

KIC 009366886

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})
009366886-01	OBS	2901.01	0.633511	131.562041	153.5	1.646	20.1	22.1	0.62	4330	0.94	803.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009366886-01	OBS	FP	0.00	0	0	1	0	CENT_UNRESOLVED_OFFSET

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

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

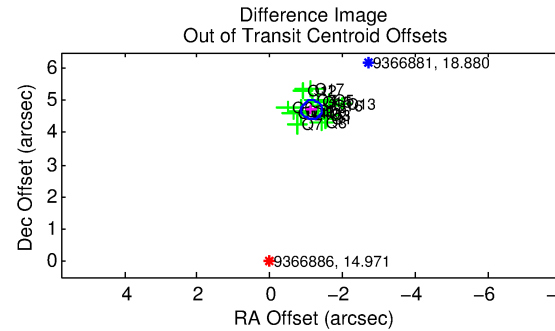
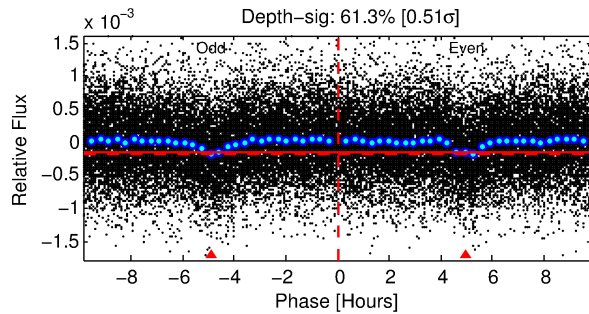
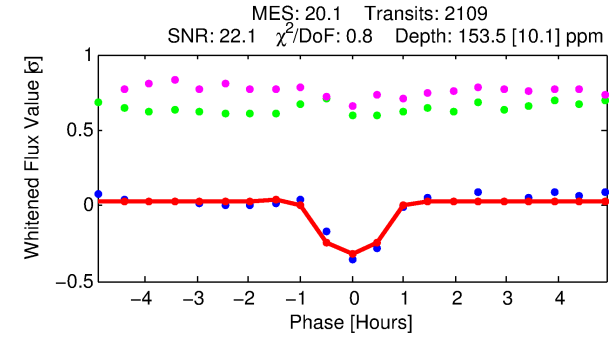
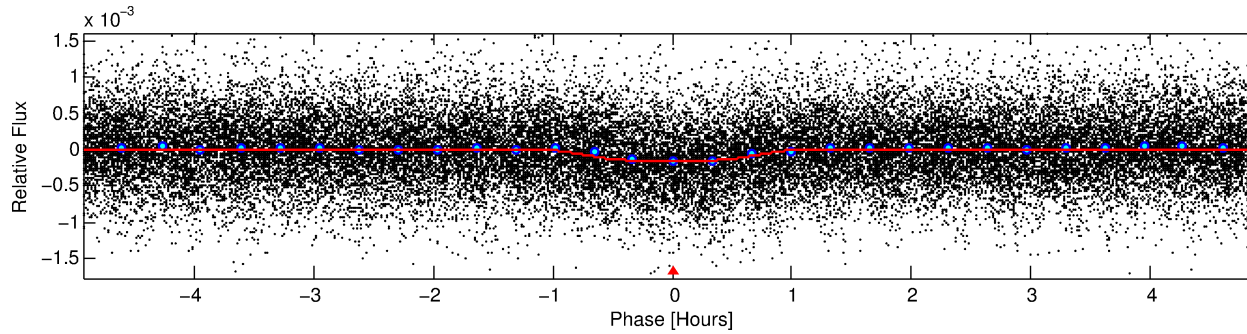
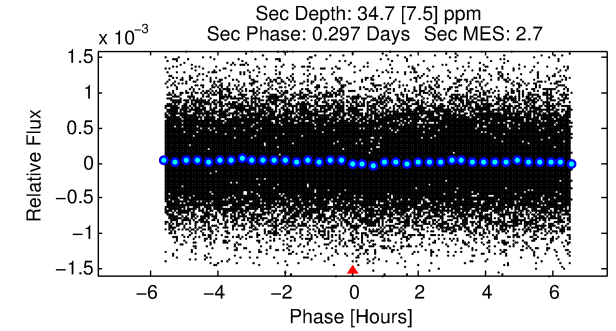
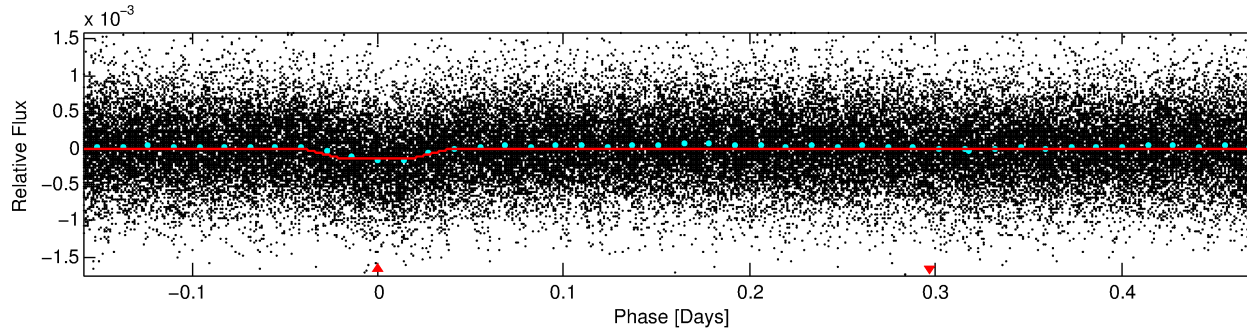
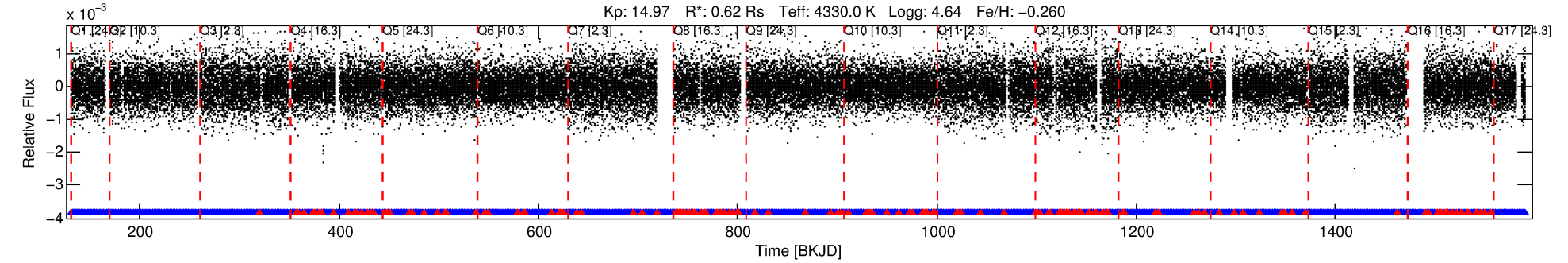
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009366886-01

