

KIC 011251058

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
011251058-01	OBS	7429.01	2.252850	131.622090	51.8	2.283	11.8	13.0	1.53	6850	1.35	3355.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011251058-01	OBS	FP	0.00	0	0	0	1	EPHEM_MATCH

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.

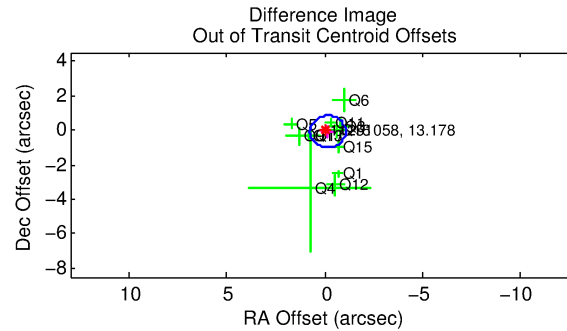
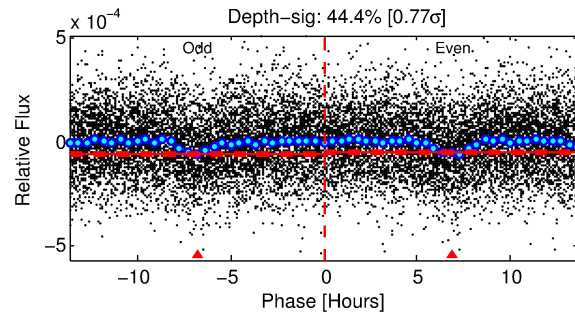
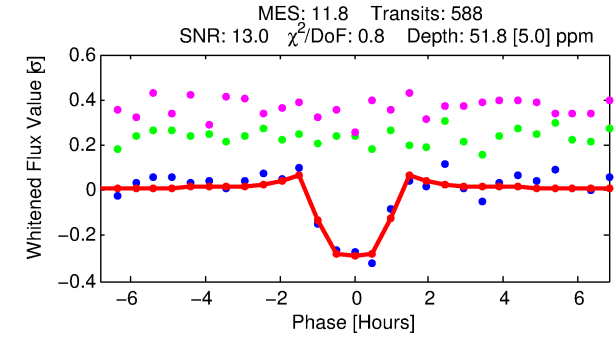
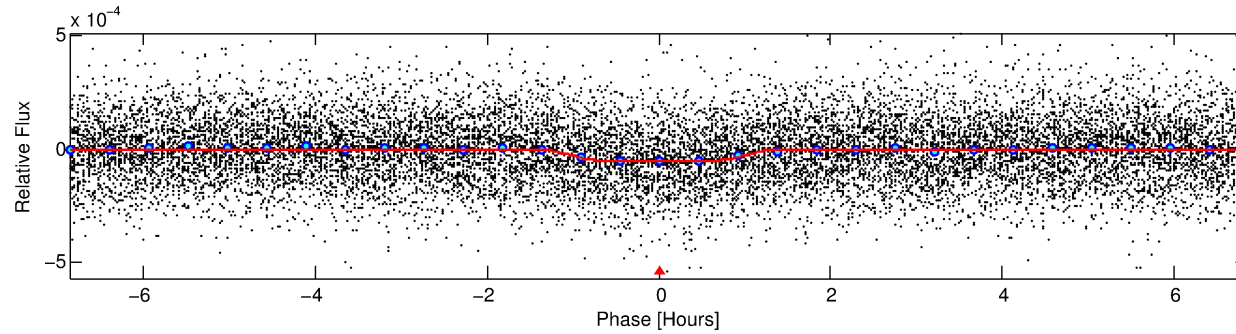
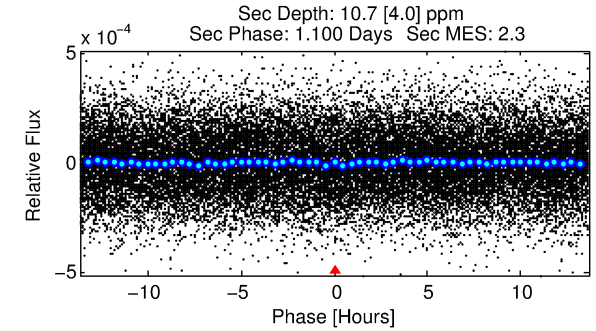
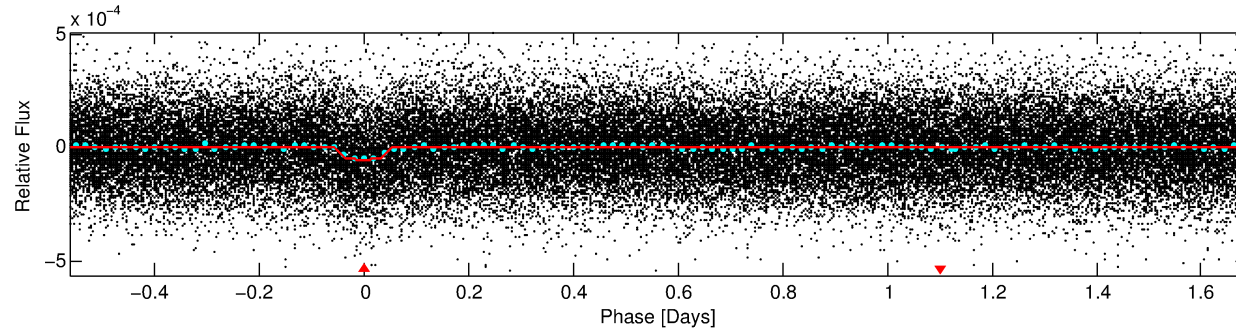
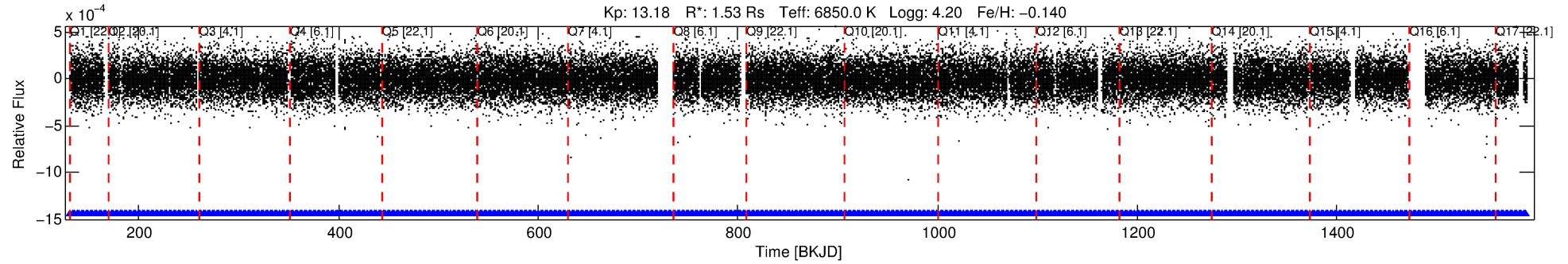
Ephemeris Match Information For 011251058-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
011251058-01	11251058	7428.01	11250867	1:1	226.8	57	1	13.39	13.18	5232.30	Col-Anomaly	0	0.83	0.60

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant σ_P < 5.0 and σ_T < 5.0. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 11251058 Candidate: 1 of 1 Period: 2.253 d
KOI: K07429.01 Corr: 0.797



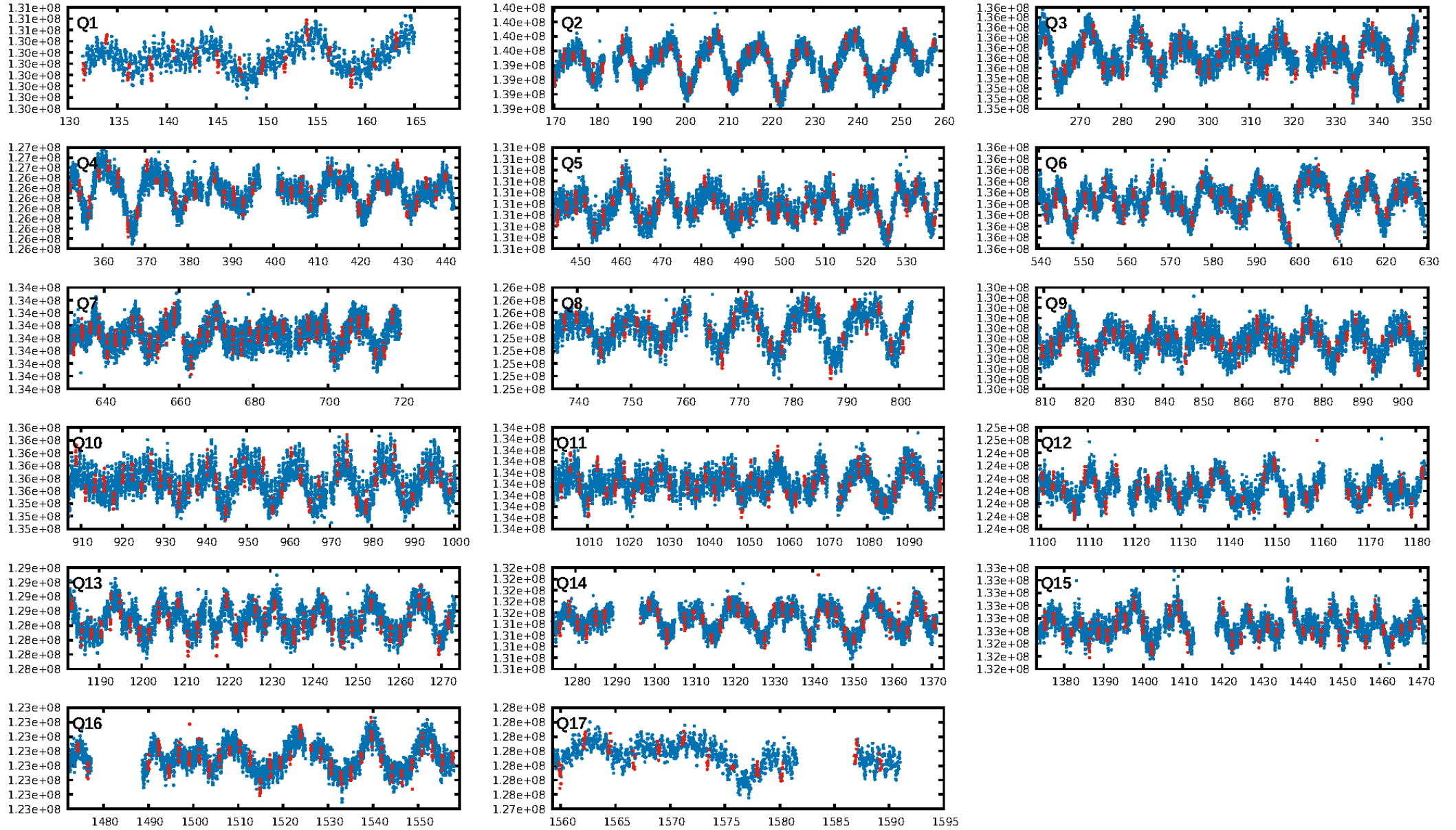
DV Fit Results:

