

KIC 009390653

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})
009390653-01	OBS	0249.01	9.549279	137.559981	1843.8	1.764	110.6	107.4	0.37	3547	1.81	4.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009390653-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS

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.

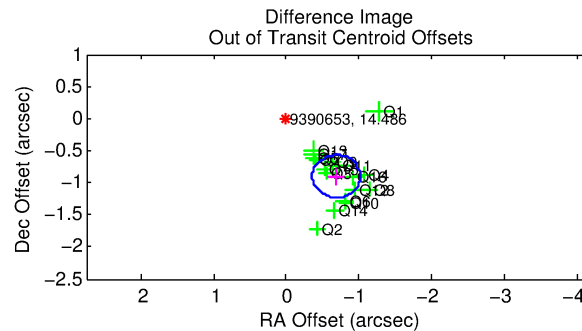
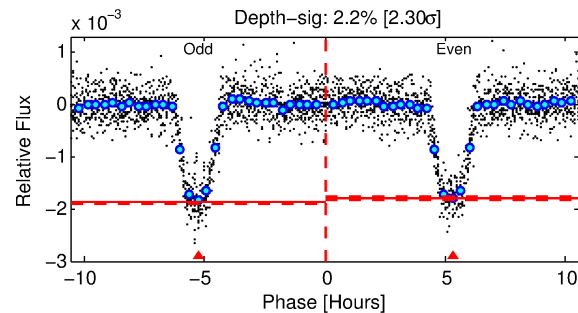
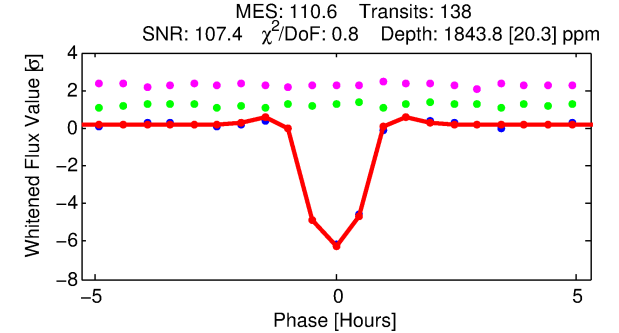
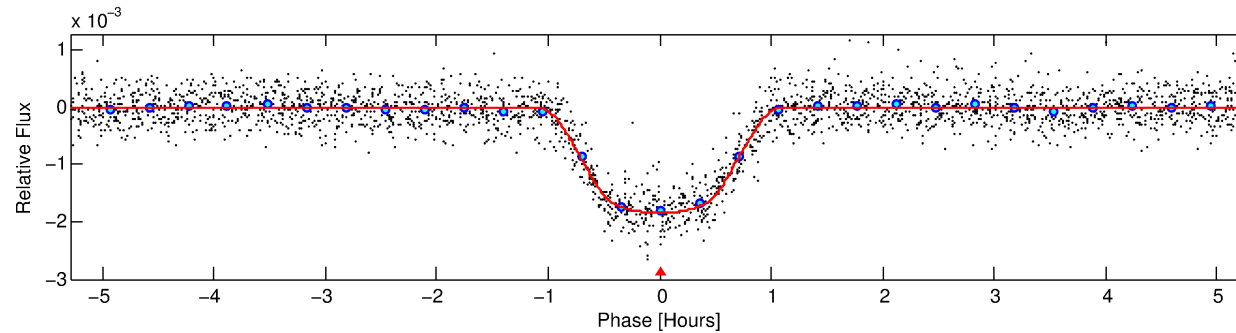
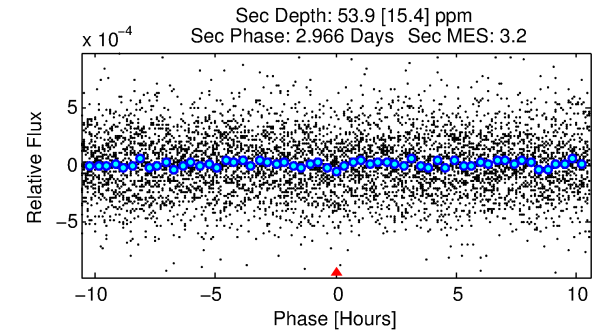
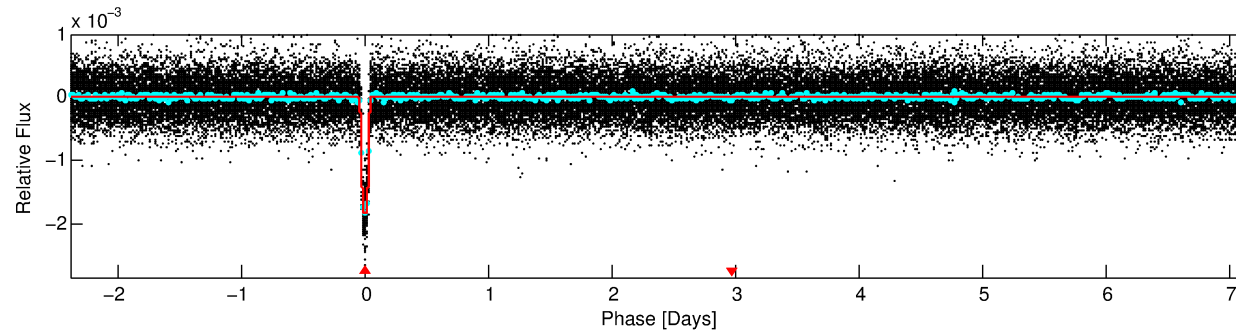
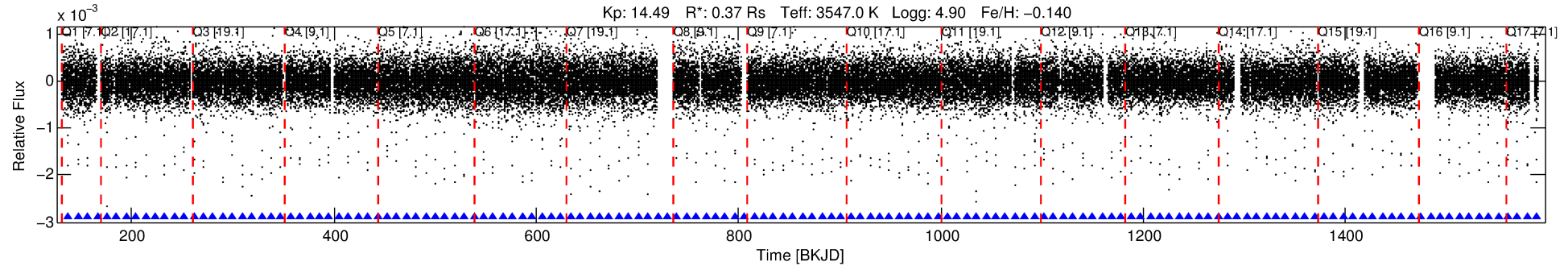
Ephemeris Match Information For 009390653-01

No Significant Match Found

DV One-Page Summary

KIC: 9390653 Candidate: 1 of 1 Period: 9.549 d
KOI: K00249.01 Corr: 0.996

Kp: 14.49 R*: 0.37 Rs Teff: 3547.0 K Logg: 4.90 Fe/H: -0.140



DV Fit Results:

Period = 9.54928 [0.00000] d
Epoch = 137.5600 [0.0004] BKJD
Rp/R* = 0.0451 [0.0017]
a/R* = 25.12 [3.91]
b = 0.85 [0.05]
Seff = 4.63 [0.76]
Teff = 374 [15] K
Rp = 1.81 [0.28] Re
a = 0.0646 [0.0072] AU
Ag = 37.54 [12.21] [2.99σ]
Teffp = 1432 [110] K [9.49σ]

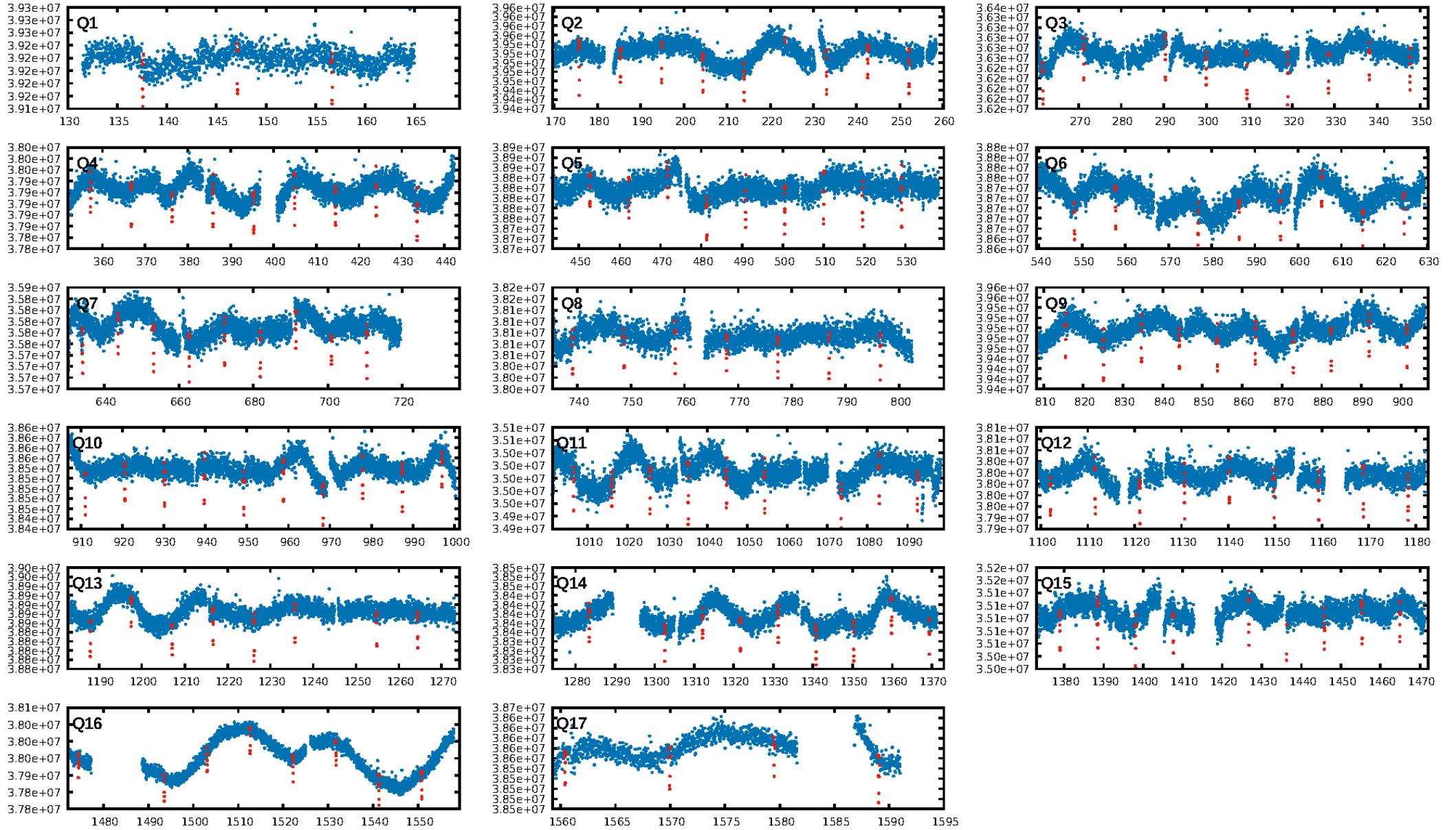
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [131/131]
GhostDiagnostic-chr: 3.596
Centroid-sig: 0.0%
Centroid-so: 0.457 arcsec [6.50σ]
OotOffset-rm: 1.134 arcsec [10.30σ]
KicOffset-rm: 0.064 arcsec [0.55σ]
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]

