

KIC 003101178

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})
003101178-01	OBS	4963.01	59.403405	159.798421	128.1	10.115	9.5	10.4	1.21	6373	1.64	24.97

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003101178-01	OBS	PC	0.86	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.

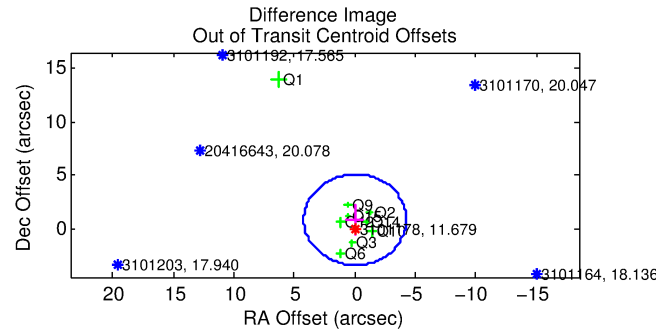
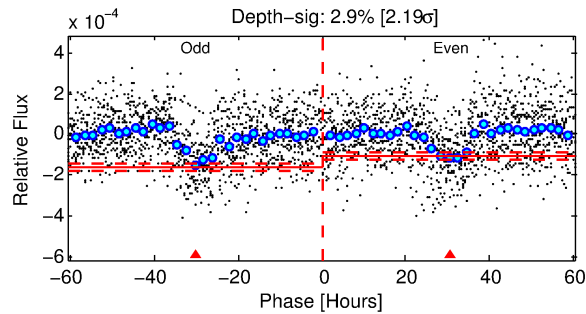
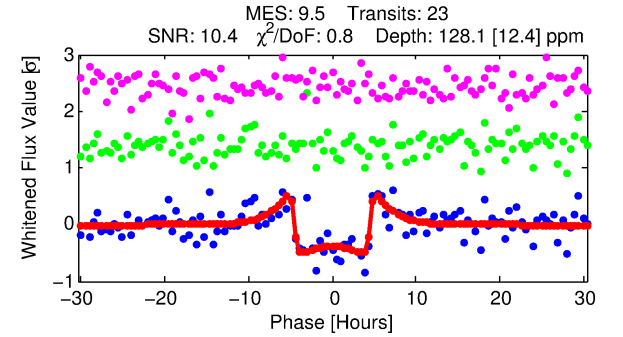
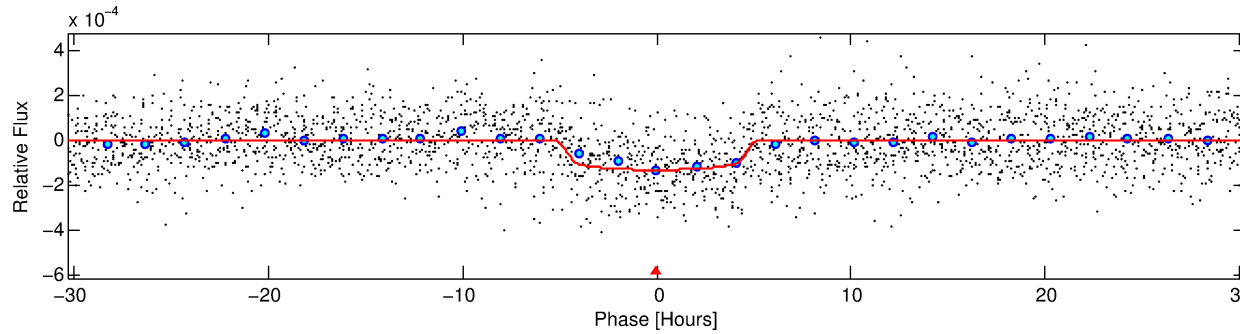
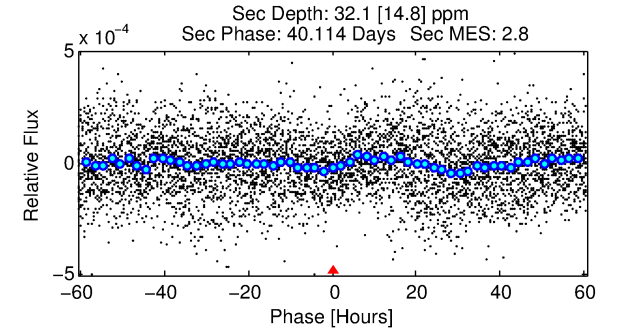
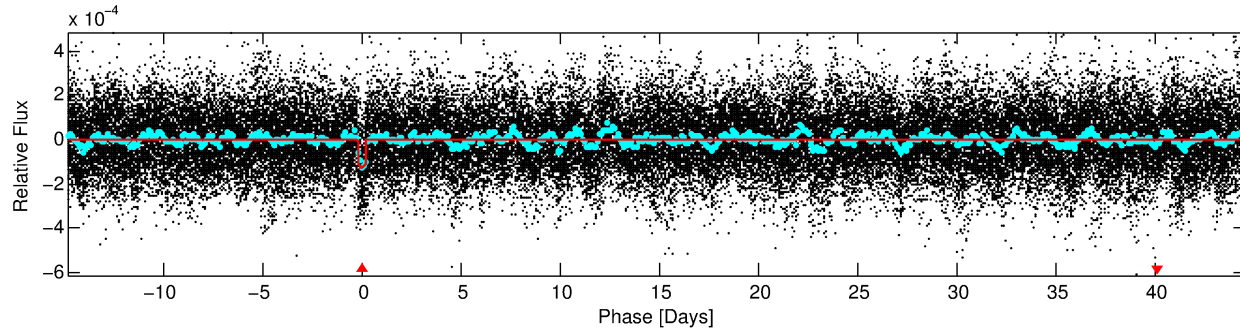
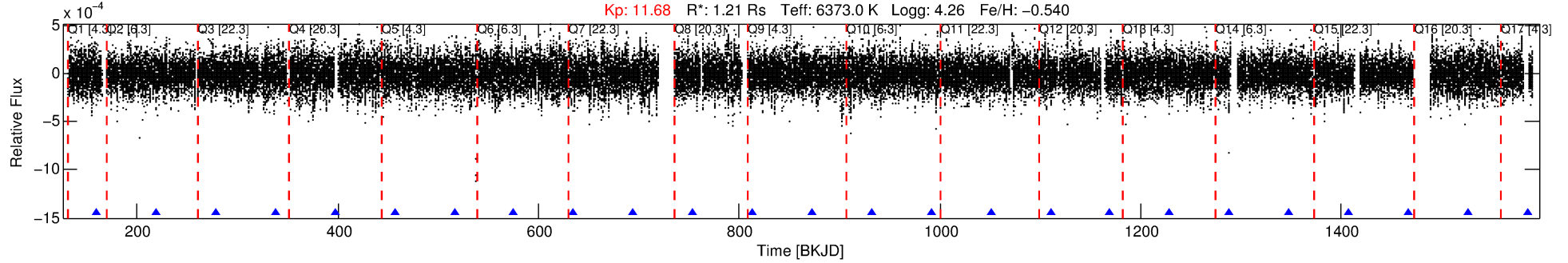
Ephemeris Match Information For 003101178-01

No Significant Match Found

DV One-Page Summary

KIC: 3101178 Candidate: 1 of 1 Period: 59.403 d
KOI: K04963.01 Corr: 0.976

Kp: 11.68 R*: 1.21 Rs Teff: 6373.0 K Logg: 4.26 Fe/H: -0.540



DV Fit Results:

Period = 59.40340 [0.00059] d
Epoch = 159.7984 [0.0082] BKJD
Rp/R* = 0.0124 [0.0009]
a/R* = 18.26 [4.85]
b = 0.93 [0.04]
Seff = 24.97 [9.81]
Teq = 570 [56] K
Rp = 1.64 [0.46] Re
a = 0.2941 [0.0700] AU
Ag = 569.24 [343.23] [1.66σ]
Teffp = 4305 [546] K [6.80σ]

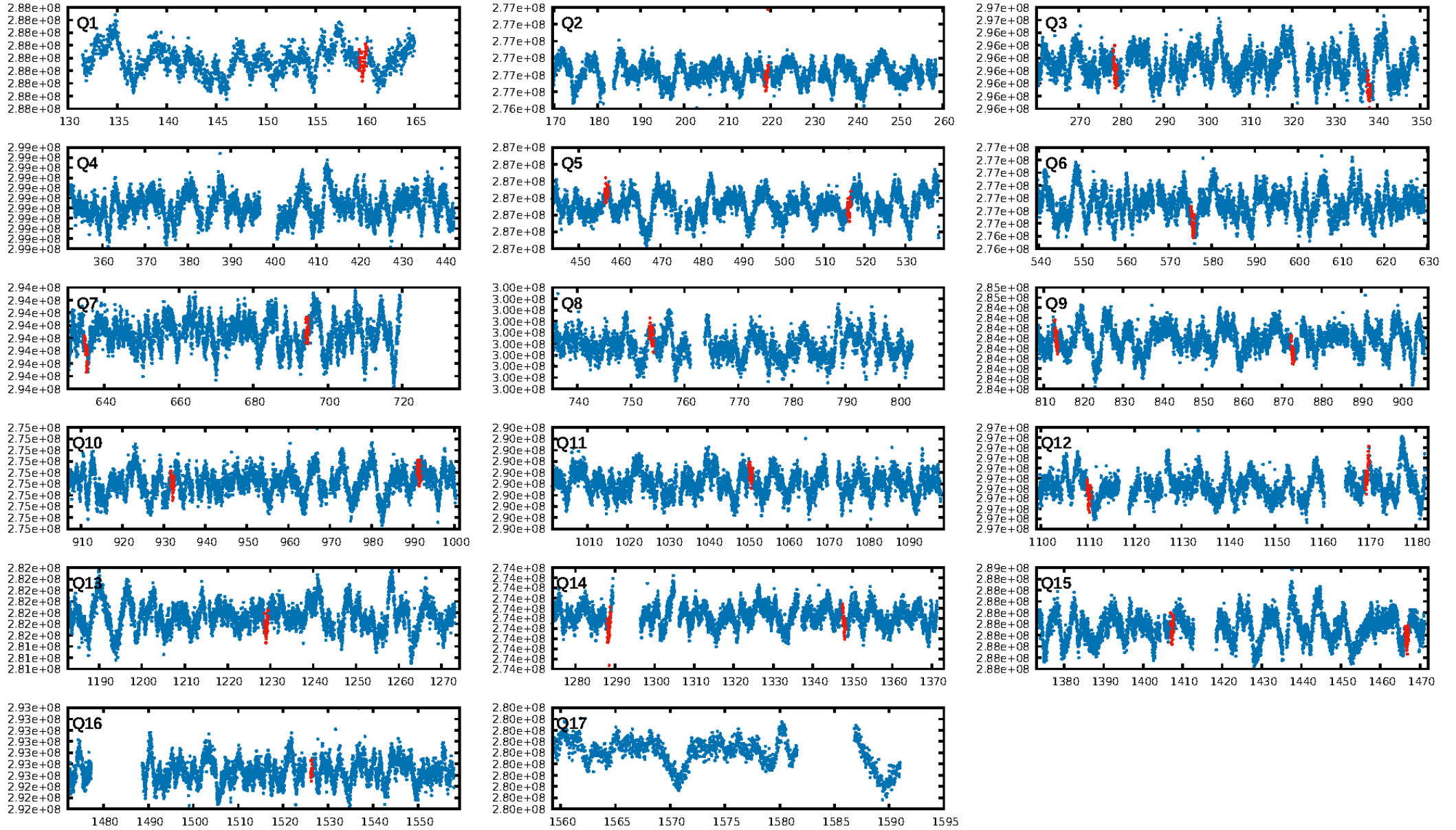
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 90.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.58e-20
RollingBand-fgt: 1.00 [22/22]
GhostDiagnostic-chr: 2.406
Centroid-sig: 68.2%
Centroid-so: 0.361 arcsec [0.53σ]
OotOffset-rm: 0.849 arcsec [0.60σ]
KicOffset-rm: 0.998 arcsec [0.66σ]
OotOffset-st: 4/2/1/2 [9]
KicOffset-st: 4/2/1/2 [9]
DiffImageQuality-fgm: 0.78 [7/9]
DiffImageOverlap-fno: 1.00 [13/13]

