

KIC 003859042

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})
003859042-01	OBS	7675.01	25.949857	148.962820	309.9	18.657	7.8	8.1	0.75	5348	2.34	15.78

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003859042-01	OBS	FP	0.00	0	0	0	1	CENT_FEW_DIFFS—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.

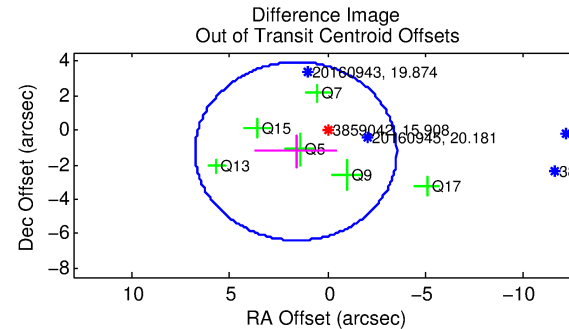
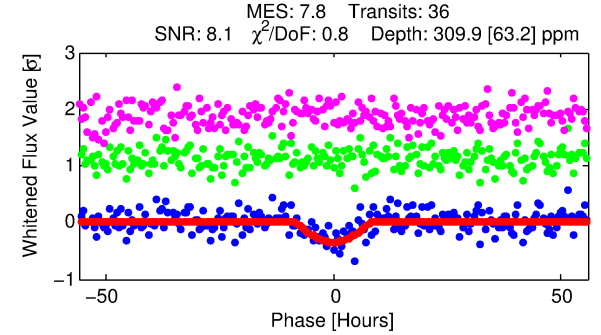
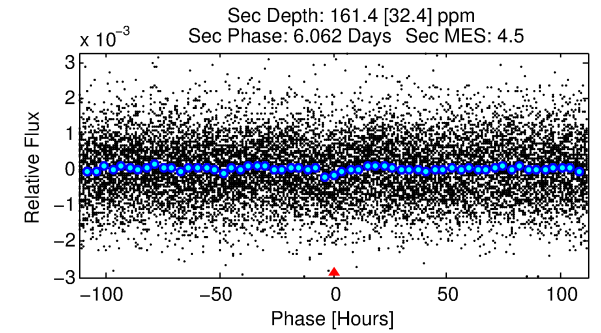
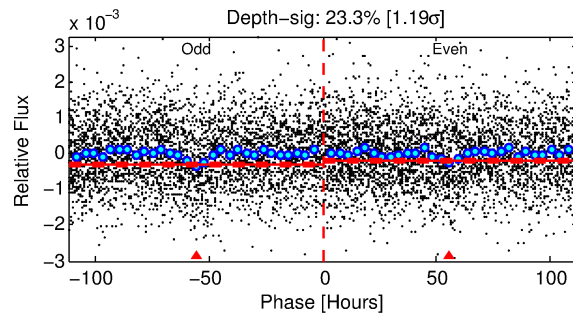
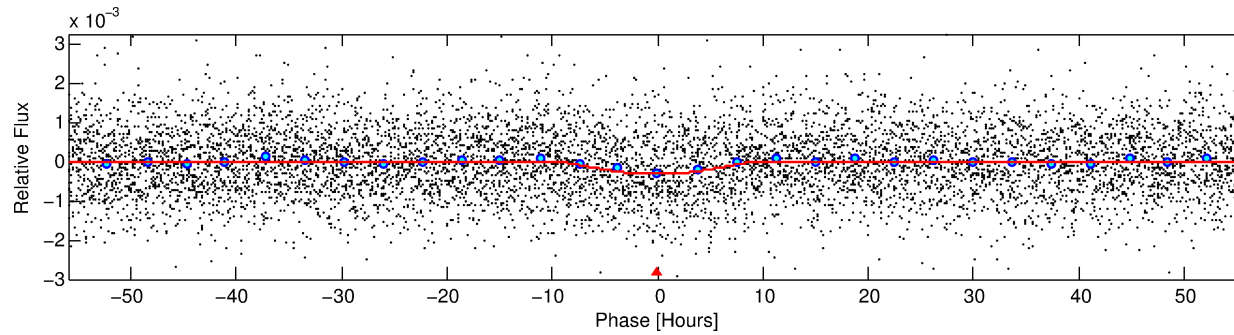
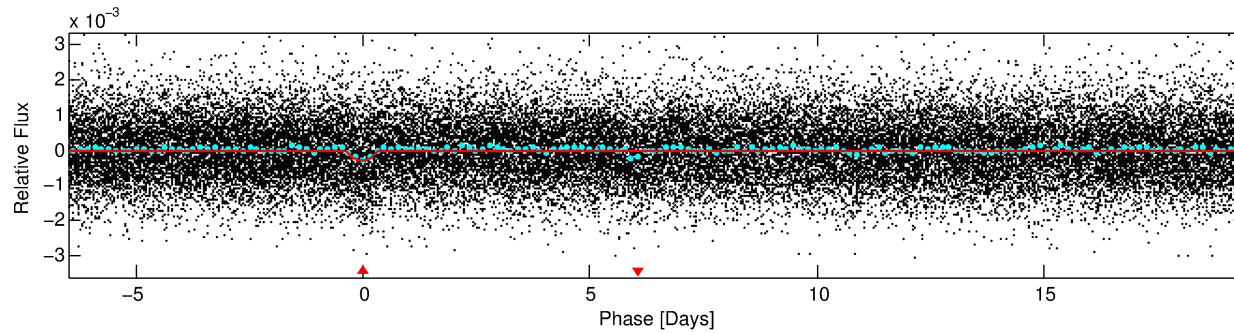
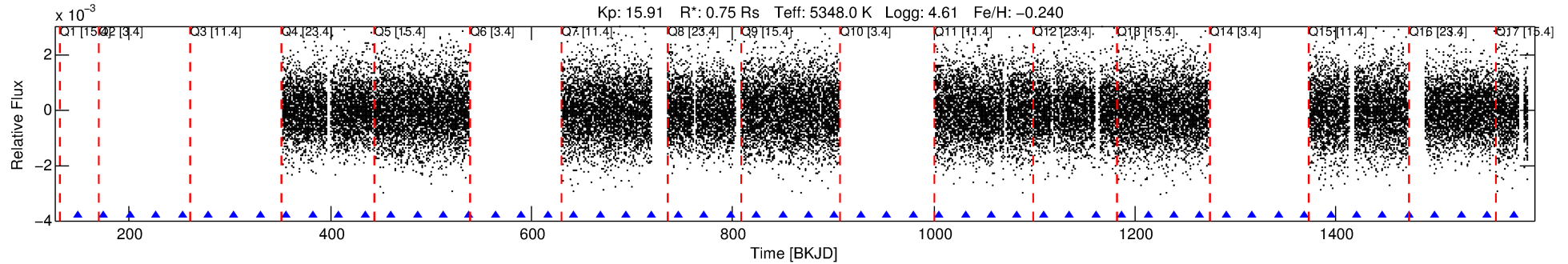
Ephemeris Match Information For 003859042-01

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
003859042-01	3859042	003858884-02	3858884	1:1	191.4	-48	5	9.28	15.91	1087.50	Direct-PRF	0	1.87	0.72

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: 3859042 Candidate: 1 of 1 Period: 25.950 d



DV Fit Results:

Period = 25.94986 [0.00180] d
Epoch = 148.9628 [0.0608] BKJD
Rp/R* = 0.0286 [0.0680]
a/R* = 3.04 [2.08]
b = 0.99 [0.12]
Seff = 15.78 [3.83]
Teq = 508 [31] K
Rp = 2.34 [5.56] Re
a = 0.1612 [0.0230] AU
Ag = 422.78 [2010.97] [0.21 σ]
Teffp = 3563 [4235] K [0.72 σ]

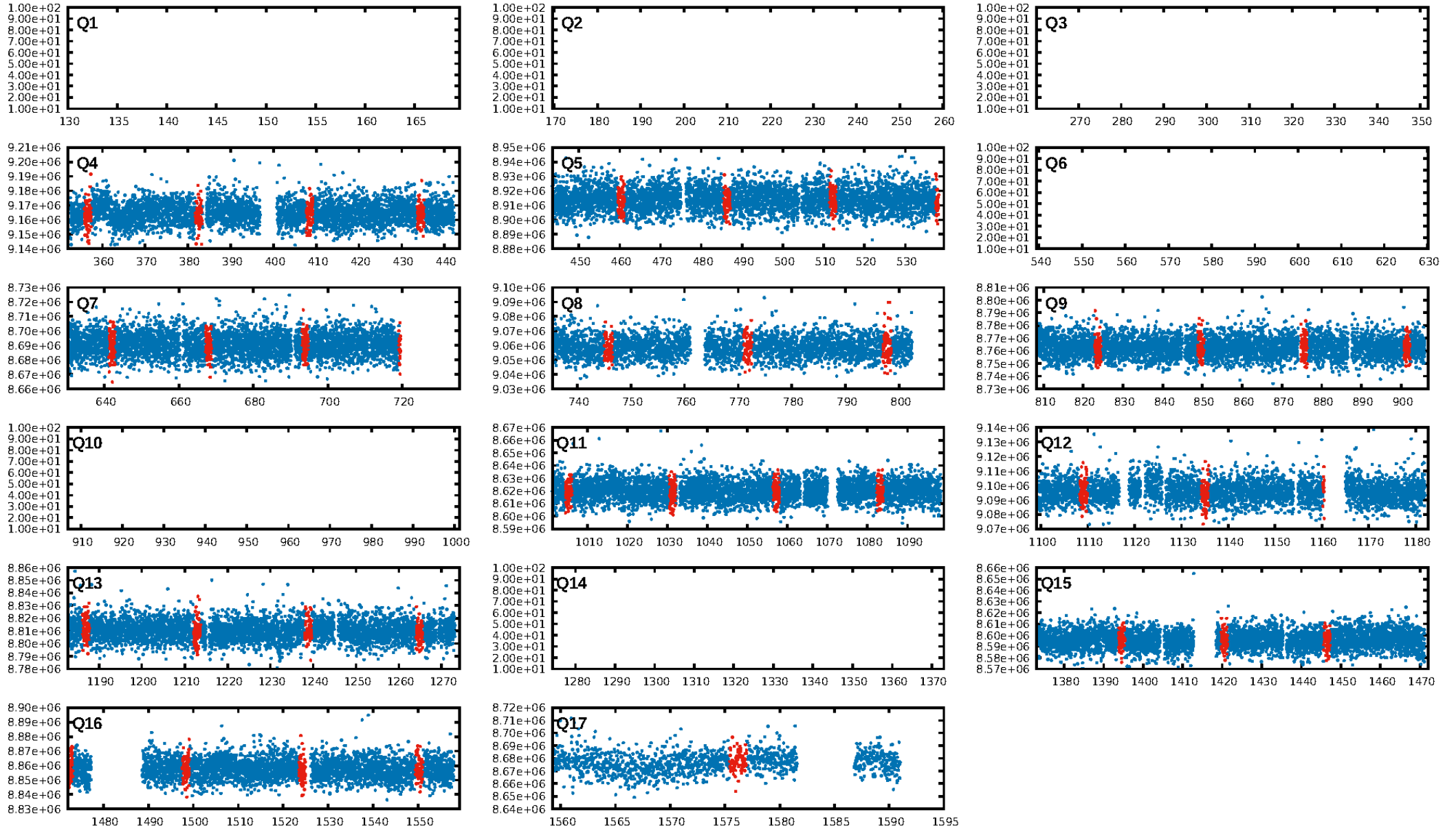
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 59.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.83e-14
RollingBand-fgt: 1.00 [35/35]
GhostDiagnostic-chr: 1.51
Centroid-sig: 0.0%
Centroid-so: 3.935 arcsec [2.23 σ]
OotOffset-rm: 2.022 arcsec [1.18 σ]
KicOffset-rm: 2.216 arcsec [1.34 σ]
OotOffset-st: 0/2/0/4 [6]
KicOffset-st: 0/2/0/4 [6]
DiffImageQuality-fgm: 0.00 [0/6]
DiffImageOverlap-fno: 1.00 [9/9]