No Significant Match Found

DV One-Page Summary

KIC: 9366886 Candidate: 1 of 1 Period: 0.634 d
KOI: K02901.01 Corr: 0.899



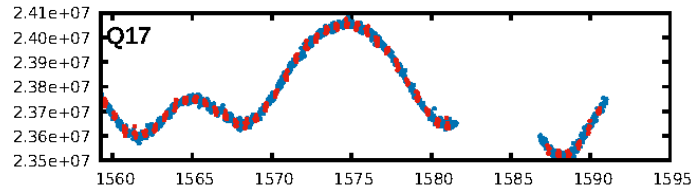
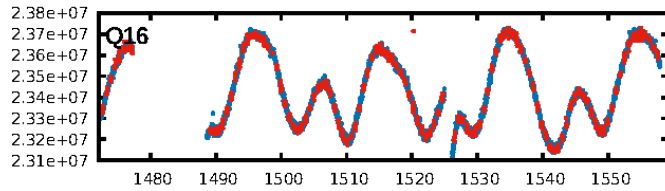
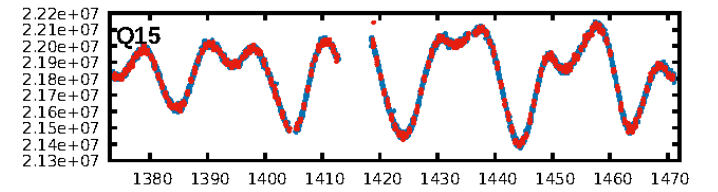
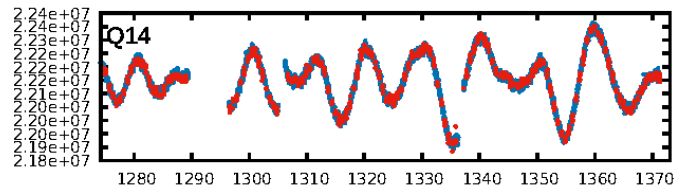
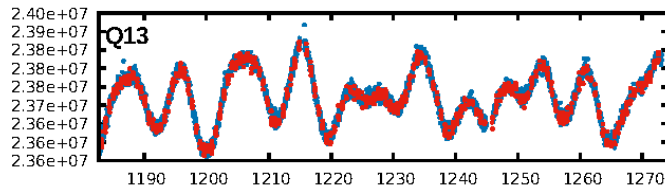
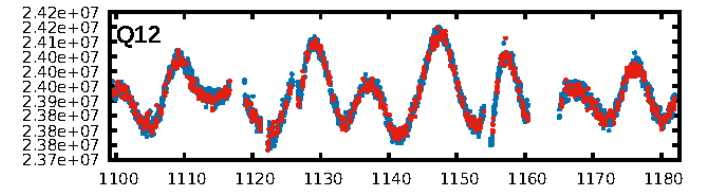
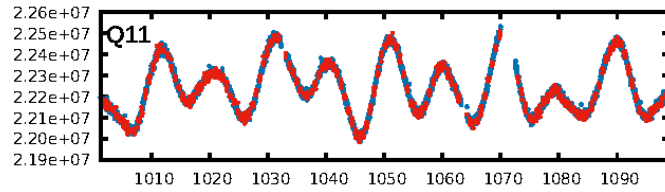
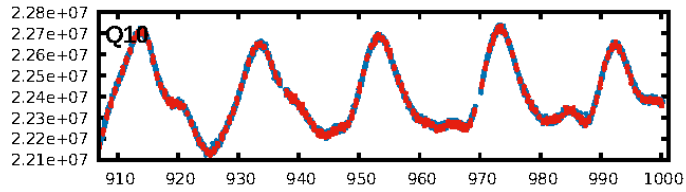
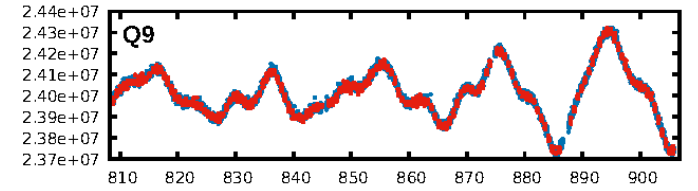
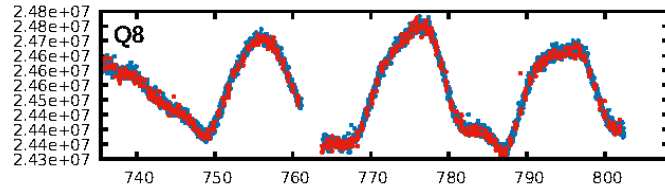
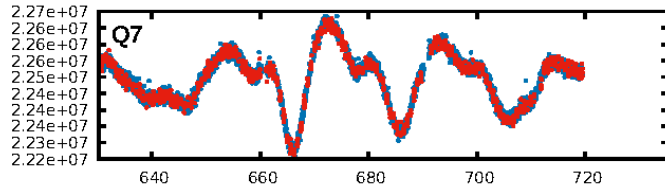
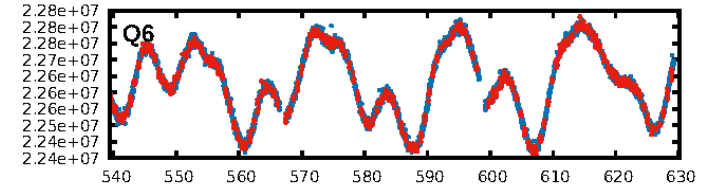
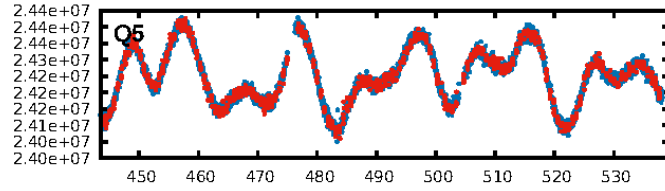
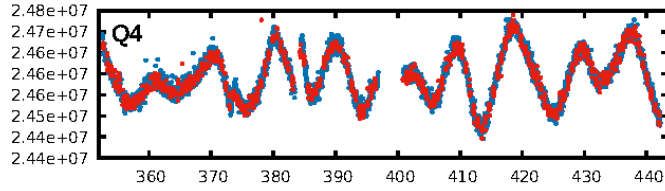
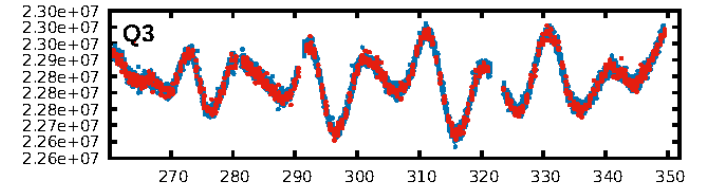
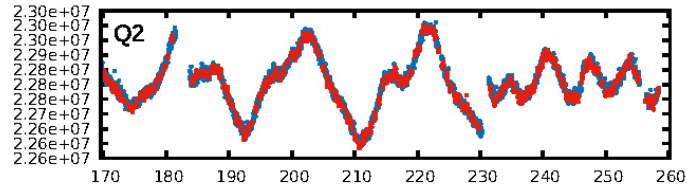
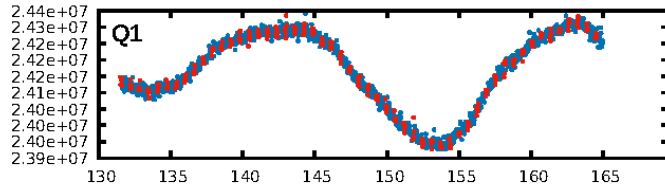
DV Fit Results:

Period = 0.63351 [0.00000] d
Epoch = 131.5620 [0.0010] BKJD
Rp/R* = 0.0139 [0.0067]
a/R* = 1.65 [2.03]
b = 0.90 [0.41]
Seff = 803.83 [126.49]
Teff = 1358 [53] K
Rp = 0.94 [0.46] Re
a = 0.0122 [0.0009] AU
Ag = 3.24 [3.21] [0.70σ]
Teffp = 2816 [698] K [2.08σ]

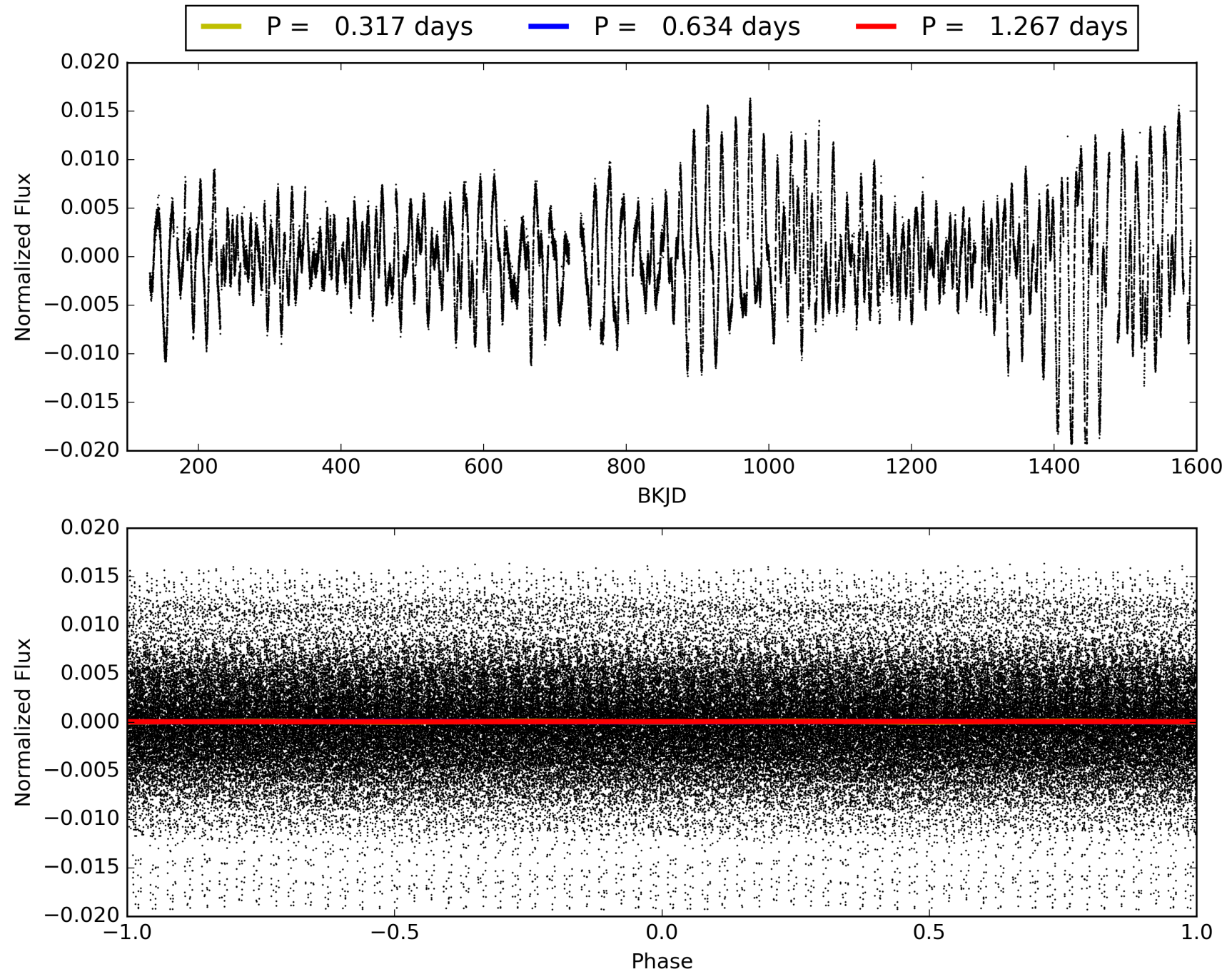
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.39e-76
RollingBand-fgt: 0.92 [1852/2015]
GhostDiagnostic-chr: 0.3642
Centroid-sig: 0.0%
Centroid-so: 6.822 arcsec [11.69σ]
OotOffset-rm: 4.850 arcsec [50.57σ]
KicOffset-rm: 4.859 arcsec [48.76σ]
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 009366886-01, PDC Light Curves

