

KIC 005458953

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})
005458953-01	OBS	No	3.511635	132.590551	32.3	27.737	7.9	11.0	1.26	6623	0.72	1117.49

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005458953-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_FEW_DIFFS—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.

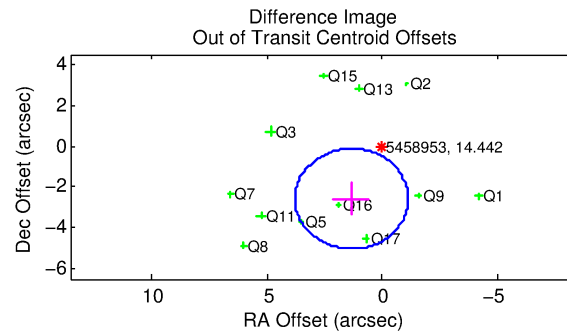
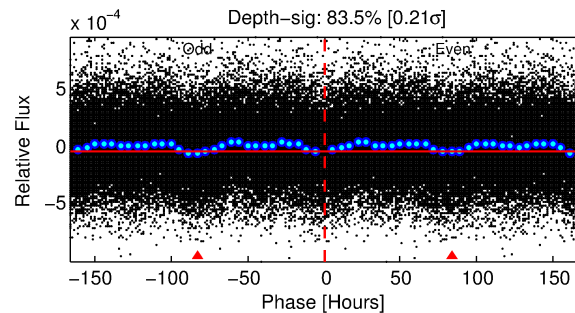
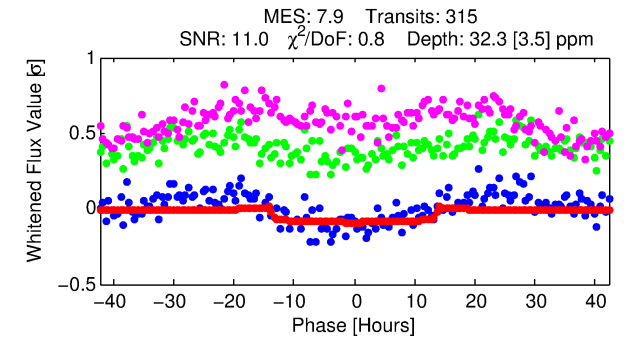
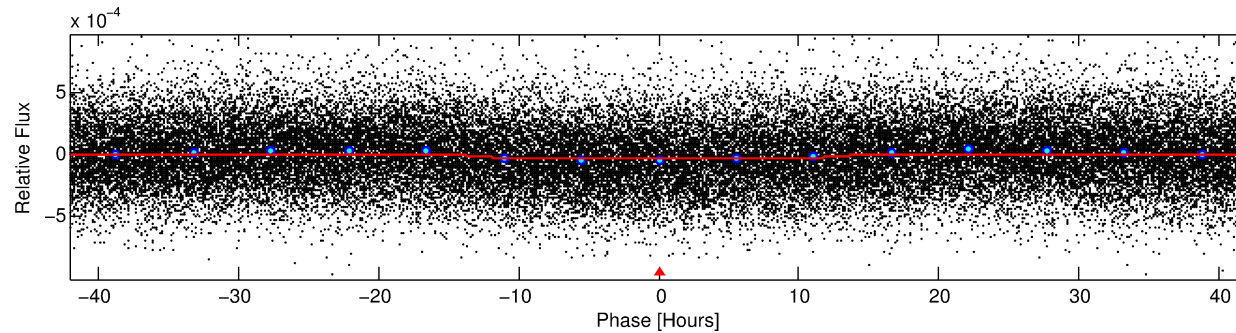
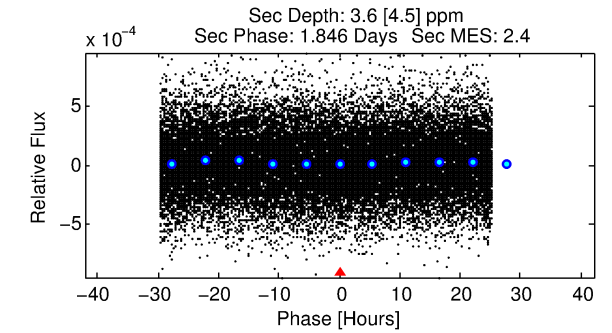
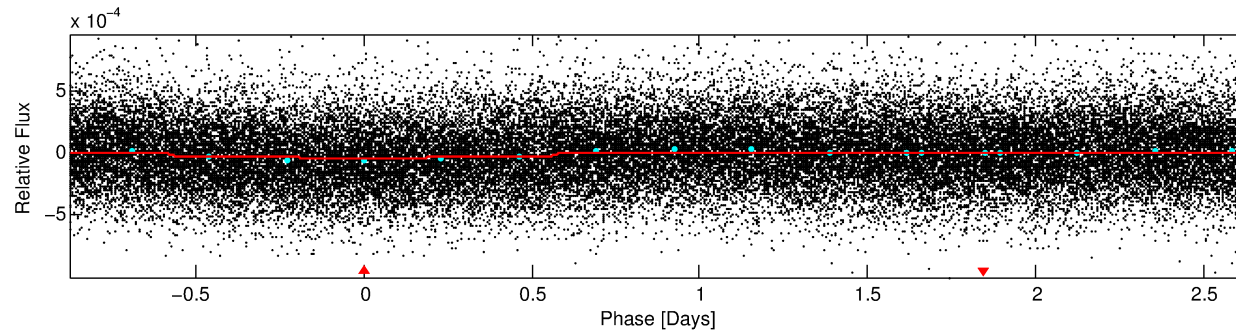
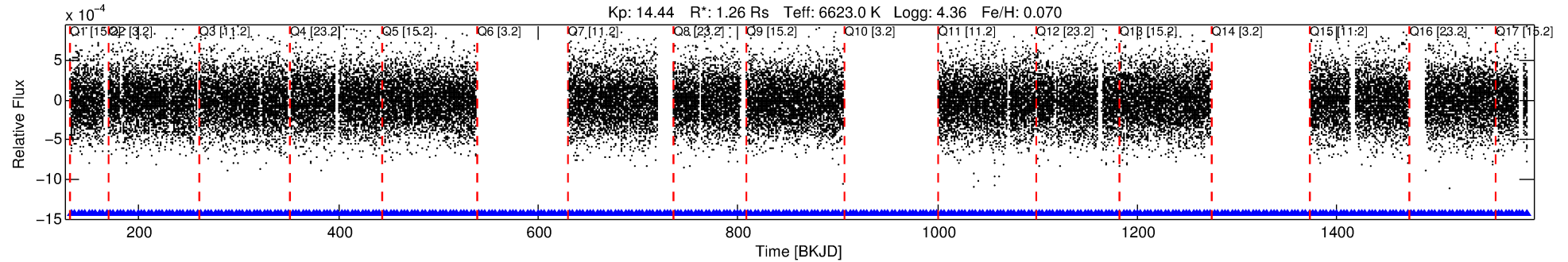
Ephemeris Match Information For 005458953-01

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
005458953-01	5458953	005458880-pri	5458880	1:1	87.3	21	-7	7.82	14.44	378.12	Direct-PRF	0	0.88	3.03

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: 5458953 Candidate: 1 of 1 Period: 3.512 d



DV Fit Results:

Period = 3.51163 [0.00009] d
Epoch = 132.5906 [0.0163] BKJD
Rp/R* = 0.0053 [0.0049]
a/R* = 1.16 [1.52]
b = 0.22 [22.14]
Seff = 1117.49 [448.58]
Teff = 1474 [148] K
Rp = 0.72 [0.71] Re
a = 0.0495 [0.0126] AU
Ag = 9.35 [21.14] [0.39σ]
Teffp = 3986 [2230] K [1.12σ]

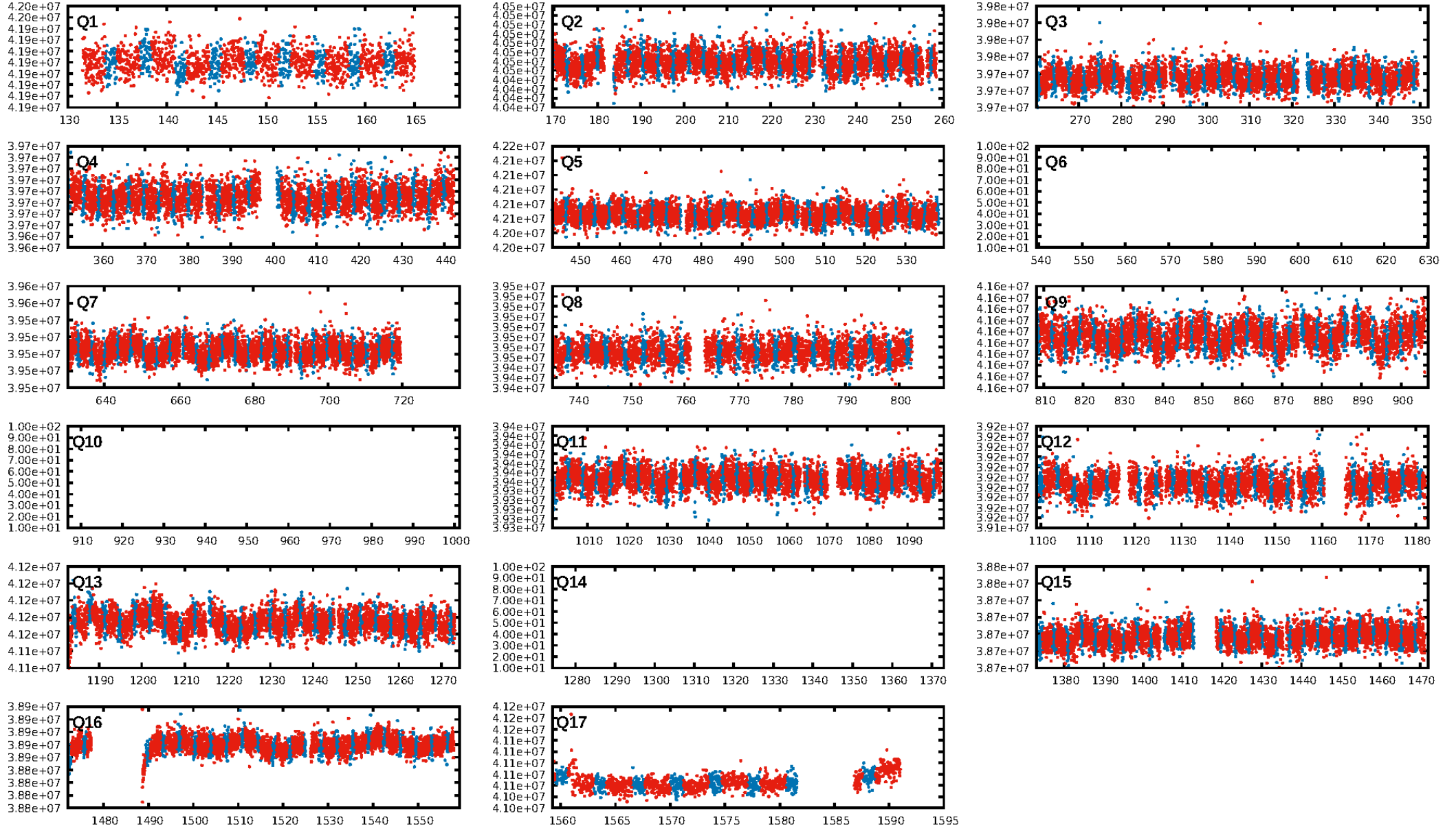
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [297/297]
GhostDiagnostic-chr: -0.09777
Centroid-sig: 0.0%
Centroid-so: 8.435 arcsec [8.57σ]
OotOffset-rm: 2.902 arcsec [3.55σ]
KicOffset-rm: 2.787 arcsec [3.24σ]
OotOffset-st: 1/4/2/5 [12]
KicOffset-st: 1/4/2/5 [12]
DiffImageQuality-fgm: 0.25 [3/12]
DiffImageOverlap-fno: 1.00 [14/14]