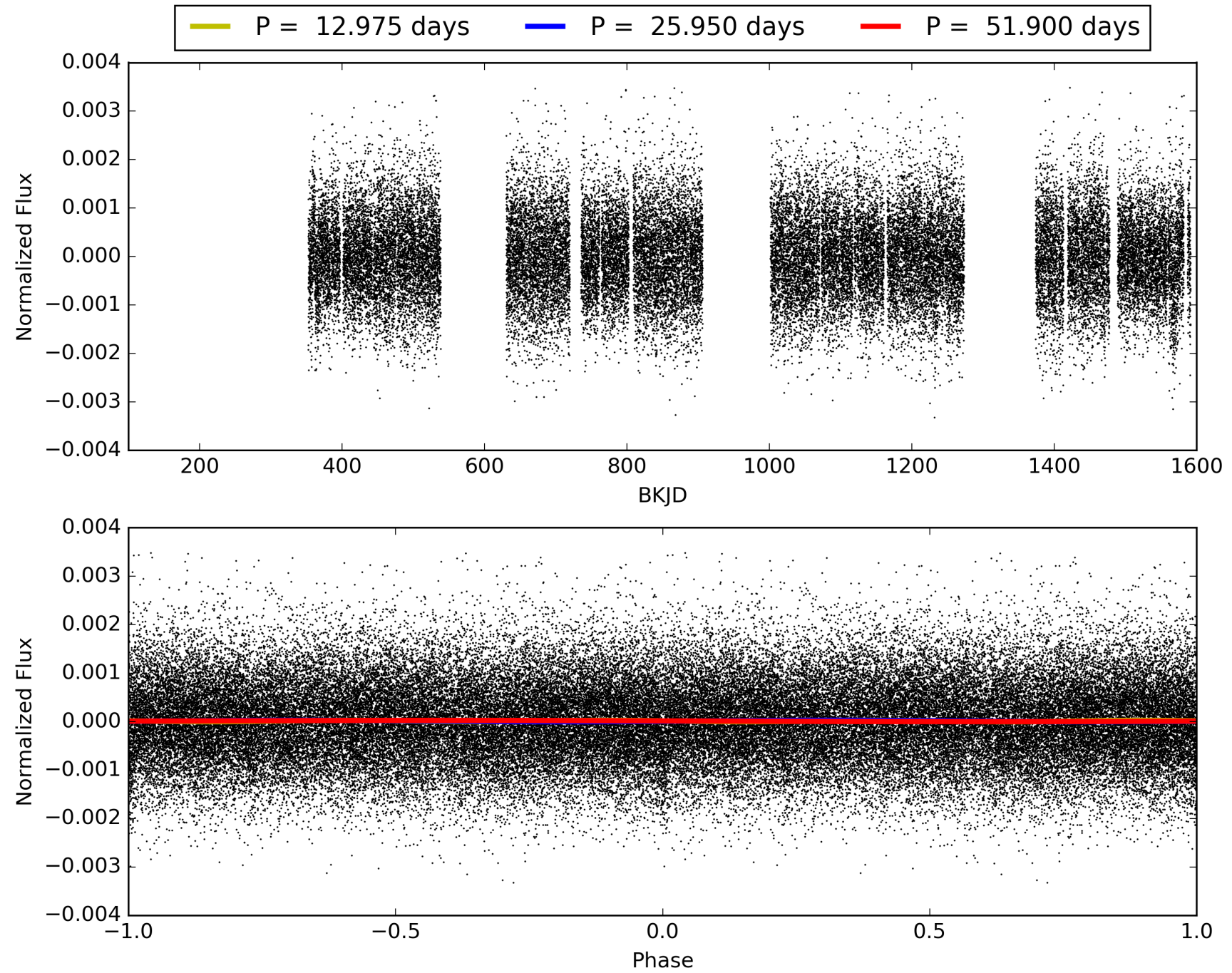
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 11:09:51 Z

