

KIC 010221886

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})
010221886-01	OBS	No	8.315384	138.819334	212.9	29.818	12.3	16.2	2.15	6394	6.19	924.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010221886-01	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

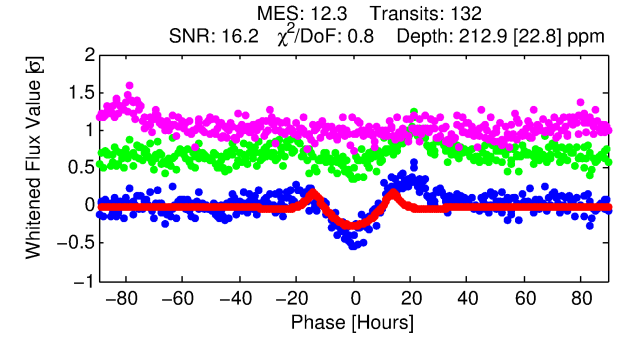
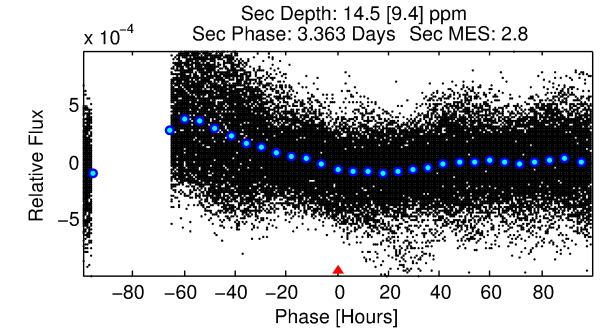
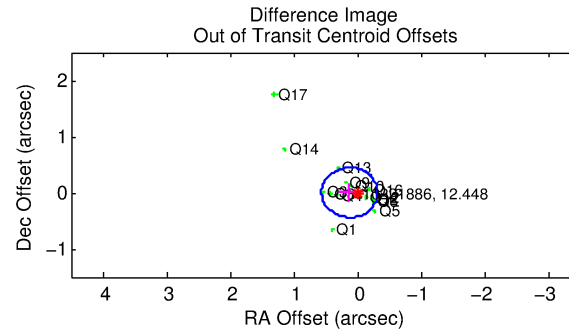
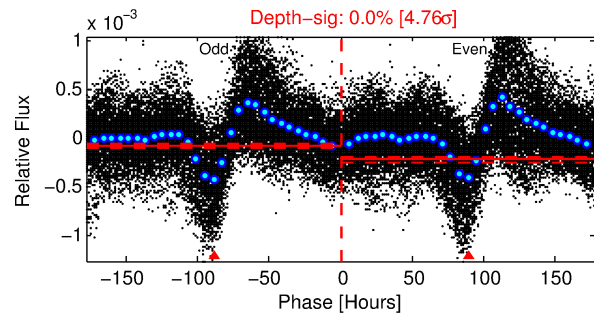
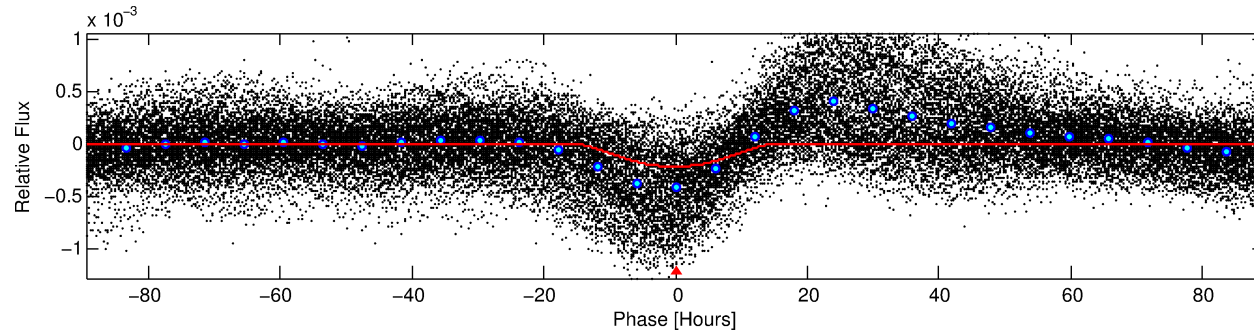
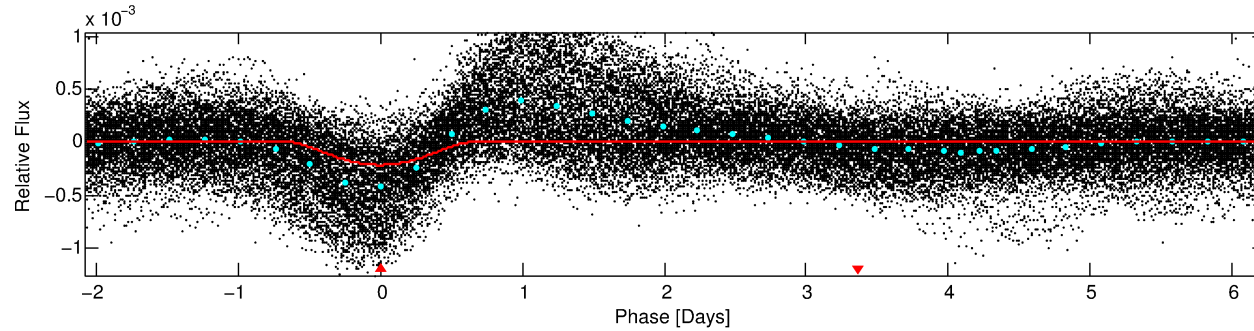
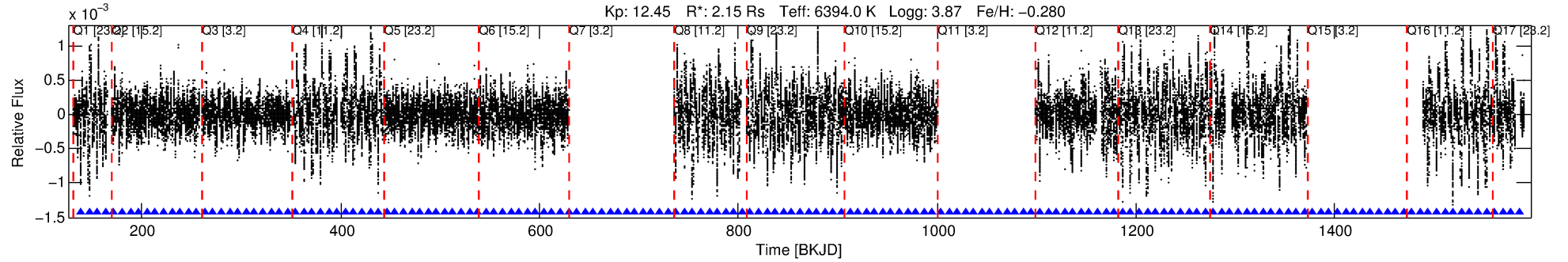
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010221886-01

No Significant Match Found

DV One-Page Summary

KIC: 10221886 Candidate: 1 of 1 Period: 8.315 d



DV Fit Results:

Period = 8.31538 [0.00023] d
Epoch = 138.8193 [0.0204] BKJD
Rp/R* = 0.0264 [0.0140]
a/R* = 1.12 [0.01]
b = 1.00 [0.02]
Seff = 924.20 [469.93]
Teff = 1406 [179] K
Rp = 6.19 [3.84] Re
a = 0.0865 [0.0268] AU
Ag = 1.56 [2.09] [0.27σ]
Teffp = 2428 [759] K [1.31σ]

