

KIC 009965439

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})
009965439-01	OBS	0722.01	46.406421	146.588220	468.9	7.443	42.1	43.3	1.23	6086	3.05	28.27

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009965439-01	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.

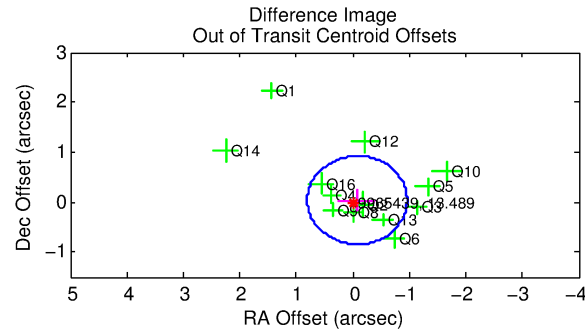
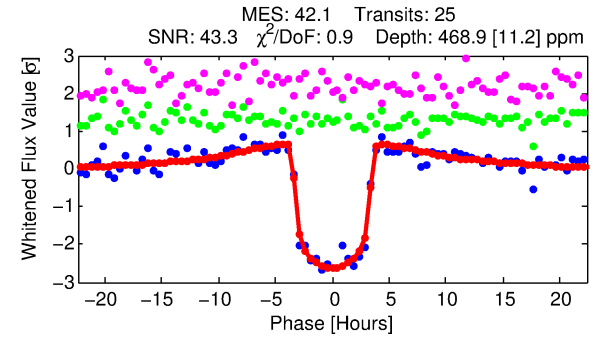
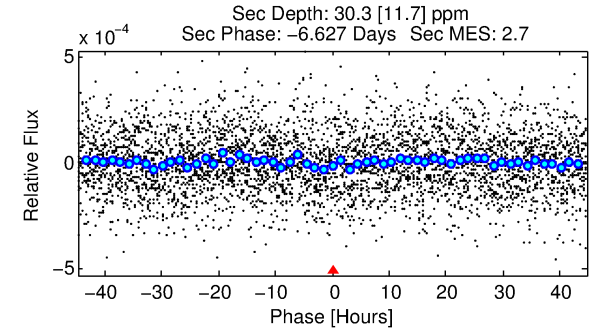
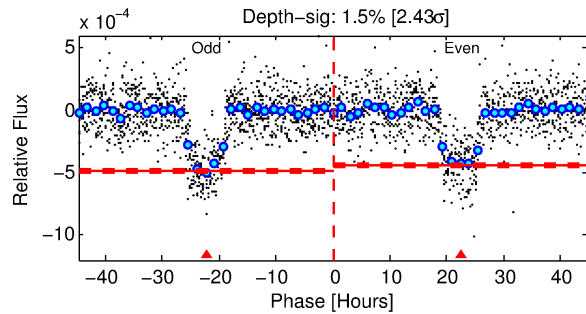
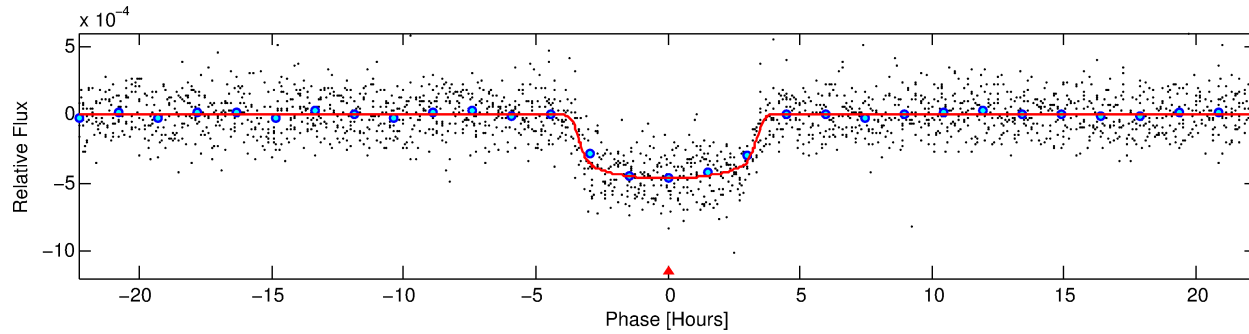
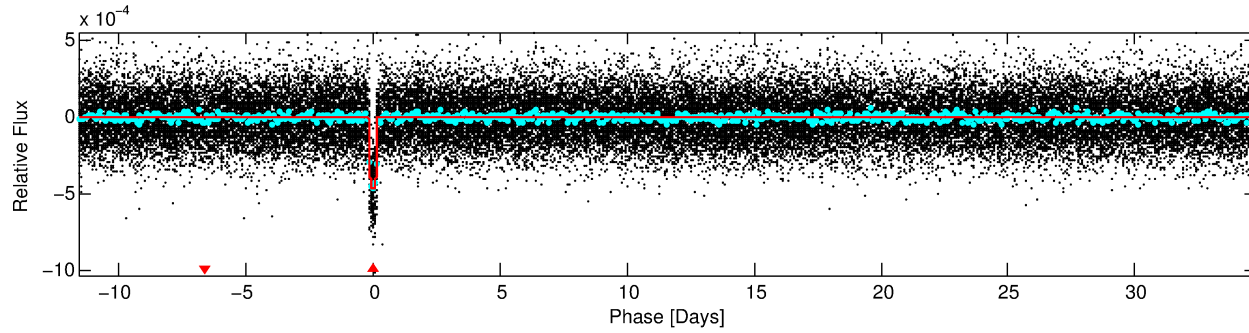
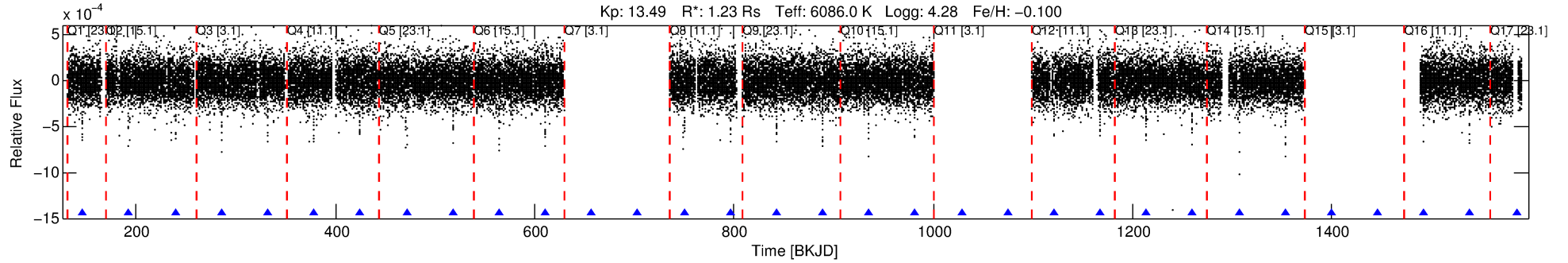
Ephemeris Match Information For 009965439-01

No Significant Match Found

DV One-Page Summary

KIC: 9965439 Candidate: 1 of 1 Period: 46.406 d

KOI: K00722.01 Corr: 0.969



DV Fit Results:

Period = 46.40642 [0.00016] d
Epoch = 146.5882 [0.0027] BKJD
Rp/R* = 0.0228 [0.0010]
a/R* = 25.74 [5.22]
b = 0.87 [0.06]
Seff = 28.27 [7.28]
Teq = 588 [38] K
Rp = 3.05 [0.56] Re
a = 0.2558 [0.0407] AU
Ag = 117.12 [54.35] [2.14σ]
Teffp = 2991 [303] K [7.86σ]

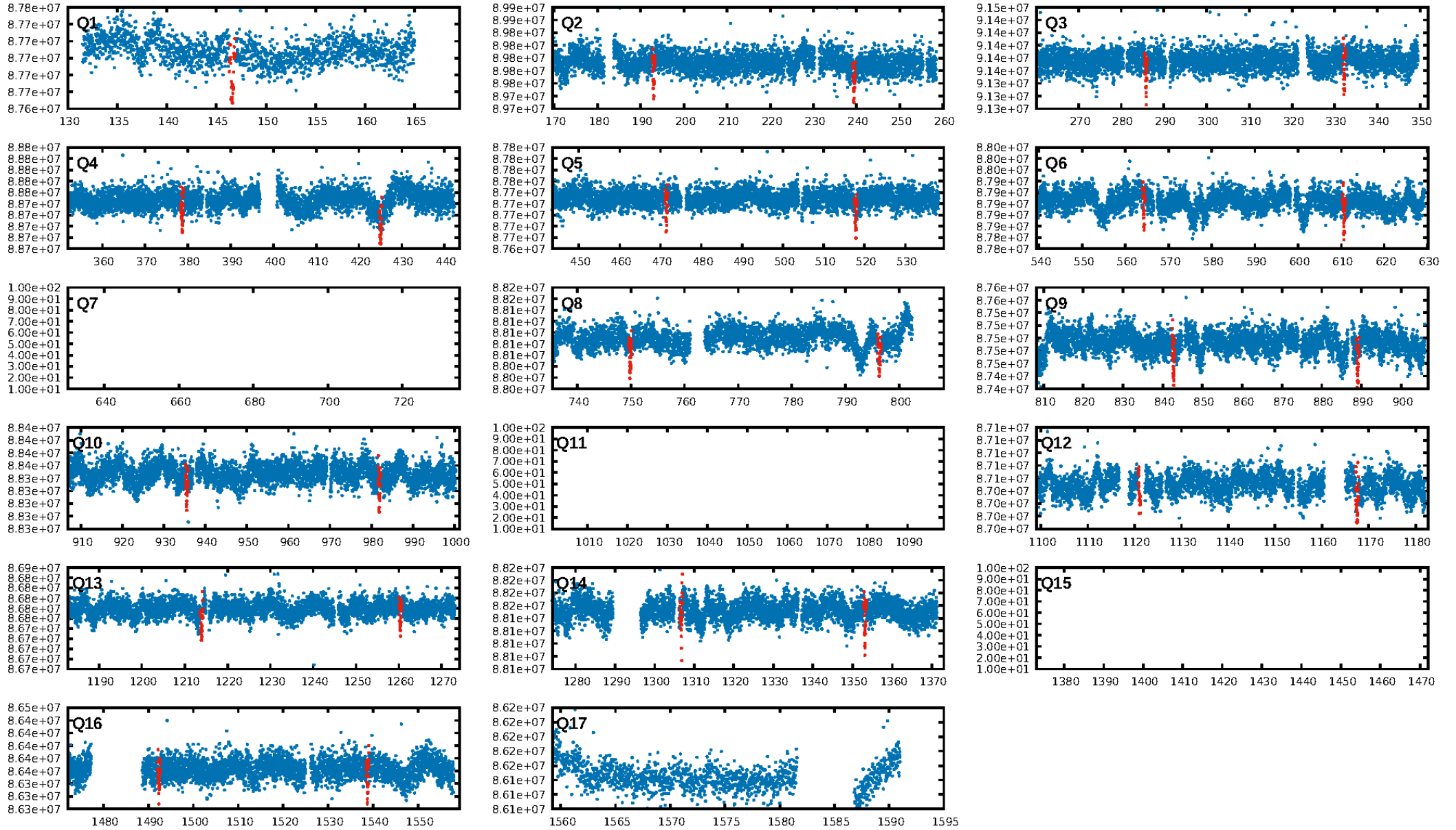
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 18.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [24/24]
GhostDiagnostic-chr: 8.786
Centroid-sig: 32.4%
Centroid-so: 0.515 arcsec [1.85σ]
OotOffset-rm: 0.084 arcsec [0.28σ]
KicOffset-rm: 0.179 arcsec [0.57σ]
OotOffset-st: 4/1/4/4 [13]
KicOffset-st: 4/1/4/4 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [13/13]