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

TCE 003859042-01, PDC Light Curves

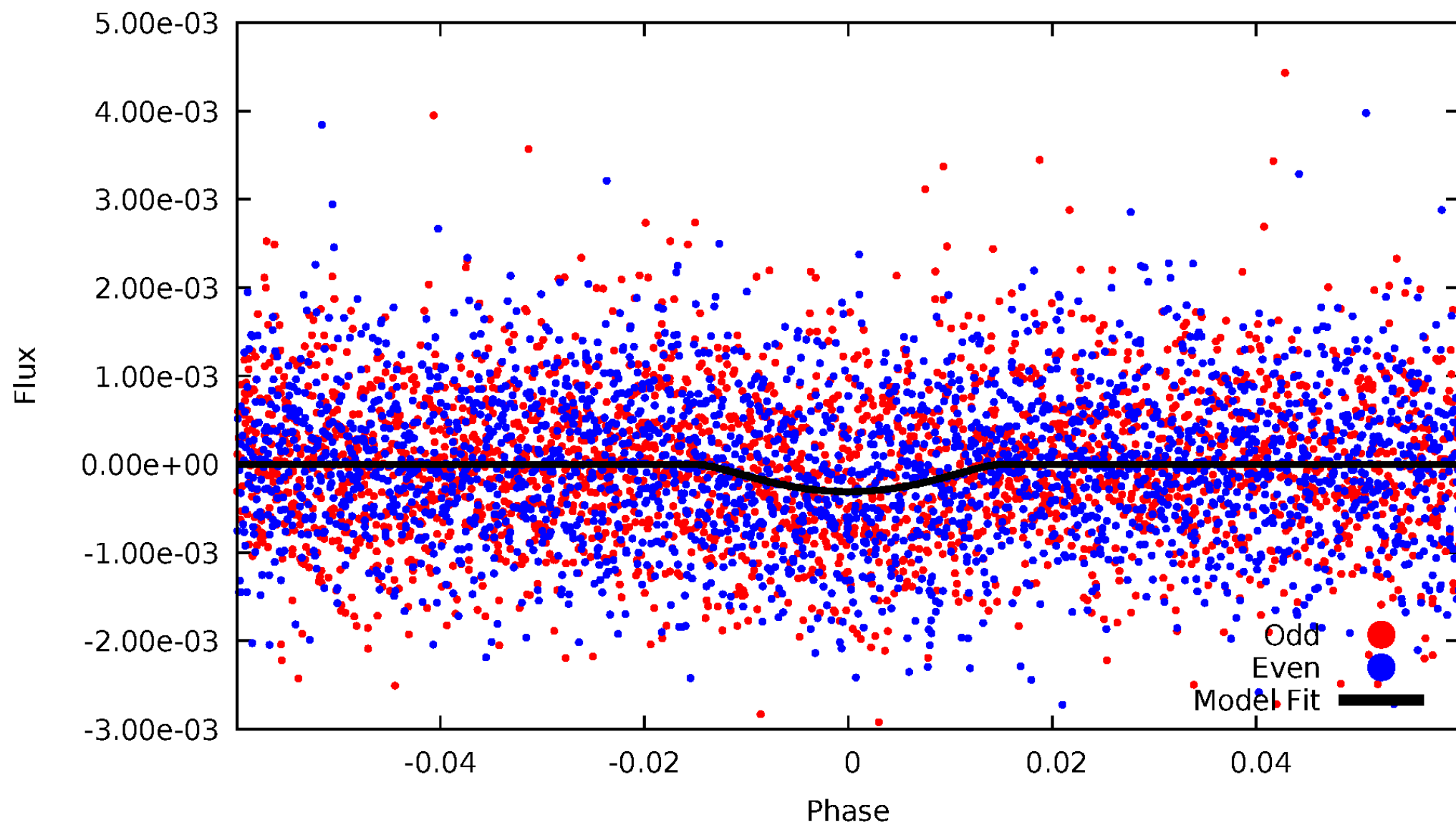


TCE 003859042-01



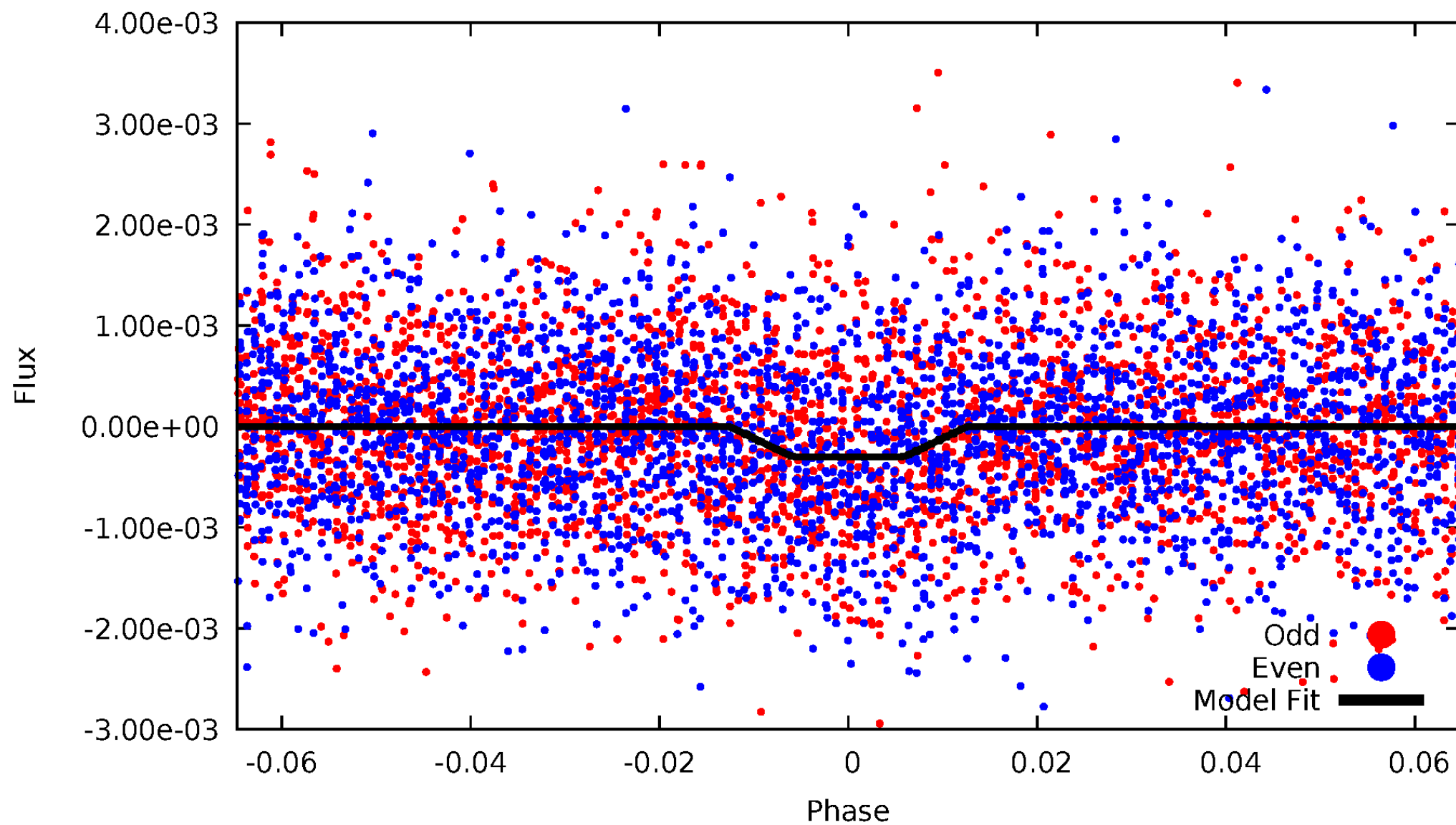
DV Odd/Even

TCE 003859042-01



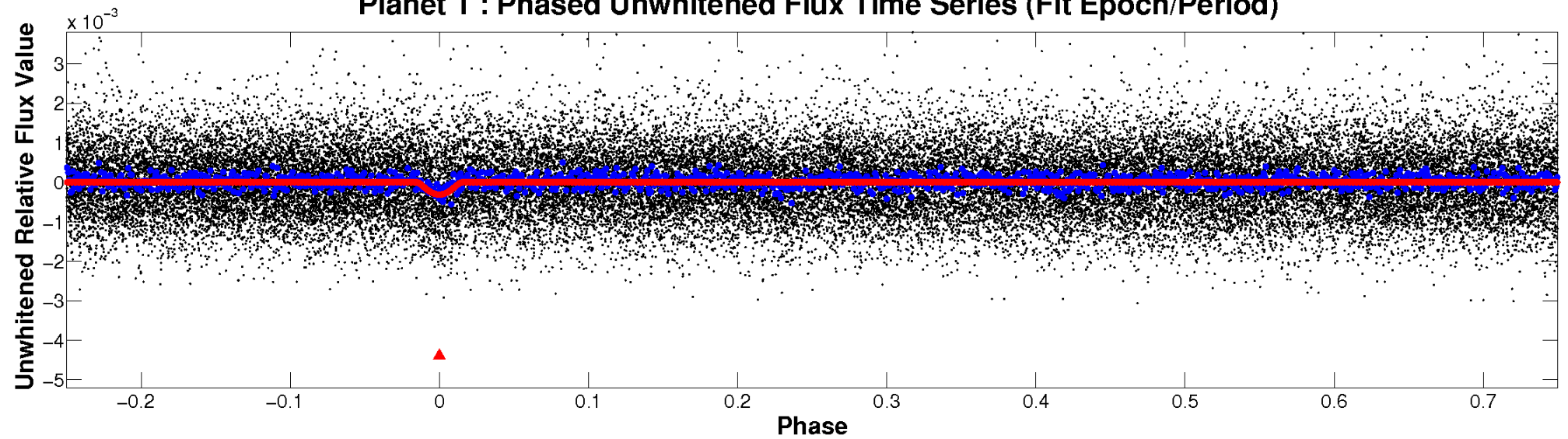
ALT Odd/Even

TCE 003859042-01

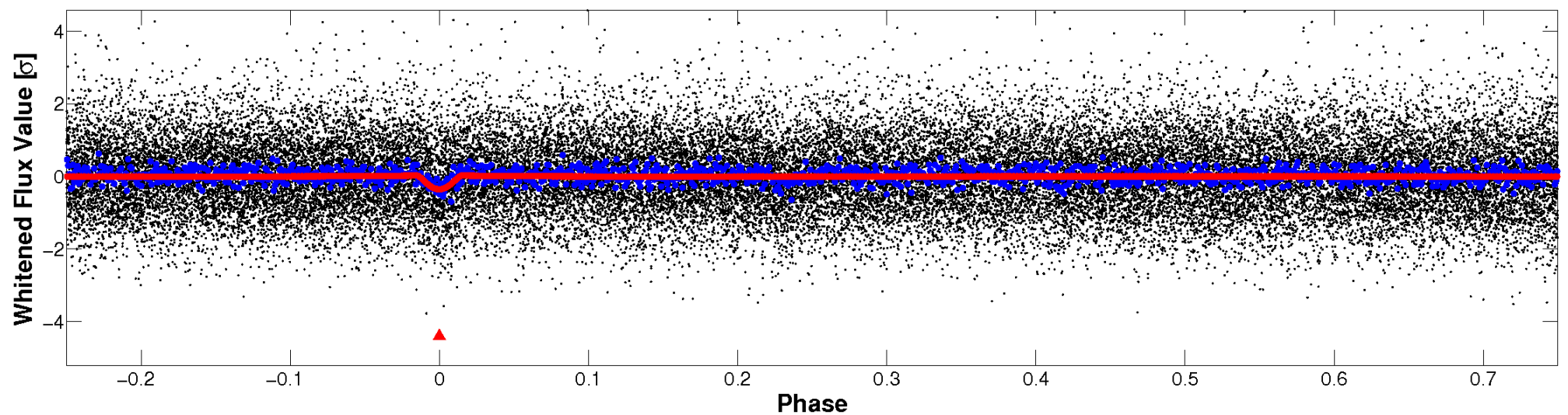


Non-Whitened Vs. Whitened Light Curve

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

