

KIC 012644822

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})
012644822-01	OBS	0791.01	12.611900	143.056940	6138.4	5.221	207.6	208.1	0.92	5795	7.56	76.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012644822-01	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.

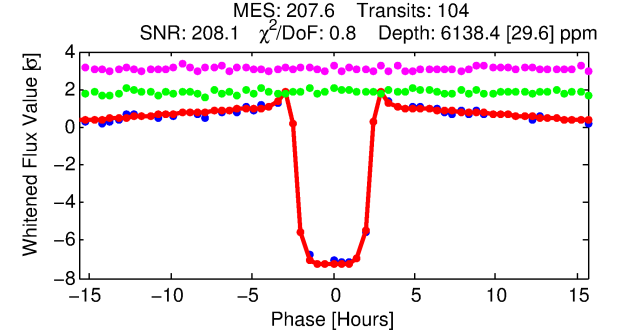
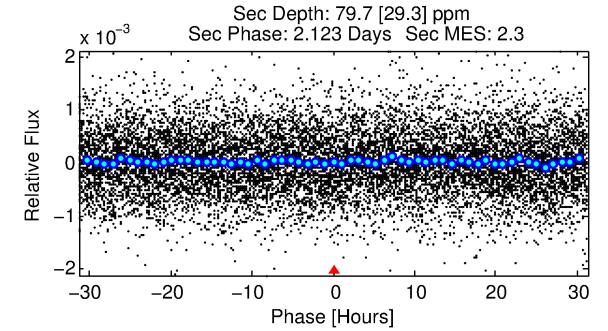
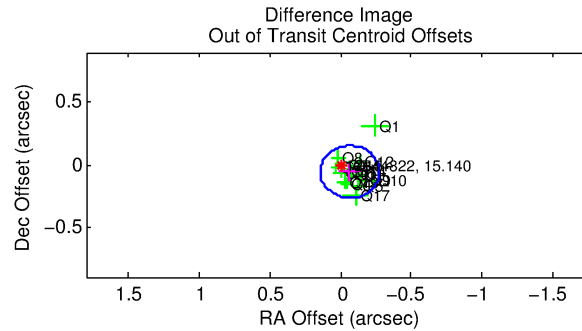
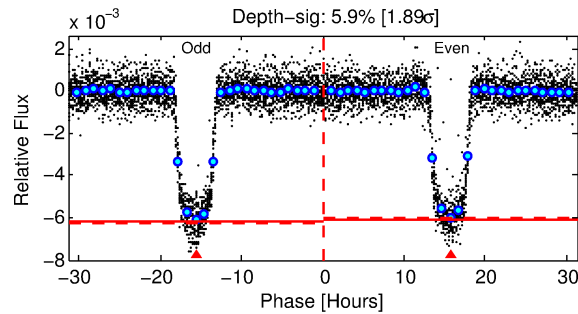
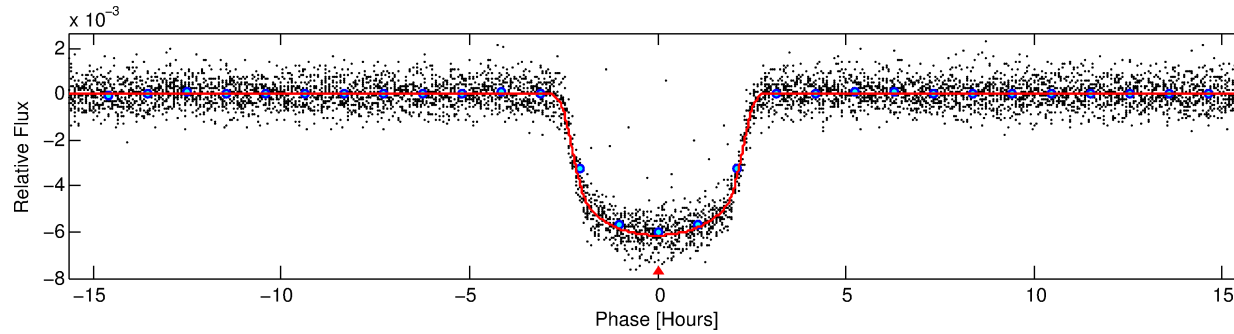
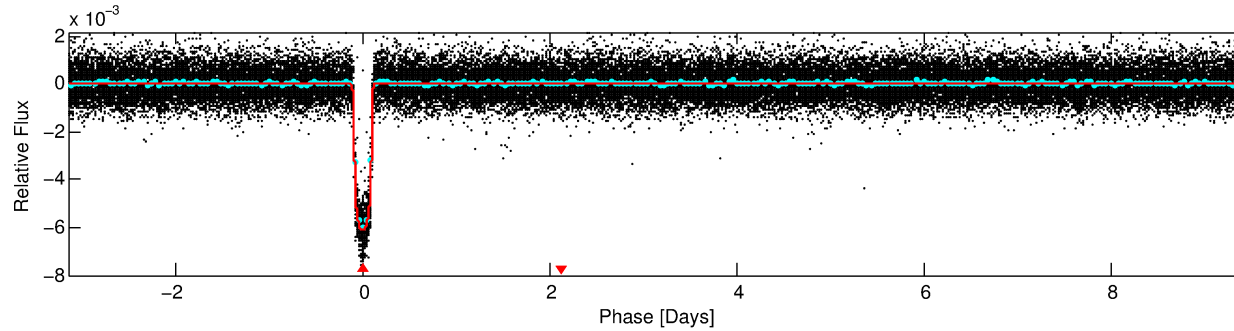
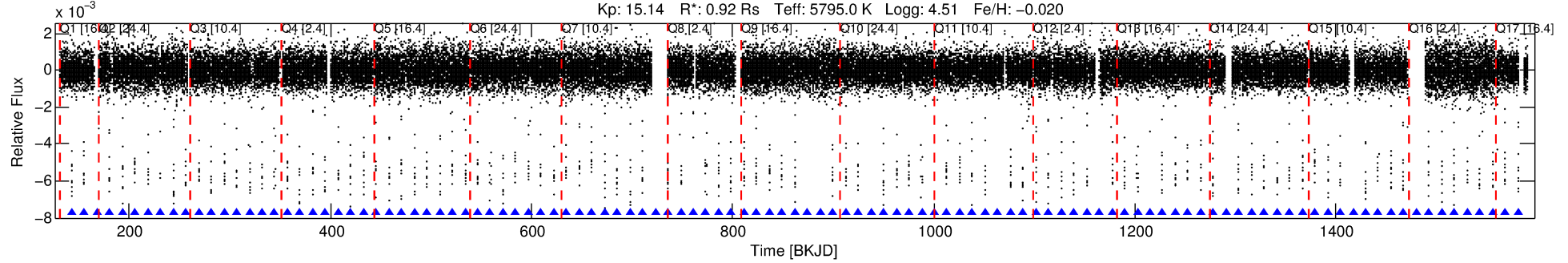
Ephemeris Match Information For 012644822-01

No Significant Match Found

DV One-Page Summary

KIC: 12644822 Candidate: 1 of 1 Period: 12.612 d
KOI: K00791.01 Corr: 0.995

Kp: 15.14 R*: 0.92 Rs Teff: 5795.0 K Logg: 4.51 Fe/H: -0.020



DV Fit Results:

Period = 12.61190 [0.00001] d
Epoch = 143.0569 [0.0004] BKJD
Rp/R* = 0.0754 [0.0006]
a/R* = 16.02 [0.49]
b = 0.64 [0.03]
Seff = 76.26 [30.06]
Teq = 754 [74] K
Rp = 7.56 [2.25] Re
a = 0.1058 [0.0269] AU
Ag = 8.59 [4.51] [1.68σ]
Teffp = 1994 [193] K [6.01σ]

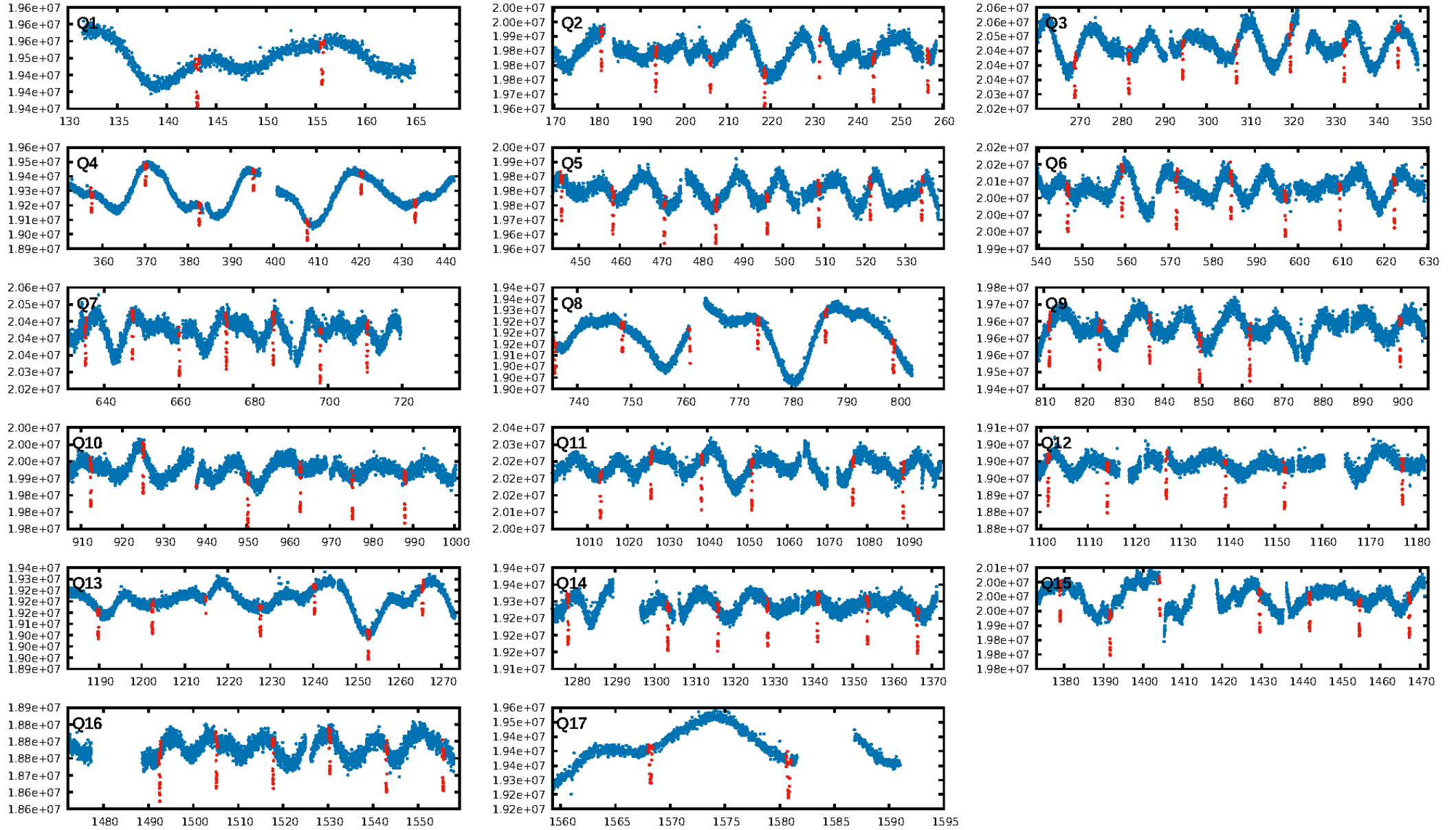
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 96.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [100/100]
GhostDiagnostic-chr: 3.521
Centroid-sig: 0.0%
Centroid-so: 1.123 arcsec [25.74σ]
OotOffset-rm: 0.087 arcsec [1.25σ]
KicOffset-rm: 0.037 arcsec [0.53σ]
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]

