

KIC 010419797

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})
010419797-01	OBS	4073.01	87.144877	169.192249	734.0	30.610	14.1	15.9	1.05	6510	4.96	11.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010419797-01	OBS	FP	0.00	1	0	0	0	LPP_DV

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 010419797-01

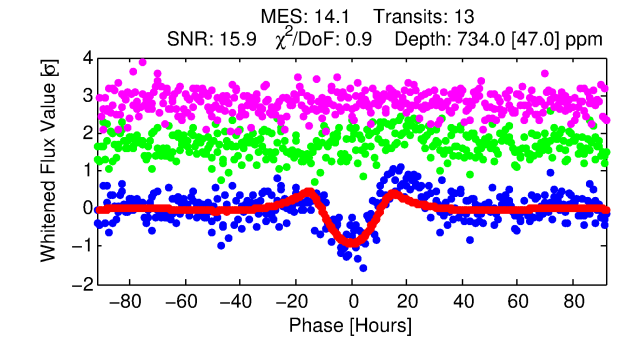
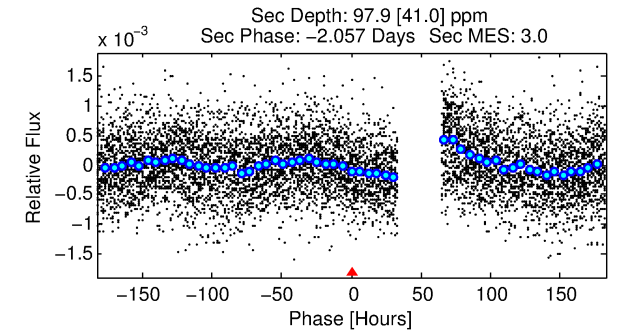
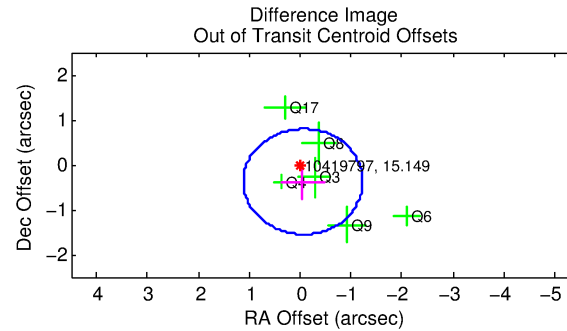
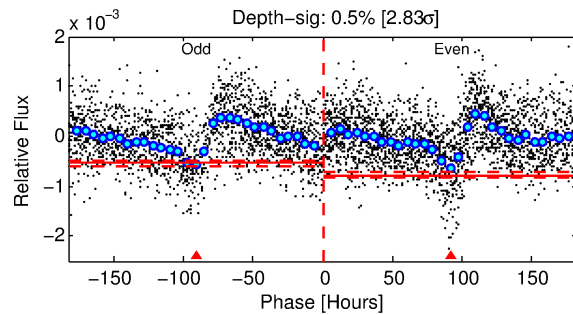
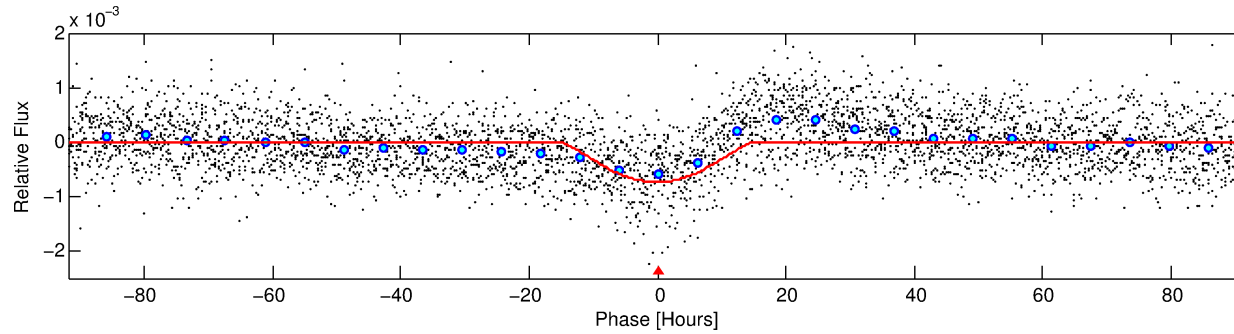
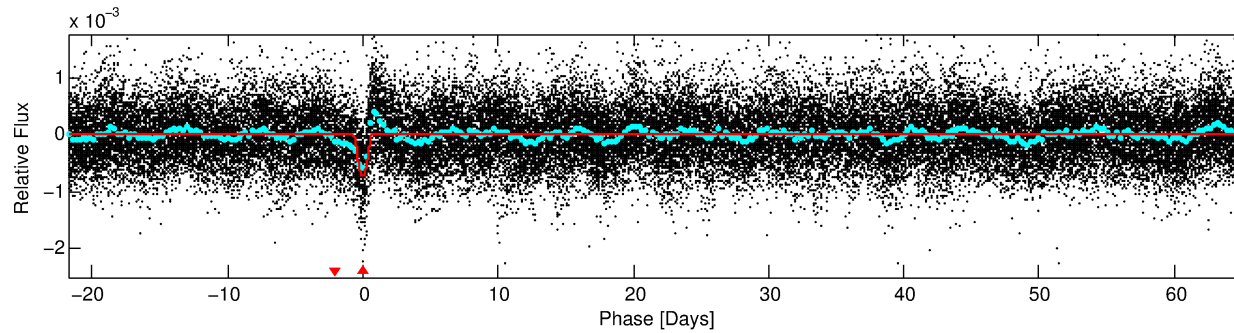
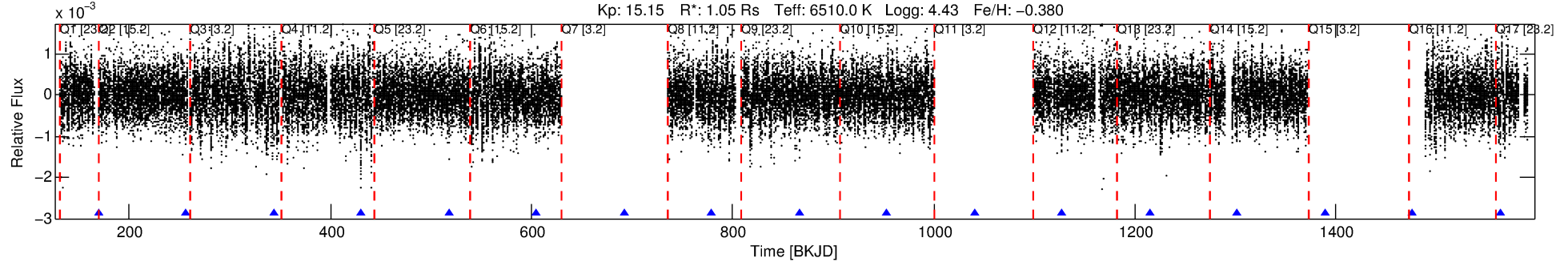
No Significant Match Found

DV One-Page Summary

KIC: 10419797 Candidate: 1 of 1 Period: 87.145 d

KOI: K04073.01 Corr: 0.825

Kp: 15.15 R*: 1.05 Rs Teff: 6510.0 K Logg: 4.43 Fe/H: -0.380



DV Fit Results:

Period = 87.14488 [0.00372] d
Epoch = 169.1922 [0.0329] BKJD
Rp/R* = 0.0434 [0.0391]
a/R* = 6.95 [1.72]
b = 0.99 [0.06]
Seff = 11.28 [4.22]
Teq = 467 [44] K
Rp = 4.96 [4.68] Re
a = 0.3958 [0.0946] AU
Ag = 342.52 [644.36] [0.53σ]
Teffp = 3109 [1440] K [1.83σ]

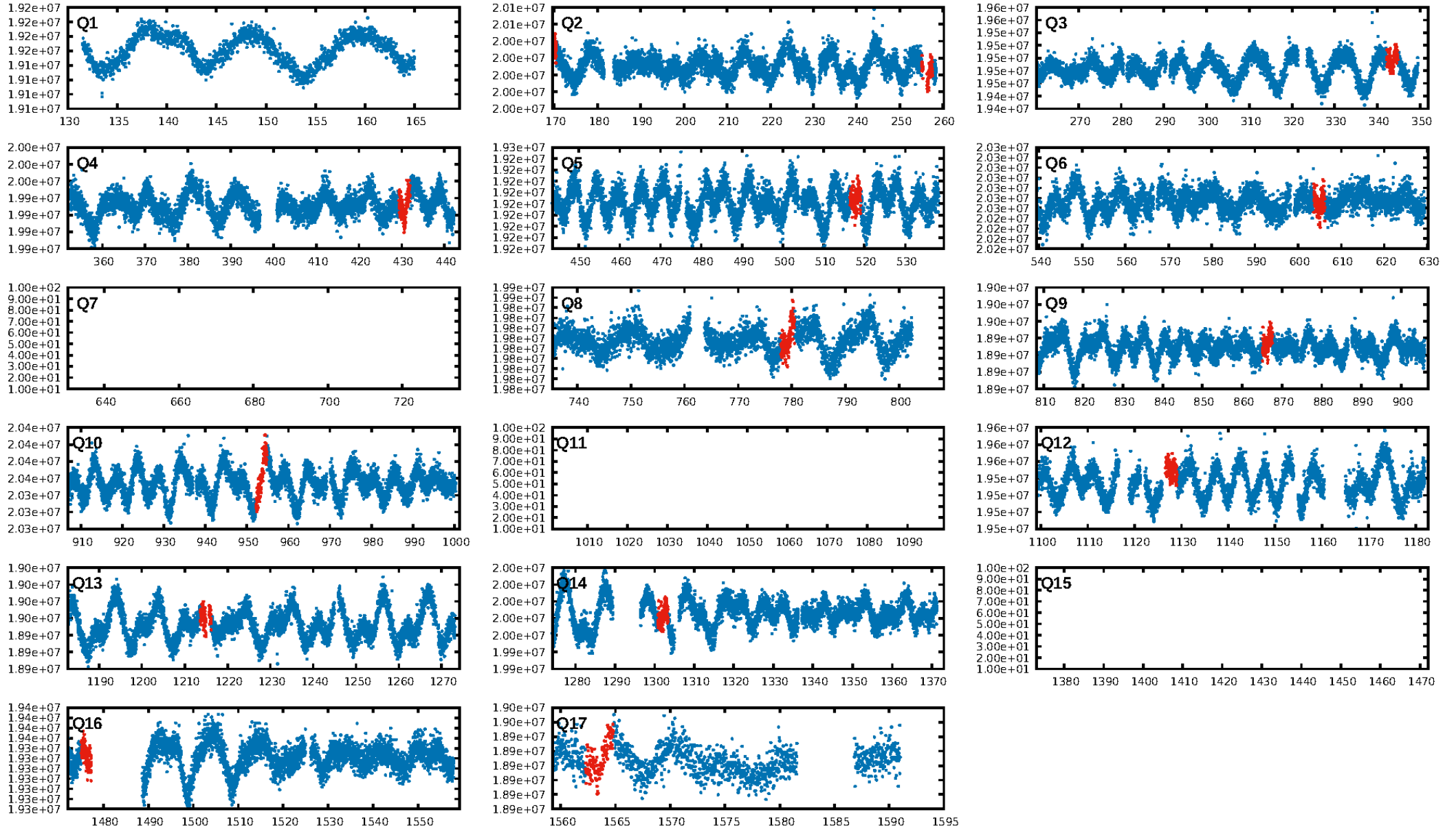
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 9.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.03e-48
RollingBand-fgt: 1.00 [12/12]
GhostDiagnostic-chr: 2.949
Centroid-sig: 79.1%
Centroid-so: 0.243 arcsec [0.49σ]
OotOffset-rm: 0.383 arcsec [0.98σ]
KicOffset-rm: 0.263 arcsec [0.67σ]
OotOffset-st: 1/1/2/2 [6]
KicOffset-st: 1/1/2/2 [6]
DiffImageQuality-fgm: 0.83 [5/6]
DiffImageOverlap-fno: 1.00 [9/9]

