

KIC 010747439

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})
010747439-01	OBS	1638.01	4.593601	134.888554	1421.3	2.619	108.2	105.2	0.97	6075	5.61	379.39

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010747439-01	OBS	FP	0.00	0	0	1	1	CENT_RESOLVED_OFFSET—HALO_GHOST—EPHEM_MATCH

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.

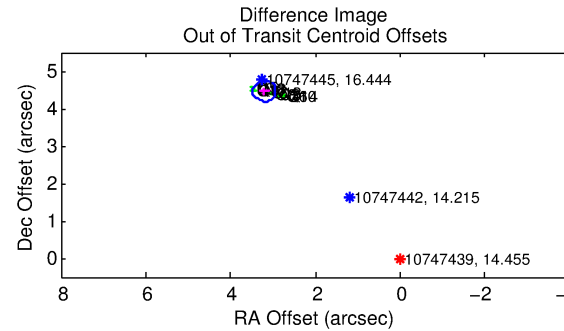
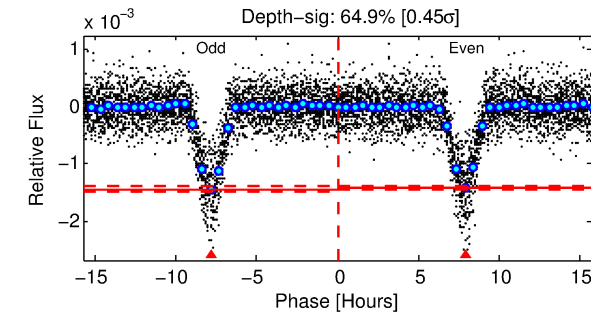
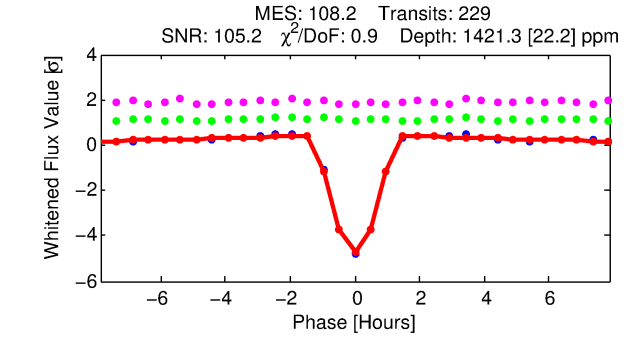
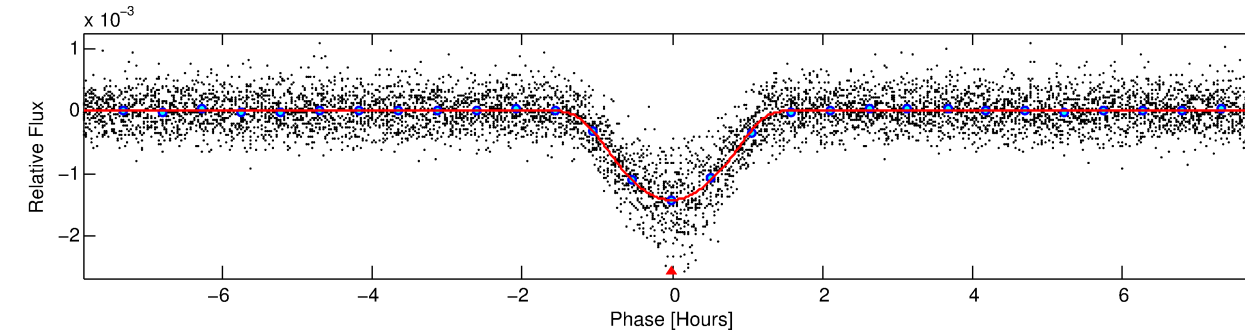
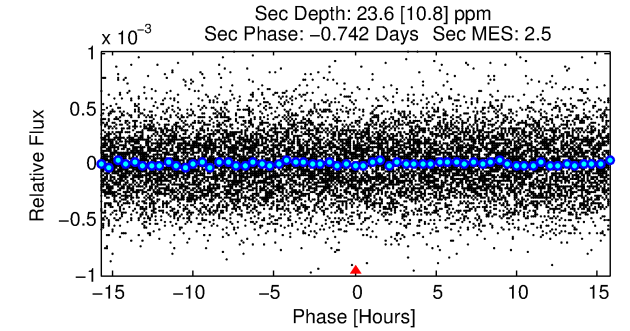
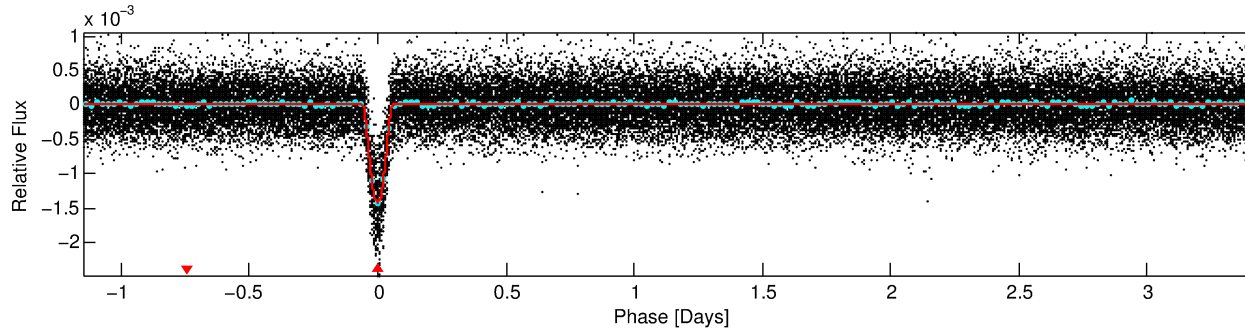
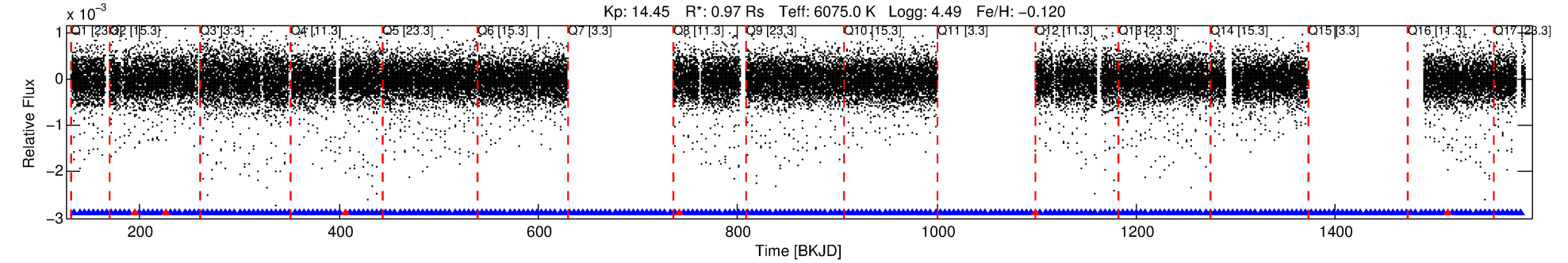
Ephemeris Match Information For 010747439-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist ($''$)	Δ Row	Δ Col	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ_P	σ_T
010747439-01	10747439	2673.01	10747445	1:1	5.8	1	1	16.44	14.45	33.85	Direct-PRF	0	0.01	0.02

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 10747439 Candidate: 1 of 1 Period: 4.594 d
KOI: K01638.01 Corr: 0.991



DV Fit Results:

Period = 4.59360 [0.00000] d
Epoch = 134.8886 [0.0005] BKJD
Rp/R* = 0.0531 [0.0094]
a/R* = 5.30 [0.33]
b = 0.98 [0.02]
Seff = 379.39 [151.09]
Teq = 1125 [112] K
Rp = 5.61 [2.00] Re
a = 0.0550 [0.0143] AU
Ag = 1.24 [0.86] [0.28σ]
Teffp = 1837 [271] K [2.43σ]

