

KIC 005389956

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})
005389956-01	OBS	4591.01	1.809220	132.698977	89.0	2.889	9.2	9.6	0.89	5897	1.13	1029.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005389956-01	OBS	PC	0.98	0	0	0	0	NO_COMMENT

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

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

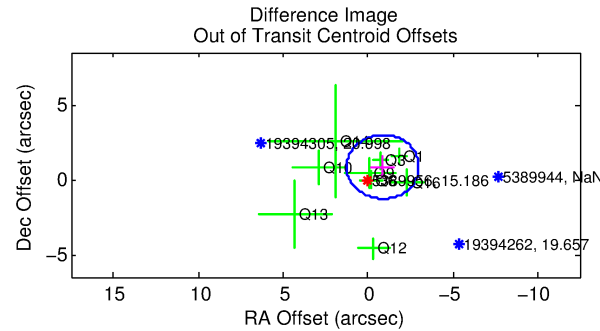
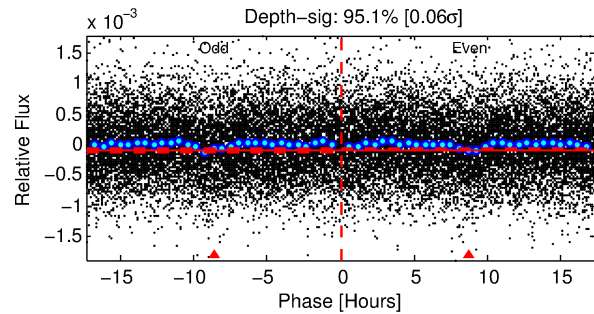
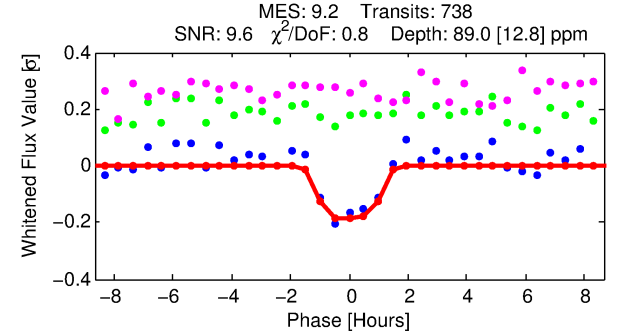
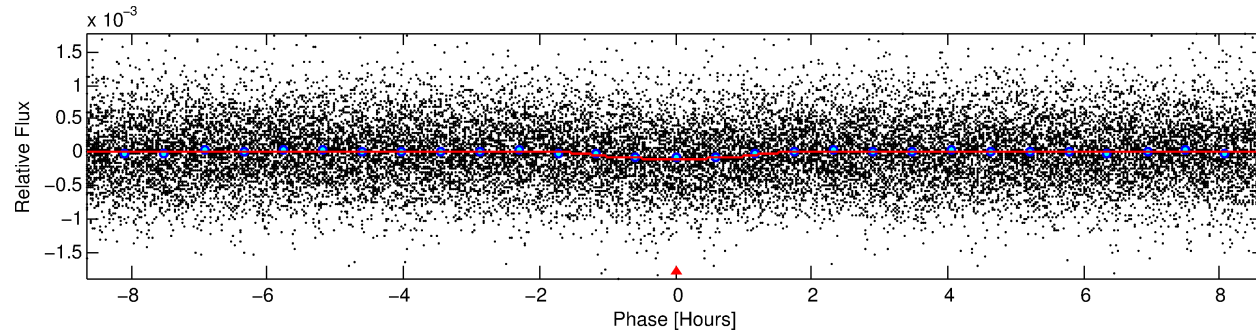
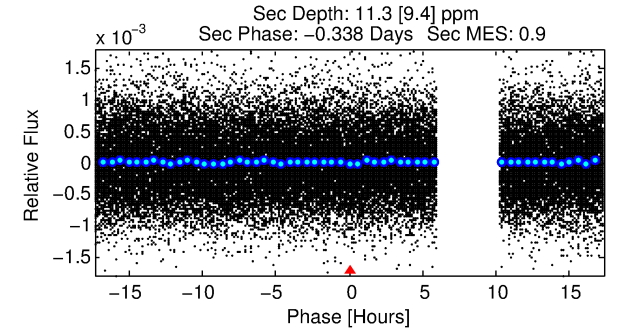
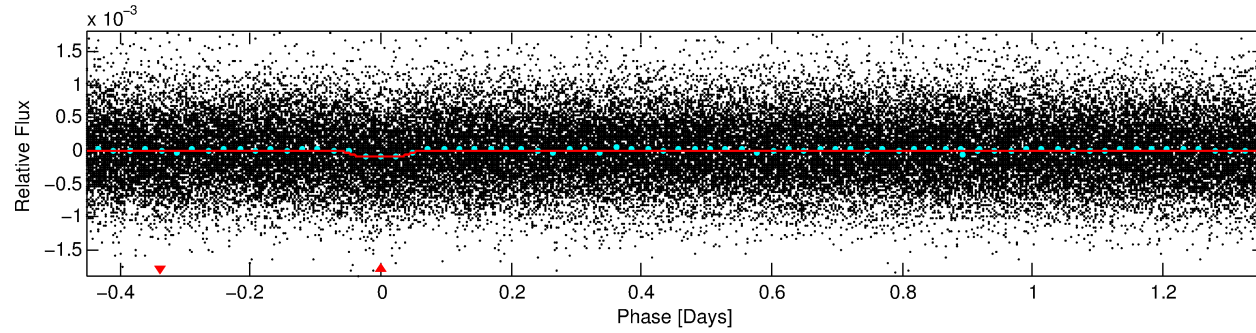
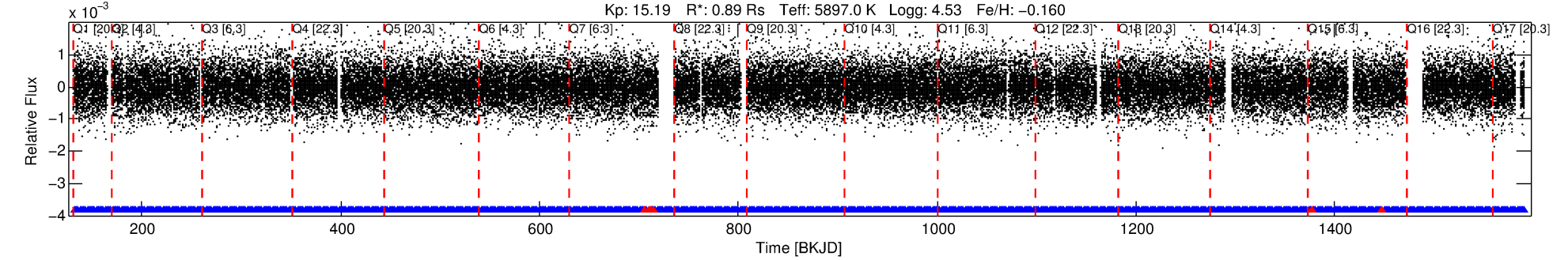
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005389956-01

No Significant Match Found

DV One-Page Summary

KIC: 5389956 Candidate: 1 of 1 Period: 1.809 d
KOI: K04591.01 Corr: 0.885



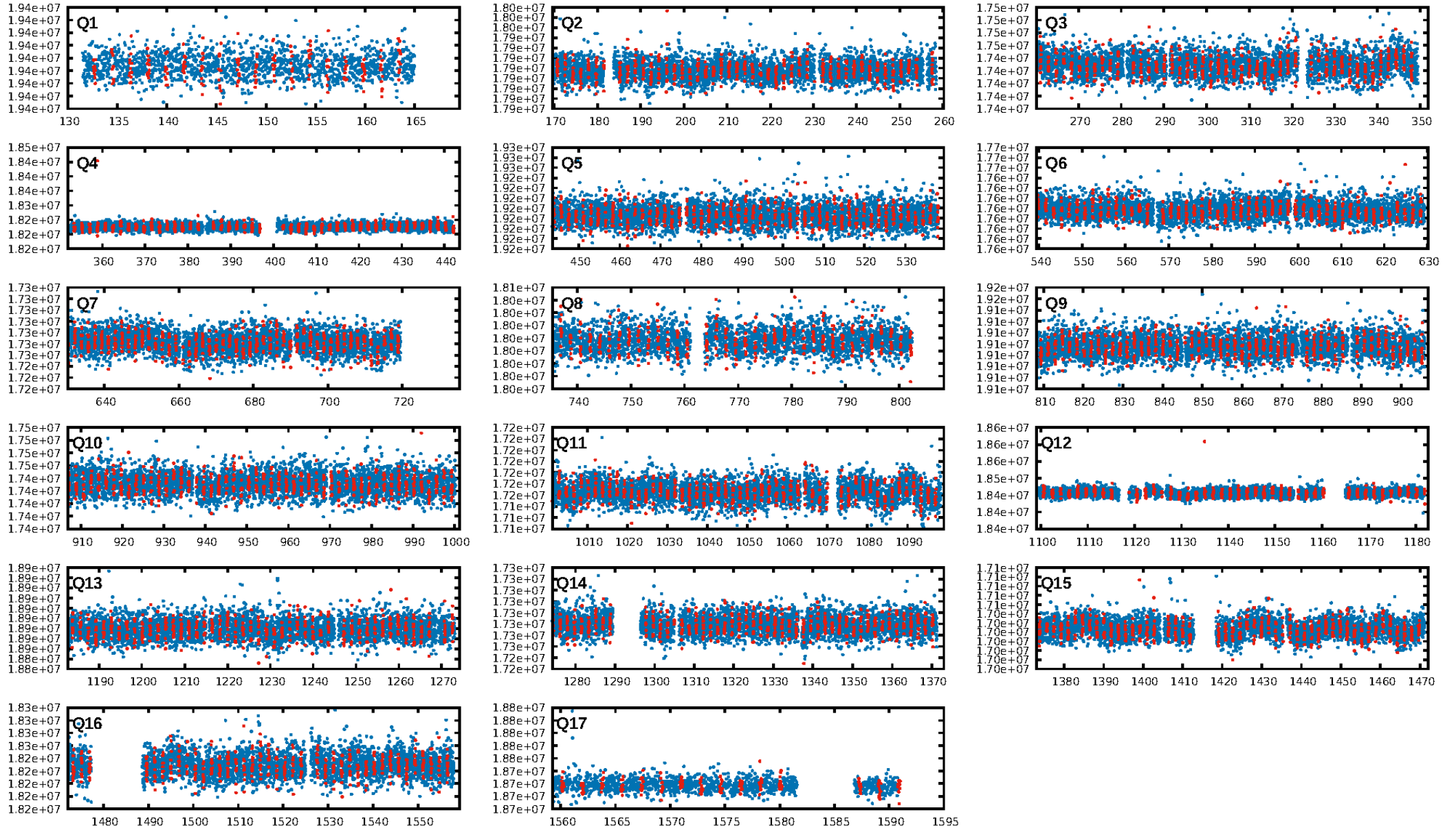
DV Fit Results:

Period = 1.80922 [0.00002] d
Epoch = 132.6990 [0.0045] BKJD
Rp/R* = 0.0116 [0.0016]
a/R* = 1.61 [0.60]
b = 0.98 [0.03]
Seff = 1029.63 [399.20]
Teff = 1444 [140] K
Rp = 1.13 [0.36] Re
a = 0.0289 [0.0072] AU
Ag = 4.09 [3.88] [0.80σ]
Teffp = 3176 [700] K [2.42σ]