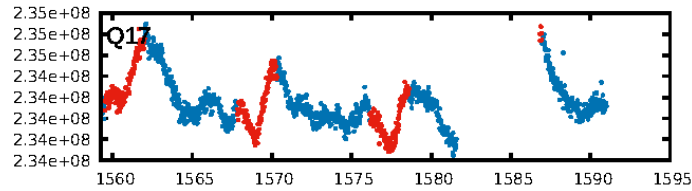
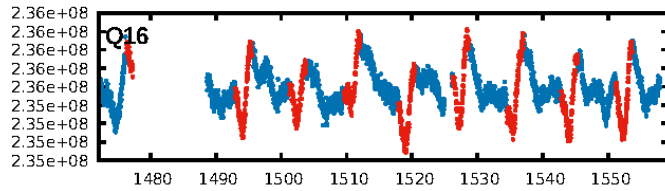
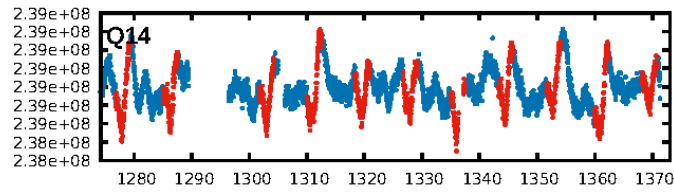
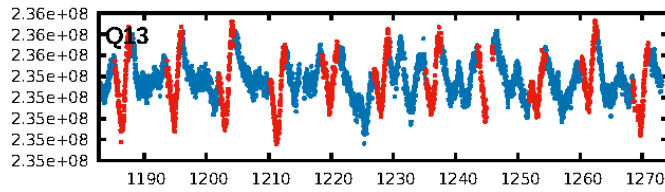
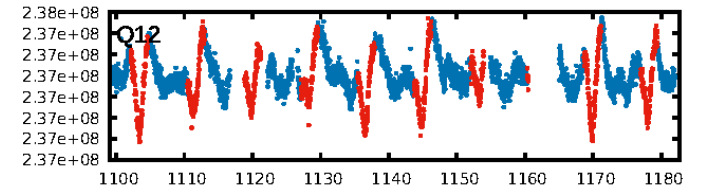
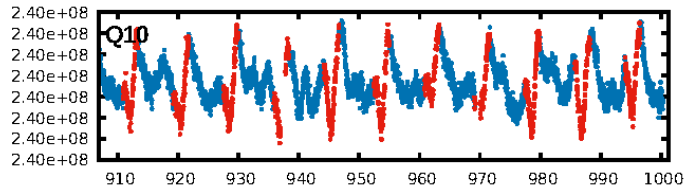
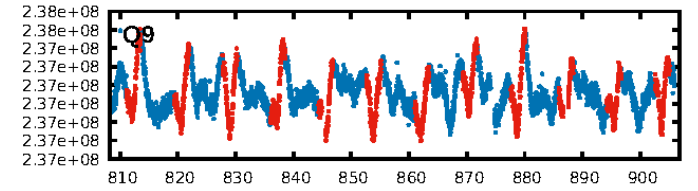
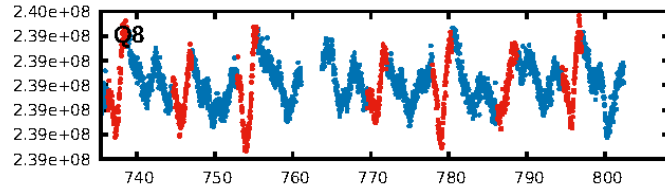
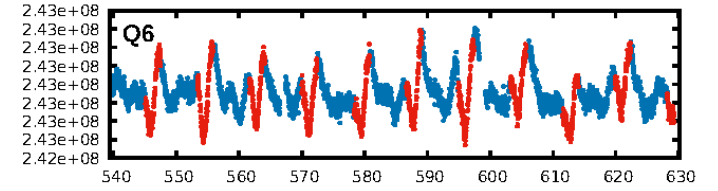
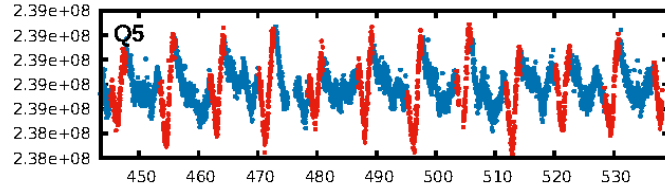
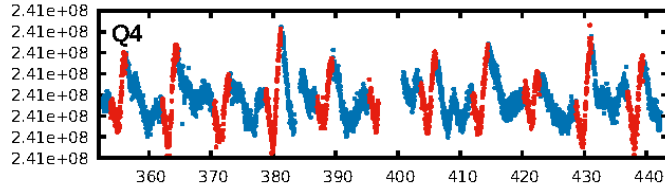
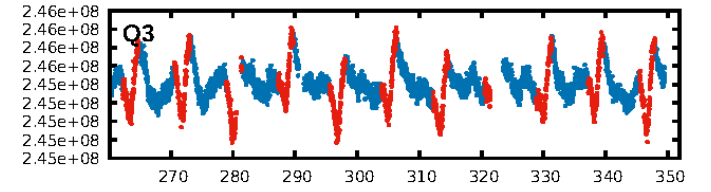
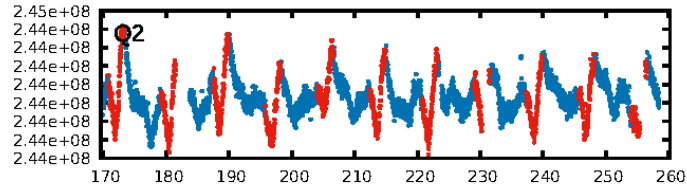
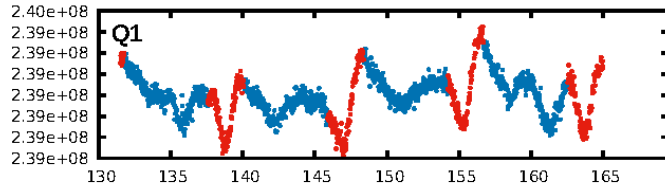
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 32.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.97e-33
RollingBand-fgt: 1.00 [125/125]
GhostDiagnostic-chr: 0.9655
Centroid-sig: 41.7%
Centroid-so: 0.164 arcsec [1.30σ]
OotOffset-rm: 0.121 arcsec [0.82σ]
KicOffset-rm: 0.184 arcsec [1.36σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

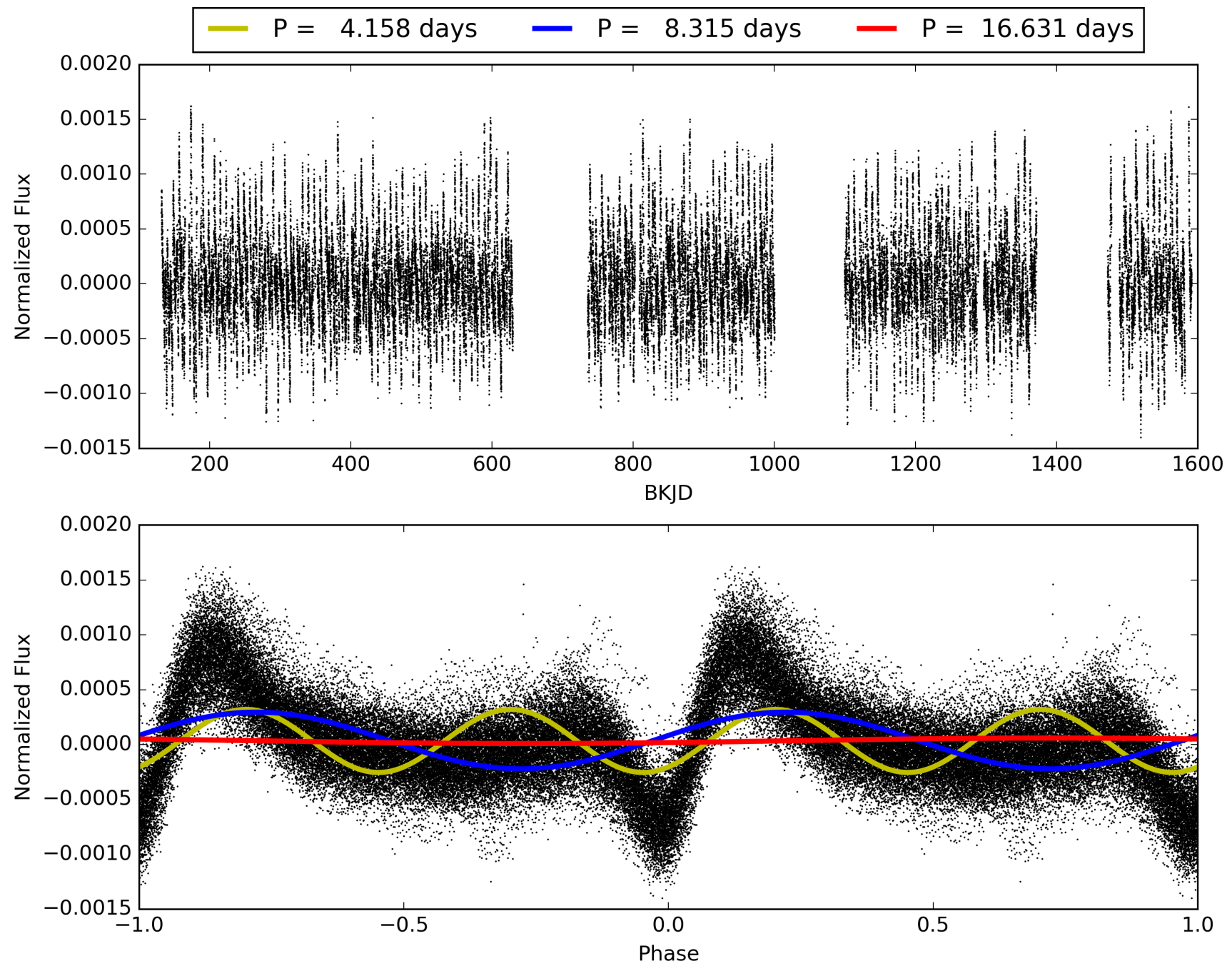
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:59:16 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 010221886-01, PDC Light Curves

