

KIC 012116298

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})
012116298-01	OBS	No	492.520341	462.589429	76.1	13.023	7.2	7.3	1.74	5988	1.68	2.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012116298-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—INCONSISTENT_TRANS—CENT_SATURATED

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

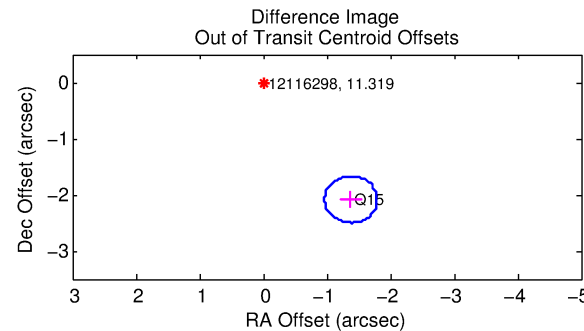
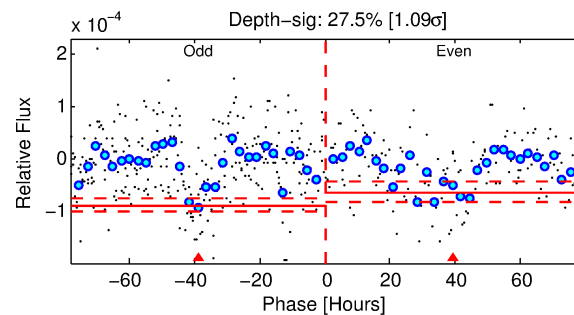
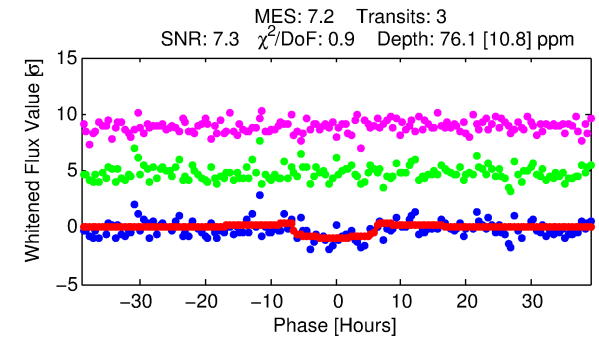
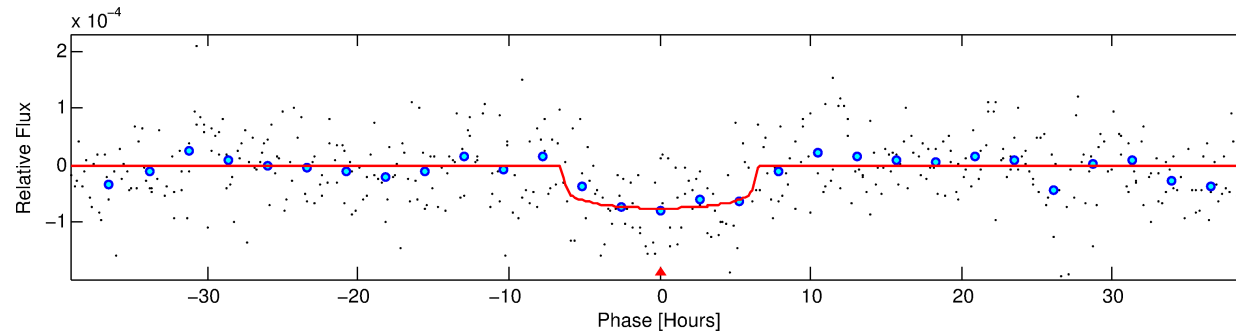
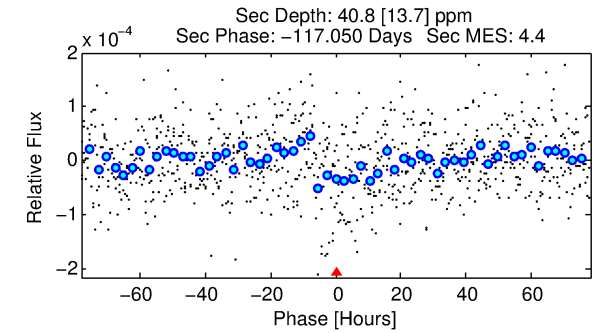
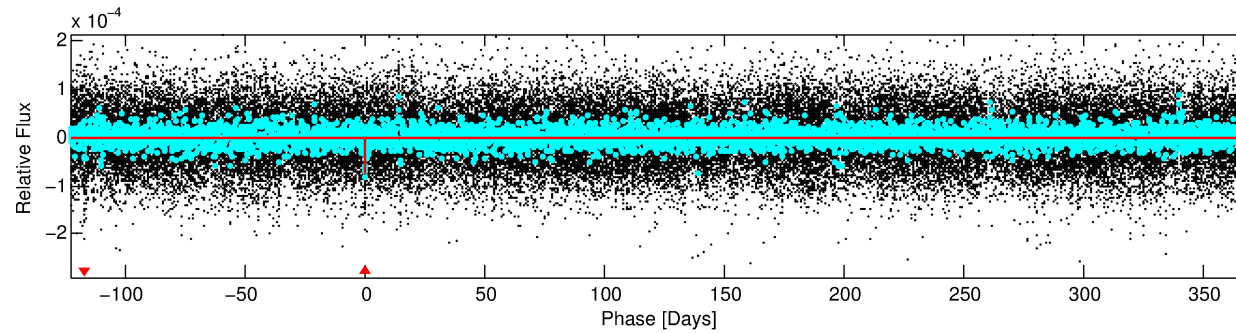
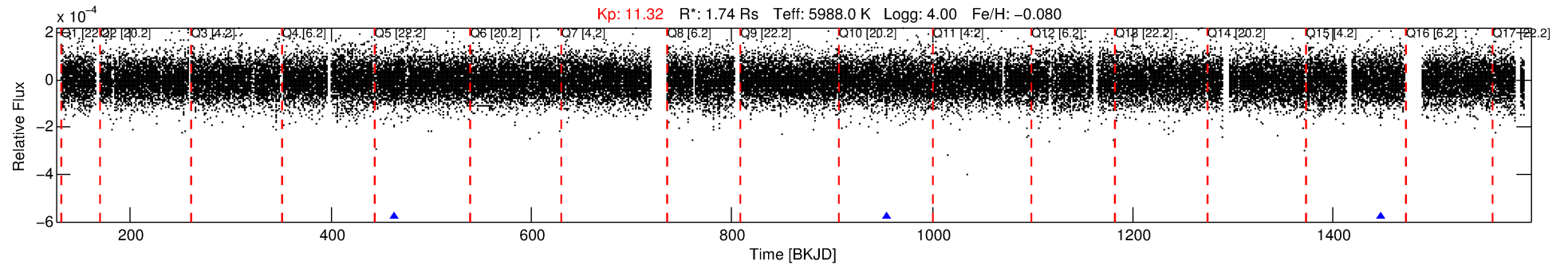
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012116298-01

No Significant Match Found

DV One-Page Summary

KIC: 12116298 Candidate: 1 of 1 Period: 492.520 d



DV Fit Results:

Period = 492.52034 [0.01519] d
Epoch = 462.5894 [0.0179] BKJD
Rp/R* = 0.0089 [0.0033]
a/R* = 175.32 [317.12]
b = 0.81 [0.79]
Seff = 2.18 [1.46]
Teq = 310 [52] K
Rp = 1.68 [0.91] Re
a = 1.2633 [0.4996] AU
Ag = 12646.99 [13232.32] [0.96σ]
Teff = 5082 [1055] K [4.52σ]