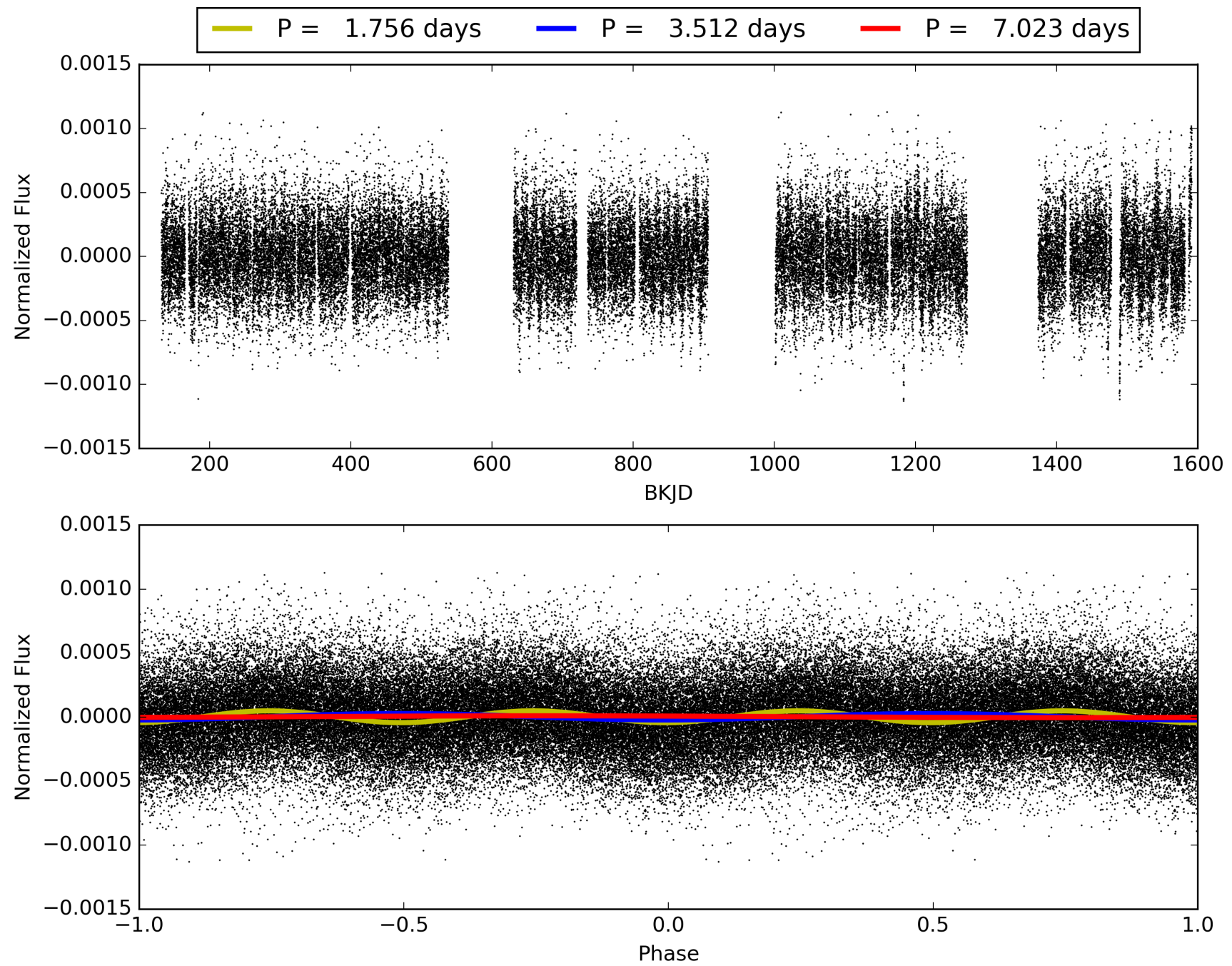
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:35:43 Z

