

KIC 007116670

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})
007116670-01	OBS	No	0.566808	131.625714	58.3	4.590	10.3	10.7	0.92	5792	0.84	4732.55

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007116670-01	OBS	FP	0.00	1	0	0	1	LPP_DV—LPP_ALT—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.

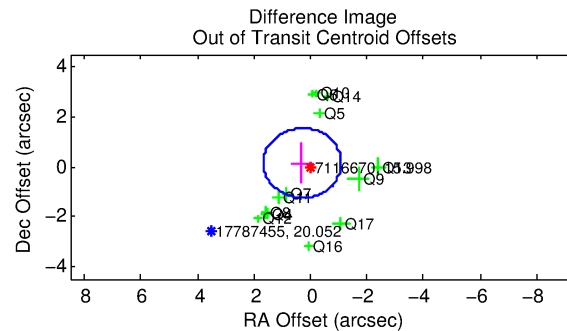
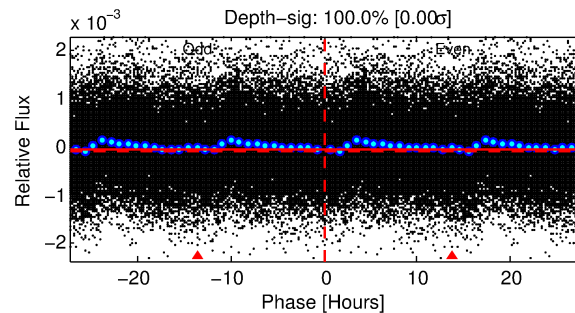
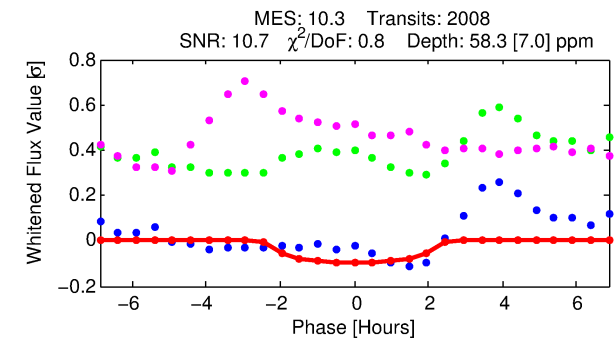
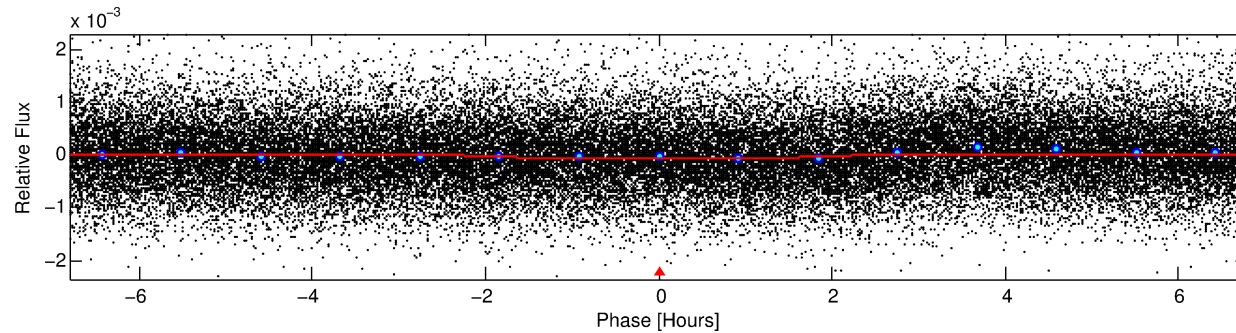
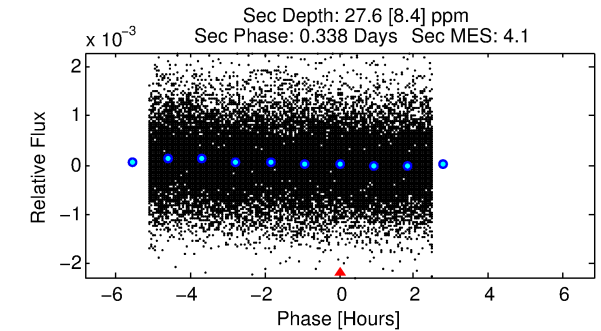
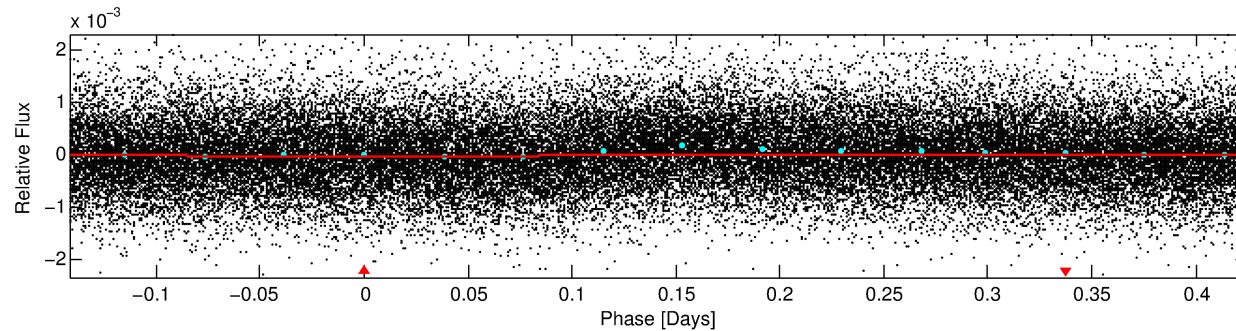
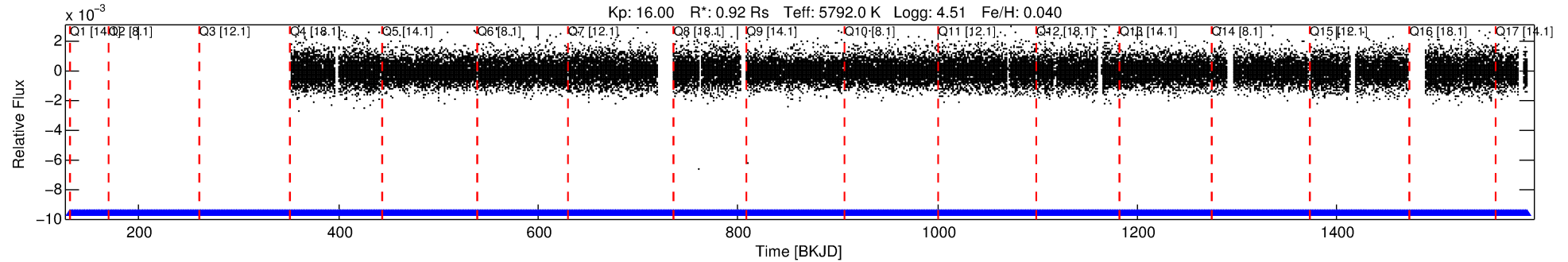
Ephemeris Match Information For 007116670-01

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
007116670-01	7116670	RR-Lyr-pri	7198959	1:1	384.7	96	-6	7.86	16.00	10746.00	Direct-PRF	0	4.07	7.68

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: 7116670 Candidate: 1 of 1 Period: 0.567 d



DV Fit Results:

Period = 0.56681 [0.00001] d
Epoch = 131.6257 [0.0049] BKJD
Rp/R* = 0.0083 [0.0047]
a/R* = 1.04 [0.21]
b = 0.90 [0.60]
Seff = 4732.55 [1941.72]
Teq = 2115 [217] K
Rp = 0.84 [0.54] Re
a = 0.0135 [0.0036] AU
Ag = 3.92 [4.84] [0.60σ]
Teffp = 4601 [1357] K [1.81σ]

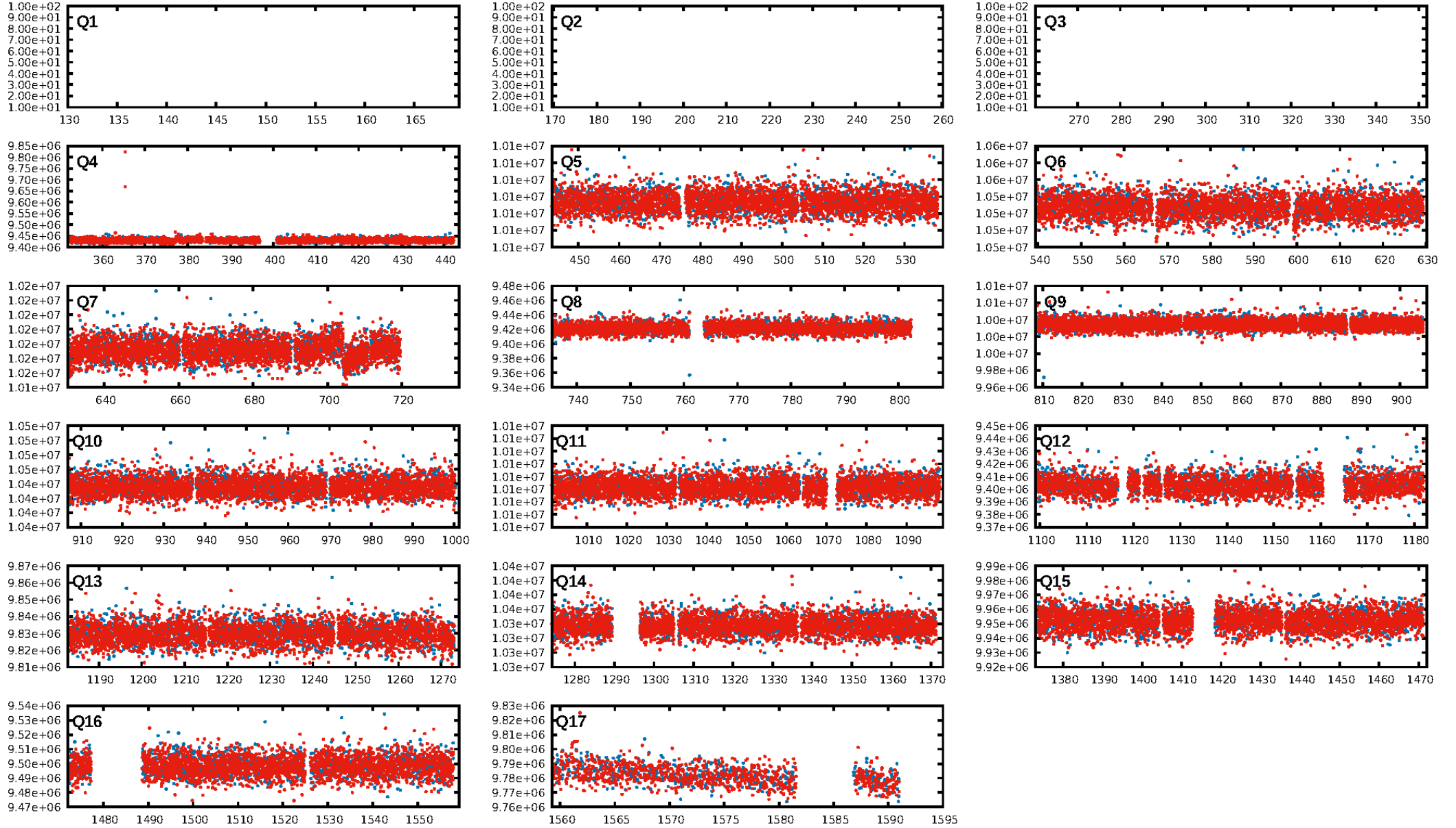
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1961/1961]
GhostDiagnostic-chr: -0.2845
Centroid-sig: 0.0%
Centroid-so: 5.160 arcsec [3.86σ]
OotOffset-rm: 0.329 arcsec [0.71σ]
KicOffset-rm: 0.228 arcsec [0.67σ]
OotOffset-st: 3/2/4/4 [13]
KicOffset-st: 3/2/4/4 [13]
DiffImageQuality-fgm: 0.38 [5/13]
DiffImageOverlap-fno: 1.00 [14/14]