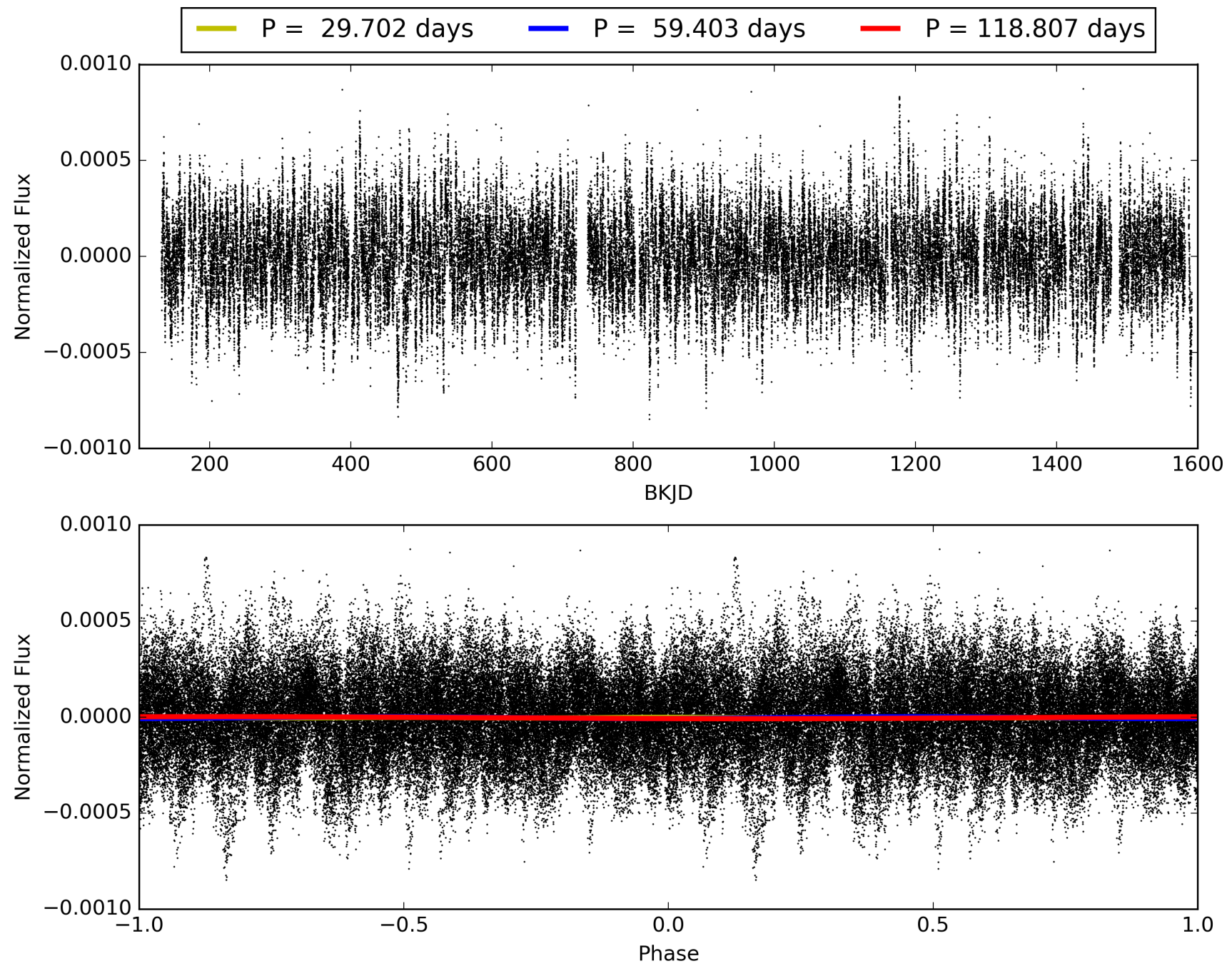
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:16:58 Z