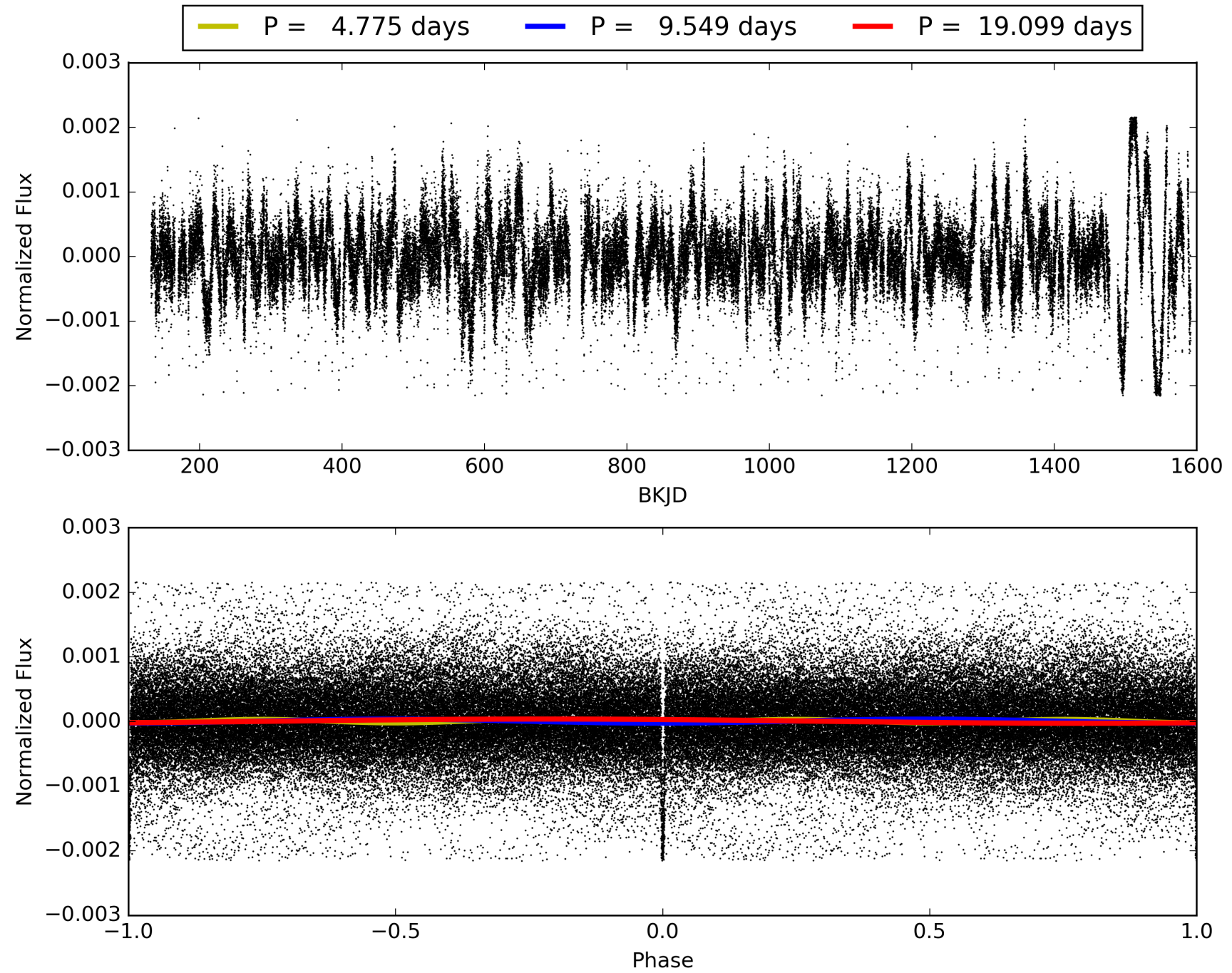
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:50:50 Z

