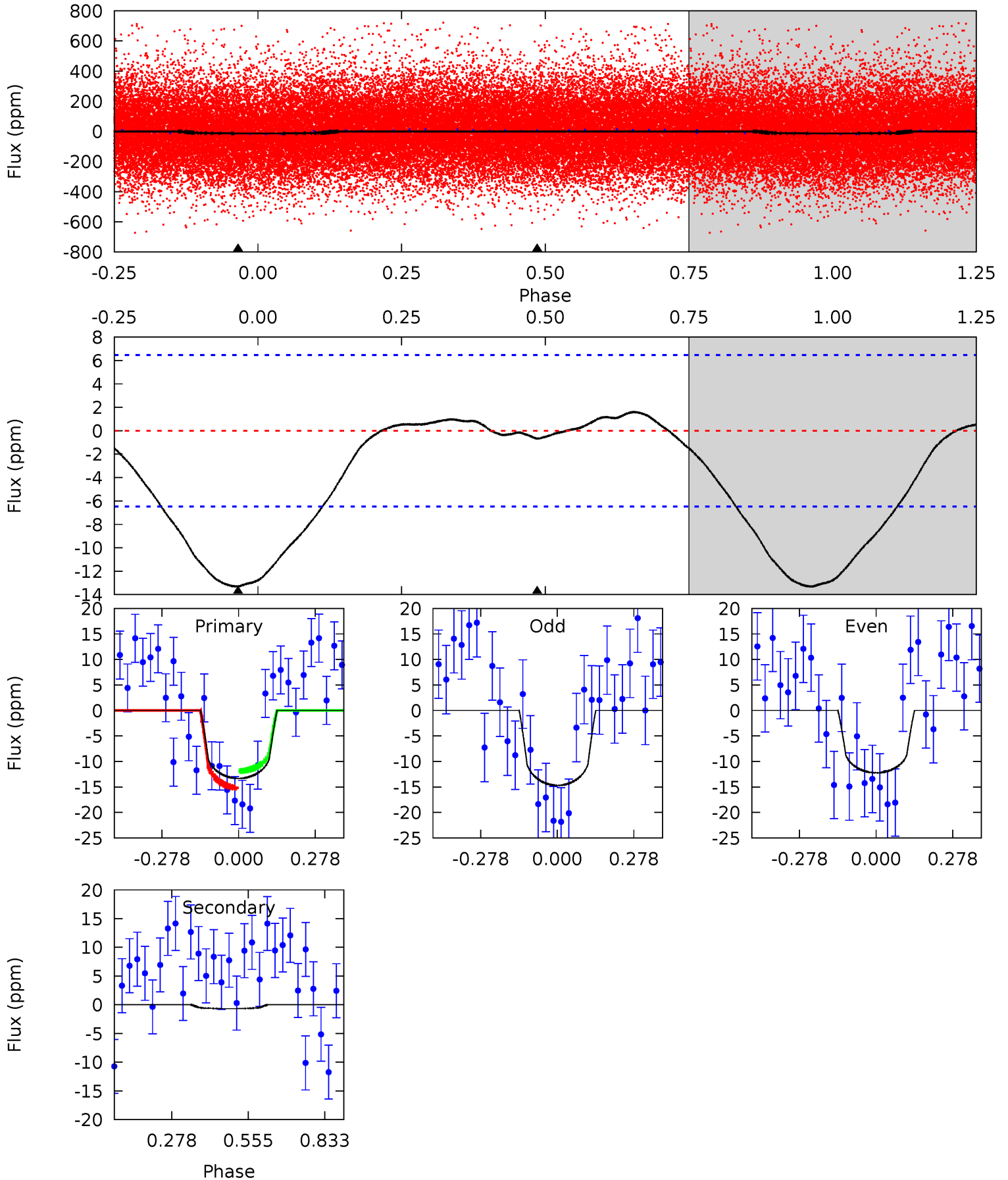
TCE 004633458-01 P= 0.712774 Days $T_0=132.140905$ (BKJD)