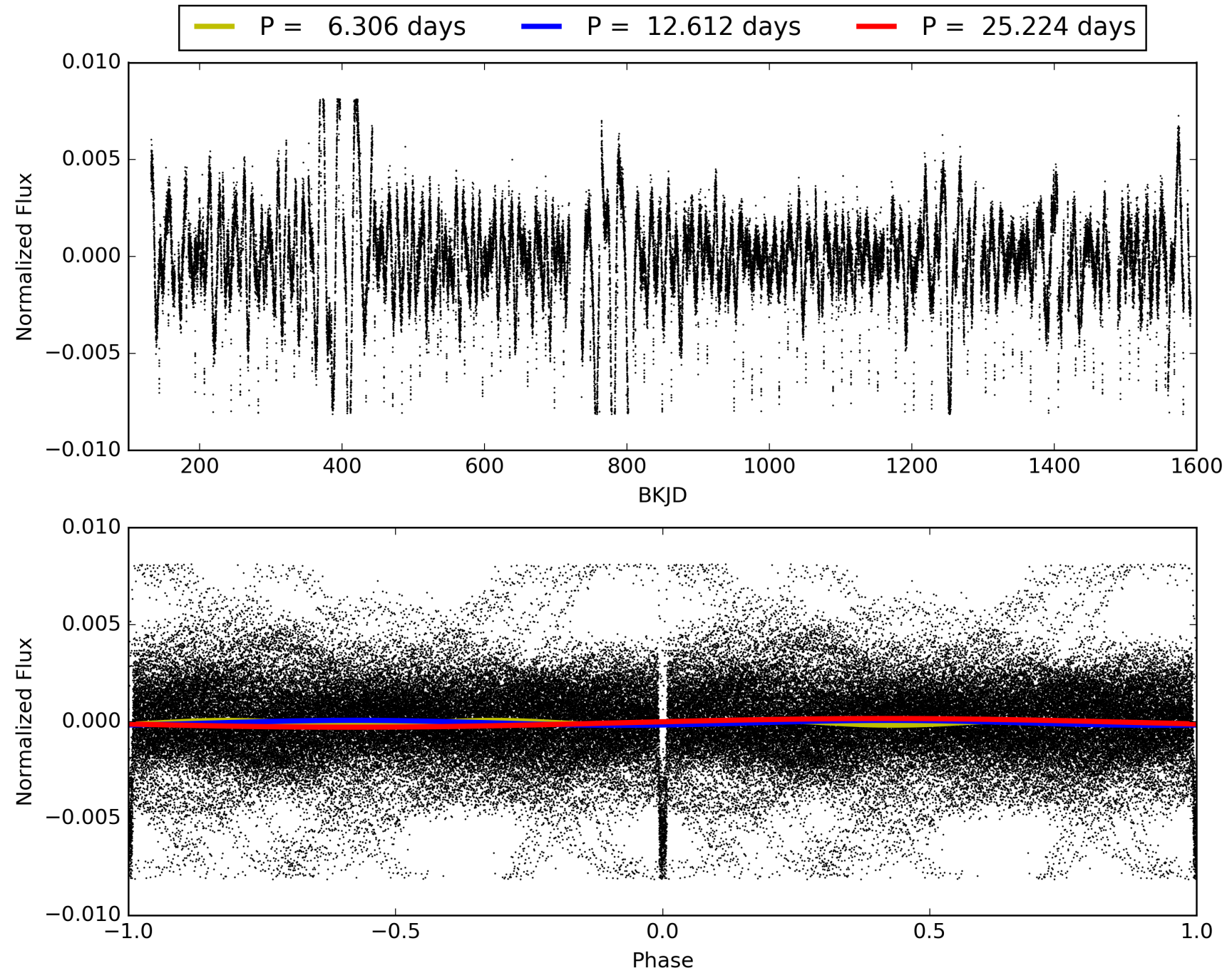
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:22:16 Z