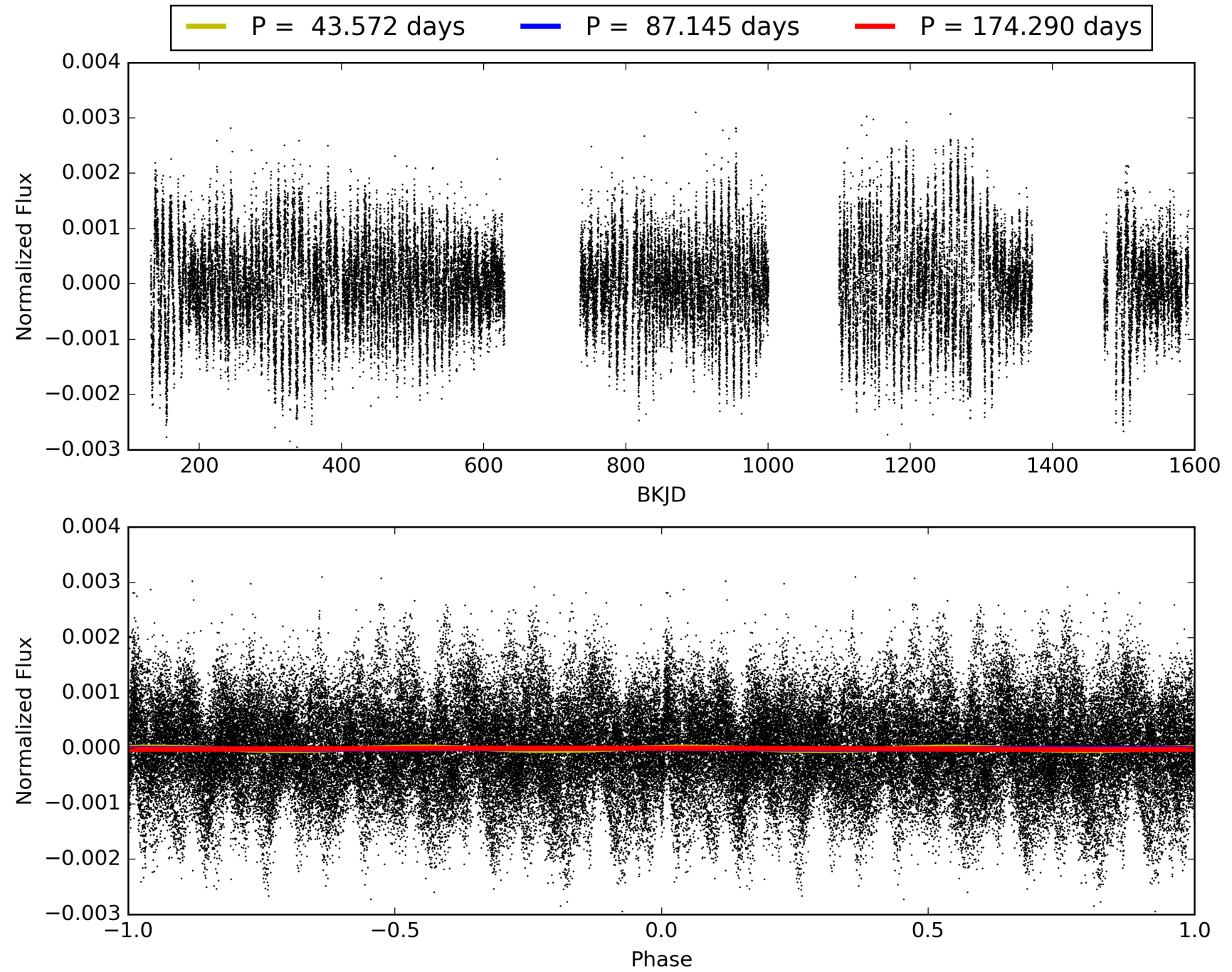
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:15:29 Z

