

KIC 006137681

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})
006137681-01	OBS	3932.01	178.267292	255.354766	2259.8	5.264	26.5	22.1	0.75	5385	6.49	1.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006137681-01	OBS	FP	0.00	0	1	1	1	DEEP_V_SHAPED—CENT_RESOLVED_OFFSET—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 006137681-01

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
006137681-01	6137681	3605.01	6137704	1:1	9.6	-1	-3	14.16	15.48	21.00	Direct-PRF	0	0.04	0.03

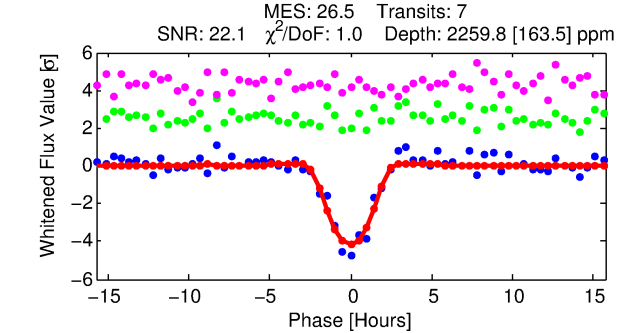
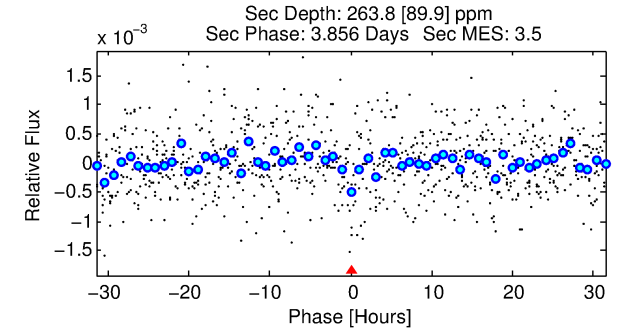
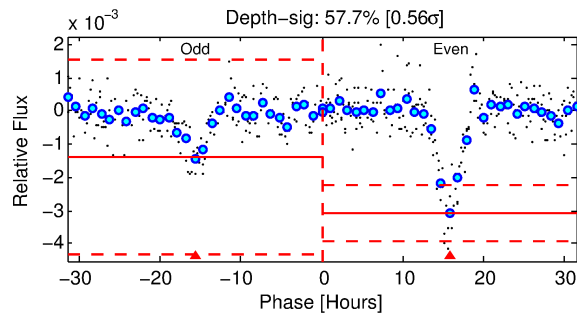
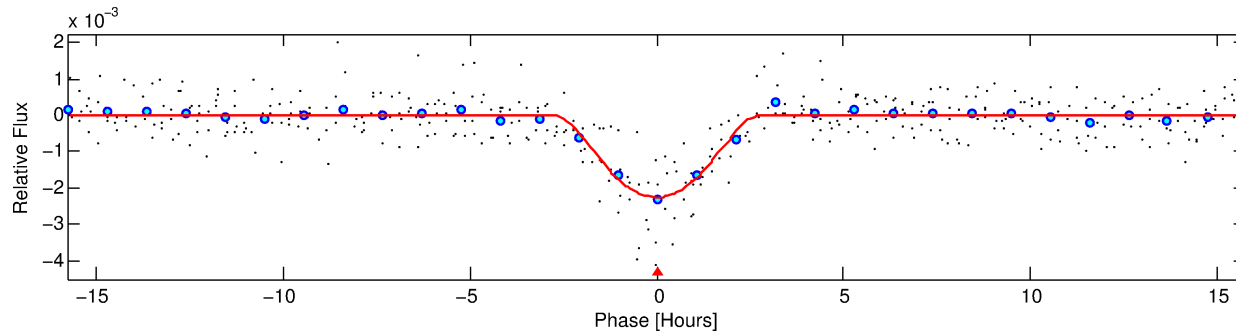
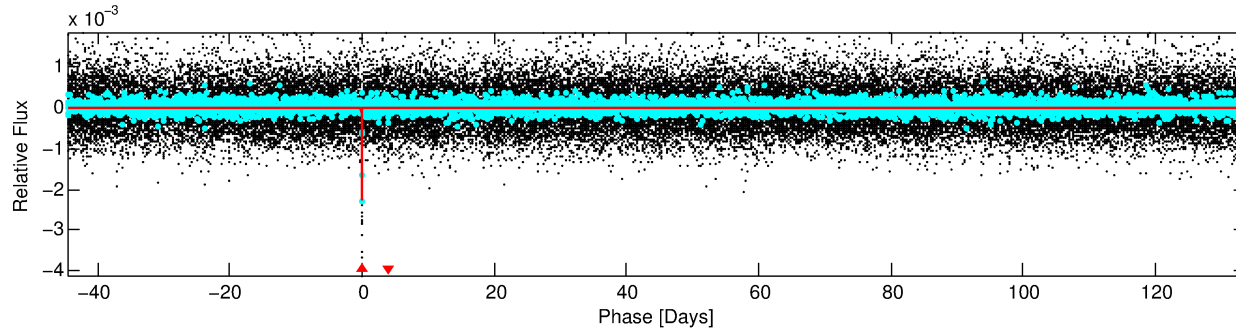
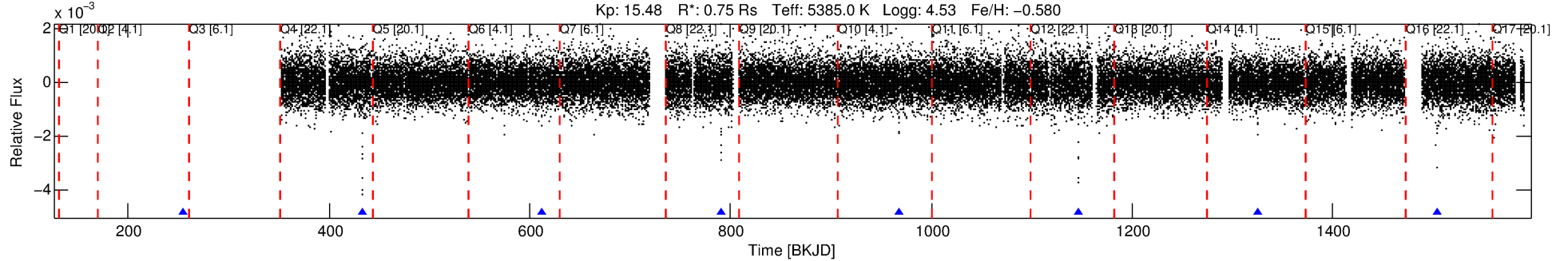
Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match 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: 6137681 Candidate: 1 of 1 Period: 178.267 d

KOI: K03932 Corr: No Ephemeris Match

Kp: 15.48 R*: 0.75 Rs Teff: 5385.0 K Logg: 4.53 Fe/H: -0.580



DV Fit Results:

Period = 178.26729 [0.00145] d
Epoch = 255.3548 [0.0064] BKJD
Rp/R* = 0.0793 [0.1397]
a/R* = 108.77 [43.66]
b = 0.99 [0.21]
Seff = 1.40 [0.33]
Teq = 277 [16] K
Rp = 6.49 [11.47] Re
a = 0.5501 [0.0678] AU
Ag = 1043.38 [3698.82] [0.28σ]
Teff = 2437 [2159] K [1.00σ]