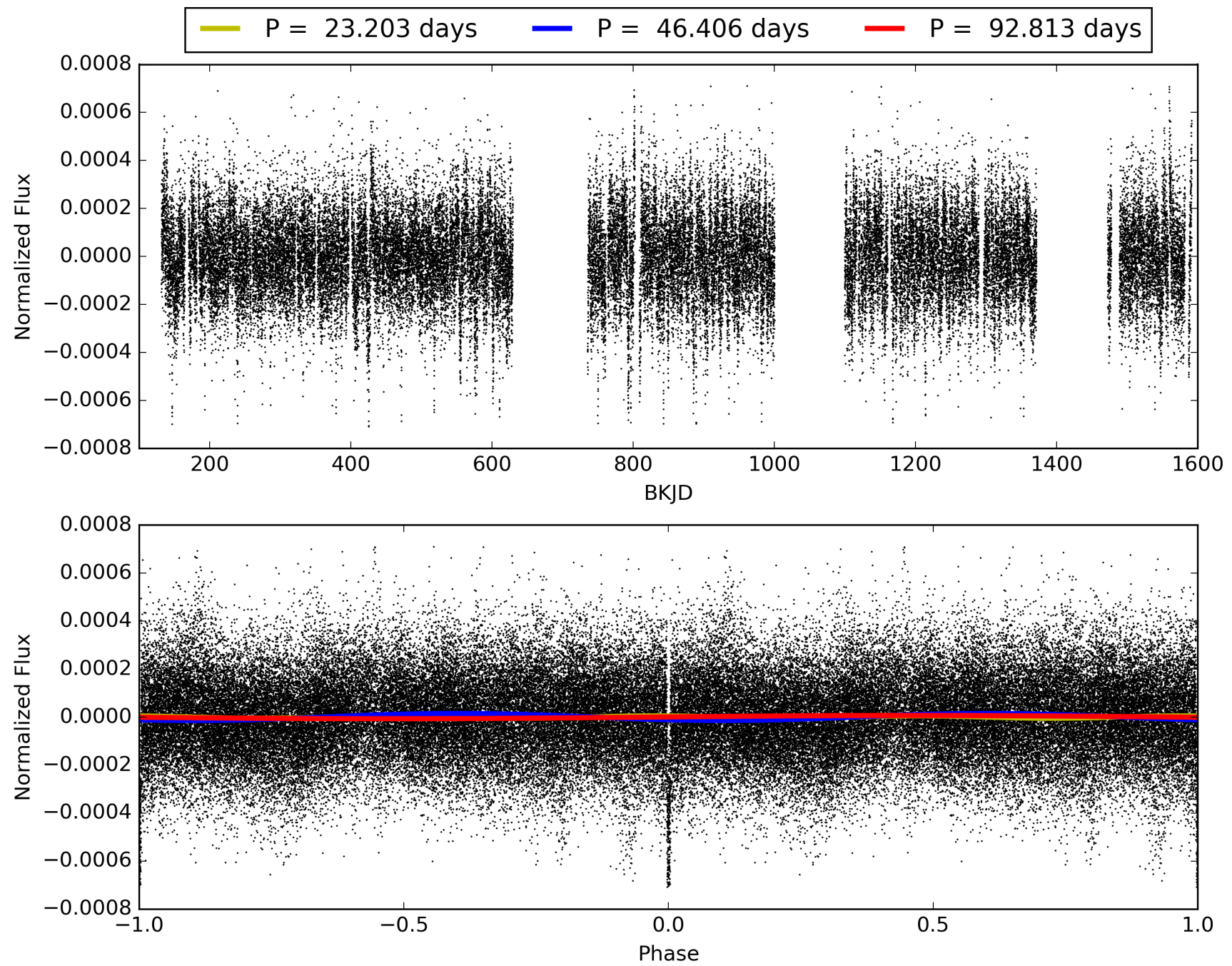
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:33:58 Z