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

TCE 003101178-01, PDC Light Curves

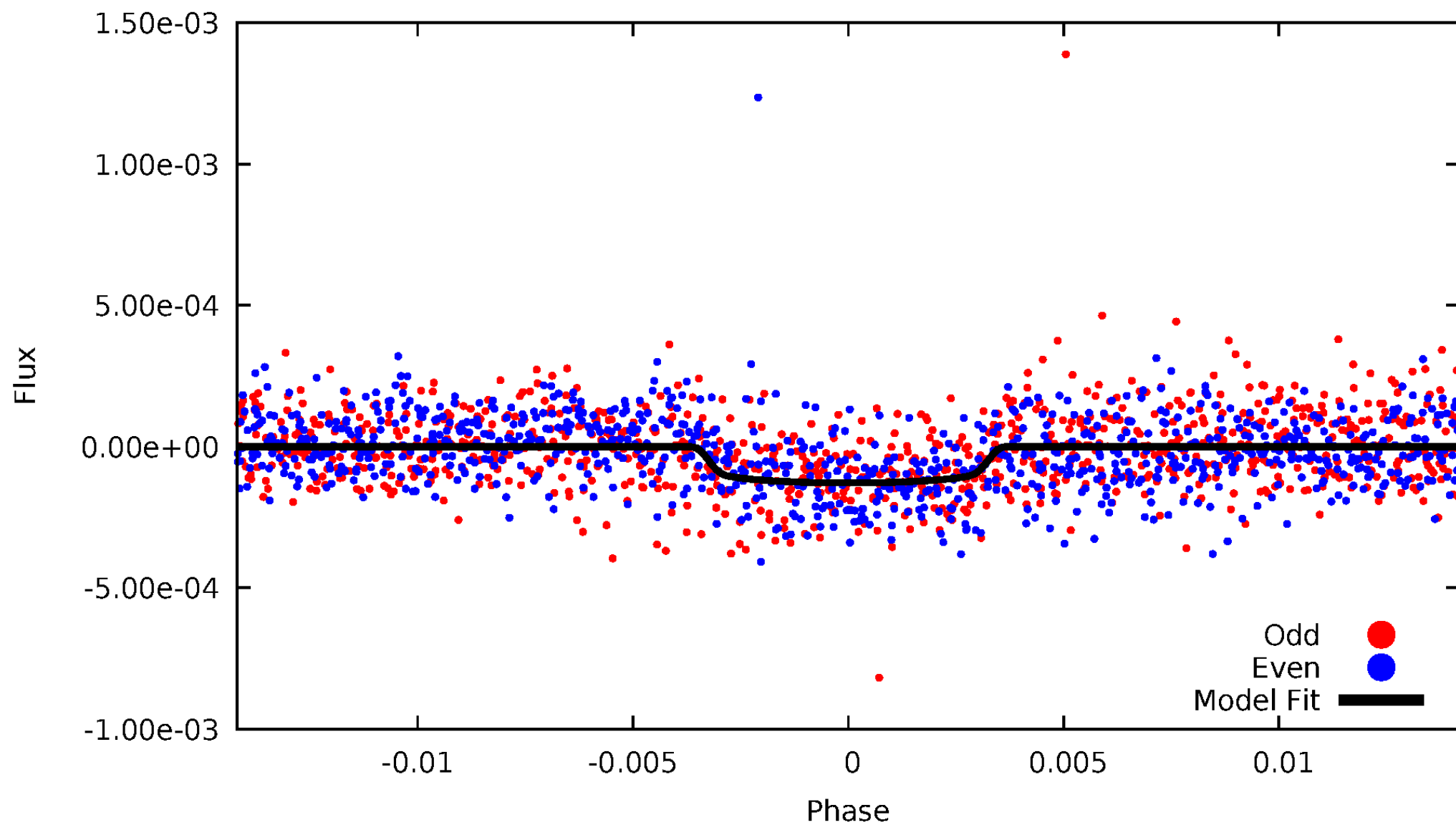


TCE 003101178-01



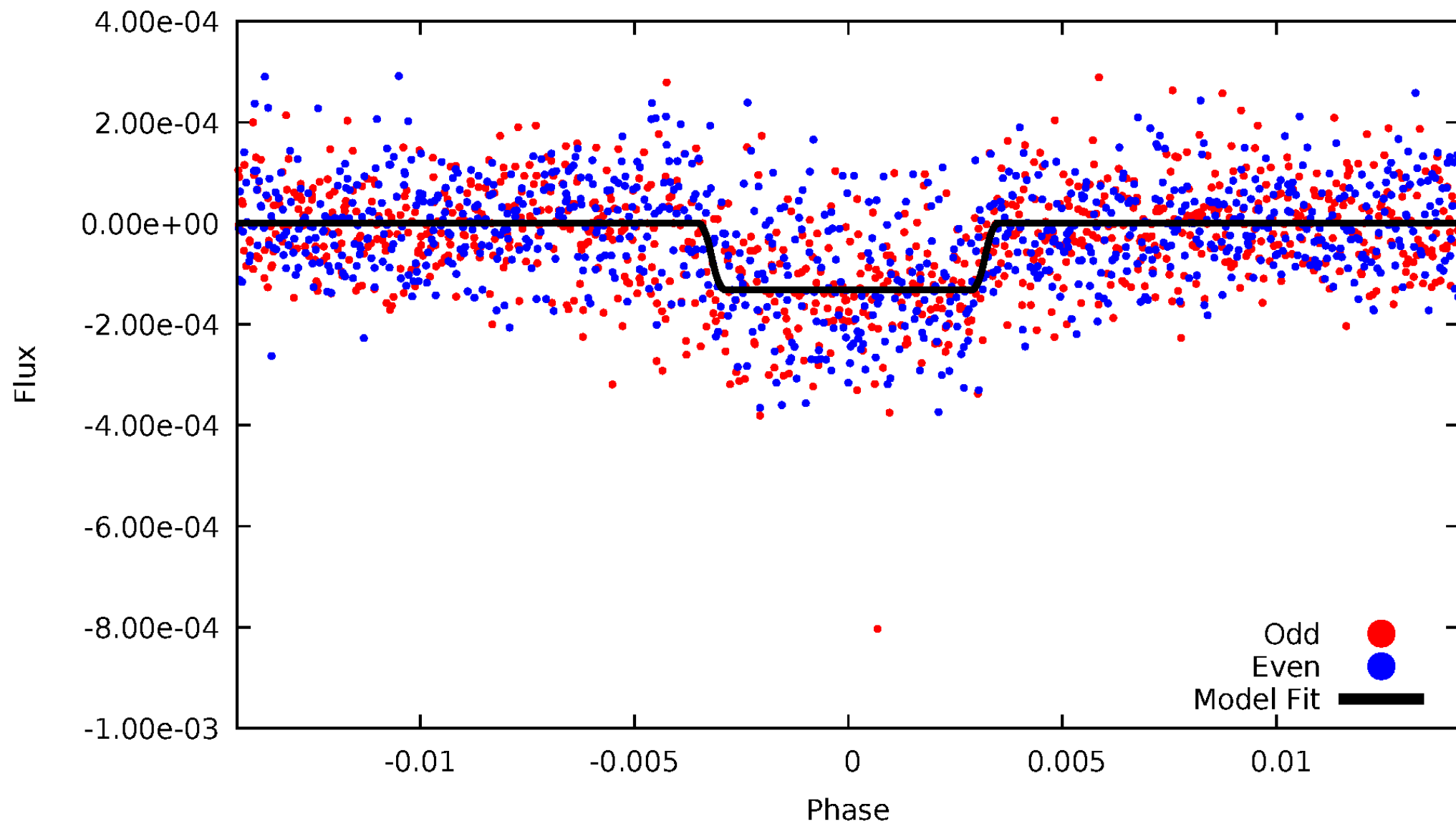
DV Odd/Even

TCE 003101178-01

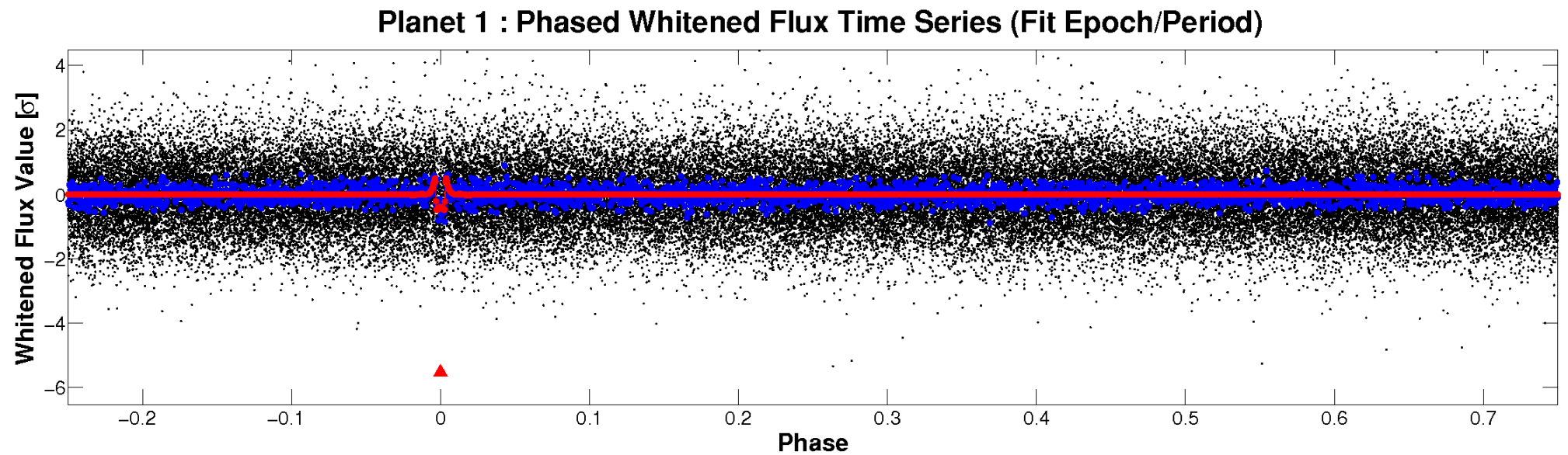
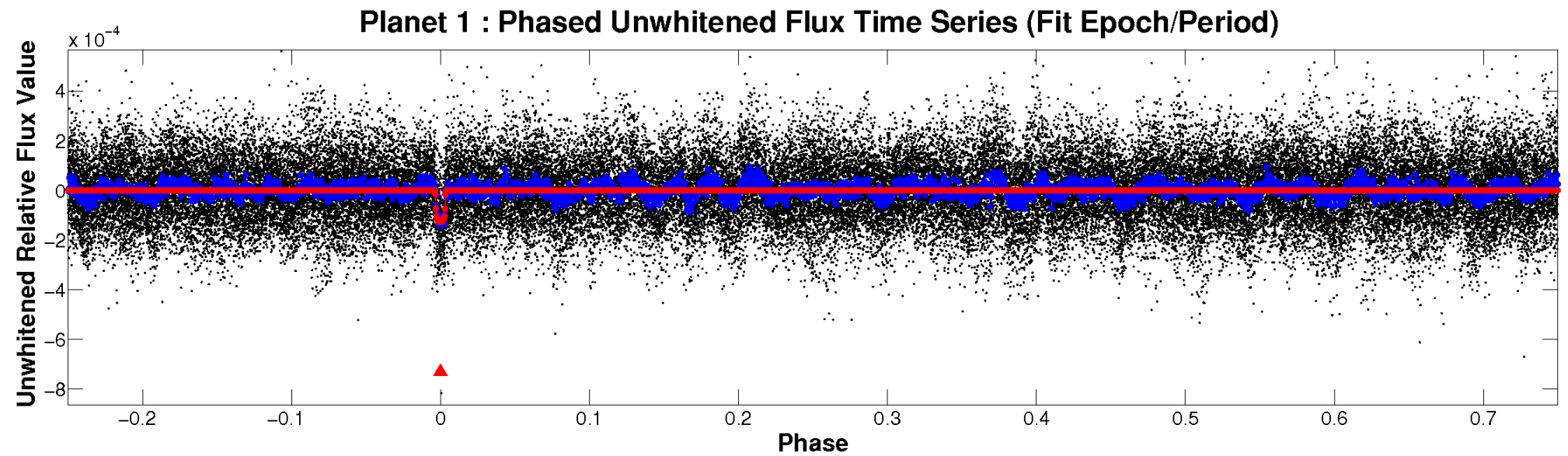