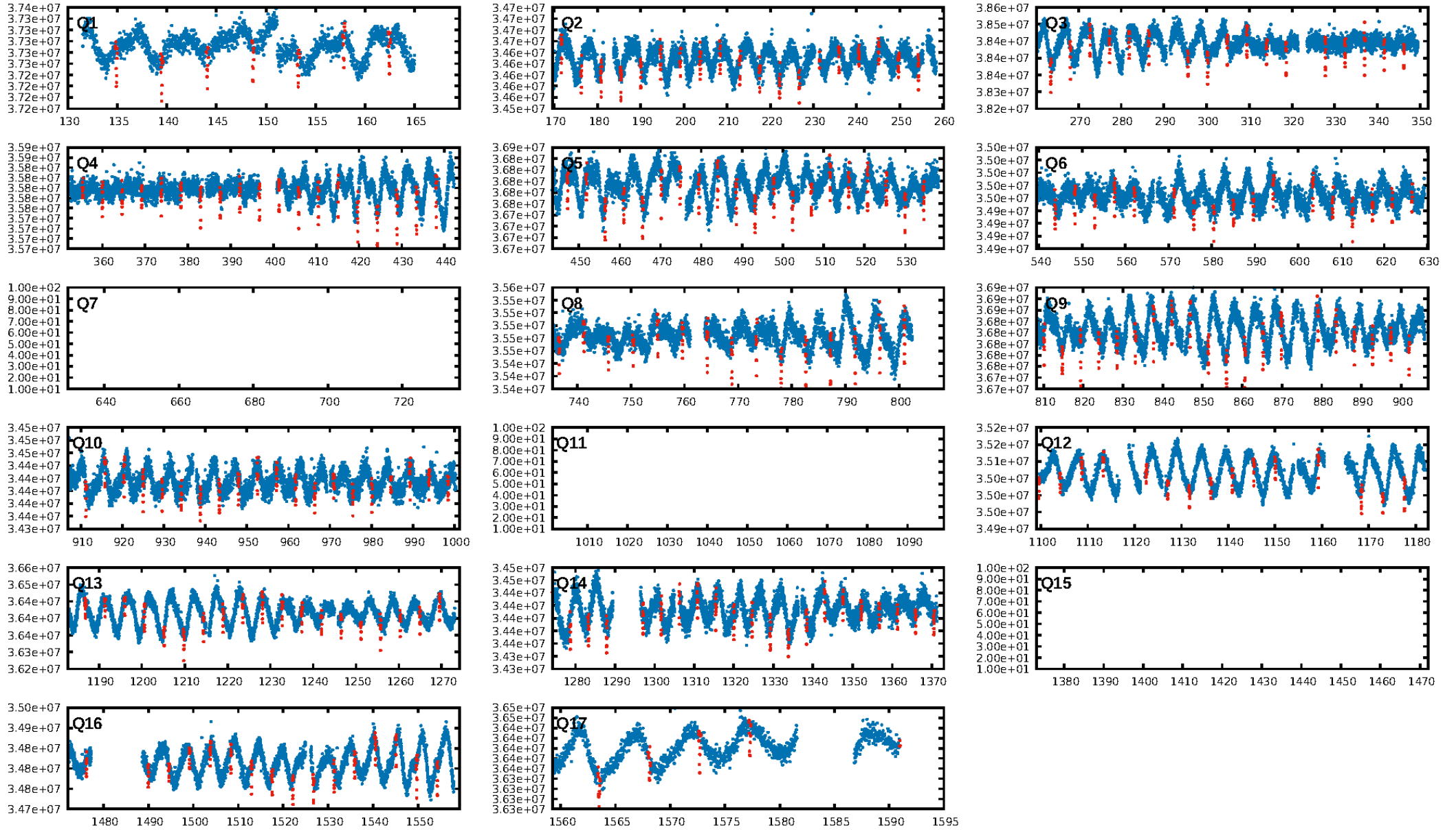
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.97 [211/217]
GhostDiagnostic-chr: -0.1296
Centroid-sig: 0.0%
Centroid-so: 15.990 arcsec [95.29σ]
OotOffset-rm: 5.492 arcsec [61.14σ]
KicOffset-rm: 5.641 arcsec [83.72σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

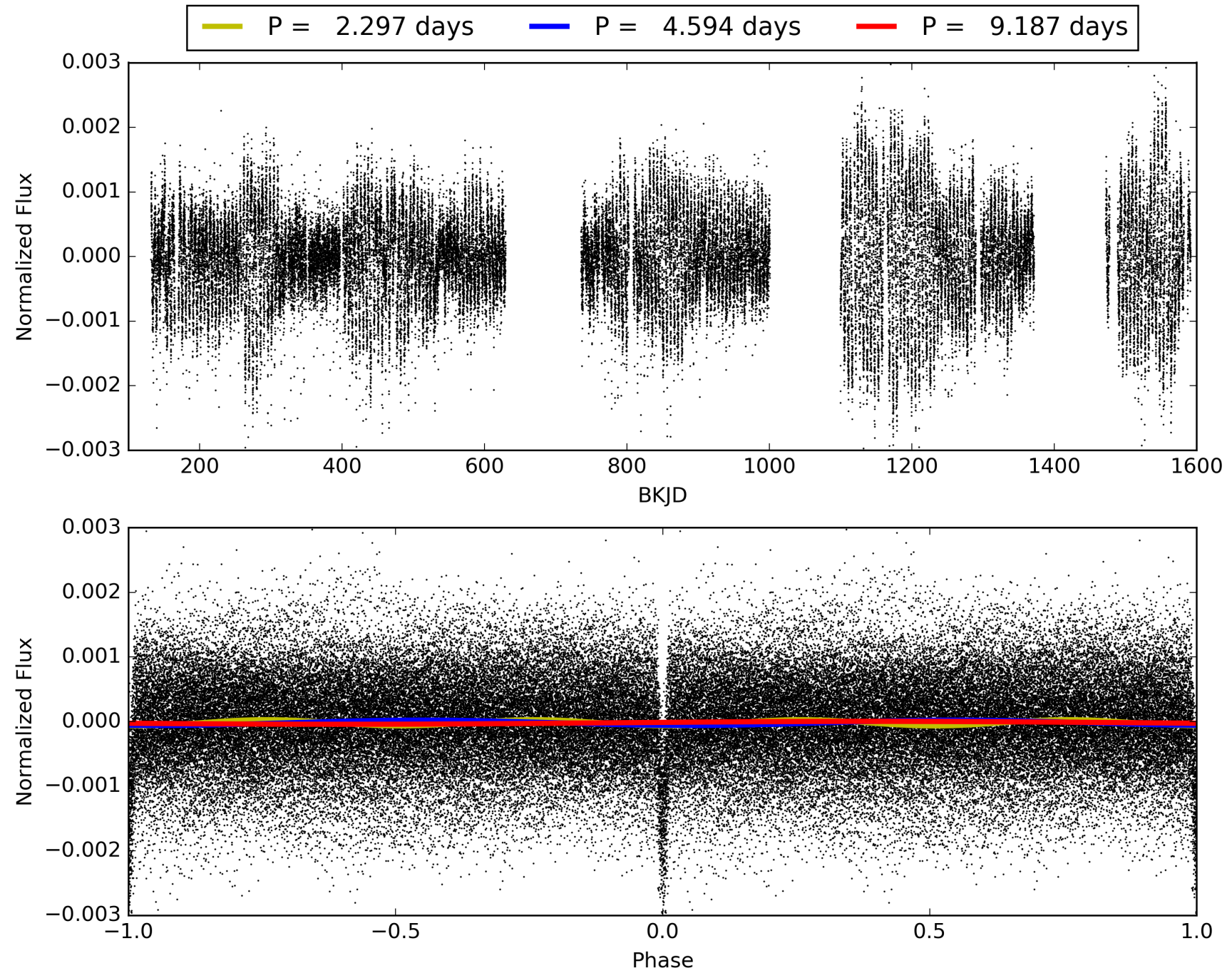
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:43:34 Z

