

KIC 004544907

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})
004544907-01	OBS	2024.01	46.877607	137.668720	523.8	10.090	28.9	32.6	0.99	5504	2.60	13.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004544907-01	OBS	PC	0.99	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.

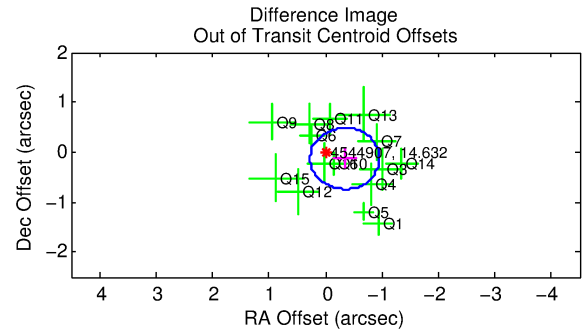
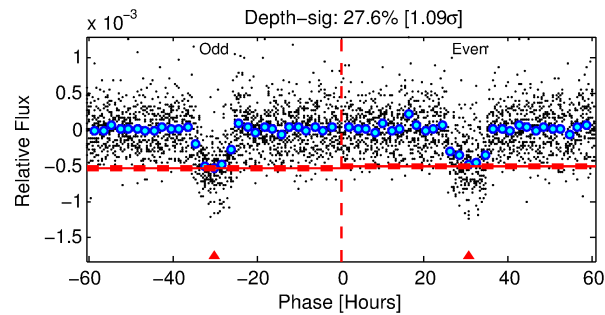
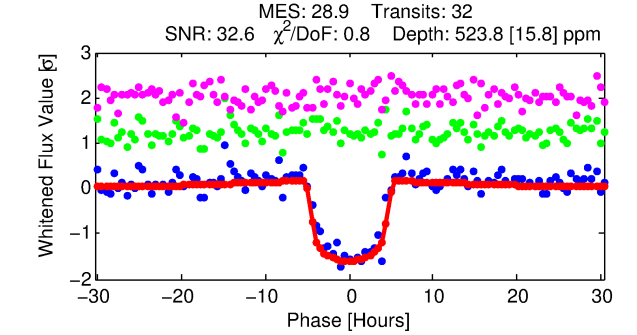
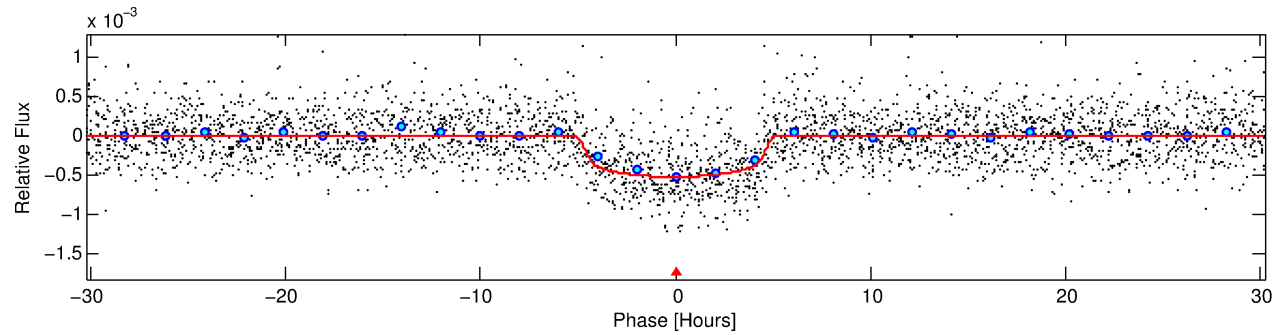
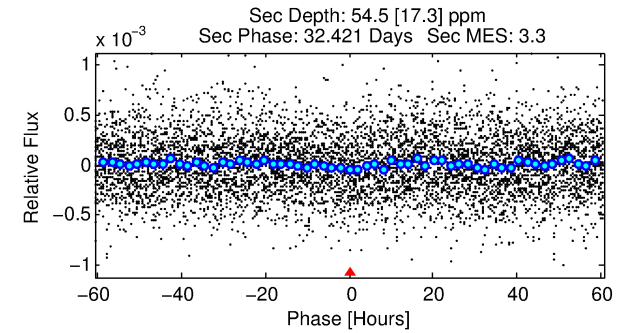
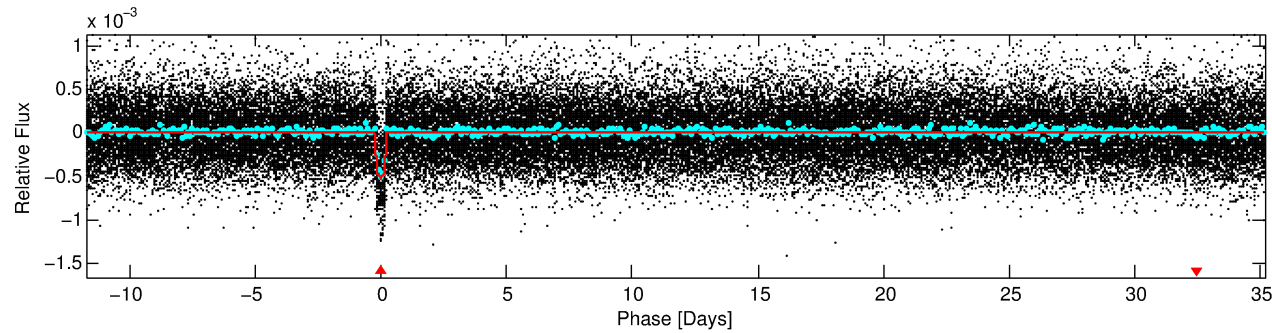
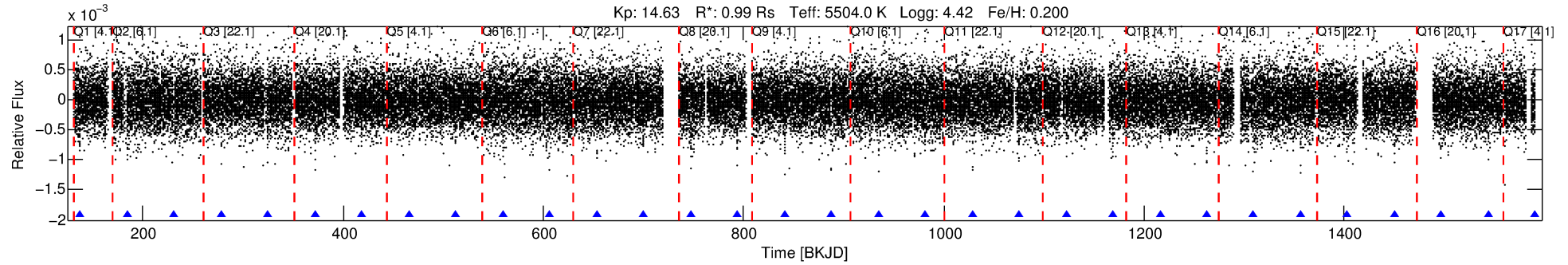
Ephemeris Match Information For 004544907-01

No Significant Match Found

DV One-Page Summary

KIC: 4544907 Candidate: 1 of 1 Period: 46.878 d

KOI: K02024.01 Corr: 0.977



DV Fit Results:

Period = 46.87761 [0.00030] d
Epoch = 137.6687 [0.0055] BKJD
Rp/R* = 0.0240 [0.0018]
a/R* = 20.63 [6.15]
b = 0.84 [0.10]
Seff = 13.03 [2.41]
Teq = 484 [22] K
Rp = 2.60 [0.39] Re
a = 0.2494 [0.0289] AU
Ag = 275.89 [107.95] [2.55 σ]
Teffp = 3053 [271] K [9.45 σ]

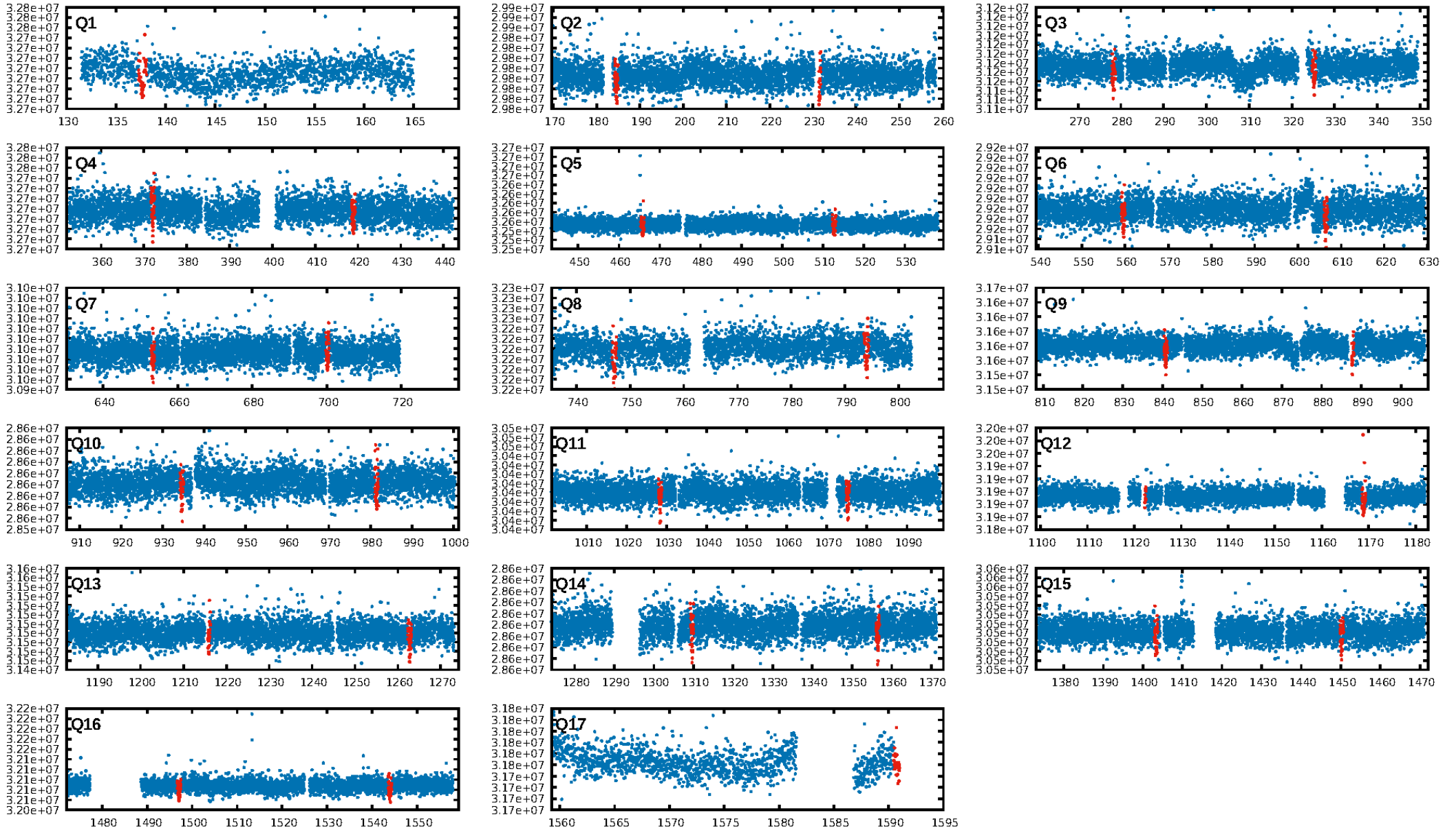
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 6.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.19e-175
RollingBand-fgt: 1.00 [30/30]
GhostDiagnostic-chr: 7.381
Centroid-sig: 6.3%
Centroid-so: 0.497 arcsec [1.16 σ]
OotOffset-rm: 0.365 arcsec [1.78 σ]
KicOffset-rm: 0.281 arcsec [1.42 σ]
OotOffset-st: 3/4/4/4 [15]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 1.00 [15/15]
DiffImageOverlap-fno: 1.00 [15/15]

