

KIC 007116046

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})
007116046-01	OBS	No	0.566766	131.859325	50.3	4.091	10.3	10.0	0.86	5408	0.66	3214.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007116046-01	OBS	FP	0.00	1	0	0	1	LPP_DV—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.

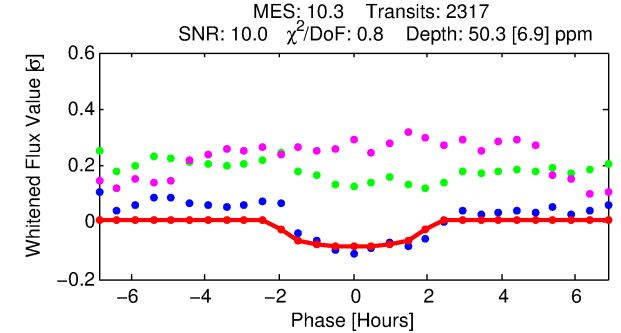
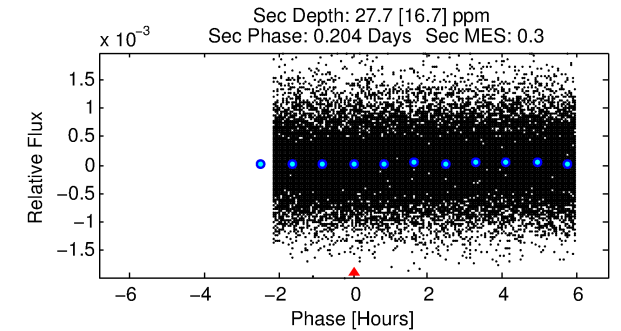
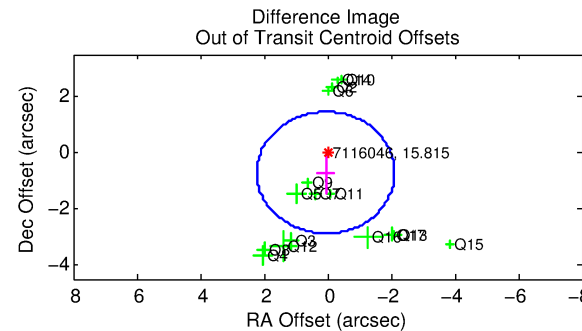
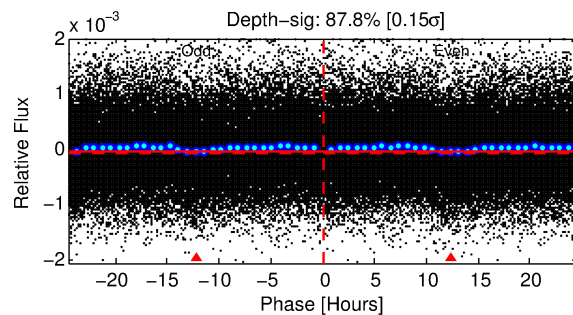
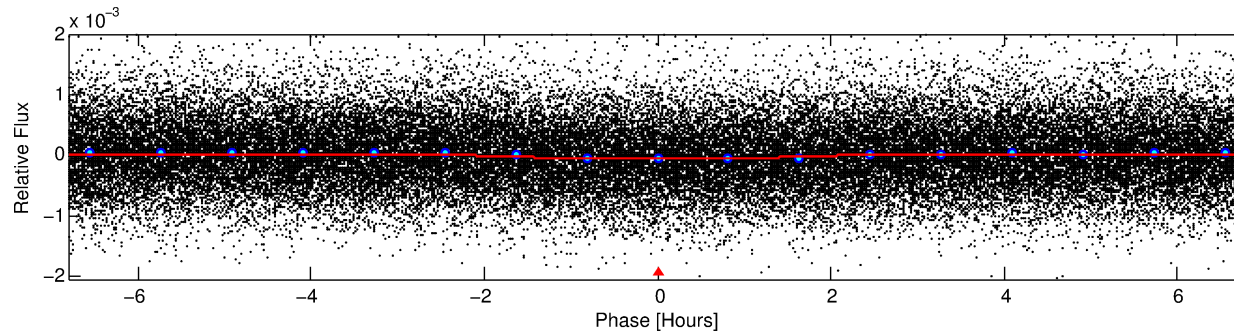
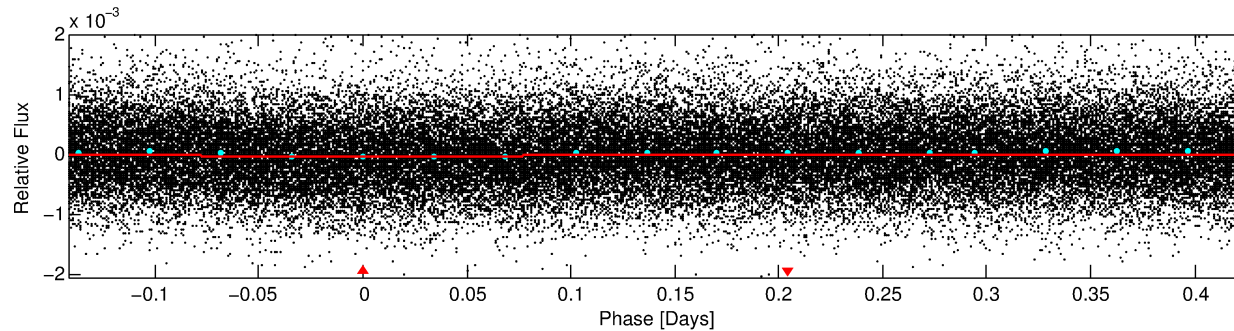
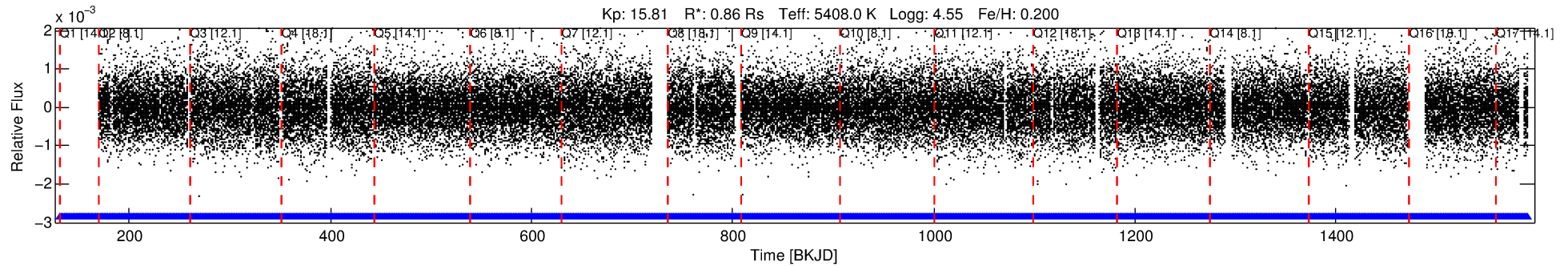
Ephemeris Match Information For 007116046-01

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
007116046-01	7116046	RR-Lyr-pri	7198959	1:1	690.5	88	-150	7.86	15.81	12466.00	Direct-PRF	0	3.72	22.43

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: 7116046 Candidate: 1 of 1 Period: 0.567 d



DV Fit Results:

Period = 0.56677 [0.00001] d
Epoch = 131.8593 [0.0046] BKJD
Rp/R* = 0.0070 [0.0062]
a/R* = 1.13 [0.81]
b = 0.73 [2.32]
Seff = 3214.82 [1046.69]
Teq = 1920 [156] K
Rp = 0.65 [0.60] Re
a = 0.0132 [0.0026] AU
Ag = 6.22 [11.81] [0.44 σ]
Teffp = 4688 [2204] K [1.25 σ]