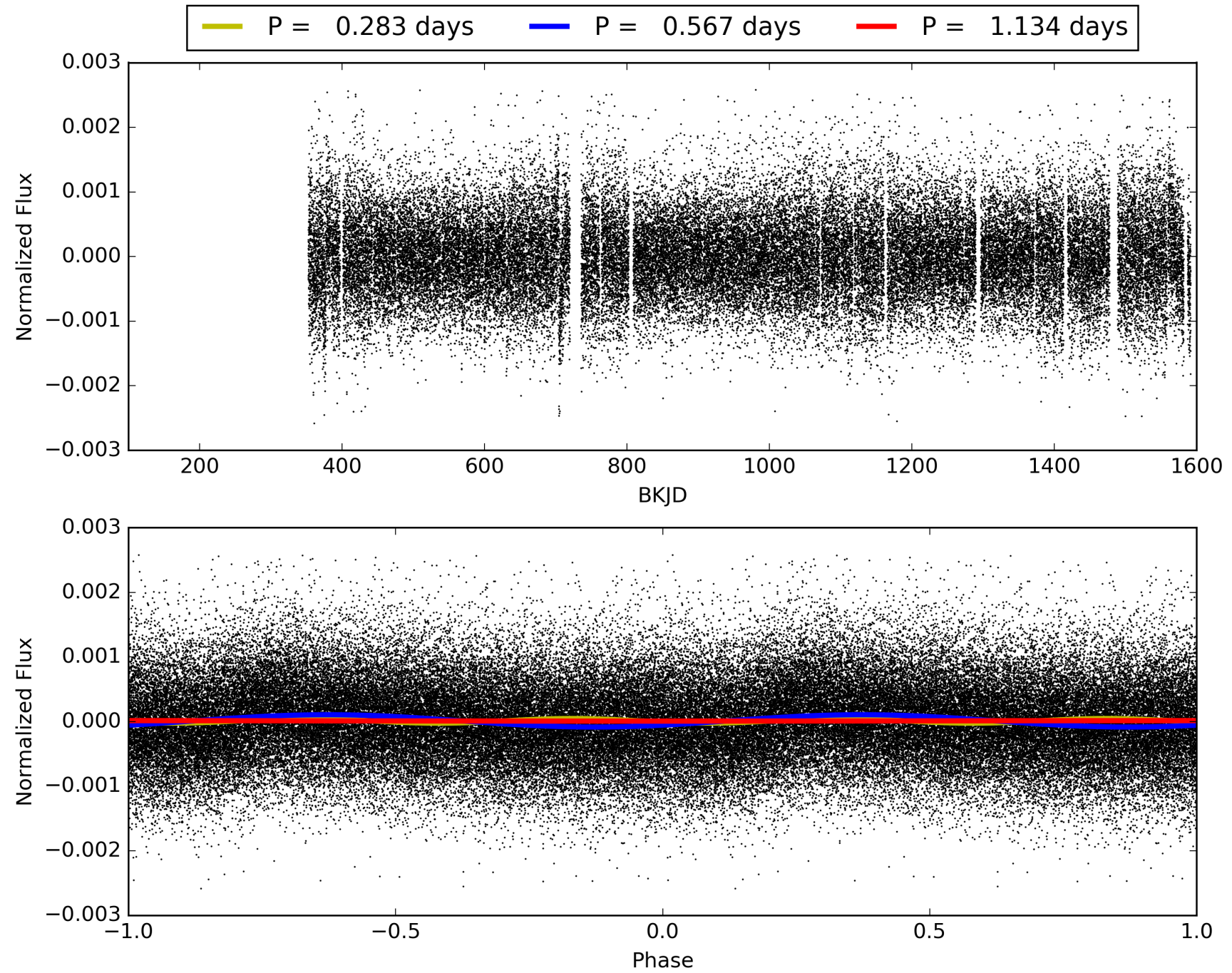
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:48:53 Z