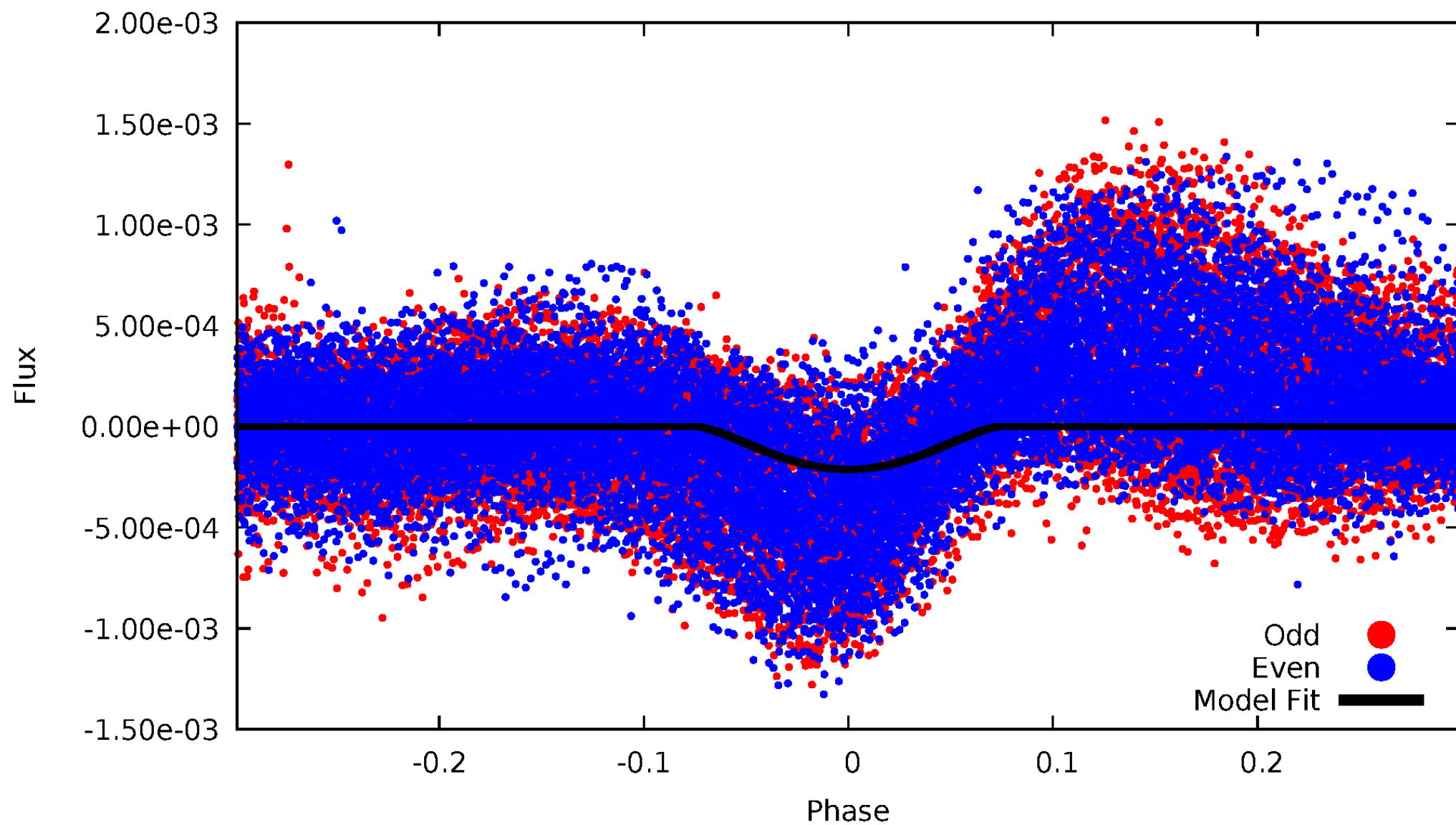


TCE 010221886-01



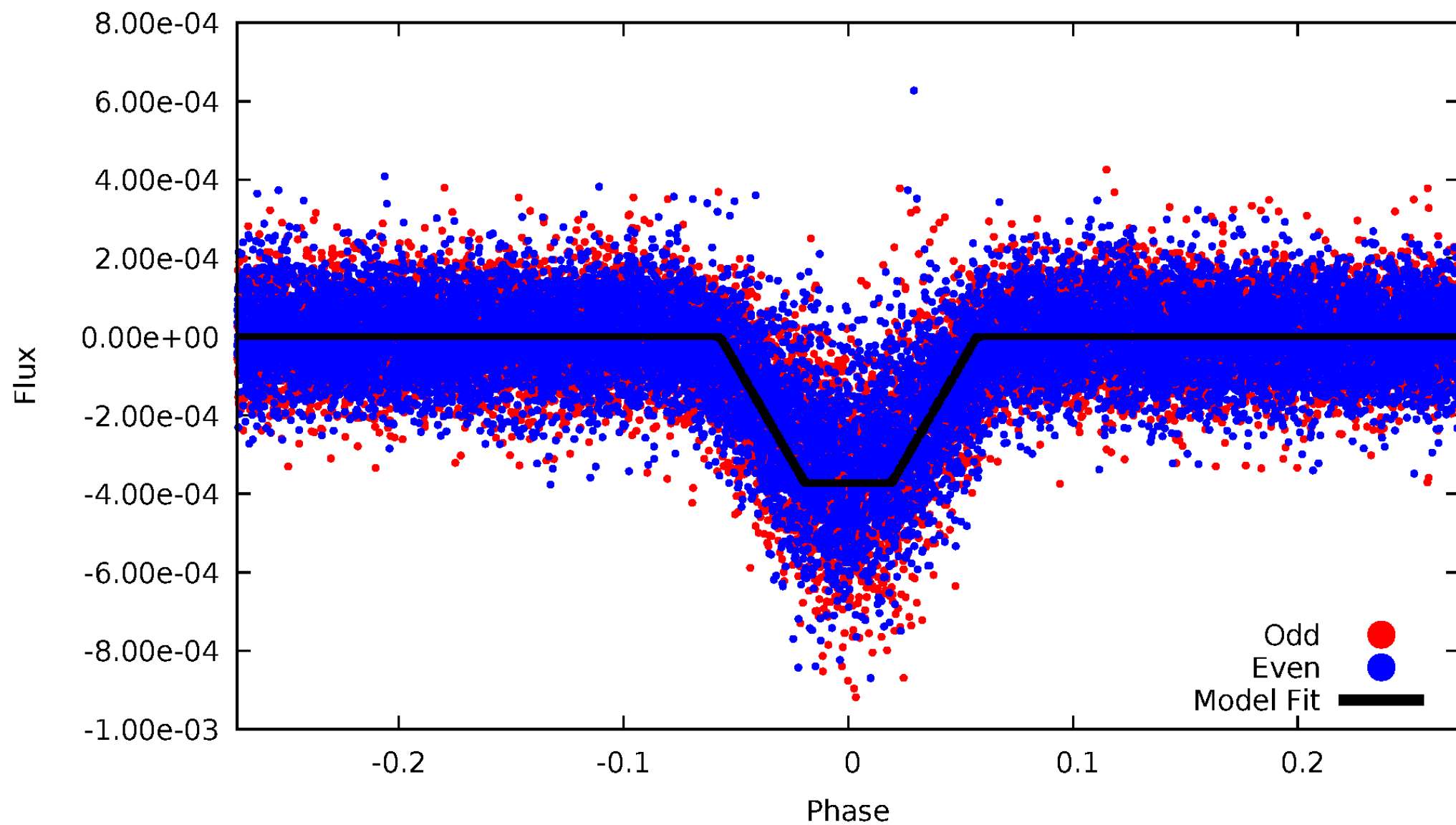
DV Odd/Even

TCE 010221886-01



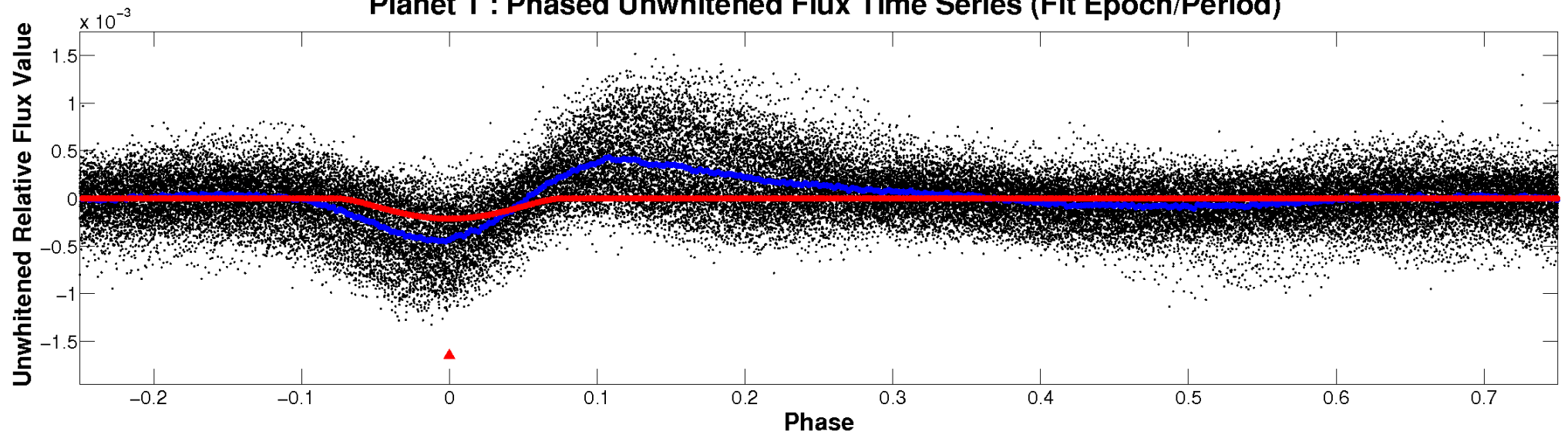
ALT Odd/Even

TCE 010221886-01

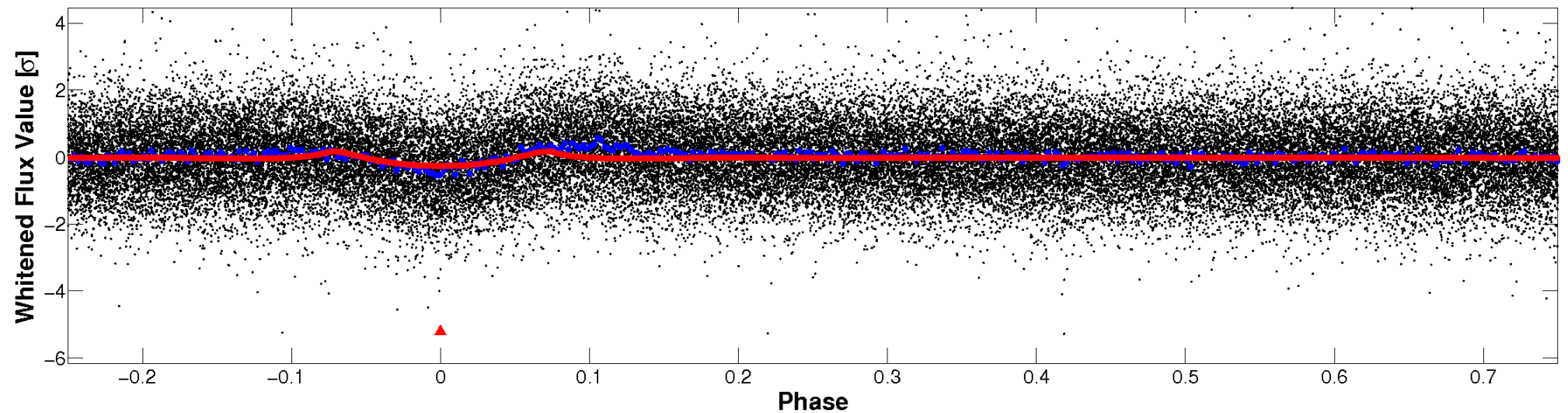


Non-Whitened Vs. Whitened Light Curve

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

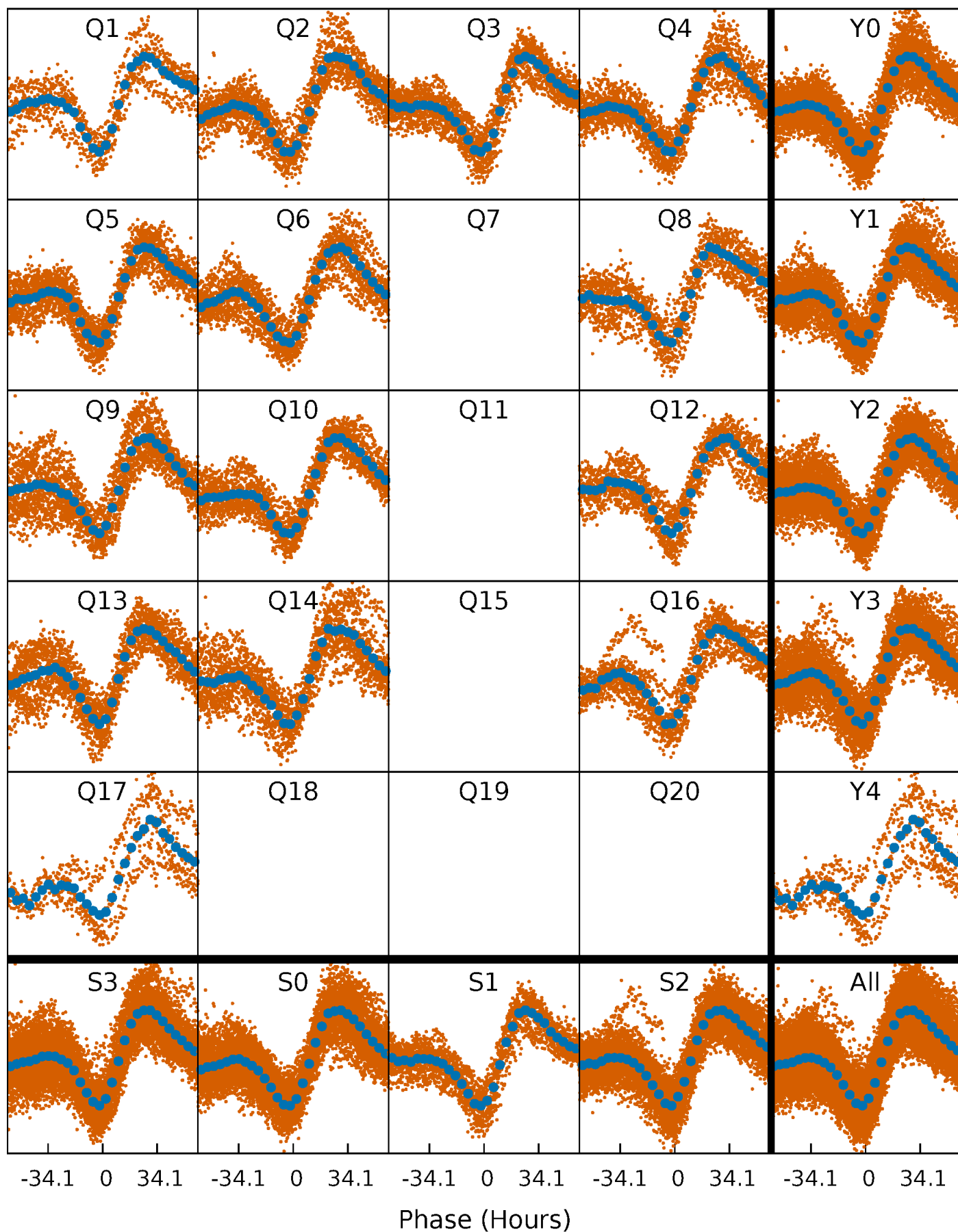