DV Model-Shift Uniqueness Test

004633458-01, P = 0.712827 Days, E = 131.384372 Days

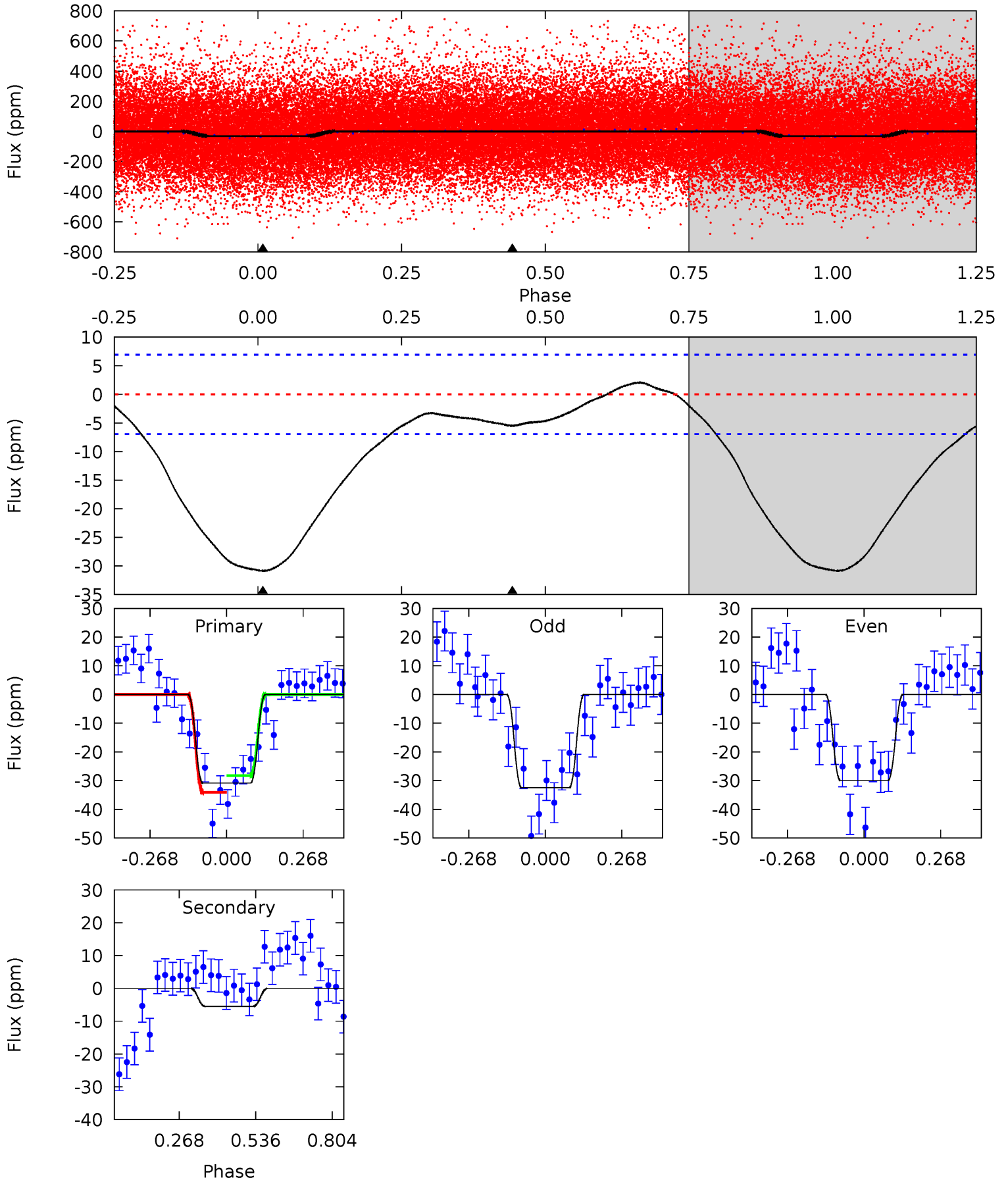
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.95	0.46	0	0	4.35	1.09	0.32	8.95	8.95	0.46	0.46	0.82	0.95	0.11	1.12



Alt Model-Shift Uniqueness Test

004633458-01, P = 0.712774 Days, E = 131.428131 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.4	3.45	0	0	4.35	1.11	1.12	19.4	19.4	3.45	3.45	0.81	1.14	0.06	1.81



Stellar Parameters For KIC 004633458

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6339^{+153}_{-192}	$4.393^{+0.070}_{-0.210}$	$-0.120^{+0.250}_{-0.300}$	$1.112^{+0.370}_{-0.123}$	$1.112^{+0.172}_{-0.125}$	$1.138^{+0.340}_{-0.622}$
	+2%/-3%	+2%/-5%	+208%/-250%	+33%/-11%	+15%/-11%	+30%/-55%
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 004633458-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1 ± 1	$0.48^{+0.26}_{-0.25}$	3283^{+260}_{-148}	-2222^{+6751}_{-1659}	$0.285^{+2.001}_{-0.879}$
Alt.	-5 ± 2	$0.72^{+0.31}_{-0.26}$	3299^{+235}_{-164}	4073^{+950}_{-623}	$1.423^{+2.200}_{-0.725}$