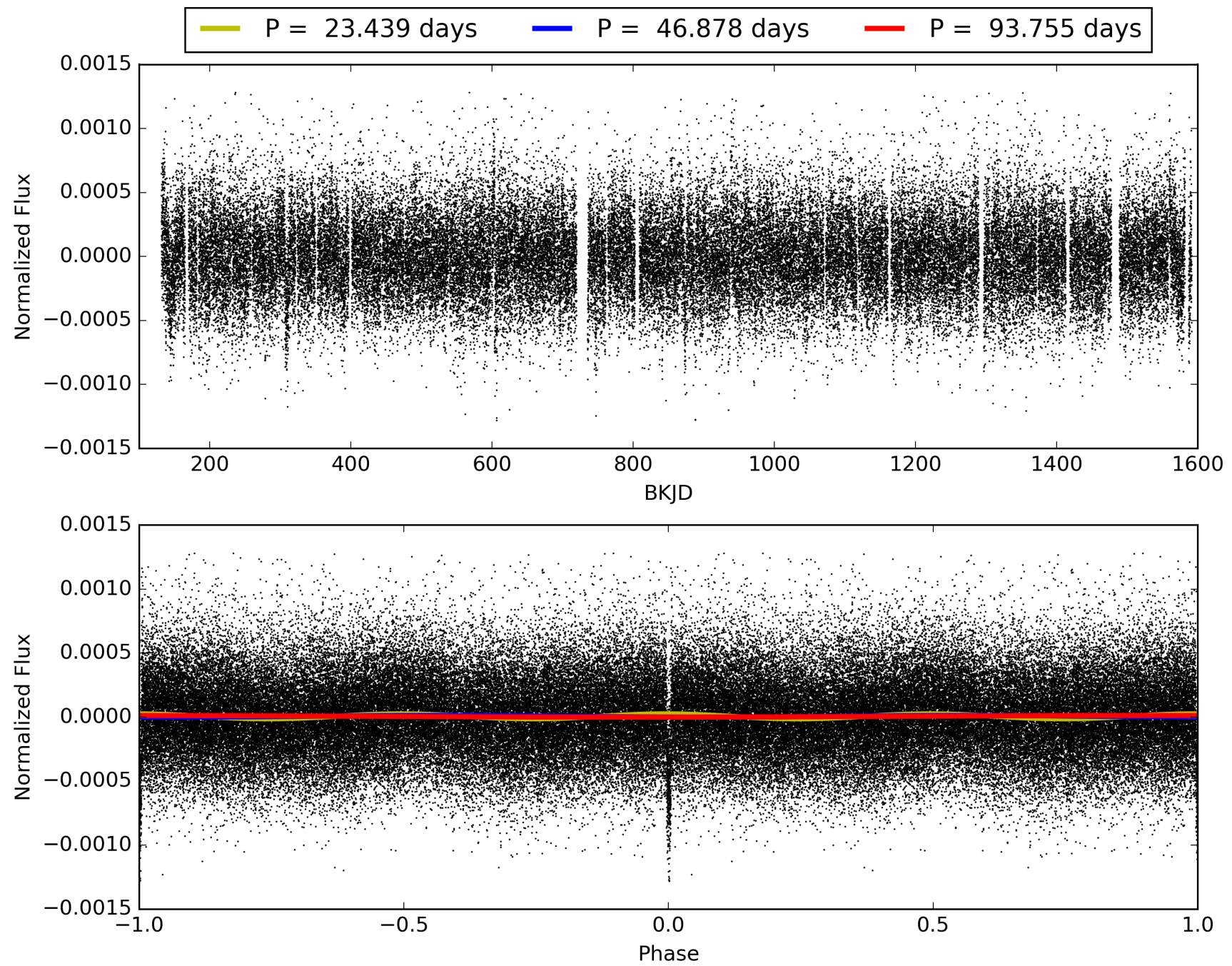
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:02:20 Z

