

KIC 003438976

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})
003438976-01	OBS	4527.01	2.976087	132.959623	47.3	5.356	11.7	12.4	1.05	6202	0.85	896.04

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003438976-01	OBS	FP	0.00	0	0	1	1	CENT_UNRESOLVED_OFFSET—HALO_GHOST—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.

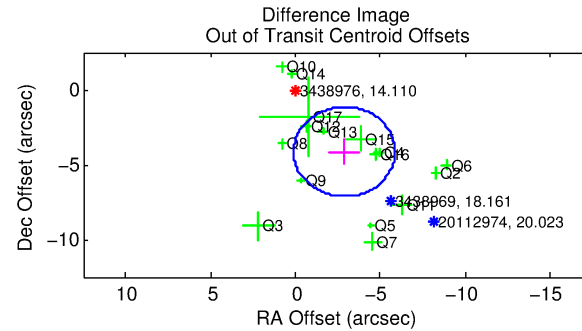
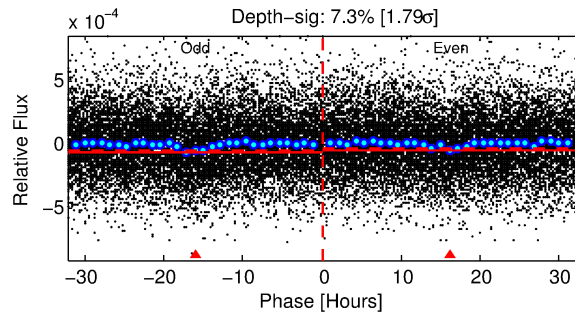
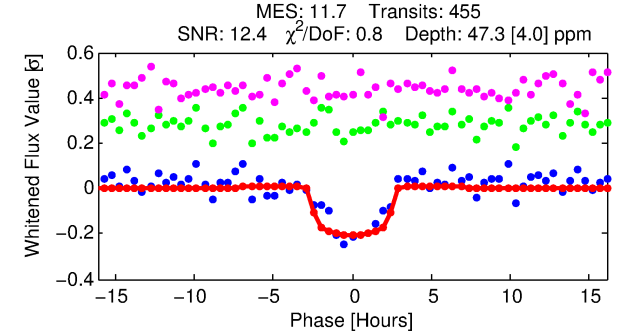
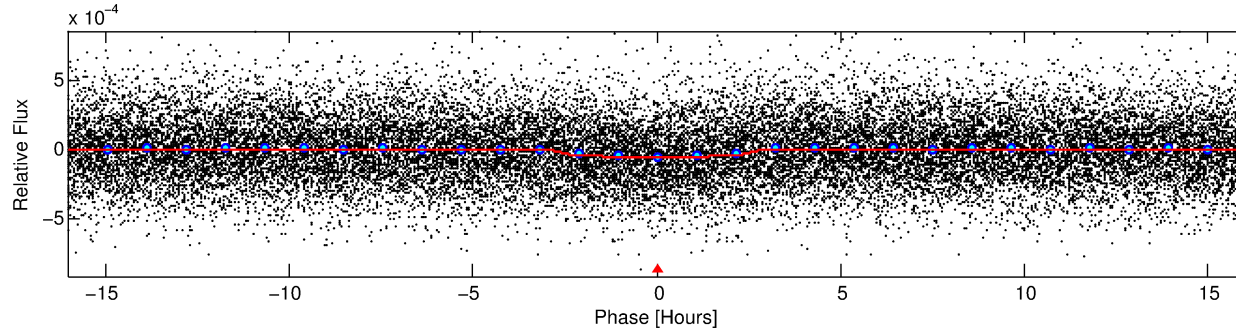
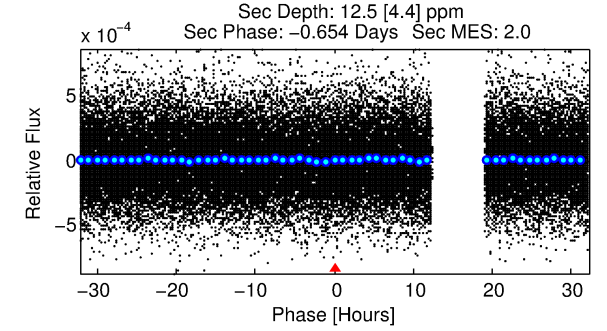
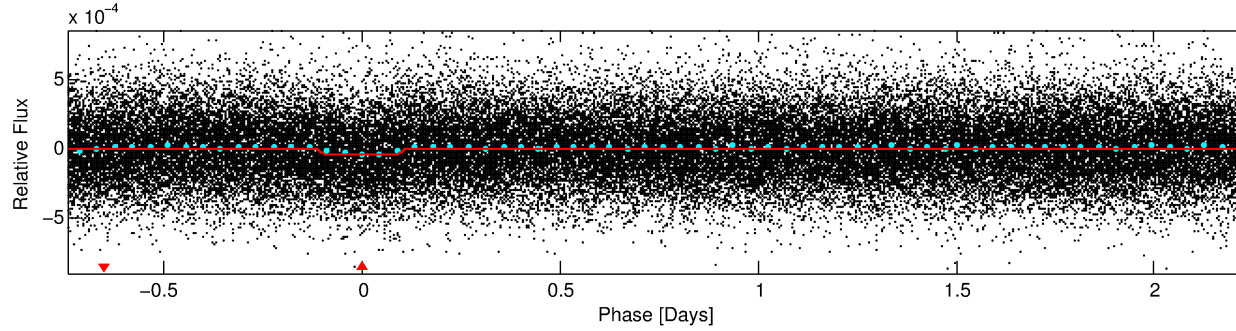
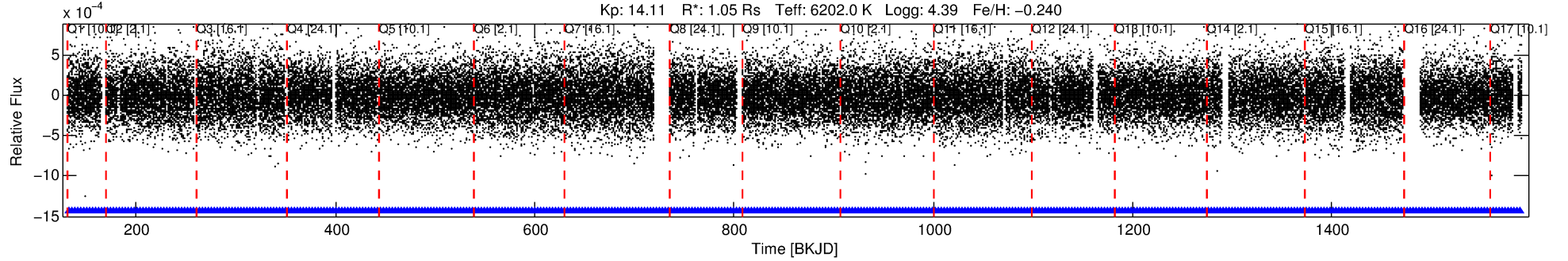
Ephemeris Match Information For 003438976-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
003438976-01	3438976	4980.01	3439031	1:1	83.8	-21	3	11.29	14.11	9496.80	Direct-PRF	0	1.55	0.54

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 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 $\sigma_P < 5.0$ and $\sigma_T < 5.0$. 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: 3438976 Candidate: 1 of 1 Period: 2.976 d
KOI: K04527.01 Corr: 0.812



DV Fit Results:

Period = 2.97609 [0.00003] d
Epoch = 132.9596 [0.0057] BKJD
Rp/R* = 0.0074 [0.0025]
a/R* = 2.13 [3.13]
b = 0.90 [0.40]
Seff = 896.04 [361.20]
Teq = 1395 [141] K
Rp = 0.85 [0.39] Re
a = 0.0406 [0.0106] AU
Ag = 15.58 [13.42] [1.09σ]
Teffp = 4285 [838] K [3.40σ]