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

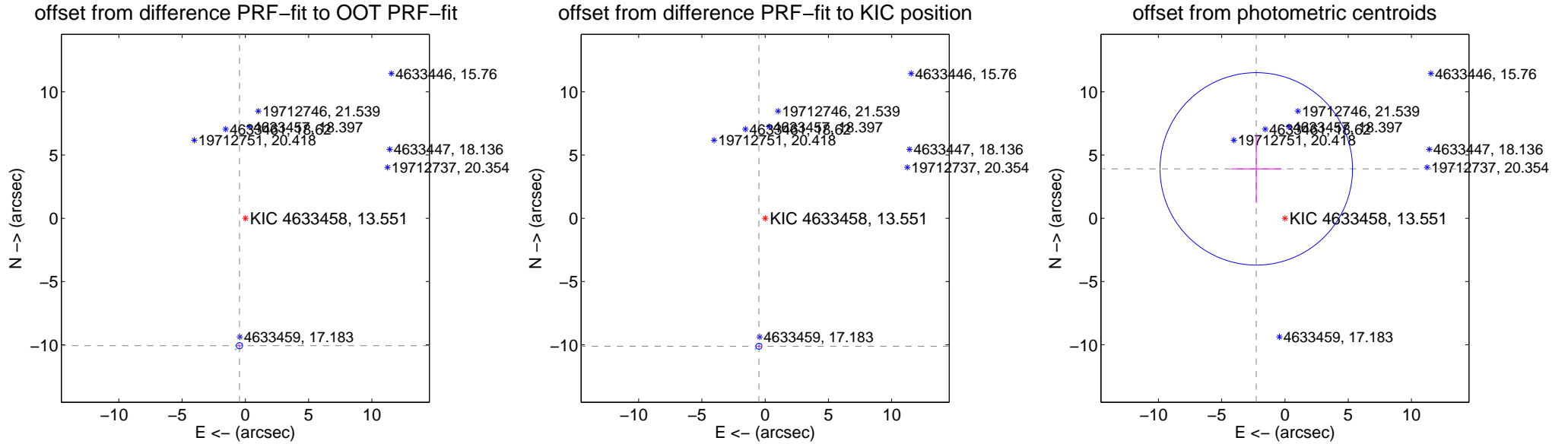
DV Centroid Data

Supplemental centroid analysis for 004633458-01. Kepler magnitude: 13.55. Transit SNR 5.81