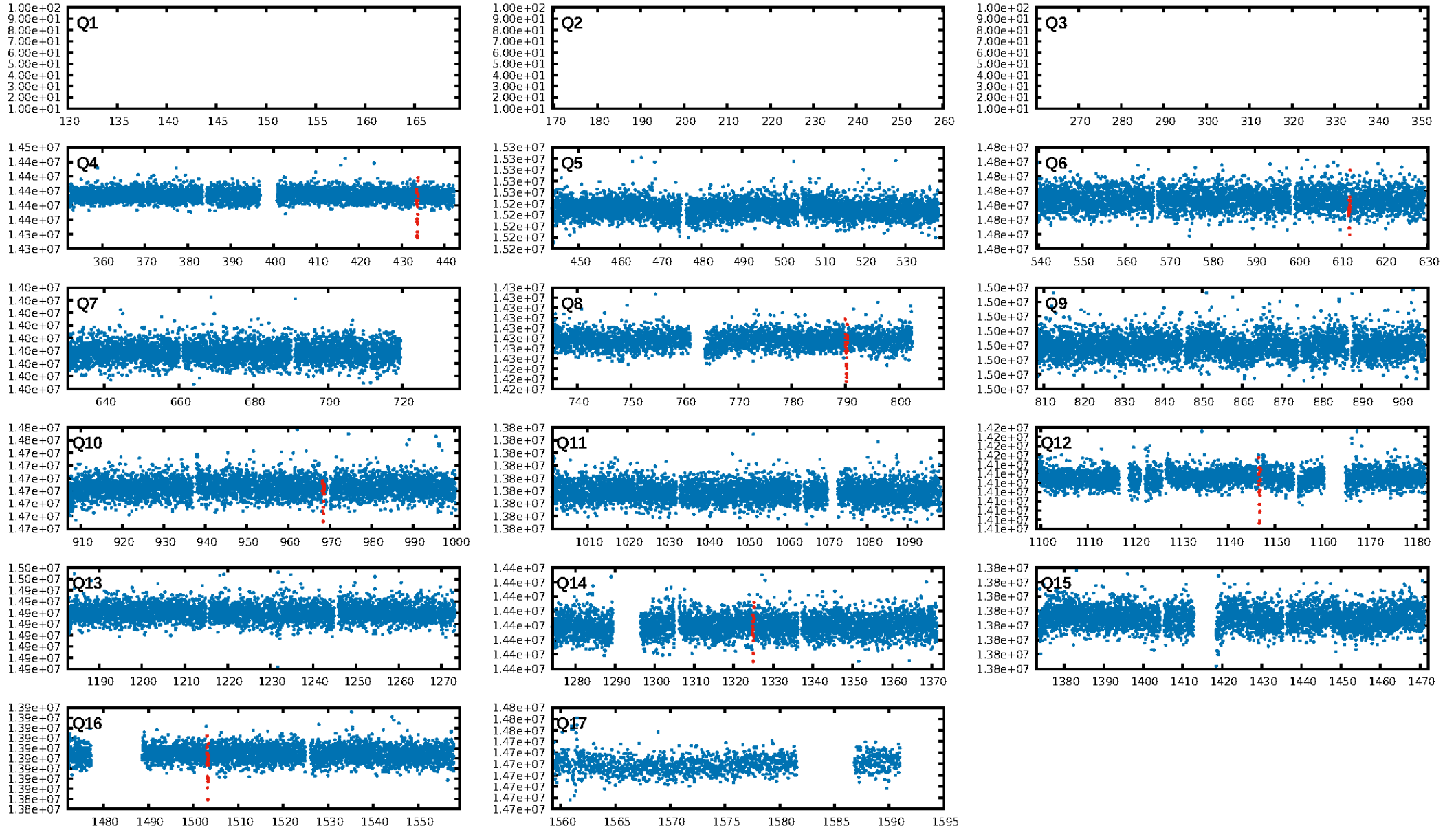
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGoF-sig: 87.6%
Bootstrap-pfa: 5.63e-138
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: -0.09556
Centroid-sig: 0.0%
Centroid-so: 40.733 arcsec [98.03σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [7/7]

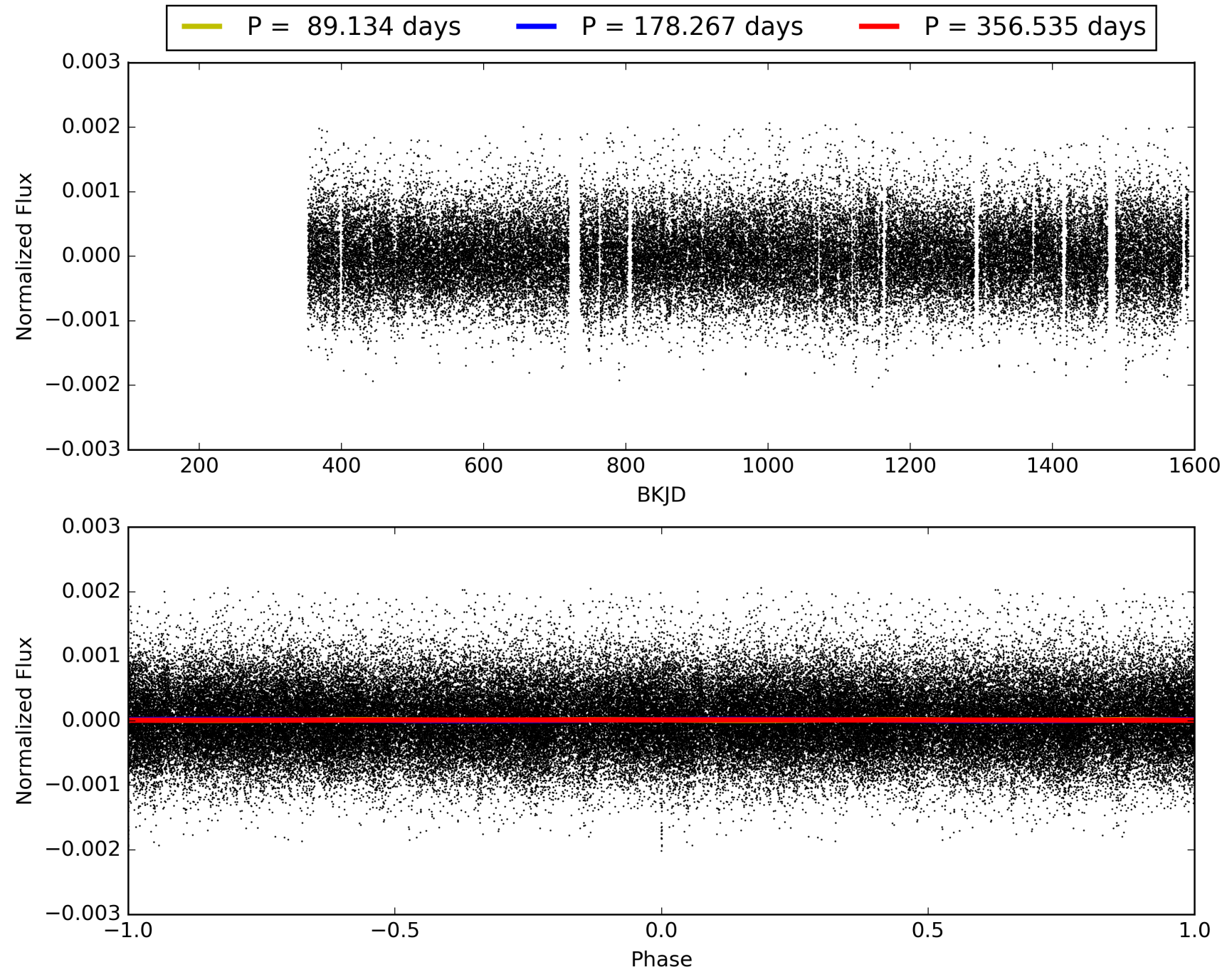
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 10:14:59 Z