Period = 2.25285 [0.00001] d
Epoch = 131.6221 [0.0021] BKJD
Rp/R* = 0.0081 [0.0018]
a/R* = 2.73 [3.26]
b = 0.95 [0.14]
Seff = 3355.89 [743.37]
Teq = 1941 [107] K
Rp = 1.35 [0.38] Re
a = 0.0371 [0.0053] AU
Ag = 4.43 [2.77] [1.24σ]
Teffp = 4354 [640] K [3.72σ]

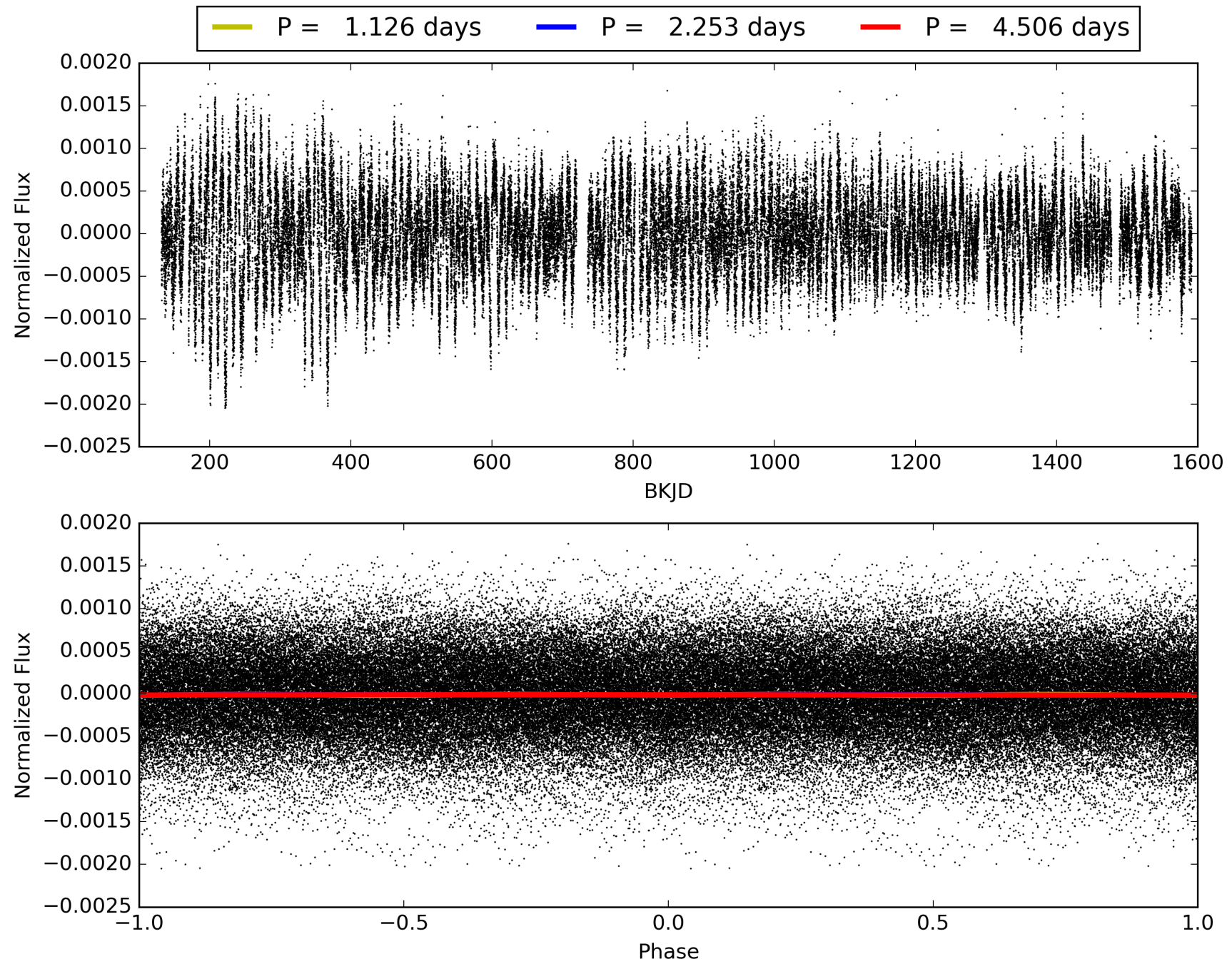
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 8.02e-30
RollingBand-fgt: 1.00 [561/561]
GhostDiagnostic-chr: 1.089
Centroid-sig: 0.0%
Centroid-so: 1.479 arcsec [2.18σ]
OotOffset-rm: 0.175 arcsec [0.57σ]
KicOffset-rm: 0.113 arcsec [0.38σ]
OotOffset-st: 1/3/3/5 [12]
KicOffset-st: 1/3/3/5 [12]
DiffImageQuality-fgm: 0.83 [10/12]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 011251058-01, PDC Light Curves