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

TCE 007116670-01, PDC Light Curves

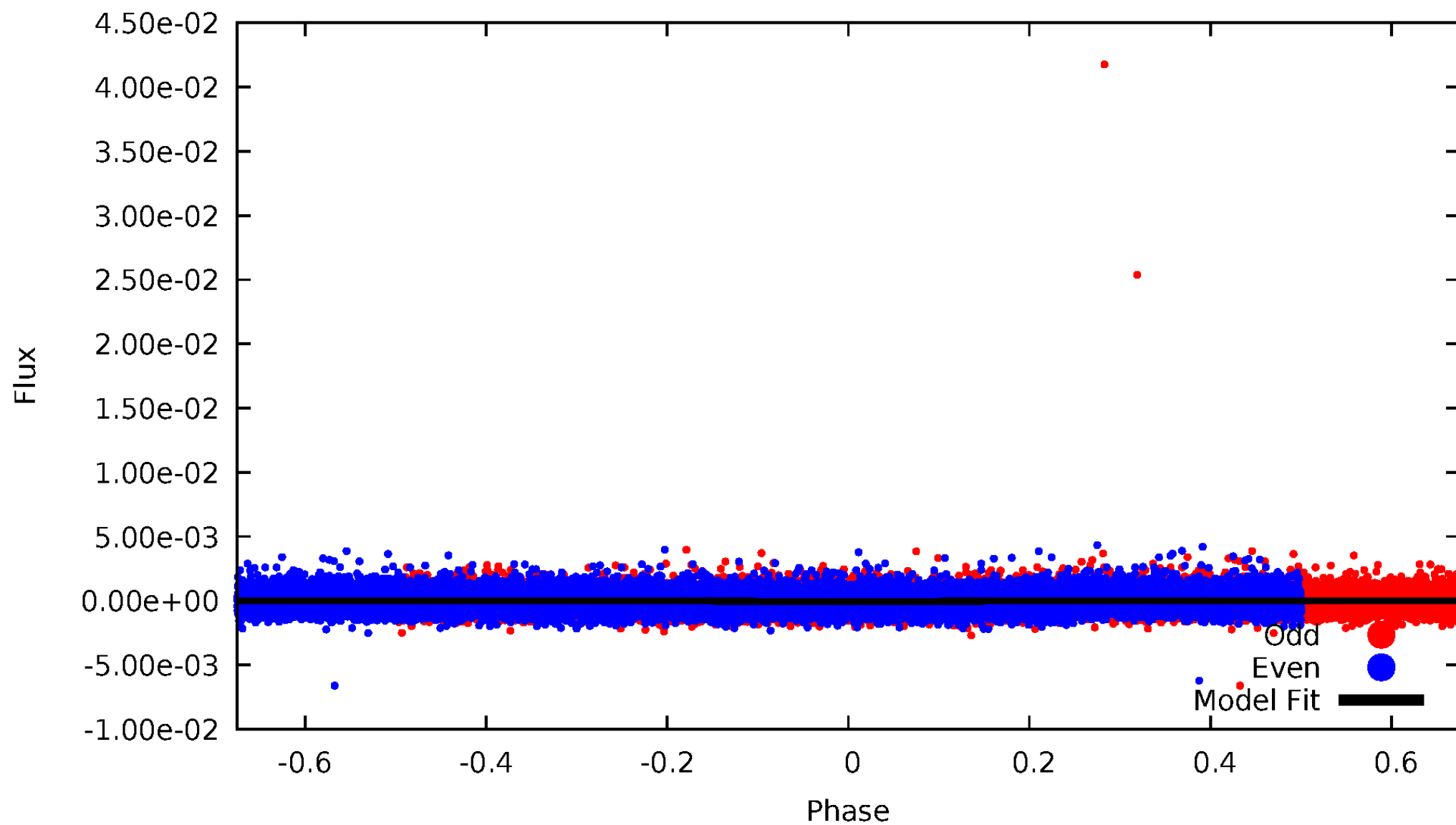


TCE 007116670-01



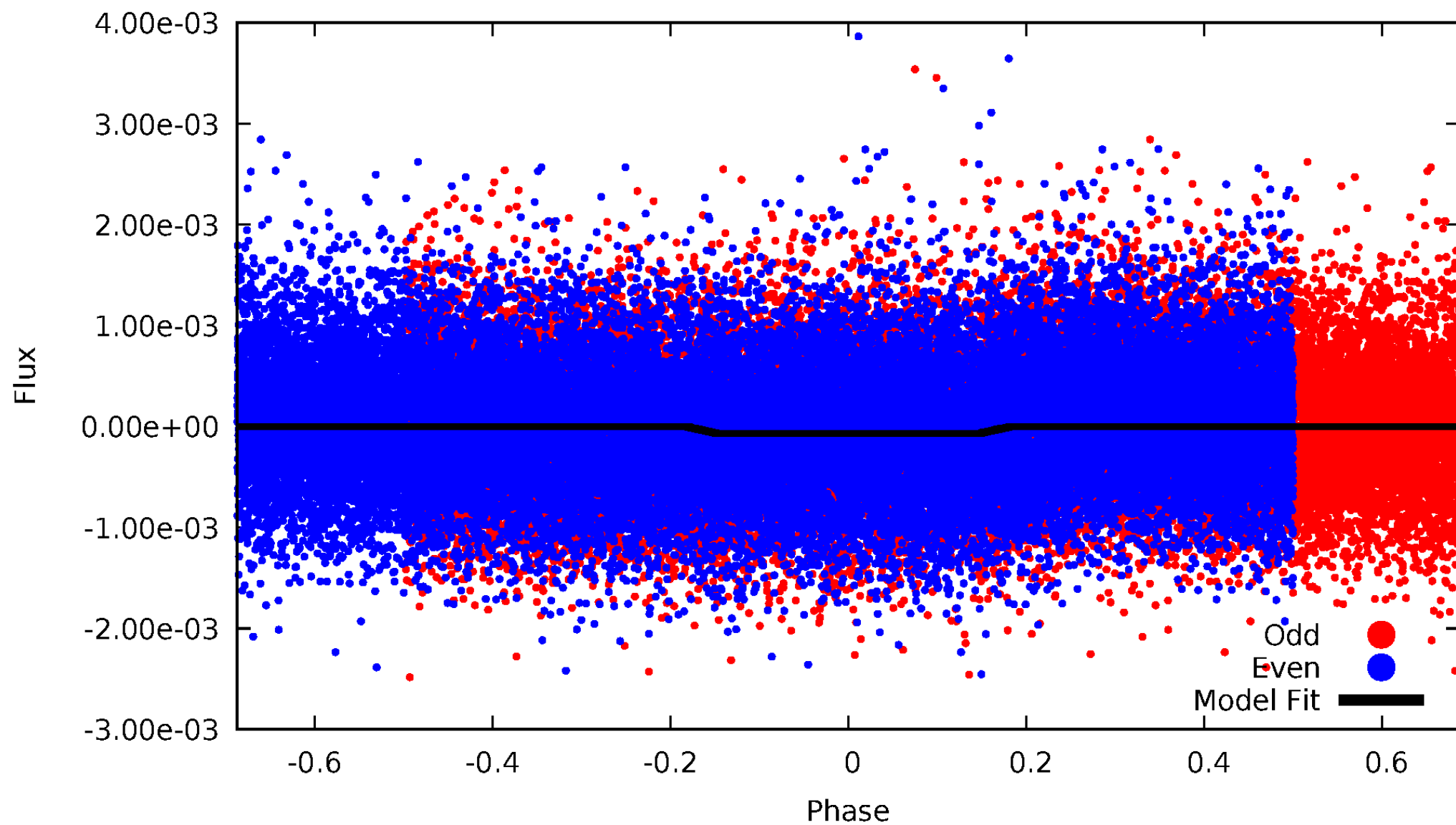
DV Odd/Even

TCE 007116670-01



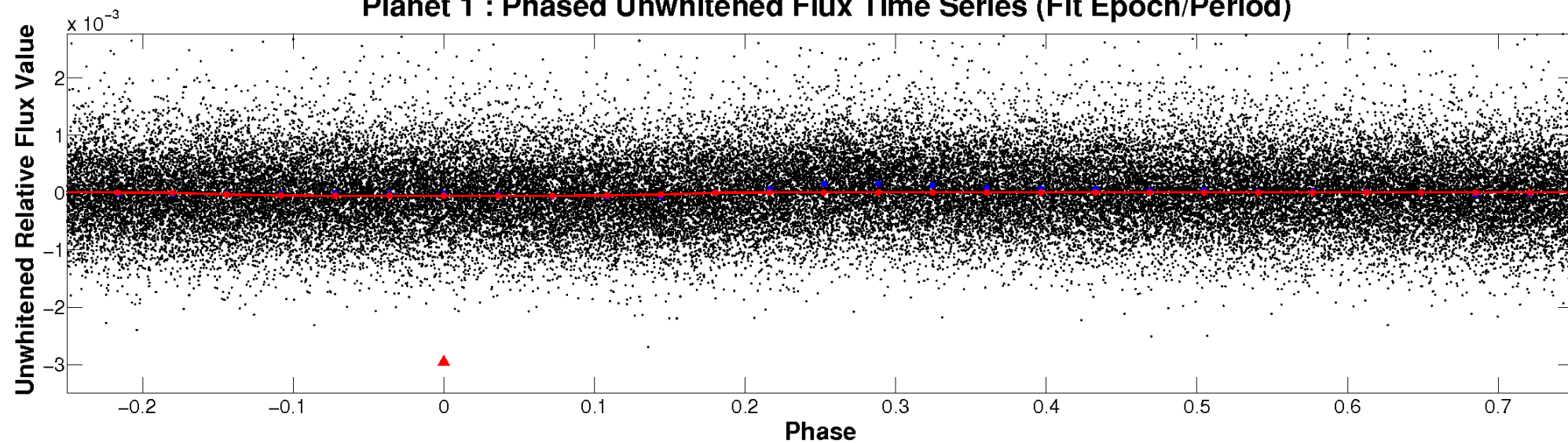
ALT Odd/Even

TCE 007116670-01

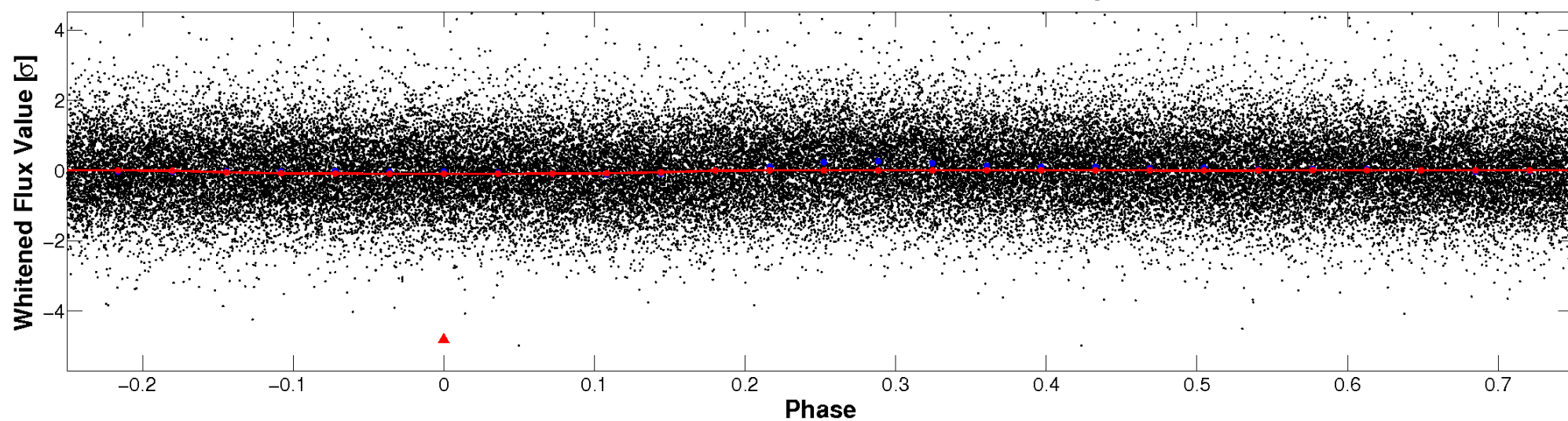


Non-Whitened Vs. Whitened Light Curve

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

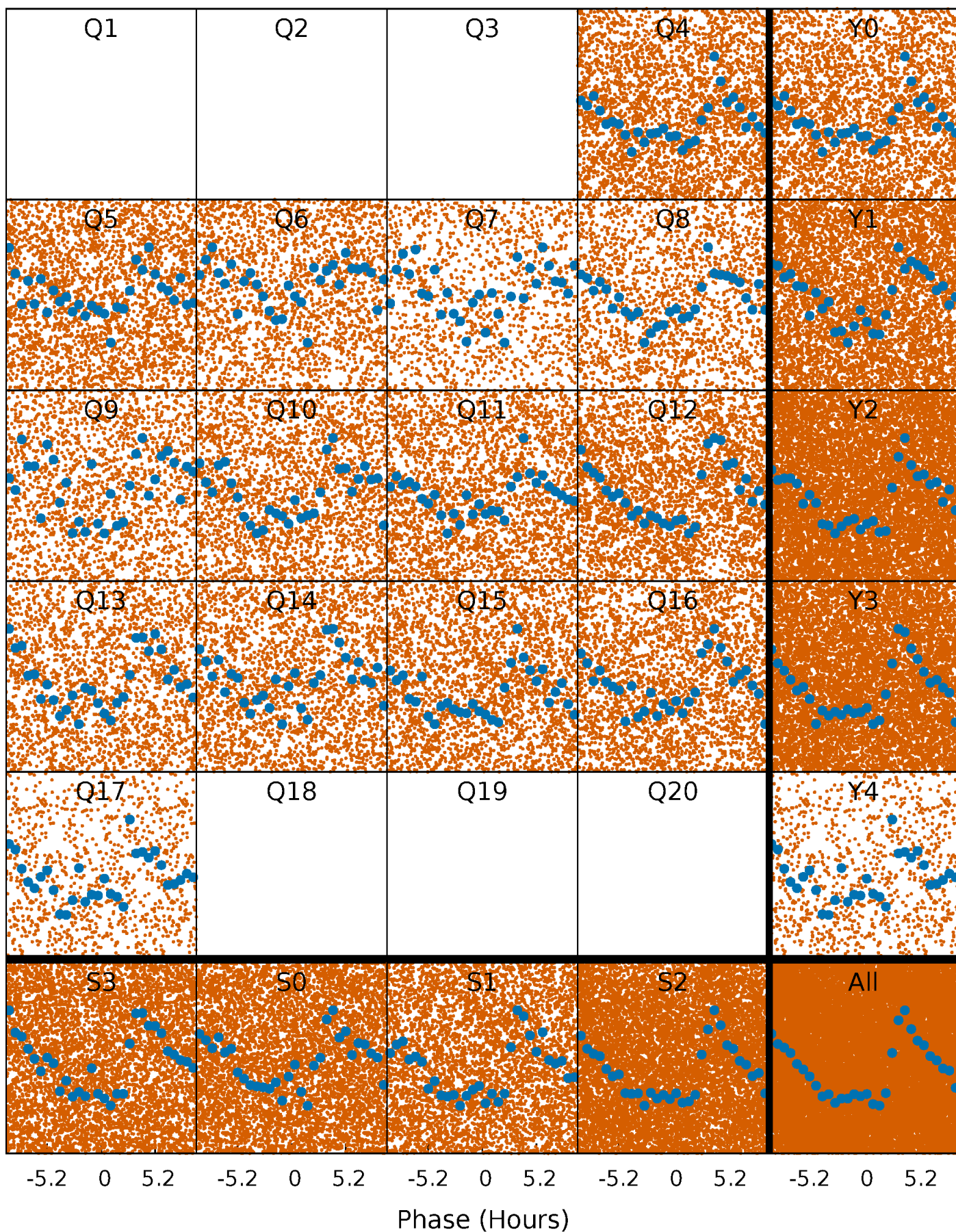