There are 13 quarters with good PRF difference image offsets

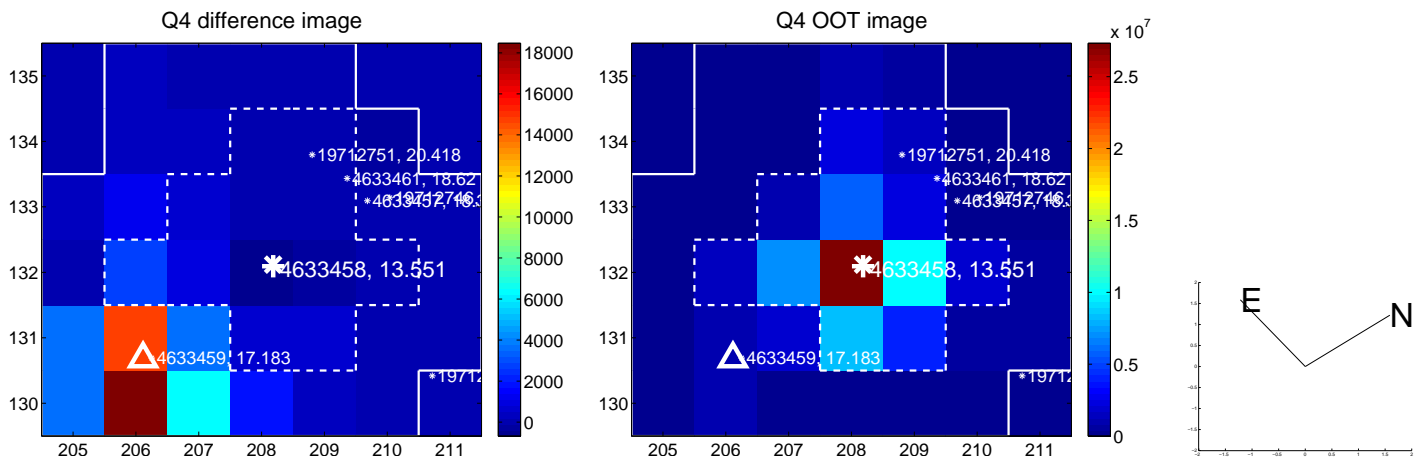
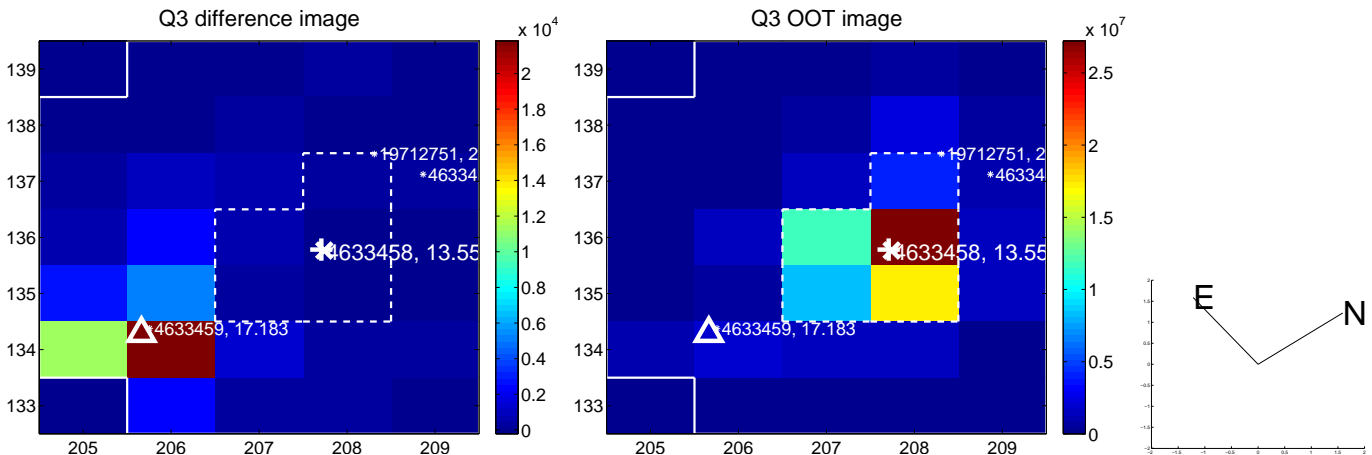
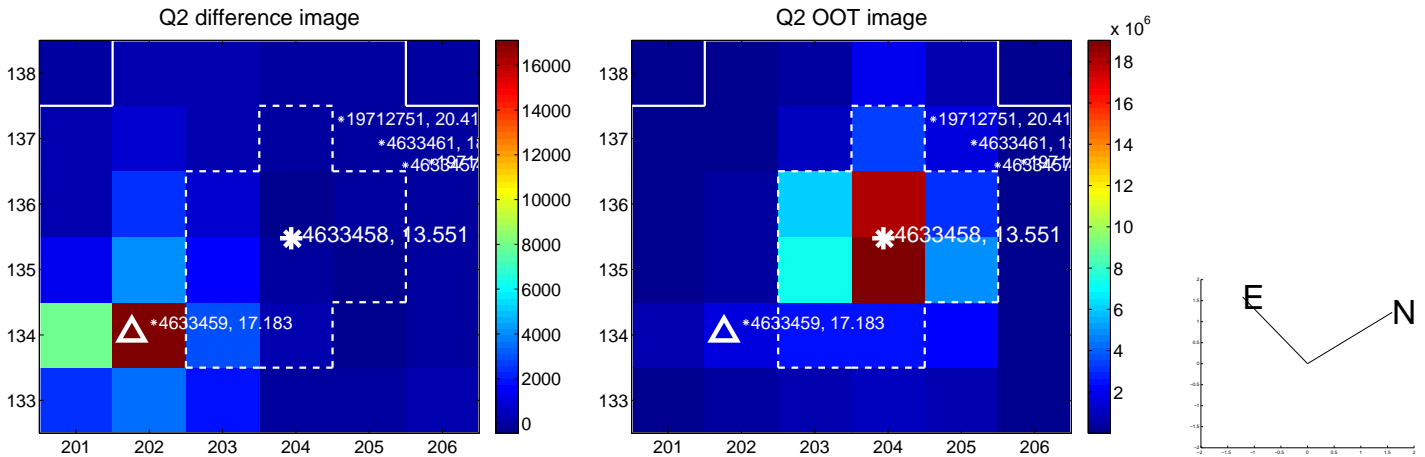
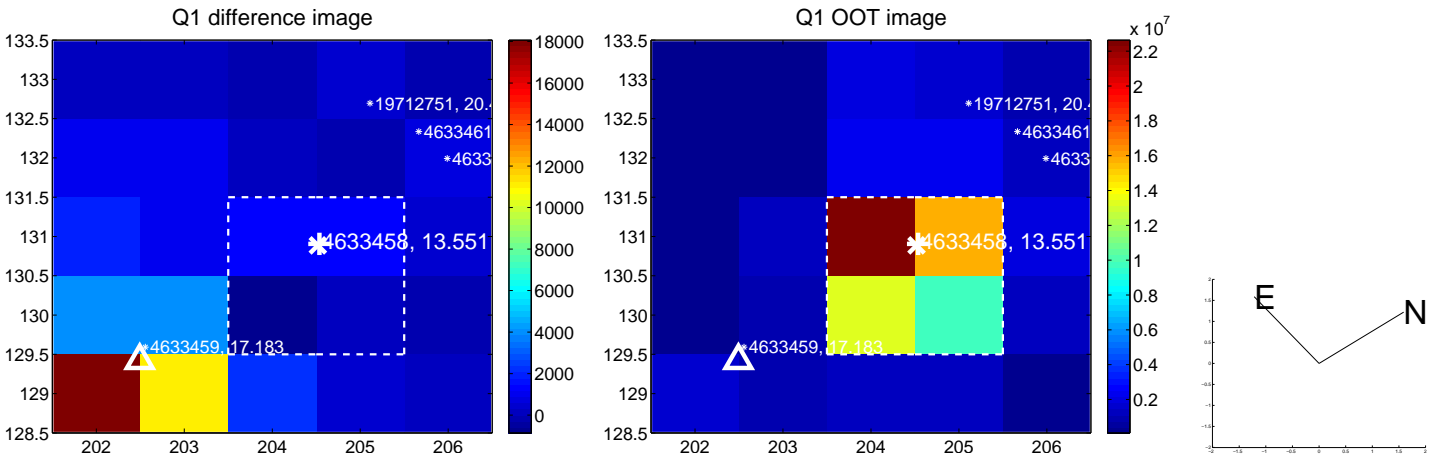
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	10.083 \pm 0.082	123.22	0.466 \pm 0.089	-10.073 \pm 0.082
PRF-fit source offset from KIC position	10.130 \pm 0.079	127.82	0.493 \pm 0.082	-10.118 \pm 0.078
photometric centroid source offset	4.52 \pm 2.54	1.78	2.27 \pm 1.99	3.91 \pm 2.69