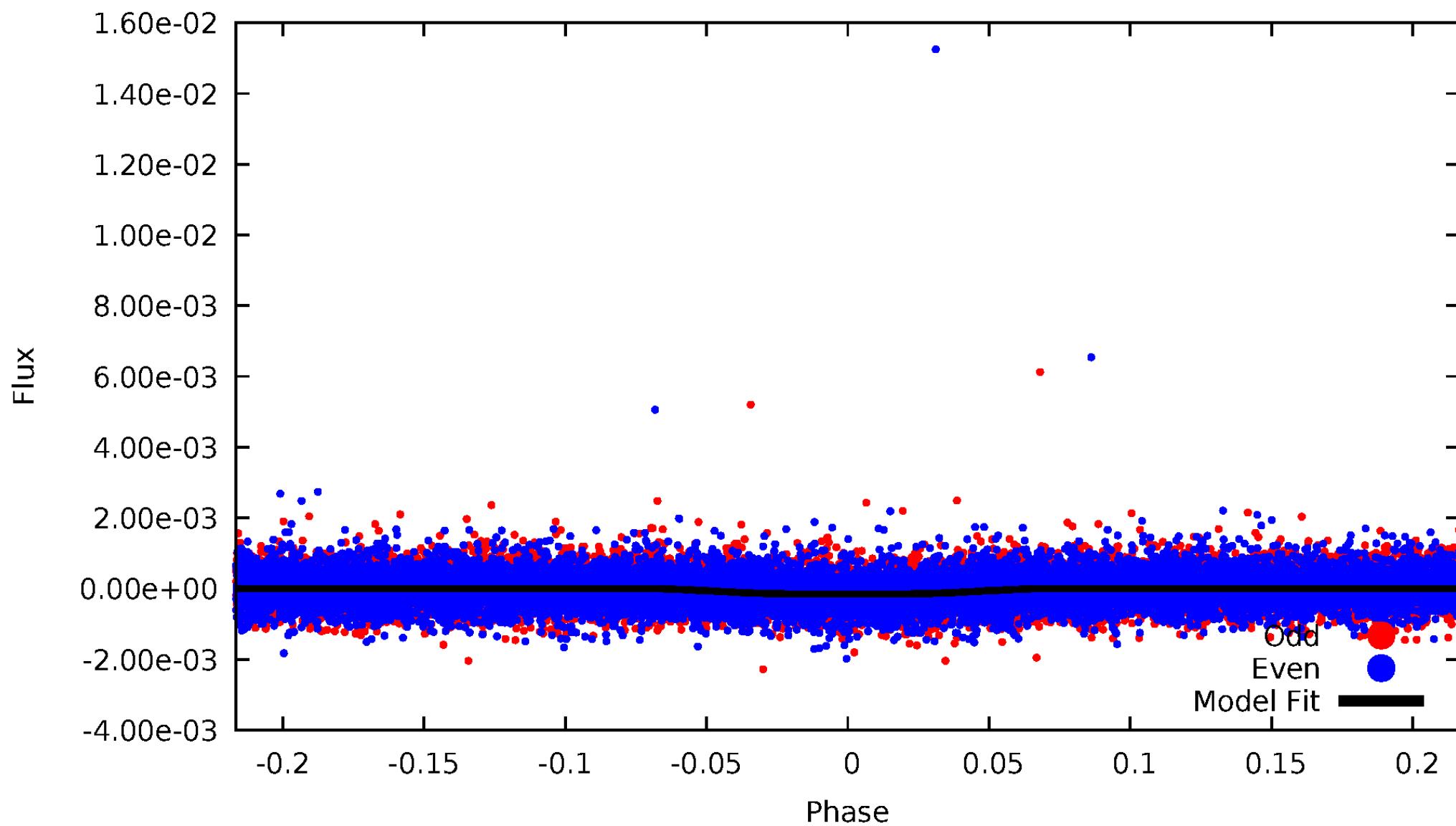


TCE 009366886-01



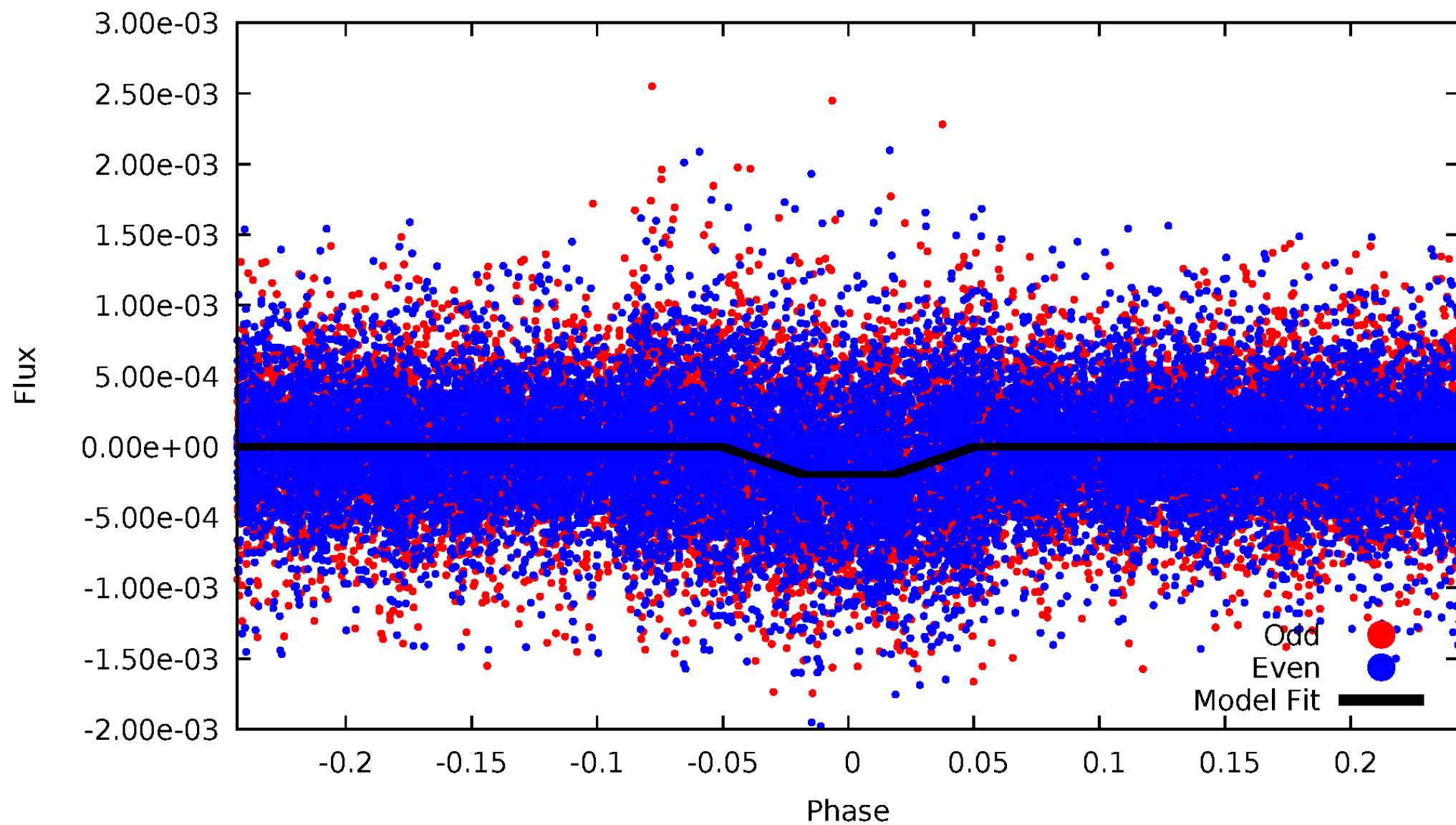
DV Odd/Even

TCE 009366886-01



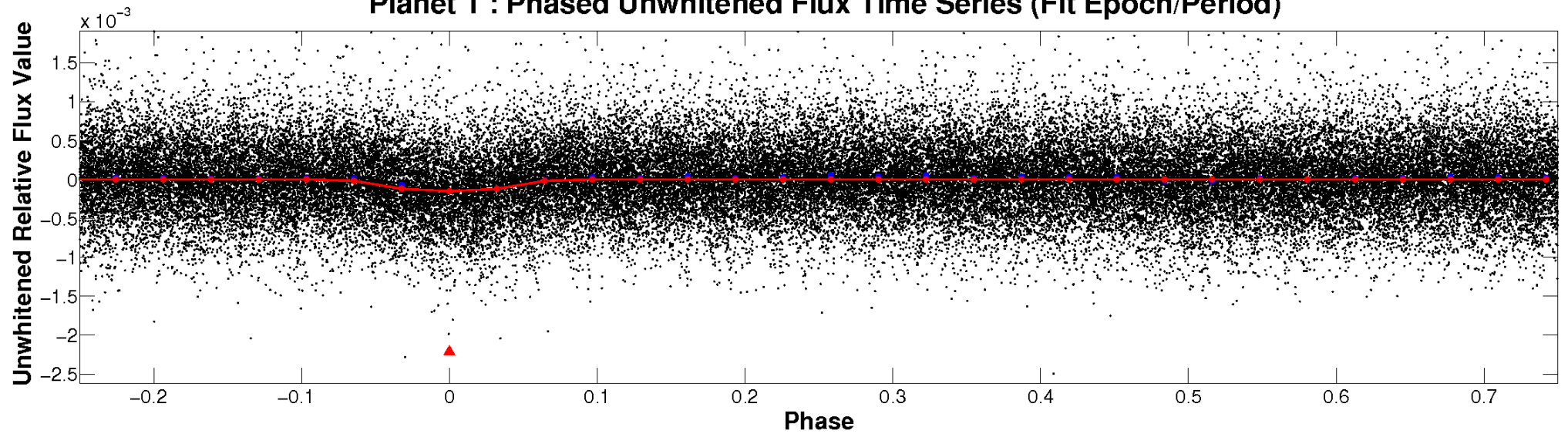
ALT Odd/Even

TCE 009366886-01

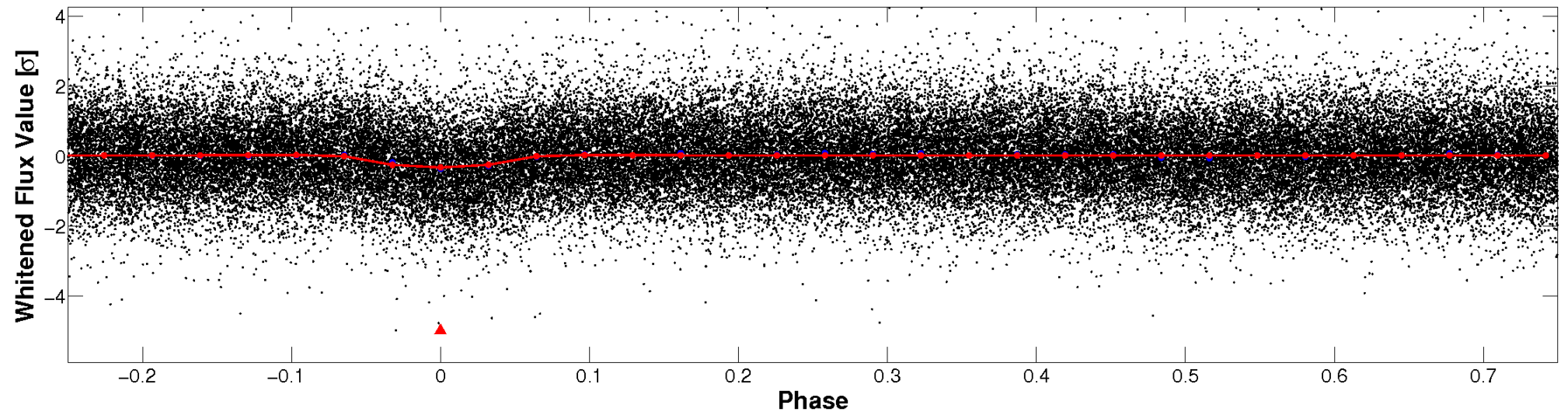


Non-Whitened Vs. Whitened Light Curve

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

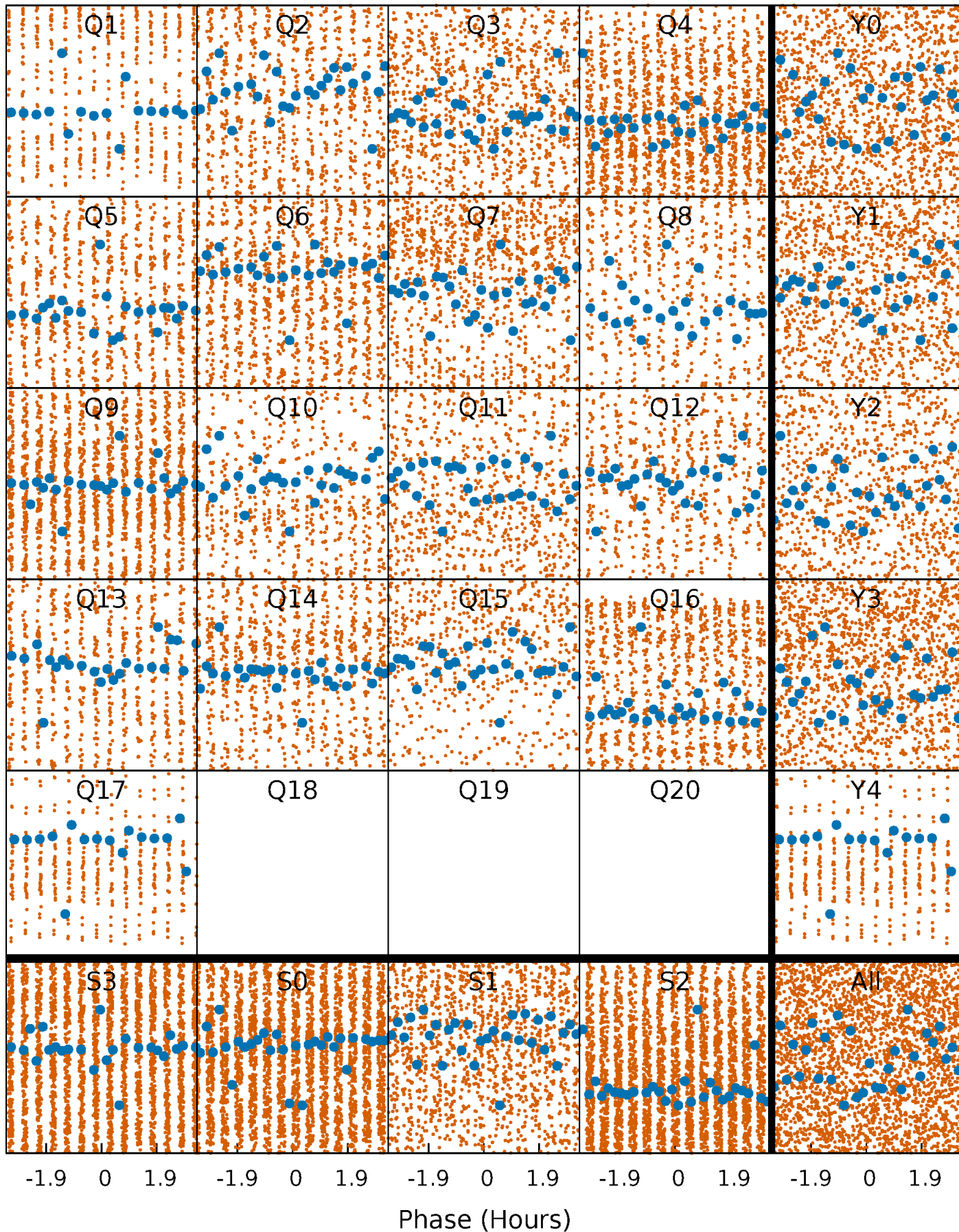