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

TCE 009965439-01, PDC Light Curves

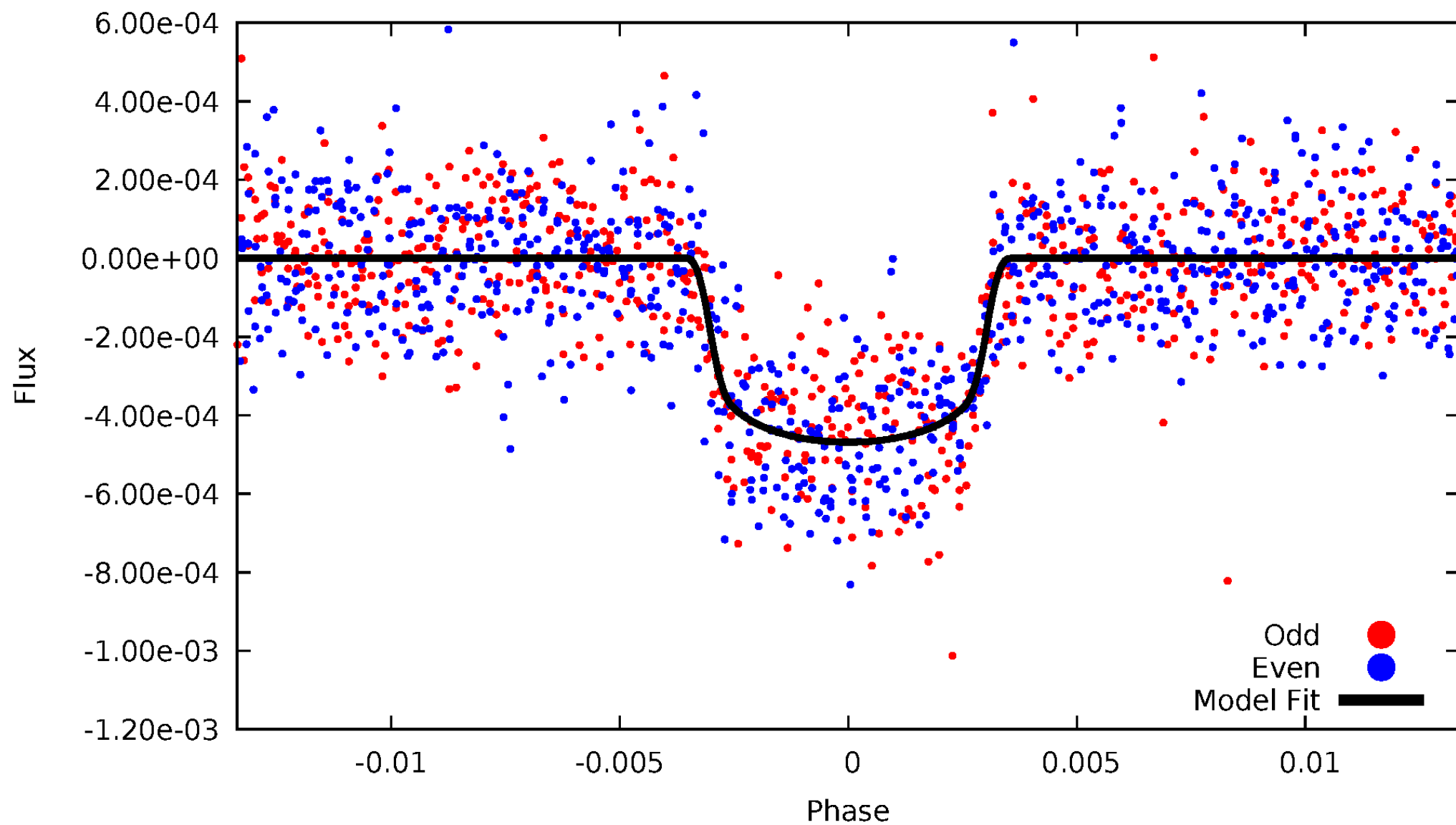


TCE 009965439-01



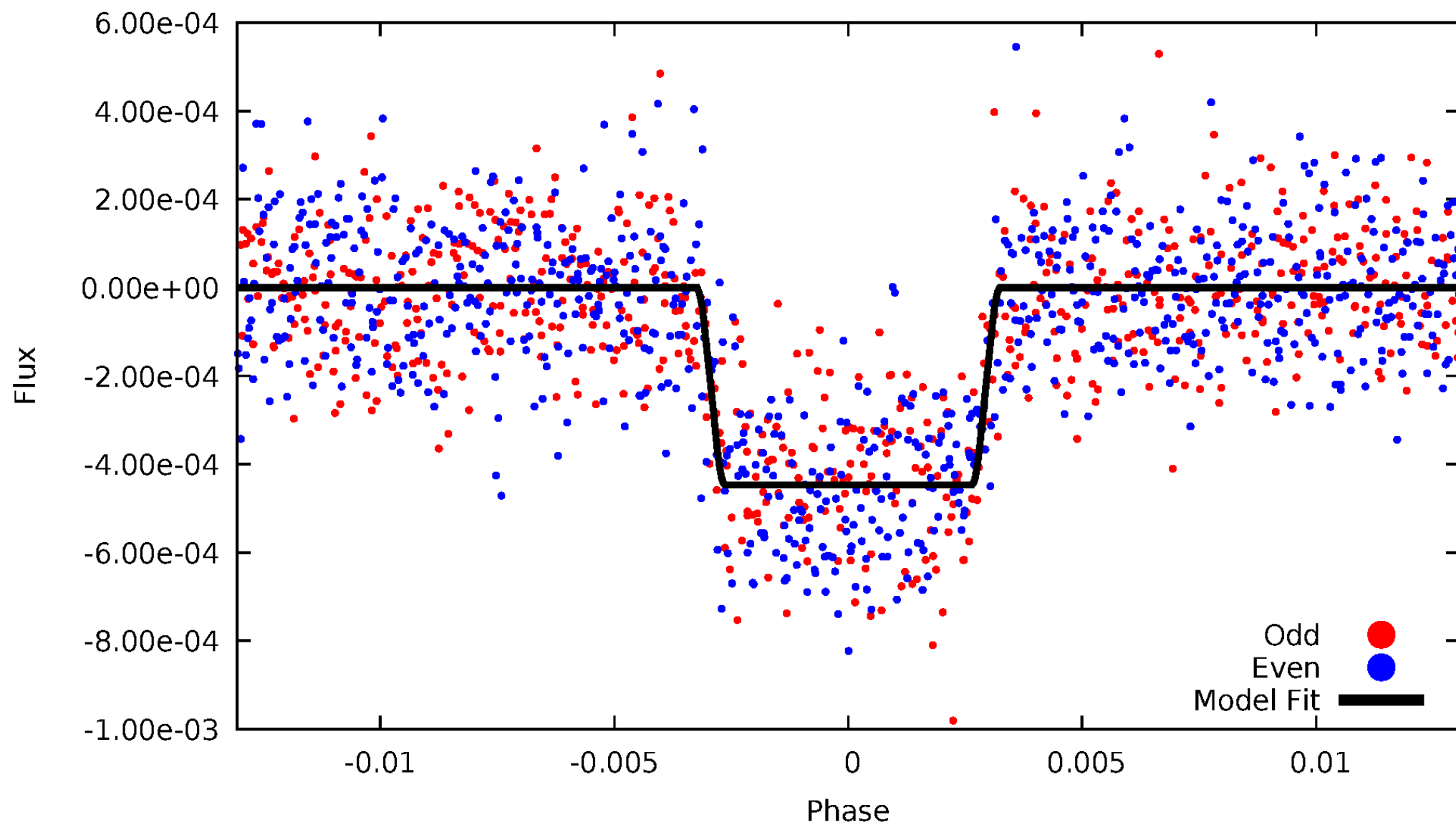
DV Odd/Even

TCE 009965439-01

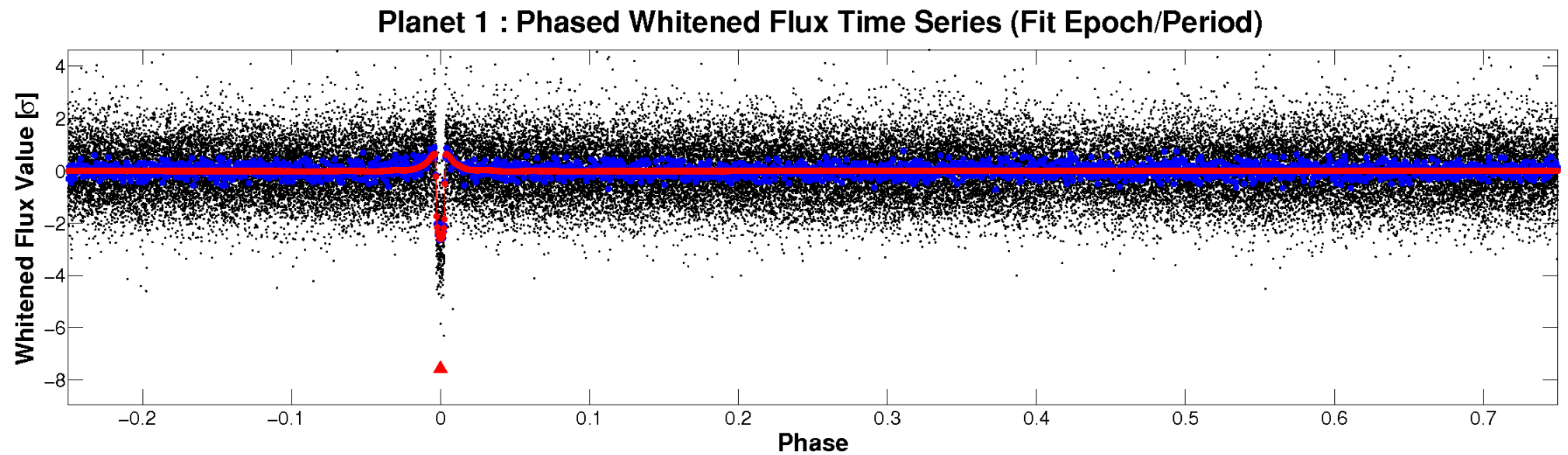
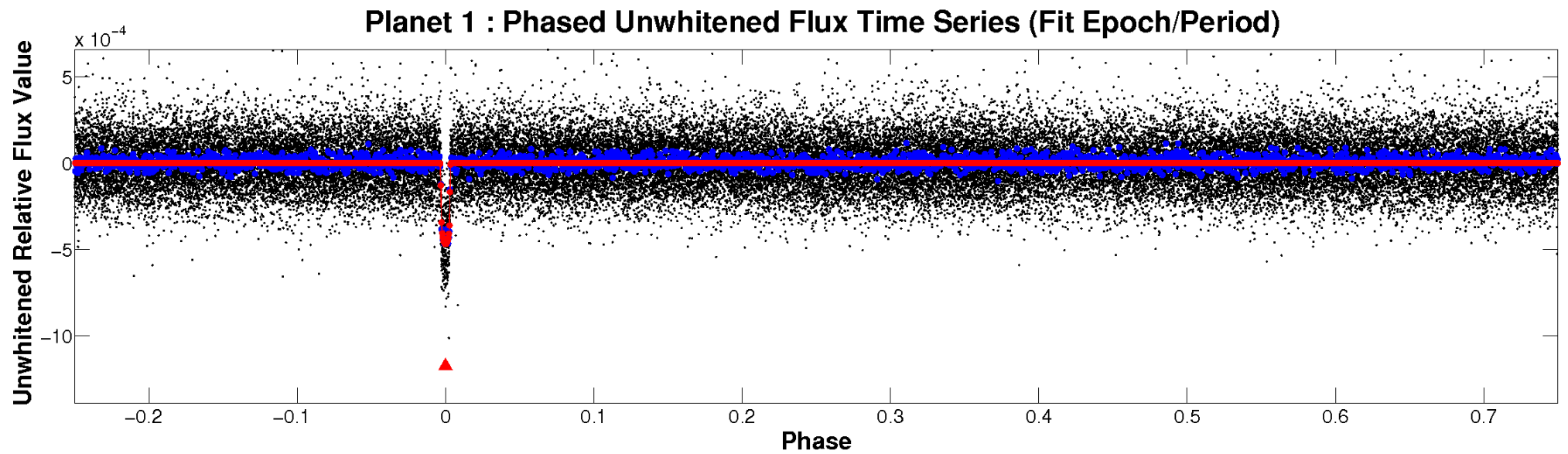


