

KIC 009085563

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})
009085563-01	OBS	3393.01	54.649351	176.046743	407.1	8.176	12.1	12.3	1.28	5751	2.85	19.91

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009085563-01	OBS	PC	0.97	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.

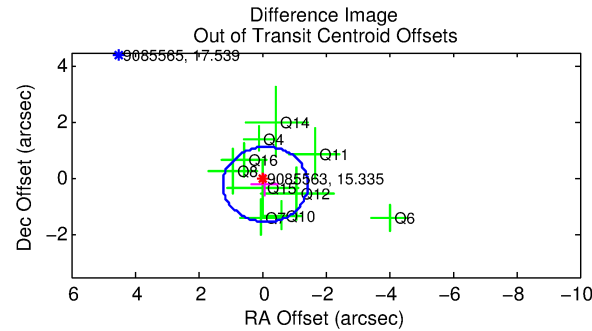
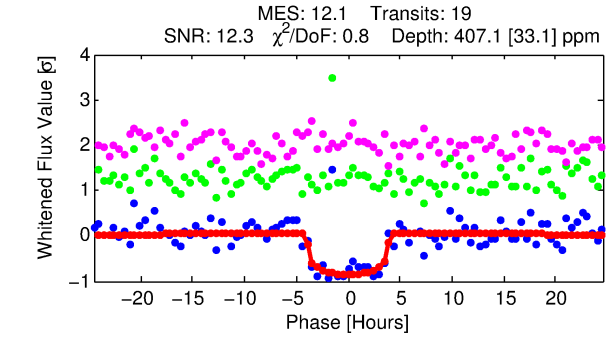
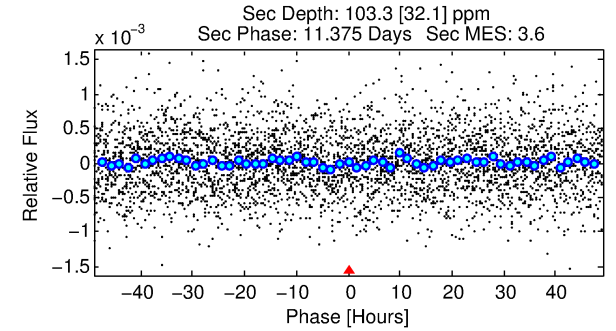
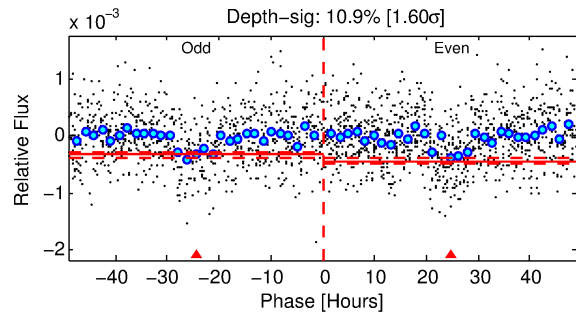
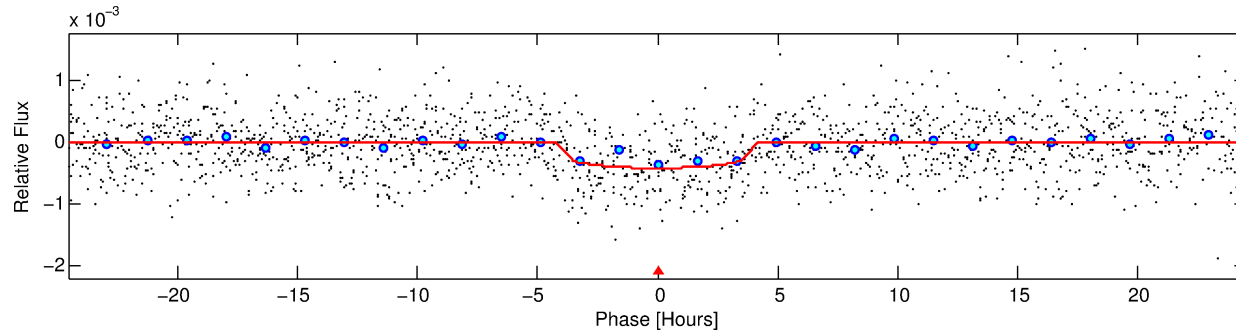
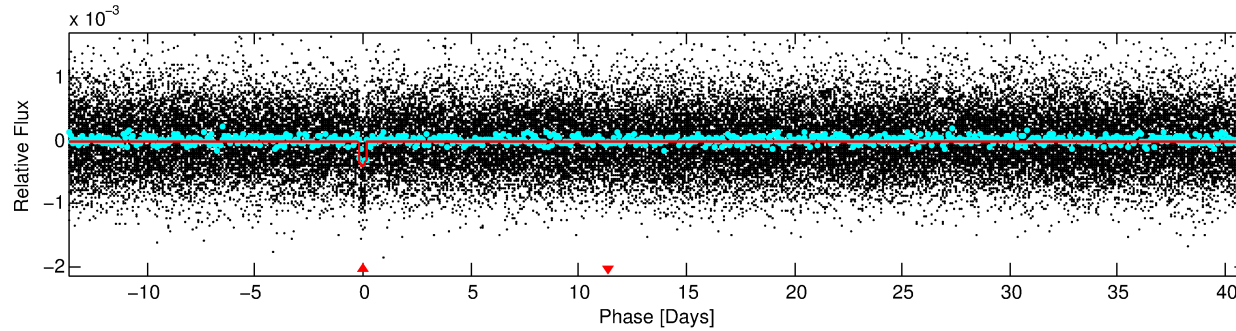
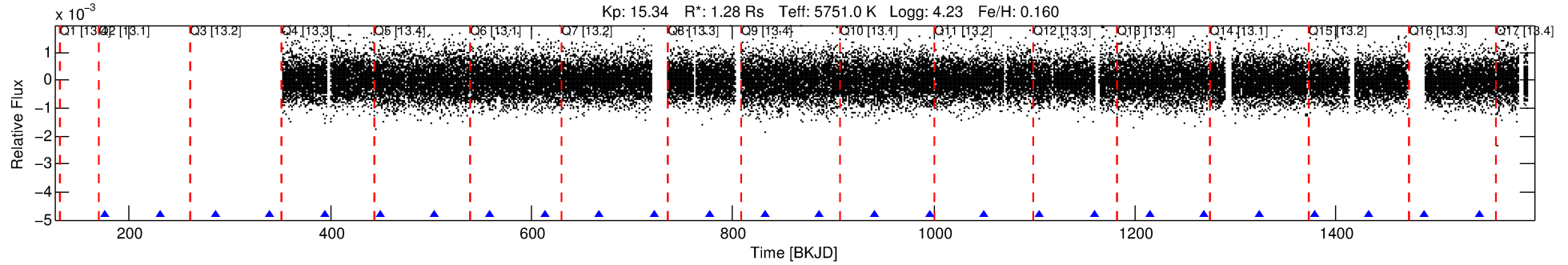
Ephemeris Match Information For 009085563-01

No Significant Match Found

DV One-Page Summary

KIC: 9085563 Candidate: 1 of 1 Period: 54.649 d

KOI: K03393.01 Corr: 0.959



DV Fit Results:

Period = 54.64935 [0.00097] d
Epoch = 176.0467 [0.0155] BKJD
Rp/R* = 0.0204 [0.0081]
a/R* = 33.39 [57.62]
b = 0.78 [0.86]
Seff = 19.91 [5.18]
Teq = 539 [35] K
Rp = 2.85 [1.23] Re
a = 0.2845 [0.0455] AU
Ag = 565.91 [503.36] [1.12 σ]
Teffp = 4062 [867] K [4.06 σ]

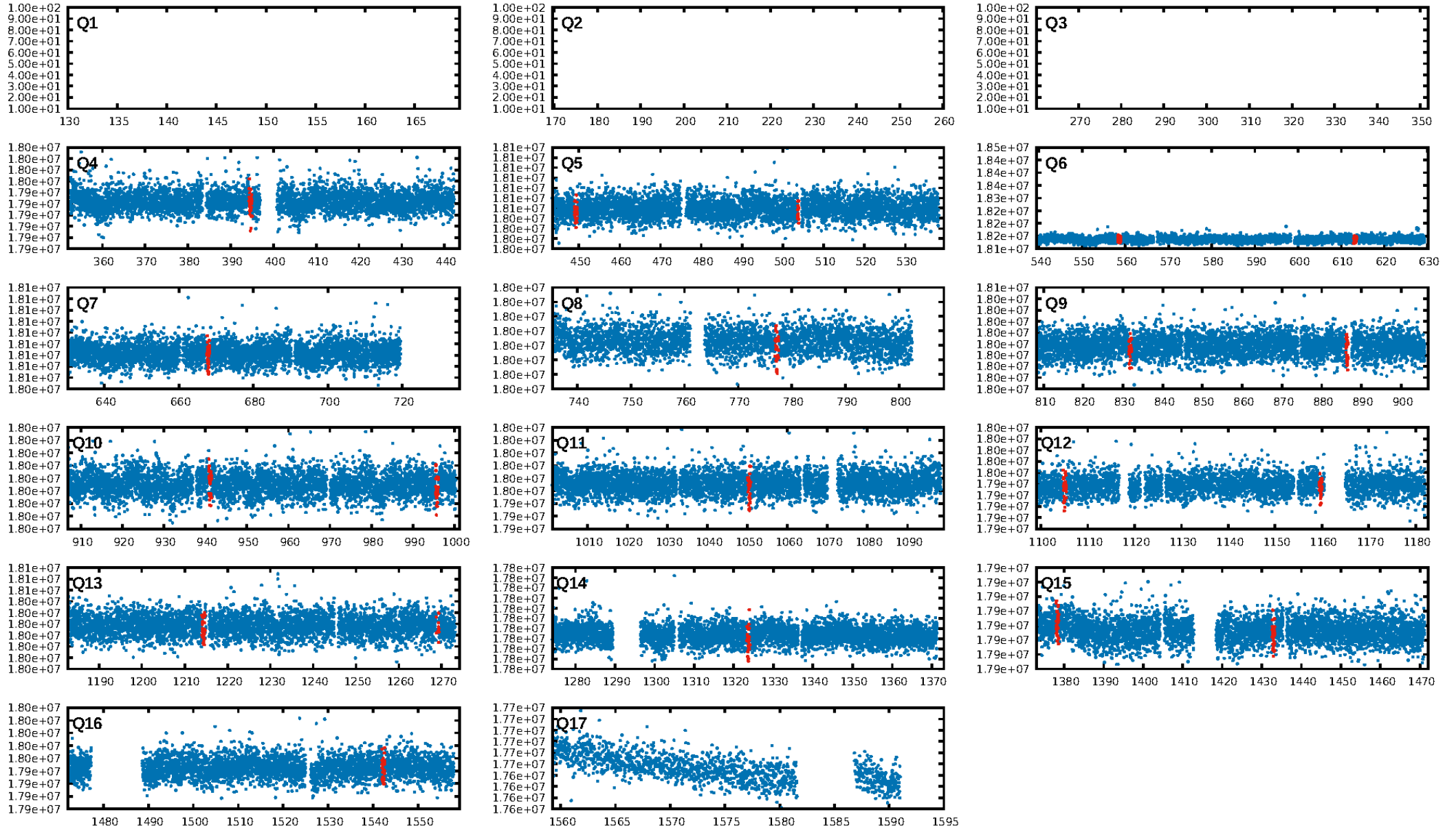
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 50.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.70e-32
RollingBand-fgt: 1.00 [19/19]
GhostDiagnostic-chr: -3.92
Centroid-sig: 9.4%
Centroid-so: 0.926 arcsec [0.81 σ]
OotOffset-rm: 0.230 arcsec [0.52 σ]
KicOffset-rm: 0.083 arcsec [0.20 σ]
OotOffset-st: 3/3/4/0 [10]
KicOffset-st: 3/3/4/0 [10]
DiffImageQuality-fgm: 0.70 [7/10]
DiffImageOverlap-fno: 1.00 [13/13]