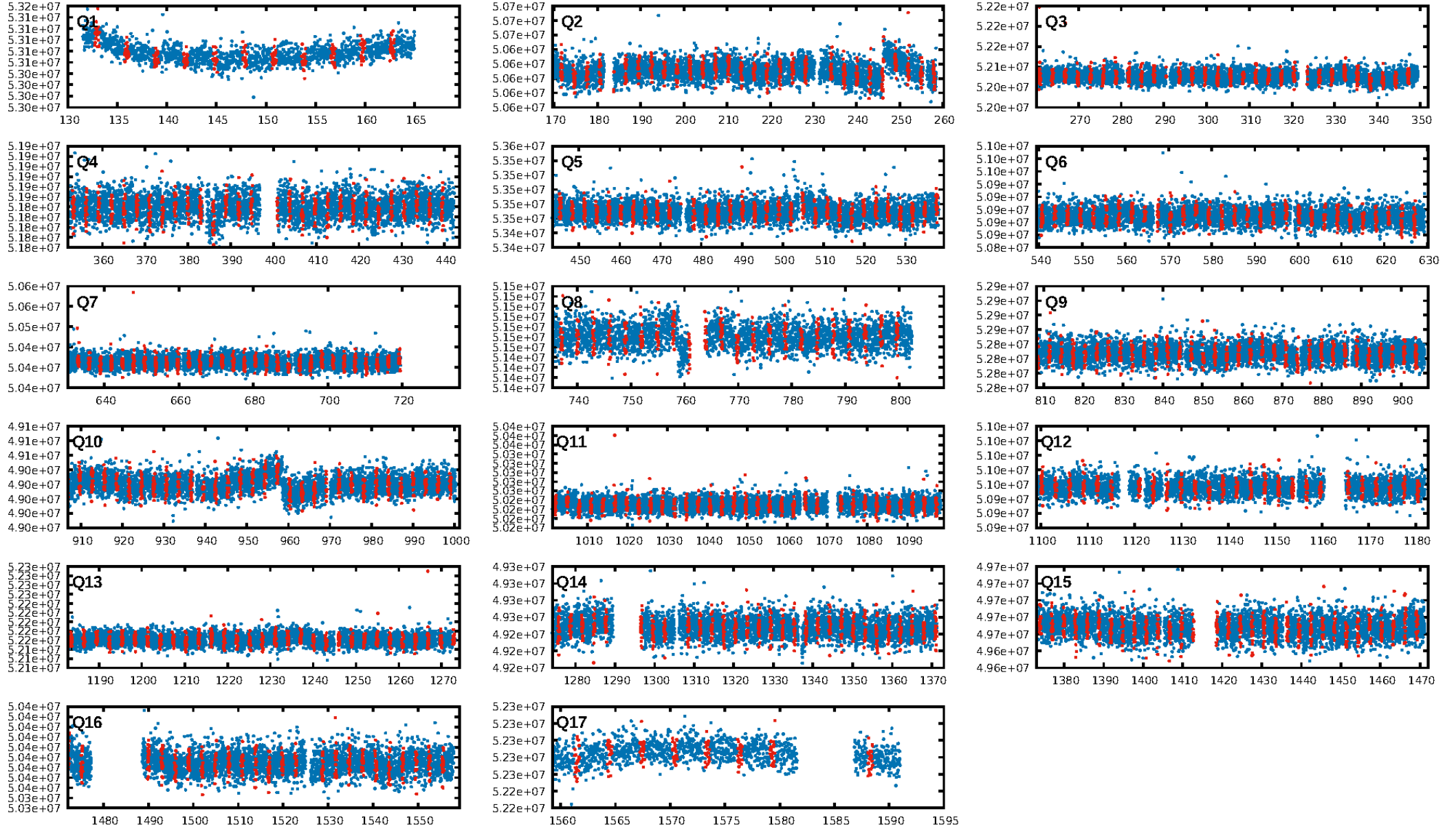
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.48e-31
RollingBand-fgt: 1.00 [436/436]
GhostDiagnostic-chr: -0.224
Centroid-sig: 0.0%
Centroid-so: 8.086 arcsec [7.07σ]
OotOffset-rm: 5.043 arcsec [5.06σ]
KicOffset-rm: 4.748 arcsec [5.03σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.06 [1/16]
DiffImageOverlap-fno: 1.00 [17/17]

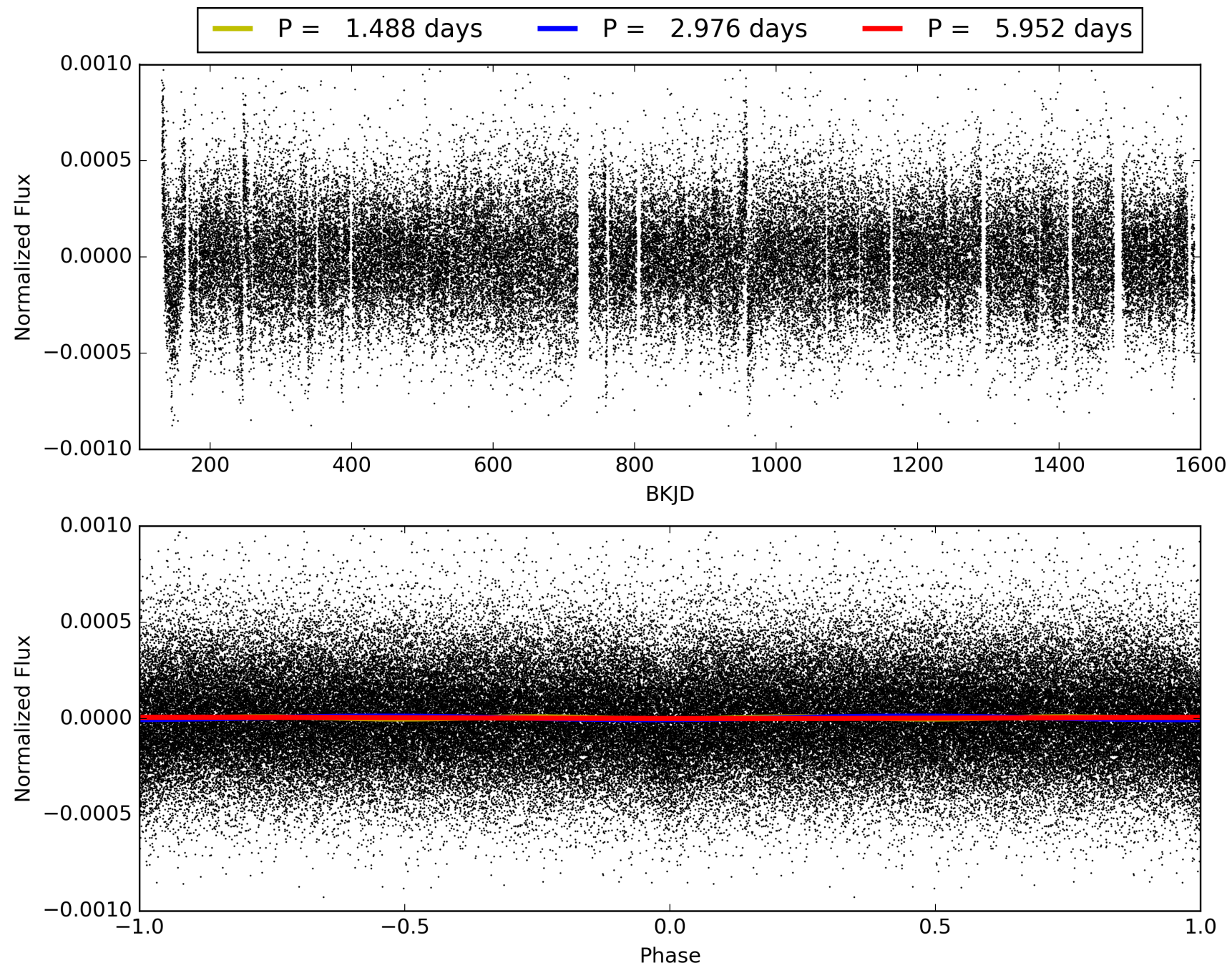
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:55:08 Z

