

KIC 004480676

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})
004480676-01	OBS	1321.01	0.711963	132.091109	5220.2	1.972	469.6	411.1	0.83	5486	7.23	2801.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004480676-01	OBS	FP	0.00	0	1	0	0	DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT

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

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

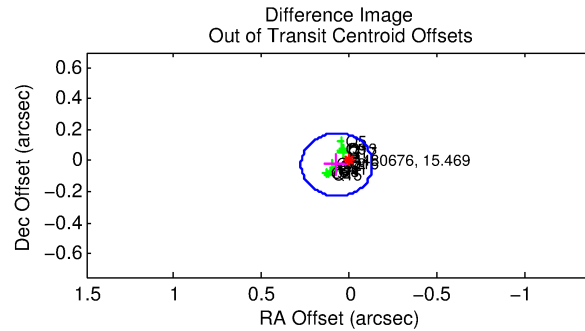
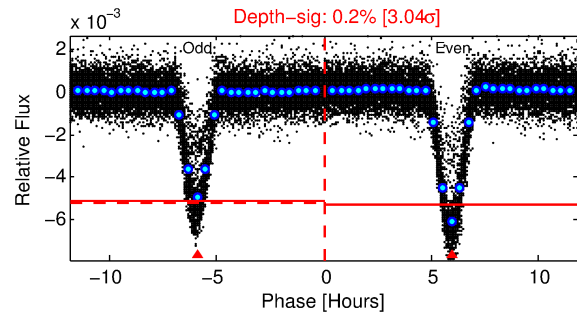
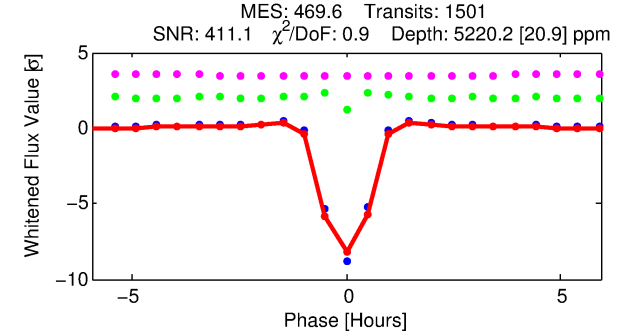
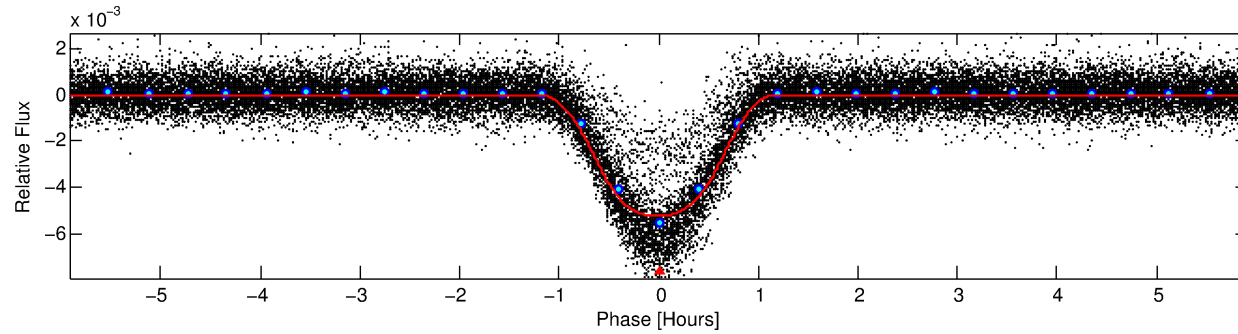
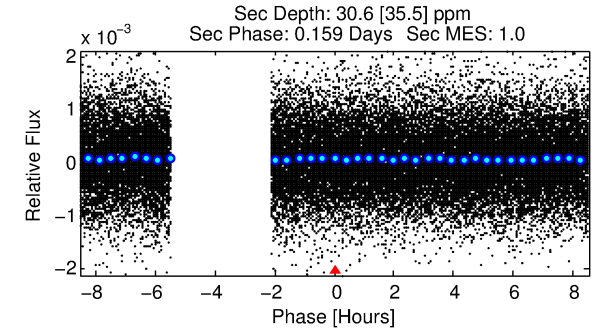
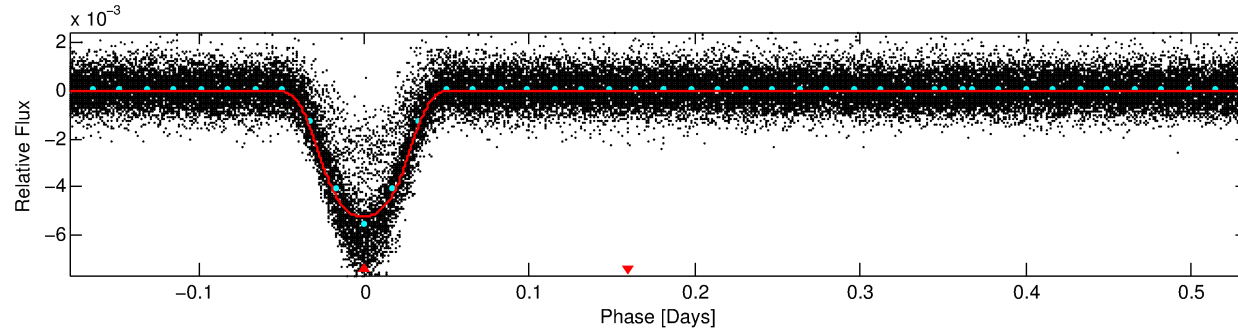
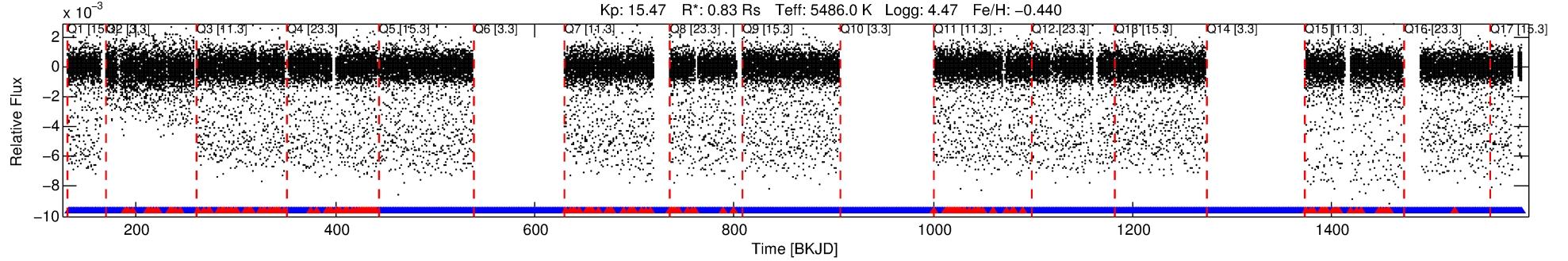
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004480676-01

No Significant Match Found

DV One-Page Summary

KIC: 4480676 Candidate: 1 of 1 Period: 0.712 d
KOI: K01321.01 Corr: 0.975



DV Fit Results:

Period = 0.71196 [0.00000] d
Epoch = 132.0911 [0.0001] BKJD
Rp/R* = 0.0798 [0.0003]
a/R* = 1.91 [0.01]
b = 0.90 [0.00]
Seff = 2801.30 [867.57]
Teff = 1855 [144] K
Rp = 7.23 [1.51] Re
a = 0.0141 [0.0026] AU
Ag = 0.06 [0.08] [-12.20 σ]
Teffp = 1445 [421] K [-0.92 σ]

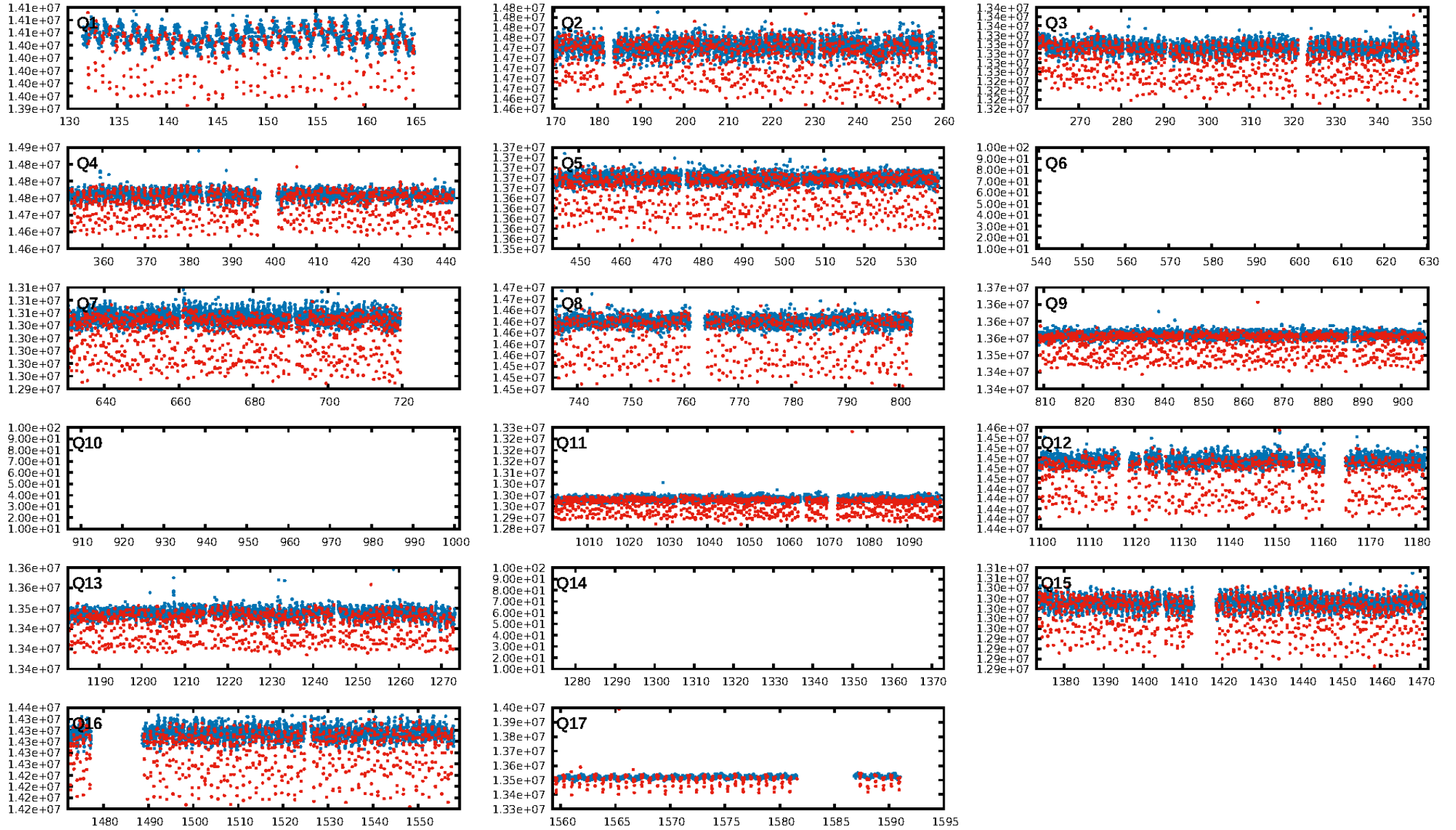
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.88 [1242/1417]
GhostDiagnostic-chr: 9.819
Centroid-sig: 0.0%
Centroid-so: 0.208 arcsec [7.35 σ]
OotOffset-rm: 0.077 arcsec [1.13 σ]
KicOffset-rm: 0.136 arcsec [1.90 σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