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



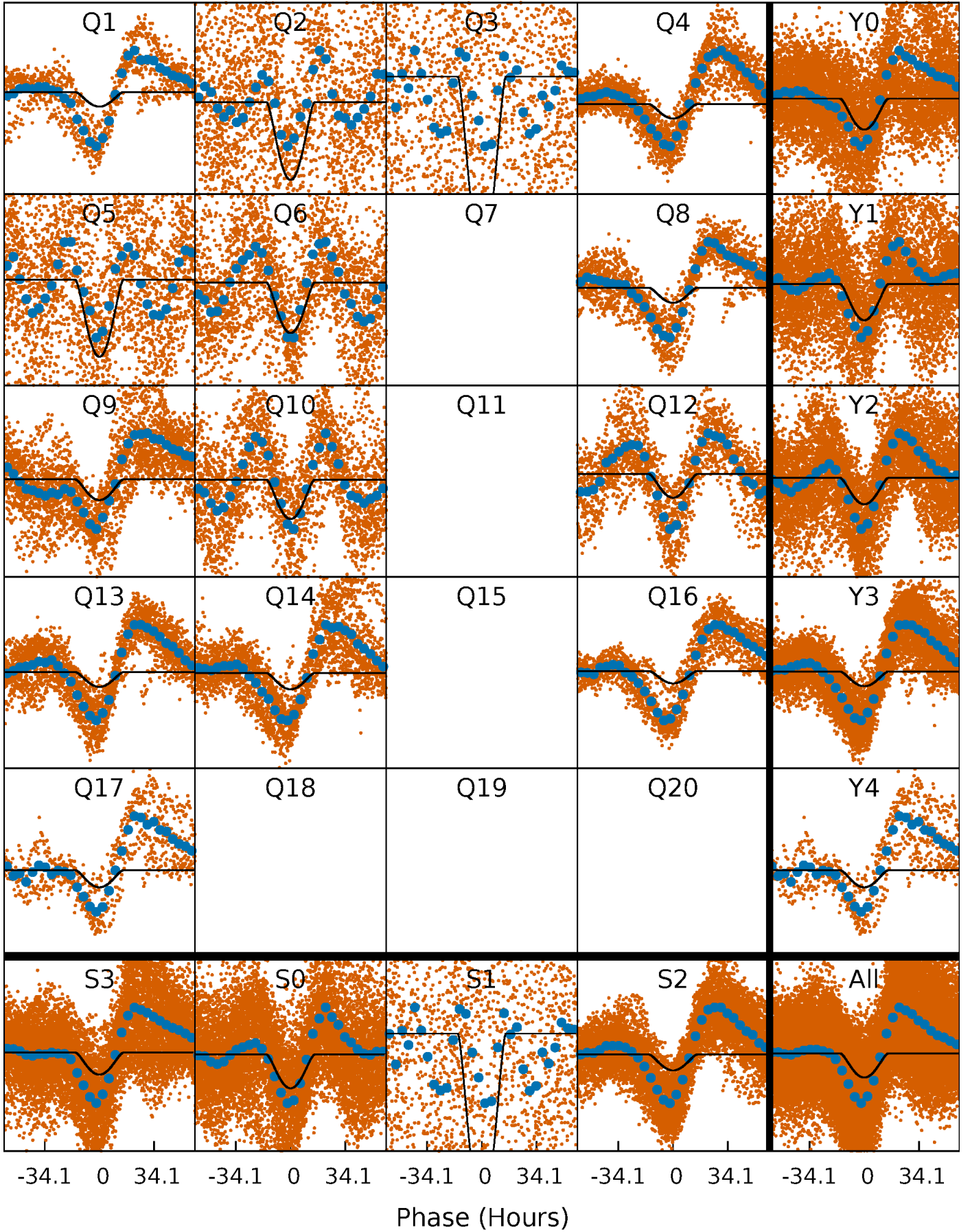
PDC Quarter-Phased Transit Curves

TCE 010221886-01 P= 8.315384 Days $T_0=138.819334$ (BKJD)



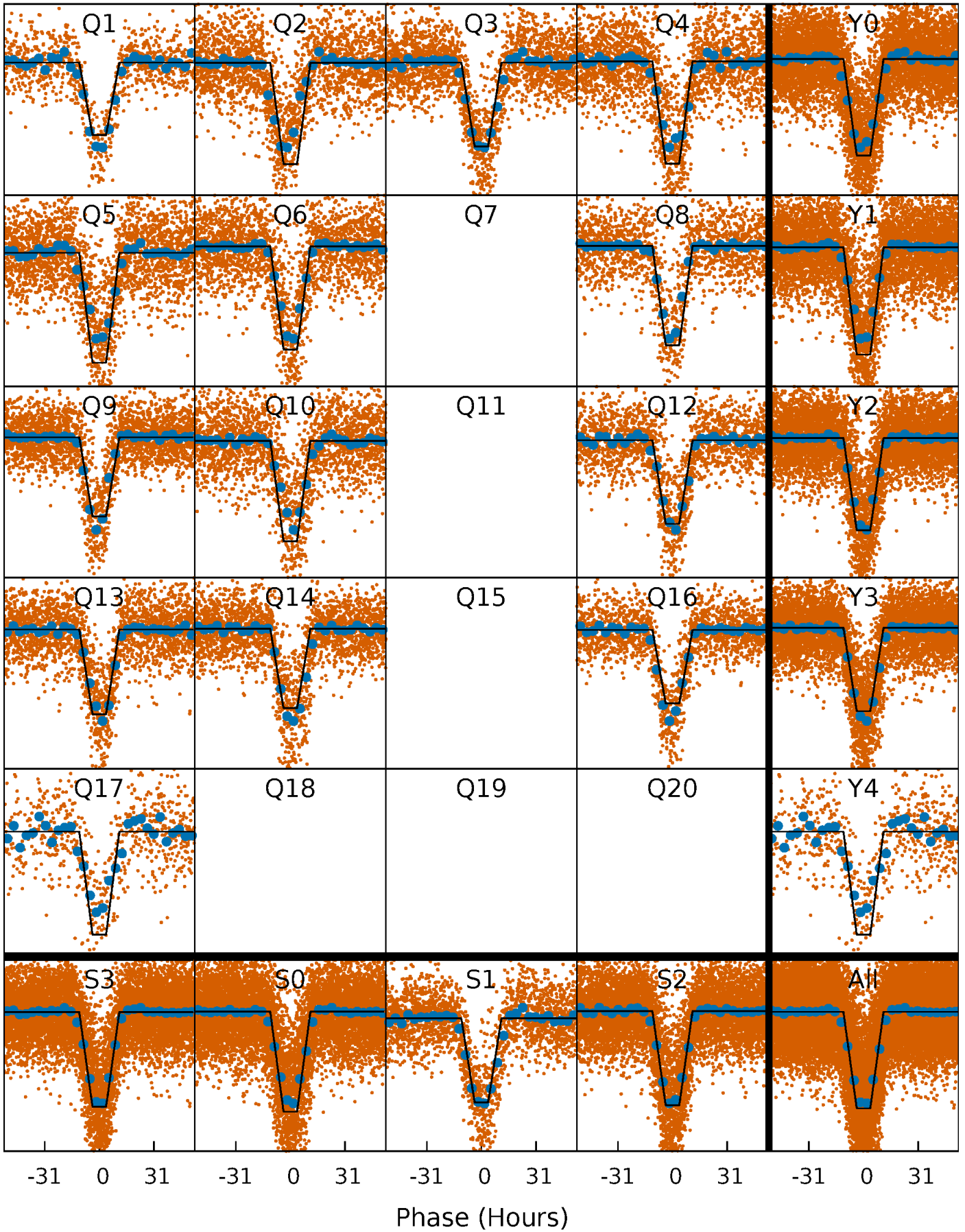
DV Quarter-Phased Transit Curves

TCE 010221886-01 P= 8.315384 Days $T_0=138.819334$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