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

TCE 003438976-01, PDC Light Curves

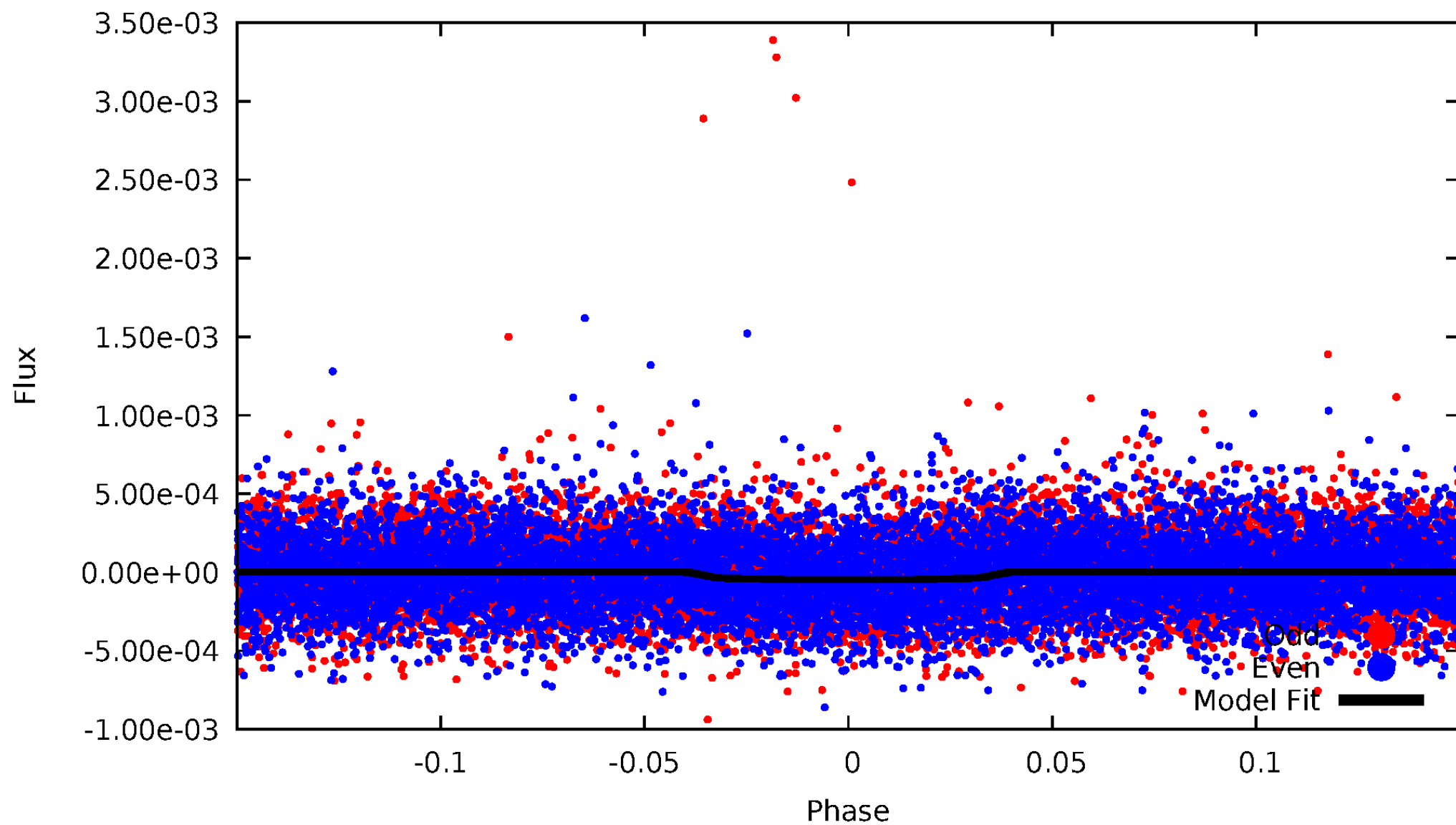


TCE 003438976-01



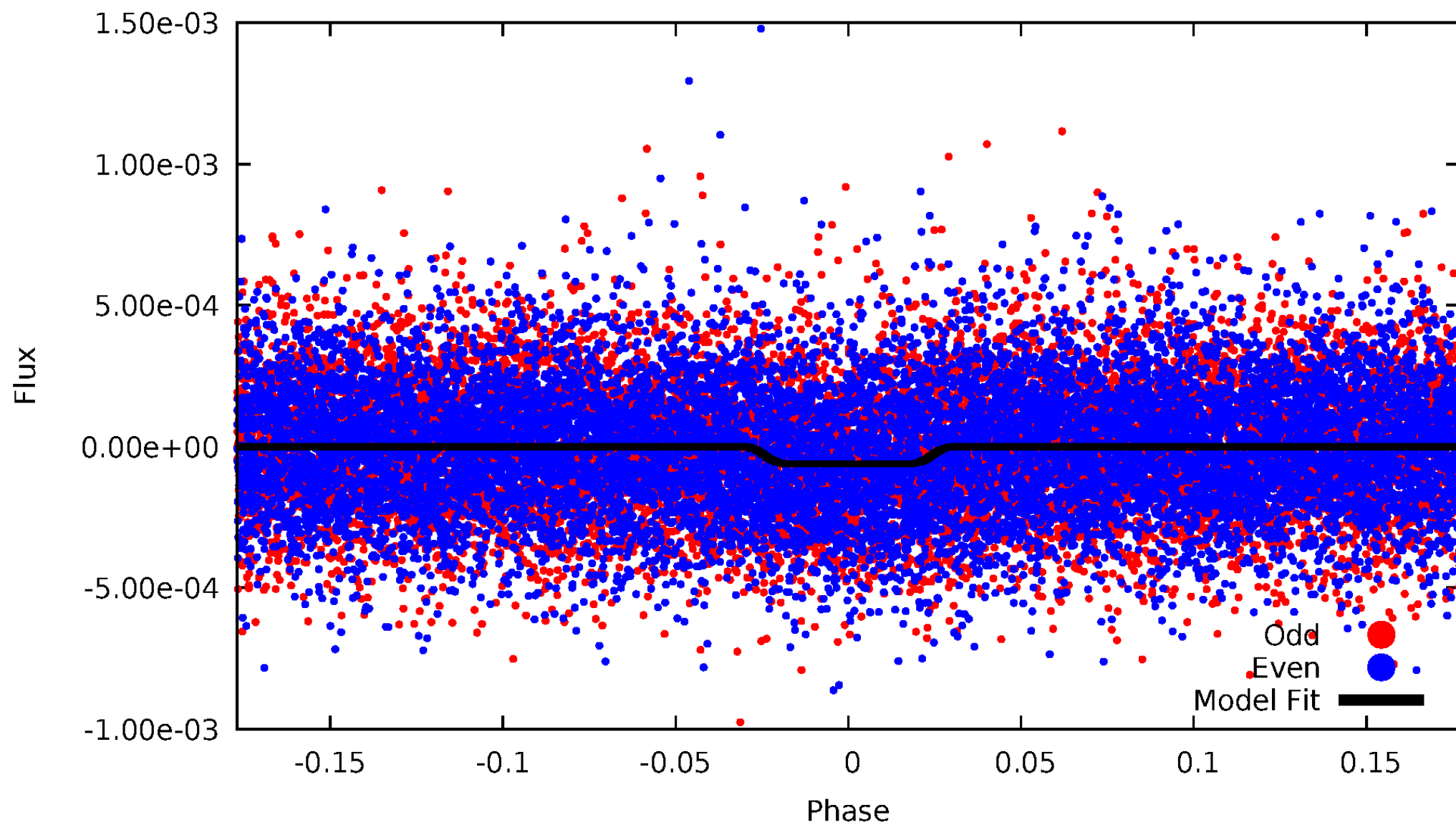
DV Odd/Even

TCE 003438976-01



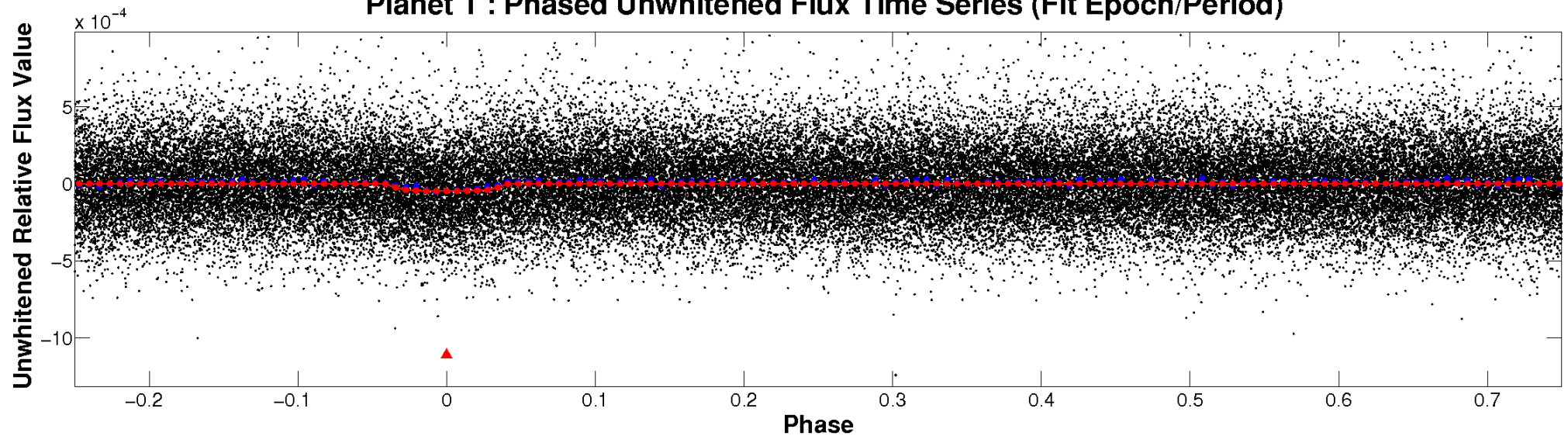
ALT Odd/Even

TCE 003438976-01

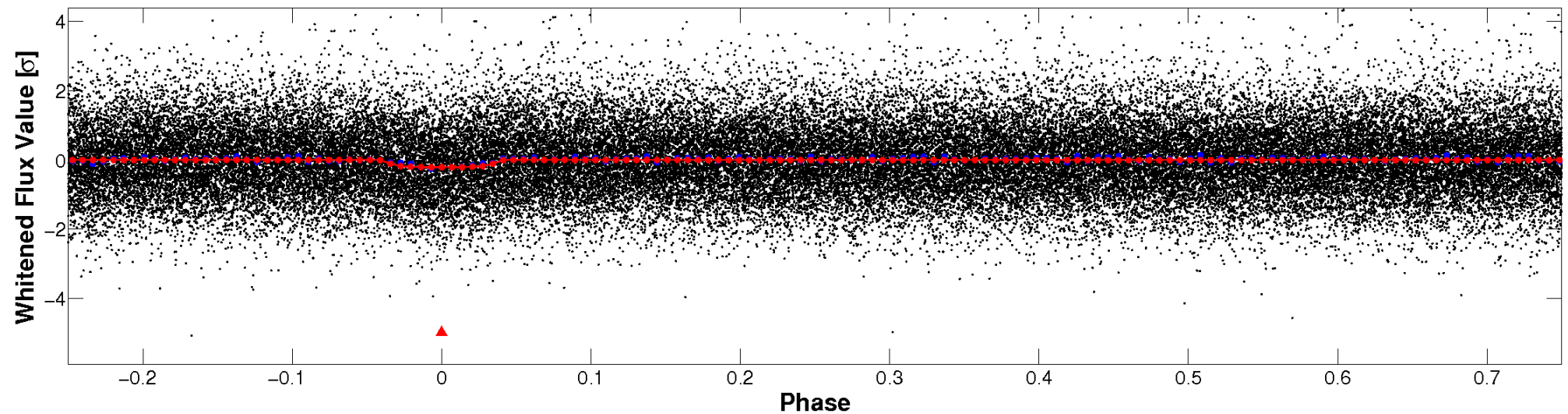


Non-Whitened Vs. Whitened Light Curve

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