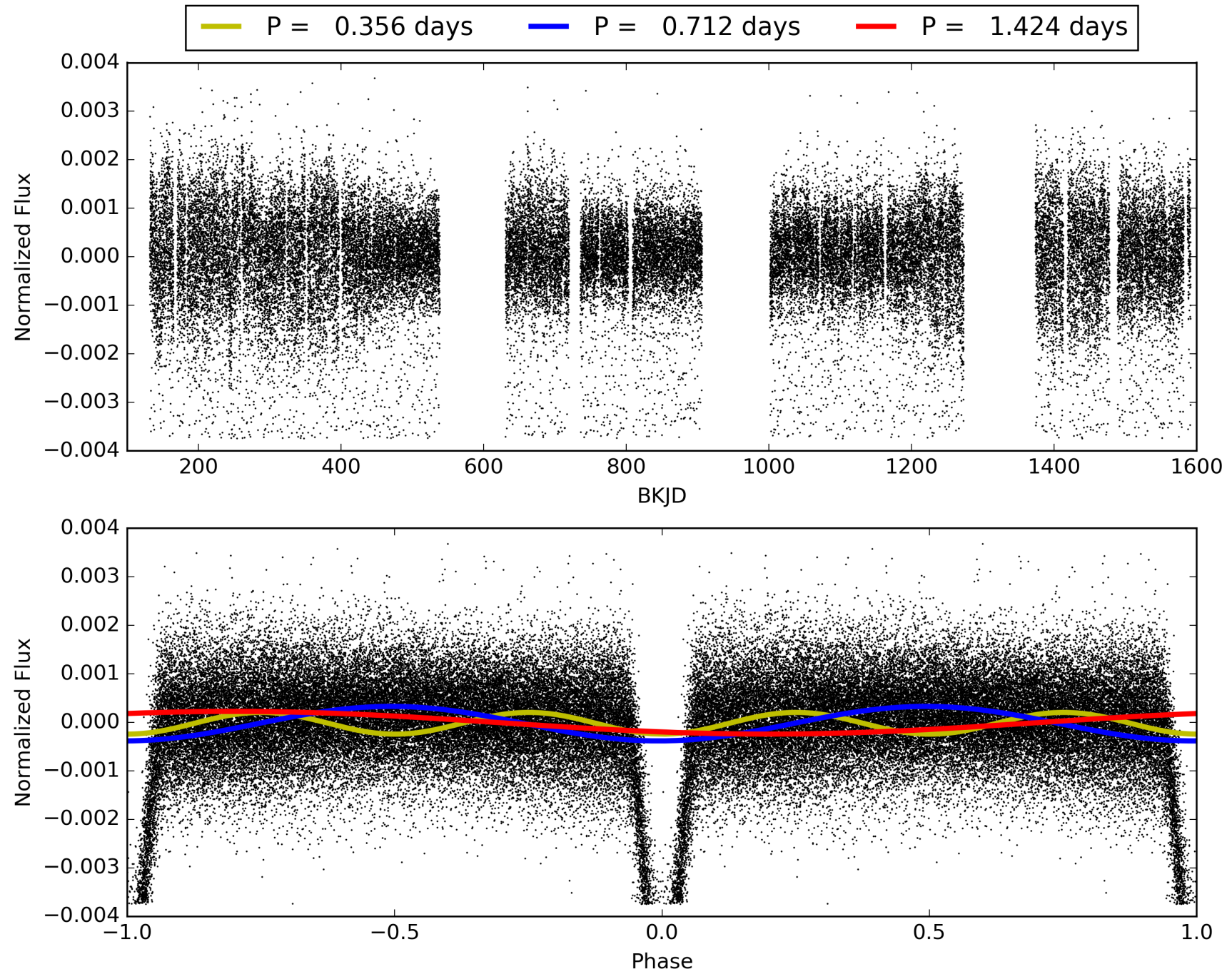
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:49:24 Z