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

TCE 010747439-01, PDC Light Curves

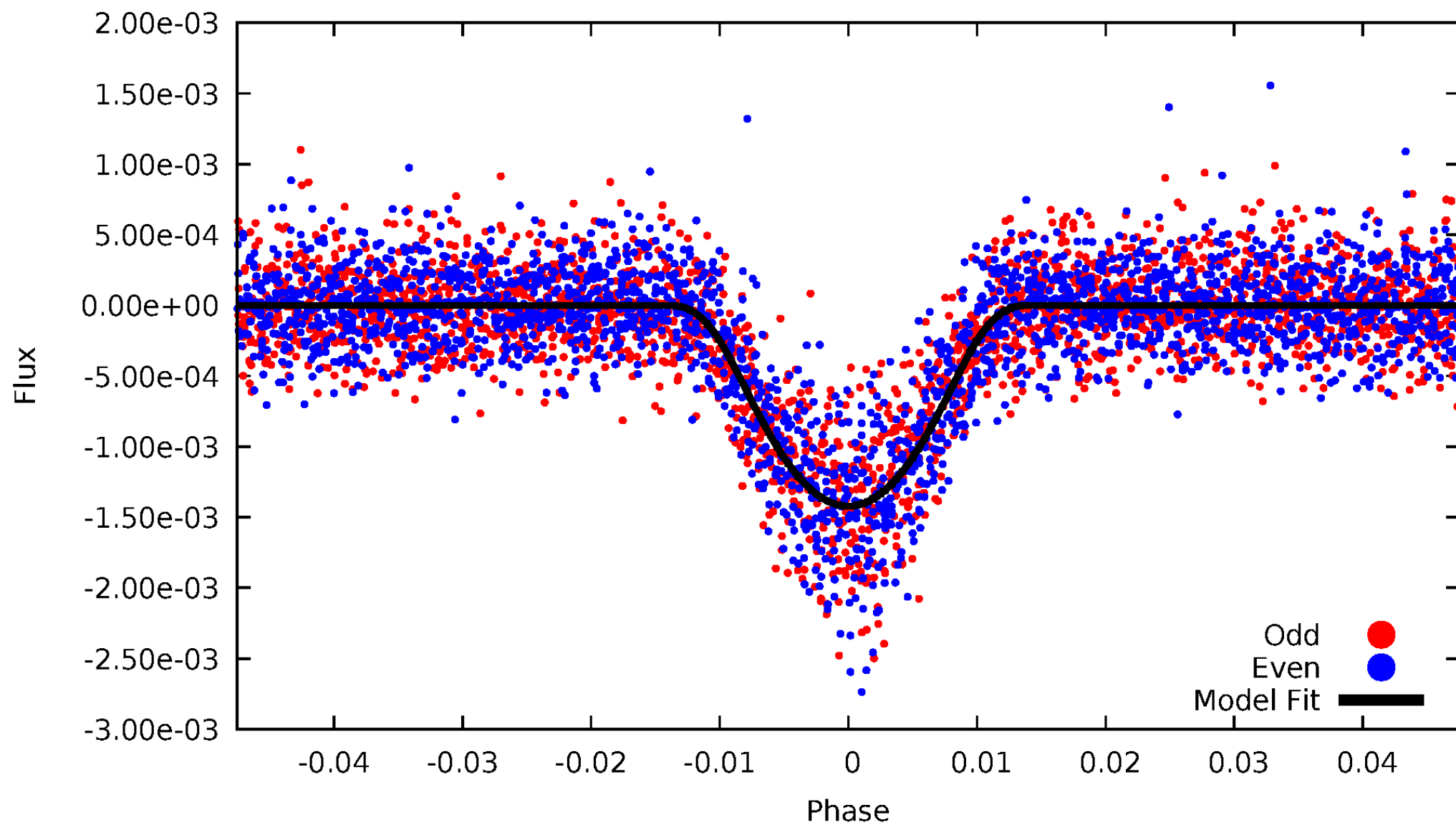


TCE 010747439-01



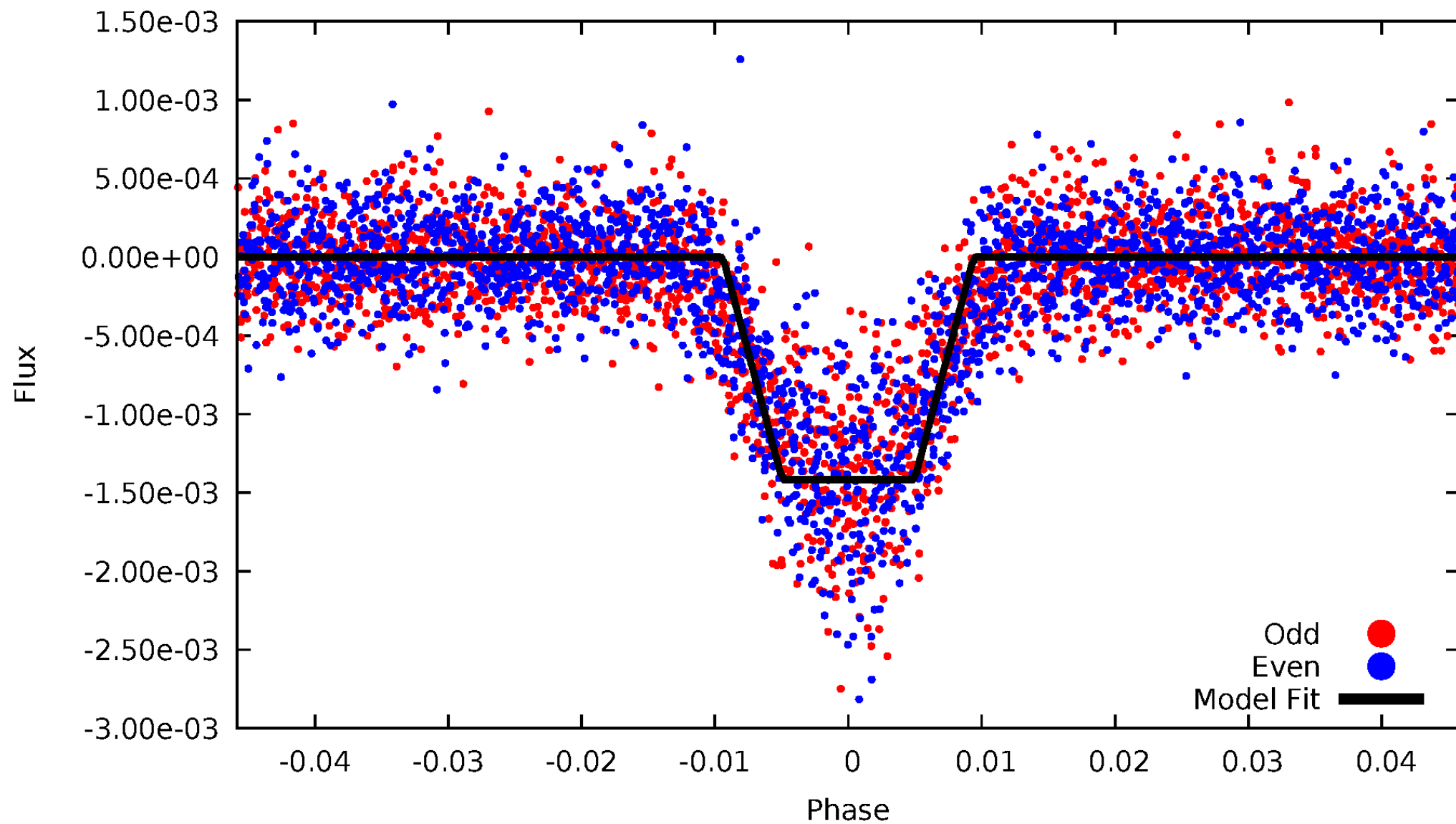
DV Odd/Even

TCE 010747439-01



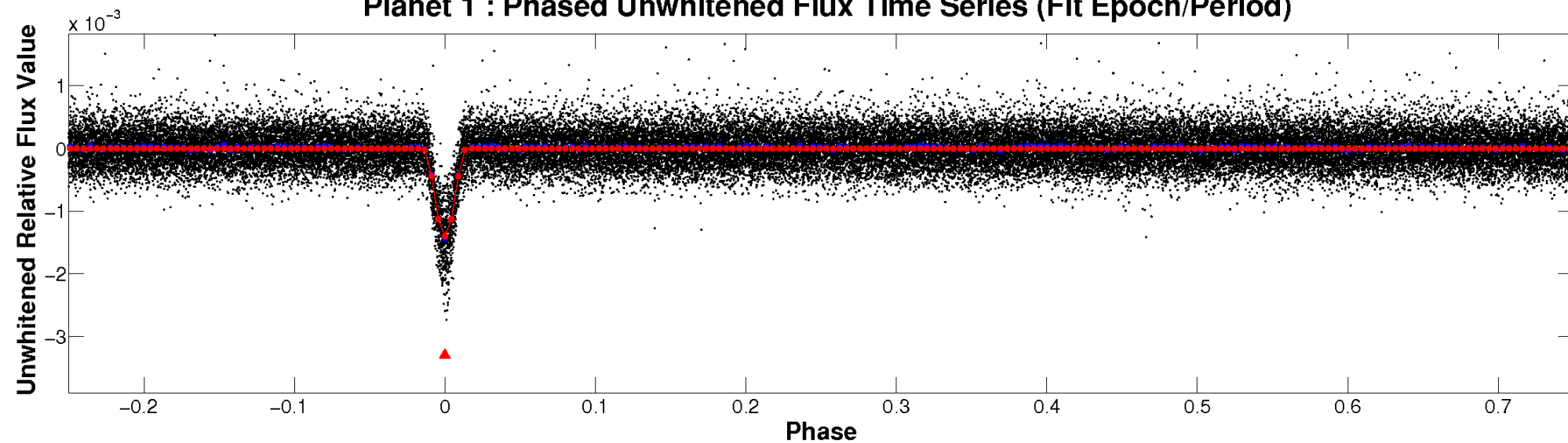
ALT Odd/Even

TCE 010747439-01