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

TCE 005458953-01, PDC Light Curves

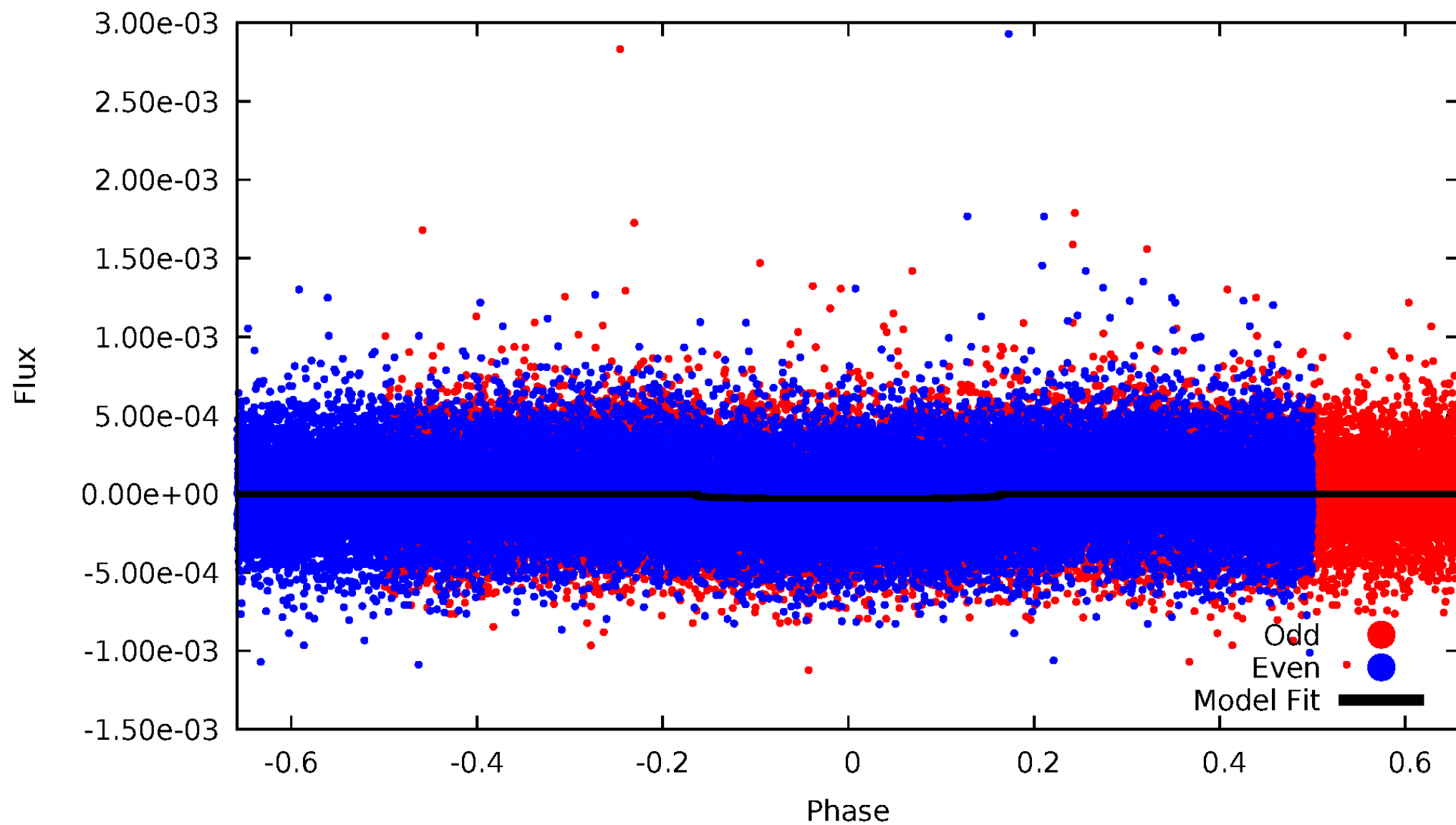


TCE 005458953-01



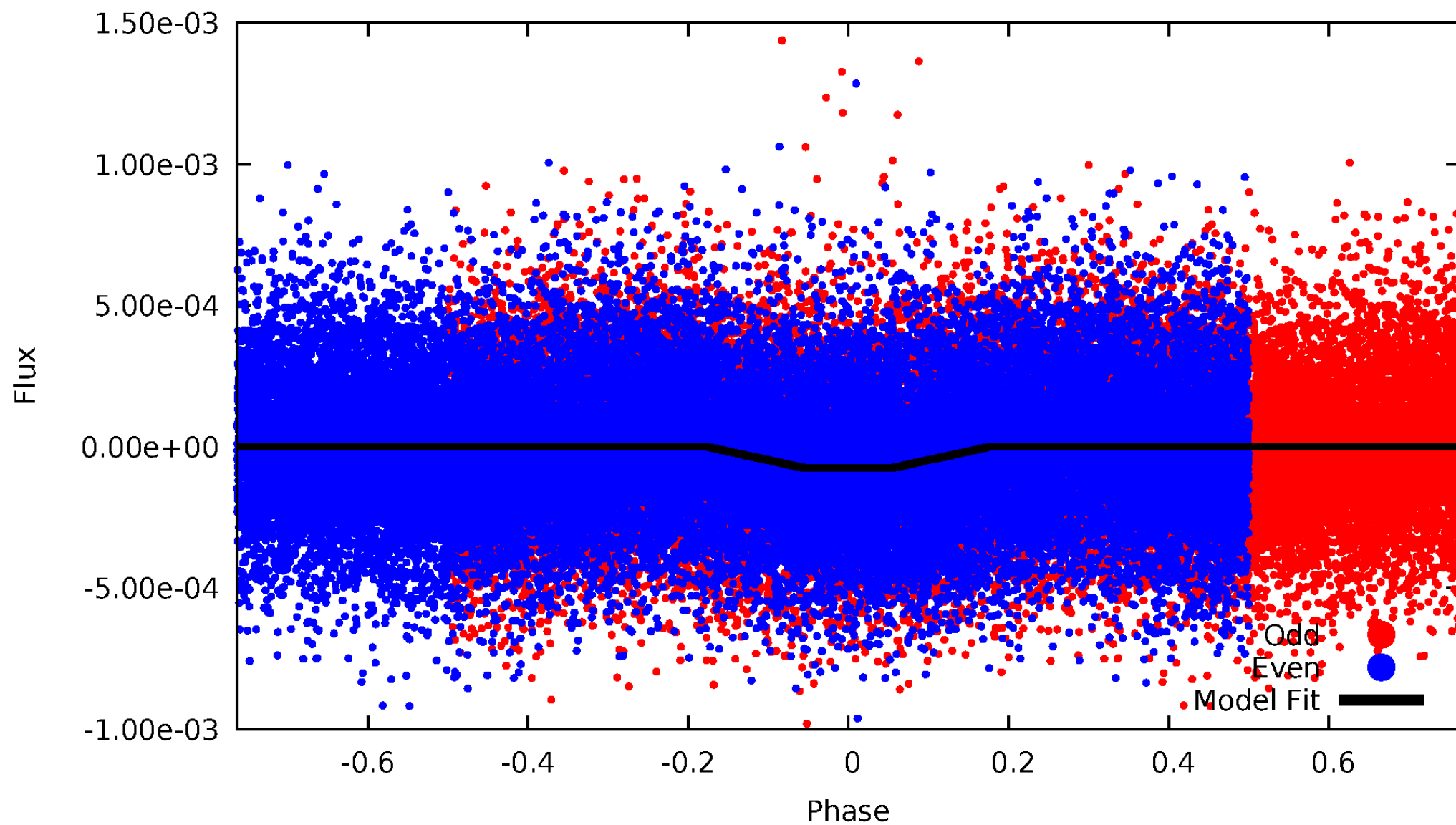
DV Odd/Even

TCE 005458953-01



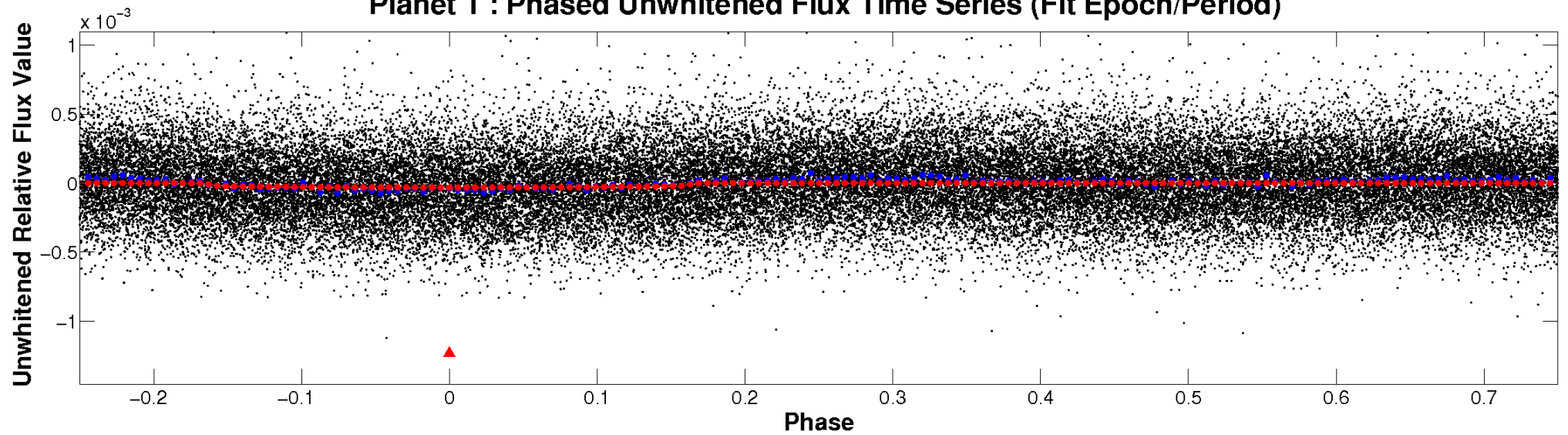
ALT Odd/Even

TCE 005458953-01

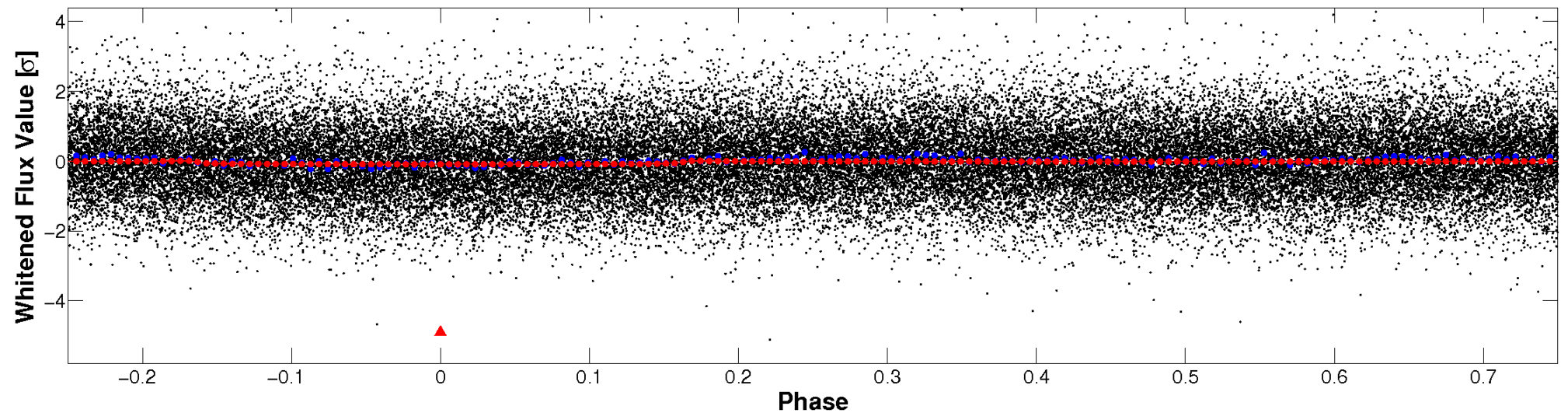


Non-Whitened Vs. Whitened Light Curve

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

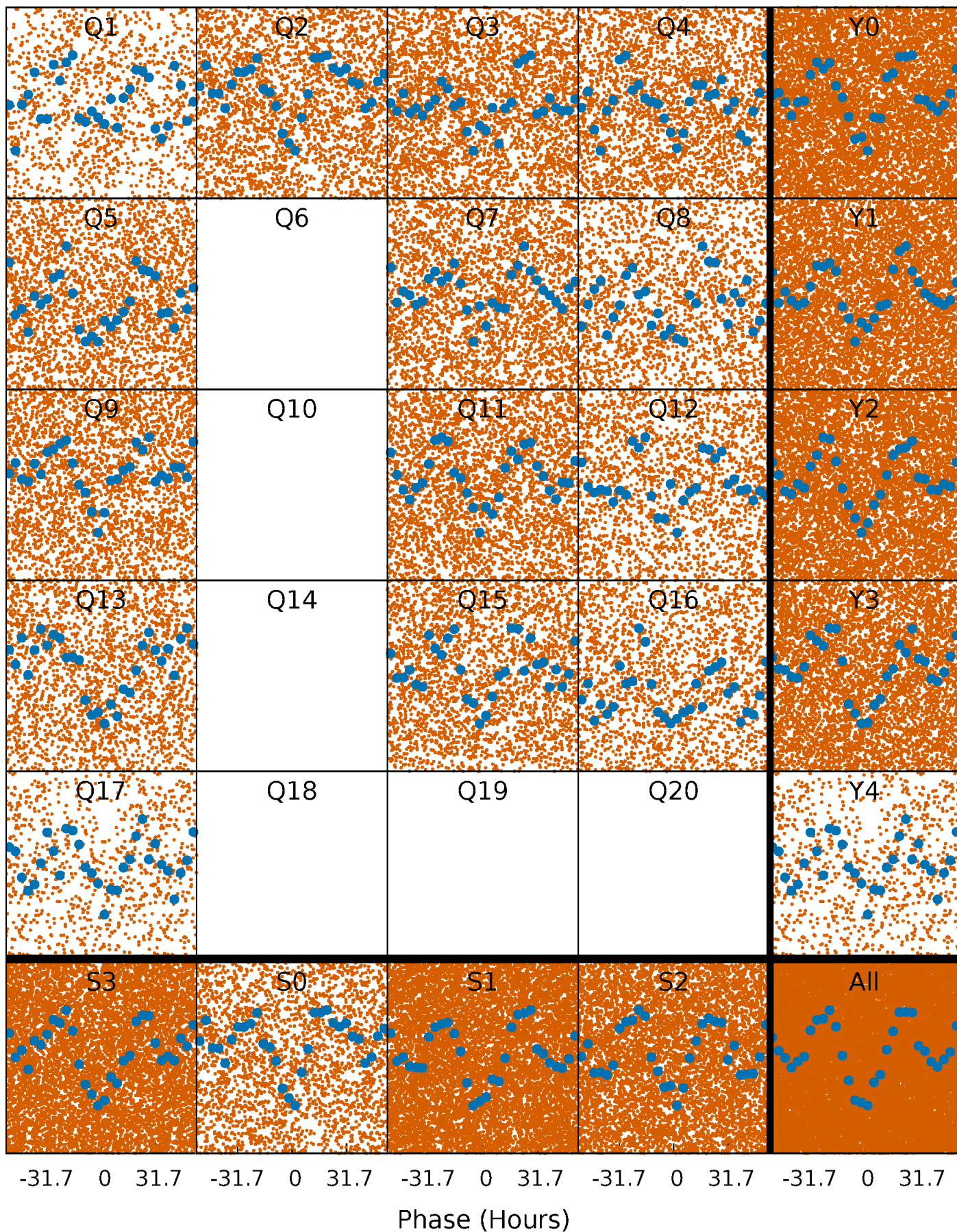