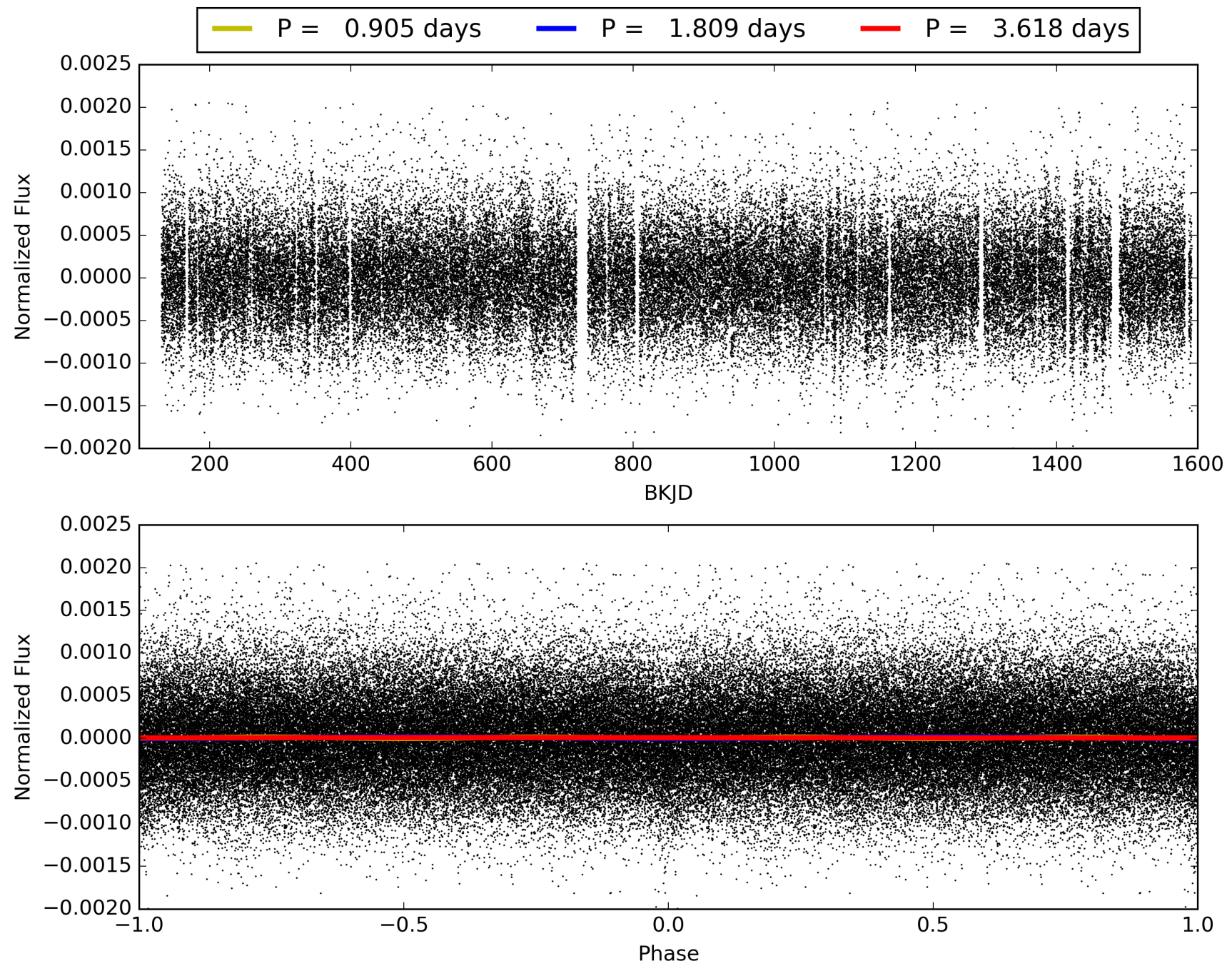
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.62e-21
RollingBand-fgt: 0.99 [699/705]
GhostDiagnostic-chr: 2.847
Centroid-sig: 0.2%
Centroid-so: 2.144 arcsec [1.49σ]
OotOffset-rm: 1.219 arcsec [1.72σ]
KicOffset-rm: 1.204 arcsec [1.56σ]
OotOffset-st: 3/1/2/3 [9]
KicOffset-st: 3/1/2/3 [9]
DiffImageQuality-fgm: 0.33 [3/9]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 005389956-01, PDC Light Curves