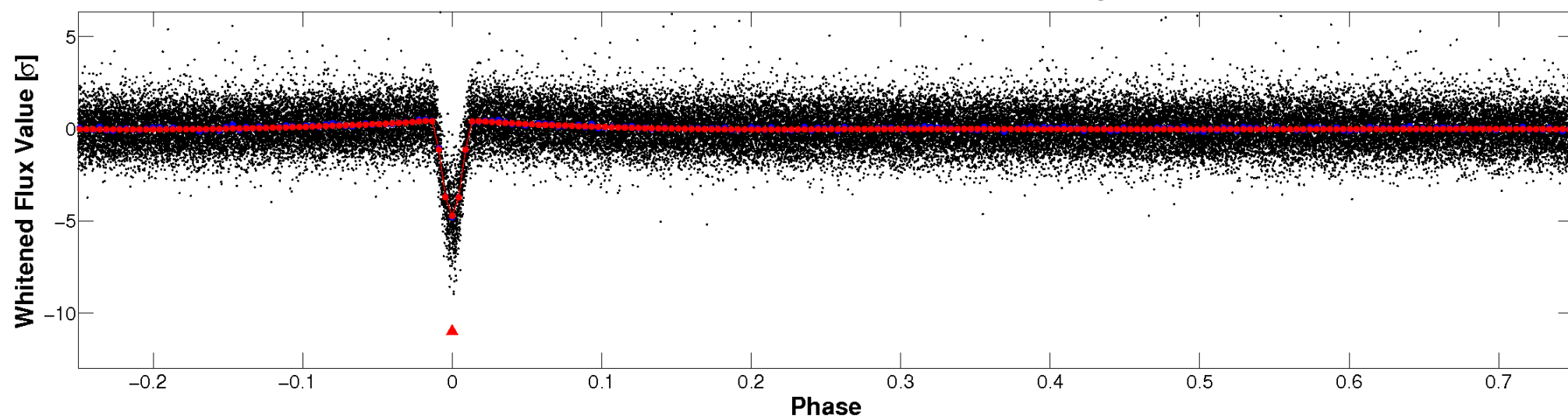


Non-Whitened Vs. Whitened Light Curve

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

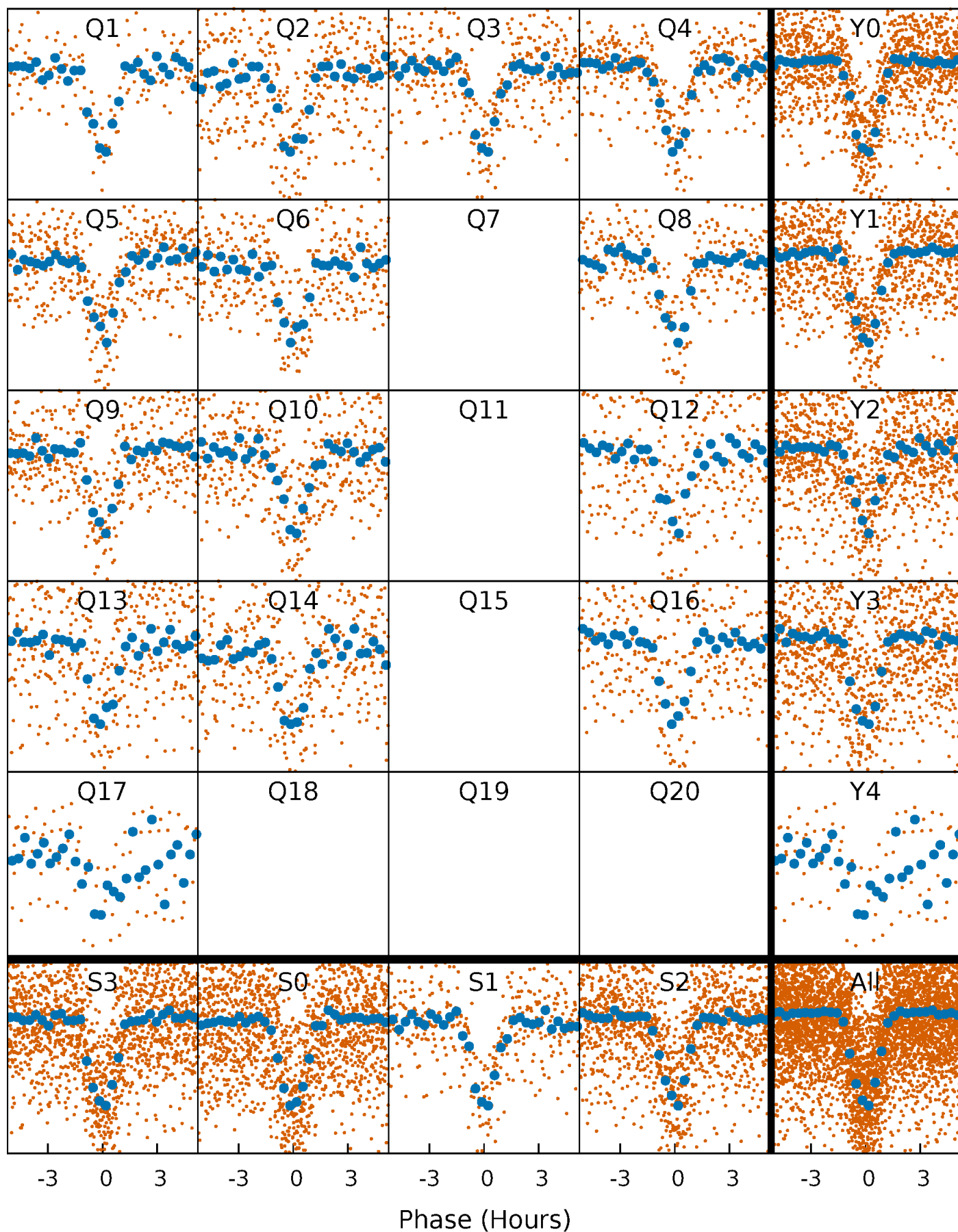


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



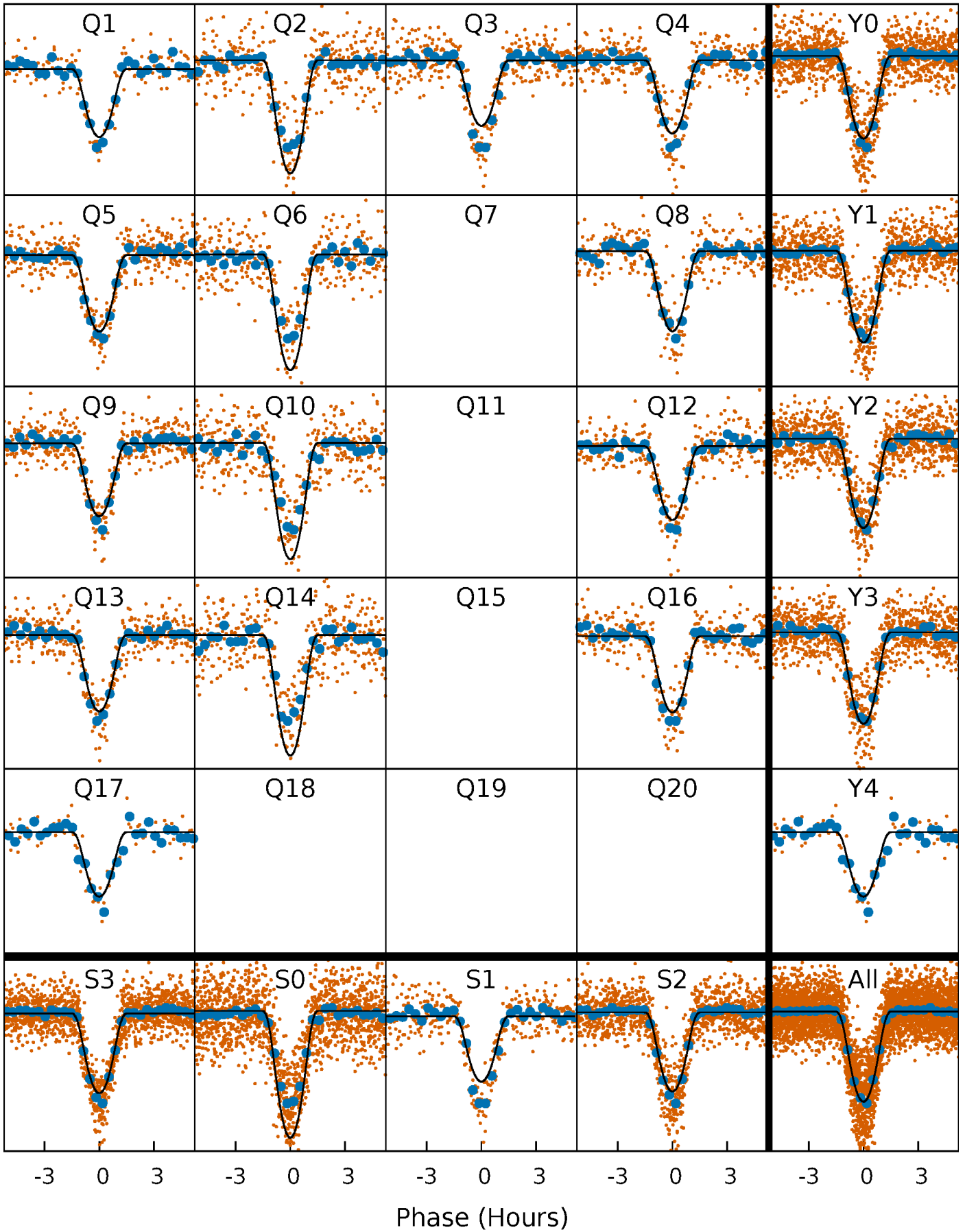
PDC Quarter-Phased Transit Curves