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

TCE 004480676-01, PDC Light Curves

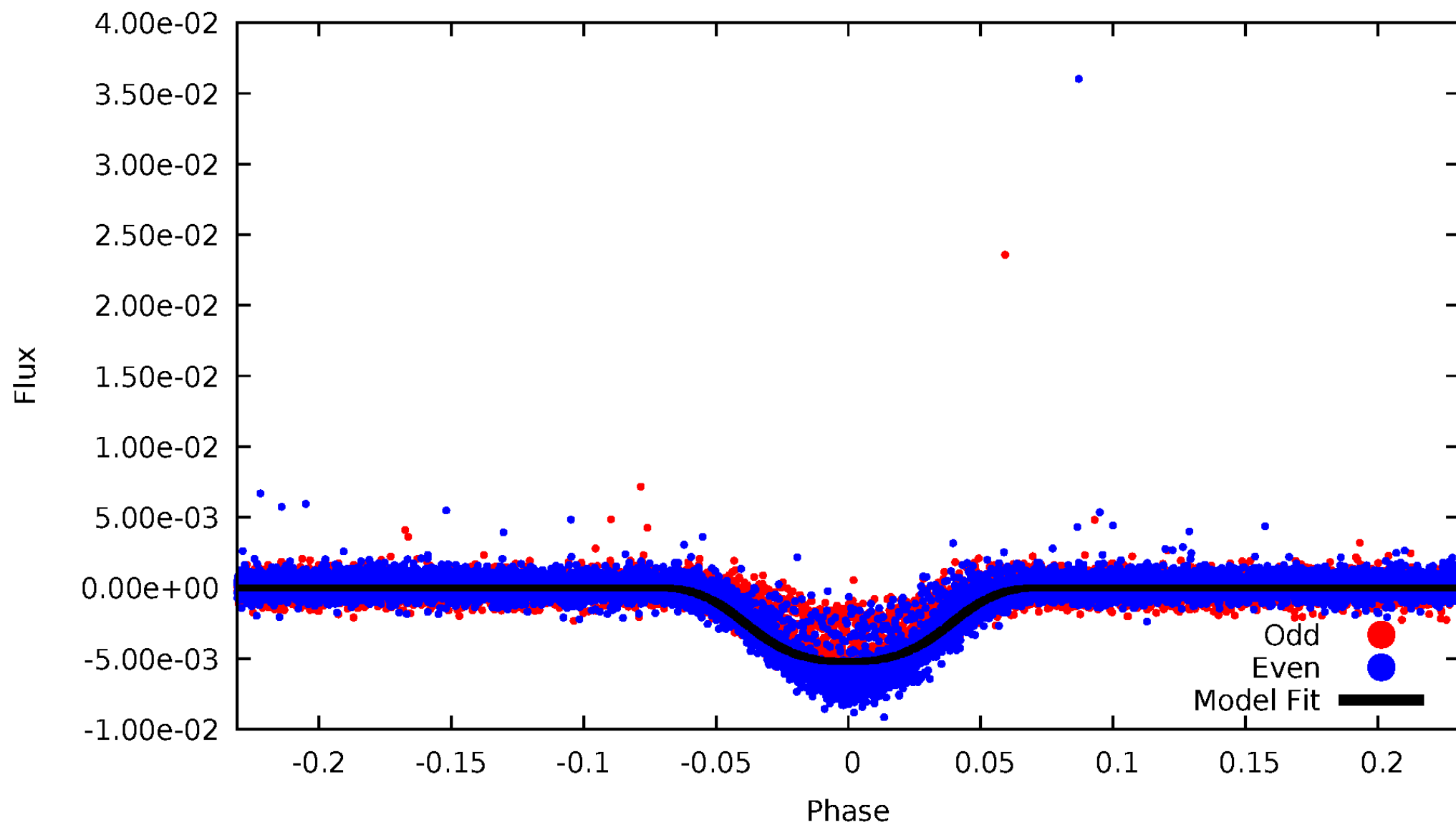


TCE 004480676-01



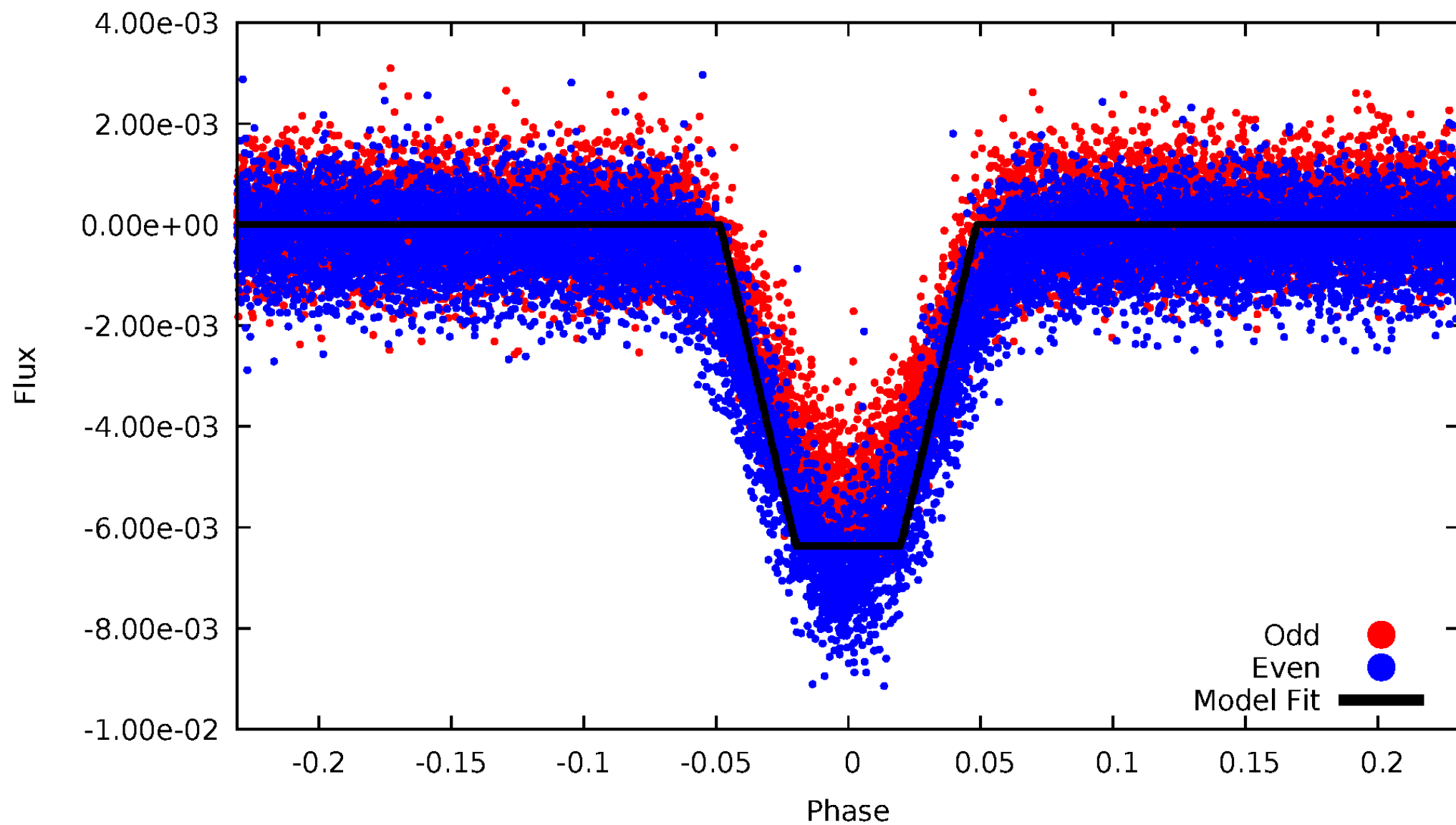
DV Odd/Even

TCE 004480676-01



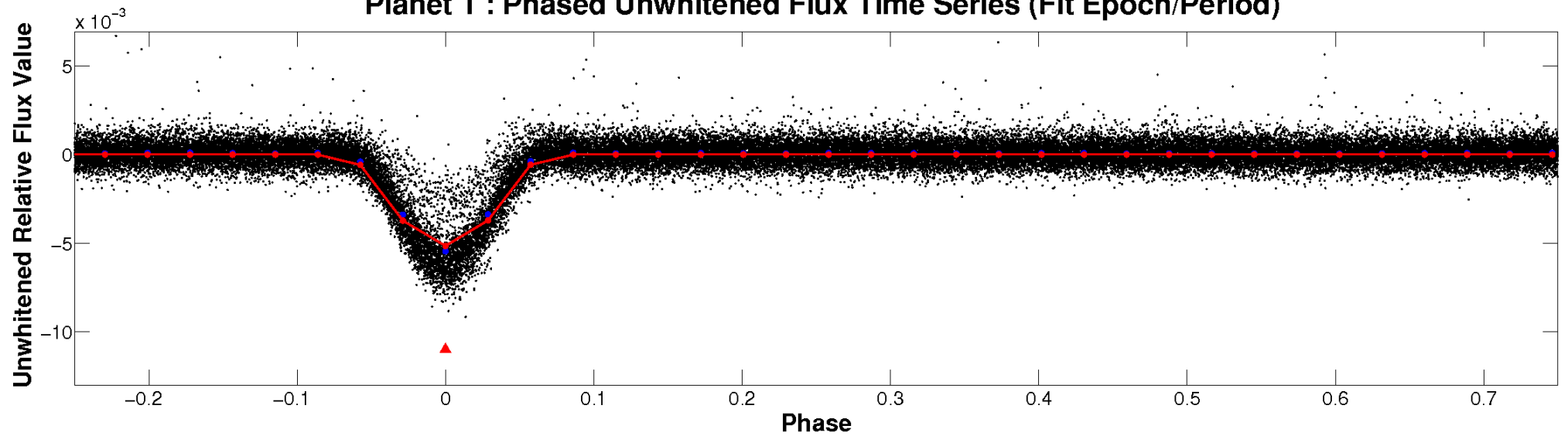
ALT Odd/Even

TCE 004480676-01

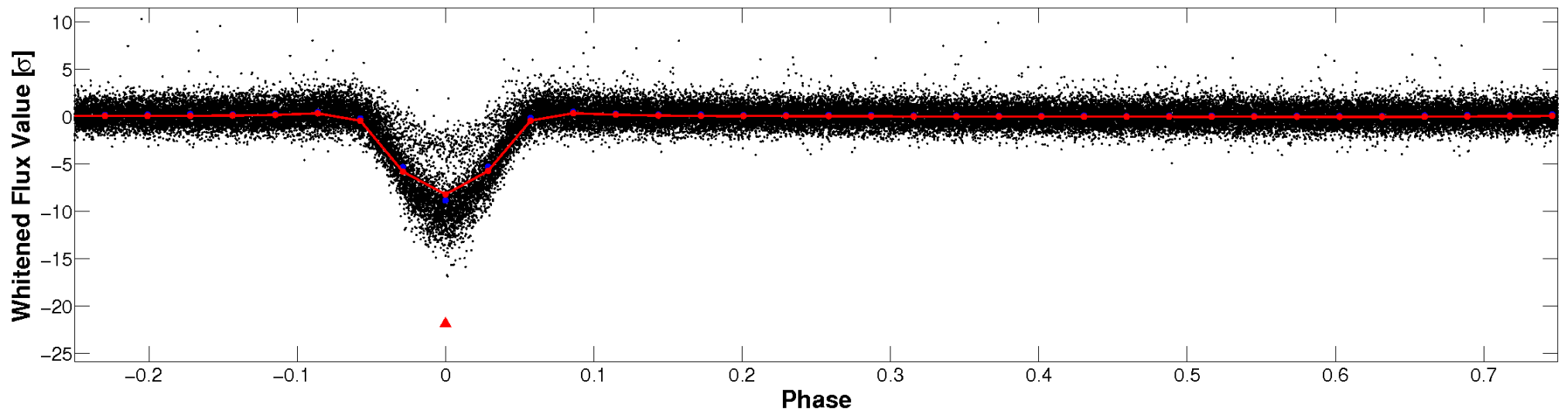


Non-Whitened Vs. Whitened Light Curve

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

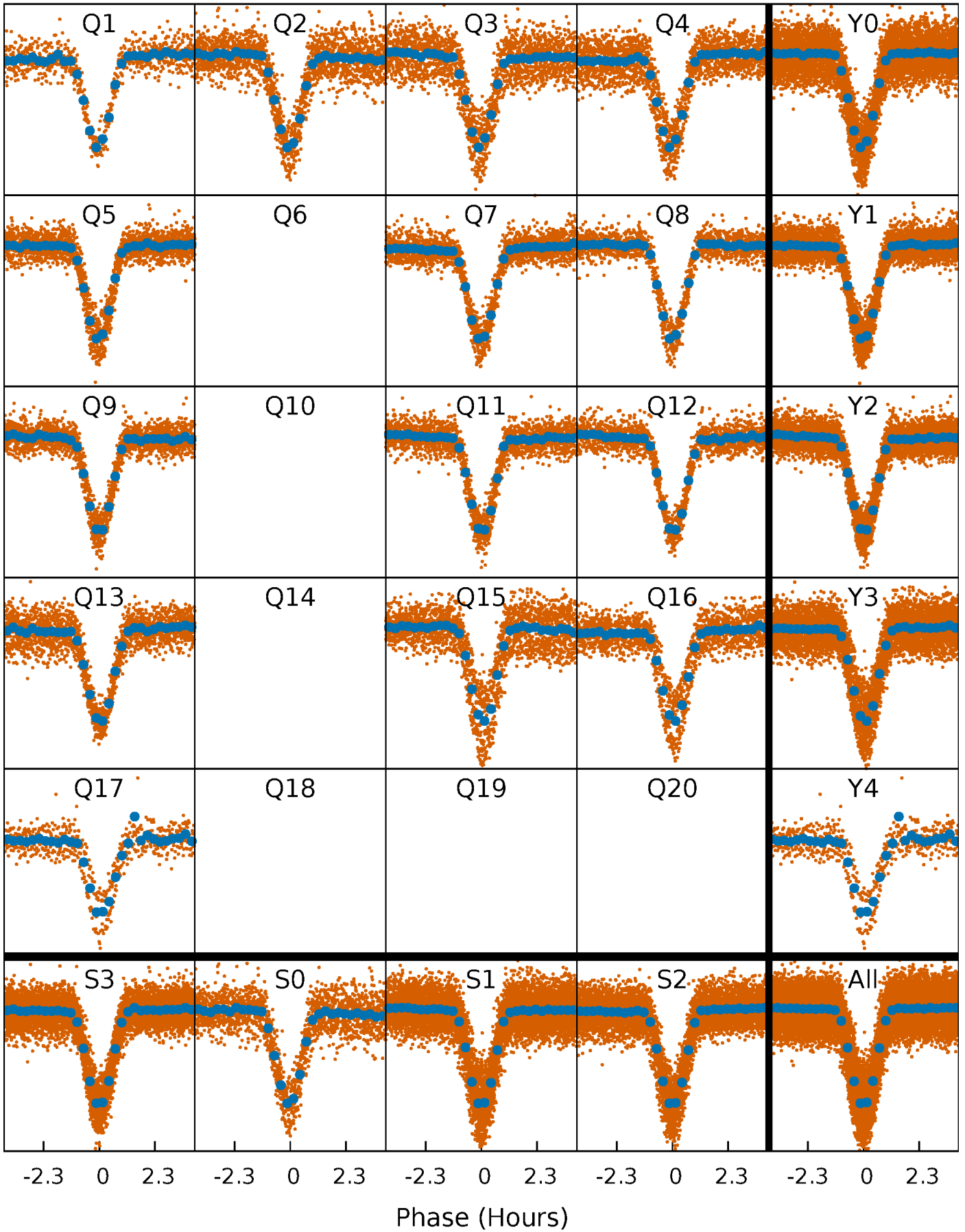