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

TCE 004544907-01, PDC Light Curves

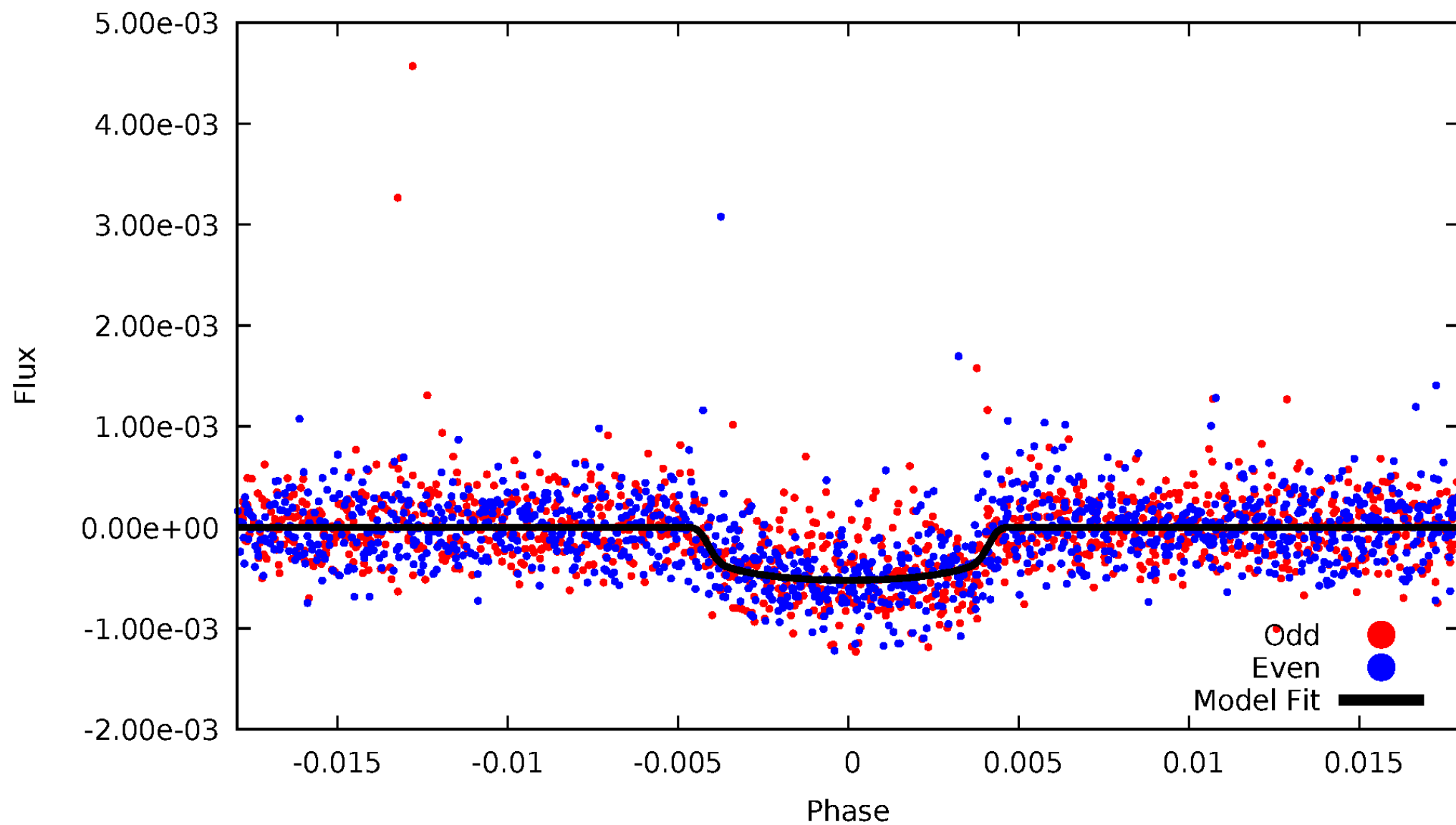


TCE 004544907-01



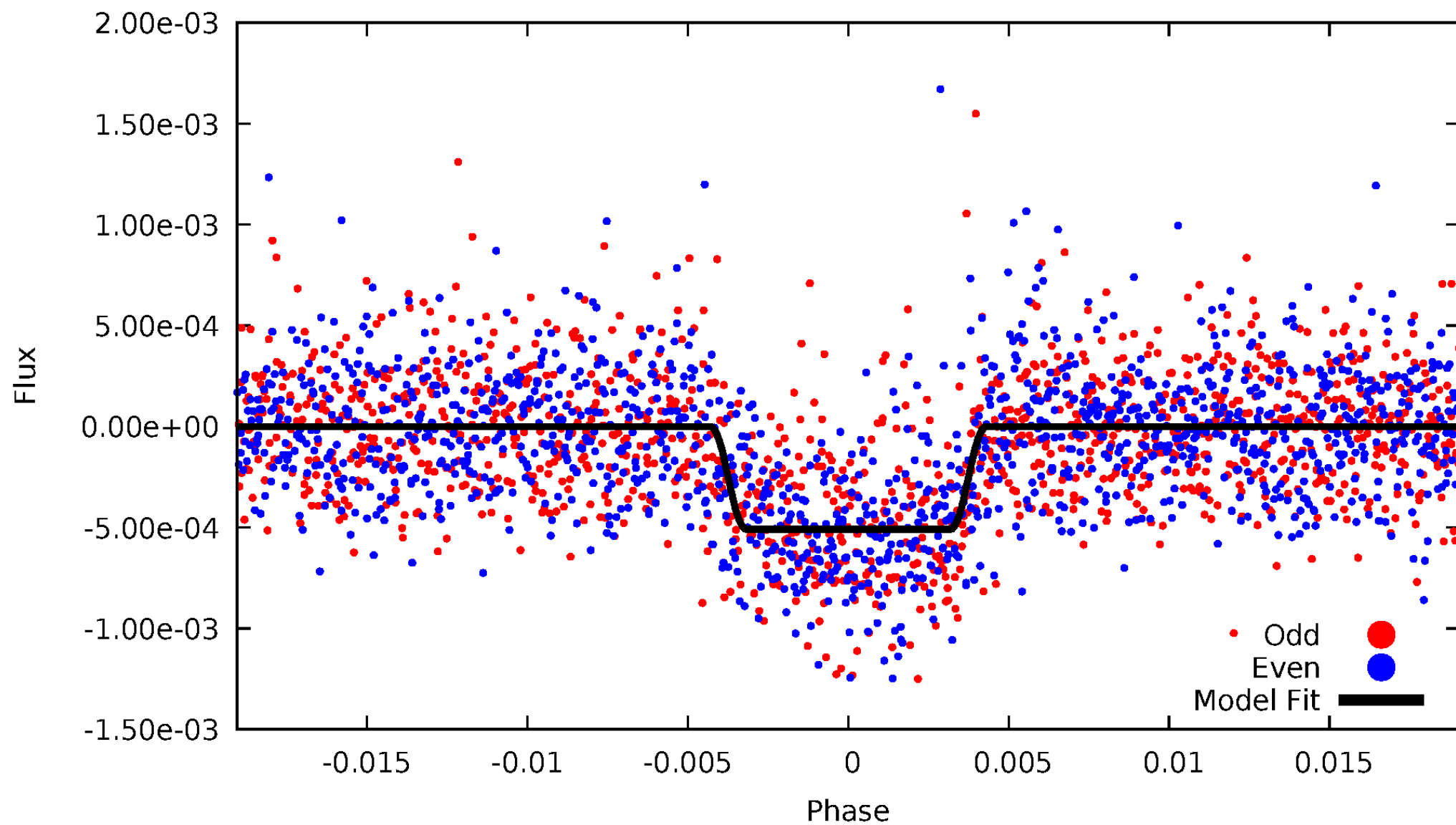
DV Odd/Even

TCE 004544907-01



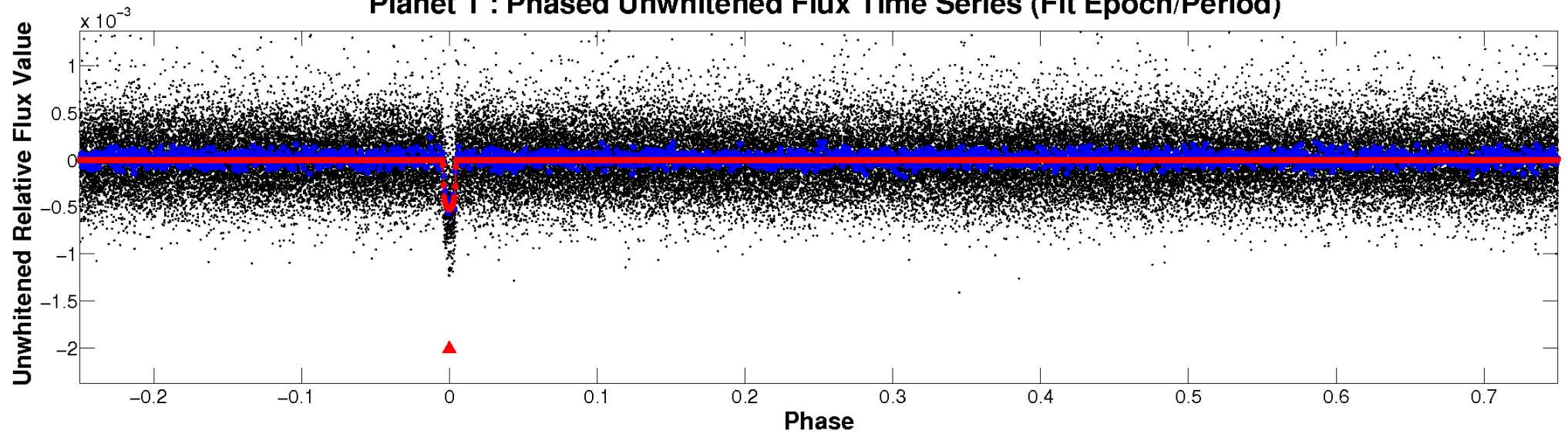
ALT Odd/Even

TCE 004544907-01

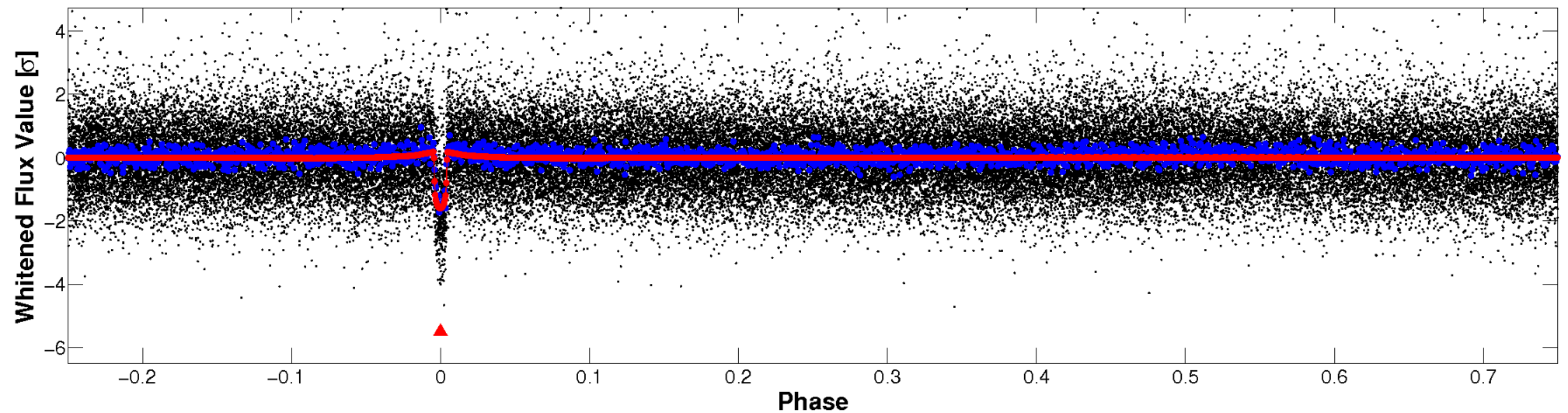


Non-Whitened Vs. Whitened Light Curve

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

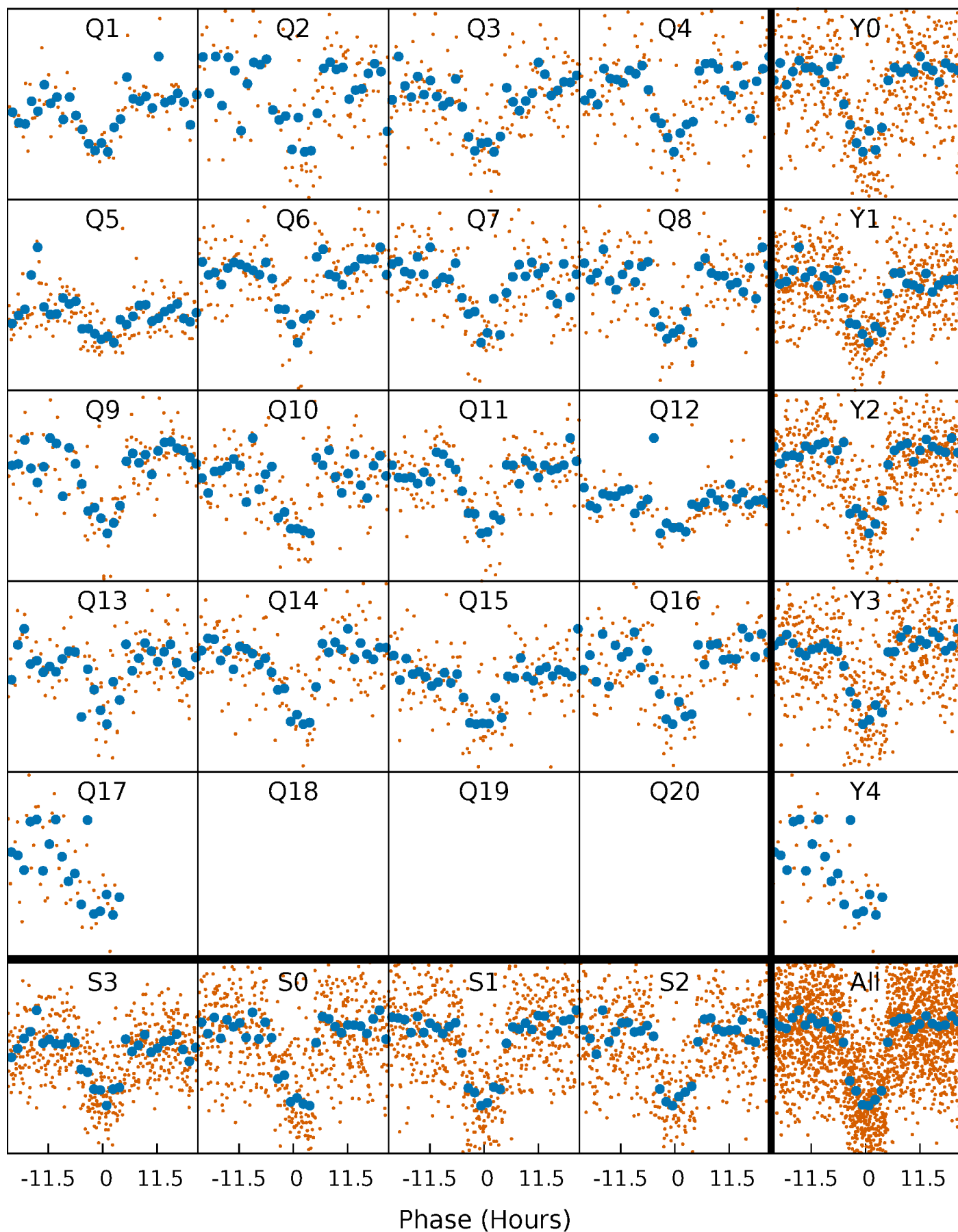