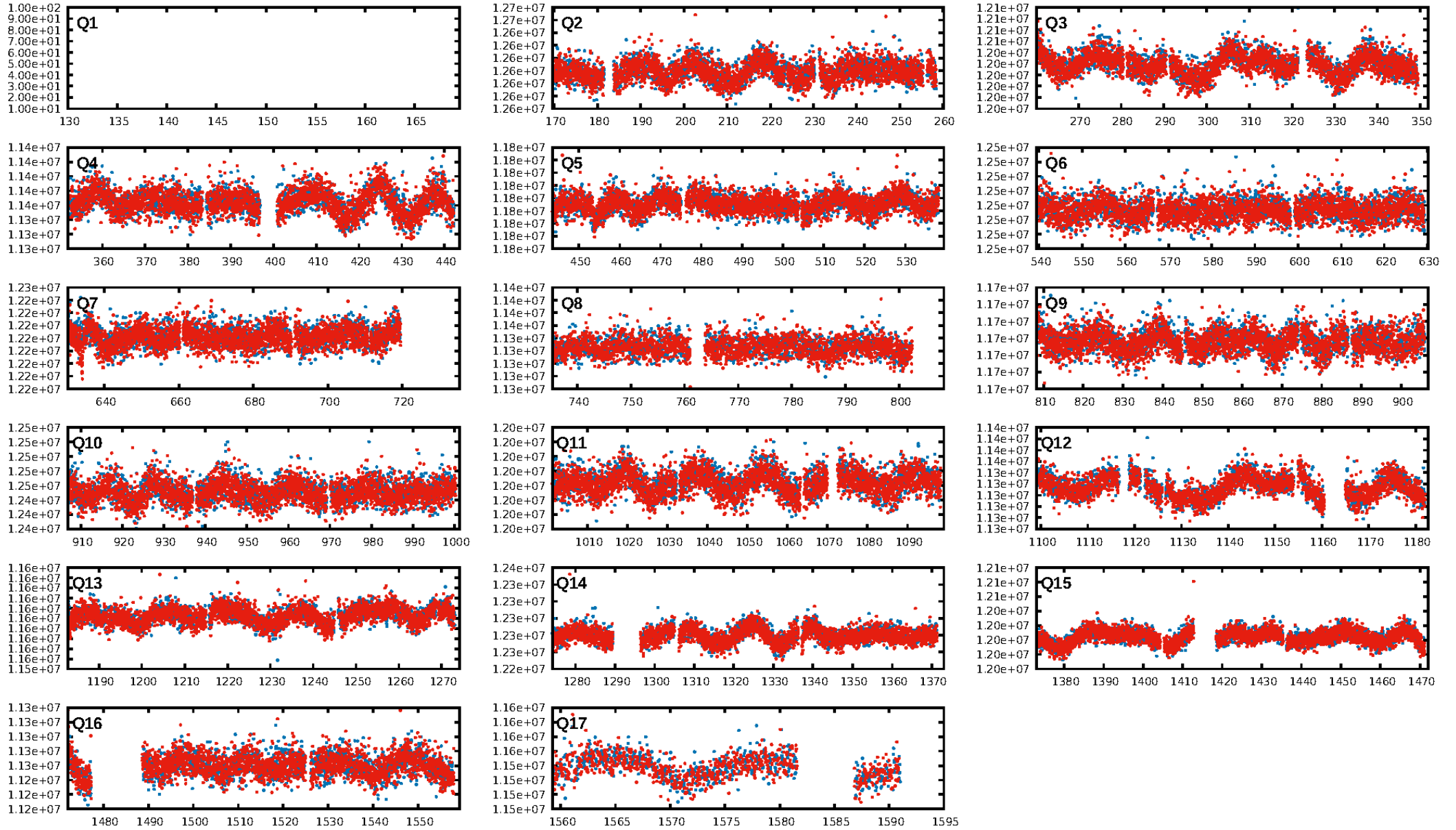
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.68e-24
RollingBand-fgt: 1.00 [2269/2269]
GhostDiagnostic-chr: 0.3699
Centroid-sig: 3.6%
Centroid-so: 1.862 arcsec [1.35 σ]
OotOffset-rm: 0.719 arcsec [1.00 σ]
KicOffset-rm: 0.759 arcsec [1.08 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.38 [6/16]
DiffImageOverlap-fno: 1.00 [16/16]

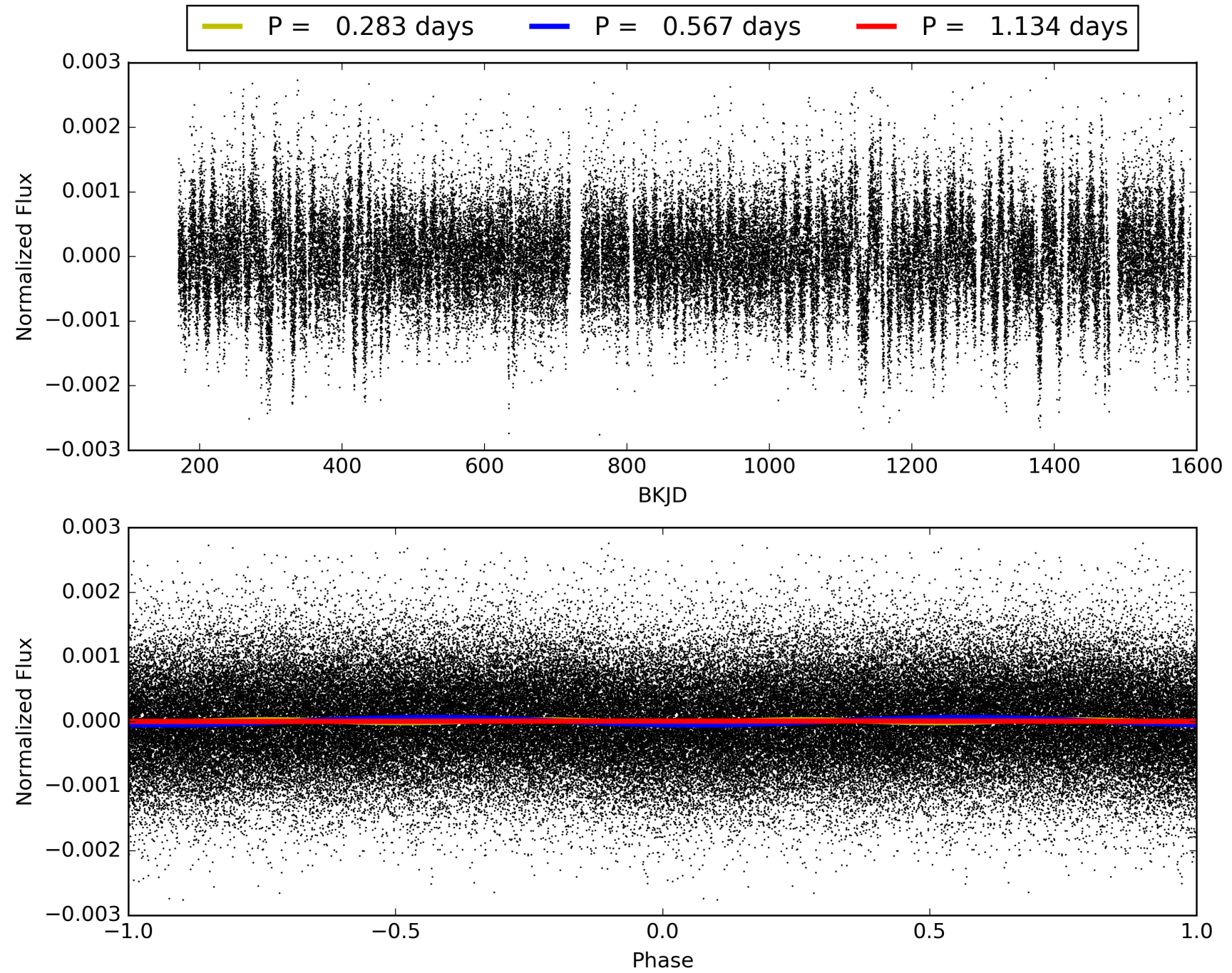
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 12:30:23 Z