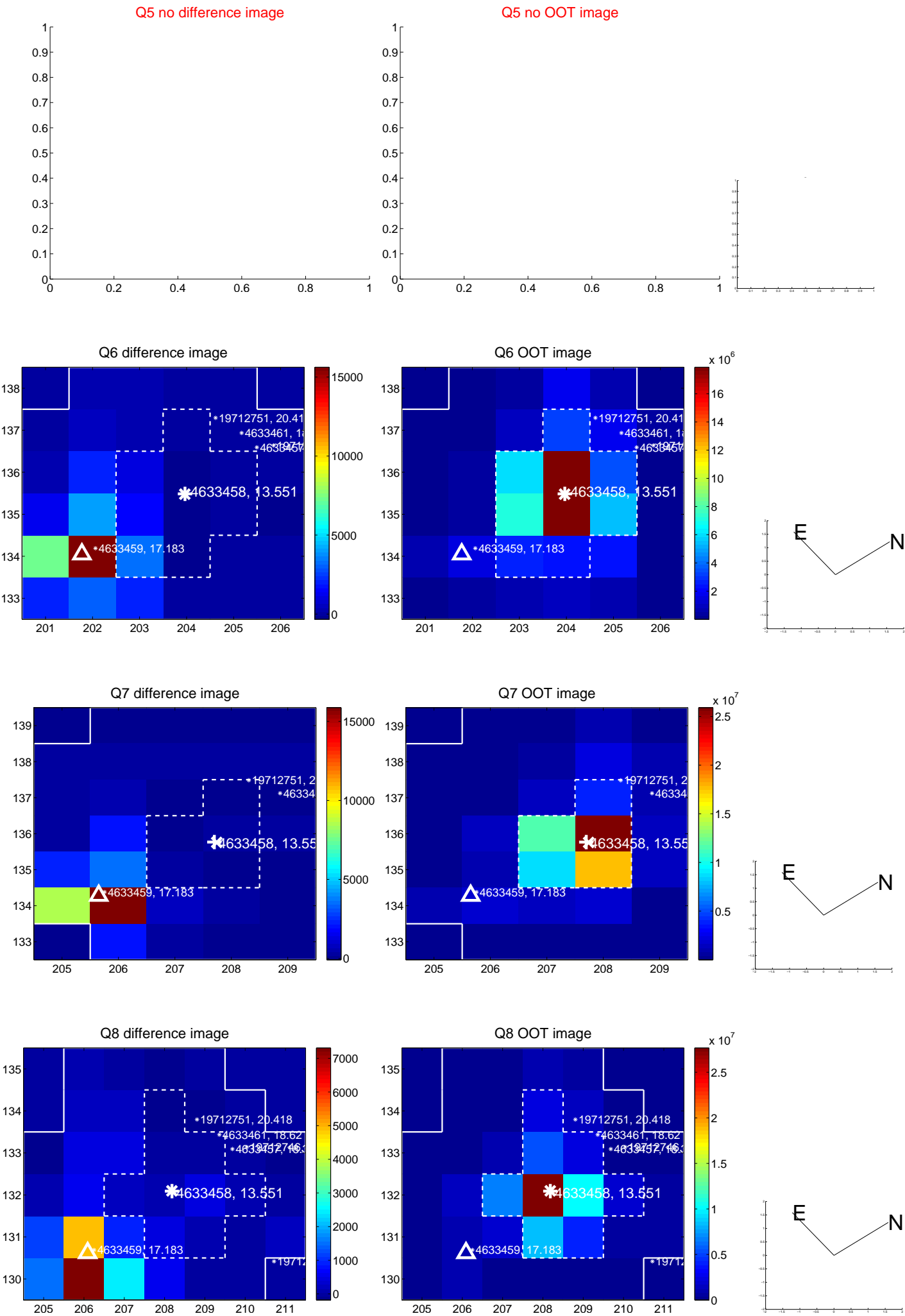


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

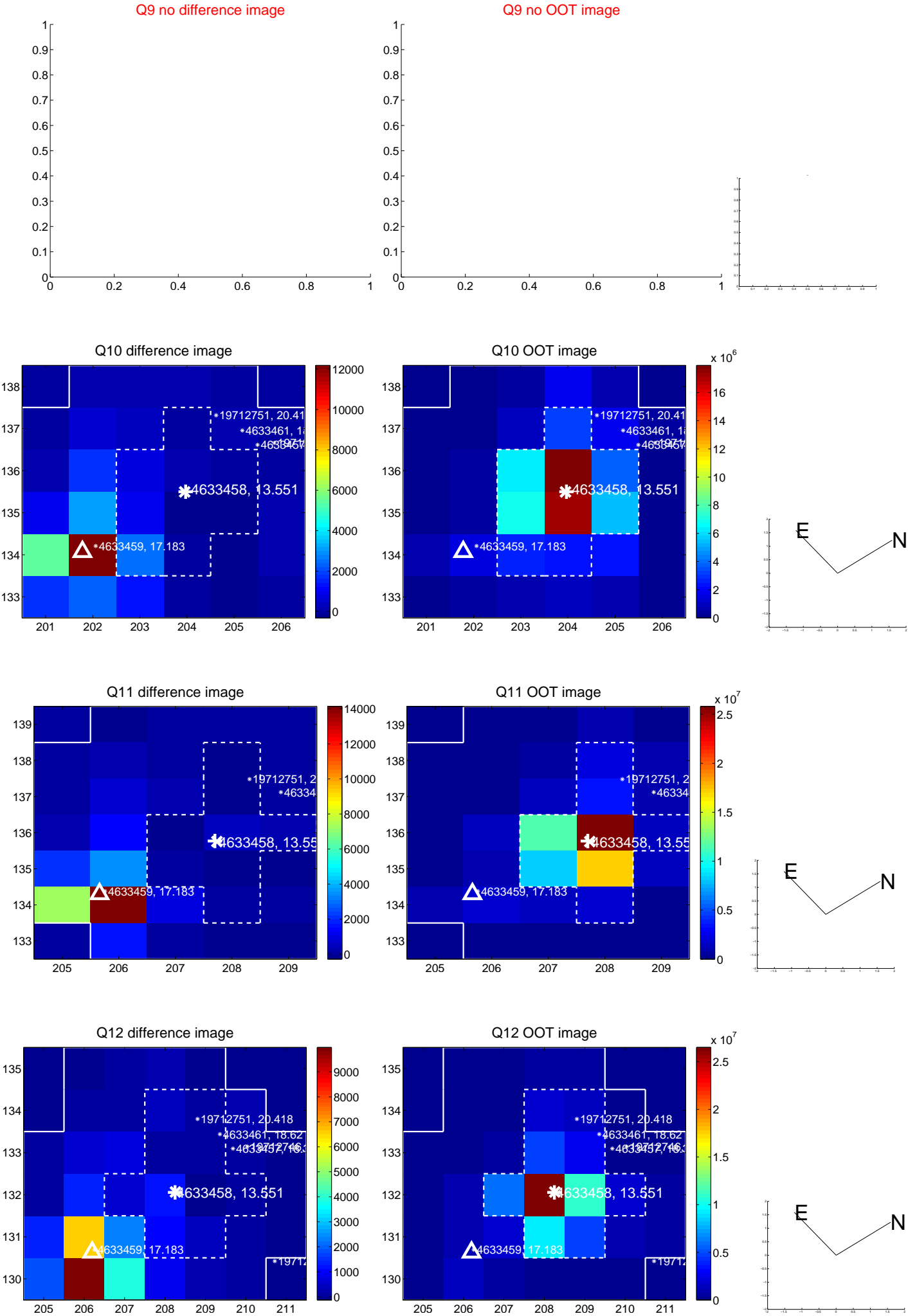
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