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



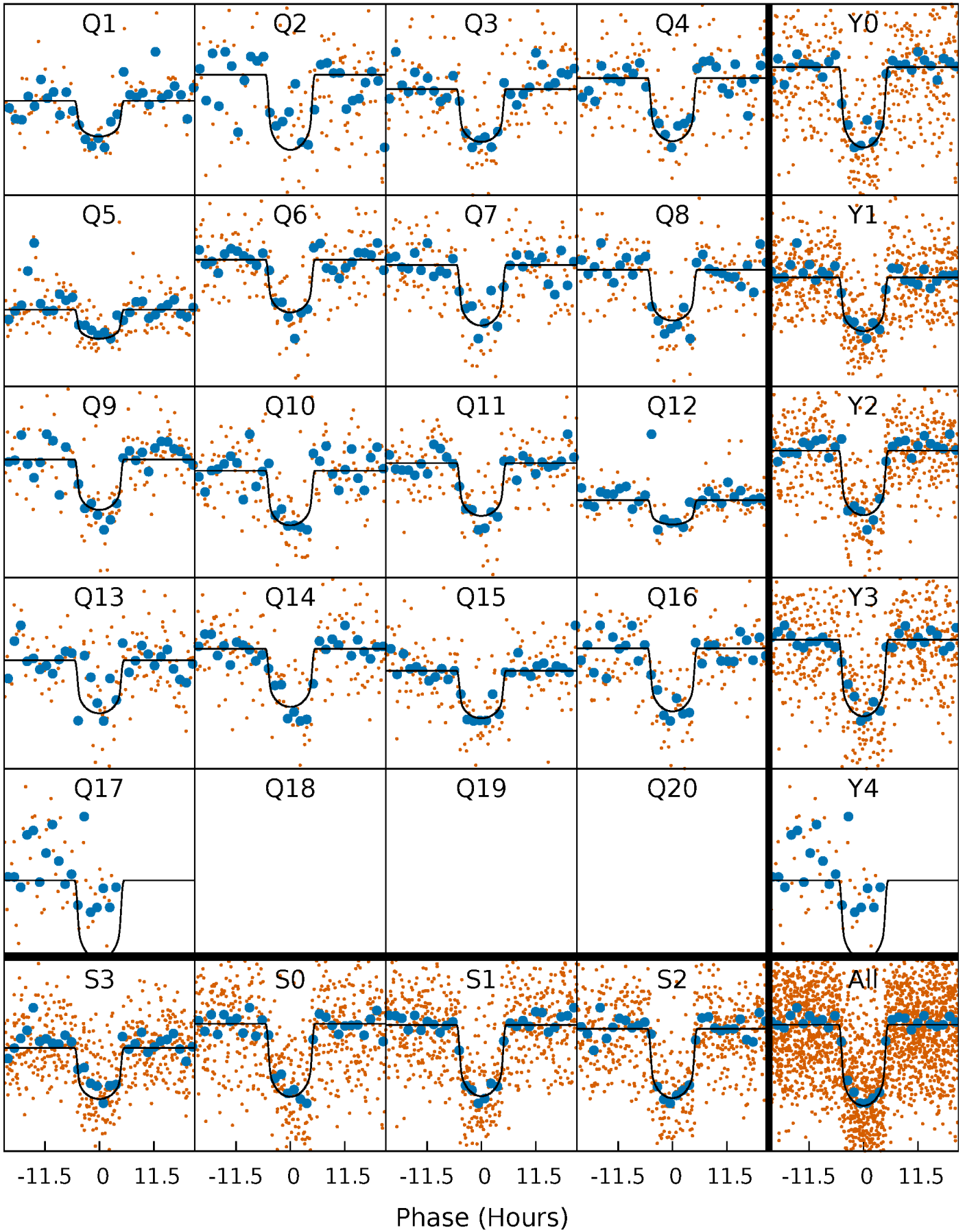
PDC Quarter-Phased Transit Curves

TCE 004544907-01 P= 46.877607 Days $T_0=137.668720$ (BKJD)



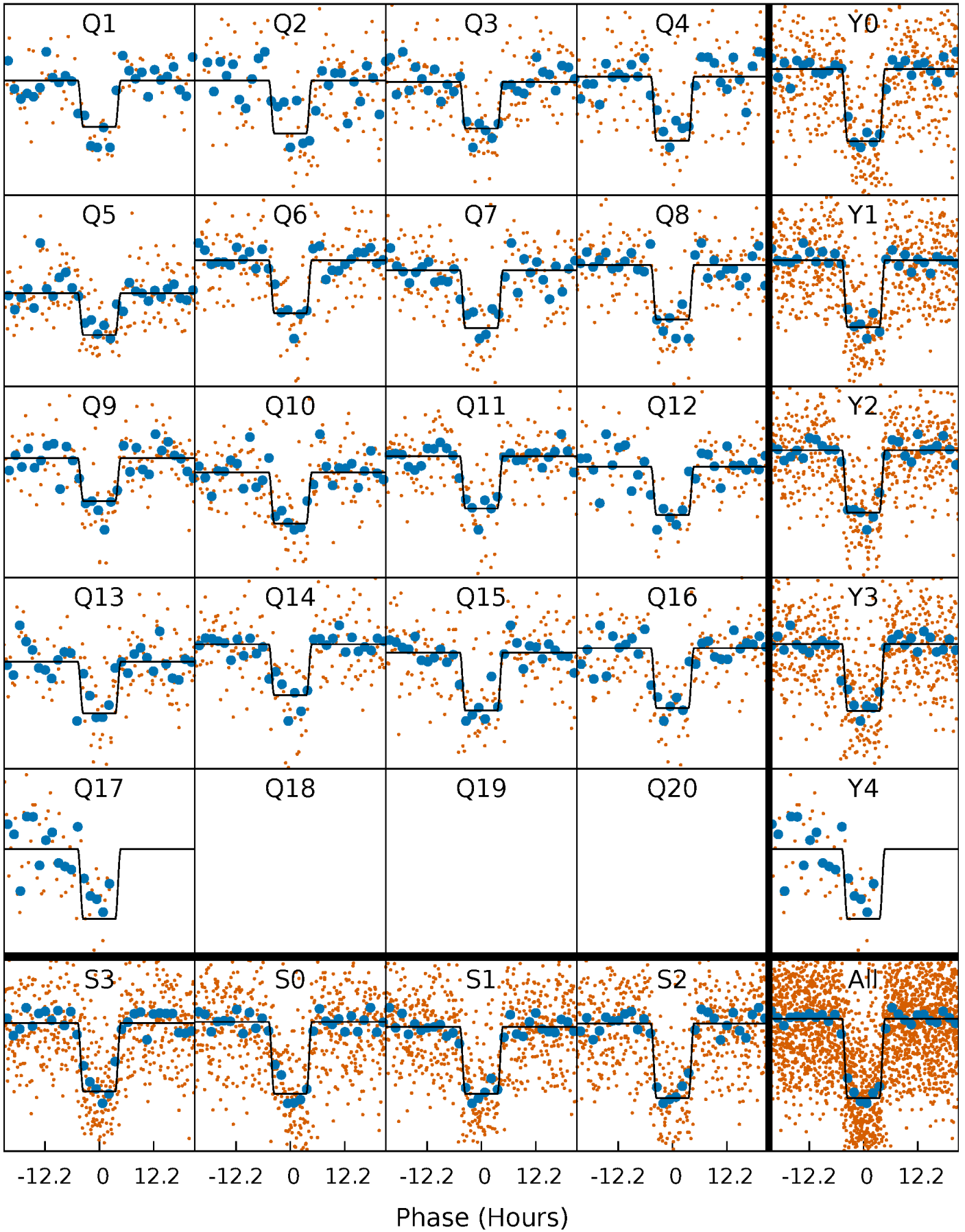
DV Quarter-Phased Transit Curves

TCE 004544907-01 P= 46.877607 Days $T_0=137.668720$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

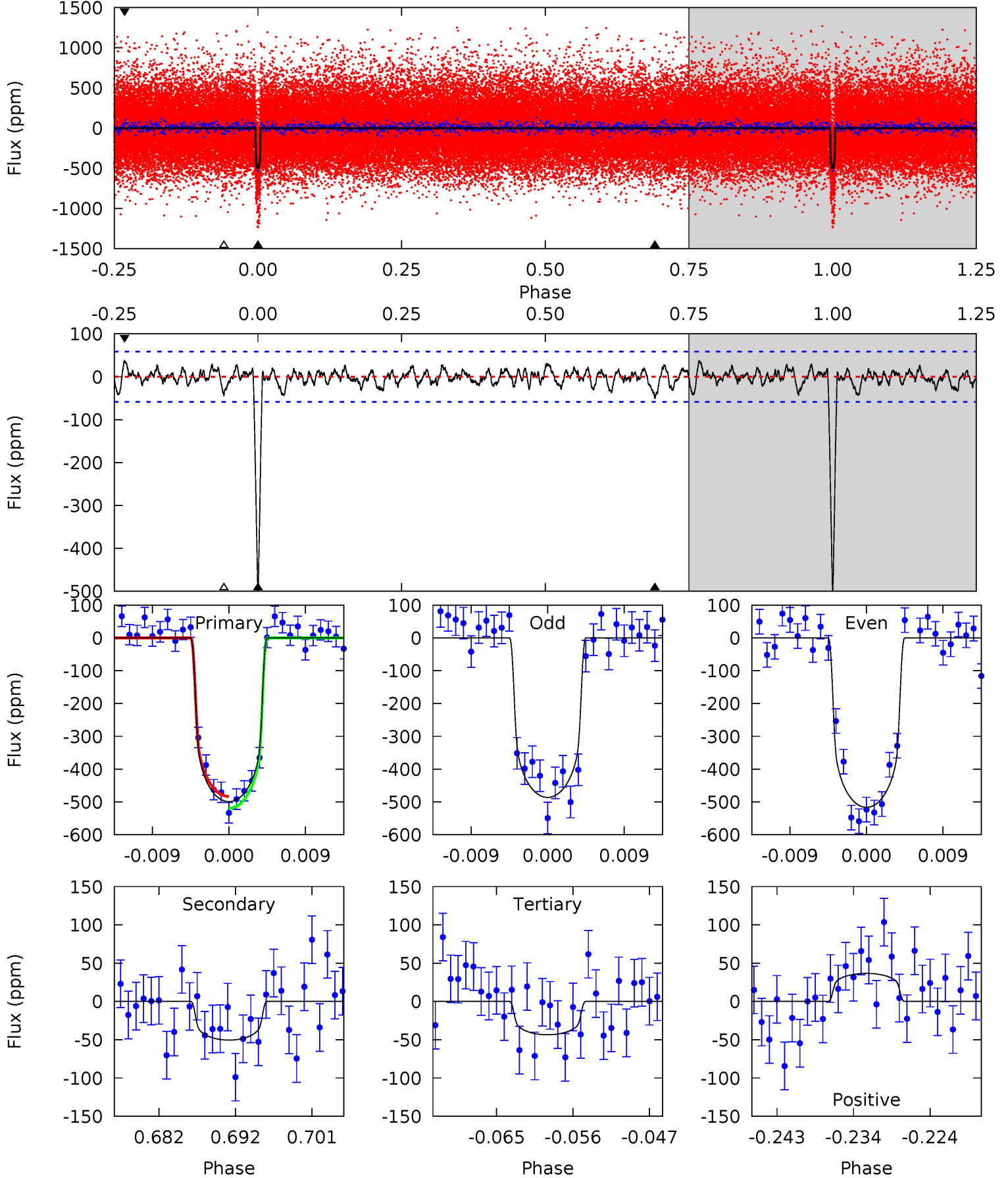
TCE 004544907-01 $P = 46.879377$ Days $T_0 = 137.646928$ (BKJD)