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



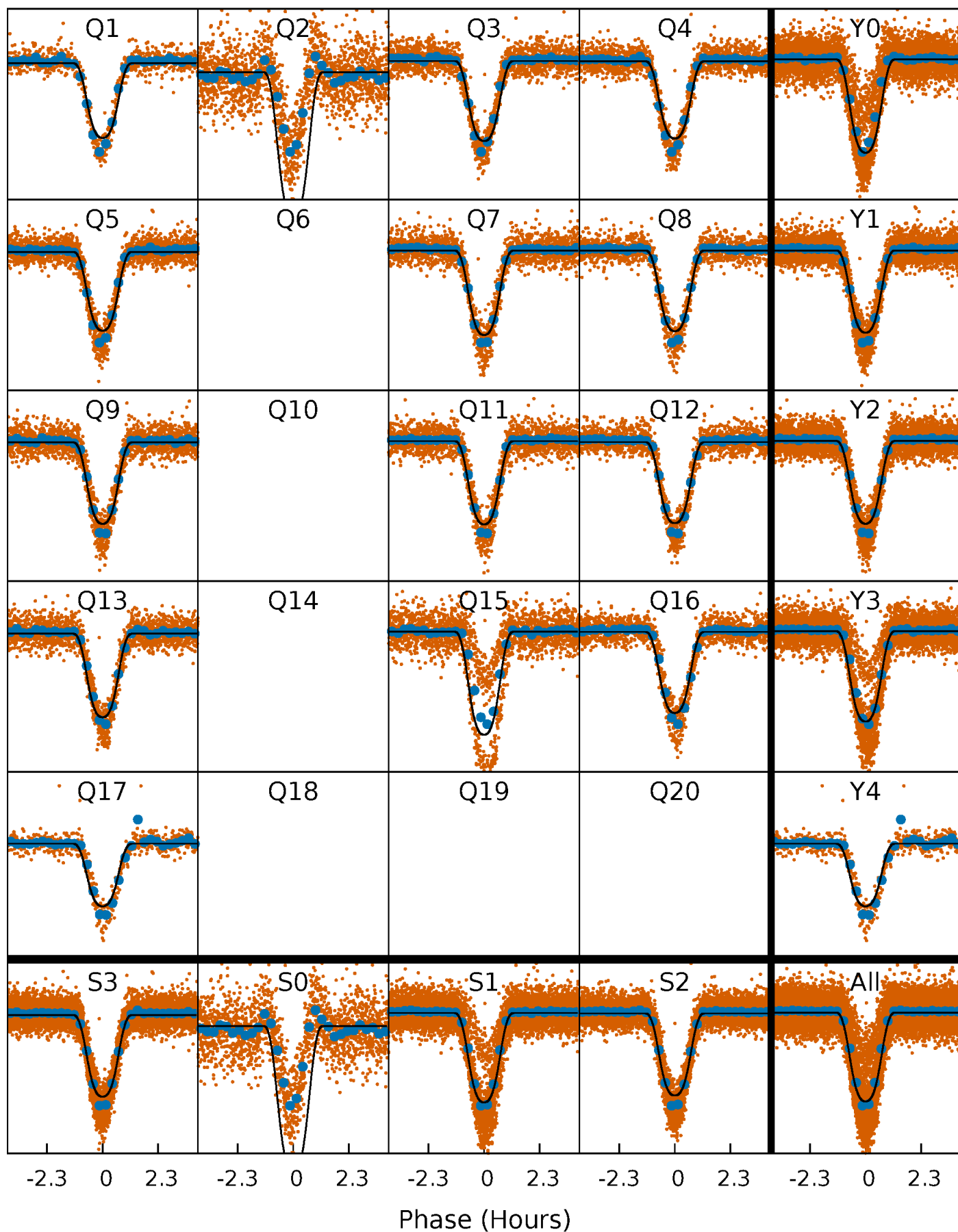
PDC Quarter-Phased Transit Curves

TCE 004480676-01 P= 0.711963 Days $T_0=132.091109$ (BKJD)



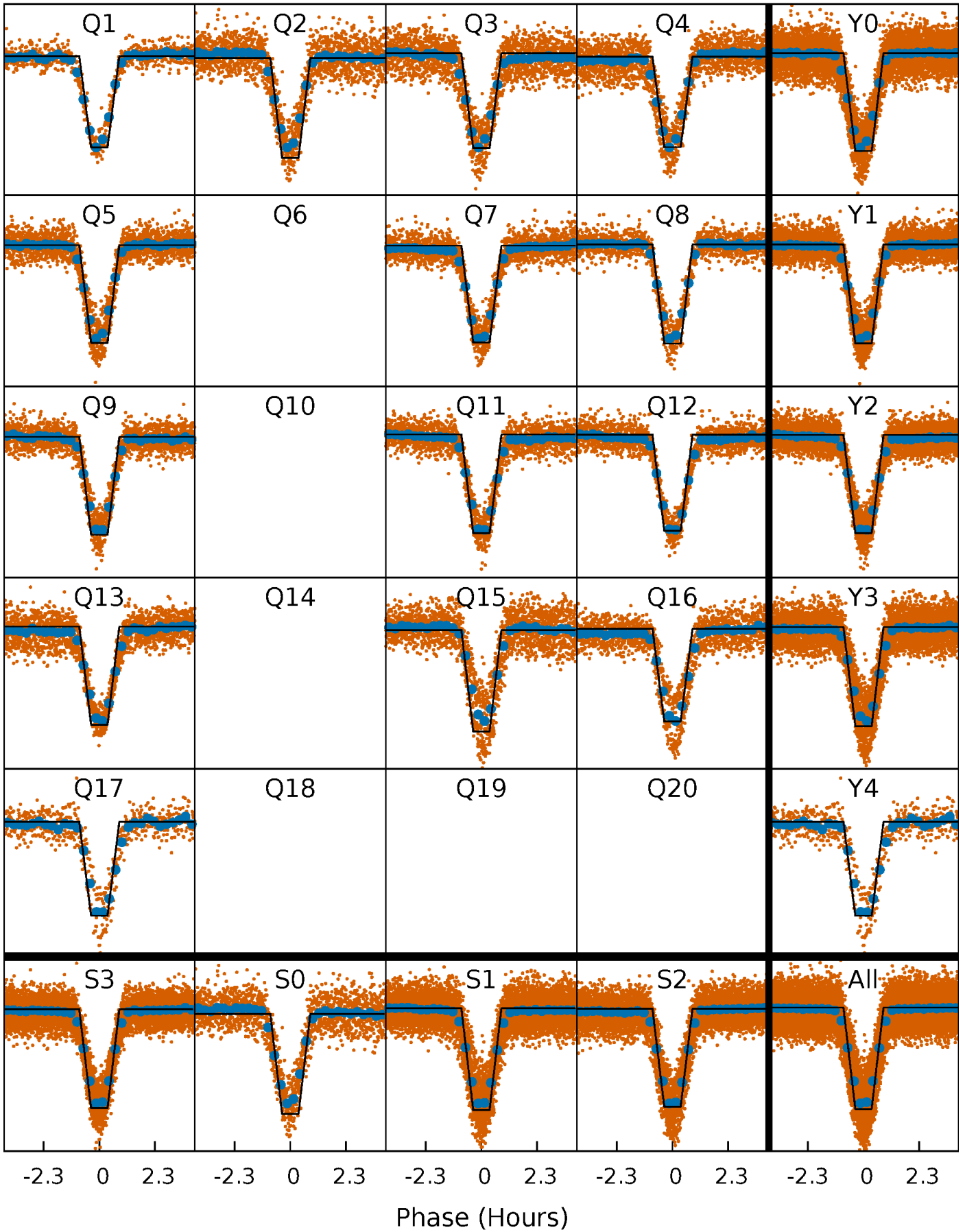
DV Quarter-Phased Transit Curves

TCE 004480676-01 P= 0.711963 Days $T_0=132.091109$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

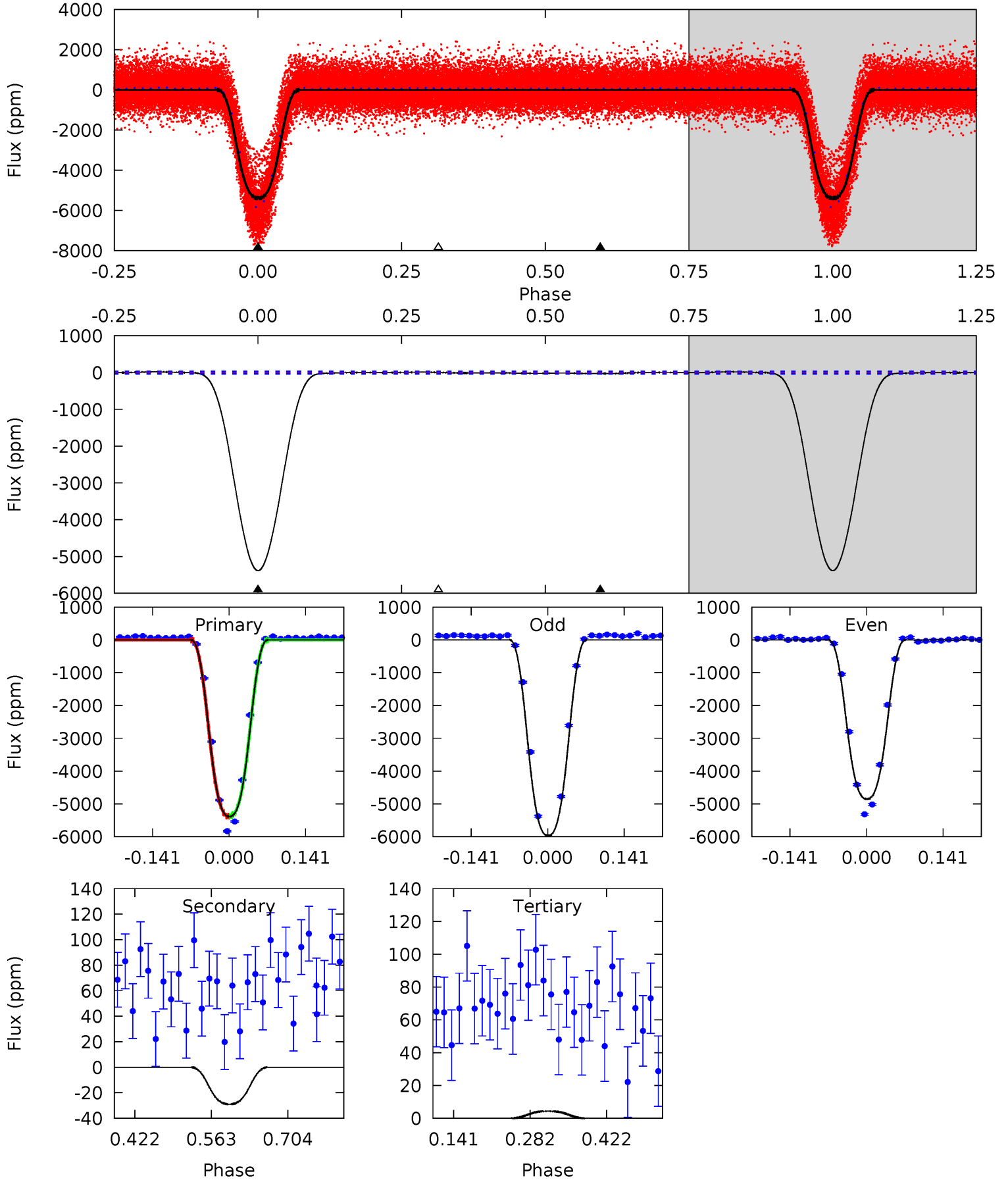
TCE 004480676-01 P= 0.711963 Days $T_0=132.091109$ (BKJD)