ALT Odd/Even

TCE 003101178-01

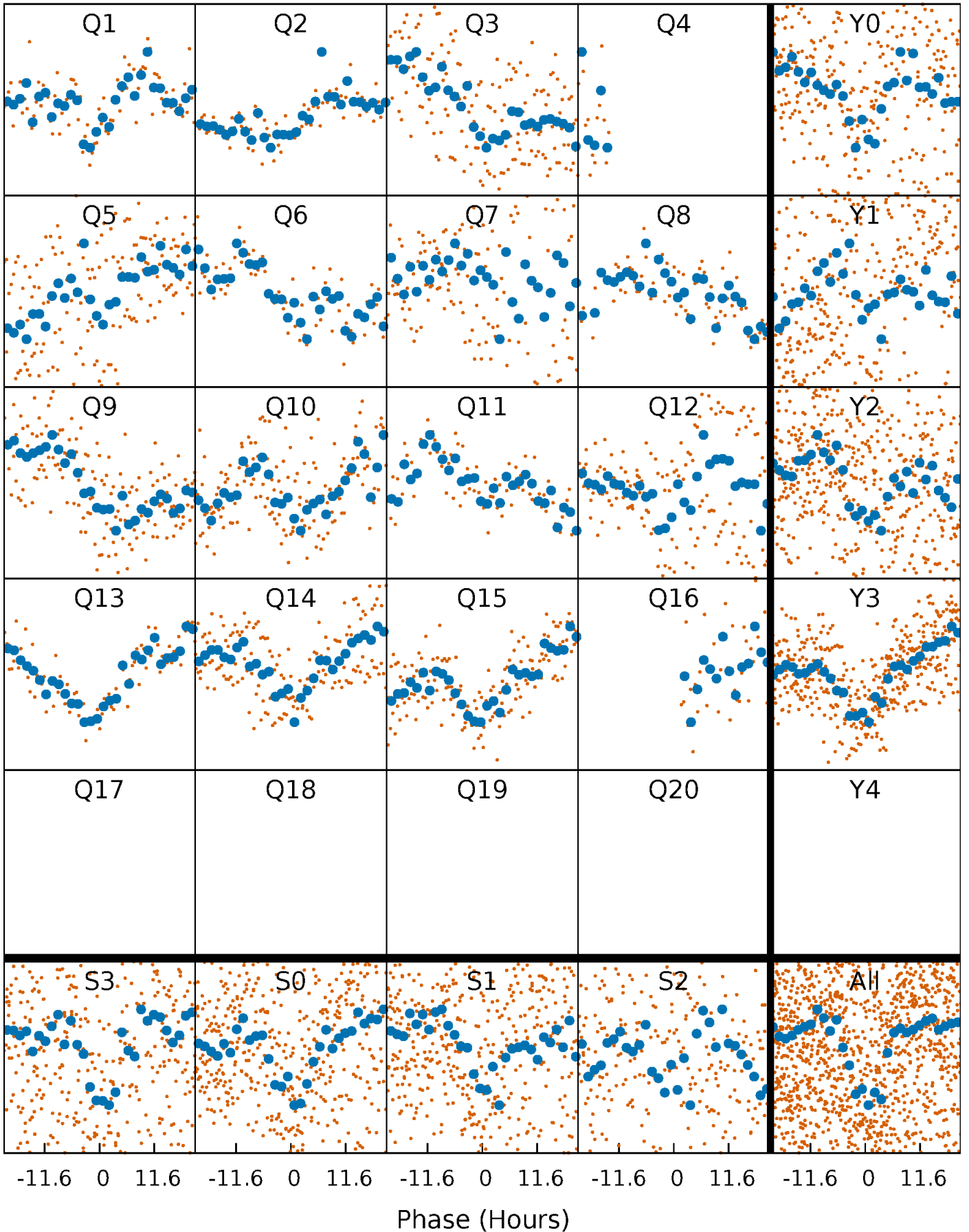


Non-Whitened Vs. Whitened Light Curve



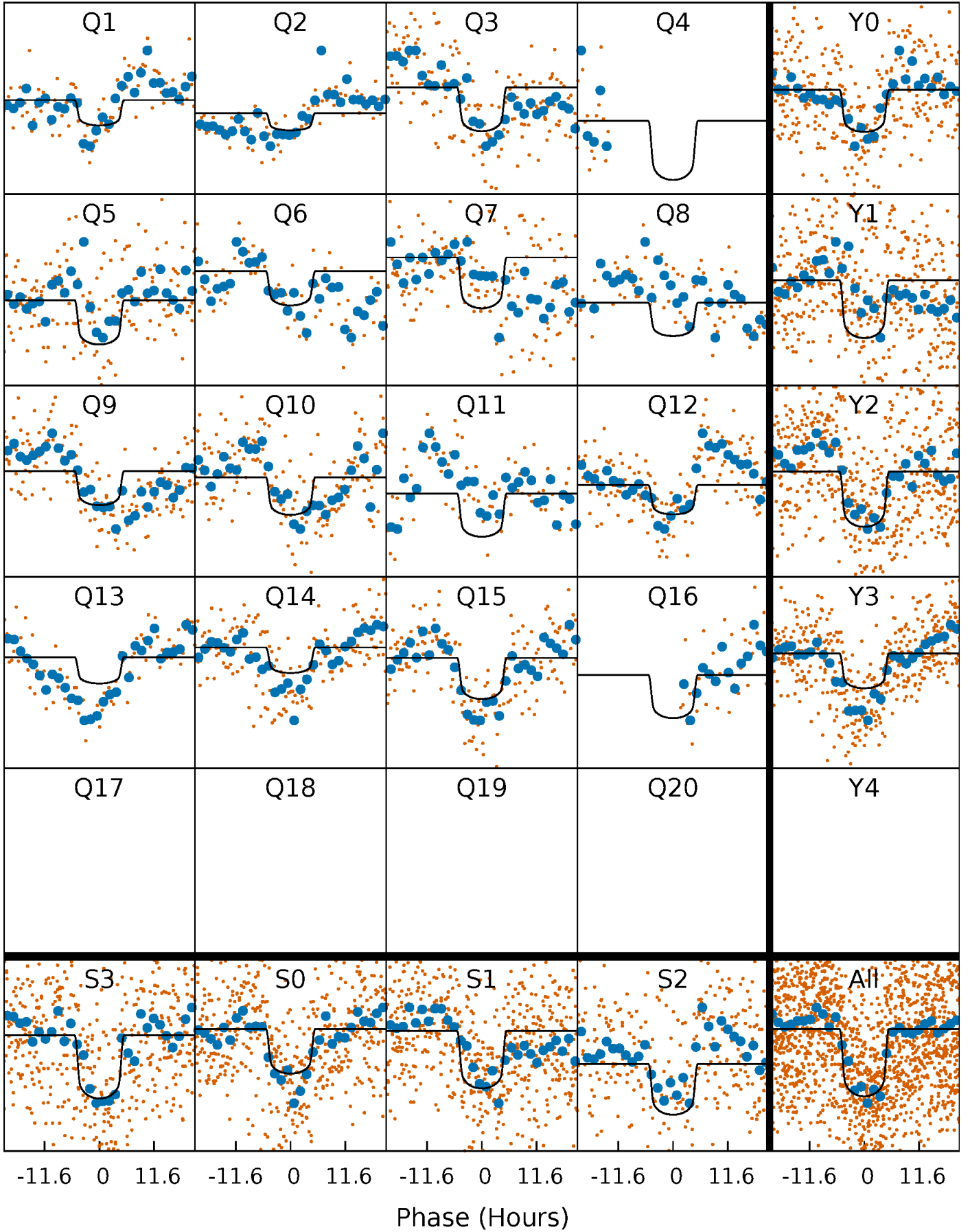
PDC Quarter-Phased Transit Curves

TCE 003101178-01 P= 59.403405 Days $T_0=159.798421$ (BKJD)



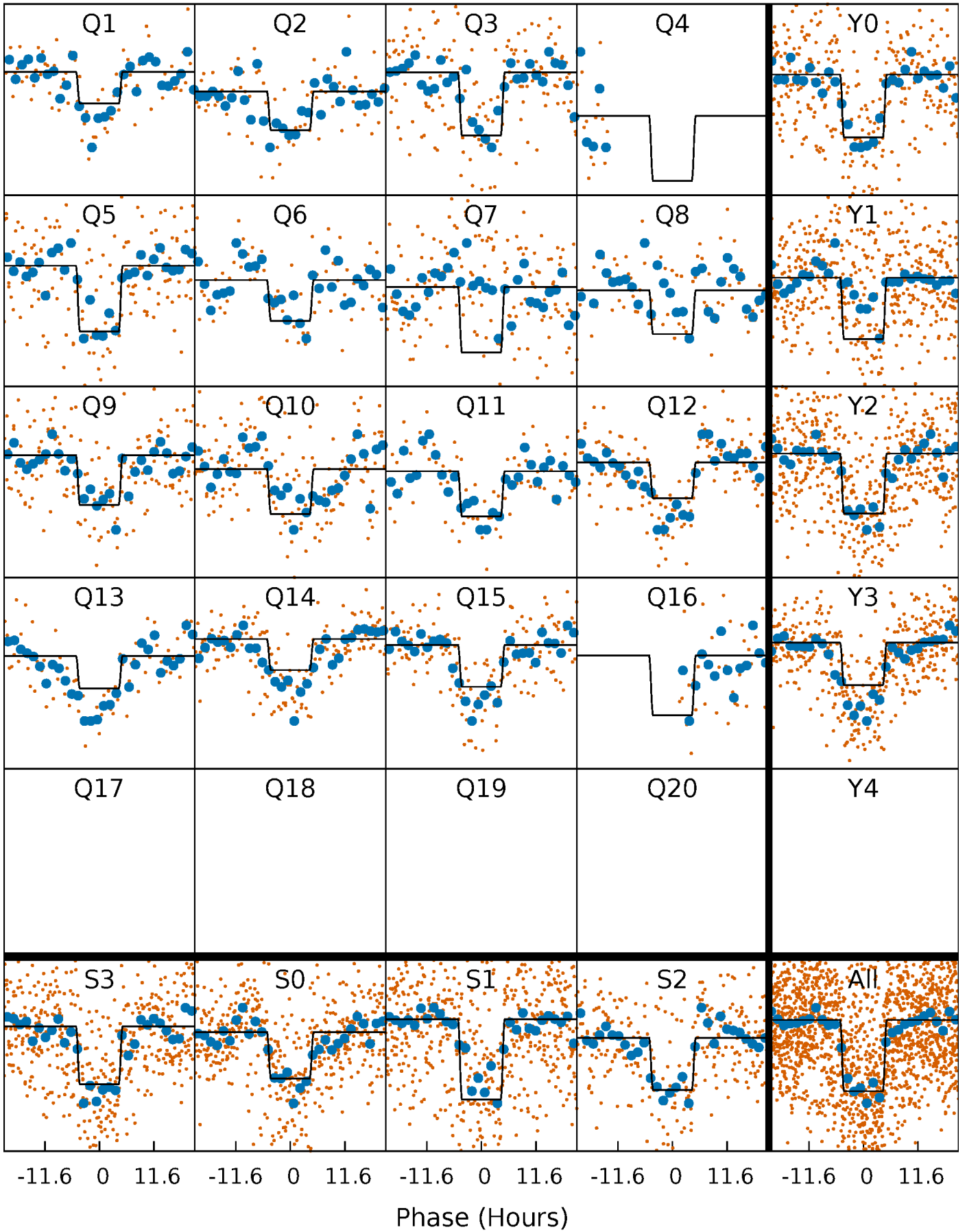
DV Quarter-Phased Transit Curves

TCE 003101178-01 P= 59.403405 Days $T_0=159.798421$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

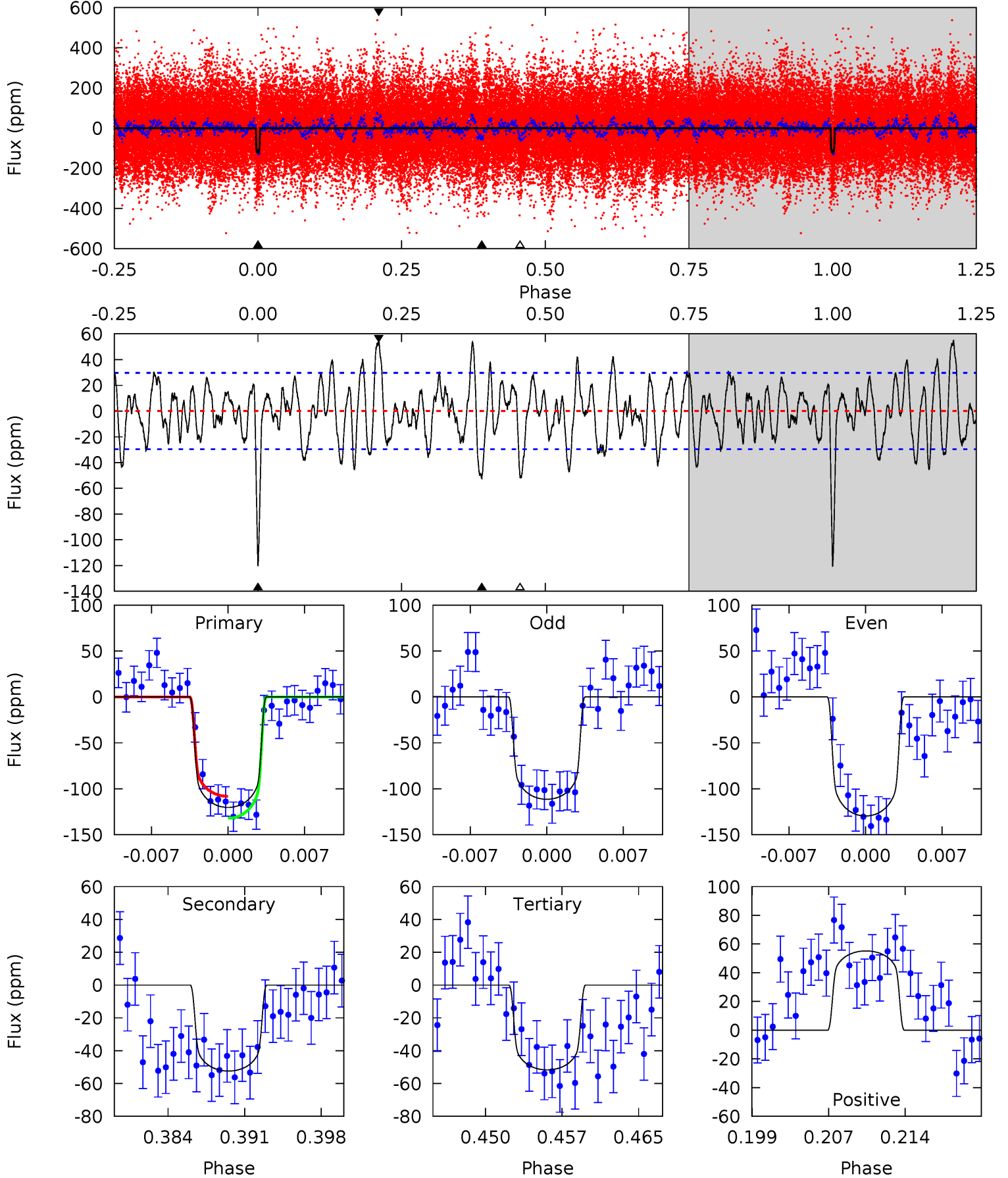
TCE 003101178-01 P= 59.403188 Days $T_0=159.804555$ (BKJD)