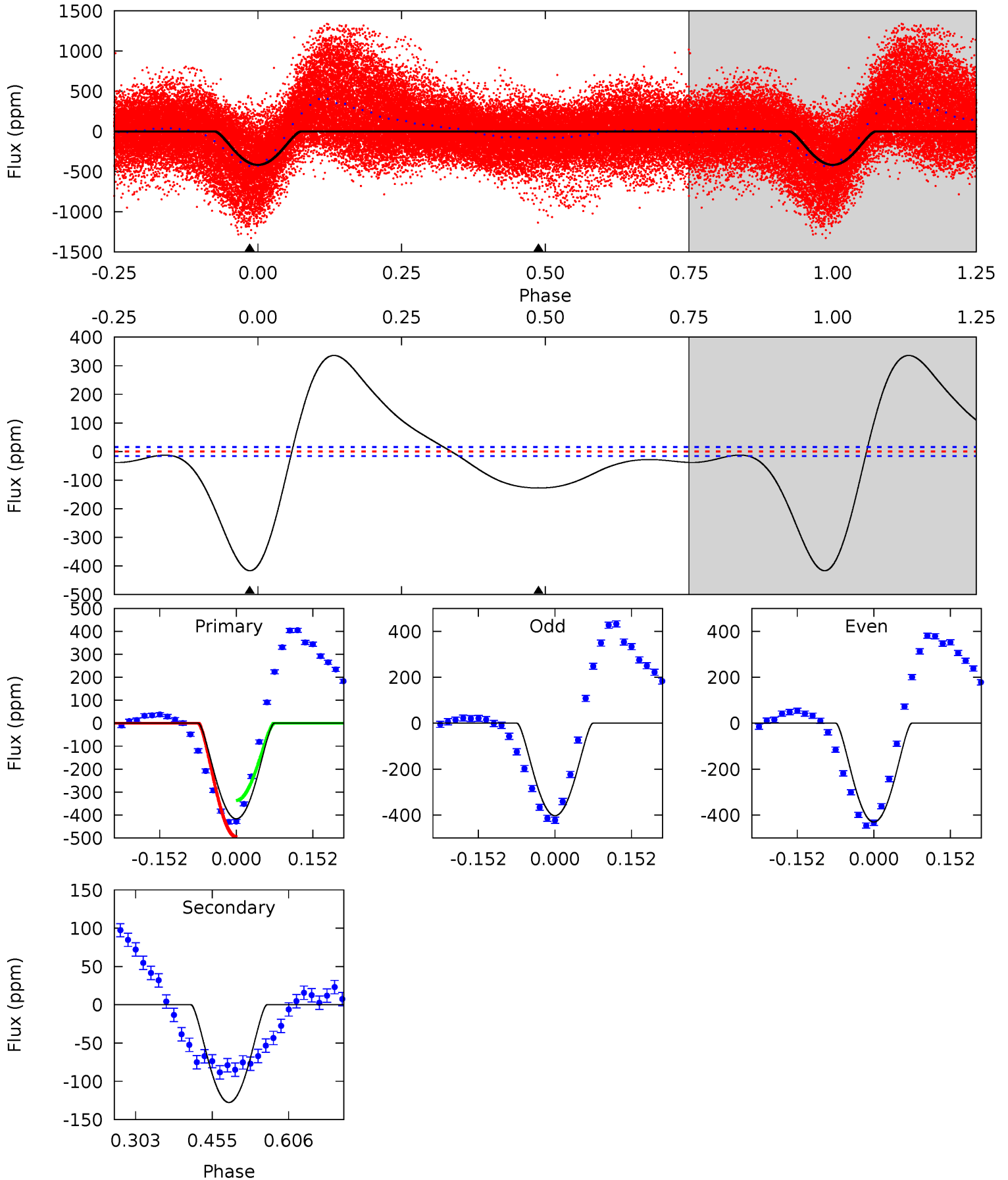
TCE 010221886-01 P= 8.314957 Days $T_0=138.824138$ (BKJD)



DV Model-Shift Uniqueness Test

010221886-01, P = 8.315384 Days, E = 130.503950 Days

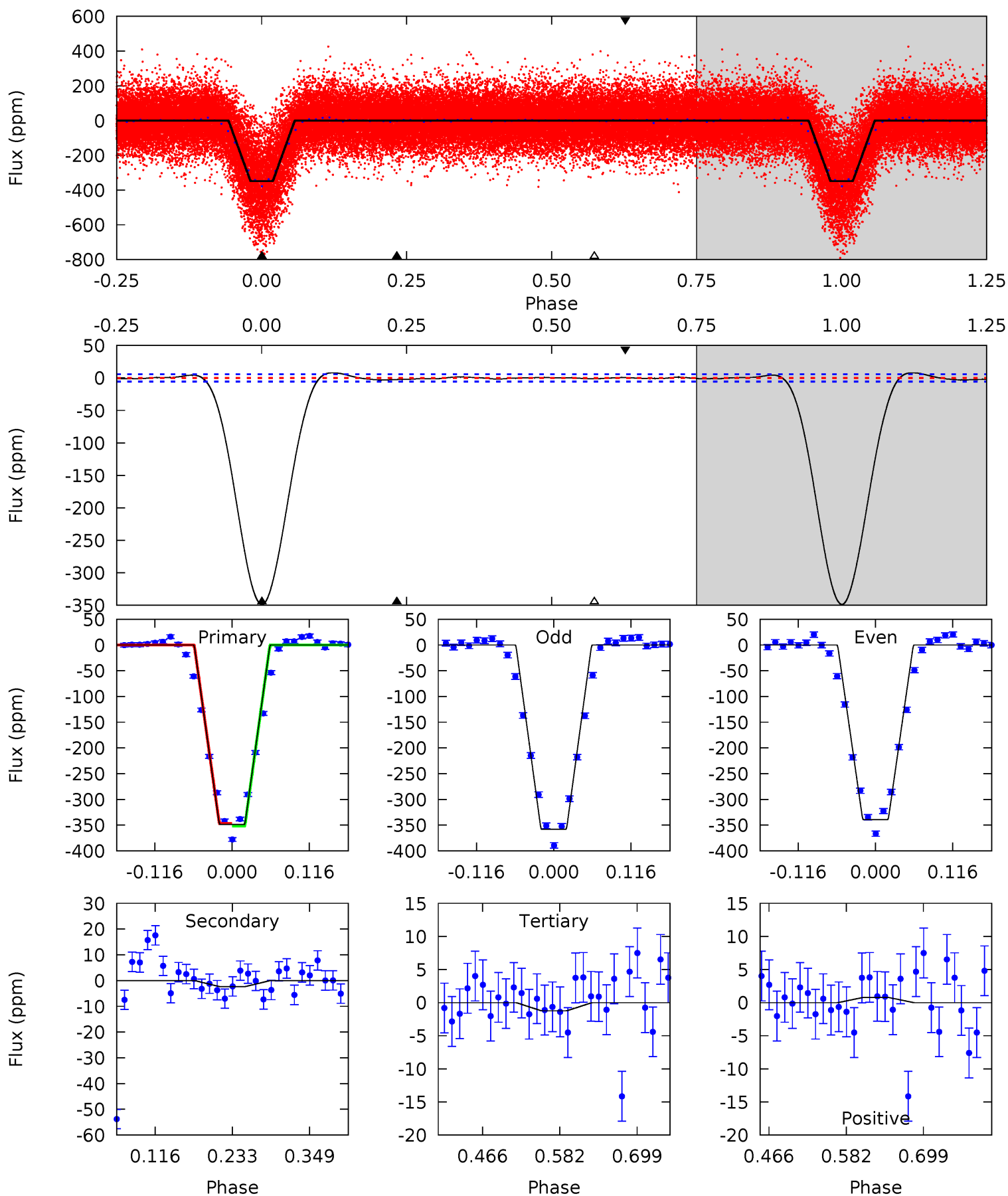
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
117.0	35.9	0	0	4.48	1.43	32.5	117.0	117.0	35.9	35.9	3.92	1.14	0.45	23.0



Alt Model-Shift Uniqueness Test

010221886-01, P = 8.314957 Days, E = 130.509181 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
279.6	1.89	0.99	0.62	4.53	1.57	0.88	278.6	279.0	0.90	1.27	7.53	0.99	0.02	1.92



Stellar Parameters For KIC 010221886

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6394^{+175}_{-175}	$3.870^{+0.292}_{-0.097}$	$-0.280^{+0.300}_{-0.250}$	$2.150^{+0.459}_{-0.689}$	$1.251^{+0.221}_{-0.221}$	$0.177^{+0.358}_{-0.054}$
	+3%/-3%	+8%/-3%	+107%/-89%	+21%/-32%	+18%/-18%	+202%/-30%
Source	PHO1	FLK73	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 010221886-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-128 ± 4	$5.87^{+3.24}_{-2.76}$	1925^{+125}_{-150}	4340^{+1398}_{-594}	15^{+40}_{-9}
Alt.	-2 ± 1	$4.59^{+3.14}_{-2.64}$	1921^{+115}_{-167}	2169^{+970}_{-4495}	$0.422^{+2.229}_{-0.306}$