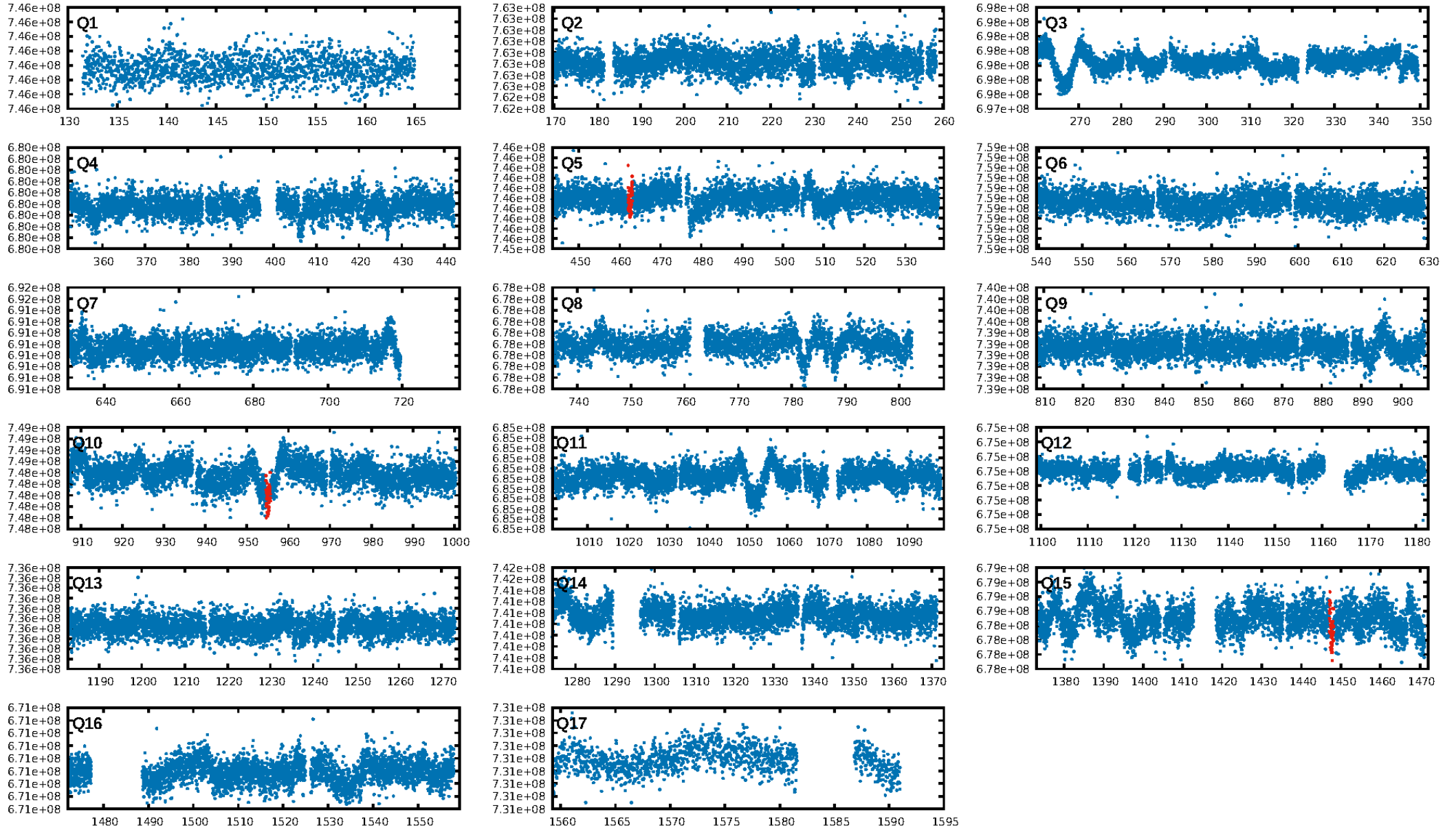
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 18.8%
ModelChiSquareGof-sig: 98.5%
Bootstrap-pfa: 5.26e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -4.407
Centroid-sig: 8.7%
Centroid-so: 3.121 arcsec [1.48σ]
OotOffset-rm: 2.501 arcsec [18.12σ]
KicOffset-rm: 2.696 arcsec [19.40σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [3/3]

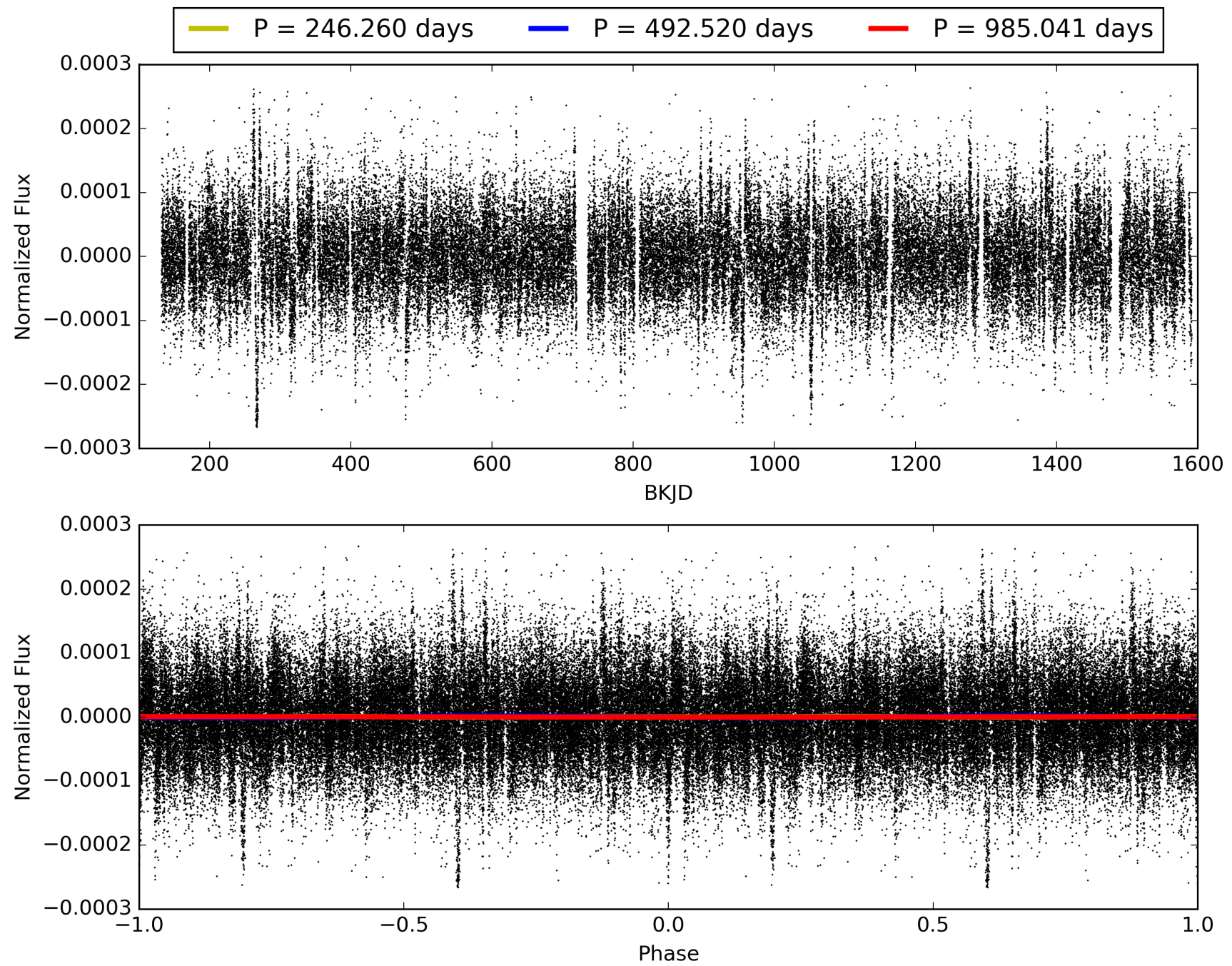
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:05:55 Z