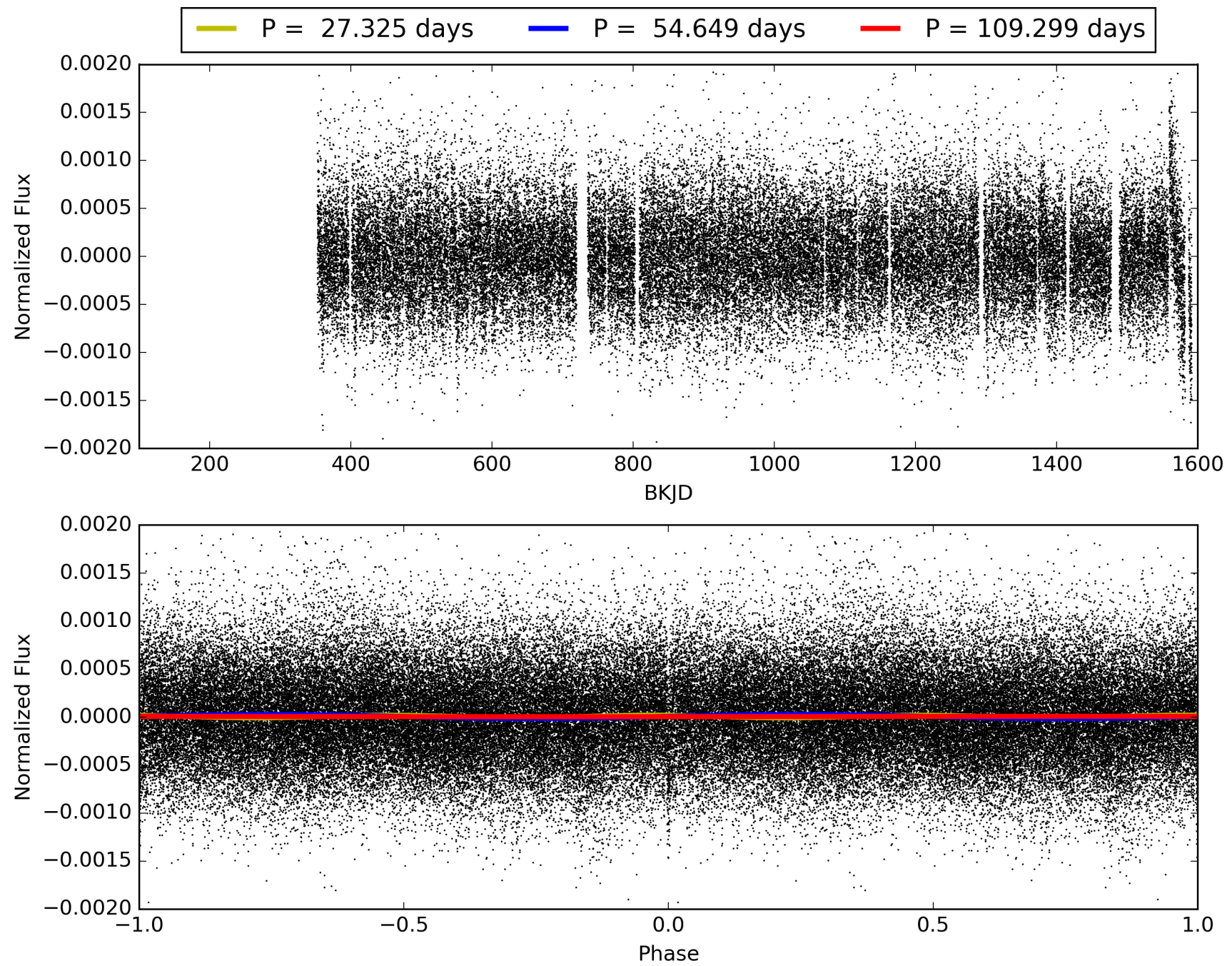
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:30:11 Z