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 $A_{obs} \gg 1.0$

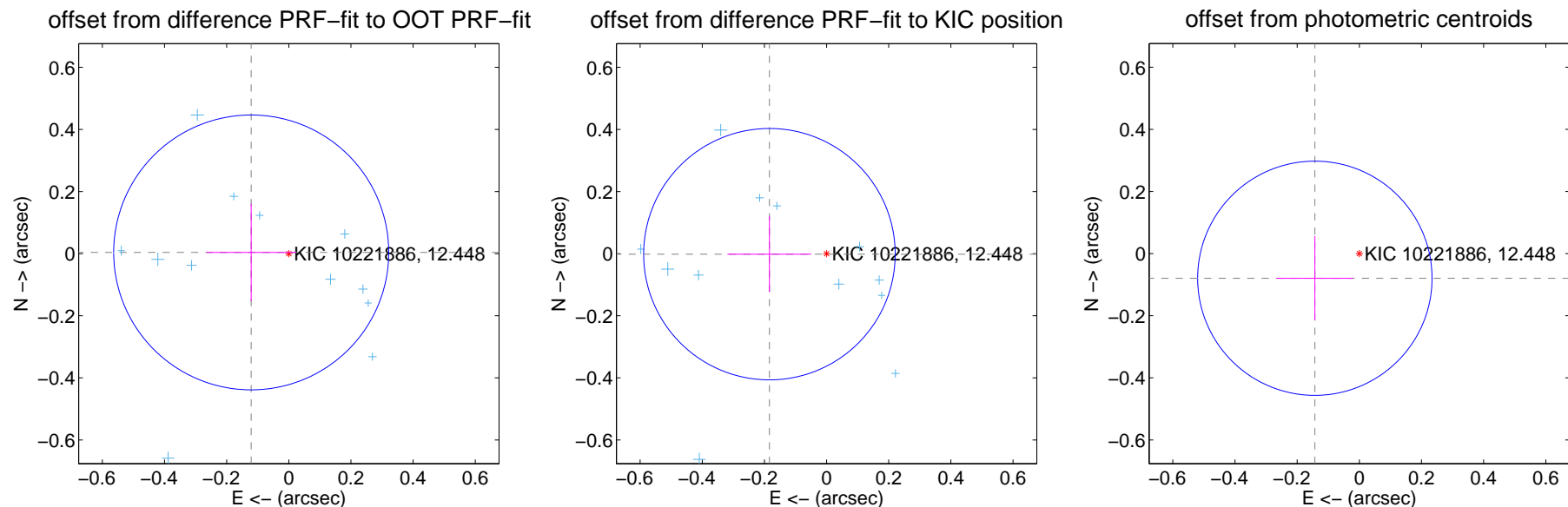
DV Centroid Data

Supplemental centroid analysis for 010221886-01. Kepler magnitude: 12.45. Transit SNR 16.21

There are 14 quarters with good PRF difference image offsets

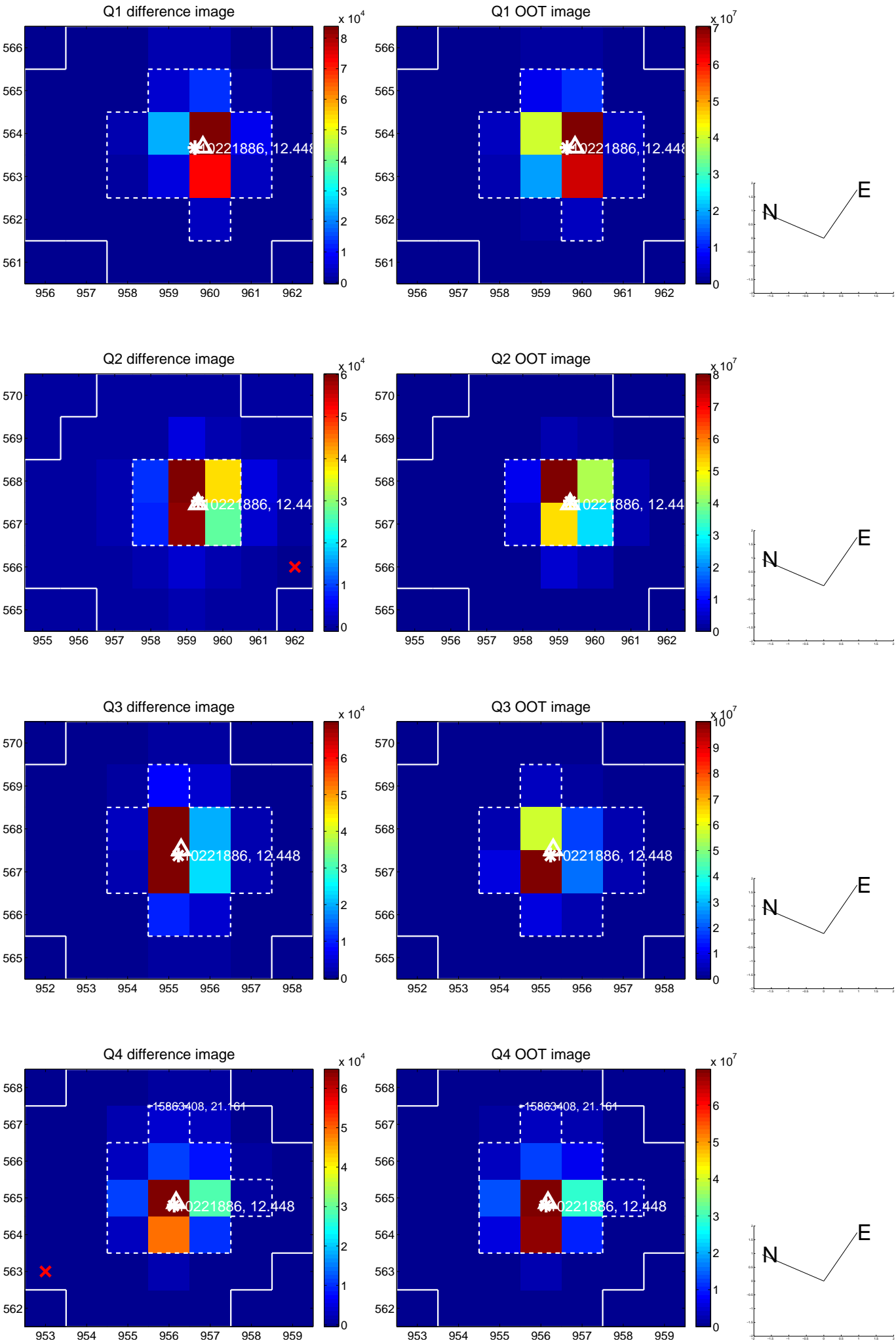
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.121 ± 0.148	0.82	0.121 ± 0.144	0.004 ± 0.157
PRF-fit source offset from KIC position	0.184 ± 0.135	1.36	0.184 ± 0.135	-0.002 ± 0.122
photometric centroid source offset	0.16 ± 0.13	1.30	0.14 ± 0.12	-0.08 ± 0.14

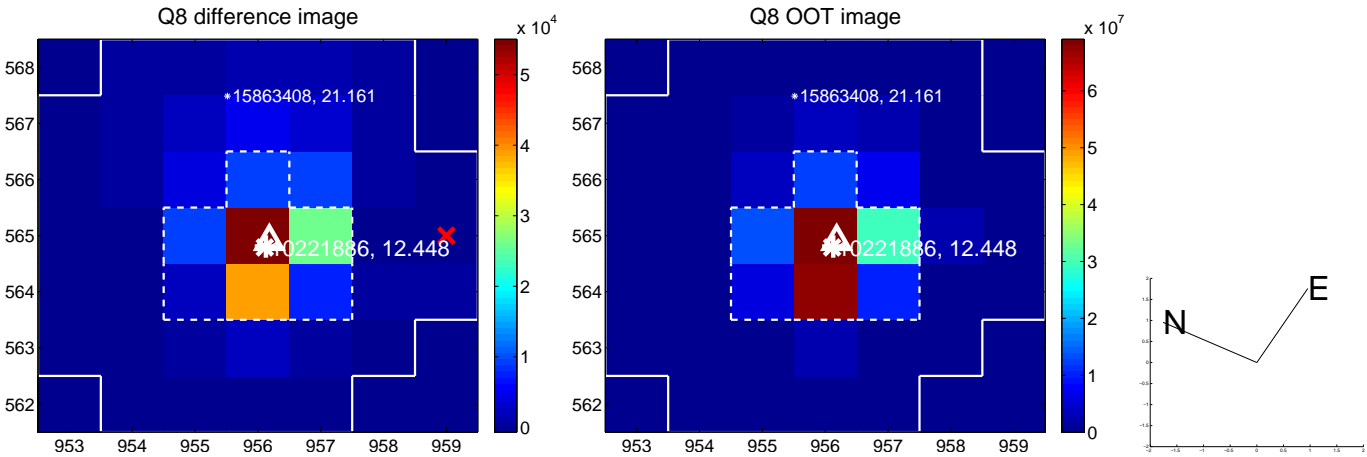
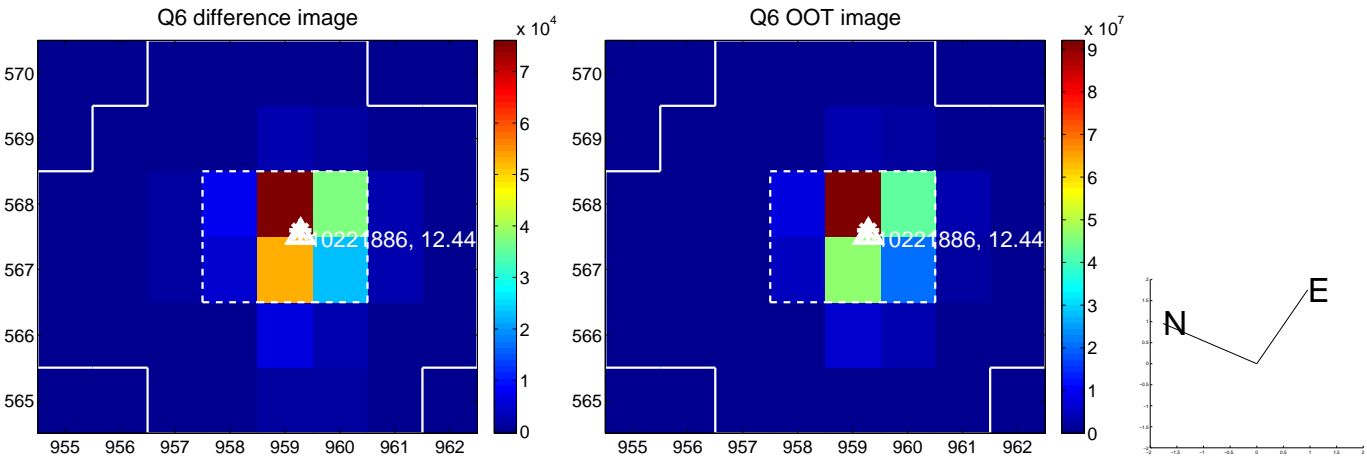
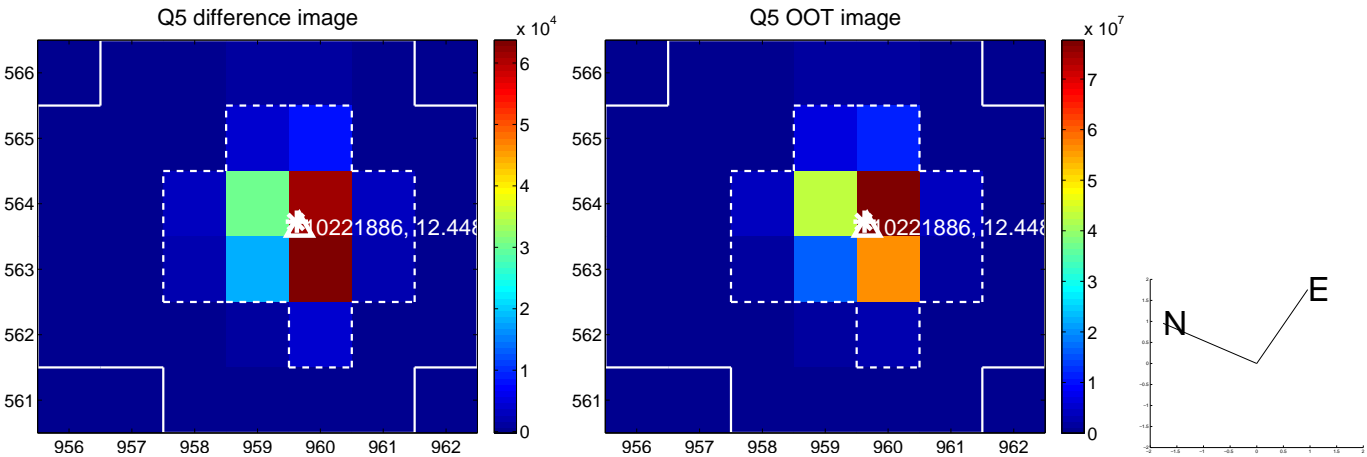