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

TCE 010419797-01, PDC Light Curves

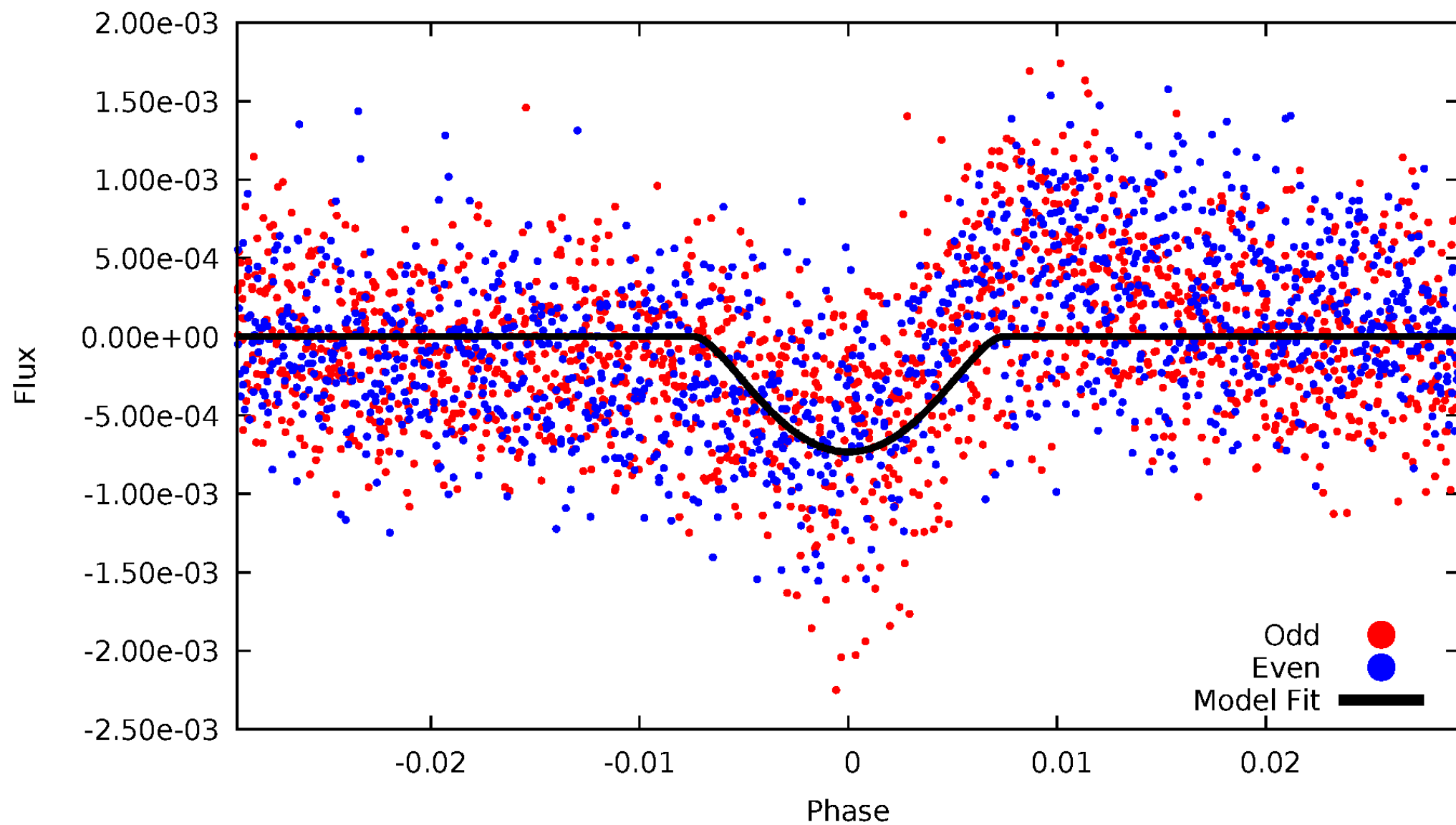


TCE 010419797-01



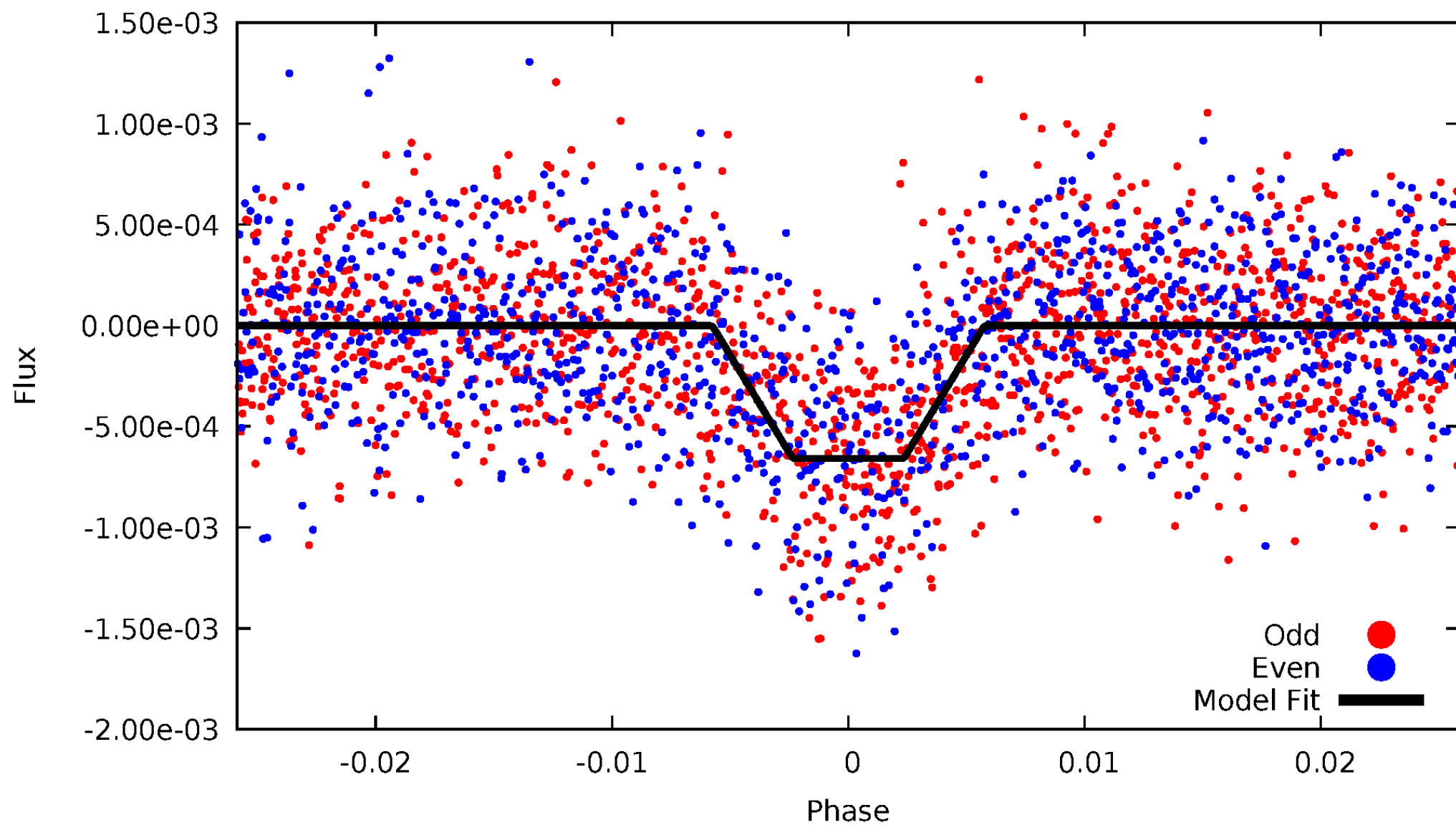
DV Odd/Even

TCE 010419797-01



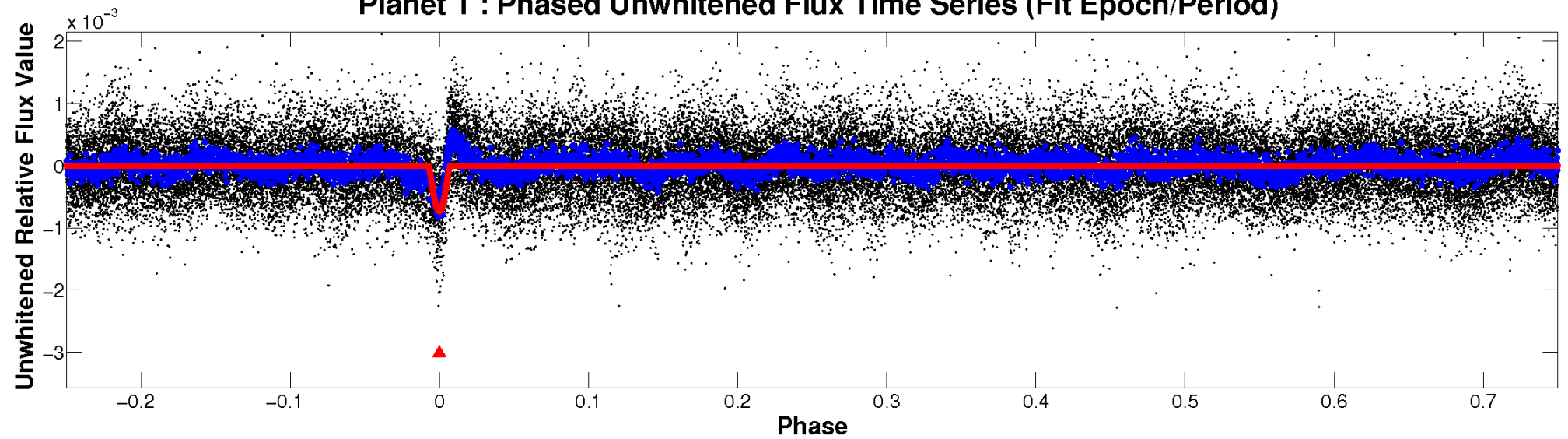
ALT Odd/Even

TCE 010419797-01

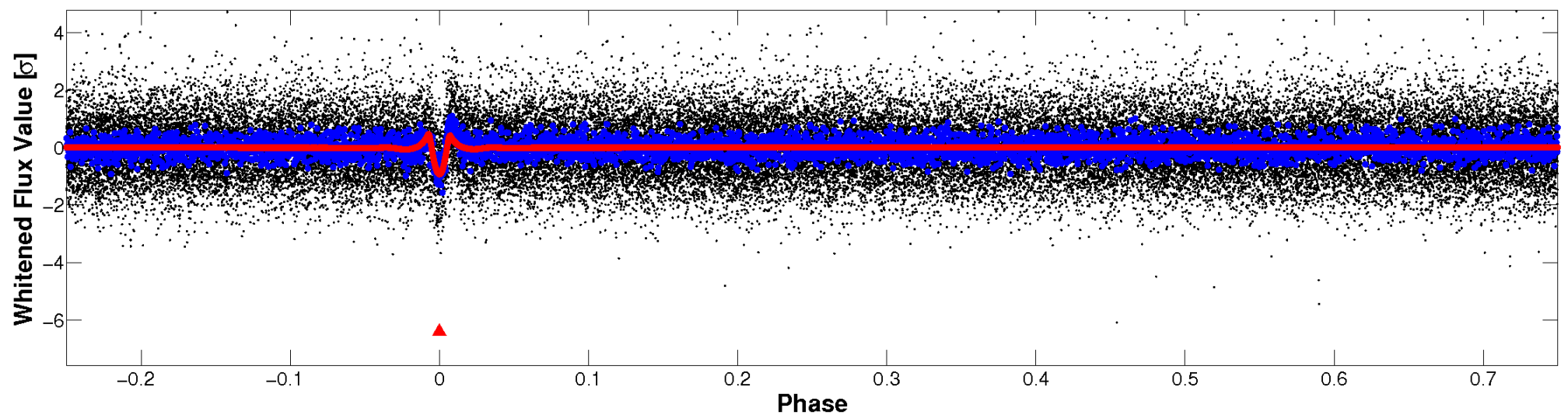


Non-Whitened Vs. Whitened Light Curve

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