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

TCE 006137681-01, PDC Light Curves

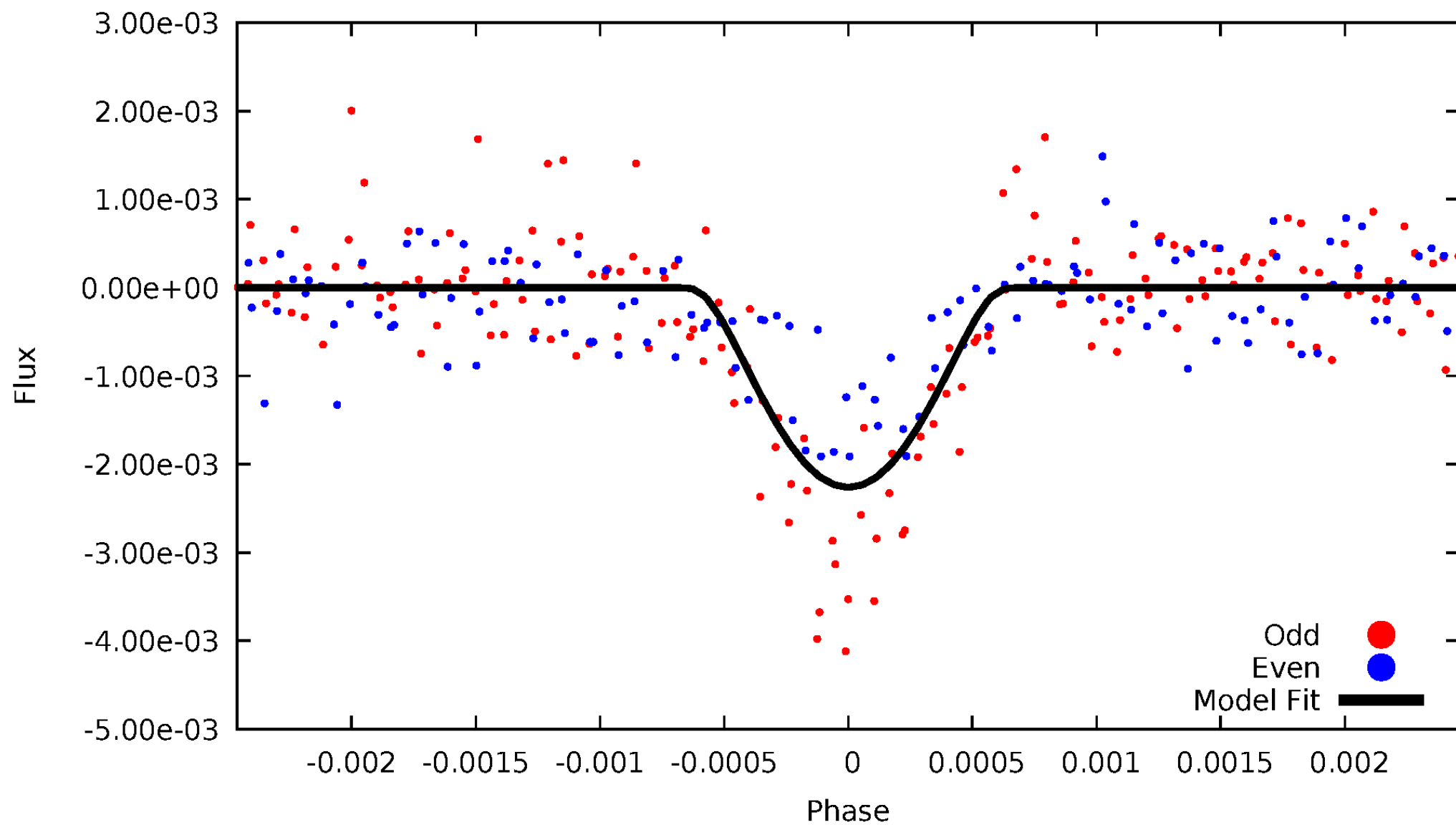


TCE 006137681-01



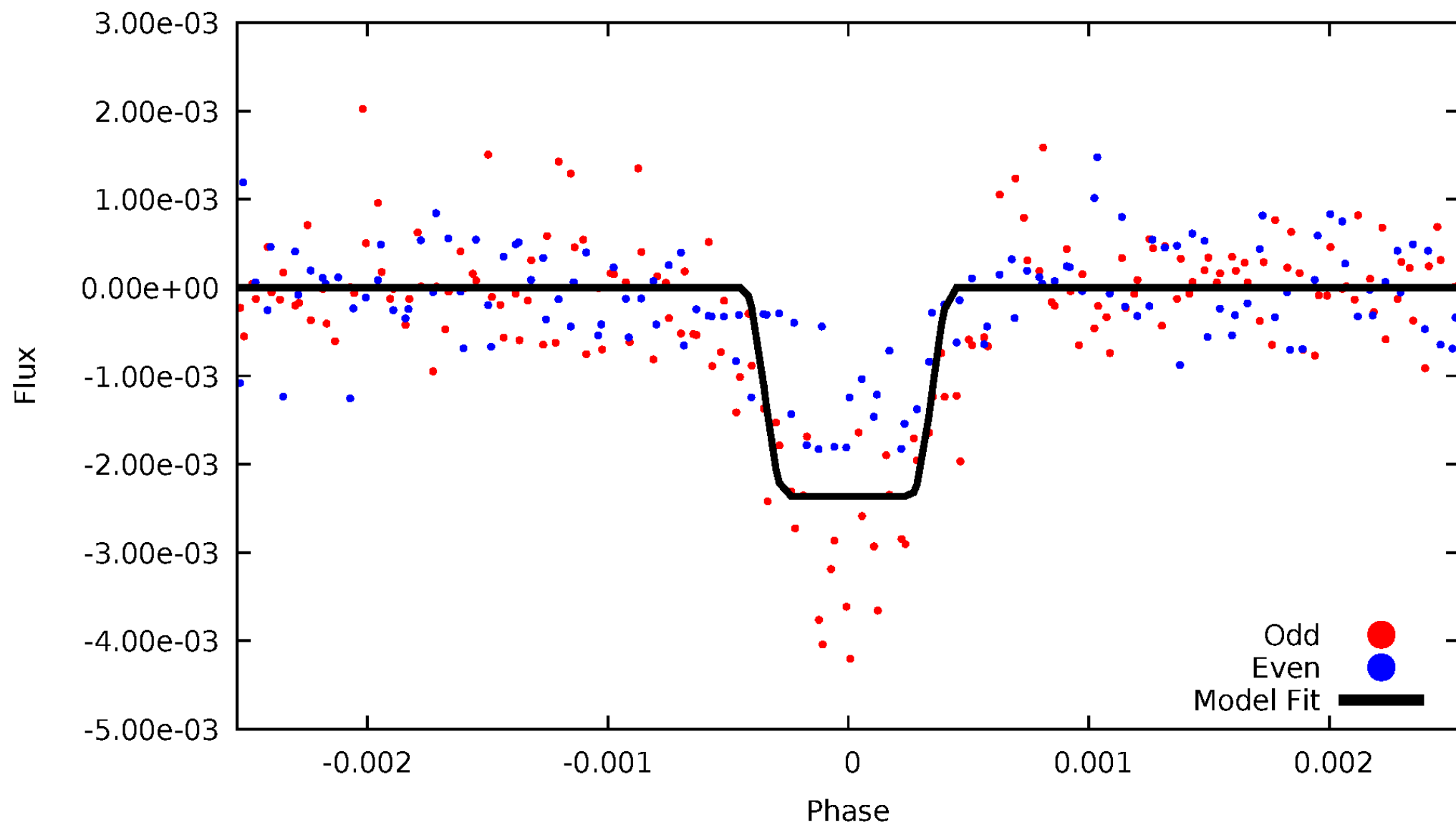
DV Odd/Even

TCE 006137681-01



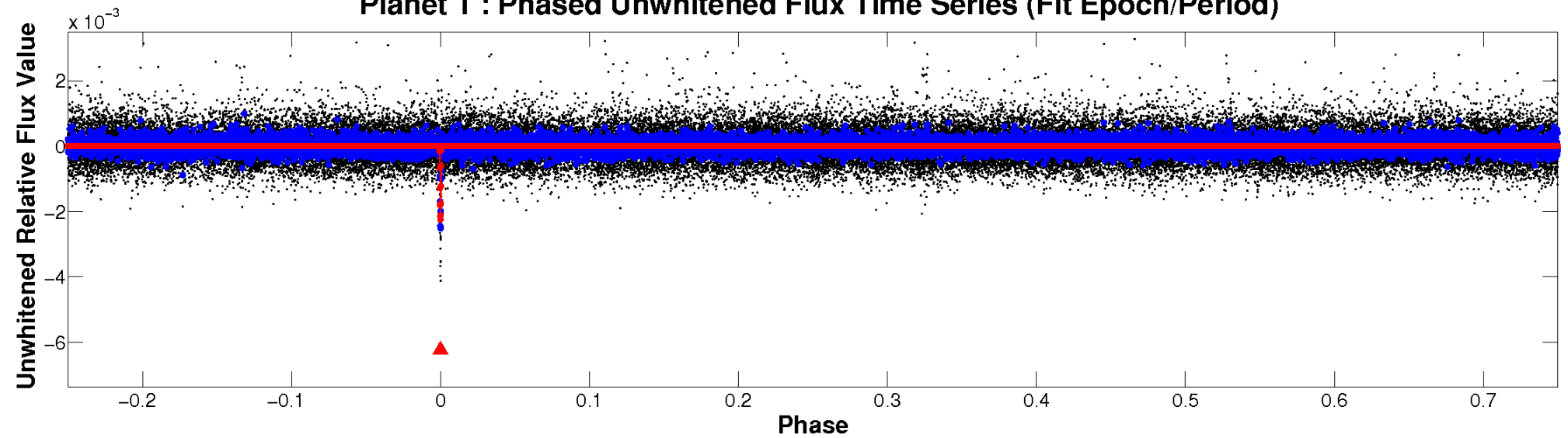
ALT Odd/Even

TCE 006137681-01

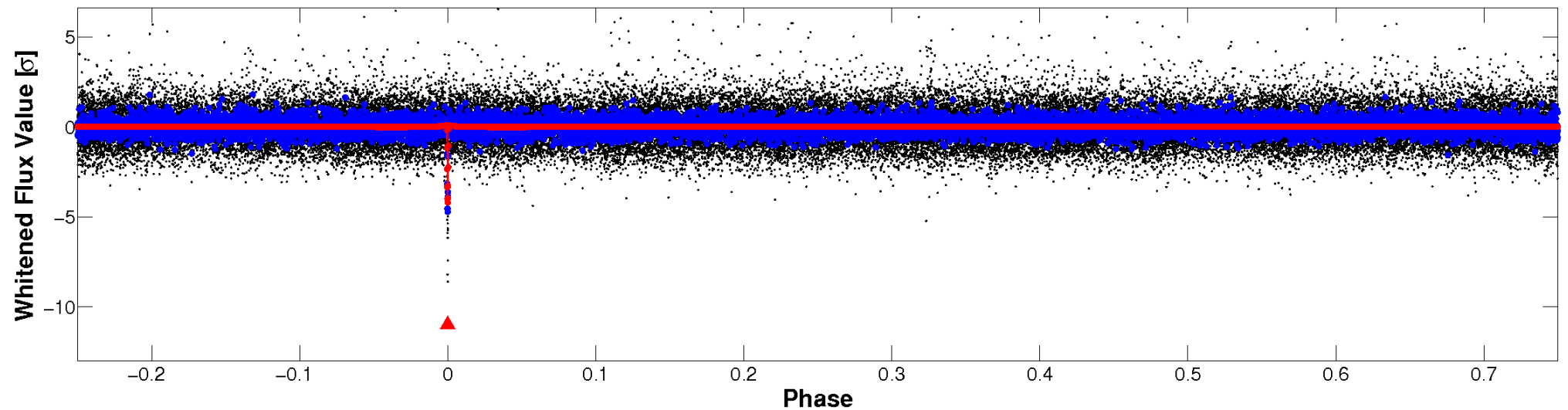