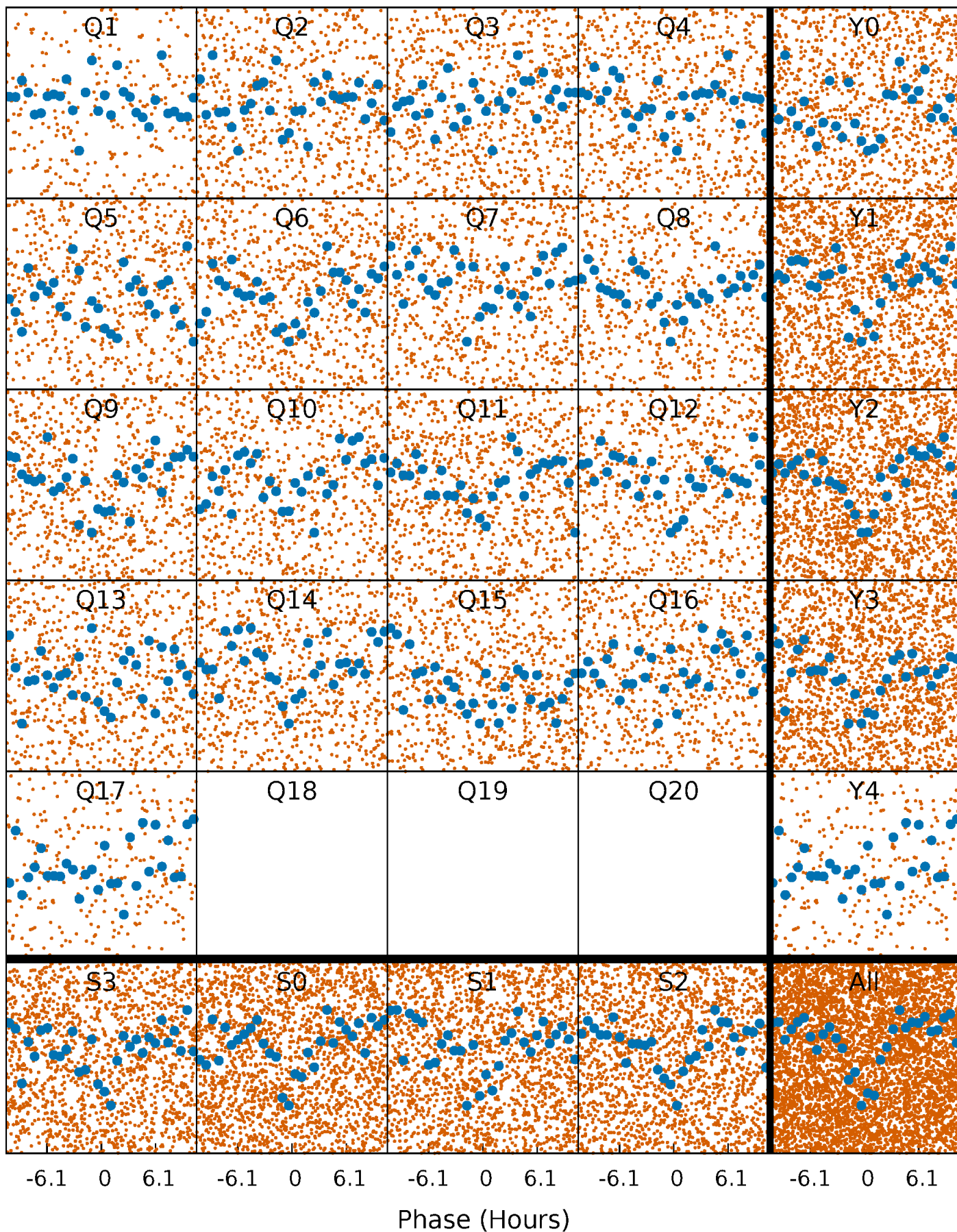


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



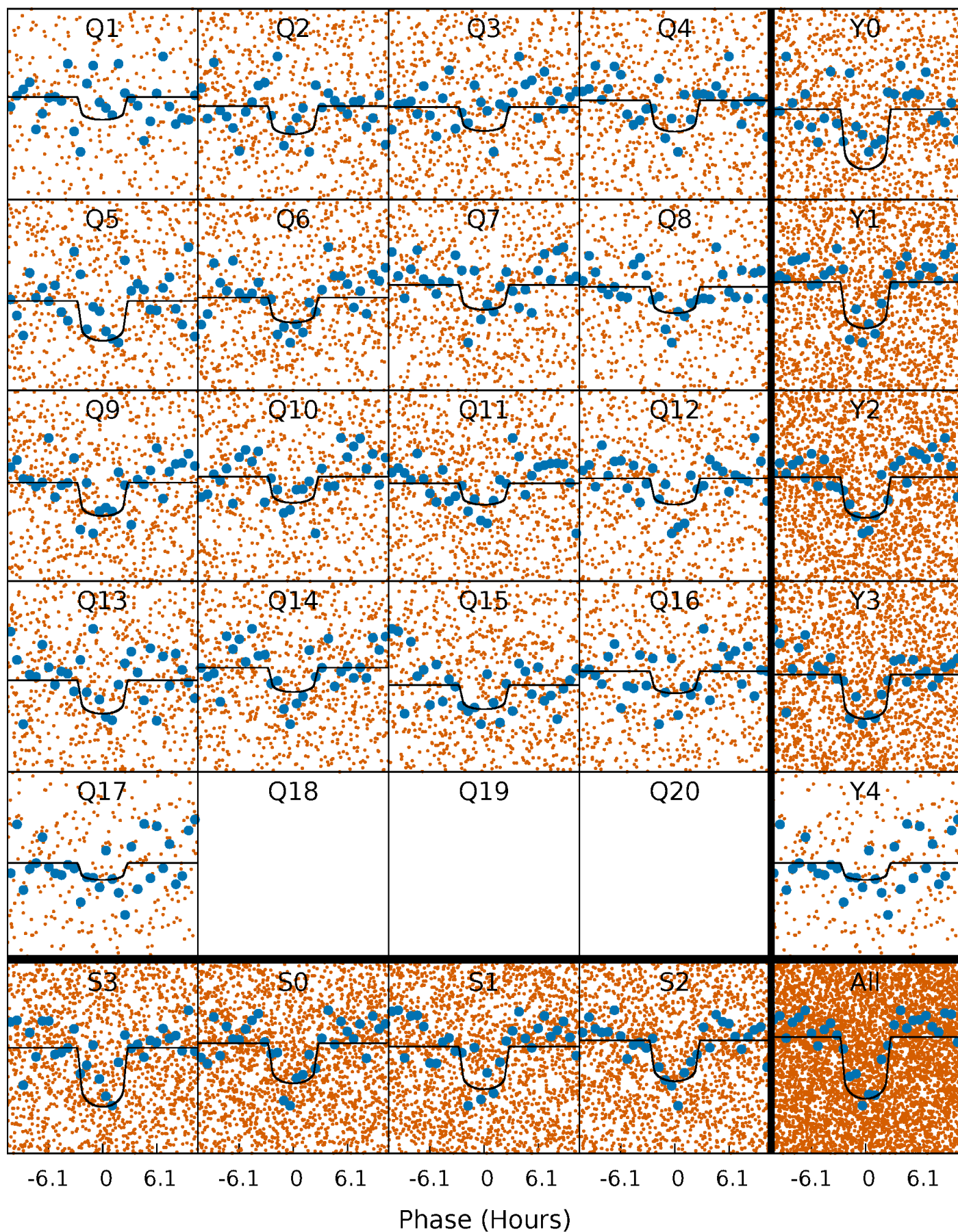
PDC Quarter-Phased Transit Curves

TCE 003438976-01 P= 2.976087 Days $T_0=132.959623$ (BKJD)



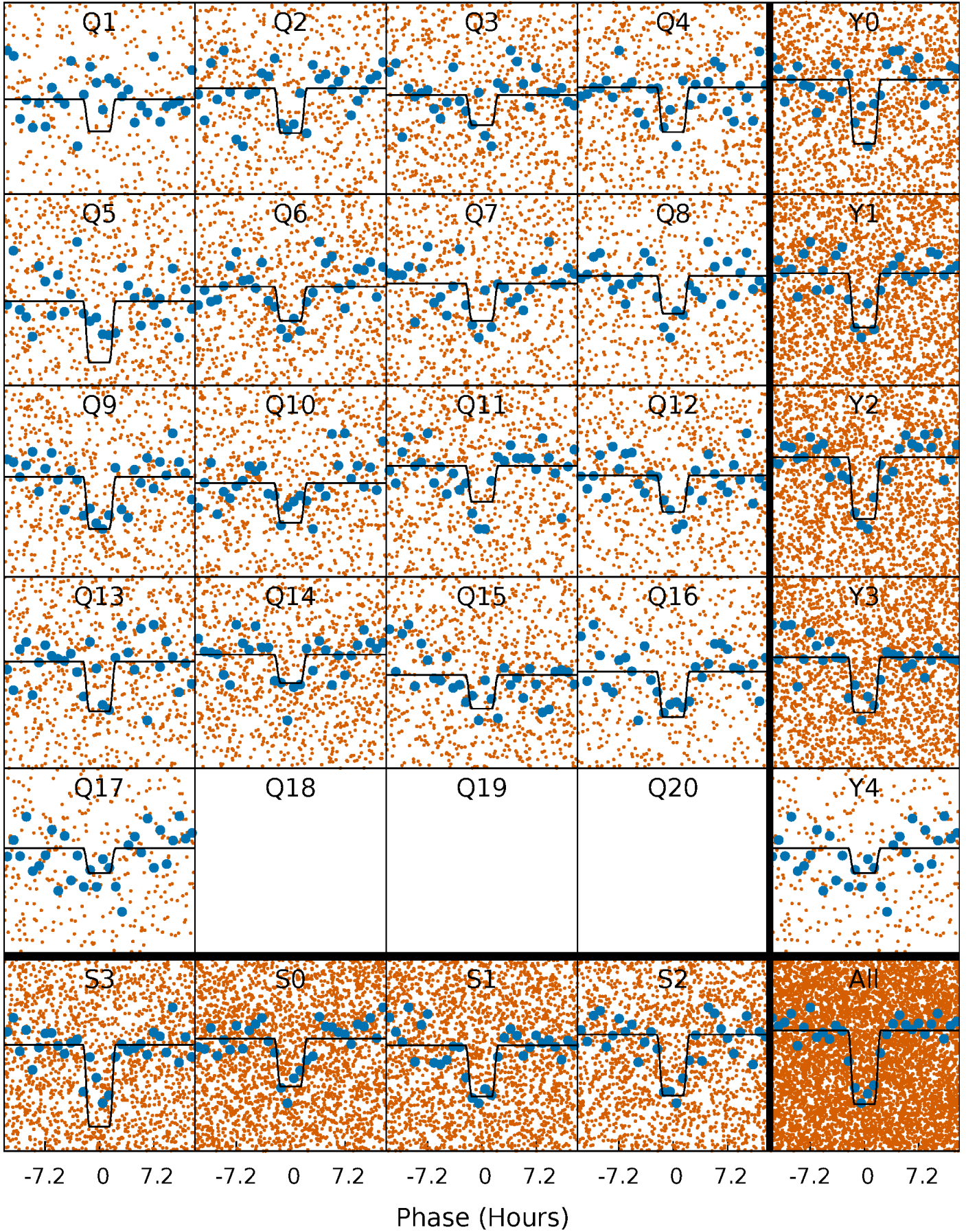
DV Quarter-Phased Transit Curves

TCE 003438976-01 P= 2.976087 Days $T_0=132.959623$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