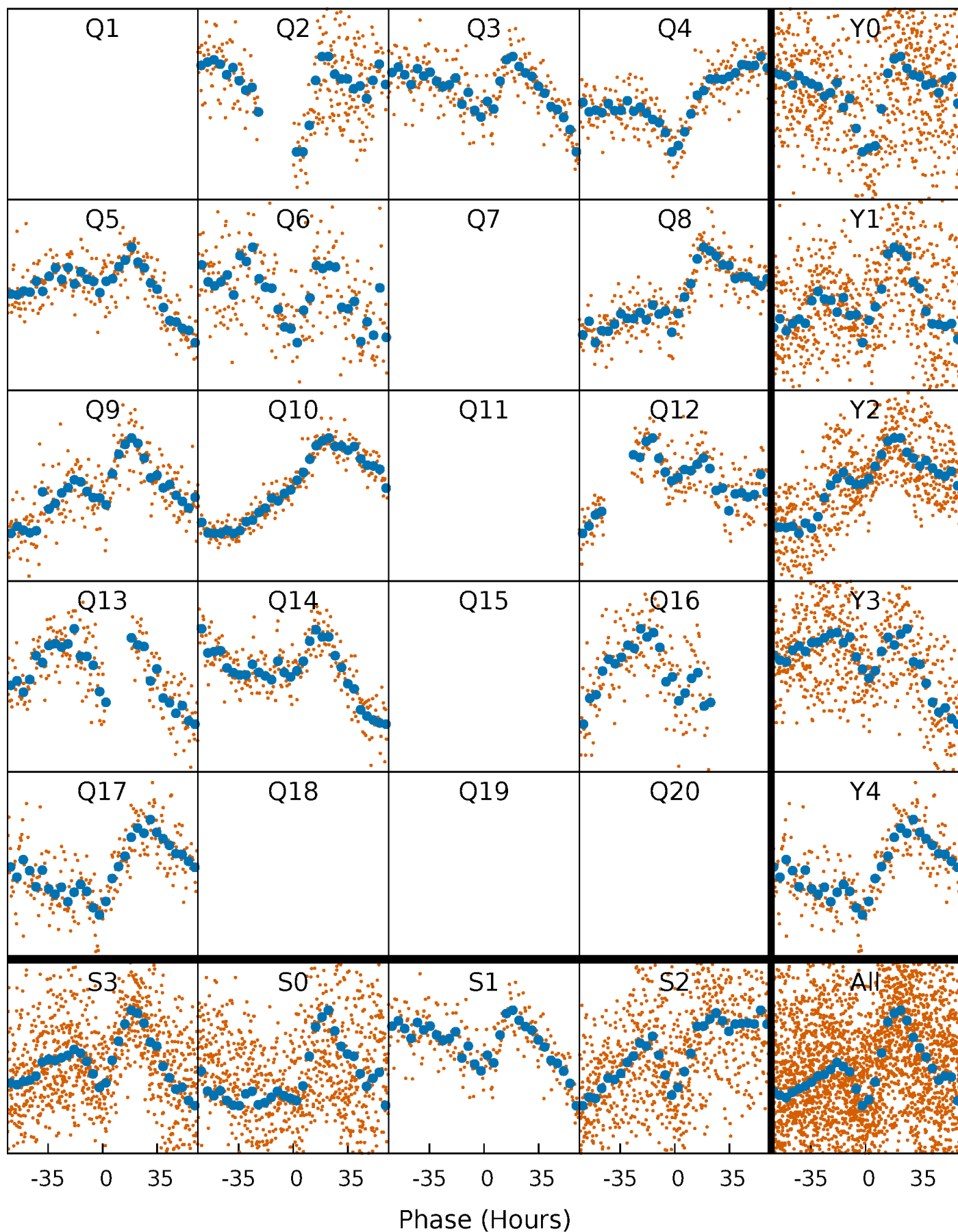


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



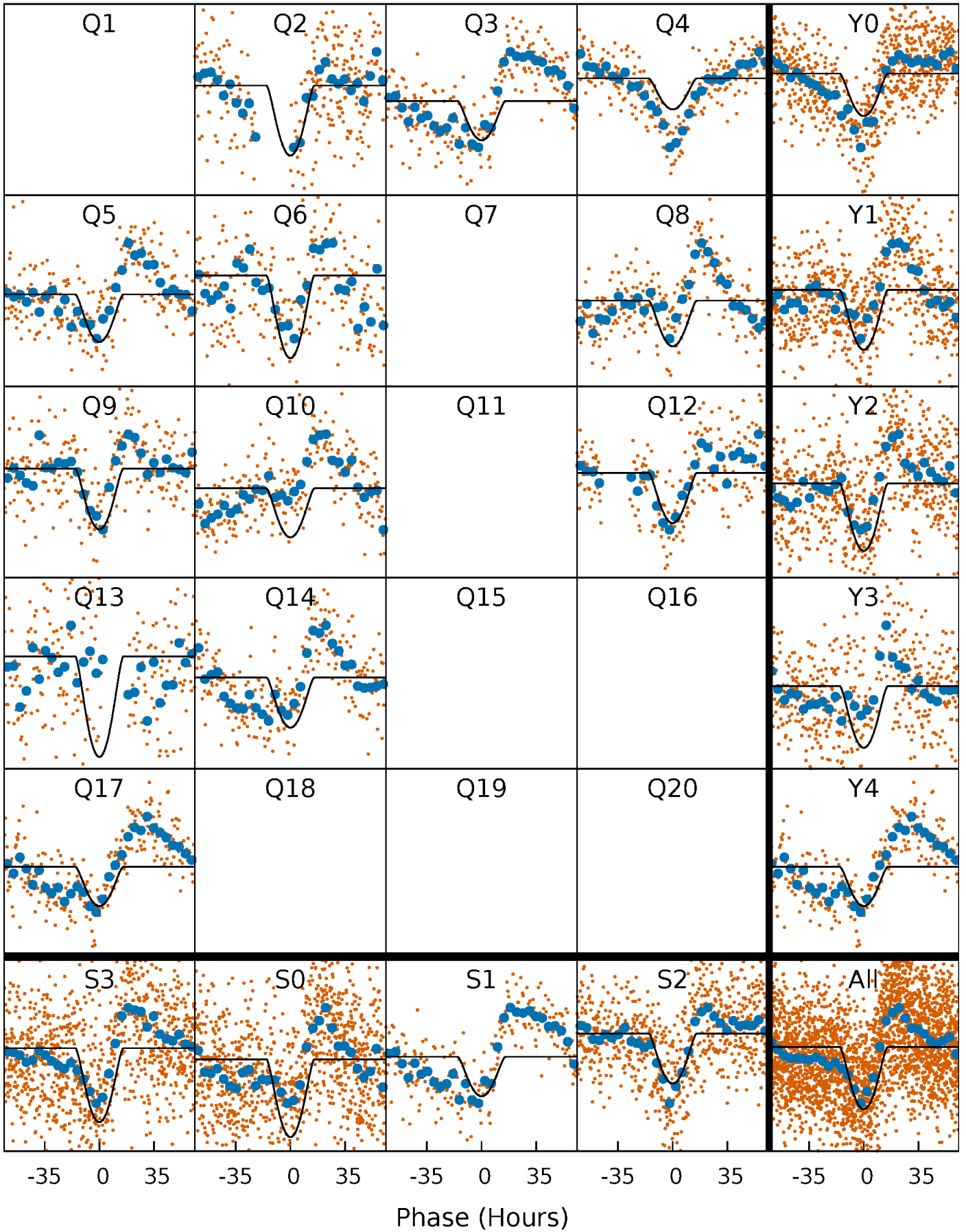
PDC Quarter-Phased Transit Curves

TCE 010419797-01 P= 87.144877 Days $T_0=169.192249$ (BKJD)



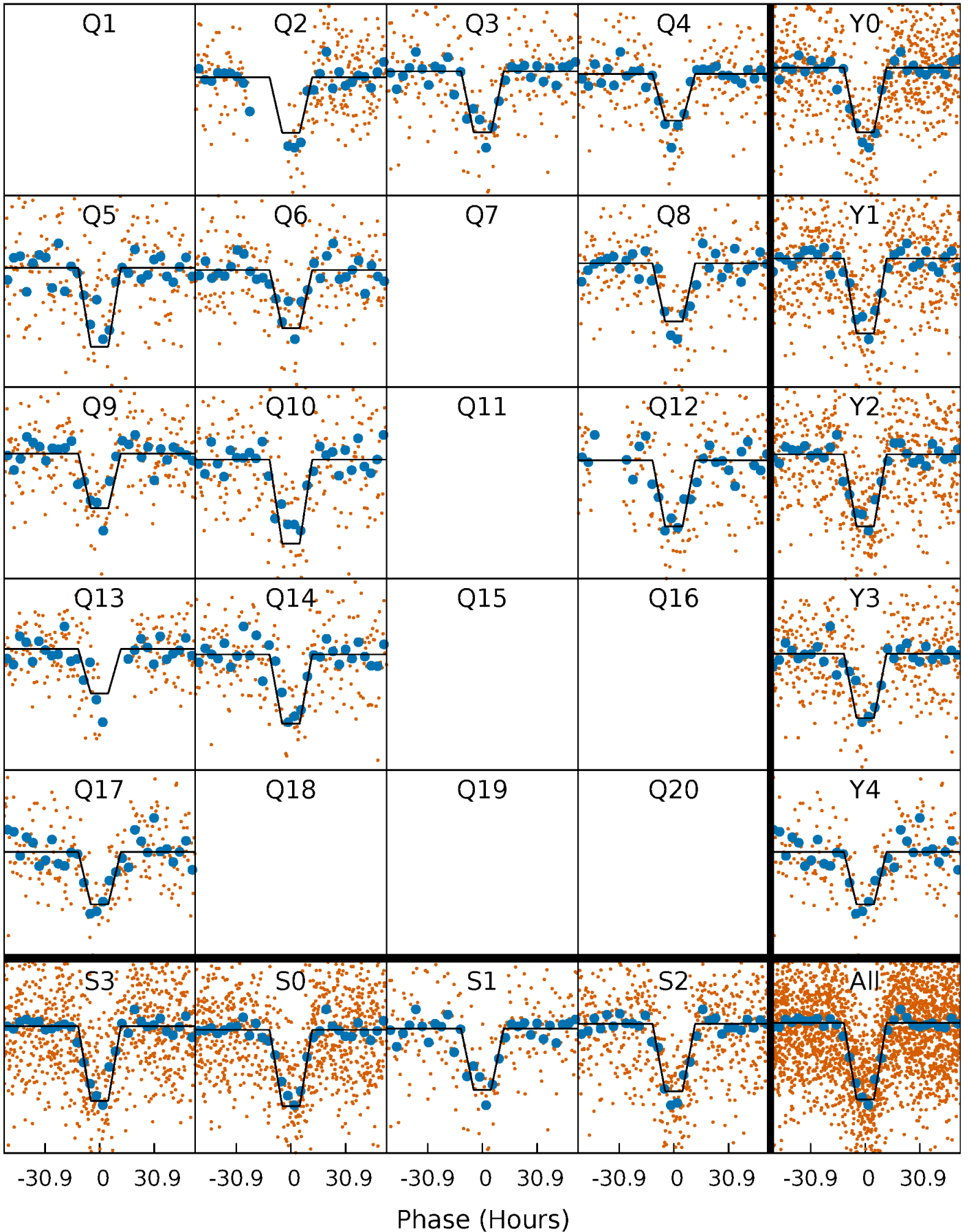
DV Quarter-Phased Transit Curves

TCE 010419797-01 P= 87.144877 Days $T_0=169.192249$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