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

TCE 012116298-01, PDC Light Curves

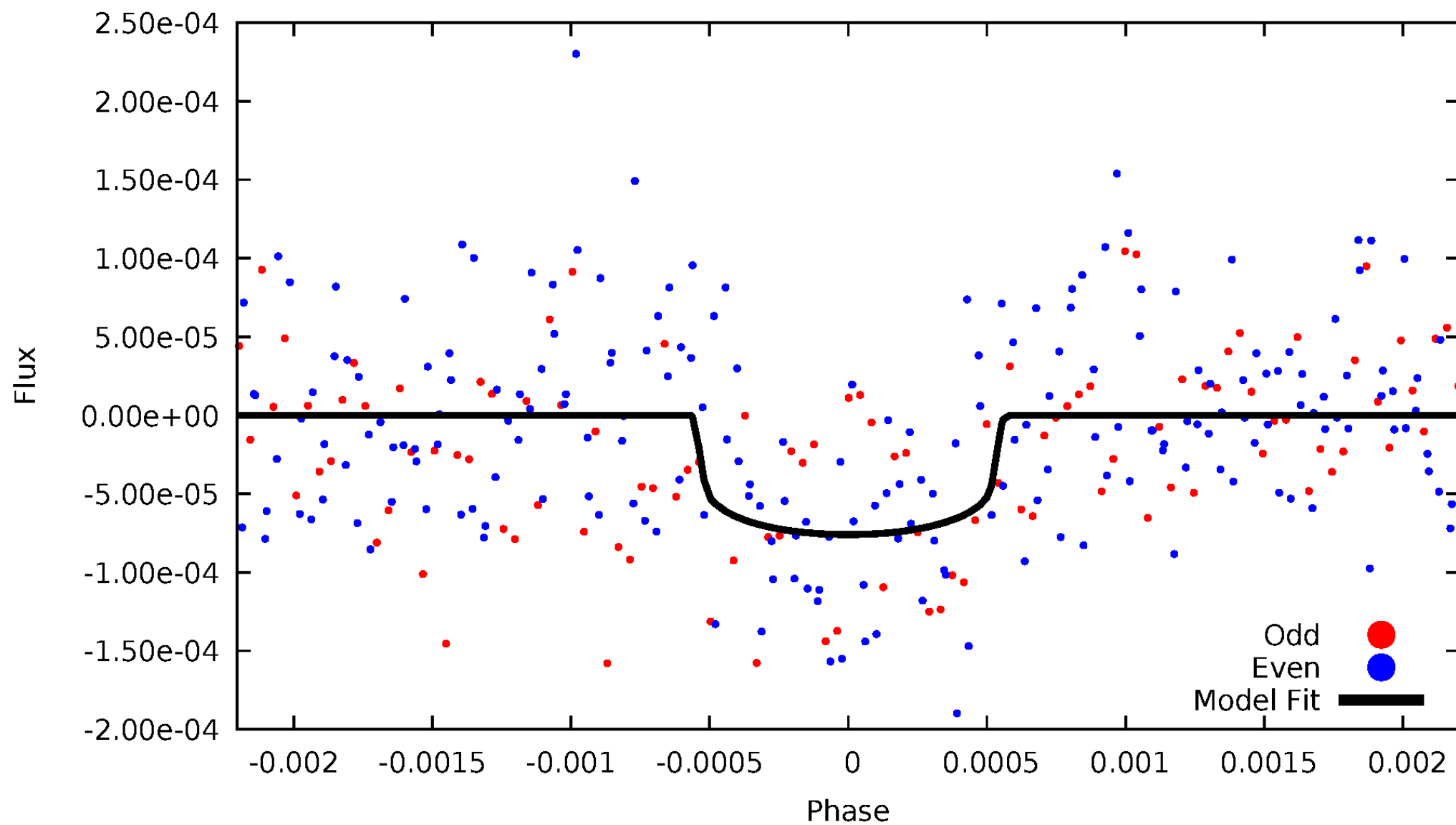


TCE 012116298-01



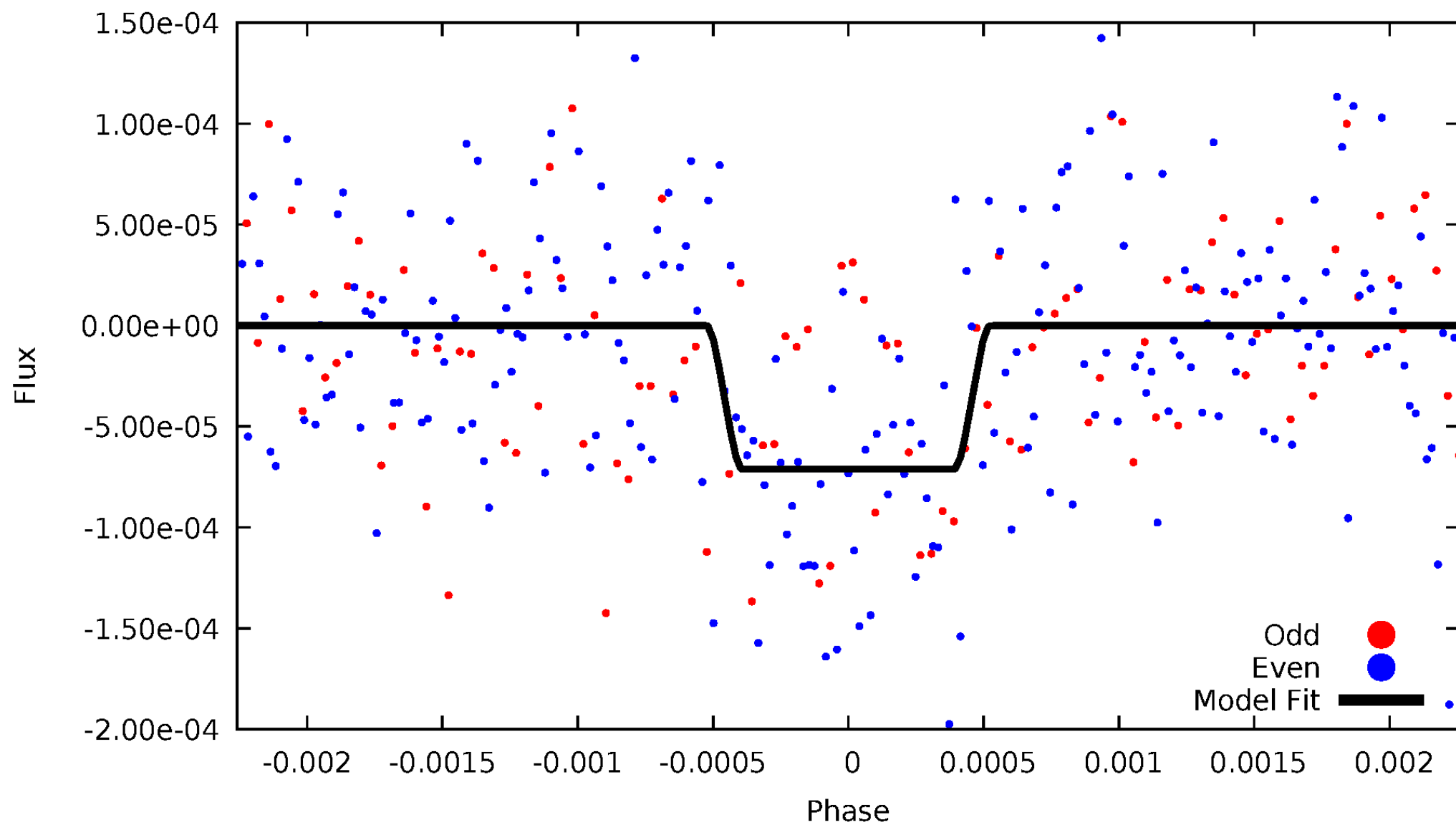
DV Odd/Even

TCE 012116298-01



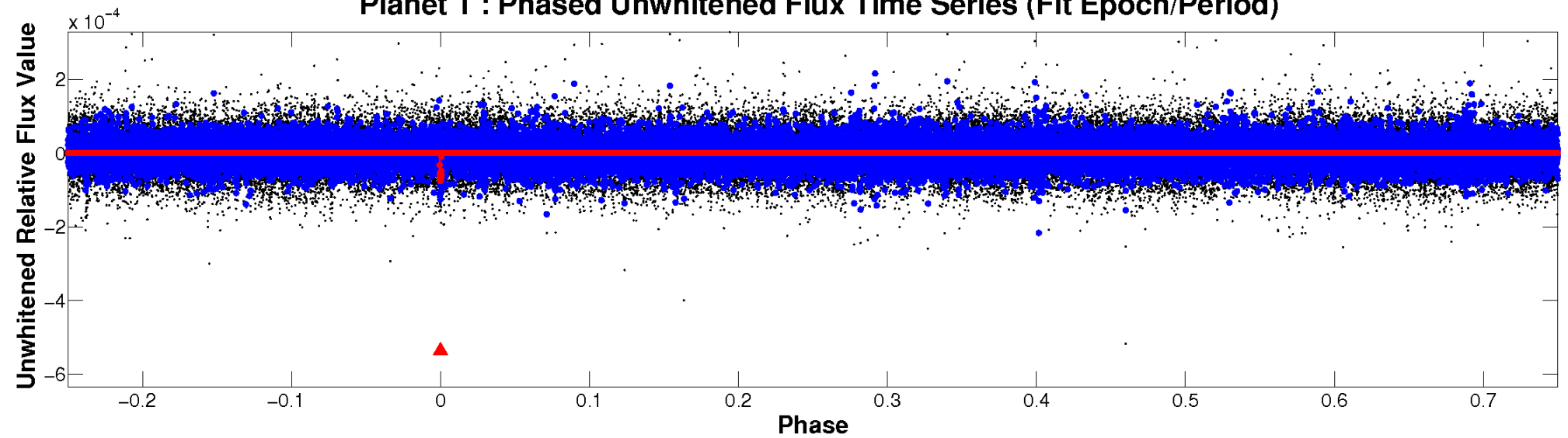
ALT Odd/Even

TCE 012116298-01

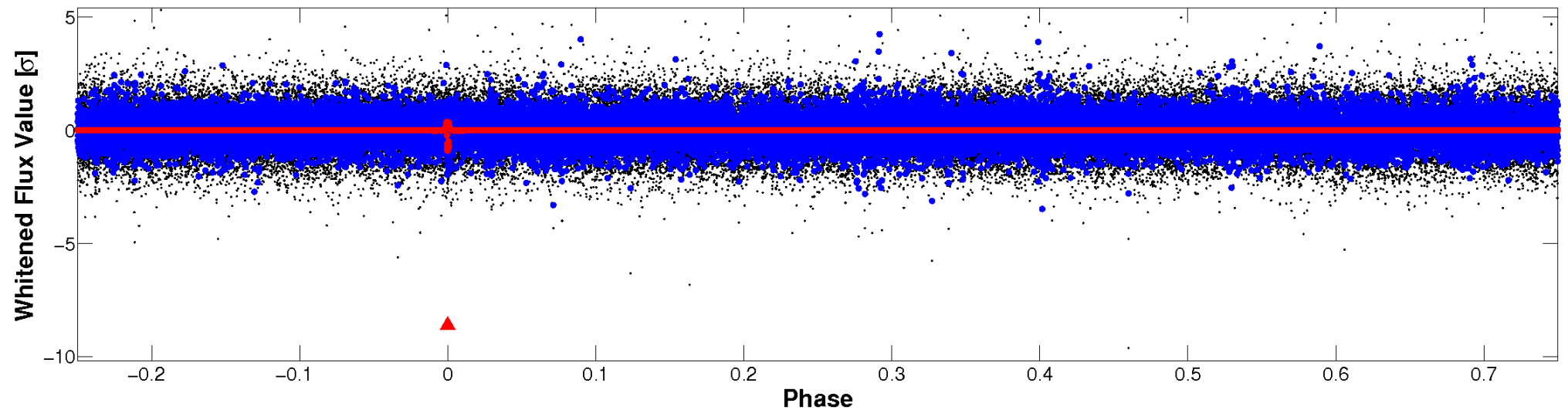