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

TCE 007116046-01, PDC Light Curves

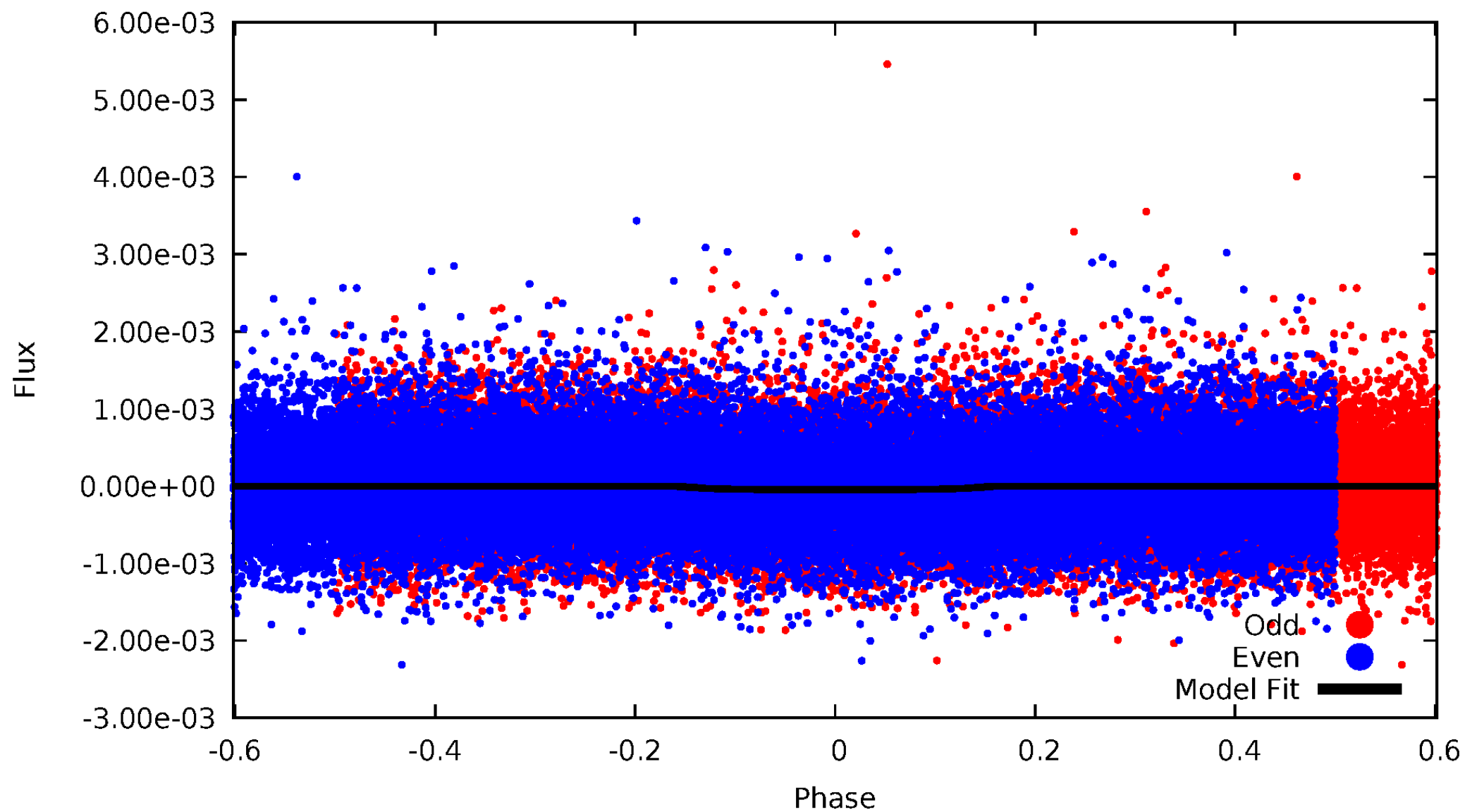


TCE 007116046-01



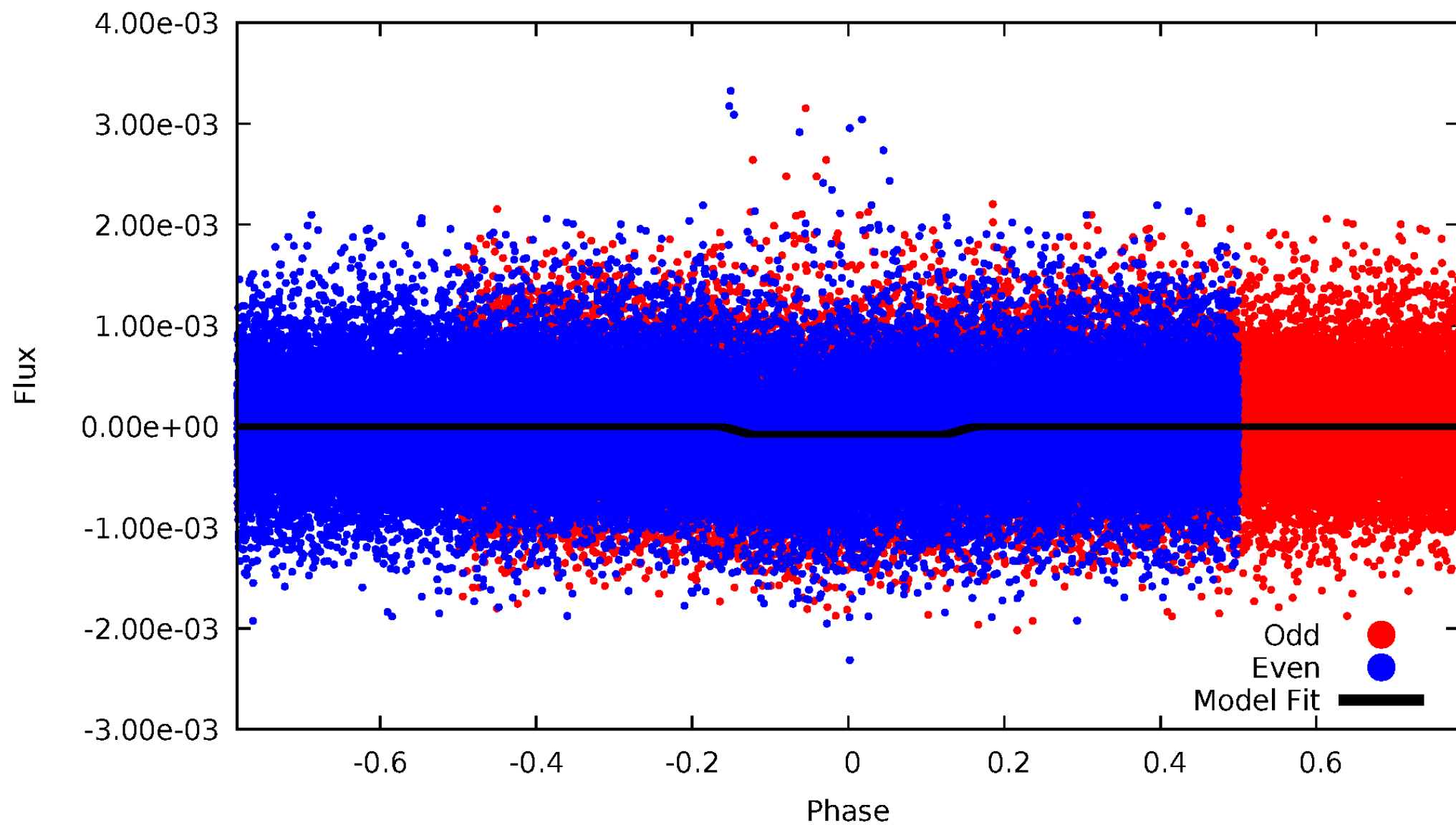
DV Odd/Even

TCE 007116046-01



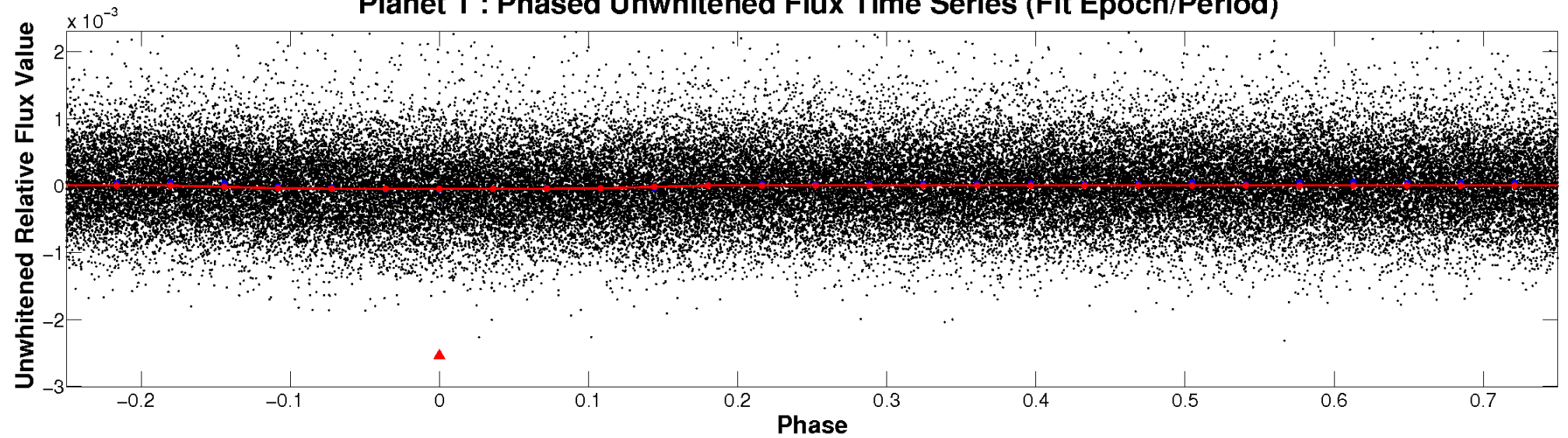
ALT Odd/Even

TCE 007116046-01

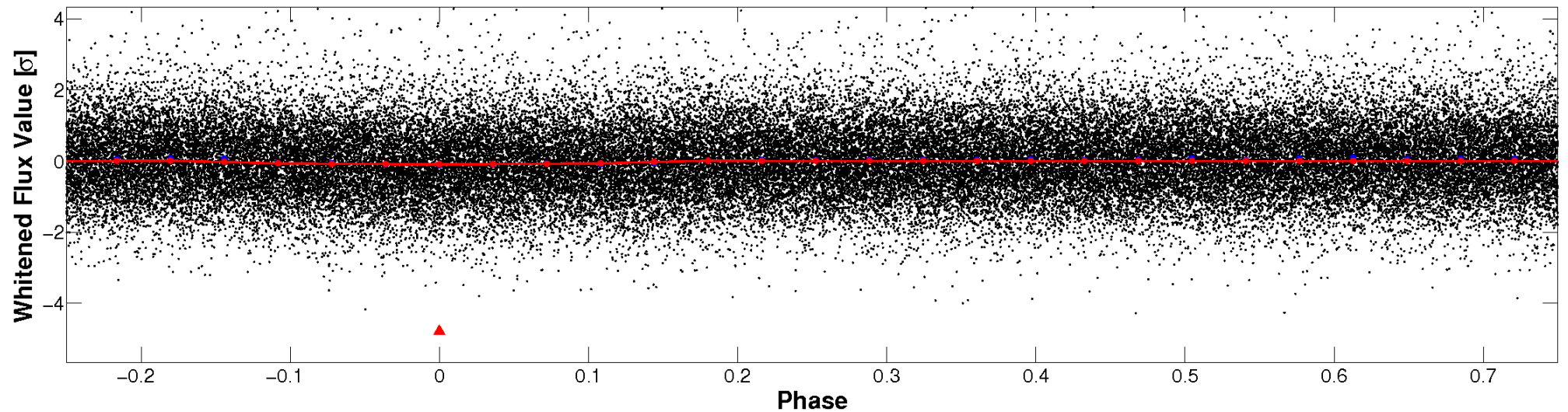


Non-Whitened Vs. Whitened Light Curve

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