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

TCE 009085563-01, PDC Light Curves

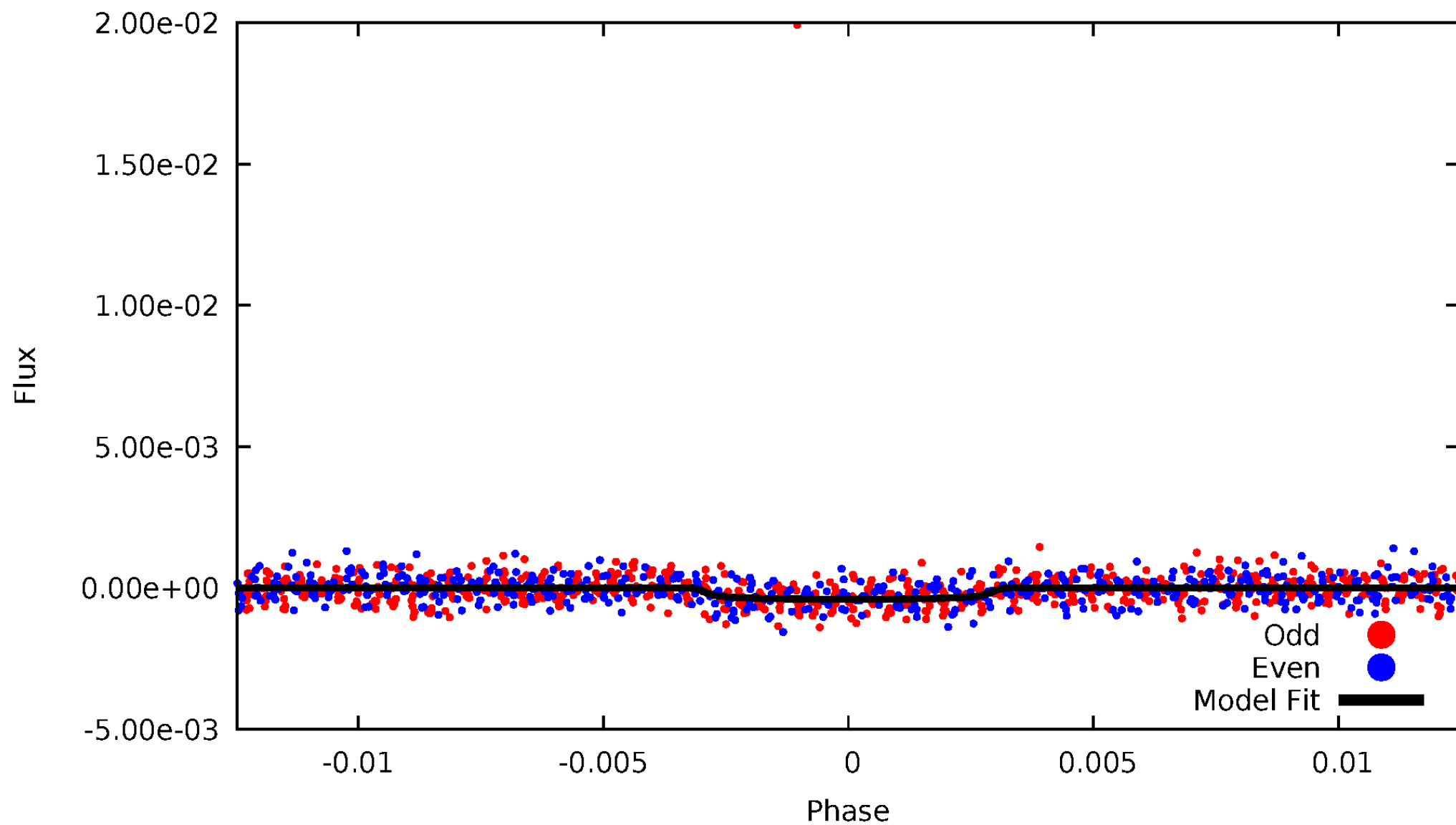


TCE 009085563-01



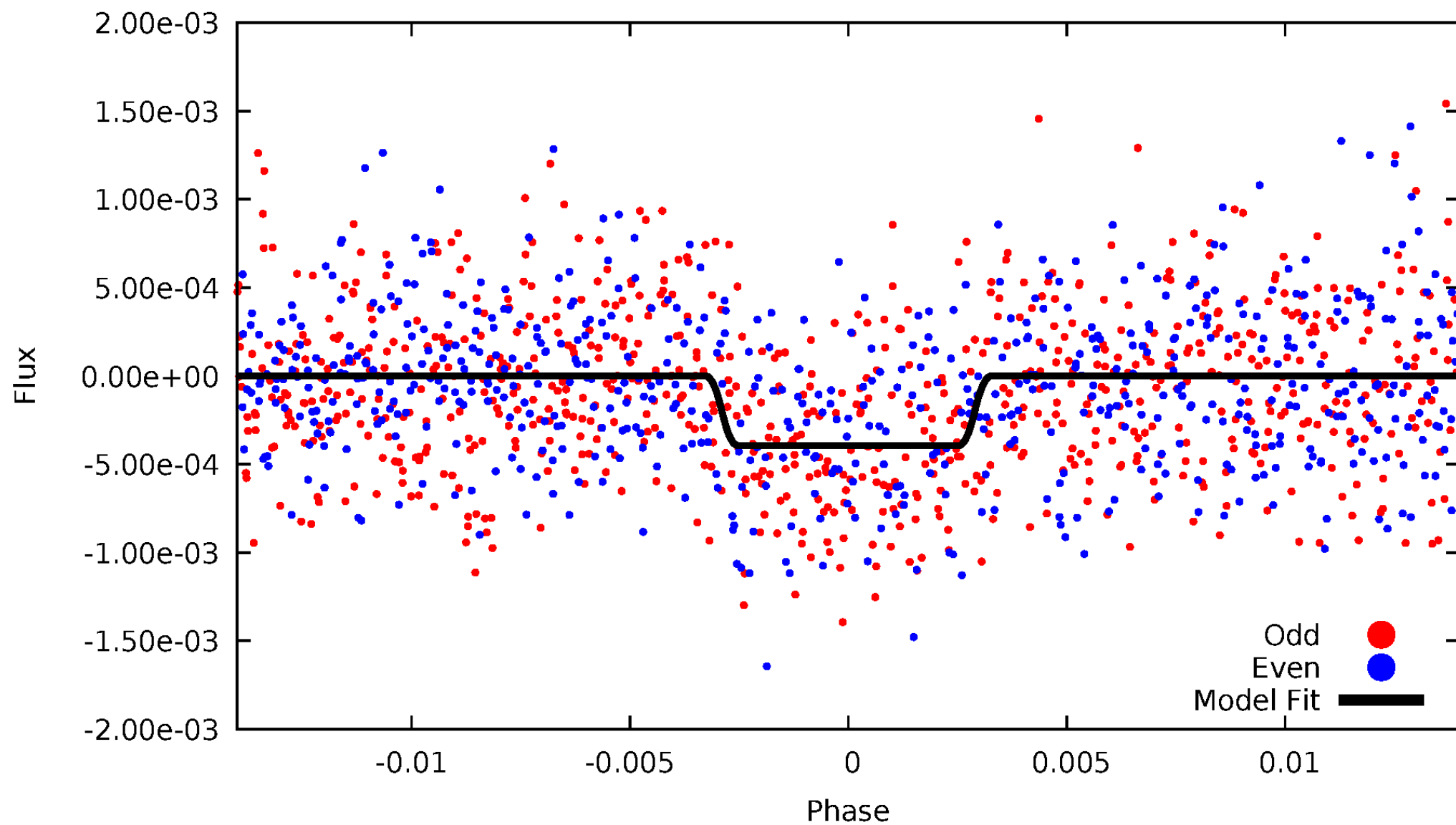
DV Odd/Even

TCE 009085563-01



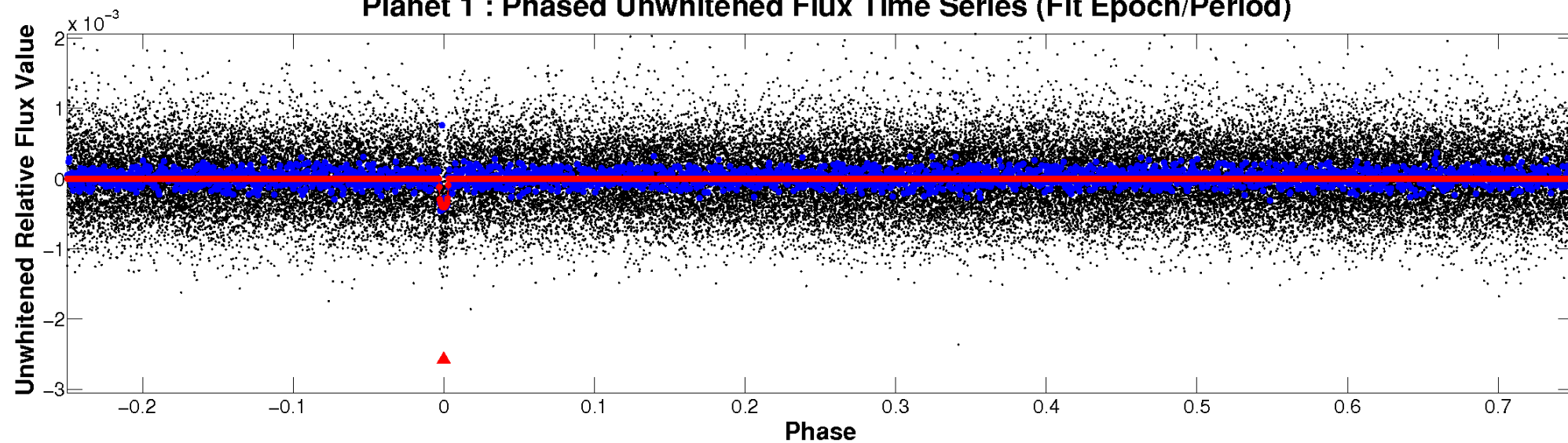
ALT Odd/Even

TCE 009085563-01

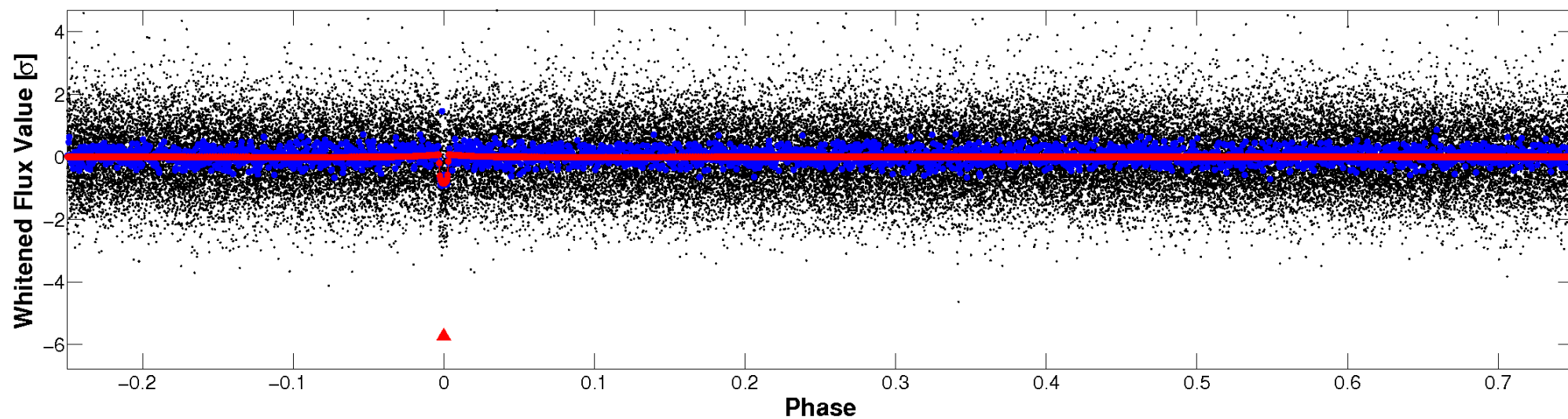


Non-Whitened Vs. Whitened Light Curve

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

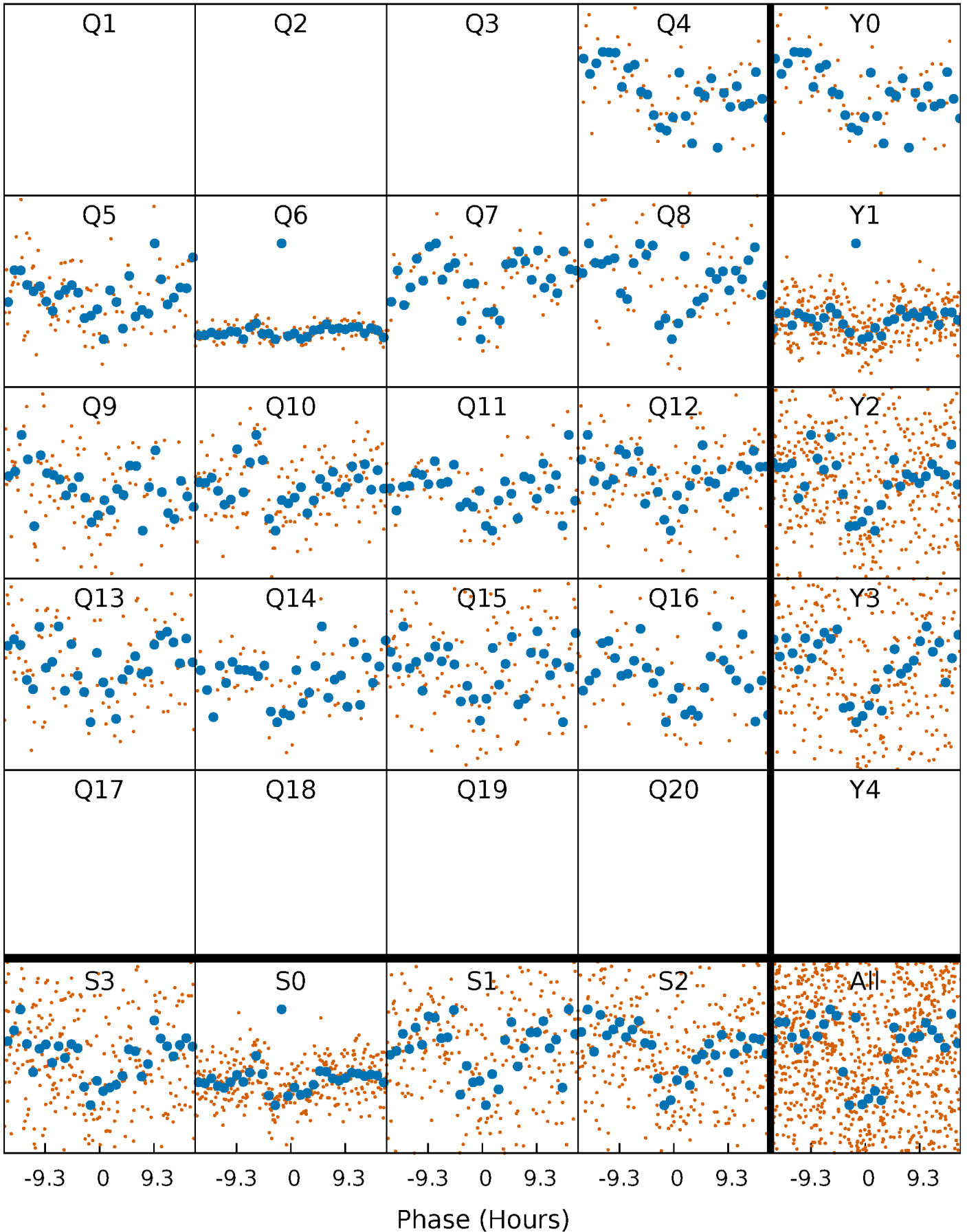


