

KIC 009766437

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})
009766437-01	OBS	0949.01	12.532469	133.168865	1126.5	4.131	52.6	59.1	0.90	5997	3.37	85.38

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009766437-01	OBS	PC	1.00	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 009766437-01

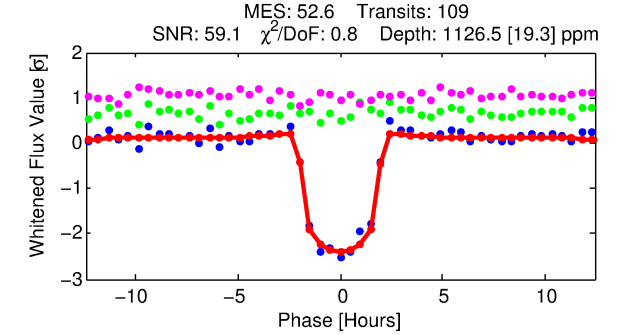
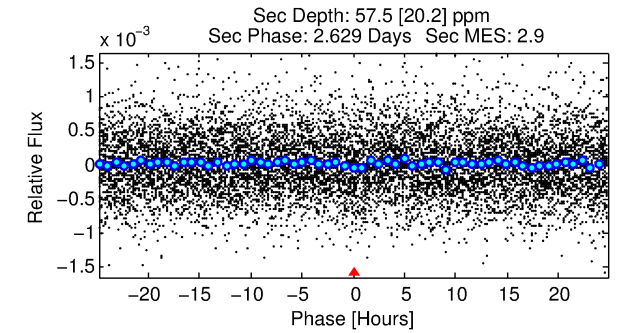
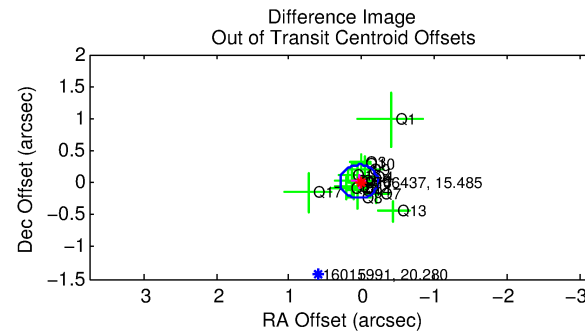
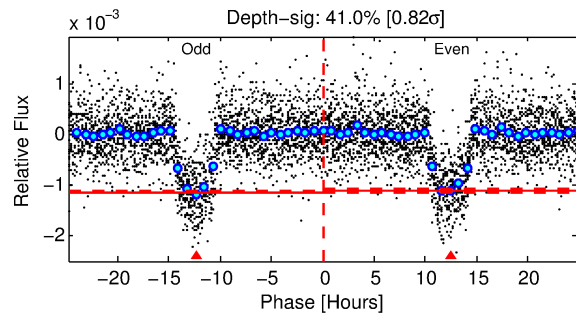
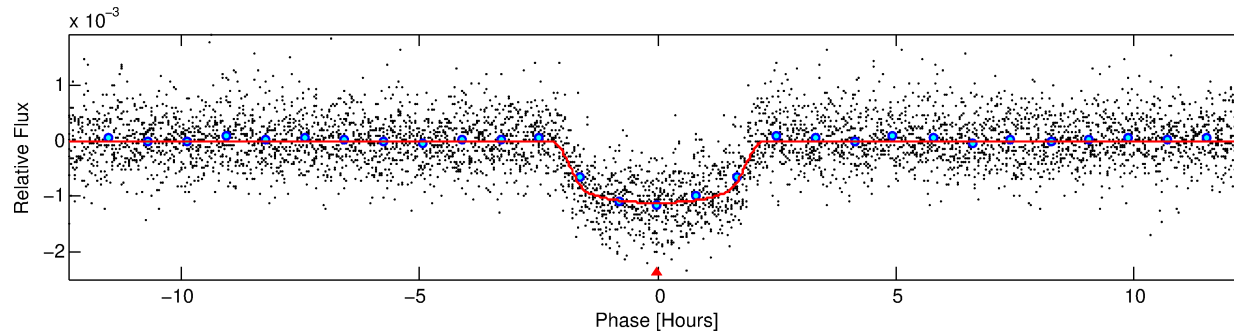
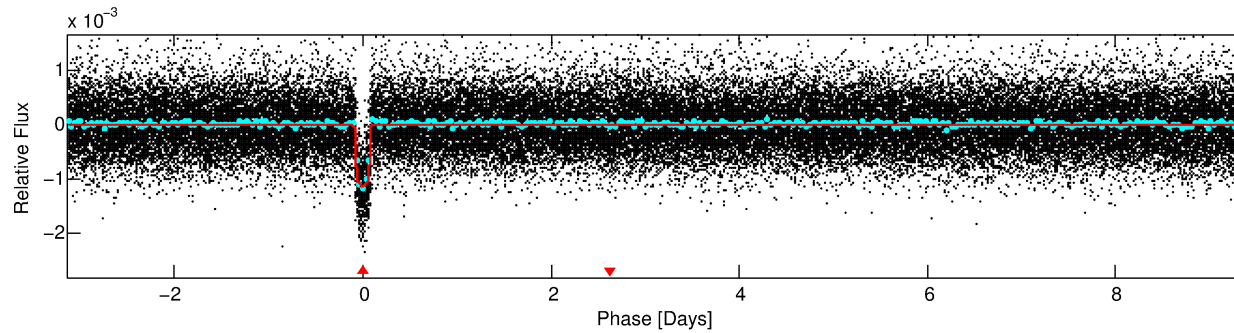
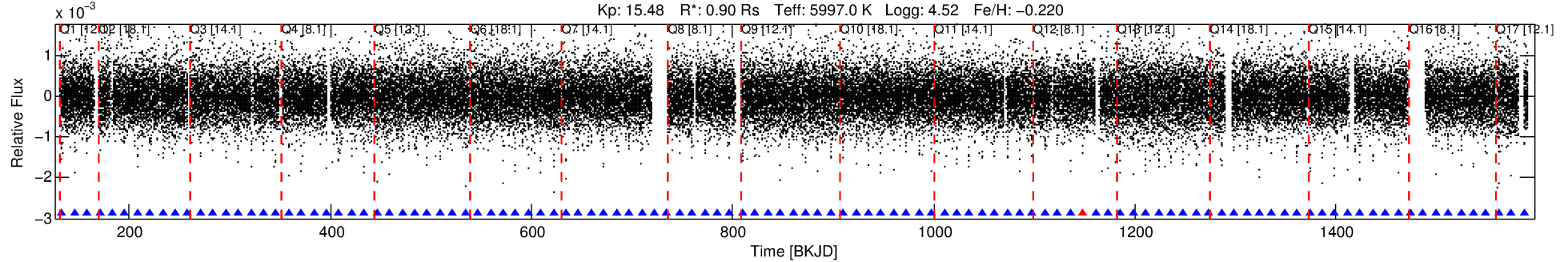
No Significant Match Found

DV One-Page Summary

KIC: 9766437 Candidate: 1 of 1 Period: 12.532 d

KOI: K00949.01 Corr: 0.985

Kp: 15.48 R*: 0.90 Rs Teff: 5997.0 K Logg: 4.52 Fe/H: -0.220



DV Fit Results:

Period = 12.53247 [0.00002] d
Epoch = 133.1689 [0.0014] BKJD
Rp/R* = 0.0342 [0.0019]
a/R* = 15.00 [3.99]
b = 0.81 [0.12]
Seff = 85.38 [32.20]
Teq = 775 [73] K
Rp = 3.37 [1.00] Re
a = 0.1053 [0.0257] AU
Ag = 30.85 [15.77] [1.89σ]
Teffp = 2824 [277] K [7.15σ]

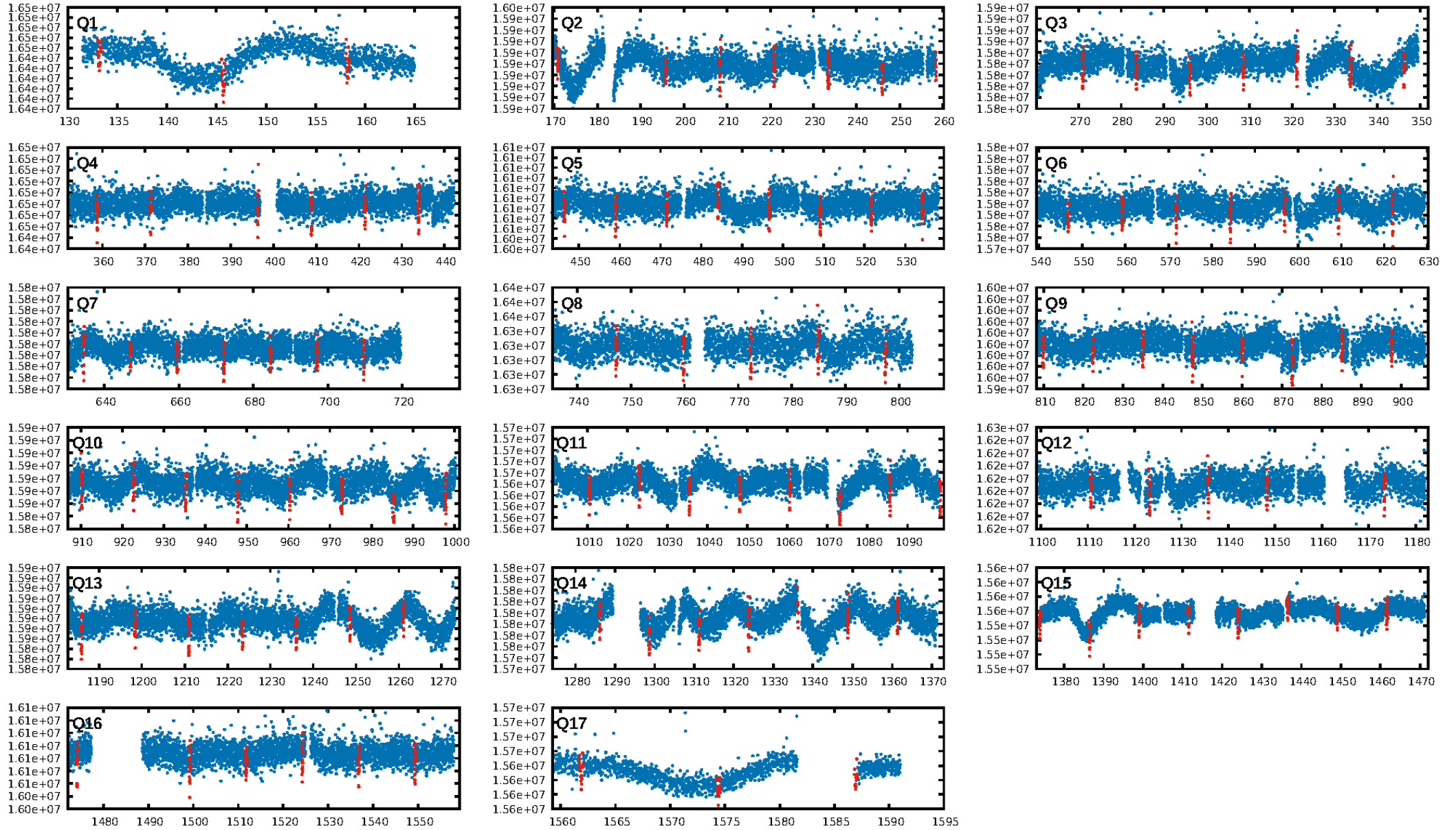
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 97.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.99 [102/103]
GhostDiagnostic-chr: 5.973
Centroid-sig: 77.5%
Centroid-so: 0.171 arcsec [0.69σ]
OotOffset-rm: 0.042 arcsec [0.49σ]
KicOffset-rm: 0.117 arcsec [1.24σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