DV Model-Shift Uniqueness Test

004544907-01, P = 46.877607 Days, E = 90.791113 Days

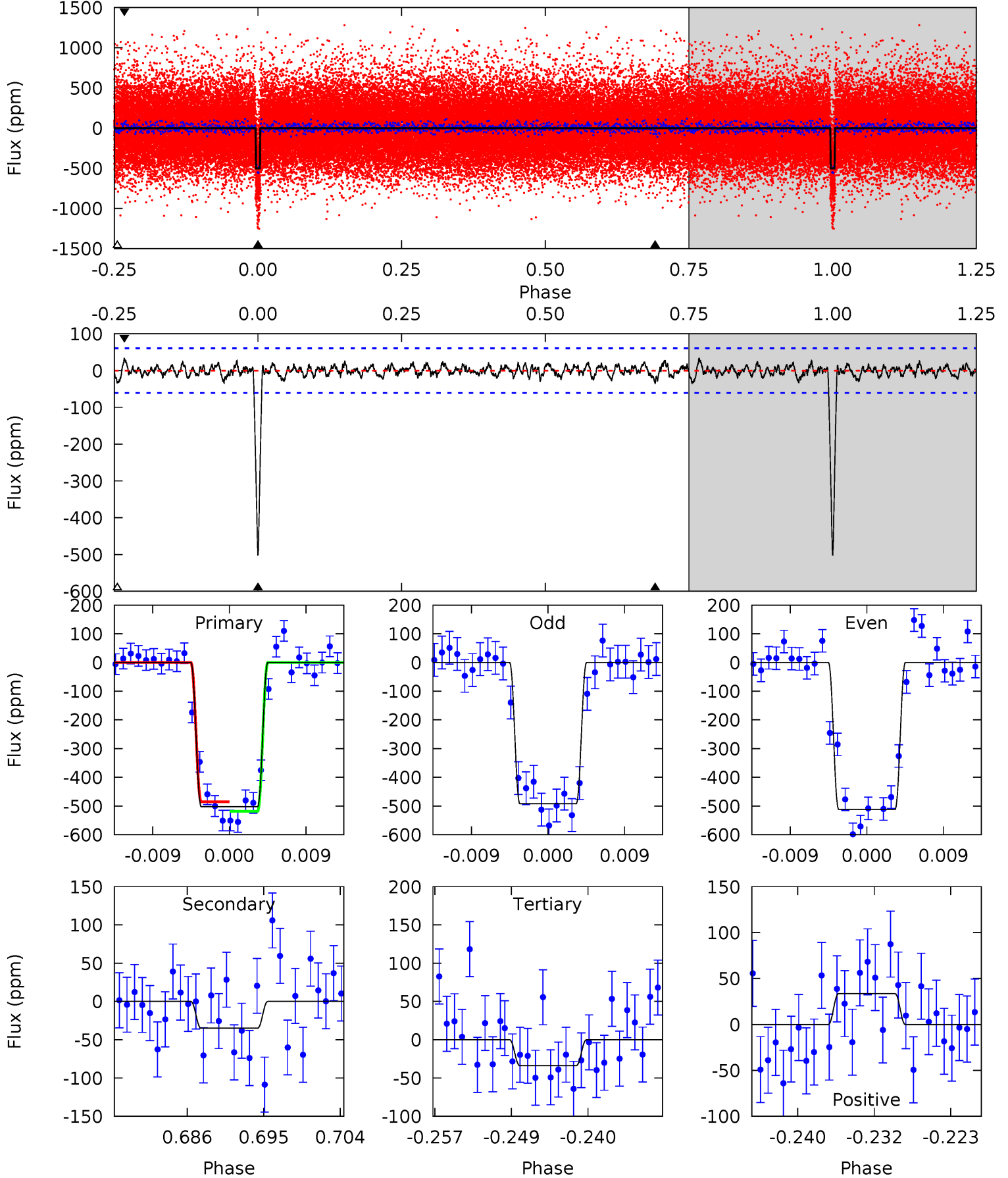
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
43.0	4.34	3.74	3.16	5.04	2.60	1.20	39.2	39.8	0.60	1.19	1.30	0.91	0.07	1.56



Alt Model-Shift Uniqueness Test

004544907-01, P = 46.879377 Days, E = 90.767551 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
41.8	2.91	2.81	2.78	5.06	2.63	0.92	38.9	39.0	0.09	0.12	0.82	0.95	0.06	1.37



Stellar Parameters For KIC 004544907

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5504^{+74}_{-82}	$4.418^{+0.090}_{-0.099}$	$0.200^{+0.150}_{-0.150}$	$0.993^{+0.130}_{-0.087}$	$0.943^{+0.055}_{-0.045}$	$1.356^{+0.420}_{-0.422}$
	+1%/-1%	+2%/-2%	+75%/-75%	+13%/-9%	+6%/-5%	+31%/-31%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 004544907-01 / KOI 2024.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-50 ± 12	$2.61^{+0.29}_{-0.24}$	677^{+25}_{-22}	3473^{+154}_{-164}	251^{+84}_{-73}
Alt.	-35 ± 12	$2.45^{+0.26}_{-0.23}$	676^{+25}_{-23}	3341^{+190}_{-214}	199^{+83}_{-71}

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

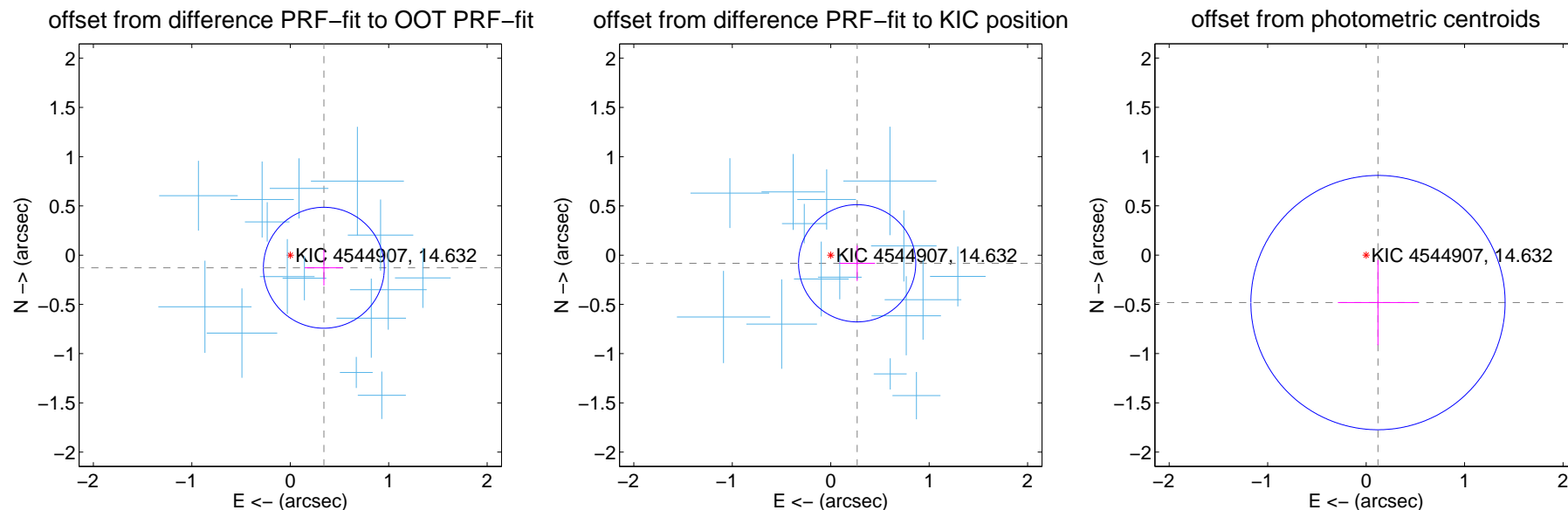
DV Centroid Data

Supplemental centroid analysis for 004544907-01. Kepler magnitude: 14.63. Transit SNR 32.63

There are 15 quarters with good PRF difference image offsets

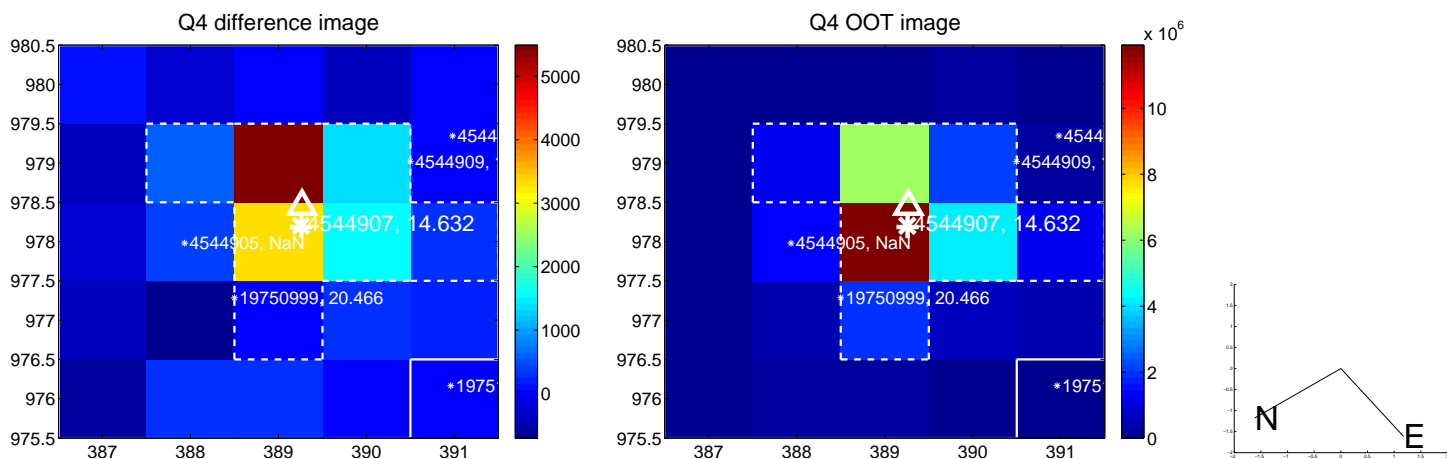
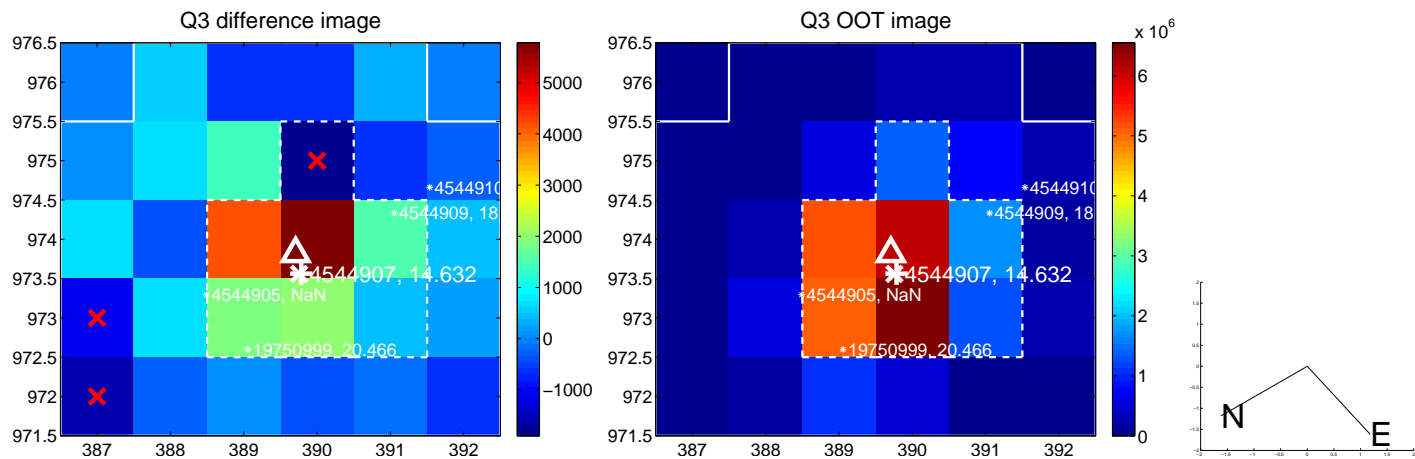
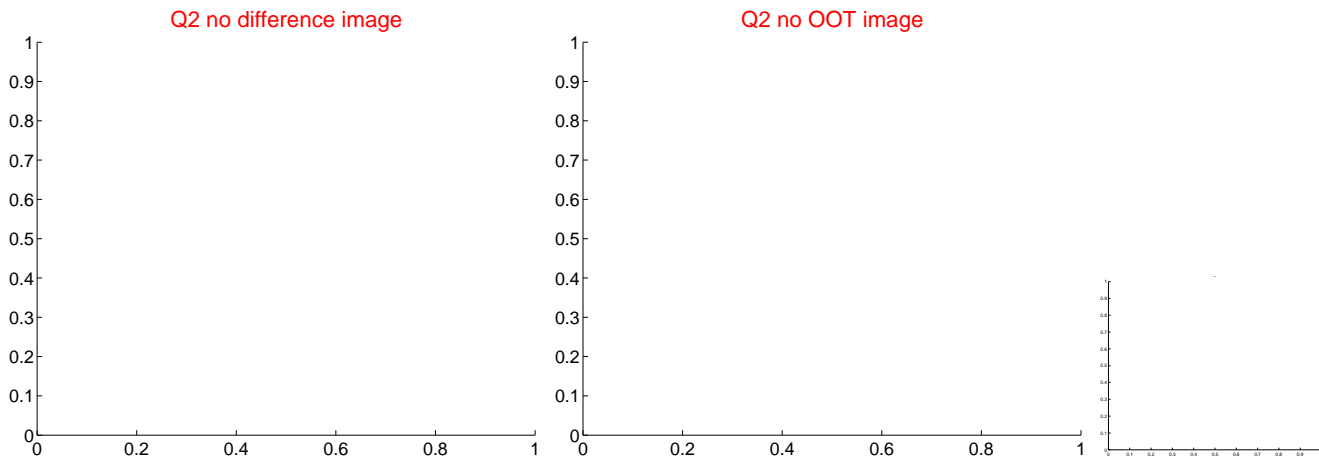
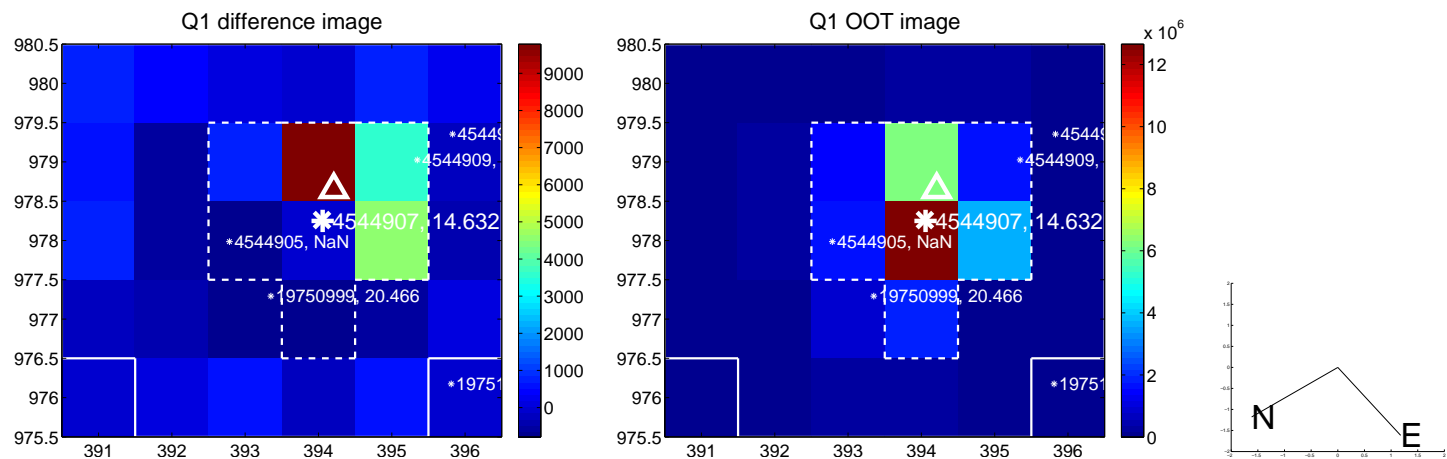
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.365 ± 0.205	1.78	-0.341 ± 0.194	-0.128 ± 0.180
PRF-fit source offset from KIC position	0.281 ± 0.198	1.42	-0.269 ± 0.182	-0.083 ± 0.180
photometric centroid source offset	0.50 ± 0.43	1.16	-0.12 ± 0.41	-0.48 ± 0.43