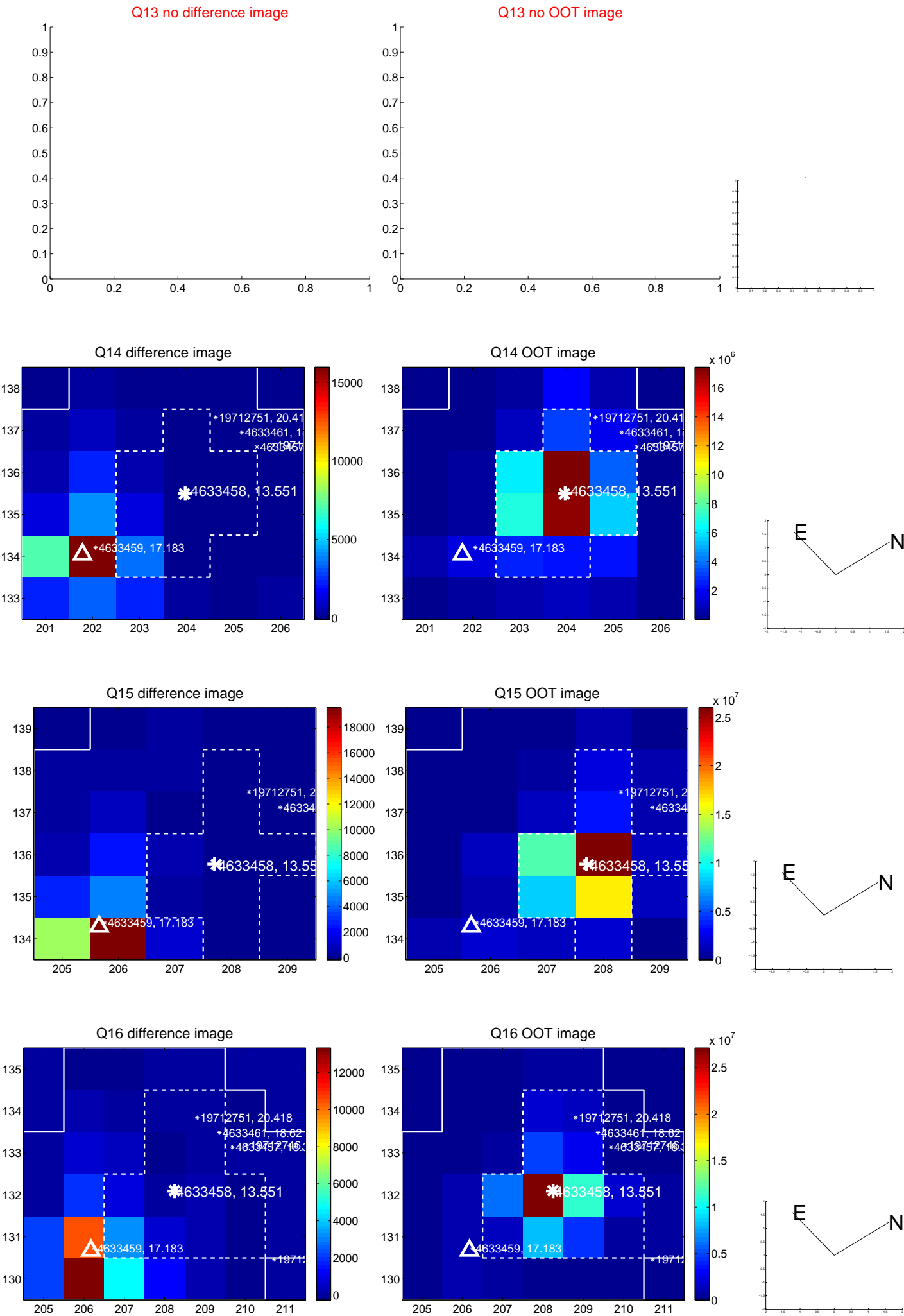
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