DV Model-Shift Uniqueness Test

004480676-01, P = 0.711963 Days, E = 131.379146 Days

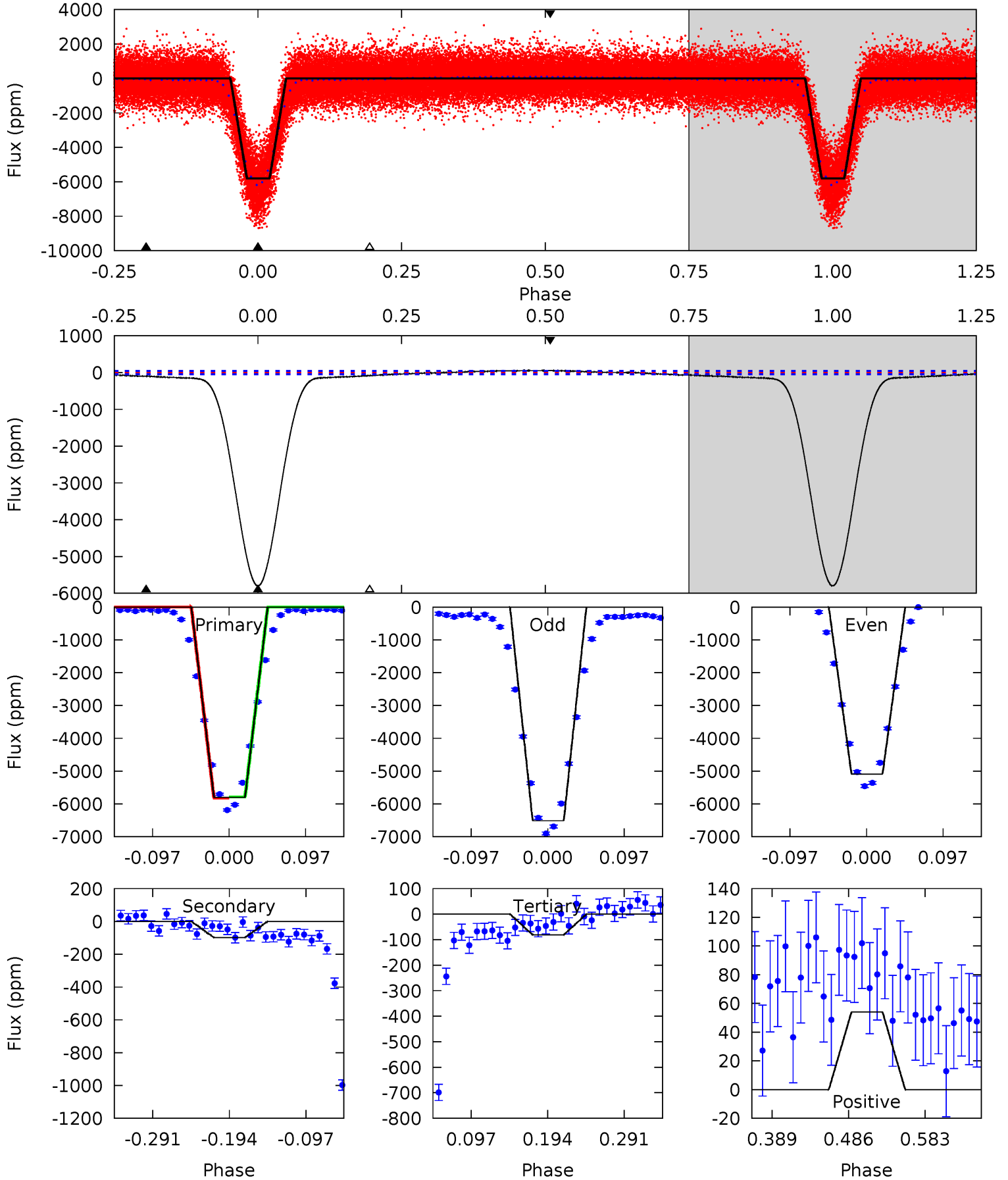
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
768.4	4.13	-0.62	0	4.49	1.47	1.40	769.1	768.4	4.74	4.13	80.3	0.96	0.00	0.62



Alt Model-Shift Uniqueness Test

004480676-01, P = 0.711963 Days, E = 131.379146 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
586.4	9.89	8.19	5.46	4.57	1.66	5.76	578.2	581.0	1.70	4.44	71.7	1.00	0.01	1.88



Stellar Parameters For KIC 004480676

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5486^{+179}_{-162}	$4.470^{+0.130}_{-0.159}$	$-0.440^{+0.350}_{-0.300}$	$0.830^{+0.173}_{-0.116}$	$0.741^{+0.117}_{-0.050}$	$1.826^{+0.981}_{-0.742}$
	+3%/-3%	+3%/-4%	+80%/-68%	+21%/-14%	+16%/-7%	+54%/-41%
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 004480676-01 / KOI 1321.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-29 ± 7	$7.24^{+0.96}_{-0.60}$	2605^{+163}_{-147}	-2767^{+101}_{-112}	$0.058^{+0.021}_{-0.017}$
Alt.	-98 ± 10	$7.29^{+0.99}_{-0.67}$	2600^{+172}_{-141}	-2465^{+228}_{-192}	$0.202^{+0.049}_{-0.043}$

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 $A_{obs} \gg 1.0$

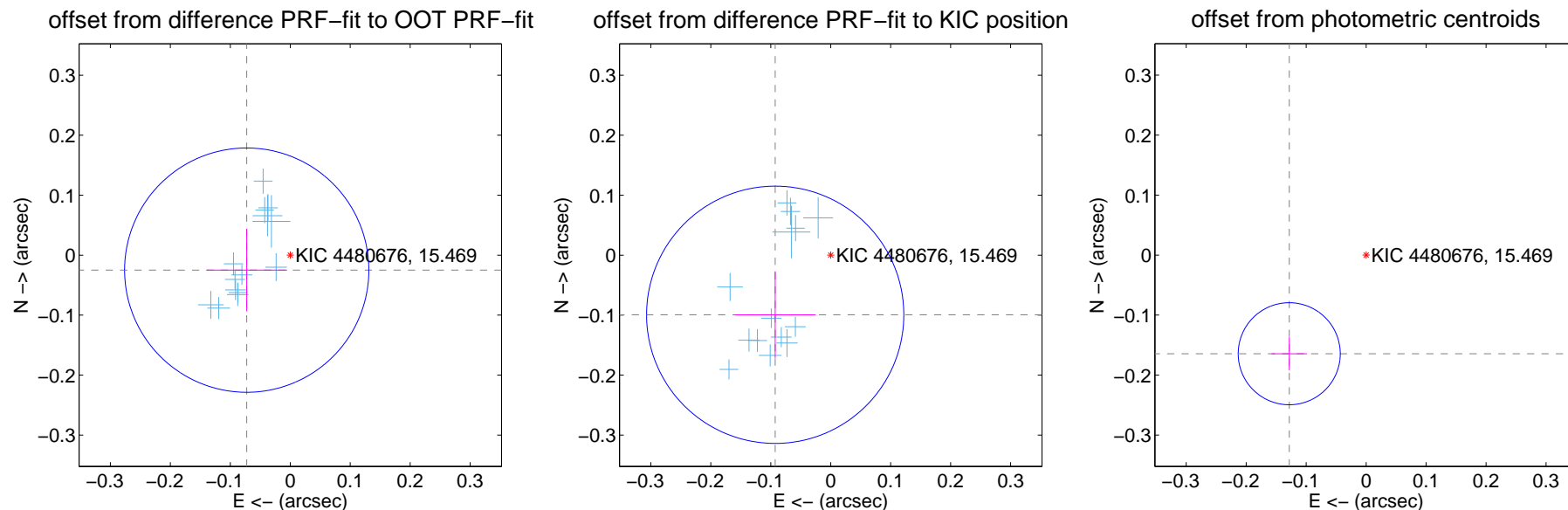
DV Centroid Data

Supplemental centroid analysis for 004480676-01. Kepler magnitude: 15.47. Transit SNR 411.10