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

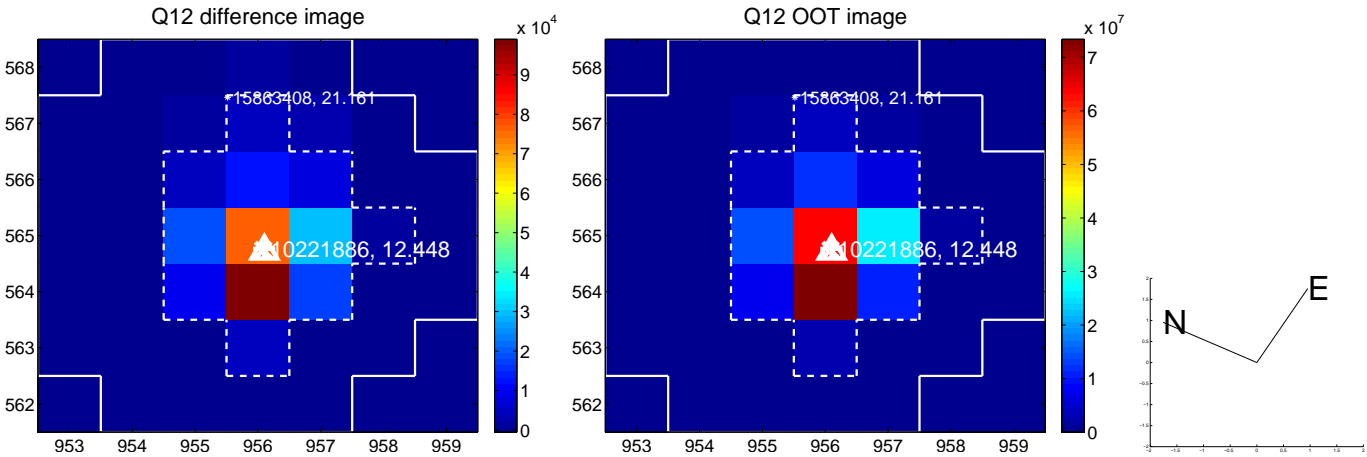
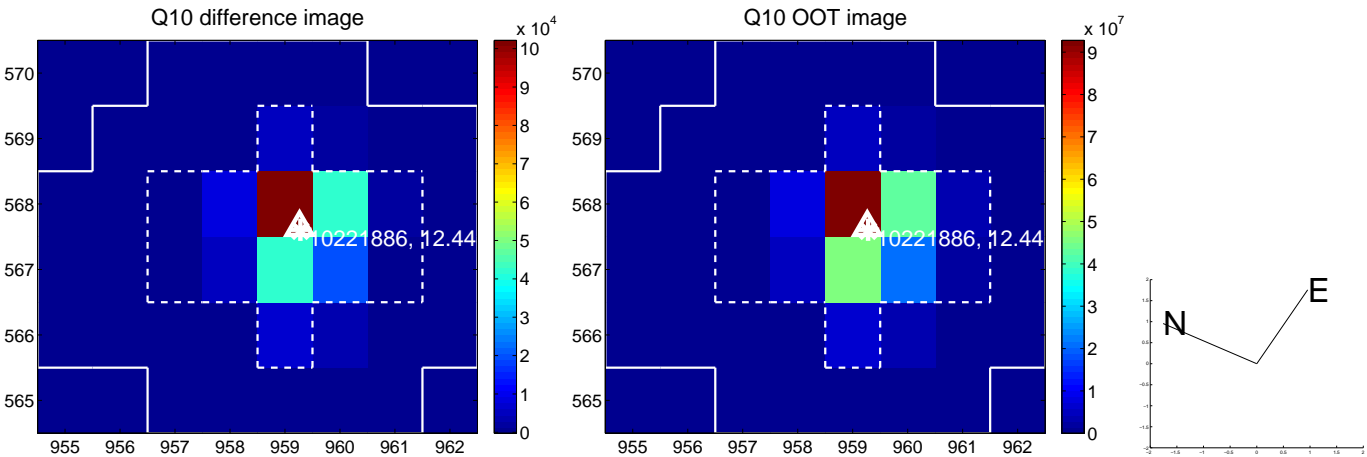
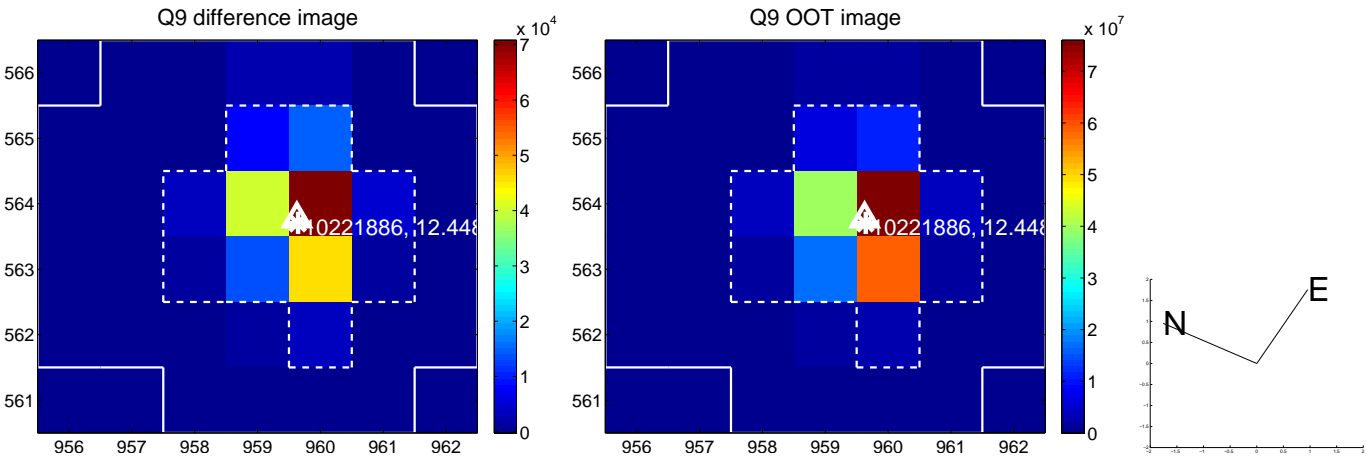
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