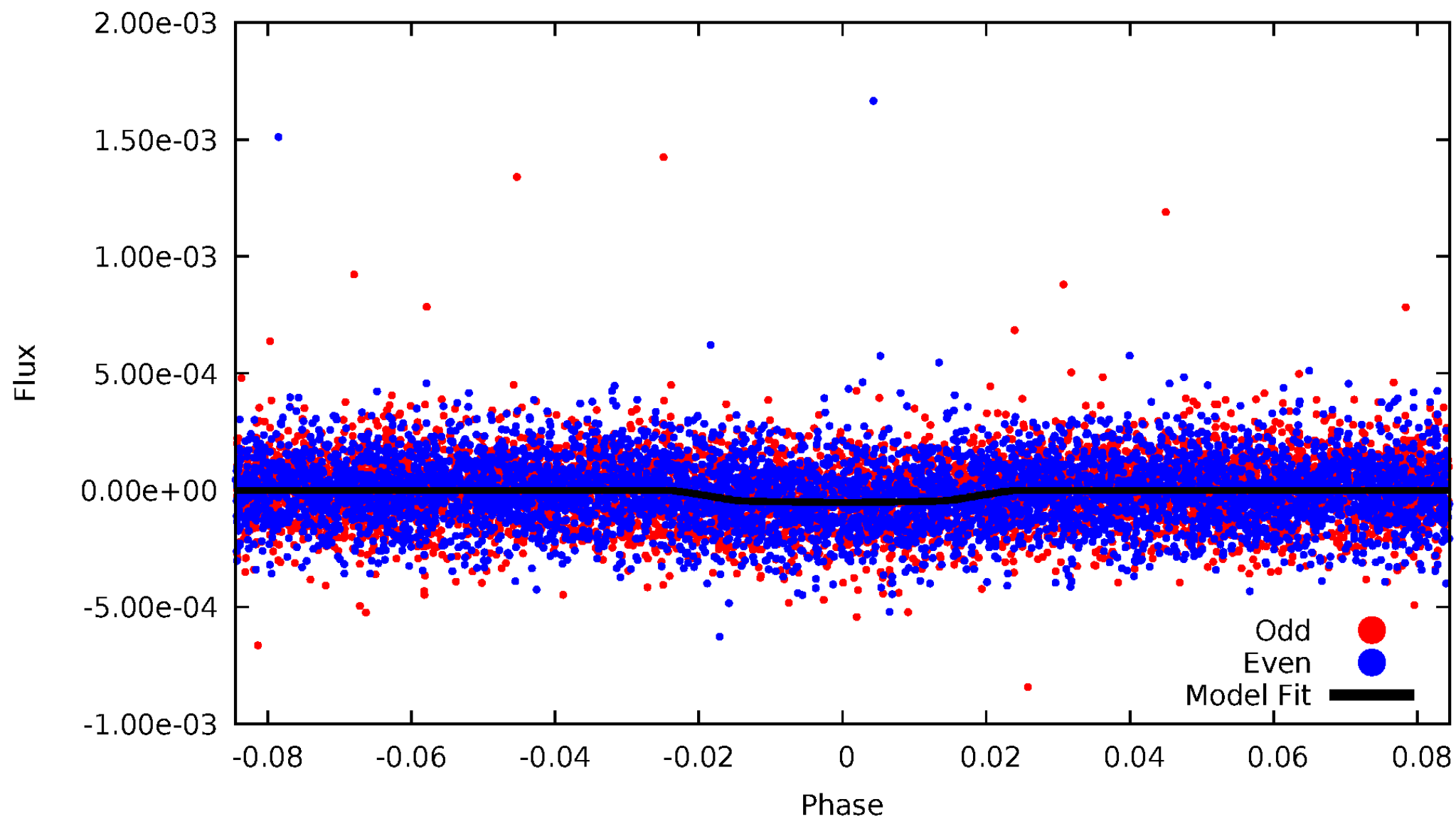


TCE 011251058-01



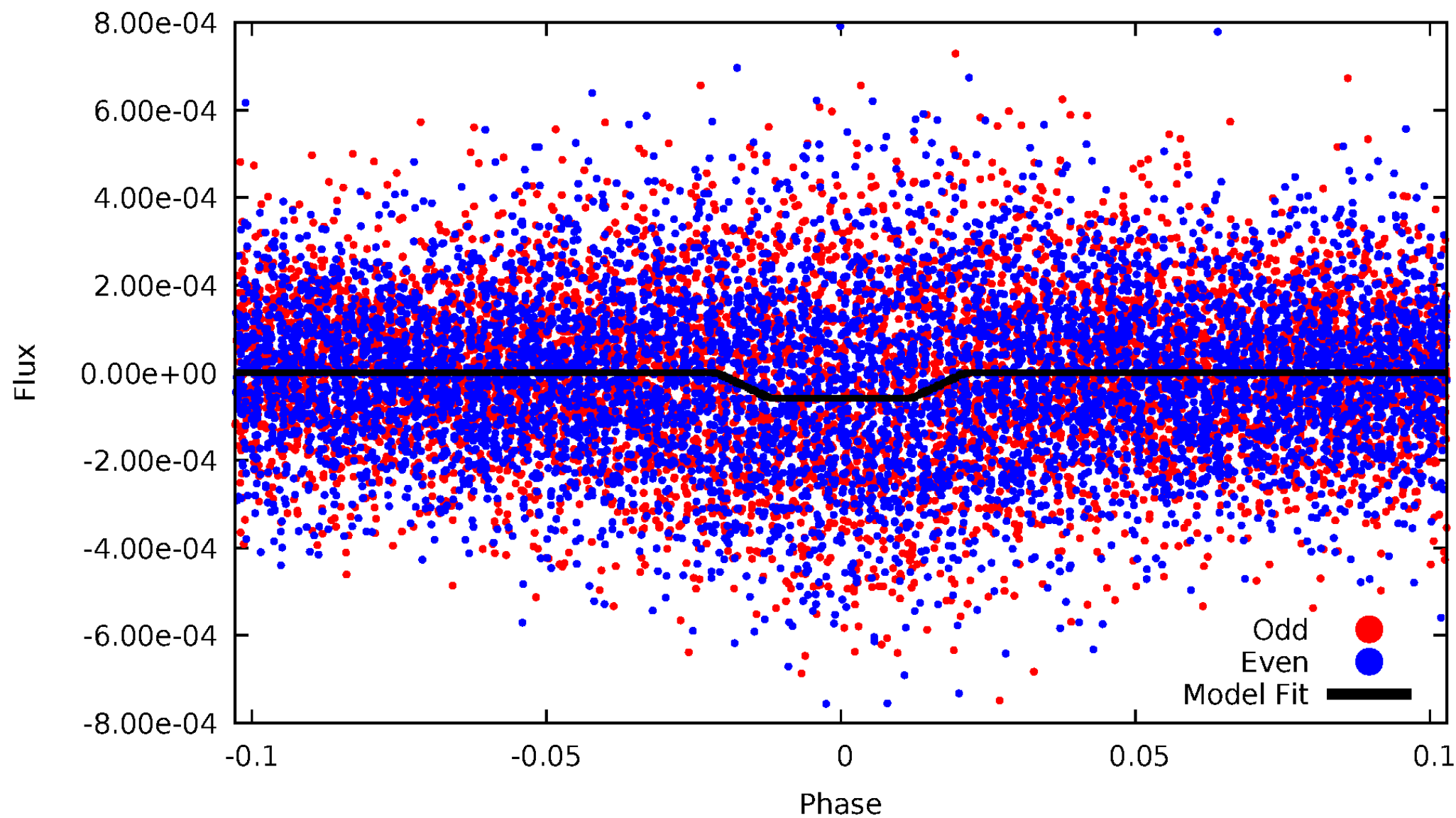
DV Odd/Even

TCE 011251058-01



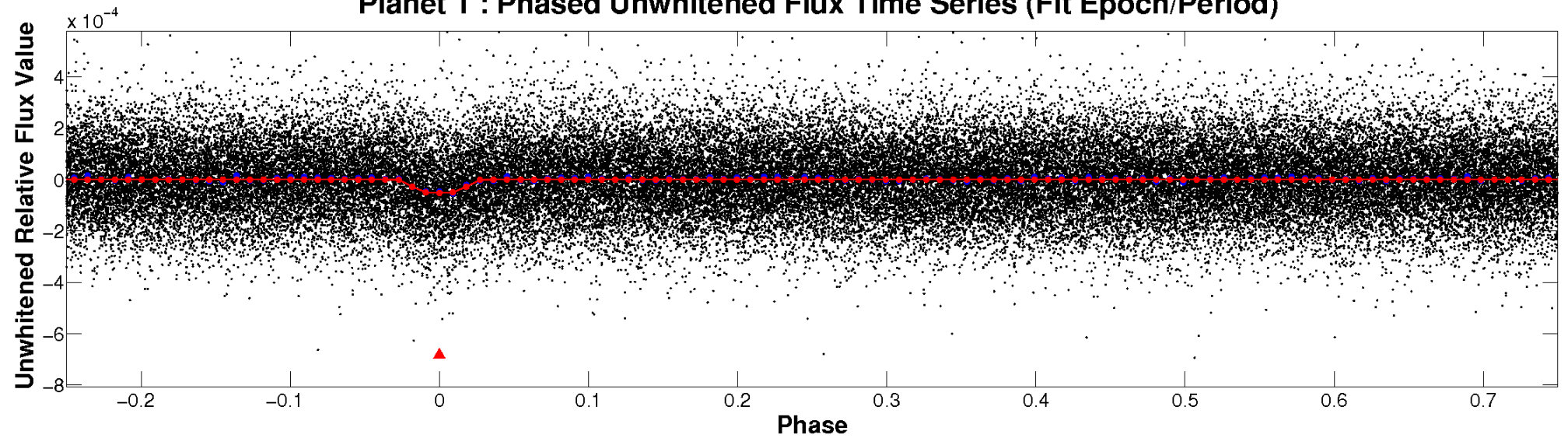
ALT Odd/Even

TCE 011251058-01

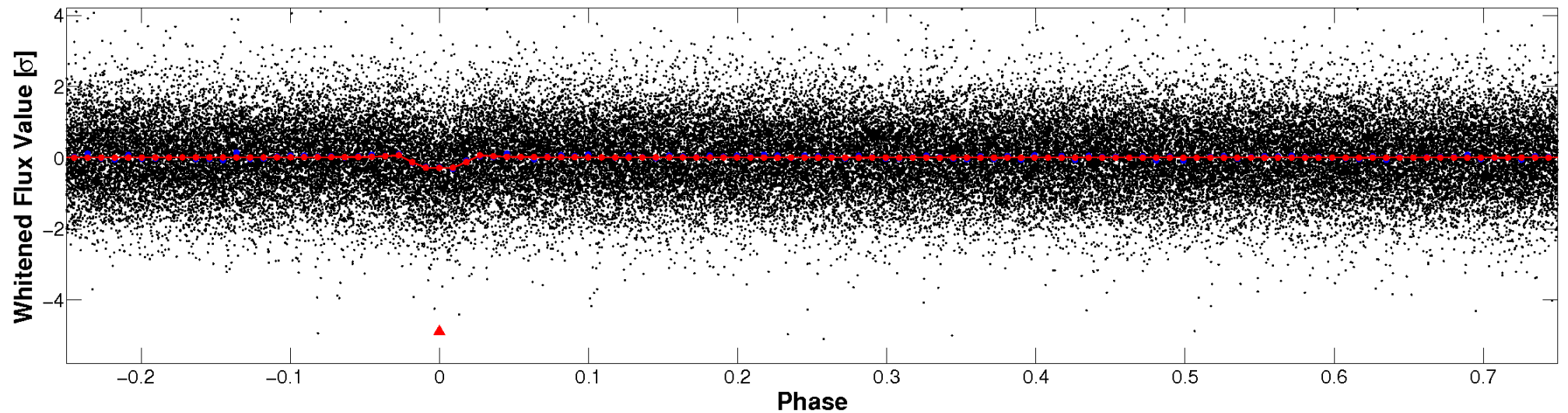


Non-Whitened Vs. Whitened Light Curve

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

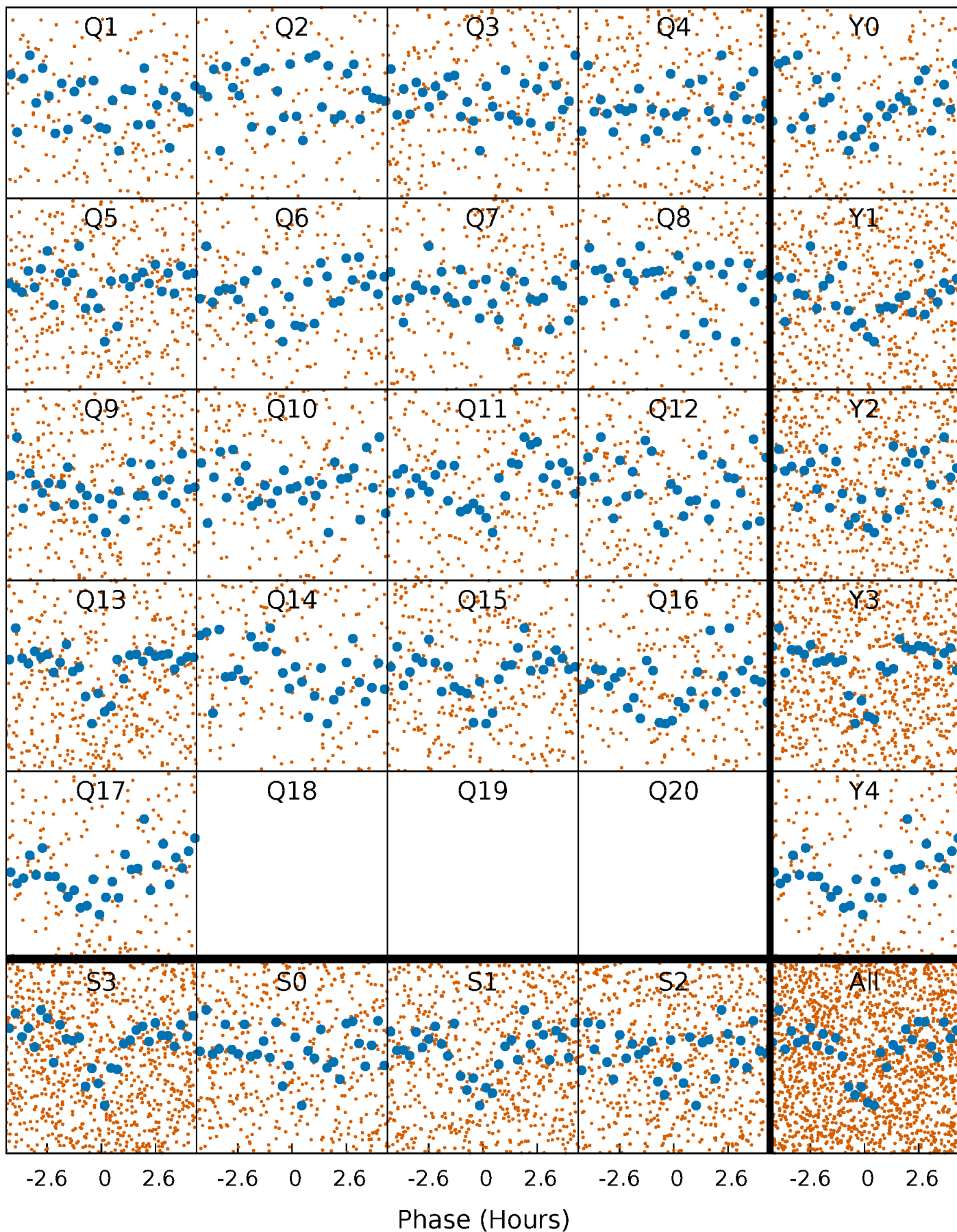