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



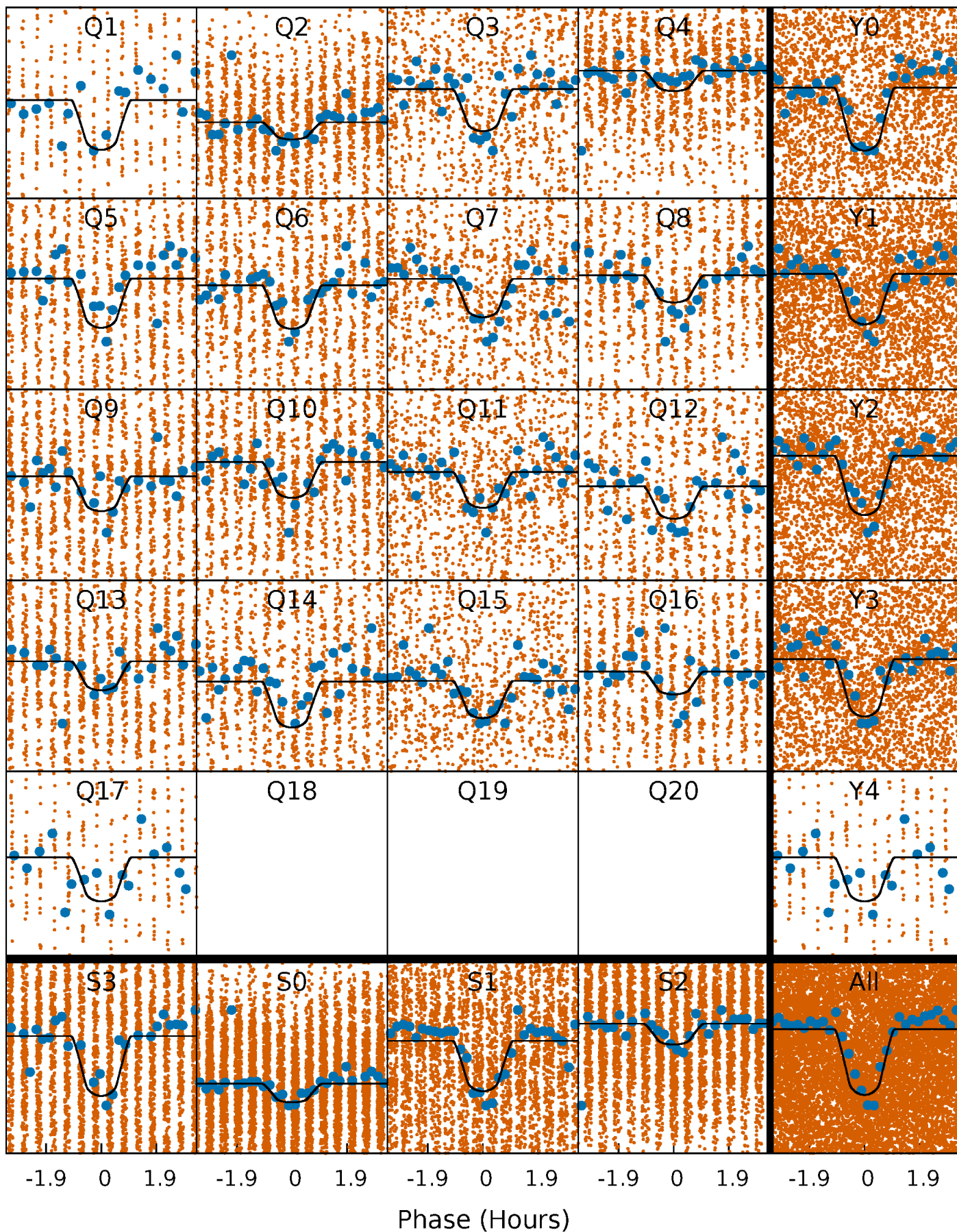
PDC Quarter-Phased Transit Curves

TCE 009366886-01 P= 0.633511 Days $T_0=131.562041$ (BKJD)



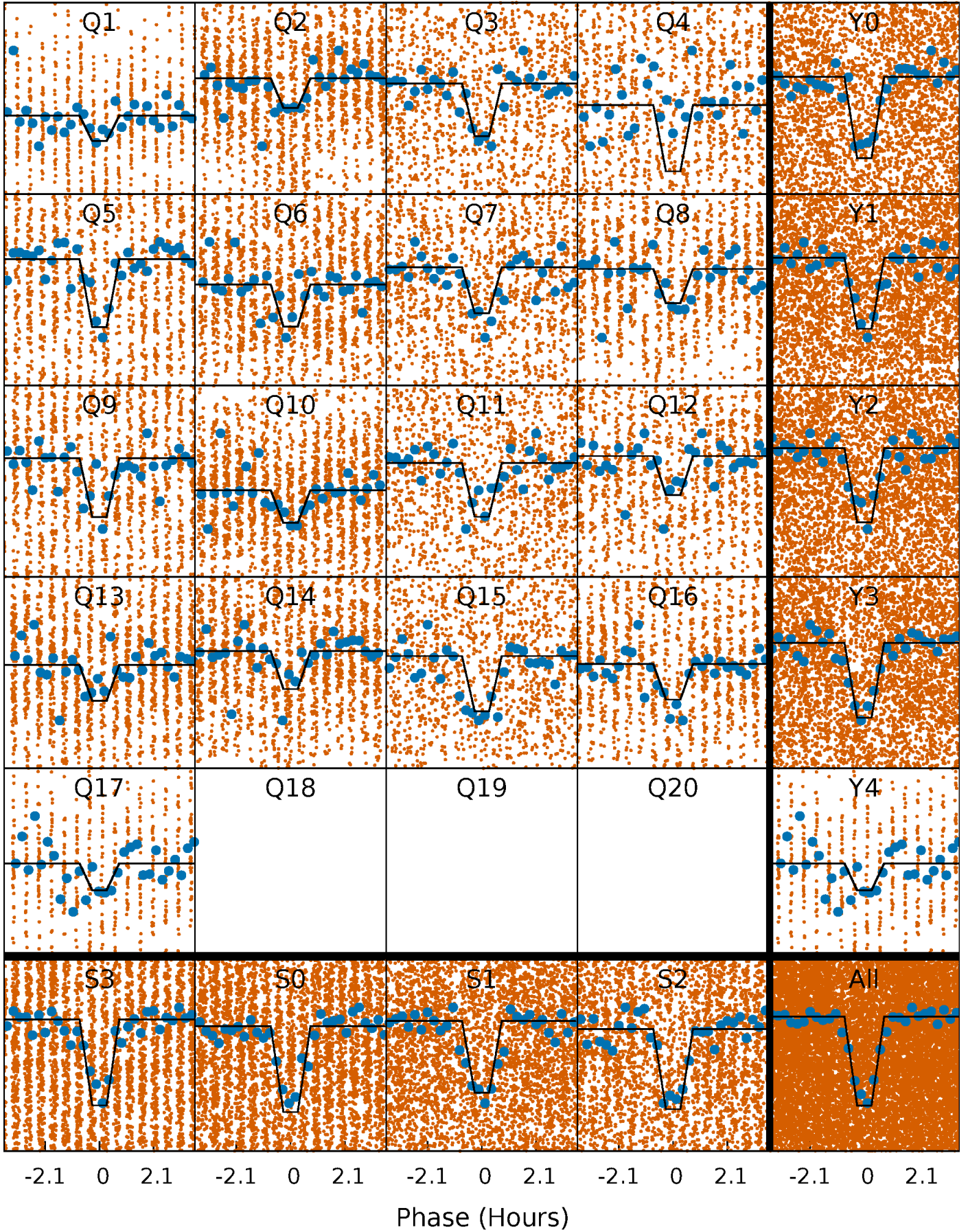
DV Quarter-Phased Transit Curves

TCE 009366886-01 P= 0.633511 Days $T_0=131.562041$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