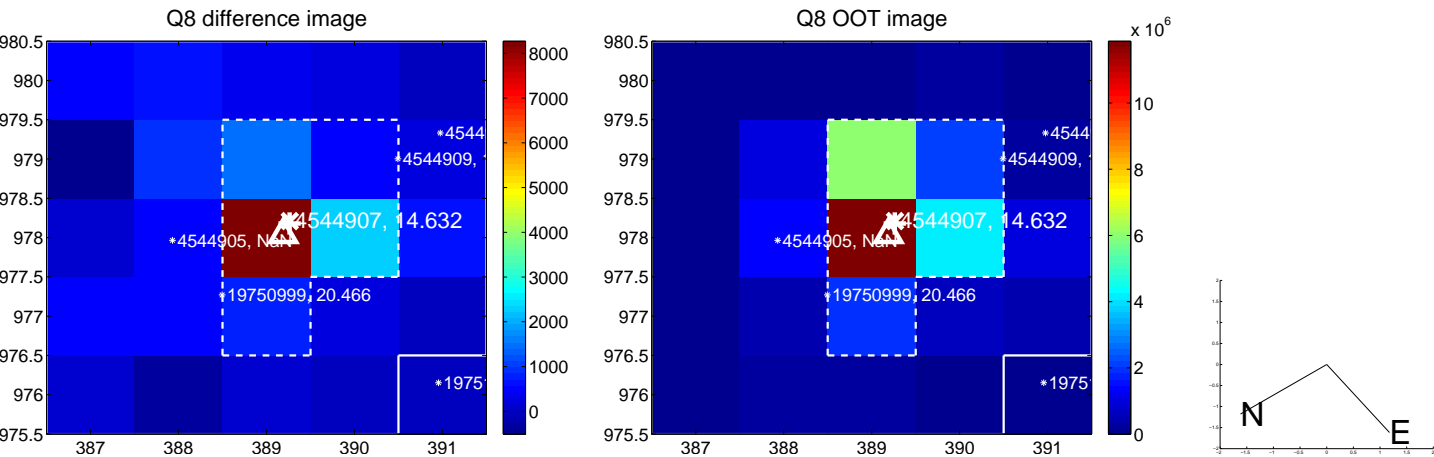
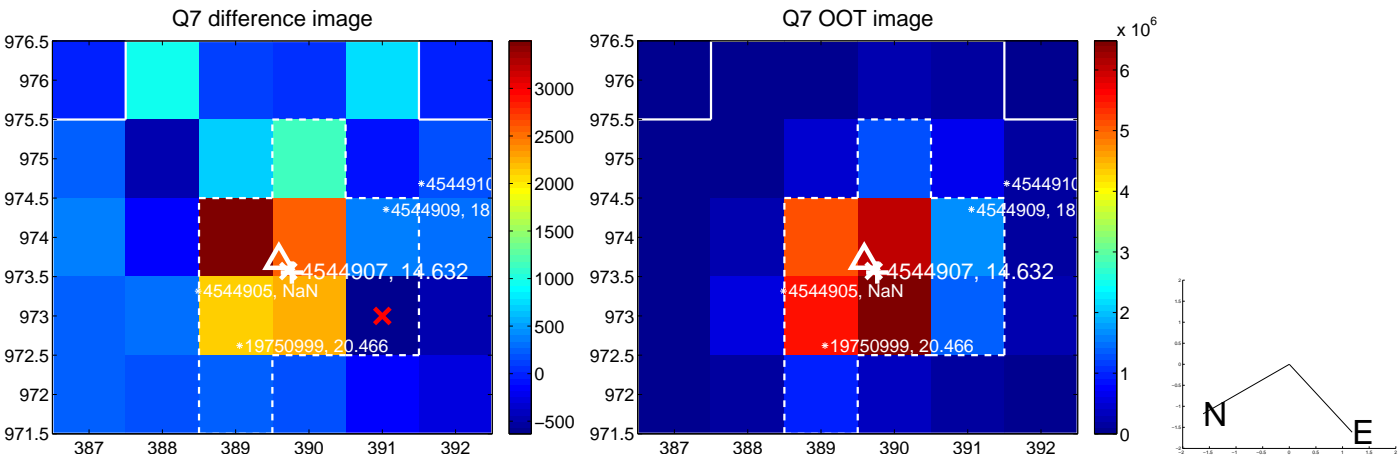
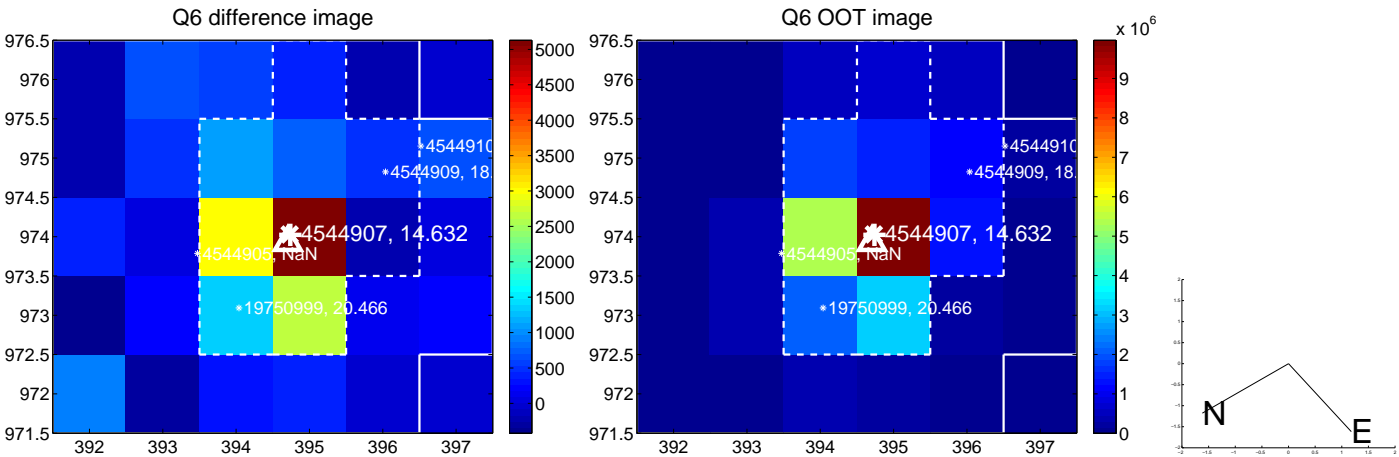
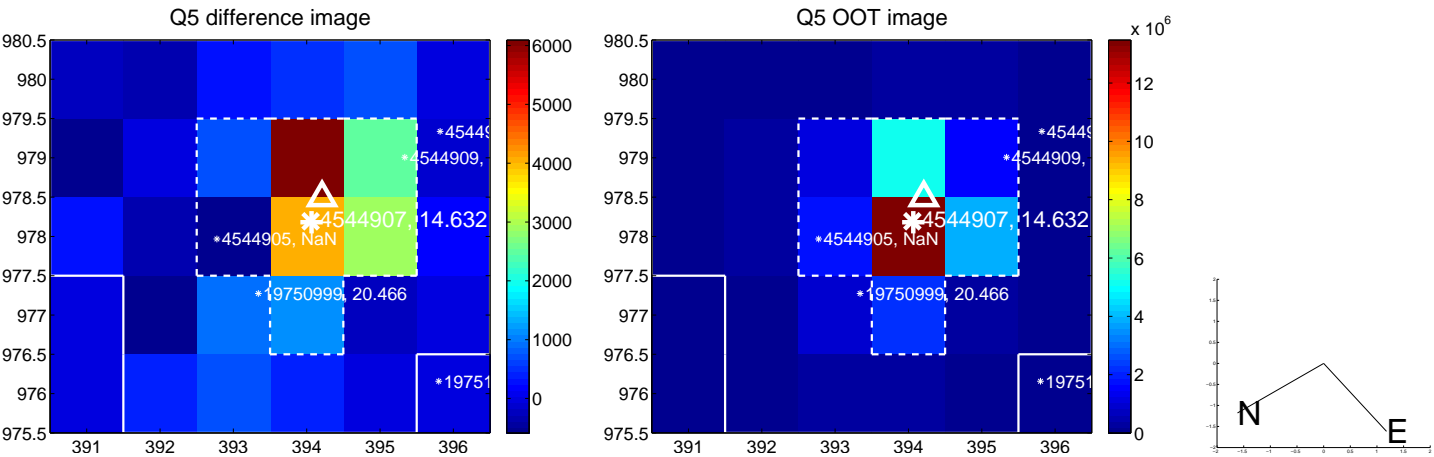