DV Model-Shift Uniqueness Test

003101178-01, P = 59.403405 Days, E = 100.395016 Days

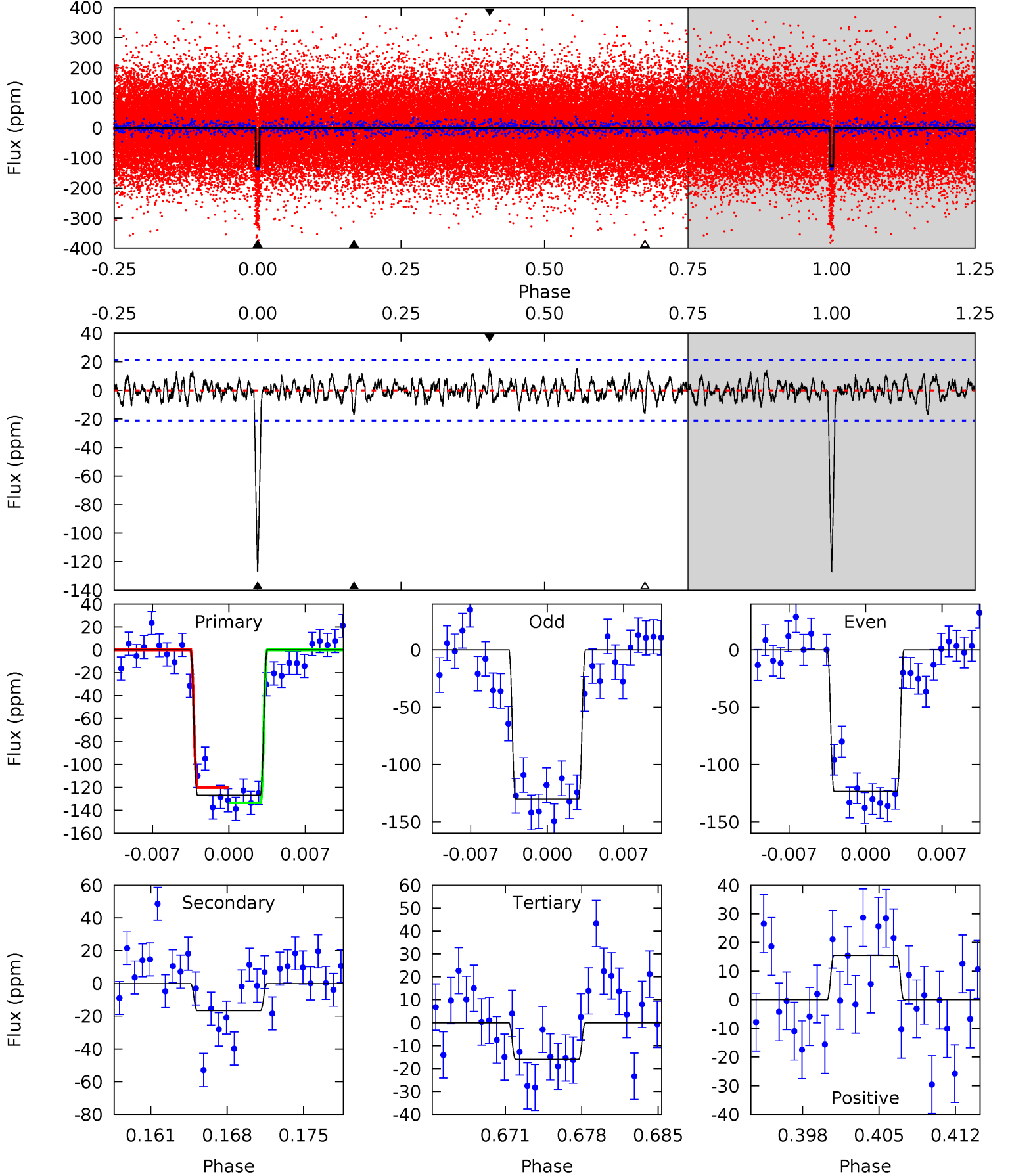
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.6	8.99	8.87	9.47	5.08	2.68	3.29	11.8	11.2	0.12	-0.48	1.56	0.91	0.31	2.05



Alt Model-Shift Uniqueness Test

003101178-01, P = 59.403188 Days, E = 100.401367 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.3	4.00	3.83	3.71	5.09	2.70	1.22	26.5	26.6	0.17	0.29	0.81	1.03	0.11	1.59



Stellar Parameters For KIC 003101178

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6373^{+179}_{-247}	$4.256^{+0.204}_{-0.167}$	$-0.540^{+0.300}_{-0.300}$	$1.209^{+0.325}_{-0.266}$	$0.961^{+0.145}_{-0.108}$	$0.766^{+0.819}_{-0.368}$
	+3%/-4%	+5%/-4%	+56%/-56%	+27%/-22%	+15%/-11%	+107%/-48%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 003101178-01 / KOI 4963.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-52 ± 6	$1.61^{+0.28}_{-0.23}$	788^{+62}_{-54}	4945^{+236}_{-231}	944^{+354}_{-252}
Alt.	-17 ± 4	$1.52^{+0.26}_{-0.24}$	792^{+59}_{-64}	4092^{+223}_{-248}	351^{+166}_{-121}

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 $A_{obs} \gg 1.0$

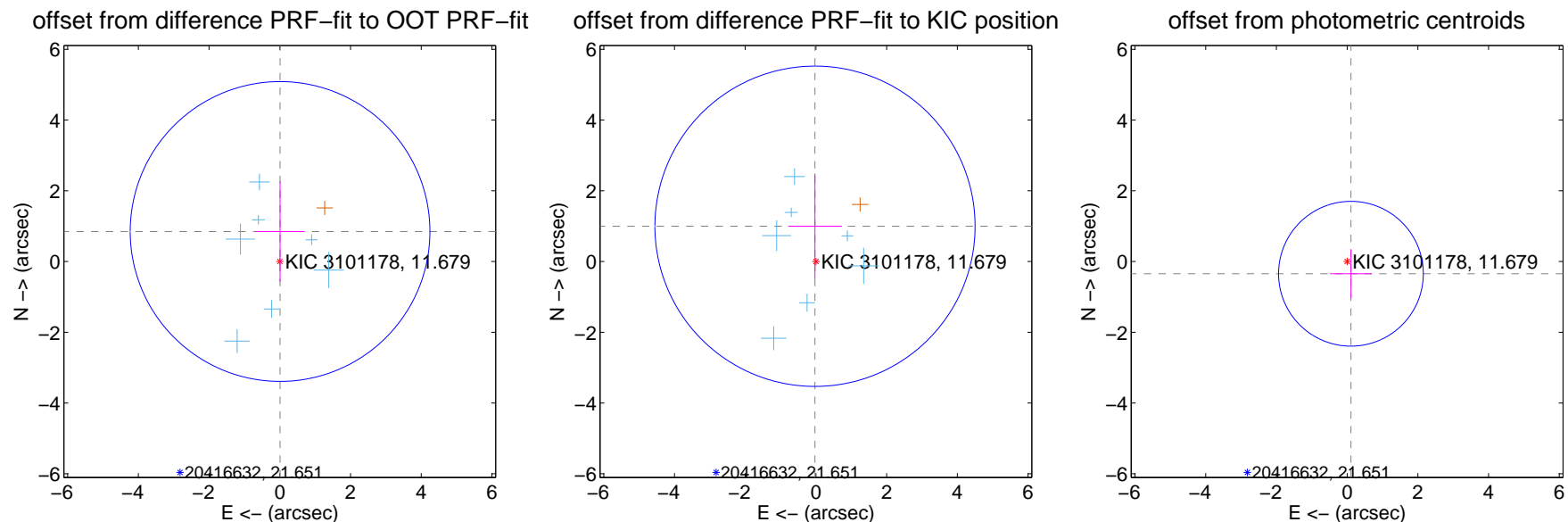
DV Centroid Data

Supplemental centroid analysis for 003101178-01. **Kepler magnitude: 11.68.** Transit SNR 10.36