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

TCE 009390653-01, PDC Light Curves

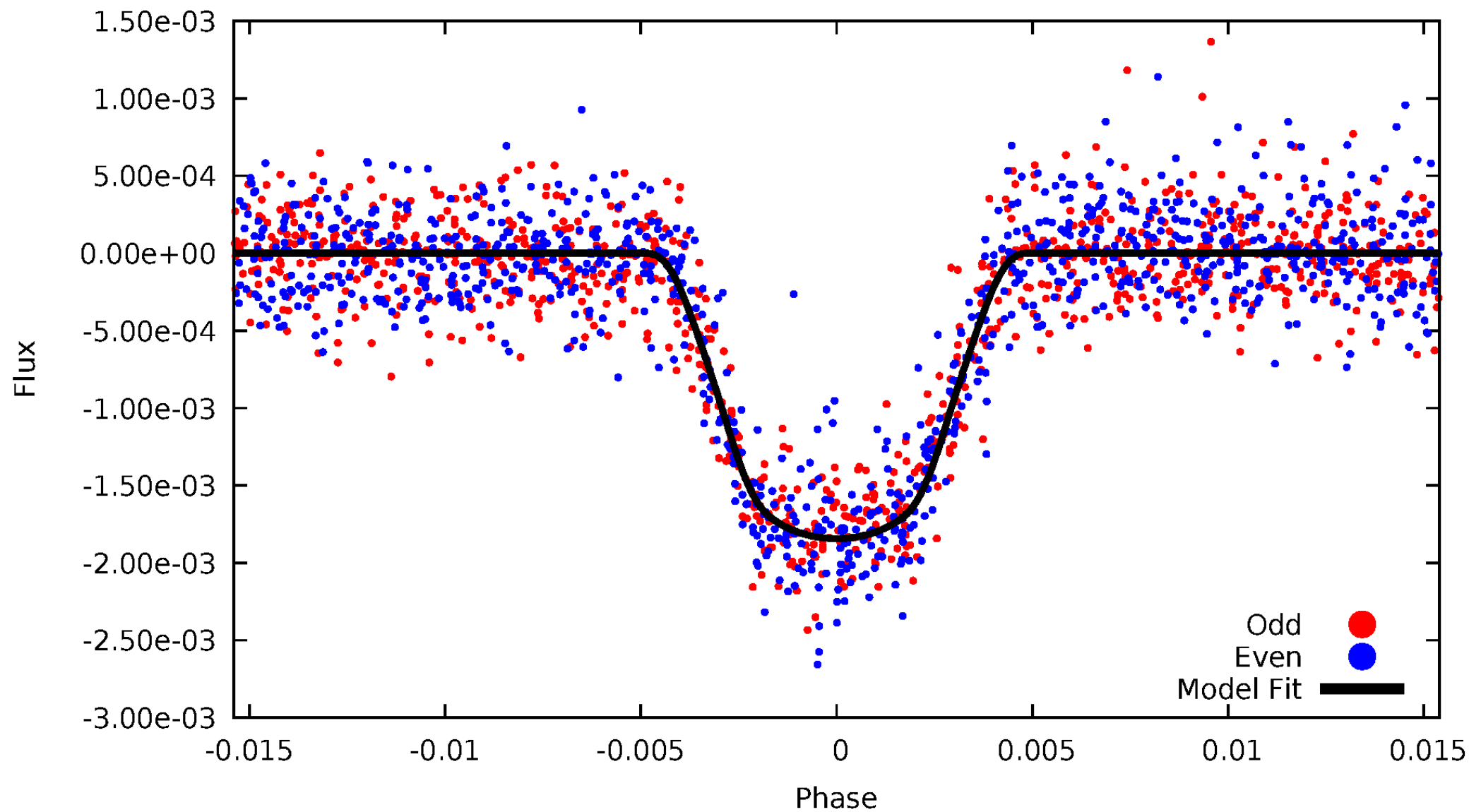


TCE 009390653-01



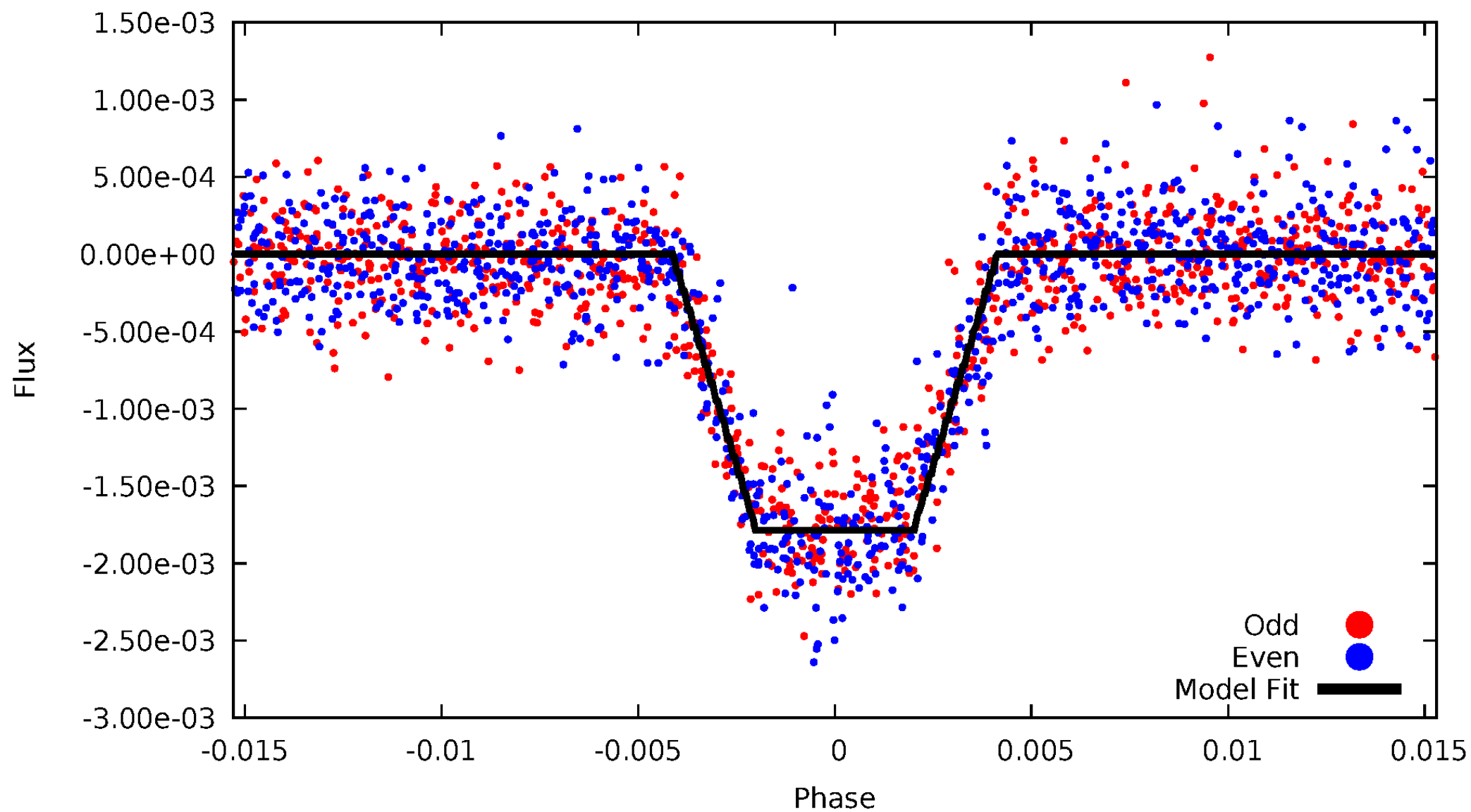
DV Odd/Even

TCE 009390653-01



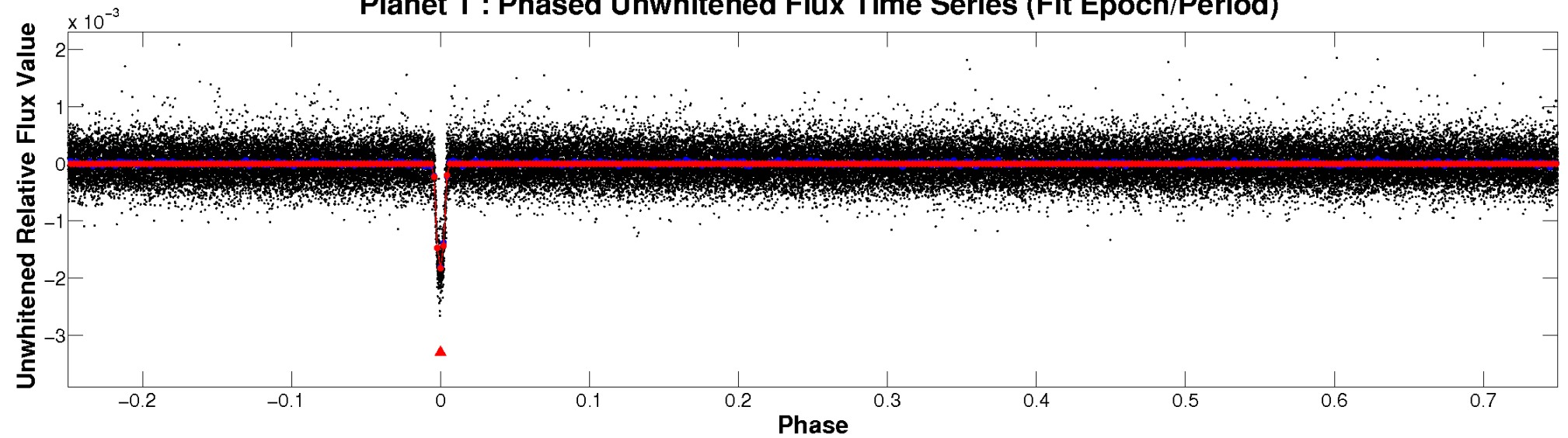
ALT Odd/Even

TCE 009390653-01

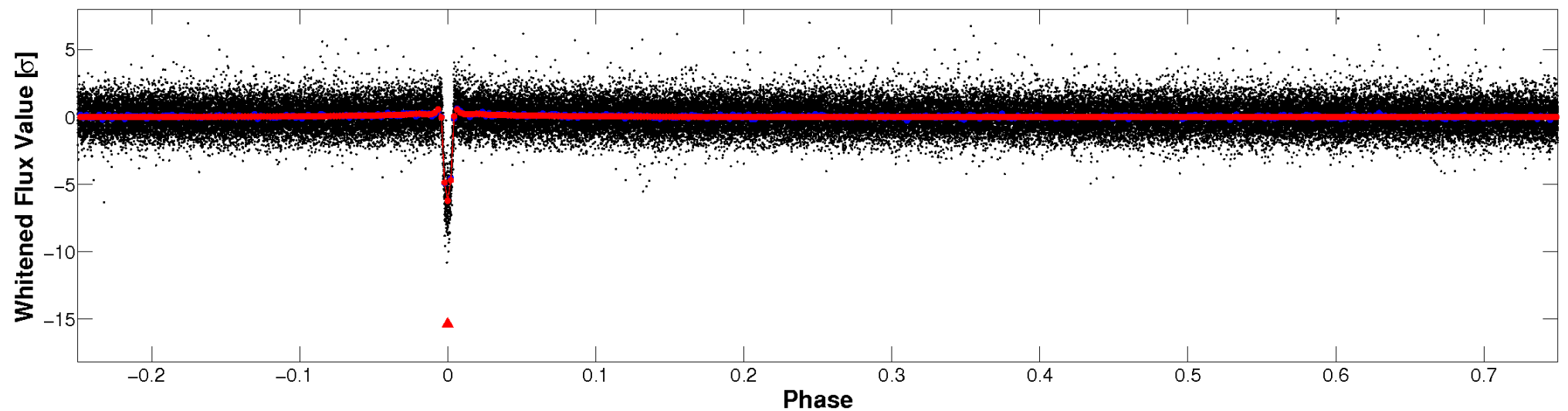


Non-Whitened Vs. Whitened Light Curve

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

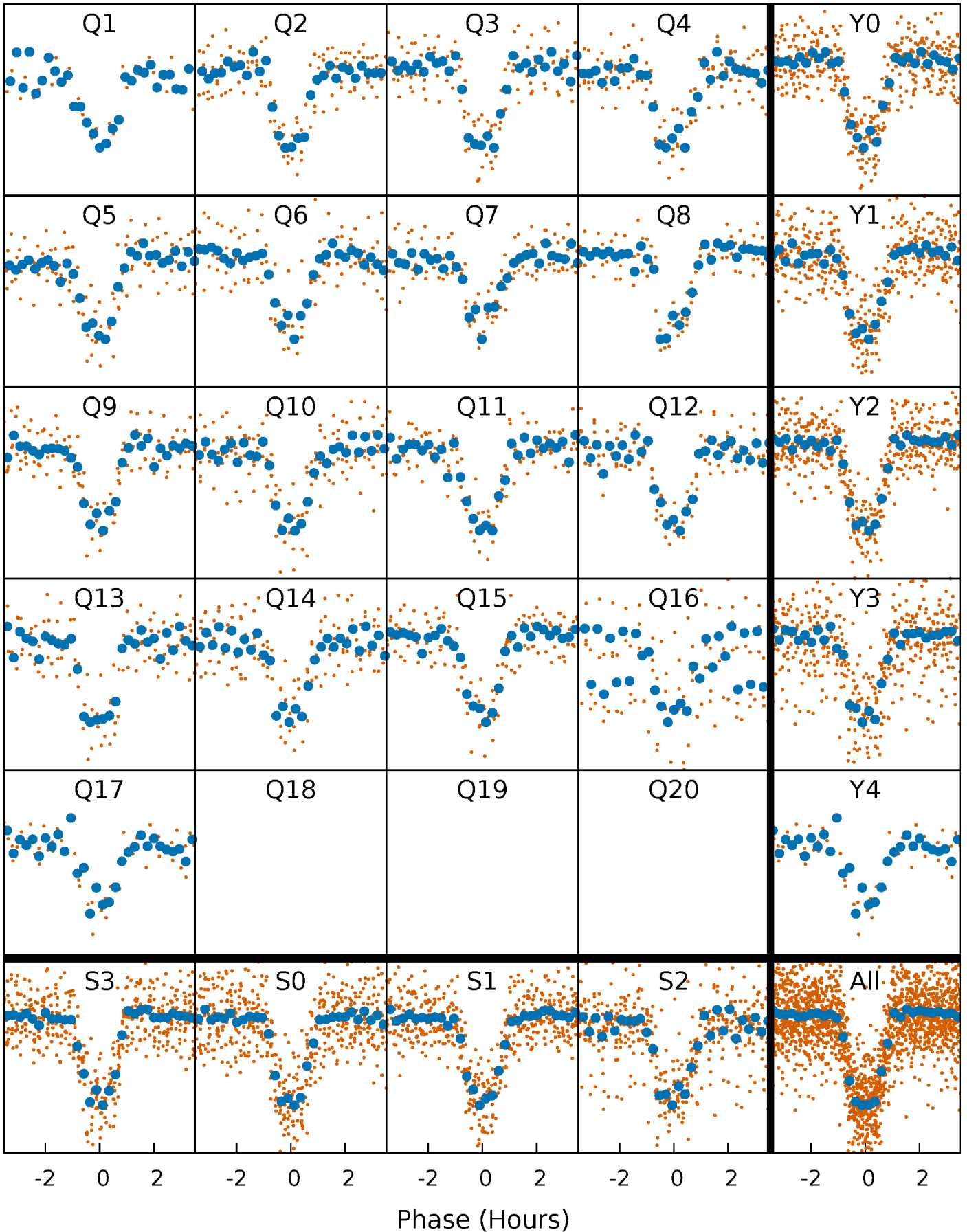


