

KIC 003654950

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})
003654950-01	OBS	1766.01	4.067371	134.316182	63517.6	5.908	1709.3	1408.9	0.75	5385	26.75	216.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003654950-01	OBS	FP	0.00	0	1	0	0	DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED

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 003654950-01

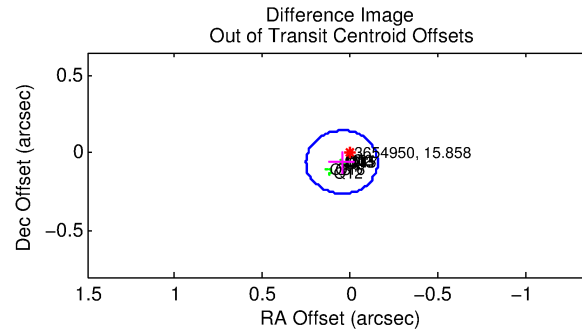
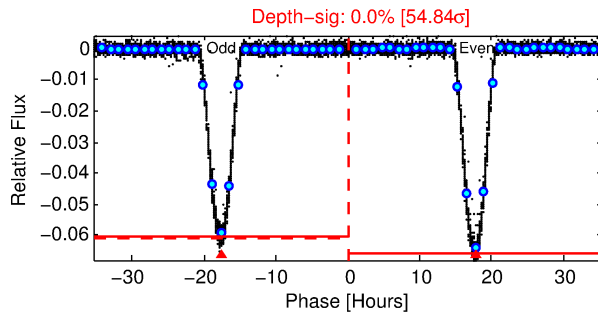
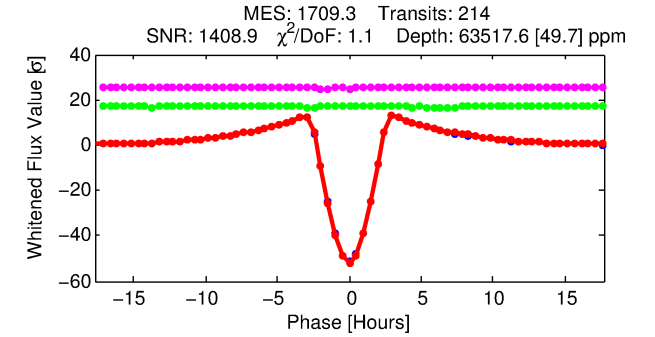
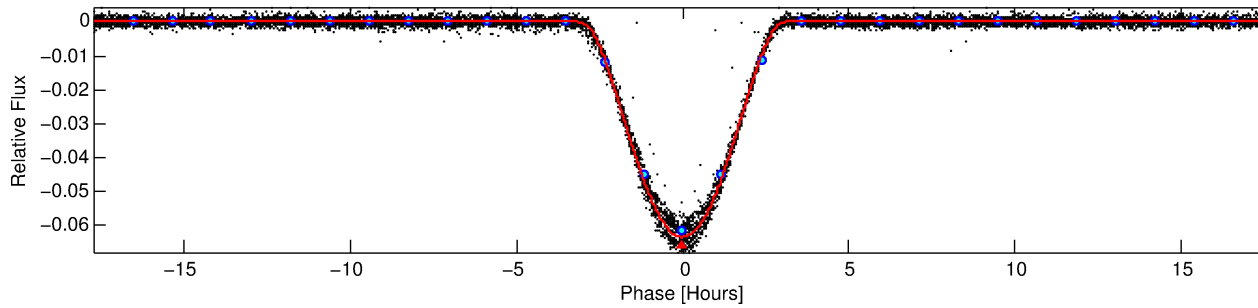
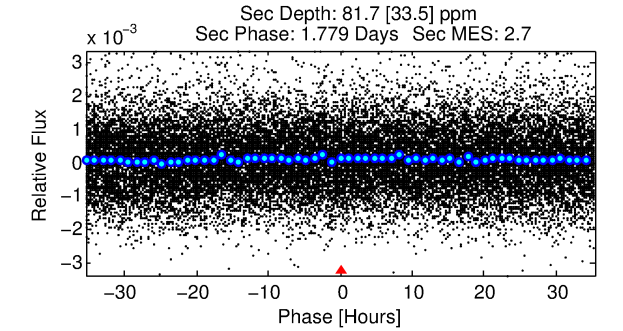
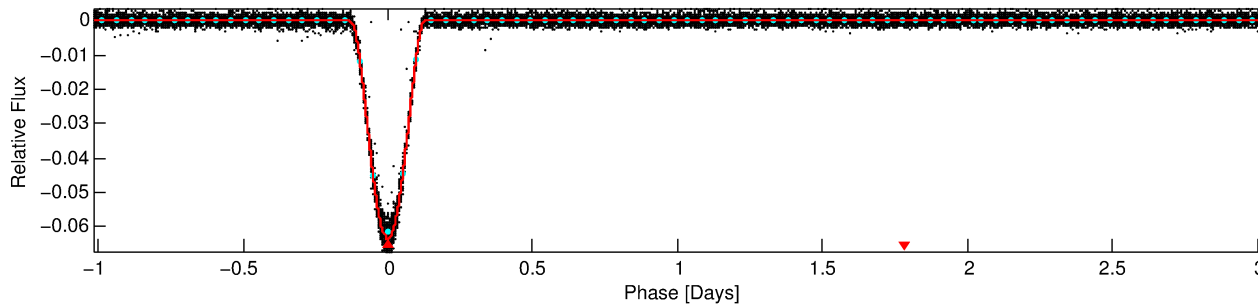
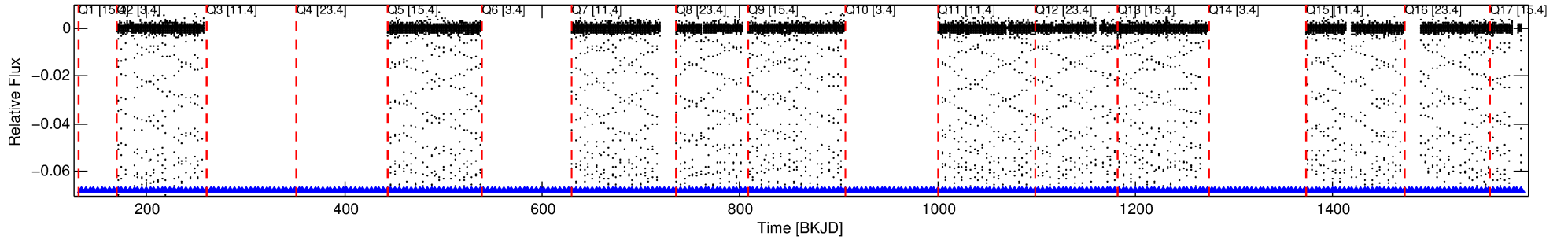
No Significant Match Found

DV One-Page Summary

KIC: 3654950 Candidate: 1 of 1 Period: 4.067 d

KOI: K01766.01 Corr: 0.999

Kp: 15.86 R*: 0.75 Rs Teff: 5385.0 K Logg: 4.53 Fe/H: -0.580



DV Fit Results:

Period = 4.06737 [0.00000] d
Epoch = 134.3162 [0.0001] BKJD
Rp/R* = 0.3268 [0.0078]
a/R* = 5.24 [0.01]
b = 0.90 [0.01]
Seff = 216.40 [49.30]
Teq = 978 [56] K
Rp = 26.75 [3.45] Re
a = 0.0443 [0.0052] AU
Ag = 0.12 [0.06] [-15.74σ]
Teffp = 895 [97] K [-0.74σ]