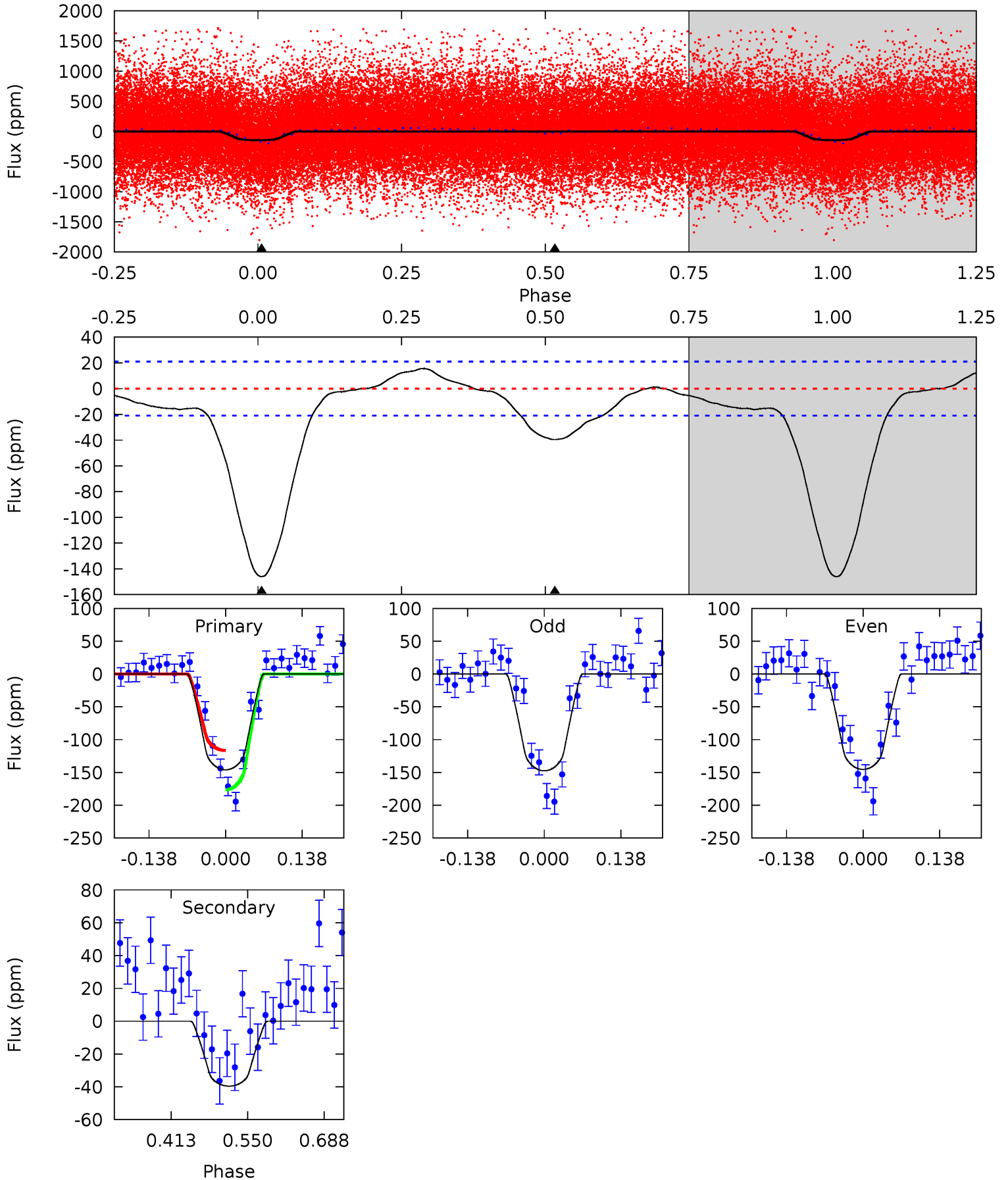
TCE 009366886-01 P= 0.633516 Days $T_0=131.560971$ (BKJD)



DV Model-Shift Uniqueness Test

009366886-01, P = 0.633511 Days, E = 130.928530 Days

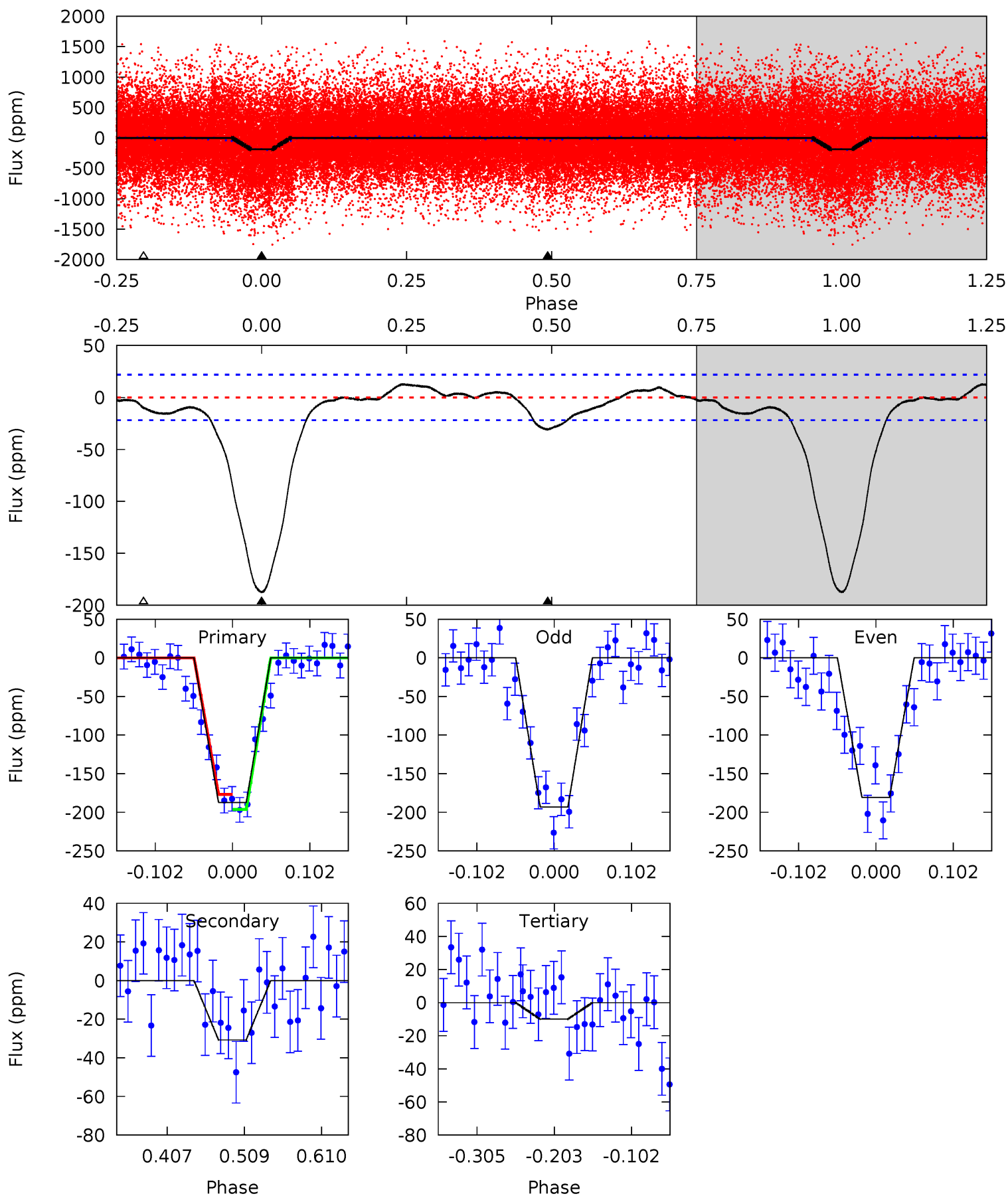
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.3	8.48	0	0	4.50	1.49	1.92	31.3	31.3	8.48	8.48	0.22	0.96	0.10	6.44



Alt Model-Shift Uniqueness Test

009366886-01, P = 0.633516 Days, E = 130.927455 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.9	6.38	2.08	0	4.56	1.64	1.53	36.8	38.9	4.31	6.38	1.29	1.02	0.06	2.02



Stellar Parameters For KIC 009366886

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4330^{+116}_{-129}	$4.640^{+0.052}_{-0.024}$	$-0.260^{+0.300}_{-0.300}$	$0.618^{+0.045}_{-0.060}$	$0.610^{+0.066}_{-0.055}$	$3.632^{+0.843}_{-0.438}$
	+3%/-3%	+1%/-1%	+115%/-115%	+7%/-10%	+11%/-9%	+23%/-12%
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 009366886-01 / KOI 2901.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-40 ± 5	$0.91^{+0.45}_{-0.44}$	1885^{+65}_{-65}	3313^{+773}_{-440}	$4.076^{+10.088}_{-2.324}$
Alt.	-31 ± 5	$0.97^{+0.46}_{-0.44}$	1883^{+61}_{-64}	3069^{+704}_{-374}	$2.591^{+6.511}_{-1.380}$

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

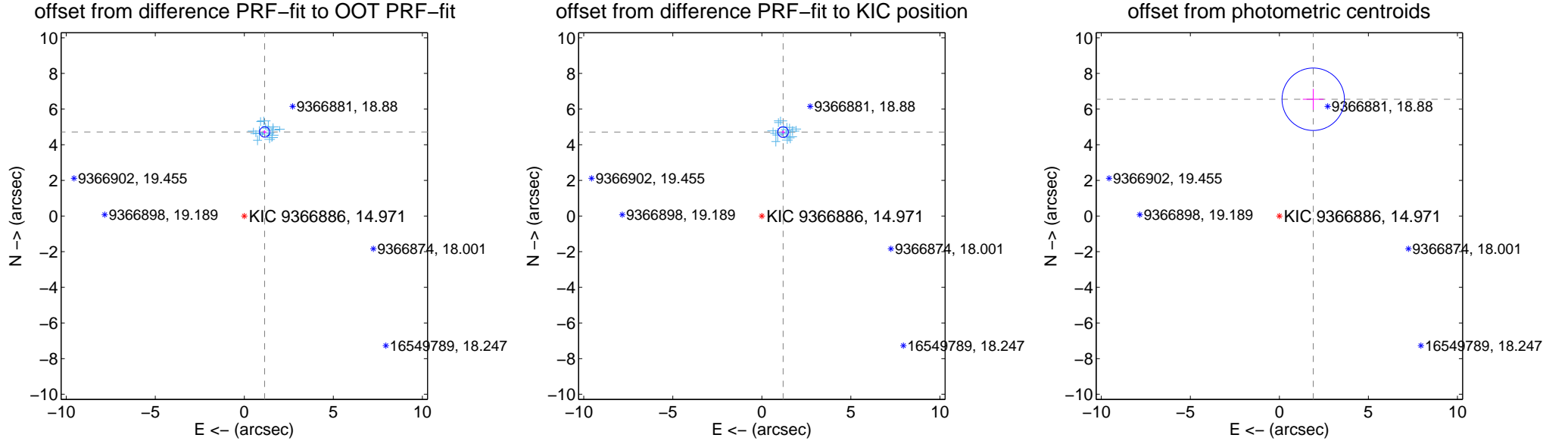
DV Centroid Data

Supplemental centroid analysis for 009366886-01. Kepler magnitude: 14.97. Transit SNR 22.10