There are 14 quarters with good PRF difference image offsets

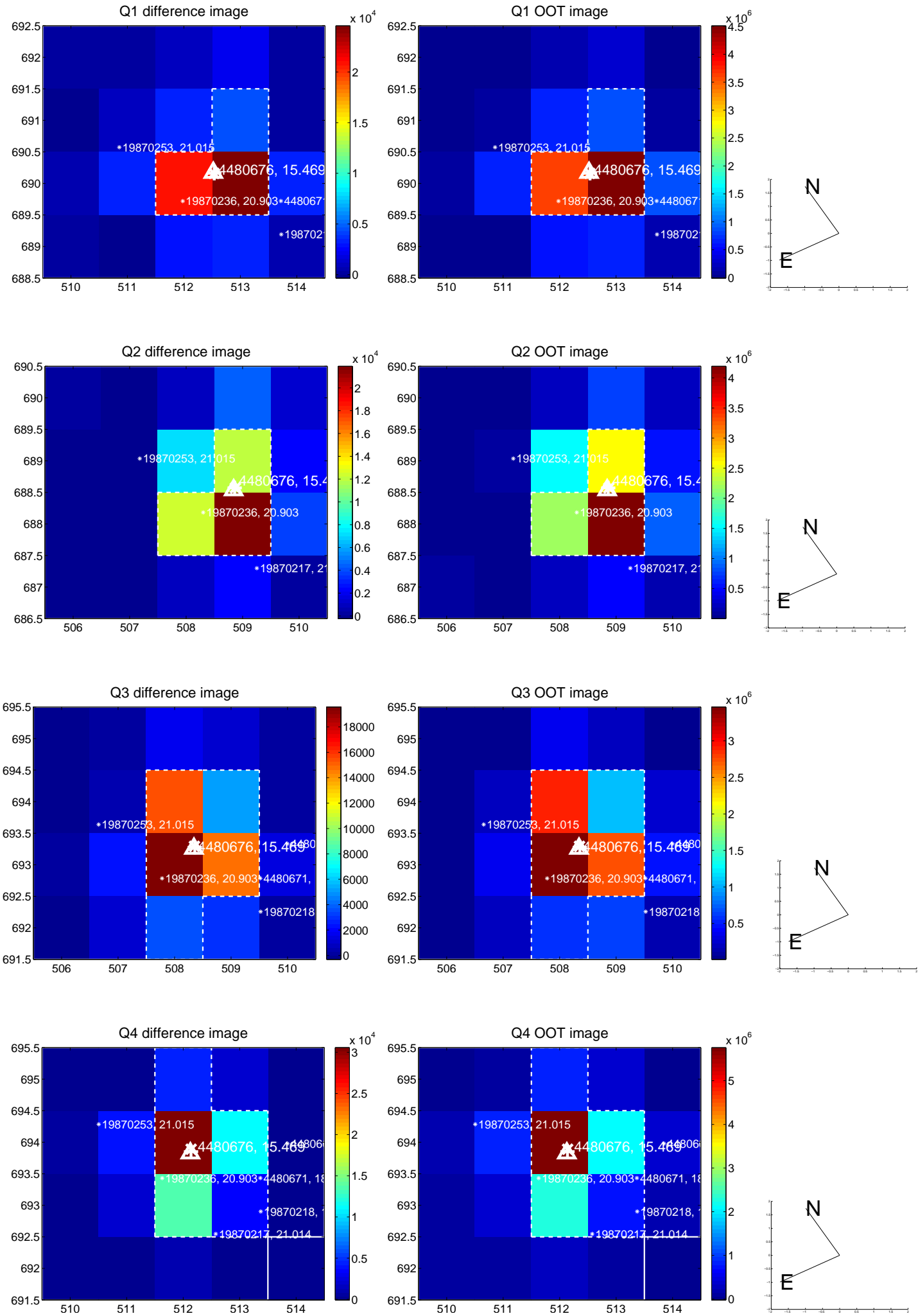
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.077 ± 0.068	1.13	0.073 ± 0.067	-0.025 ± 0.069
PRF-fit source offset from KIC position	0.136 ± 0.071	1.90	0.093 ± 0.068	-0.099 ± 0.072
photometric centroid source offset	0.21 ± 0.03	7.35	0.13 ± 0.03	-0.16 ± 0.03

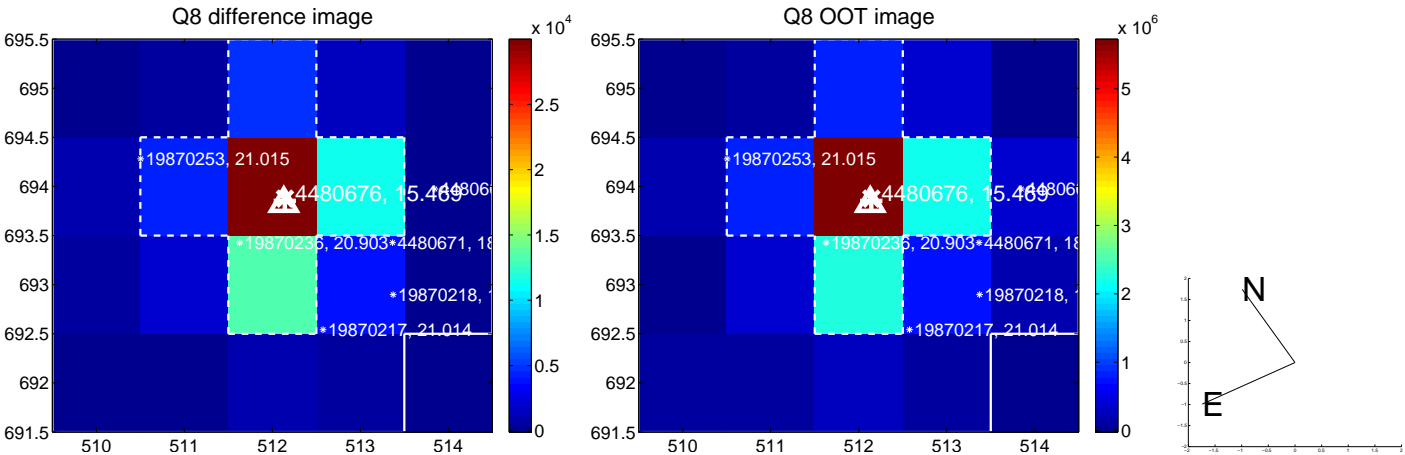
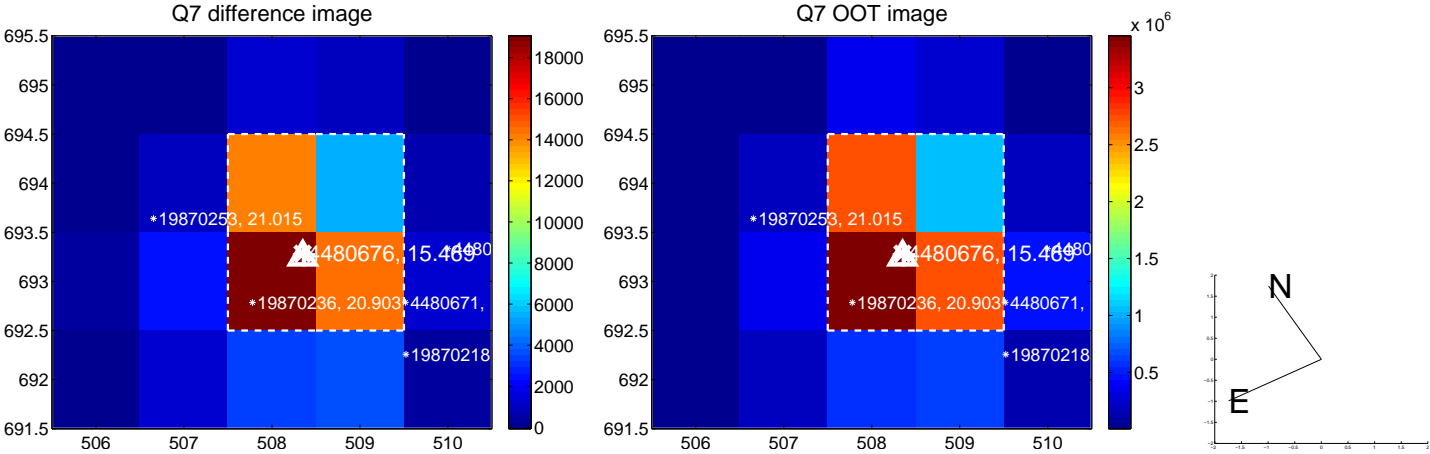
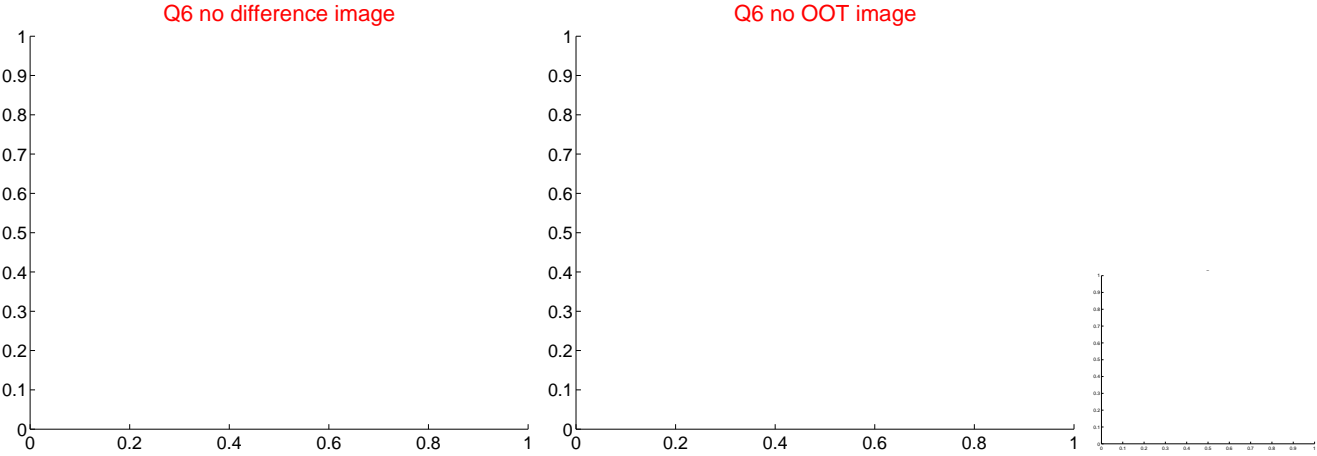
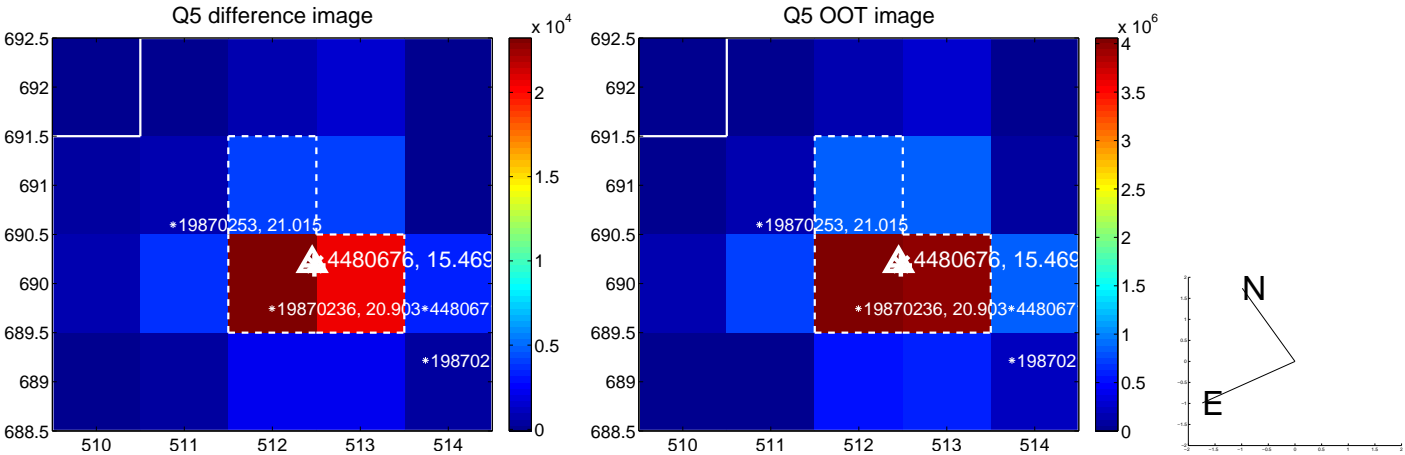