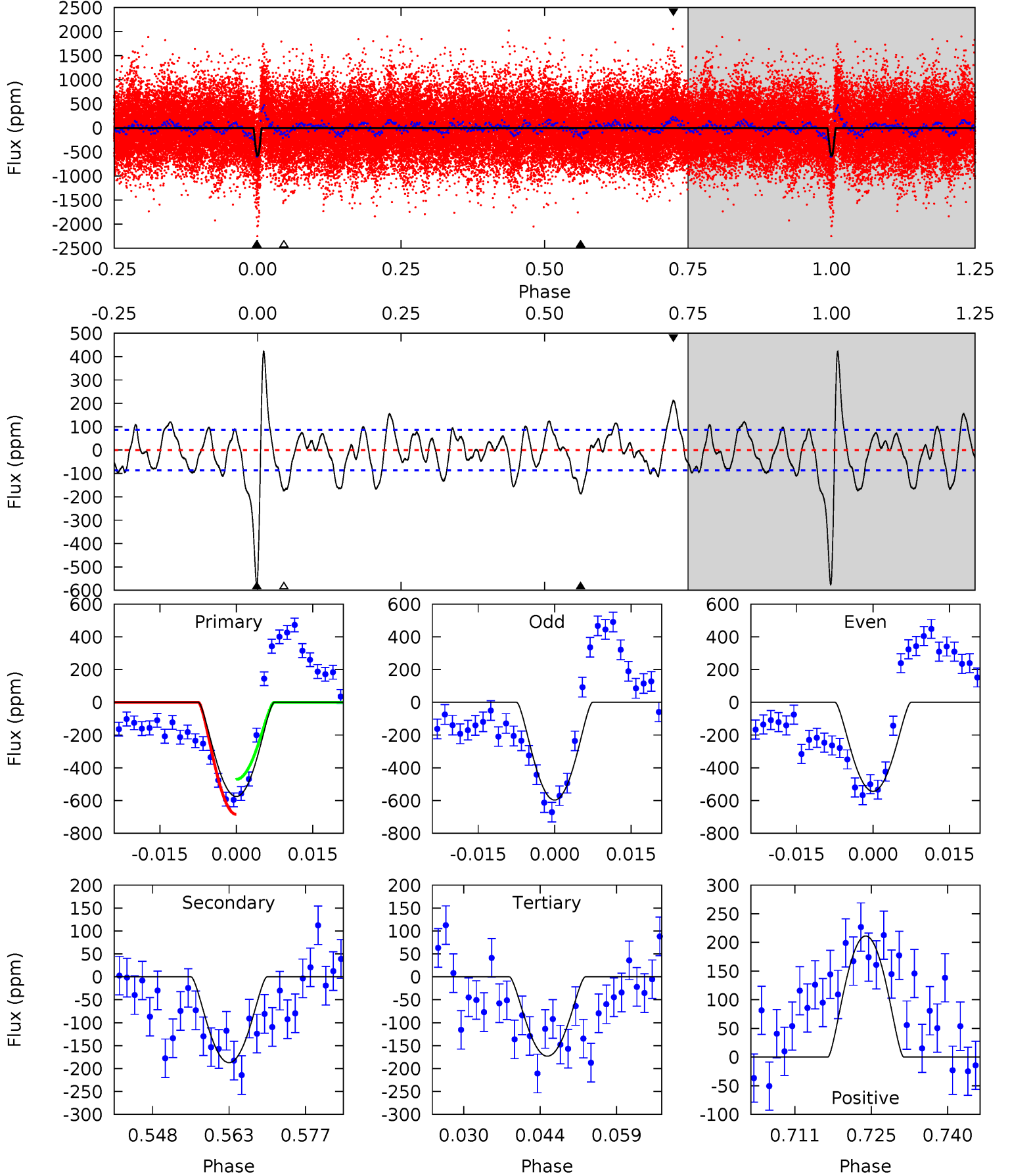
TCE 010419797-01 P= 87.142322 Days $T_0=169.258528$ (BKJD)



DV Model-Shift Uniqueness Test

010419797-01, P = 87.144877 Days, E = 82.047372 Days

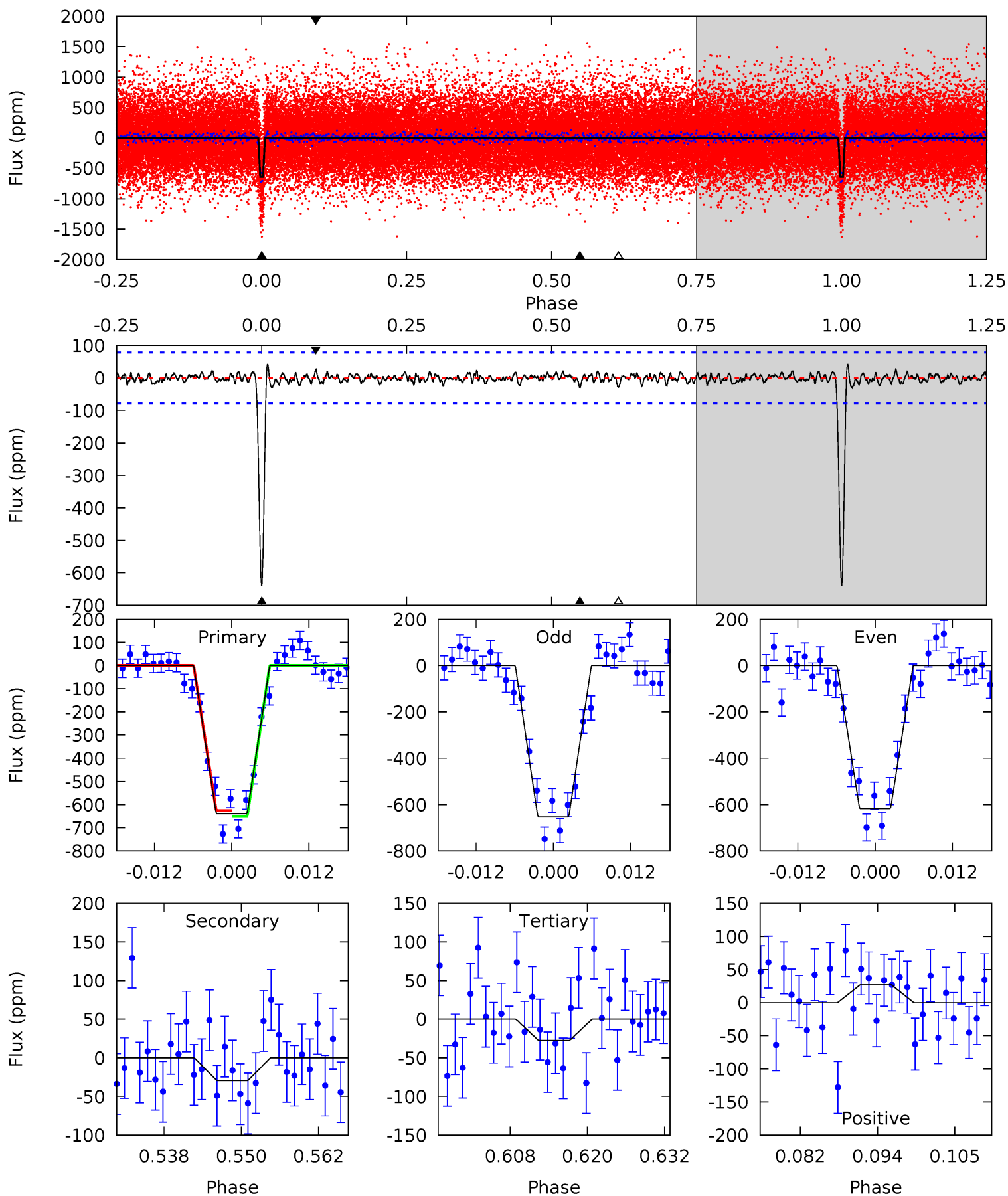
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.0	10.7	9.94	12.1	4.95	2.44	4.42	23.1	20.9	0.81	-1.38	1.51	2.35	0.42	6.17



Alt Model-Shift Uniqueness Test

010419797-01, P = 87.142322 Days, E = 82.116206 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
40.5	1.88	1.75	1.71	5.00	2.52	0.62	38.8	38.8	0.13	0.17	1.11	1.01	0.06	0.83



Stellar Parameters For KIC 010419797

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6510^{+175}_{-214}	$4.434^{+0.060}_{-0.192}$	$-0.380^{+0.250}_{-0.350}$	$1.048^{+0.296}_{-0.127}$	$1.086^{+0.146}_{-0.132}$	$1.329^{+0.420}_{-0.626}$
	+3%/-3%	+1%/-4%	+66%/-92%	+28%/-12%	+13%/-12%	+32%/-47%
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 010419797-01 / KOI 4073.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-187 ± 17	$5.74^{+4.68}_{-3.50}$	665^{+44}_{-33}	3812^{+1766}_{-616}	471^{+2806}_{-321}
Alt.	-30 ± 16	$4.62^{+4.27}_{-2.94}$	665^{+46}_{-32}	2991^{+1210}_{-516}	102^{+662}_{-79}

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

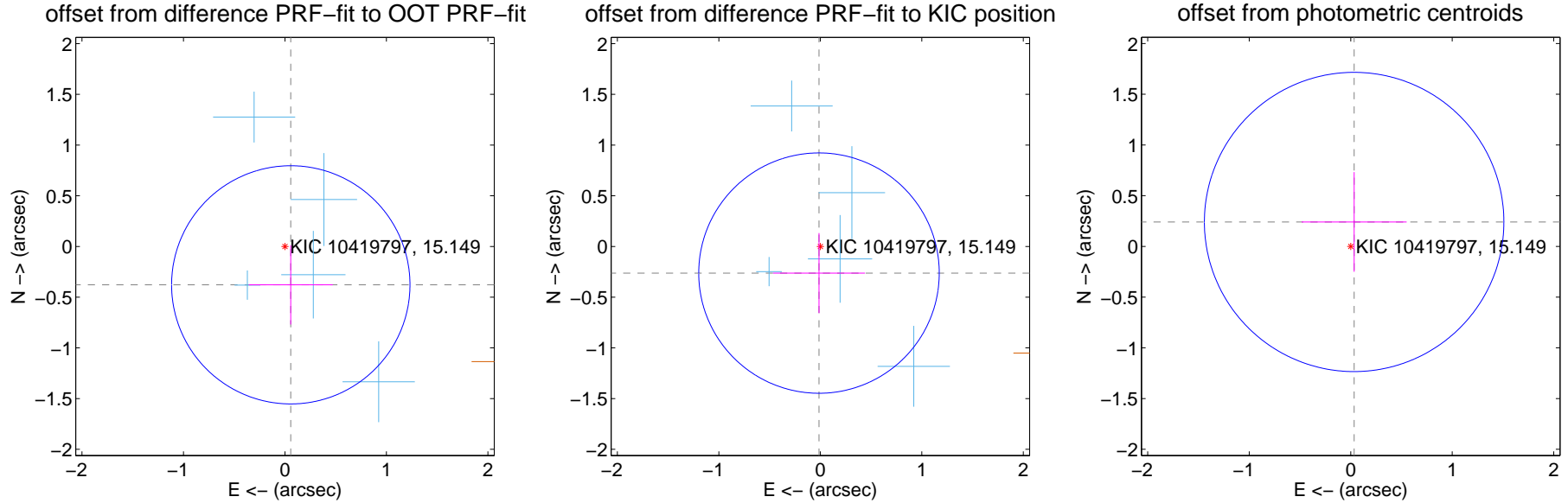
DV Centroid Data

Supplemental centroid analysis for 010419797-01. Kepler magnitude: 15.15. Transit SNR 15.95