ALT Odd/Even

TCE 009965439-01

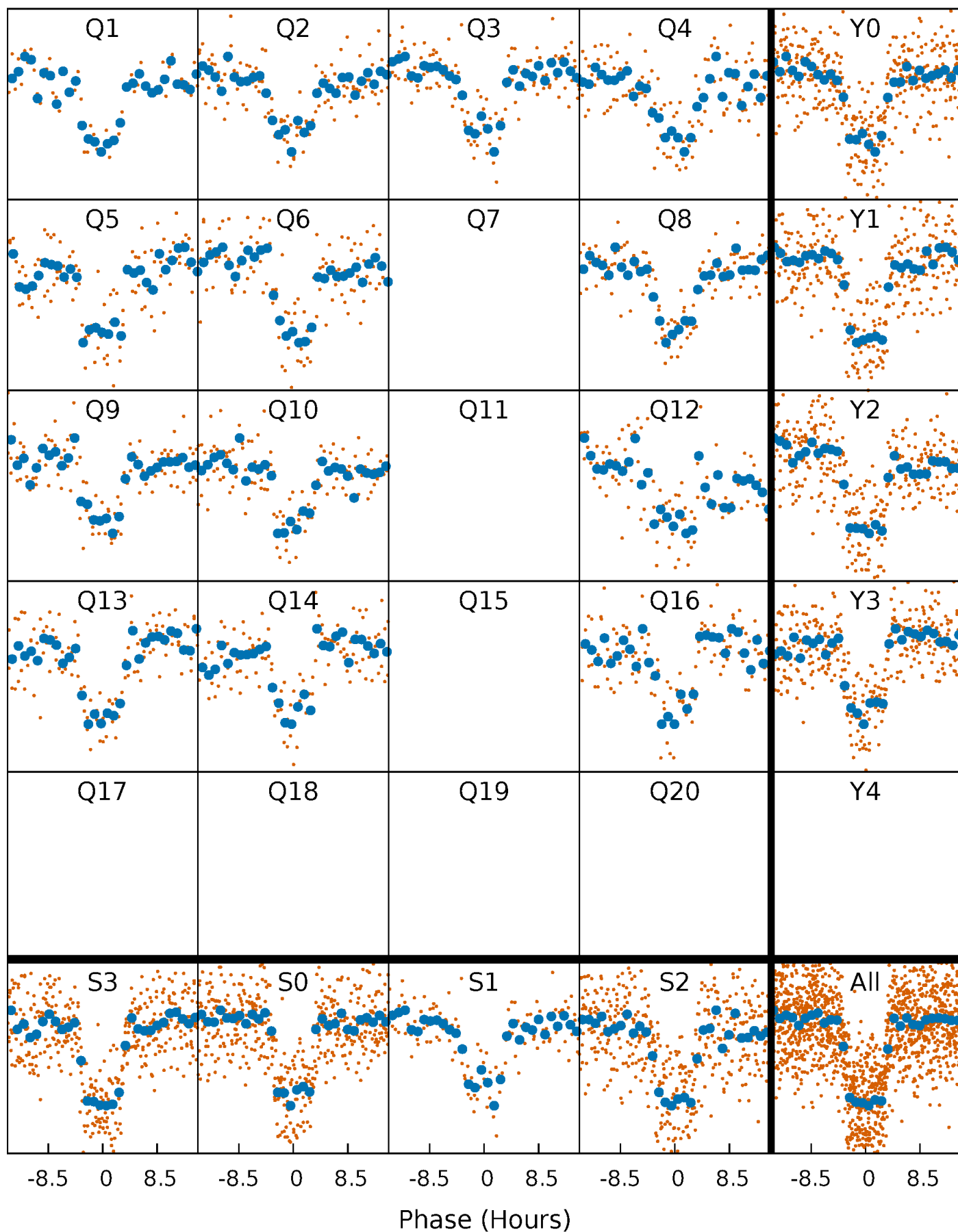


Non-Whitened Vs. Whitened Light Curve



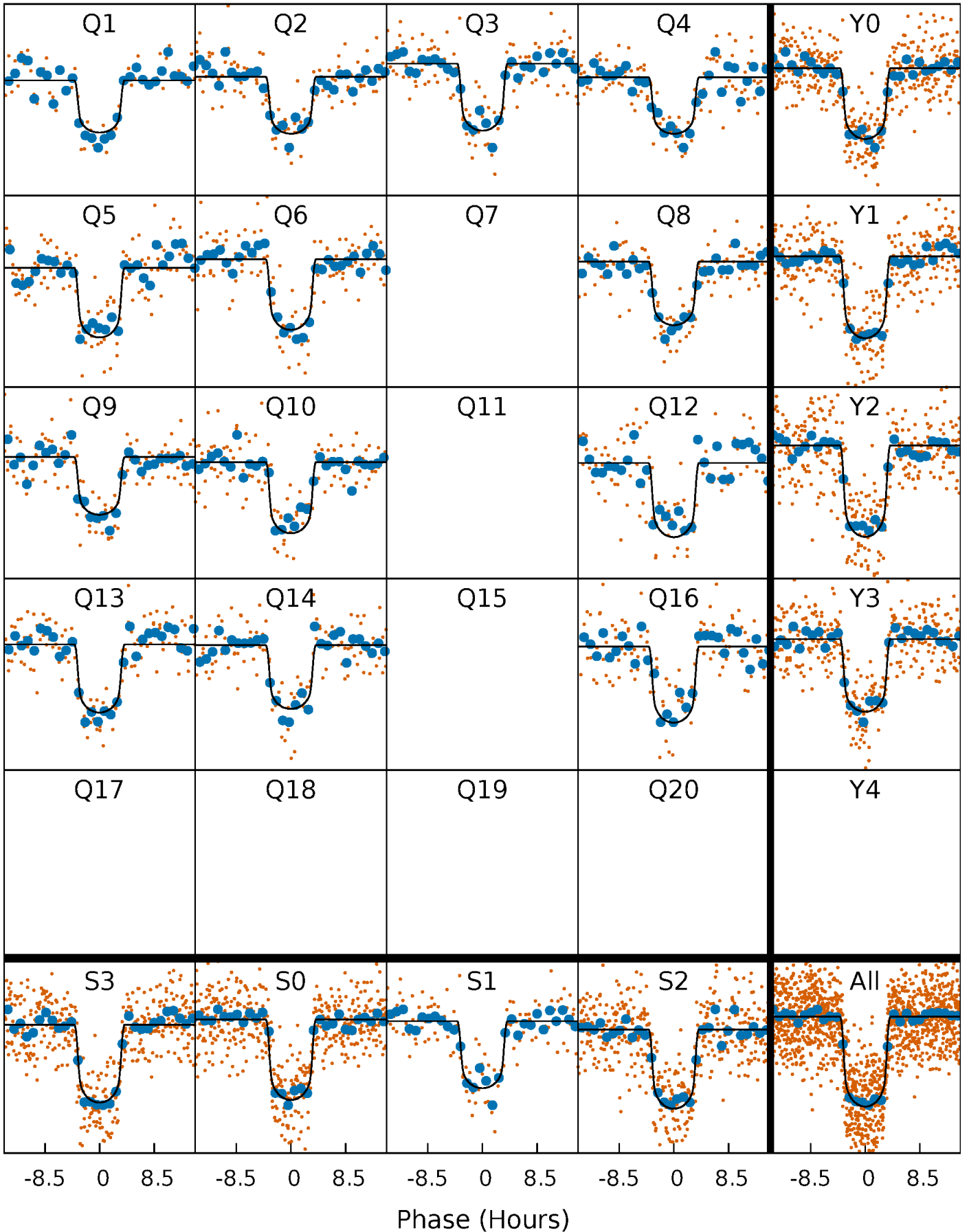
PDC Quarter-Phased Transit Curves

TCE 009965439-01 P= 46.406421 Days $T_0=146.588220$ (BKJD)



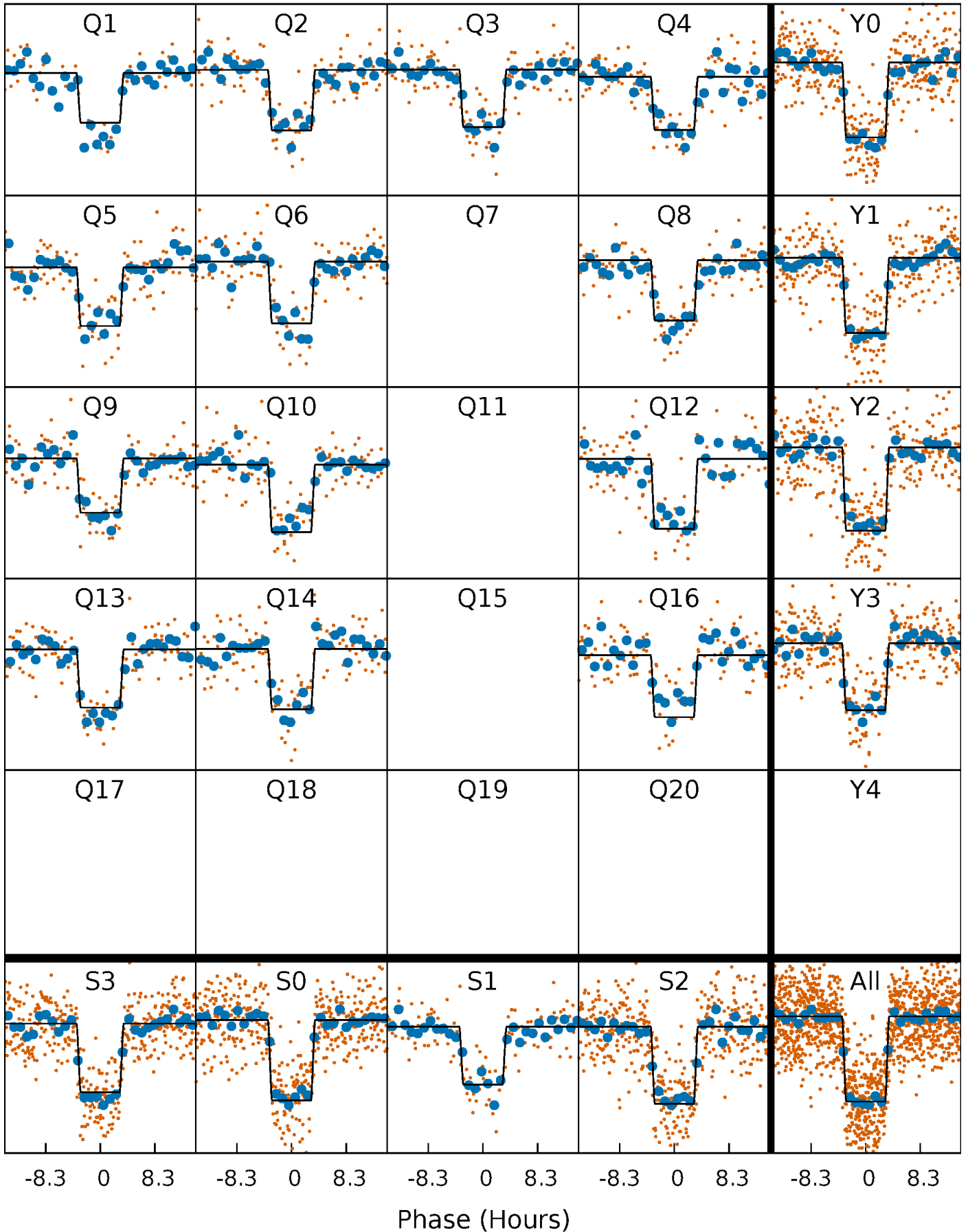
DV Quarter-Phased Transit Curves

TCE 009965439-01 P= 46.406421 Days $T_0=146.588220$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