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



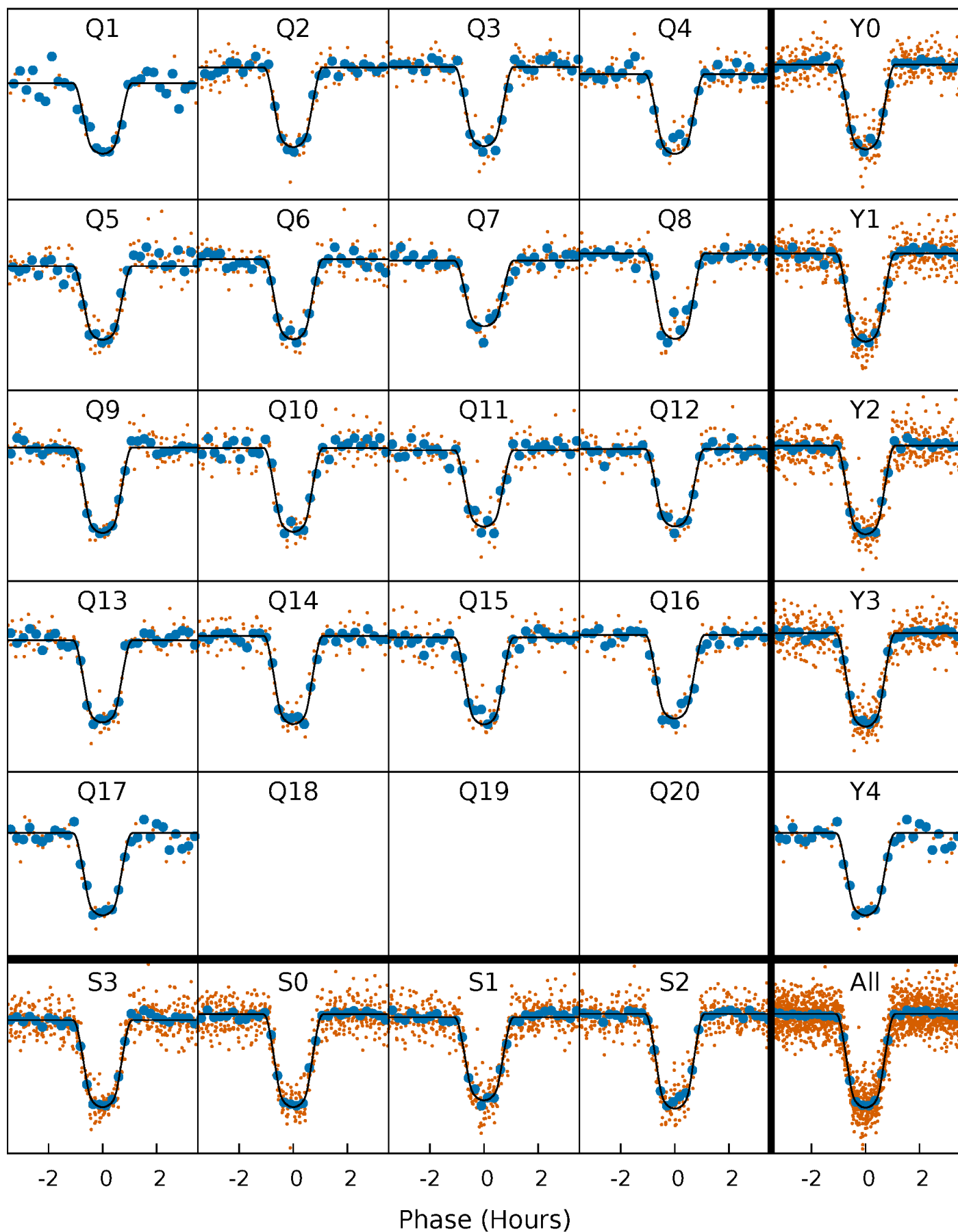
PDC Quarter-Phased Transit Curves

TCE 009390653-01 P= 9.549279 Days $T_0=137.559981$ (BKJD)



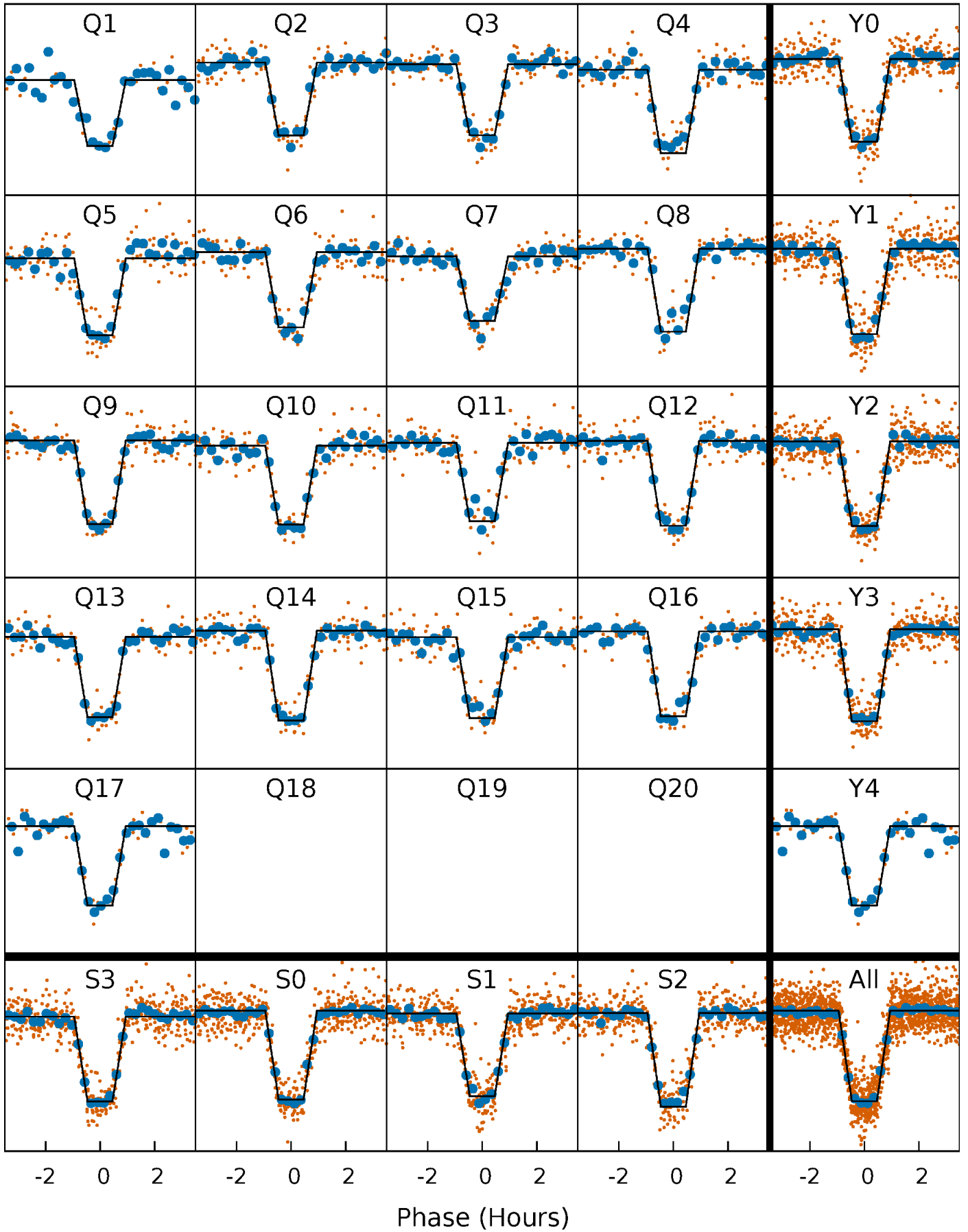
DV Quarter-Phased Transit Curves

TCE 009390653-01 P= 9.549279 Days $T_0=137.559981$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

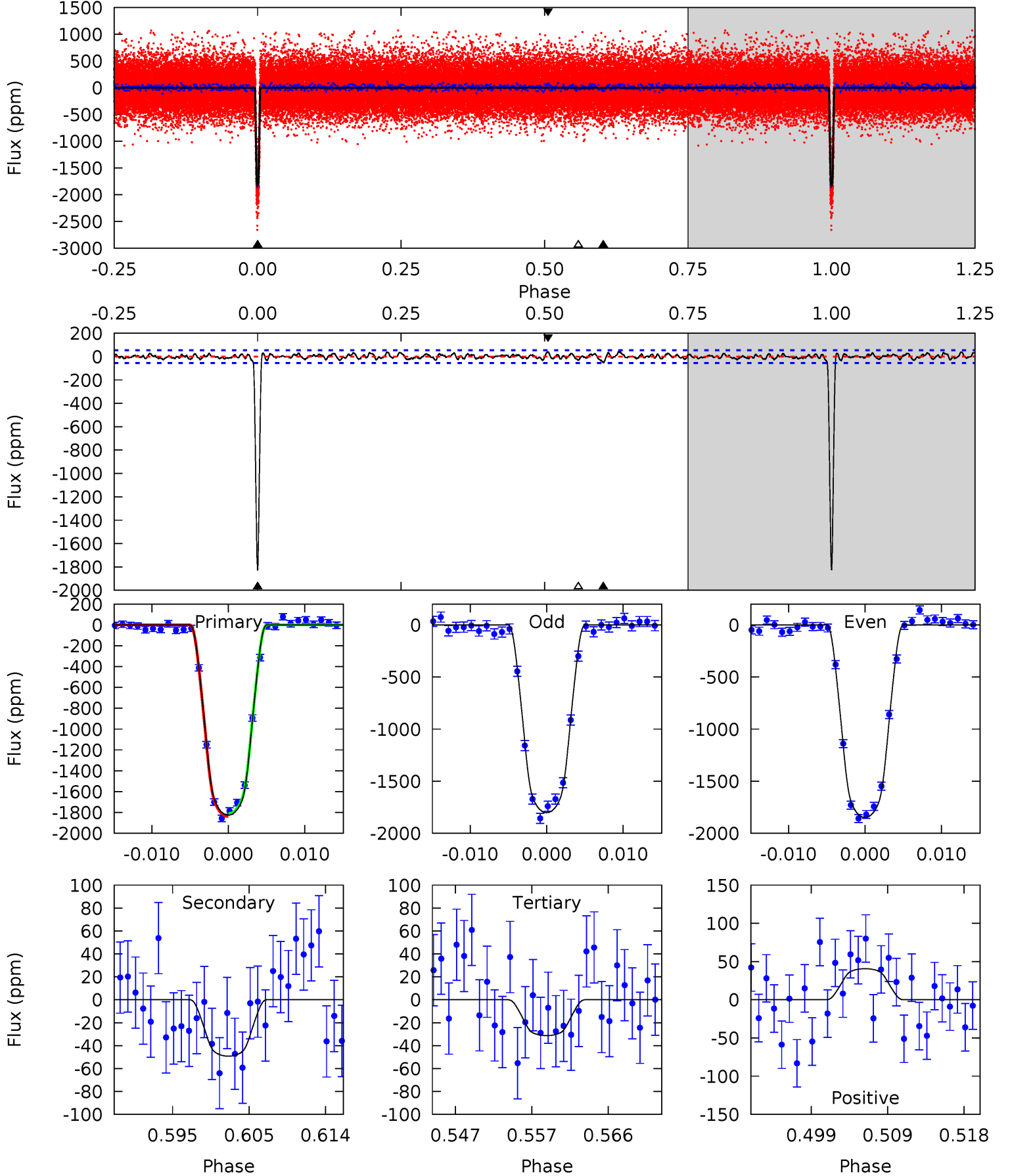
TCE 009390653-01 P= 9.549271 Days $T_0=137.560538$ (BKJD)