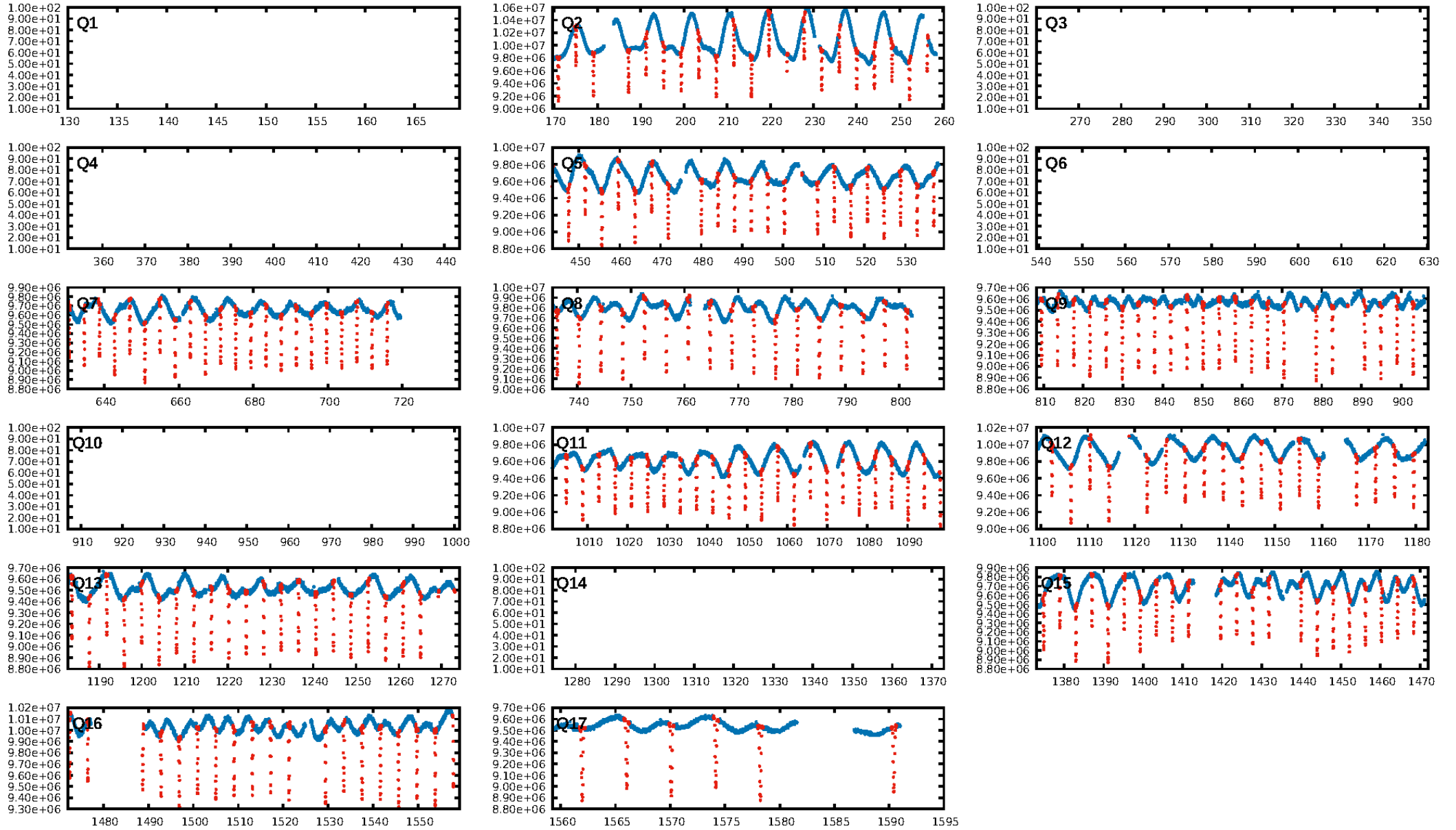
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [208/208]
GhostDiagnostic-chr: 2.201
Centroid-sig: 0.0%
Centroid-so: 0.389 arcsec [57.97σ]
OotOffset-rm: 0.077 arcsec [1.13σ]
KicOffset-rm: 0.120 arcsec [1.74σ]
OotOffset-st: 1/3/3/4 [11]
KicOffset-st: 1/3/3/4 [11]
DiffImageQuality-fgm: 1.00 [11/11]
DiffImageOverlap-fno: 1.00 [11/11]

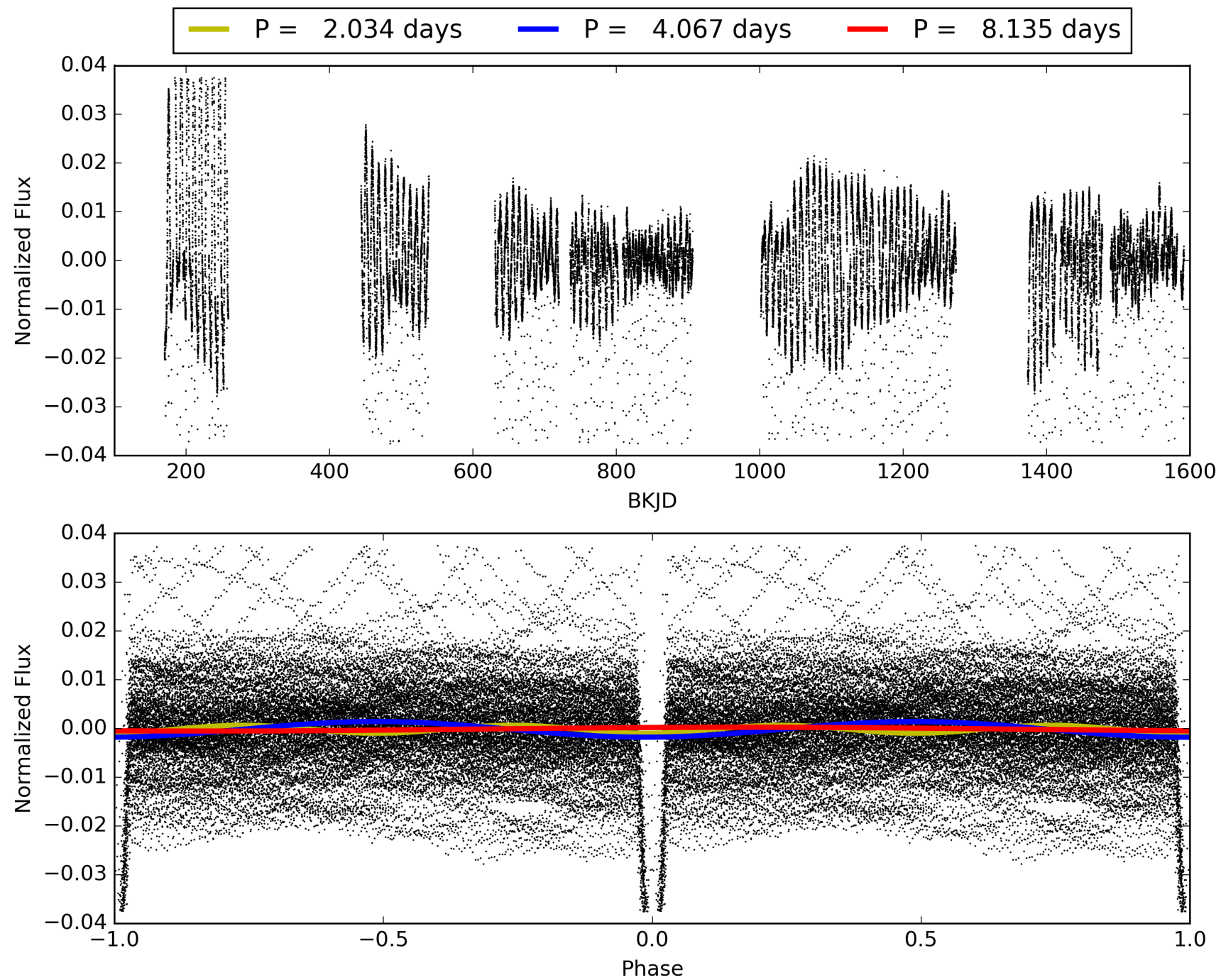
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:33:41 Z