Non-Whitened Vs. Whitened Light Curve

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

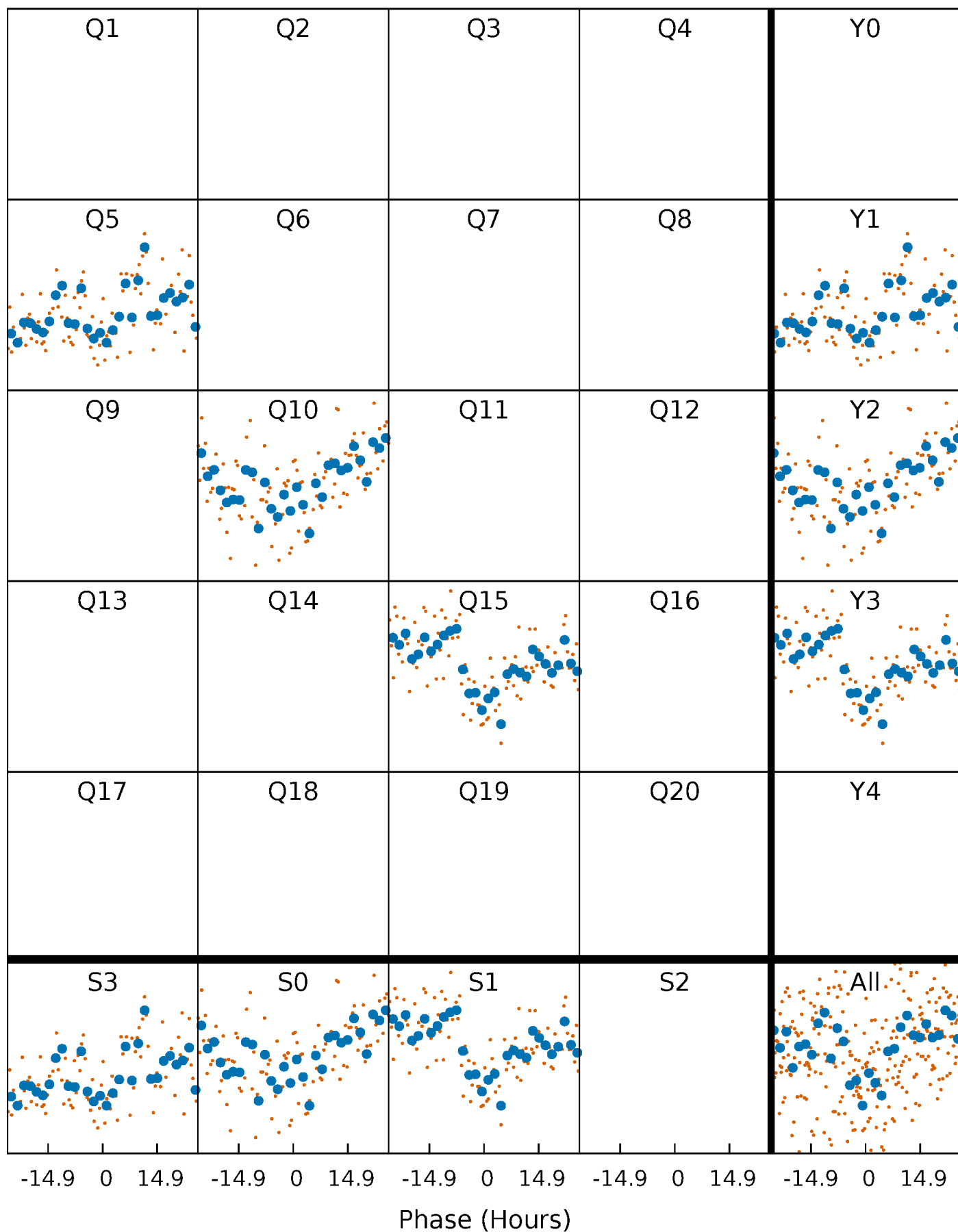


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



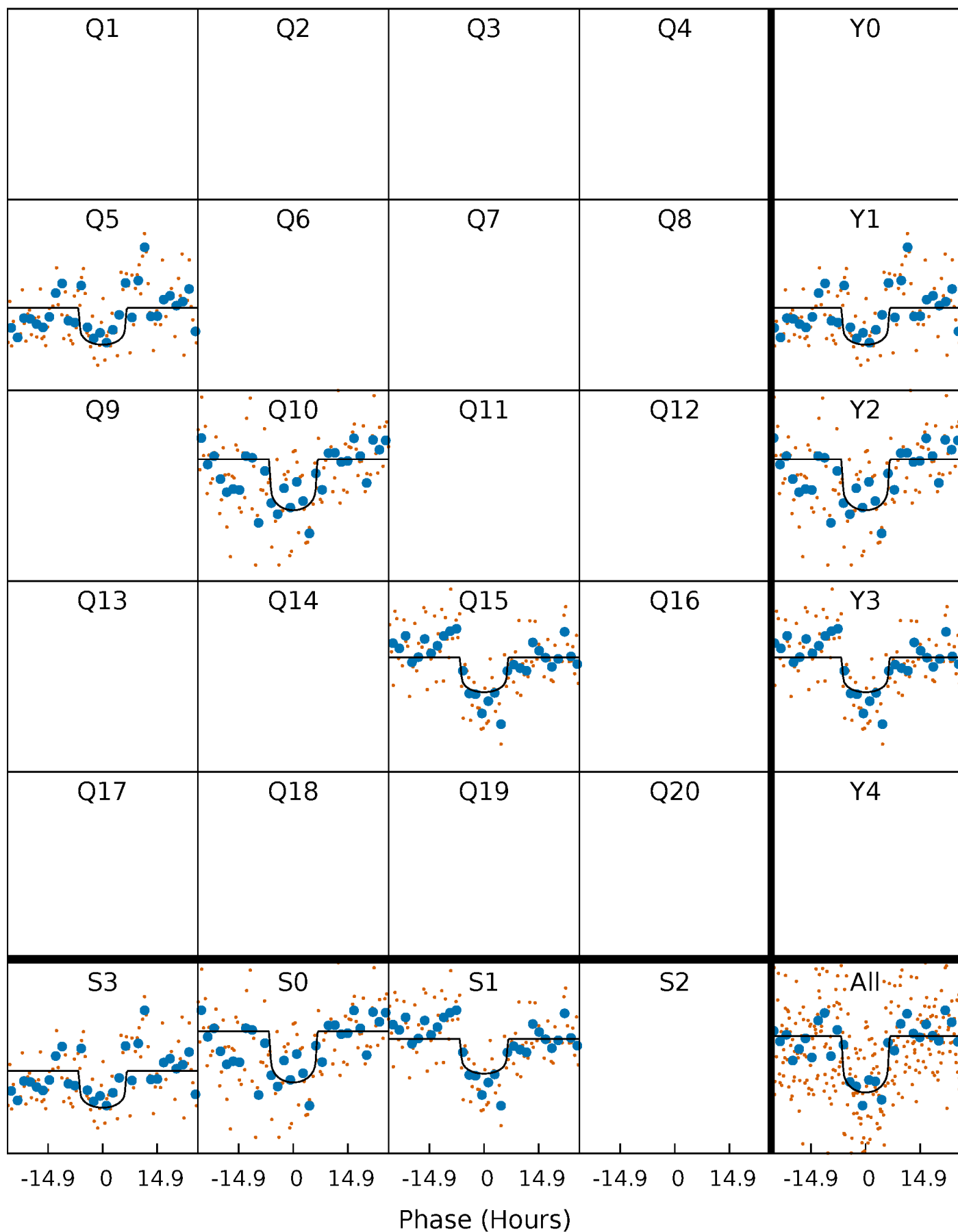
PDC Quarter-Phased Transit Curves

TCE 012116298-01 P=492.520341 Days $T_0=462.589429$ (BKJD)