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

TCE 012644822-01, PDC Light Curves

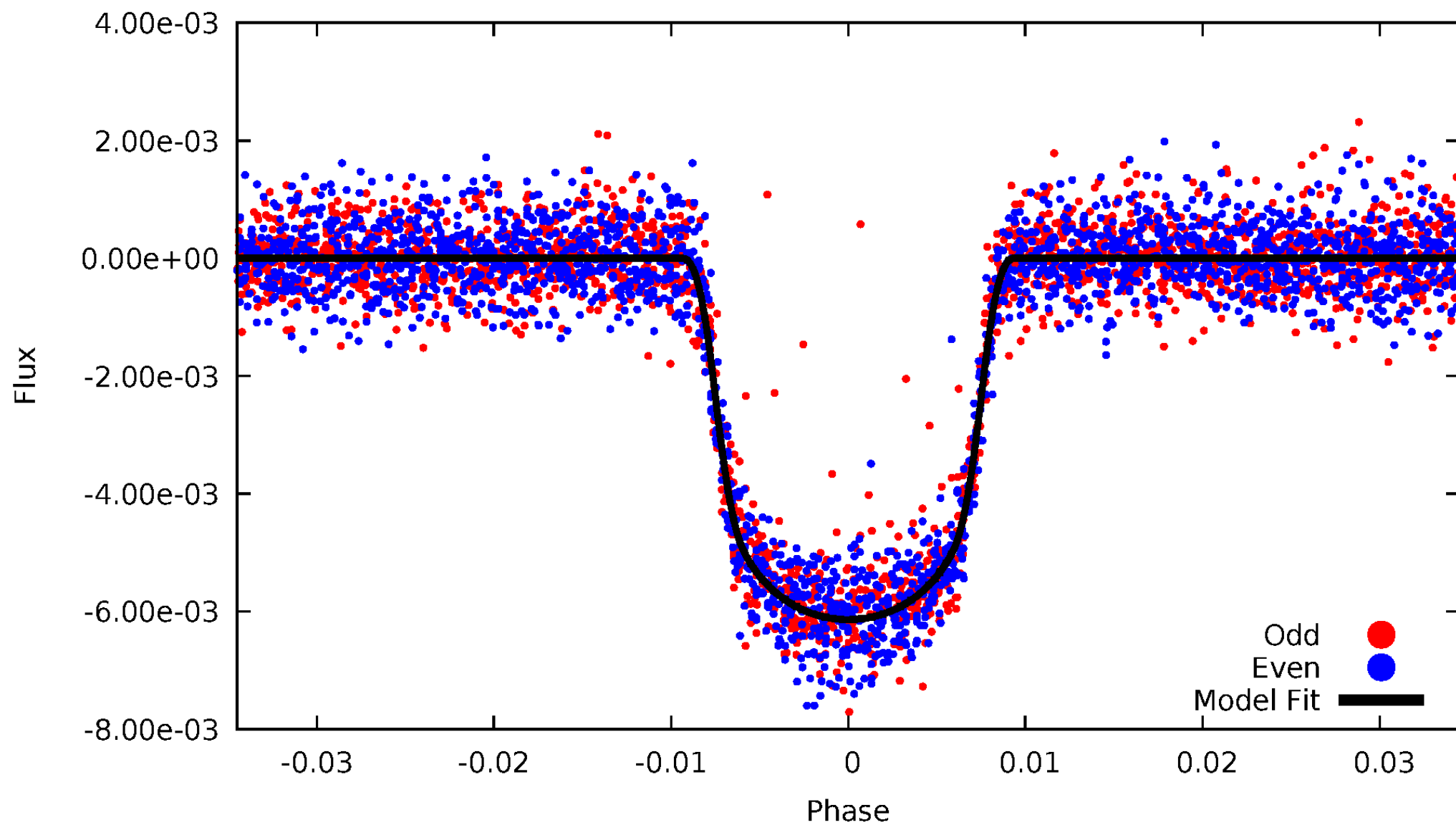


TCE 012644822-01



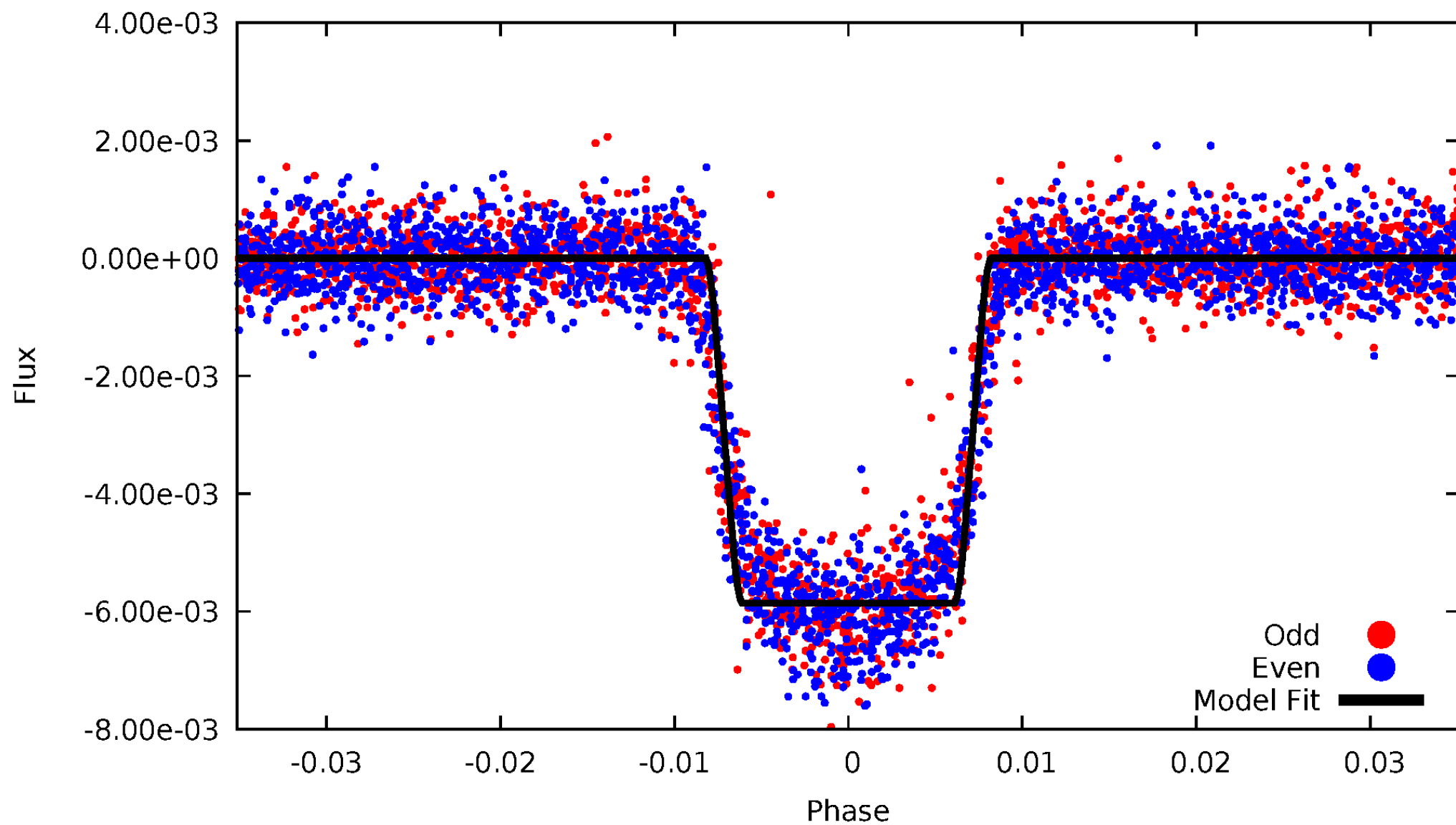
DV Odd/Even

TCE 012644822-01



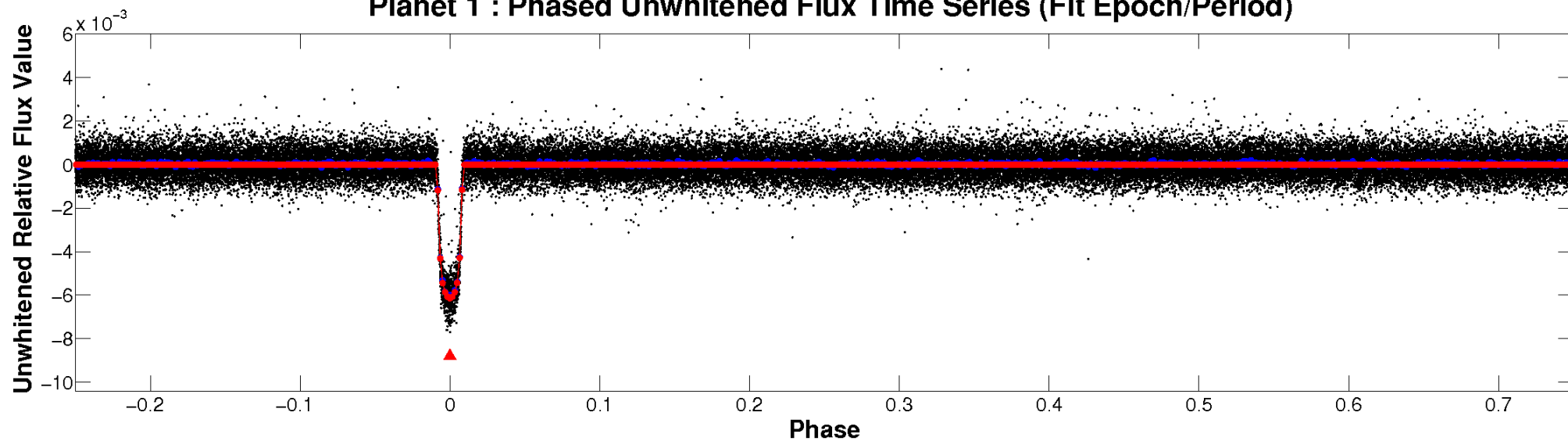
ALT Odd/Even

TCE 012644822-01

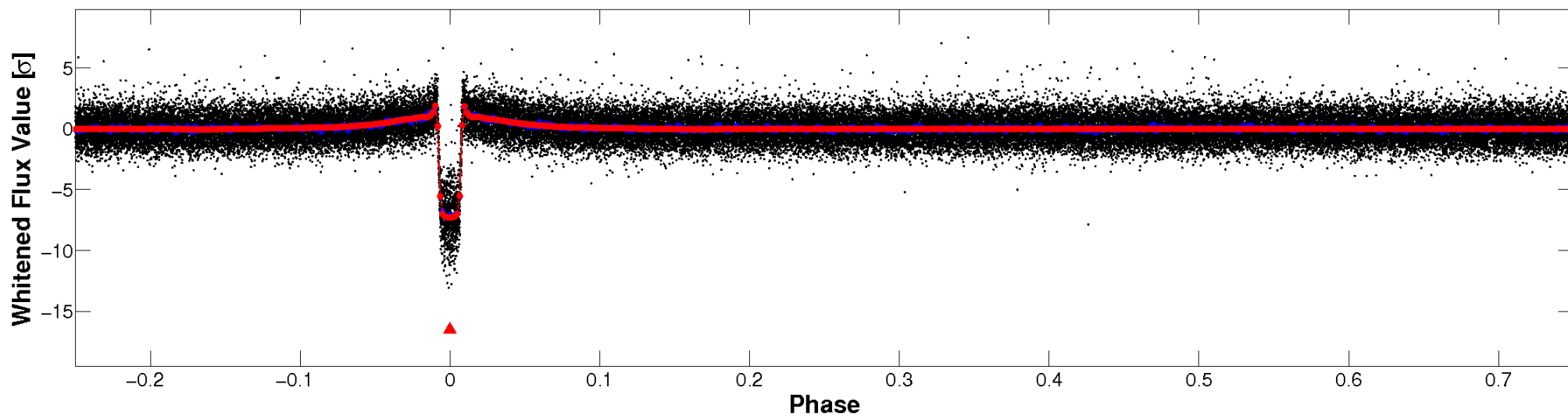


Non-Whitened Vs. Whitened Light Curve

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

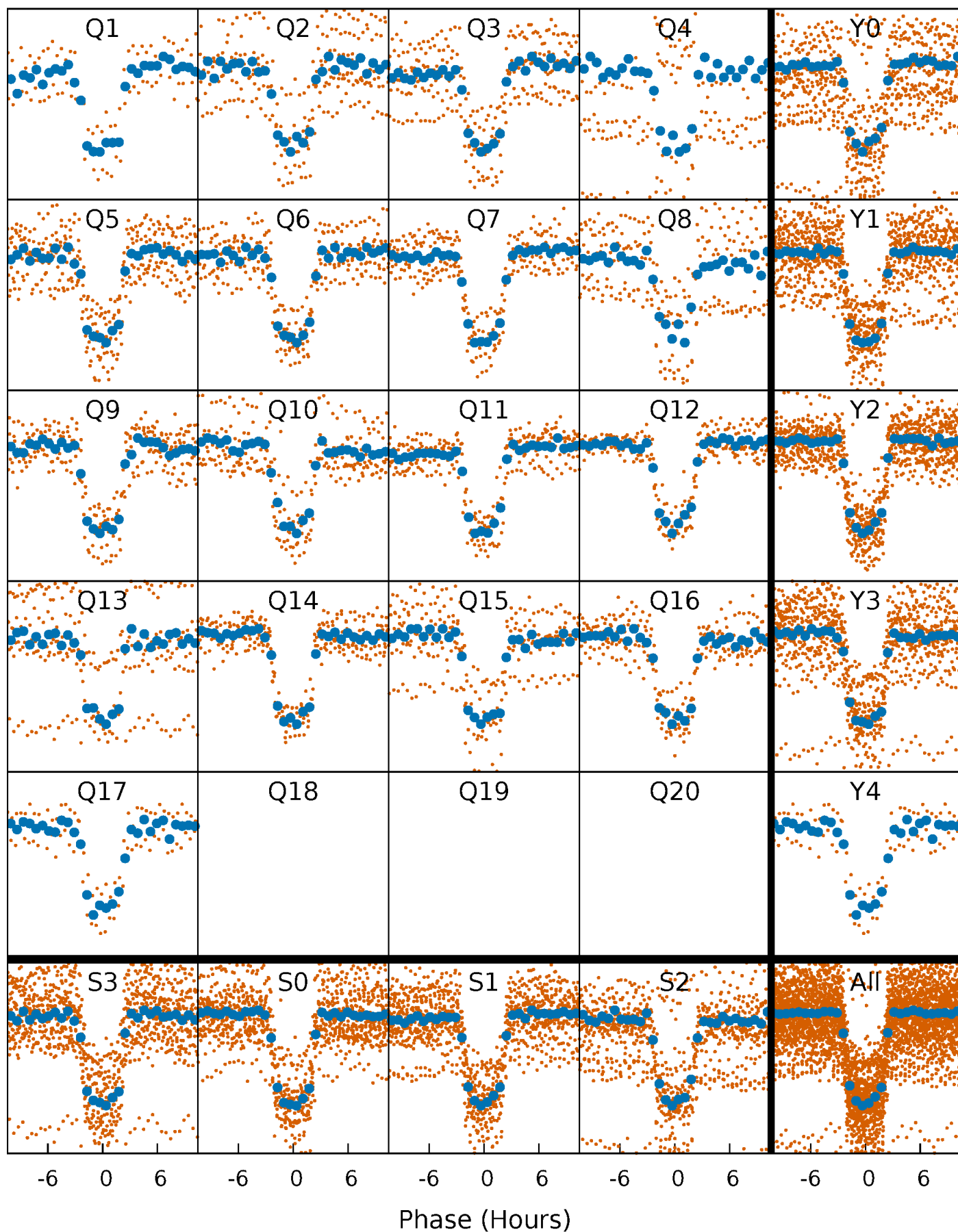