Non-Whitened Vs. Whitened Light Curve

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

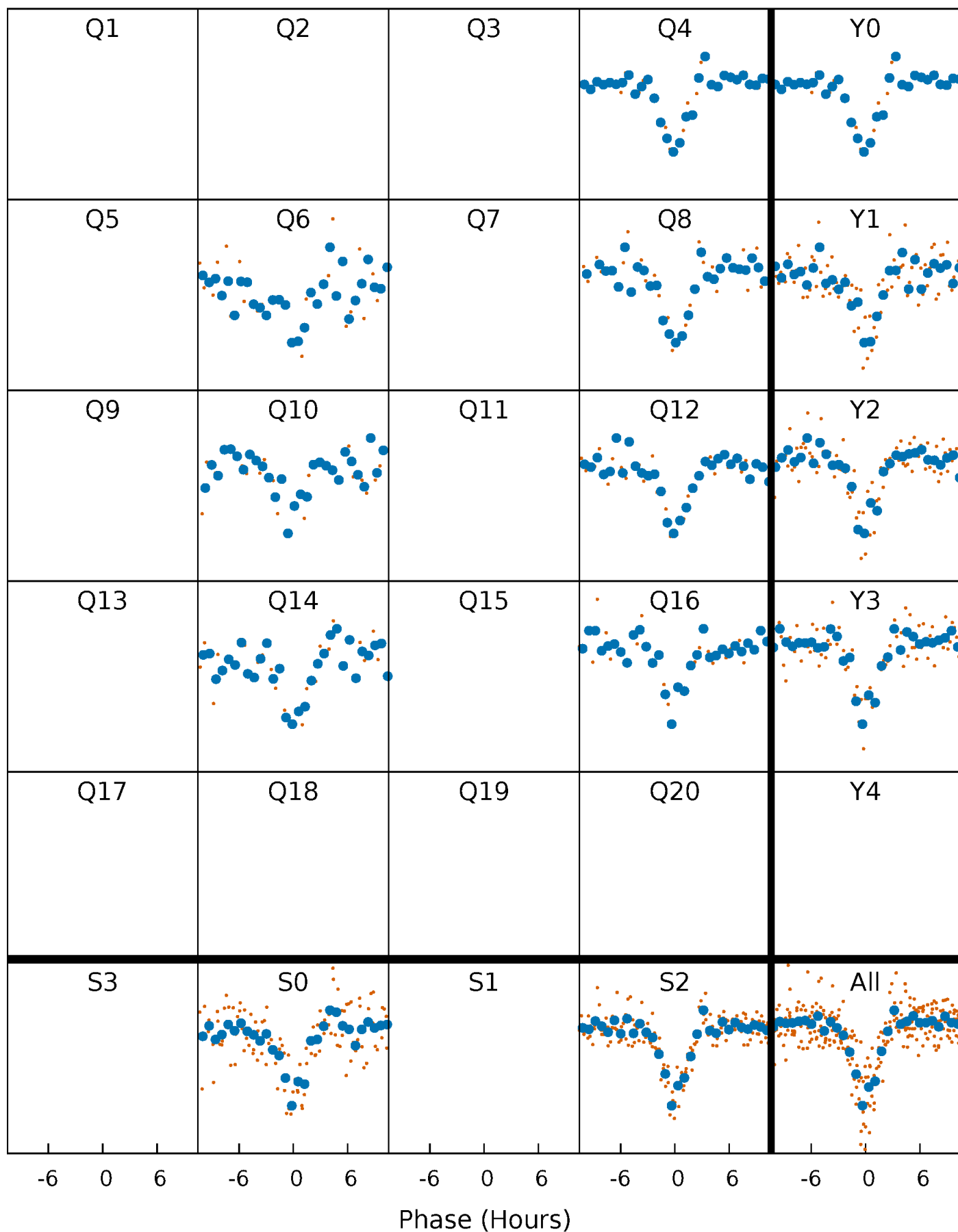


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



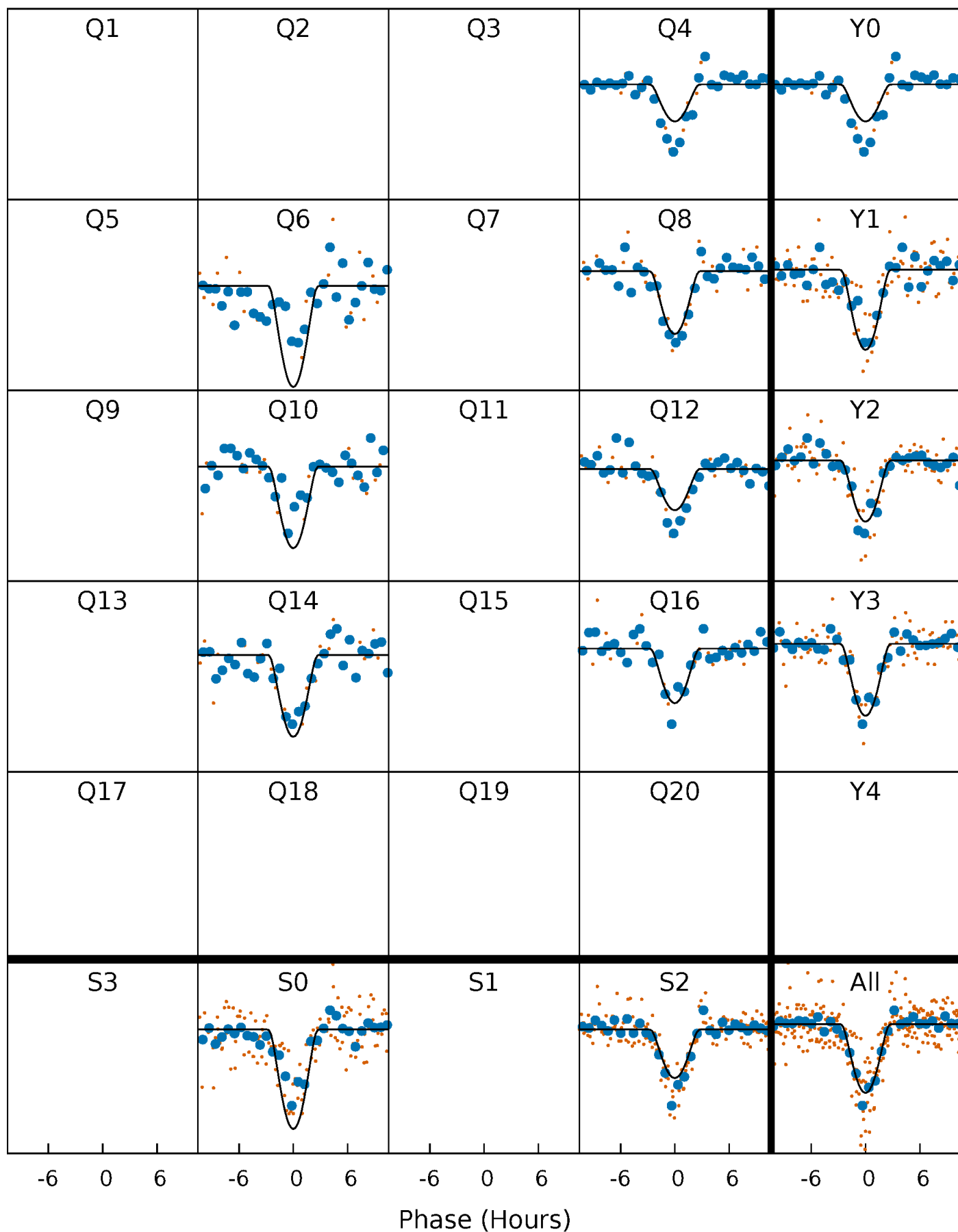
PDC Quarter-Phased Transit Curves

TCE 006137681-01 P=178.267292 Days $T_0=255.354766$ (BKJD)