DV Model-Shift Uniqueness Test

009390653-01, P = 9.549279 Days, E = 128.010702 Days

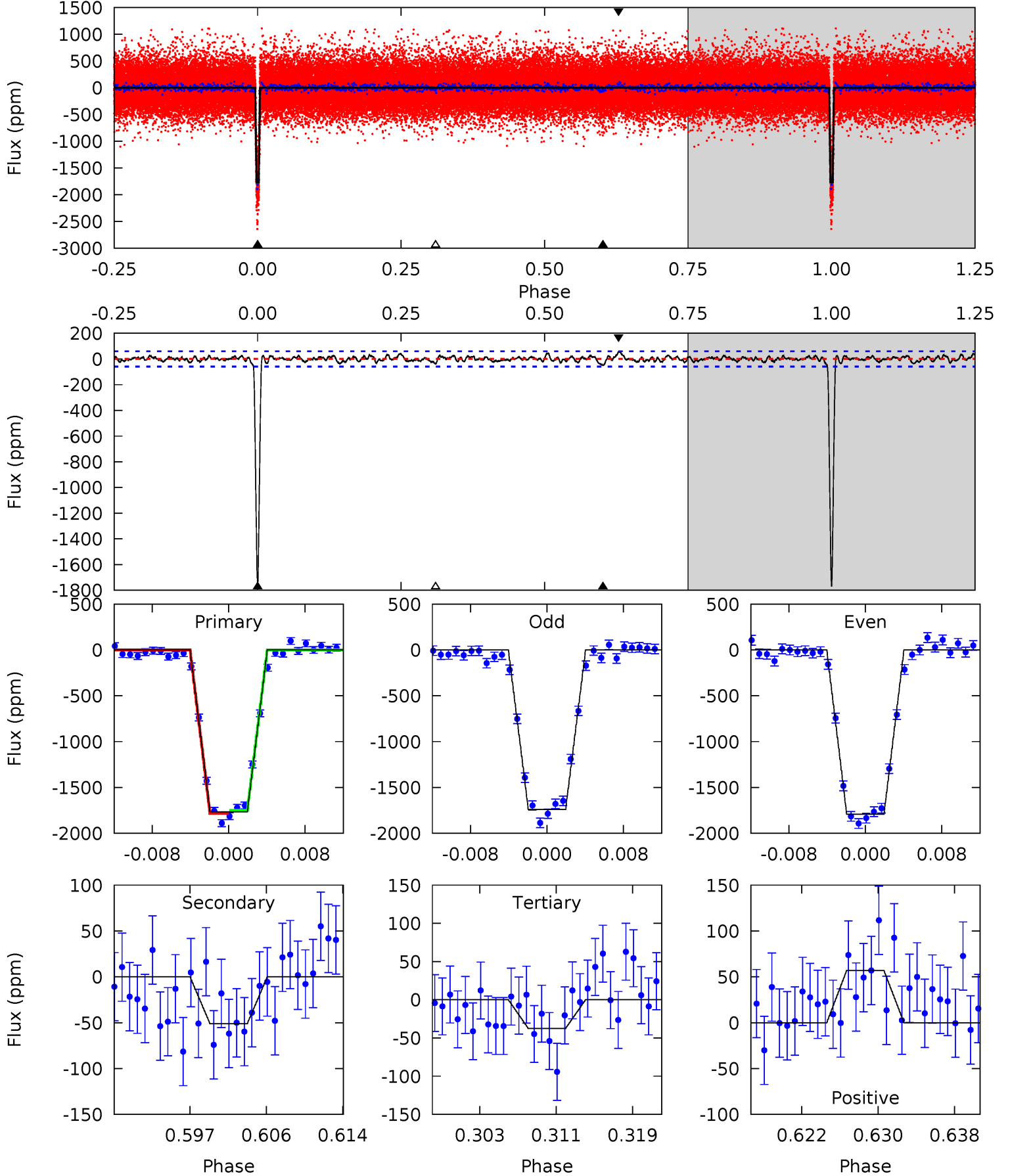
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
168.4	4.54	2.88	3.75	5.03	2.59	1.31	165.5	164.6	1.66	0.79	2.13	0.99	0.02	1.23



Alt Model-Shift Uniqueness Test

009390653-01, P = 9.549271 Days, E = 128.011267 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
150.2	4.34	3.19	4.83	5.06	2.64	1.29	147.0	145.4	1.16	-0.49	2.20	0.98	0.03	1.50



Stellar Parameters For KIC 009390653

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3547^{+71}_{-80}	$4.899^{+0.060}_{-0.060}$	$-0.140^{+0.150}_{-0.150}$	$0.369^{+0.050}_{-0.056}$	$0.396^{+0.048}_{-0.072}$	$11.080^{+3.727}_{-2.795}$
	+2%/-2%	+1%/-1%	+107%/-107%	+14%/-15%	+12%/-18%	+34%/-25%
Source	SPE70	SPE60	SPE70	DSEP		

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

Secondary Eclipse Parameters for KIC 009390653-01 / KOI 0249.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-49 ± 11	$1.84^{+0.14}_{-0.17}$	523^{+18}_{-18}	2166^{+64}_{-66}	34^{+9}_{-8}
Alt.	-51 ± 12	$1.71^{+0.15}_{-0.15}$	521^{+19}_{-17}	2213^{+64}_{-77}	41^{+11}_{-11}

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

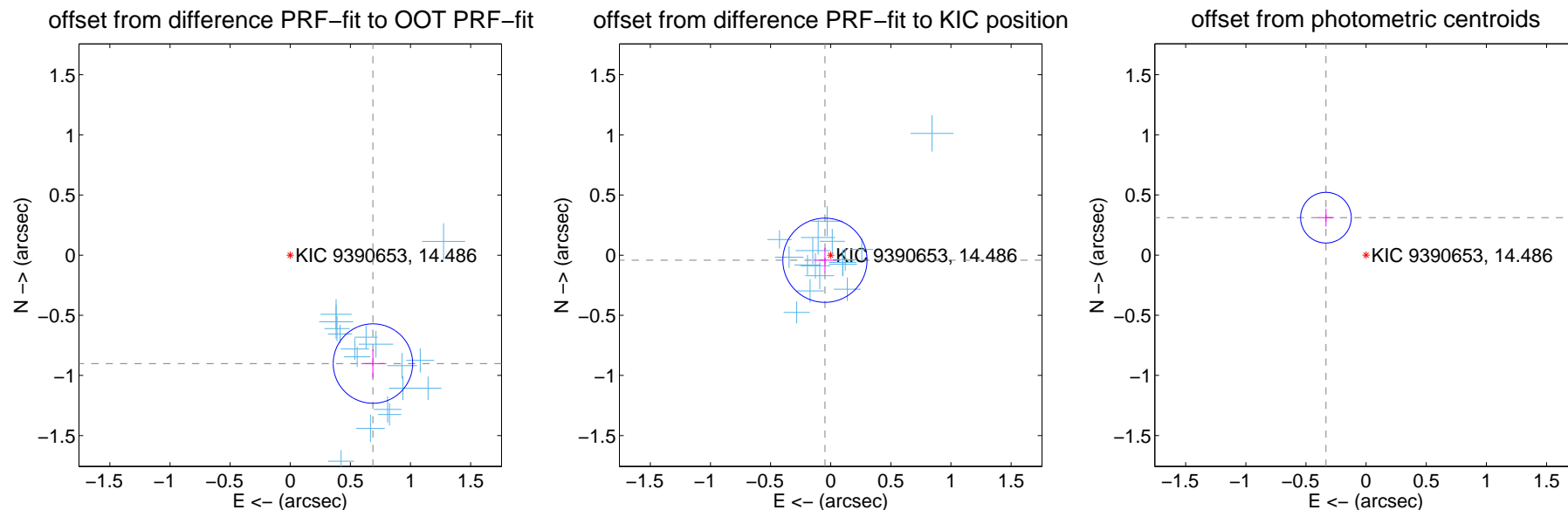
DV Centroid Data

Supplemental centroid analysis for 009390653-01. Kepler magnitude: 14.49. Transit SNR 107.44