TCE 010747439-01 P= 4.593601 Days $T_0=134.888554$ (BKJD)



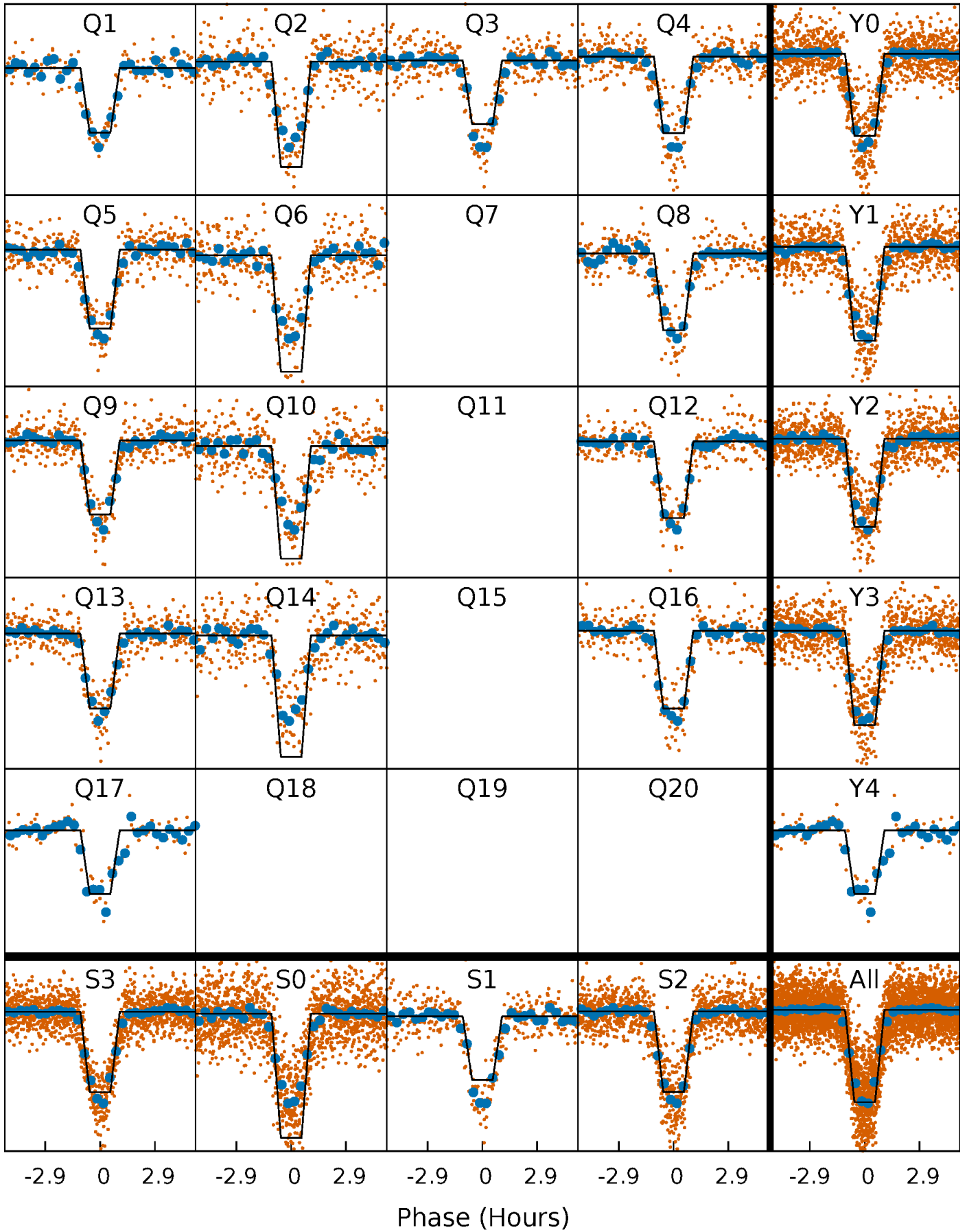
DV Quarter-Phased Transit Curves

TCE 010747439-01 P= 4.593601 Days $T_0=134.888554$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

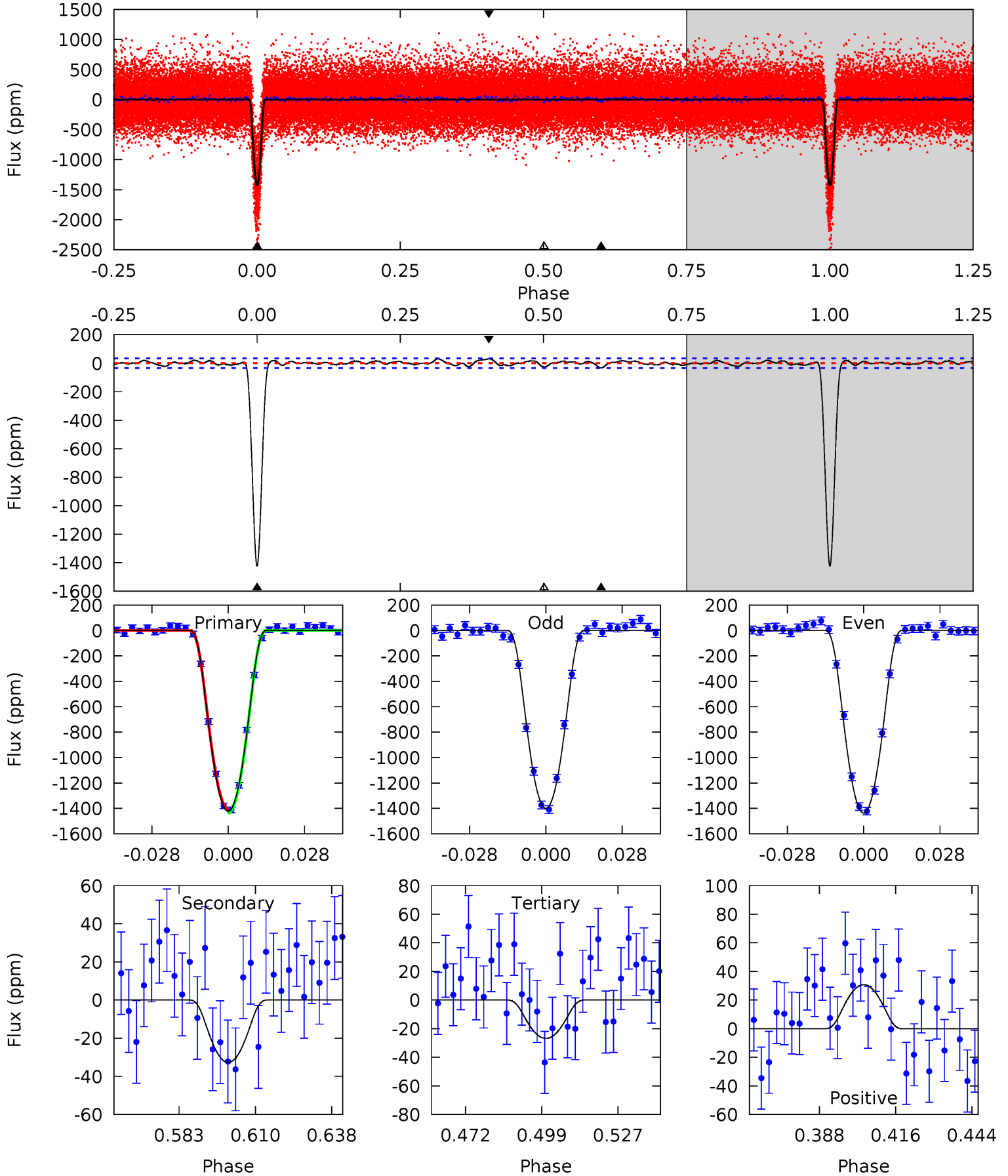
TCE 010747439-01 P= 4.593590 Days $T_0=134.890127$ (BKJD)