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



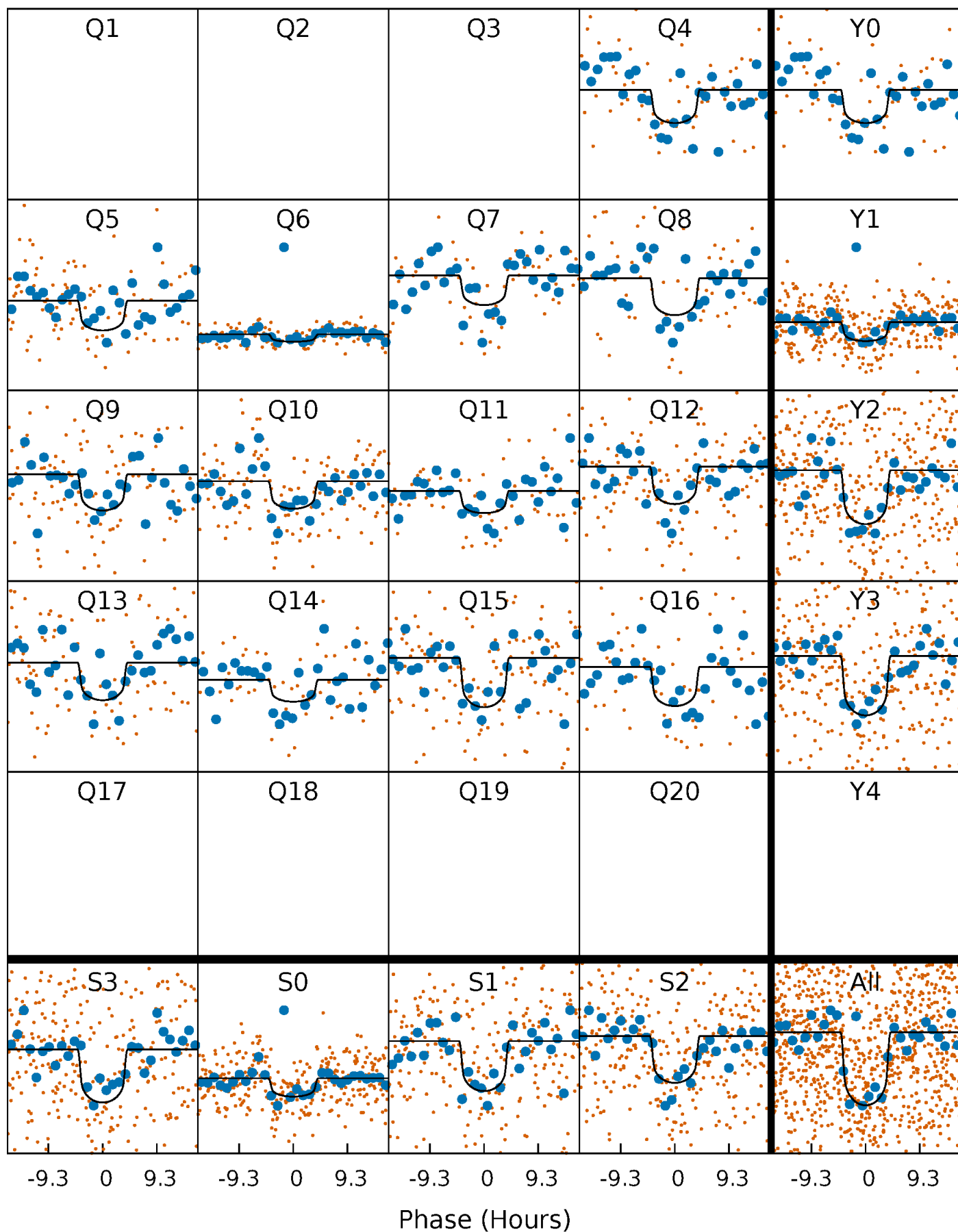
PDC Quarter-Phased Transit Curves

TCE 009085563-01 P= 54.649351 Days $T_0=176.046743$ (BKJD)



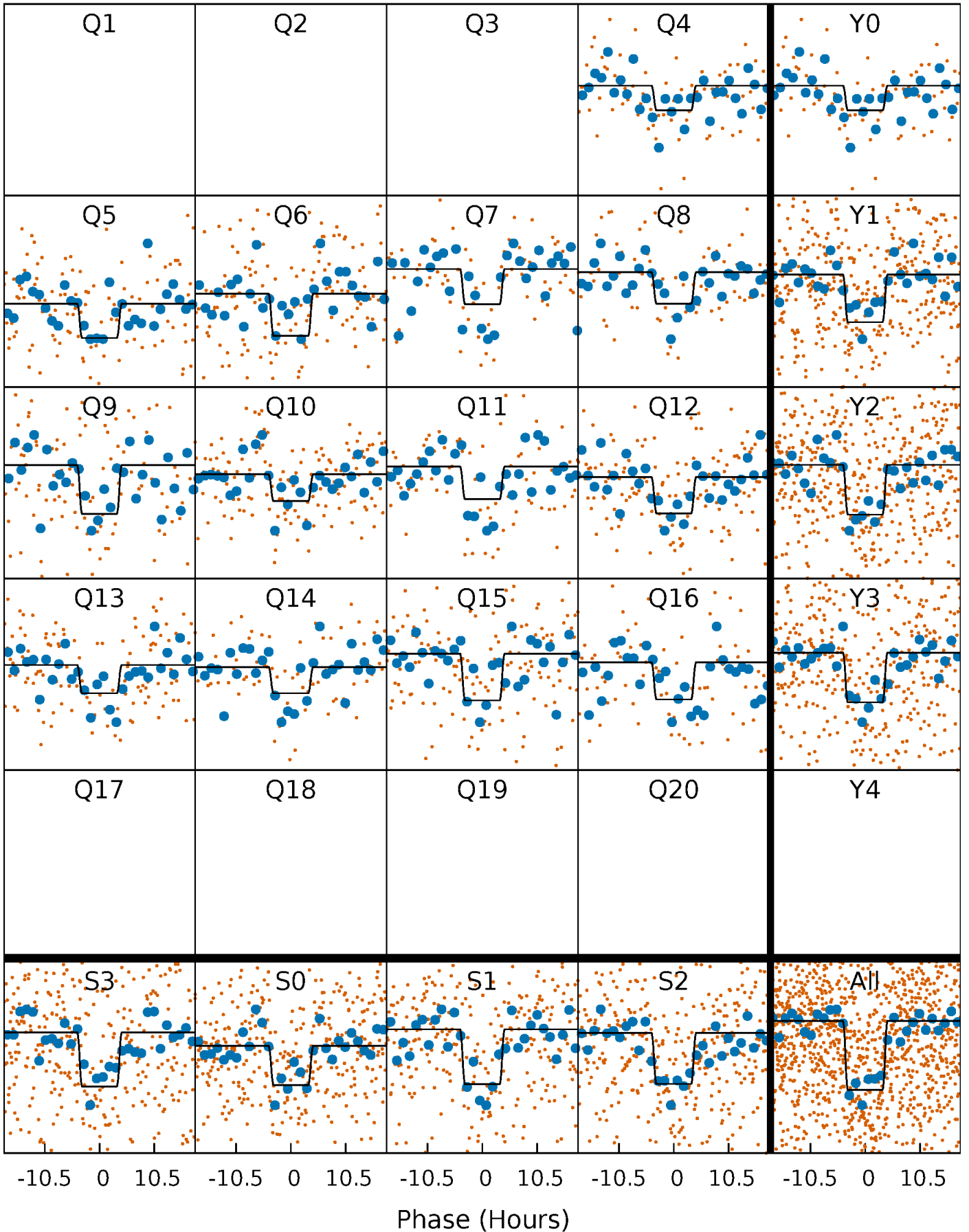
DV Quarter-Phased Transit Curves

TCE 009085563-01 P= 54.649351 Days $T_0=176.046743$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

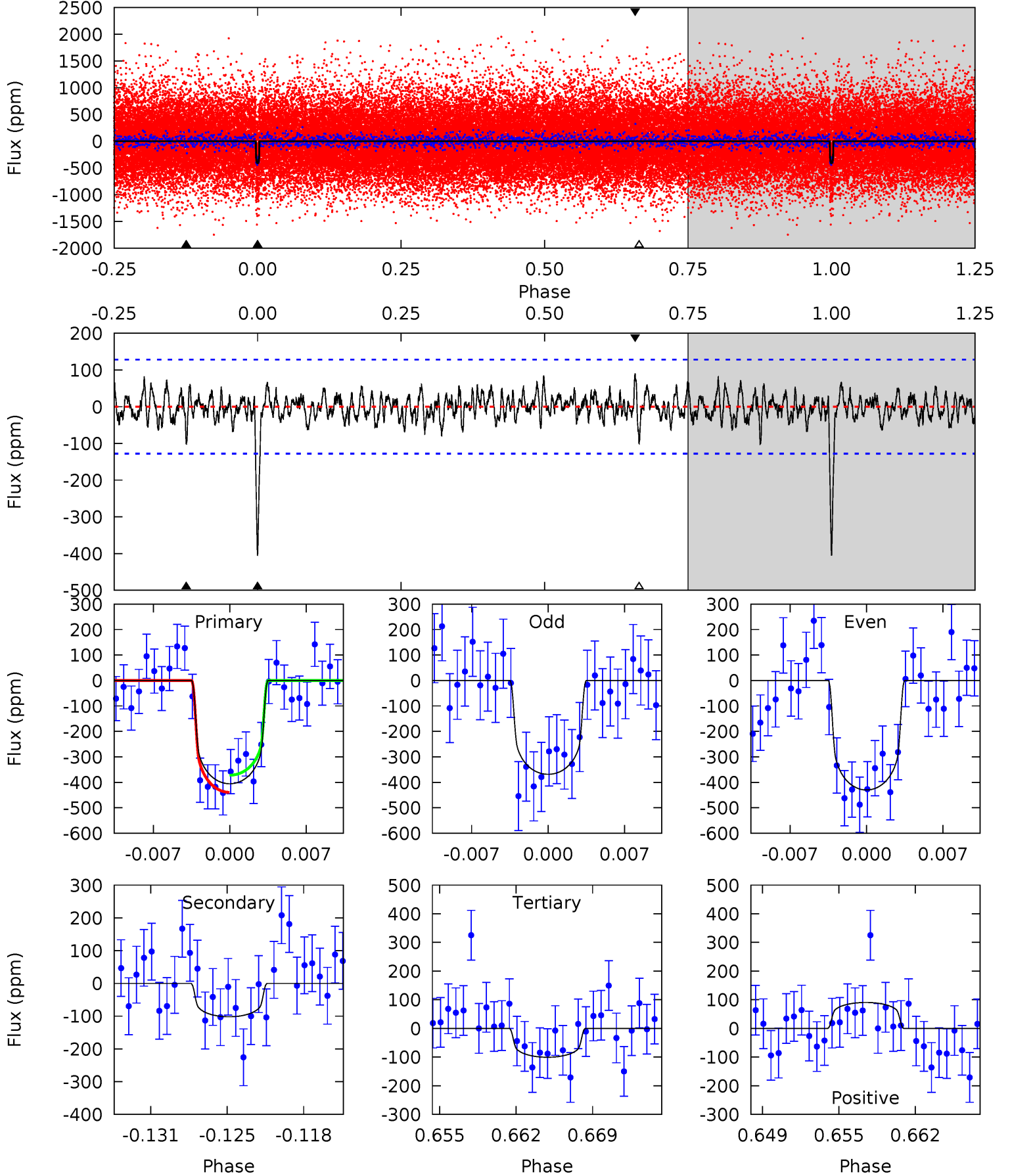
TCE 009085563-01 P= 54.646156 Days $T_0=176.089002$ (BKJD)