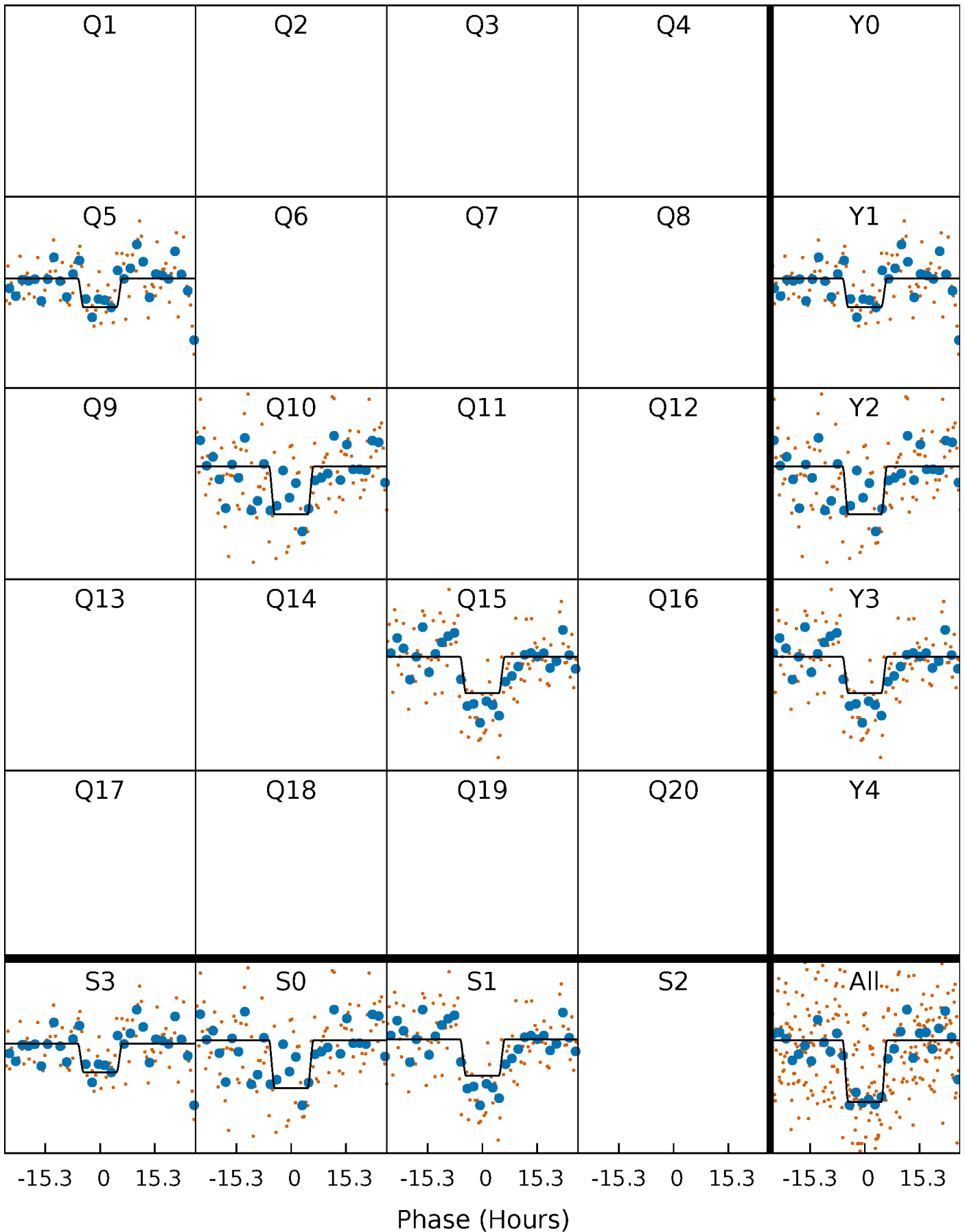
DV Quarter-Phased Transit Curves

TCE 012116298-01 P=492.520341 Days $T_0=462.589429$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

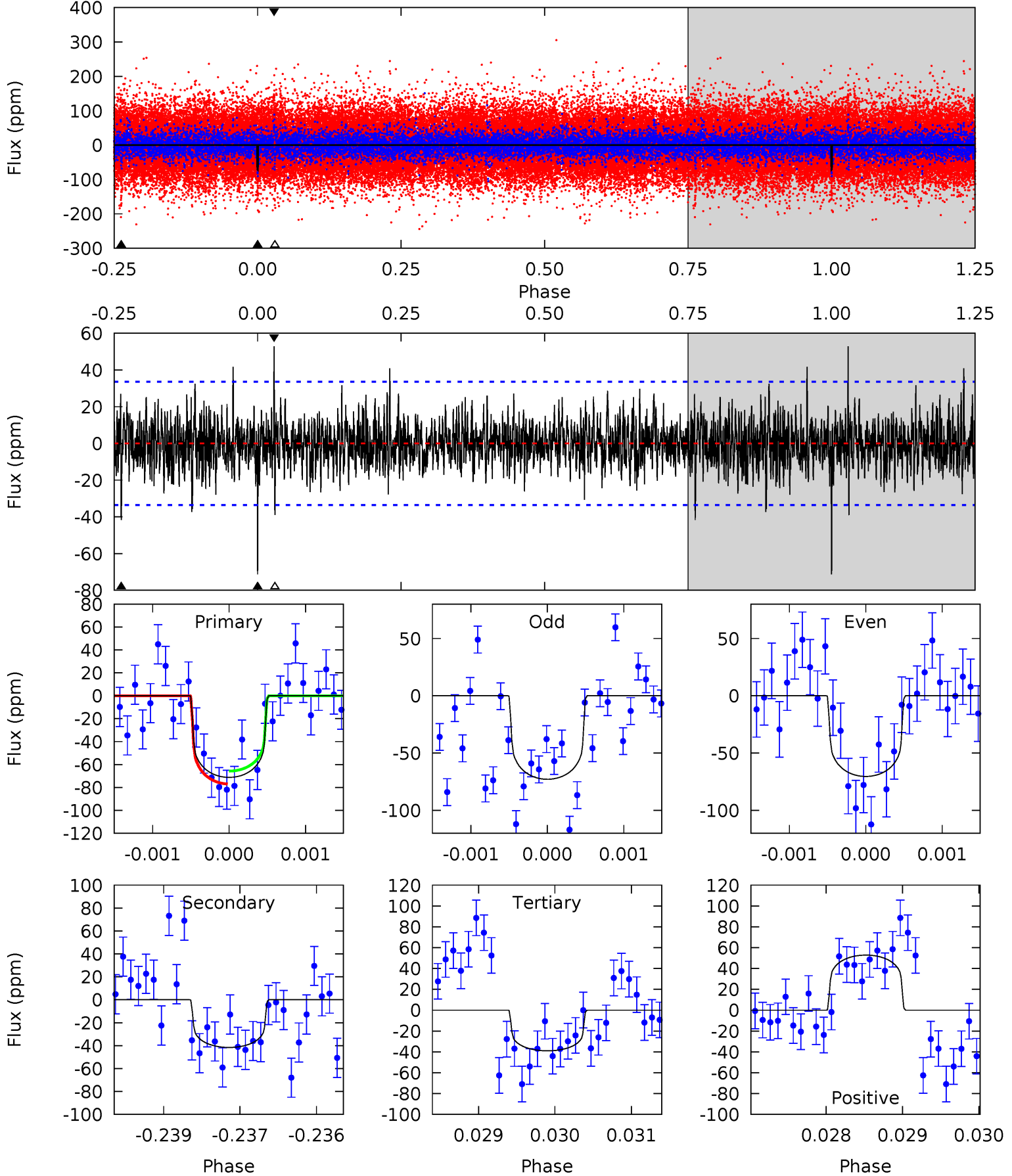
TCE 012116298-01 P=492.516908 Days $T_0=462.605750$ (BKJD)



DV Model-Shift Uniqueness Test

012116298-01, P = 492.520341 Days, E = 462.589429 Days

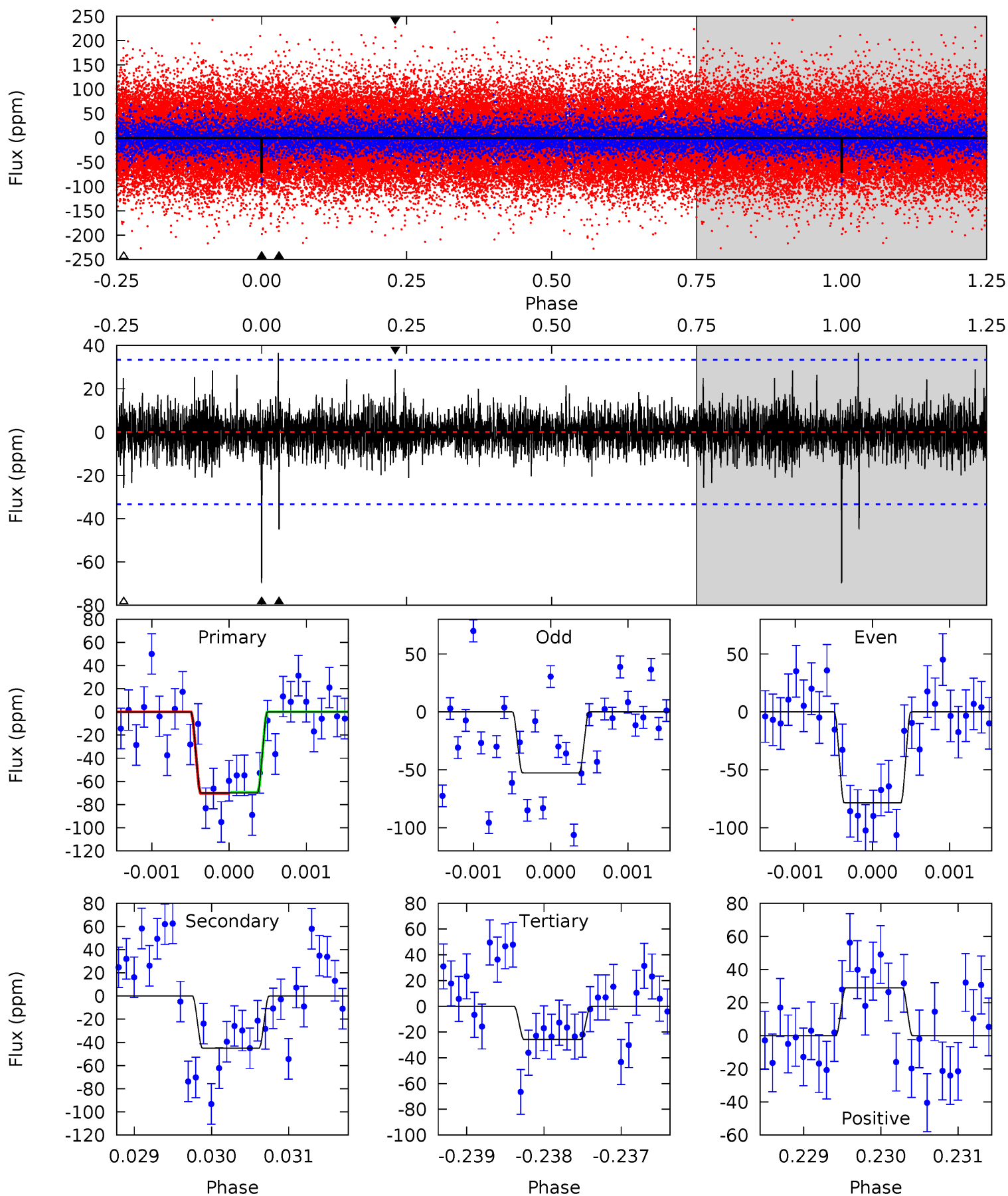
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	6.73	6.30	8.55	5.43	3.26	1.57	5.22	2.97	0.43	-1.82	0.19	0.97	0.43	0.91