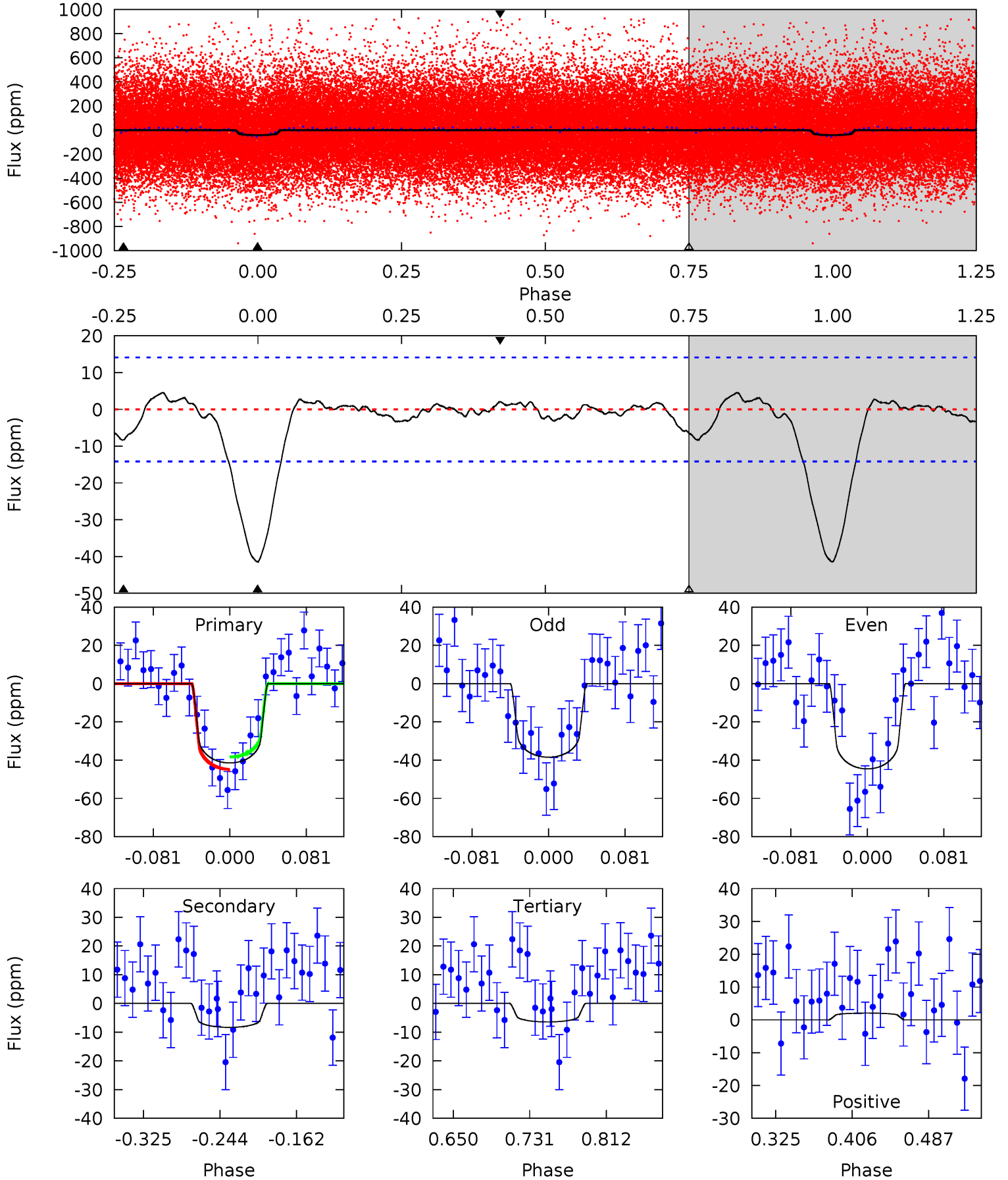
TCE 003438976-01 P= 2.976055 Days $T_0=132.962380$ (BKJD)



DV Model-Shift Uniqueness Test

003438976-01, P = 2.976087 Days, E = 129.983536 Days

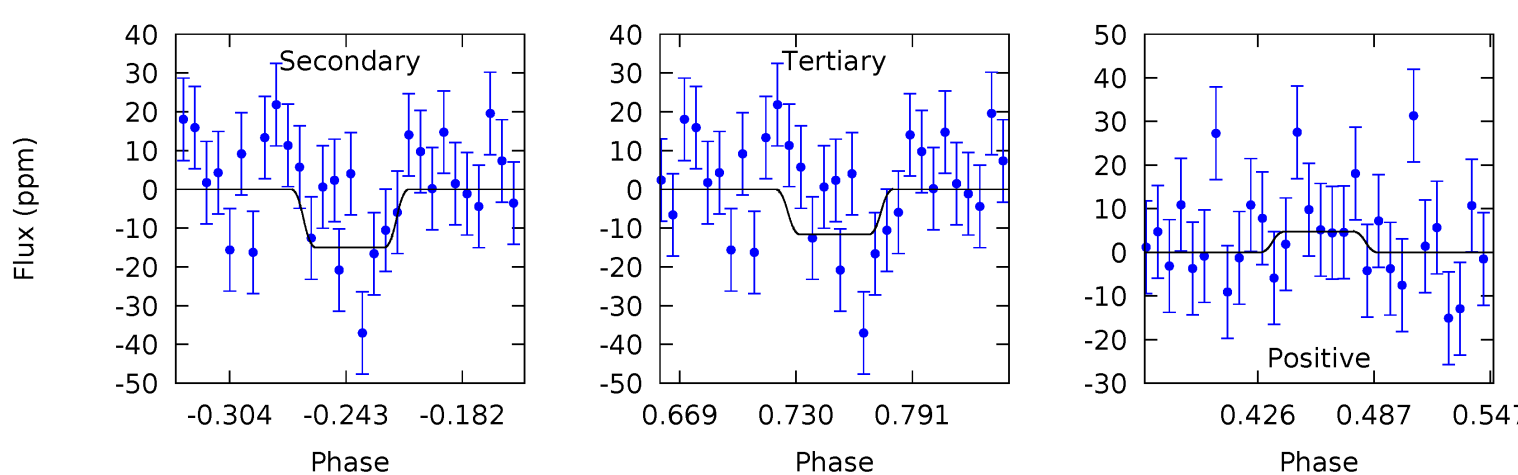
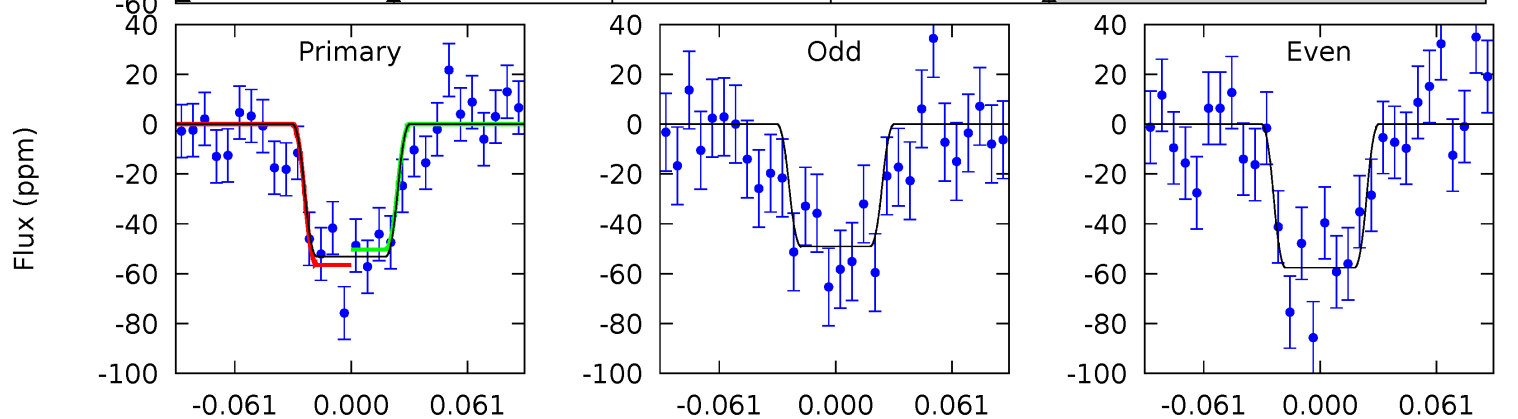
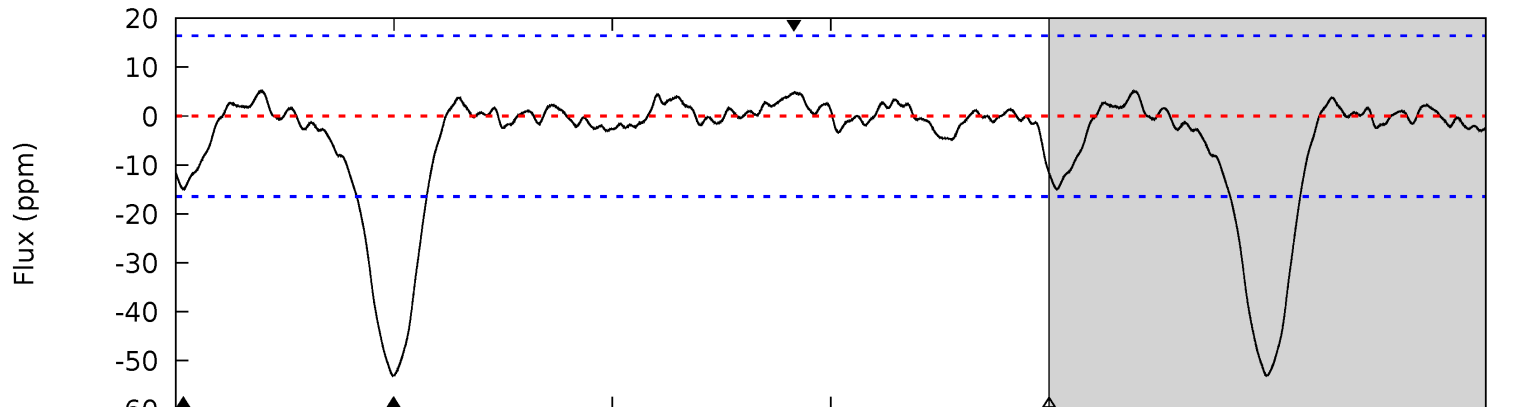
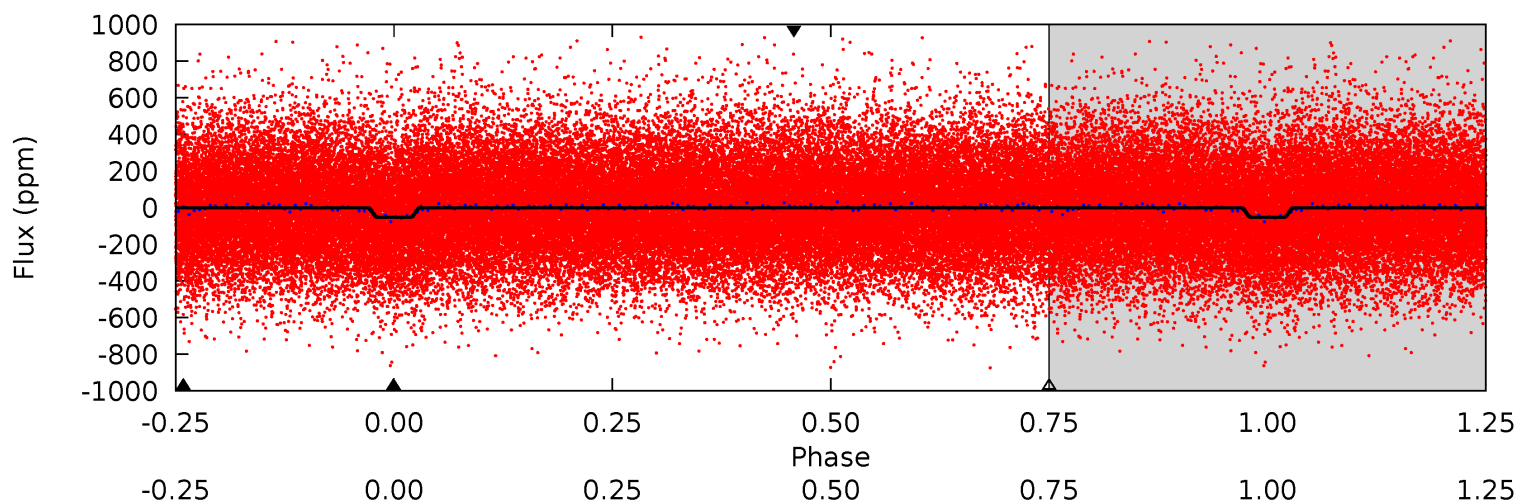
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	2.72	2.10	0.67	4.61	1.74	0.58	11.4	12.8	0.62	2.04	0.99	0.87	0.10	1.06