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



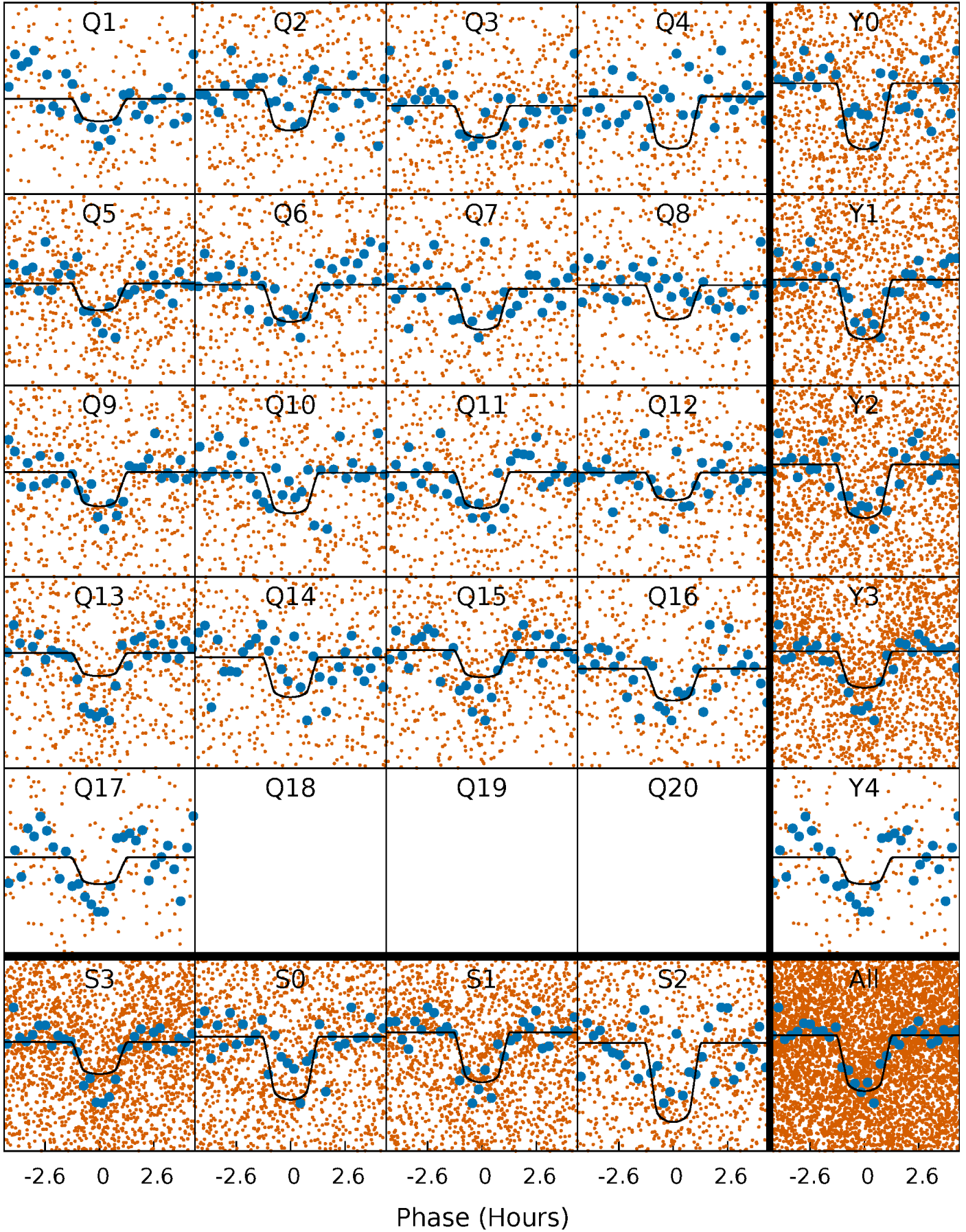
PDC Quarter-Phased Transit Curves

TCE 011251058-01 P= 2.252850 Days $T_0=131.622090$ (BKJD)



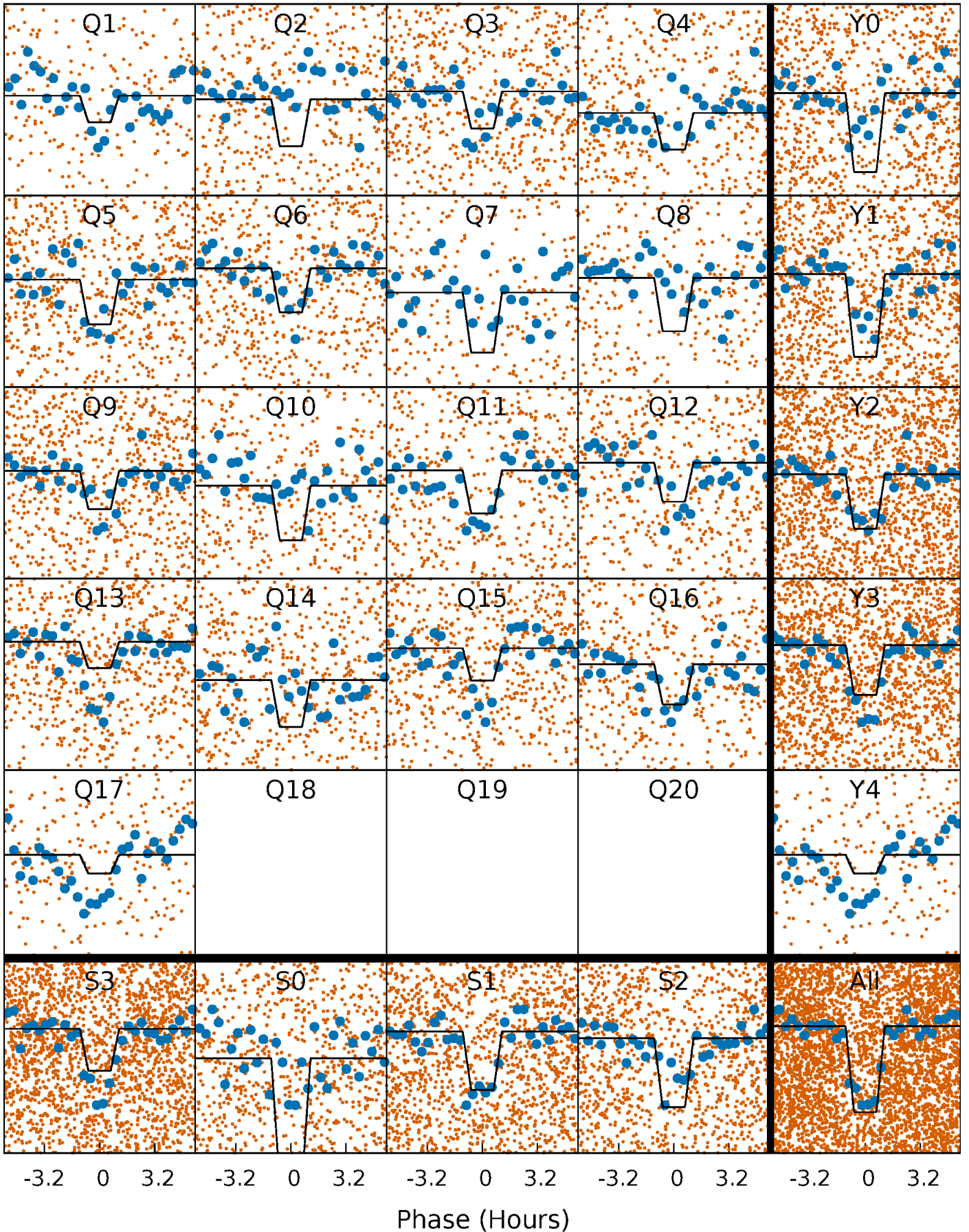
DV Quarter-Phased Transit Curves

TCE 011251058-01 P= 2.252850 Days $T_0=131.622090$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