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



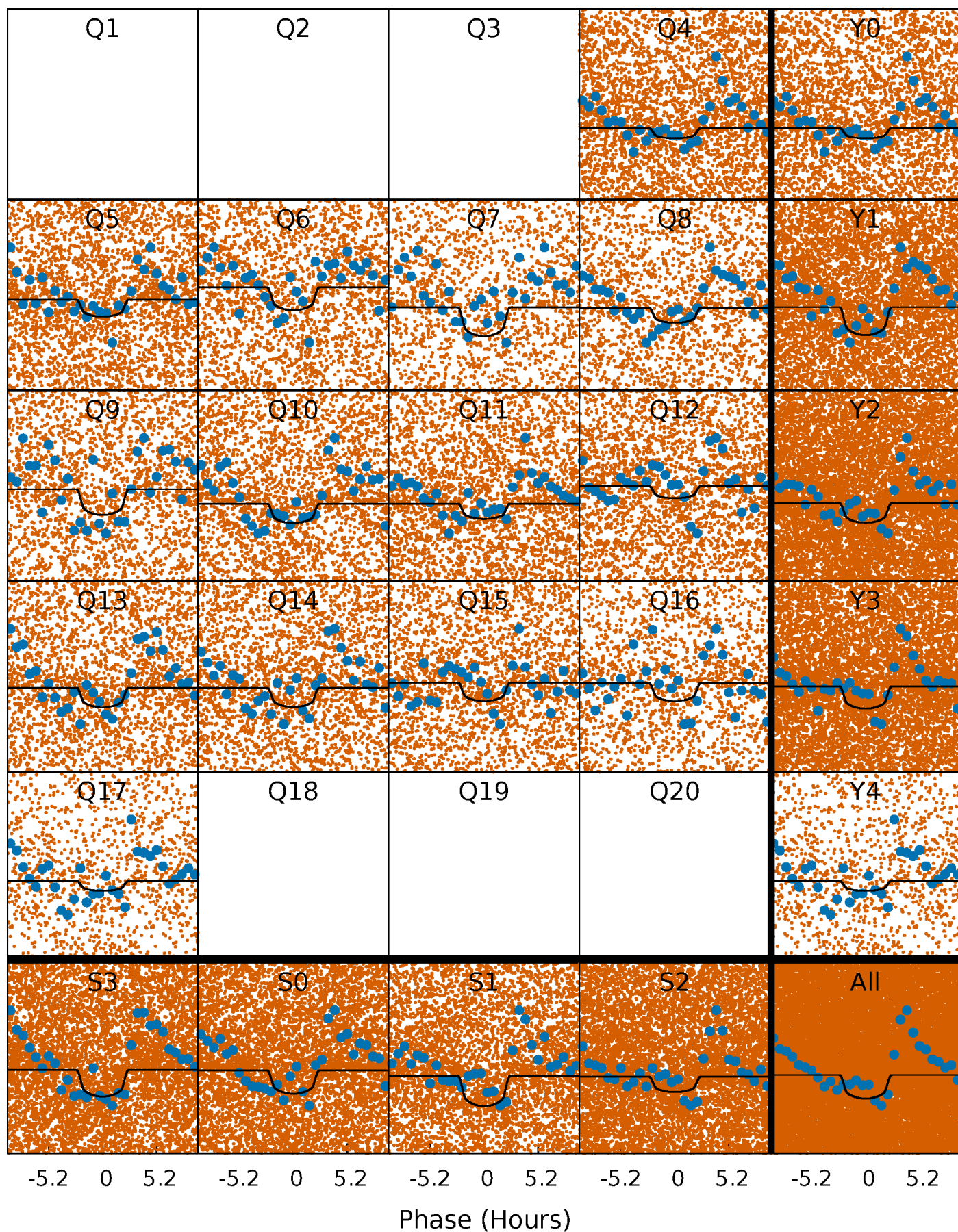
PDC Quarter-Phased Transit Curves

TCE 007116670-01 P= 0.566808 Days $T_0=131.625714$ (BKJD)



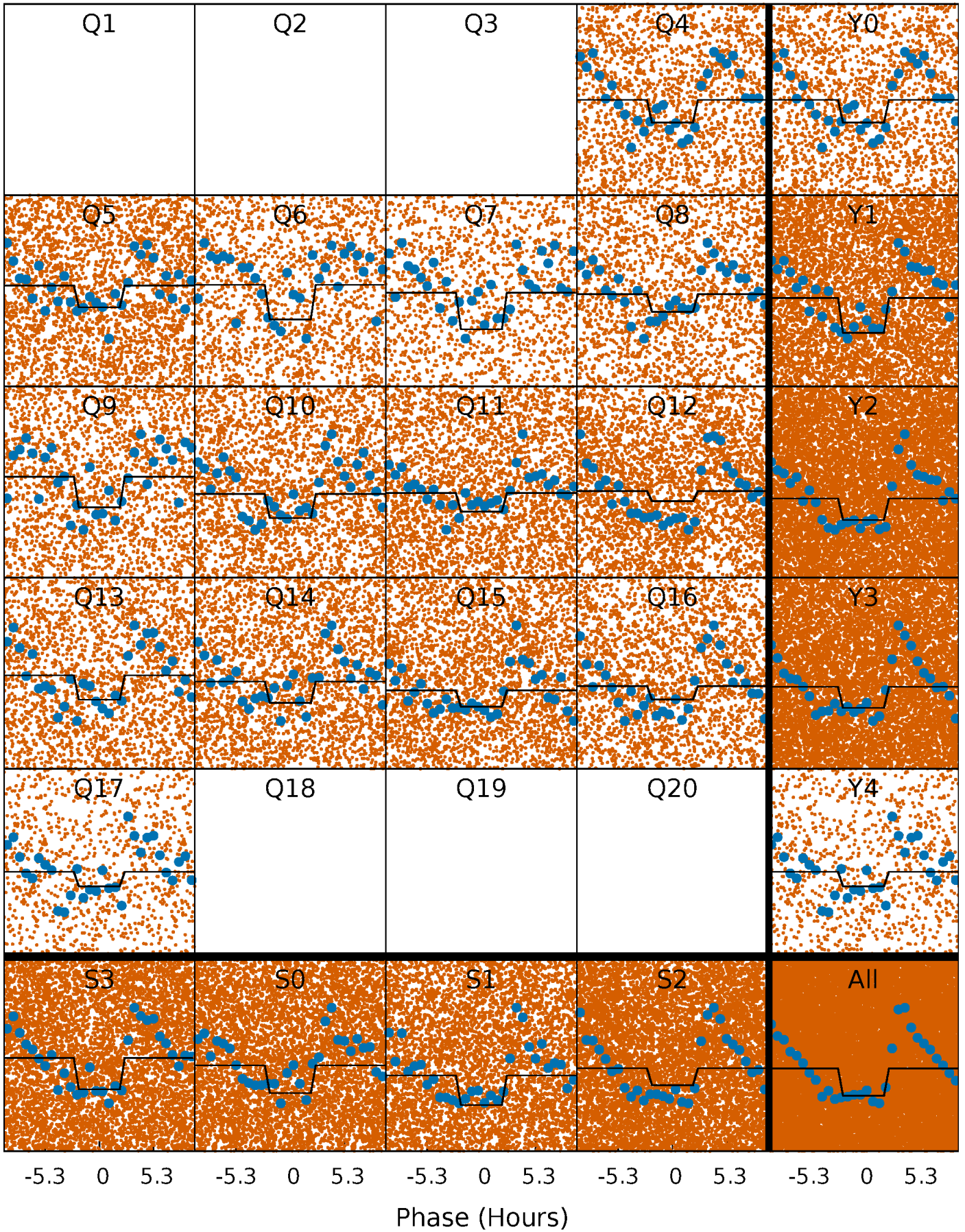
DV Quarter-Phased Transit Curves

TCE 007116670-01 P= 0.566808 Days $T_0=131.625714$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

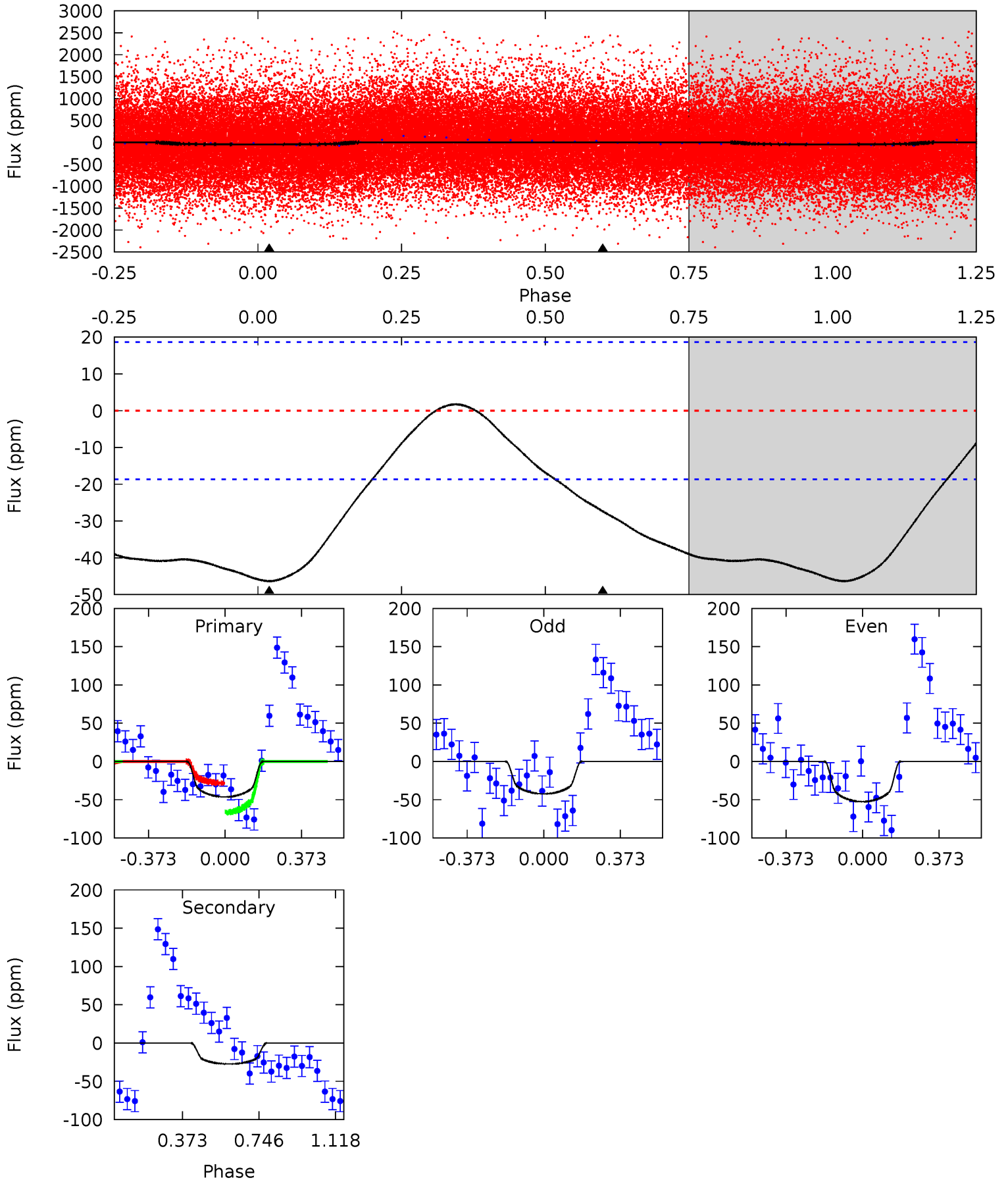
TCE 007116670-01 P= 0.566808 Days $T_0=131.625714$ (BKJD)