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

TCE 003654950-01, PDC Light Curves

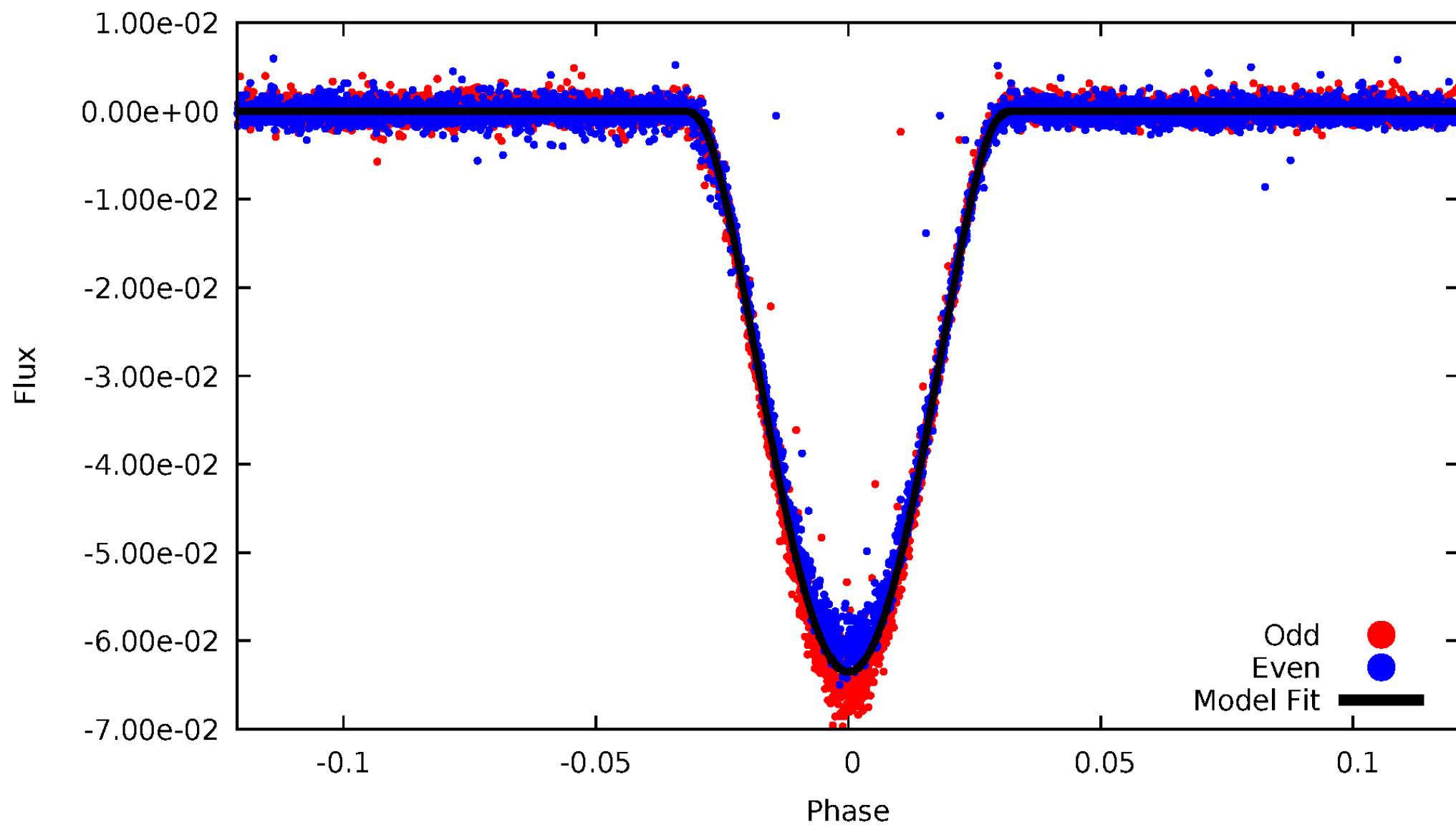


TCE 003654950-01



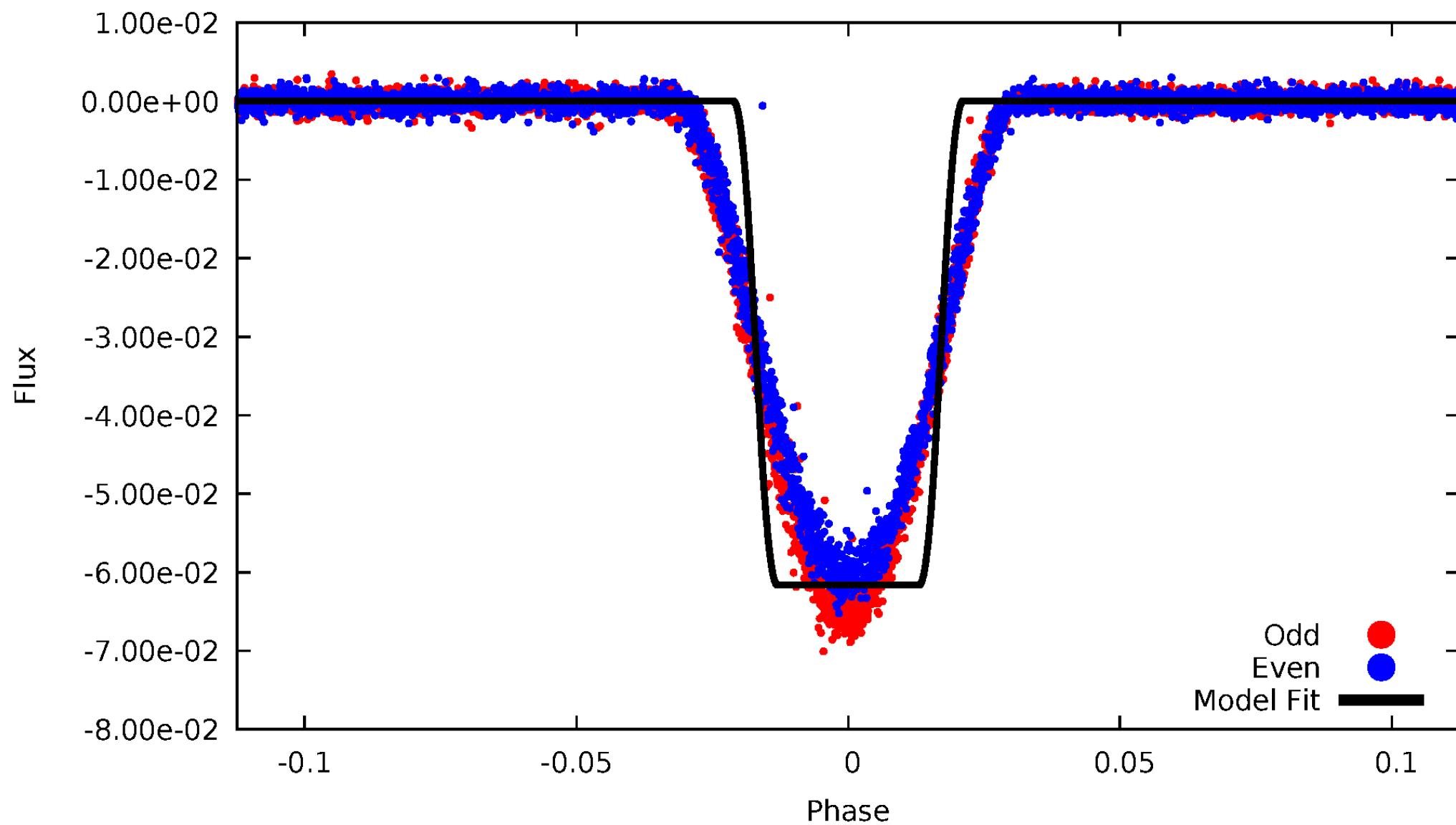
DV Odd/Even

TCE 003654950-01



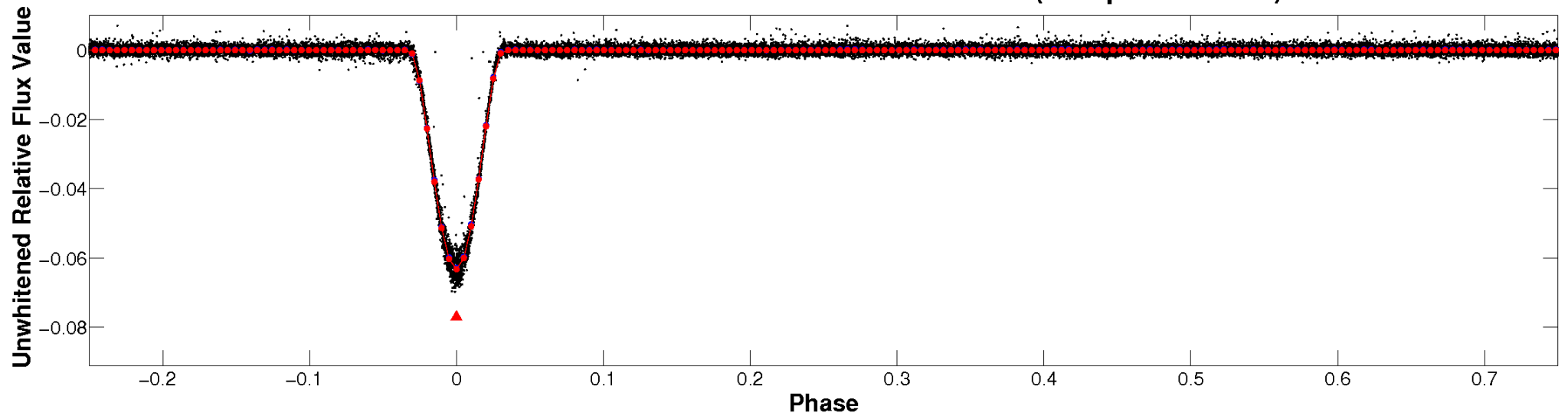
ALT Odd/Even

TCE 003654950-01

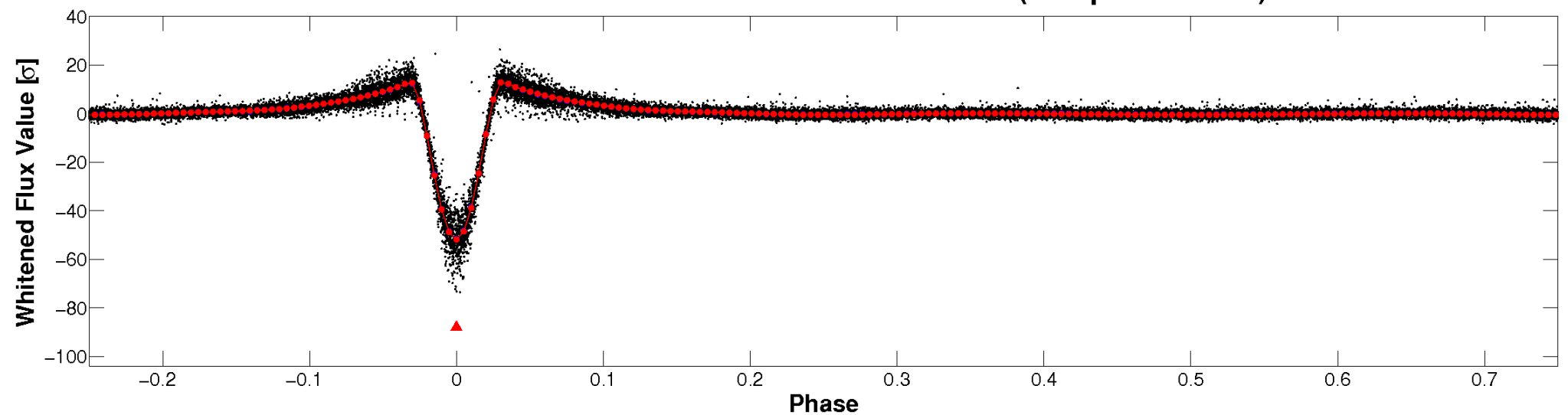