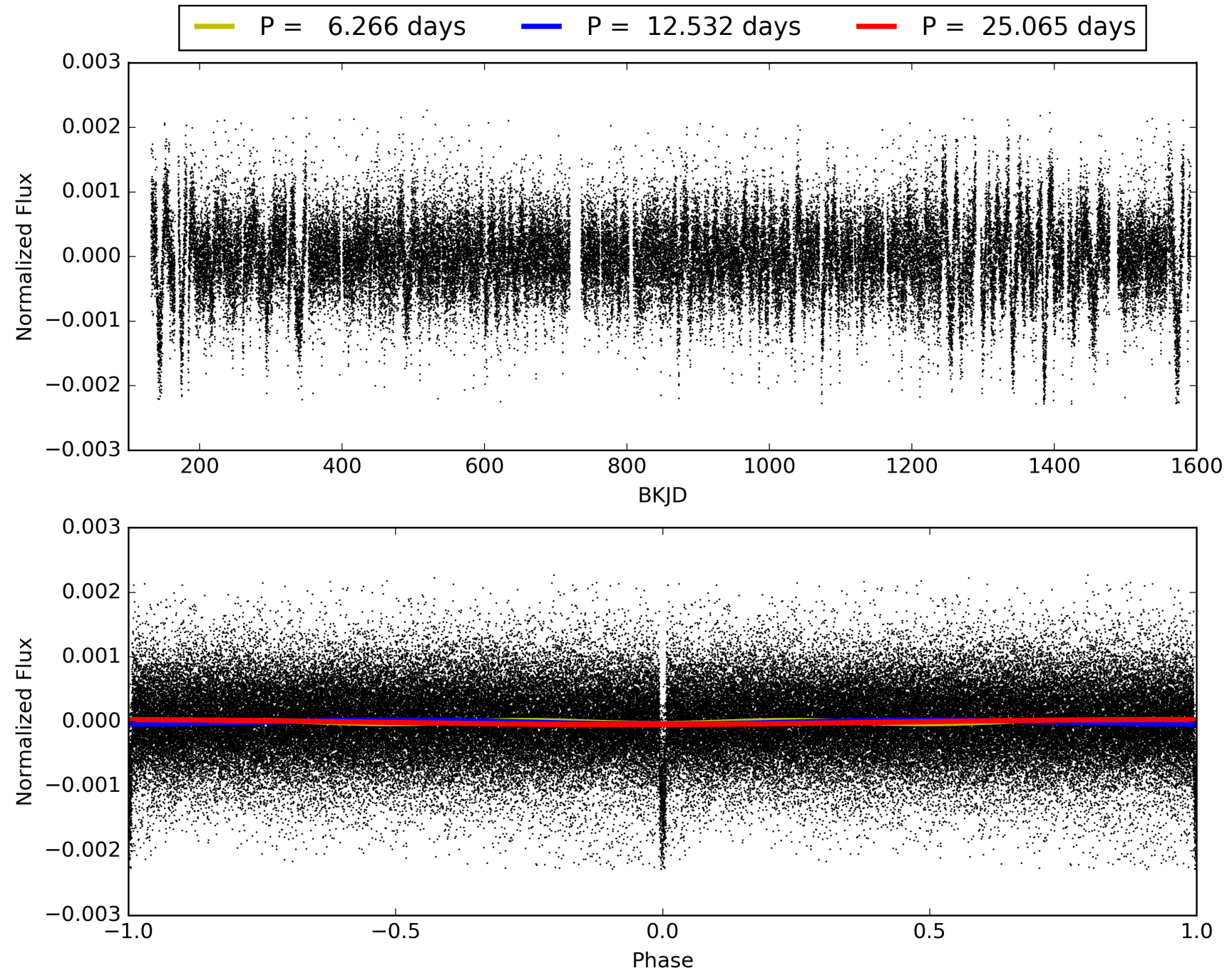
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:51:27 Z