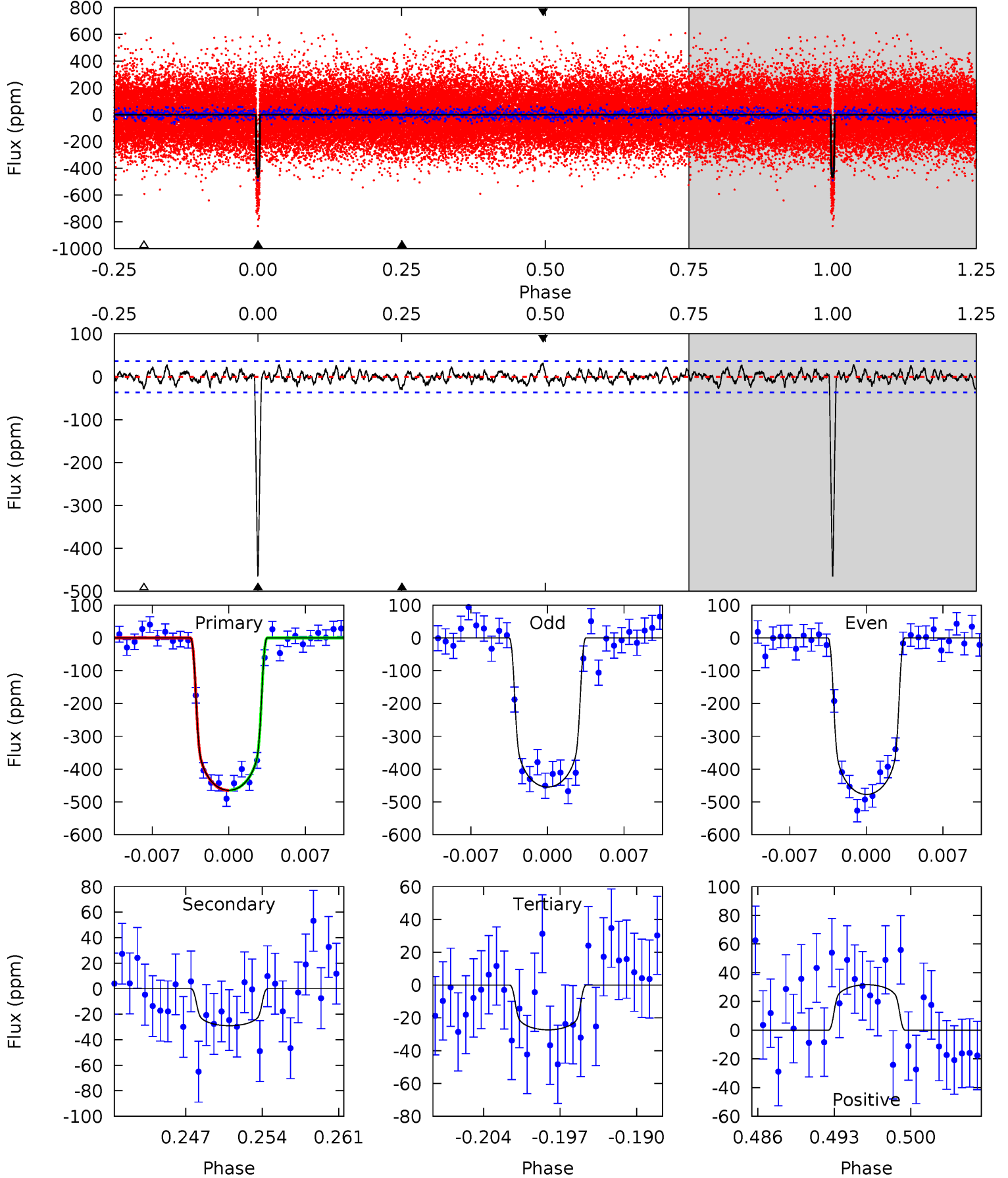
TCE 009965439-01 P= 46.406615 Days $T_0=146.585145$ (BKJD)



DV Model-Shift Uniqueness Test

009965439-01, P = 46.406421 Days, E = 100.181799 Days

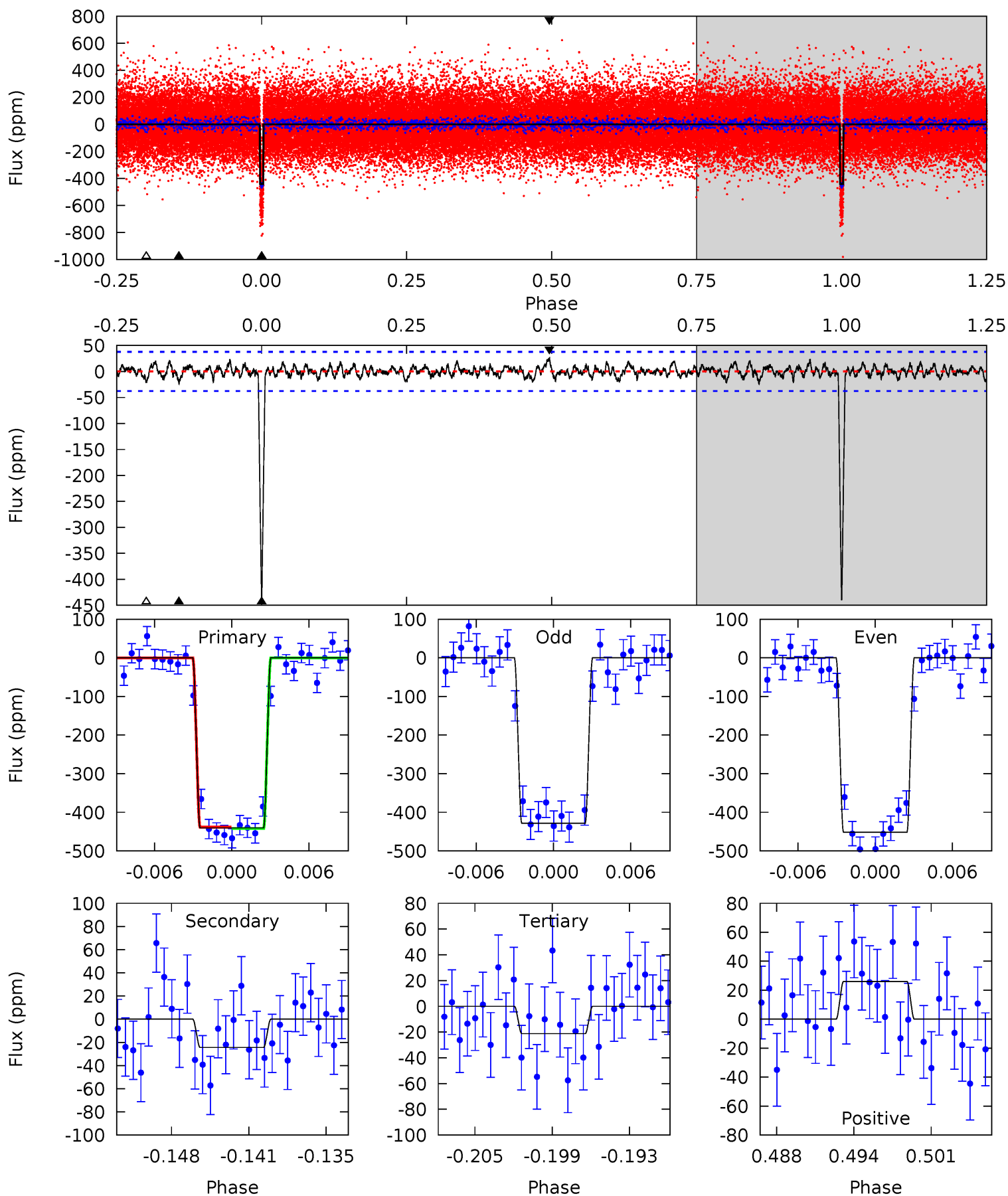
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
64.9	4.05	3.81	4.42	5.09	2.69	1.31	61.0	60.4	0.24	-0.37	1.58	0.97	0.06	0.03



Alt Model-Shift Uniqueness Test

009965439-01, P = 46.406615 Days, E = 100.178530 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
59.7	3.31	2.88	3.53	5.11	2.73	1.06	56.8	56.2	0.43	-0.22	1.58	0.98	0.06	0.26



Stellar Parameters For KIC 009965439

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6086^{+134}_{-134}	$4.276^{+0.137}_{-0.112}$	$-0.100^{+0.200}_{-0.150}$	$1.227^{+0.220}_{-0.180}$	$1.037^{+0.096}_{-0.064}$	$0.791^{+0.485}_{-0.278}$
	+2%/-2%	+3%/-3%	+200%/-150%	+18%/-15%	+9%/-6%	+61%/-35%
Source	SPE59	SPE59	SPE59	DSEP		

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

Secondary Eclipse Parameters for KIC 009965439-01 / KOI 0722.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-29 ± 7	$3.03^{+0.34}_{-0.30}$	818^{+42}_{-41}	3459^{+143}_{-160}	114^{+37}_{-33}
Alt.	-24 ± 7	$2.81^{+0.33}_{-0.27}$	818^{+42}_{-38}	3439^{+175}_{-181}	109^{+47}_{-35}

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

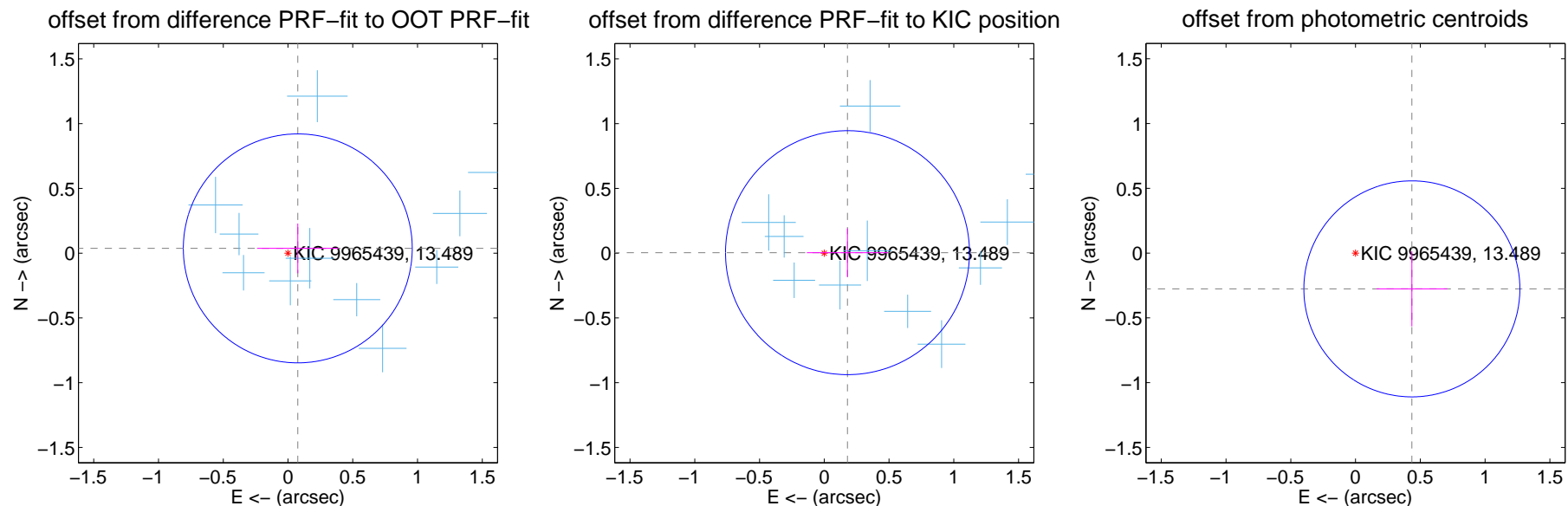
DV Centroid Data

Supplemental centroid analysis for 009965439-01. Kepler magnitude: 13.49. Transit SNR 43.35