Non-Whitened Vs. Whitened Light Curve

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

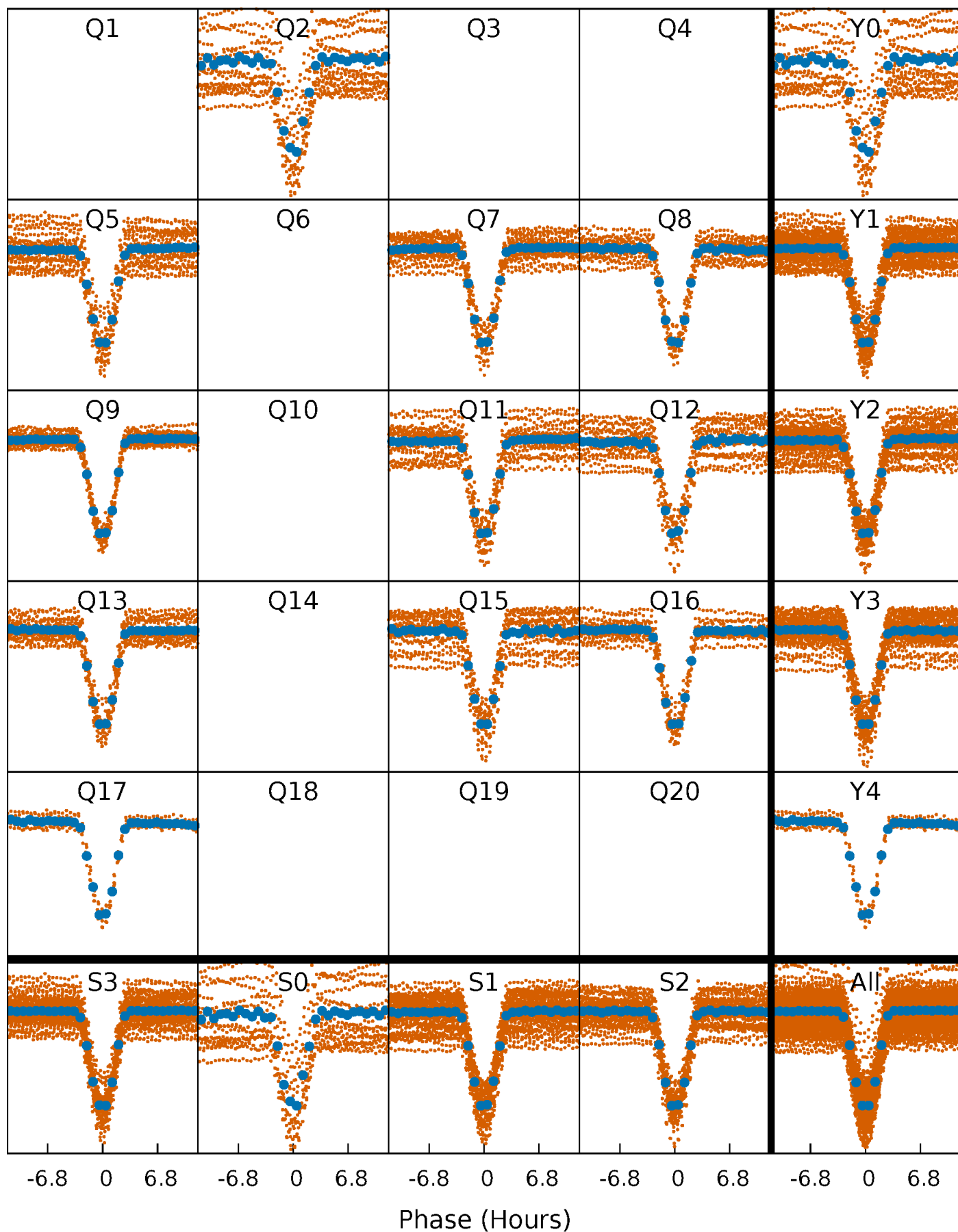


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



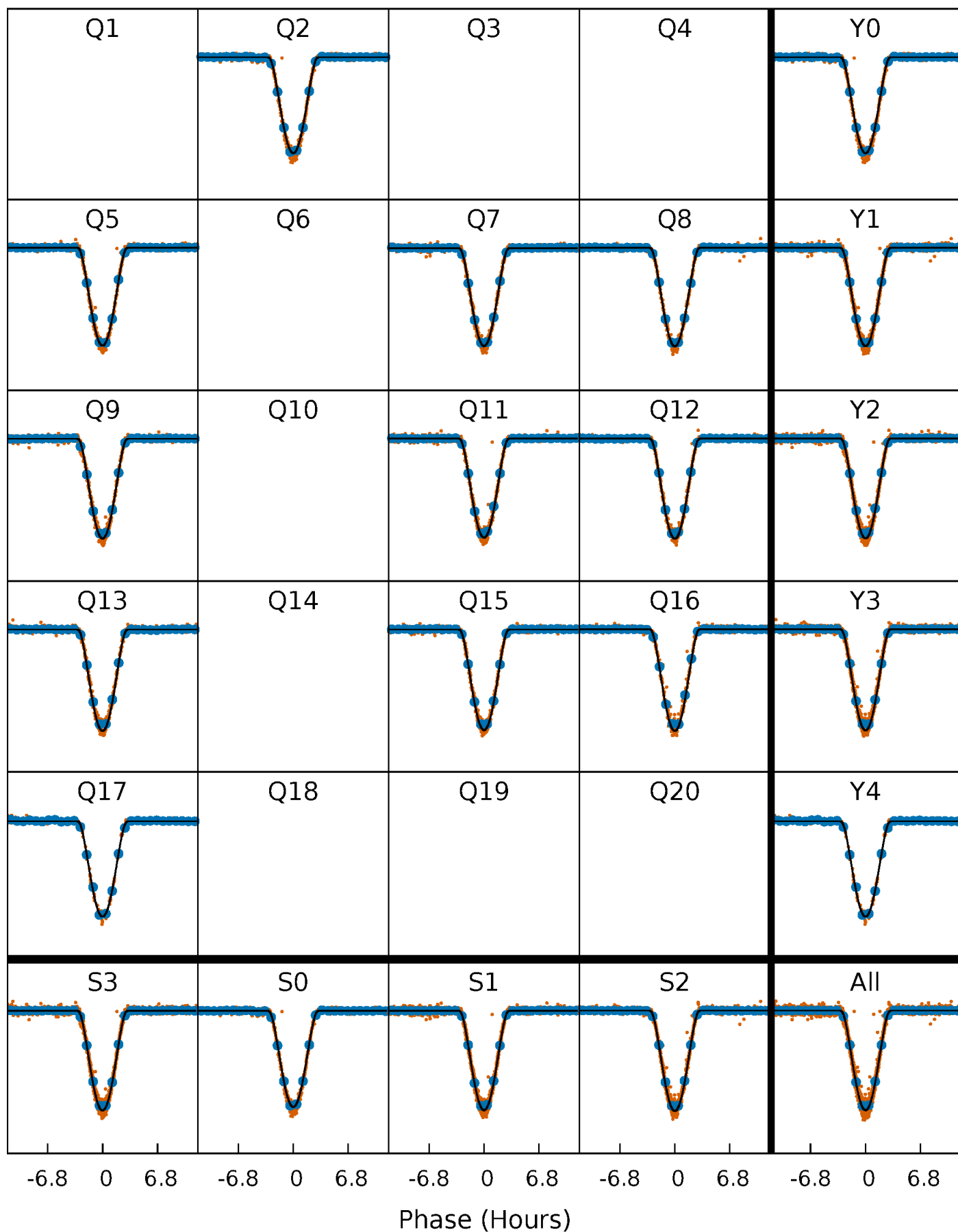
PDC Quarter-Phased Transit Curves

TCE 003654950-01 P= 4.067371 Days $T_0=134.316182$ (BKJD)