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

TCE 009766437-01, PDC Light Curves

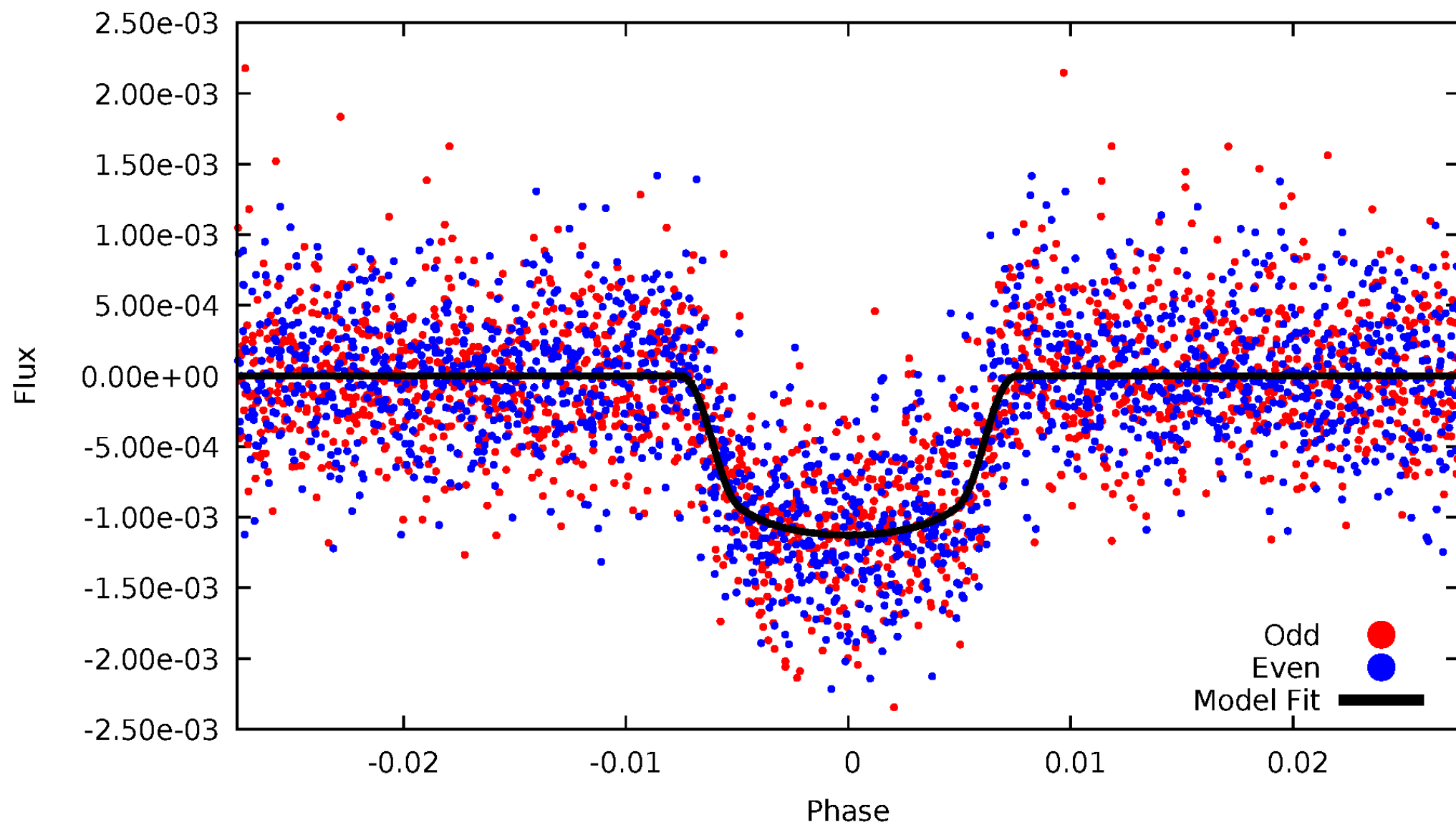


TCE 009766437-01



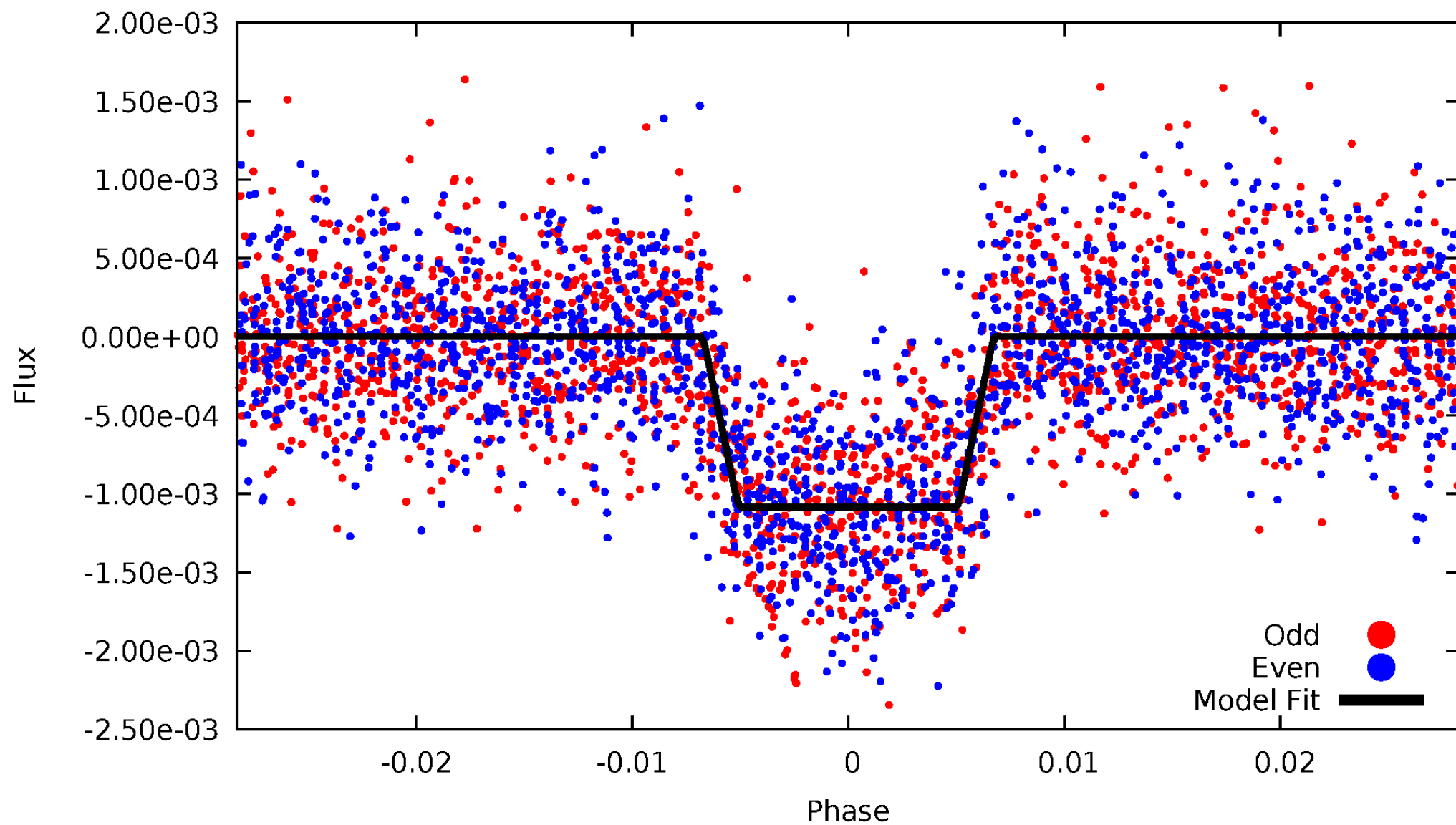
DV Odd/Even

TCE 009766437-01



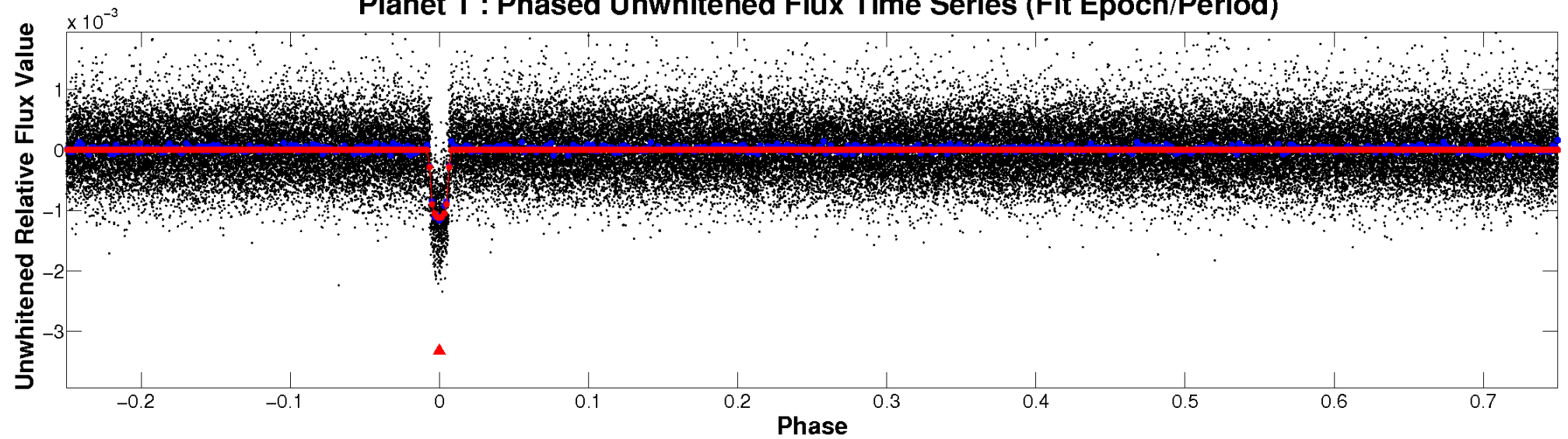
ALT Odd/Even

TCE 009766437-01

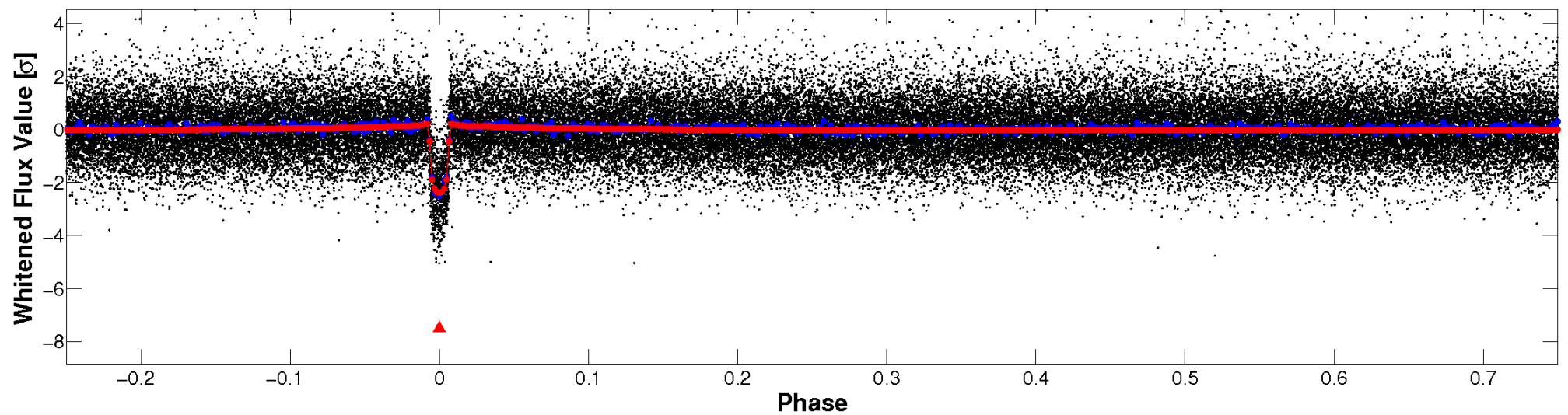


Non-Whitened Vs. Whitened Light Curve

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