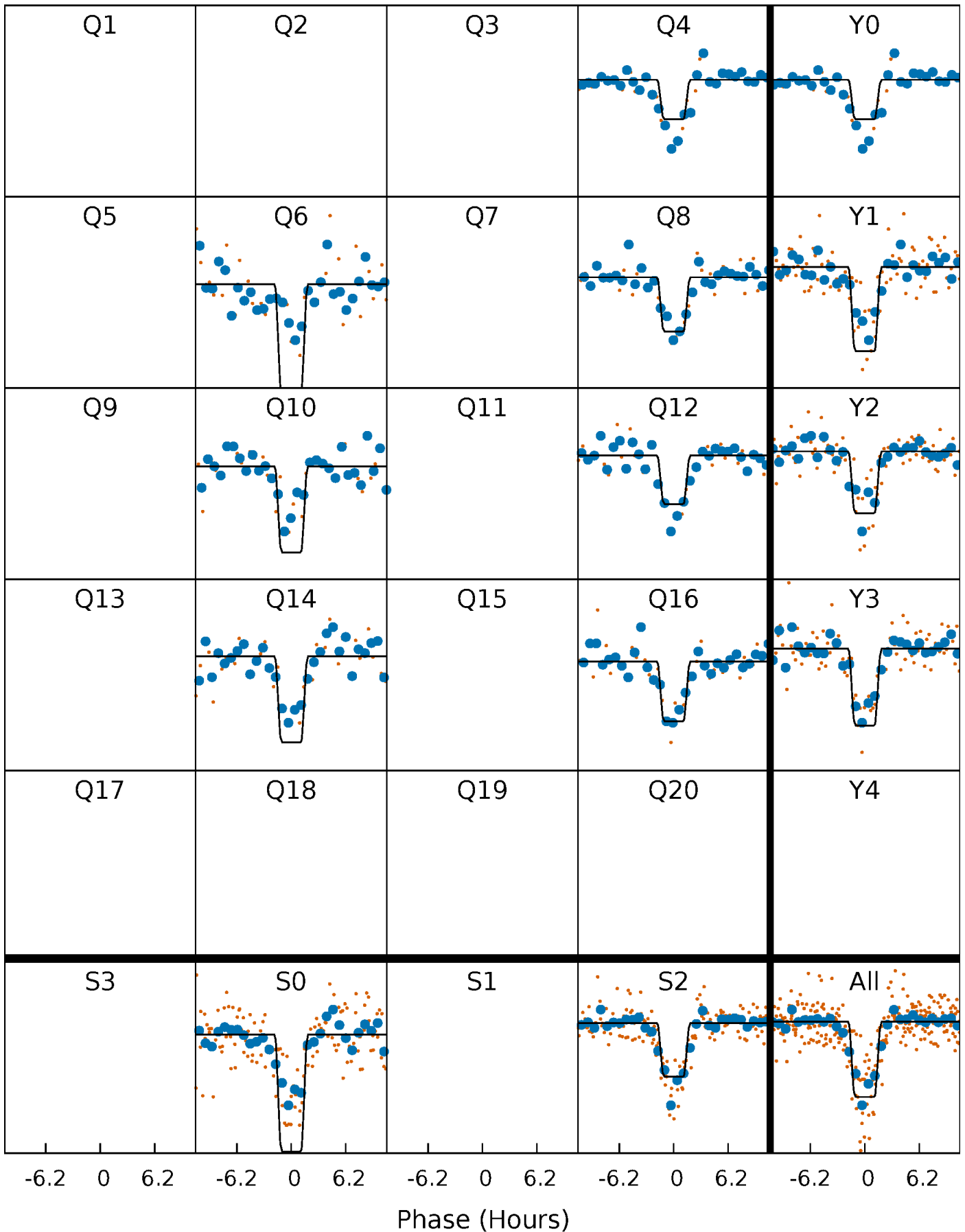
DV Quarter-Phased Transit Curves

TCE 006137681-01 P=178.267292 Days $T_0=255.354766$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

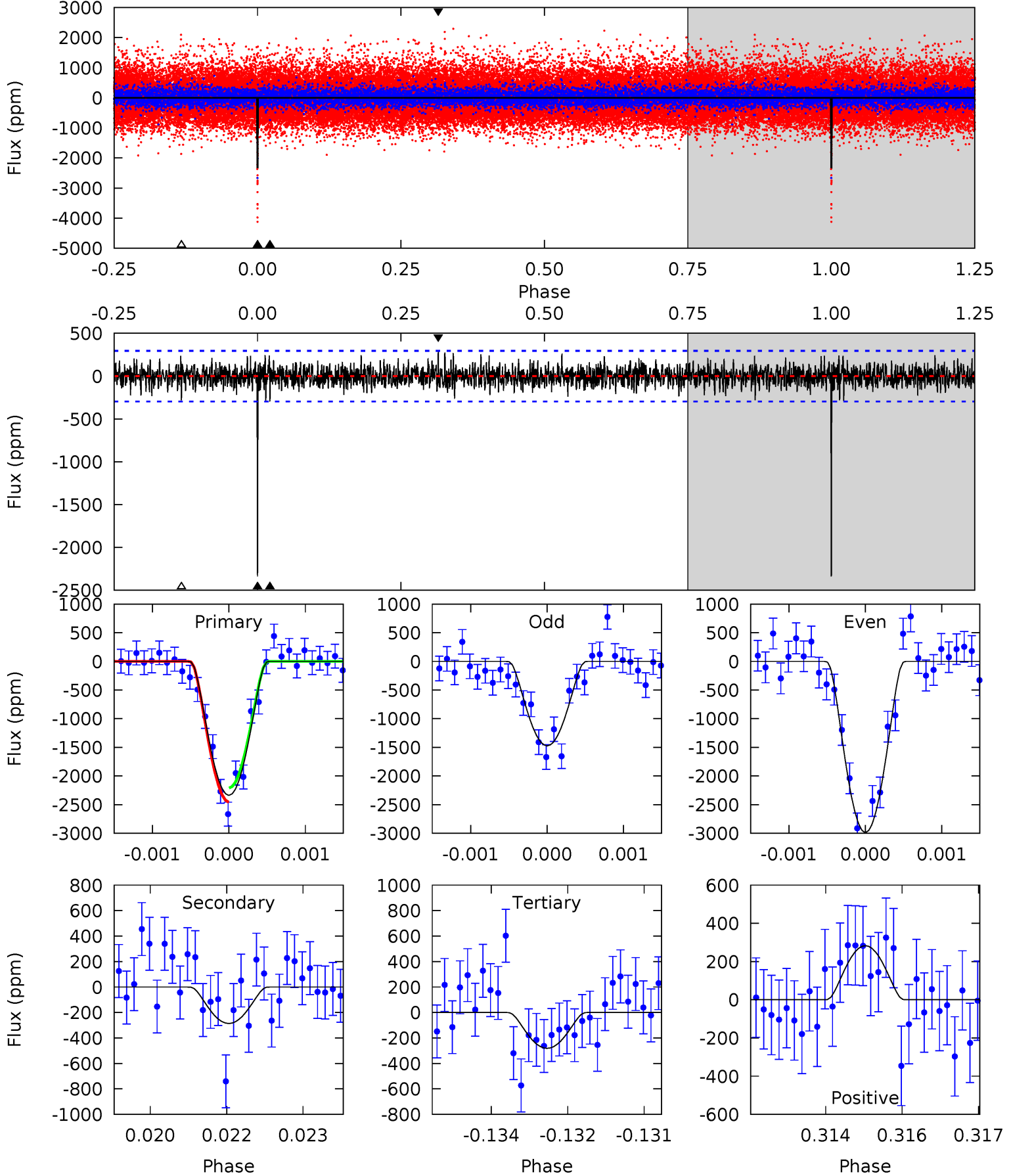
TCE 006137681-01 P=178.268420 Days $T_0=255.350345$ (BKJD)