DV Model-Shift Uniqueness Test

009085563-01, P = 54.649351 Days, E = 176.046743 Days

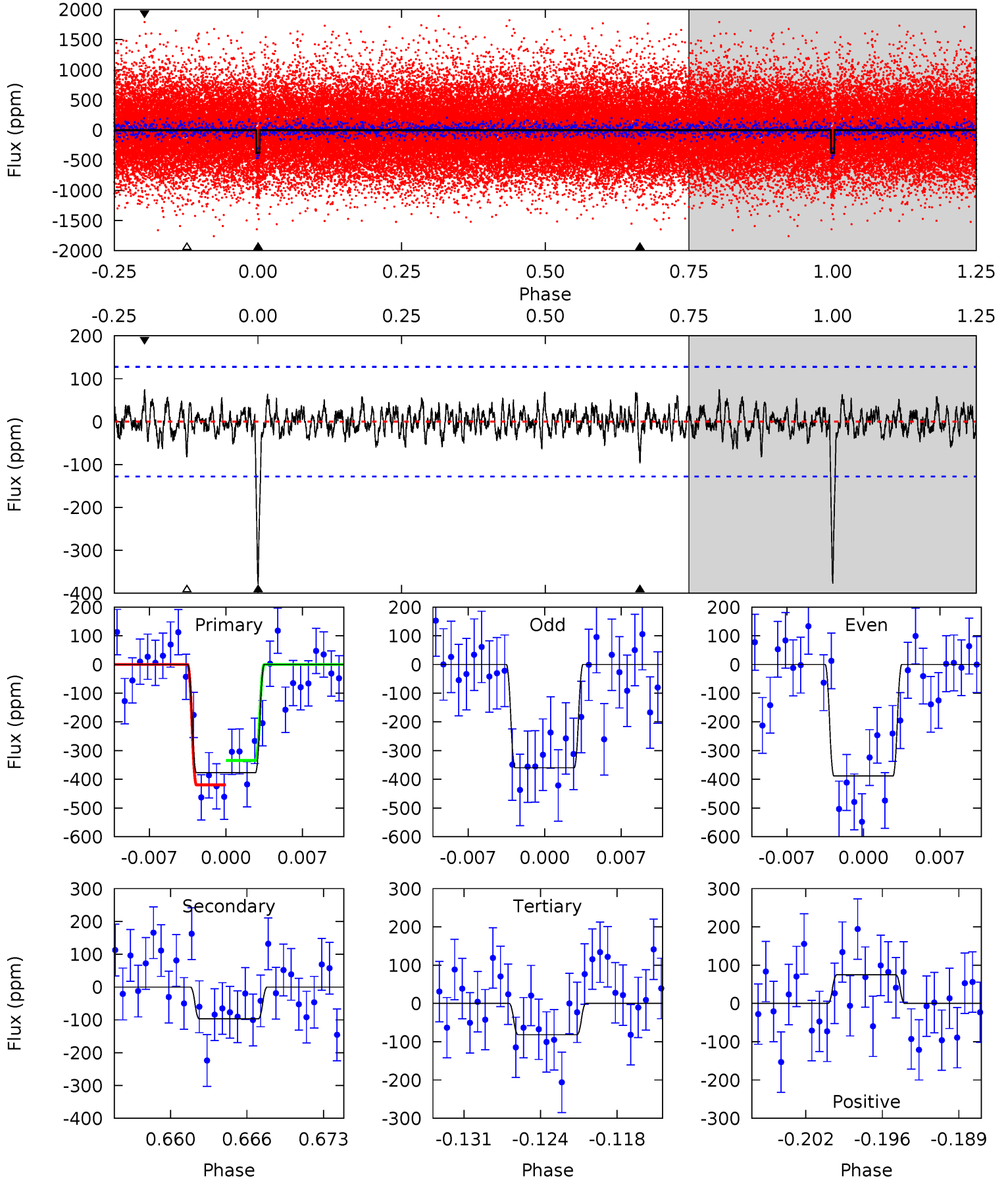
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.2	4.07	4.01	3.61	5.11	2.72	1.13	12.2	12.6	0.05	0.46	1.21	0.73	0.18	1.36



Alt Model-Shift Uniqueness Test

009085563-01, P = 54.646156 Days, E = 176.089002 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	3.88	3.26	3.00	5.11	2.72	0.93	11.8	12.1	0.61	0.88	0.57	0.96	0.17	1.70



Stellar Parameters For KIC 009085563

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5751^{+78}_{-78}	$4.234^{+0.149}_{-0.108}$	$0.160^{+0.150}_{-0.150}$	$1.282^{+0.215}_{-0.215}$	$1.028^{+0.084}_{-0.063}$	$0.687^{+0.520}_{-0.214}$
	+1%/-1%	+4%/-3%	+94%/-94%	+17%/-17%	+8%/-6%	+76%/-31%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 009085563-01 / KOI 3393.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-102 ± 25	$2.87^{+1.12}_{-1.14}$	751^{+32}_{-39}	4230^{+986}_{-478}	531^{+1005}_{-267}
Alt.	-97 ± 25	$2.82^{+1.13}_{-1.12}$	751^{+33}_{-36}	4248^{+1003}_{-499}	536^{+1062}_{-275}

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

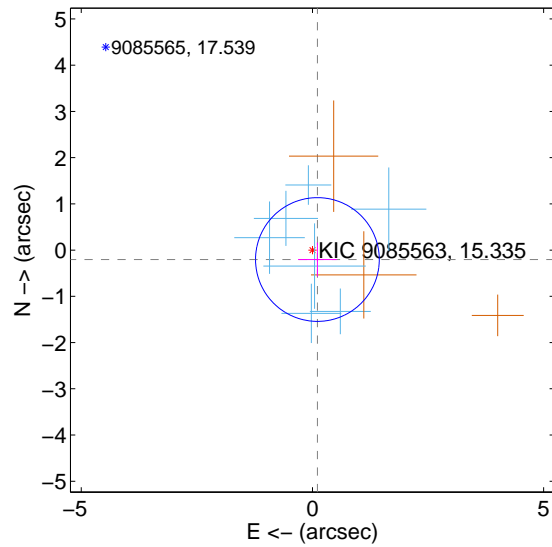
Supplemental centroid analysis for 009085563-01. Kepler magnitude: 15.34. Transit SNR 12.34

There are 7 quarters with good PRF difference image offsets

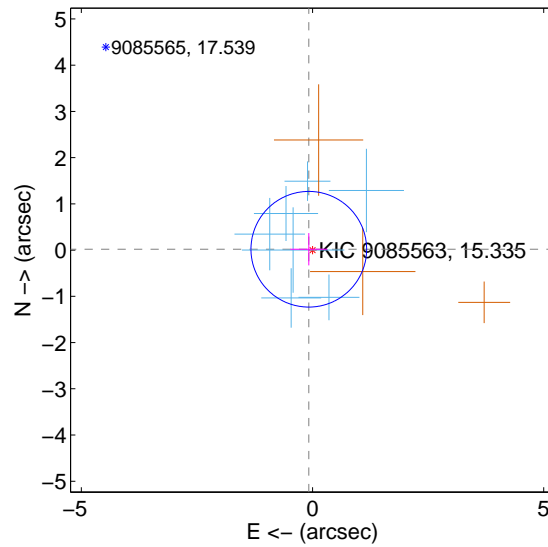
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.230 ± 0.446	0.52	-0.108 ± 0.419	-0.204 ± 0.368
PRF-fit source offset from KIC position	0.083 ± 0.417	0.20	0.081 ± 0.400	0.018 ± 0.349
photometric centroid source offset	0.93 ± 1.15	0.81	0.73 ± 1.10	-0.57 ± 1.22

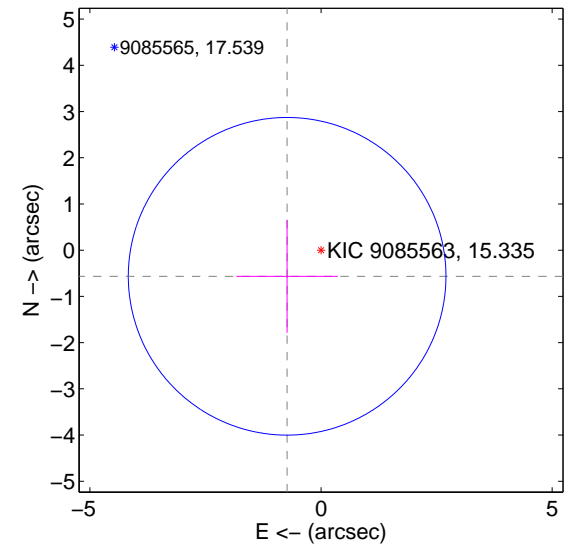
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