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



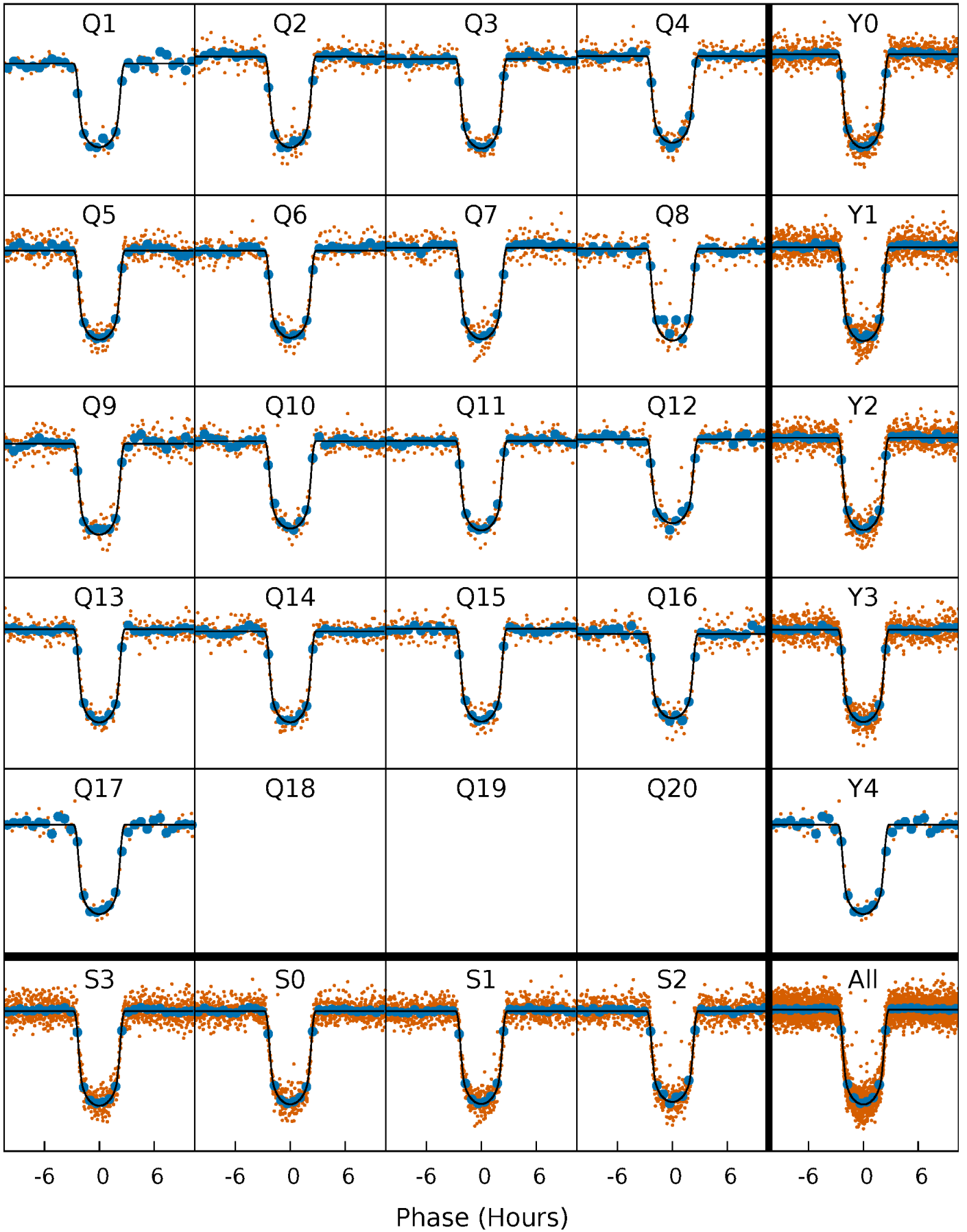
PDC Quarter-Phased Transit Curves

TCE 012644822-01 P= 12.611900 Days $T_0=143.056940$ (BKJD)



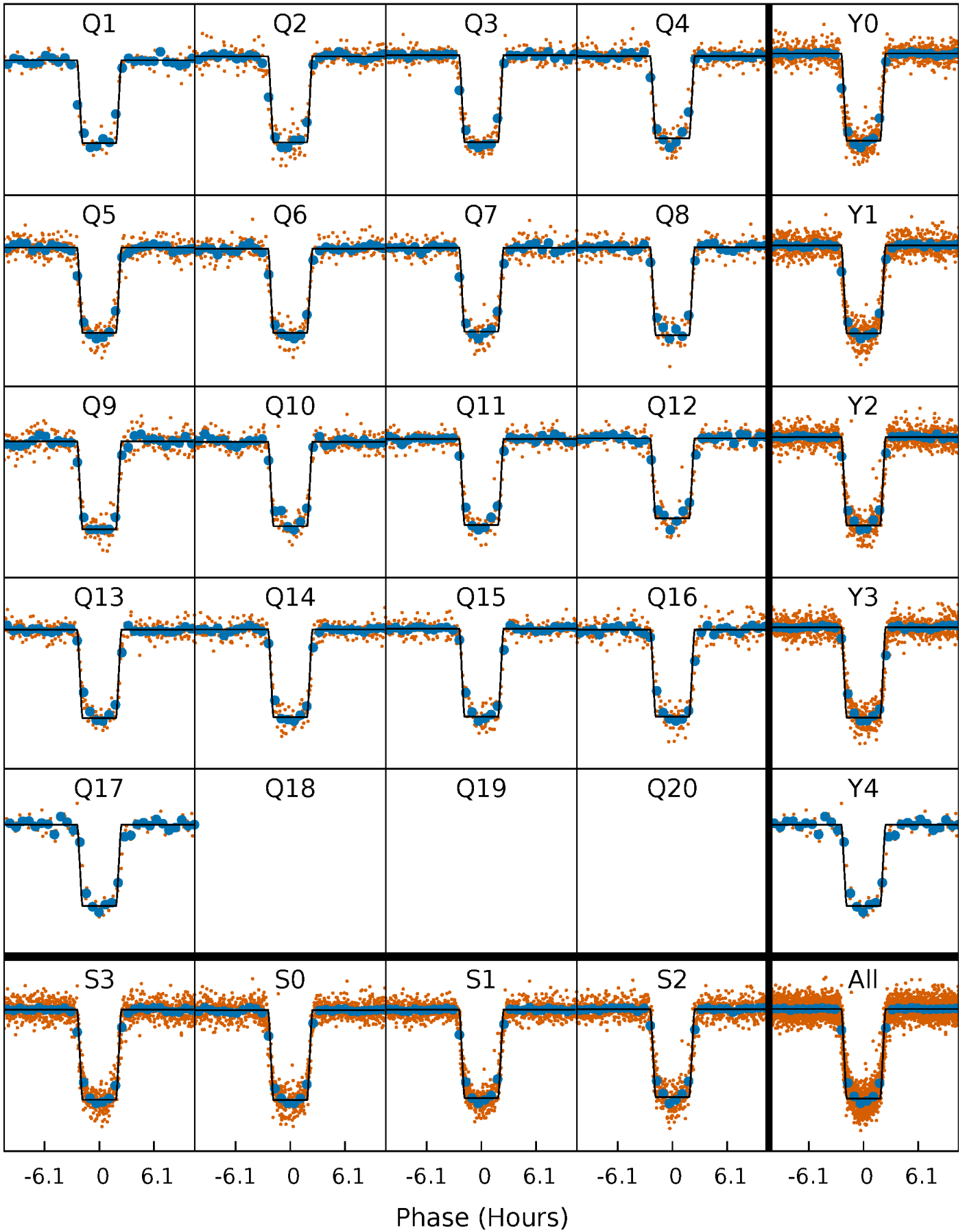
DV Quarter-Phased Transit Curves

TCE 012644822-01 P= 12.611900 Days $T_0=143.056940$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

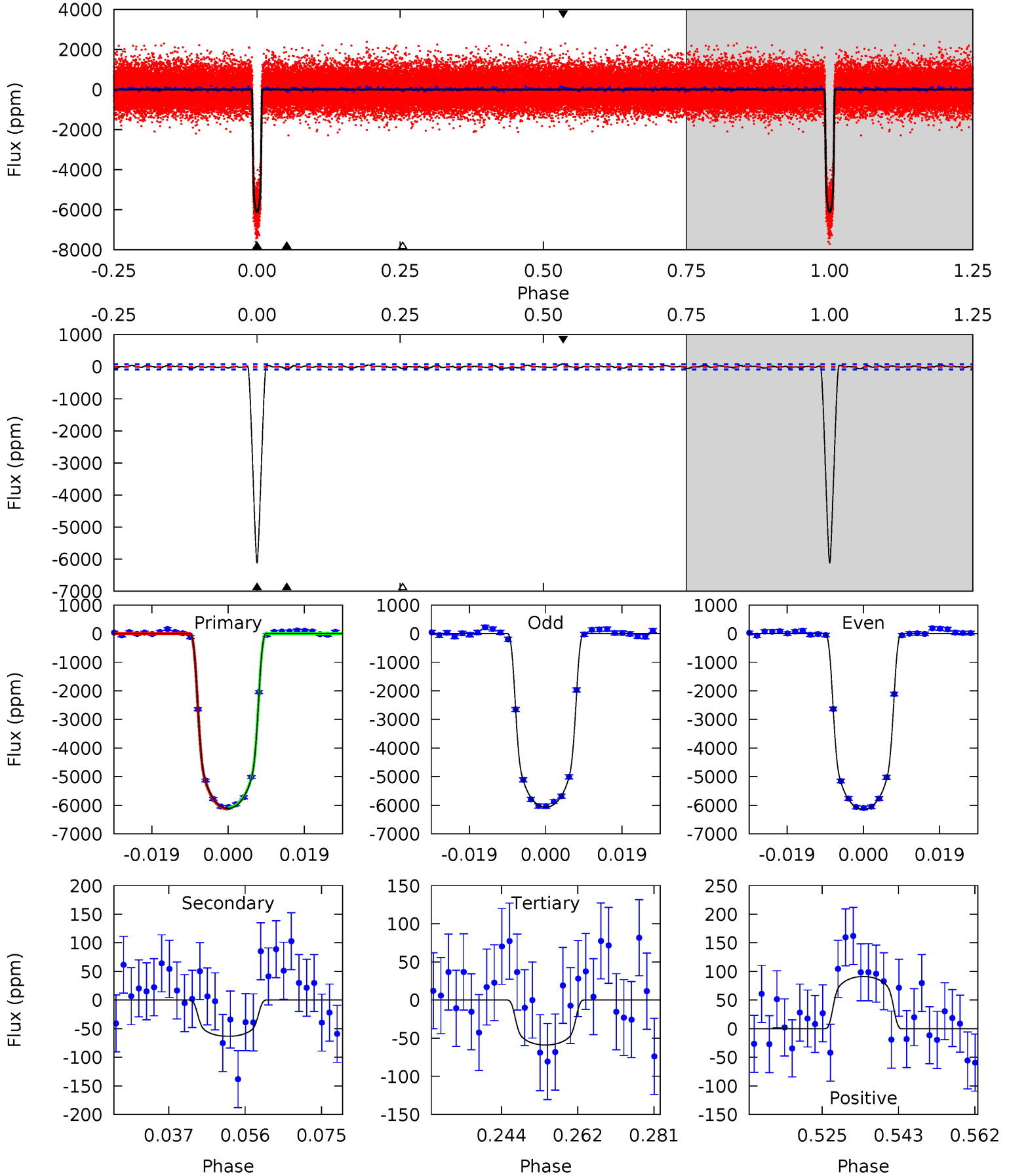
TCE 012644822-01 P= 12.611762 Days $T_0=143.064490$ (BKJD)