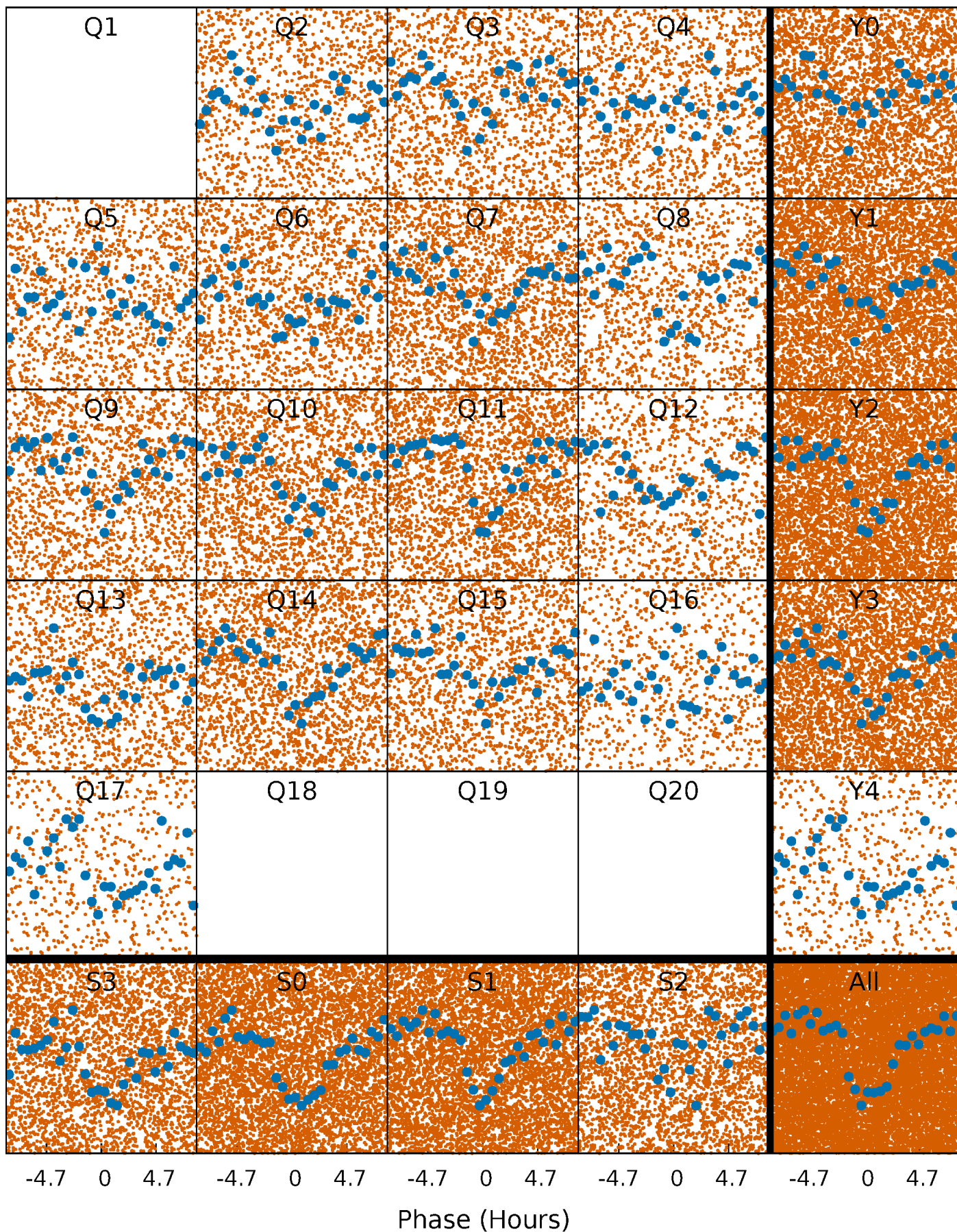


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



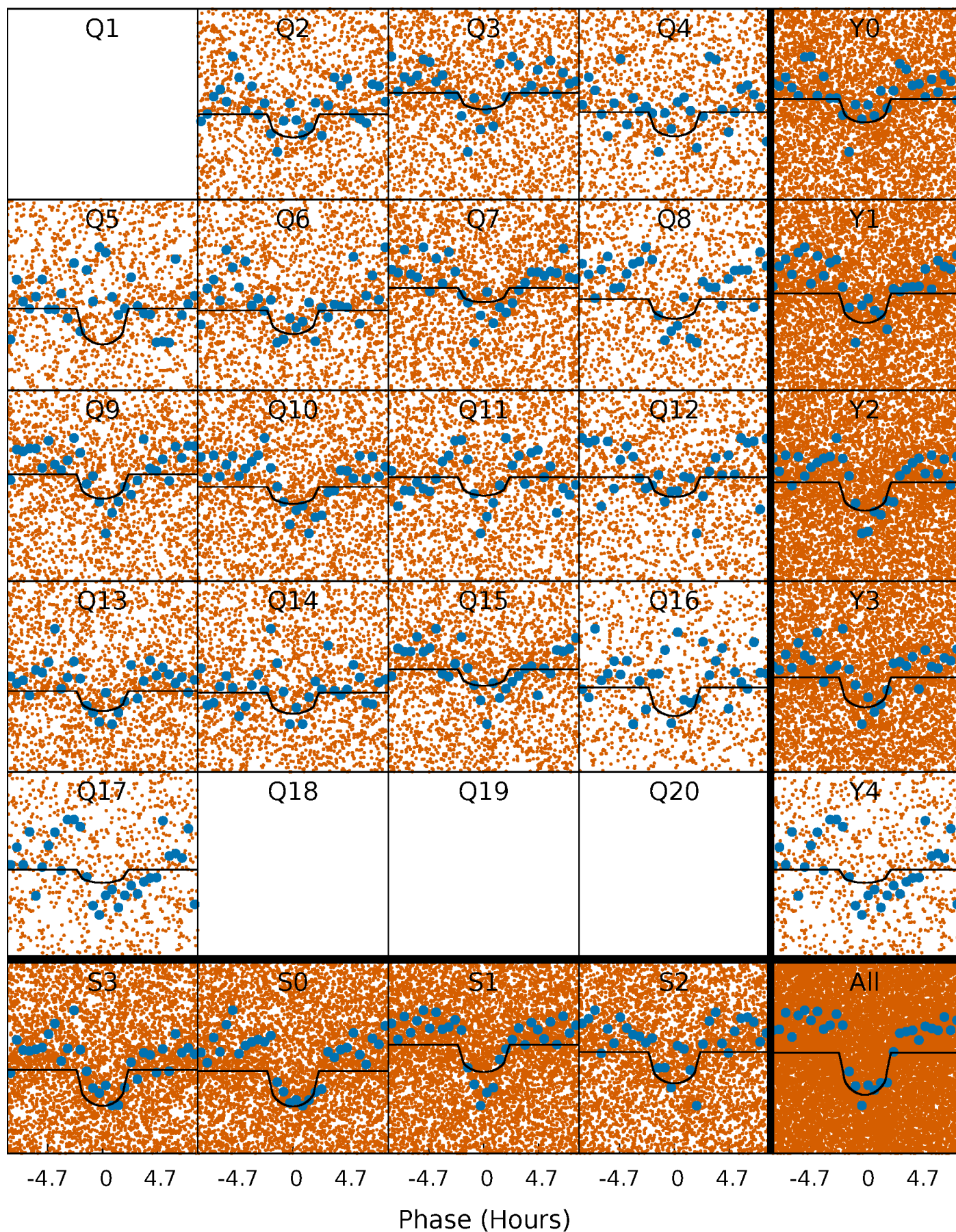
PDC Quarter-Phased Transit Curves

TCE 007116046-01 P= 0.566766 Days $T_0=131.859325$ (BKJD)



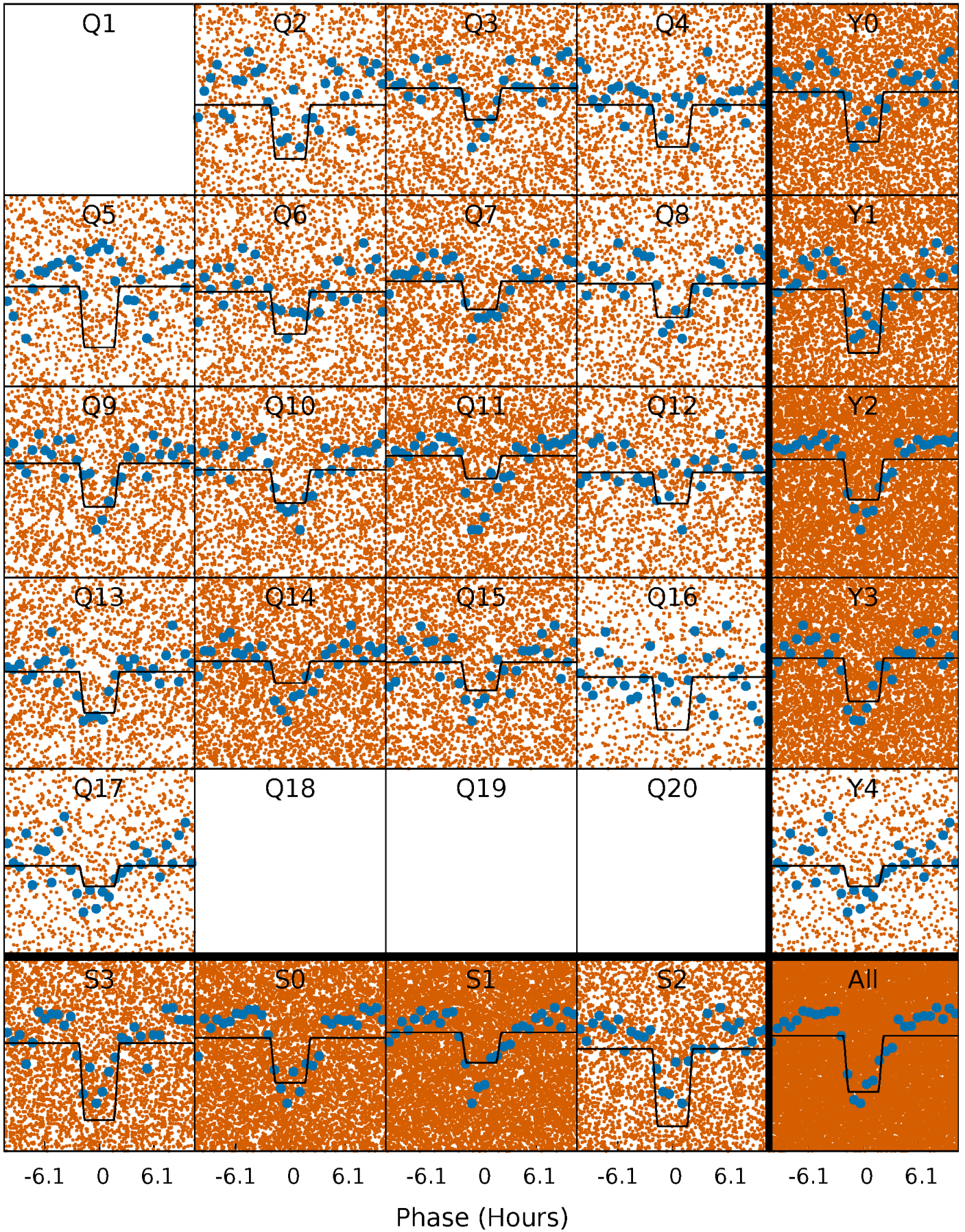
DV Quarter-Phased Transit Curves

TCE 007116046-01 P= 0.566766 Days $T_0=131.859325$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