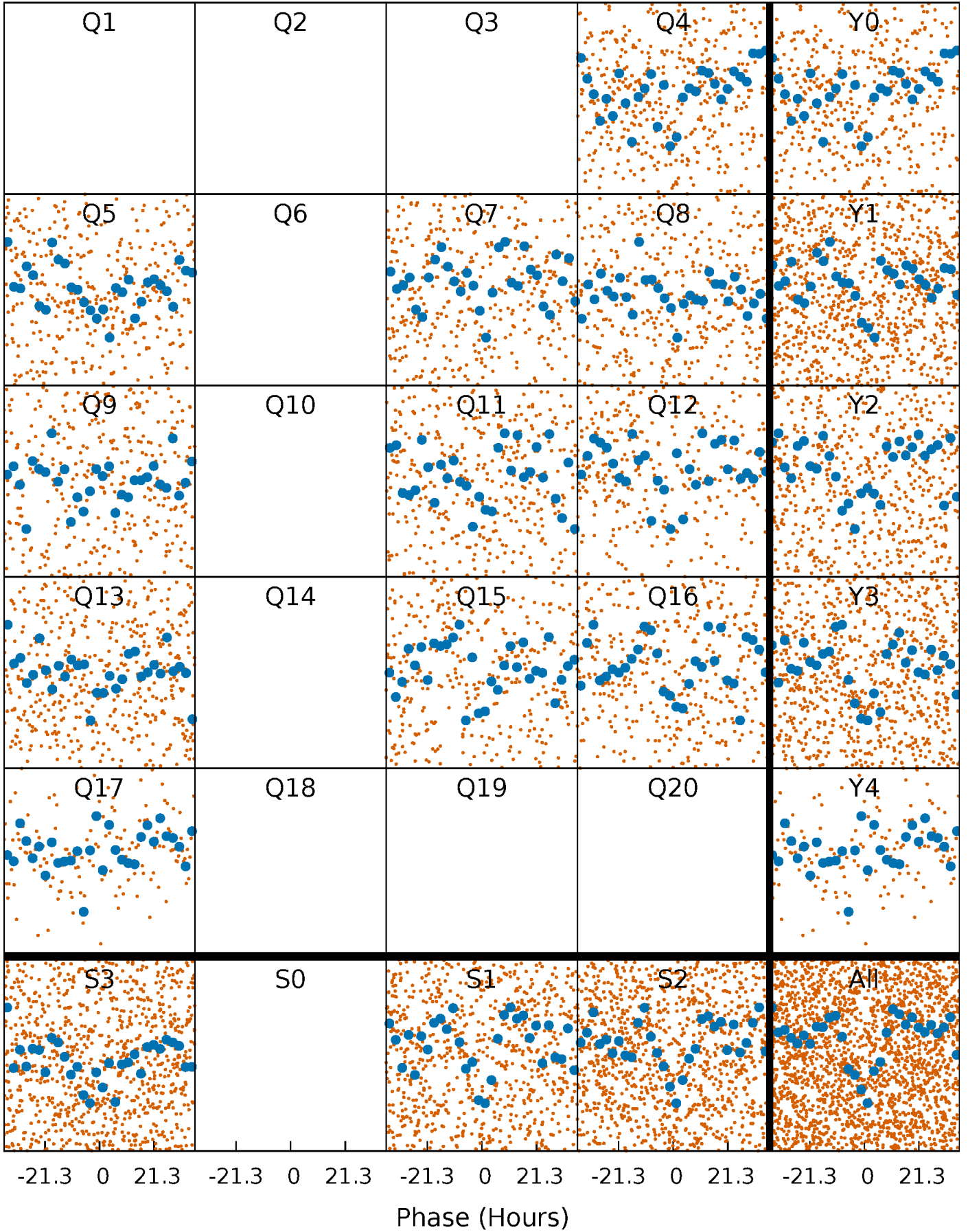


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



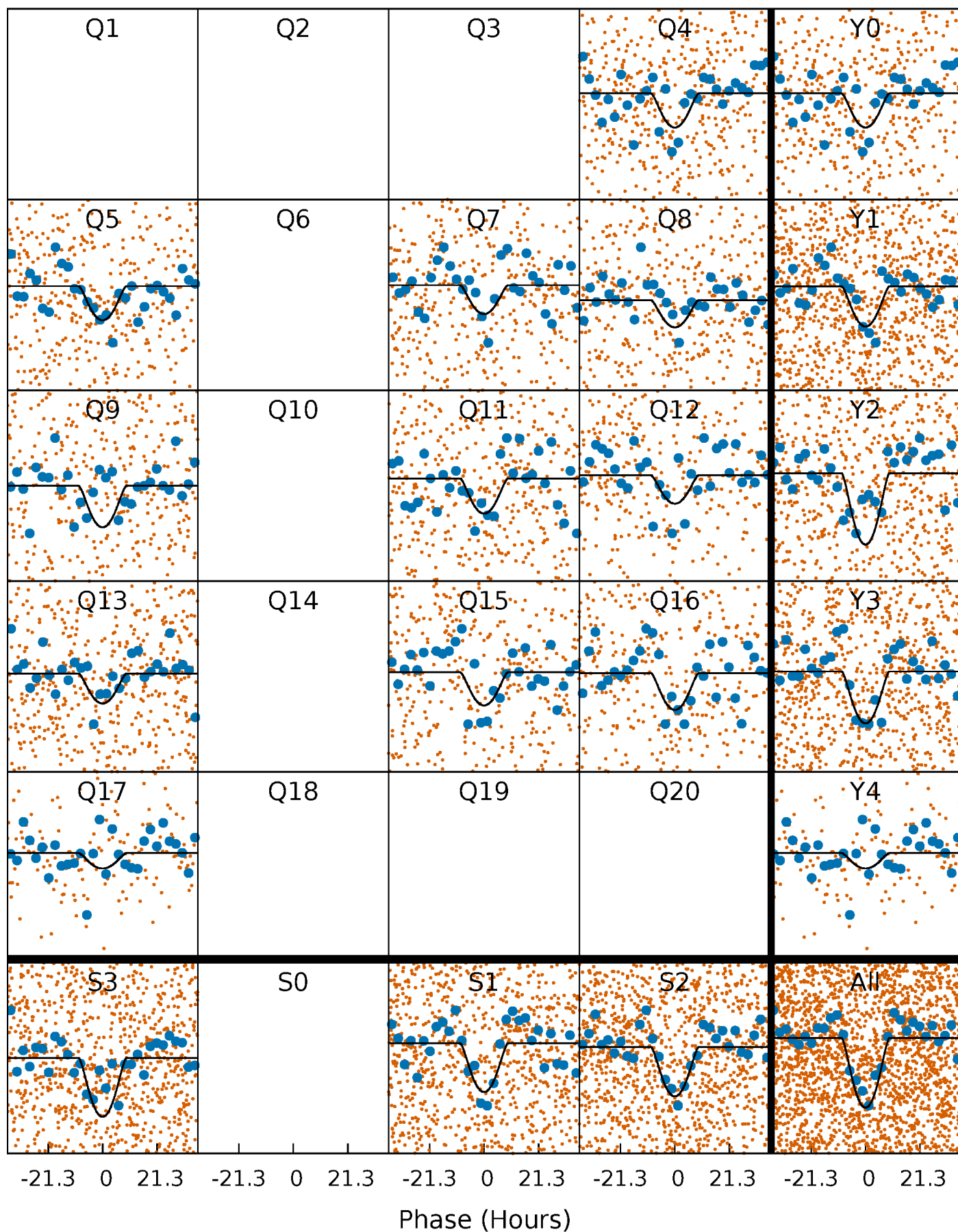
PDC Quarter-Phased Transit Curves

TCE 003859042-01 P= 25.949857 Days $T_0=148.962820$ (BKJD)



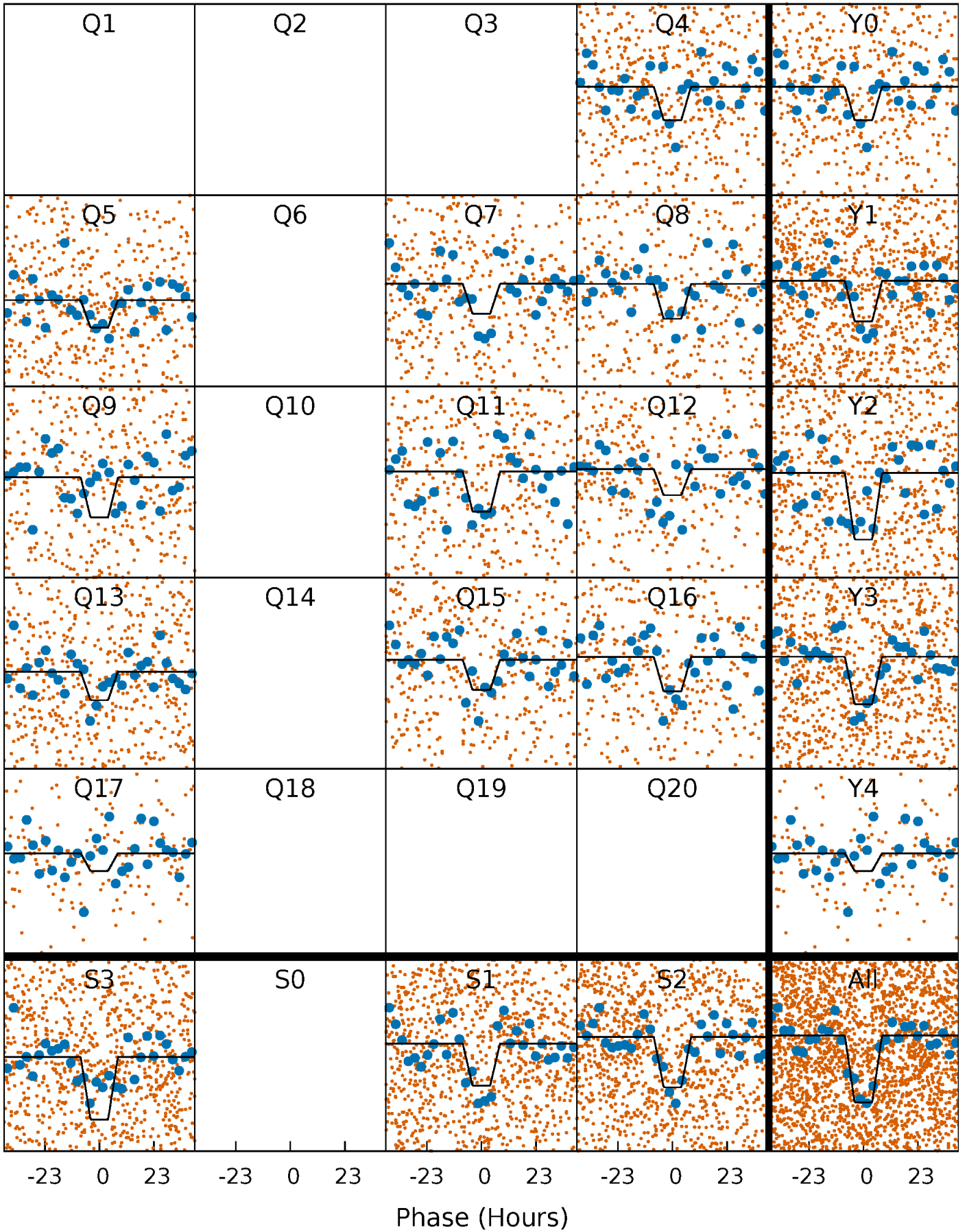
DV Quarter-Phased Transit Curves

TCE 003859042-01 P= 25.949857 Days $T_0=148.962820$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