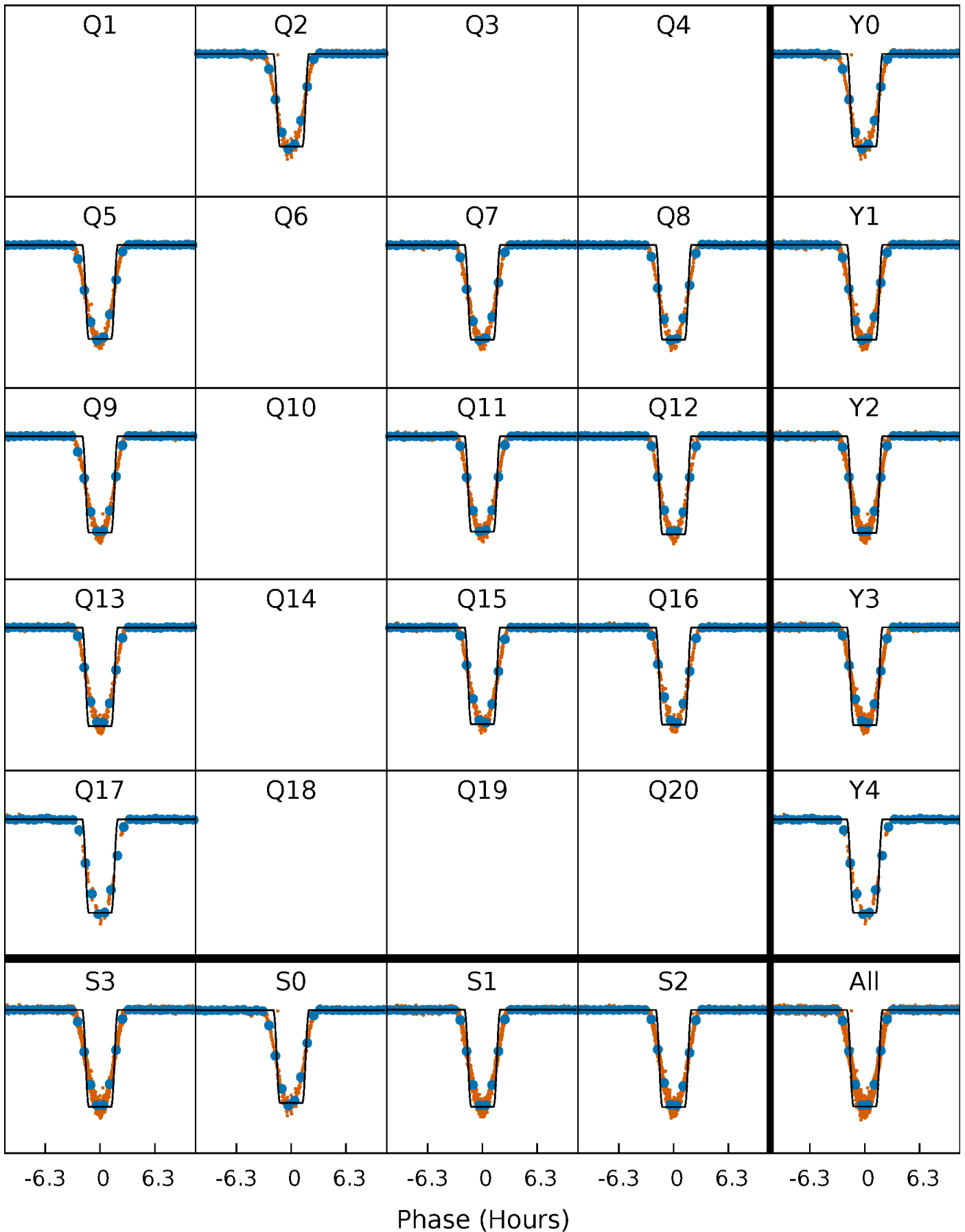
DV Quarter-Phased Transit Curves

TCE 003654950-01 P= 4.067371 Days $T_0=134.316182$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

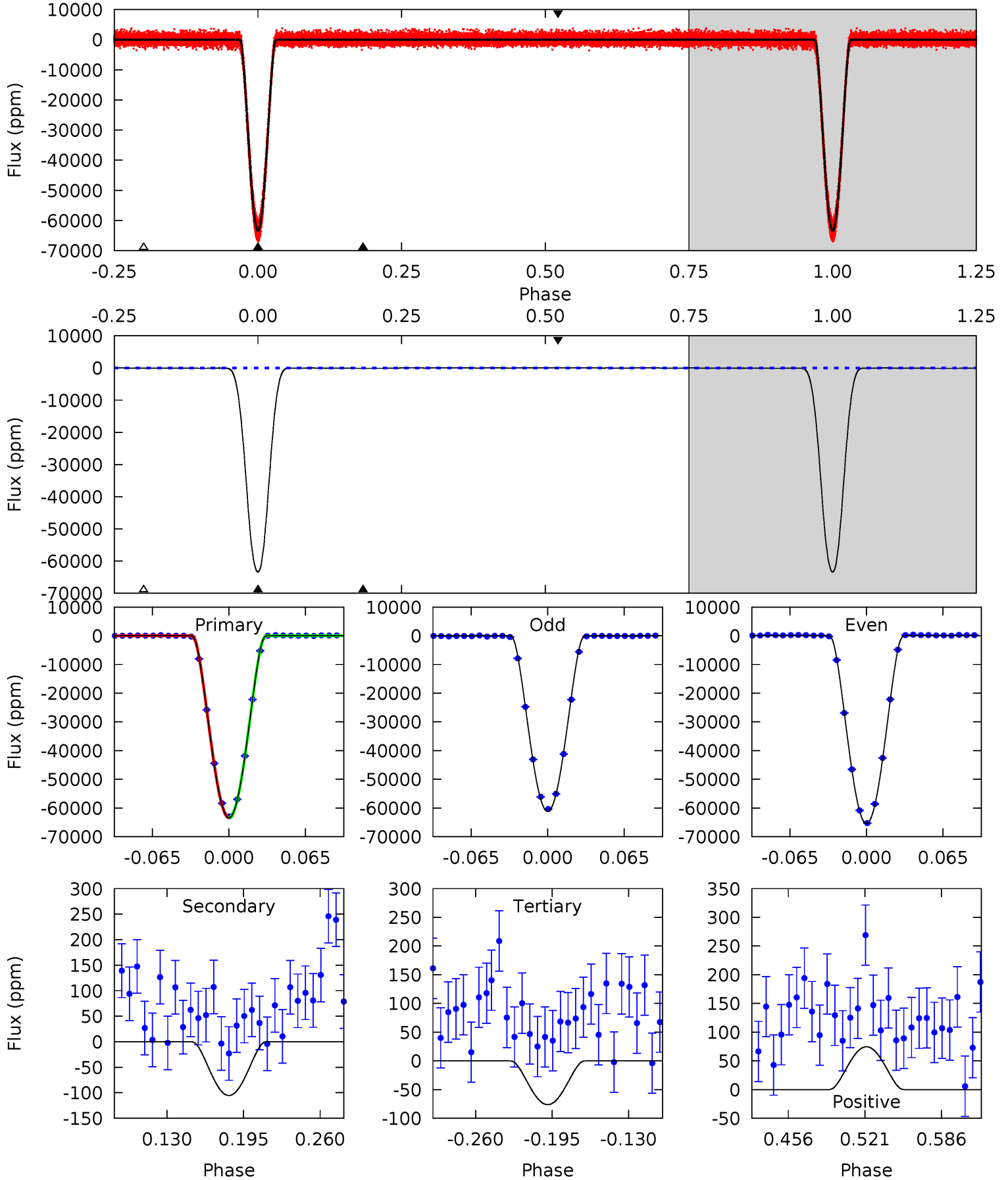
TCE 003654950-01 P= 4.067340 Days $T_0=134.322526$ (BKJD)



DV Model-Shift Uniqueness Test

003654950-01, P = 4.067371 Days, E = 134.316182 Days

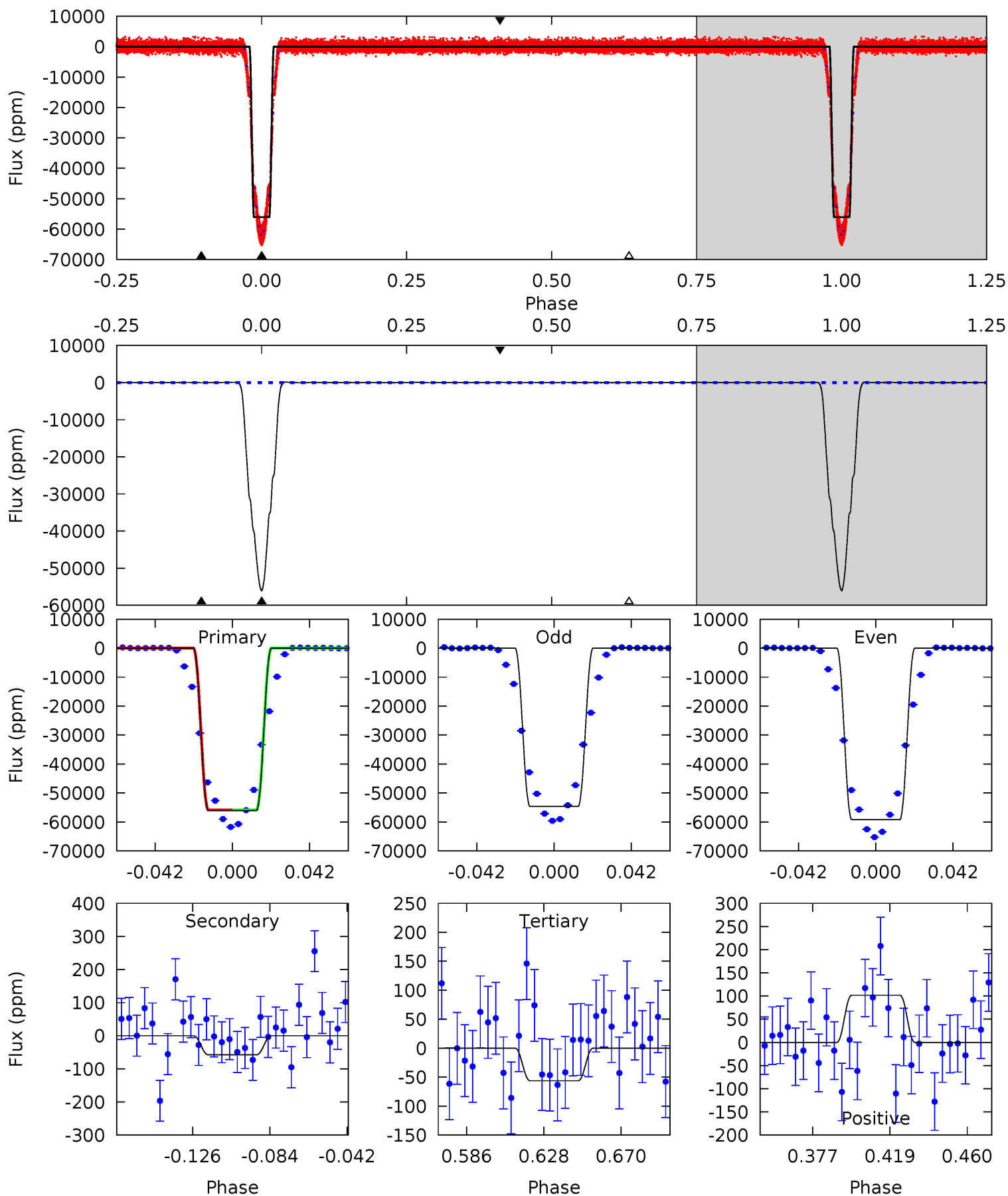
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3501	5.82	4.21	4.12	4.65	1.84	2.18	3497	3497	1.61	1.70	120.7	0.99	0.00	0