There are 17 quarters with good PRF difference image offsets

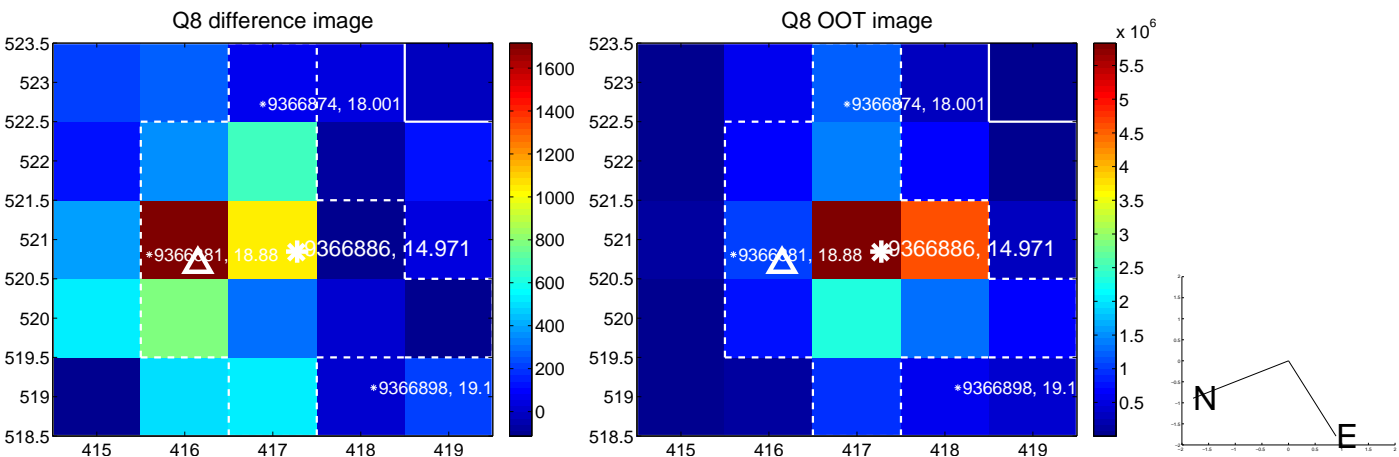
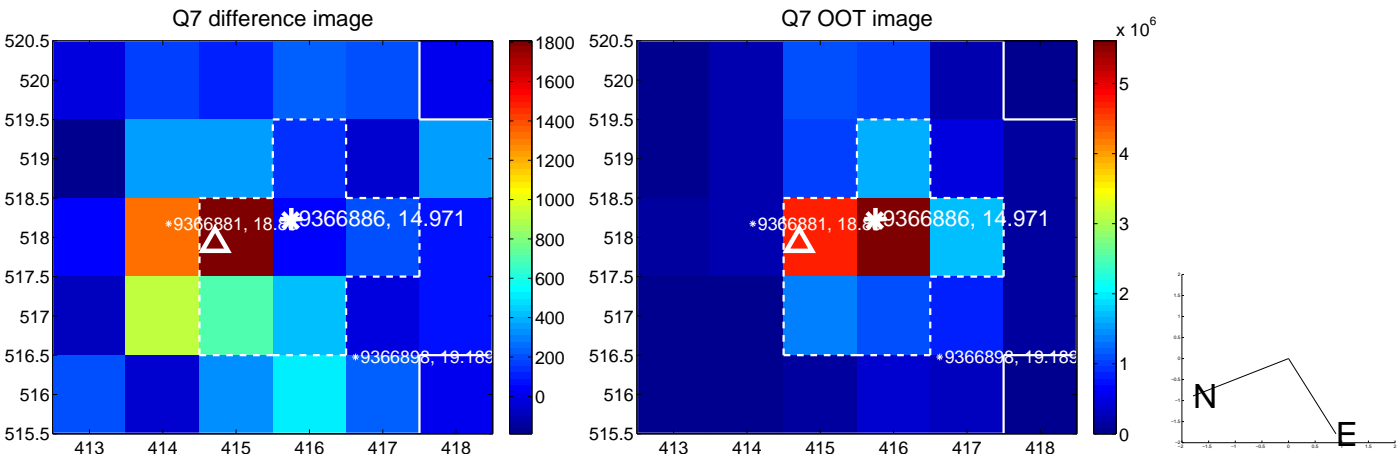
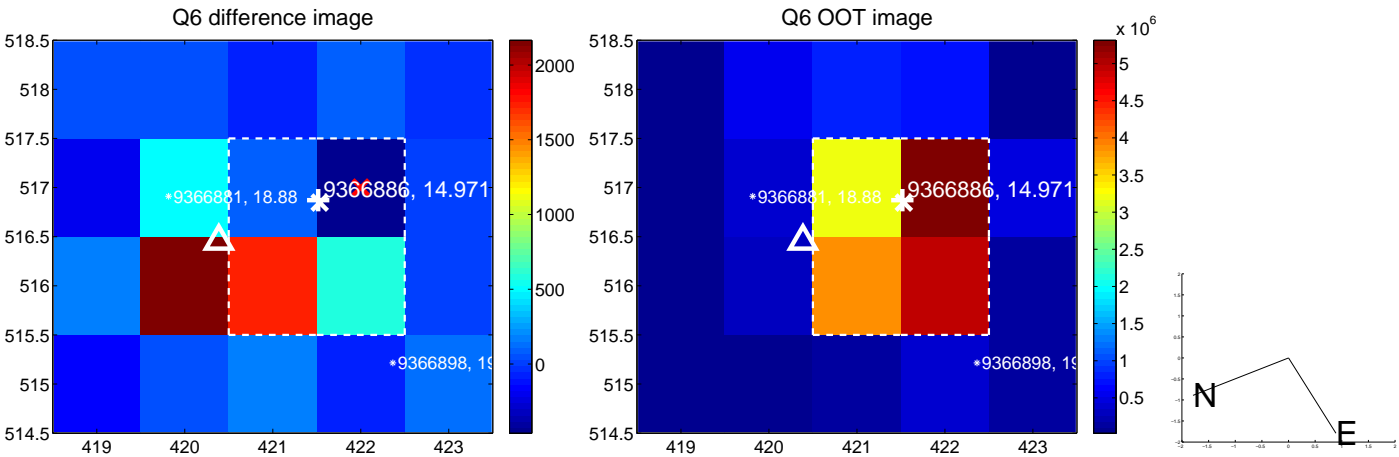
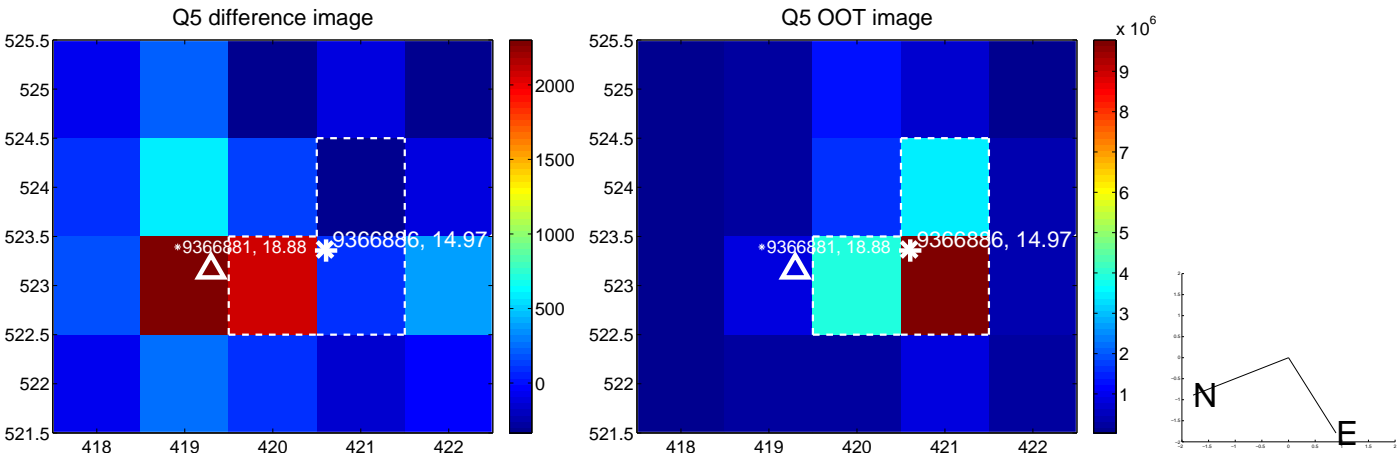
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.850 ± 0.096	50.57	-1.144 ± 0.113	4.714 ± 0.095
PRF-fit source offset from KIC position	4.859 ± 0.100	48.76	-1.193 ± 0.109	4.710 ± 0.100
photometric centroid source offset	6.82 ± 0.58	11.69	-1.90 ± 0.58	6.55 ± 0.58