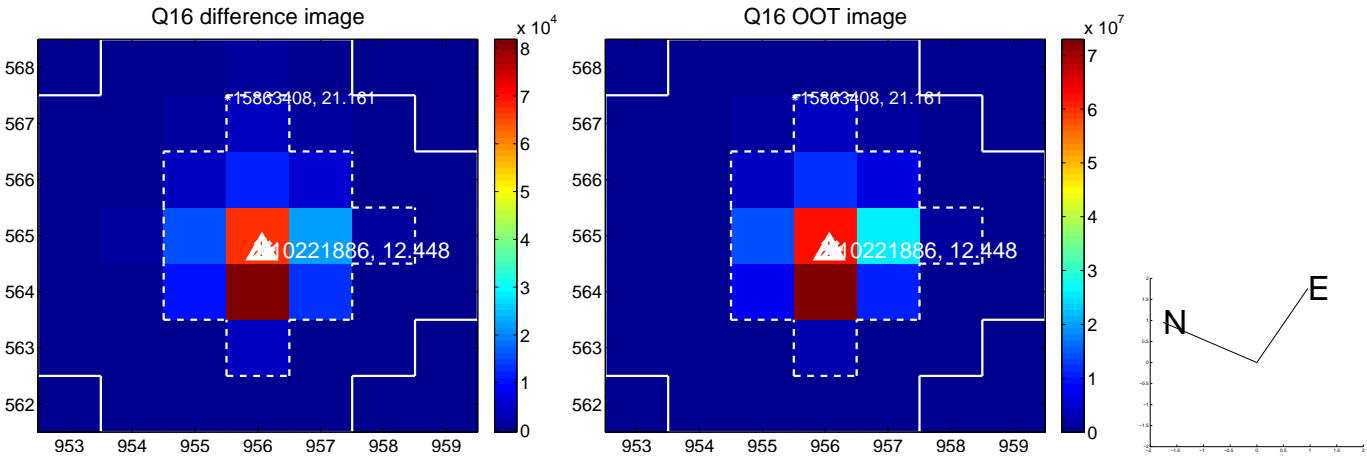
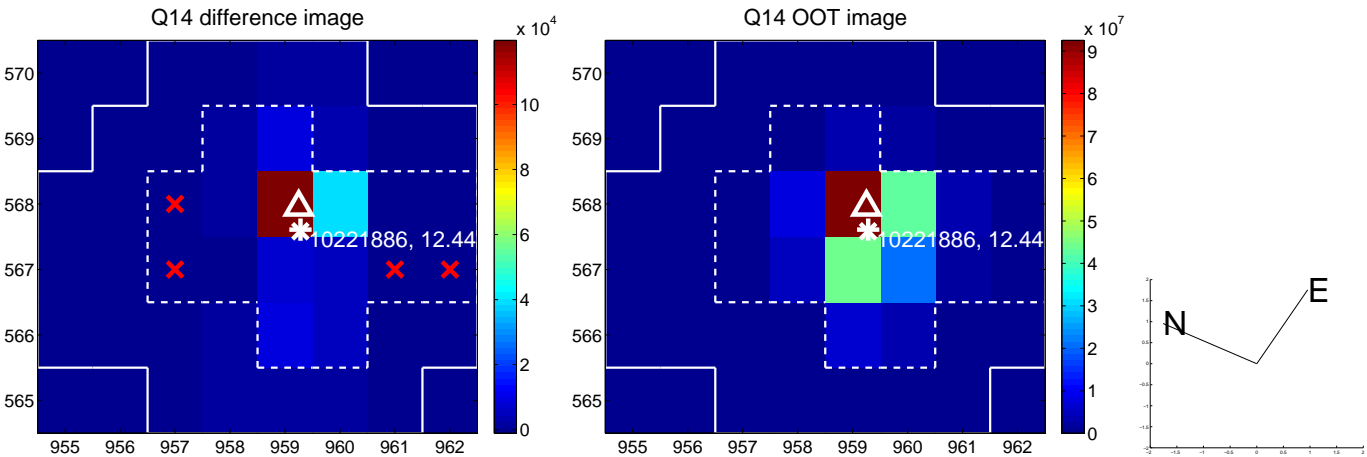
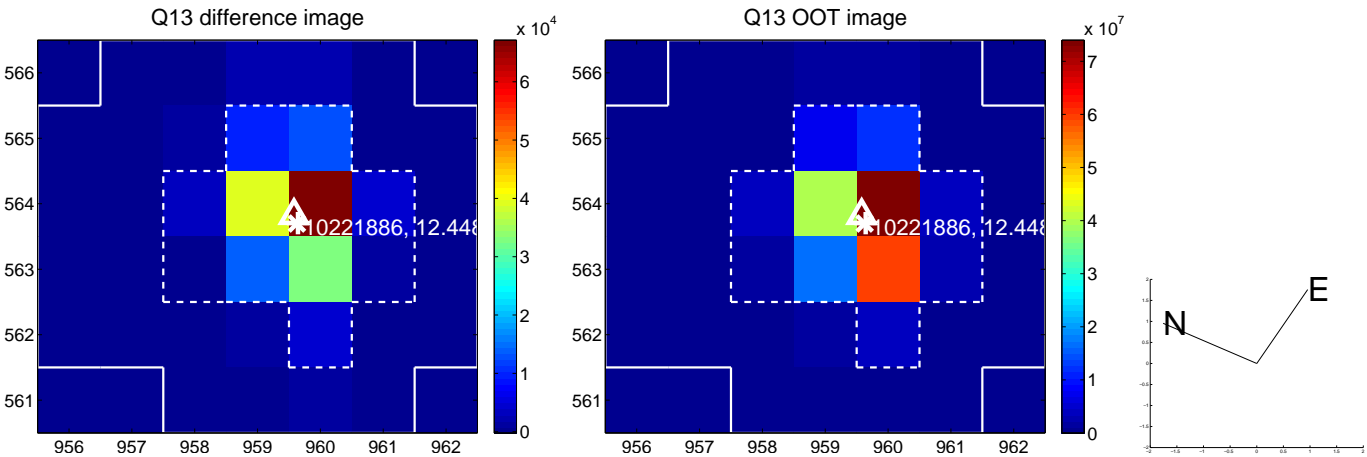
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



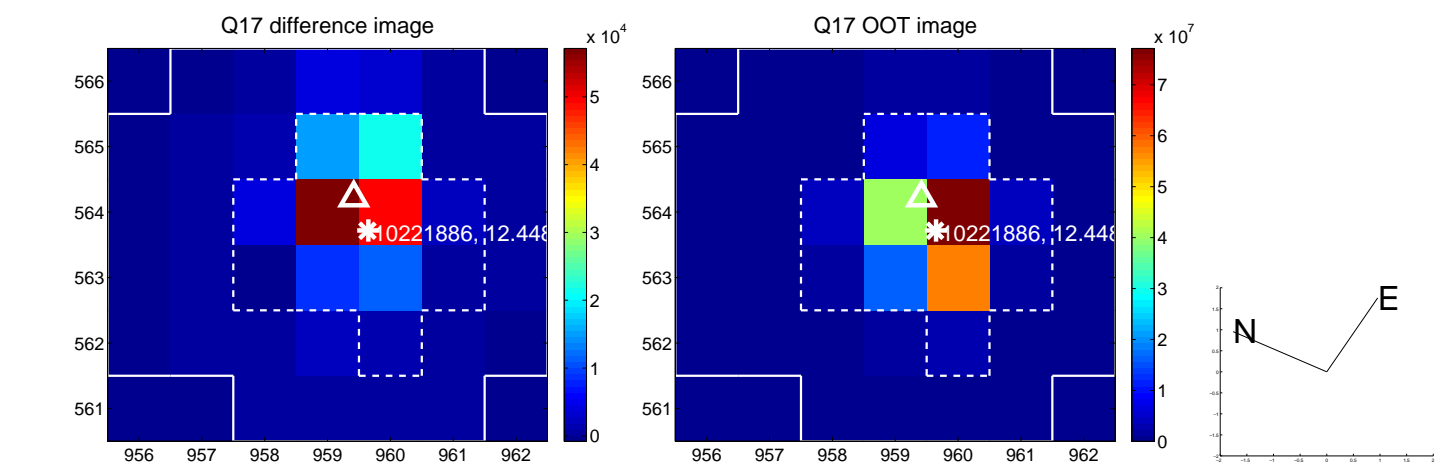
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



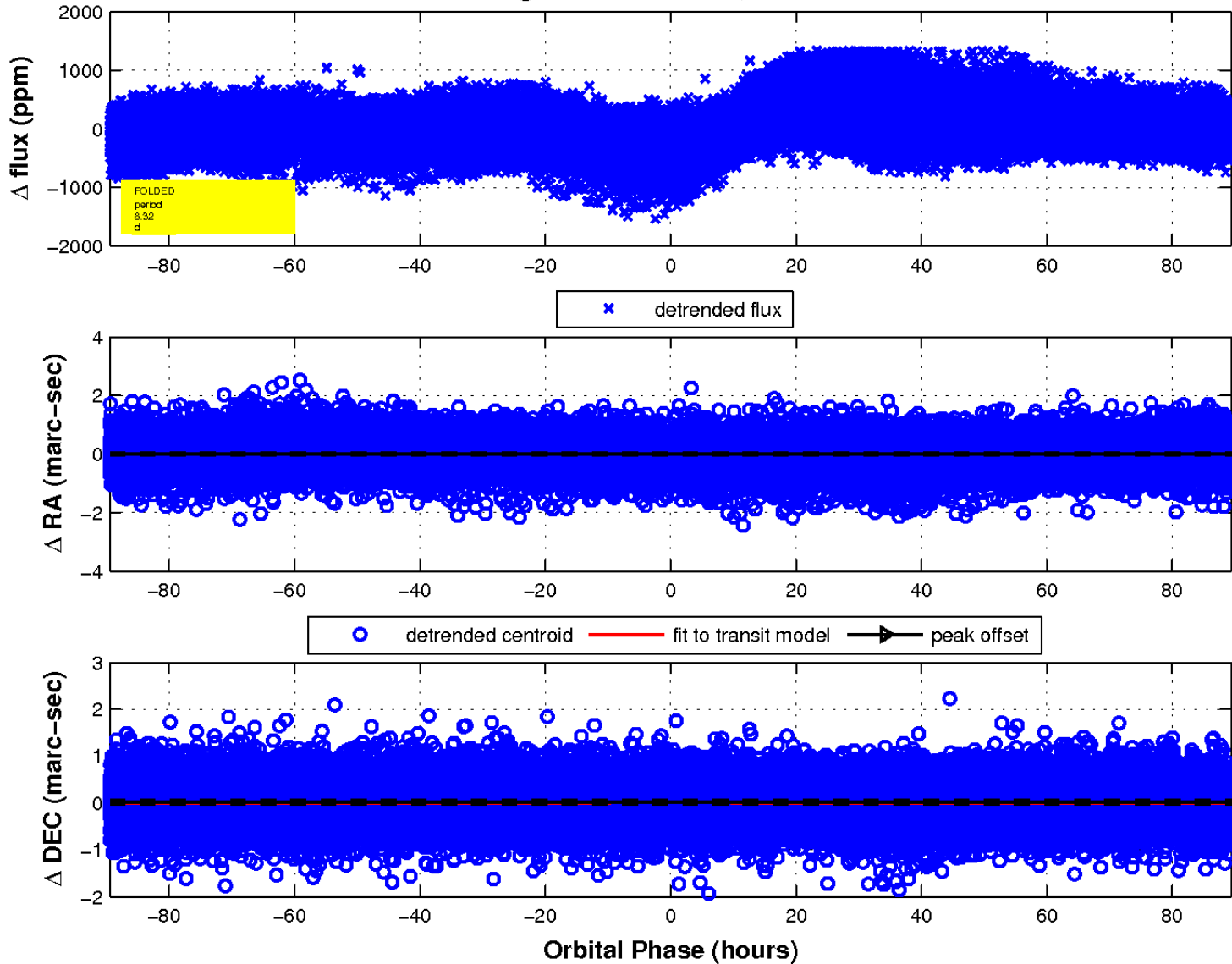
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