There are 17 quarters with good PRF difference image offsets

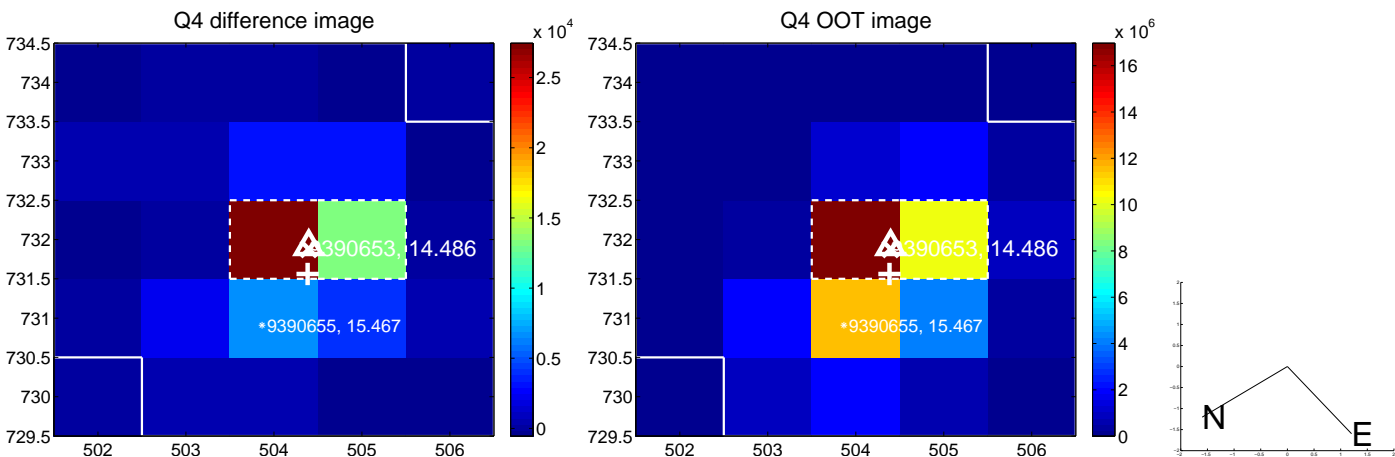
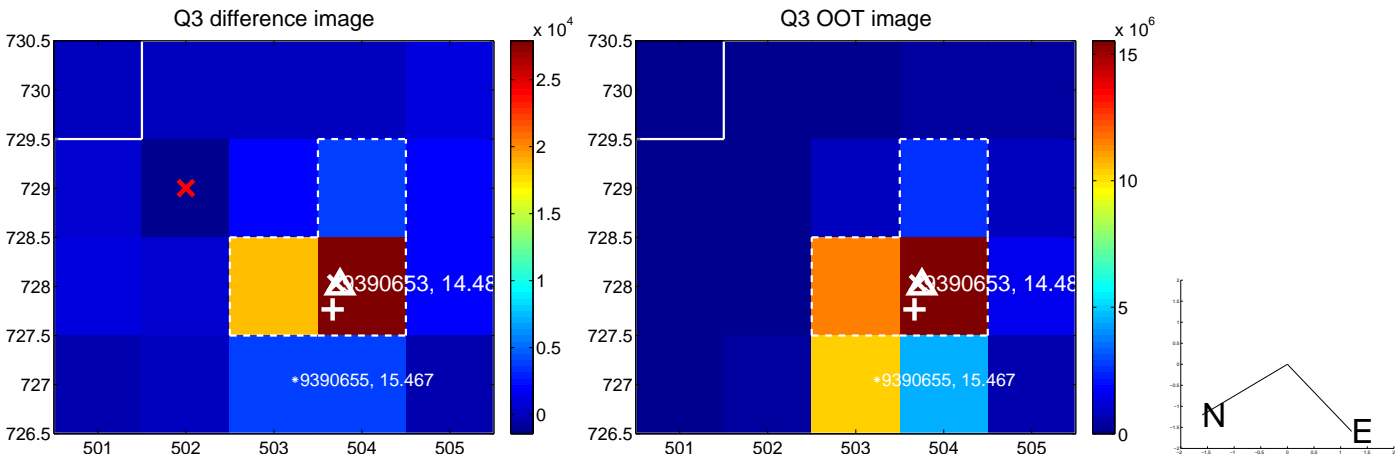
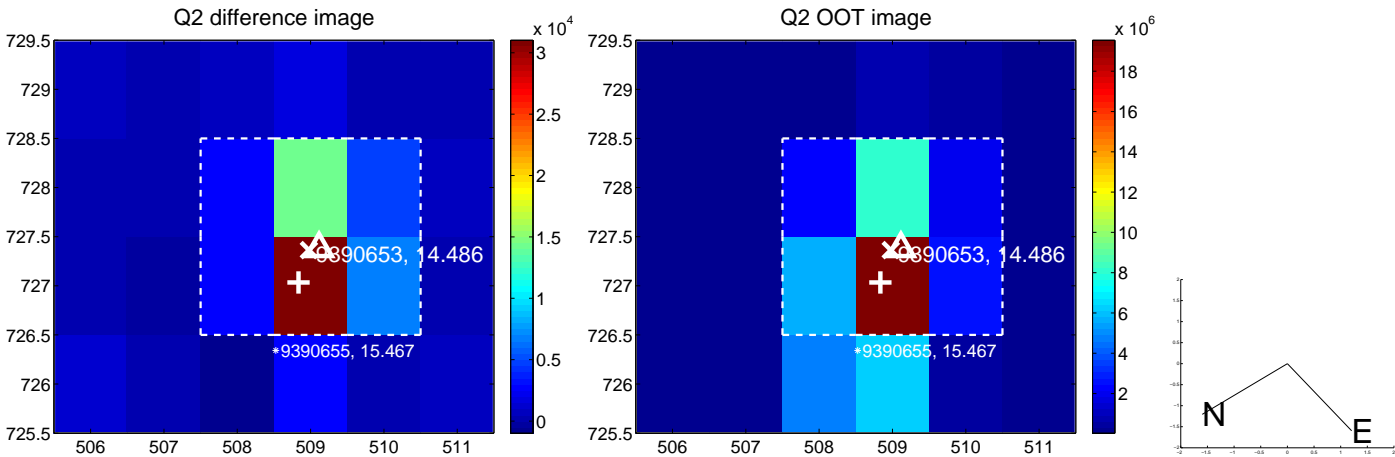
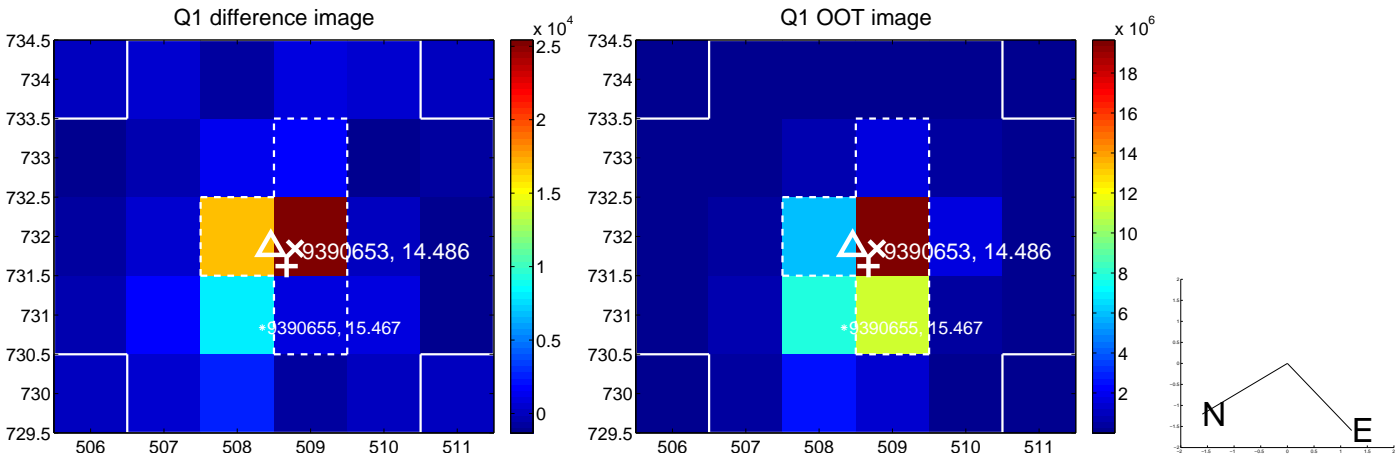
The direct PRF centroid is offset from the target star catalog position by about 0.85 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.134 ± 0.110	10.30	-0.688 ± 0.096	-0.901 ± 0.117
PRF-fit source offset from KIC position	0.064 ± 0.117	0.55	0.048 ± 0.095	-0.042 ± 0.104
photometric centroid source offset	0.46 ± 0.07	6.50	0.33 ± 0.07	0.31 ± 0.07

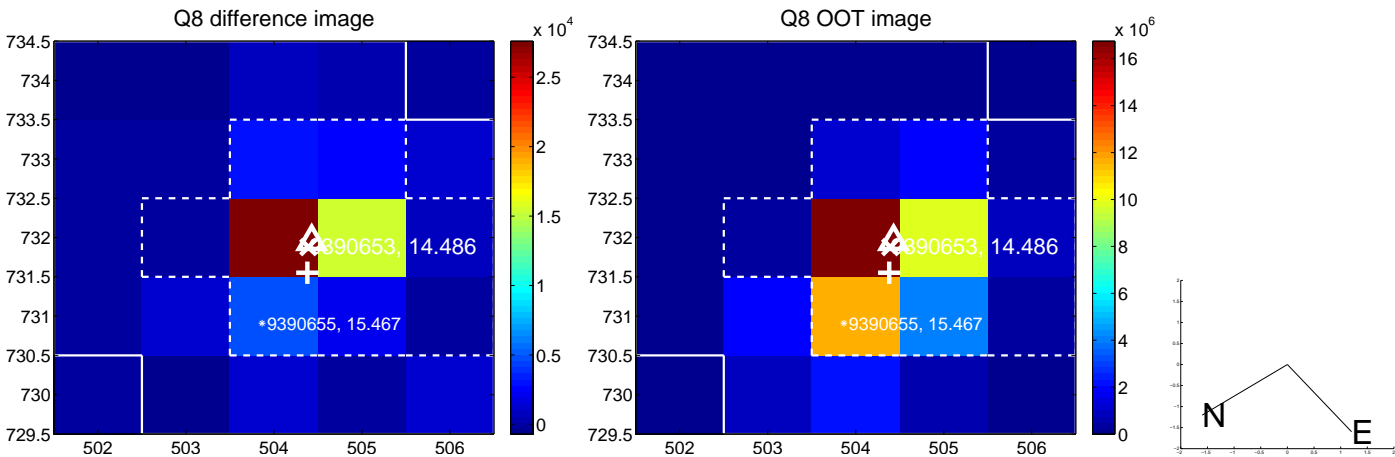
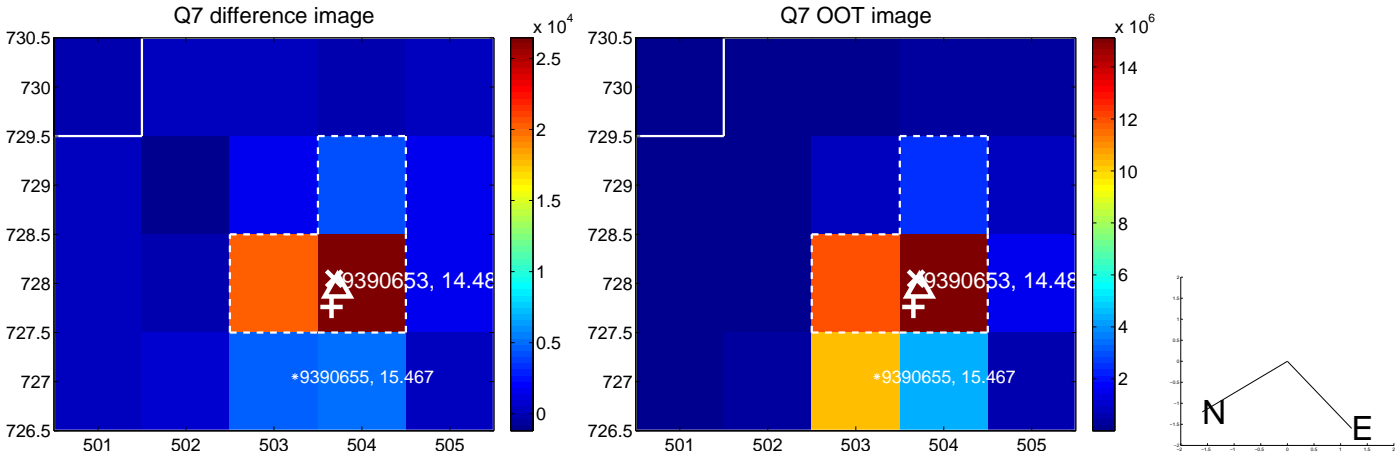
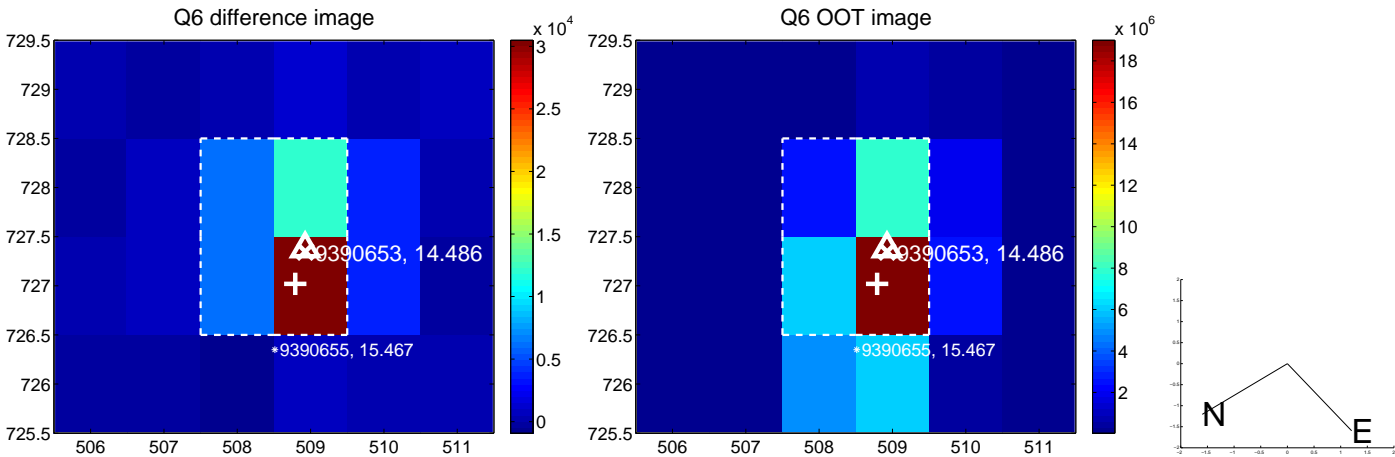
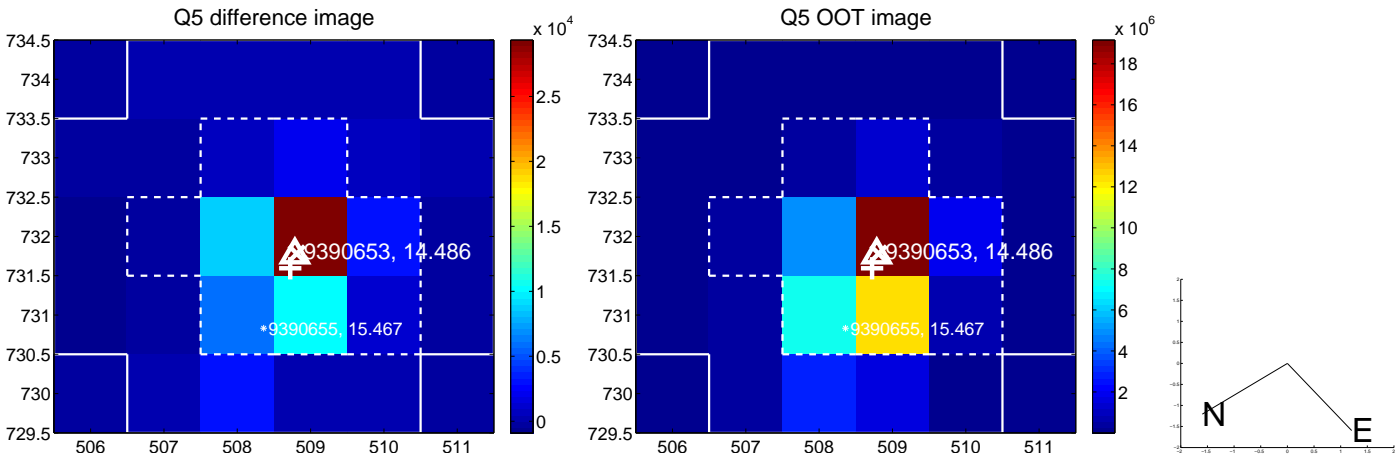