Alt Model-Shift Uniqueness Test

003438976-01, P = 2.976055 Days, E = 129.986325 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.1	4.24	3.31	1.35	4.67	1.87	0.70	11.8	13.7	0.93	2.89	1.21	0.89	0.09	0.88



Stellar Parameters For KIC 003438976

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6202^{+175}_{-197}	$4.394^{+0.090}_{-0.210}$	$-0.240^{+0.250}_{-0.300}$	$1.055^{+0.326}_{-0.140}$	$1.003^{+0.158}_{-0.115}$	$1.204^{+0.553}_{-0.600}$
	+3%/-3%	+2%/-5%	+104%/-125%	+31%/-13%	+16%/-11%	+46%/-50%
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 003438976-01 / KOI 4527.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-8 ± 3	$0.89^{+0.34}_{-0.29}$	1985^{+144}_{-109}	4113^{+712}_{-516}	$9.277^{+12.493}_{-4.992}$
Alt.	-15 ± 4	$0.92^{+0.32}_{-0.35}$	1970^{+146}_{-113}	4526^{+928}_{-497}	16^{+23}_{-8}

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

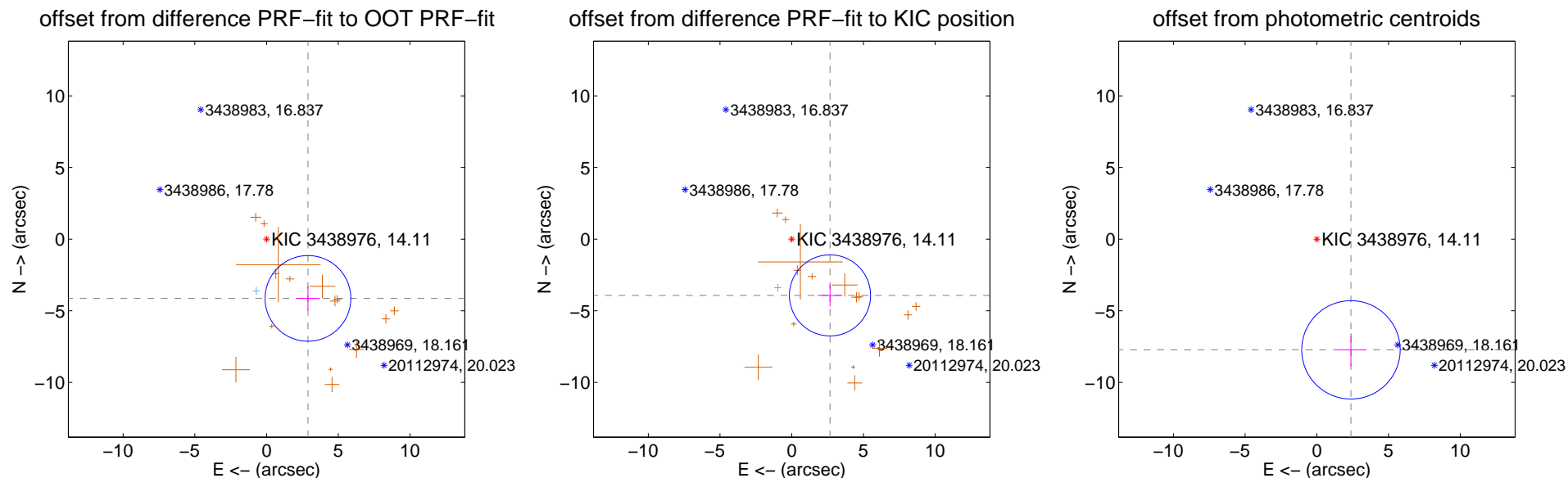
DV Centroid Data

Supplemental centroid analysis for 003438976-01. Kepler magnitude: 14.11. Transit SNR 12.42