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

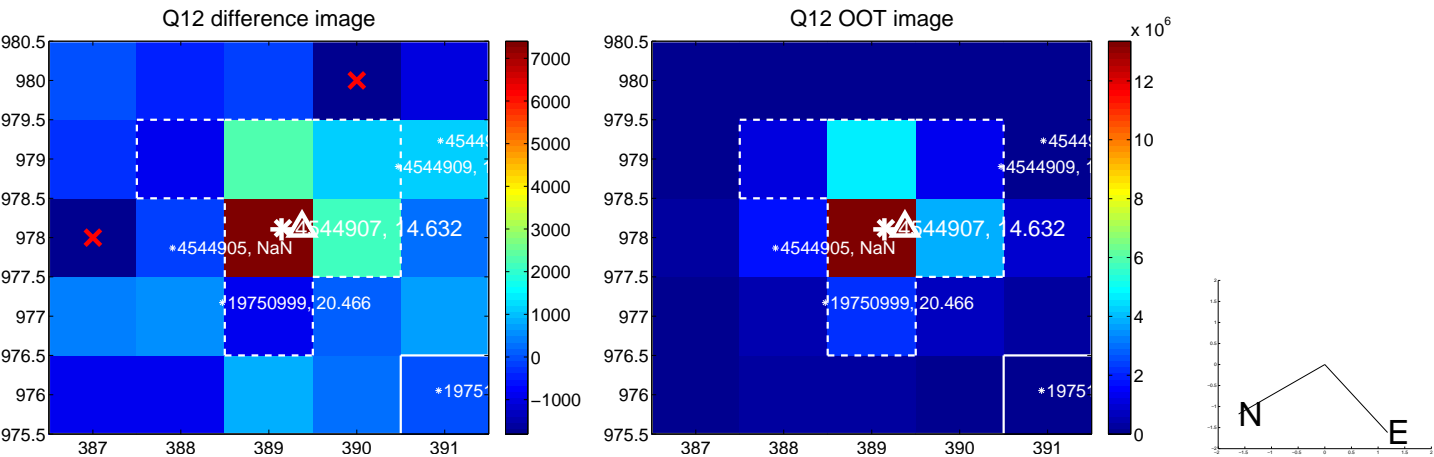
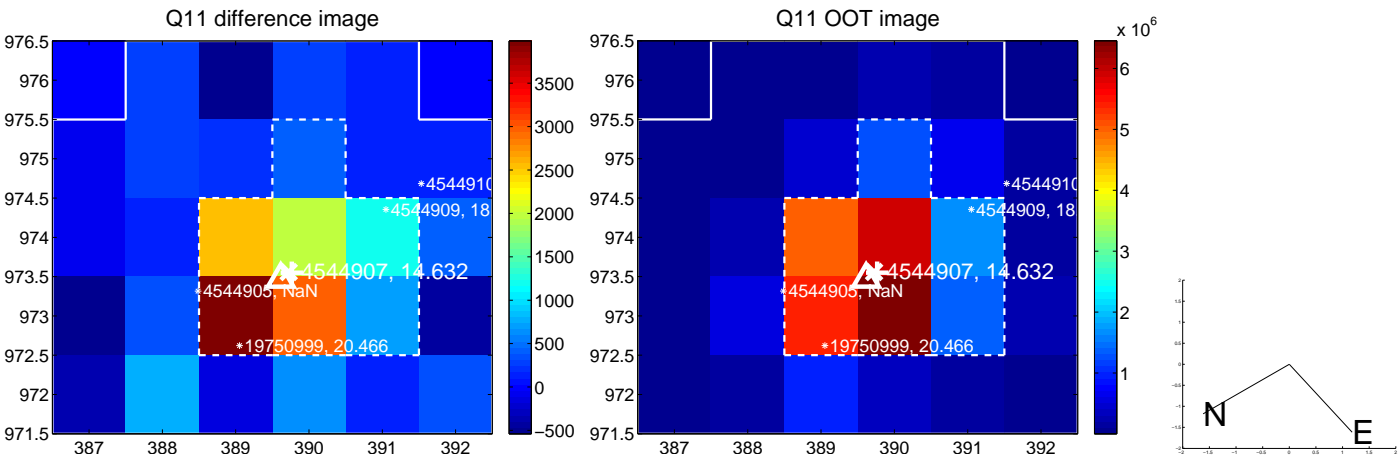
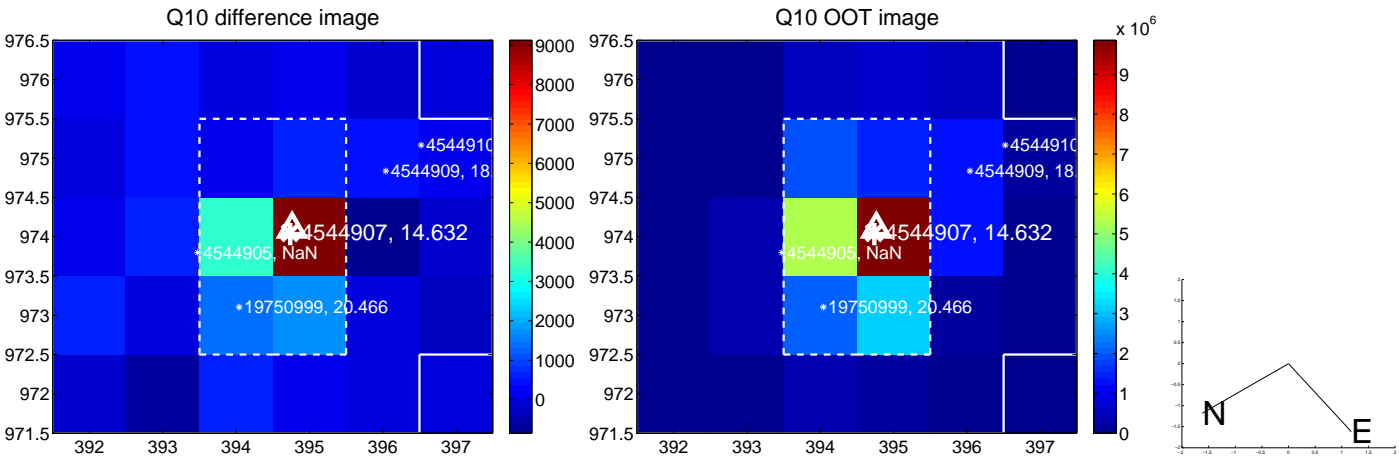
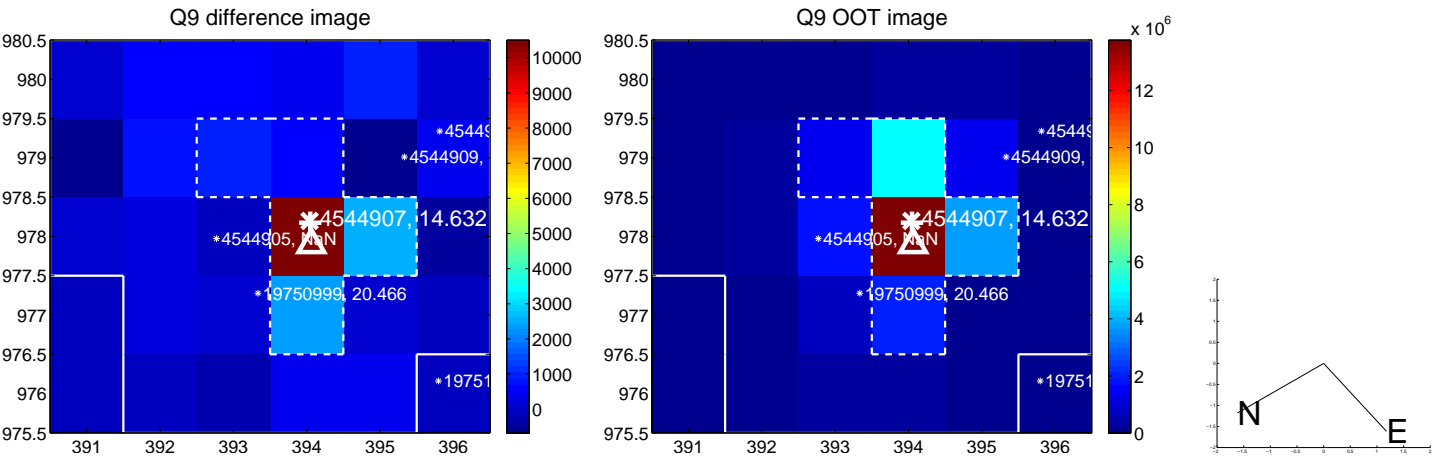
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