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

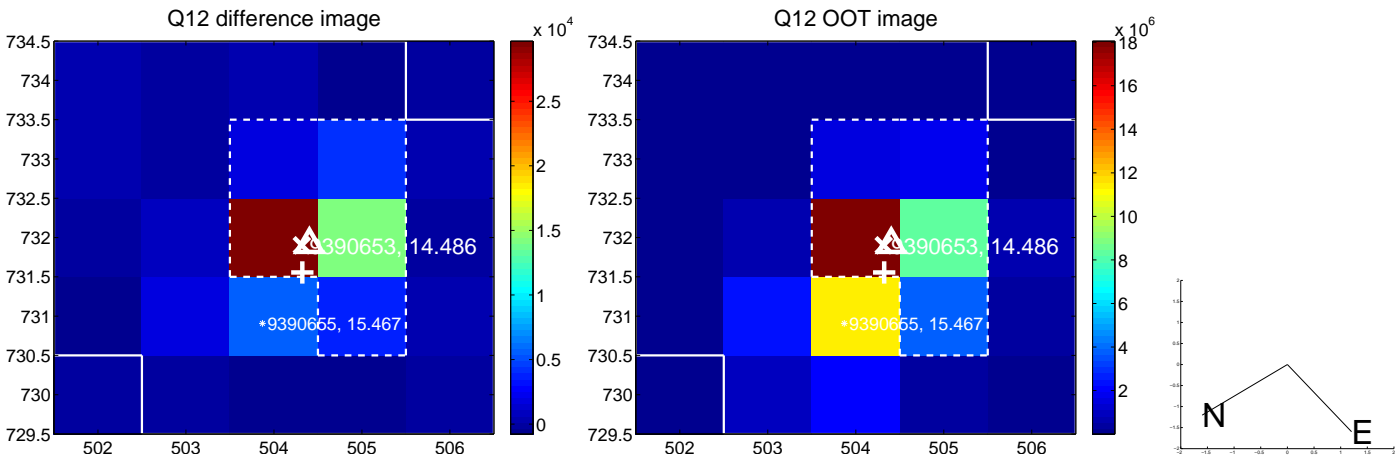
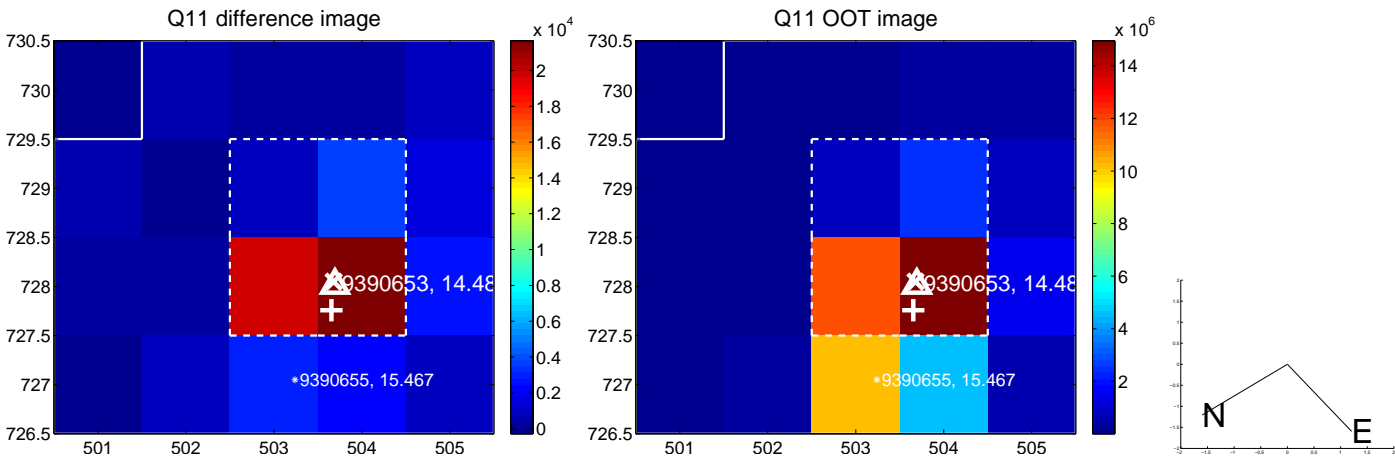
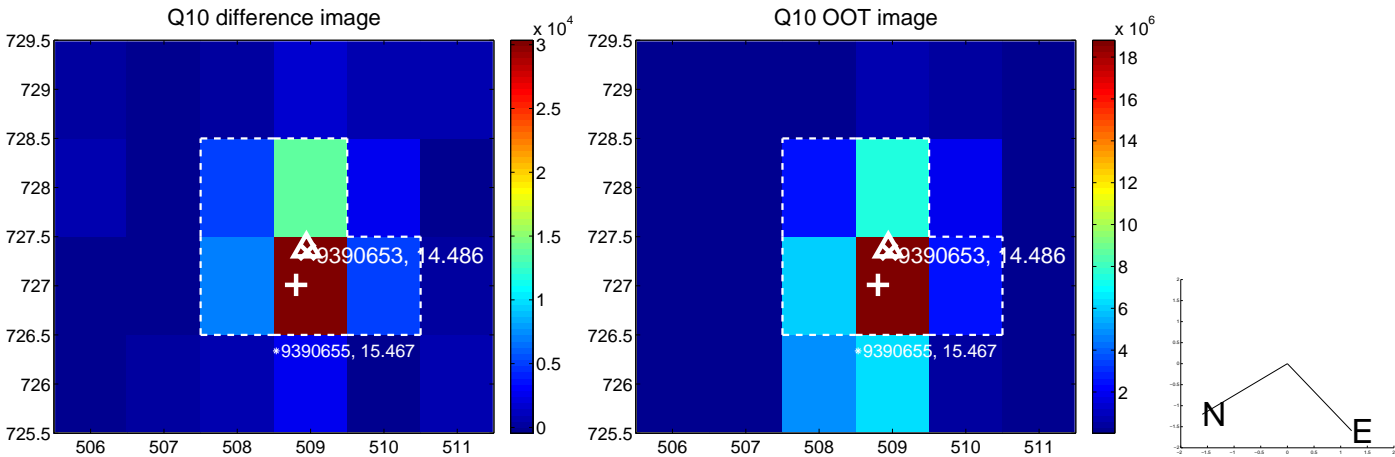
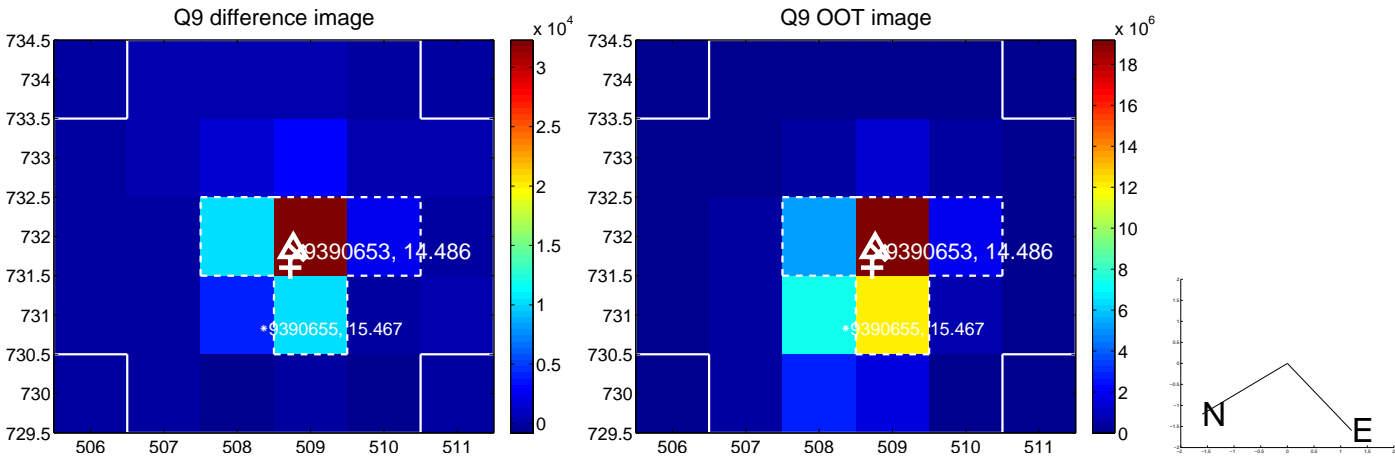
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