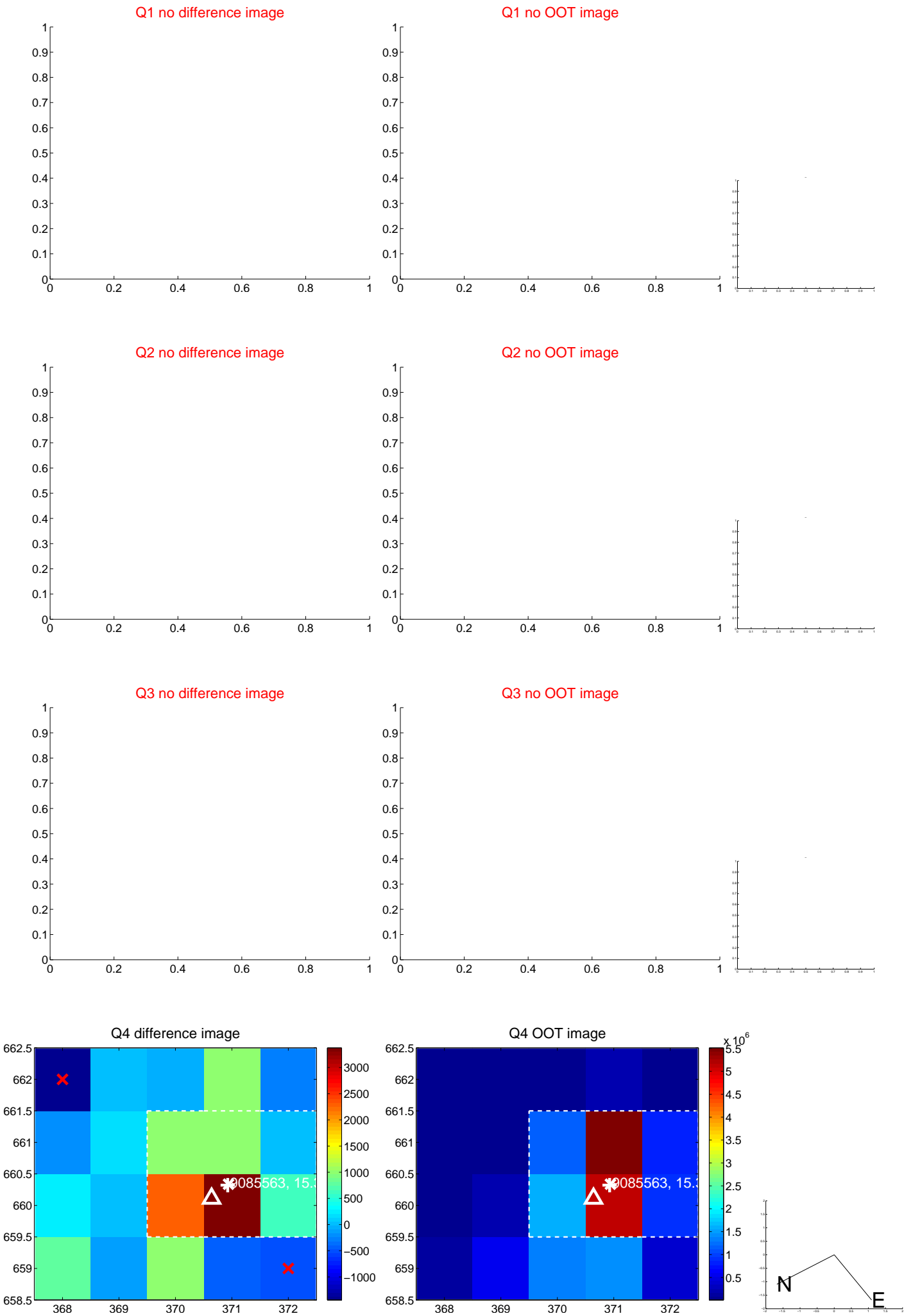


offset from photometric centroids

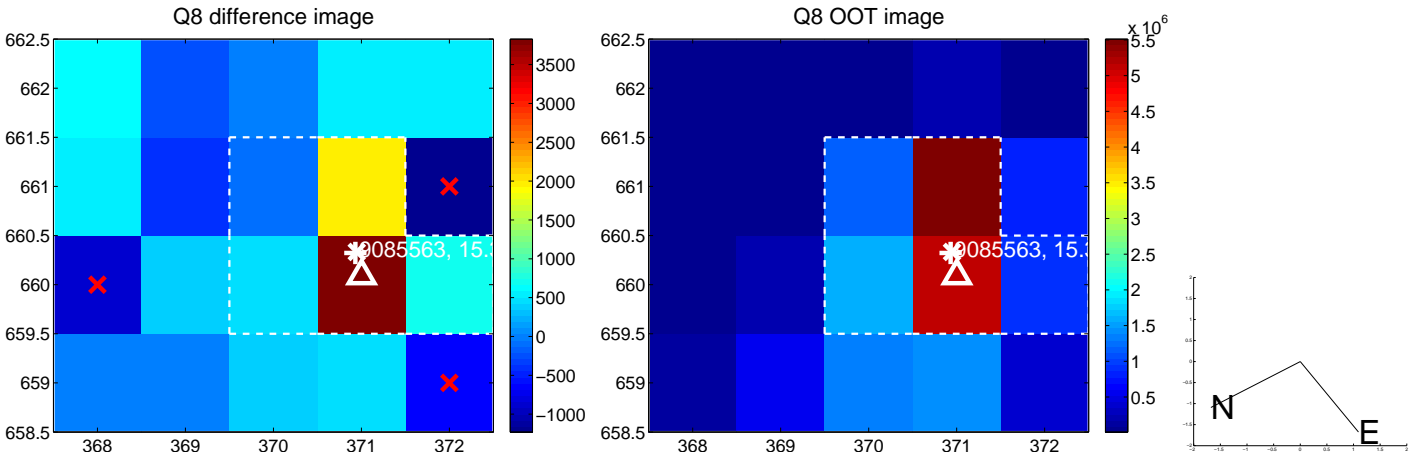
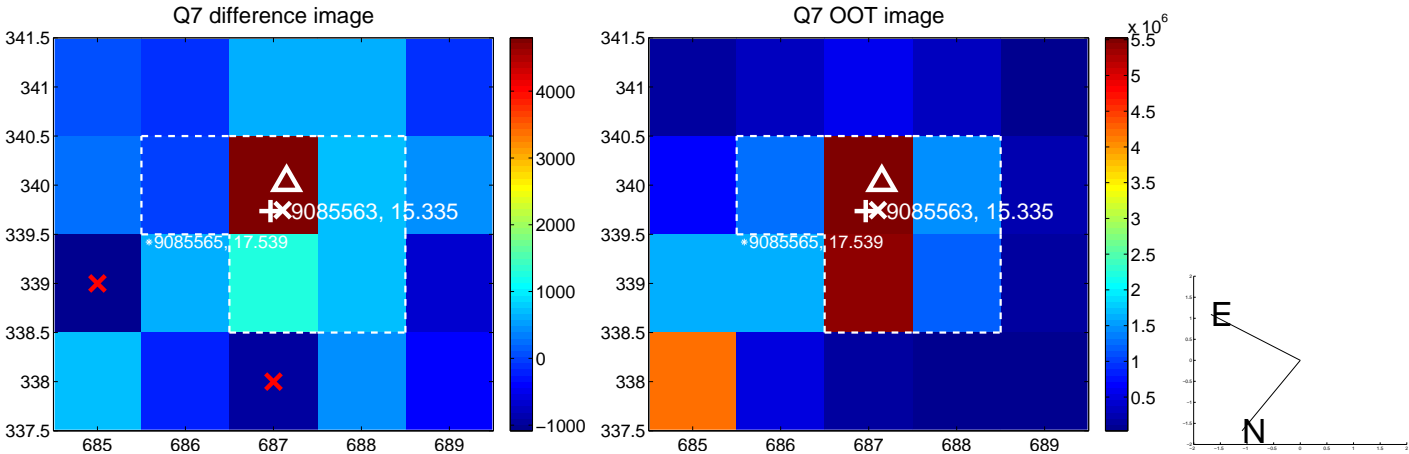
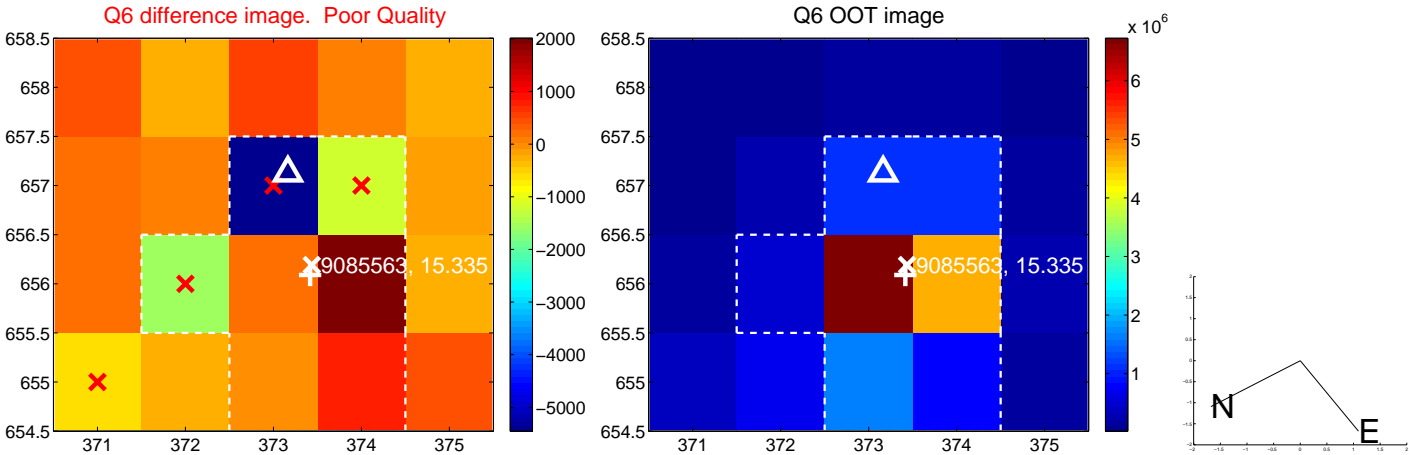
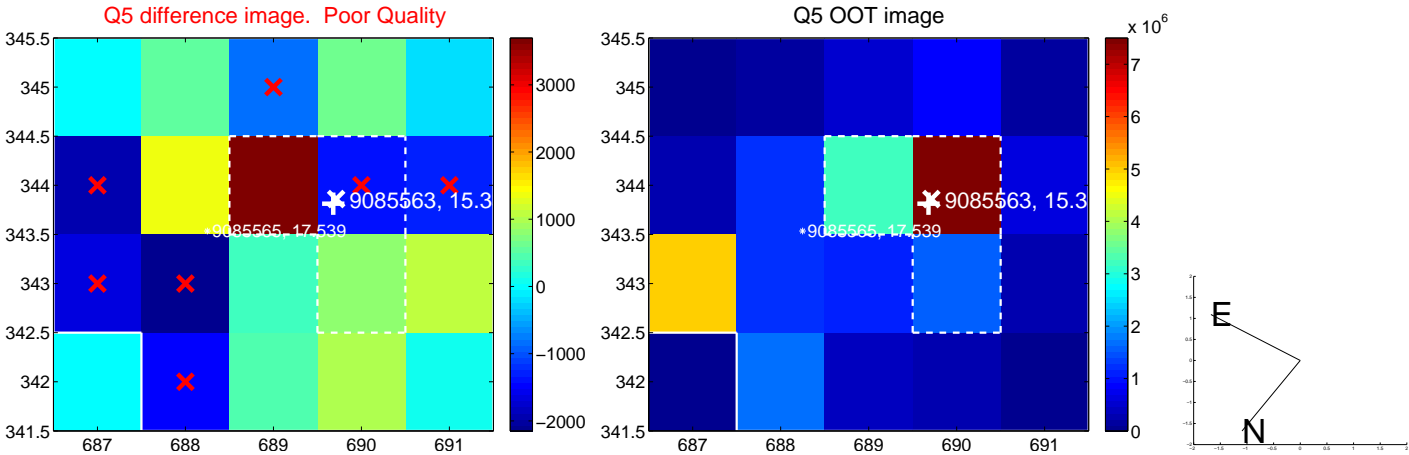