There are 7 quarters with good PRF difference image offsets

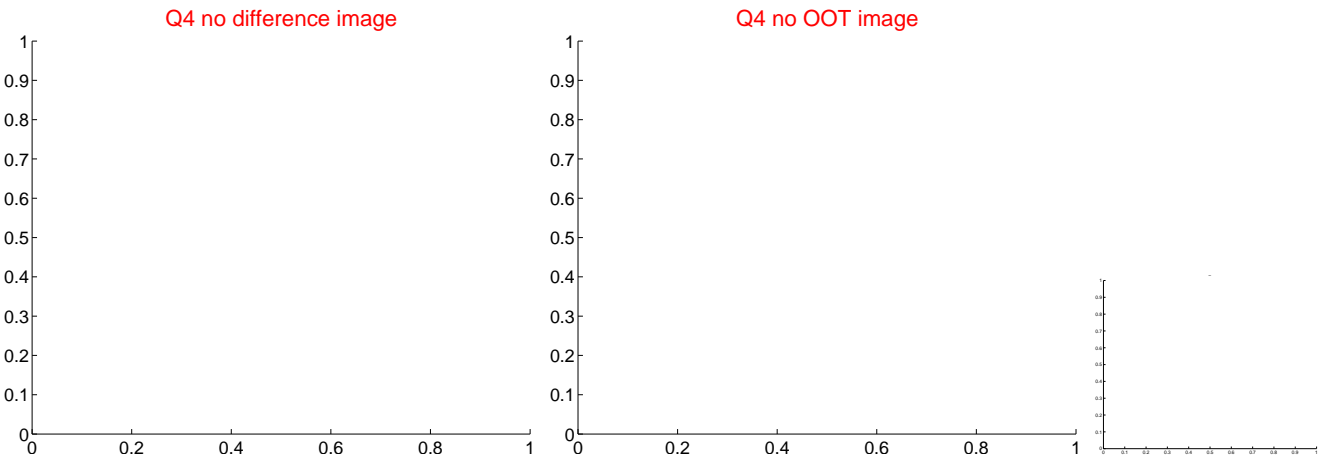
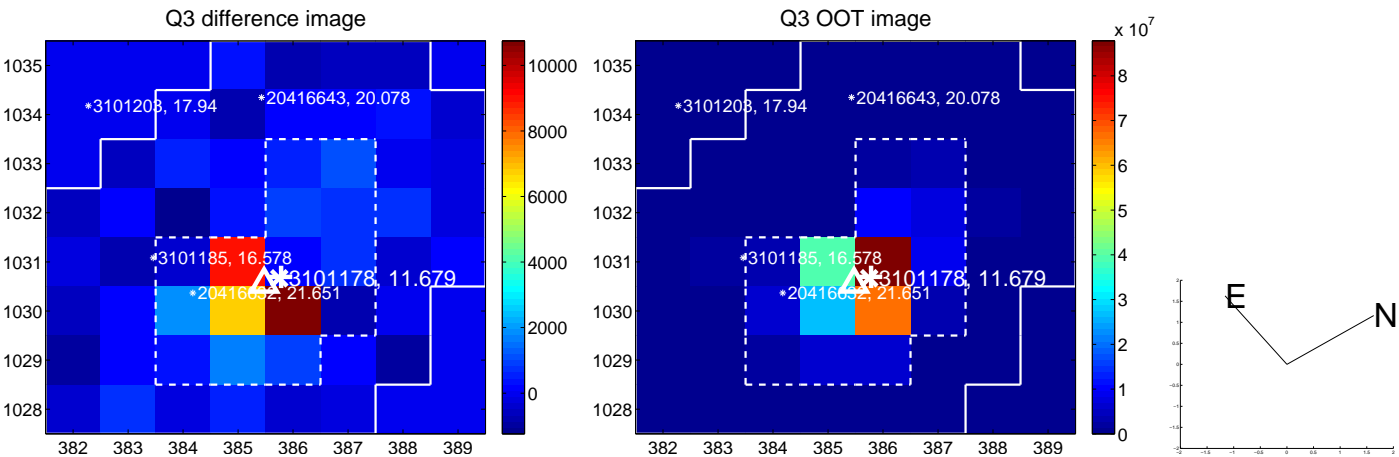
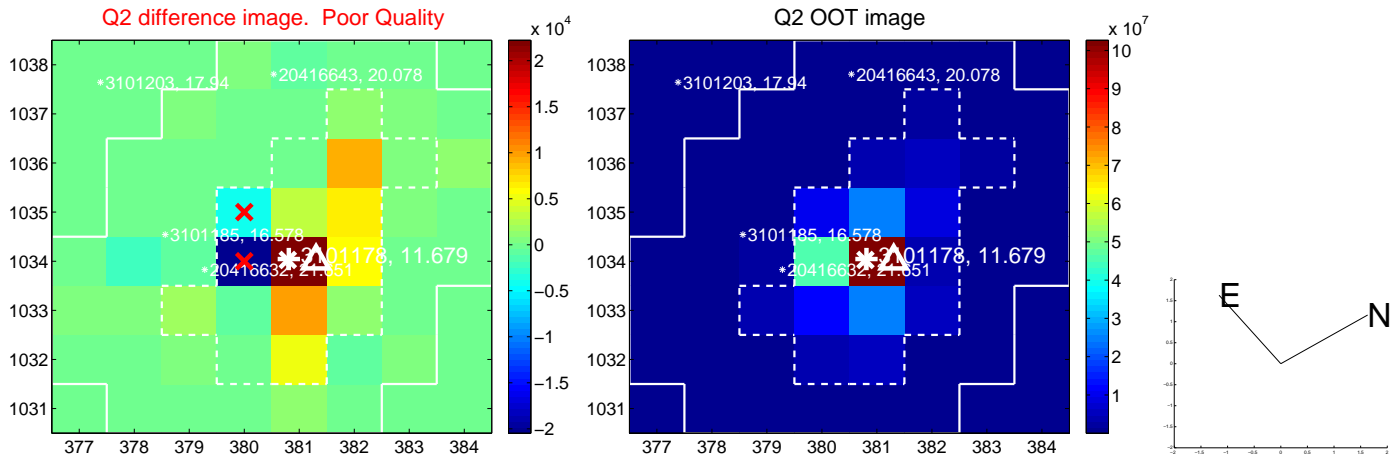
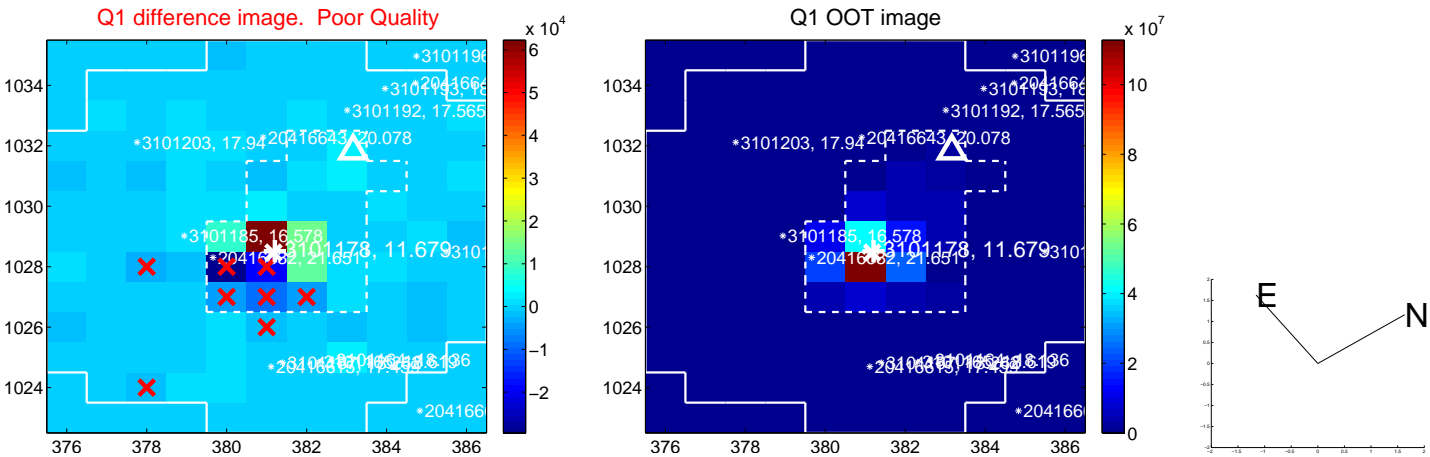
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.849 ± 1.413	0.60	-0.008 ± 0.692	0.849 ± 1.418
PRF-fit source offset from KIC position	0.998 ± 1.509	0.66	0.026 ± 0.758	0.997 ± 1.493
photometric centroid source offset	0.36 ± 0.68	0.53	-0.11 ± 0.59	-0.35 ± 0.69