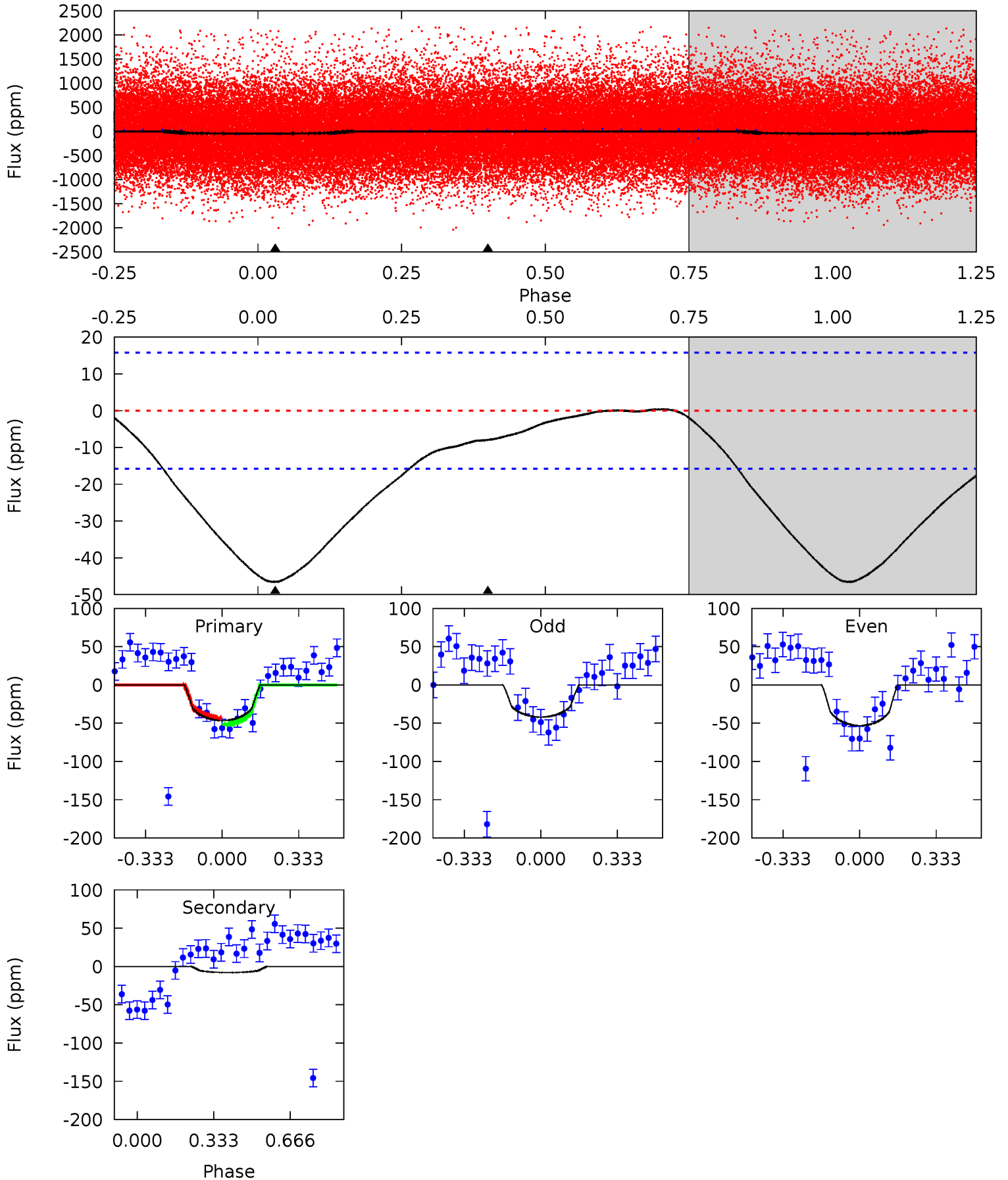
TCE 007116046-01 P= 0.566808 Days $T_0=131.823765$ (BKJD)



DV Model-Shift Uniqueness Test

007116046-01, P = 0.566766 Days, E = 131.859325 Days

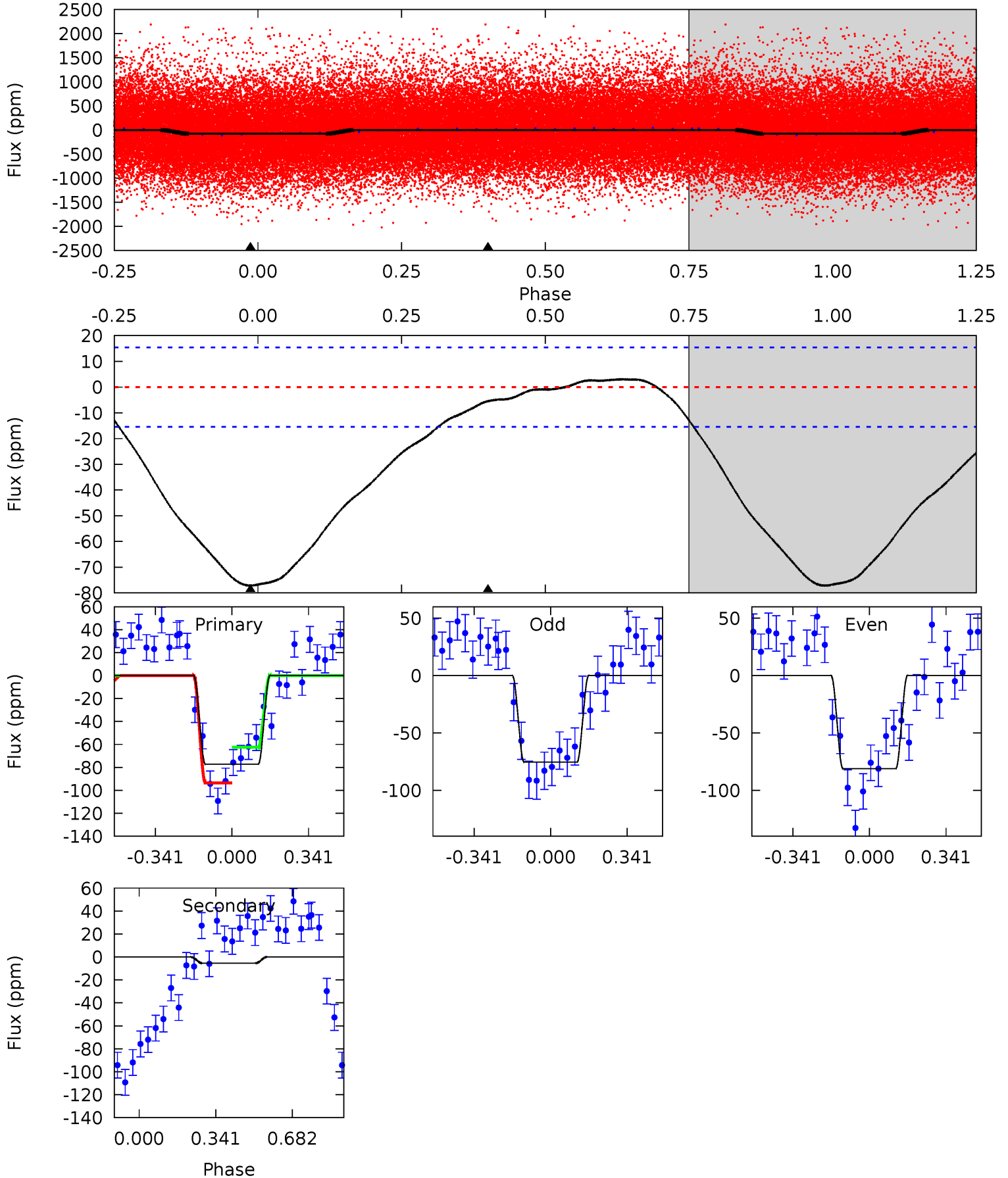
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.7	2.17	0	0	4.31	0.97	0.32	12.7	12.7	2.17	2.17	1.54	0.85	0.01	1.14



Alt Model-Shift Uniqueness Test

007116046-01, P = 0.566808 Days, E = 131.823765 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.5	1.53	0	0	4.30	0.95	1.20	21.5	21.5	1.53	1.53	0.78	1.00	0.04	4.34



Stellar Parameters For KIC 007116046

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5408^{+191}_{-172}	$4.555^{+0.029}_{-0.162}$	$0.200^{+0.200}_{-0.300}$	$0.857^{+0.200}_{-0.067}$	$0.961^{+0.065}_{-0.098}$	$2.149^{+0.343}_{-0.962}$
	+4%/-3%	+1%/-4%	+100%/-150%	+23%/-8%	+7%/-10%	+16%/-45%
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 007116046-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-8 ± 4	$0.77^{+0.56}_{-0.47}$	2754^{+142}_{-126}	3420^{+1835}_{-1245}	$1.114^{+7.431}_{-0.789}$
Alt.	-6 ± 4	$0.95^{+0.62}_{-0.55}$	2744^{+167}_{-125}	2806^{+1295}_{-5564}	$0.515^{+2.215}_{-0.402}$