DV Model-Shift Uniqueness Test

012644822-01, P = 12.611900 Days, E = 130.445040 Days

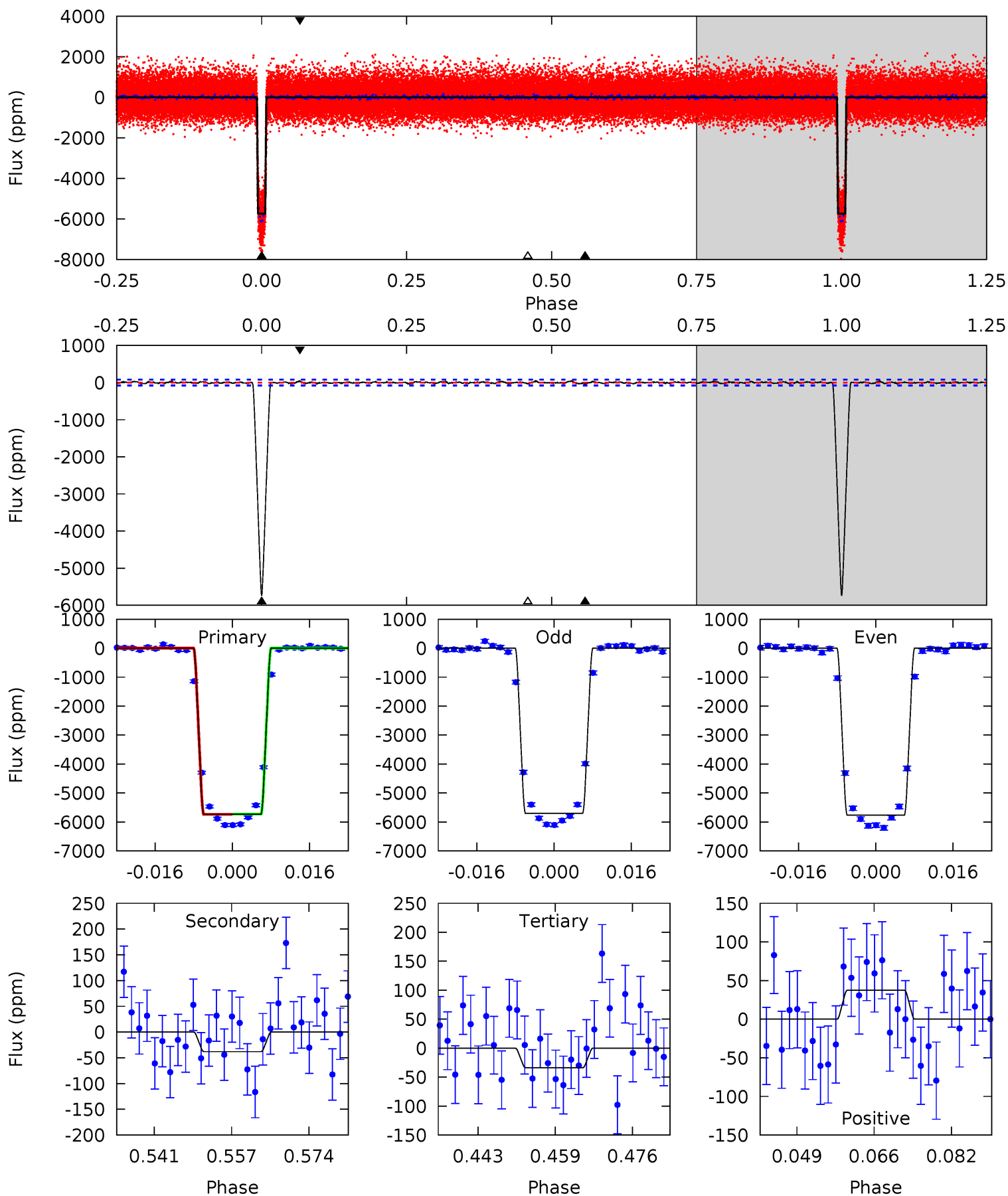
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
371.4	3.86	3.59	5.54	4.90	2.35	1.39	367.8	365.8	0.27	-1.69	2.23	1.00	0.01	1.39



Alt Model-Shift Uniqueness Test

012644822-01, $P = 12.611762$ Days, $E = 130.452728$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
358.8	2.37	2.11	2.34	4.93	2.40	0.87	356.7	356.5	0.26	0.03	2.05	1.01	0.01	0.30



Stellar Parameters For KIC 012644822

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5795^{+156}_{-173}	$4.508^{+0.039}_{-0.208}$	$-0.020^{+0.250}_{-0.300}$	$0.919^{+0.273}_{-0.091}$	$0.992^{+0.112}_{-0.112}$	$1.803^{+0.380}_{-0.970}$
	+3%/-3%	+1%/-5%	+1250%/-1500%	+30%/-10%	+11%/-11%	+21%/-54%
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 012644822-01 / KOI 0791.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-63 ± 16	$7.78^{+1.24}_{-0.55}$	1078^{+74}_{-49}	2656^{+94}_{-104}	$6.073^{+2.033}_{-1.829}$
Alt.	-38 ± 16	$7.97^{+1.29}_{-0.63}$	1079^{+76}_{-48}	2466^{+125}_{-183}	$3.405^{+1.746}_{-1.559}$

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

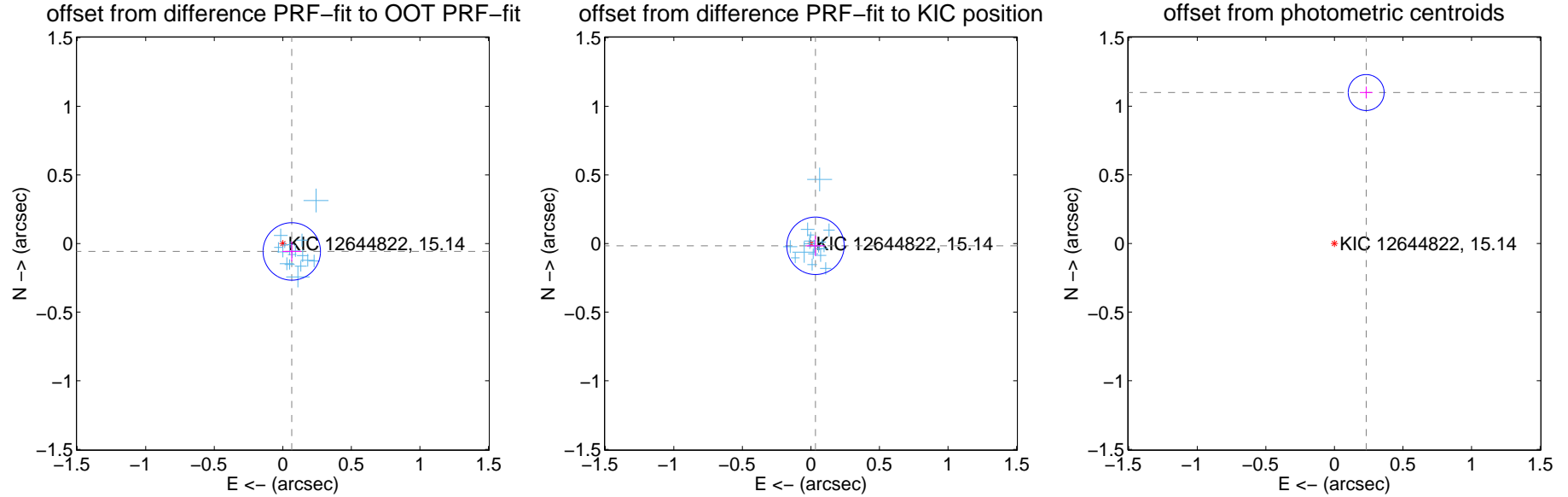
DV Centroid Data

Supplemental centroid analysis for 012644822-01. Kepler magnitude: 15.14. Transit SNR 208.10