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



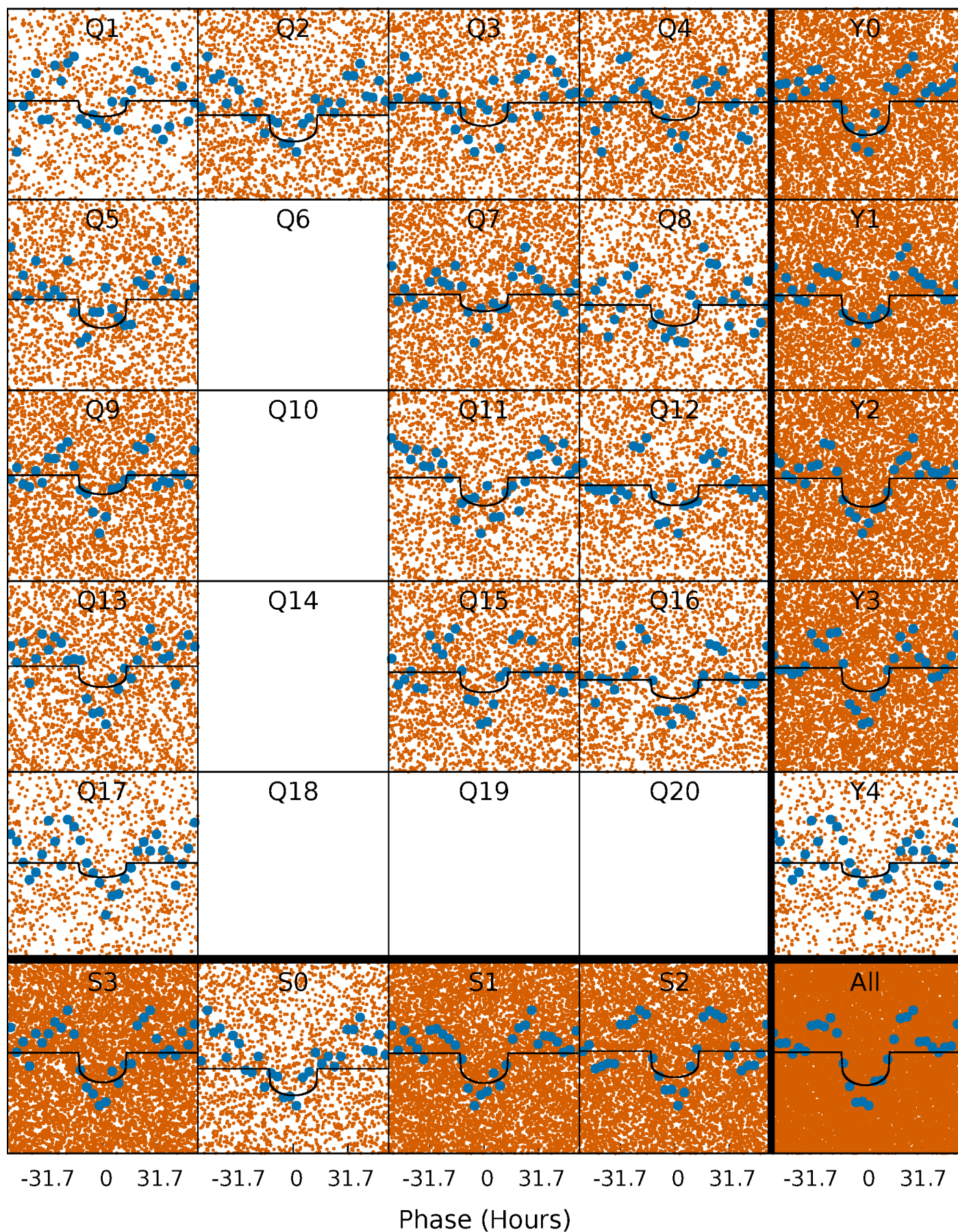
PDC Quarter-Phased Transit Curves

TCE 005458953-01 P= 3.511635 Days $T_0=132.590551$ (BKJD)



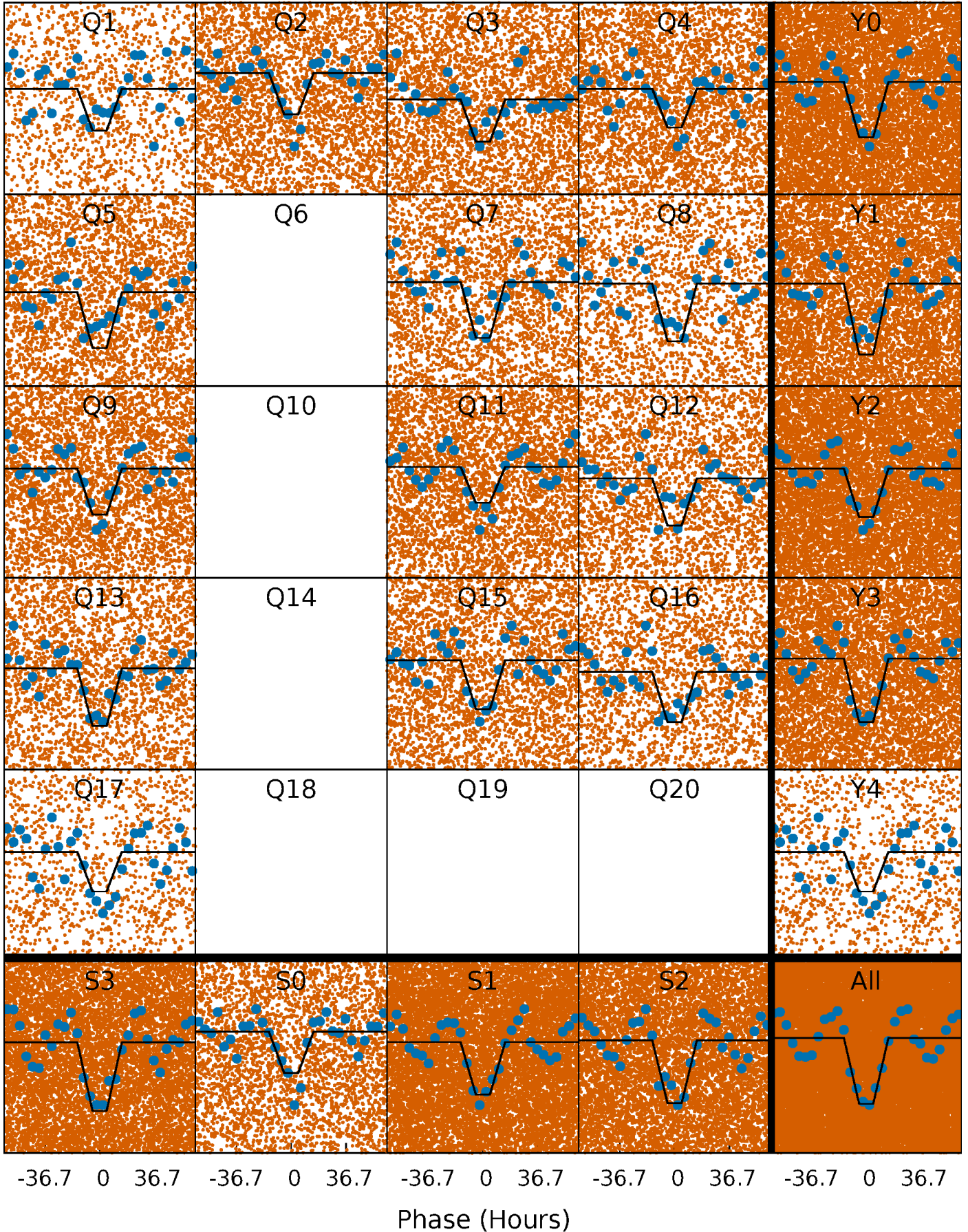
DV Quarter-Phased Transit Curves

TCE 005458953-01 P= 3.511635 Days $T_0=132.590551$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

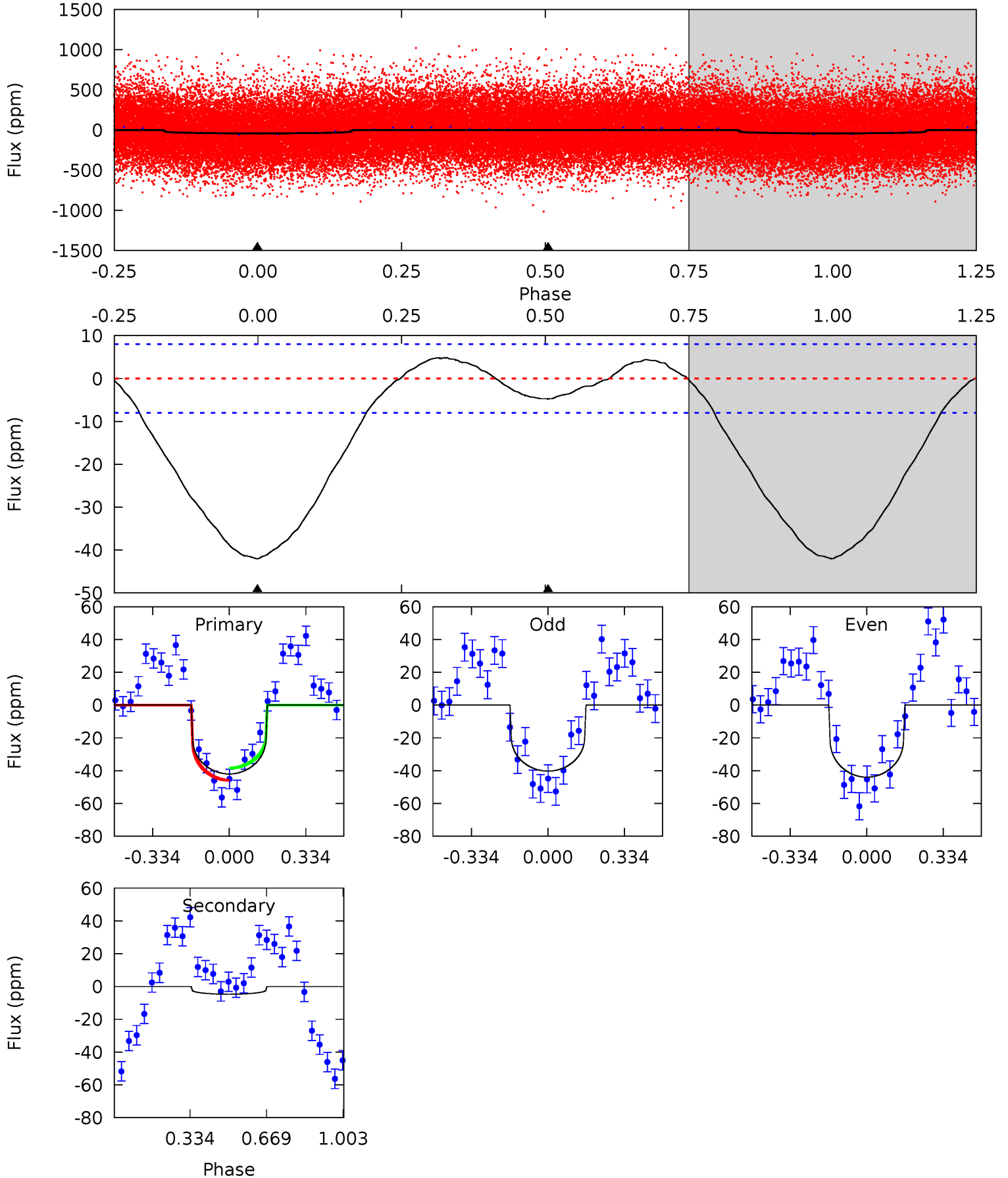
TCE 005458953-01 P= 3.511966 Days $T_0=132.492487$ (BKJD)