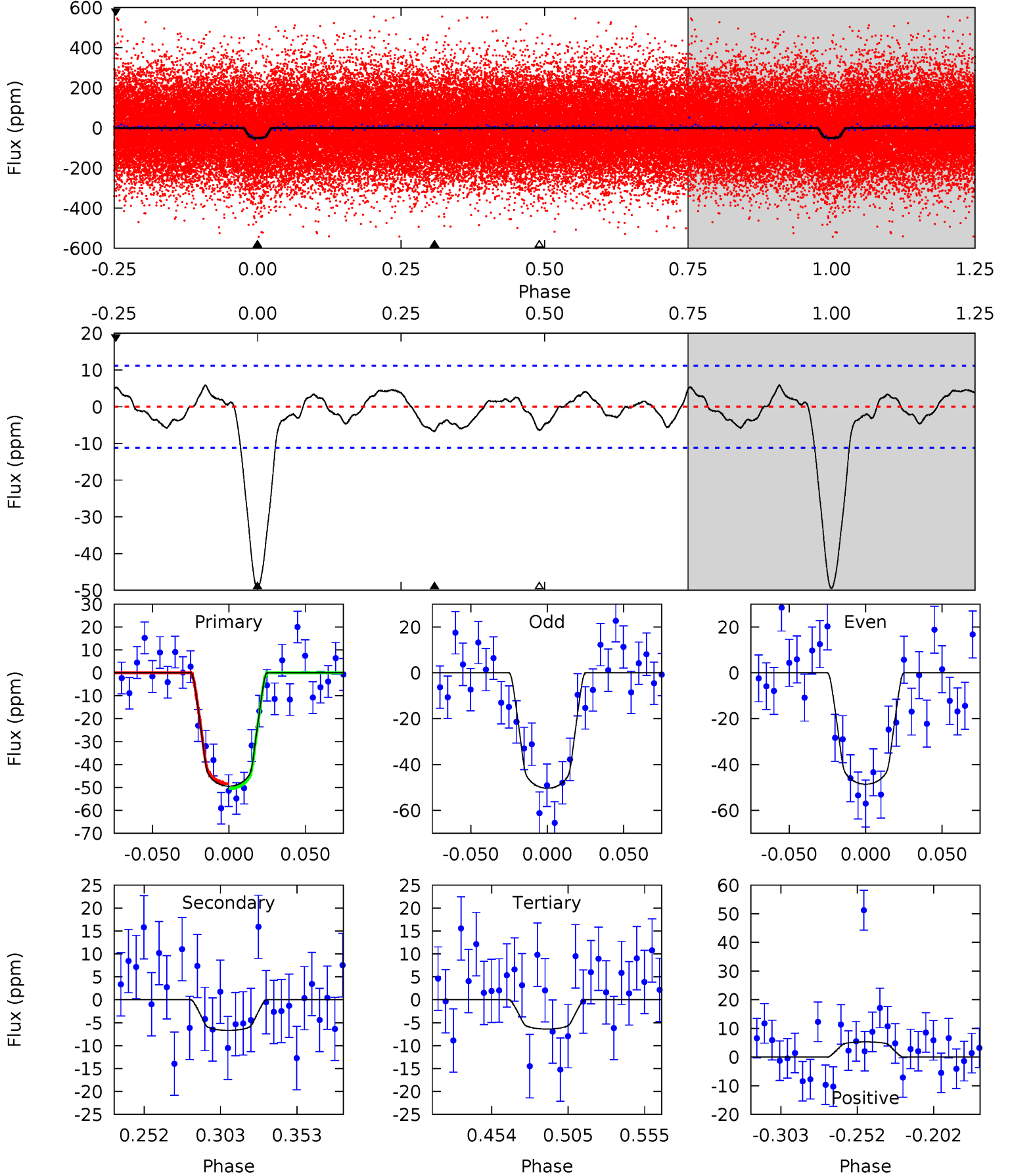
TCE 011251058-01 P= 2.252838 Days $T_0=131.627150$ (BKJD)



DV Model-Shift Uniqueness Test

011251058-01, P = 2.252850 Days, E = 129.369240 Days

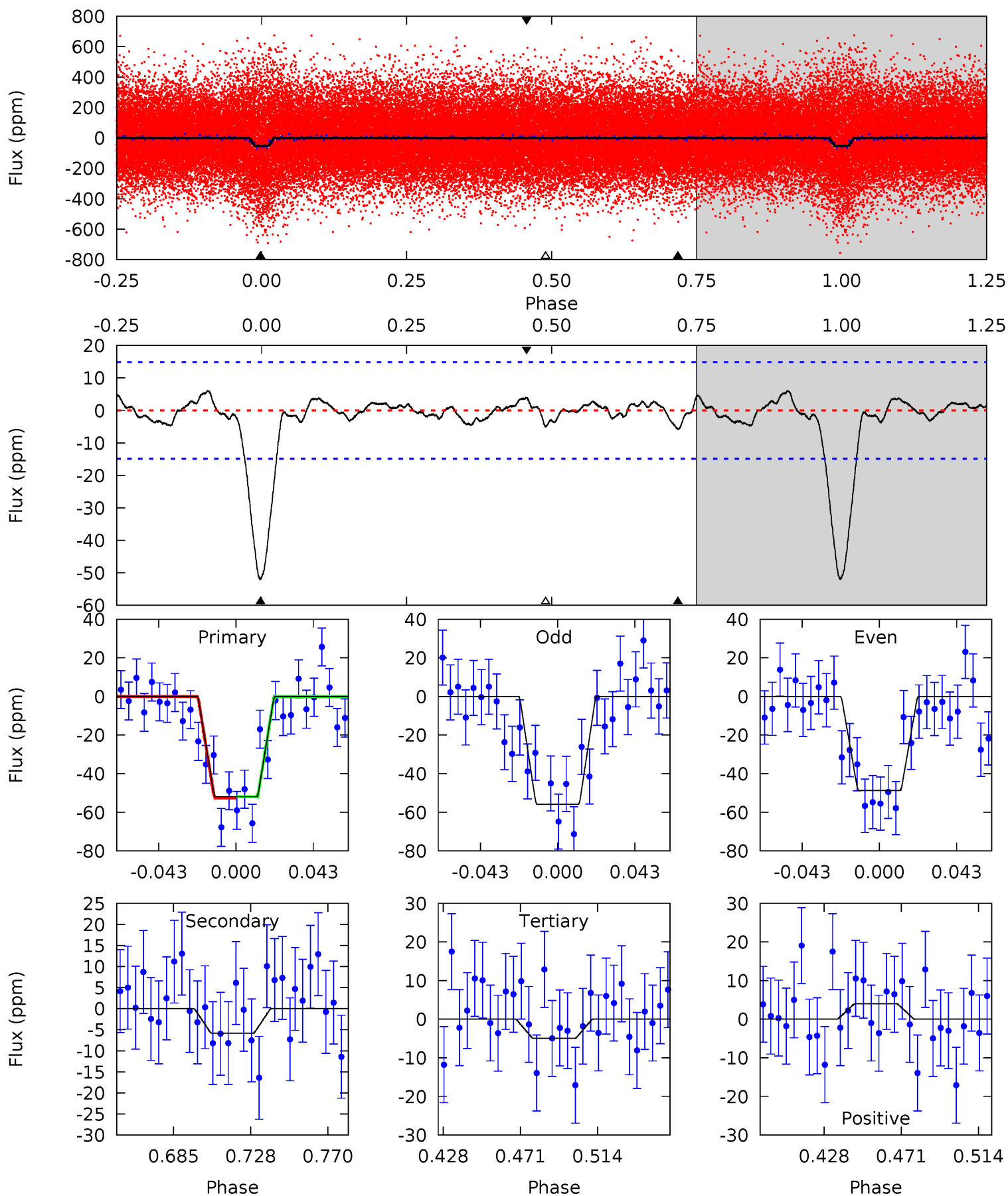
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.9	2.82	2.69	2.23	4.71	1.96	1.23	18.2	18.6	0.13	0.59	0.37	0.95	0.11	0.45



Alt Model-Shift Uniqueness Test

011251058-01, P = 2.252838 Days, E = 129.374312 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.6	1.85	1.58	1.27	4.74	2.03	0.71	15.0	15.3	0.27	0.58	1.15	0.79	0.10	0.12



Stellar Parameters For KIC 011251058

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6850^{+71}_{-92}	$4.196^{+0.080}_{-0.120}$	$-0.140^{+0.150}_{-0.150}$	$1.530^{+0.254}_{-0.191}$	$1.350^{+0.092}_{-0.092}$	$0.531^{+0.205}_{-0.174}$
	+1%/-1%	+2%/-3%	+107%/-107%	+17%/-12%	+7%/-7%	+39%/-33%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 011251058-01 / KOI 7429.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-7 ± 2	$1.35^{+0.34}_{-0.31}$	2724^{+122}_{-97}	4045^{+507}_{-444}	$2.685^{+2.222}_{-1.229}$
Alt.	-6 ± 3	$1.29^{+0.36}_{-0.32}$	2726^{+114}_{-95}	3988^{+585}_{-639}	$2.495^{+2.619}_{-1.468}$

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

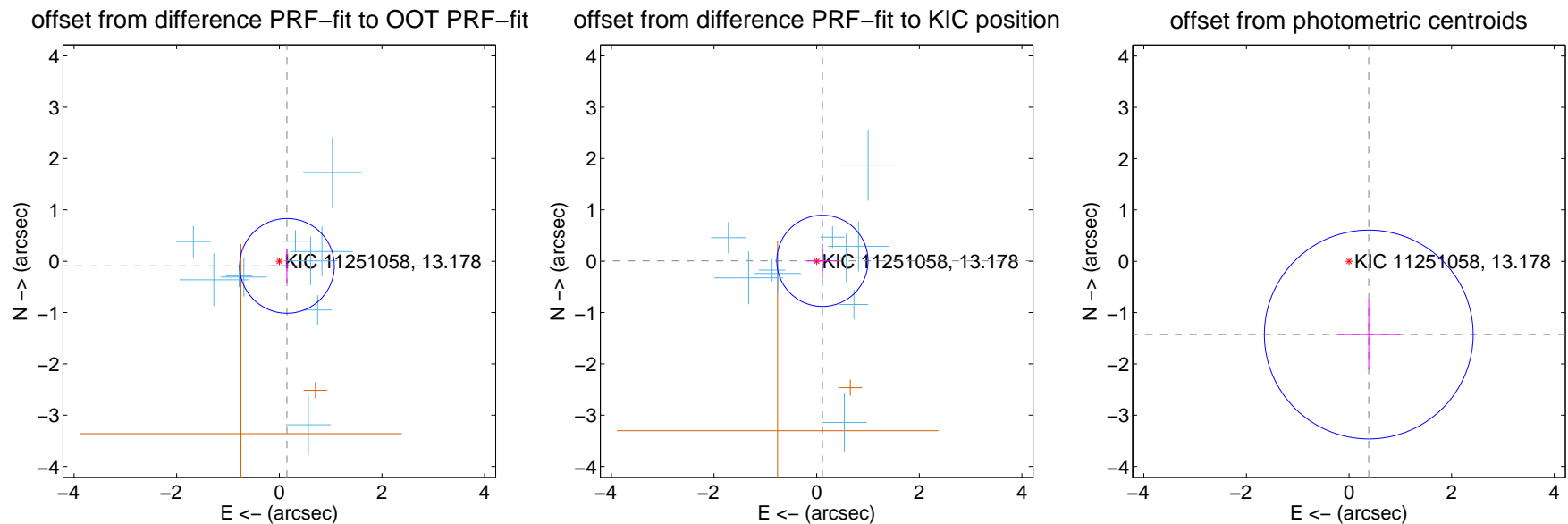
DV Centroid Data

Supplemental centroid analysis for 011251058-01. Kepler magnitude: 13.18. Transit SNR 12.96