DV Model-Shift Uniqueness Test

010747439-01, P = 4.593601 Days, E = 130.294953 Days

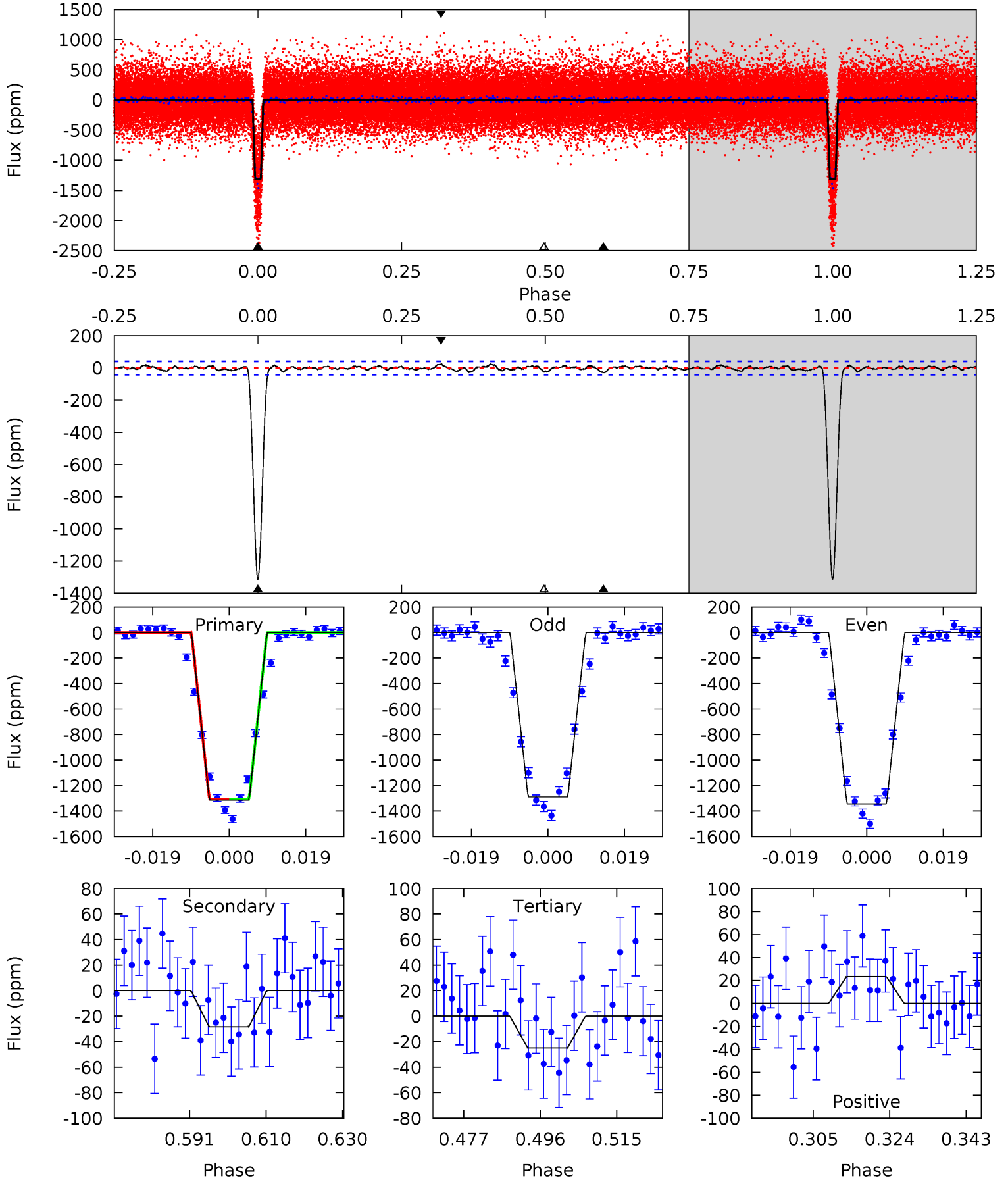
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
197.1	4.53	3.72	4.26	4.83	2.20	1.54	193.4	192.9	0.81	0.27	2.57	1.02	0.02	1.78



Alt Model-Shift Uniqueness Test

010747439-01, P = 4.593590 Days, E = 130.296537 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
154.3	3.33	2.93	2.76	4.90	2.34	1.07	151.4	151.6	0.40	0.57	3.18	1.03	0.02	0.05



Stellar Parameters For KIC 010747439

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6075^{+180}_{-180}	$4.486^{+0.052}_{-0.208}$	$-0.120^{+0.300}_{-0.300}$	$0.969^{+0.300}_{-0.100}$	$1.048^{+0.142}_{-0.142}$	$1.622^{+0.351}_{-0.886}$
	+3%/-3%	+1%/-5%	+250%/-250%	+31%/-10%	+14%/-14%	+22%/-55%
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 010747439-01 / KOI 1638.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-33 ± 7	$5.87^{+1.31}_{-1.10}$	1605^{+121}_{-75}	2679^{+180}_{-199}	$1.552^{+0.879}_{-0.610}$
Alt.	-28 ± 9	$4.11^{+1.29}_{-1.01}$	1618^{+107}_{-87}	2902^{+292}_{-245}	$2.640^{+2.263}_{-1.229}$

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 $A_{obs} \gg 1.0$

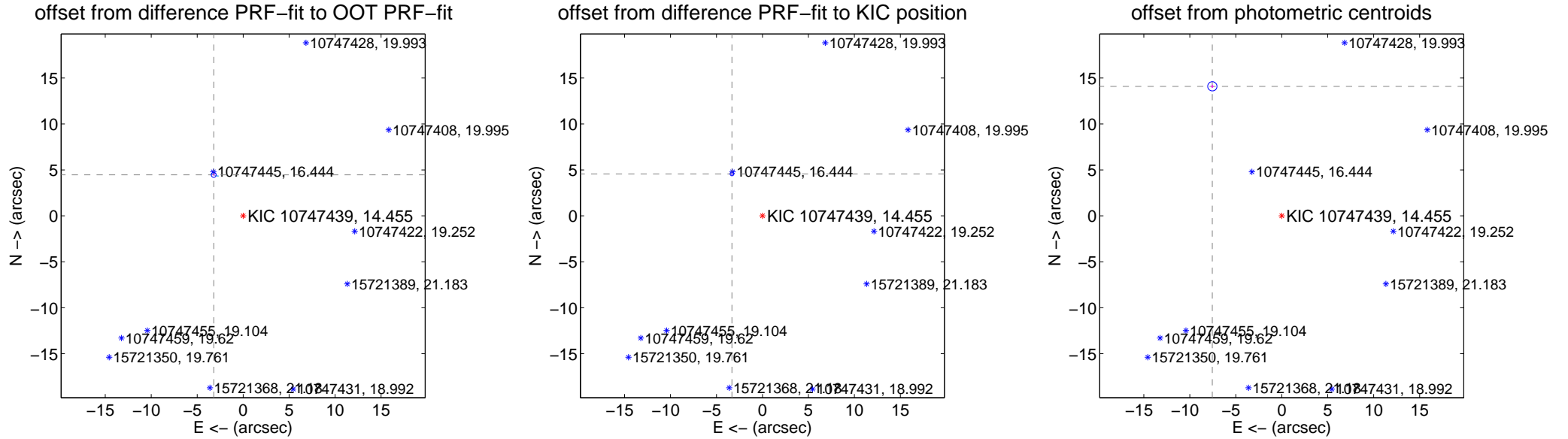
DV Centroid Data

Supplemental centroid analysis for 010747439-01. Kepler magnitude: 14.46. Transit SNR 105.16