There are 5 quarters with good PRF difference image offsets

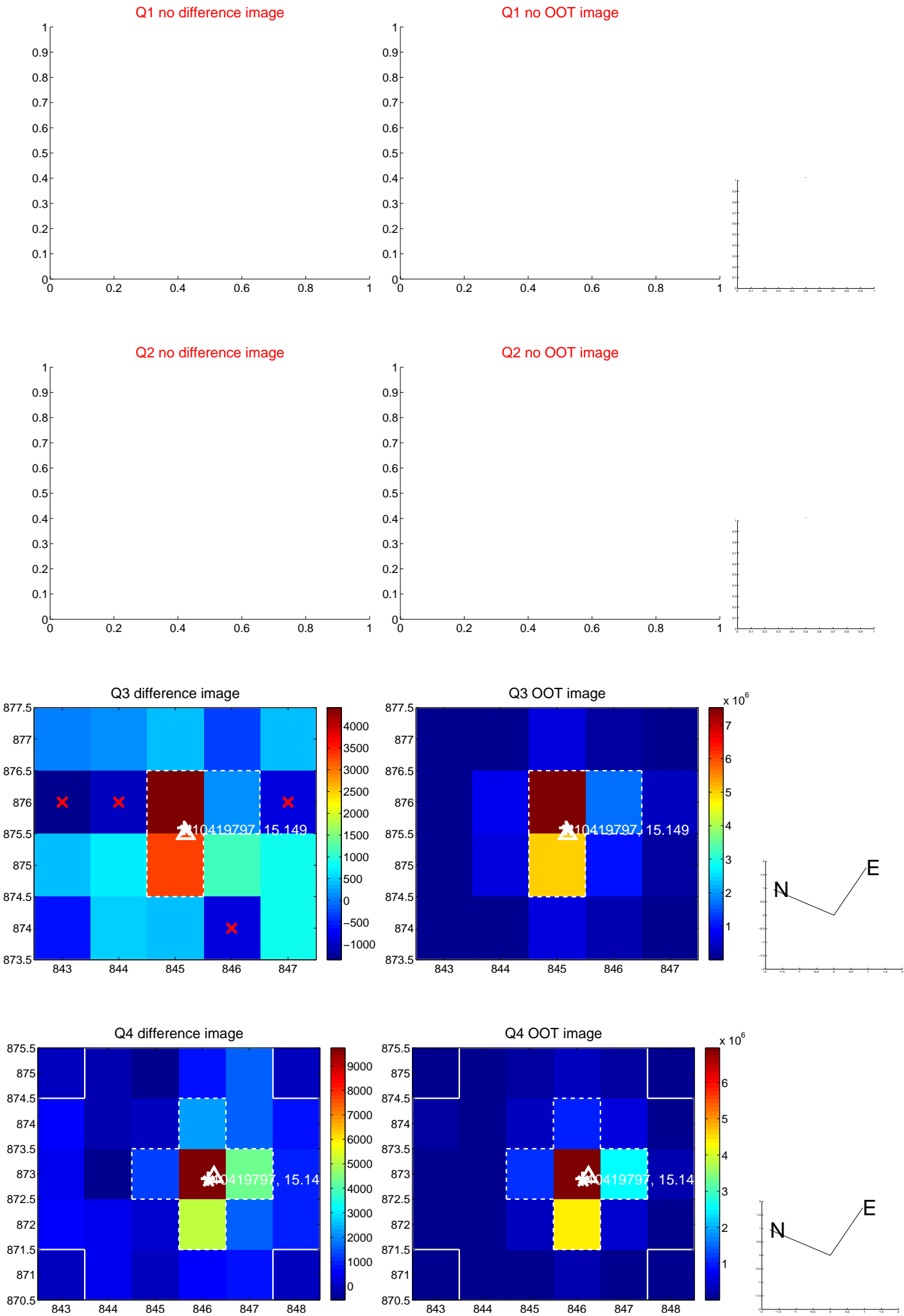
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.383 ± 0.392	0.98	-0.058 ± 0.413	-0.378 ± 0.391
PRF-fit source offset from KIC position	0.263 ± 0.395	0.67	0.013 ± 0.453	-0.263 ± 0.395
photometric centroid source offset	0.24 ± 0.49	0.49	-0.03 ± 0.52	0.24 ± 0.49

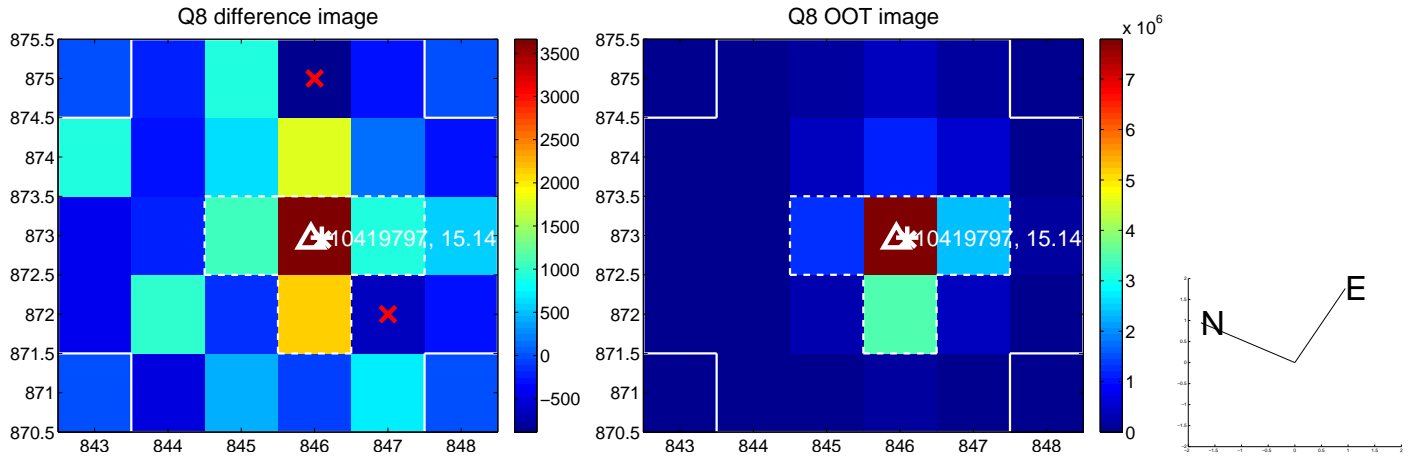
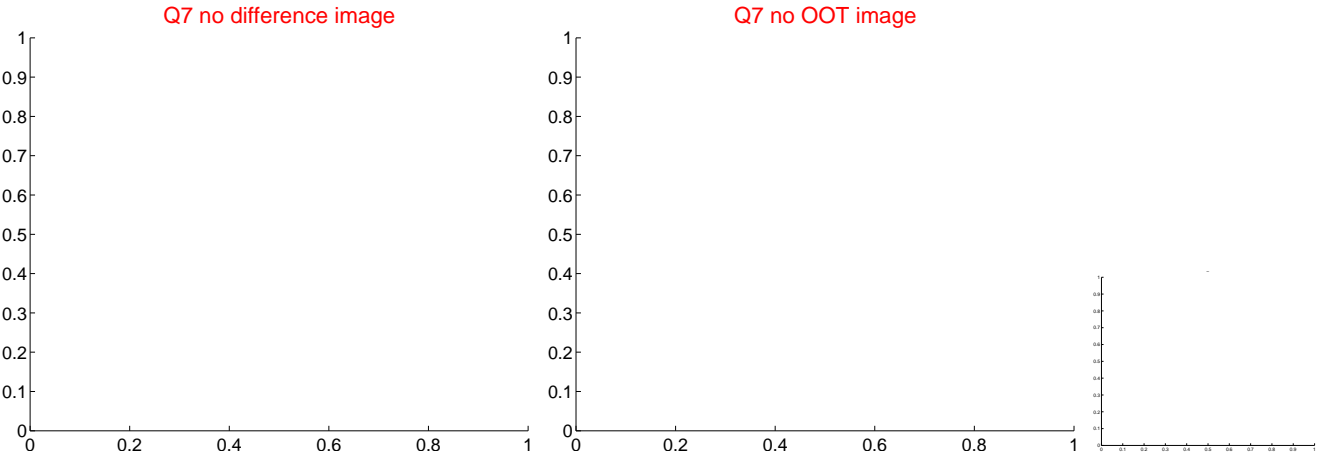
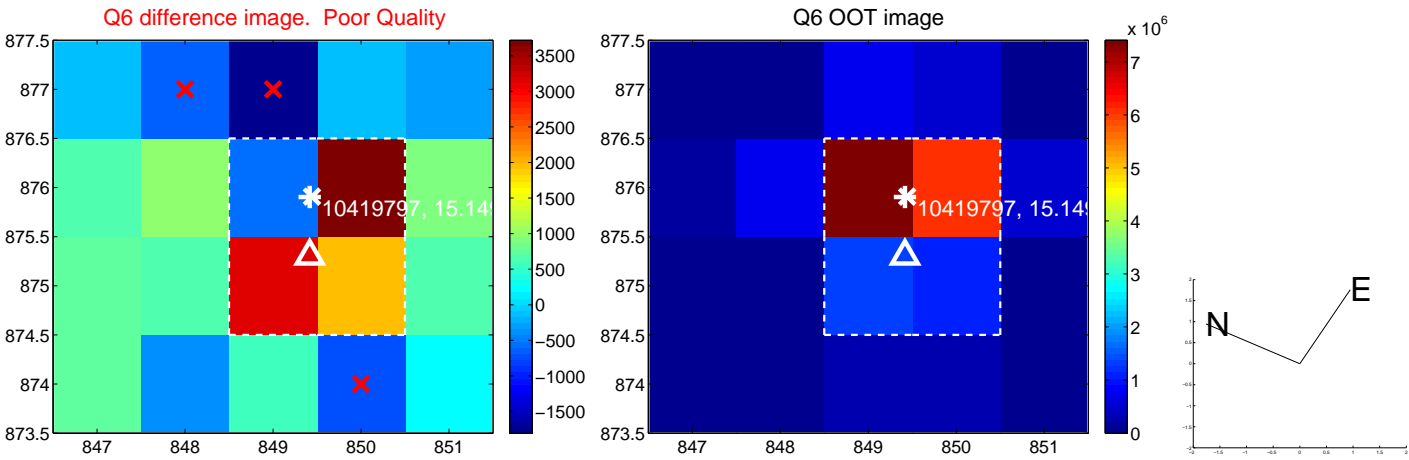
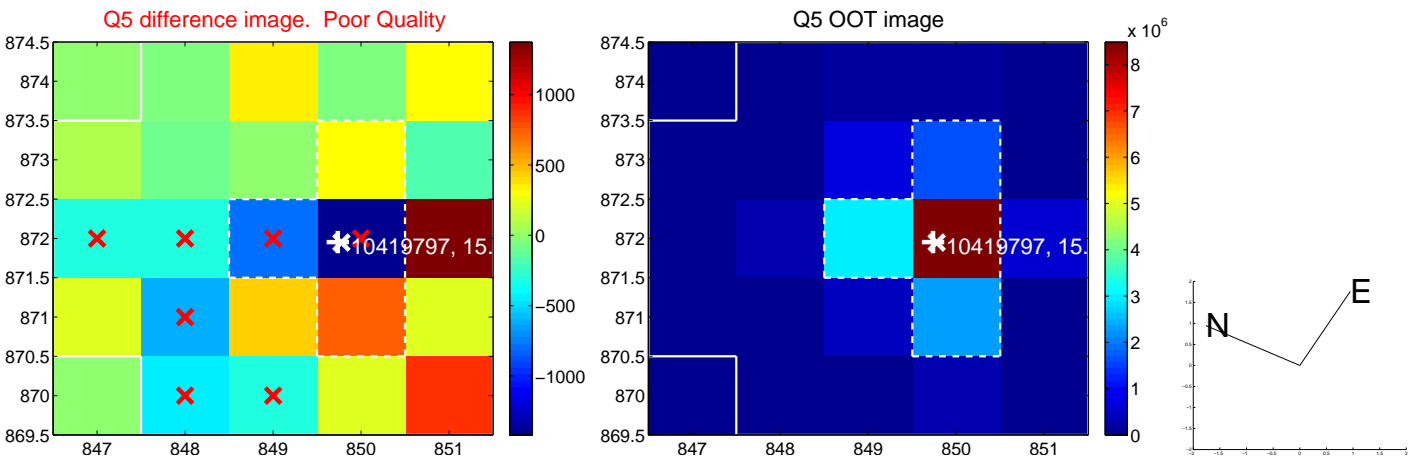