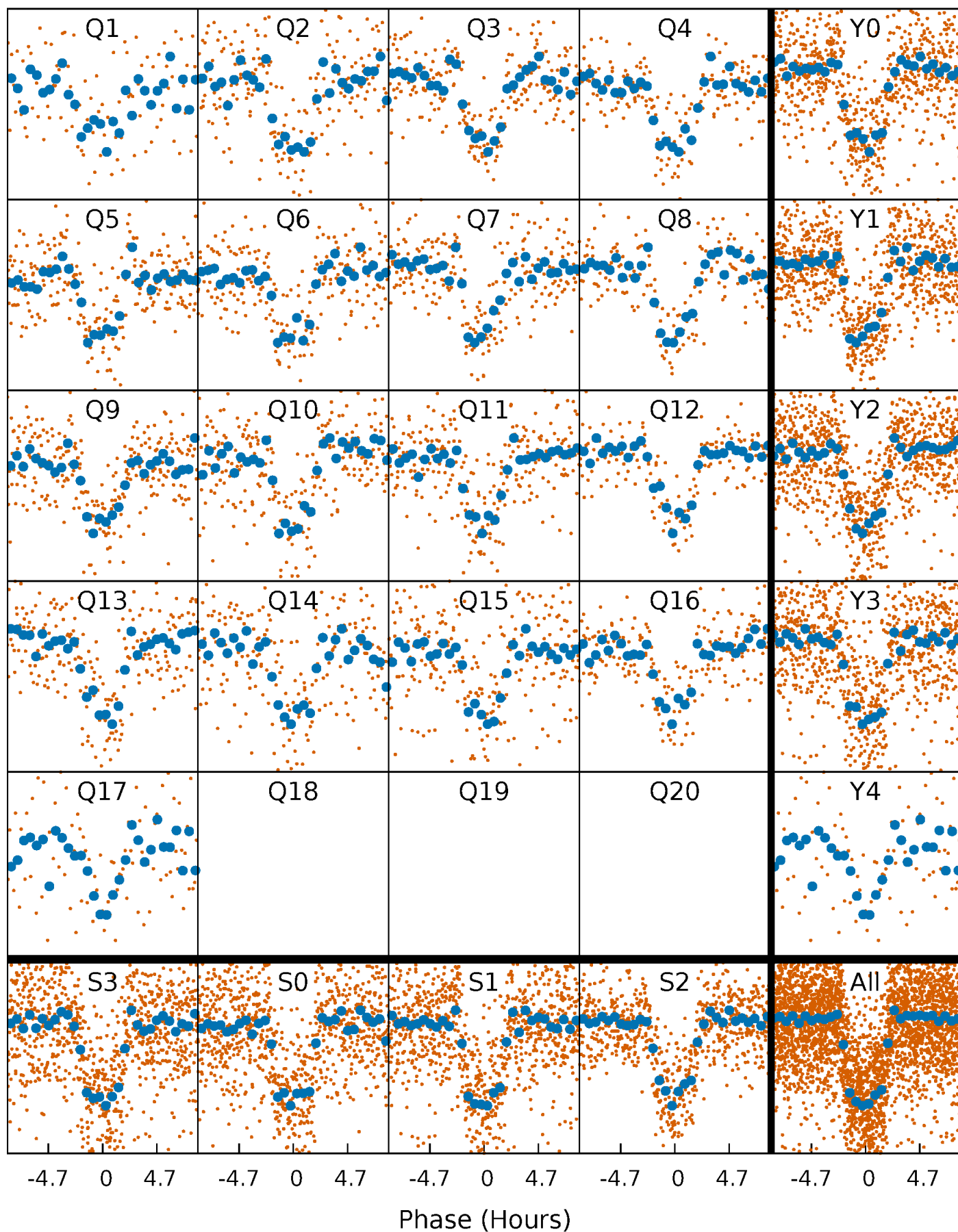


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



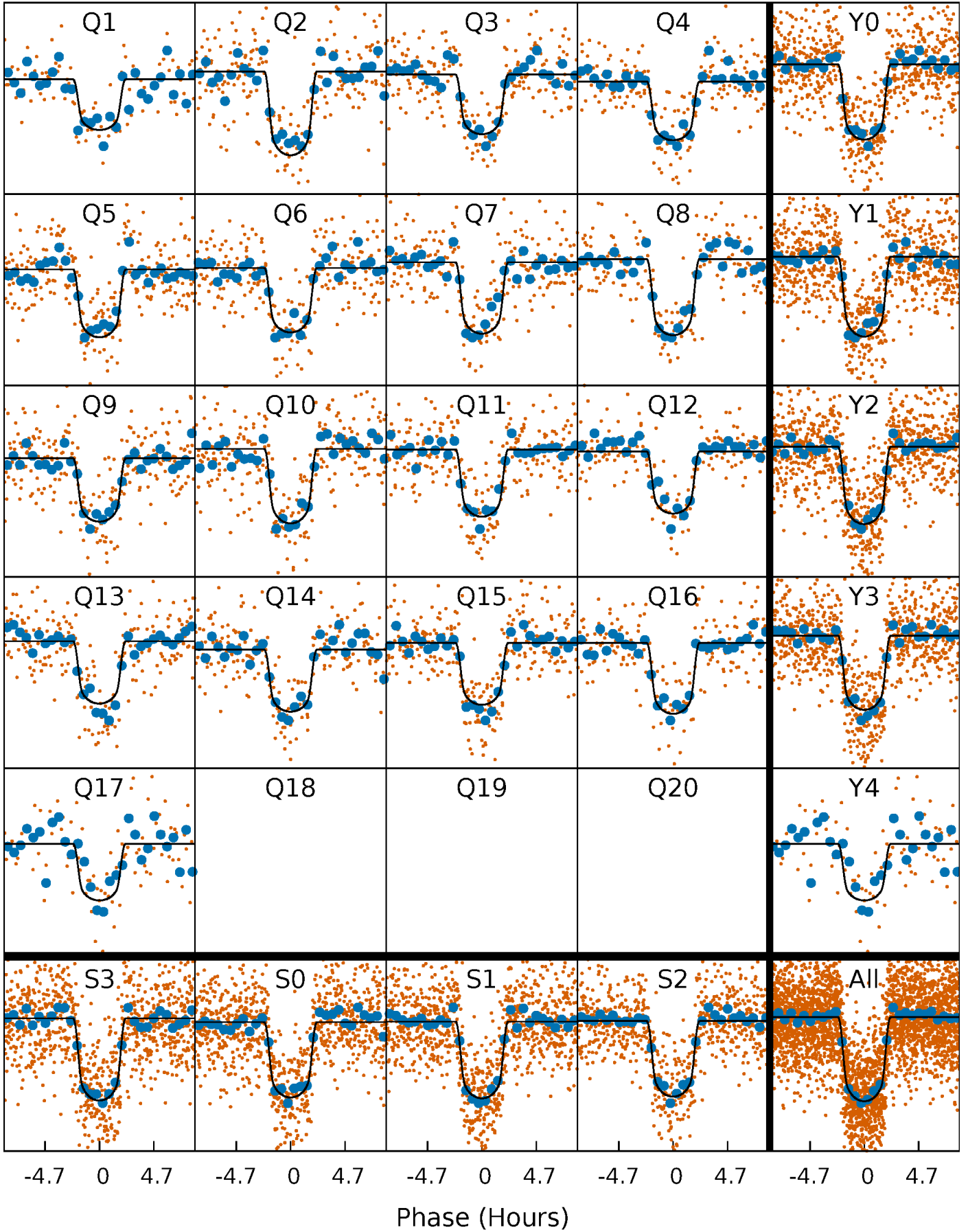
PDC Quarter-Phased Transit Curves

TCE 009766437-01 P= 12.532469 Days $T_0=133.168865$ (BKJD)



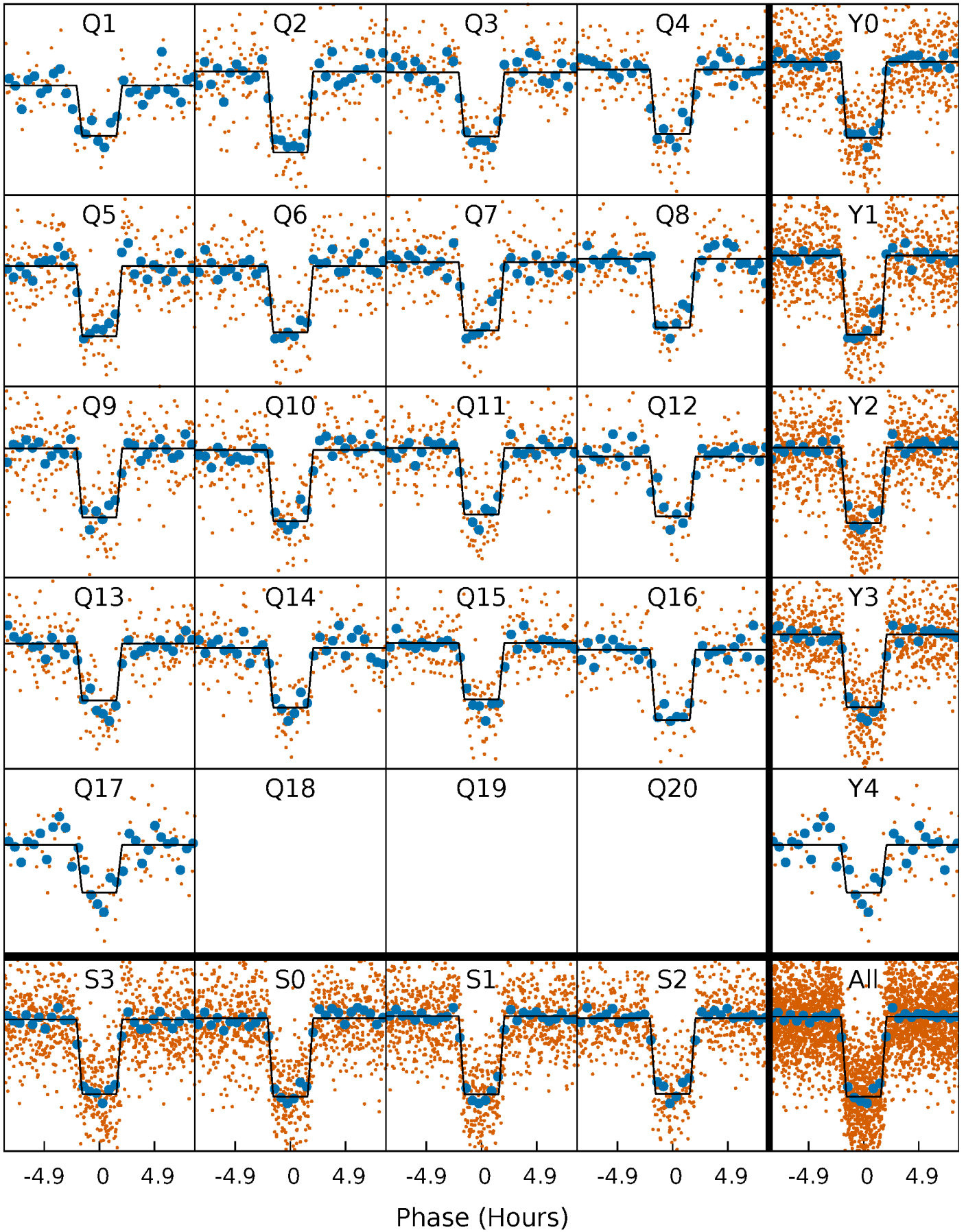
DV Quarter-Phased Transit Curves

TCE 009766437-01 P= 12.532469 Days $T_0=133.168865$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