There are 10 quarters with good PRF difference image offsets

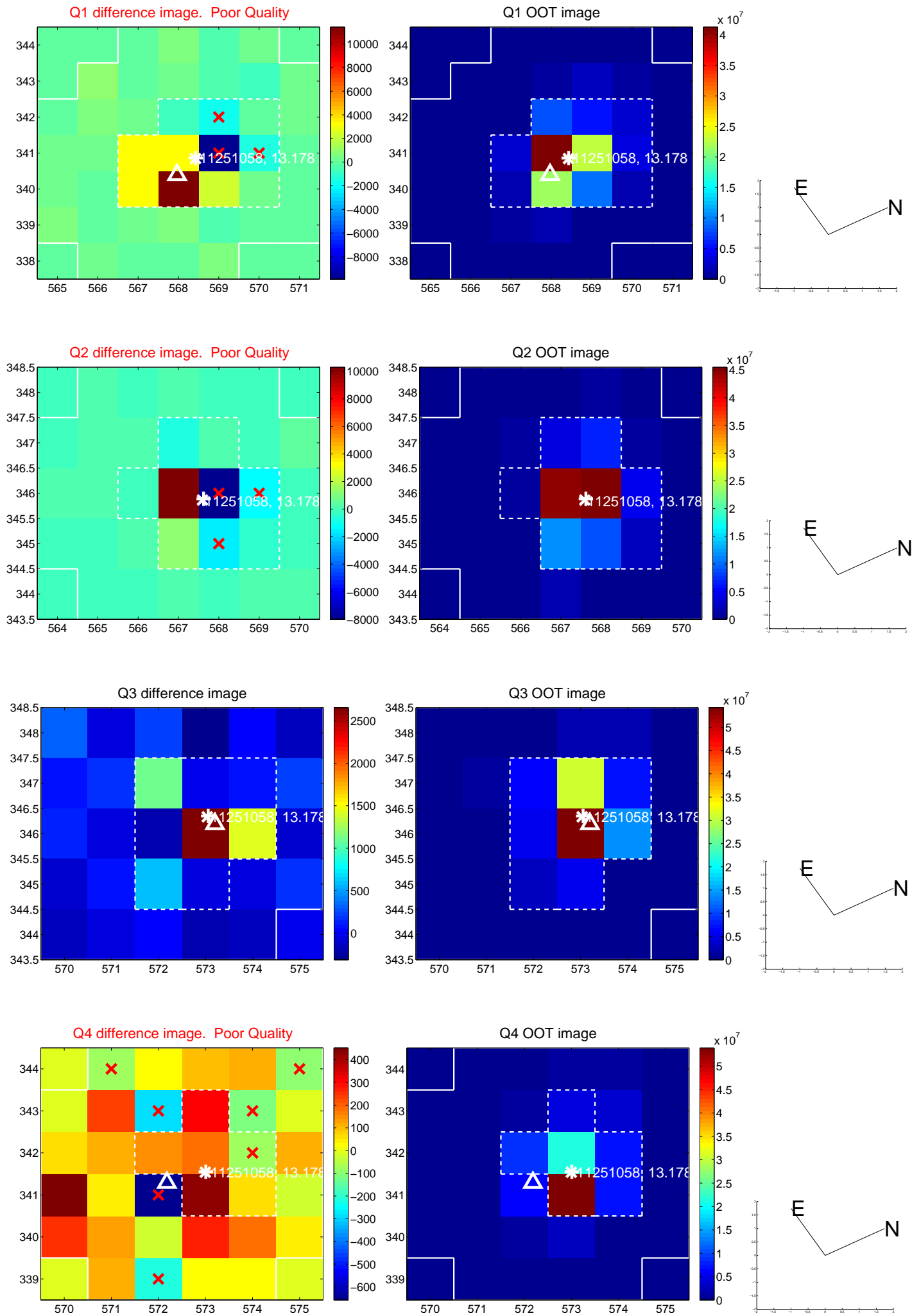
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.175 ± 0.308	0.57	-0.149 ± 0.296	-0.091 ± 0.336
PRF-fit source offset from KIC position	0.113 ± 0.296	0.38	-0.112 ± 0.296	0.007 ± 0.336
photometric centroid source offset	1.48 ± 0.68	2.18	-0.39 ± 0.61	-1.43 ± 0.68

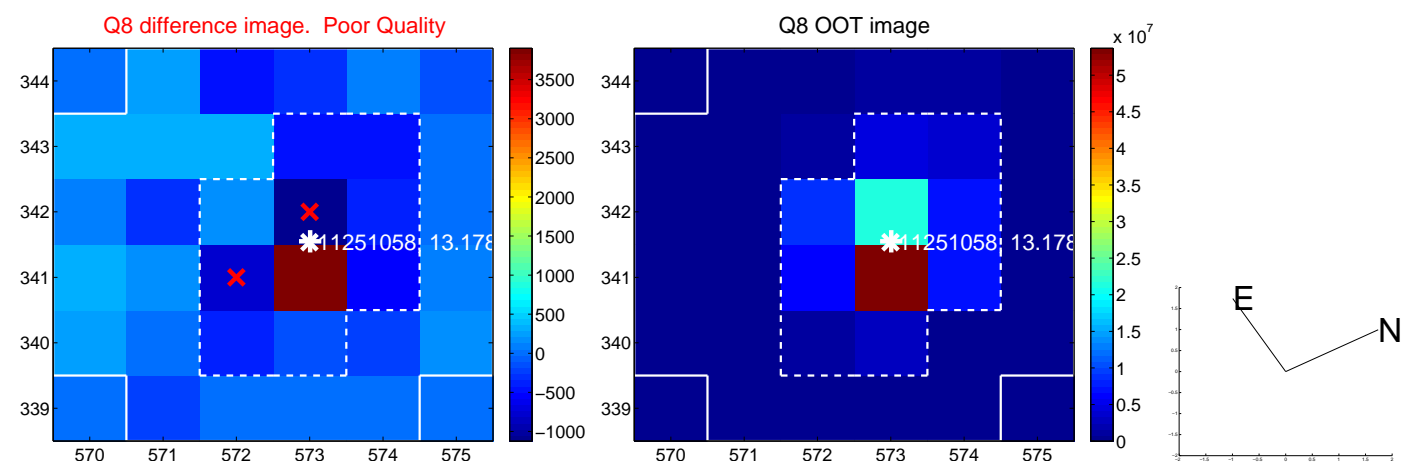
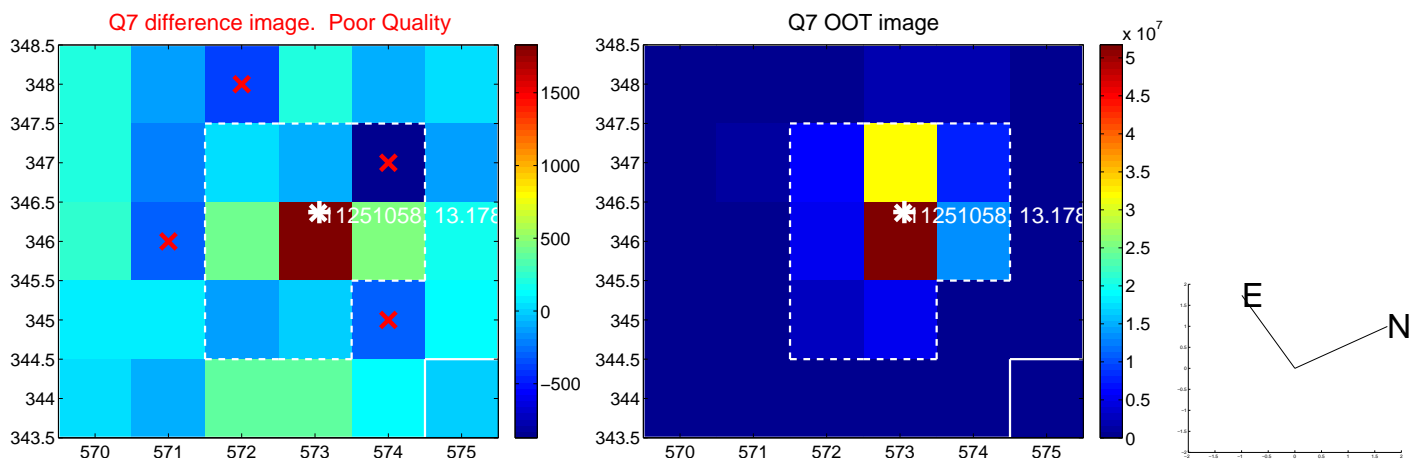
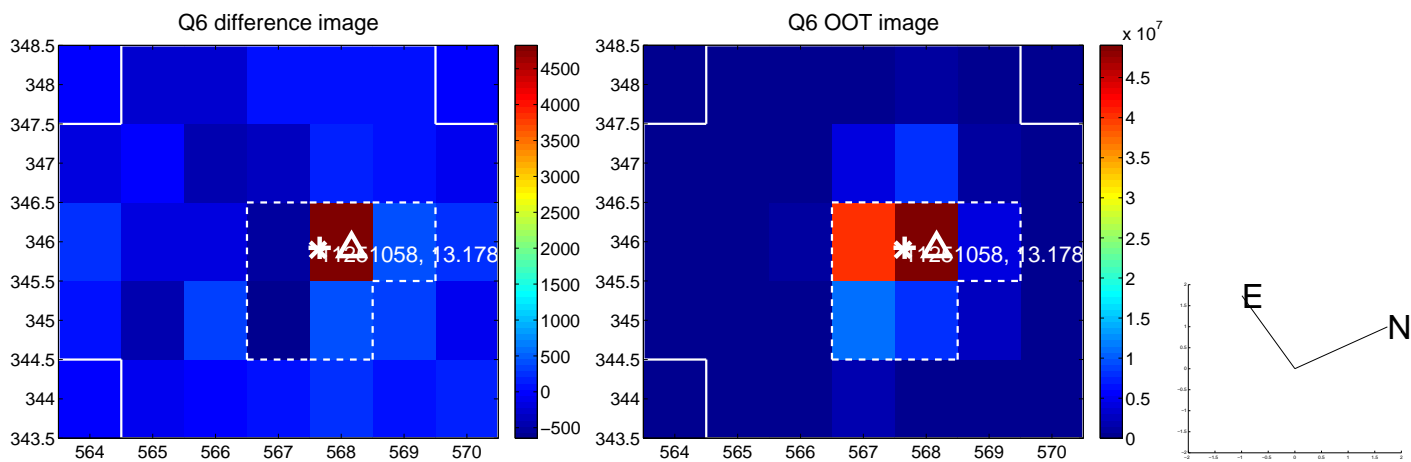
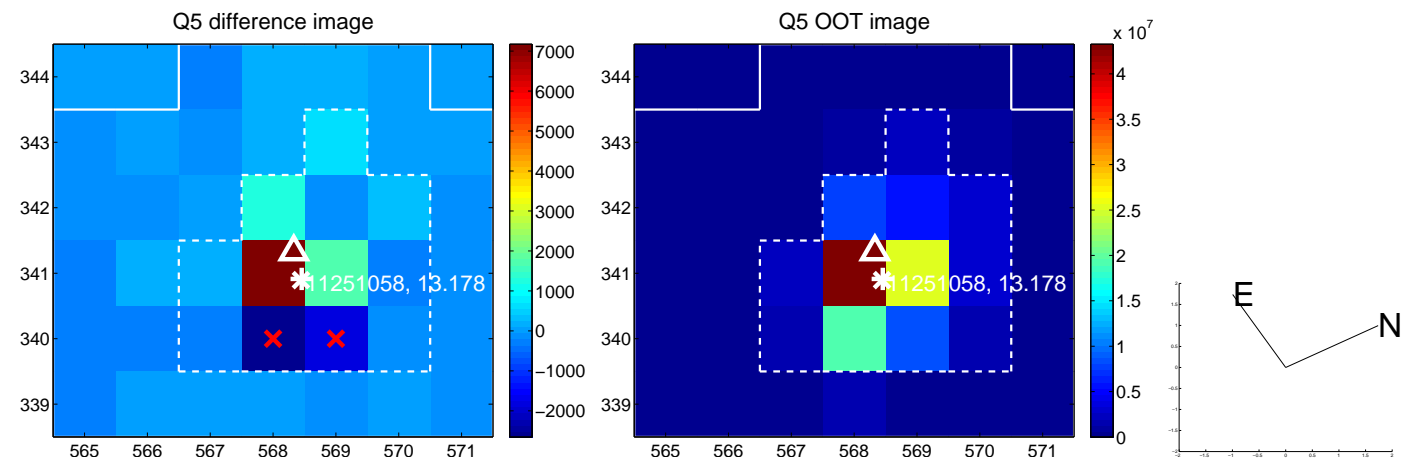