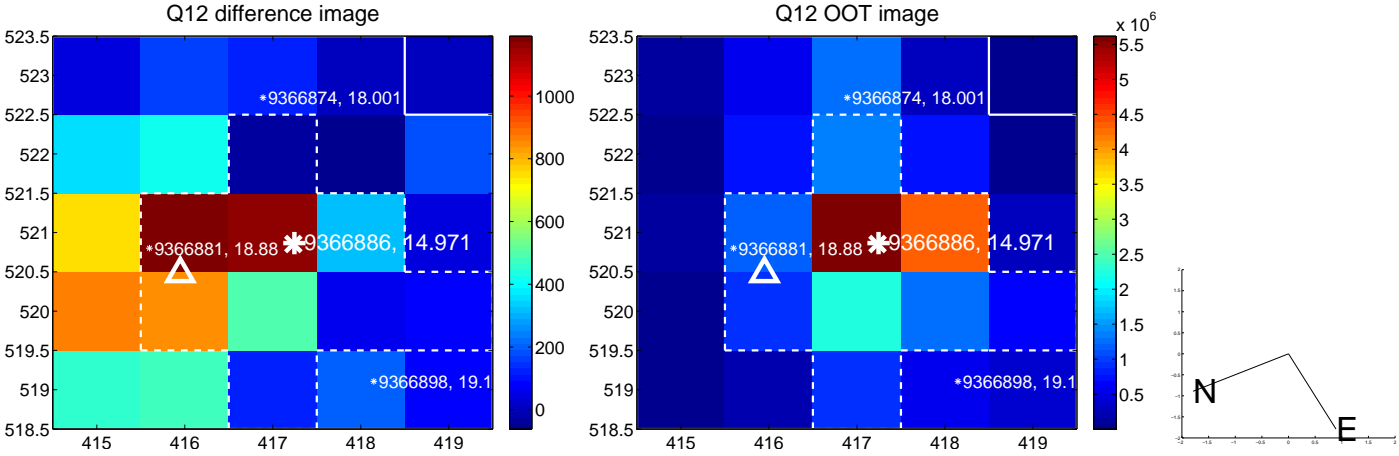
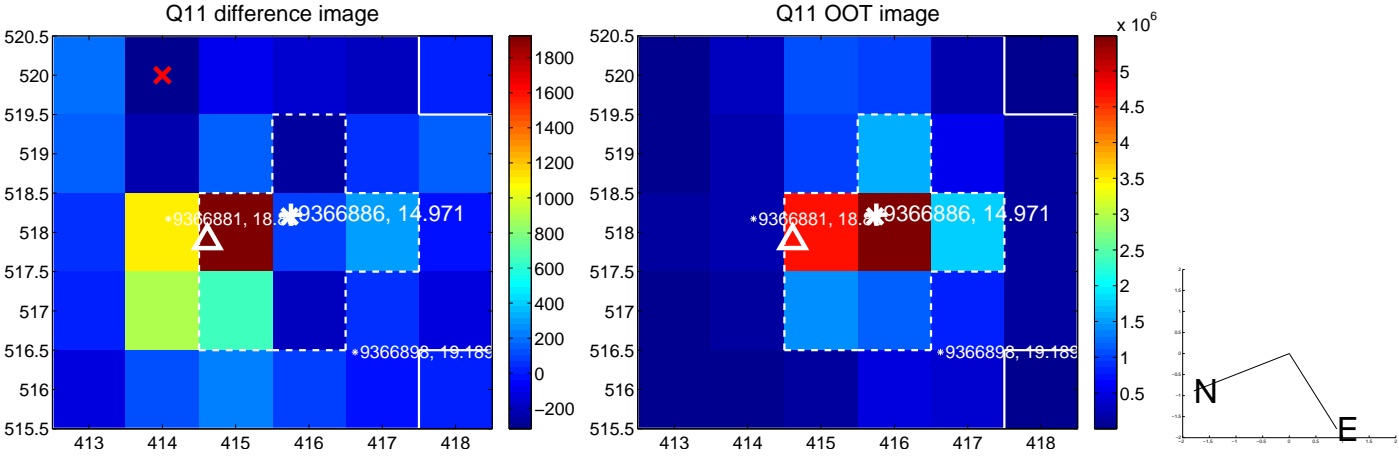
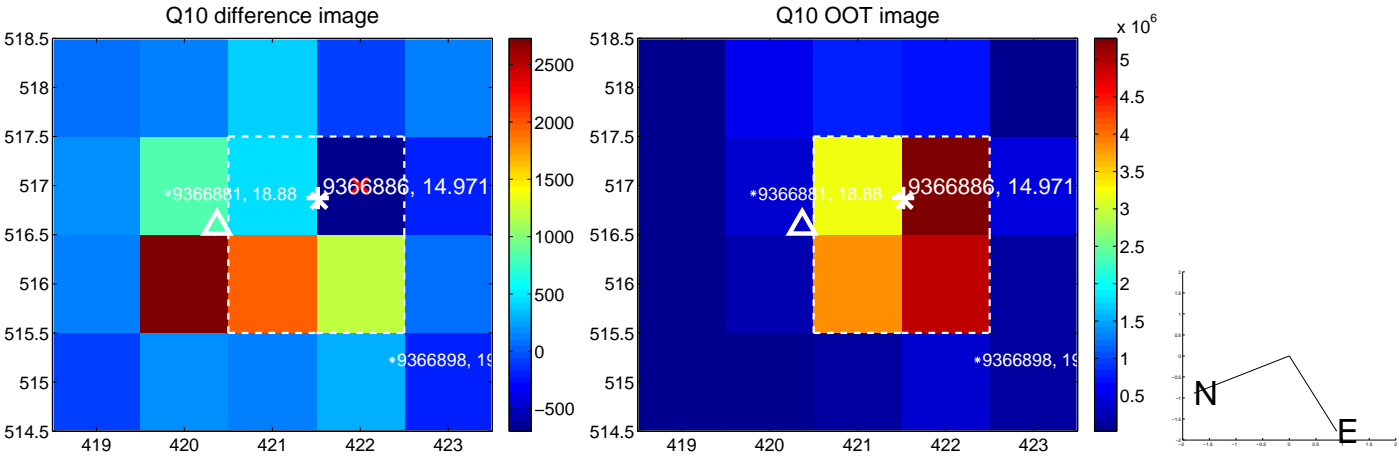
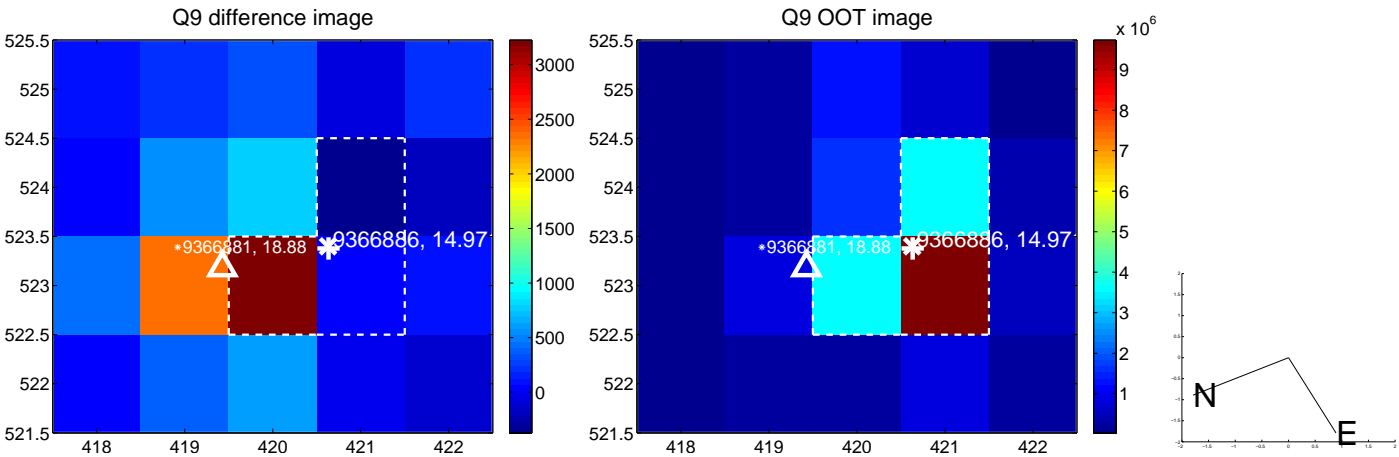