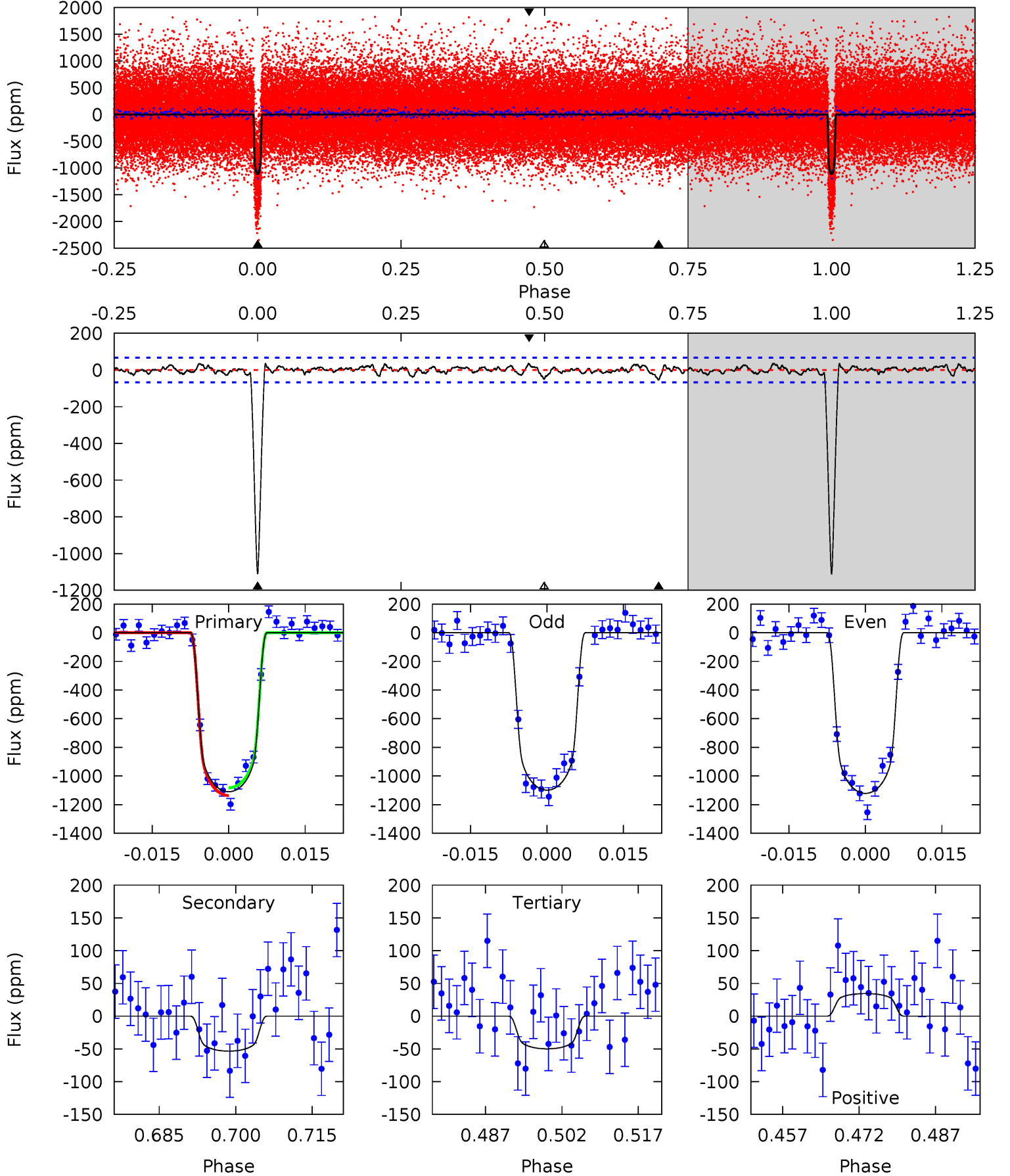
TCE 009766437-01 P= 12.532356 Days $T_0=133.175346$ (BKJD)



DV Model-Shift Uniqueness Test

009766437-01, $P = 12.532469$ Days, $E = 120.636396$ Days

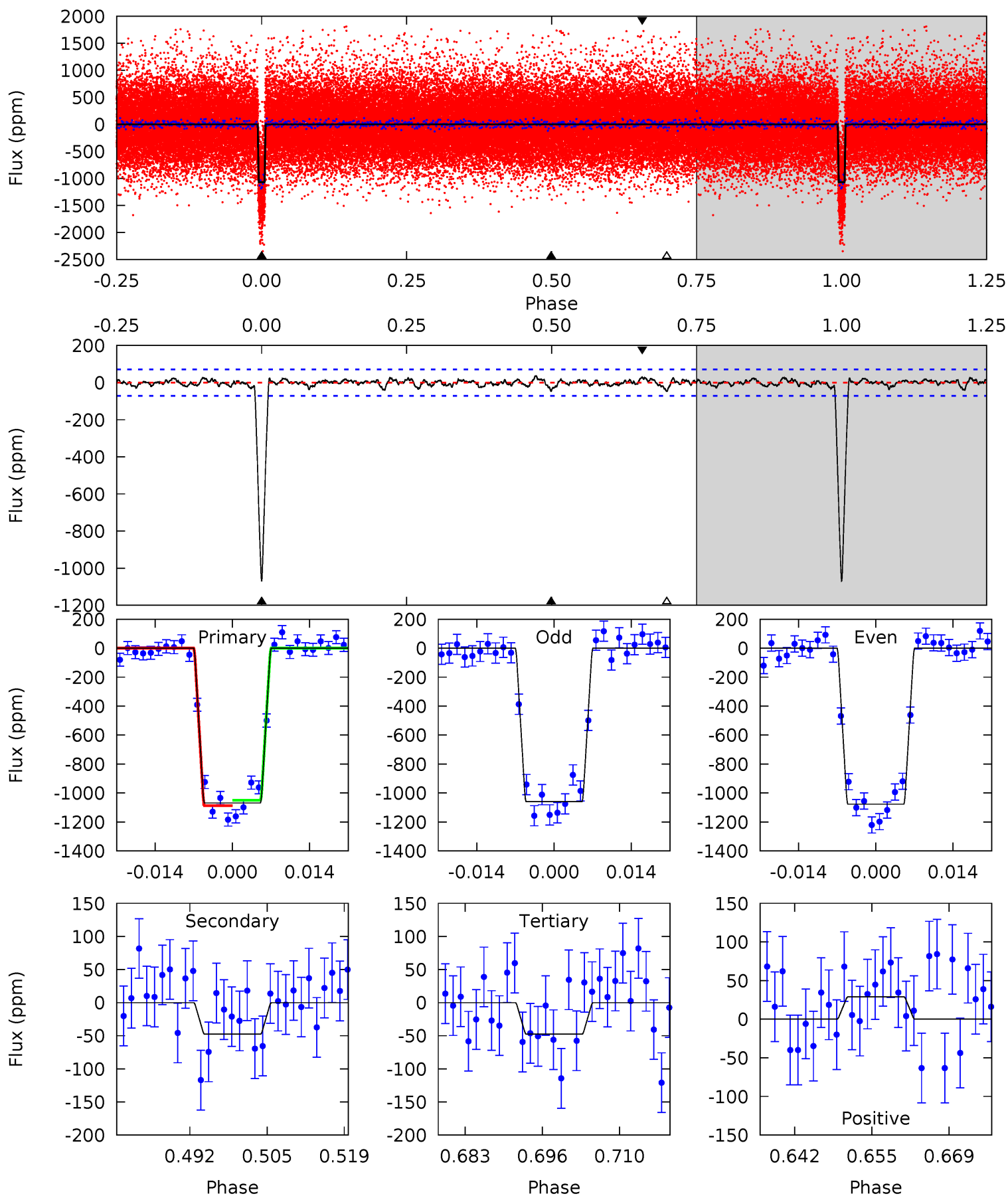
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
81.4	3.92	3.66	2.52	4.95	2.43	1.02	77.7	78.8	0.26	1.39	0.82	0.99	0.03	1.97



Alt Model-Shift Uniqueness Test

009766437-01, $P = 12.532356$ Days, $E = 120.642990$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
74.7	3.33	3.33	2.03	4.97	2.47	0.92	71.4	72.7	0.01	1.31	0.62	1.00	0.03	1.32



Stellar Parameters For KIC 009766437

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5997^{+162}_{-198}	$4.522^{+0.048}_{-0.192}$	$-0.220^{+0.300}_{-0.300}$	$0.904^{+0.264}_{-0.088}$	$0.991^{+0.121}_{-0.133}$	$1.890^{+0.465}_{-0.905}$
	+3%/-3%	+1%/-4%	+136%/-136%	+29%/-10%	+12%/-13%	+25%/-48%
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 009766437-01 / KOI 0949.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-53 ± 14	$3.47^{+0.52}_{-0.34}$	1103^{+73}_{-51}	3312^{+148}_{-160}	26^{+10}_{-8}
Alt.	-48 ± 14	$3.34^{+0.52}_{-0.32}$	1107^{+69}_{-54}	3286^{+171}_{-183}	24^{+10}_{-9}

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 $A_{obs} \gg 1.0$

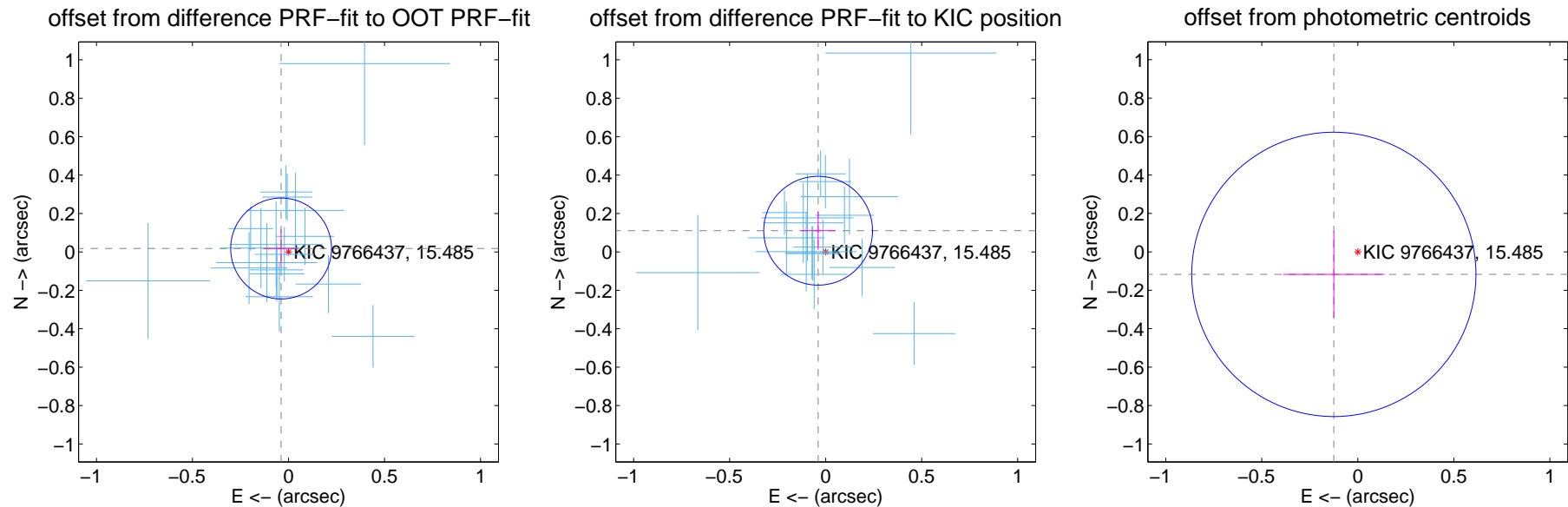
DV Centroid Data

Supplemental centroid analysis for 009766437-01. Kepler magnitude: 15.48. Transit SNR 59.13