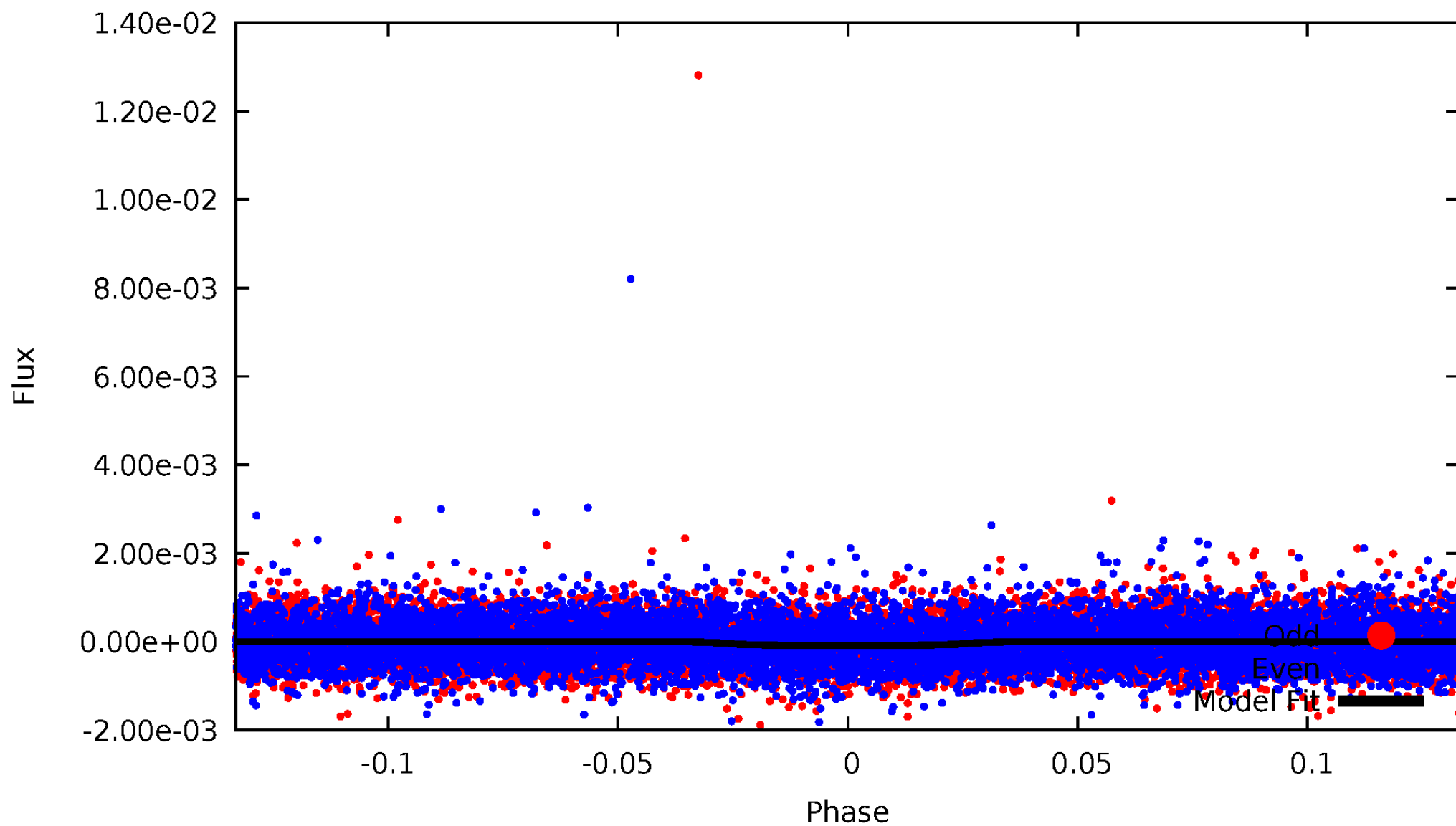


TCE 005389956-01



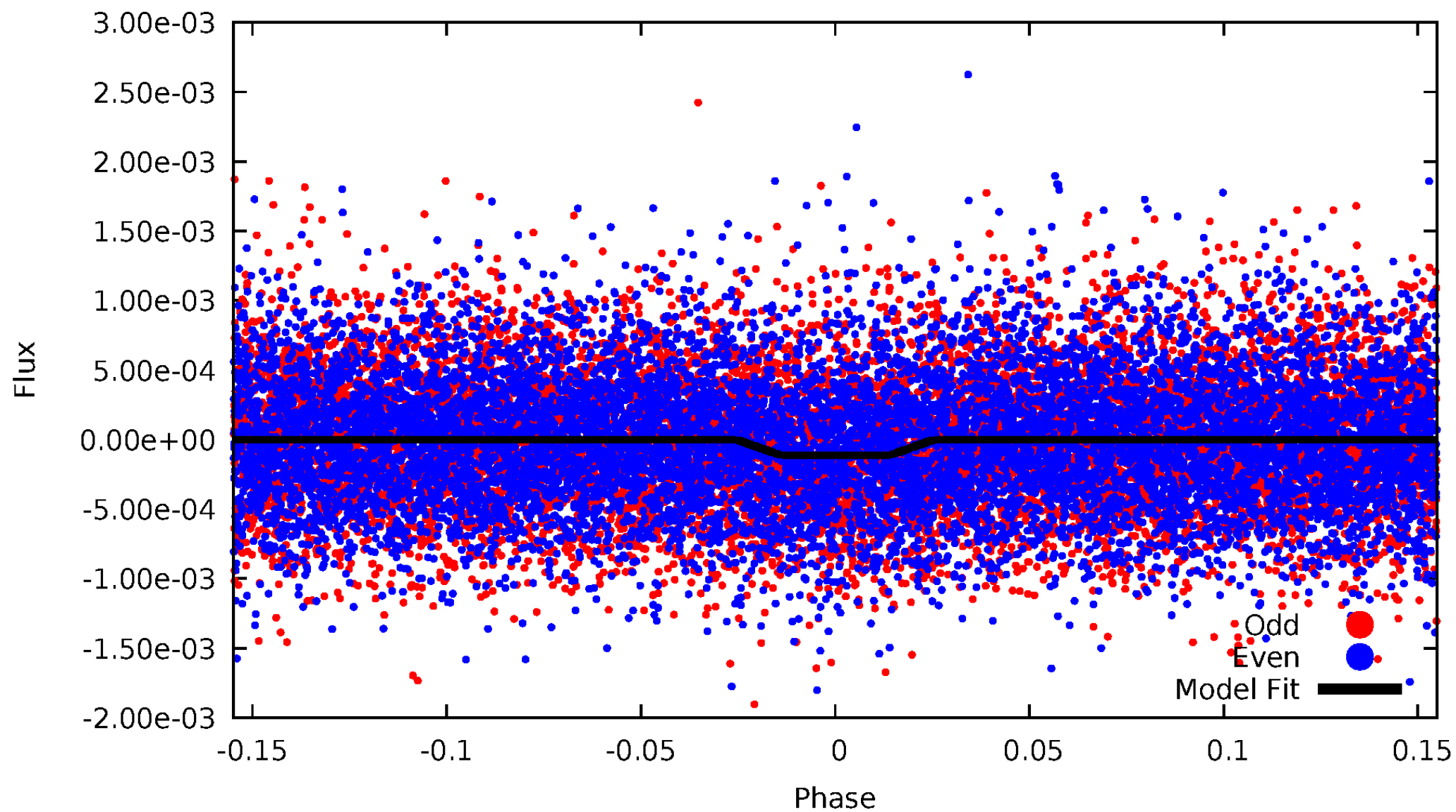
DV Odd/Even

TCE 005389956-01



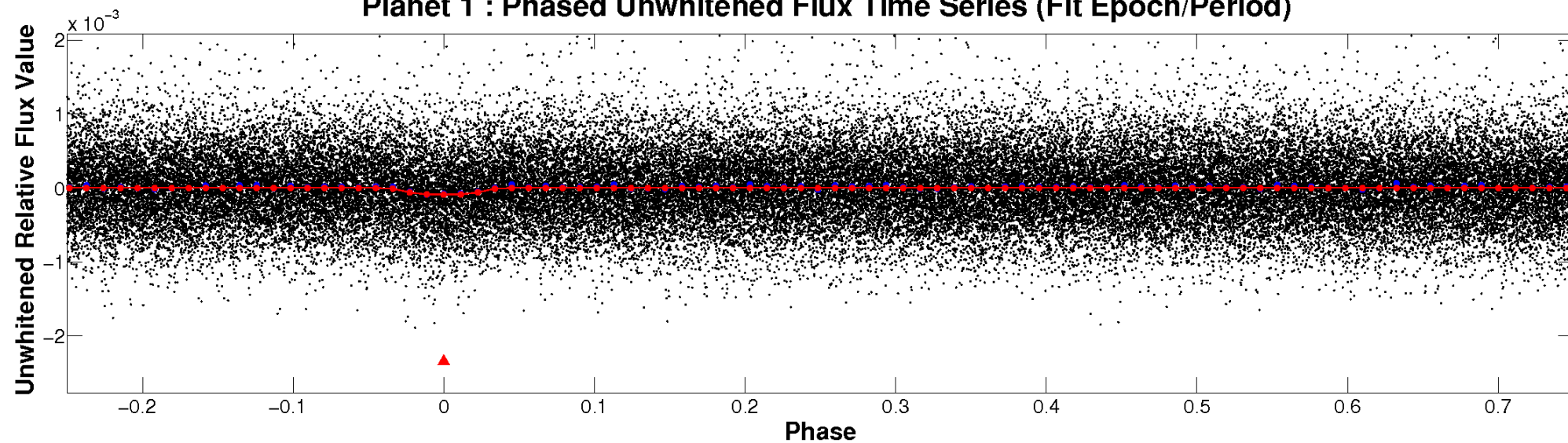
ALT Odd/Even

TCE 005389956-01

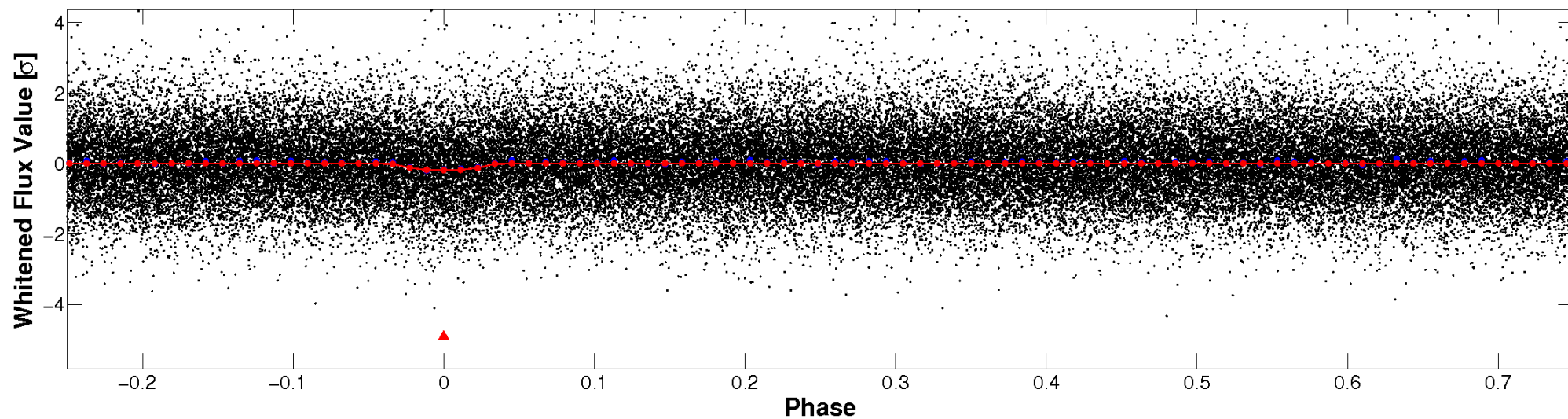


Non-Whitened Vs. Whitened Light Curve

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

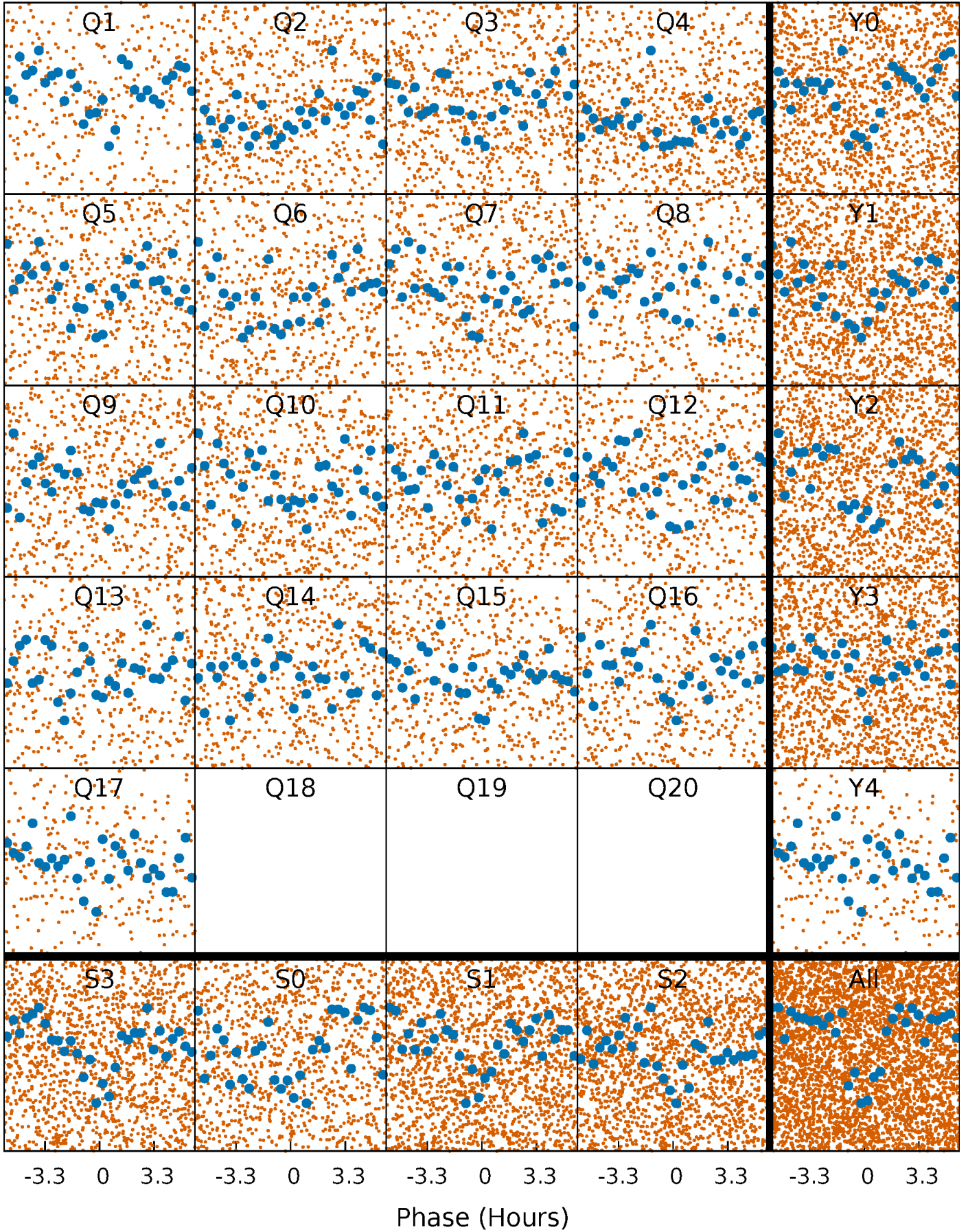


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



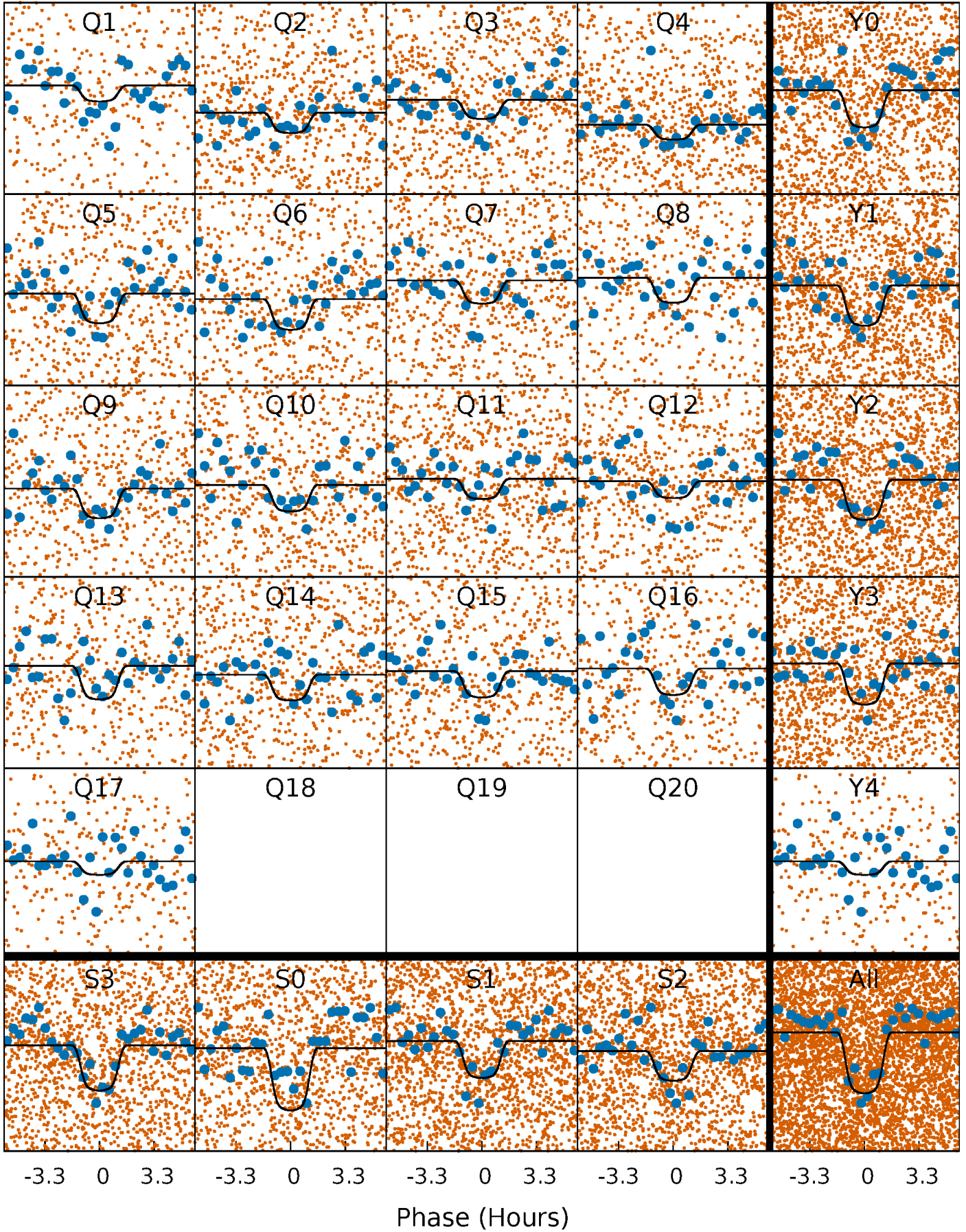
PDC Quarter-Phased Transit Curves

TCE 005389956-01 P= 1.809220 Days $T_0=132.698977$ (BKJD)