There are 13 quarters with good PRF difference image offsets

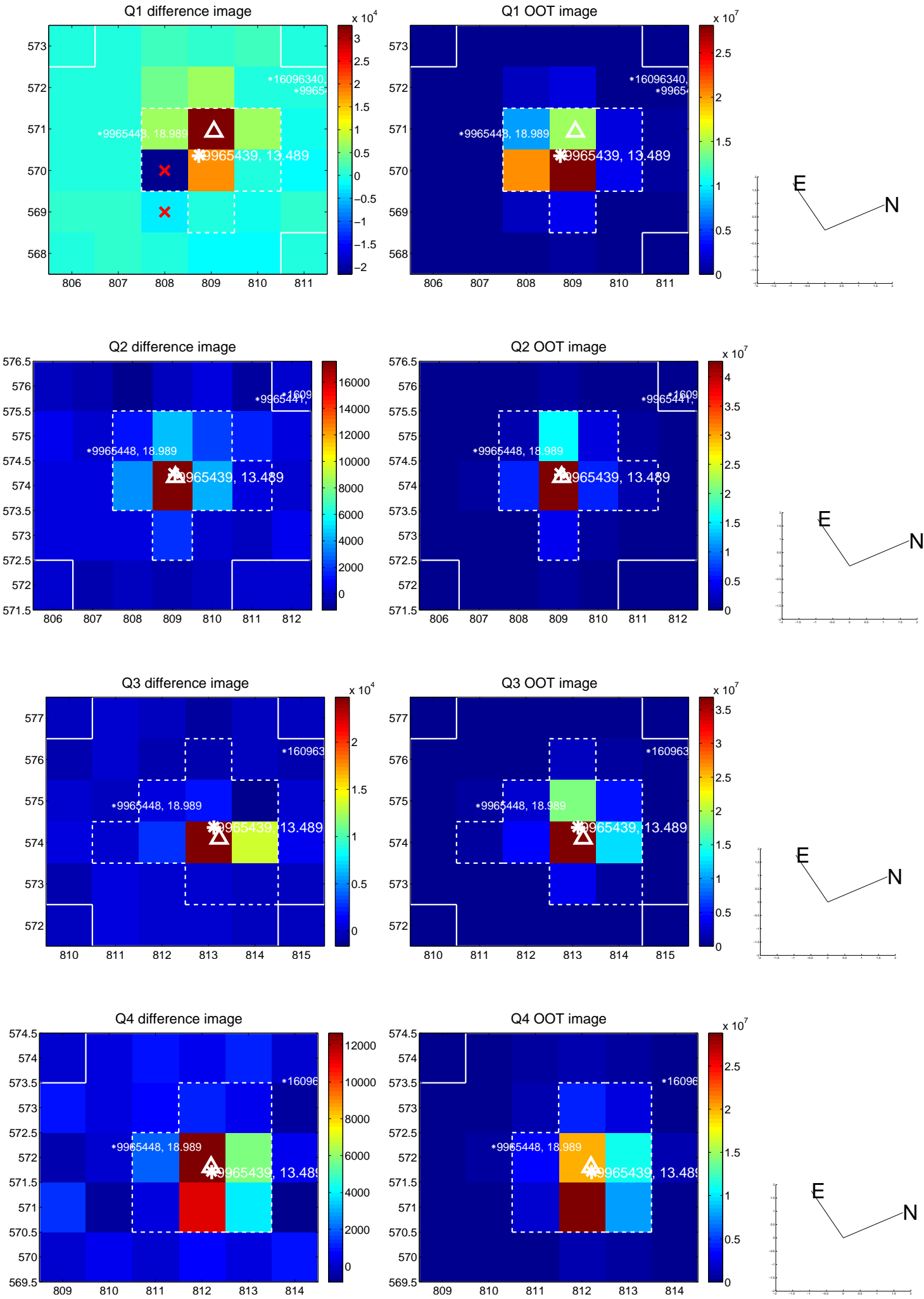
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.084 ± 0.295	0.28	-0.075 ± 0.314	0.037 ± 0.192
PRF-fit source offset from KIC position	0.179 ± 0.314	0.57	-0.179 ± 0.314	0.004 ± 0.187
photometric centroid source offset	0.51 ± 0.28	1.85	-0.43 ± 0.27	-0.28 ± 0.29