DV Model-Shift Uniqueness Test

005458953-01, P = 3.511635 Days, E = 129.078916 Days

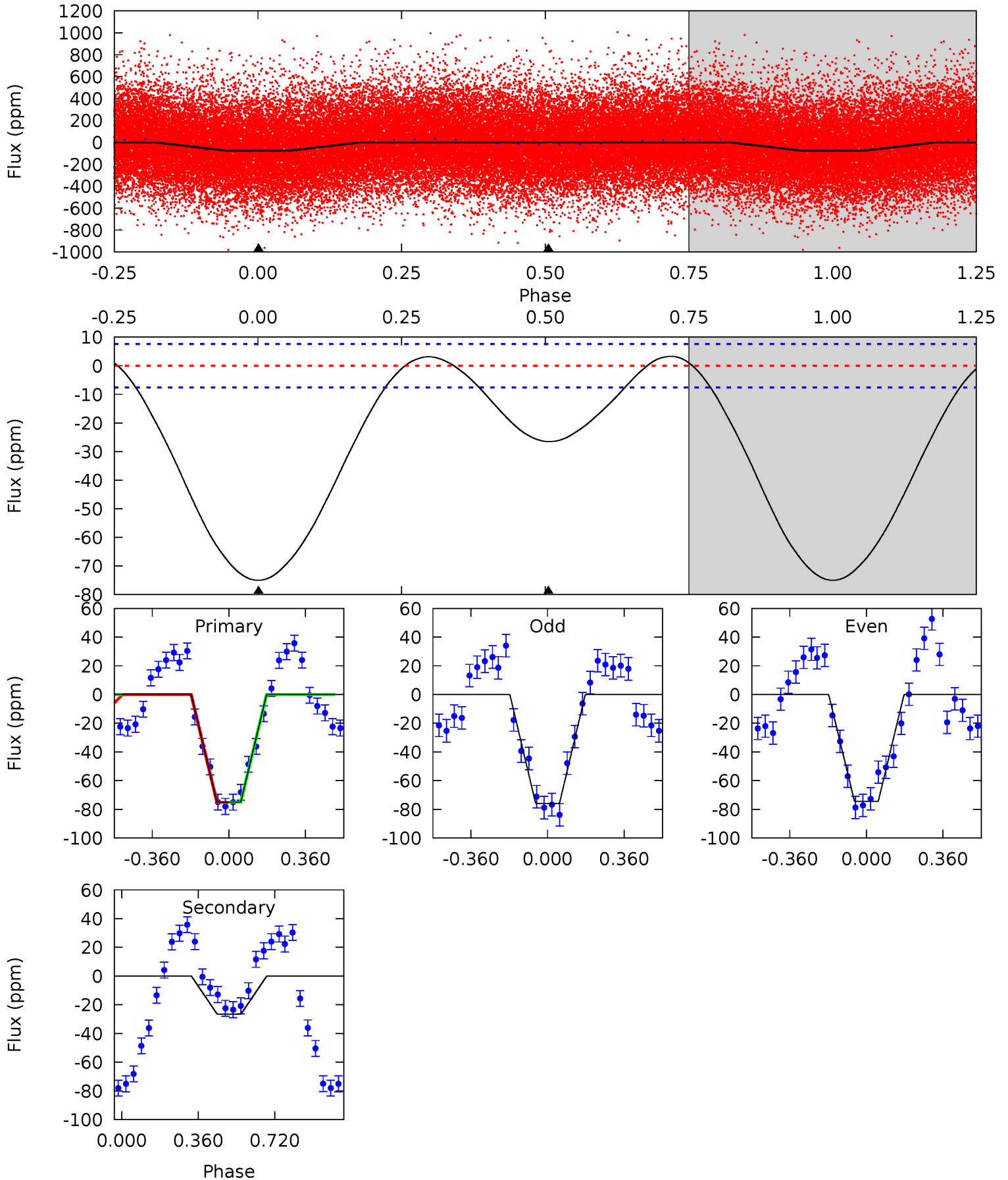
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.6	2.54	0	0	4.30	0.97	0.98	22.6	22.6	2.54	2.54	1.00	1.01	0.10	1.96



Alt Model-Shift Uniqueness Test

005458953-01, P = 3.511966 Days, E = 128.980521 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
42.5	15.0	0	0	4.29	0.91	1.50	42.5	42.5	15.0	15.0	0.41	0.93	0.04	0.03



Stellar Parameters For KIC 005458953

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6623^{+187}_{-281}	$4.355^{+0.065}_{-0.195}$	$0.070^{+0.250}_{-0.350}$	$1.261^{+0.391}_{-0.168}$	$1.317^{+0.168}_{-0.206}$	$0.924^{+0.263}_{-0.491}$
	+3%/-4%	+1%/-4%	+357%/-500%	+31%/-13%	+13%/-16%	+28%/-53%
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 005458953-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-5 ± 2	$0.89^{+0.68}_{-0.56}$	2105^{+142}_{-116}	4142^{+2181}_{-835}	$7.436^{+48.851}_{-5.245}$
Alt.	-27 ± 2	$1.25^{+0.78}_{-0.61}$	2088^{+157}_{-106}	5085^{+1973}_{-857}	23^{+60}_{-14}

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

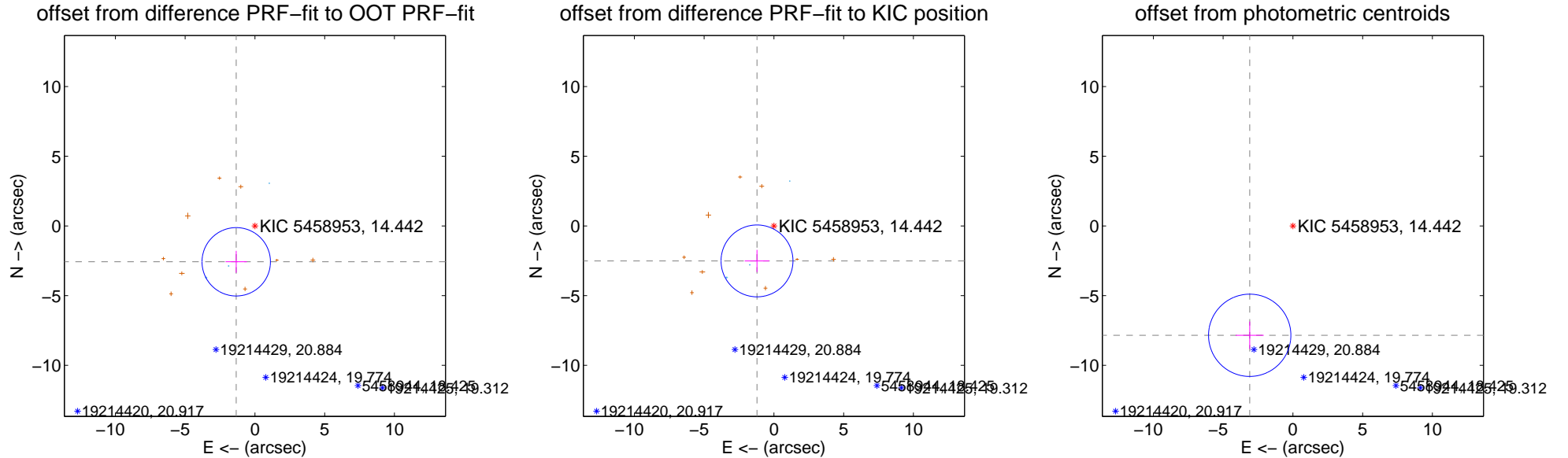
DV Centroid Data

Supplemental centroid analysis for 005458953-01. Kepler magnitude: 14.44. Transit SNR 10.95