There are 17 quarters with good PRF difference image offsets

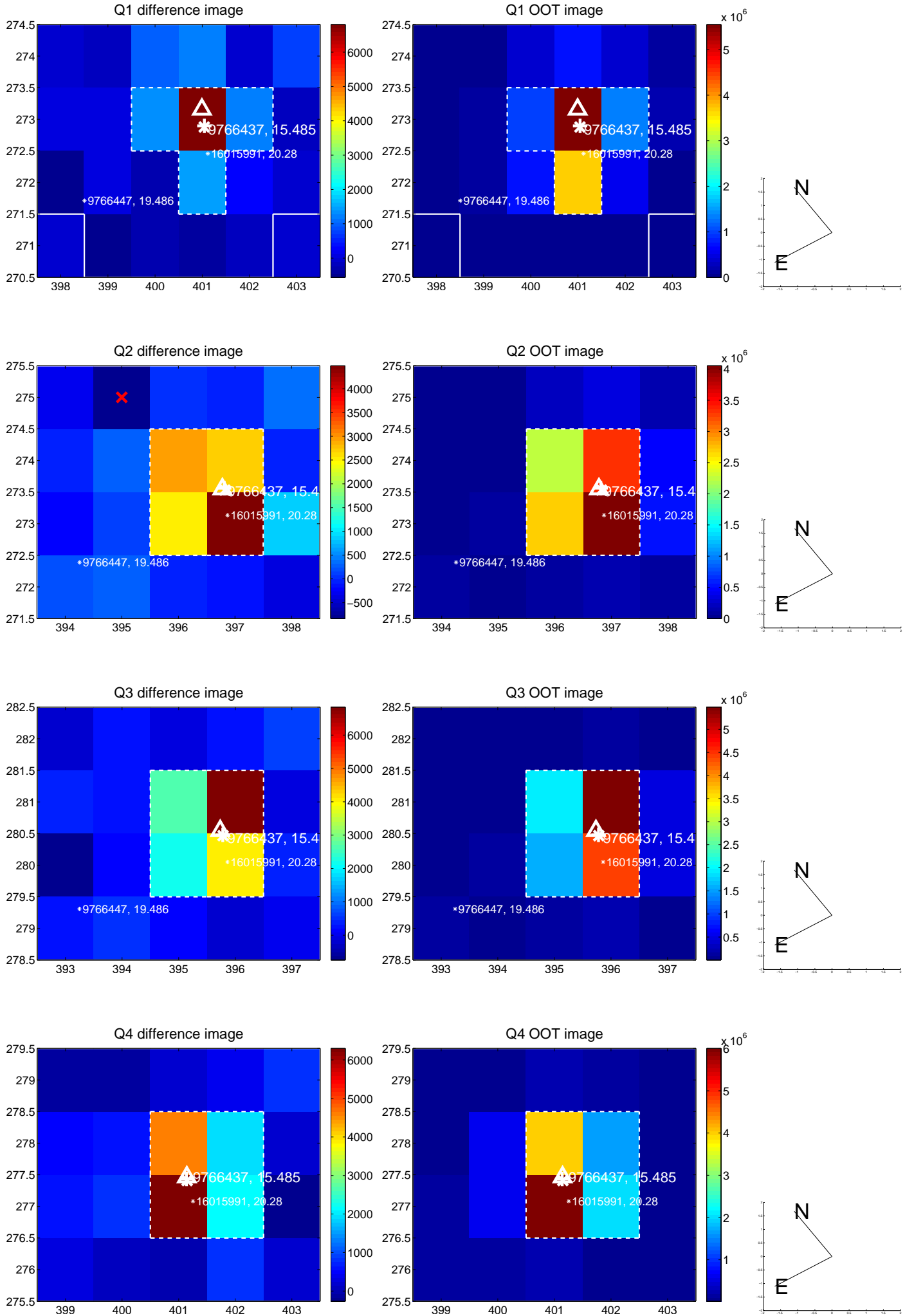
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.042 ± 0.088	0.49	0.039 ± 0.089	0.018 ± 0.099
PRF-fit source offset from KIC position	0.117 ± 0.094	1.24	0.039 ± 0.091	0.110 ± 0.100
photometric centroid source offset	0.17 ± 0.25	0.69	0.12 ± 0.26	-0.12 ± 0.23

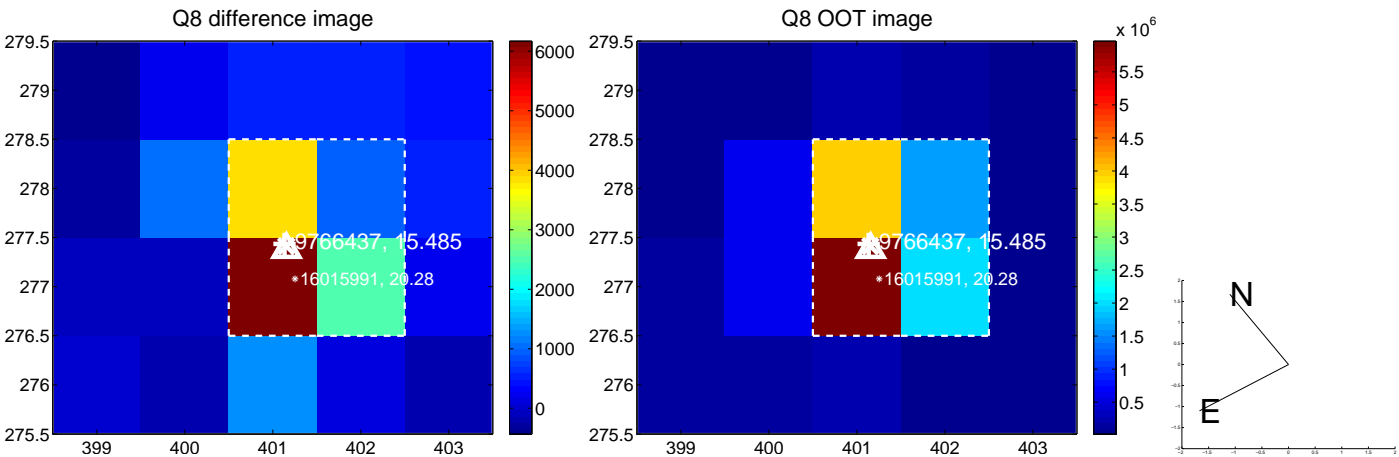
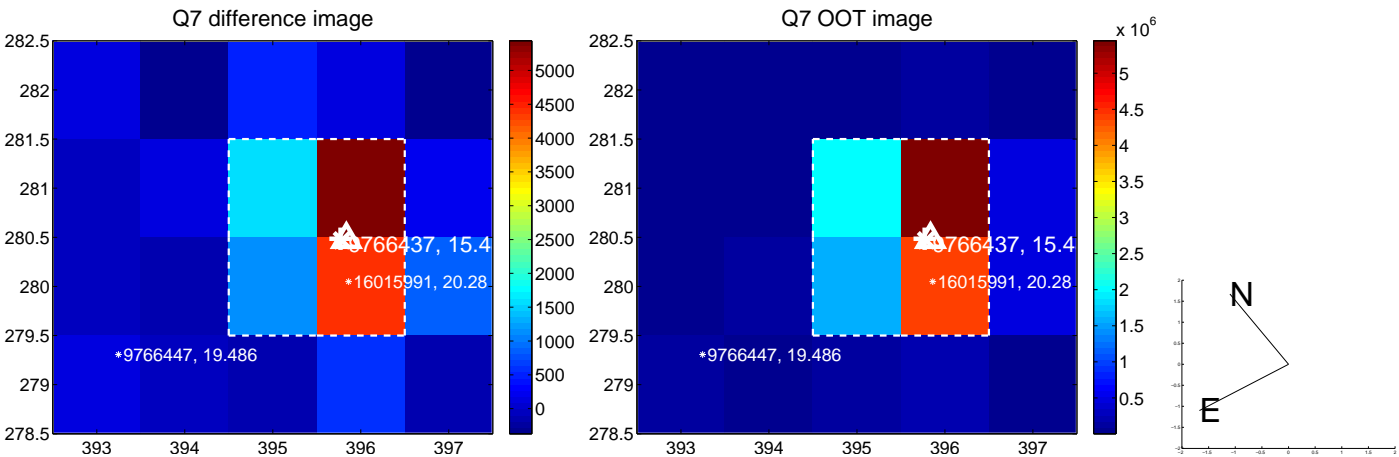
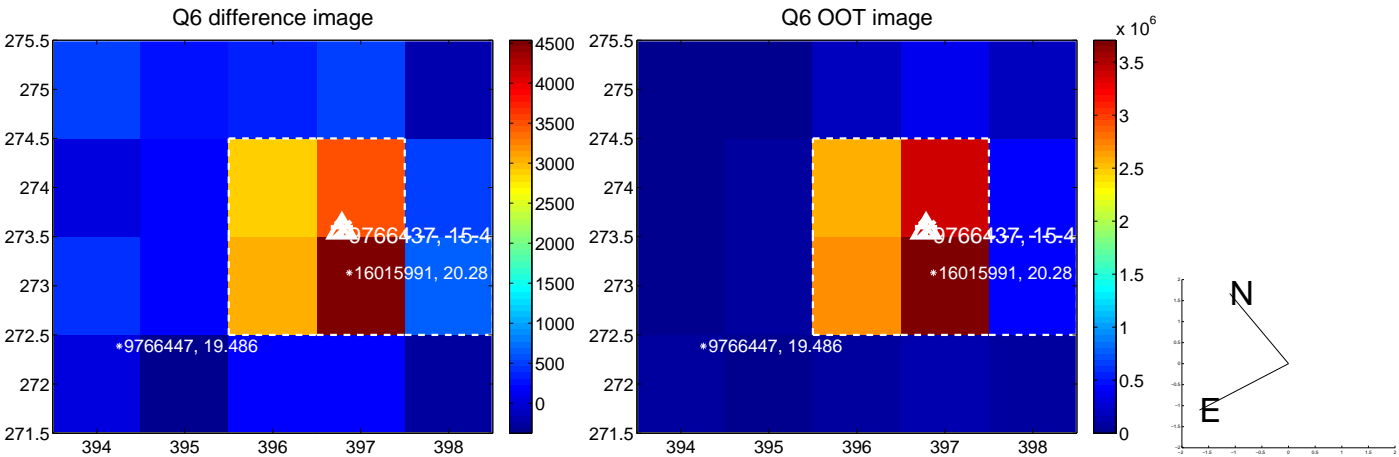
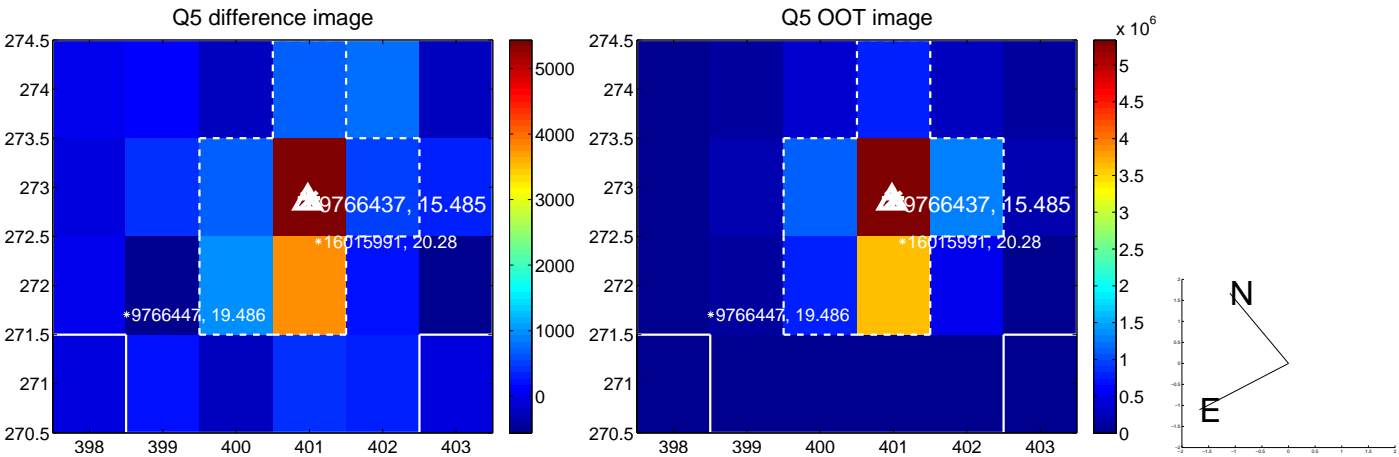