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

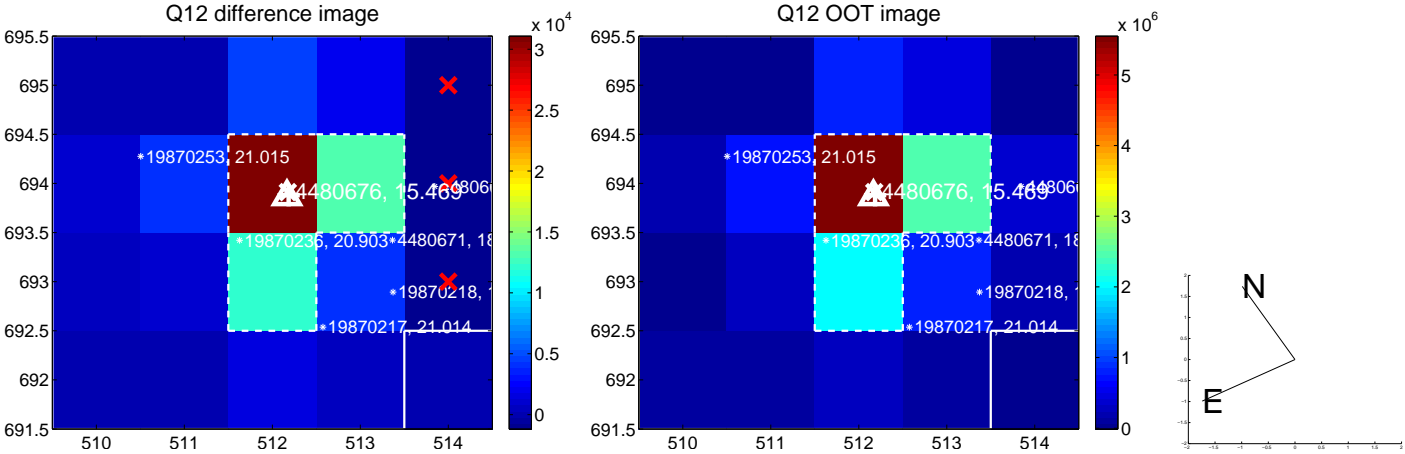
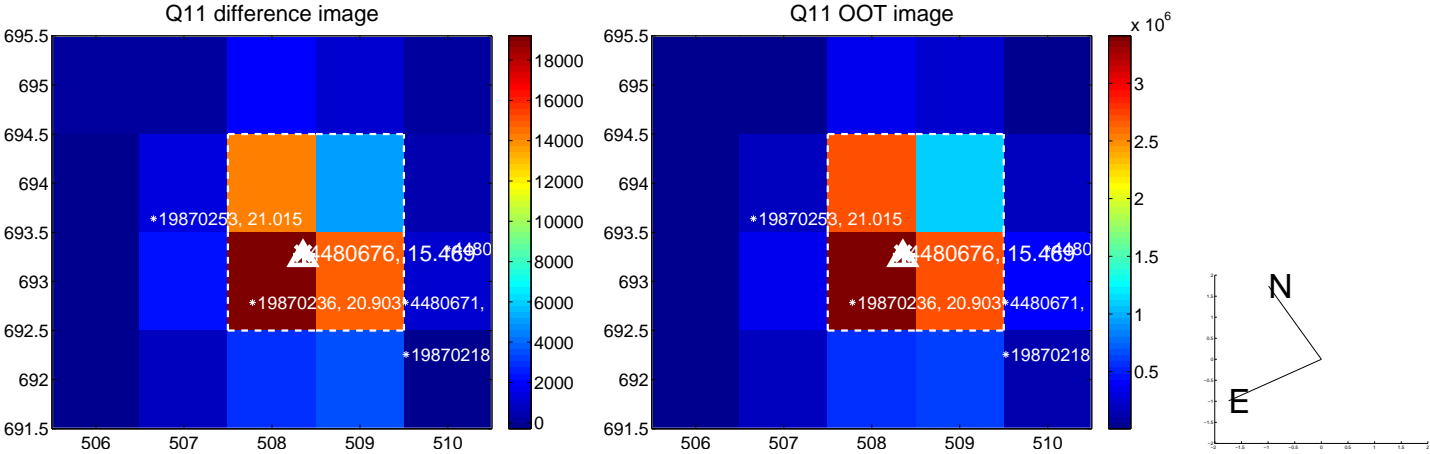
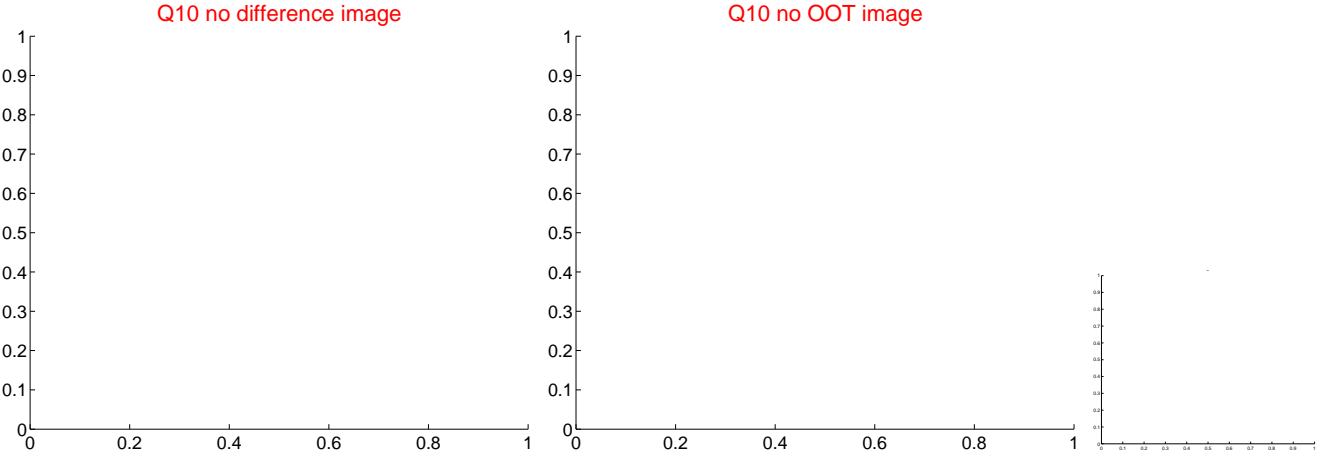
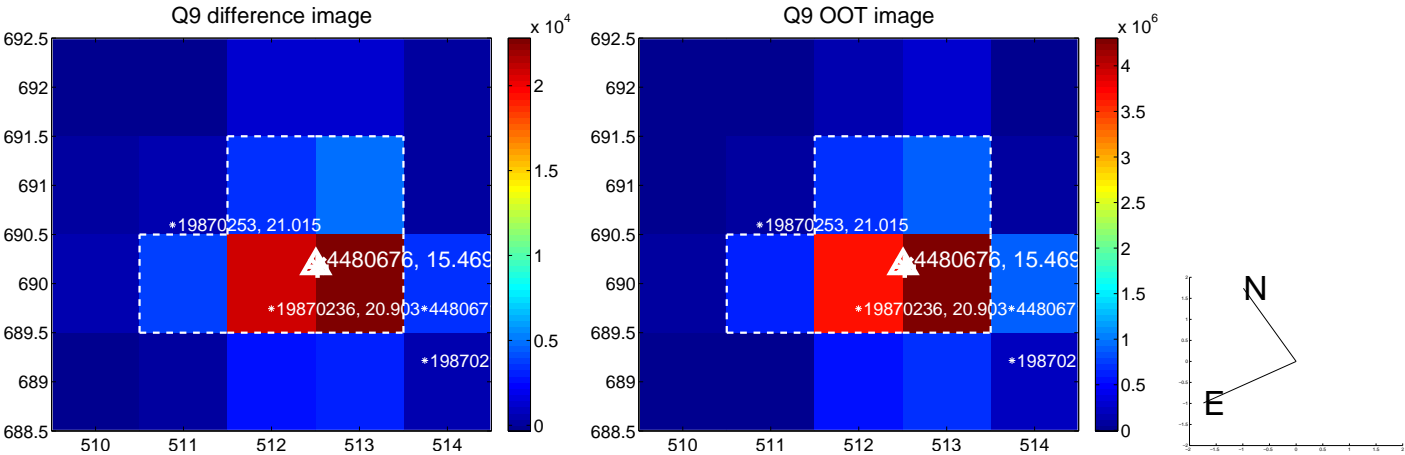
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