There are 3 quarters with good PRF difference image offsets

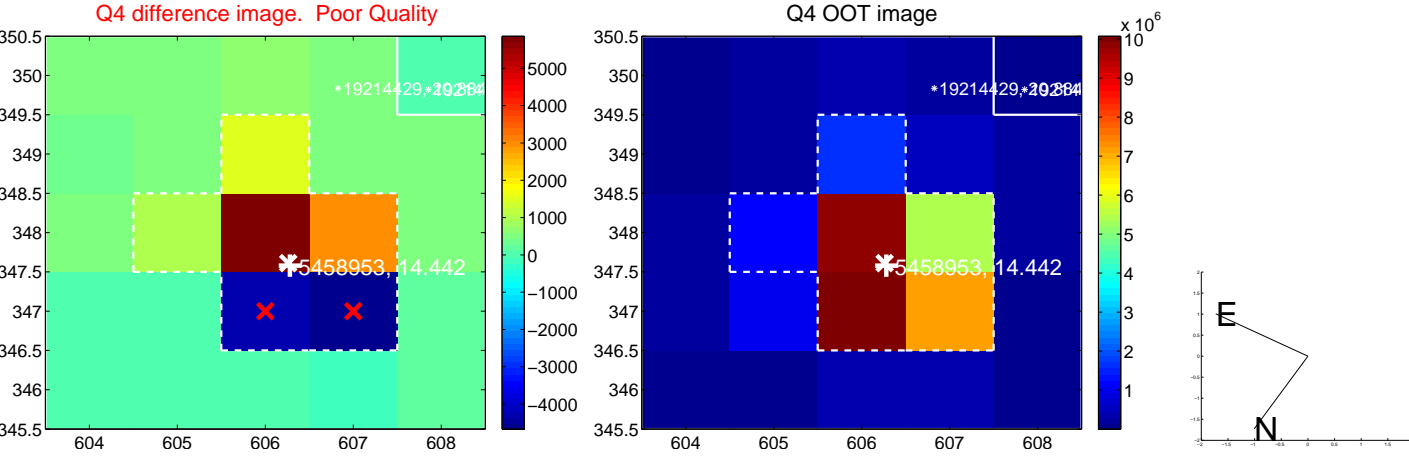
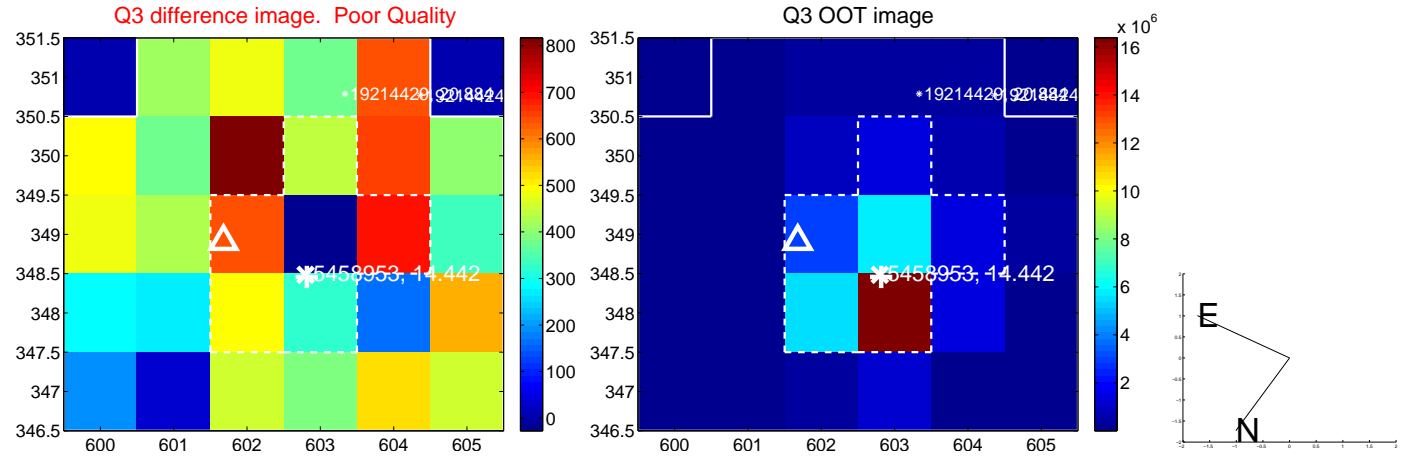
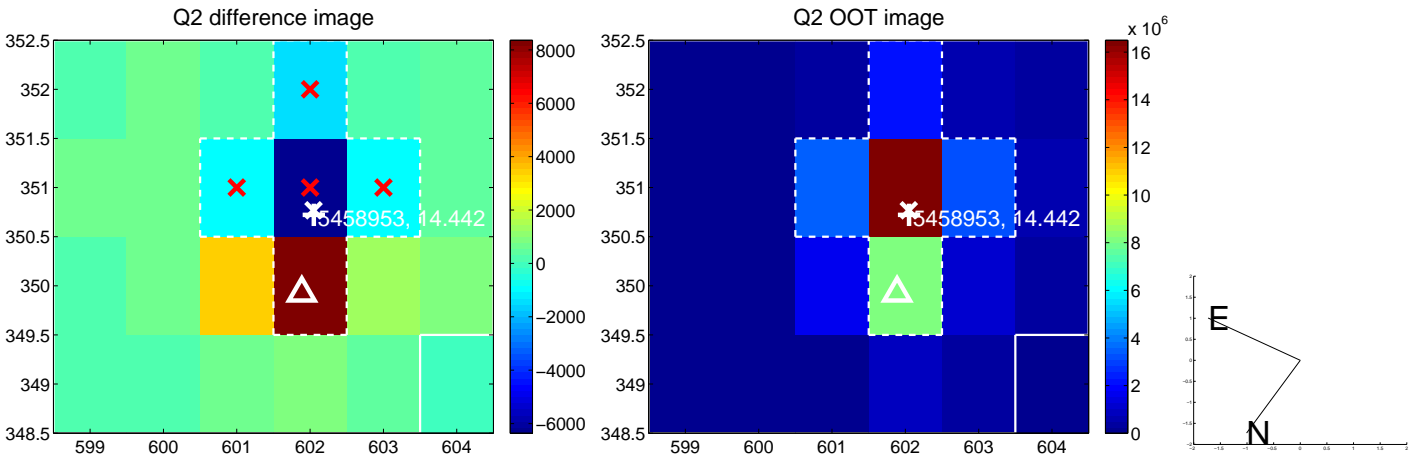
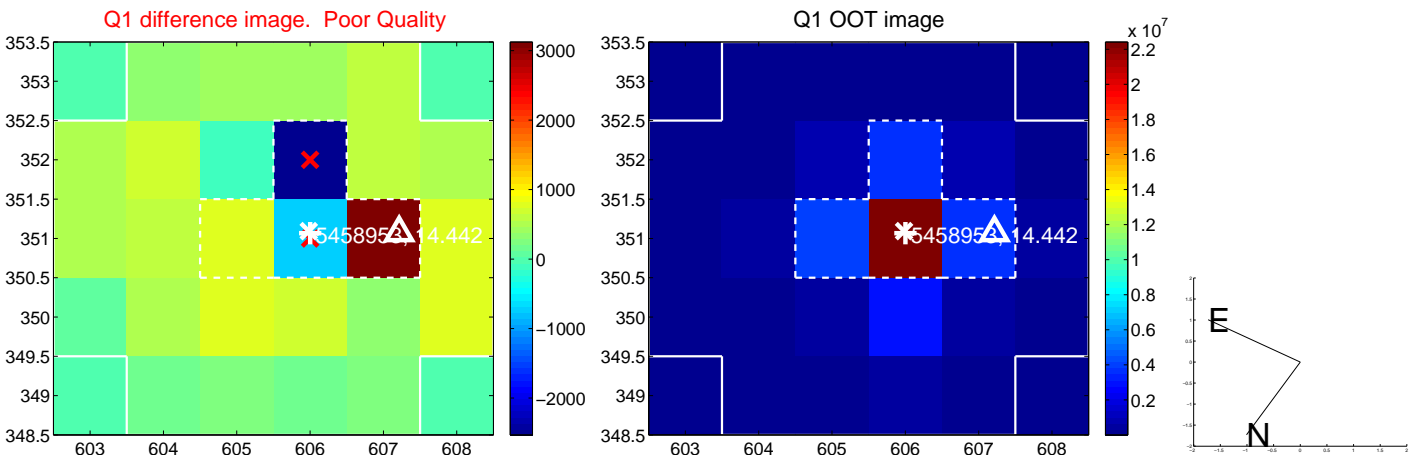
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.902 ± 0.818	3.55	1.341 ± 0.767	-2.573 ± 0.785
PRF-fit source offset from KIC position	2.787 ± 0.859	3.24	1.212 ± 0.880	-2.509 ± 0.796
photometric centroid source offset	8.44 ± 0.98	8.57	3.10 ± 1.01	-7.85 ± 0.98

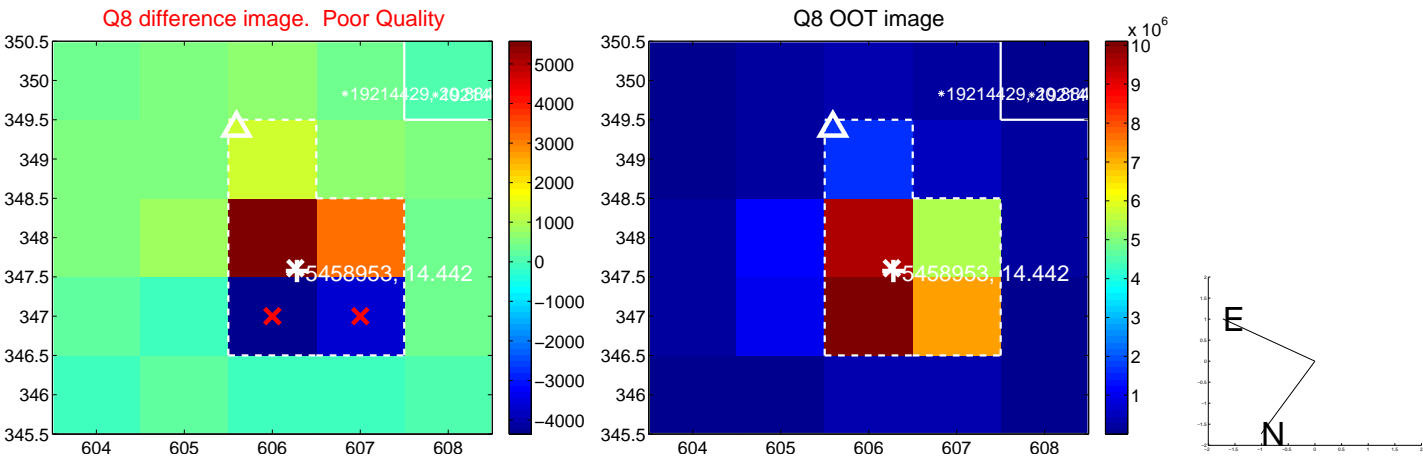
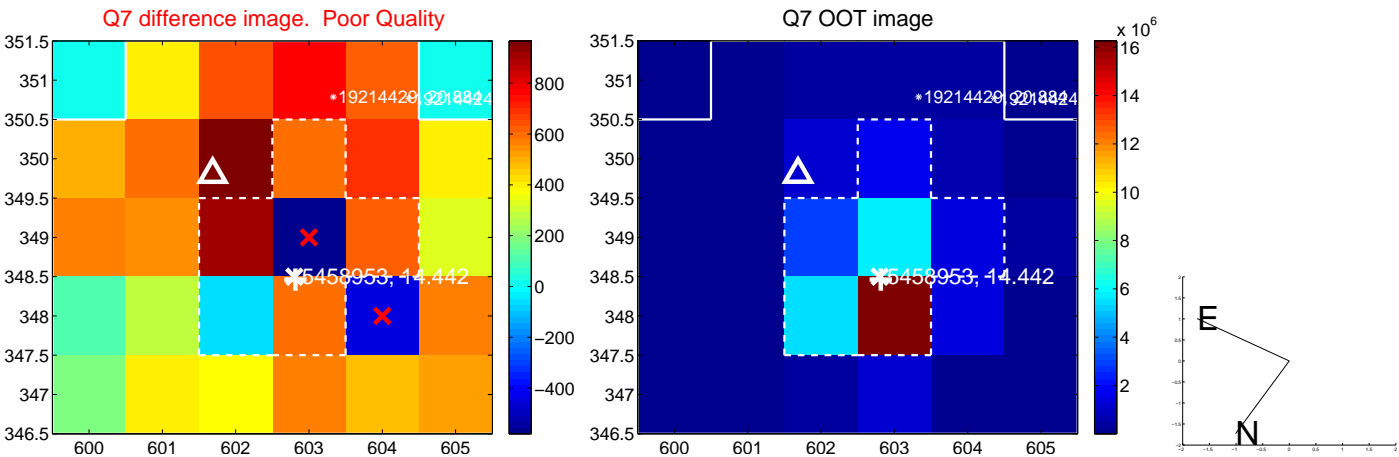
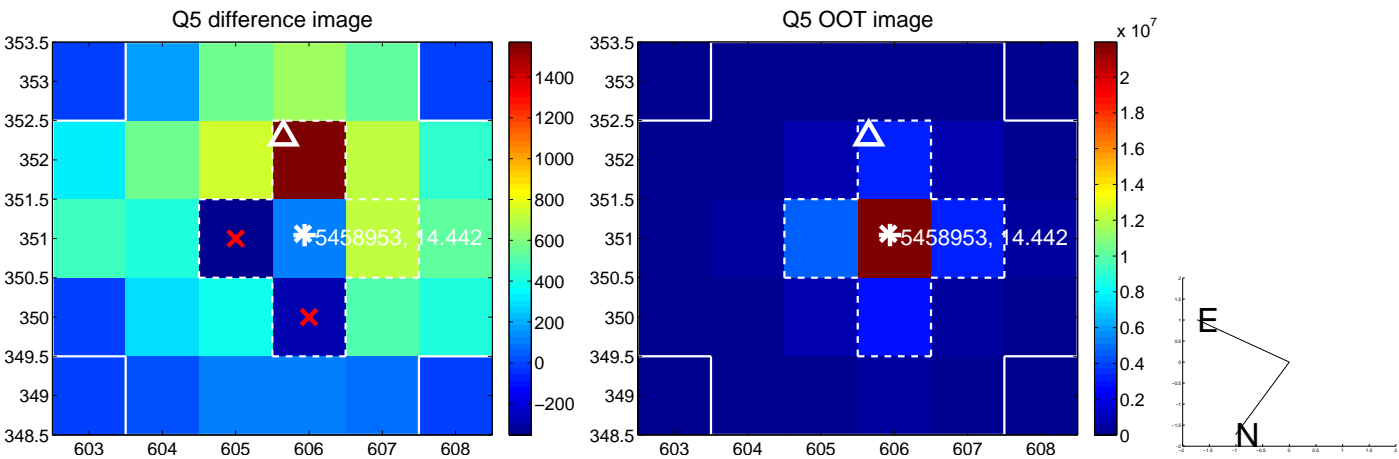