Alt Model-Shift Uniqueness Test

012116298-01, P = 492.516908 Days, E = 462.605750 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.4	7.33	4.21	4.72	5.44	3.27	1.03	7.17	6.67	3.12	2.61	1.98	1.33	0.34	0.08



Stellar Parameters For KIC 012116298

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5988^{+213}_{-213}	$4.002^{+0.390}_{-0.130}$	$-0.080^{+0.300}_{-0.300}$	$1.739^{+0.450}_{-0.674}$	$1.107^{+0.172}_{-0.189}$	$0.296^{+0.886}_{-0.118}$
	+4%/-4%	+10%/-3%	+375%/-375%	+26%/-39%	+16%/-17%	+299%/-40%
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 012116298-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-42 ± 6	$1.52^{+0.76}_{-0.61}$	422^{+36}_{-45}	5149^{+1294}_{-653}	15205^{+28823}_{-8203}
Alt.	-45 ± 6	$1.45^{+0.69}_{-0.61}$	423^{+35}_{-46}	5423^{+1488}_{-764}	18562^{+37229}_{-10125}

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

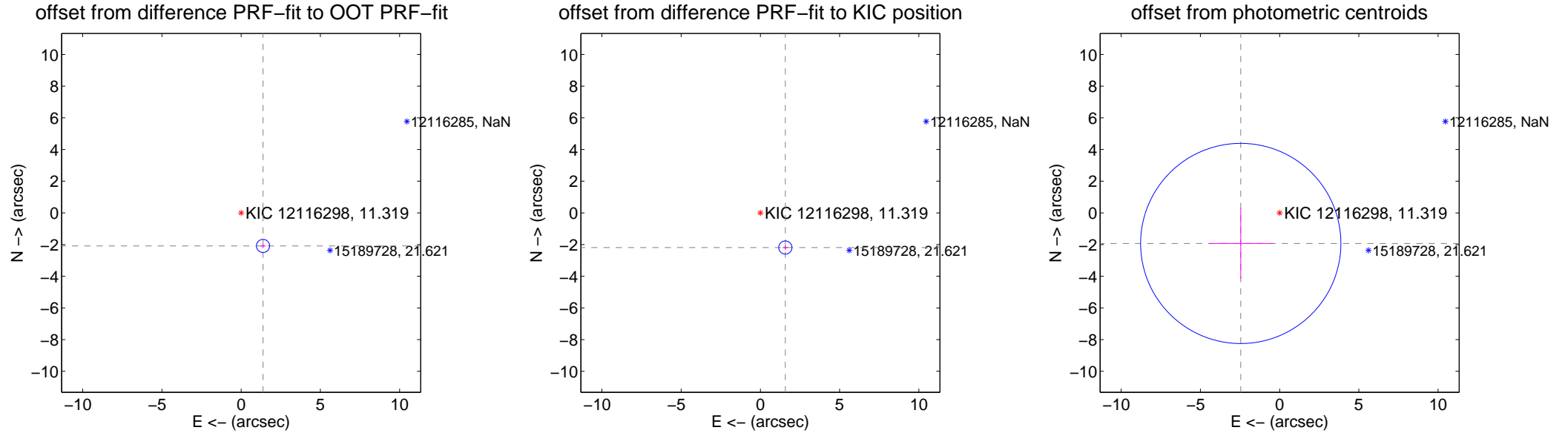
DV Centroid Data

Supplemental centroid analysis for 012116298-01. **Kepler magnitude: 11.32.** Transit SNR 7.26

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.501 ± 0.138	18.12	-1.380 ± 0.154	-2.086 ± 0.131
PRF-fit source offset from KIC position	2.696 ± 0.139	19.40	-1.575 ± 0.154	-2.188 ± 0.131
photometric centroid source offset	3.12 ± 2.11	1.48	2.45 ± 2.02	-1.93 ± 2.23

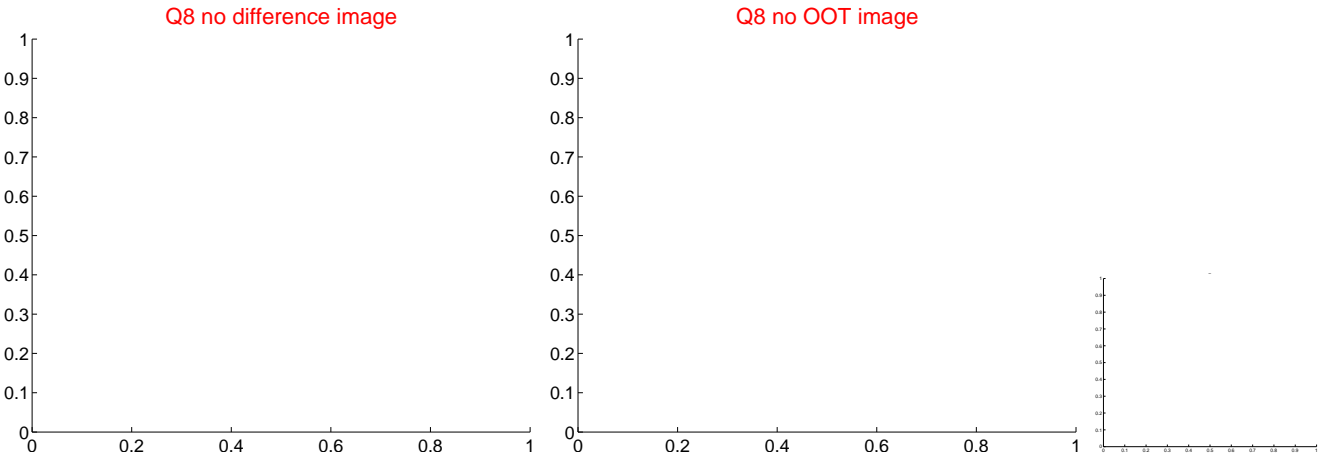
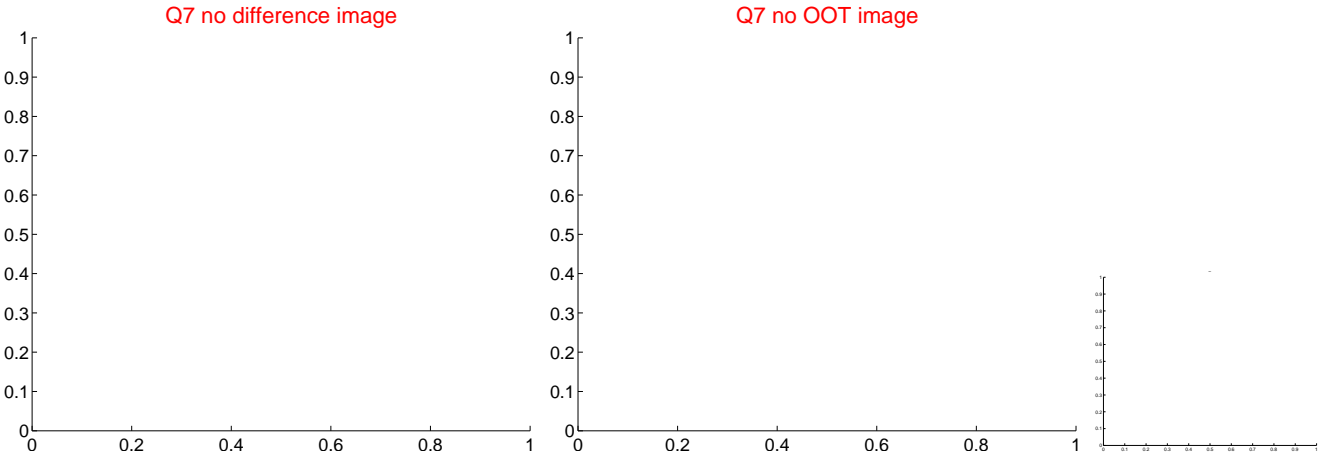
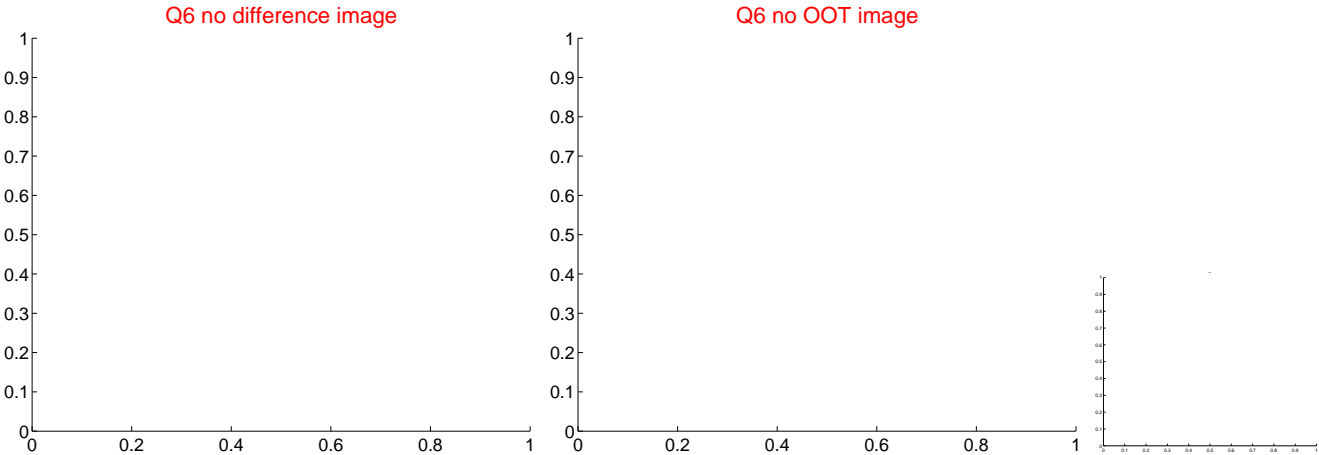
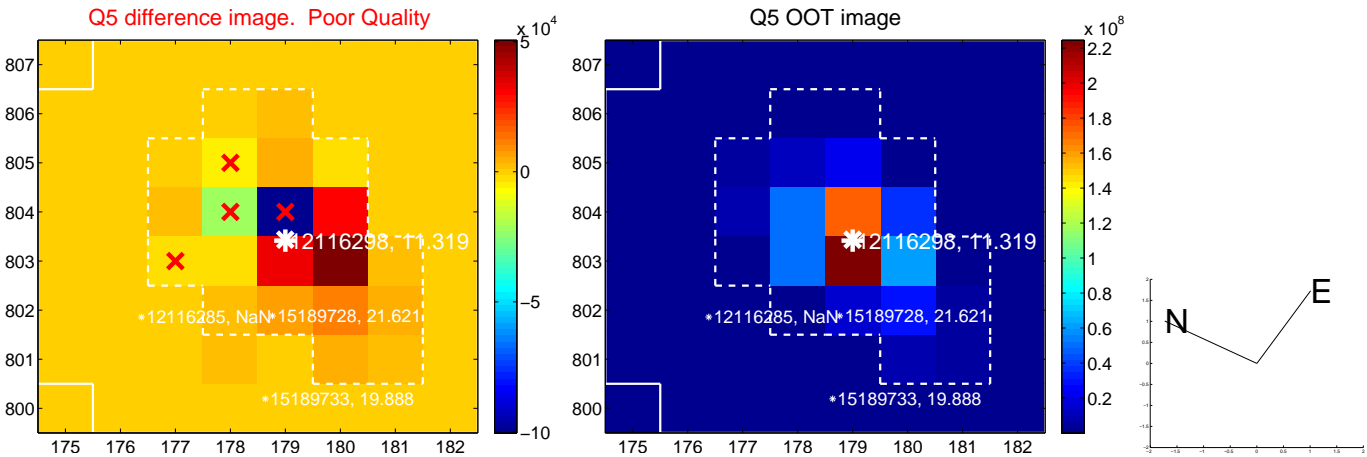