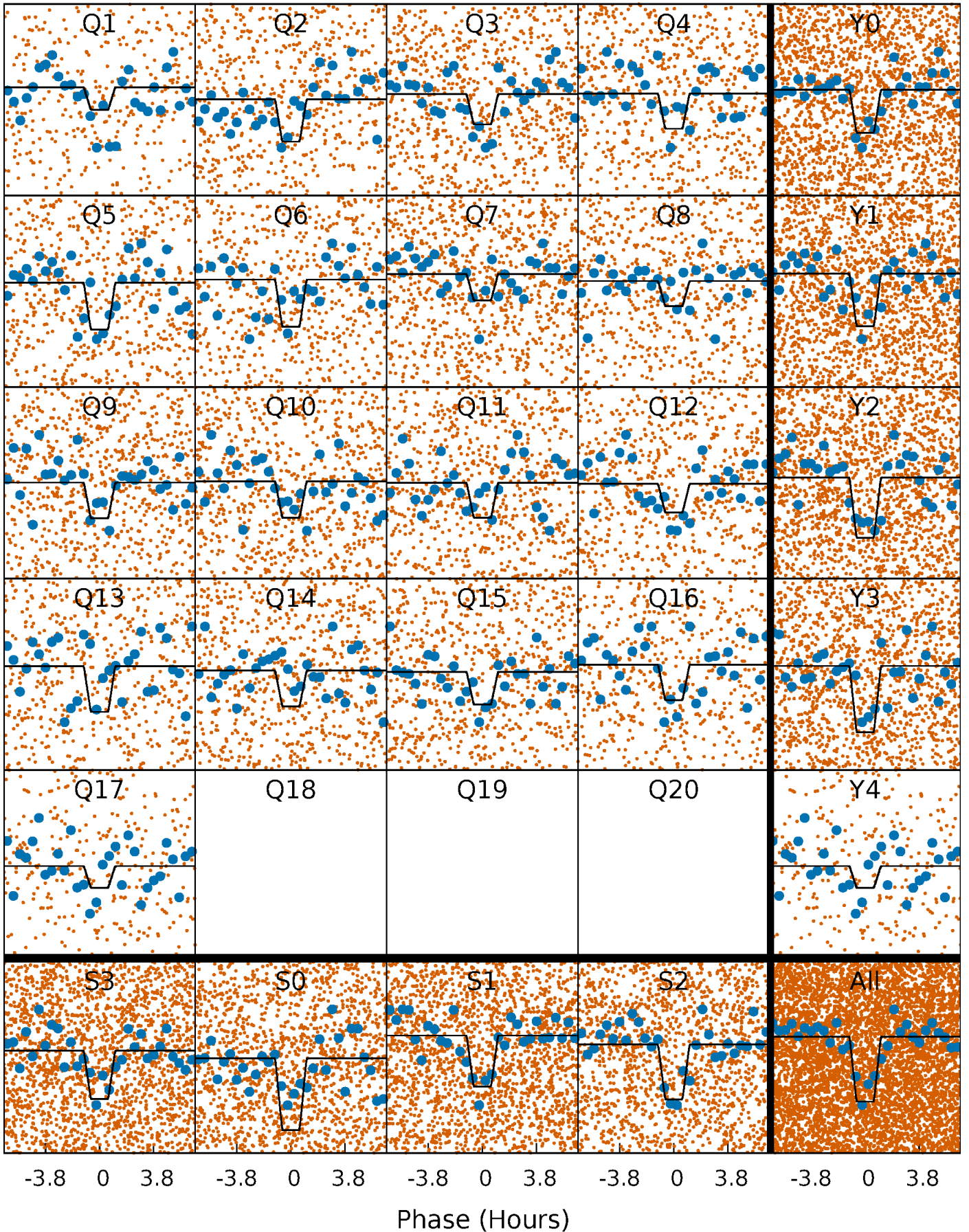
DV Quarter-Phased Transit Curves

TCE 005389956-01 P= 1.809220 Days $T_0=132.698977$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

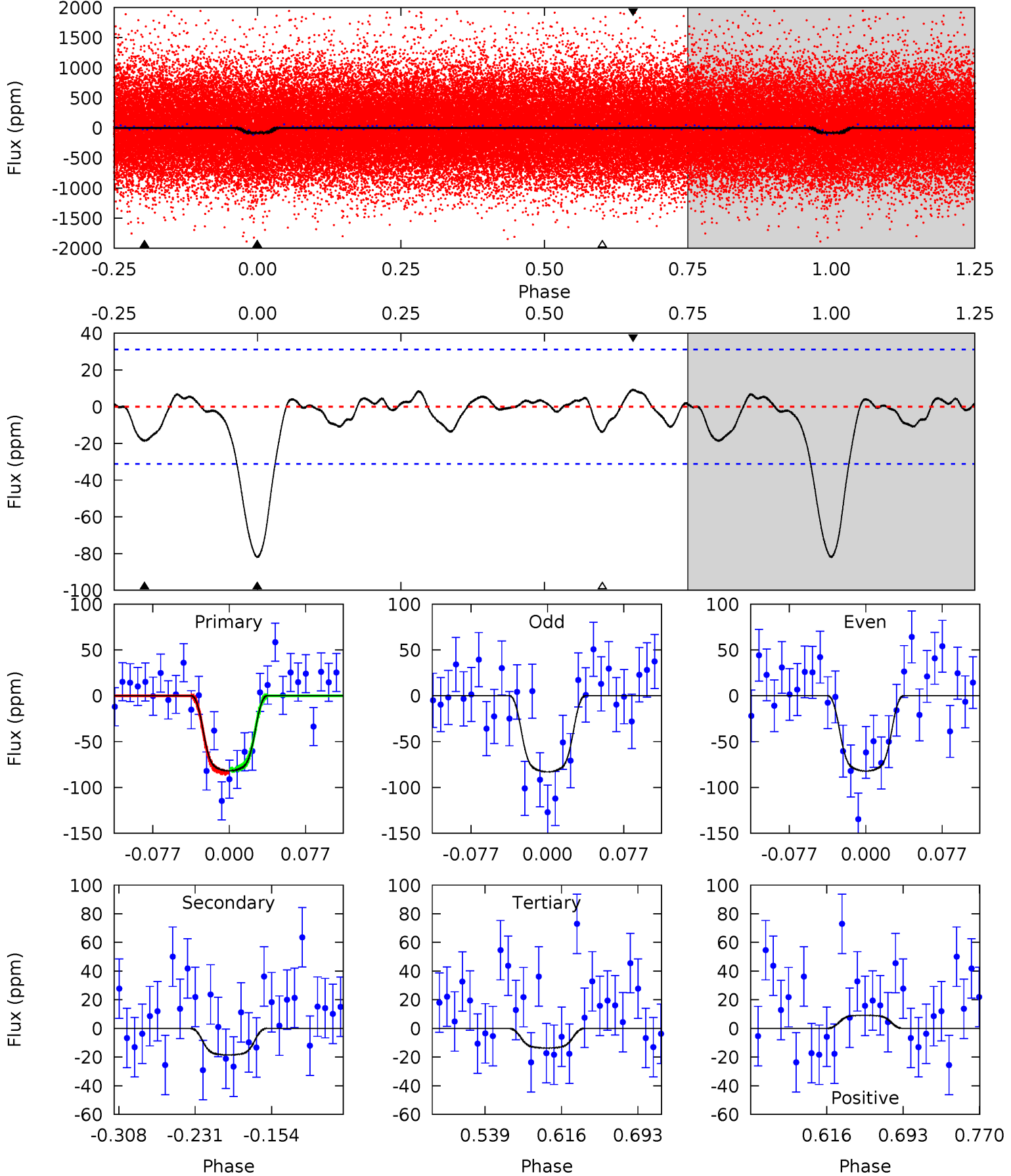
TCE 005389956-01 P= 1.809245 Days $T_0=132.686591$ (BKJD)



DV Model-Shift Uniqueness Test

005389956-01, P = 1.809220 Days, E = 130.889757 Days

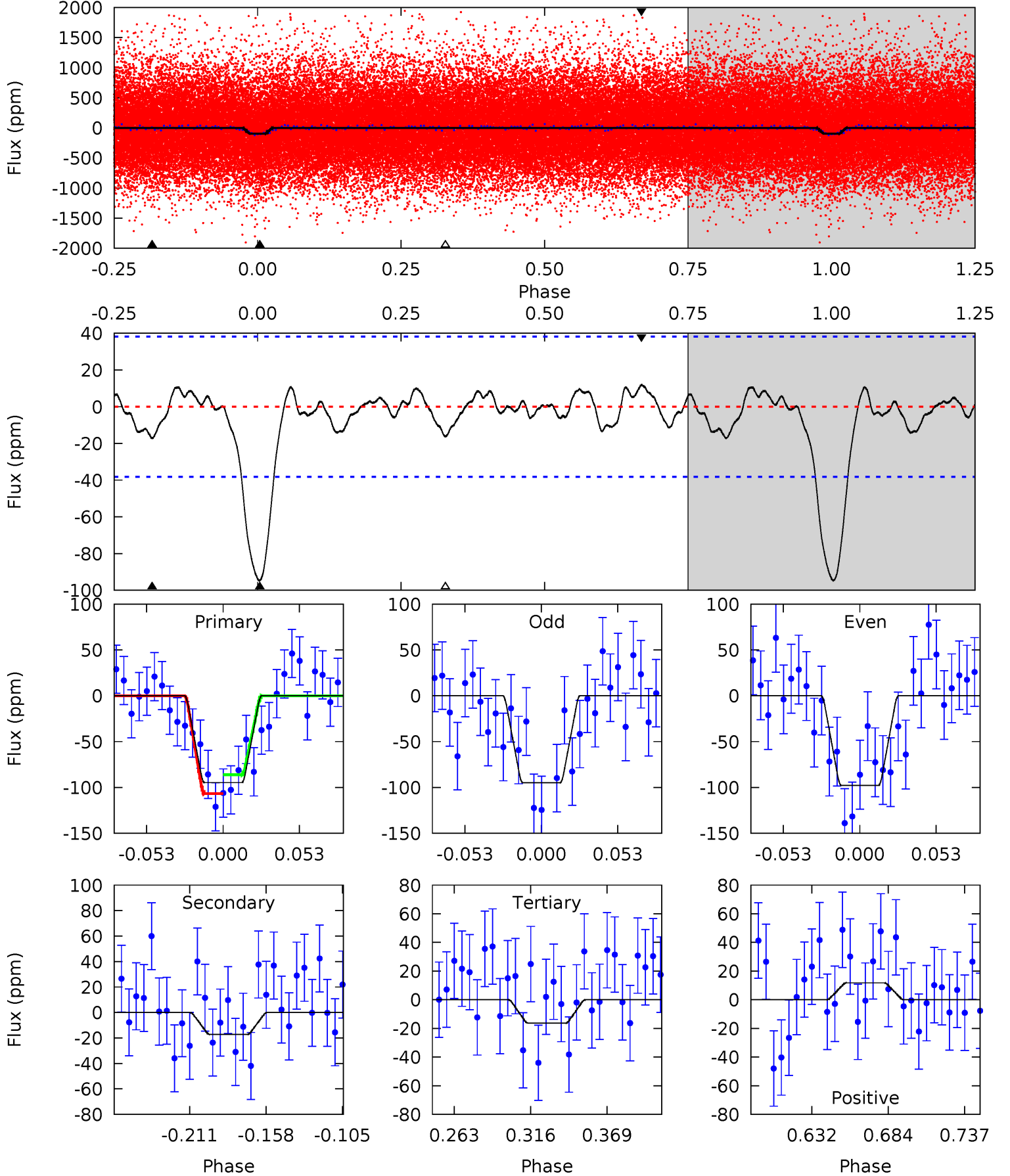
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	2.75	2.03	1.36	4.62	1.77	0.80	10.1	10.8	0.72	1.39	0.07	0.91	0.10	0.24