There are 14 quarters with good PRF difference image offsets

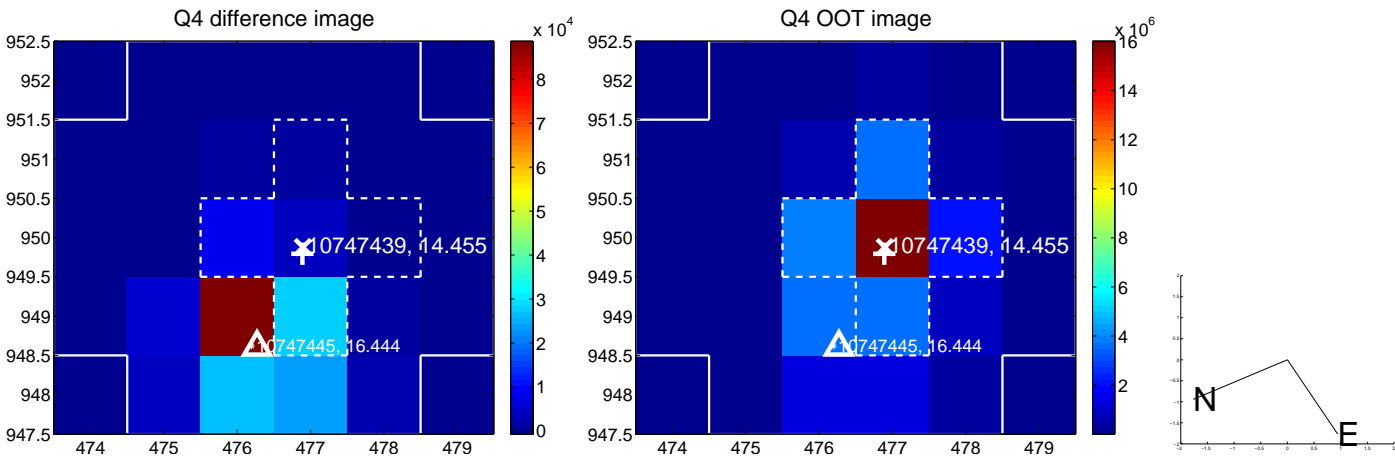
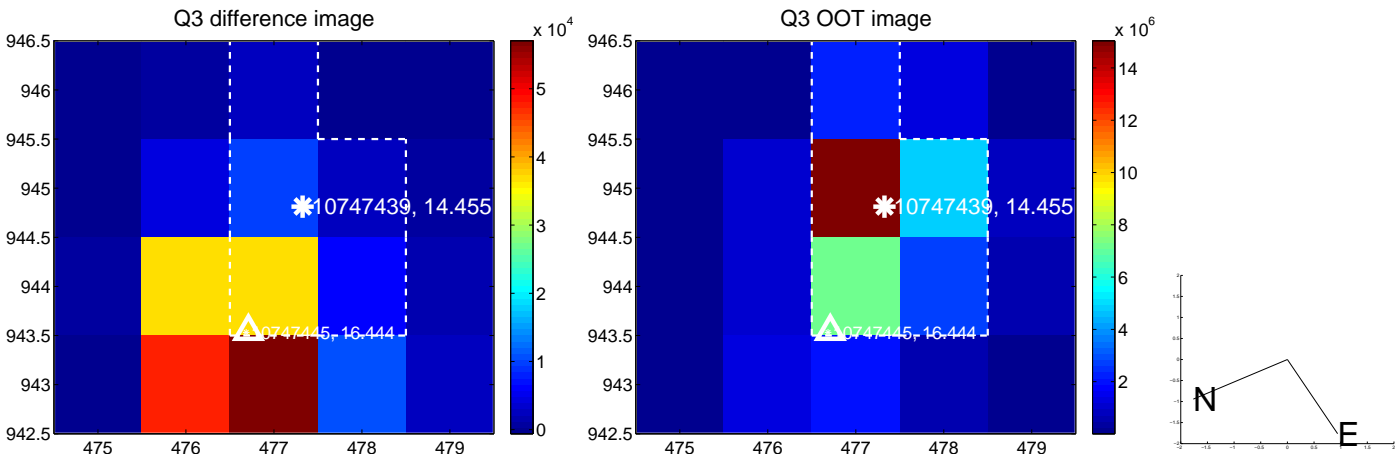
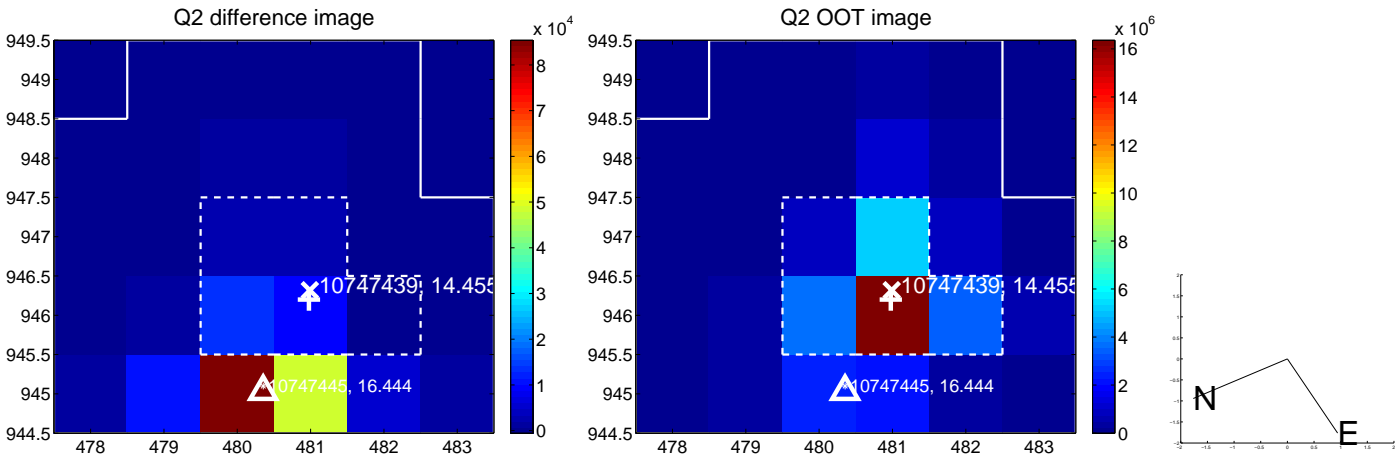
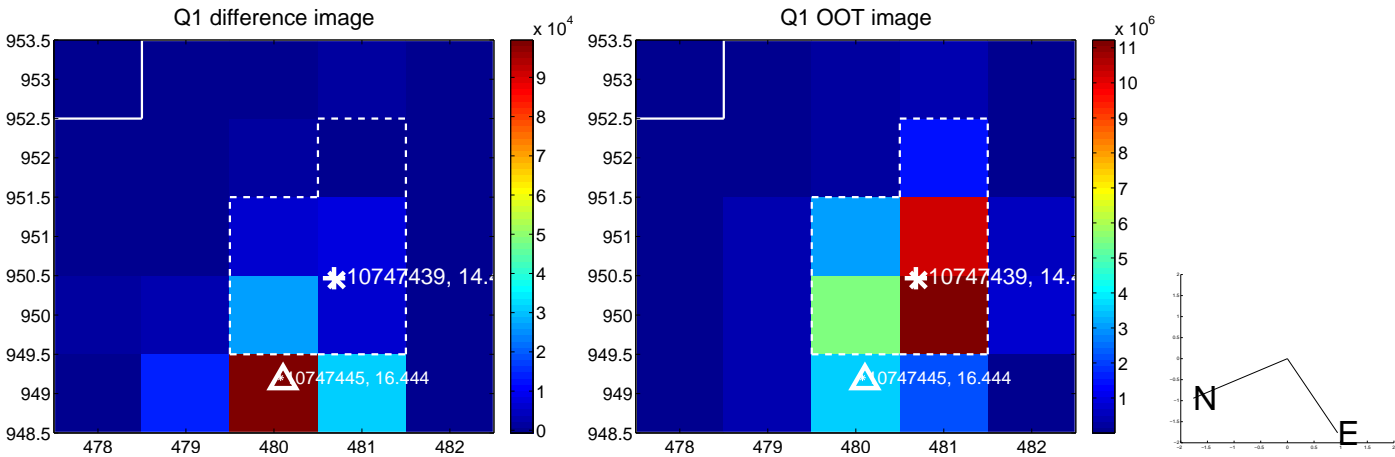
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.492 ± 0.090	61.14	3.201 ± 0.102	4.462 ± 0.070
PRF-fit source offset from KIC position	5.641 ± 0.067	83.72	3.319 ± 0.068	4.562 ± 0.067
photometric centroid source offset	15.99 ± 0.17	95.29	7.55 ± 0.15	14.09 ± 0.17