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

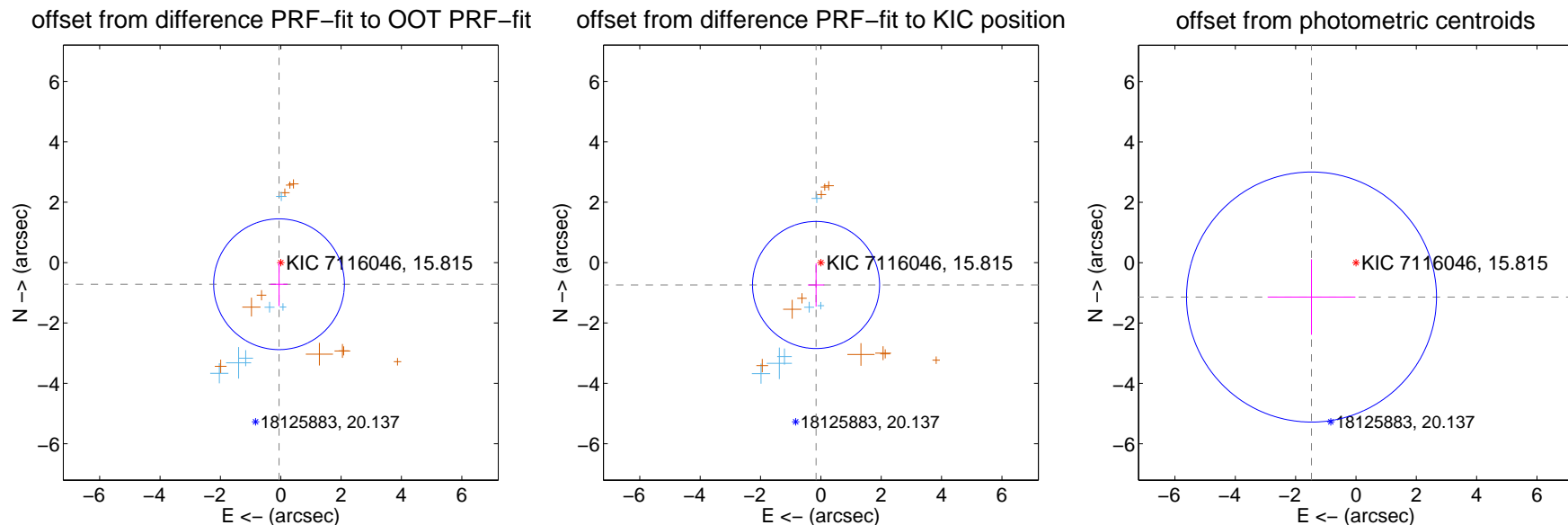
DV Centroid Data

Supplemental centroid analysis for 007116046-01. Kepler magnitude: 15.81. Transit SNR 9.97

There are 6 quarters with good PRF difference image offsets

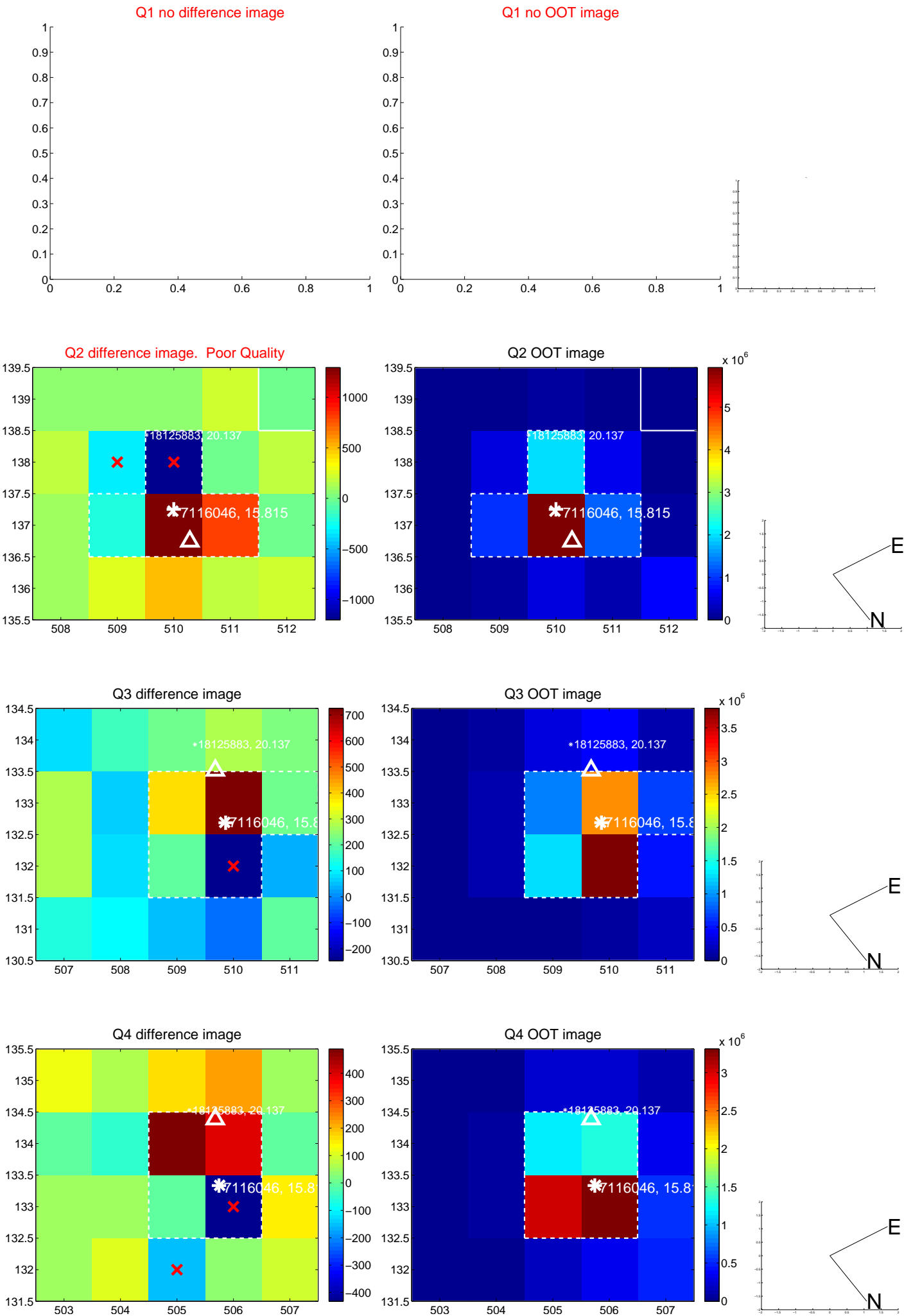
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.719 ± 0.722	1.00	0.057 ± 0.285	-0.717 ± 0.724
PRF-fit source offset from KIC position	0.759 ± 0.702	1.08	0.160 ± 0.269	-0.742 ± 0.715
photometric centroid source offset	1.86 ± 1.38	1.35	1.47 ± 1.45	-1.14 ± 1.25