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

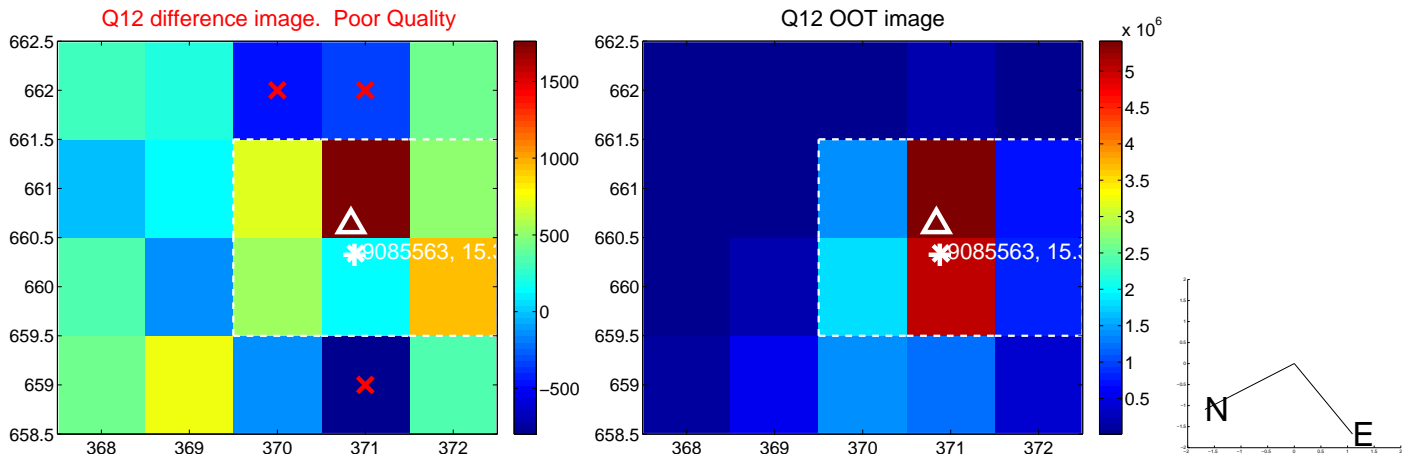
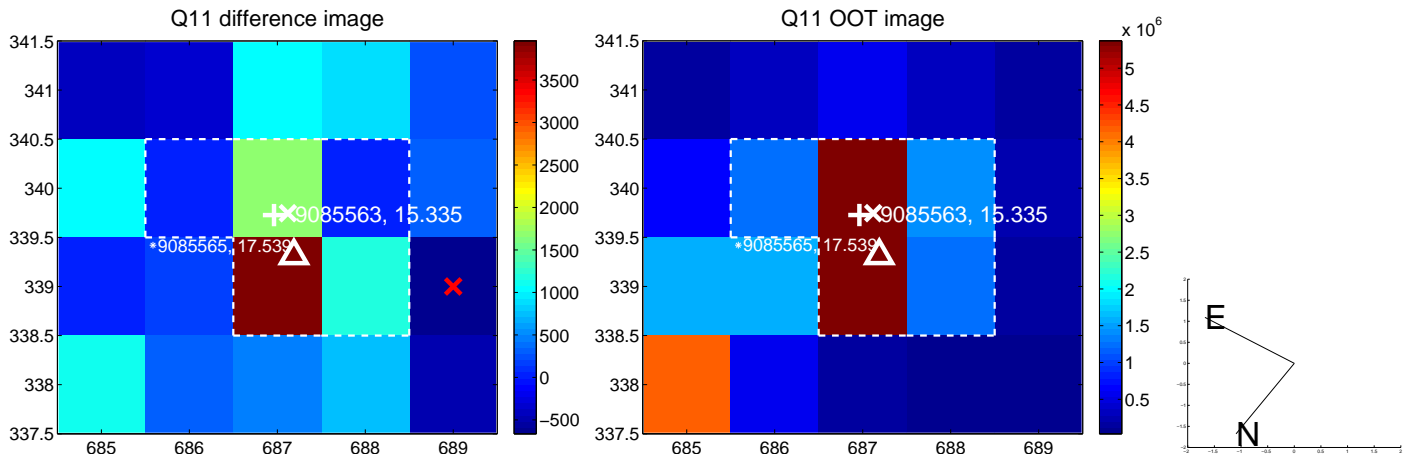
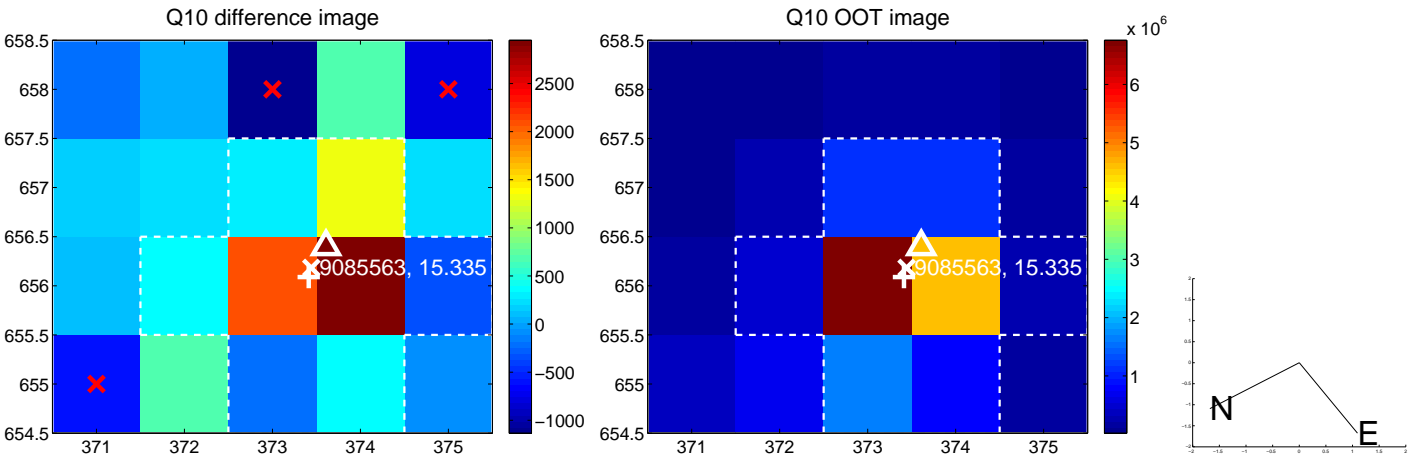
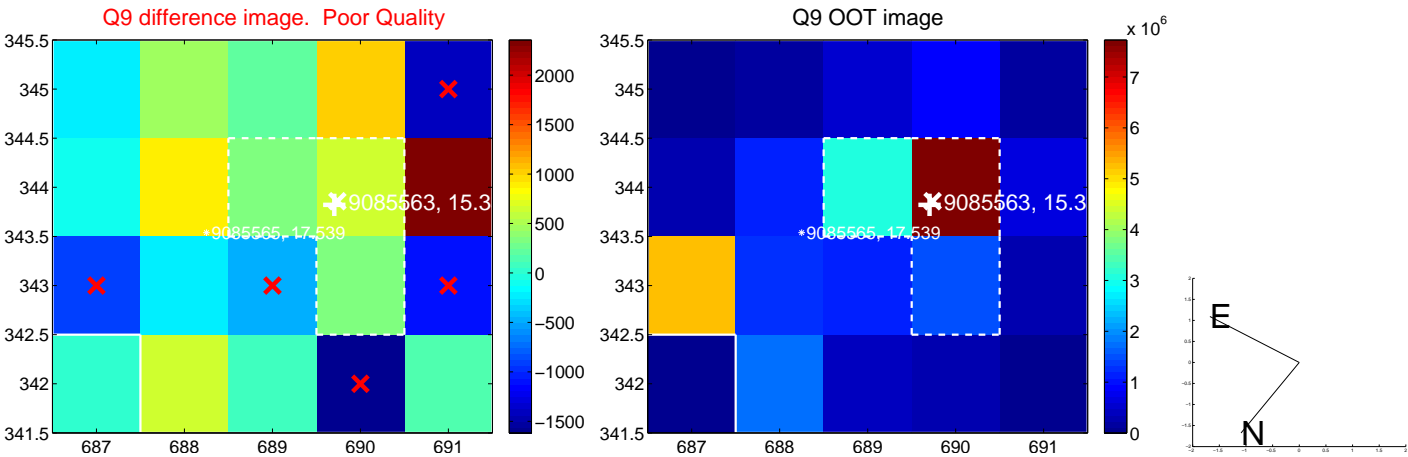
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