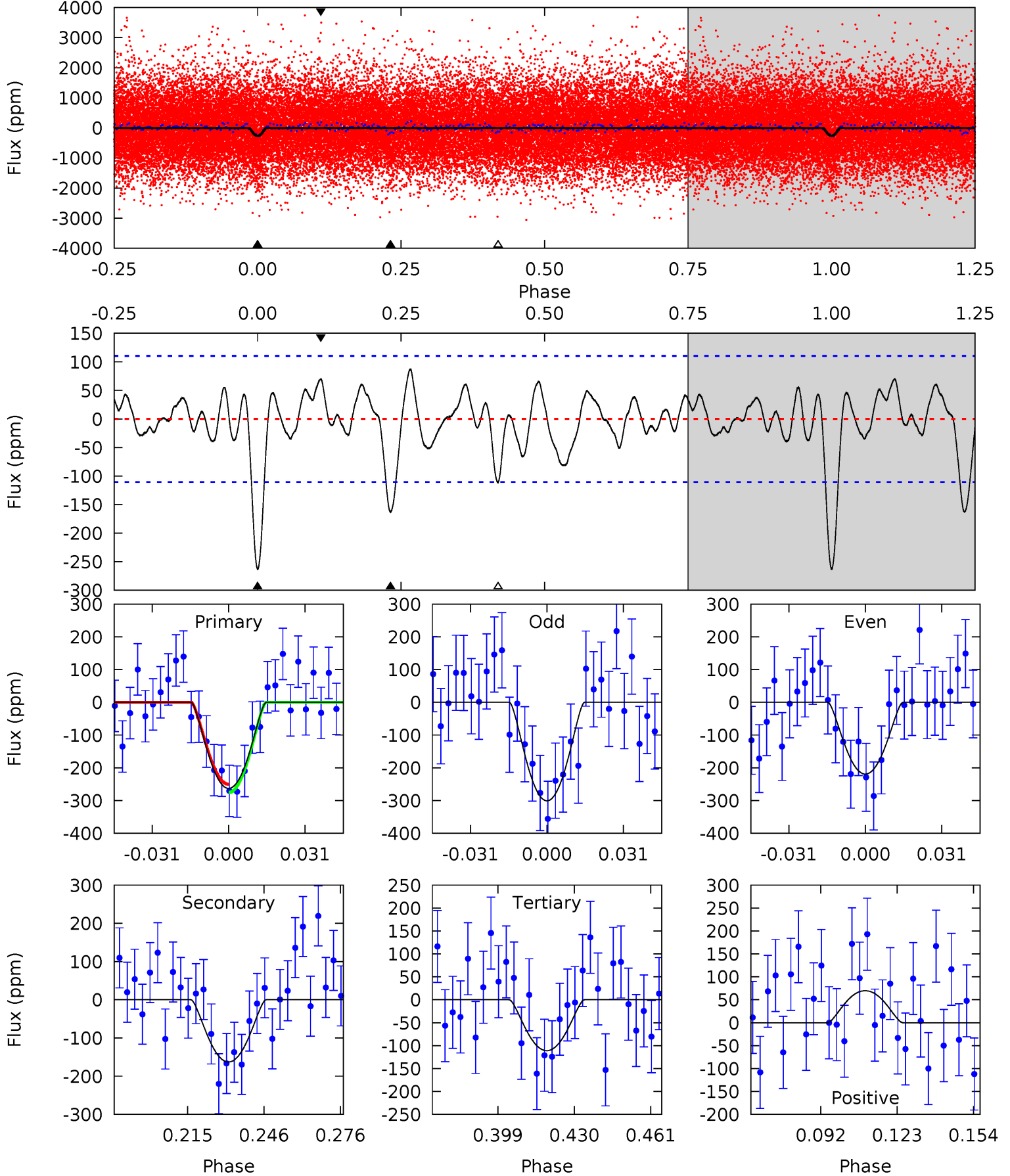
TCE 003859042-01 P= 25.950558 Days $T_0=148.940956$ (BKJD)



DV Model-Shift Uniqueness Test

003859042-01, P = 25.949857 Days, E = 148.962820 Days

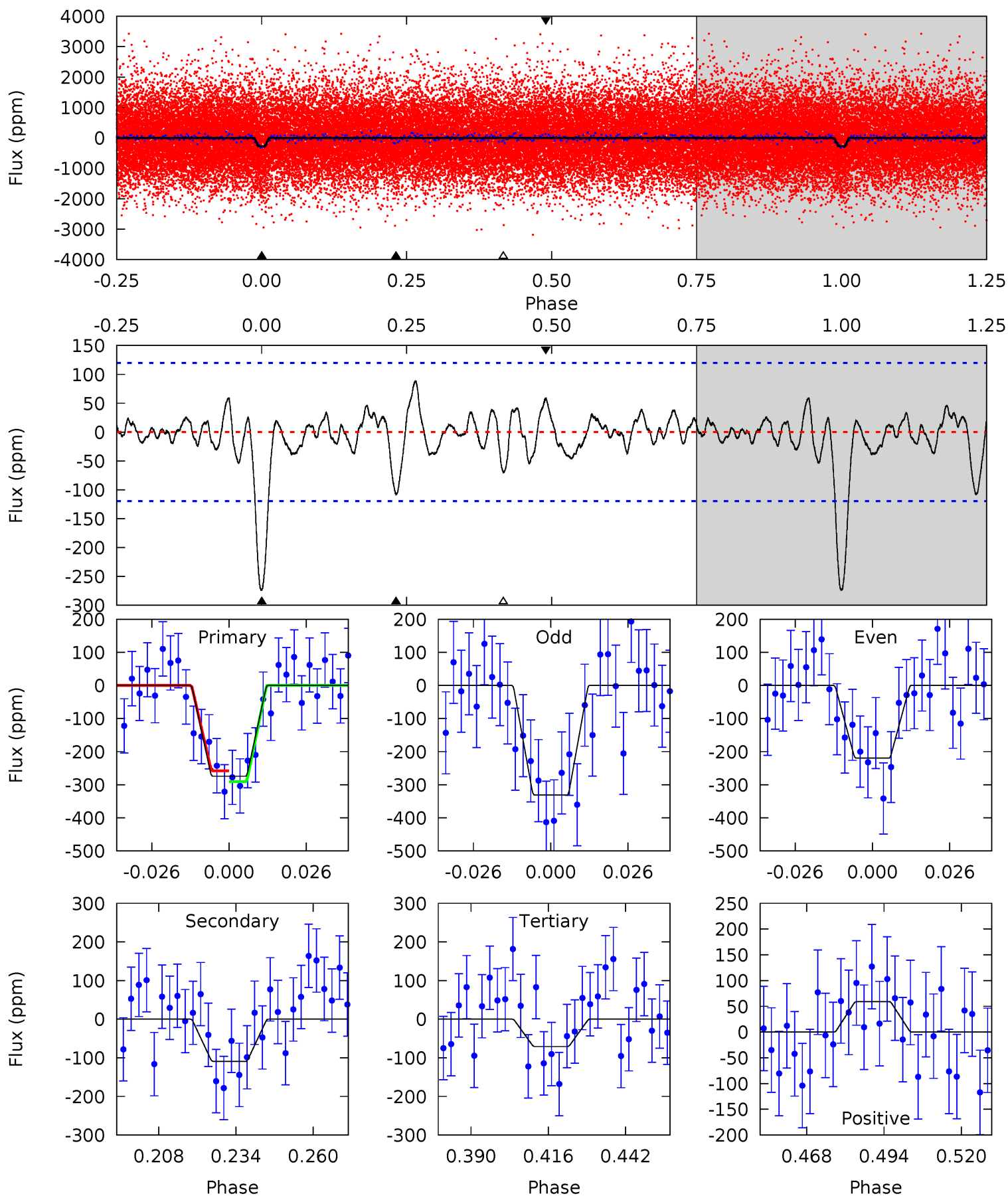
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.4	7.09	4.83	3.04	4.81	2.16	1.53	6.61	8.41	2.25	4.05	1.78	0.28	0.25	0.55



Alt Model-Shift Uniqueness Test

003859042-01, P = 25.950558 Days, E = 148.940956 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	4.41	2.86	2.39	4.84	2.23	1.03	8.24	8.72	1.55	2.02	2.26	1.00	0.25	0.65



Stellar Parameters For KIC 003859042

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5348^{+185}_{-185}	$4.609^{+0.035}_{-0.105}$	$-0.240^{+0.300}_{-0.300}$	$0.748^{+0.132}_{-0.066}$	$0.838^{+0.077}_{-0.096}$	$2.816^{+0.529}_{-0.931}$
	+3%/-3%	+1%/-2%	+125%/-125%	+18%/-9%	+9%/-11%	+19%/-33%
Source	KIC0	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 003859042-01 / KOI 7675.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-163 ± 23	$4.64^{+4.65}_{-3.20}$	721^{+34}_{-31}	3129^{+1460}_{-519}	102^{+954}_{-76}
Alt.	-109 ± 25	$4.41^{+4.98}_{-3.19}$	724^{+32}_{-34}	3020^{+1632}_{-546}	77^{+1007}_{-60}

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

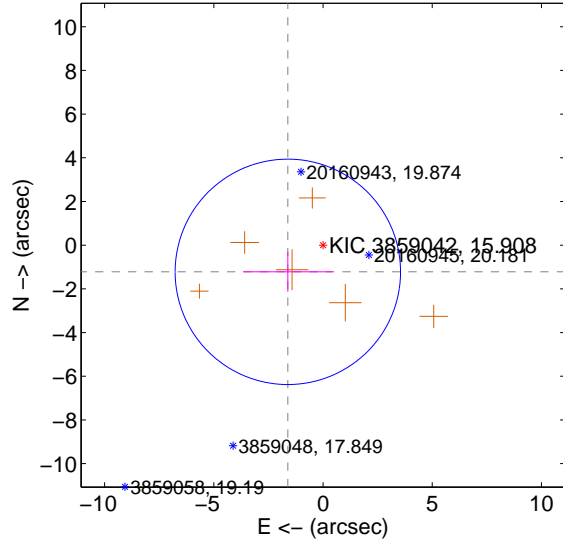
Supplemental centroid analysis for 003859042-01. Kepler magnitude: 15.91. Transit SNR 8.13

There are 0 quarters with good PRF difference image offsets

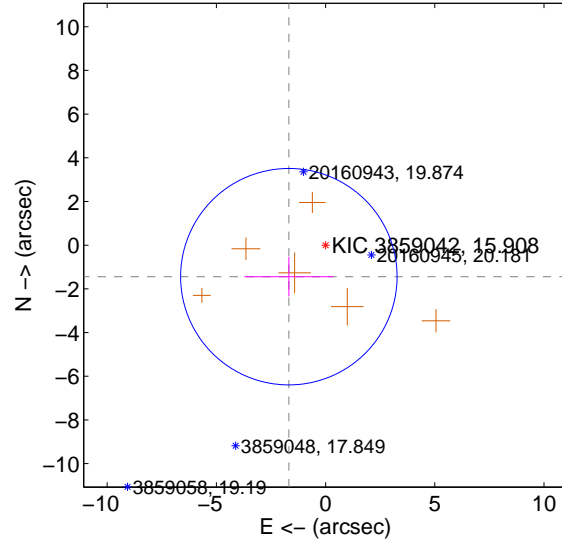
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.022 ± 1.720	1.18	1.611 ± 2.044	-1.221 ± 0.912
PRF-fit source offset from KIC position	2.216 ± 1.651	1.34	1.682 ± 2.033	-1.443 ± 0.905
photometric centroid source offset	3.93 ± 1.77	2.23	3.58 ± 1.78	1.64 ± 1.70