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

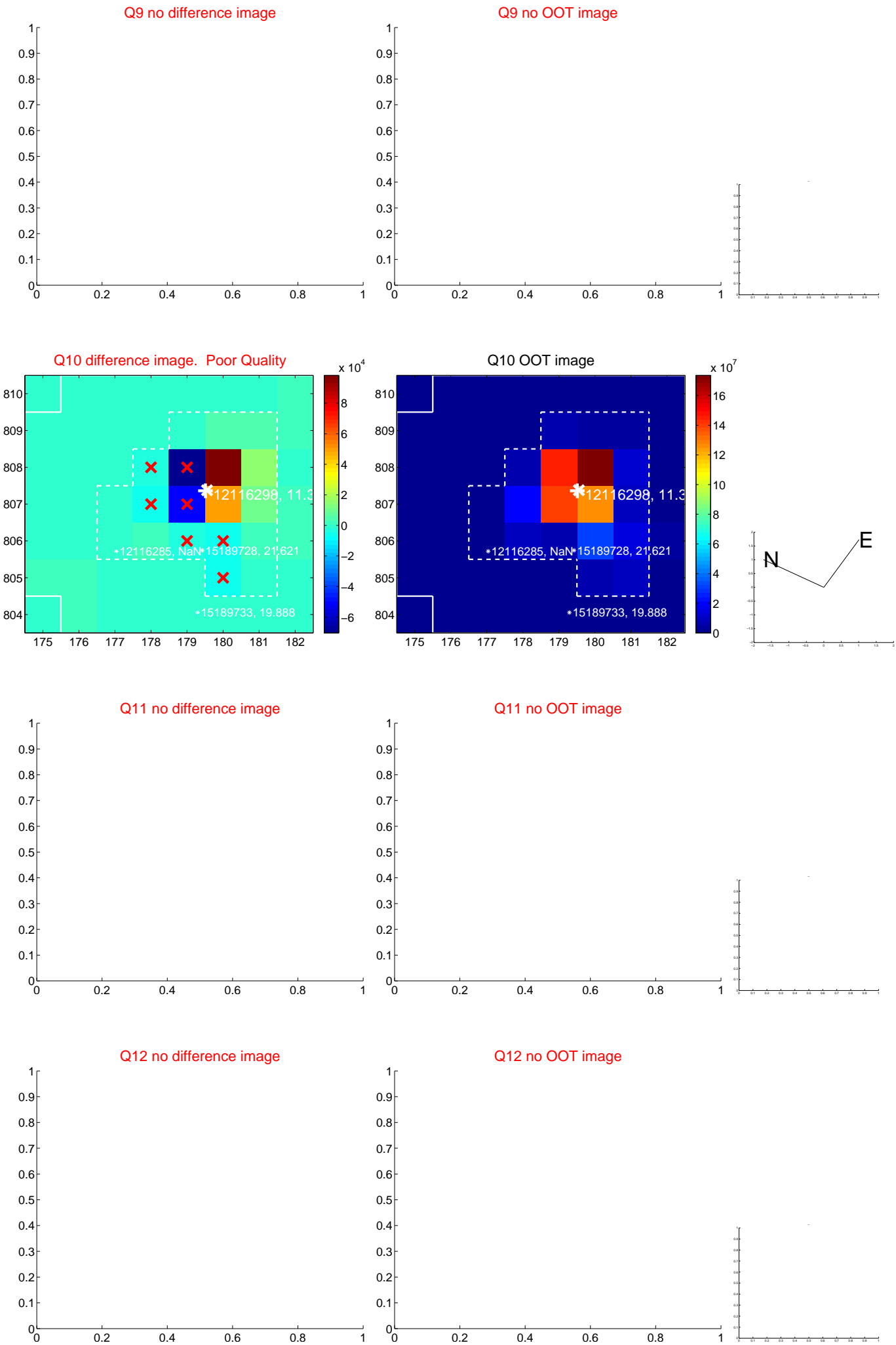
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