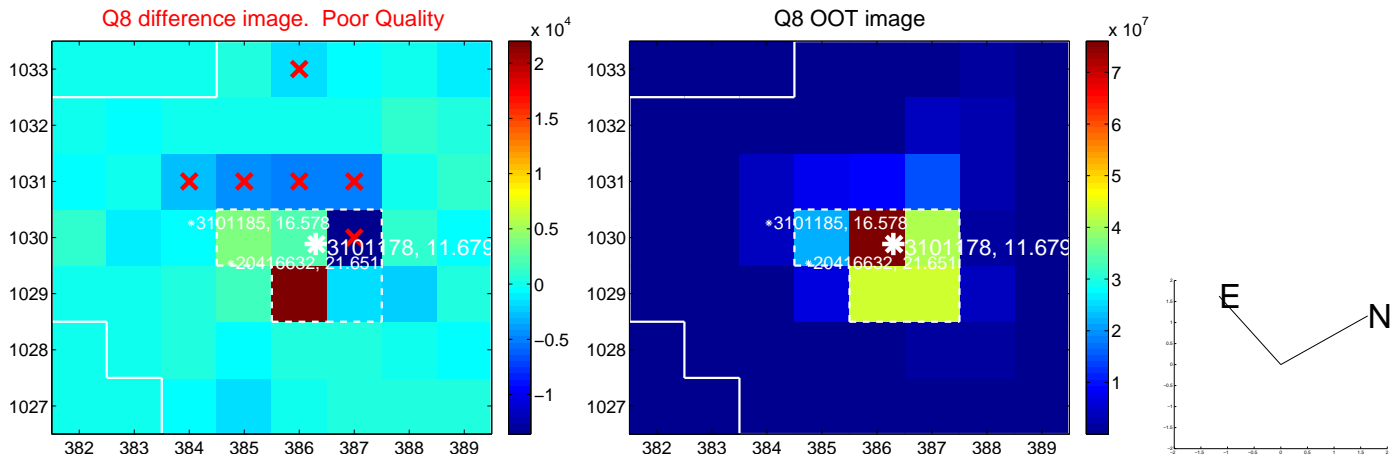
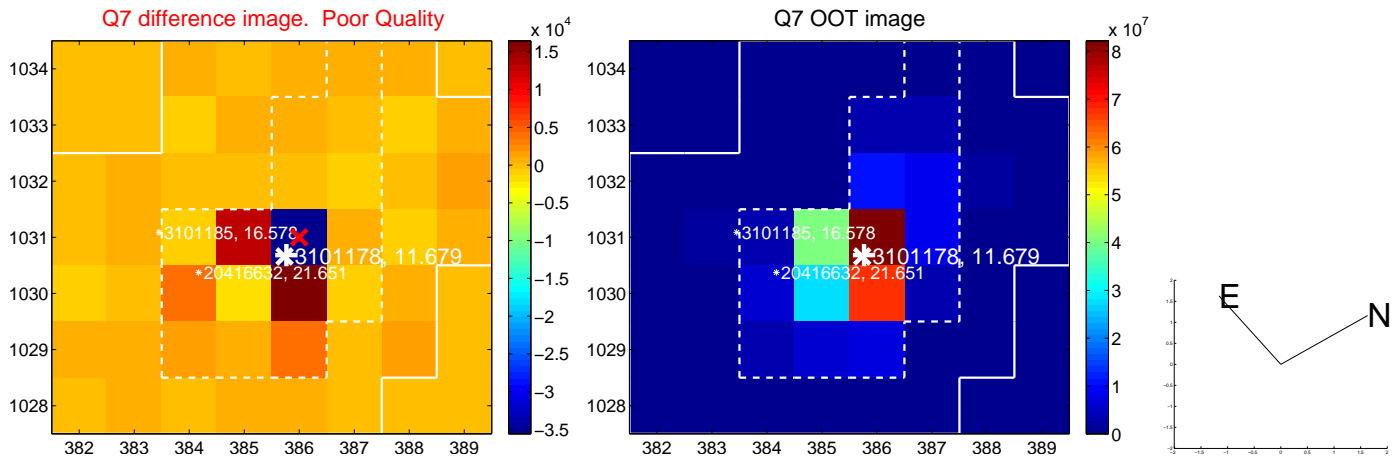
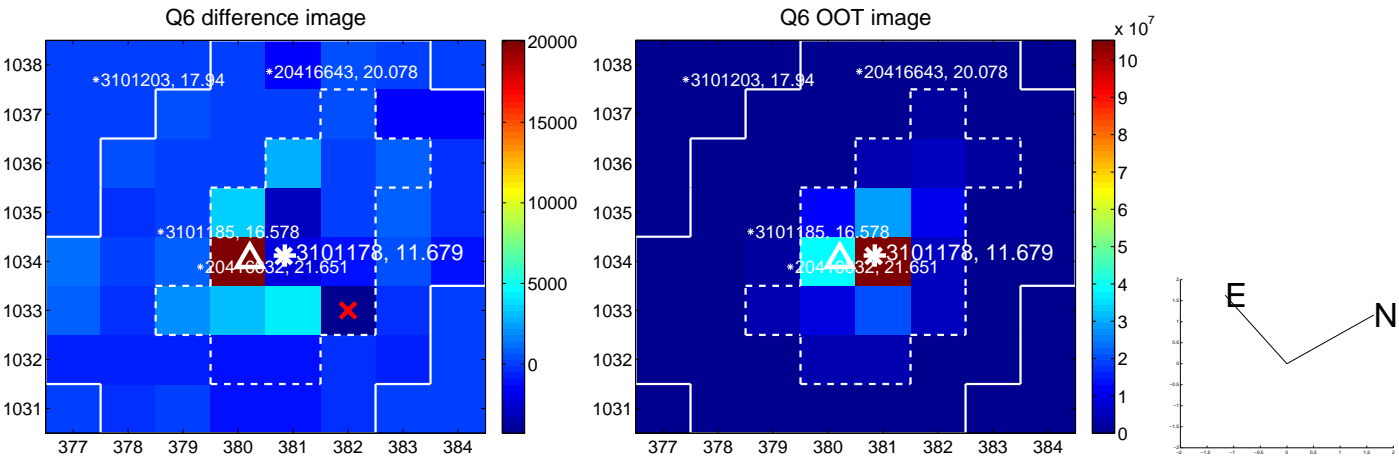
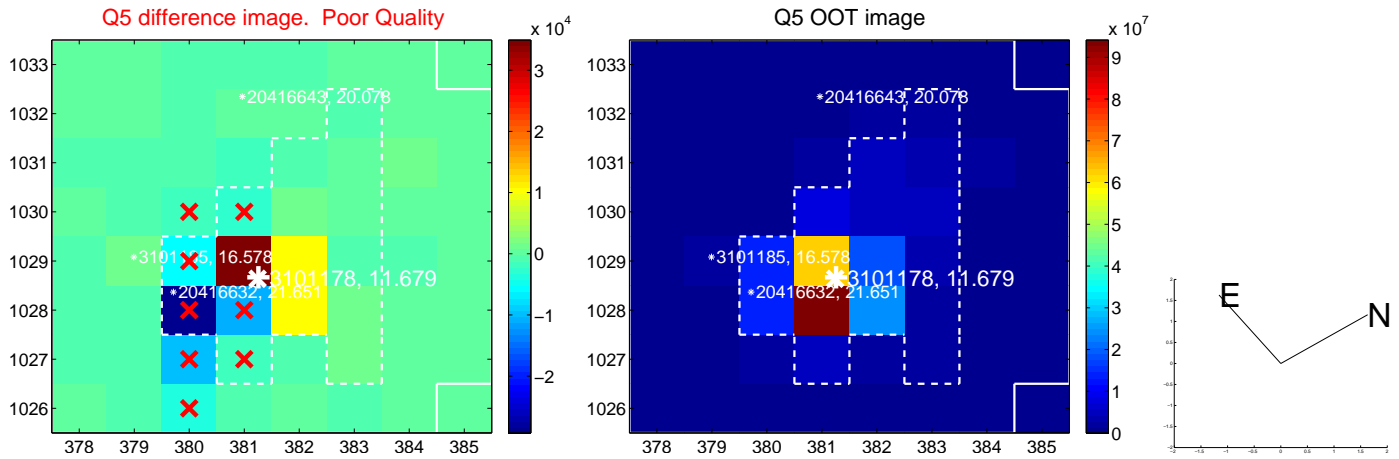


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

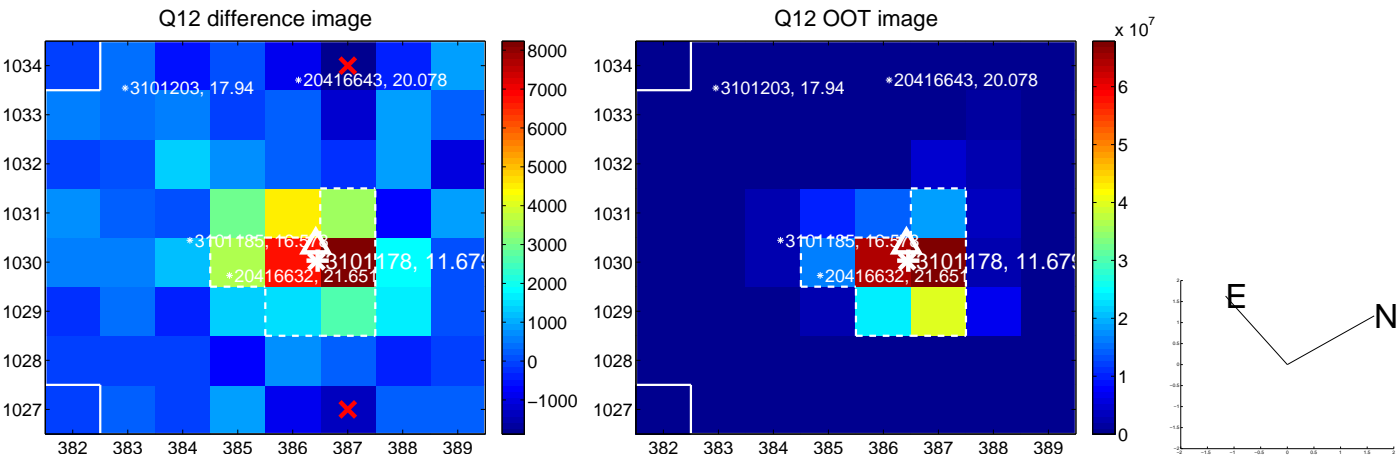
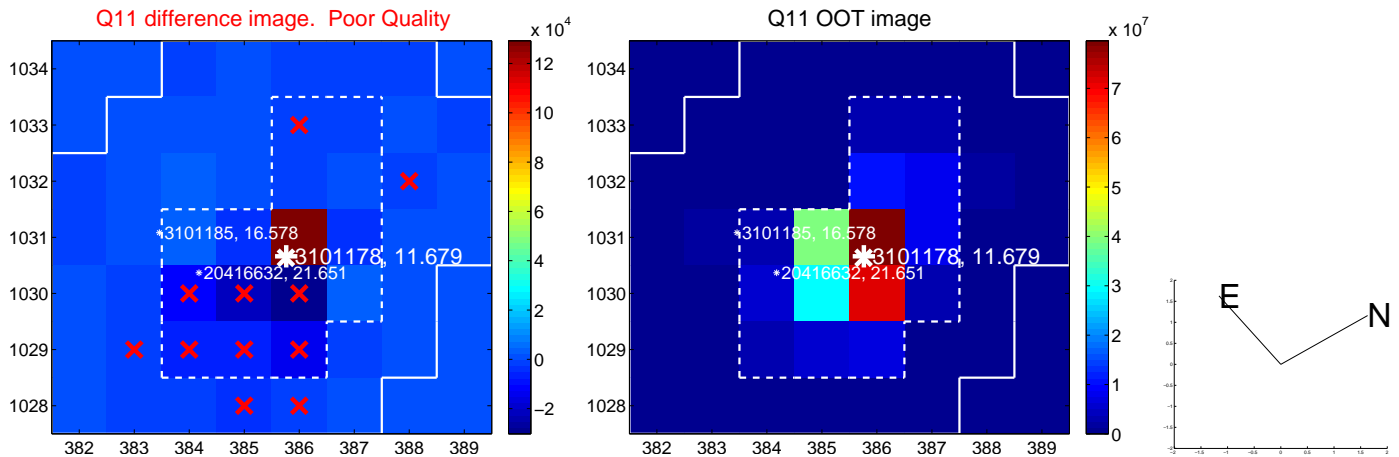
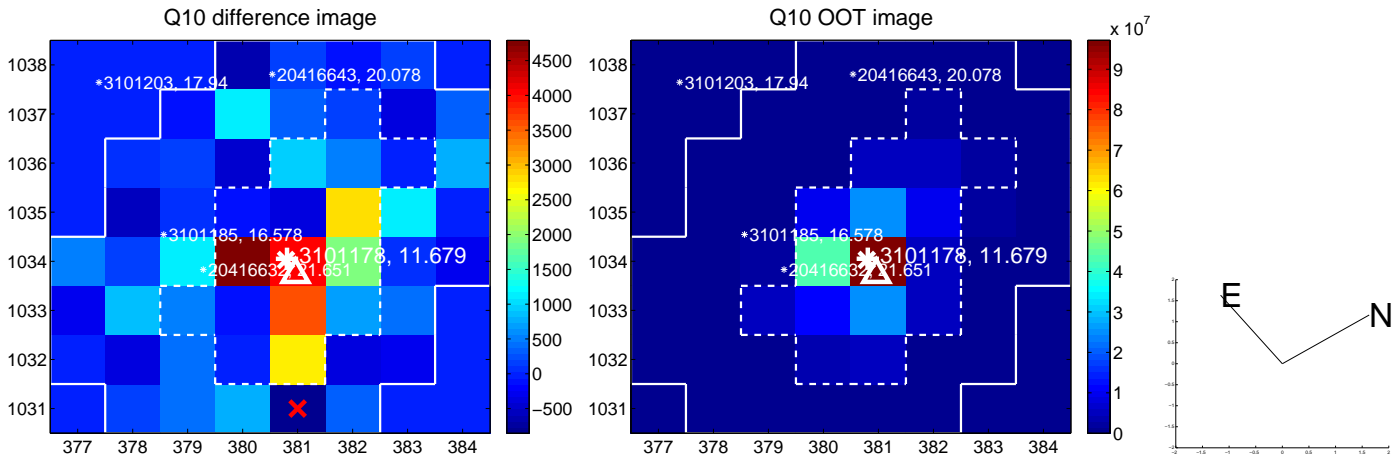
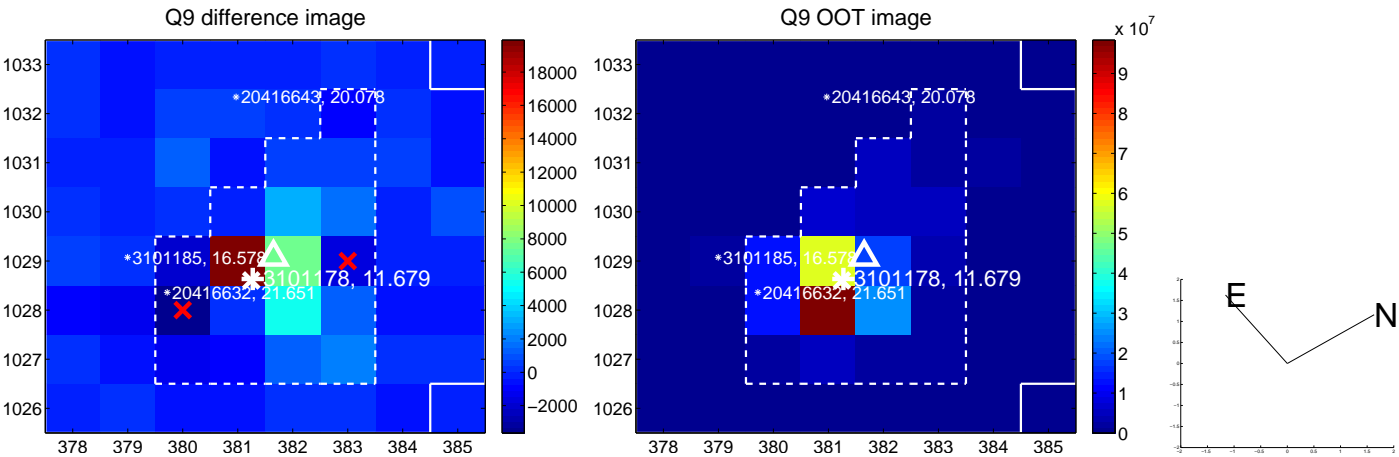
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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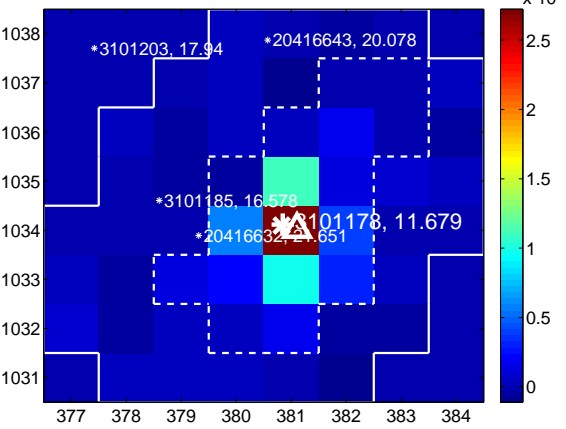
Q13 no difference image