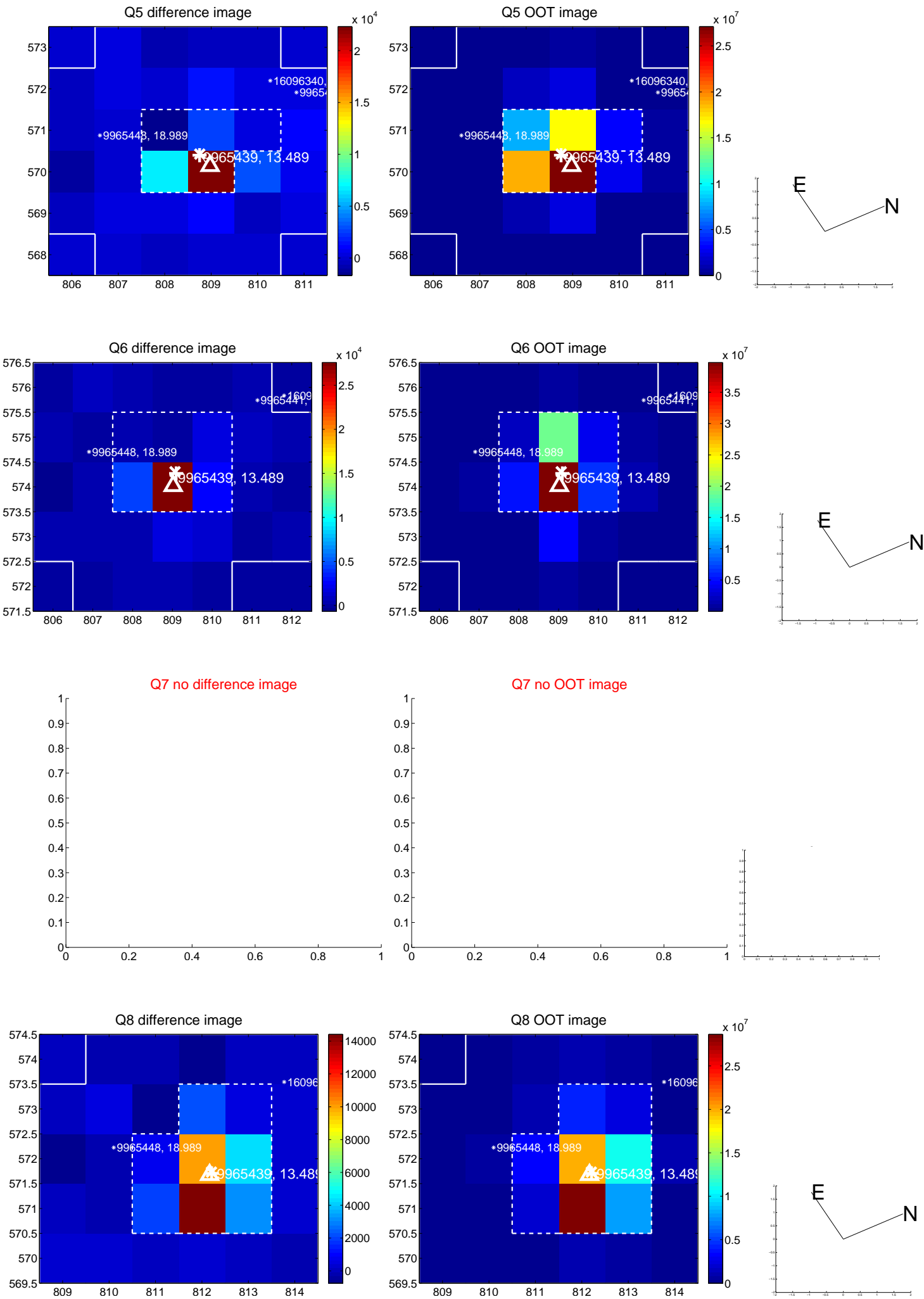


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

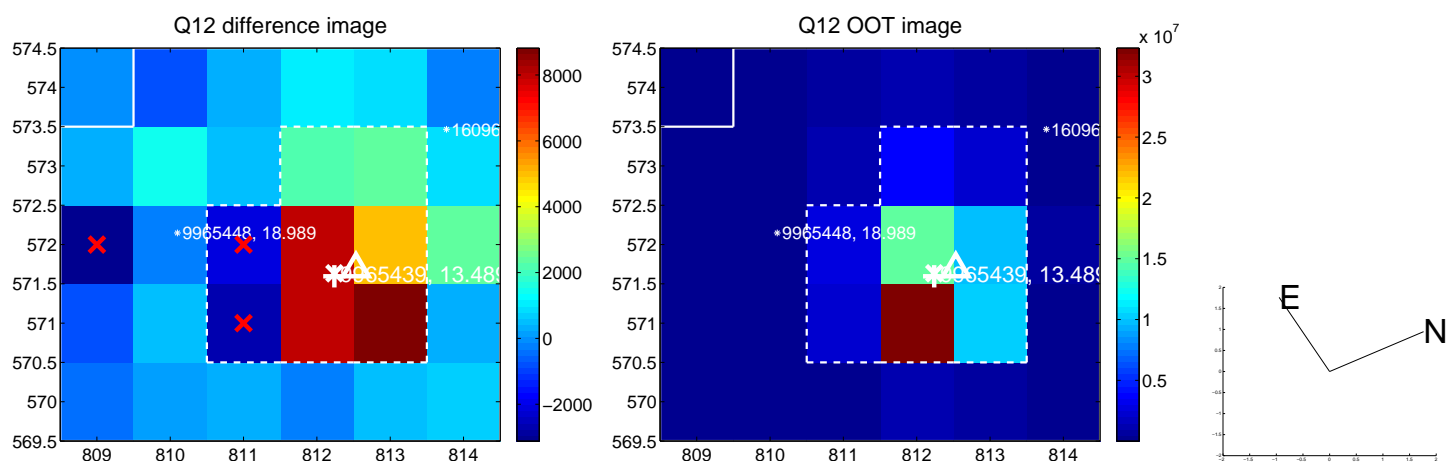
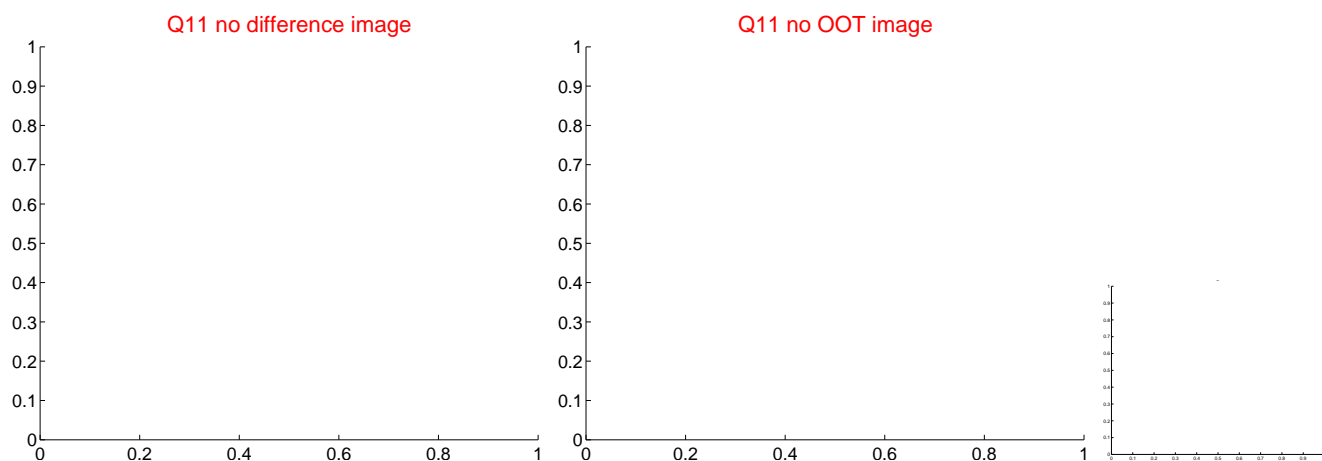
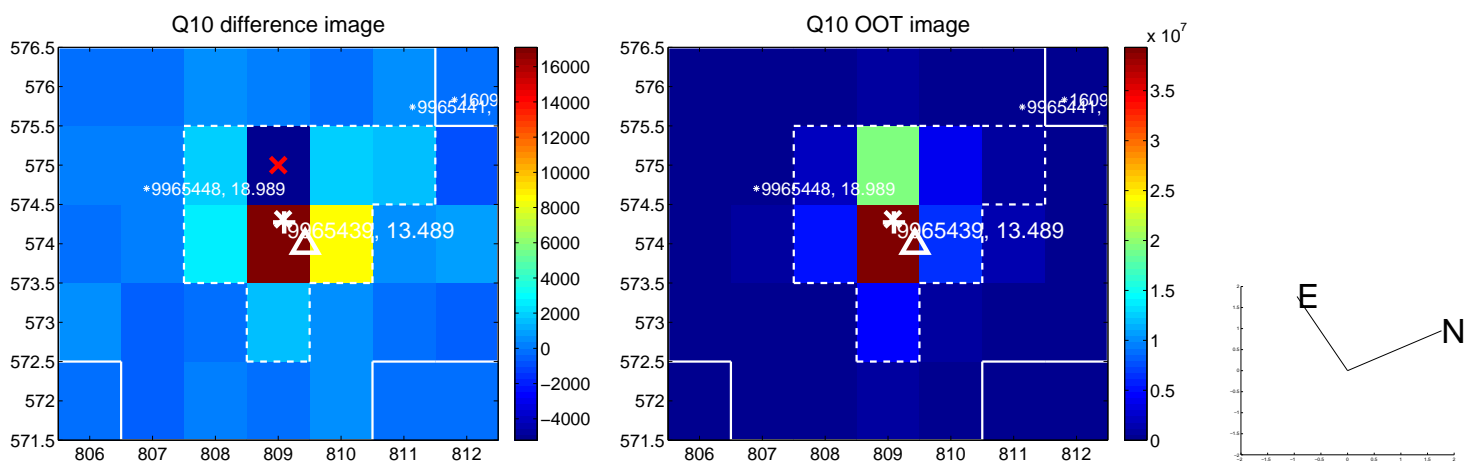
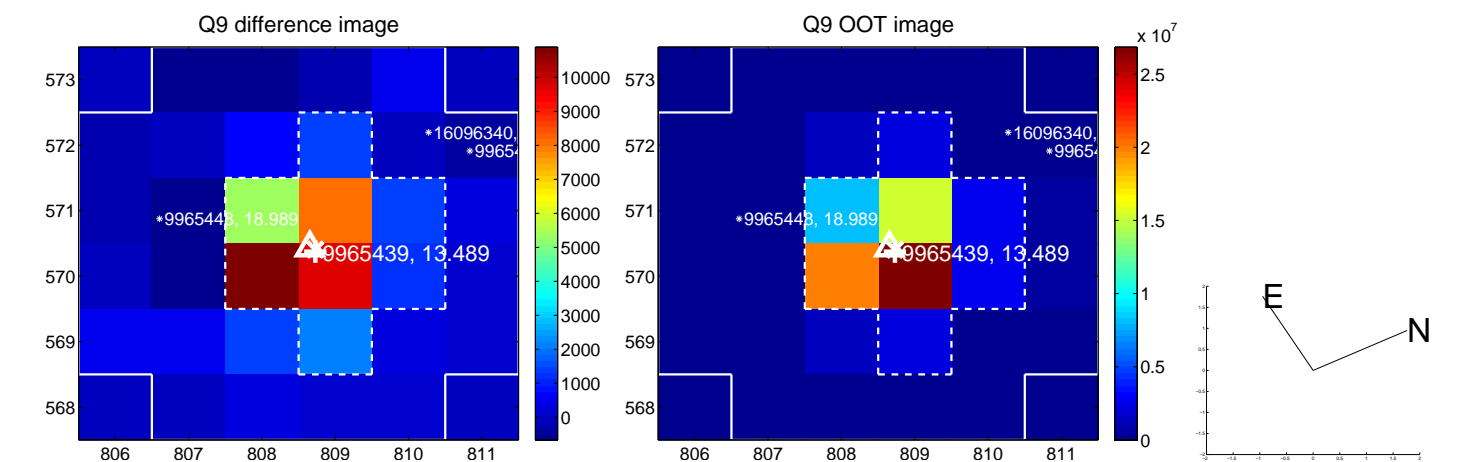
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