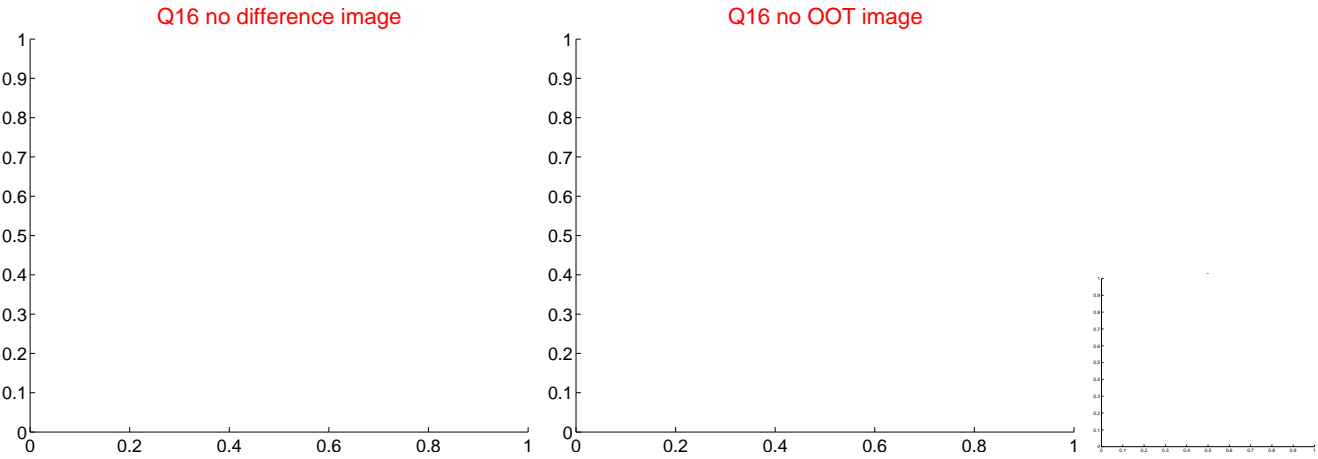
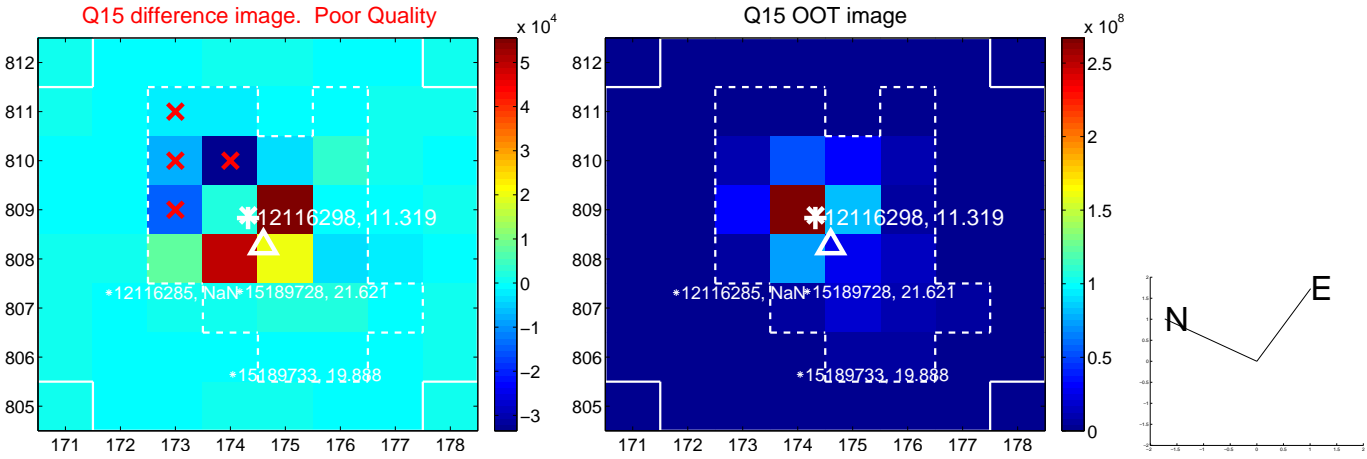
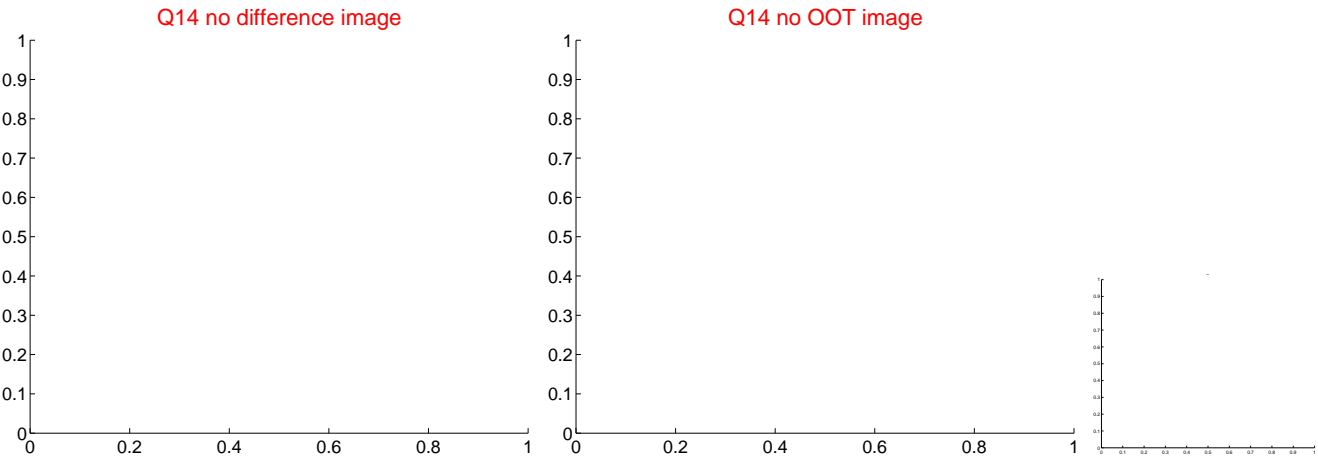
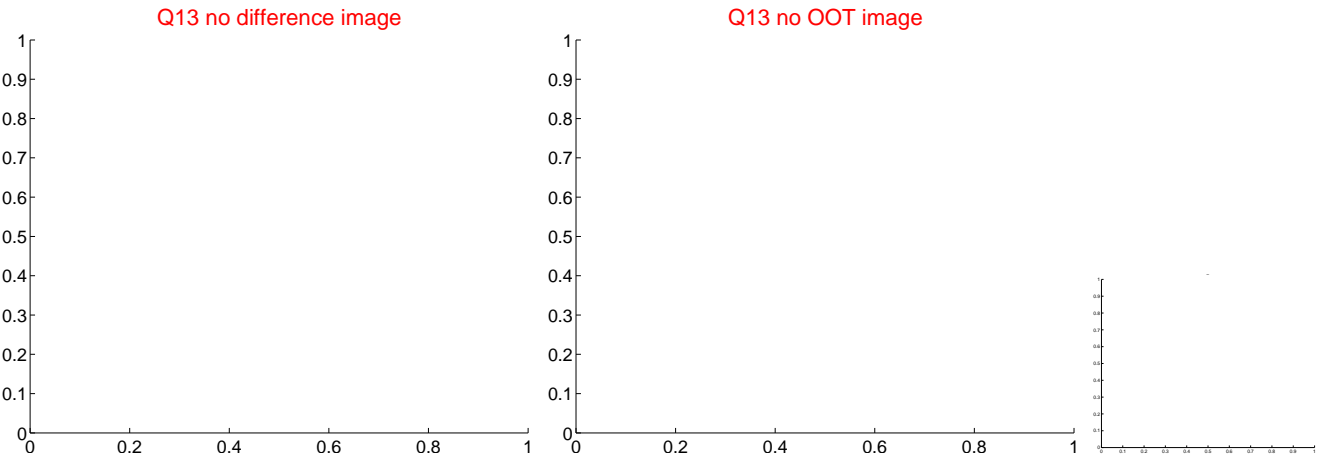
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



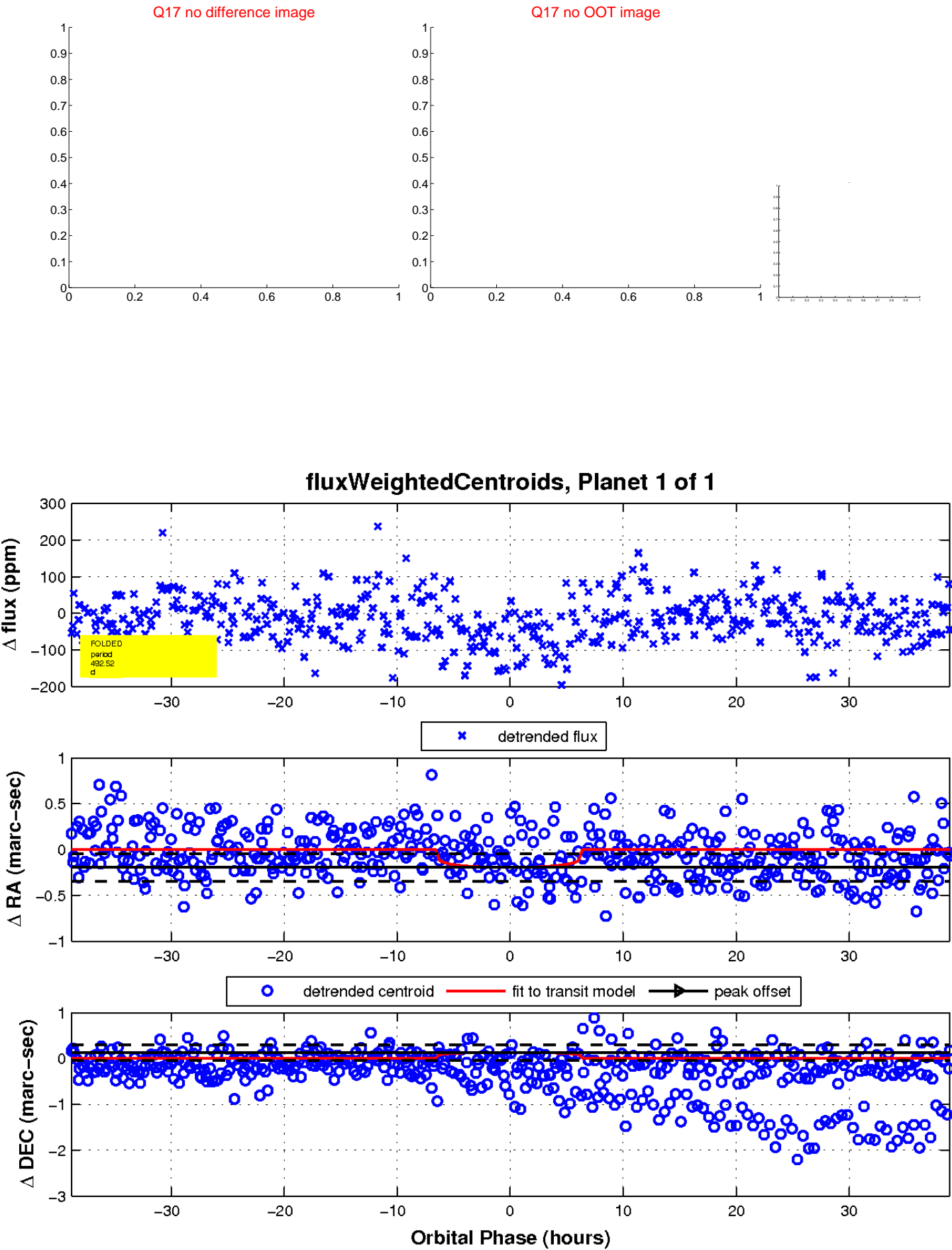
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