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

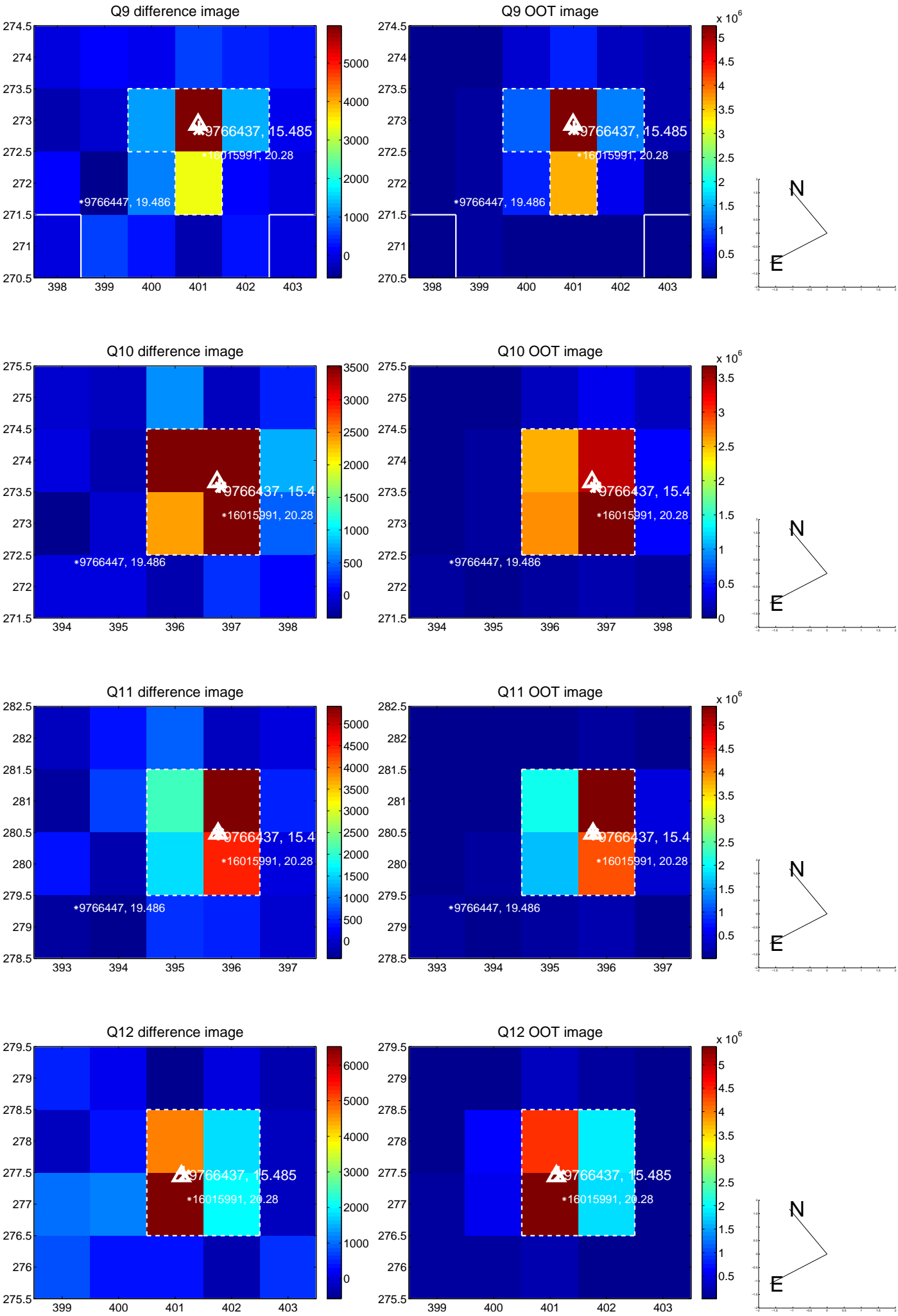
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