Alt Model-Shift Uniqueness Test

005389956-01, P = 1.809245 Days, E = 130.877346 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.7	2.12	2.00	1.45	4.70	1.94	0.79	9.65	10.2	0.11	0.66	0.17	1.03	0.11	1.26



Stellar Parameters For KIC 005389956

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5897^{+177}_{-177}	$4.531^{+0.048}_{-0.204}$	$-0.160^{+0.300}_{-0.300}$	$0.891^{+0.260}_{-0.087}$	$0.983^{+0.117}_{-0.130}$	$1.958^{+0.390}_{-1.005}$
	+3%/-3%	+1%/-5%	+188%/-188%	+29%/-10%	+12%/-13%	+20%/-51%
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 005389956-01 / KOI 4591.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-19 ± 7	$1.18^{+0.23}_{-0.19}$	2066^{+132}_{-100}	3886^{+362}_{-339}	$5.940^{+3.420}_{-2.574}$
Alt.	-17 ± 8	$1.08^{+0.23}_{-0.18}$	2071^{+155}_{-100}	3947^{+417}_{-479}	$6.283^{+4.656}_{-3.403}$

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 $A_{obs} \gg 1.0$

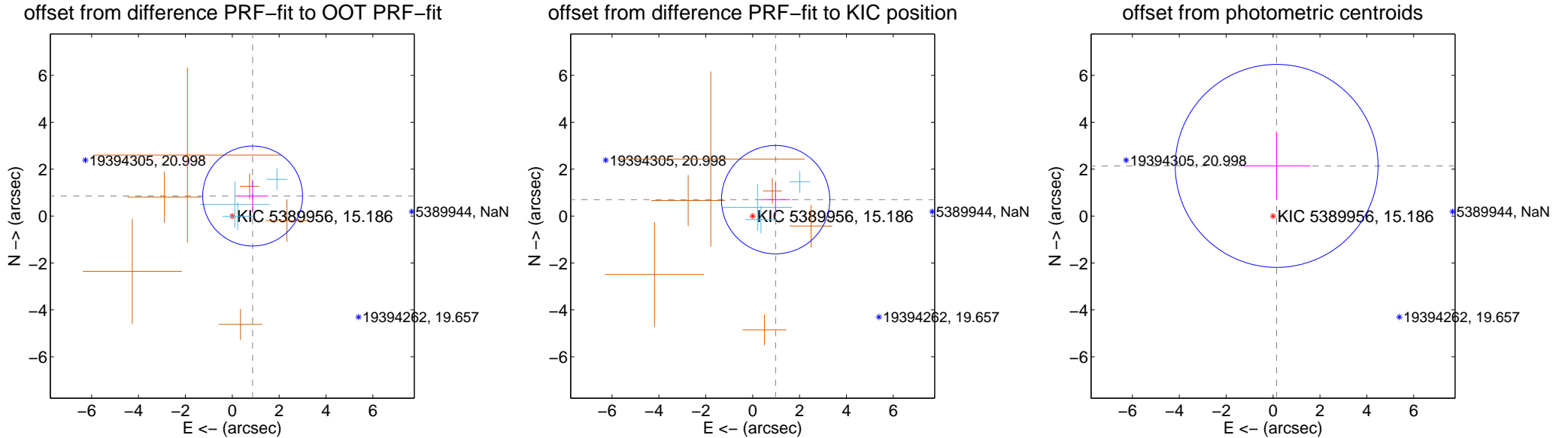
DV Centroid Data

Supplemental centroid analysis for 005389956-01. Kepler magnitude: 15.19. Transit SNR 9.57

There are 3 quarters with good PRF difference image offsets

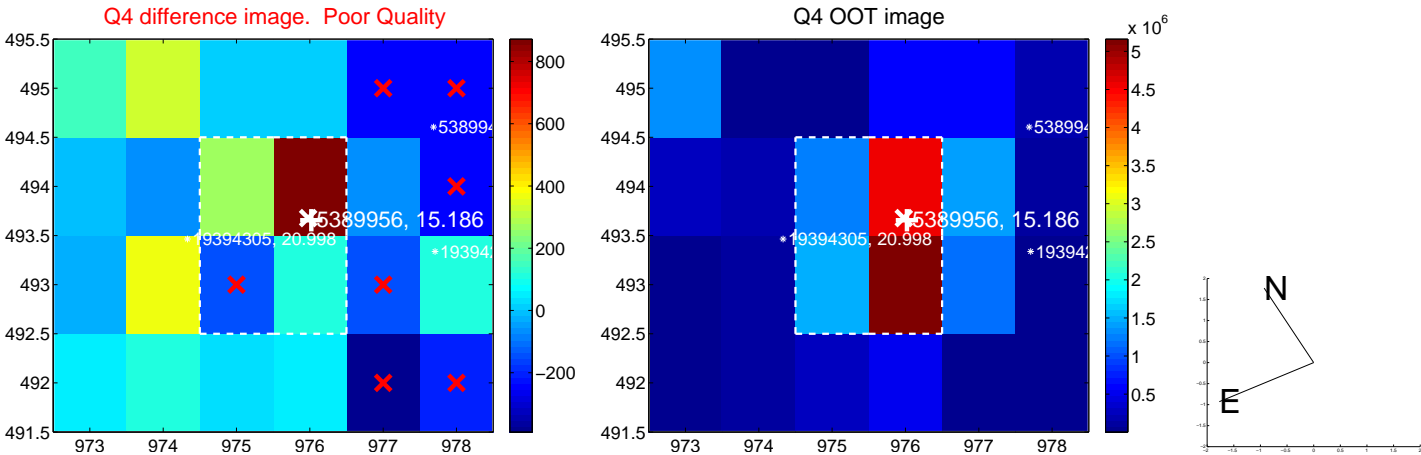
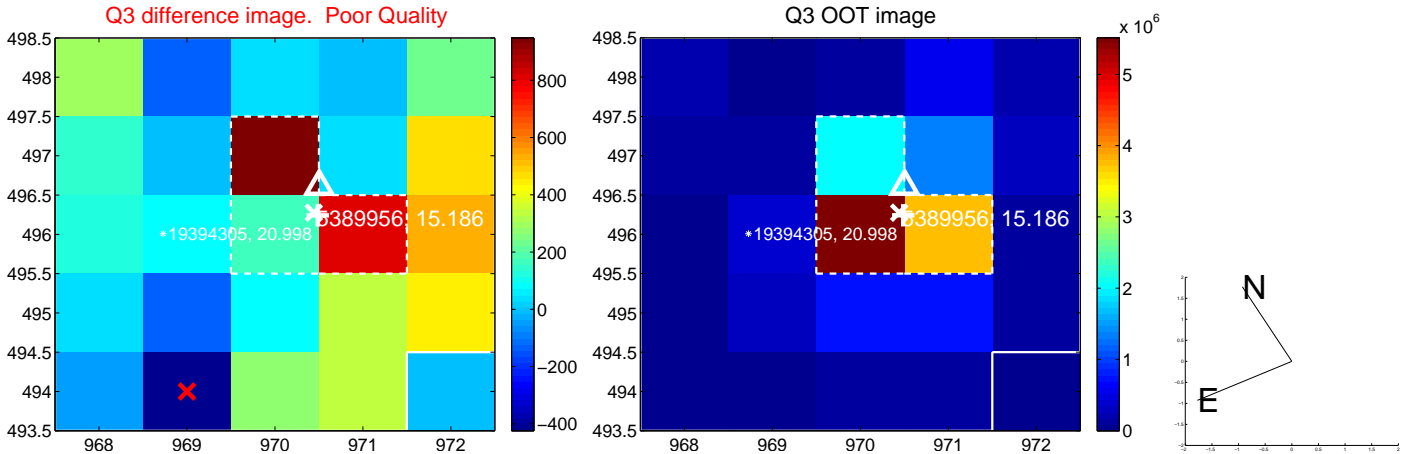
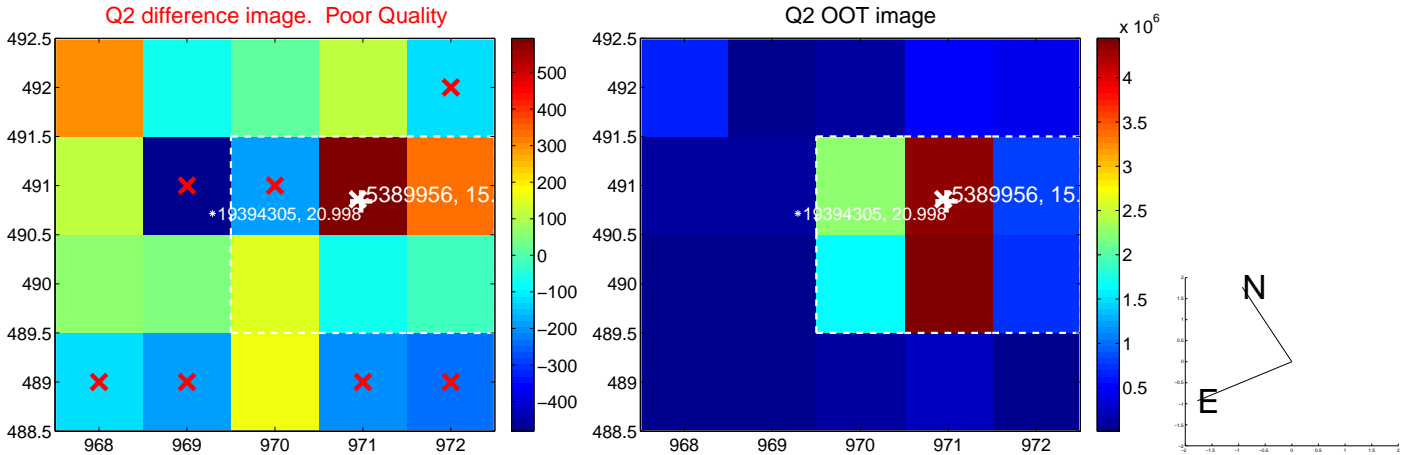
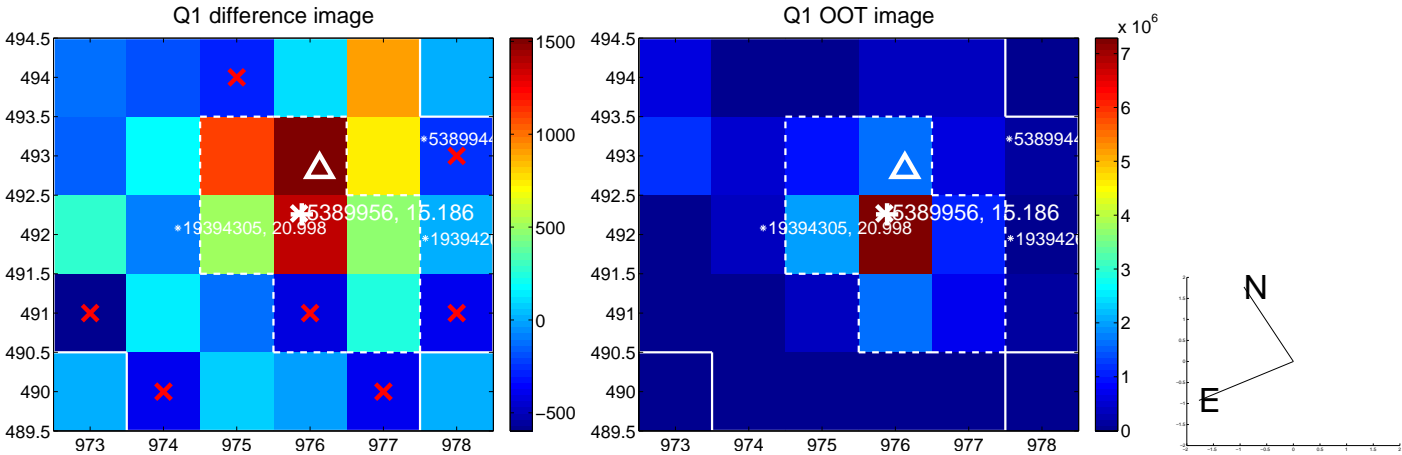
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.219 ± 0.710	1.72	-0.869 ± 0.674	0.854 ± 0.695
PRF-fit source offset from KIC position	1.204 ± 0.770	1.56	-0.980 ± 0.627	0.700 ± 0.716
photometric centroid source offset	2.14 ± 1.44	1.49	-0.15 ± 1.44	2.14 ± 1.44