DV Model-Shift Uniqueness Test

006137681-01, P = 178.267292 Days, E = 255.354766 Days

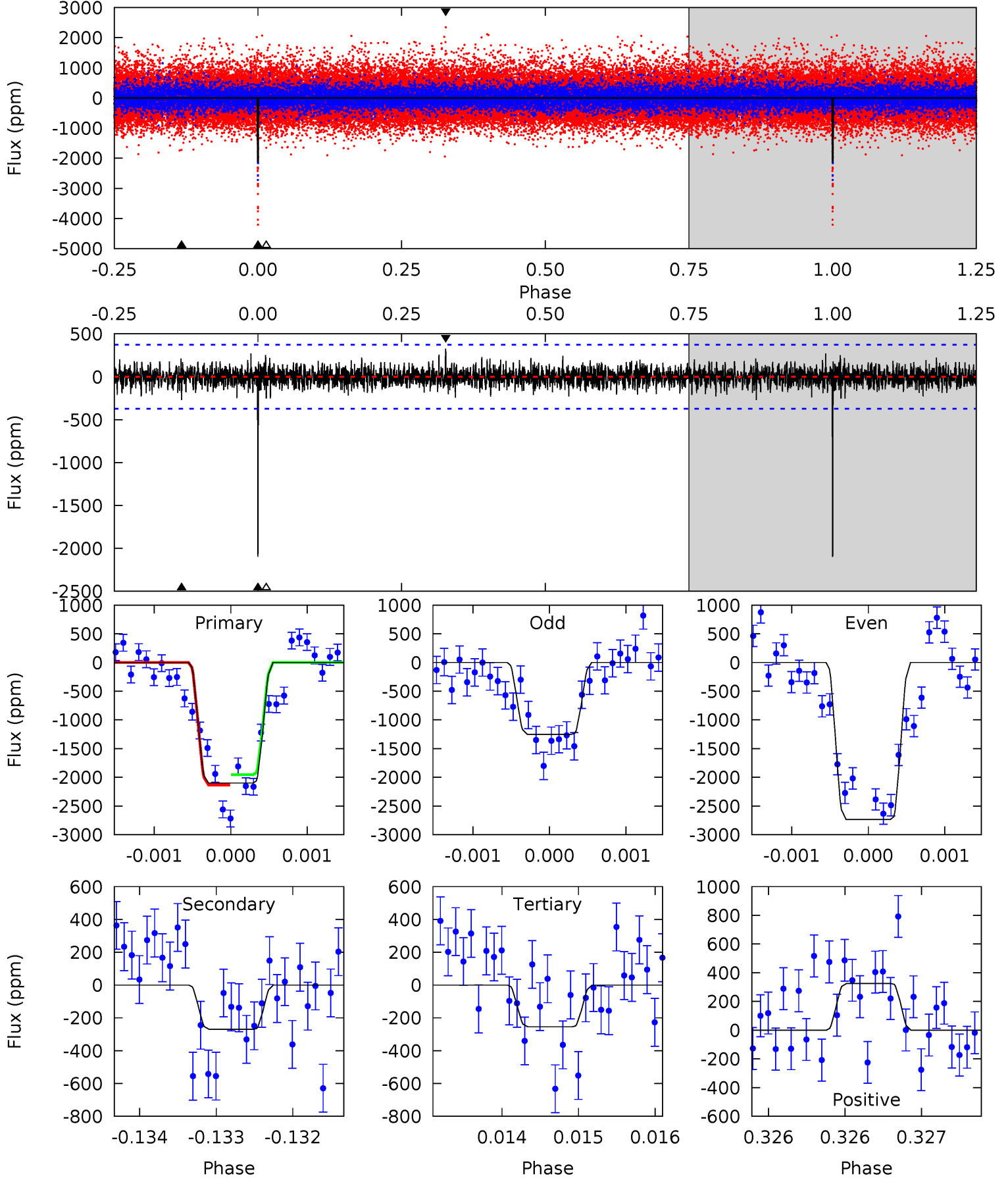
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
42.7	5.23	5.14	5.16	5.41	3.22	1.44	37.6	37.5	0.09	0.06	13.8	1.02	0.11	2.24



Alt Model-Shift Uniqueness Test

006137681-01, P = 178.268420 Days, E = 255.350345 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.9	3.96	3.74	4.78	5.49	3.35	1.06	27.1	26.1	0.23	-0.82	10.9	0.99	0.13	1.30



Stellar Parameters For KIC 006137681

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5385^{+187}_{-187}	$4.532^{+0.105}_{-0.086}$	$-0.580^{+0.350}_{-0.300}$	$0.750^{+0.105}_{-0.086}$	$0.698^{+0.100}_{-0.043}$	$2.331^{+0.957}_{-0.620}$
	+3%/-3%	+2%/-2%	+60%/-52%	+14%/-11%	+14%/-6%	+41%/-27%
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 006137681-01 / KOI 3932.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-286 ± 55	$10.33^{+9.94}_{-7.12}$	387^{+20}_{-20}	2716^{+1099}_{-409}	454^{+3994}_{-340}
Alt.	-269 ± 68	$9.96^{+8.81}_{-6.92}$	387^{+18}_{-19}	2738^{+1141}_{-410}	444^{+4228}_{-319}

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 $A_{obs} \gg 1.0$

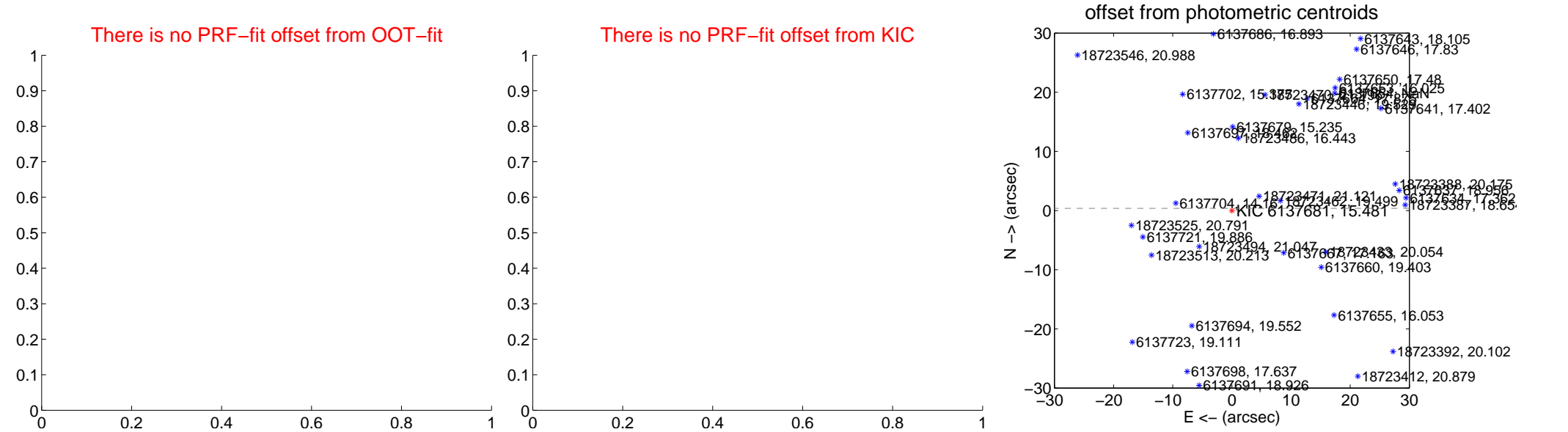
DV Centroid Data

Supplemental centroid analysis for 006137681-01. Kepler magnitude: 15.48. Transit SNR 22.05