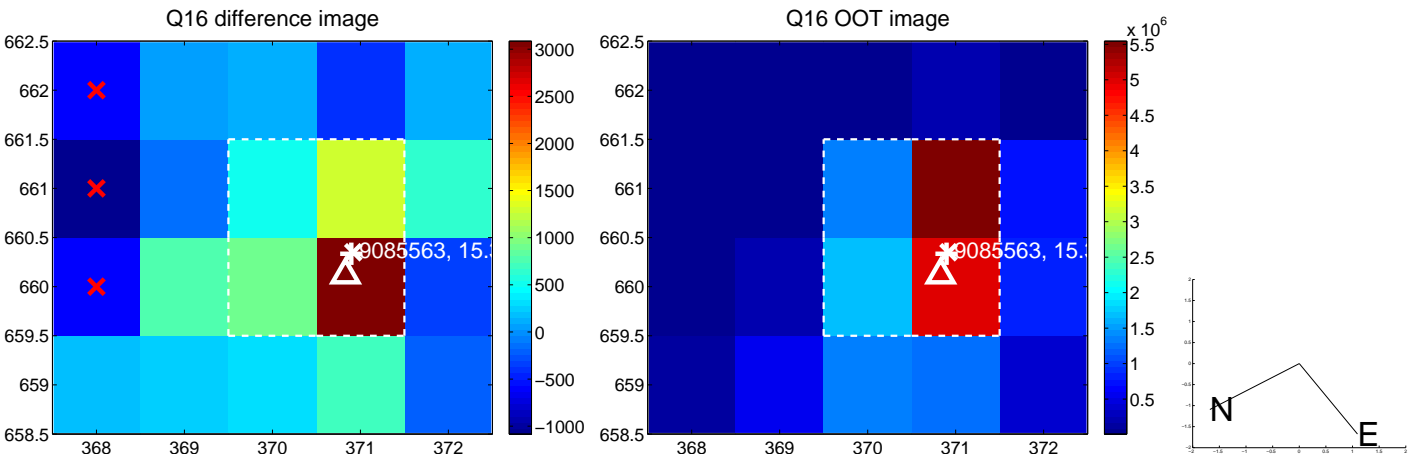
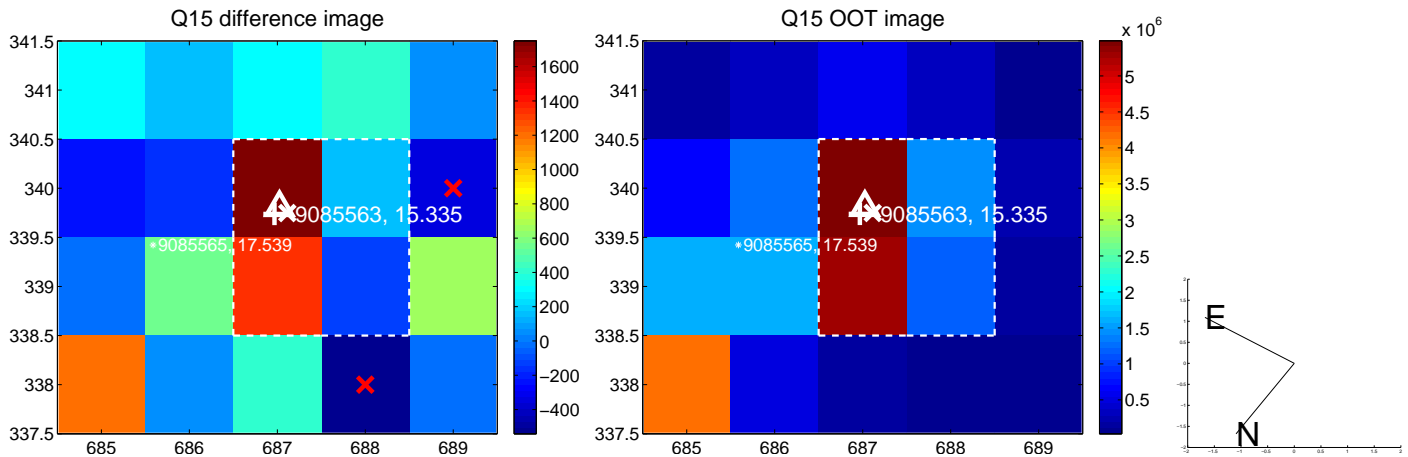
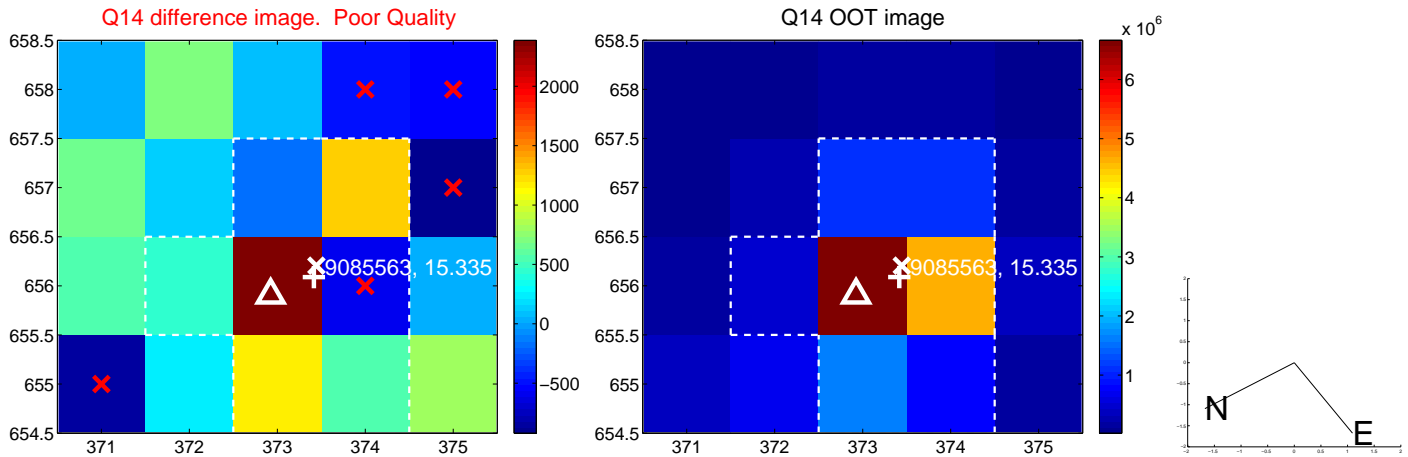
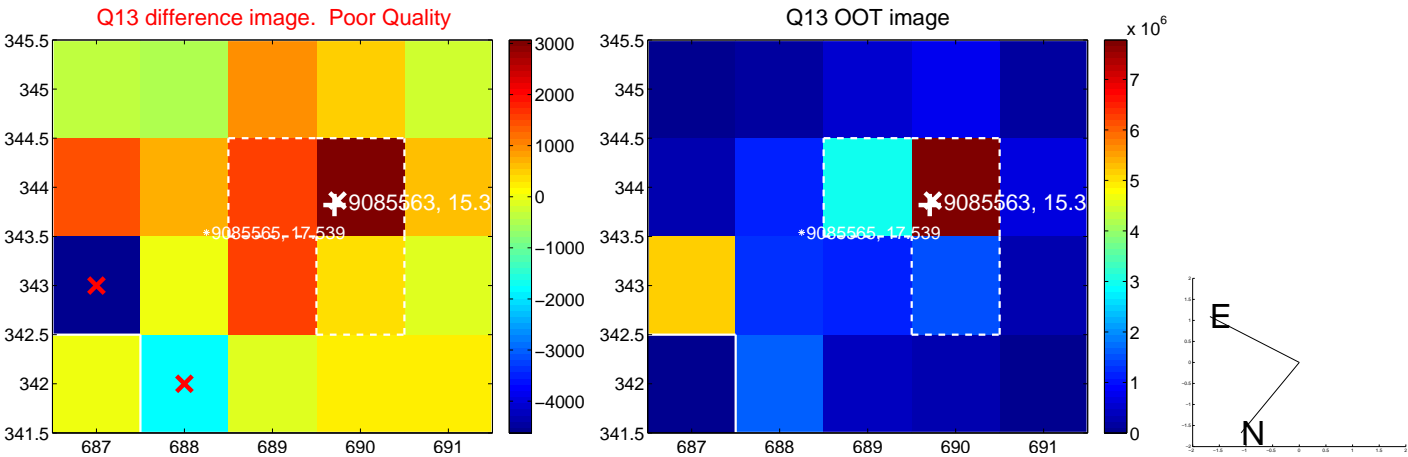
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



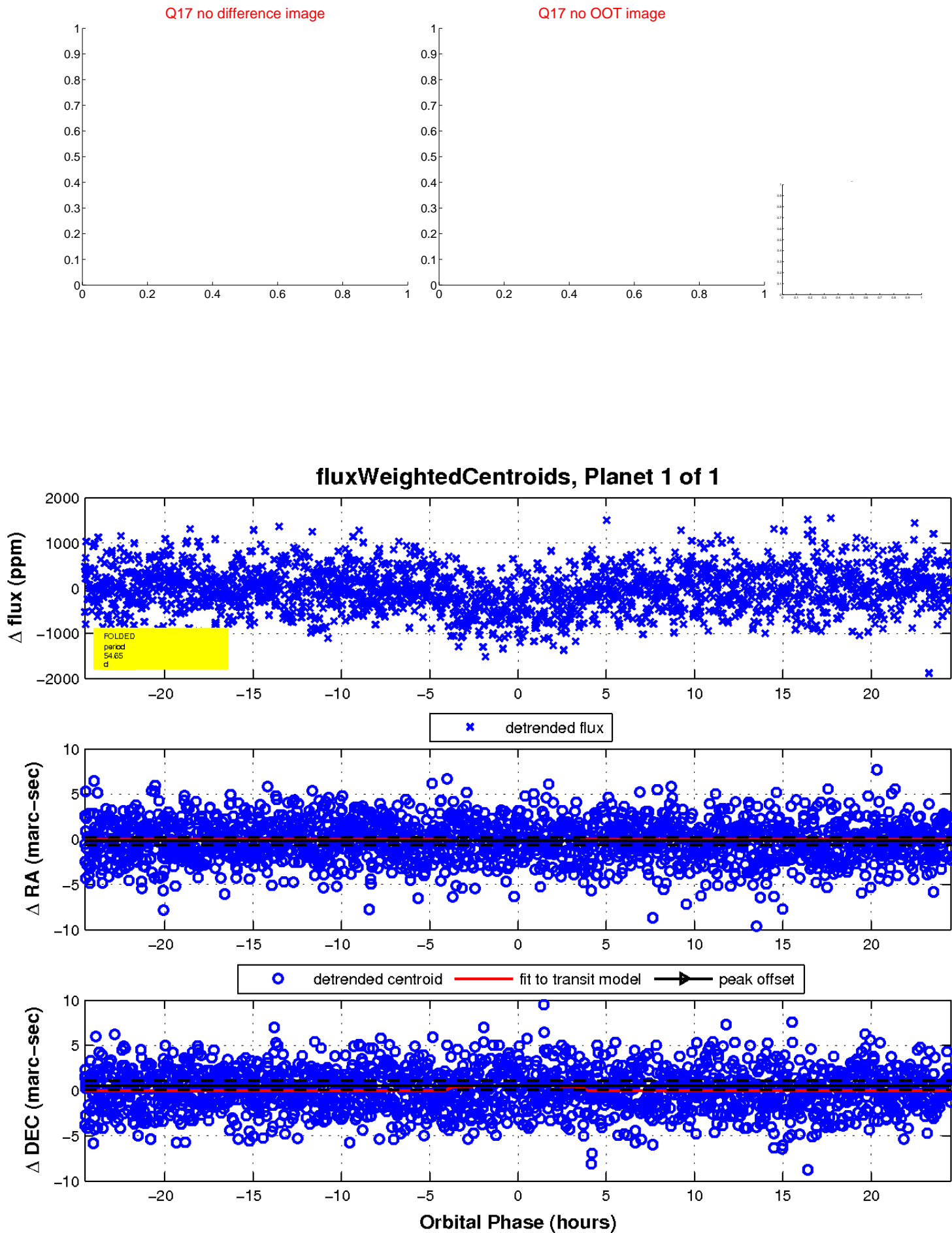
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