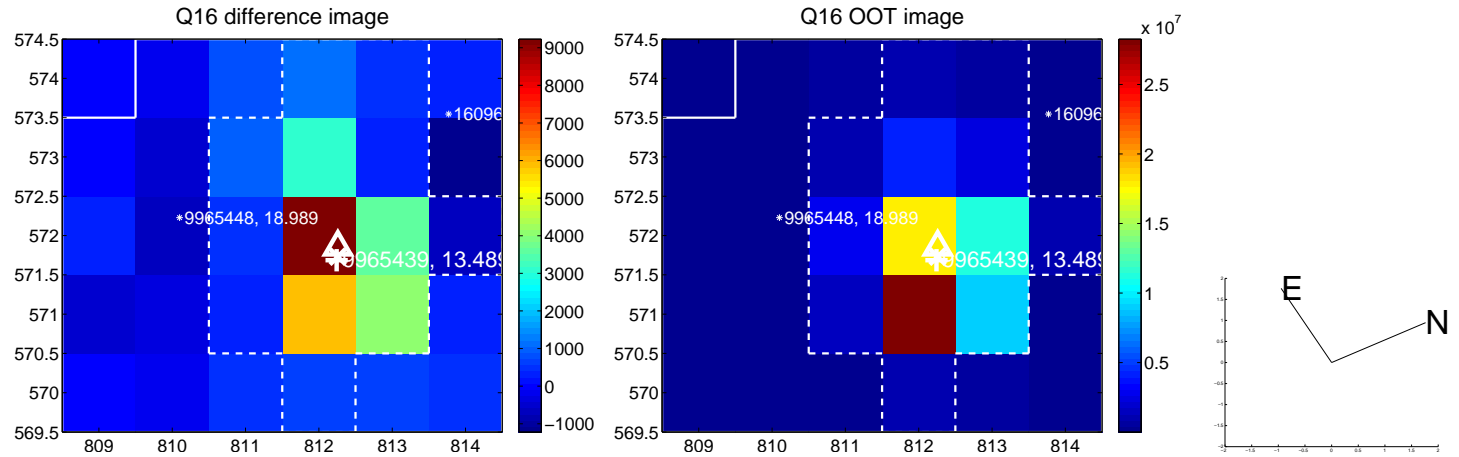
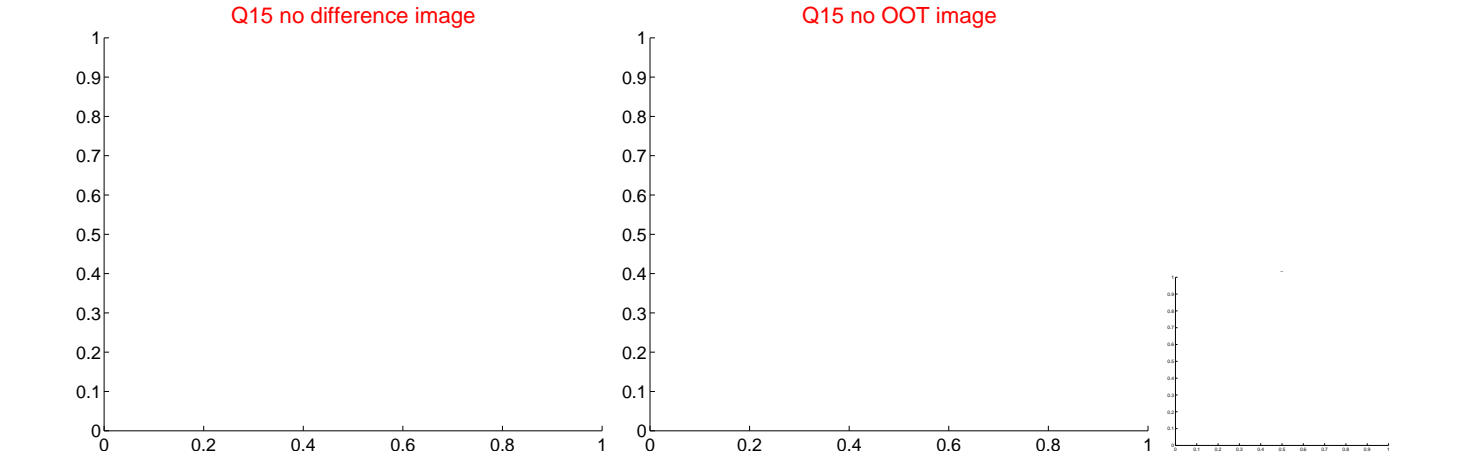
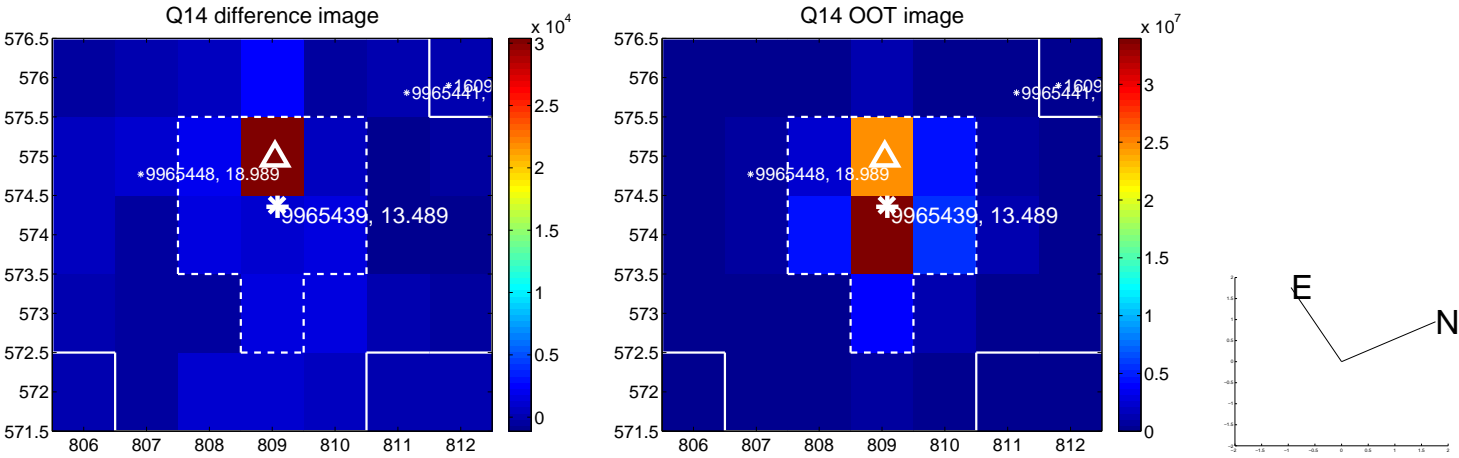
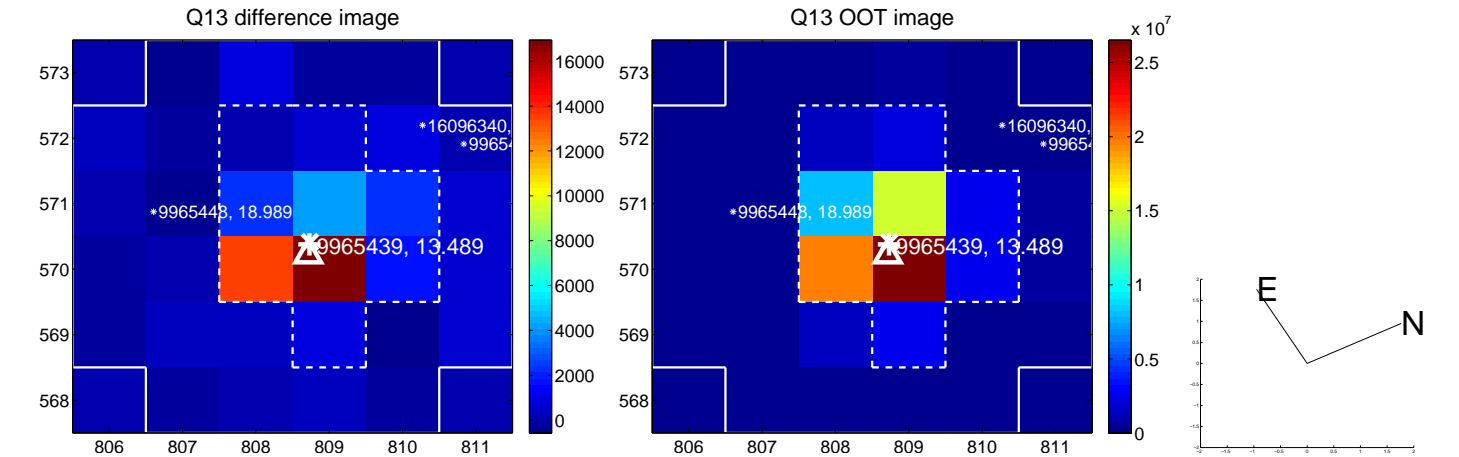
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



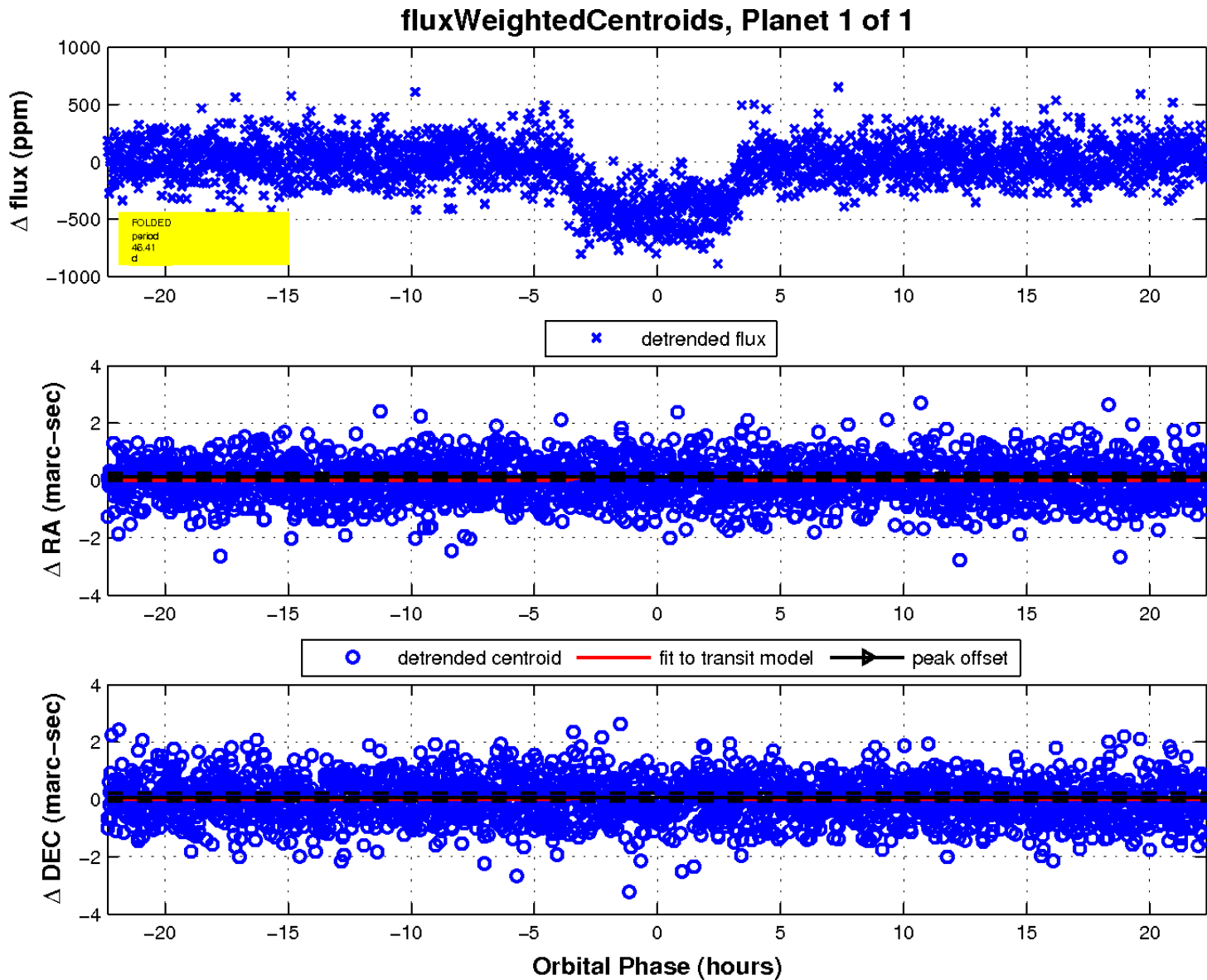
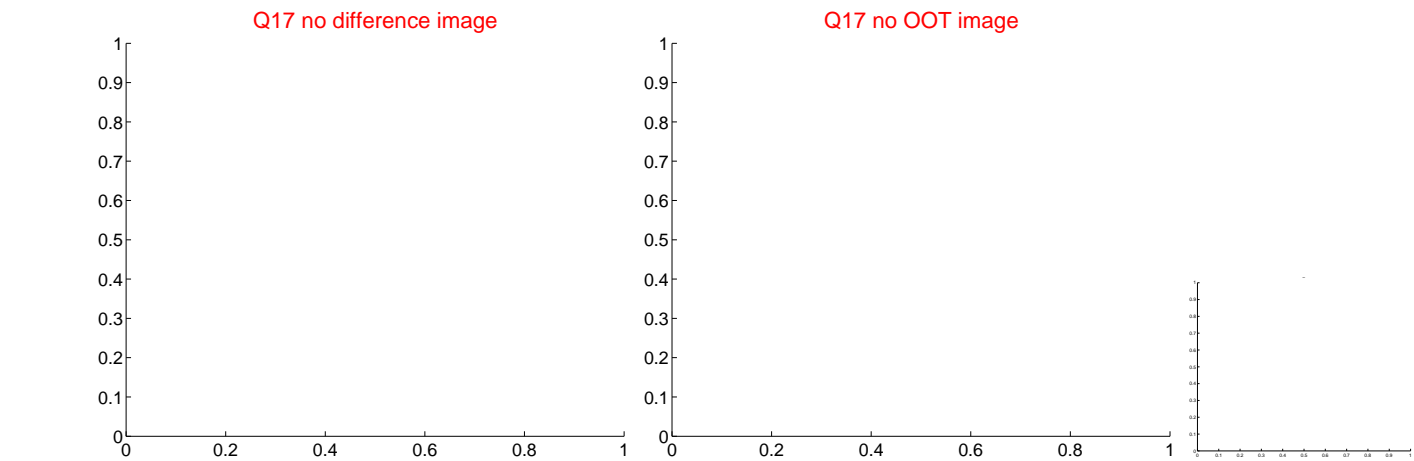
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