Alt Model-Shift Uniqueness Test

003654950-01, P = 4.067340 Days, E = 134.322526 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2184	2.25	2.19	3.97	4.74	2.03	1.15	2182	2180	0.05	-1.72	97.3	0.99	0.00	0



Stellar Parameters For KIC 003654950

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5385^{+177}_{-160}	$4.532^{+0.108}_{-0.081}$	$-0.580^{+0.350}_{-0.300}$	$0.750^{+0.095}_{-0.086}$	$0.698^{+0.100}_{-0.036}$	$2.331^{+0.987}_{-0.584}$
	+3%/-3%	+2%/-2%	+60%/-52%	+13%/-11%	+14%/-5%	+42%/-25%
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 003654950-01 / KOI 1766.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-105 ± 18	$26.73^{+2.23}_{-1.91}$	1360^{+66}_{-59}	-1931^{+84}_{-70}	$0.159^{+0.042}_{-0.033}$
Alt.	-58 ± 26	$20.34^{+1.74}_{-1.54}$	1364^{+60}_{-62}	-1940^{+125}_{-95}	$0.153^{+0.068}_{-0.067}$

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 $A_{obs} \gg 1.0$

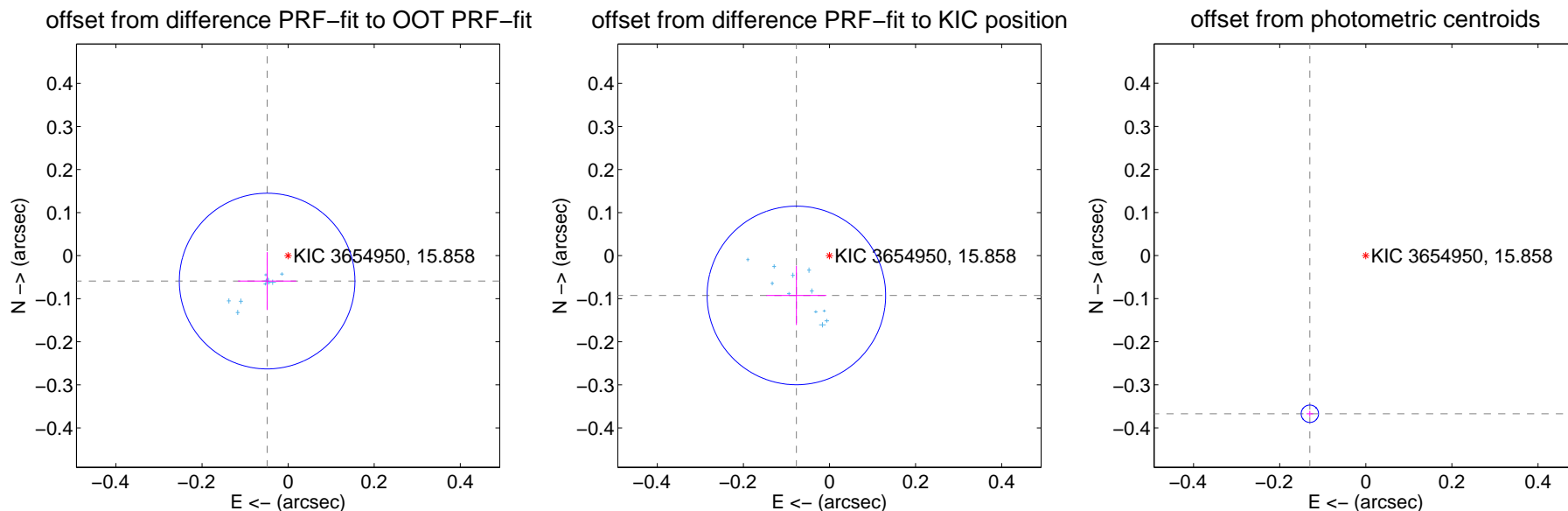
DV Centroid Data

Supplemental centroid analysis for 003654950-01. Kepler magnitude: 15.86. Transit SNR 1408.88

There are 11 quarters with good PRF difference image offsets

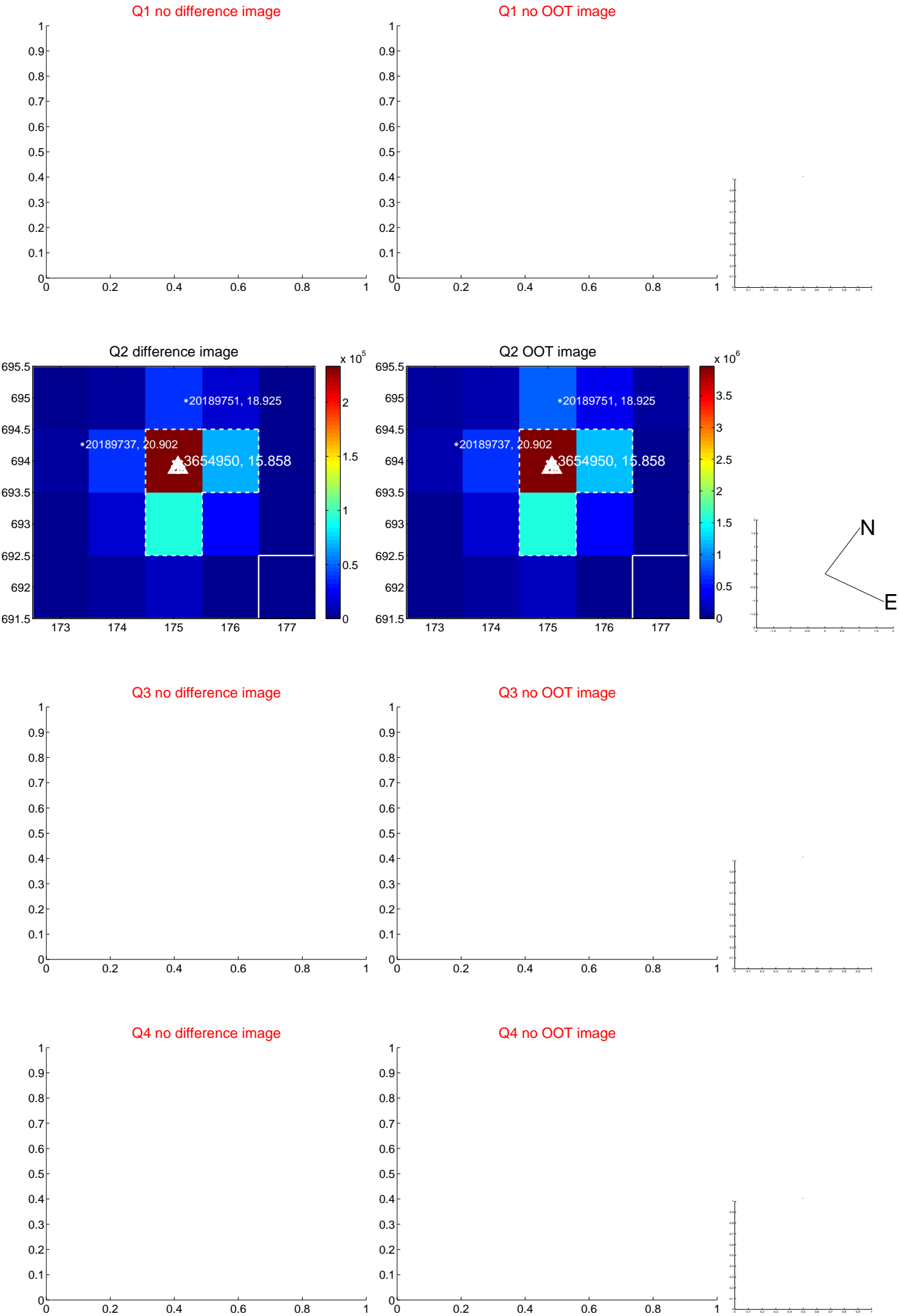
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.077 ± 0.068	1.13	0.049 ± 0.068	-0.059 ± 0.067
PRF-fit source offset from KIC position	0.120 ± 0.069	1.74	0.077 ± 0.070	-0.092 ± 0.069
photometric centroid source offset	0.39 ± 0.01	57.97	0.13 ± 0.01	-0.37 ± 0.01