There are 0 quarters with good PRF difference image offsets

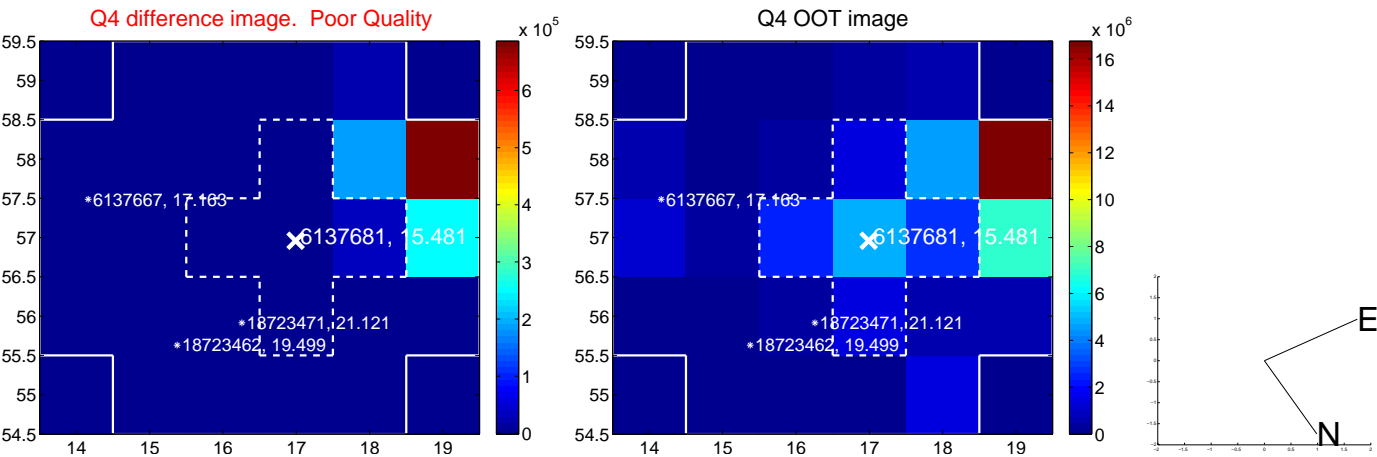
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	40.73 ± 0.42	98.03	40.73 ± 0.42	0.37 ± 0.25

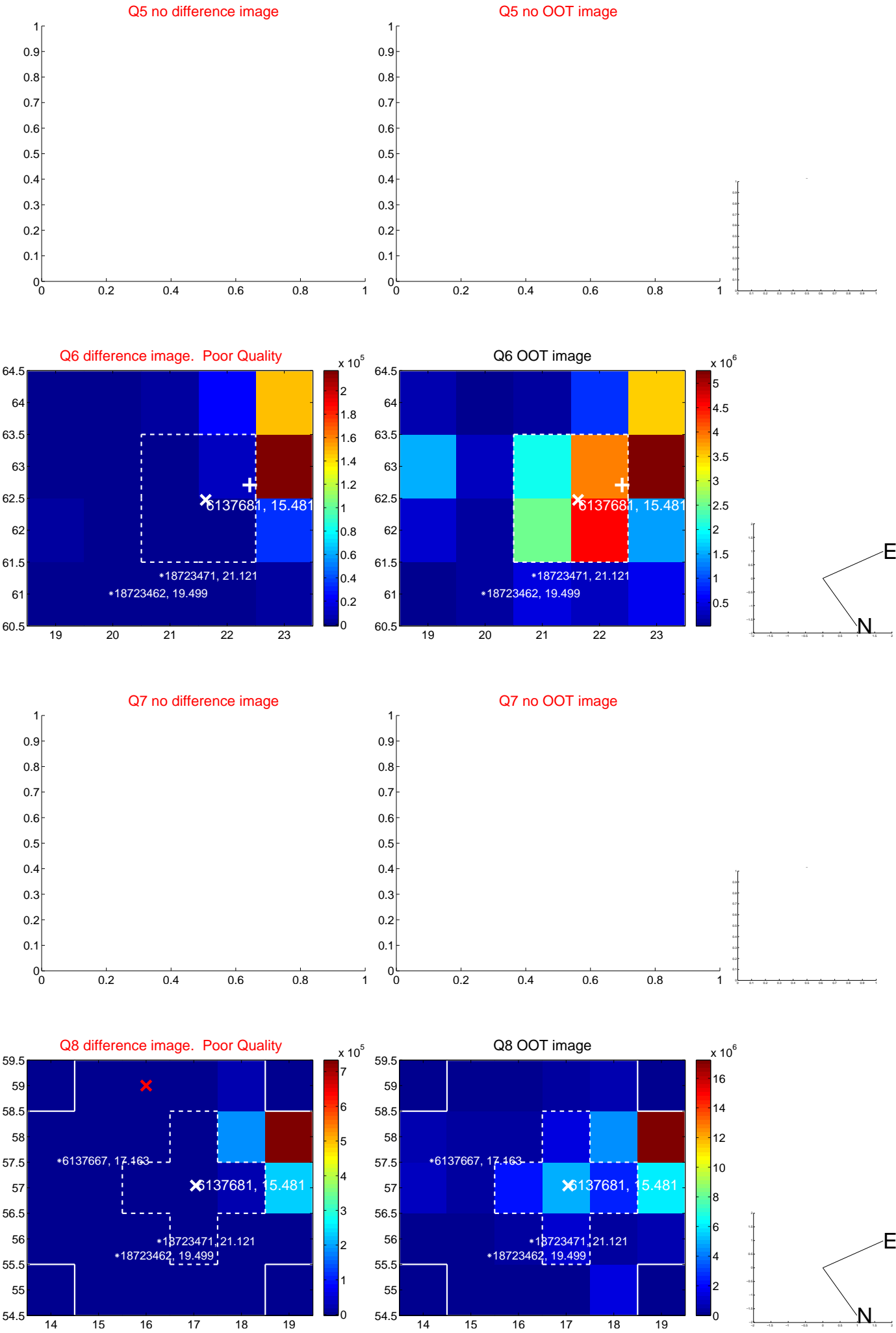


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

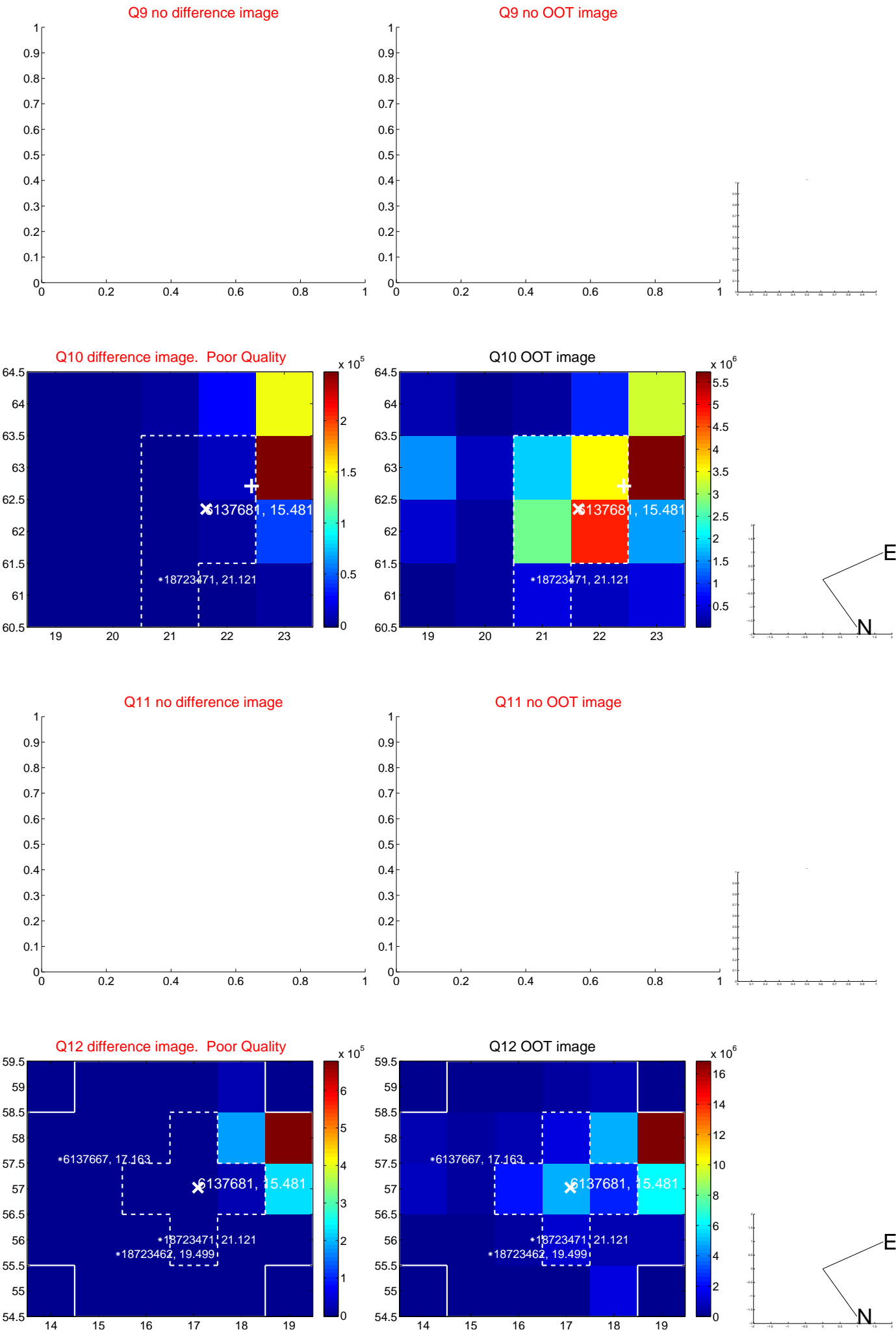
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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.