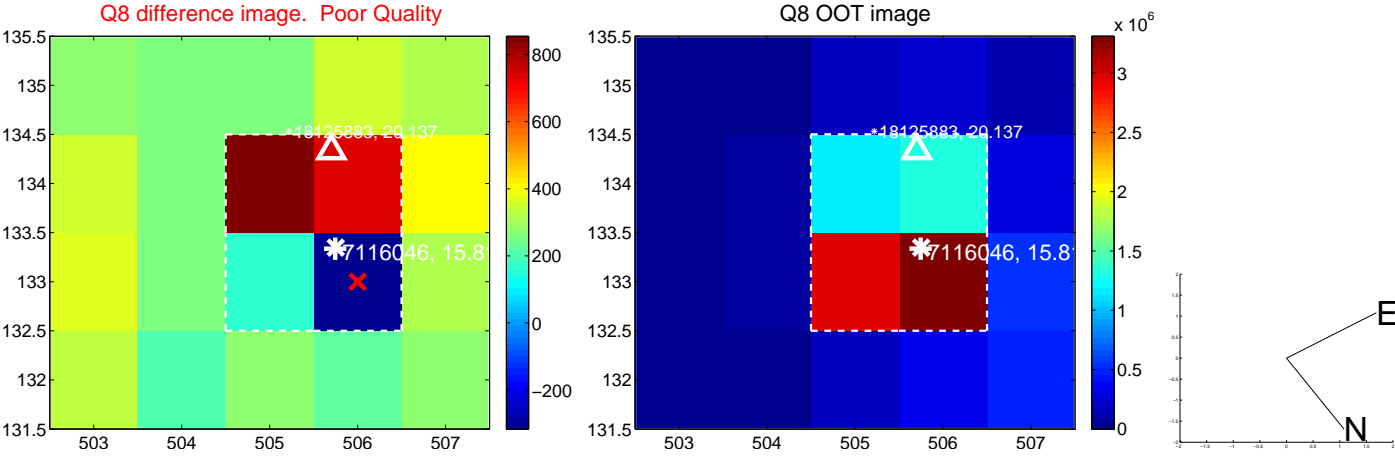
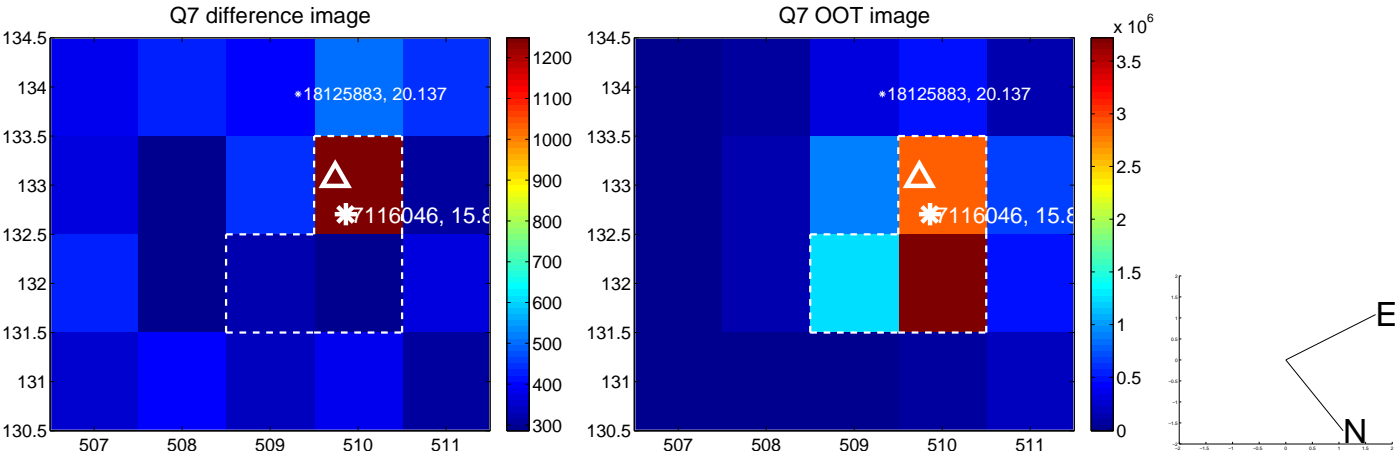
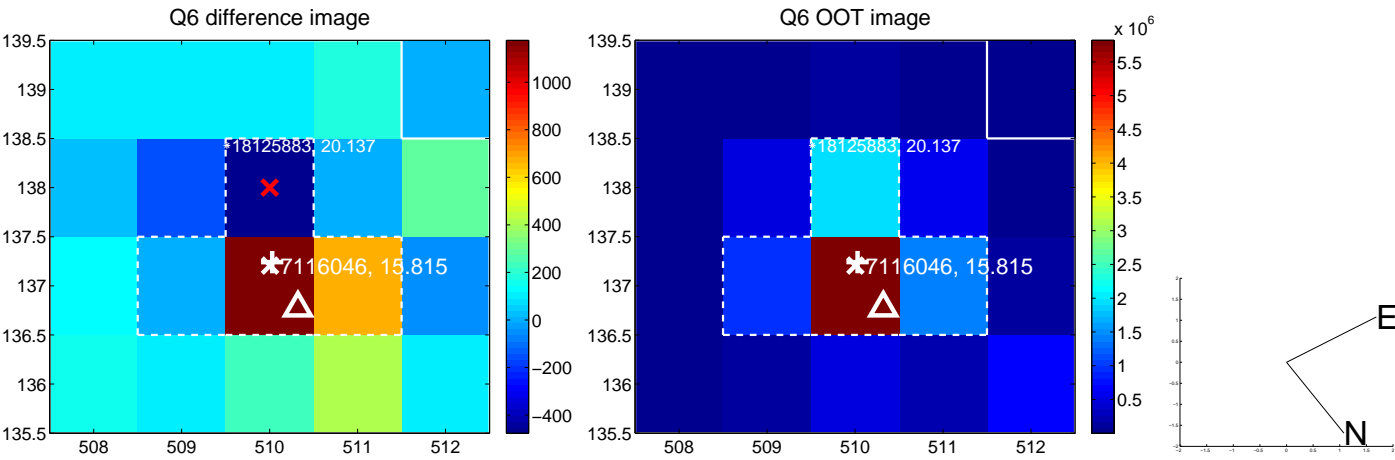
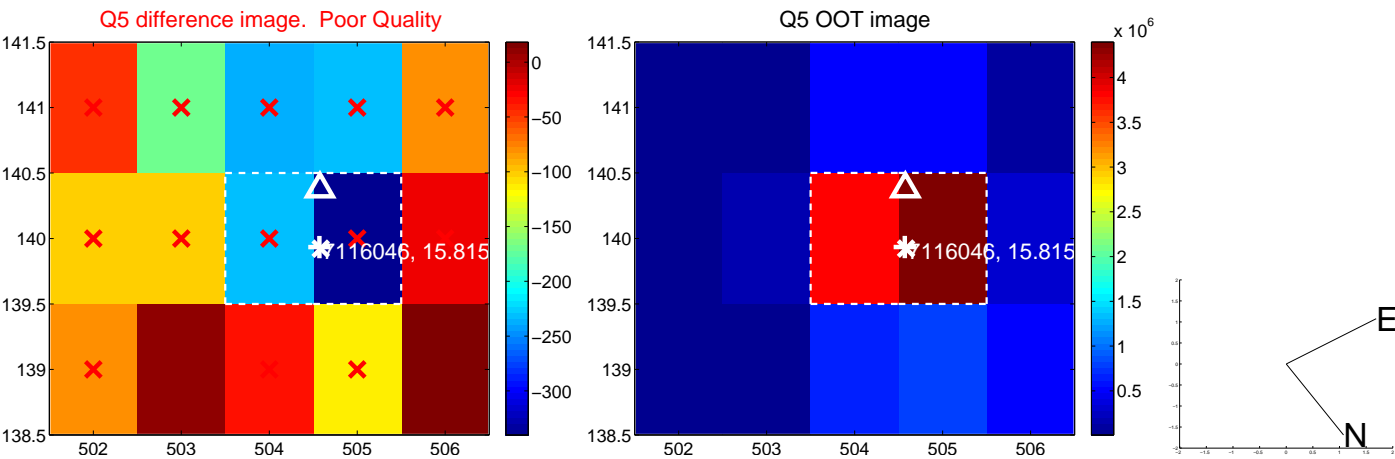


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000 are from the UKIRT catalog.

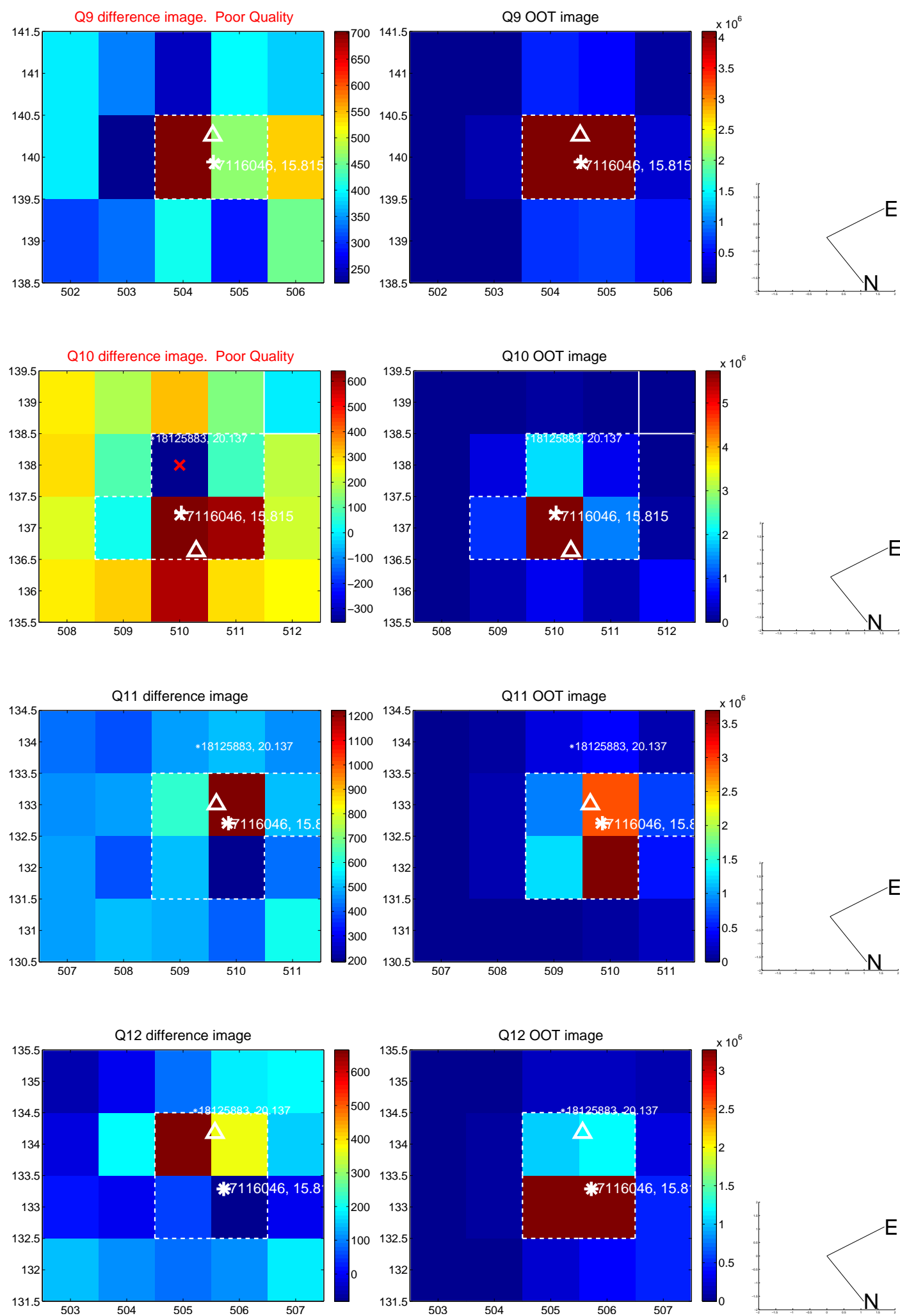
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