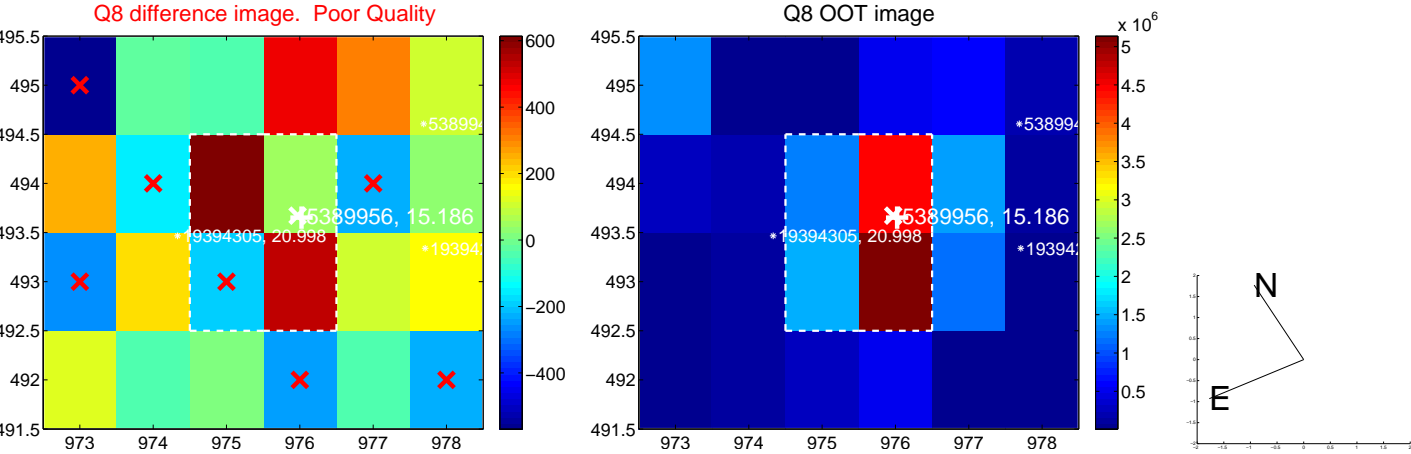
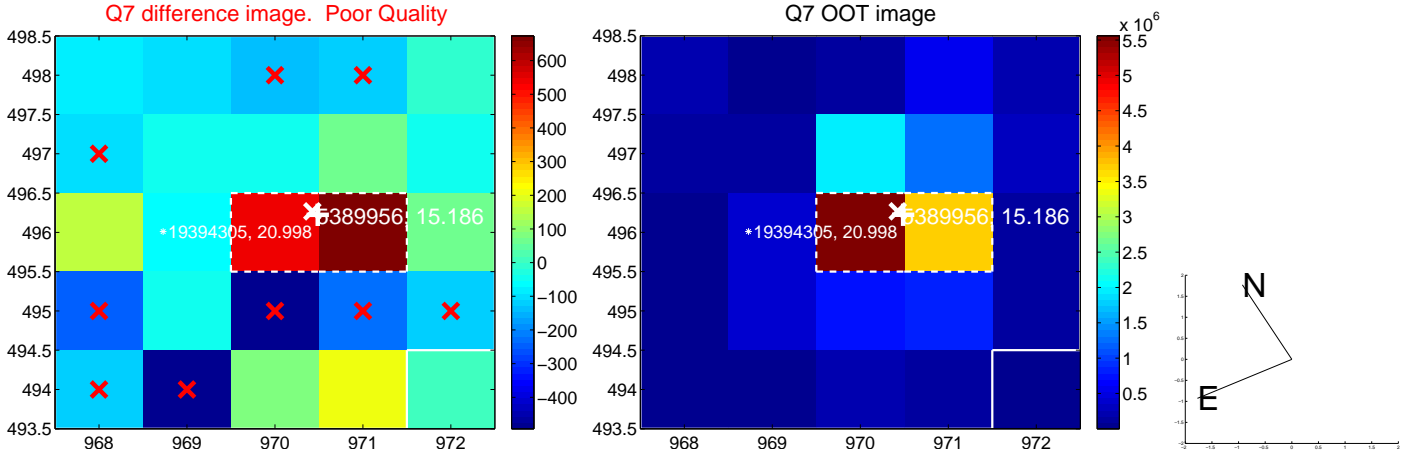
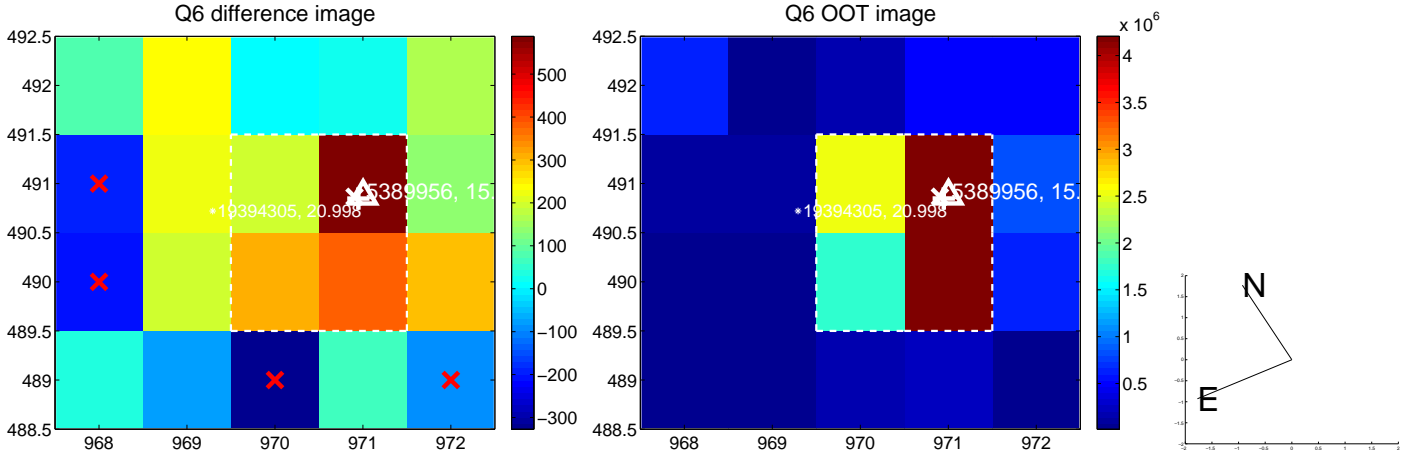
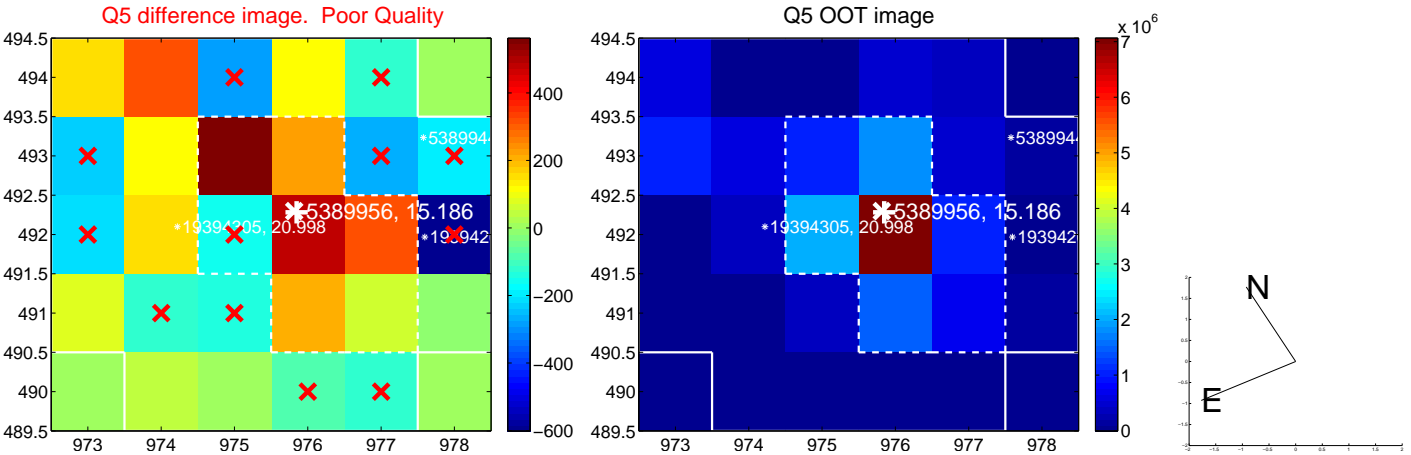