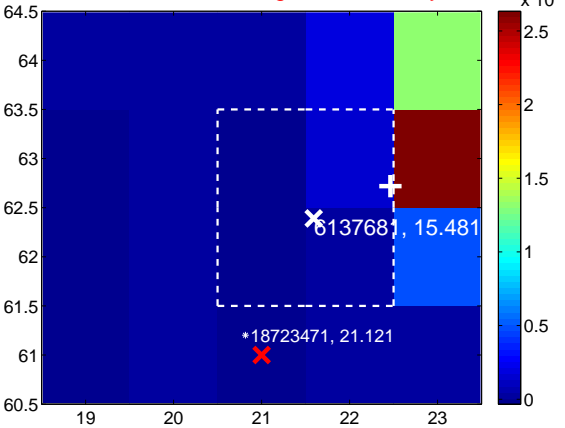
Q13 no difference image



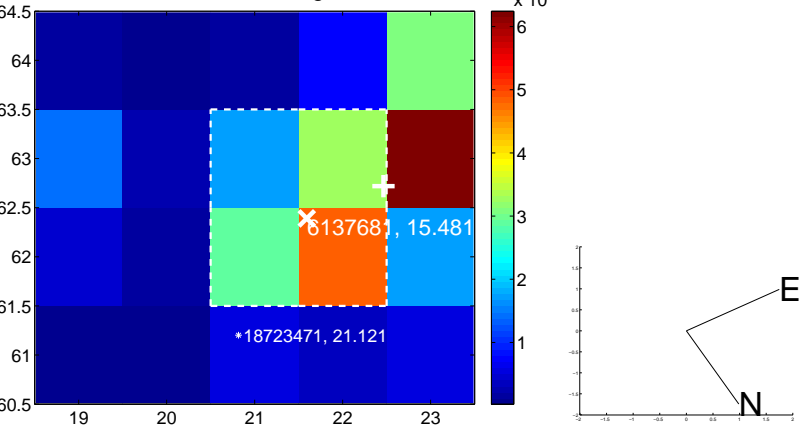
Q13 no OOT image



Q14 difference image. Poor Quality



Q14 OOT image



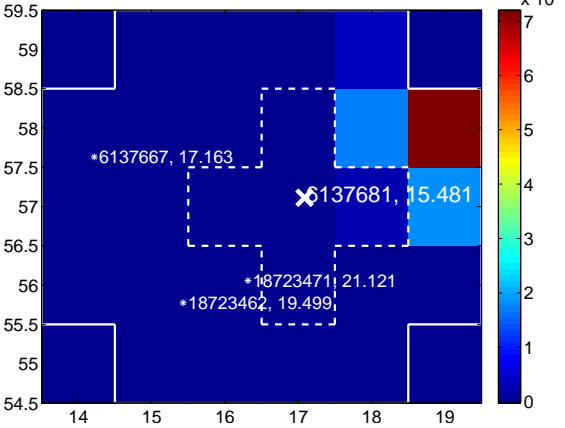
Q15 no difference image



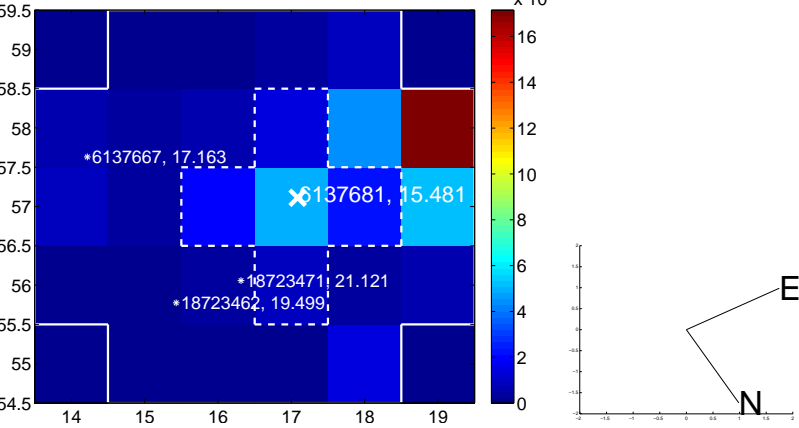
Q15 no OOT image



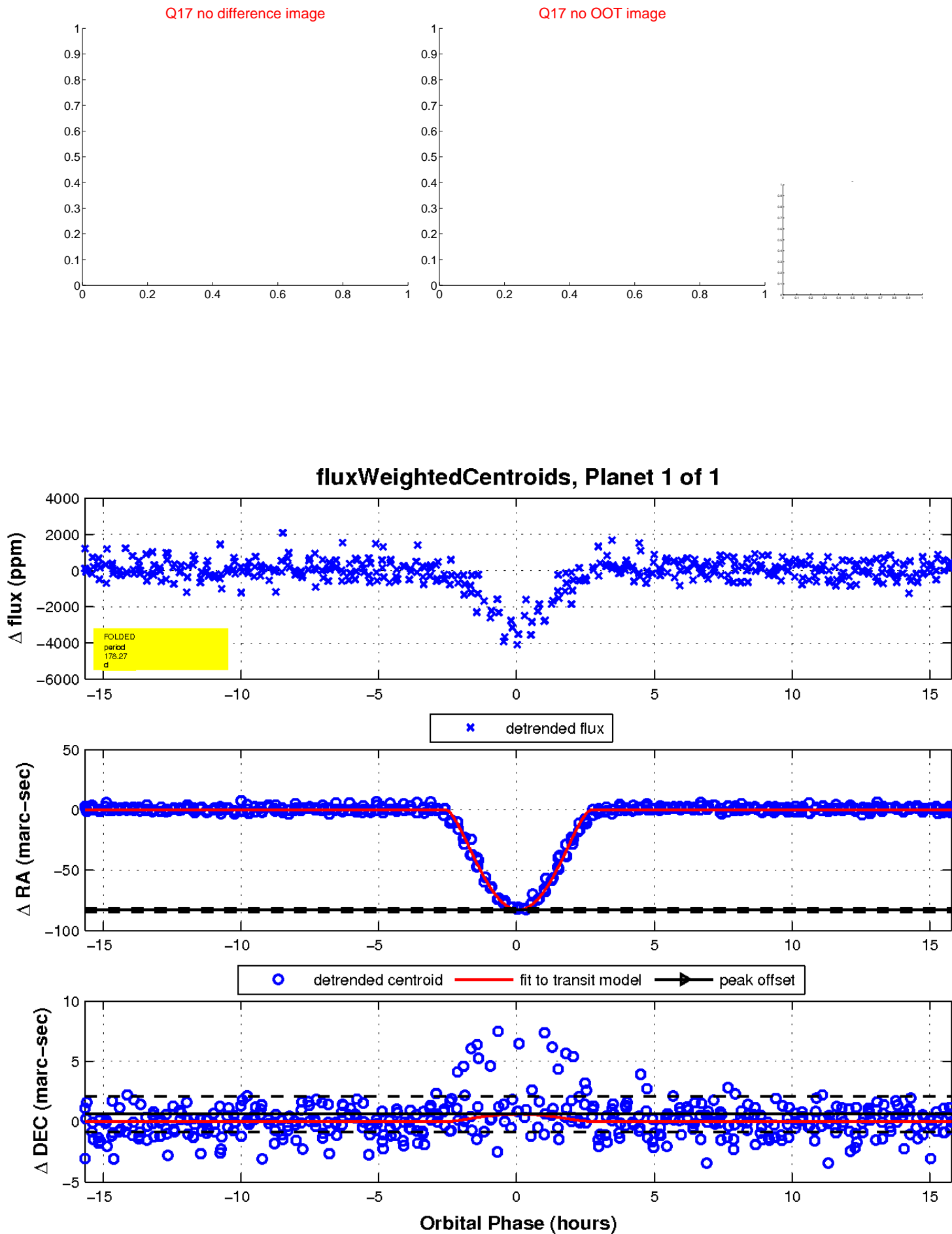
Q16 difference image. Poor Quality



Q16 OOT image



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



UKIRT Image