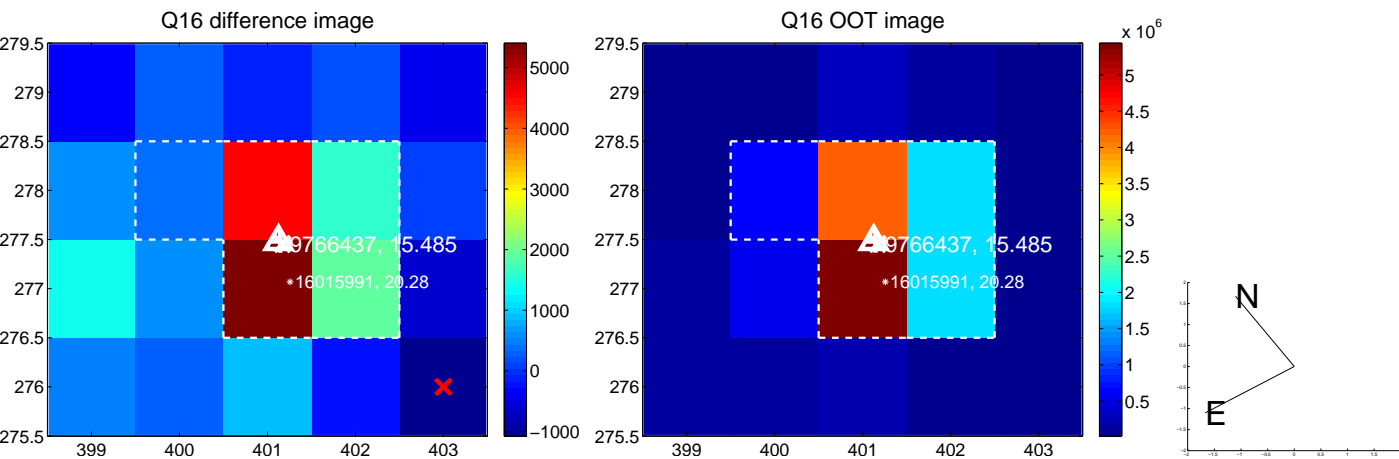
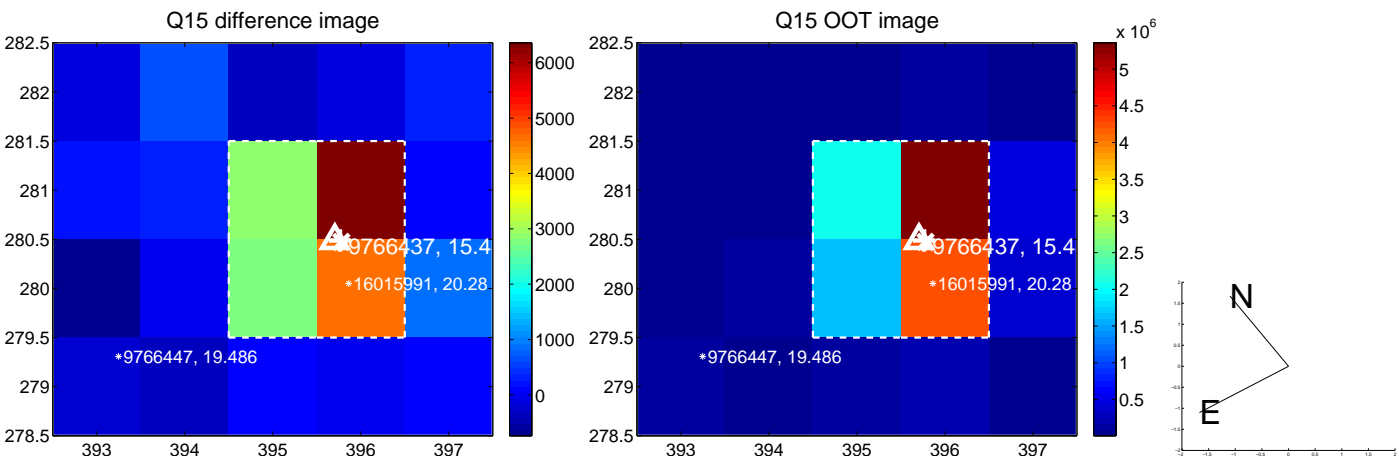
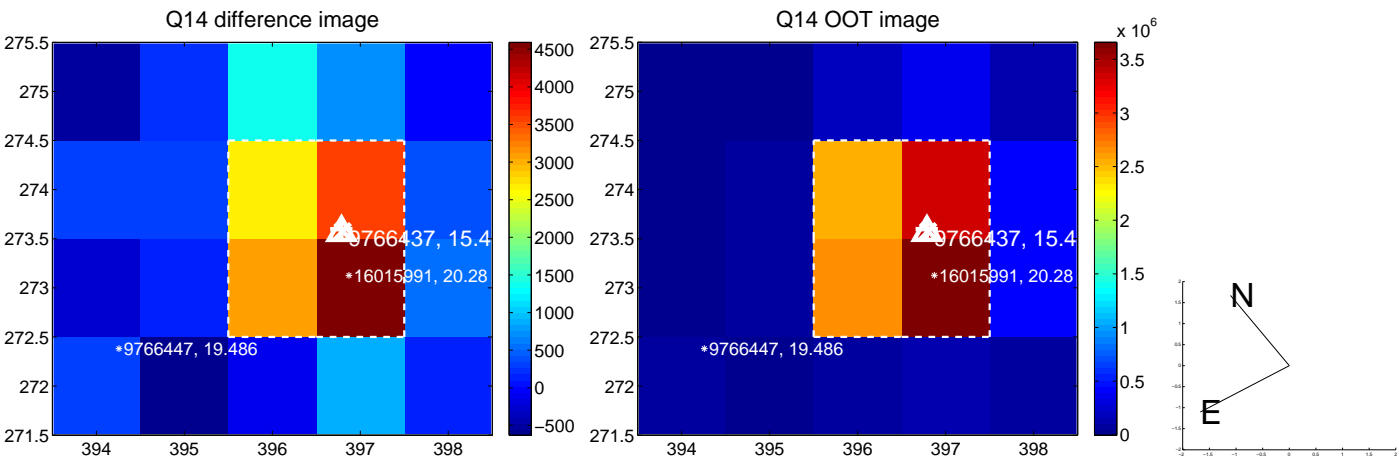
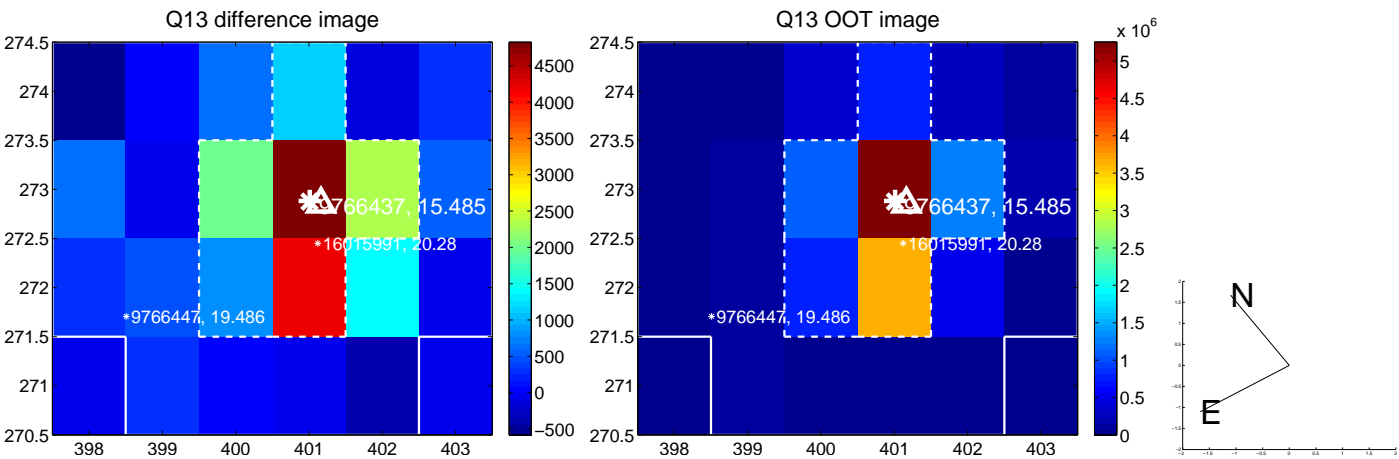
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



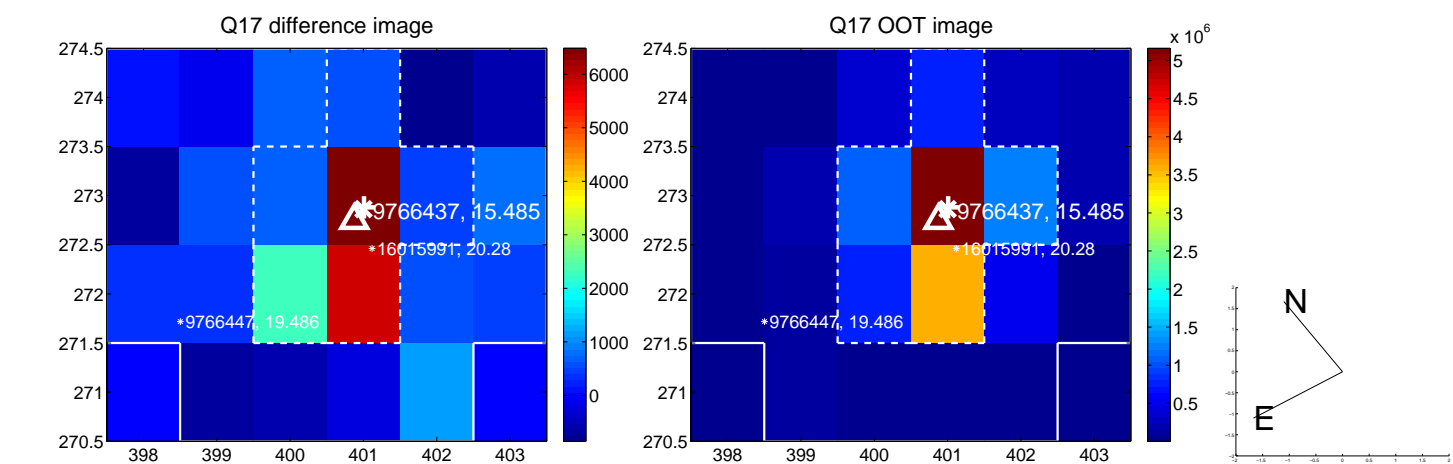
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



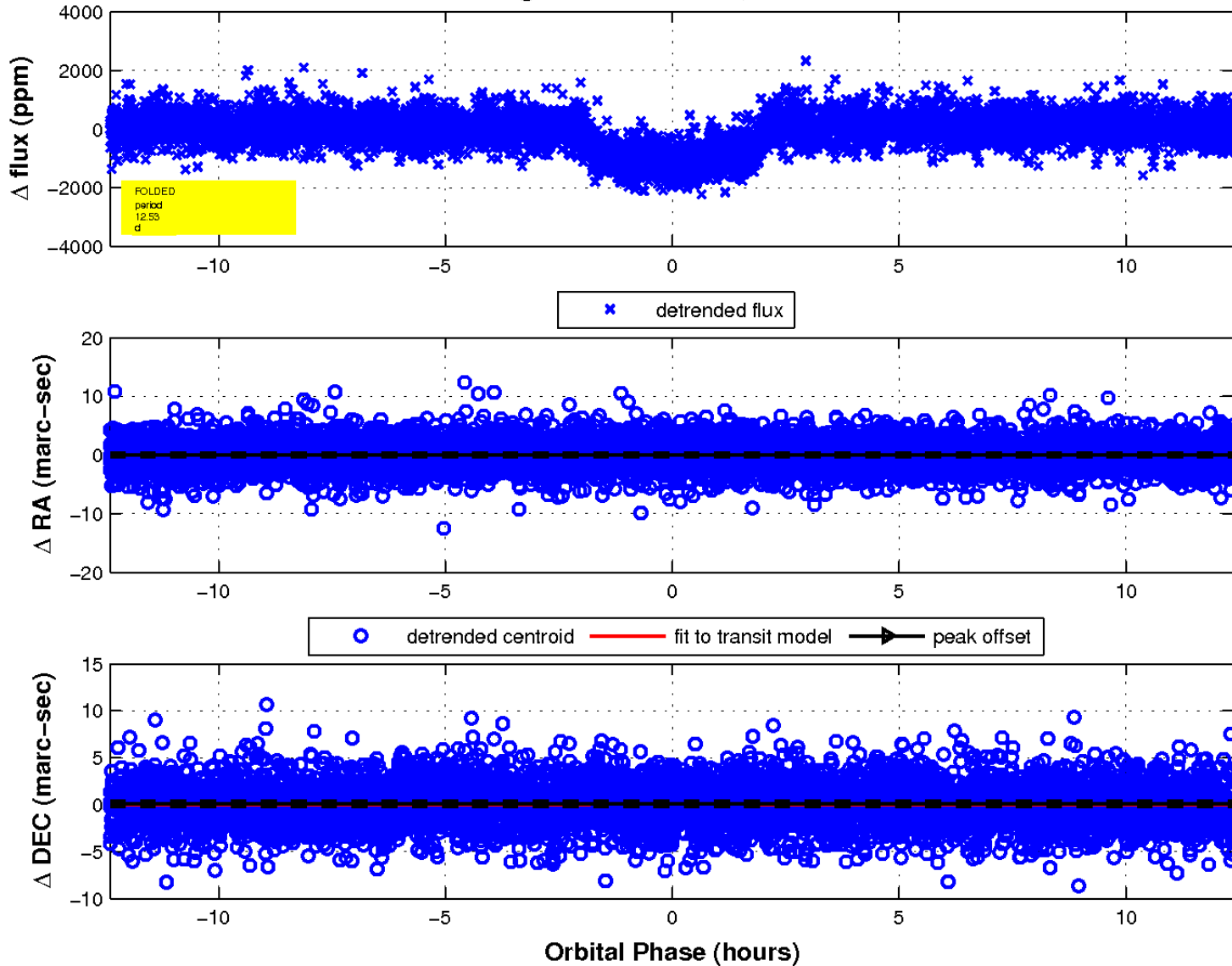
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