There are 17 quarters with good PRF difference image offsets

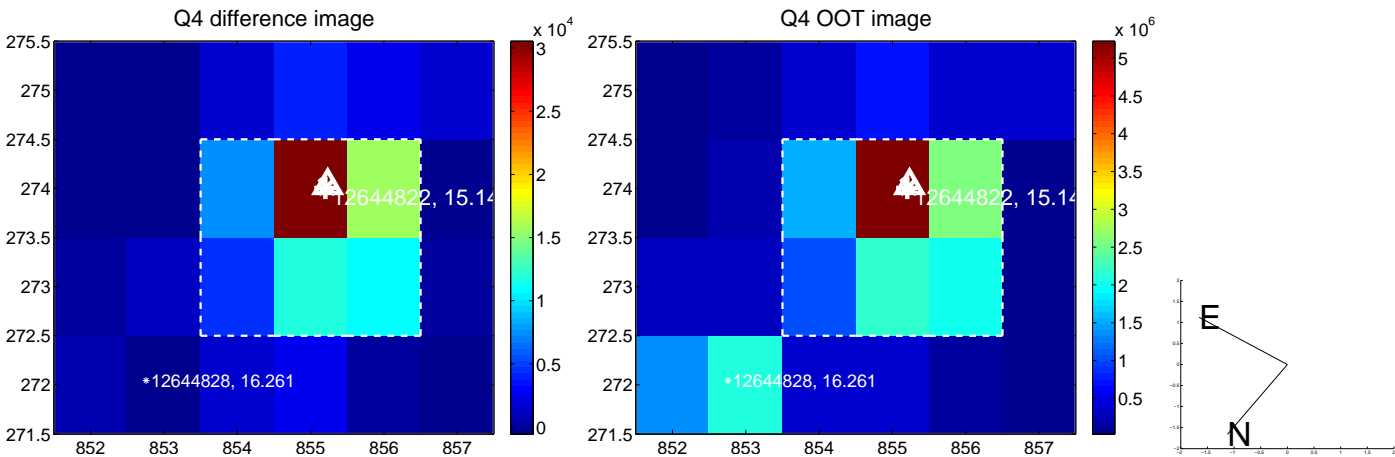
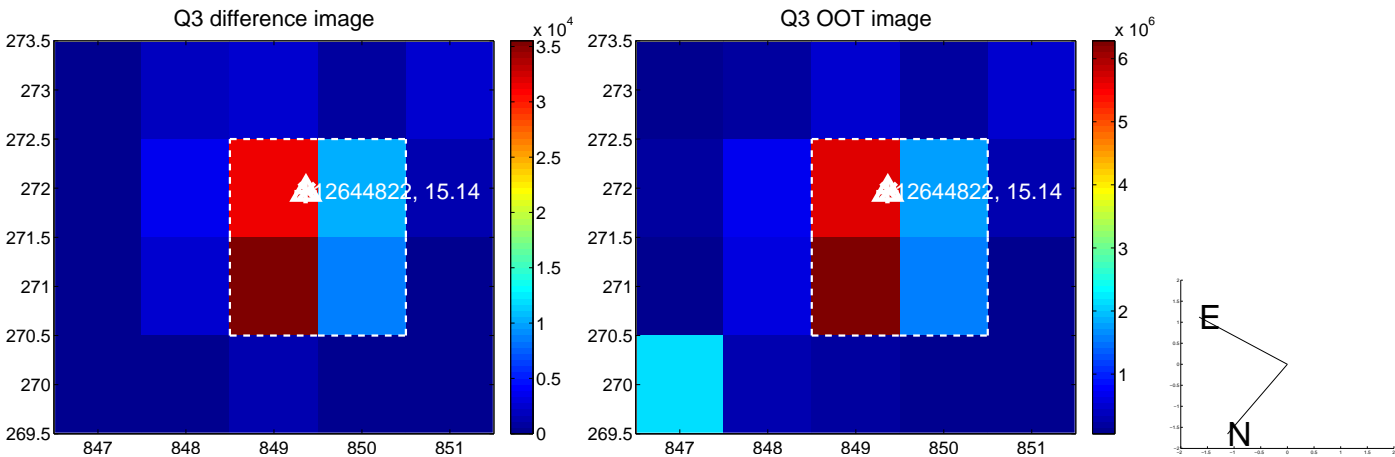
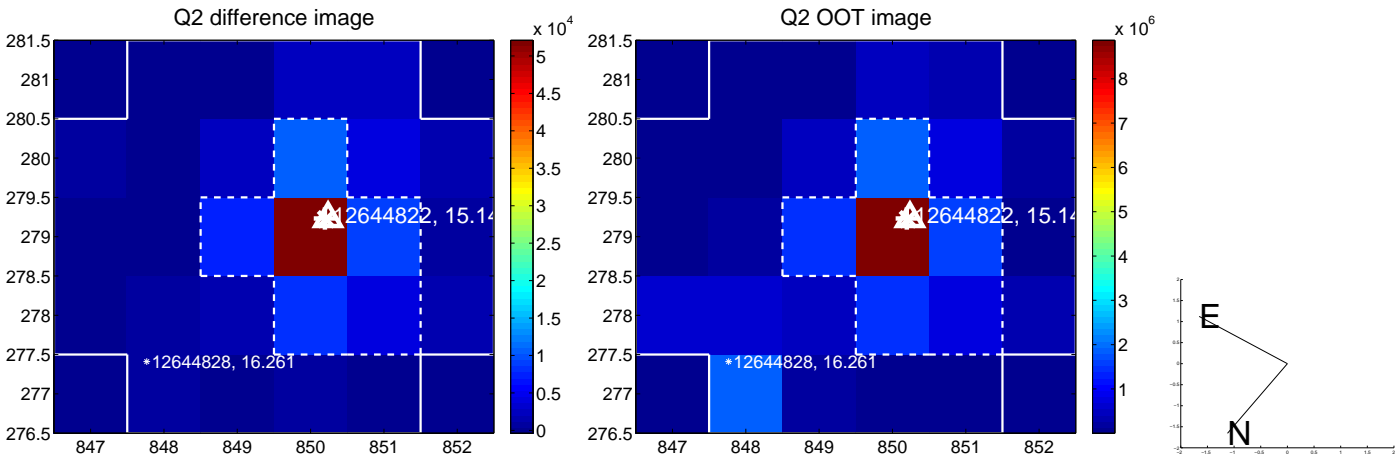
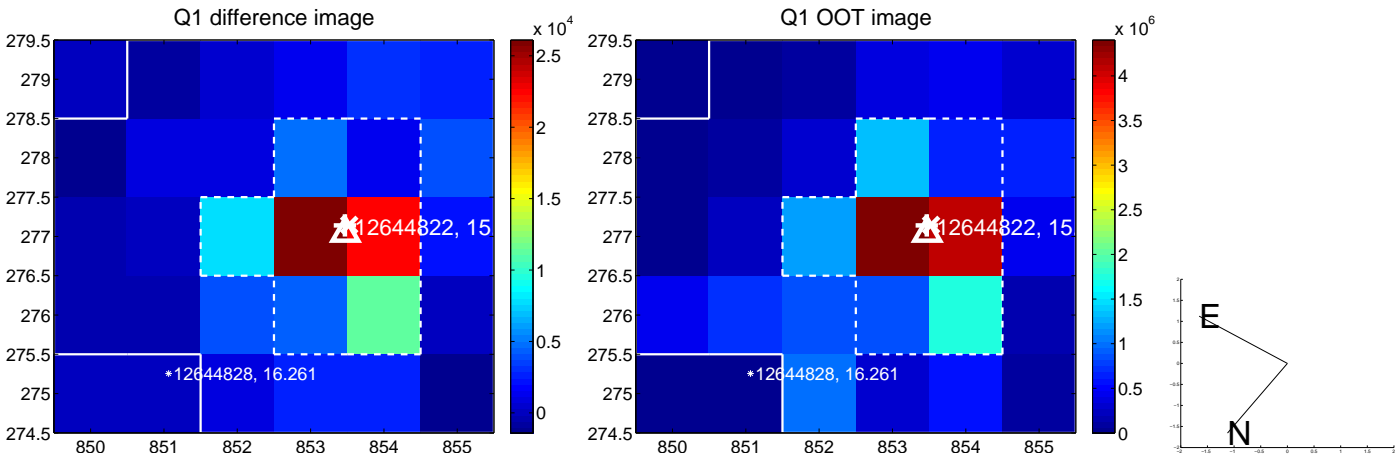
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.087 ± 0.070	1.25	-0.065 ± 0.069	-0.058 ± 0.072
PRF-fit source offset from KIC position	0.037 ± 0.070	0.53	-0.033 ± 0.069	-0.017 ± 0.074
photometric centroid source offset	1.12 ± 0.04	25.74	-0.23 ± 0.05	1.10 ± 0.04

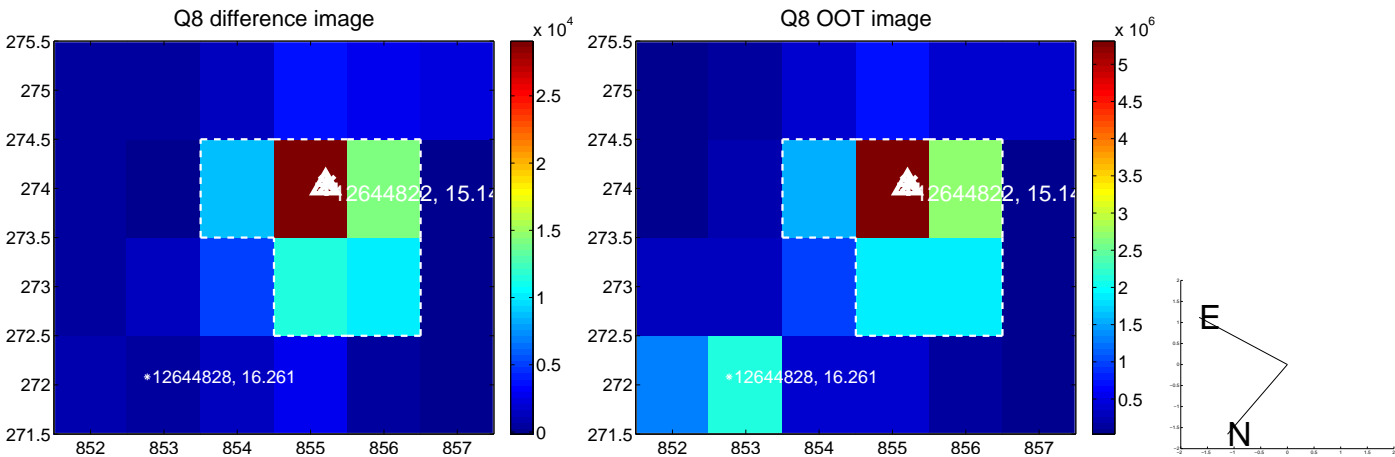
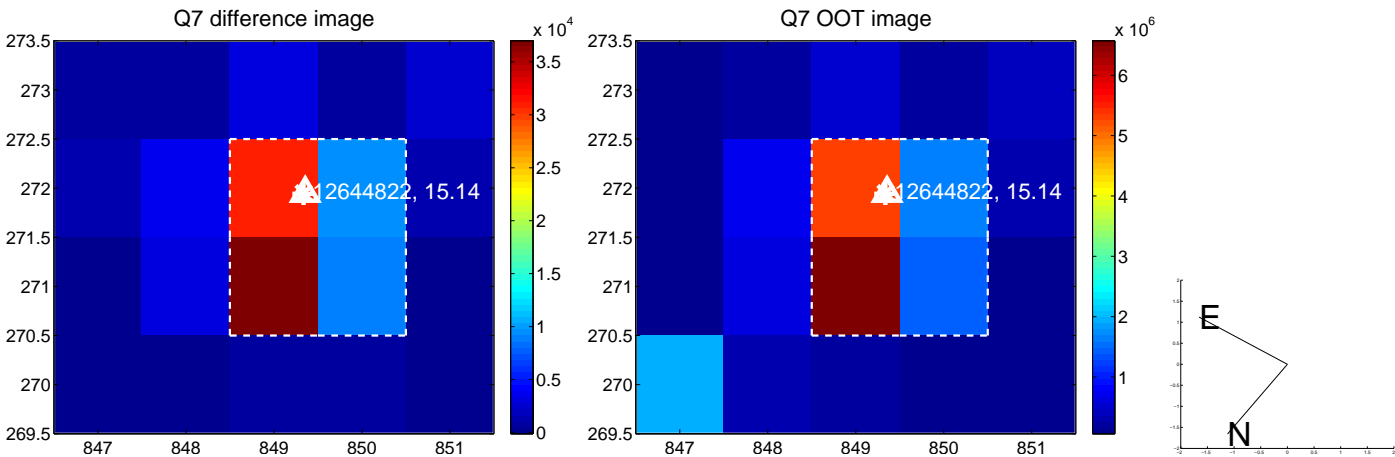
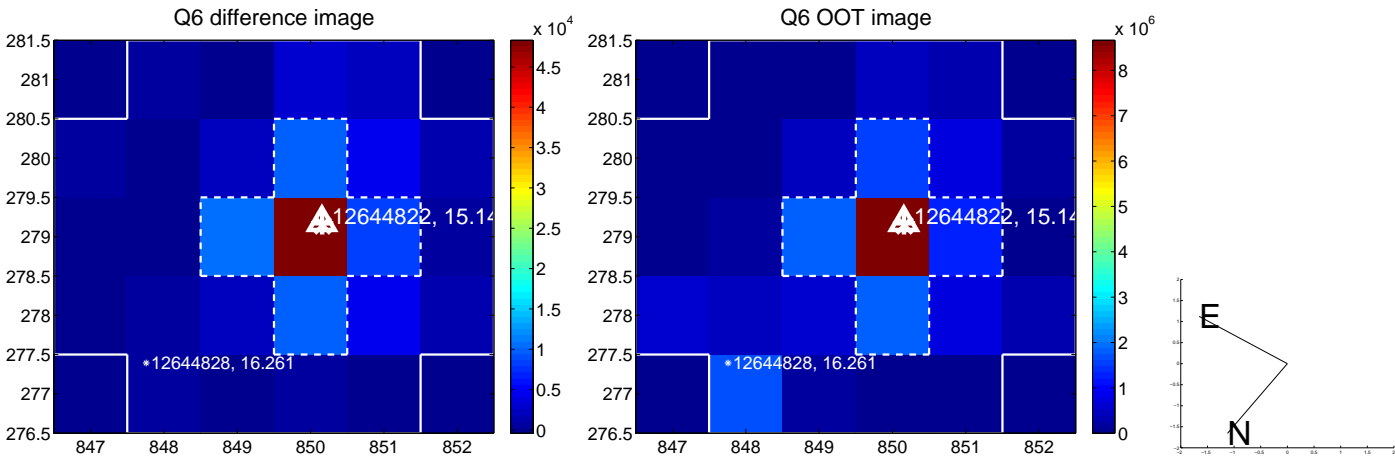
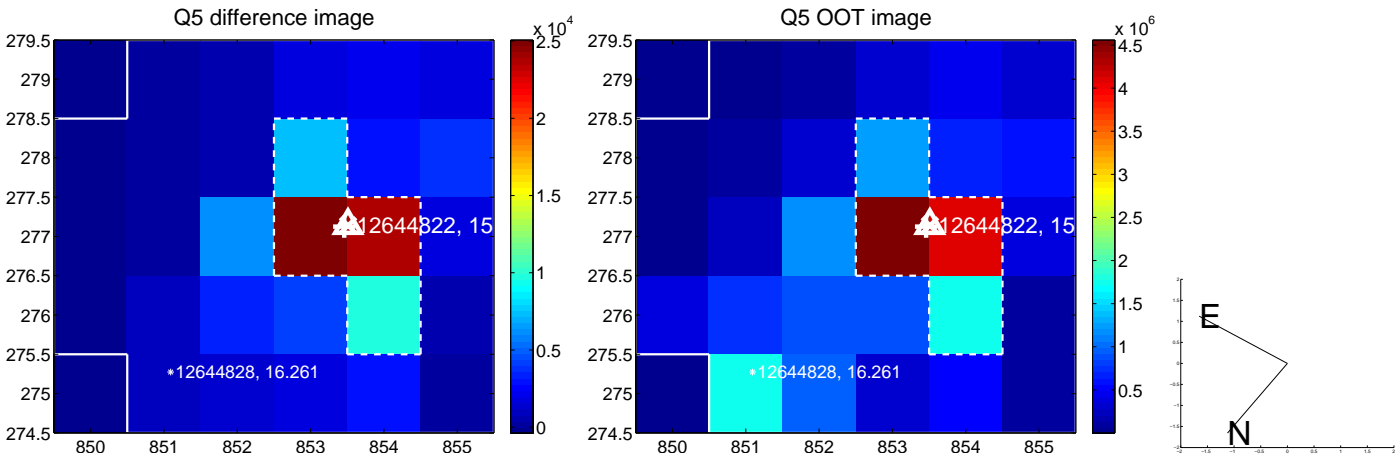