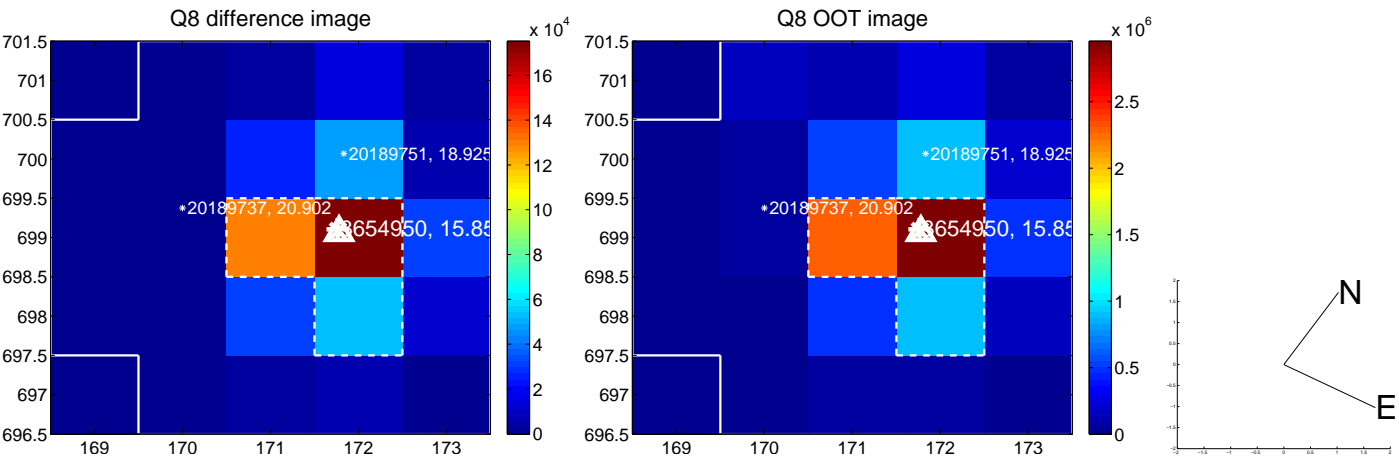
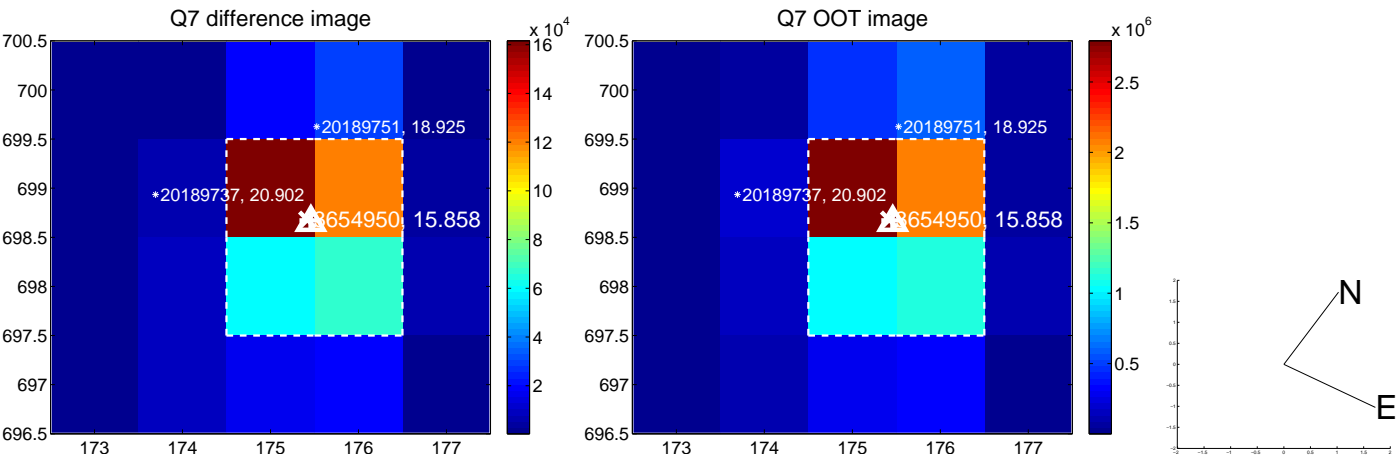
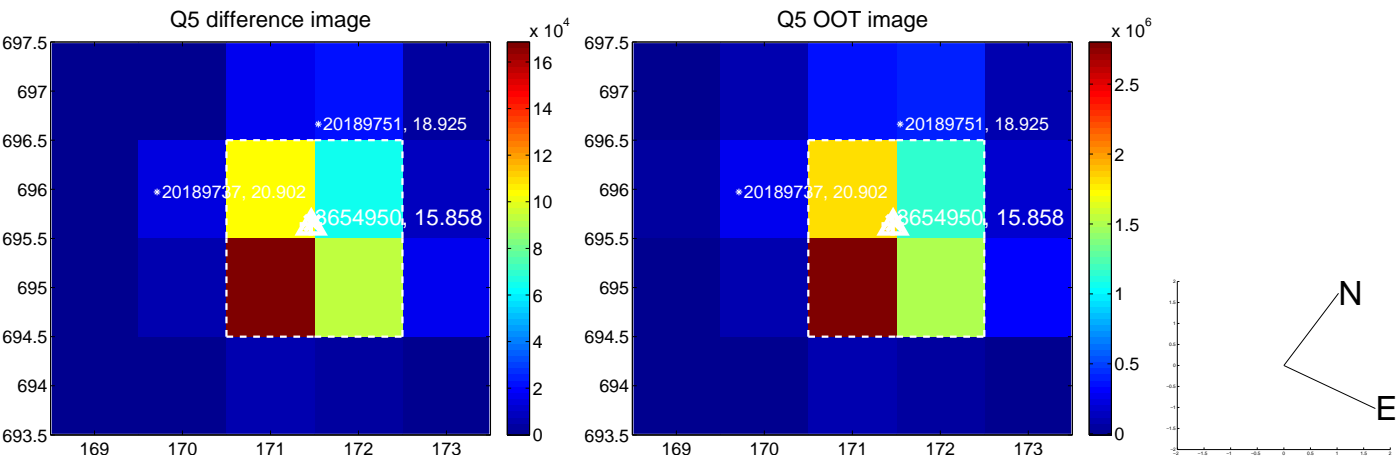


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

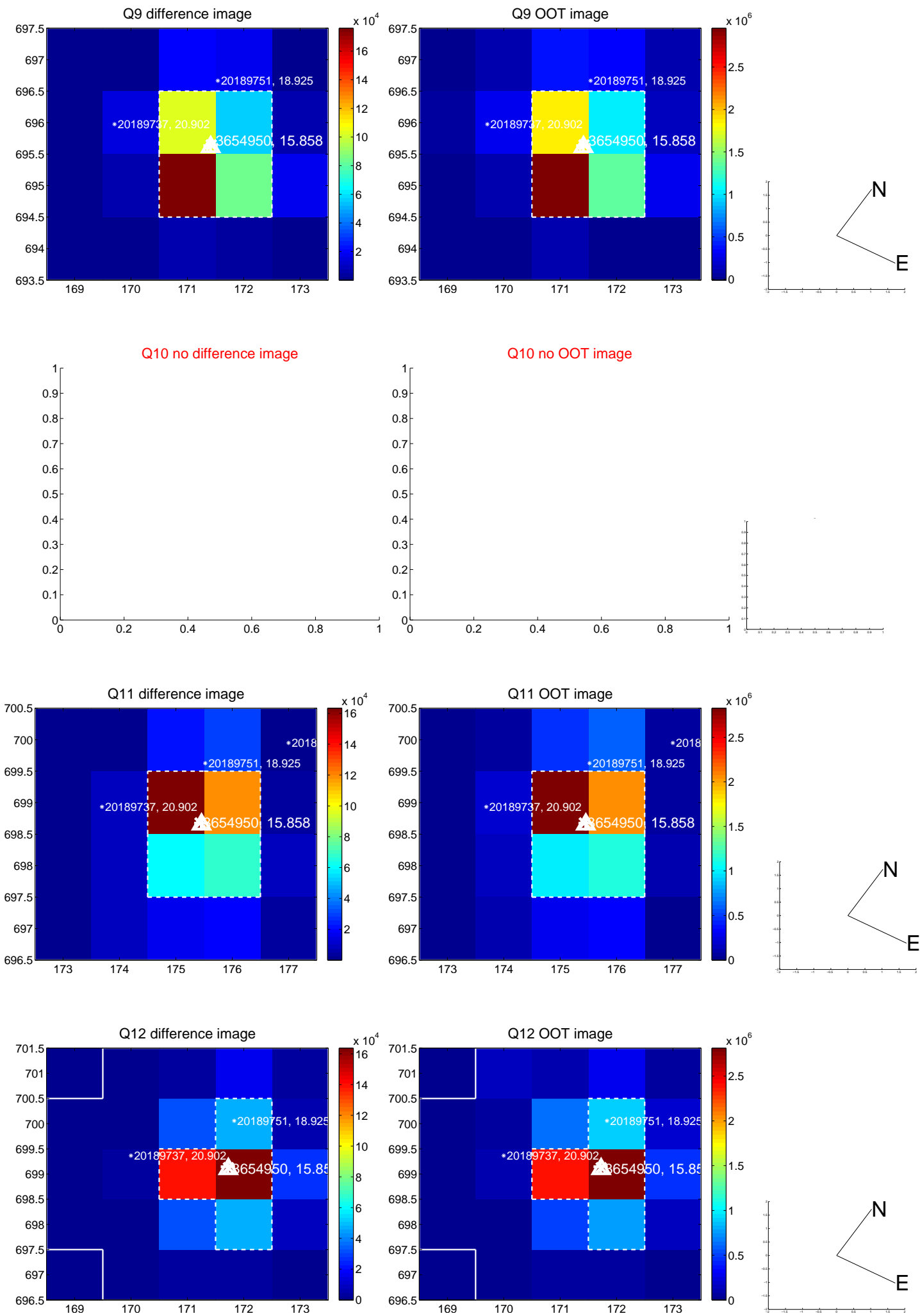
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