DV Model-Shift Uniqueness Test

007116670-01, P = 0.566808 Days, E = 131.625714 Days

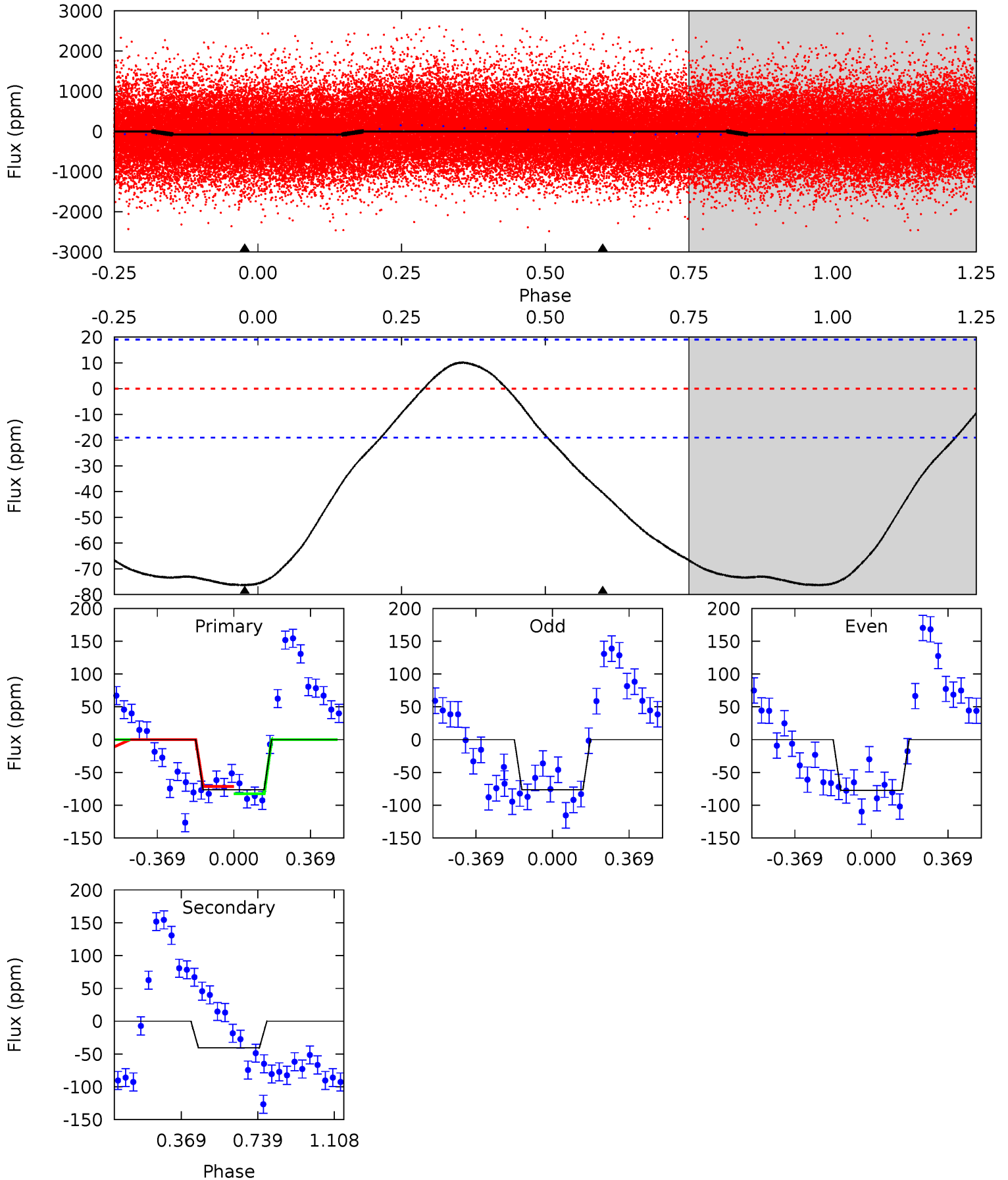
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.6	6.28	0	0	4.28	0.89	0.65	10.6	10.6	6.28	6.28	1.18	0.85	0.04	4.46



Alt Model-Shift Uniqueness Test

007116670-01, P = 0.566808 Days, E = 131.625714 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.2	9.10	0	0	4.28	0.90	1.50	17.2	17.2	9.10	9.10	0.11	0.95	0.12	1.29



Stellar Parameters For KIC 007116670

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5792^{+161}_{-202}	$4.514^{+0.038}_{-0.212}$	$0.040^{+0.250}_{-0.300}$	$0.923^{+0.287}_{-0.096}$	$1.015^{+0.114}_{-0.125}$	$1.815^{+0.376}_{-0.917}$
	+3%/-3%	+1%/-5%	+625%/-750%	+31%/-10%	+11%/-12%	+21%/-51%
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 007116670-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-27 ± 4	$0.95^{+0.53}_{-0.49}$	3035^{+220}_{-157}	4460^{+1902}_{-714}	$2.925^{+9.255}_{-1.700}$
Alt.	-40 ± 4	$0.94^{+0.53}_{-0.47}$	3041^{+211}_{-151}	4923^{+1859}_{-834}	$4.537^{+12.201}_{-2.739}$

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

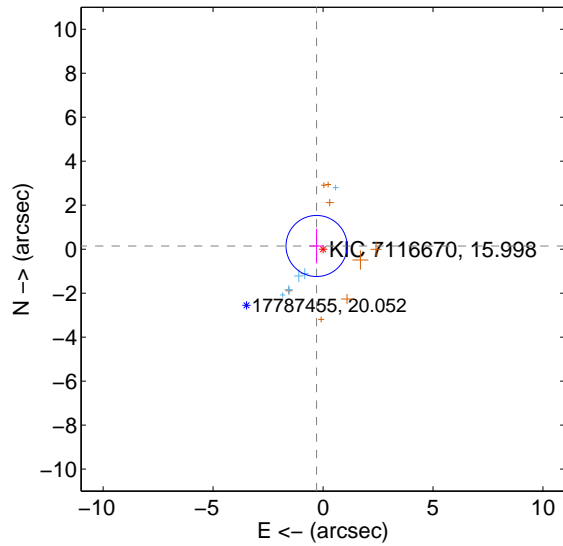
Supplemental centroid analysis for 007116670-01. Kepler magnitude: 16.00. Transit SNR 10.66

There are 5 quarters with good PRF difference image offsets

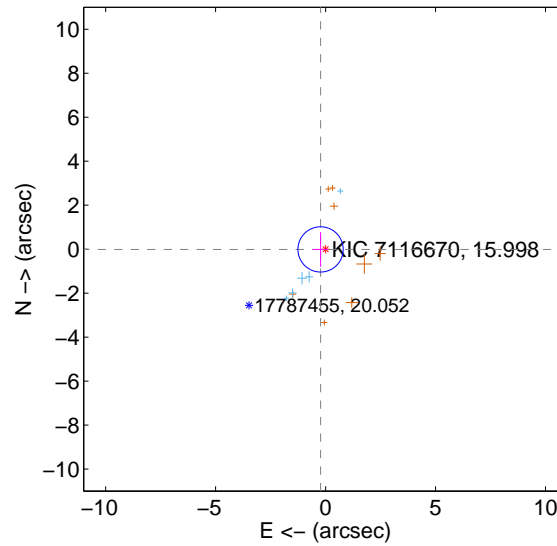
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.329 ± 0.463	0.71	0.295 ± 0.338	0.145 ± 0.792
PRF-fit source offset from KIC position	0.228 ± 0.343	0.67	0.228 ± 0.341	-0.010 ± 0.790
photometric centroid source offset	5.16 ± 1.34	3.86	0.96 ± 1.43	5.07 ± 1.33

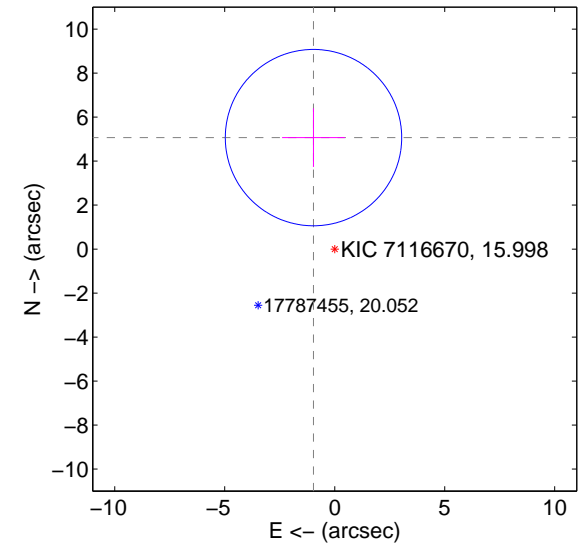
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