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

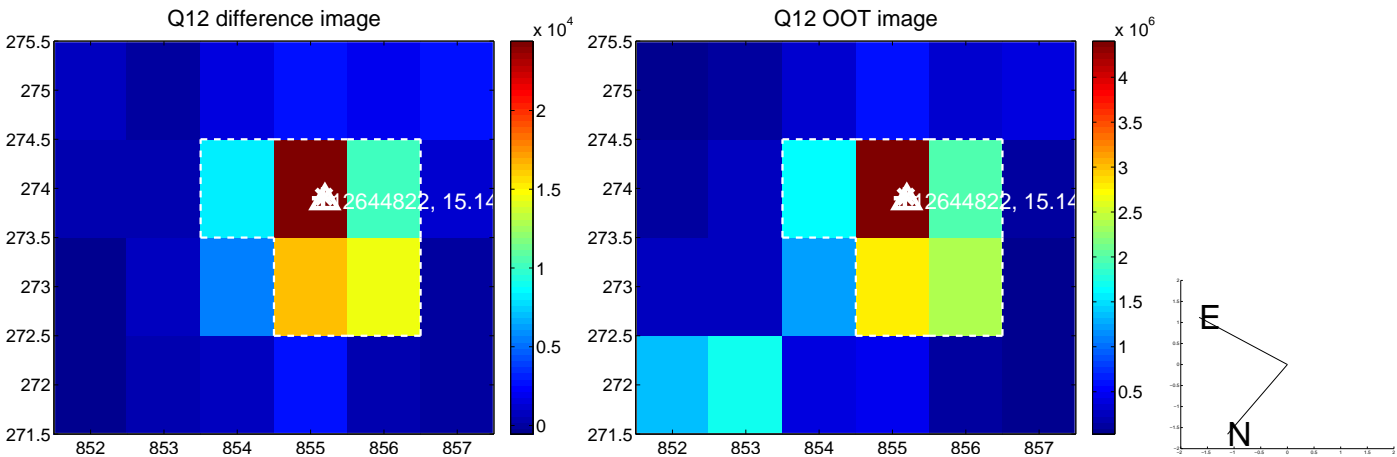
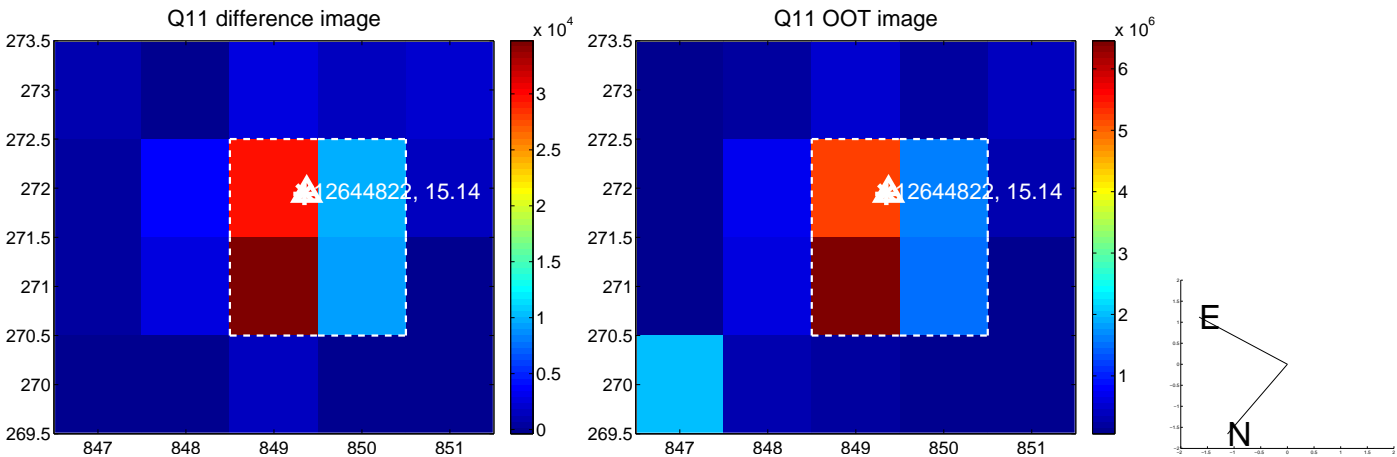
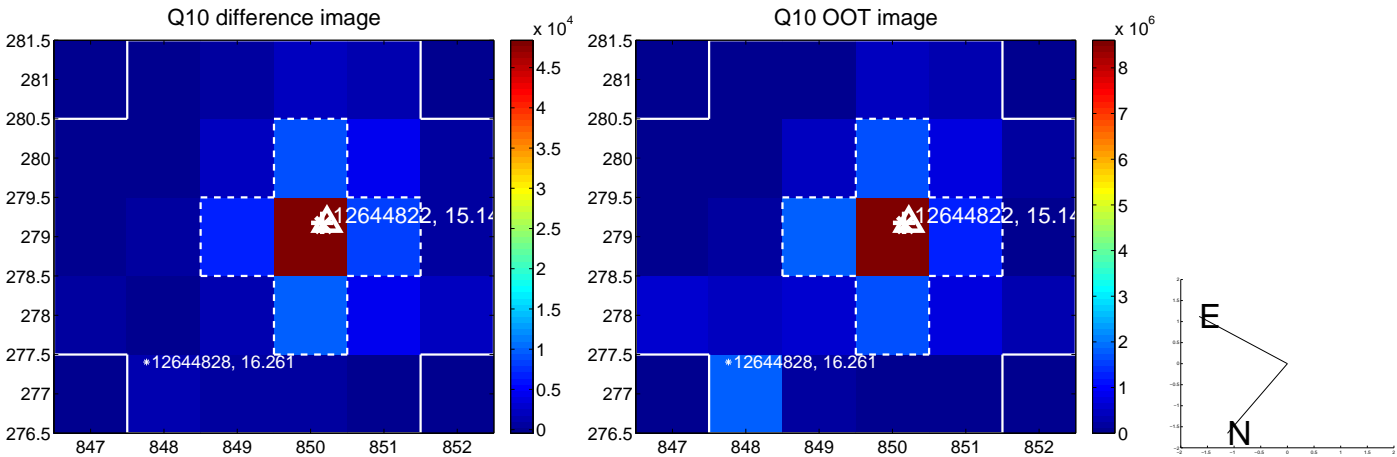
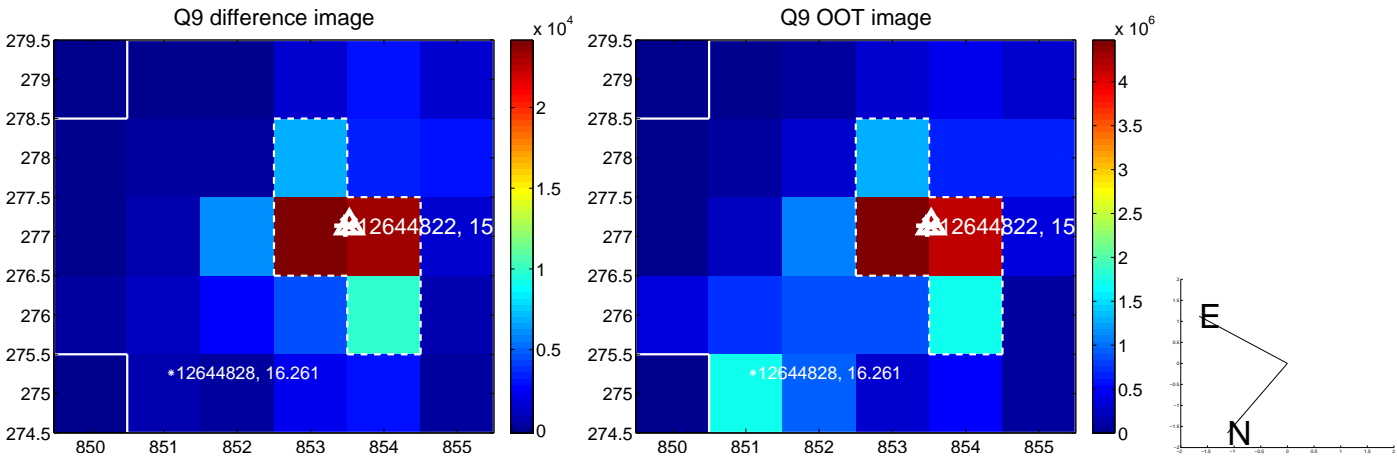
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