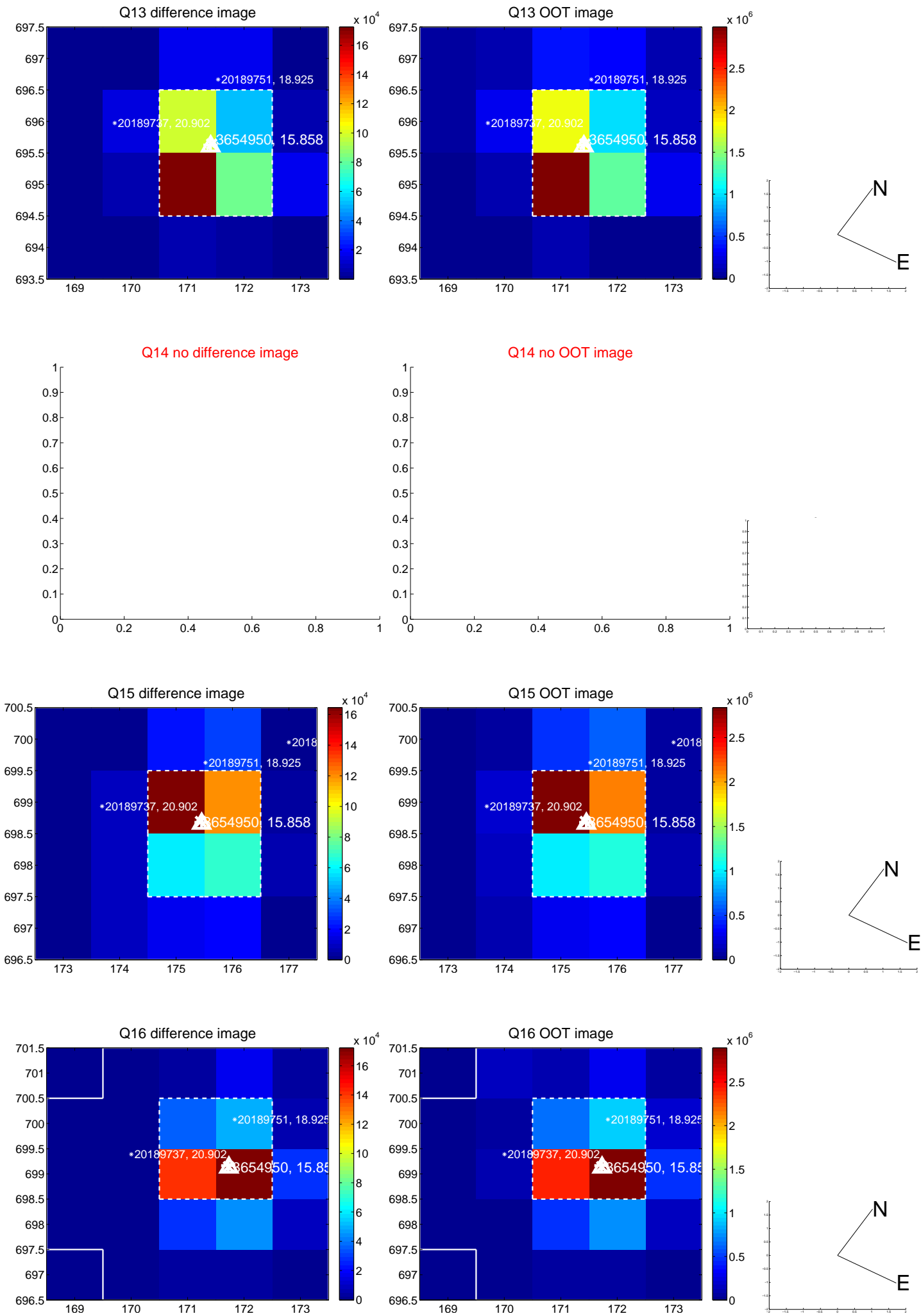
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



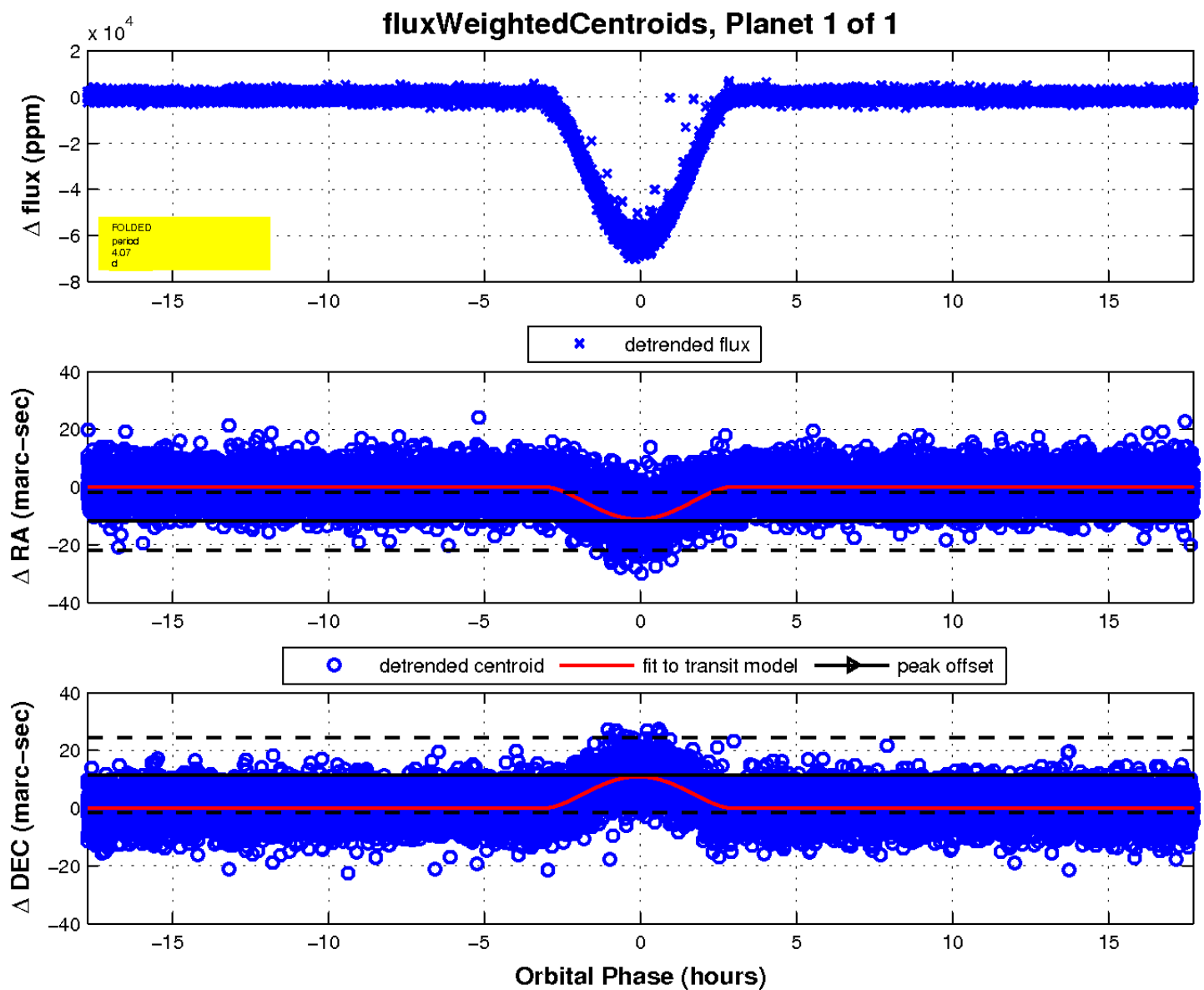
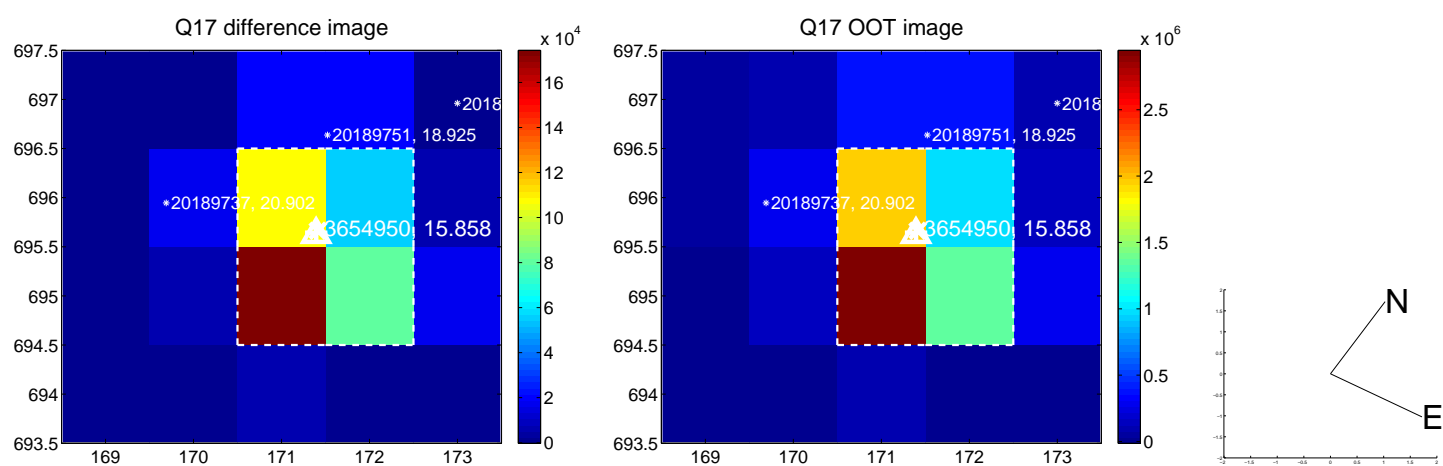
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