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

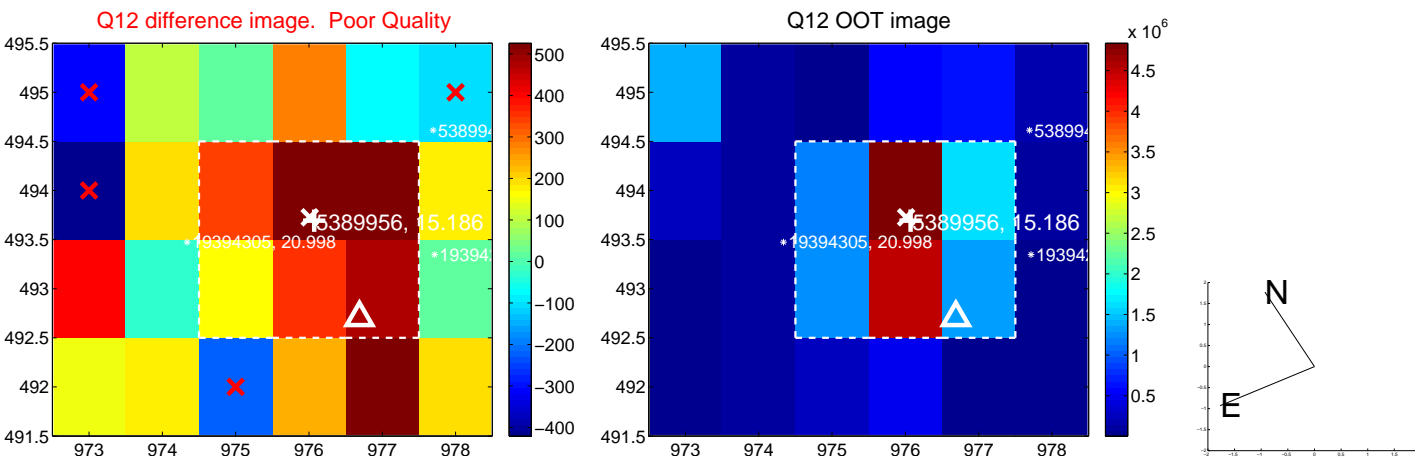
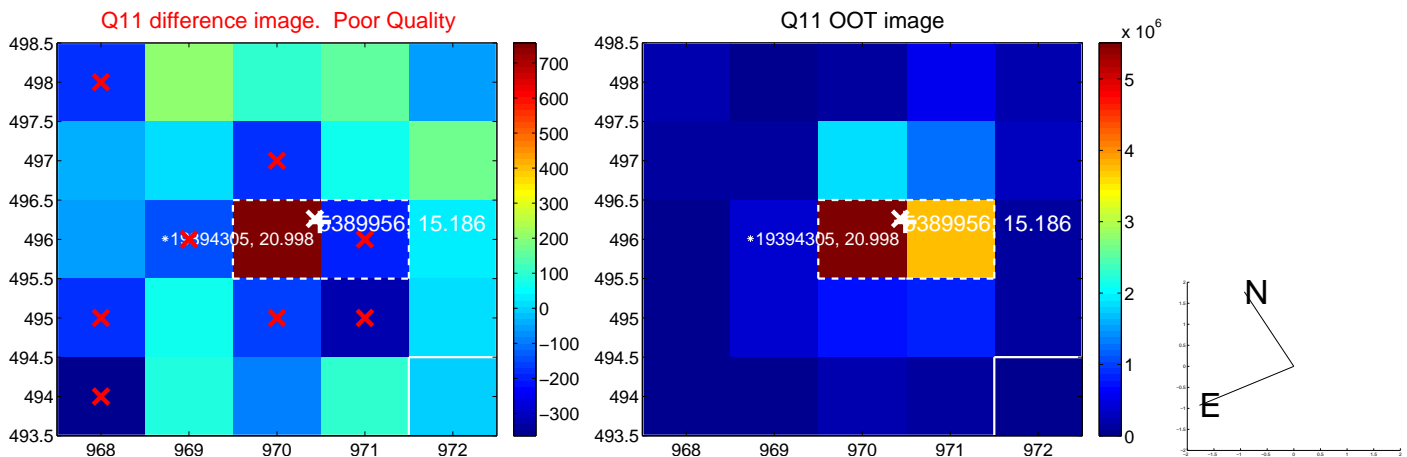
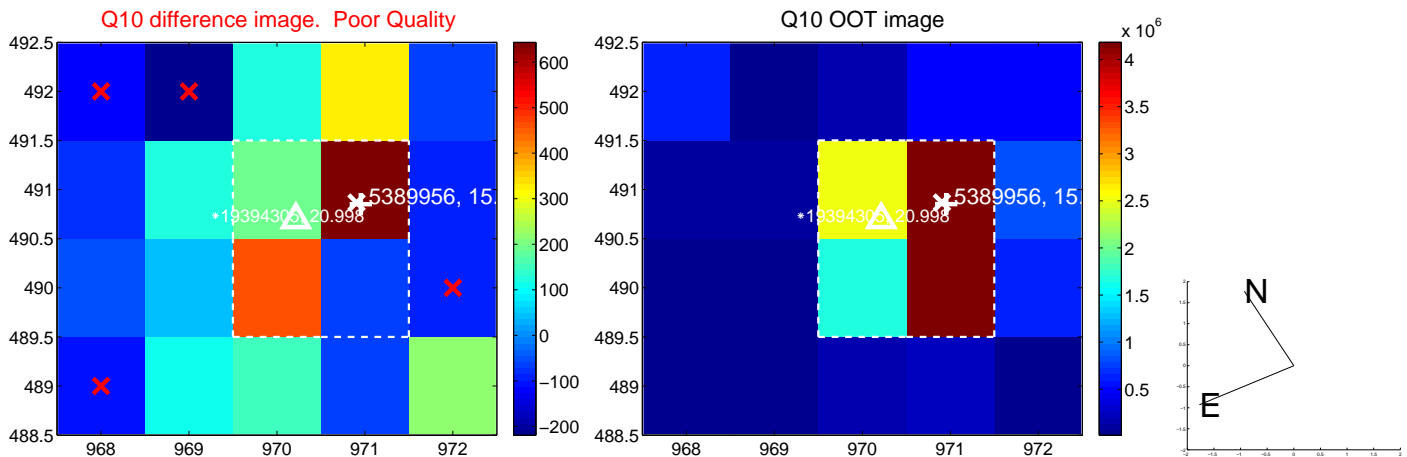
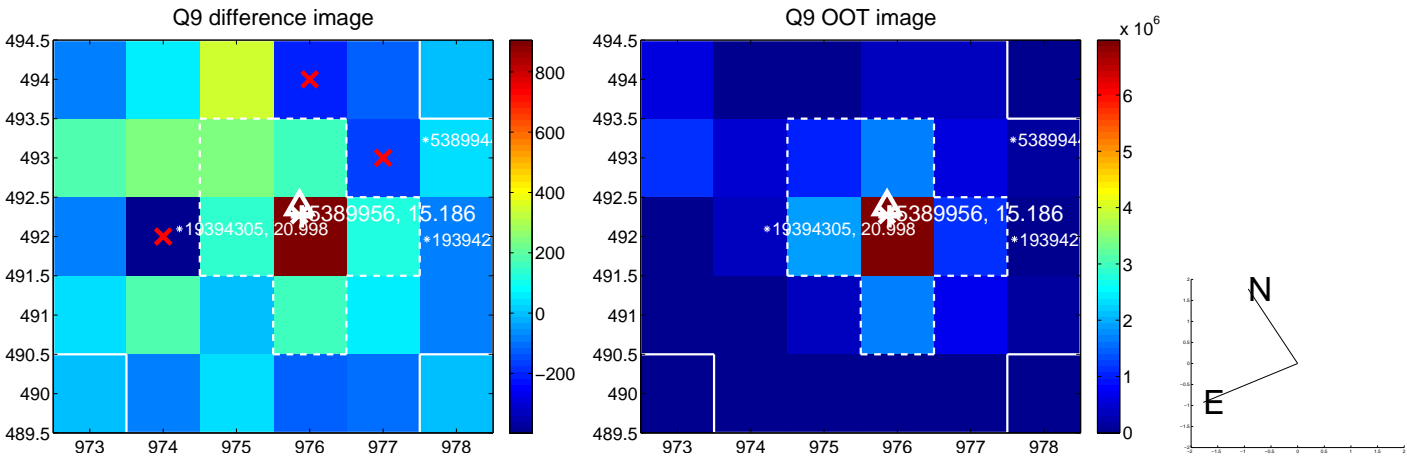
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