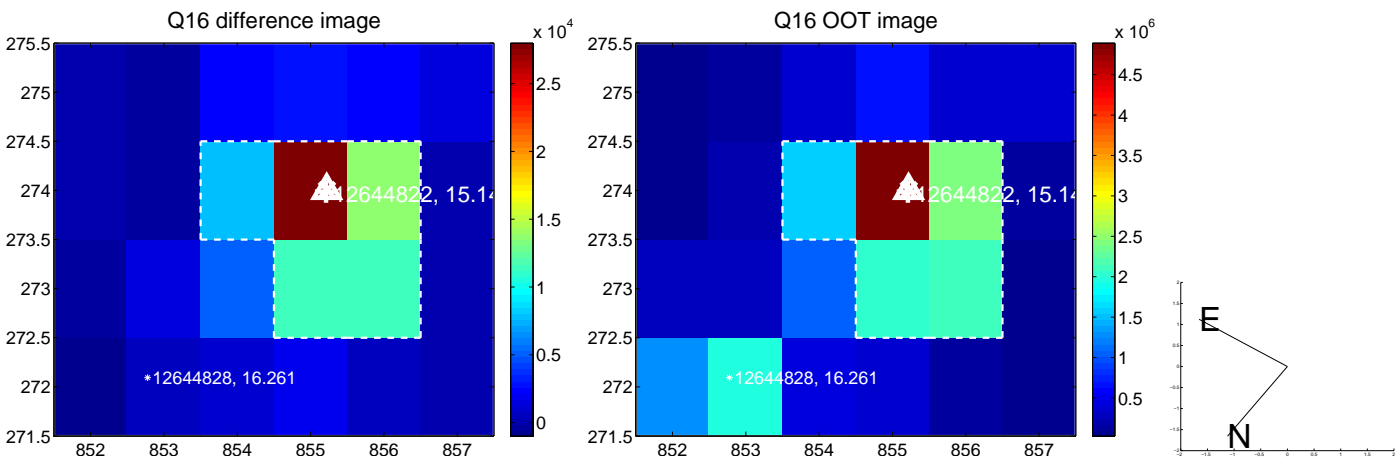
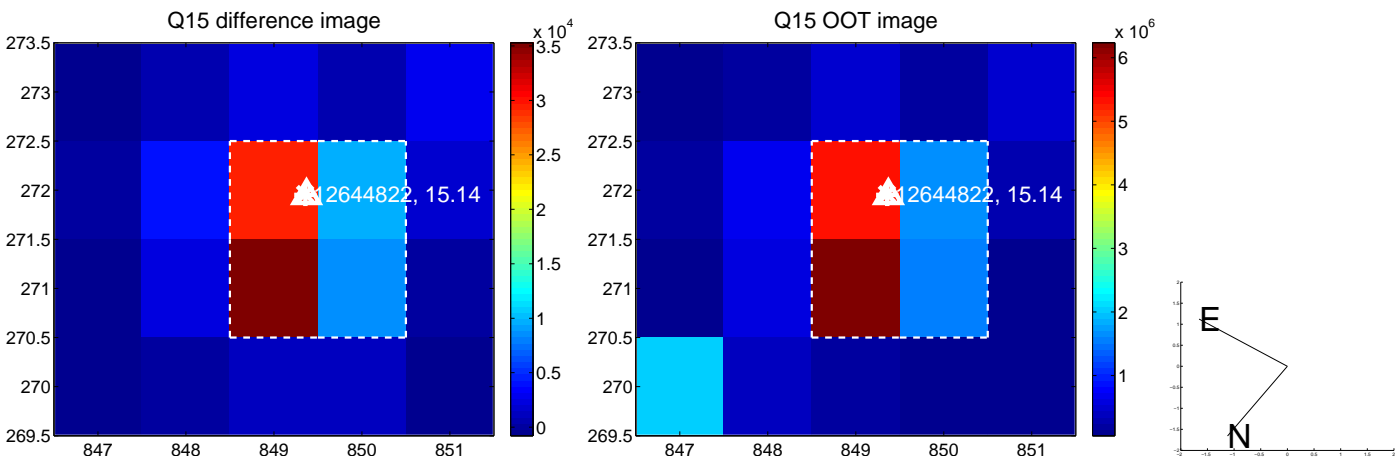
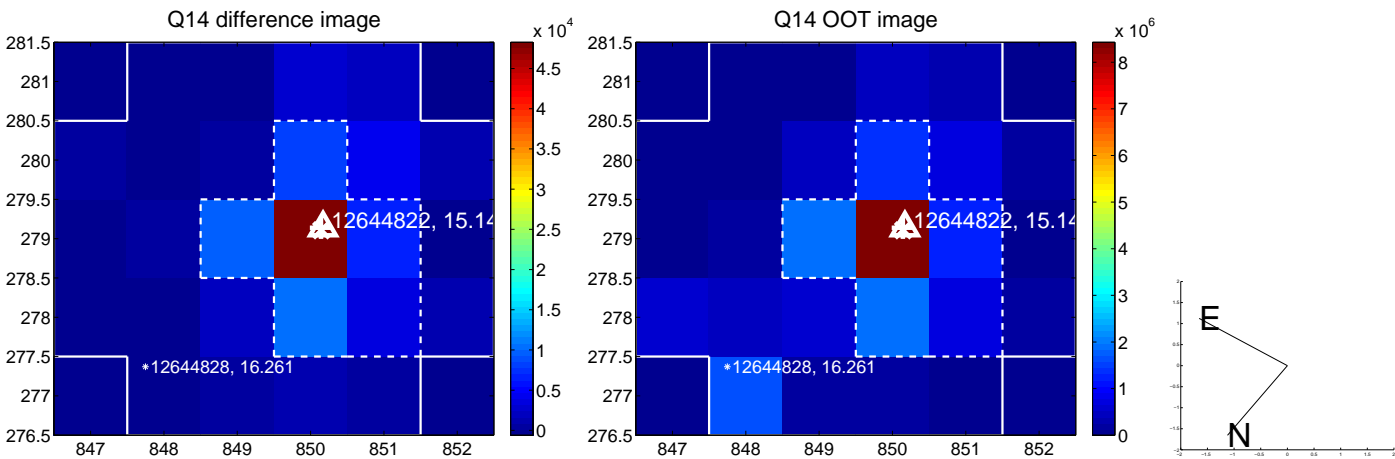
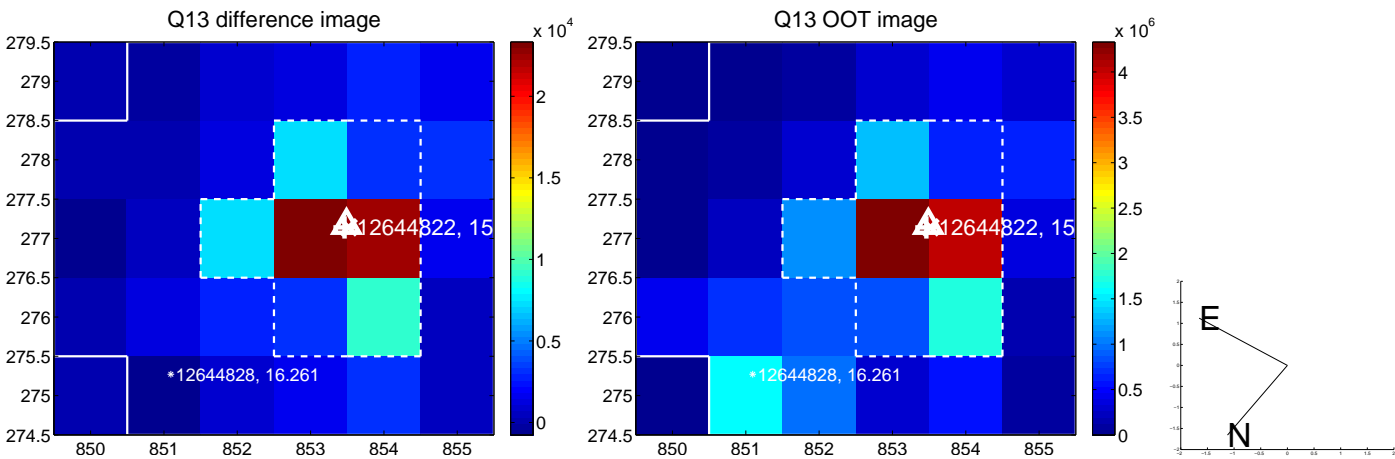
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



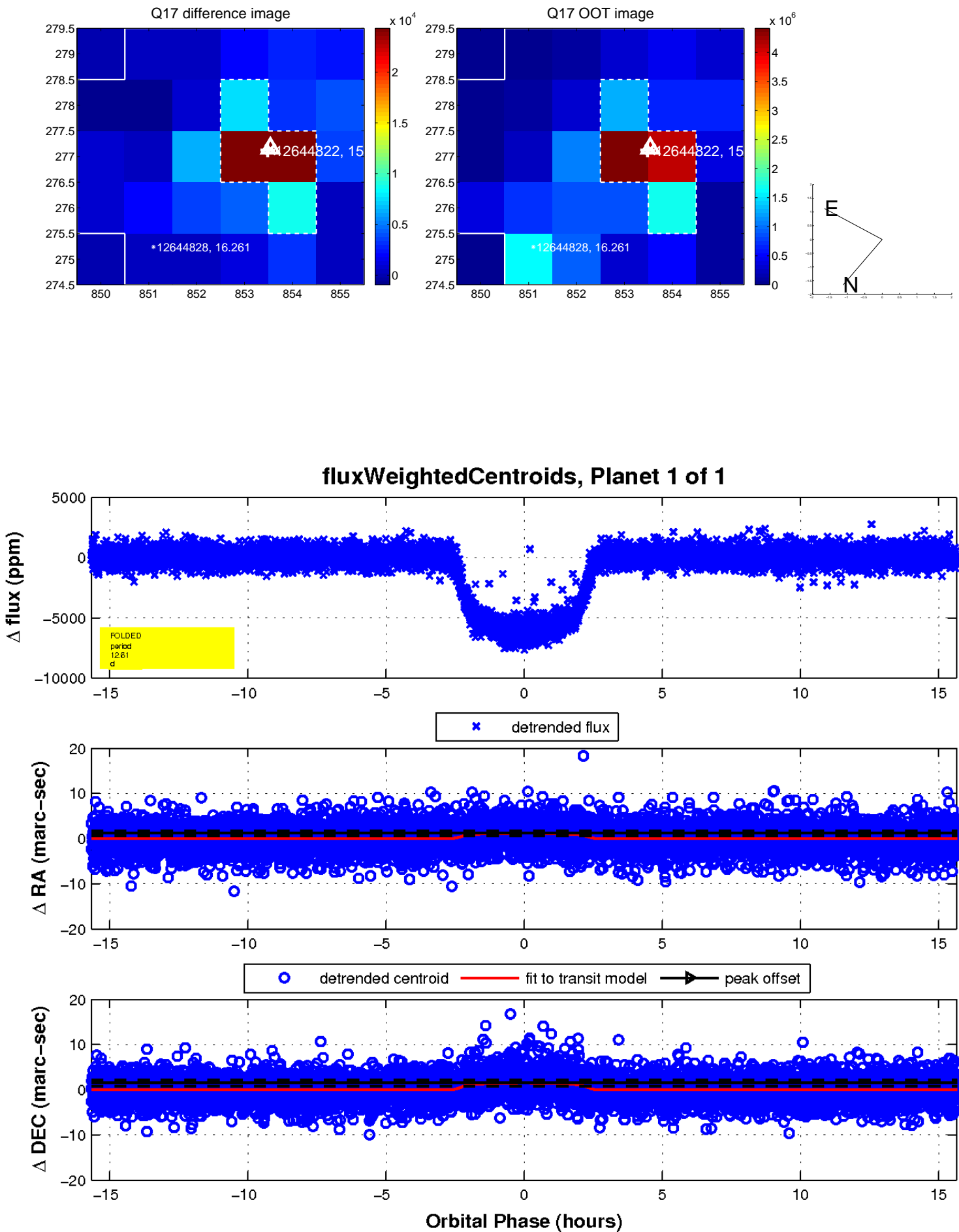
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UKIRT Image