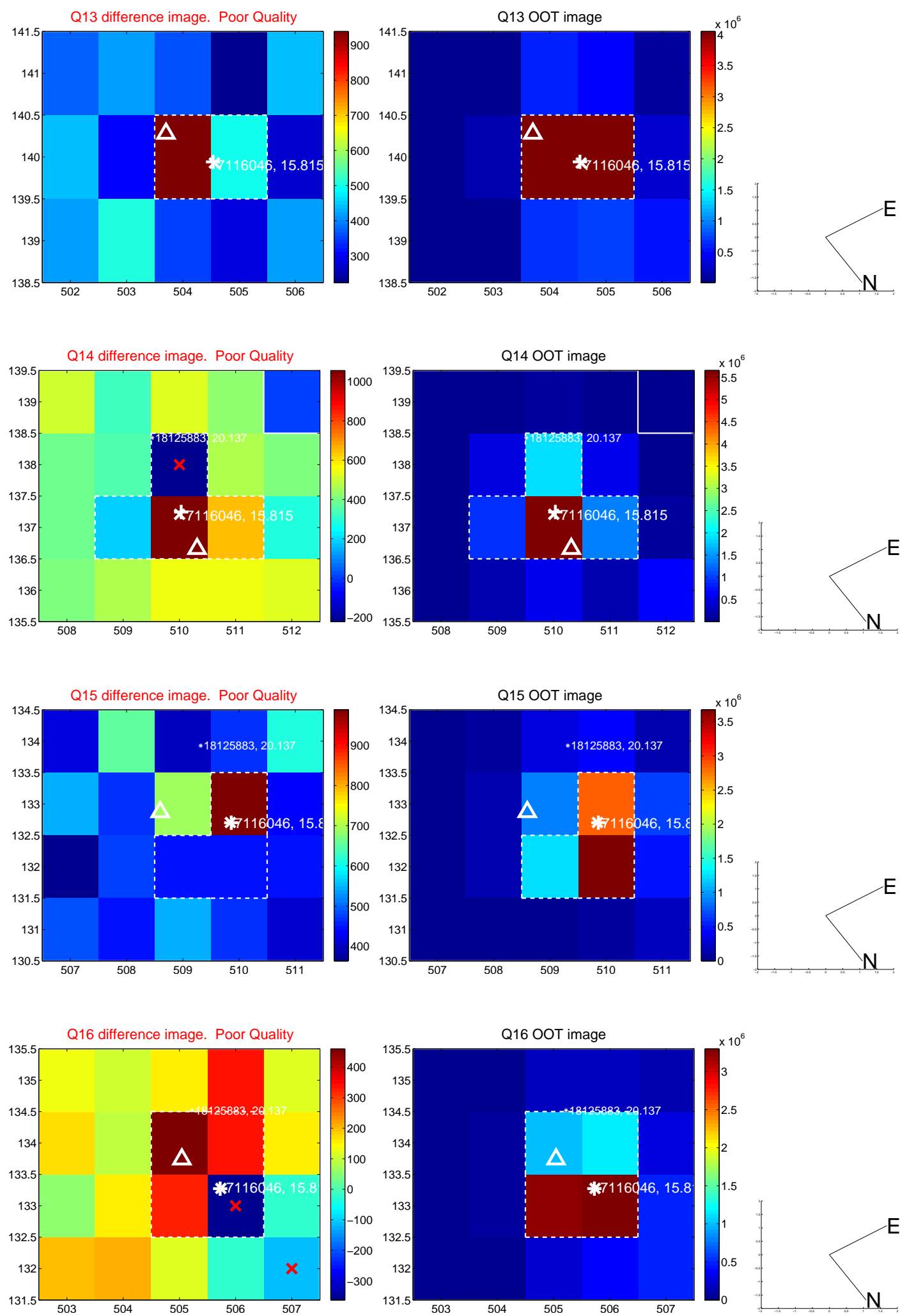
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



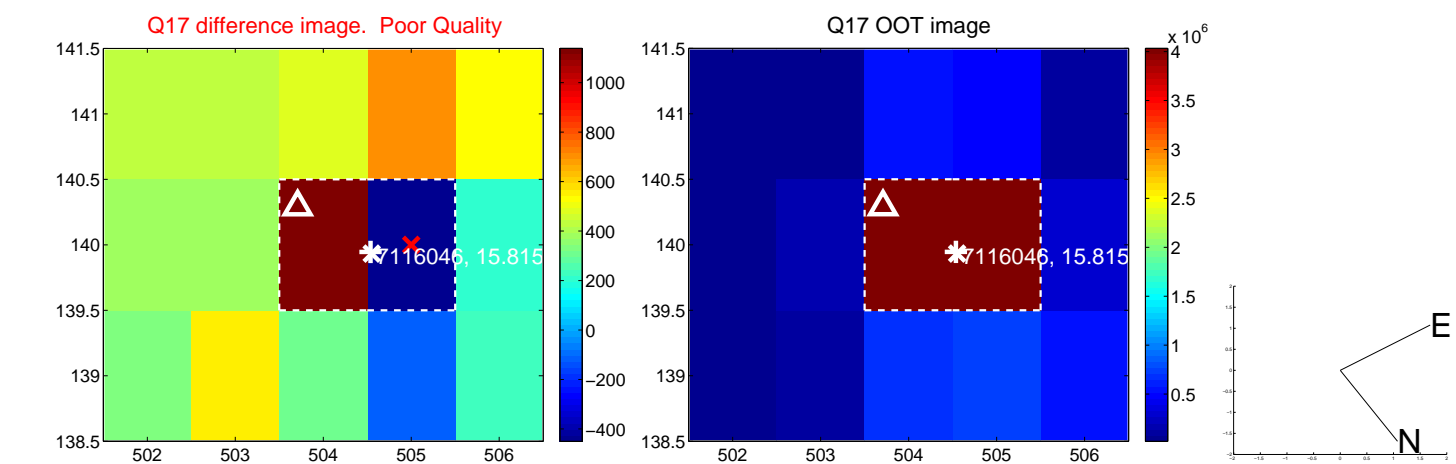
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



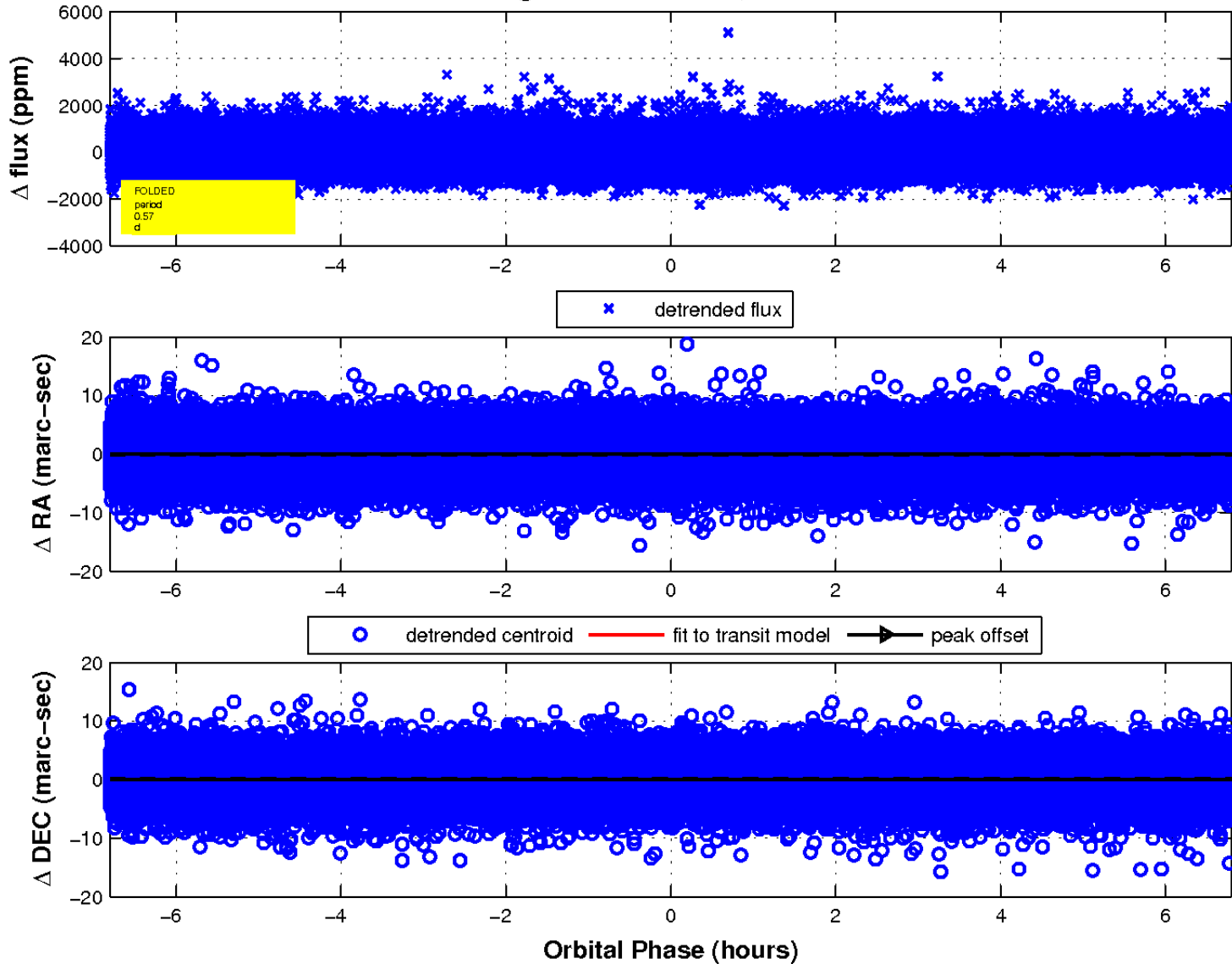
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