There are 1 quarters with good PRF difference image offsets

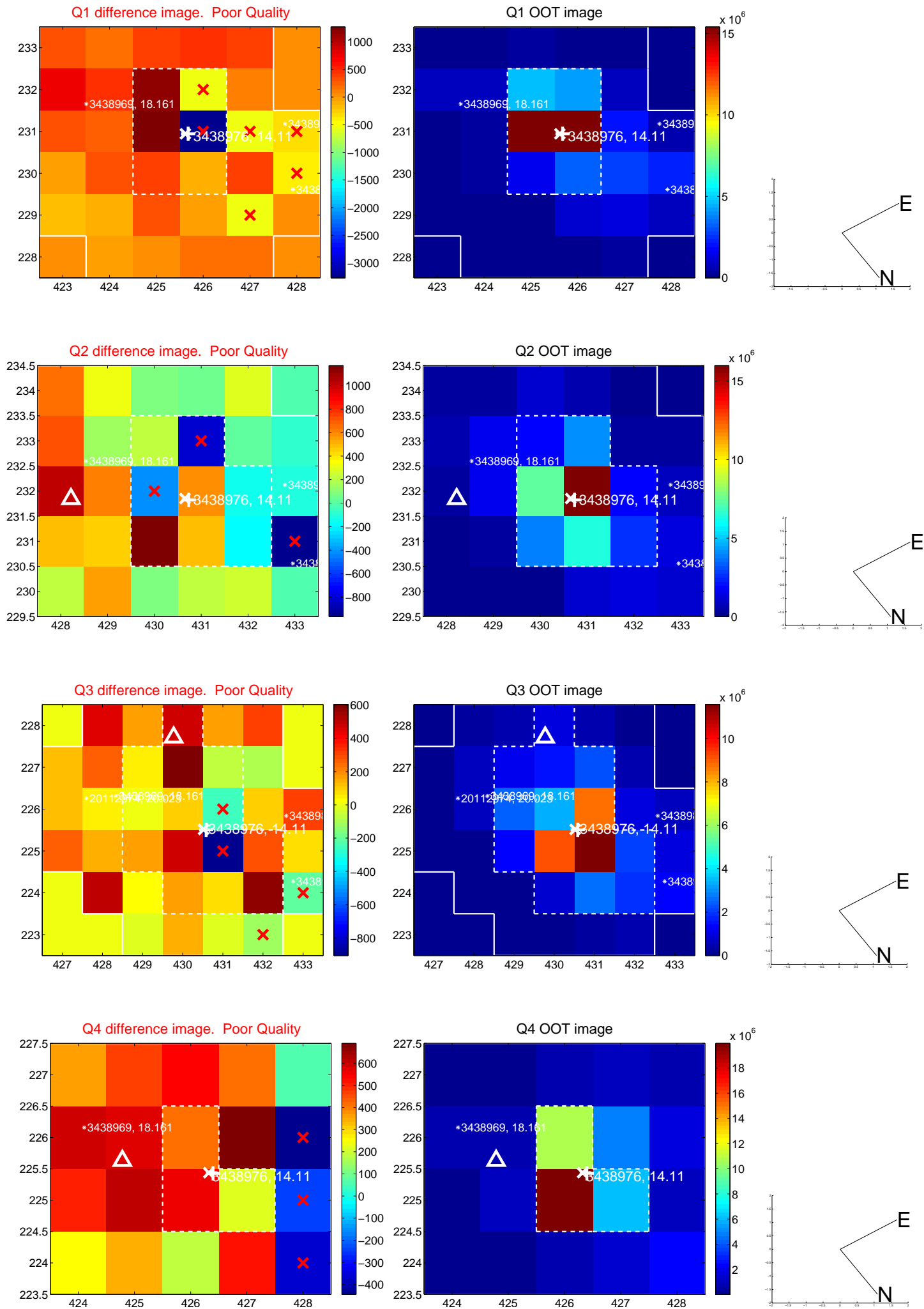
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.043 ± 0.996	5.06	-2.886 ± 0.831	-4.136 ± 0.851
PRF-fit source offset from KIC position	4.748 ± 0.943	5.03	-2.670 ± 0.861	-3.926 ± 0.763
photometric centroid source offset	8.09 ± 1.14	7.07	-2.38 ± 1.06	-7.73 ± 1.15

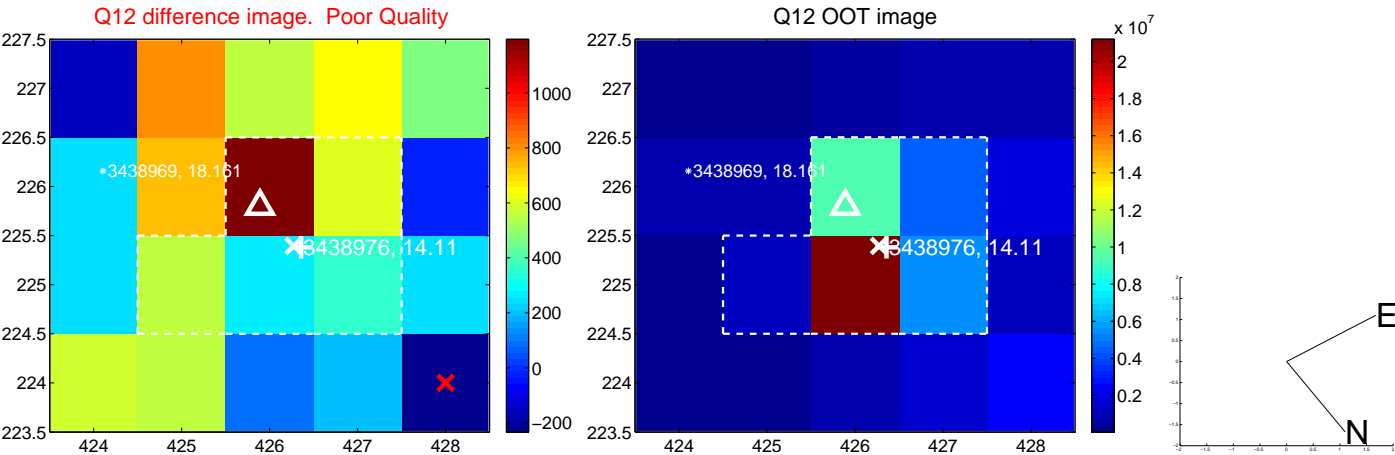
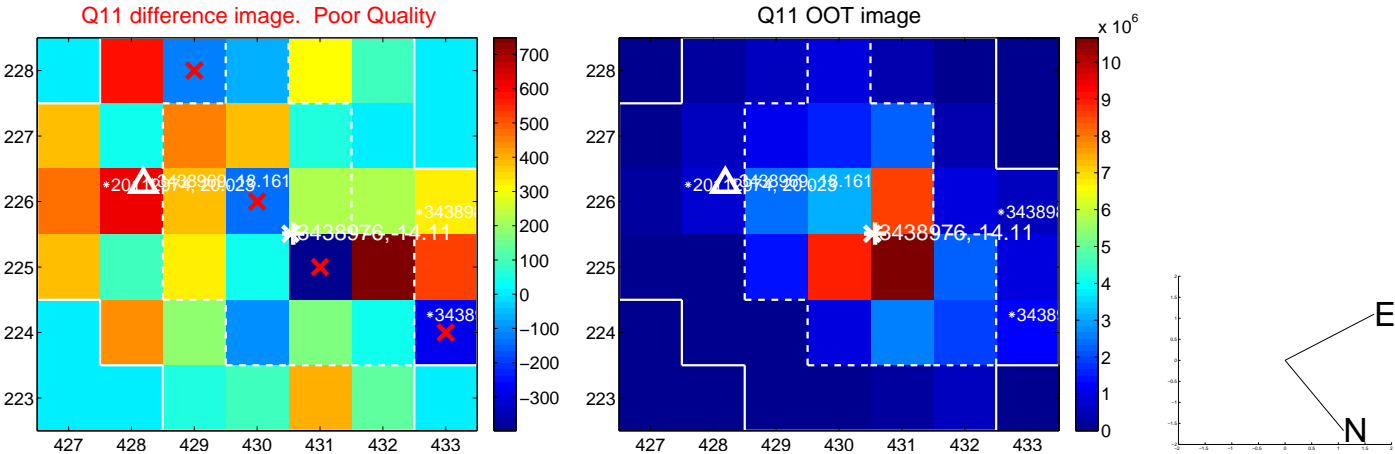
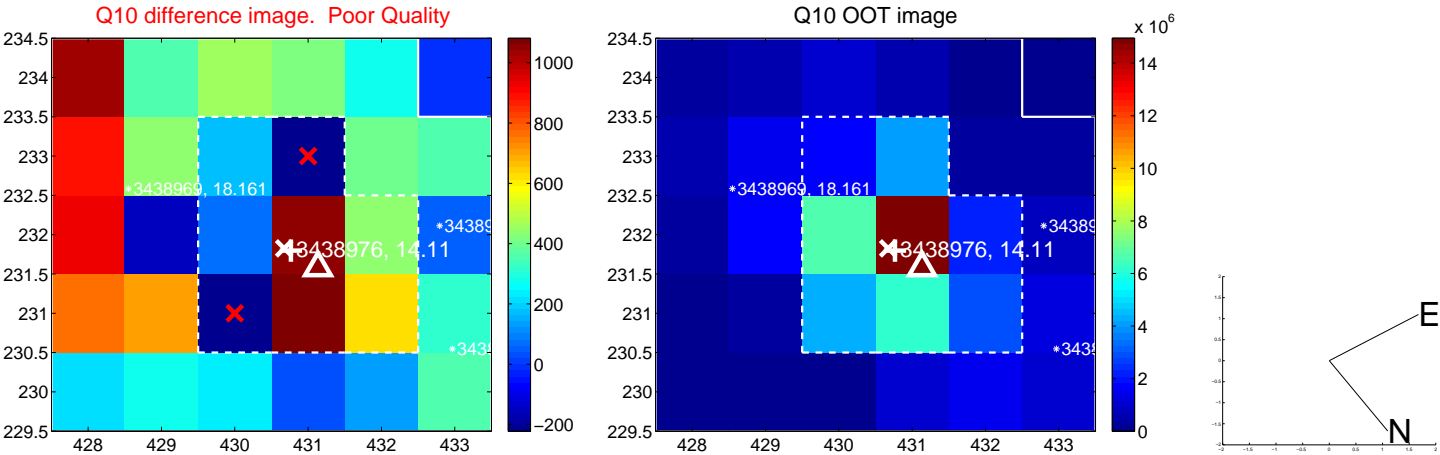
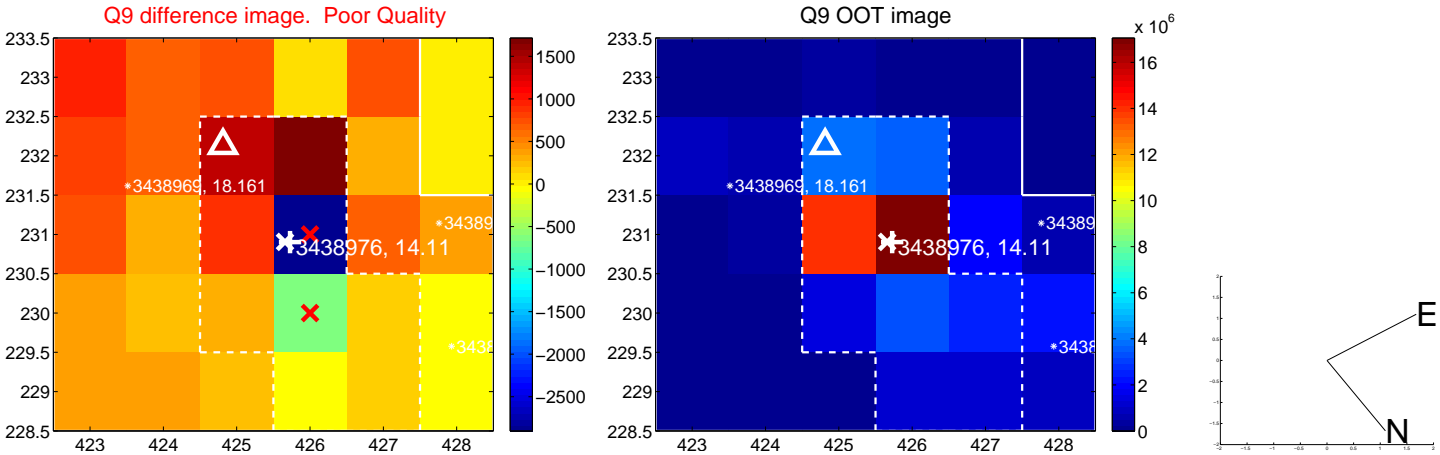