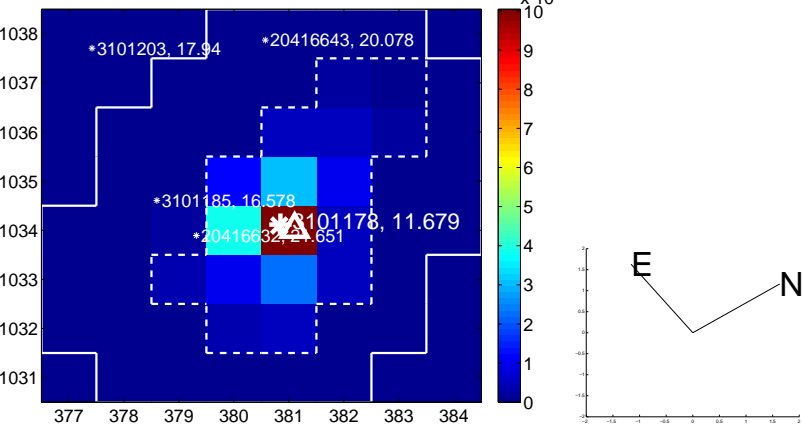
Q13 no OOT image



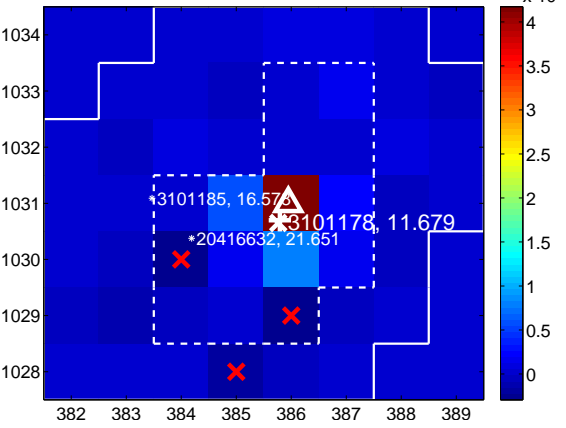
Q14 difference image



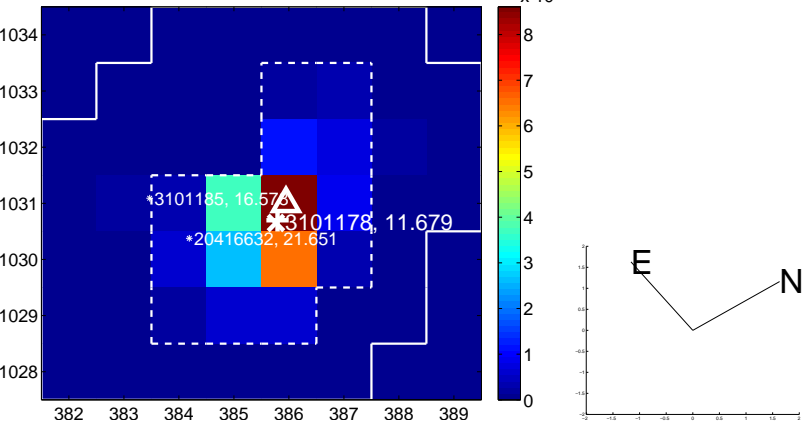
Q14 OOT image



Q15 difference image



Q15 OOT image



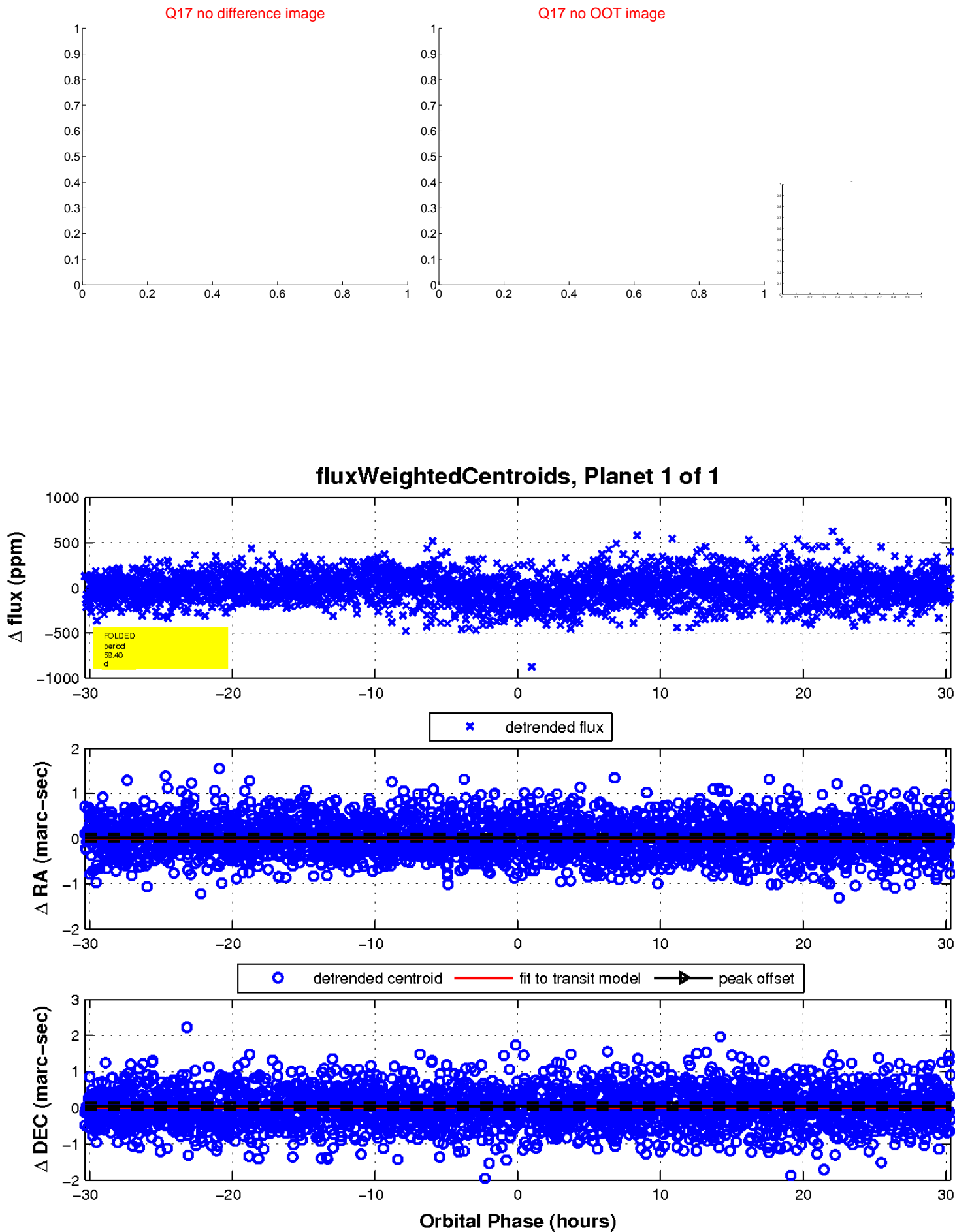
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