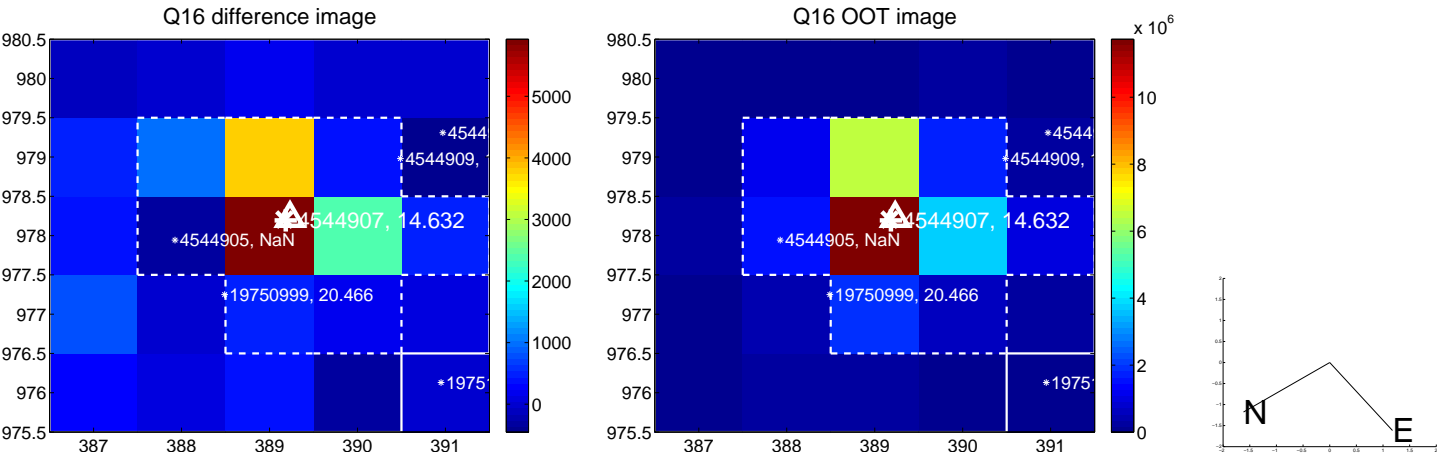
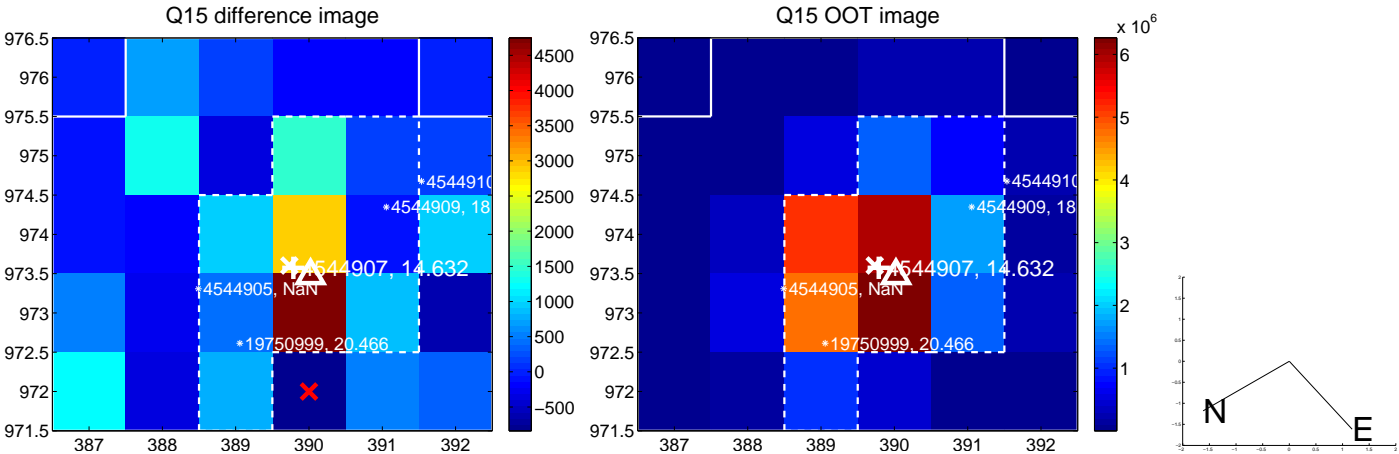
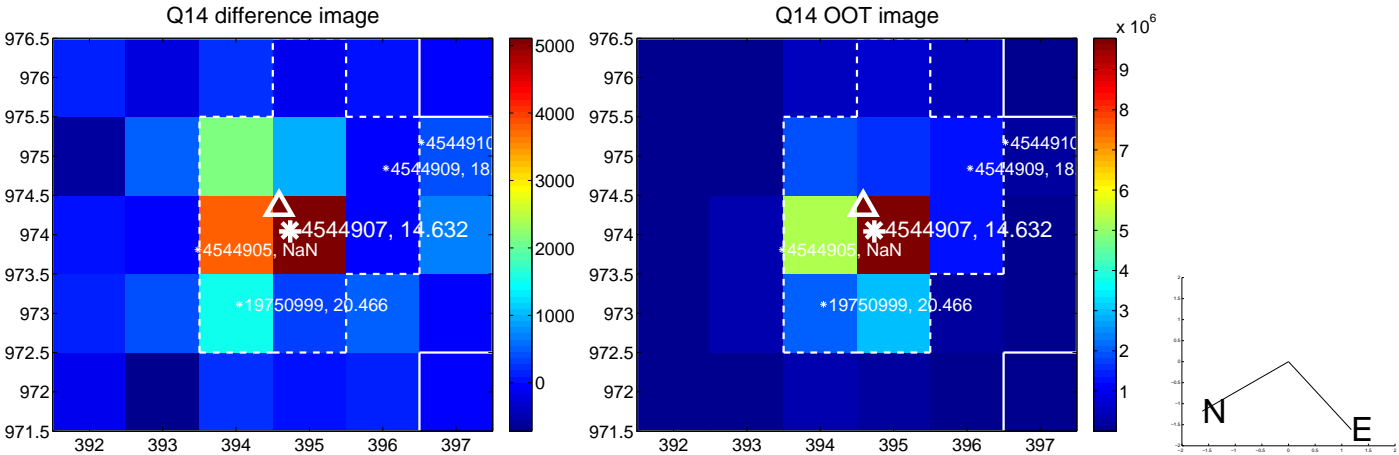
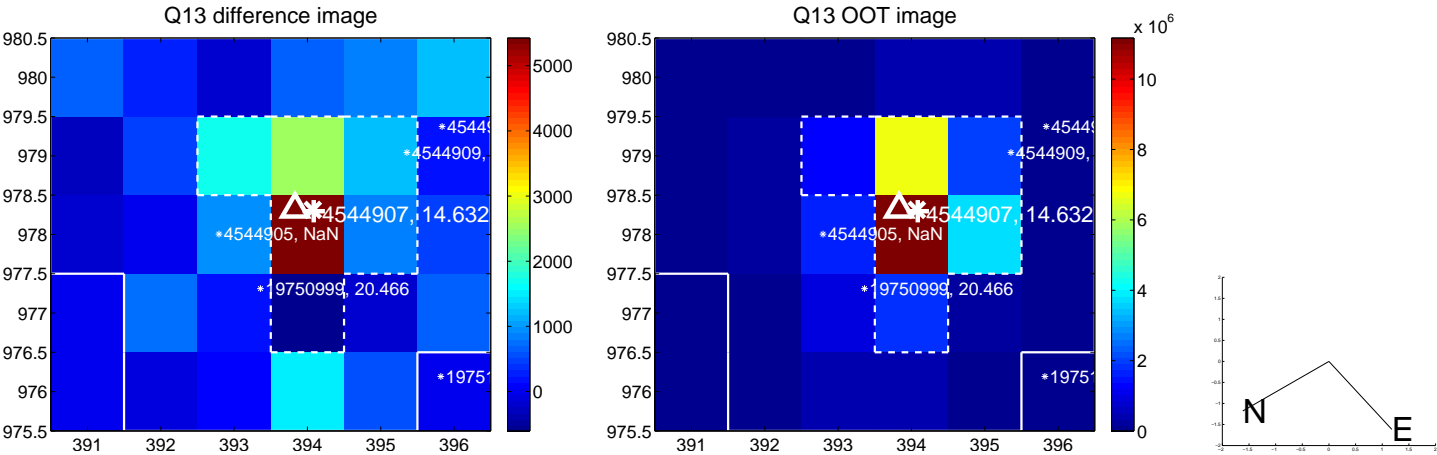
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



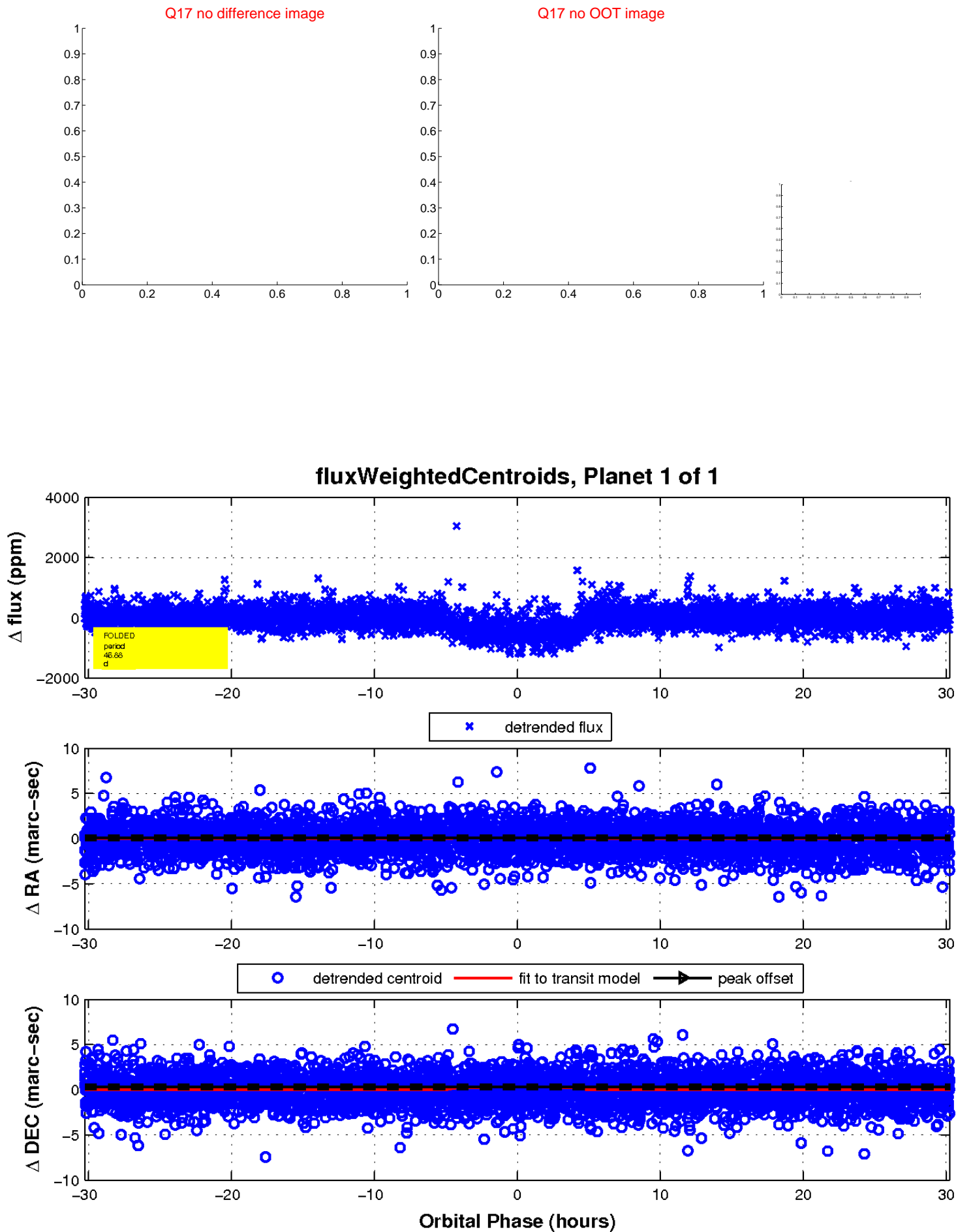
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