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

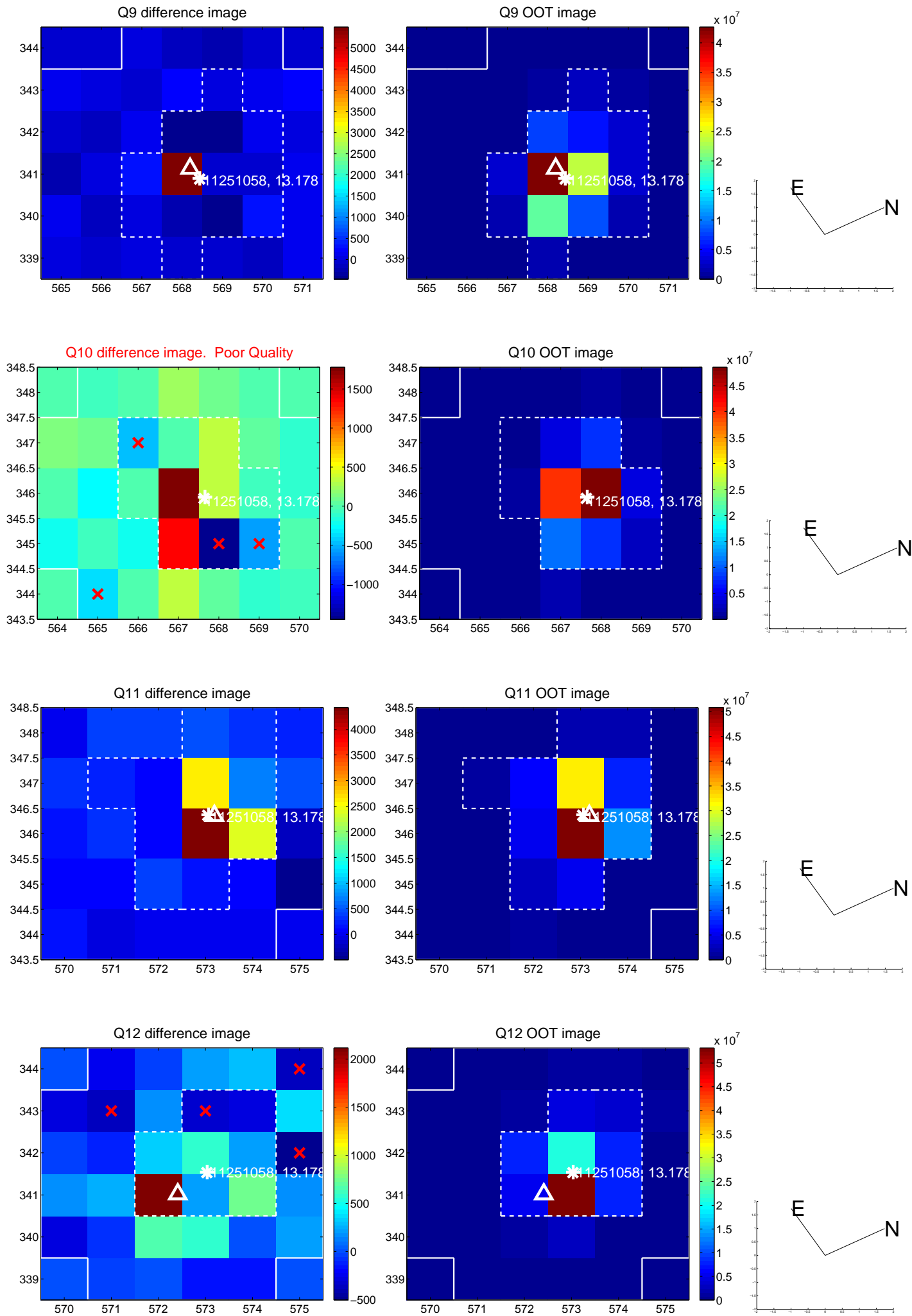
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