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

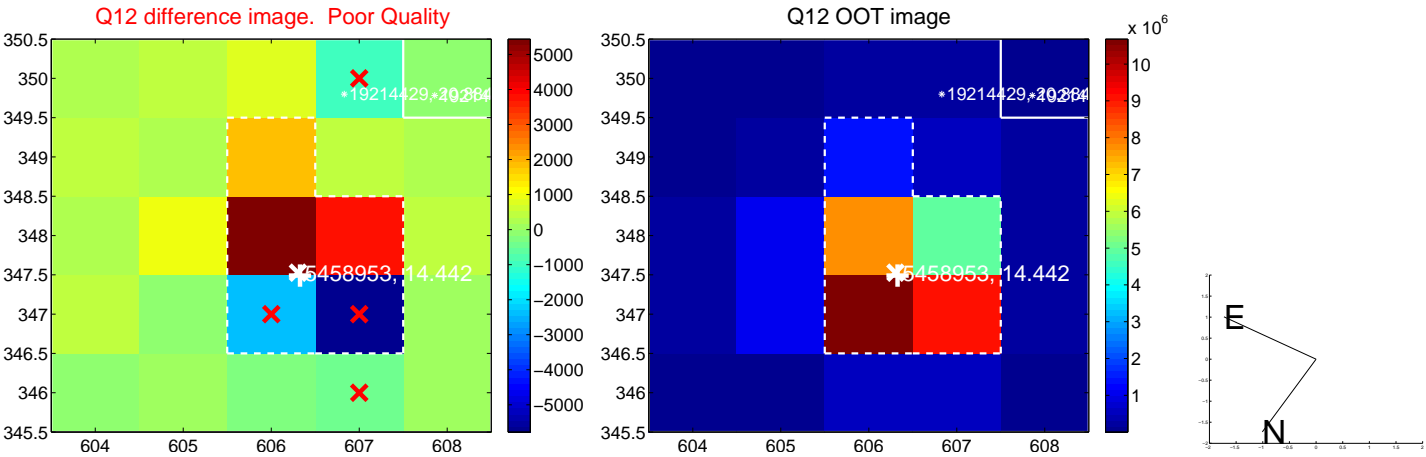
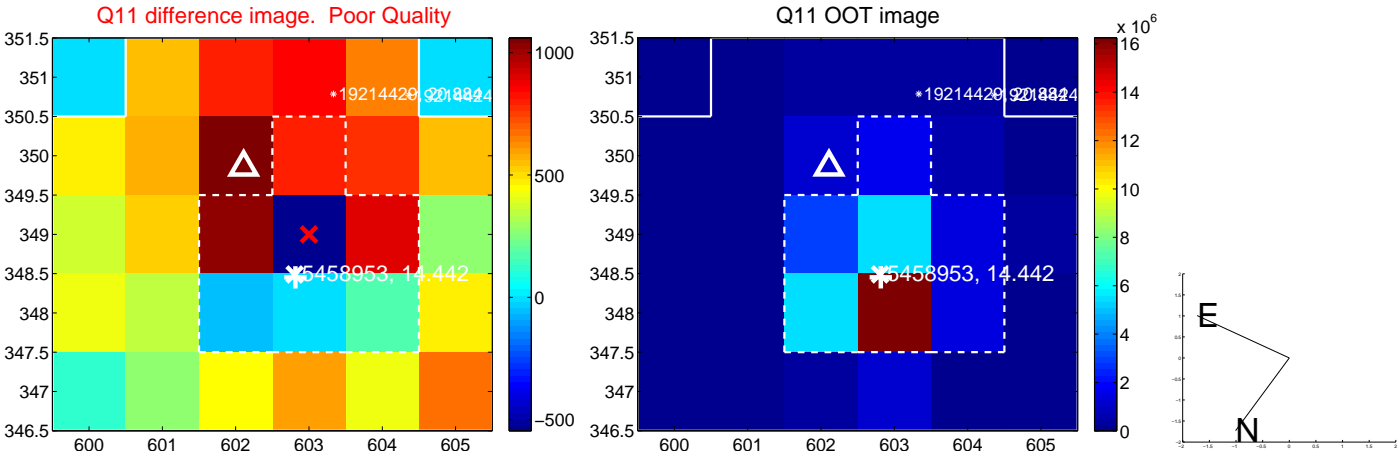
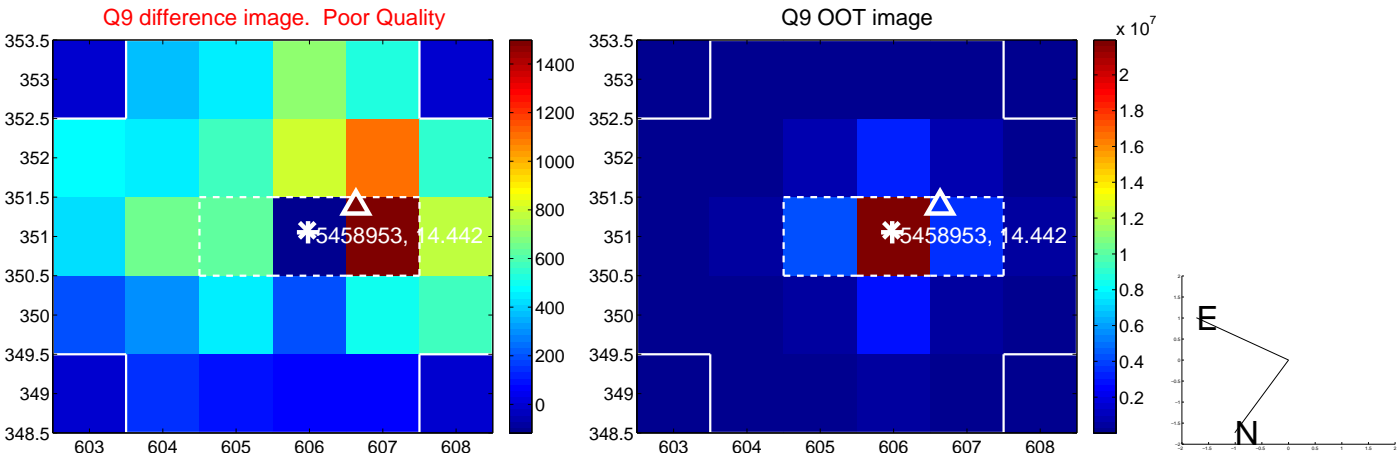
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