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

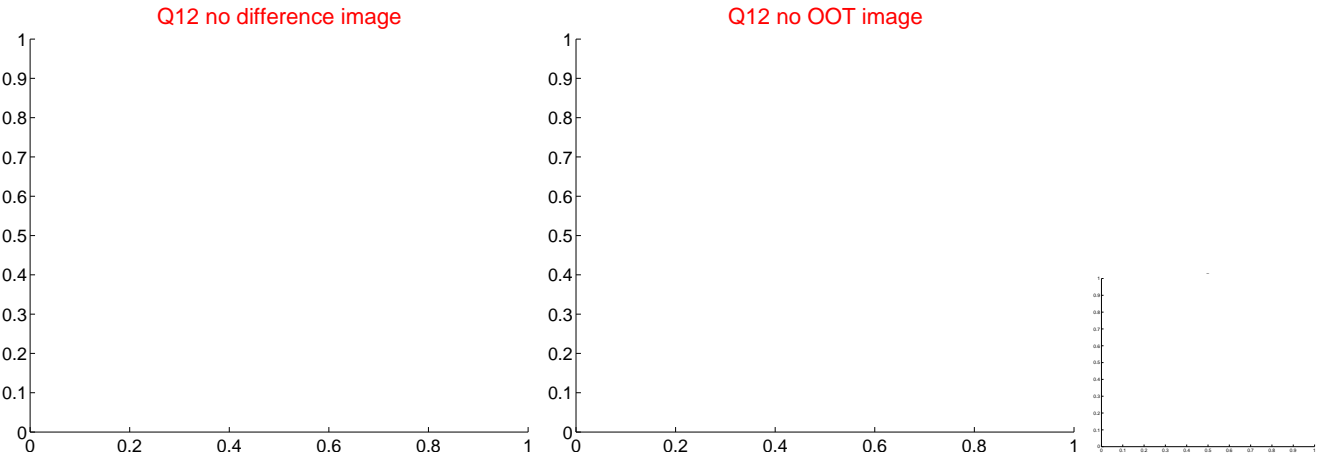
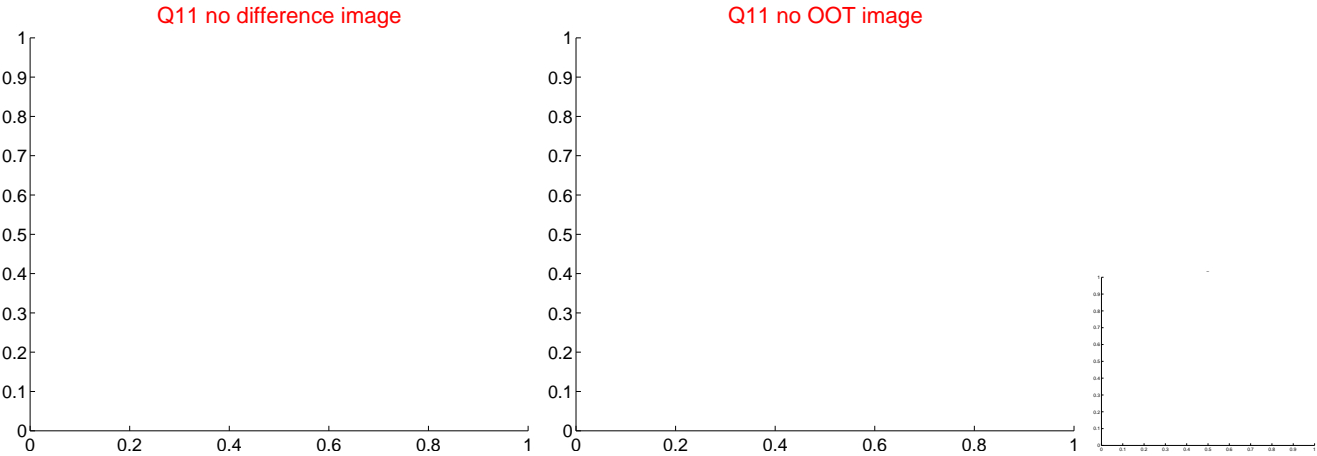
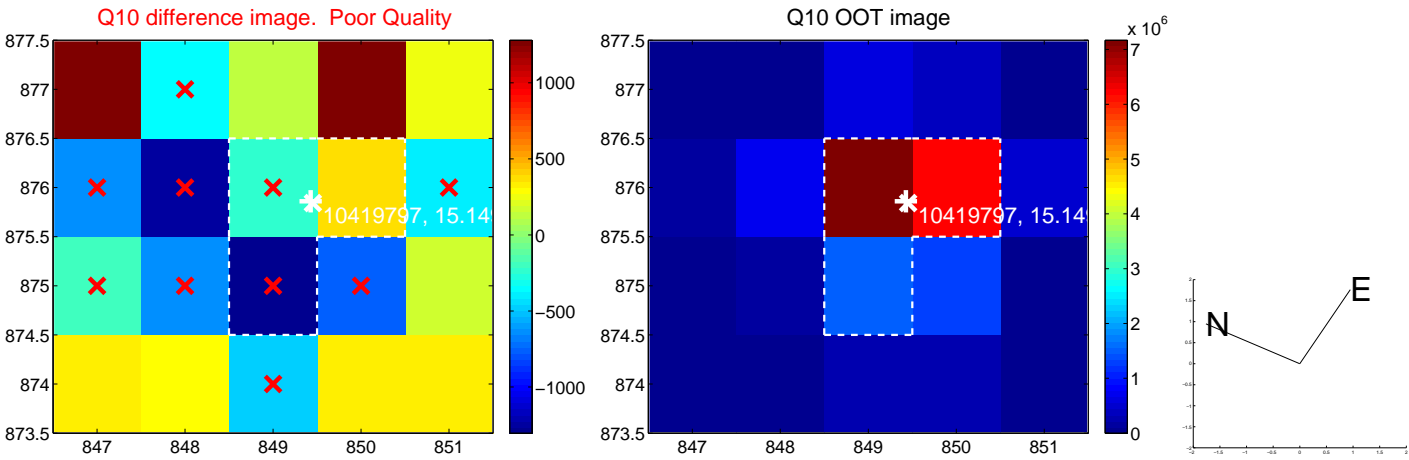
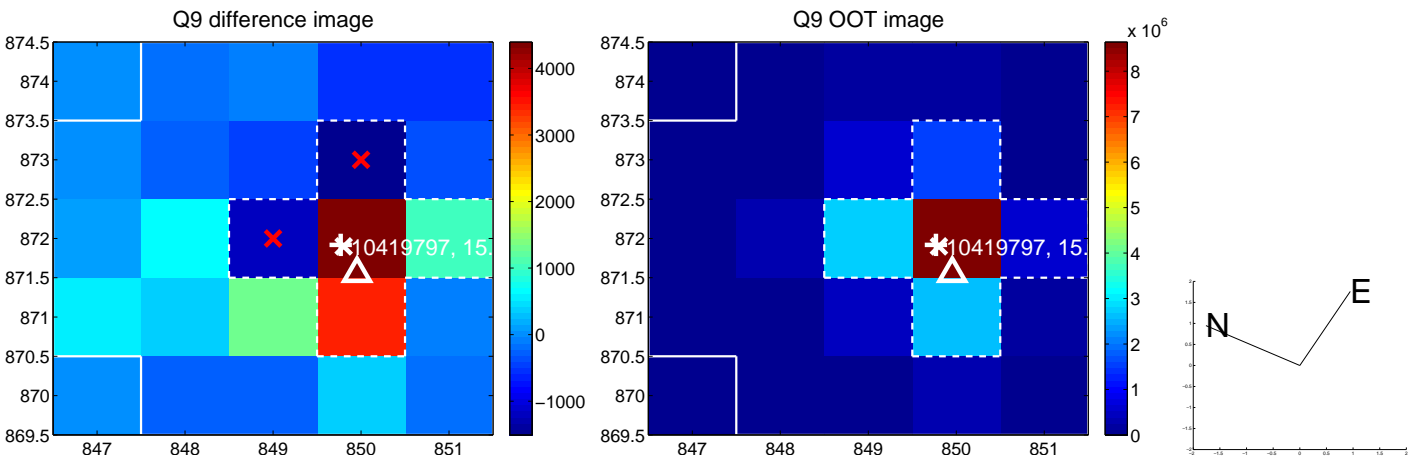
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