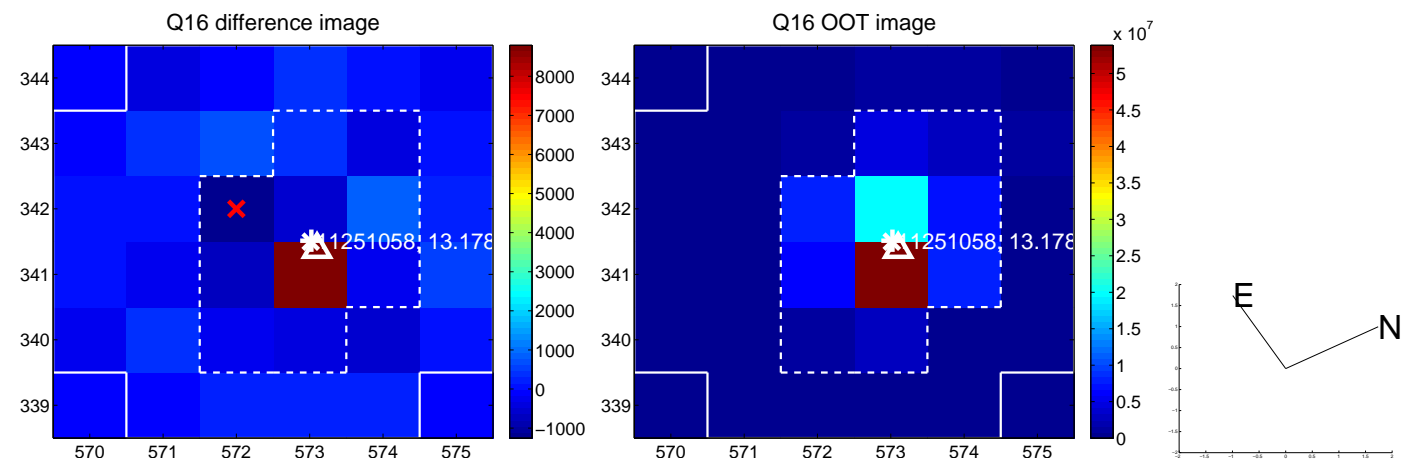
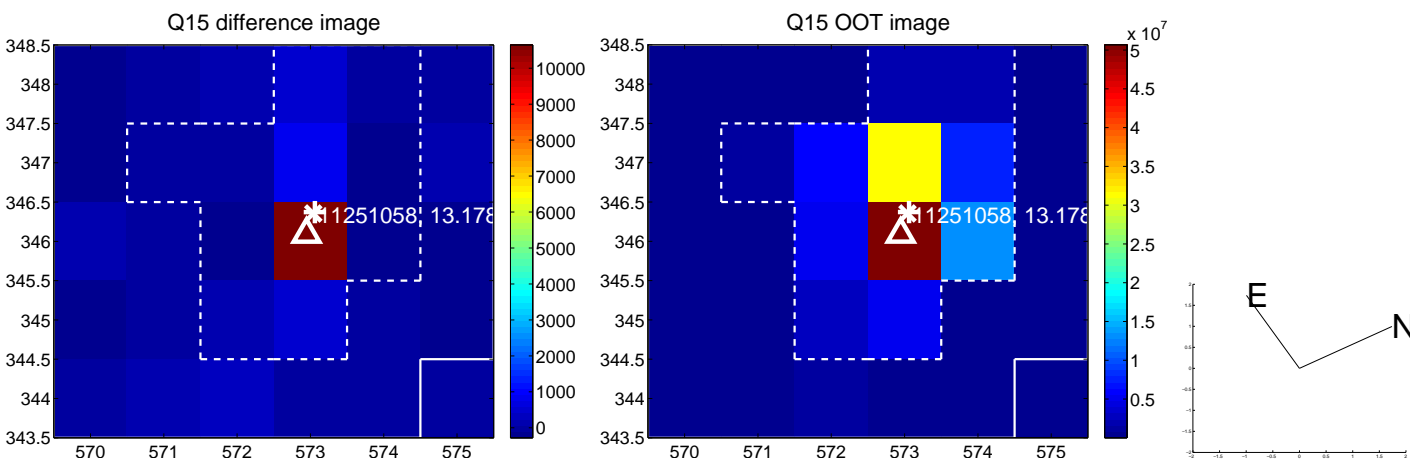
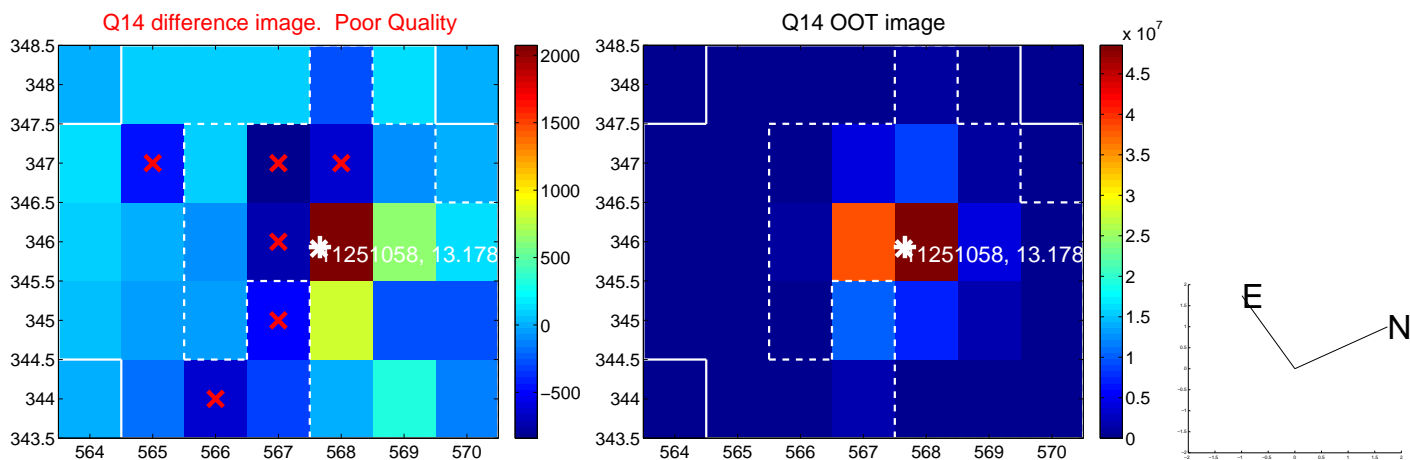
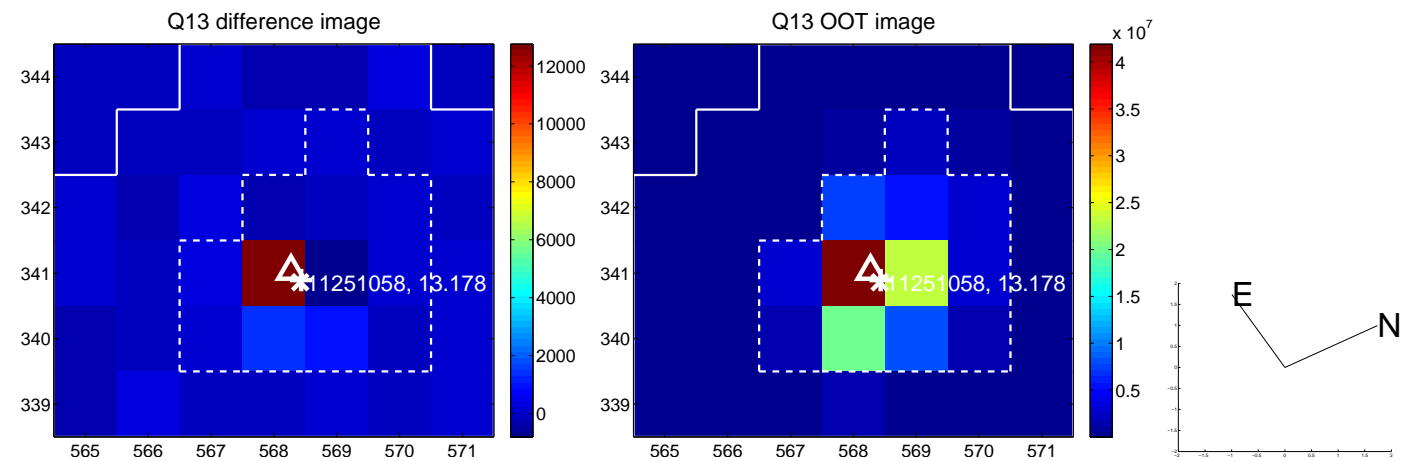
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



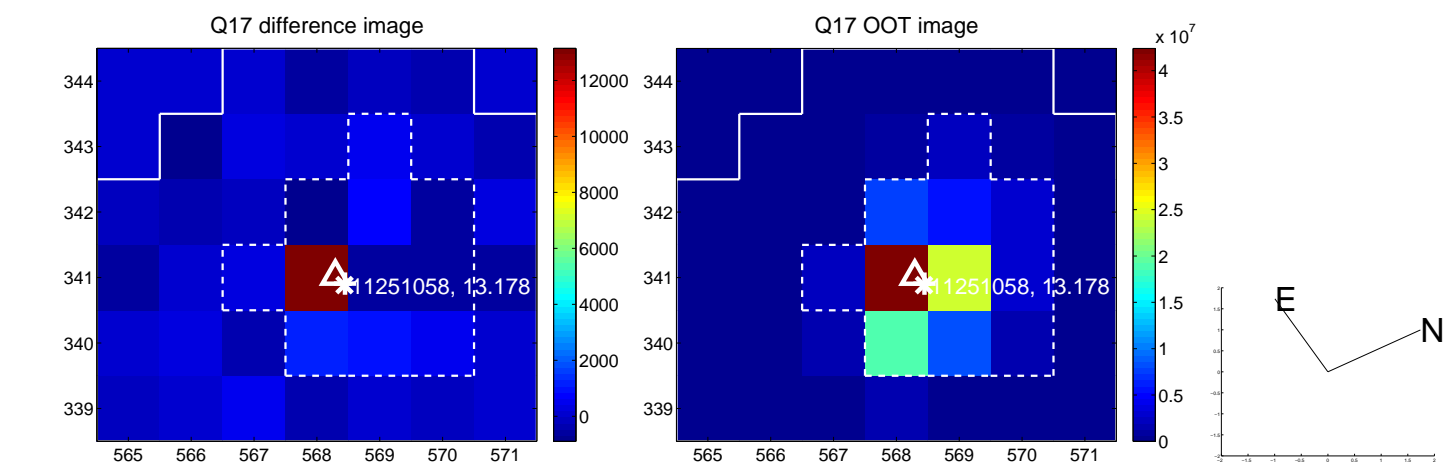
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



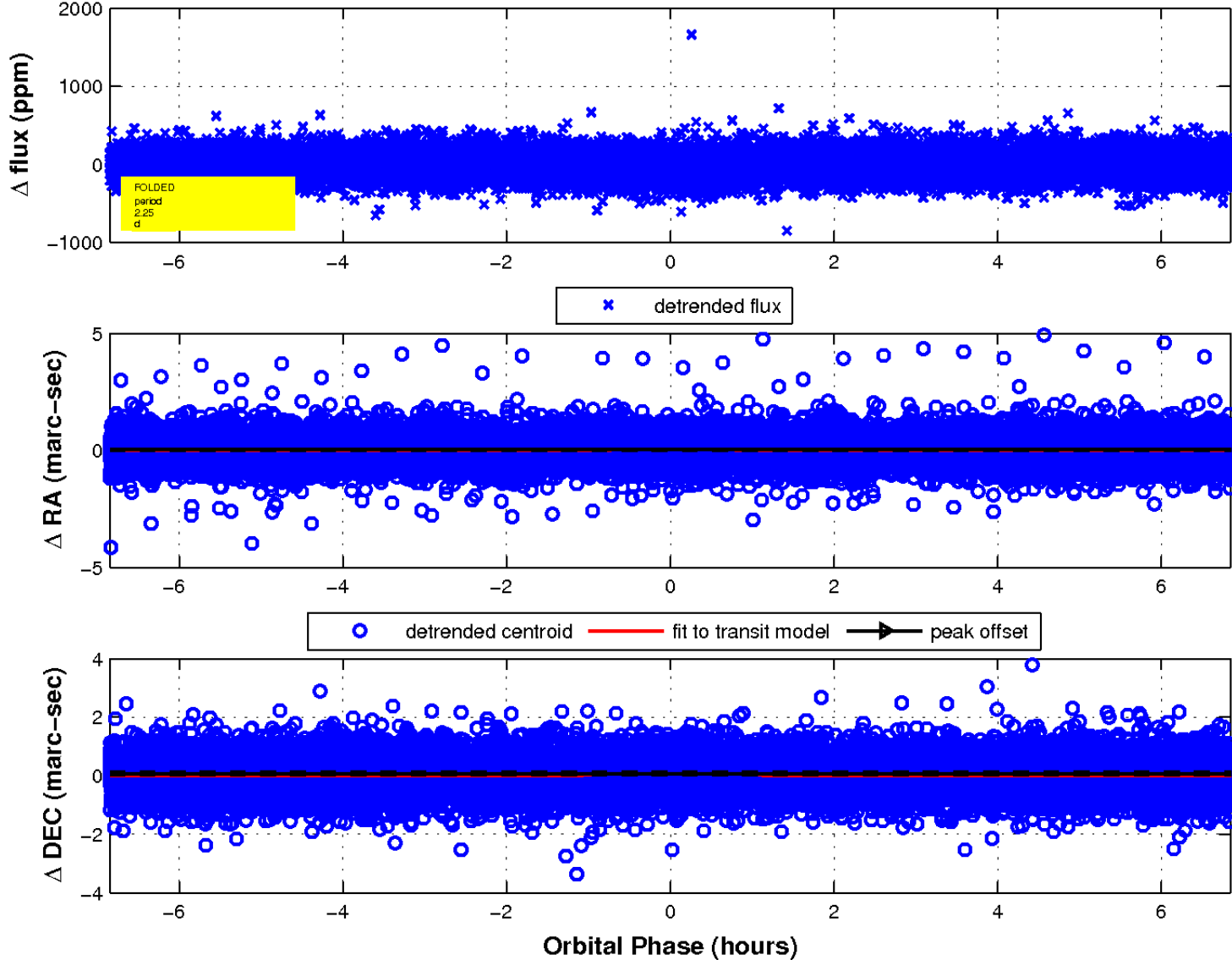
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