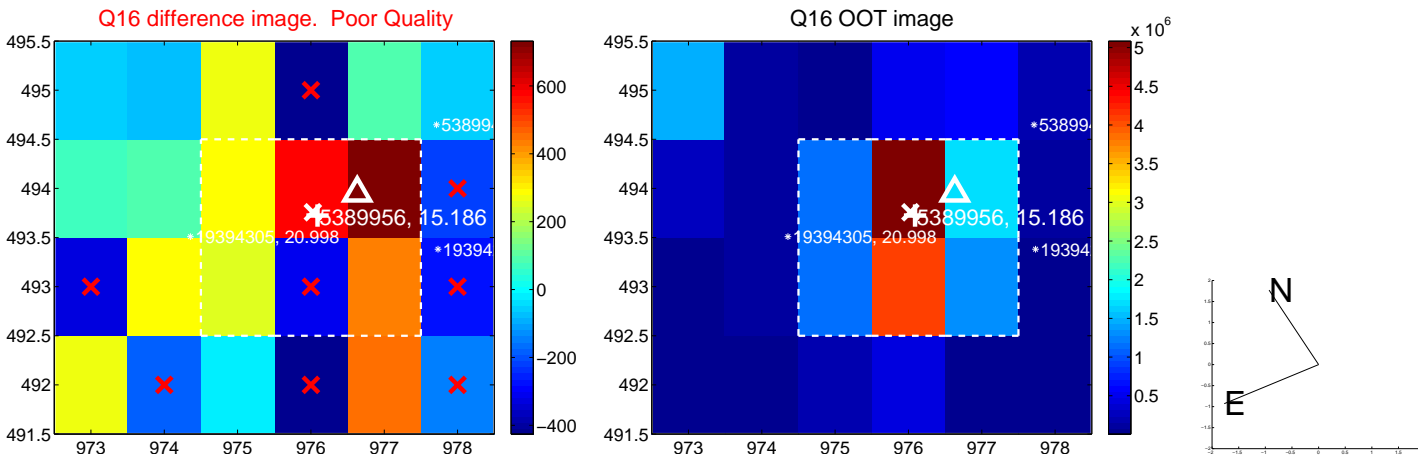
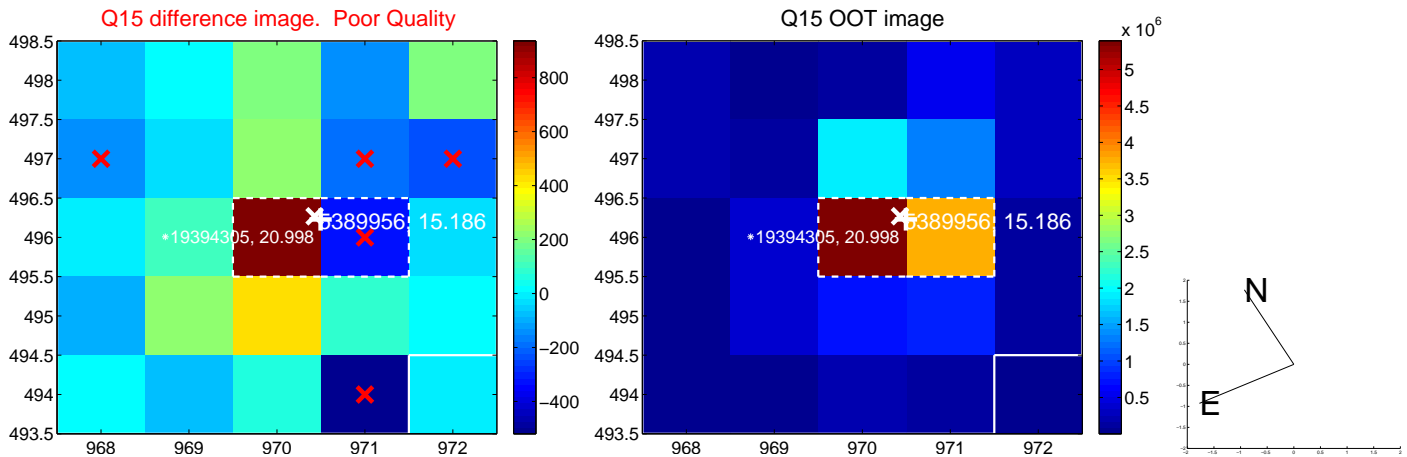
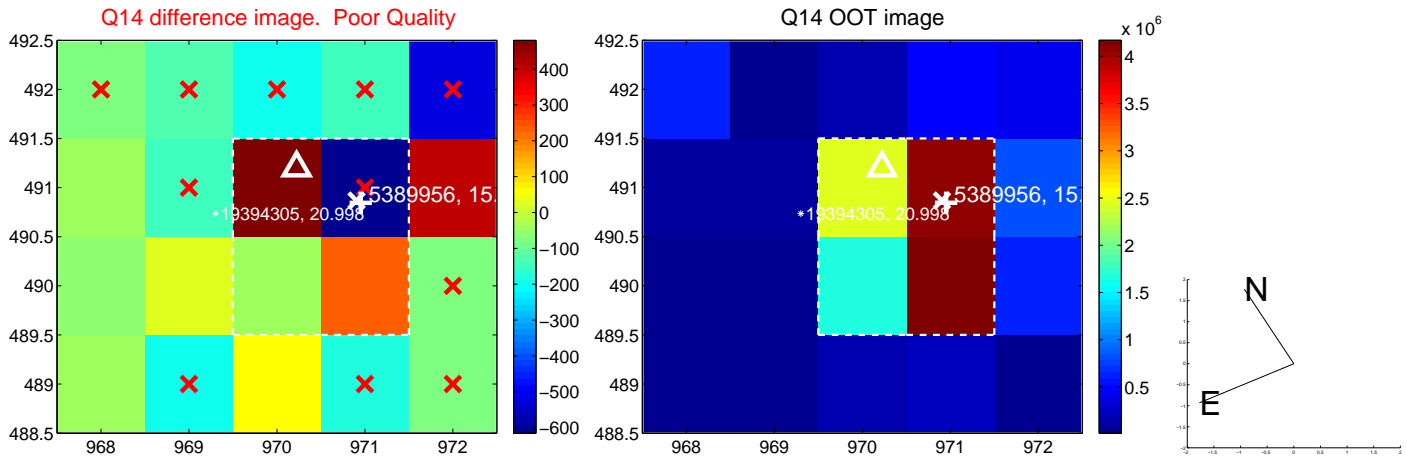
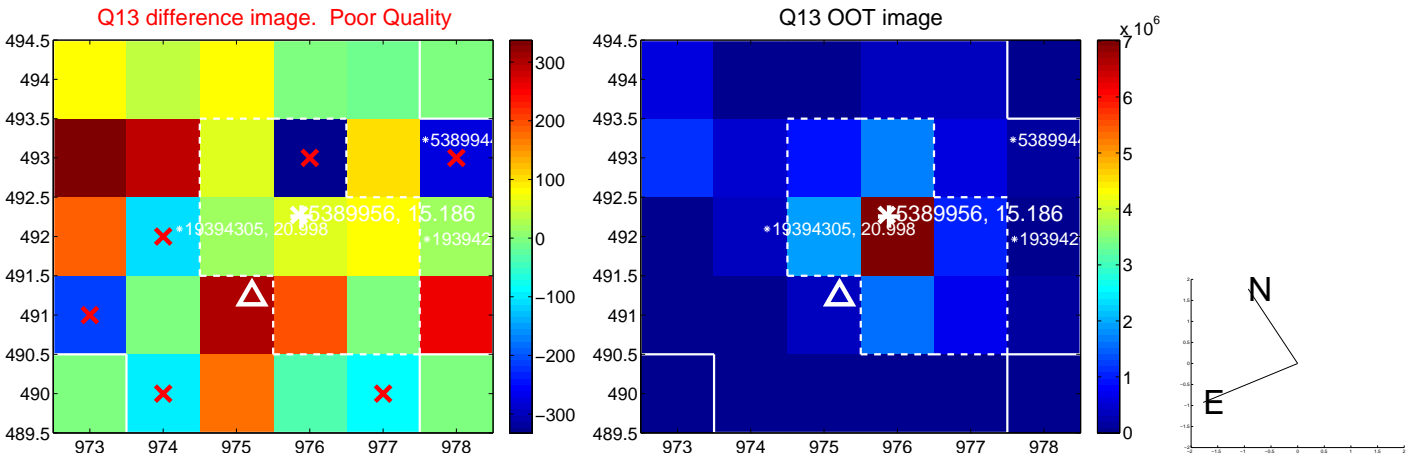
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



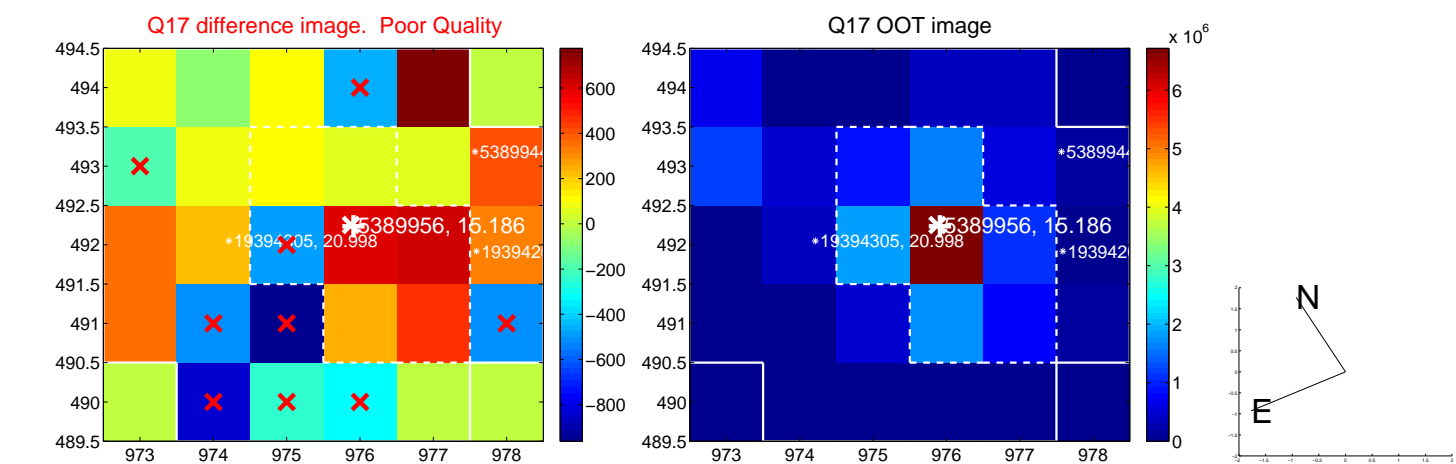
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



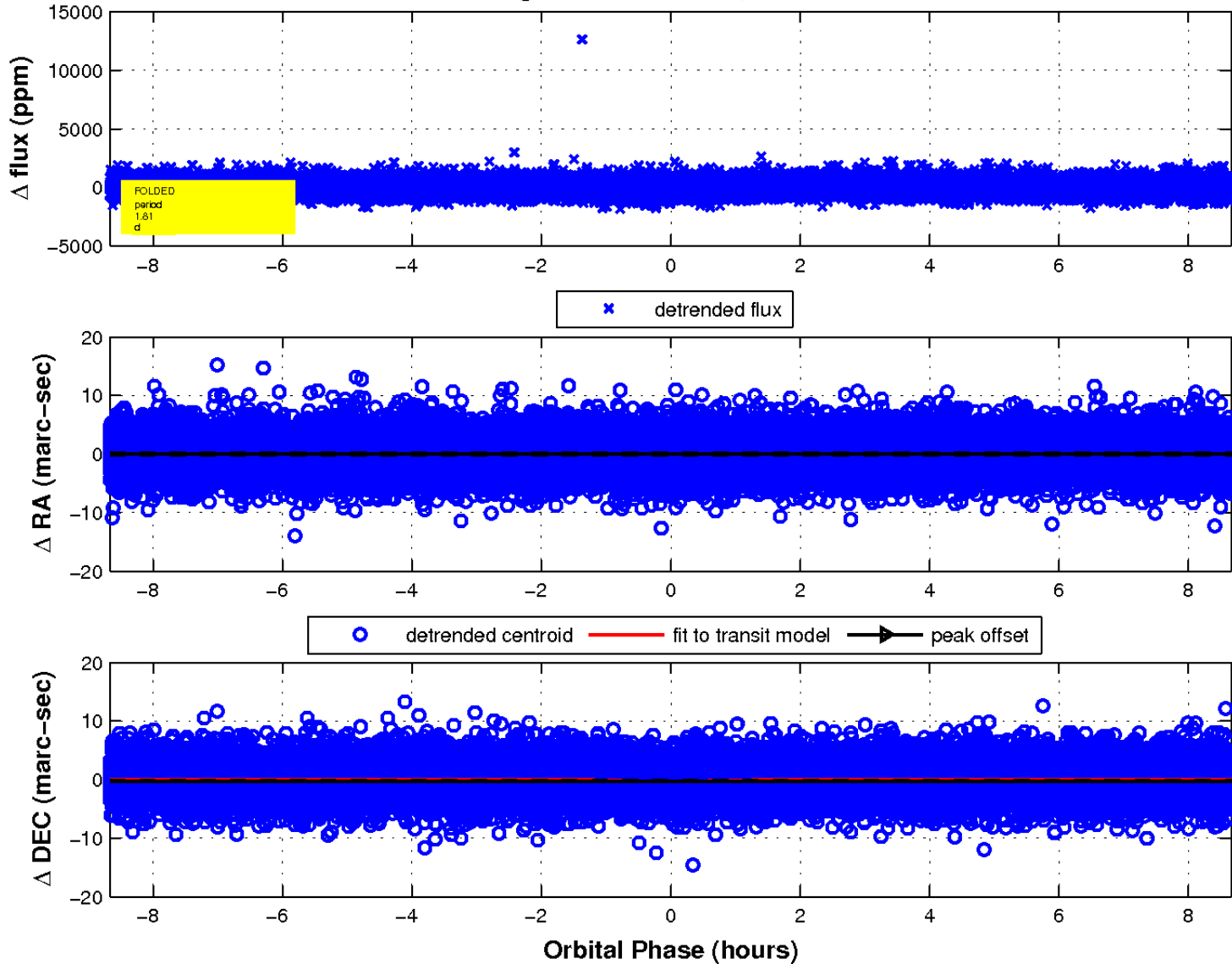
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