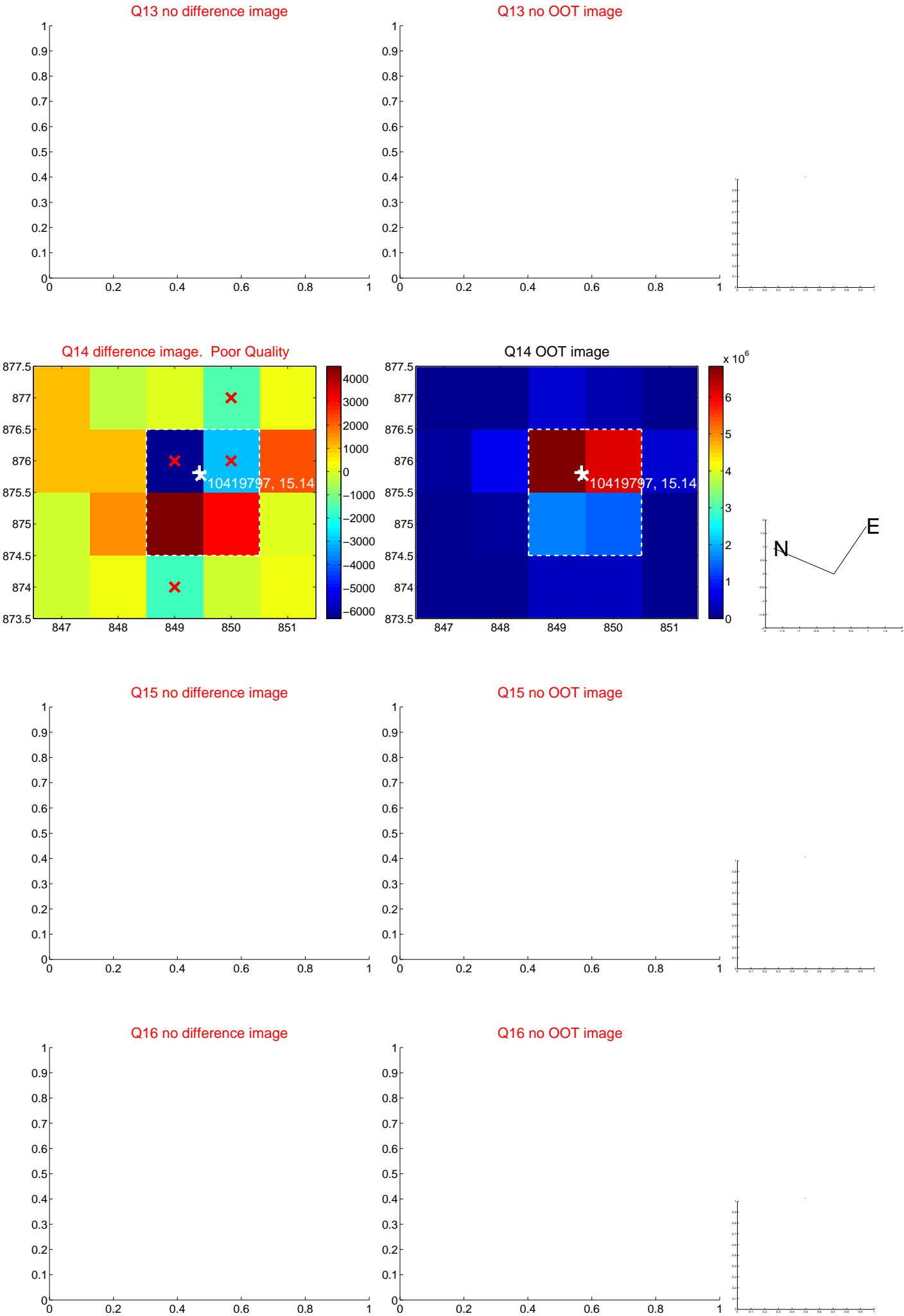
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



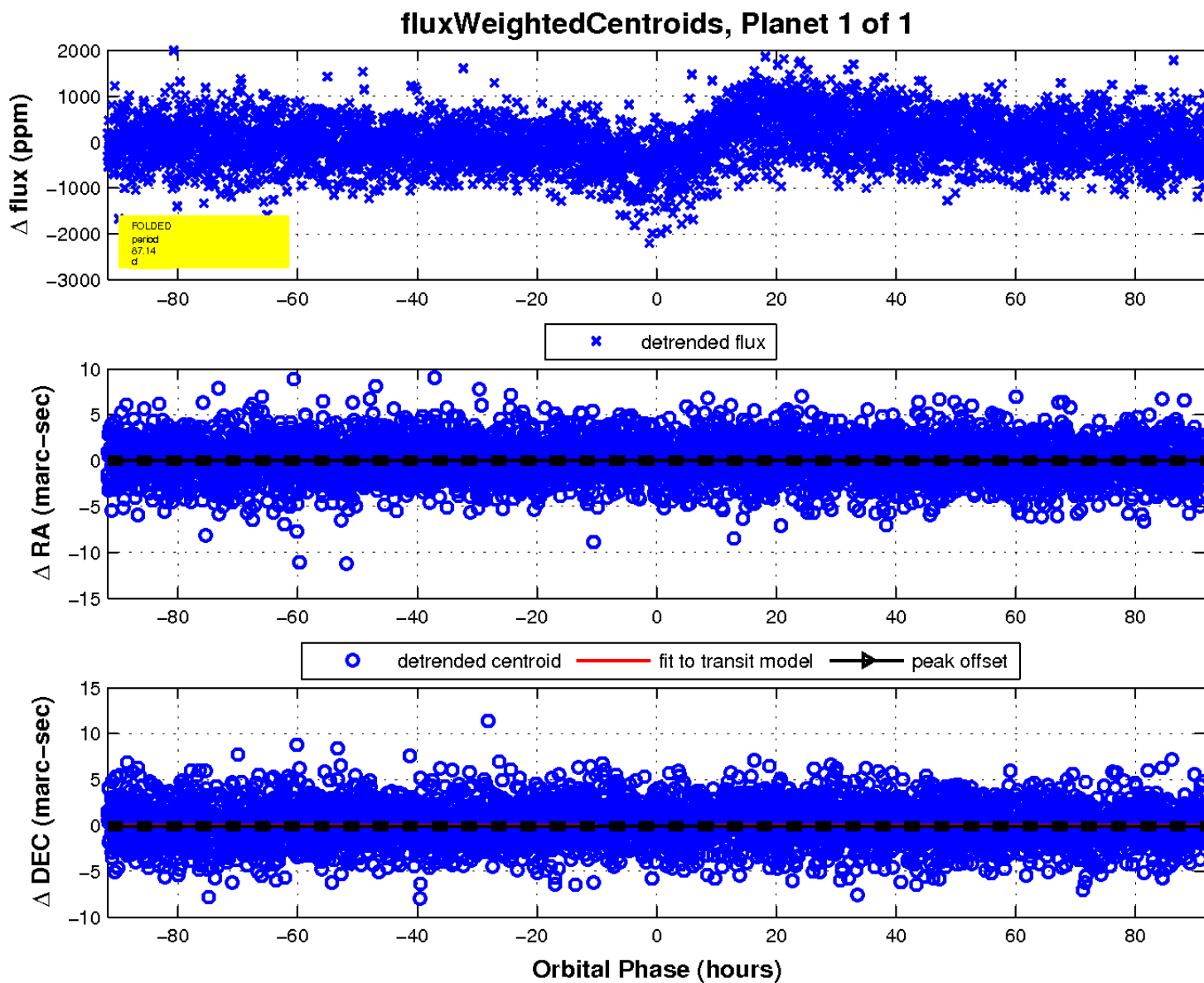
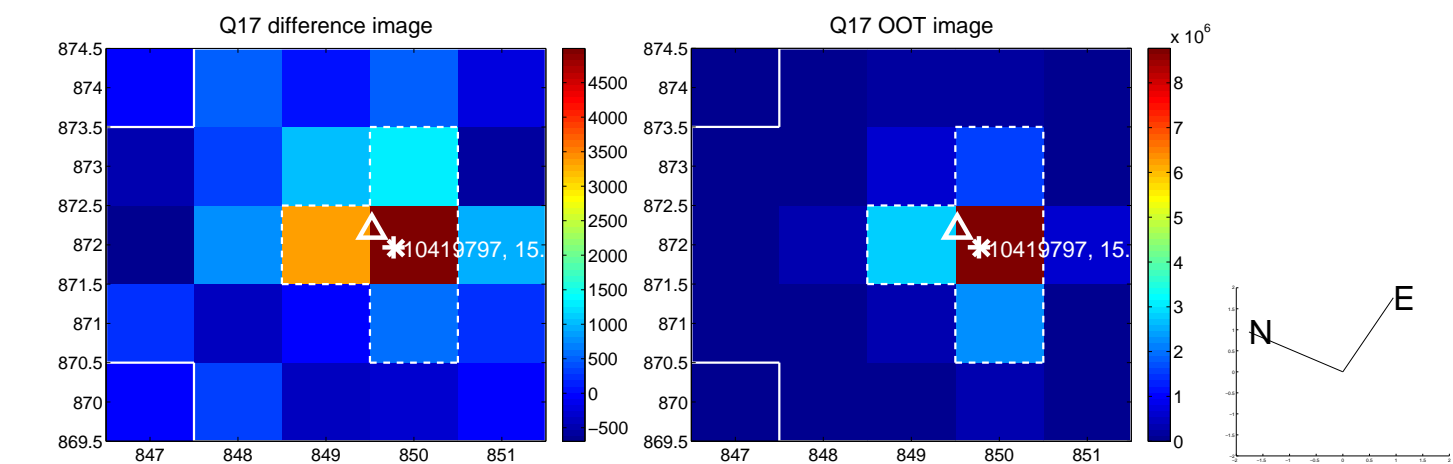
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image

Declination