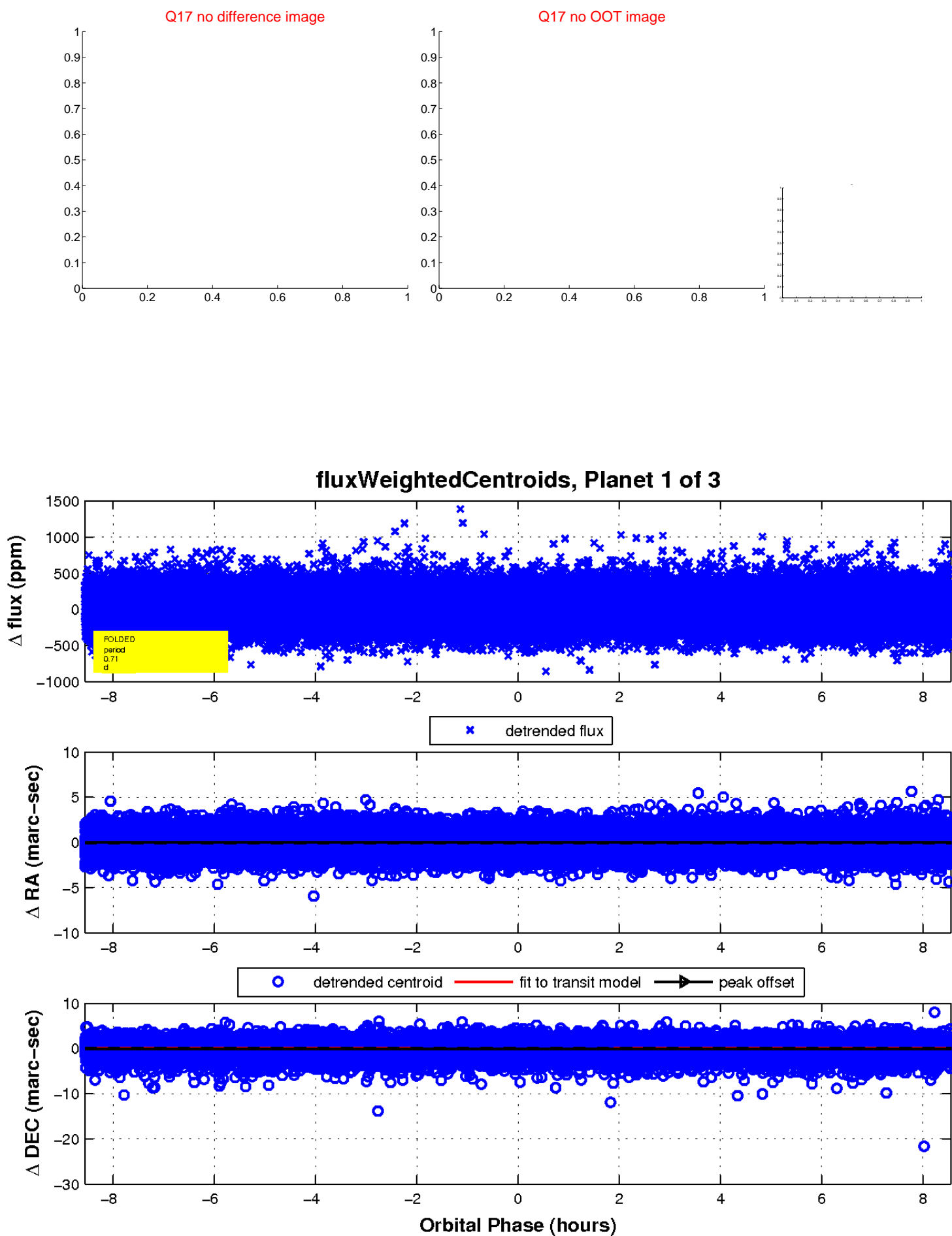
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