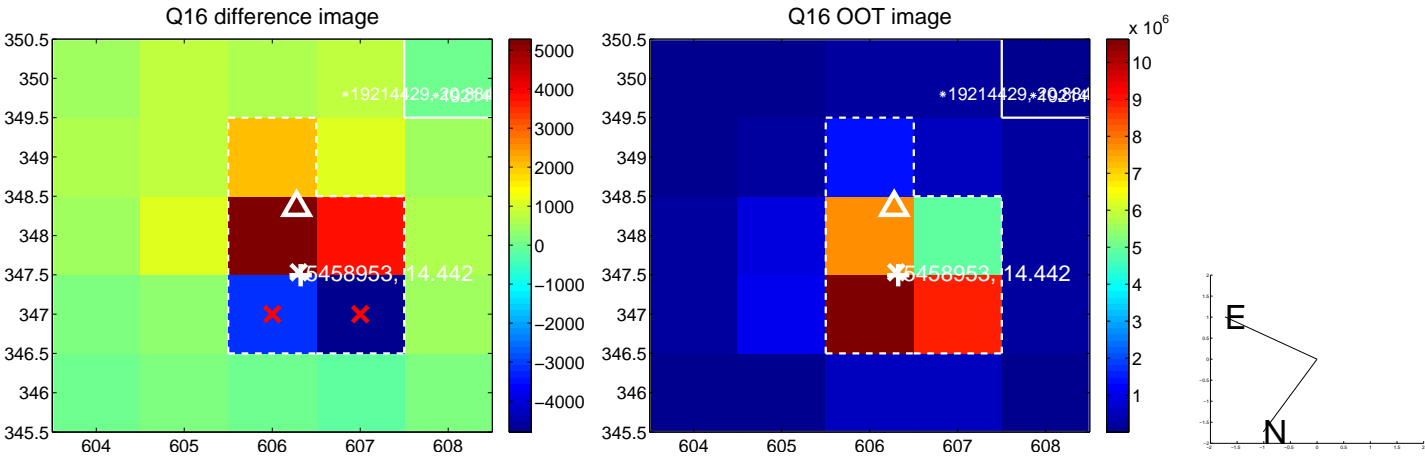
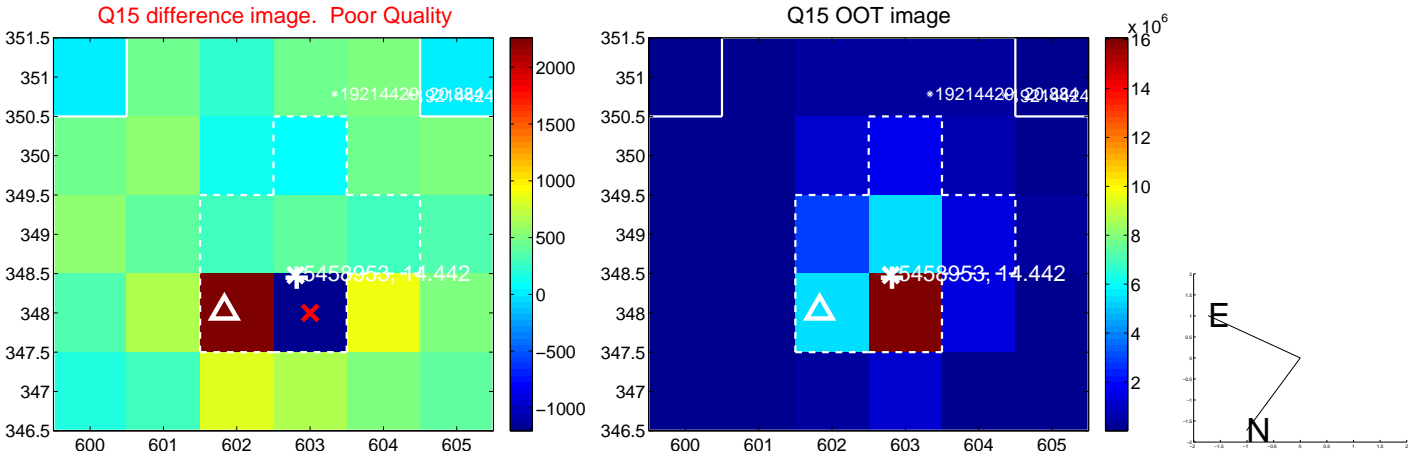
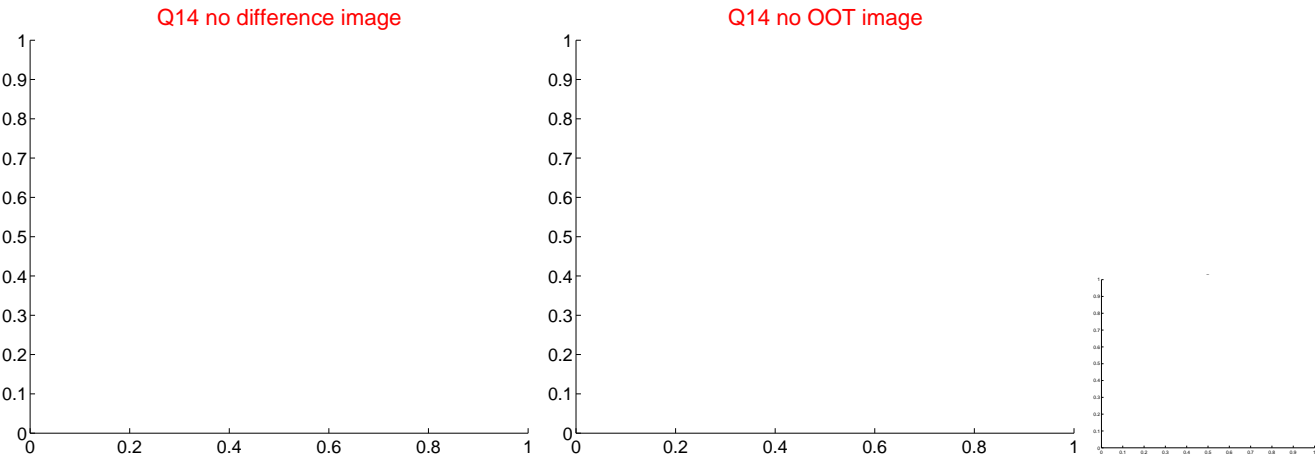
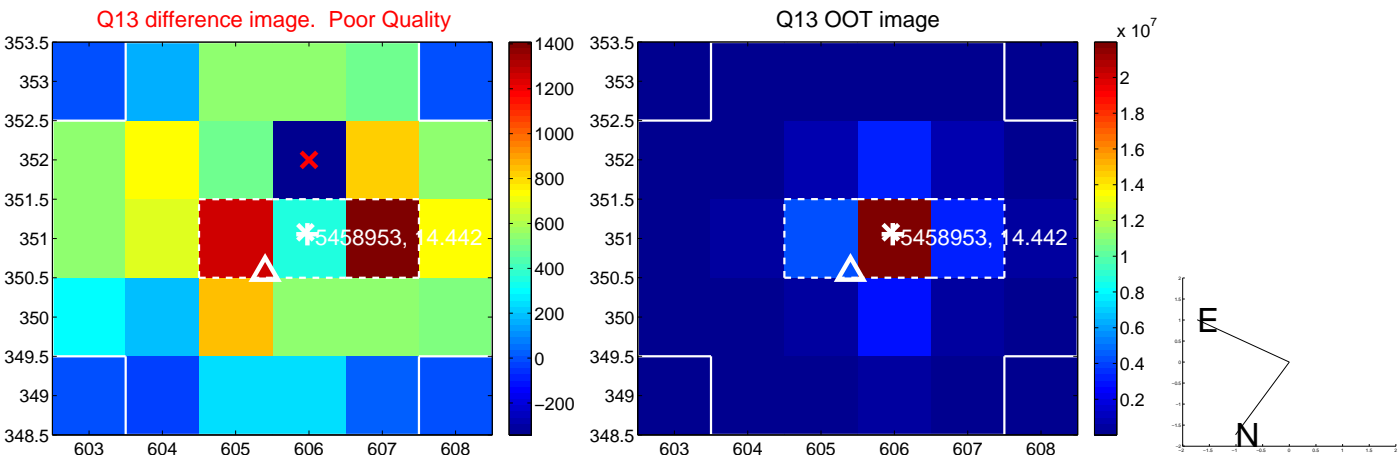
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



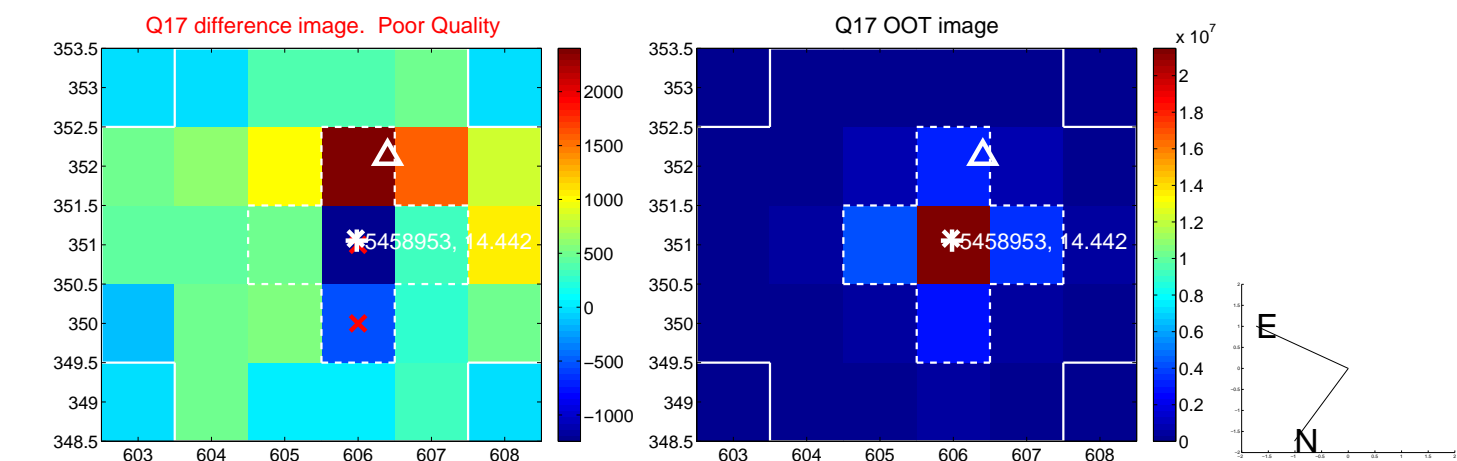
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



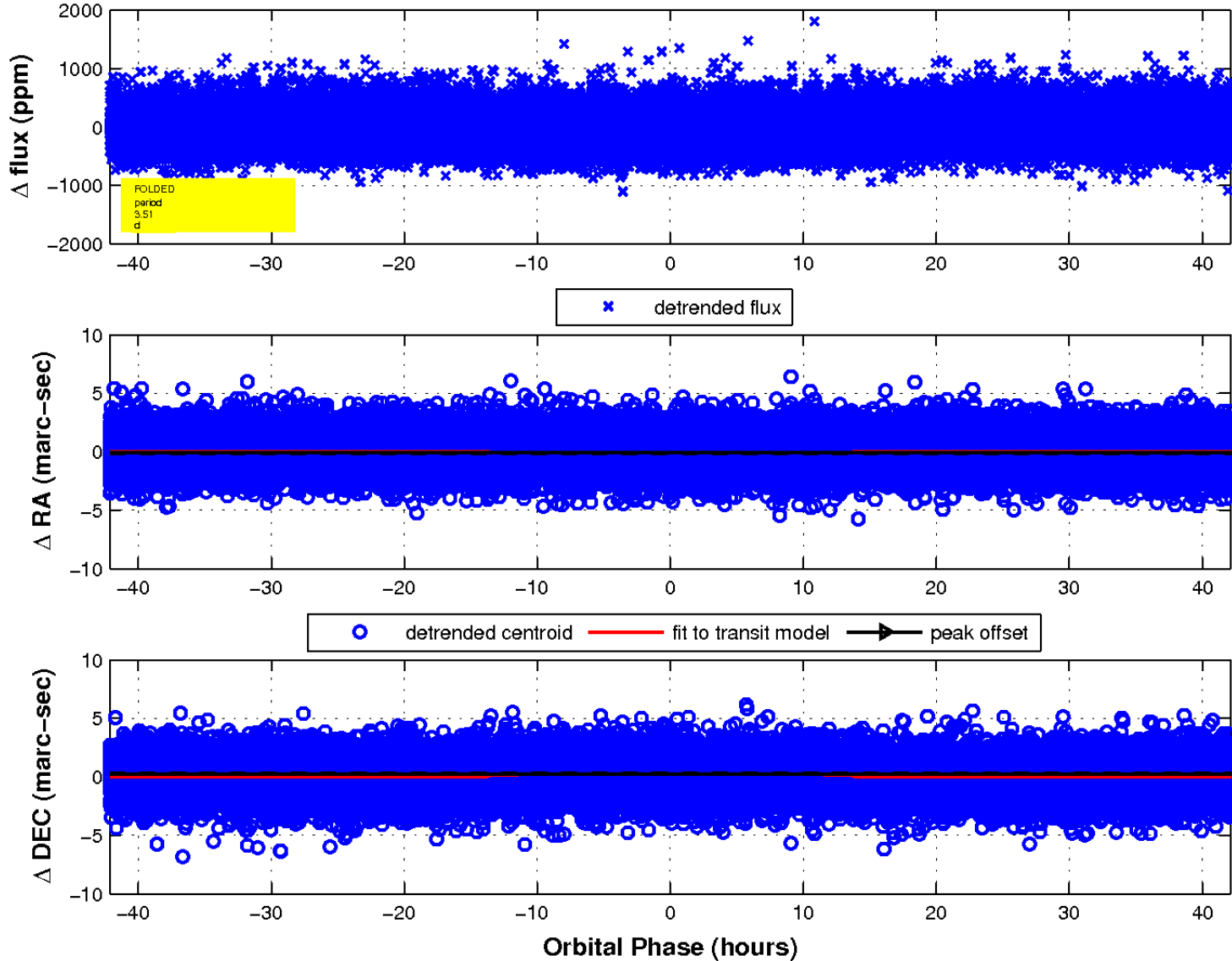
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