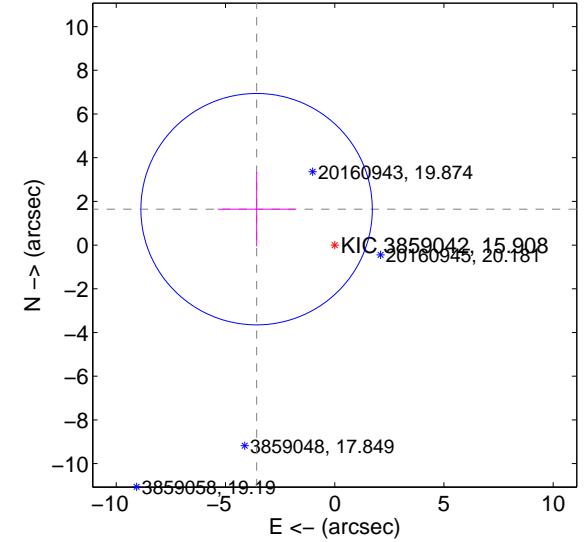
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

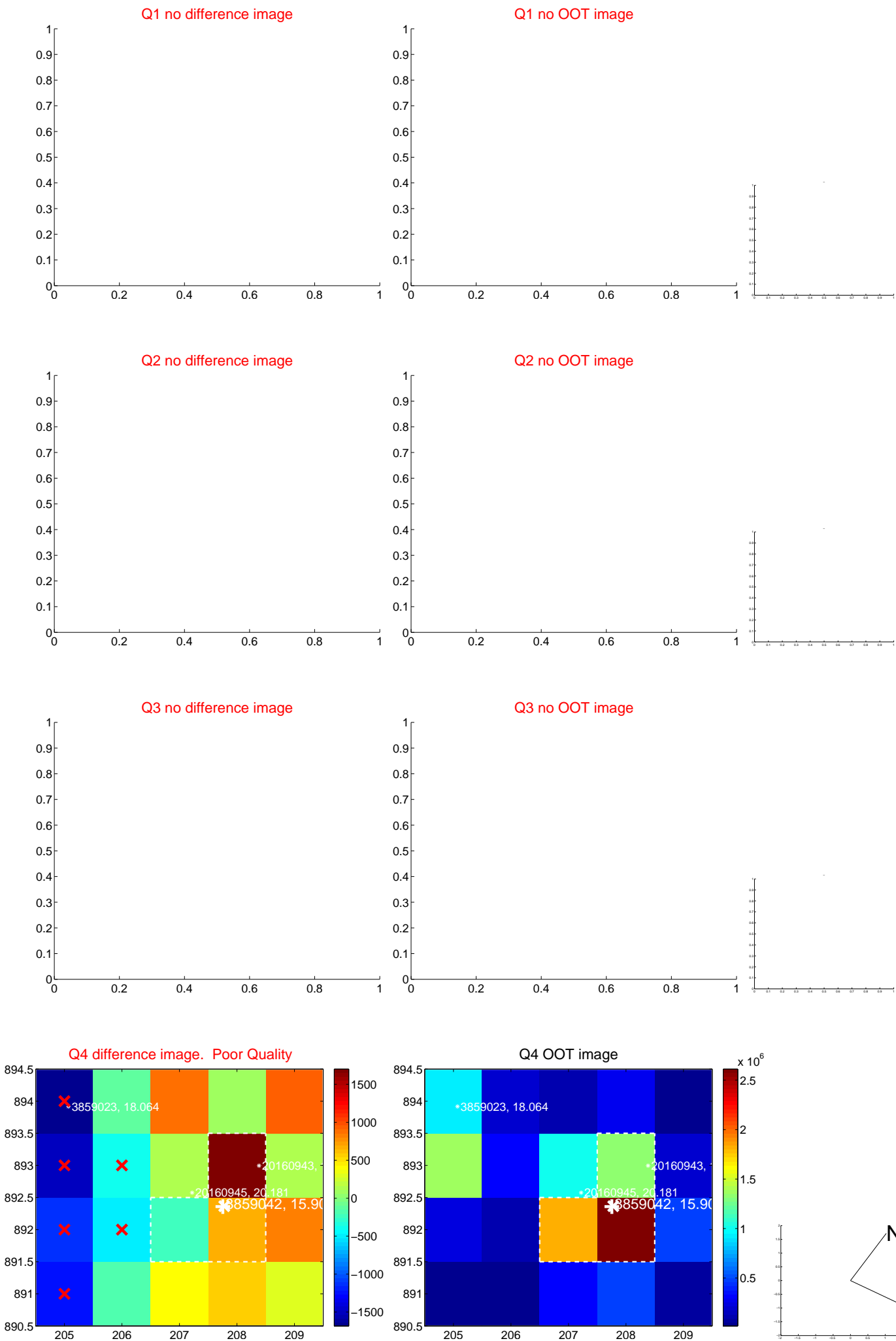


offset from photometric centroids

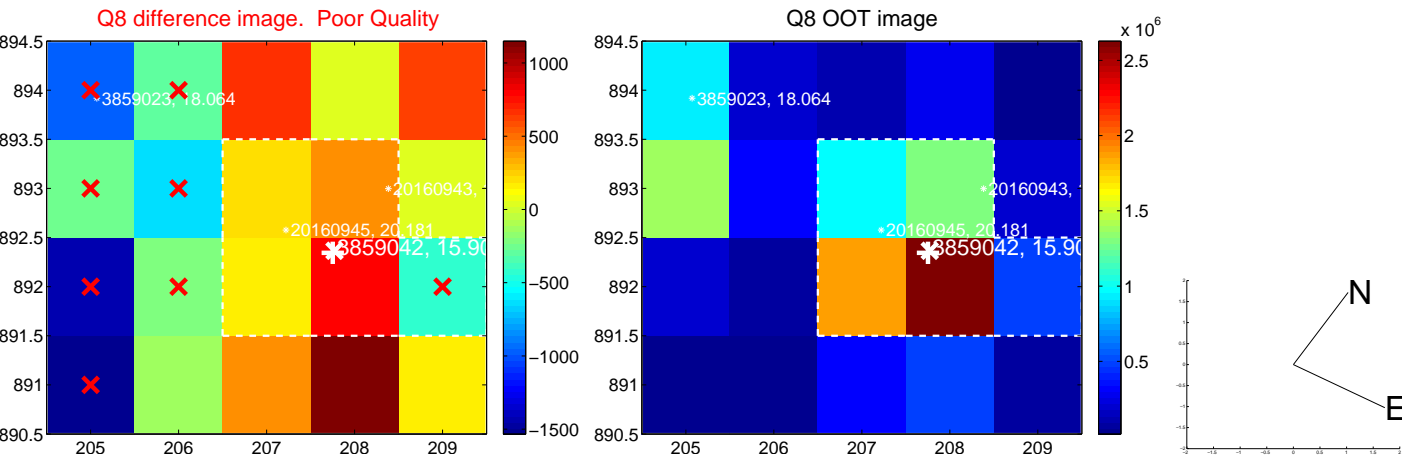
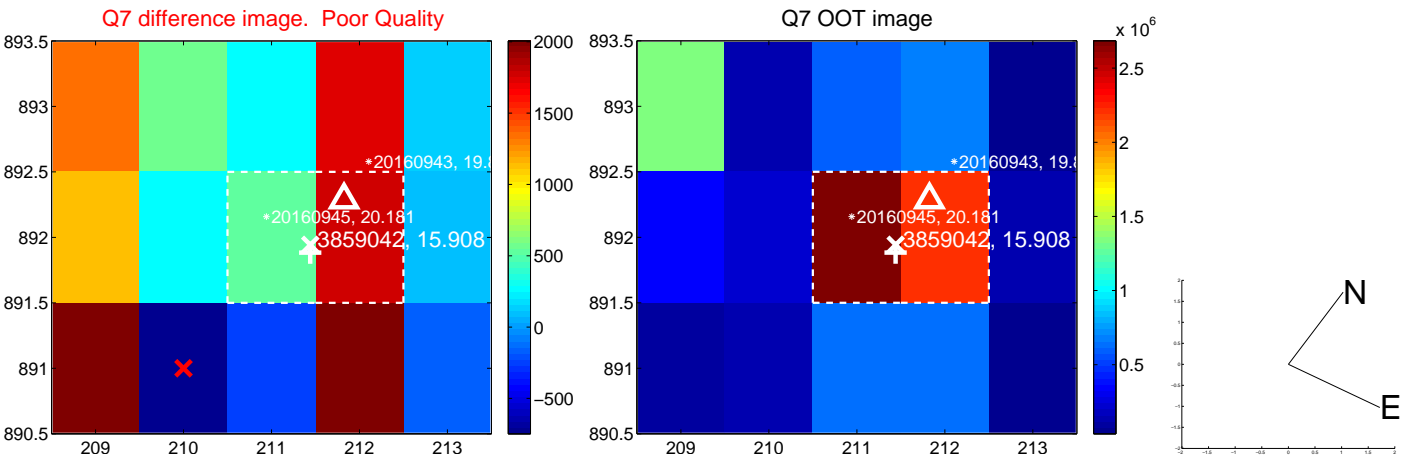
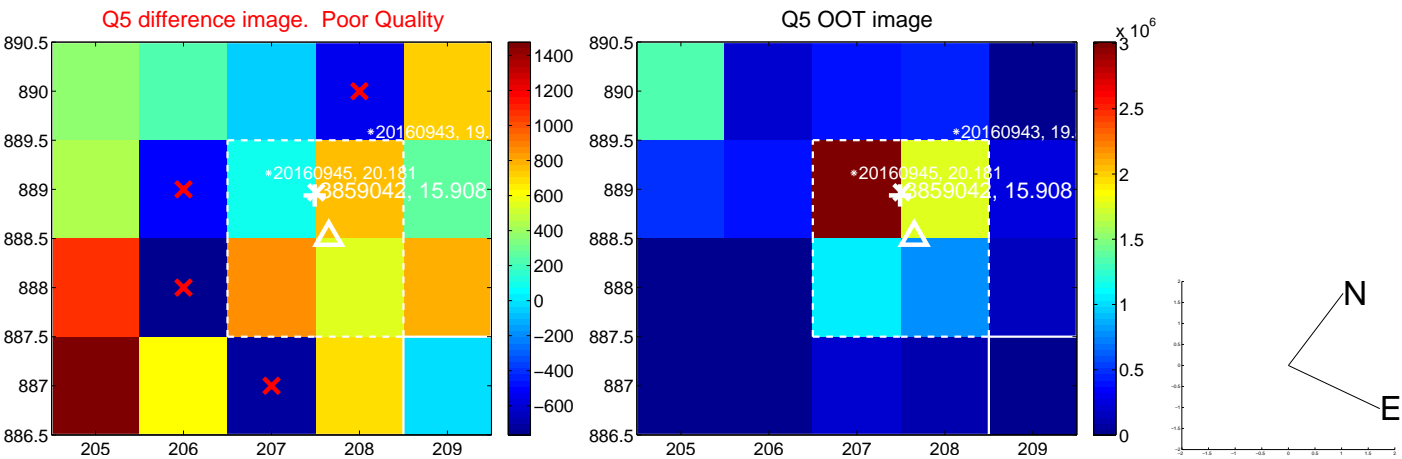