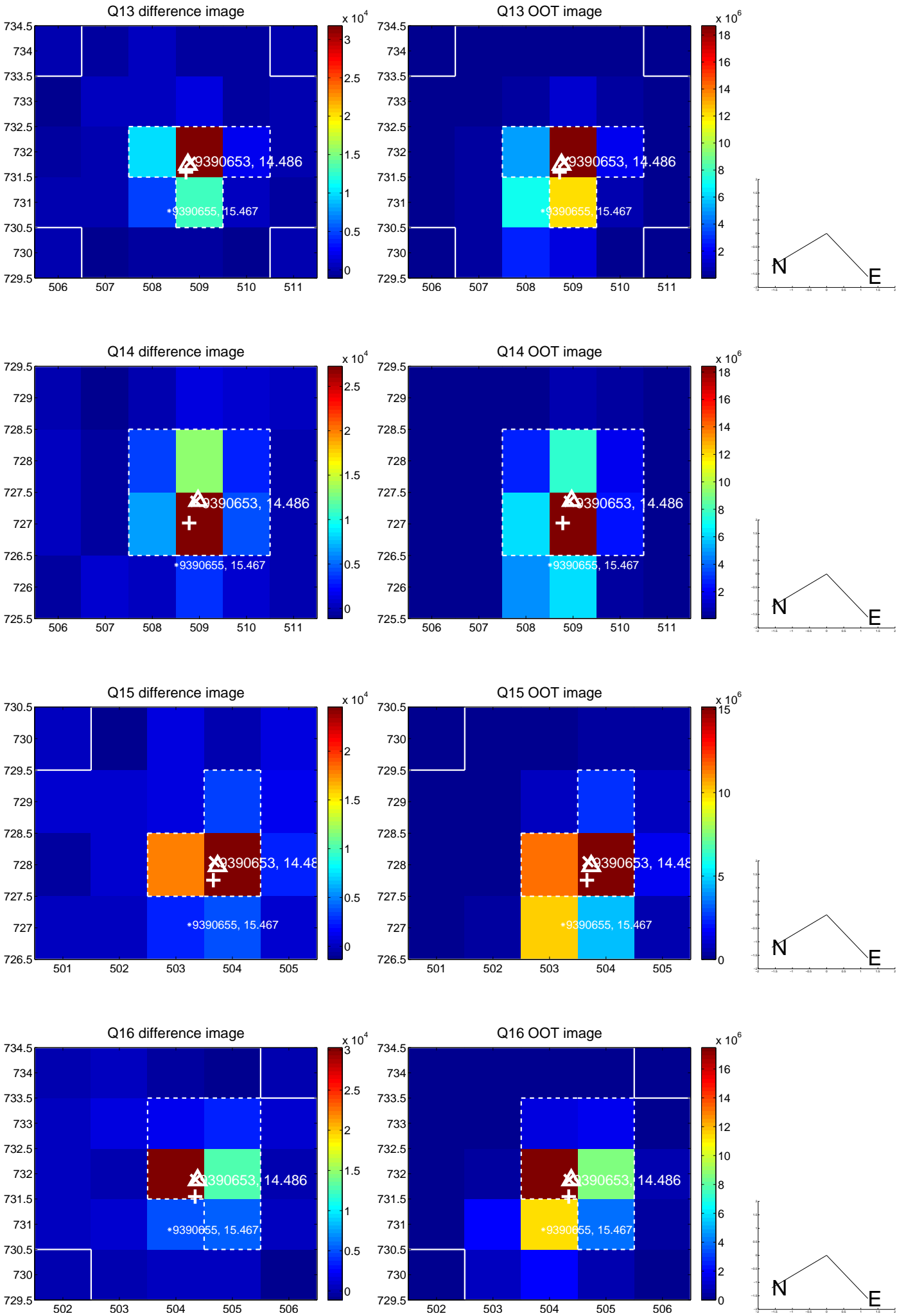
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



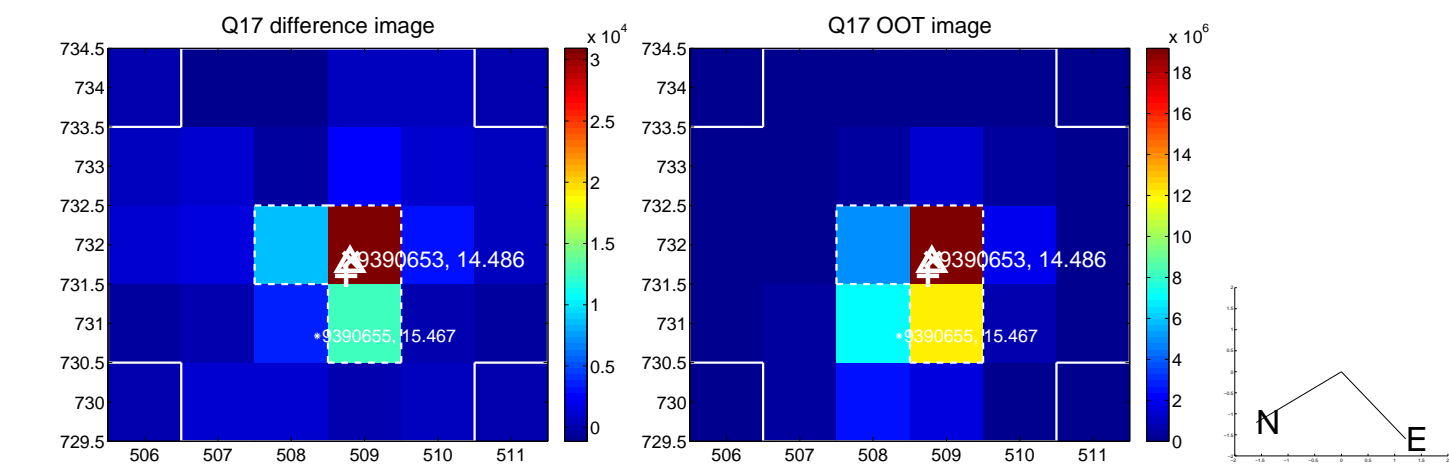
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



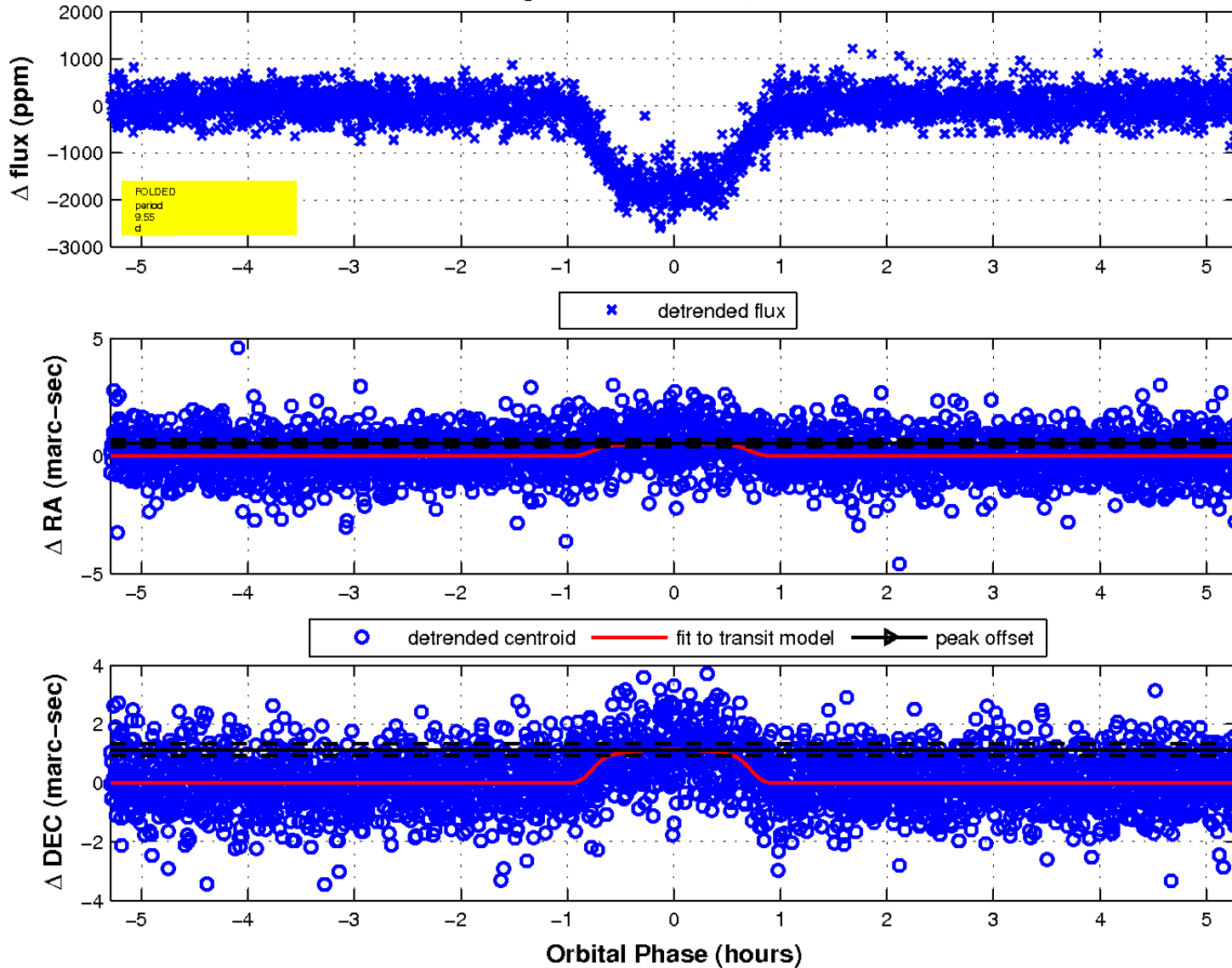
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