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

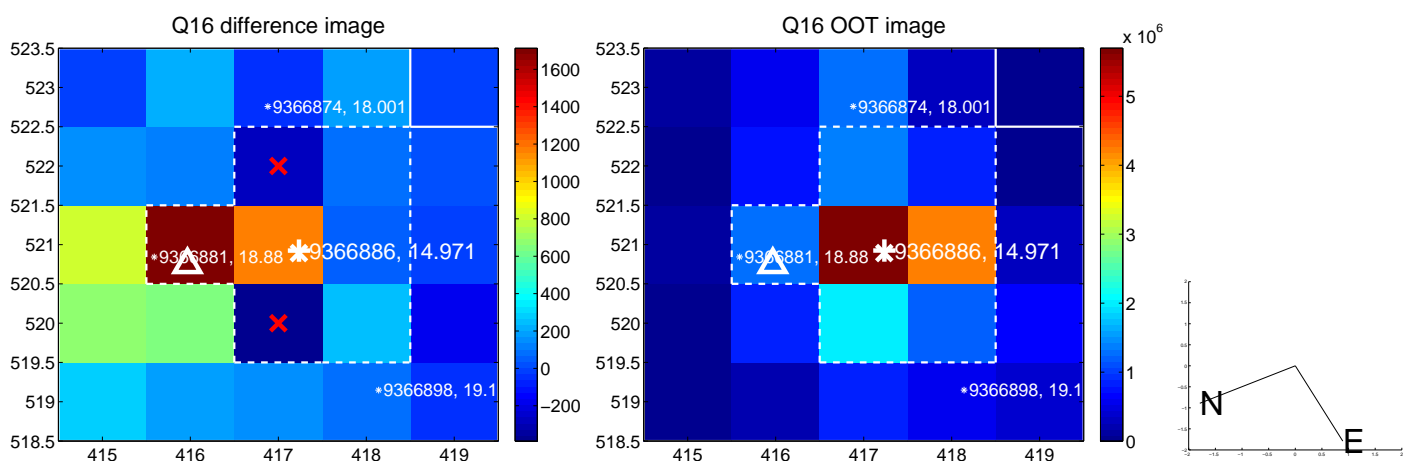
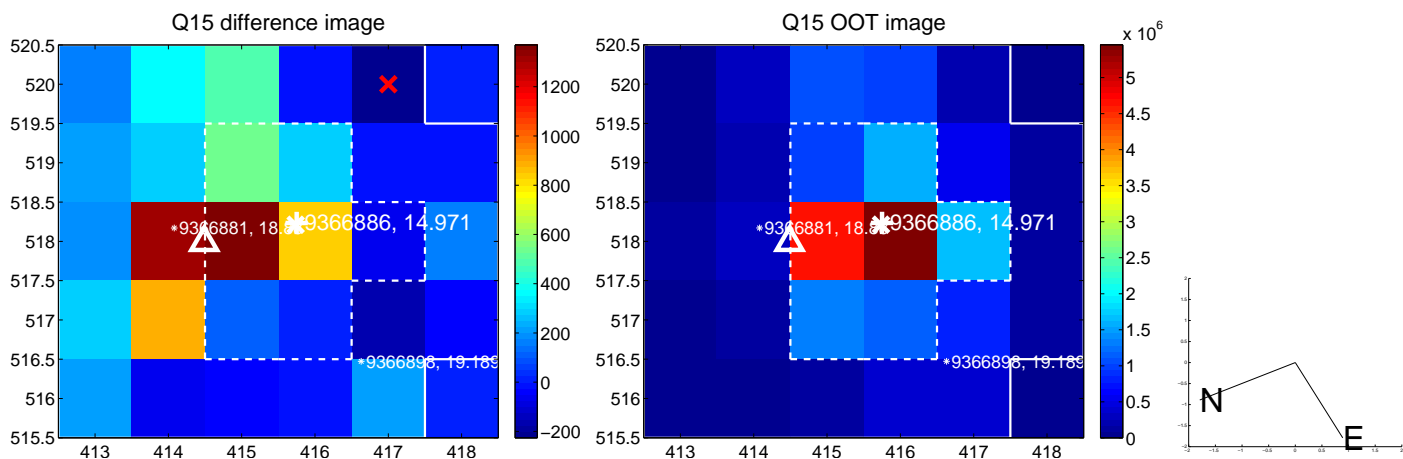
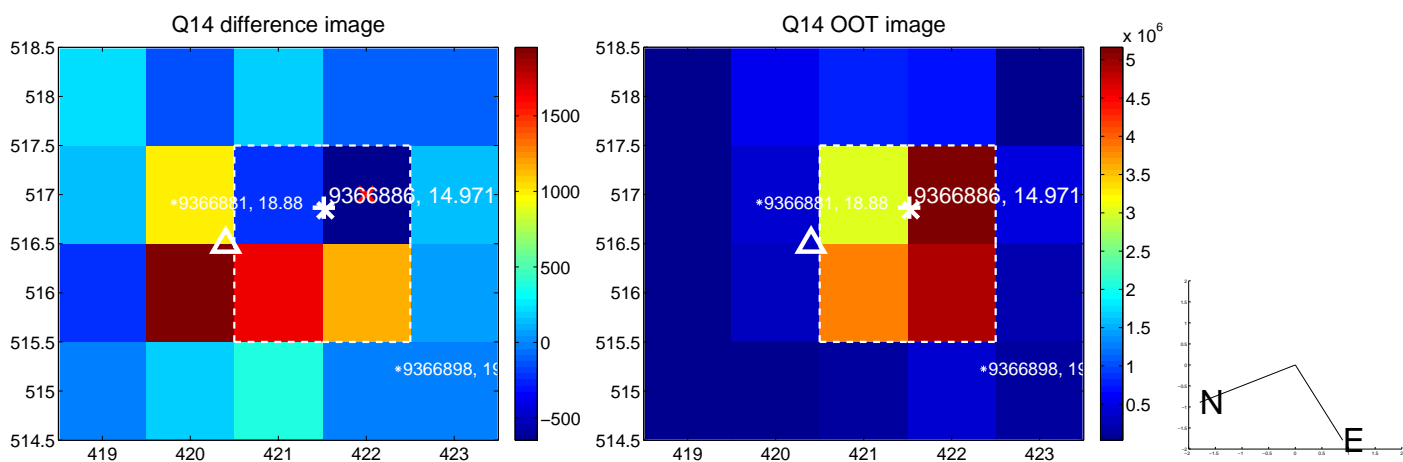
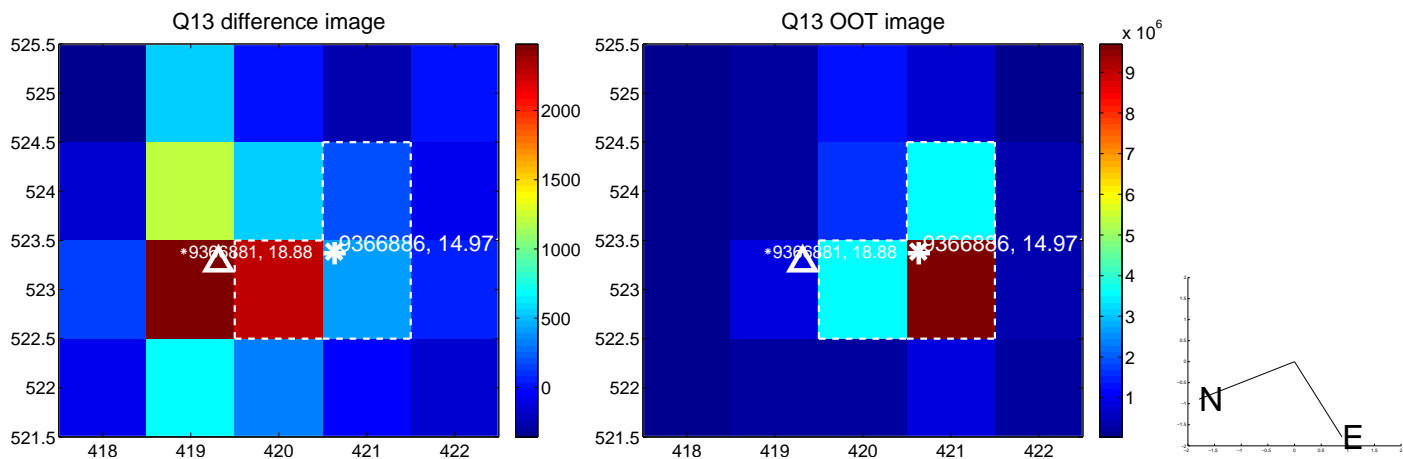
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



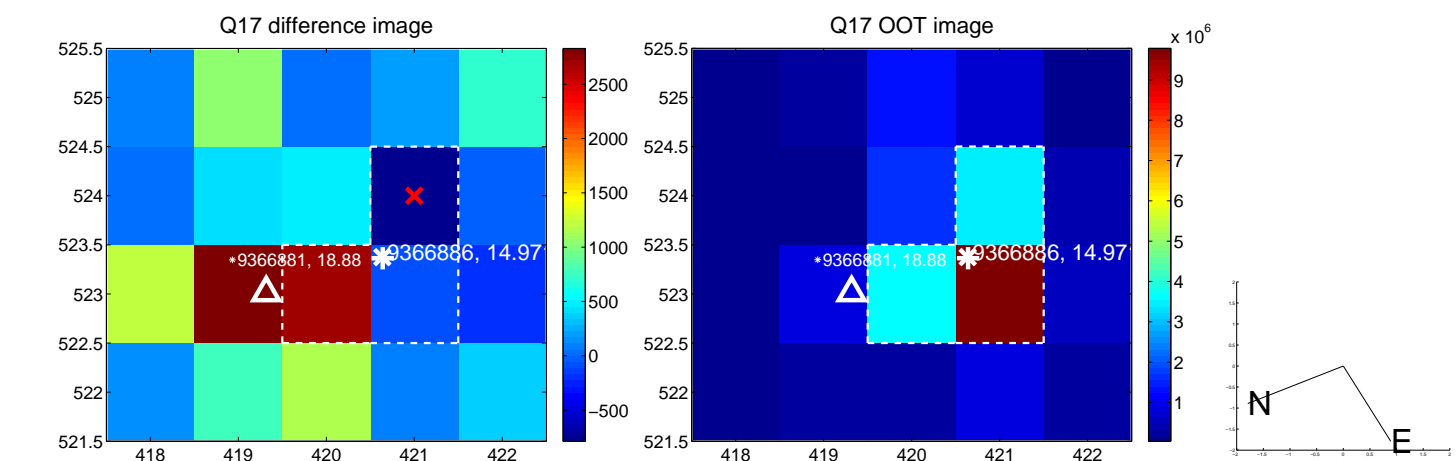
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



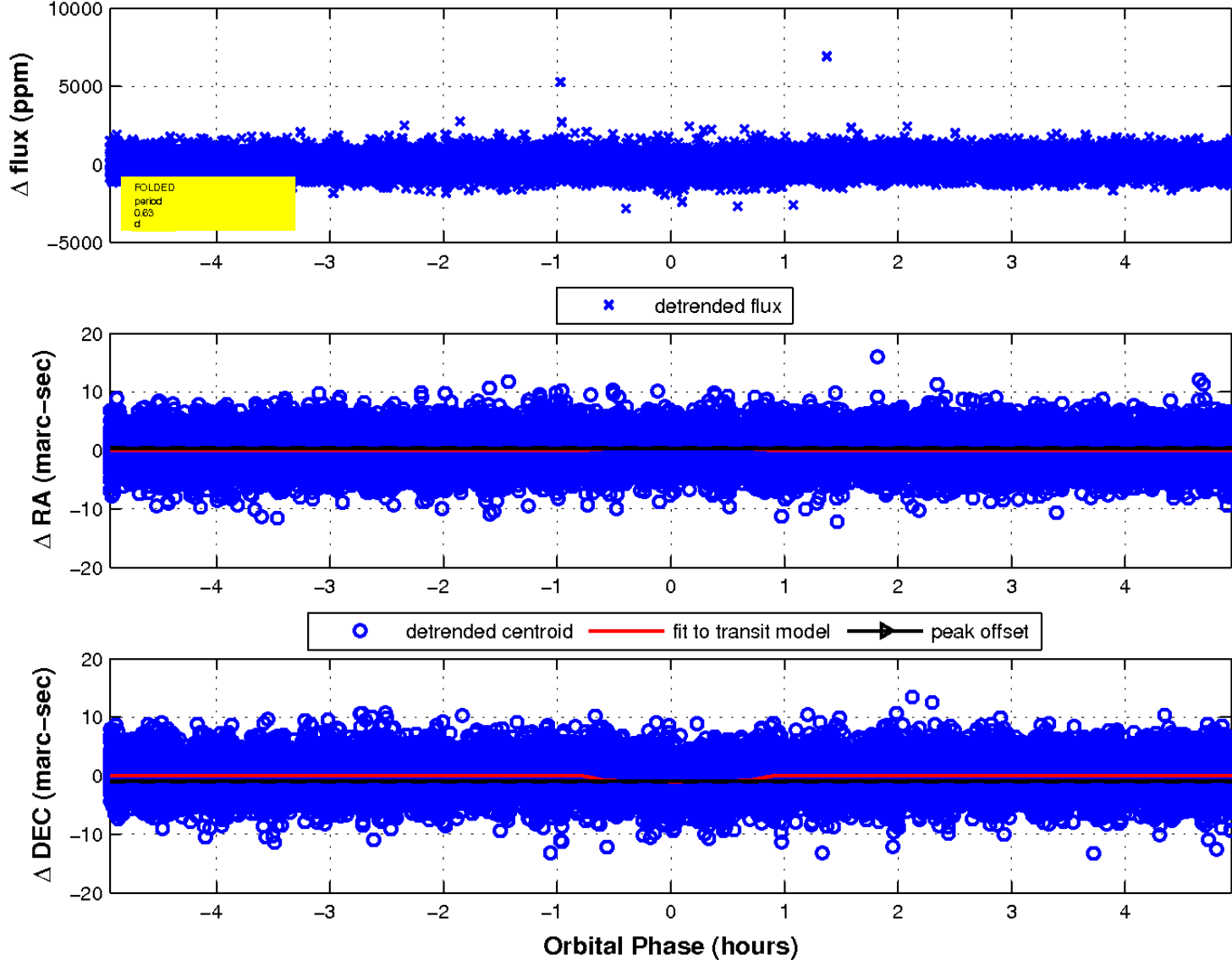
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