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

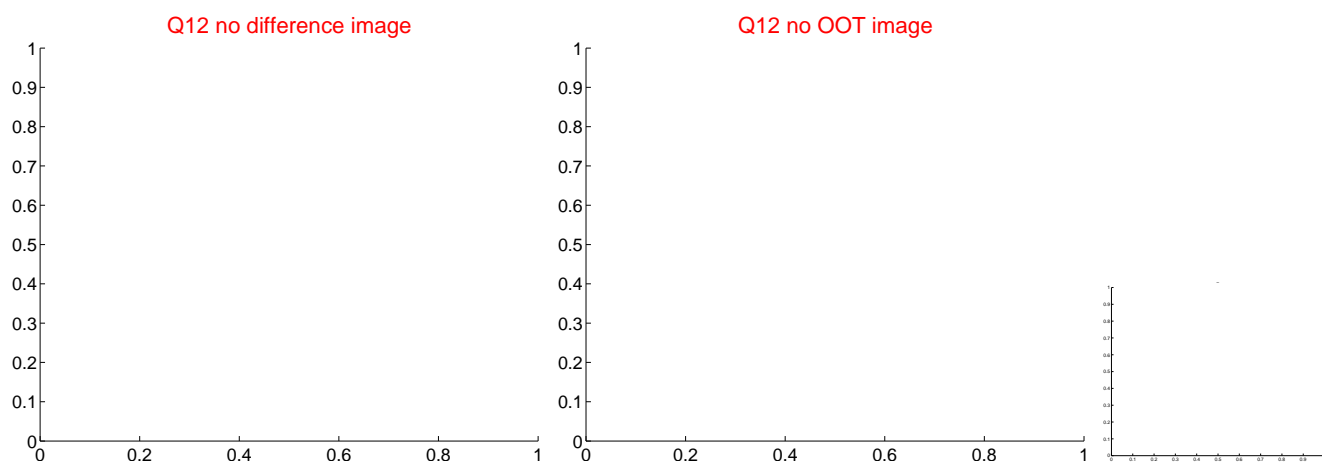
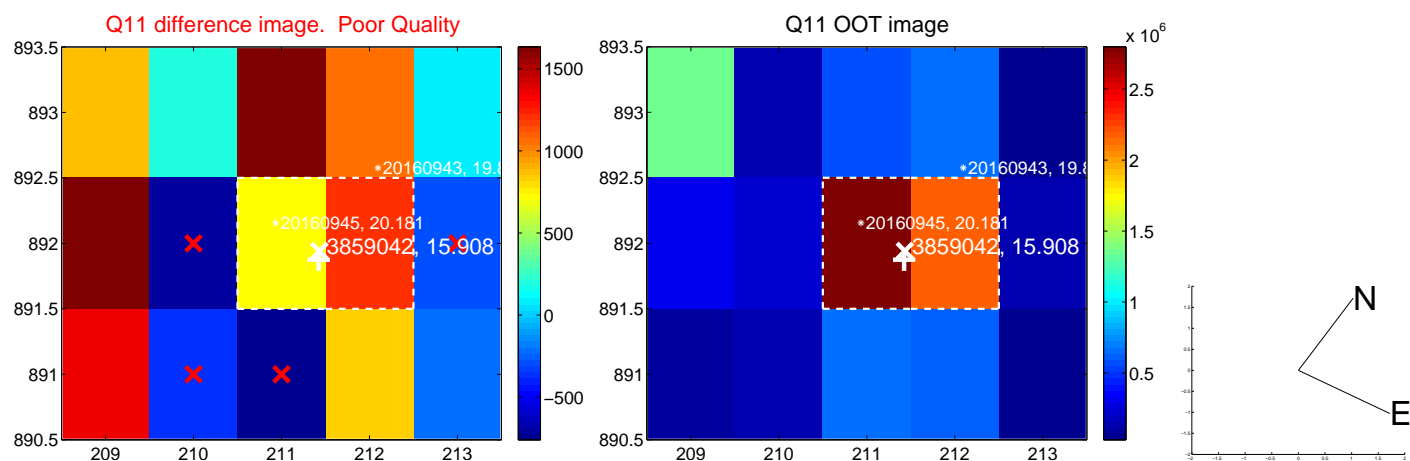
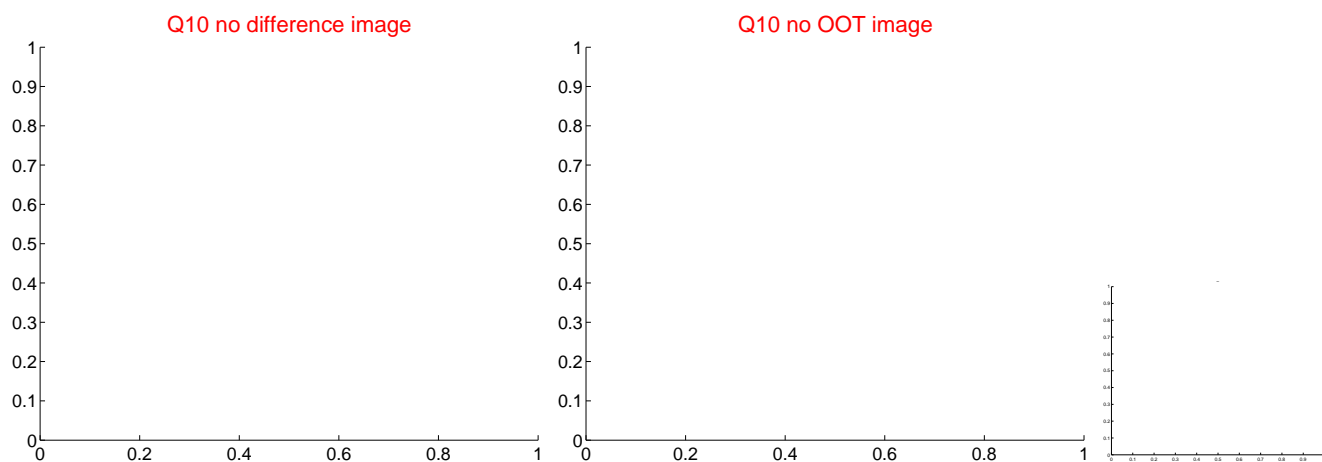
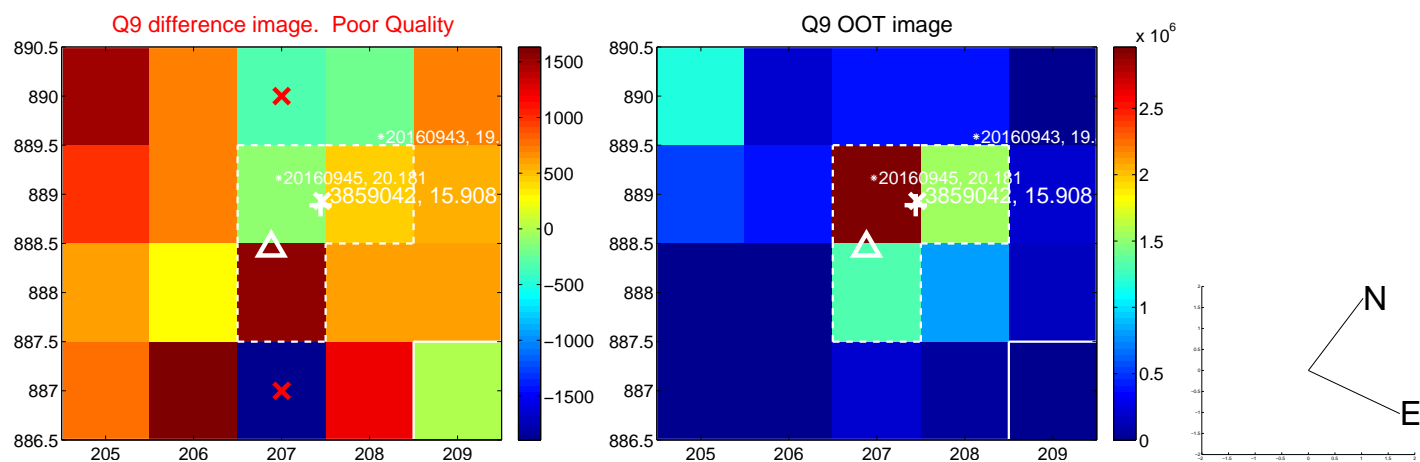
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