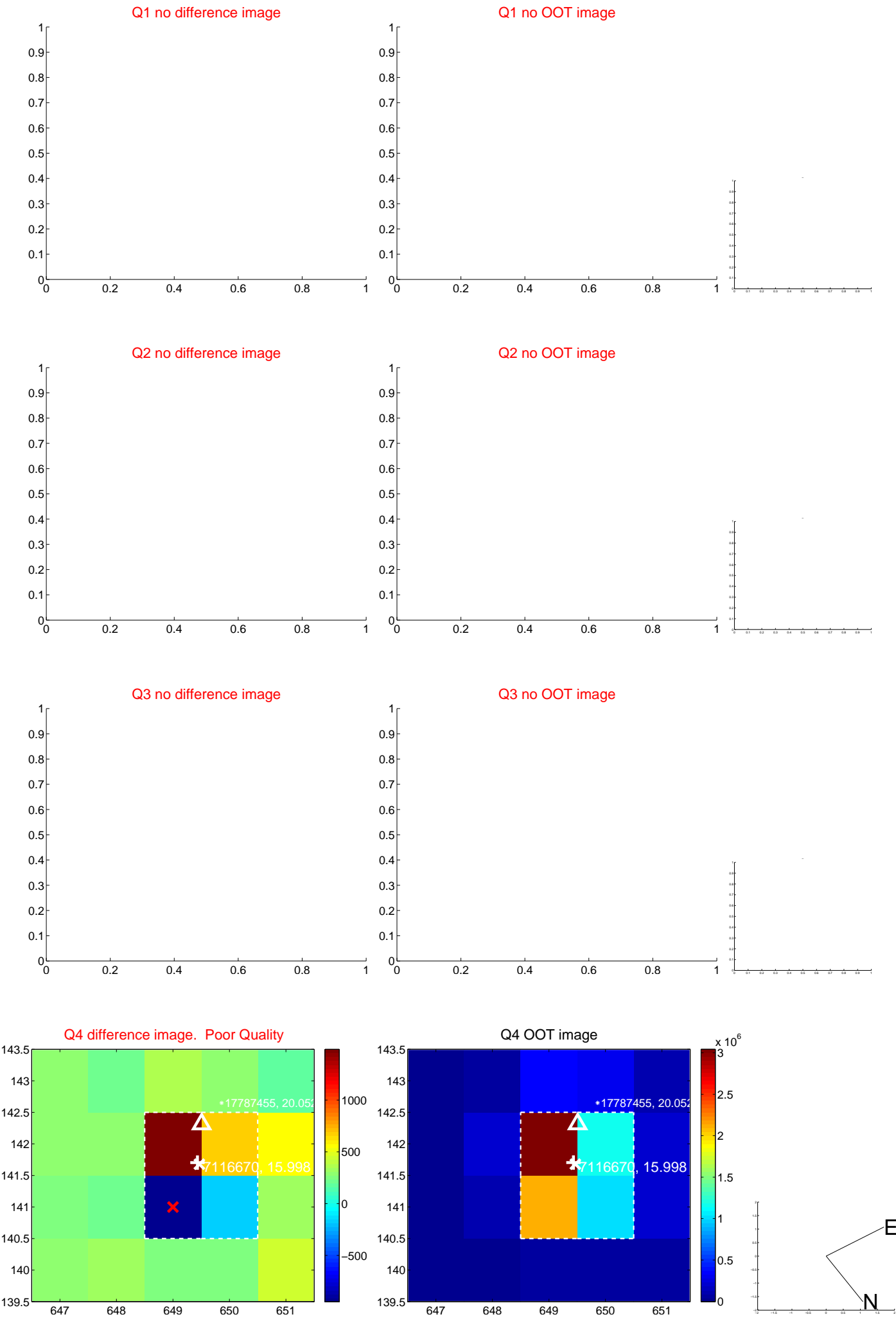


offset from photometric centroids

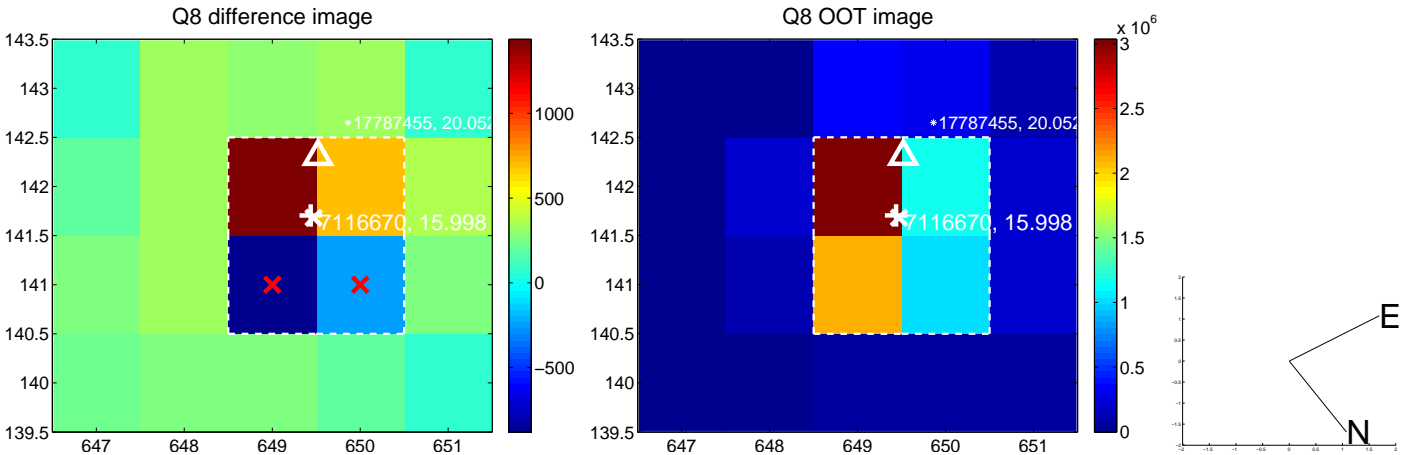
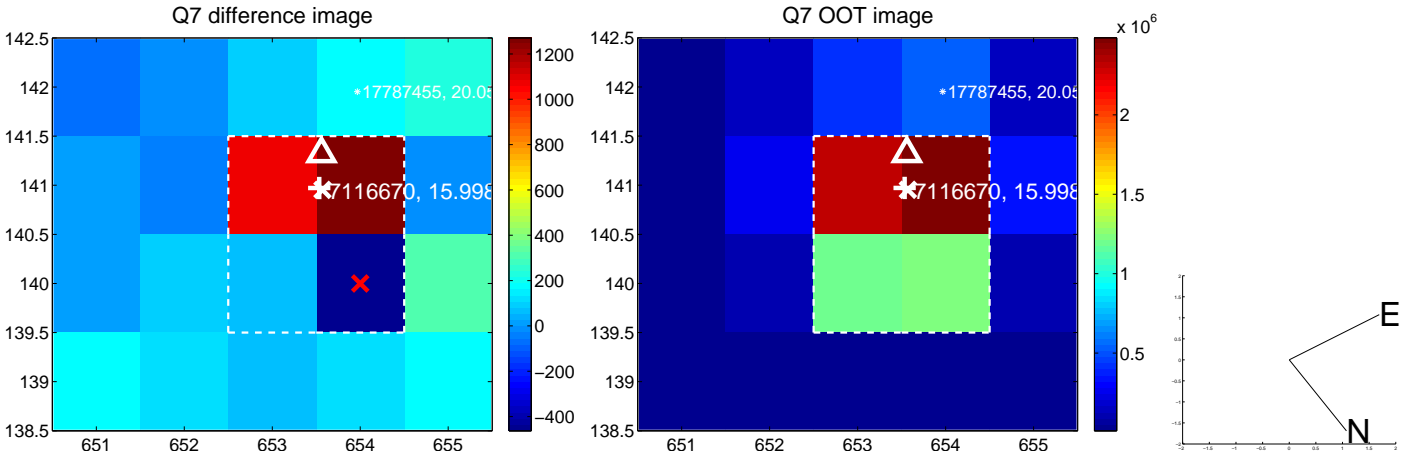
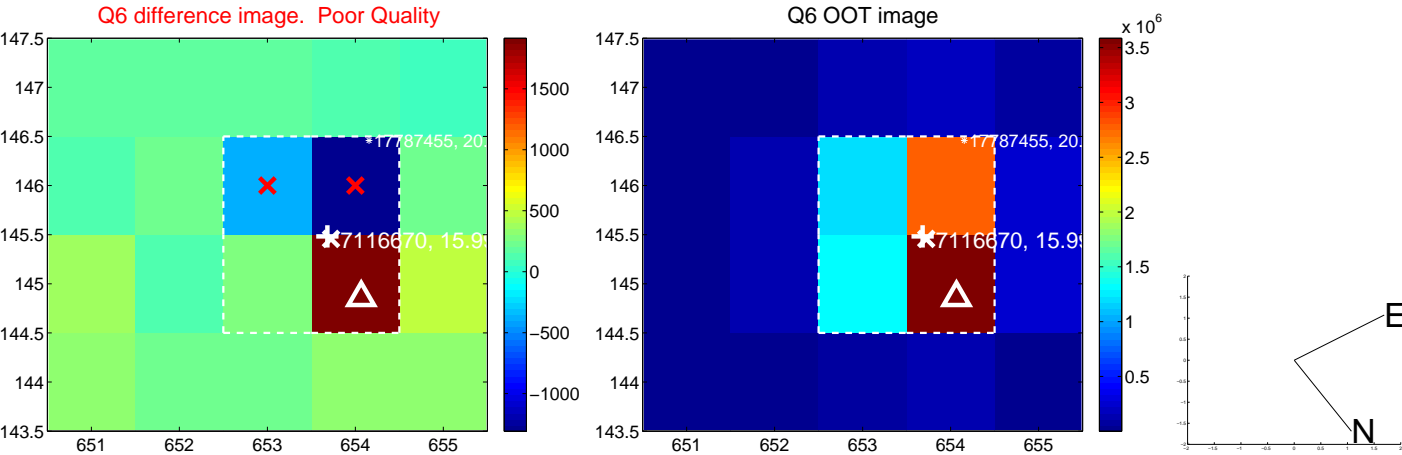
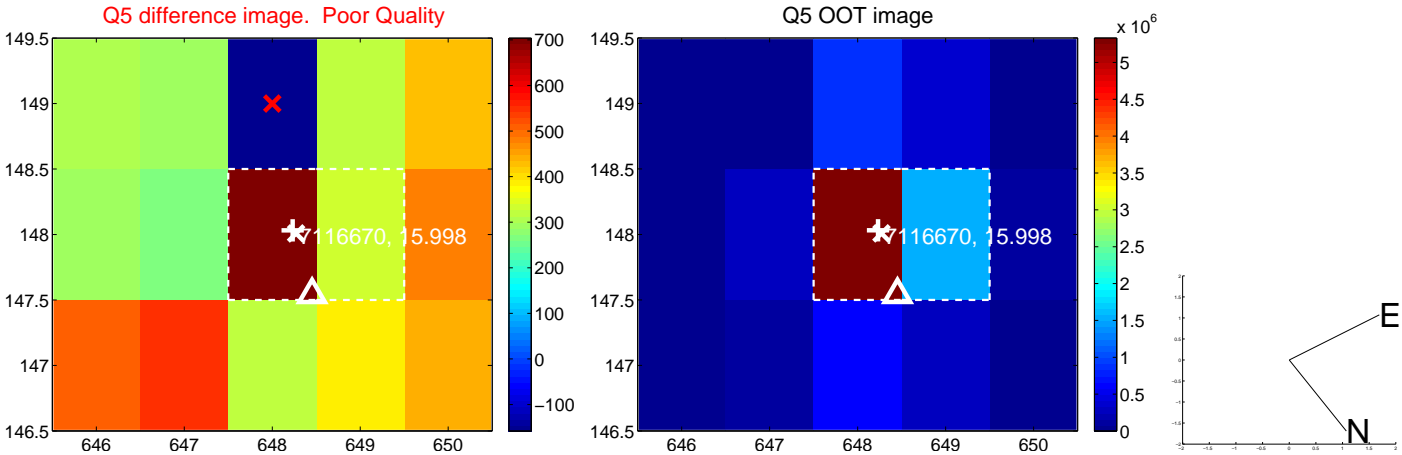