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

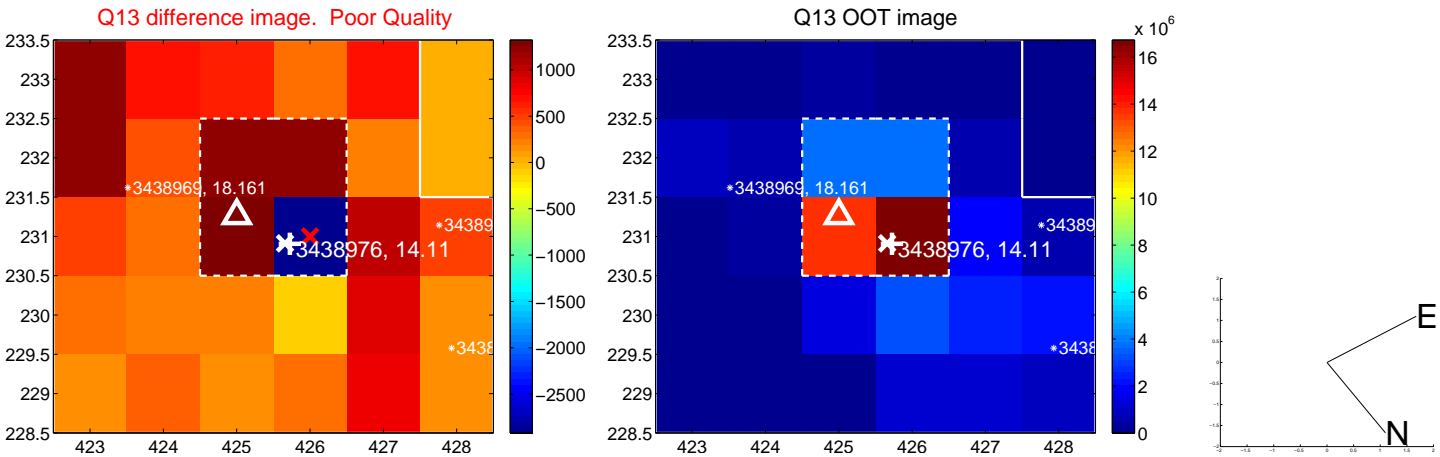
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



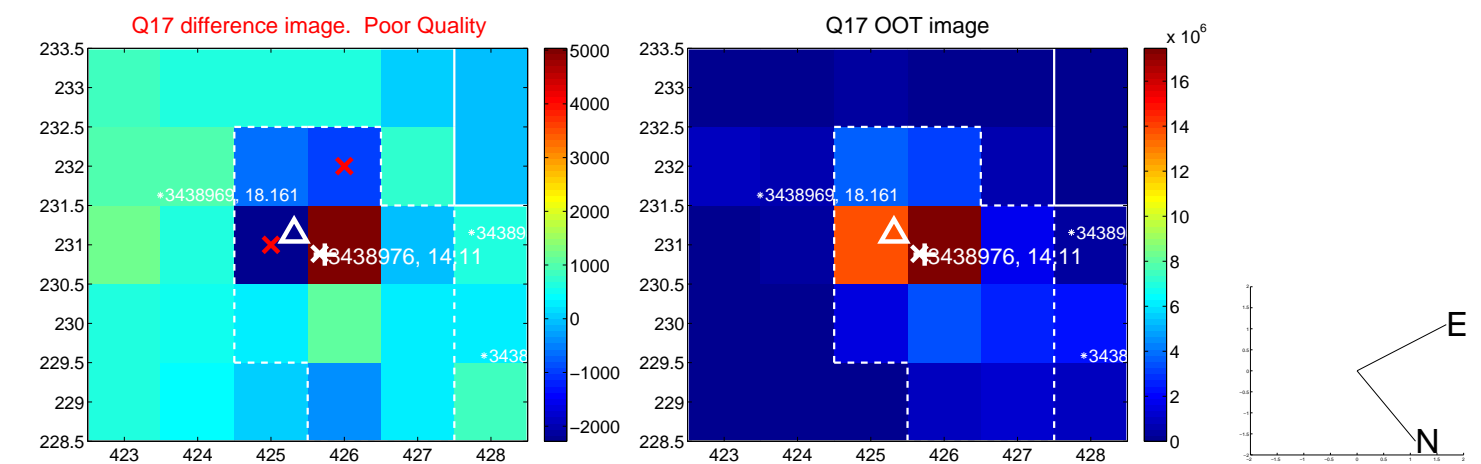
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



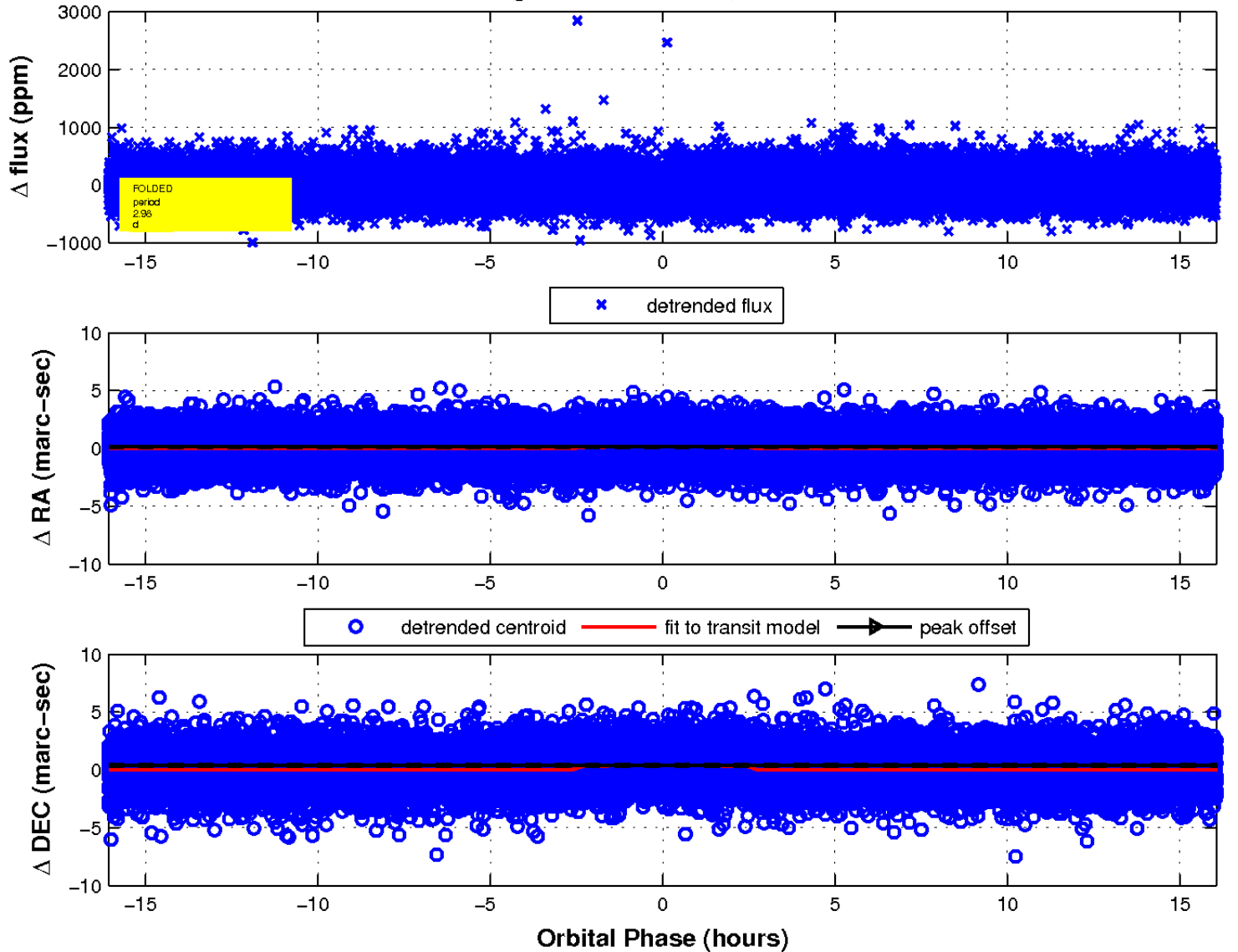
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