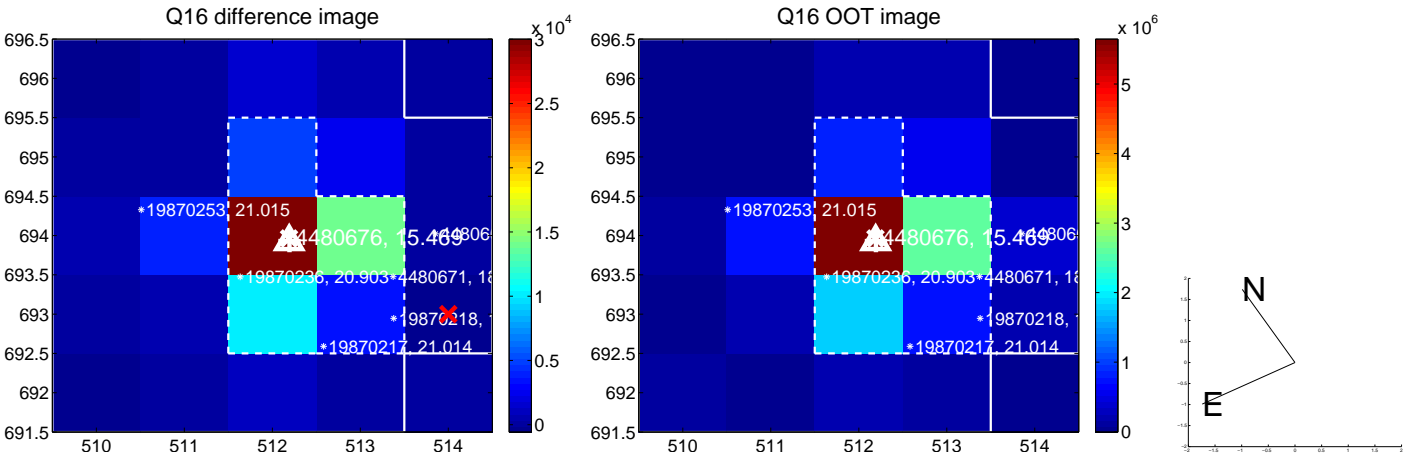
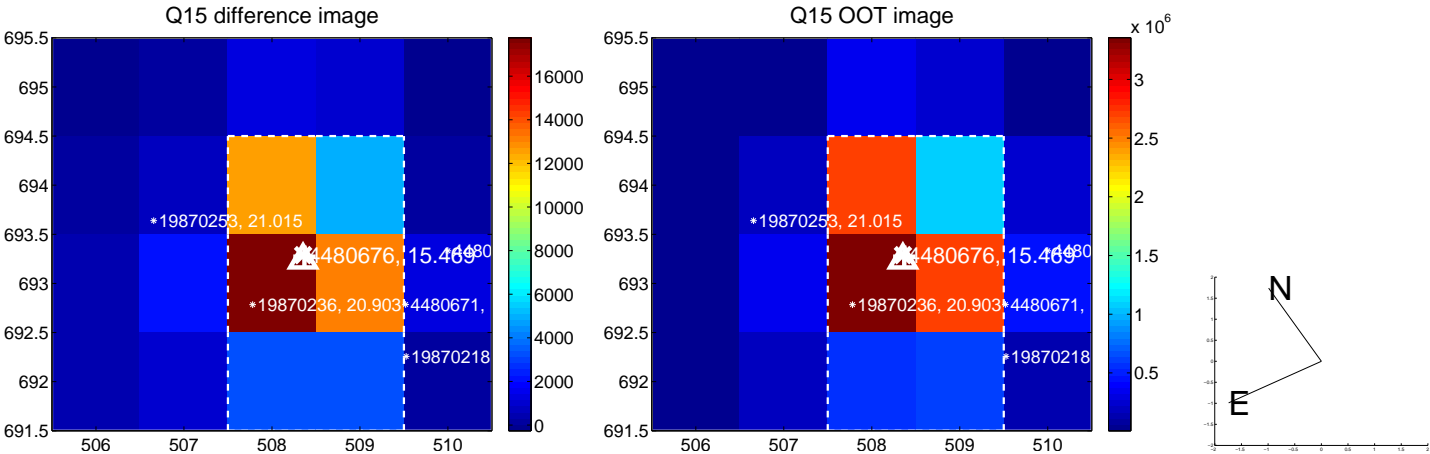
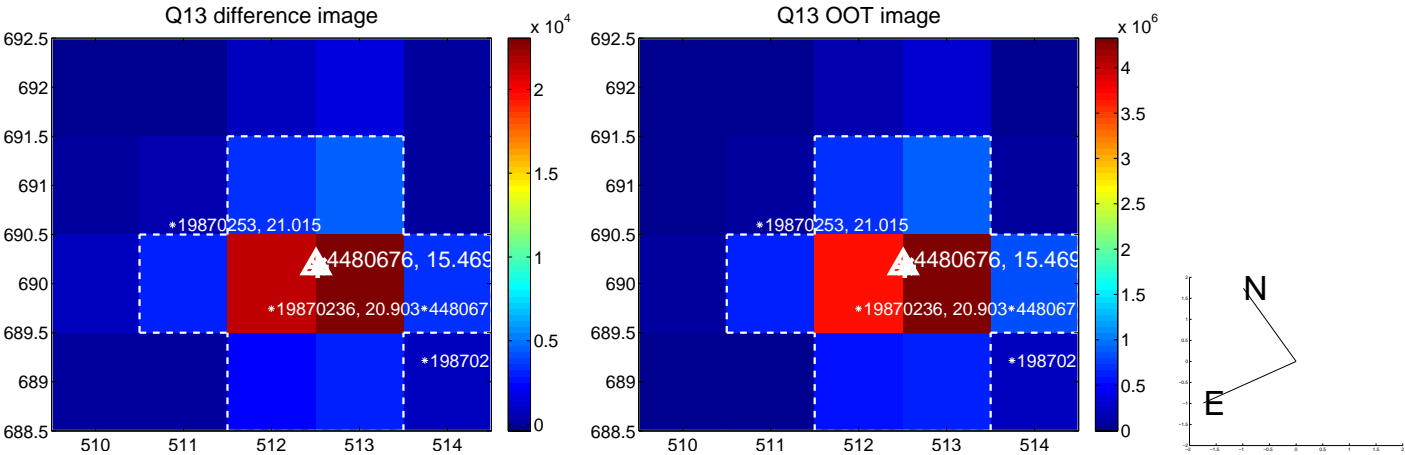
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



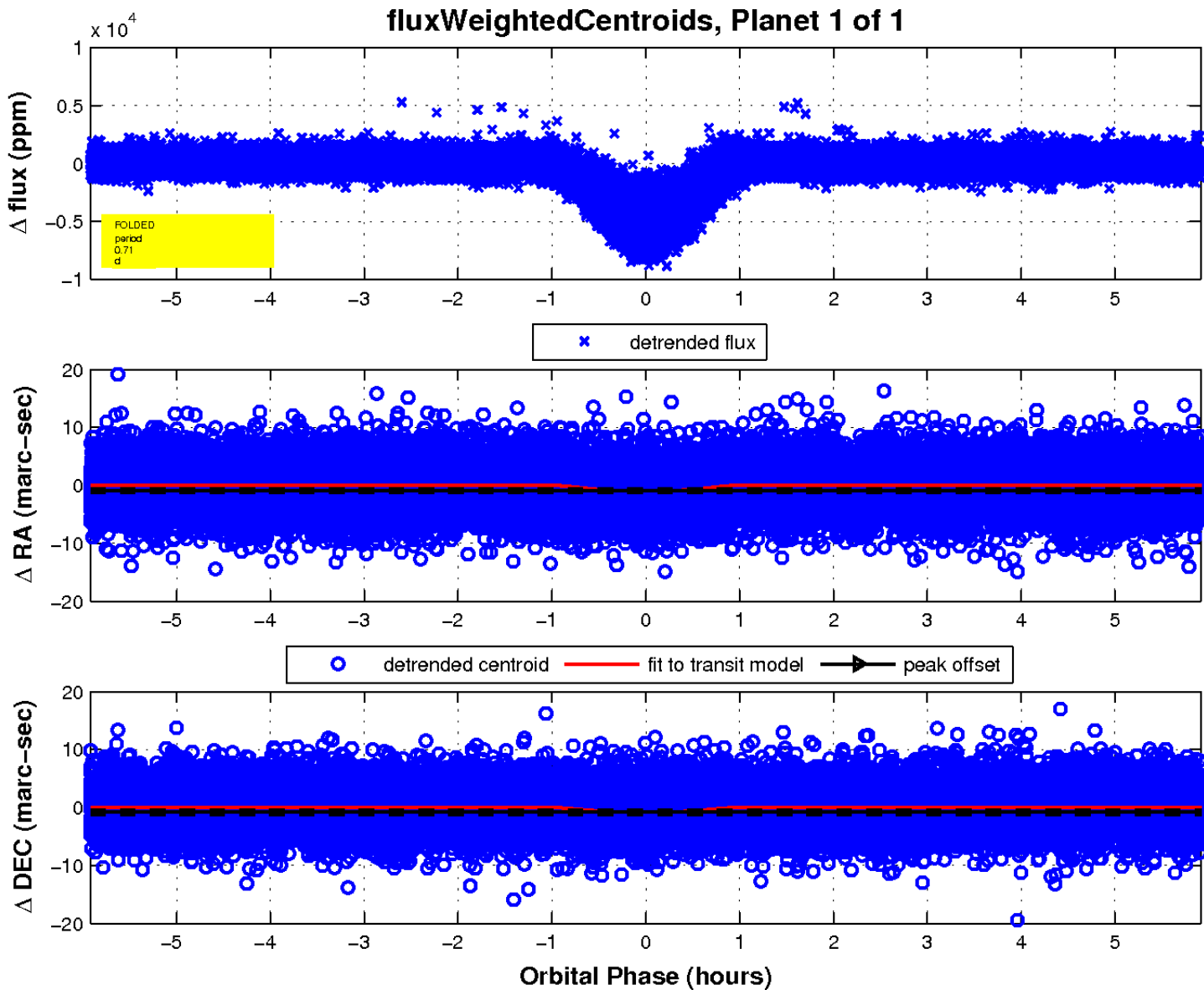
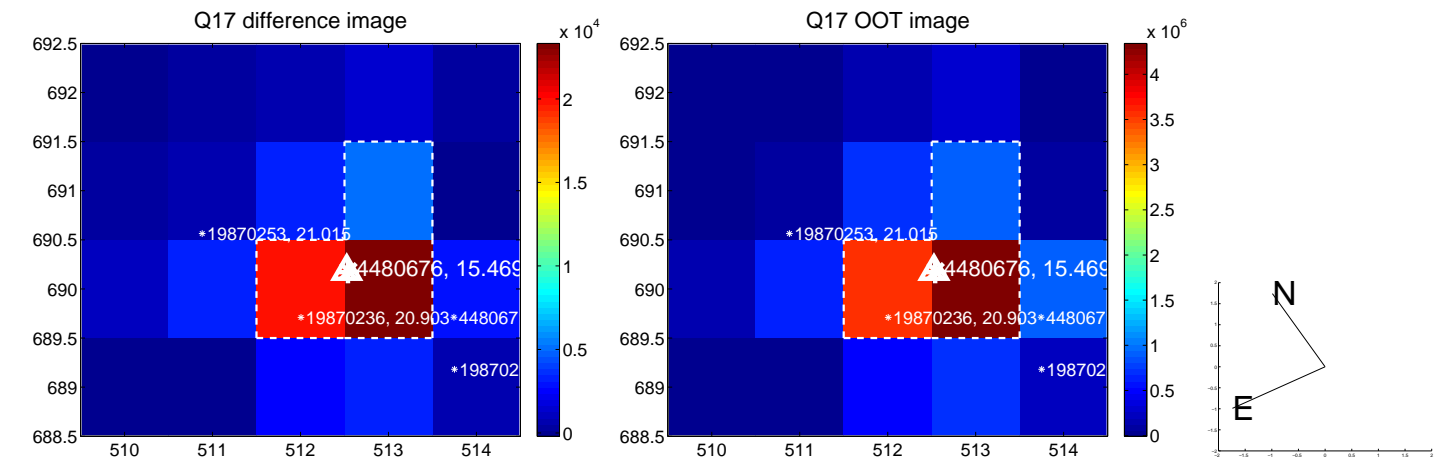
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