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

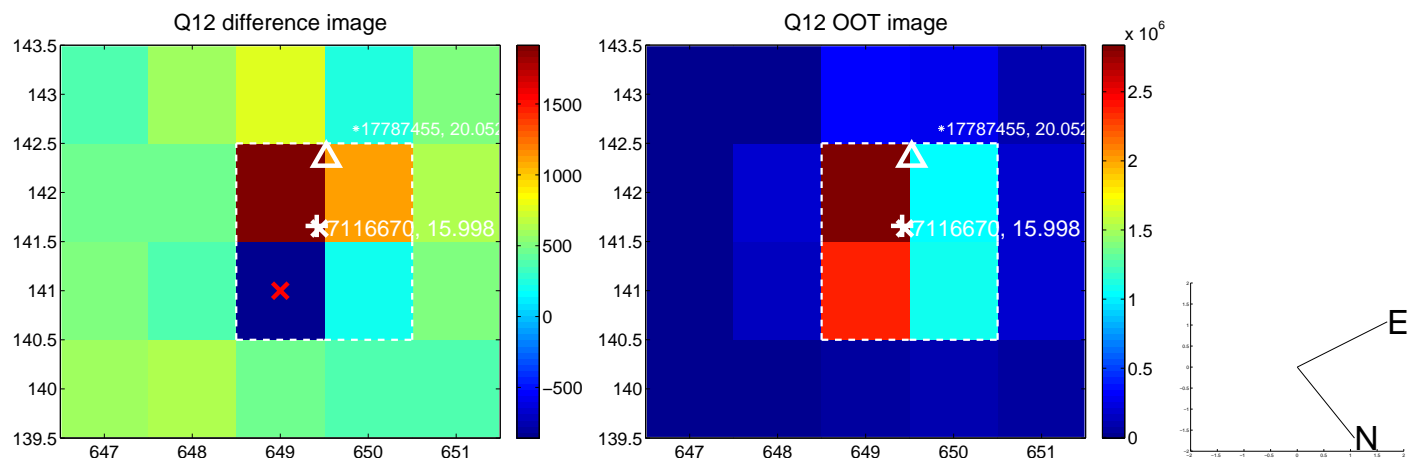
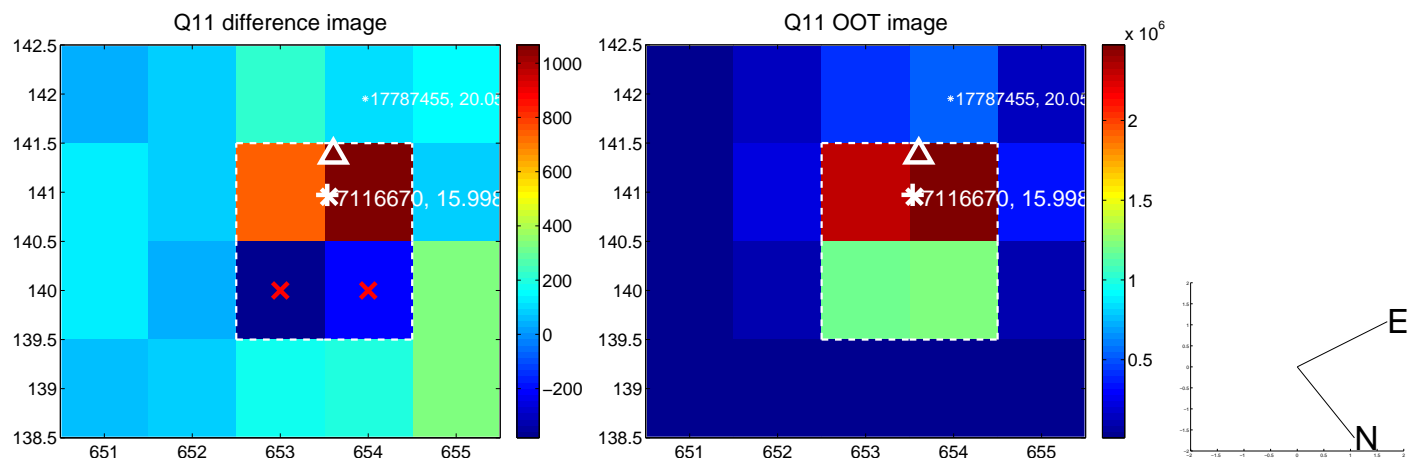
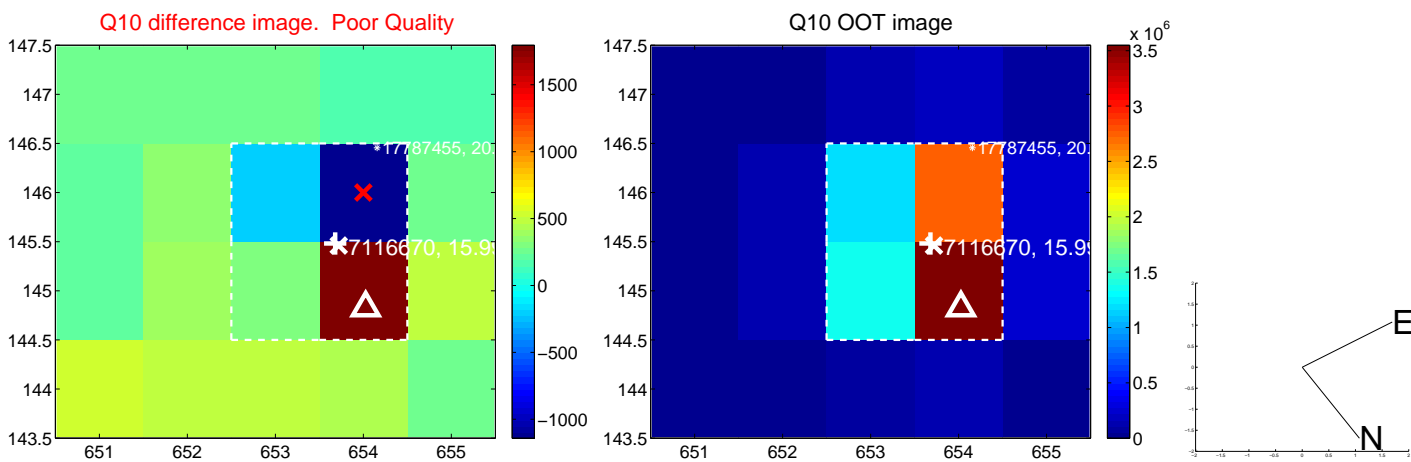
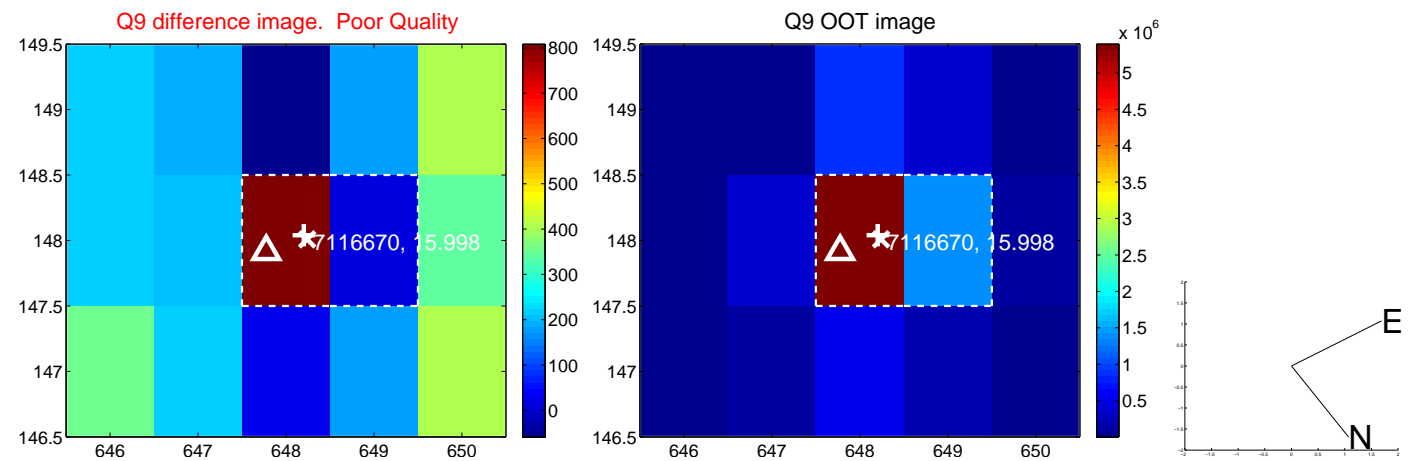
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