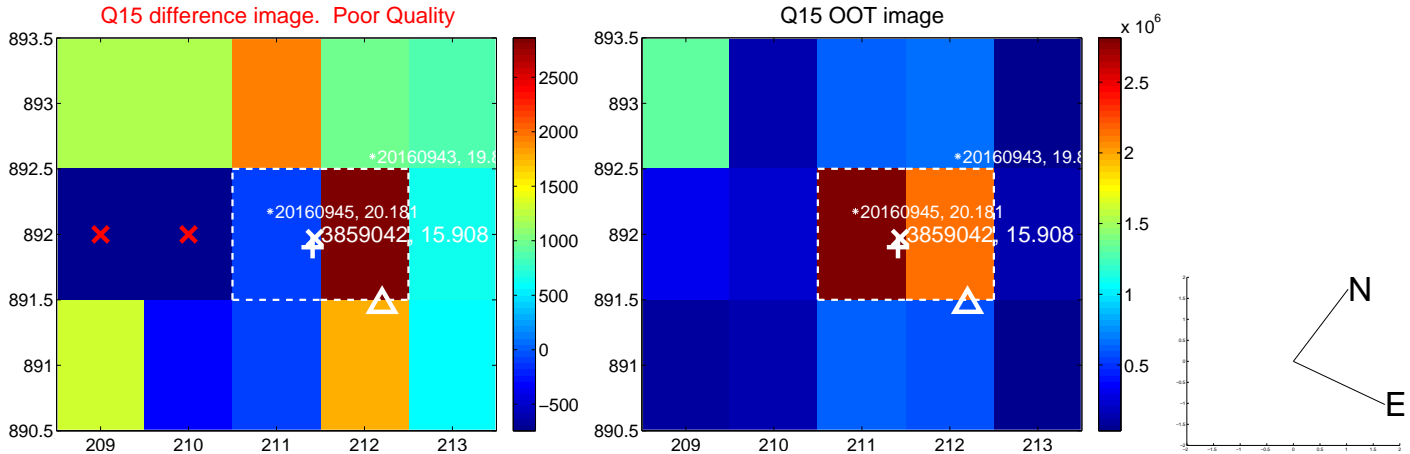
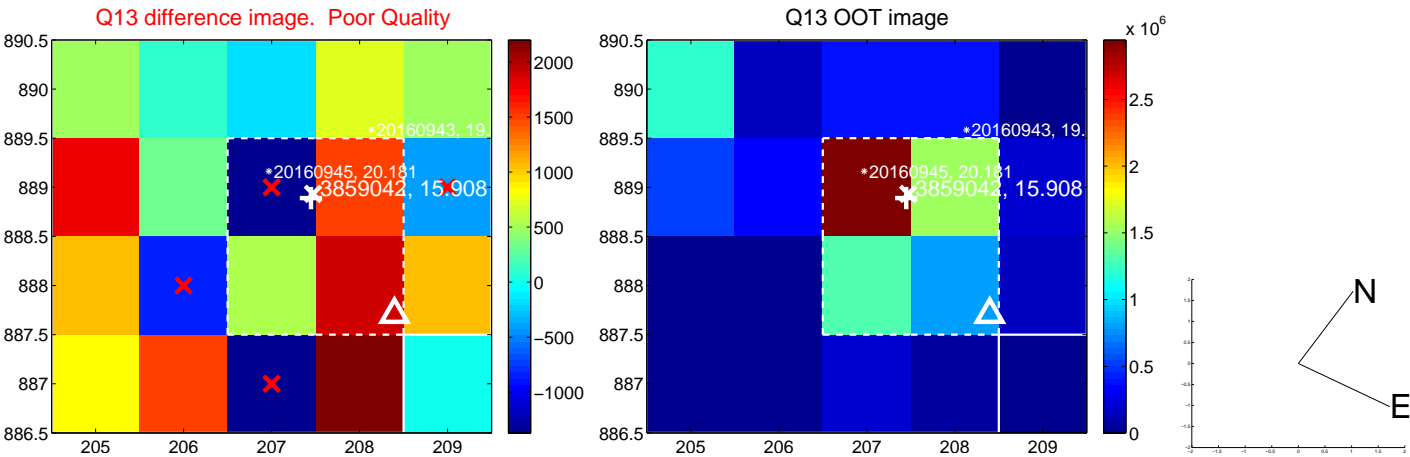
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



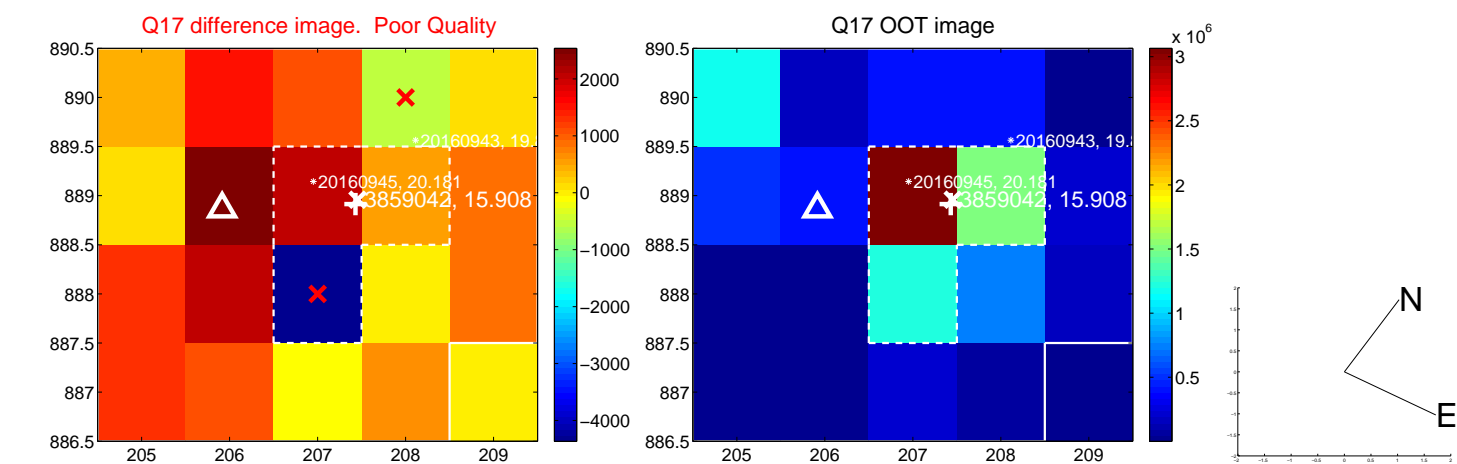
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



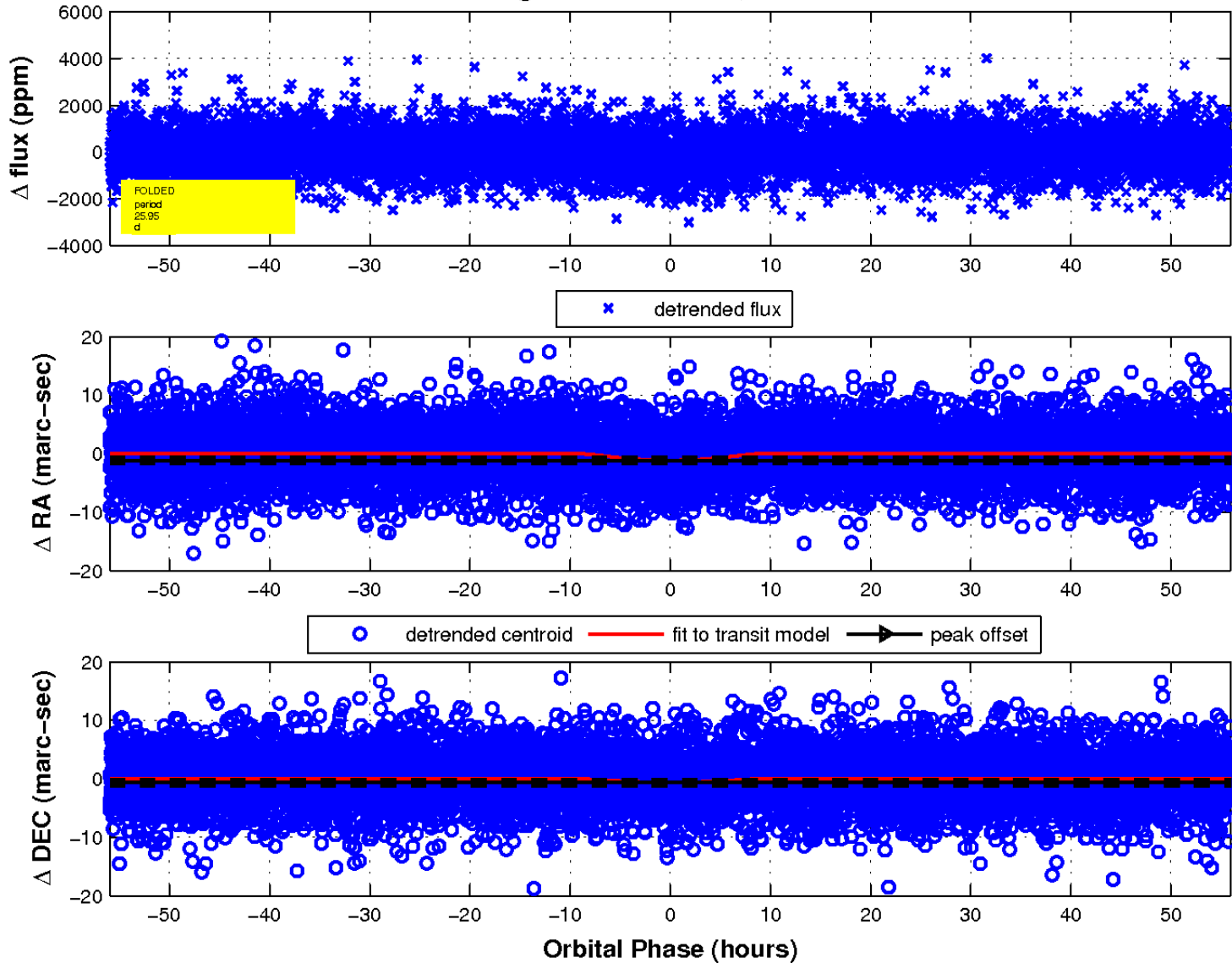
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