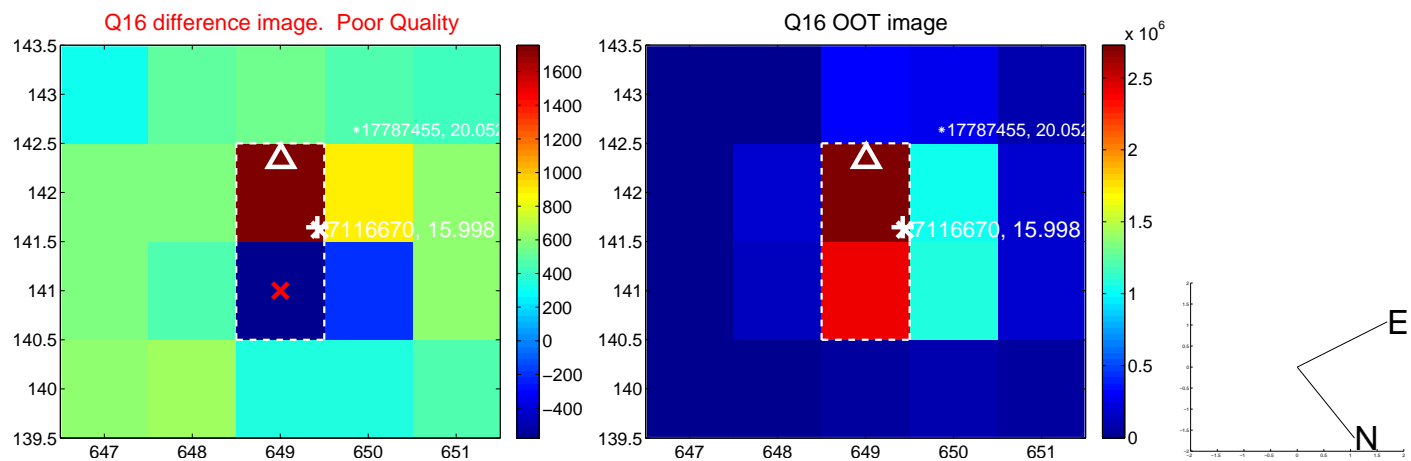
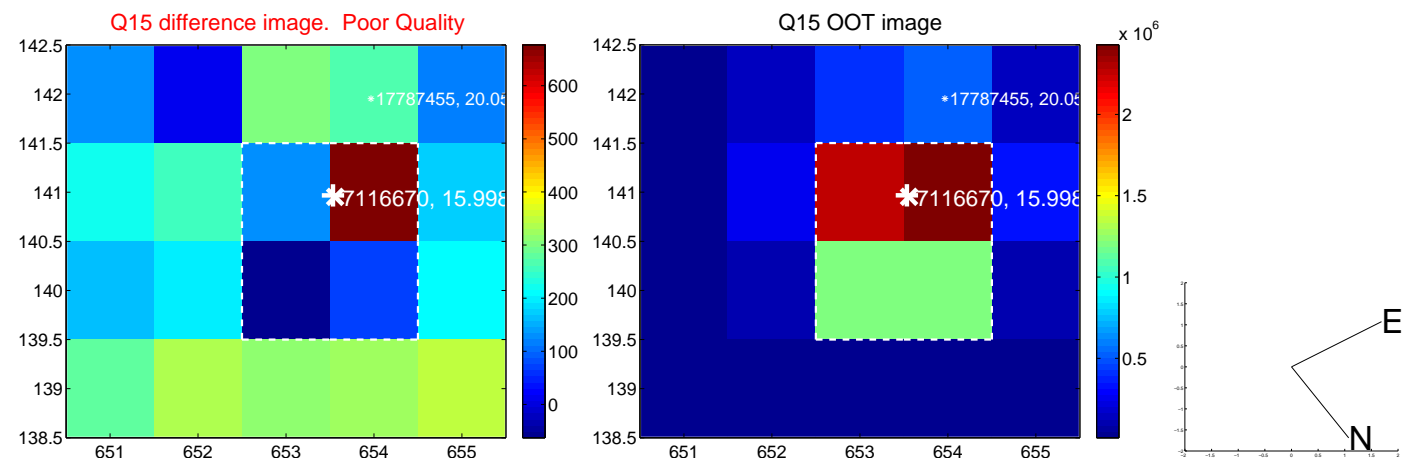
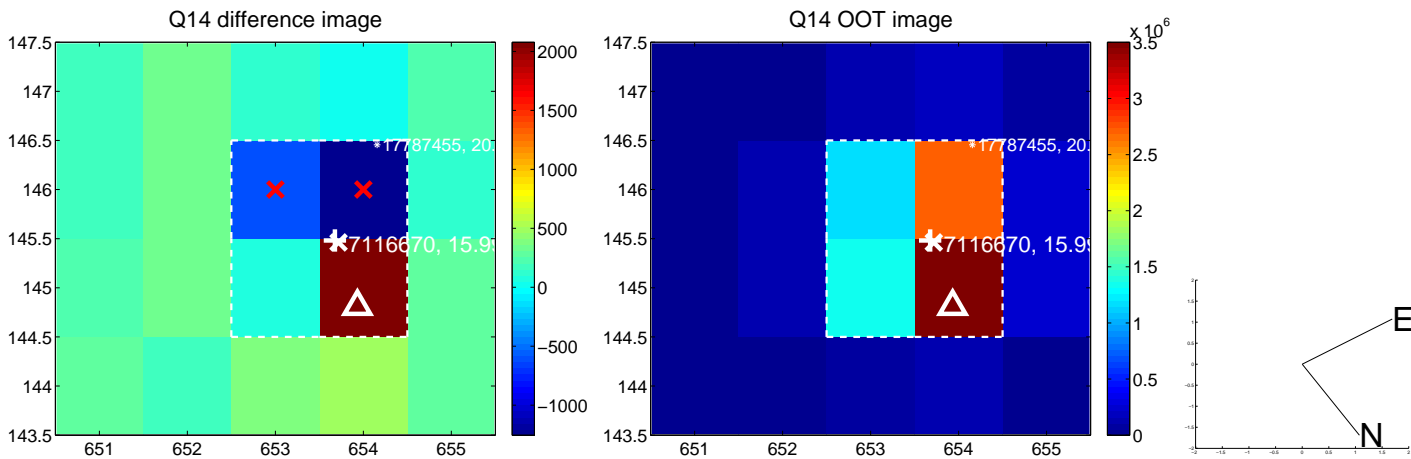
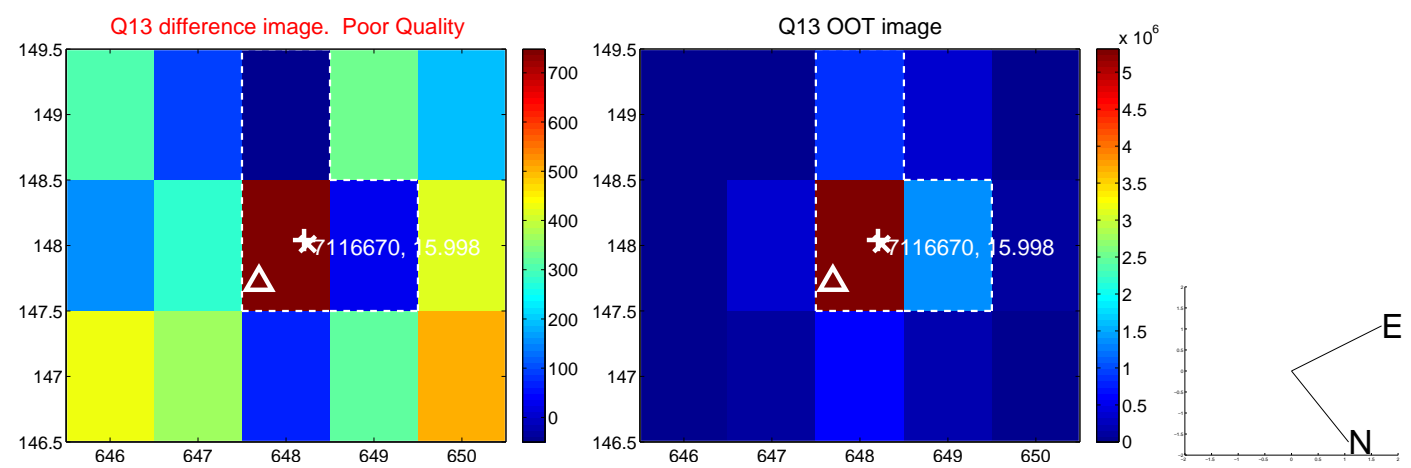
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



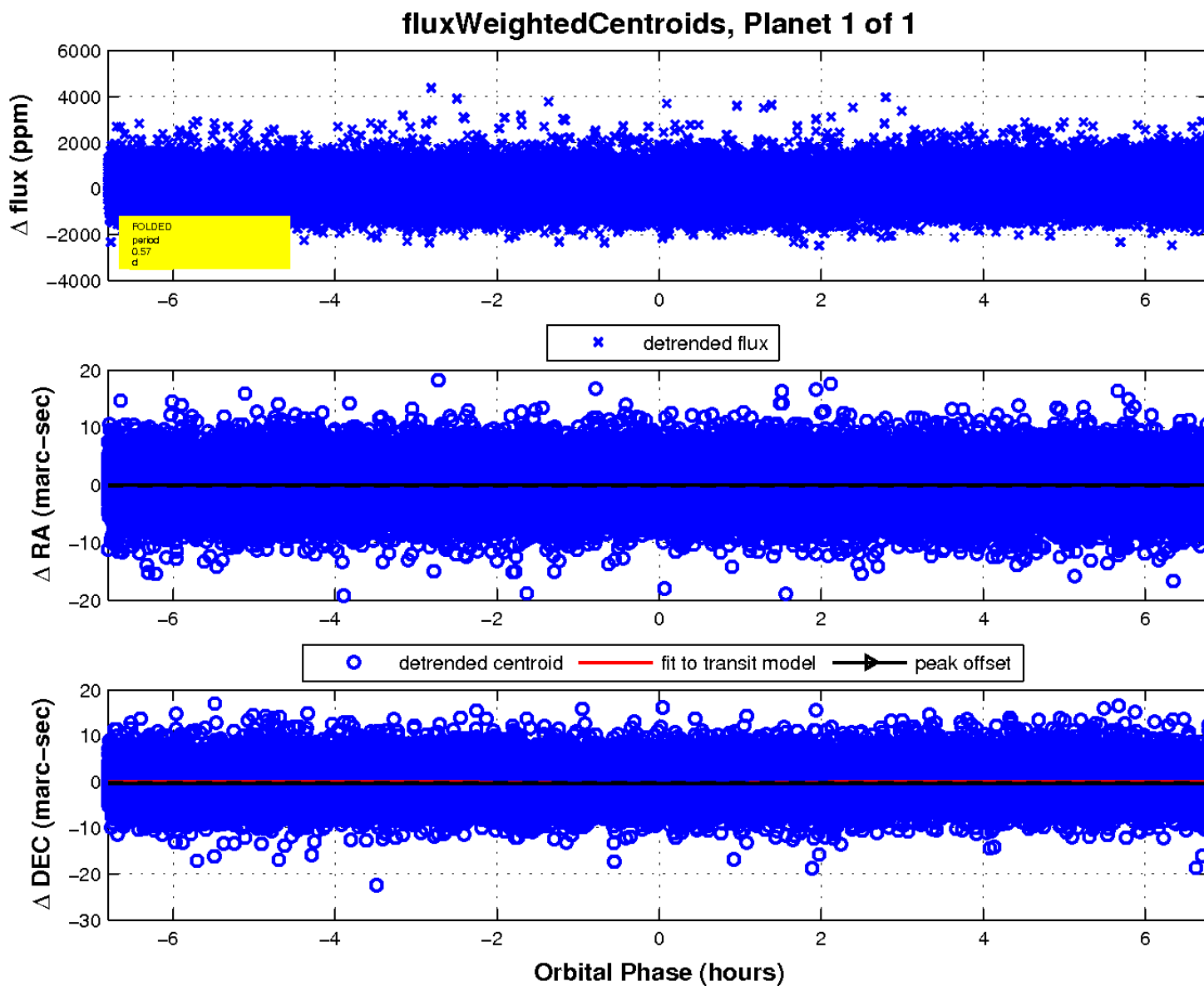
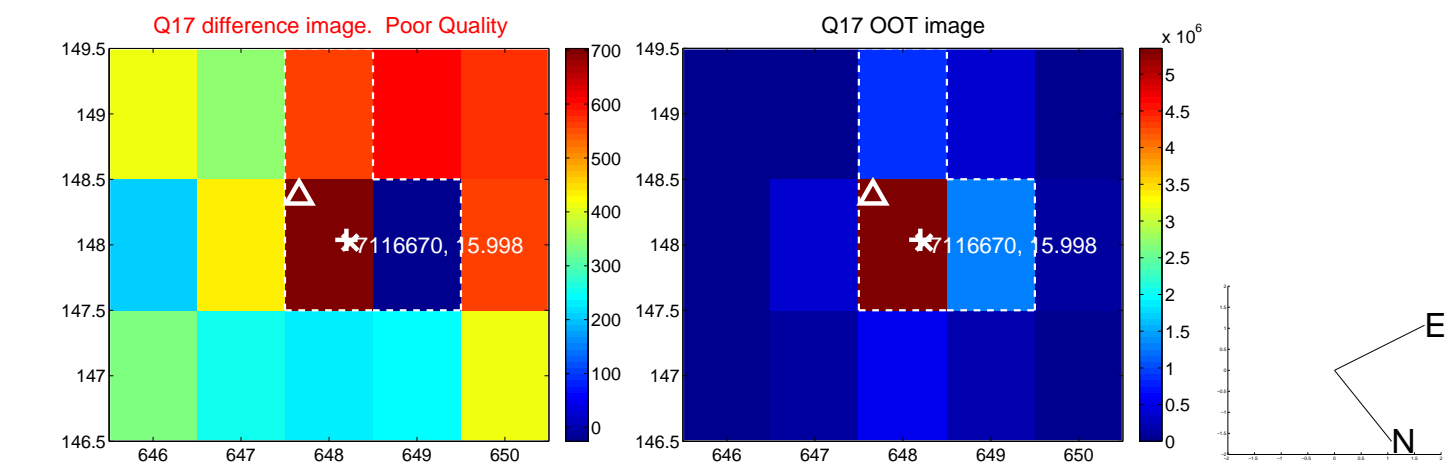
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