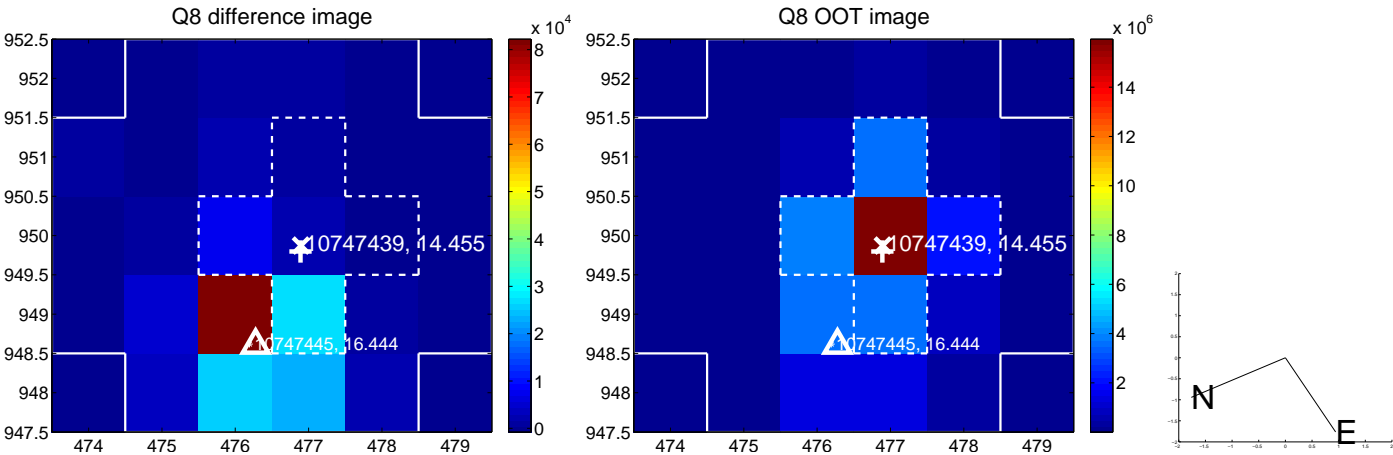
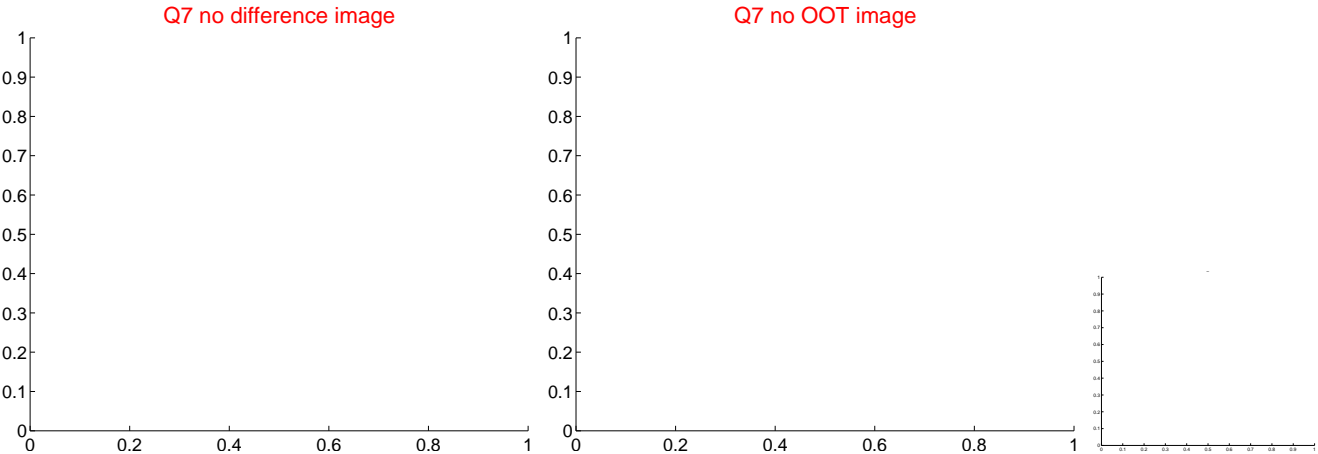
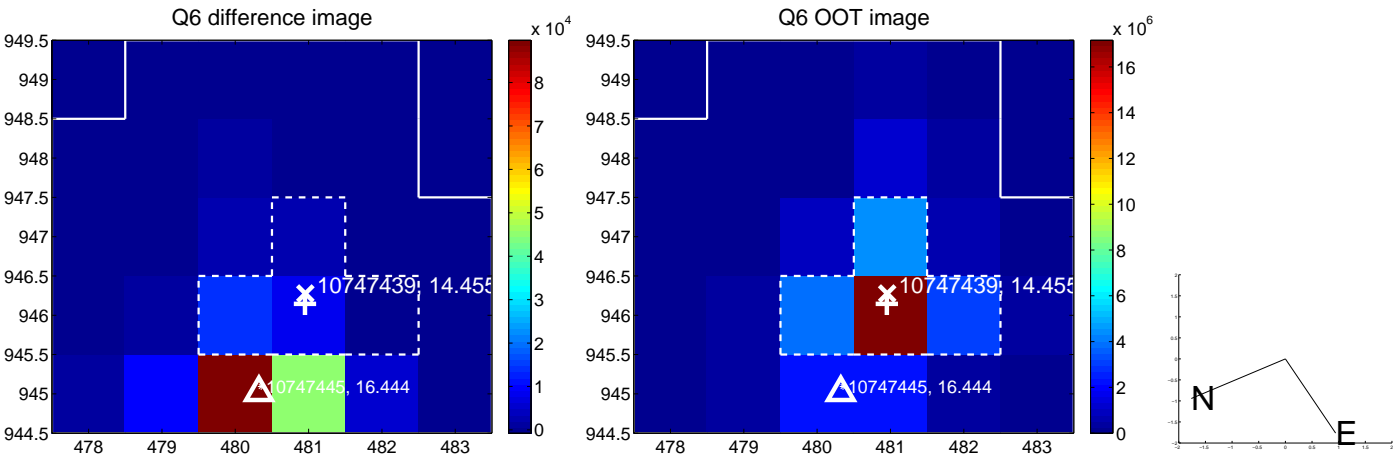
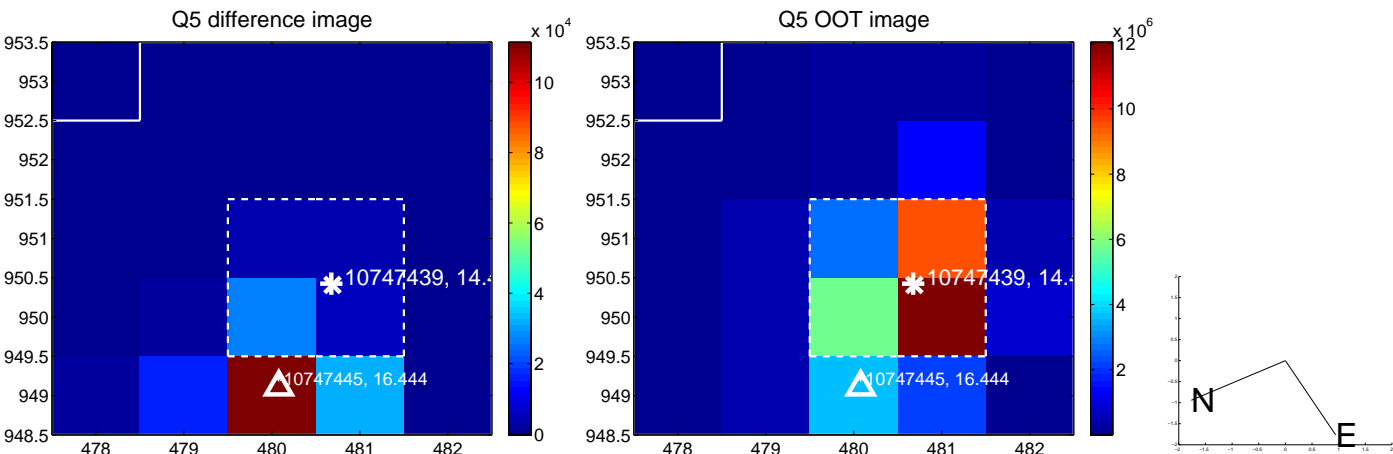


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000 are from the UKIRT catalog.

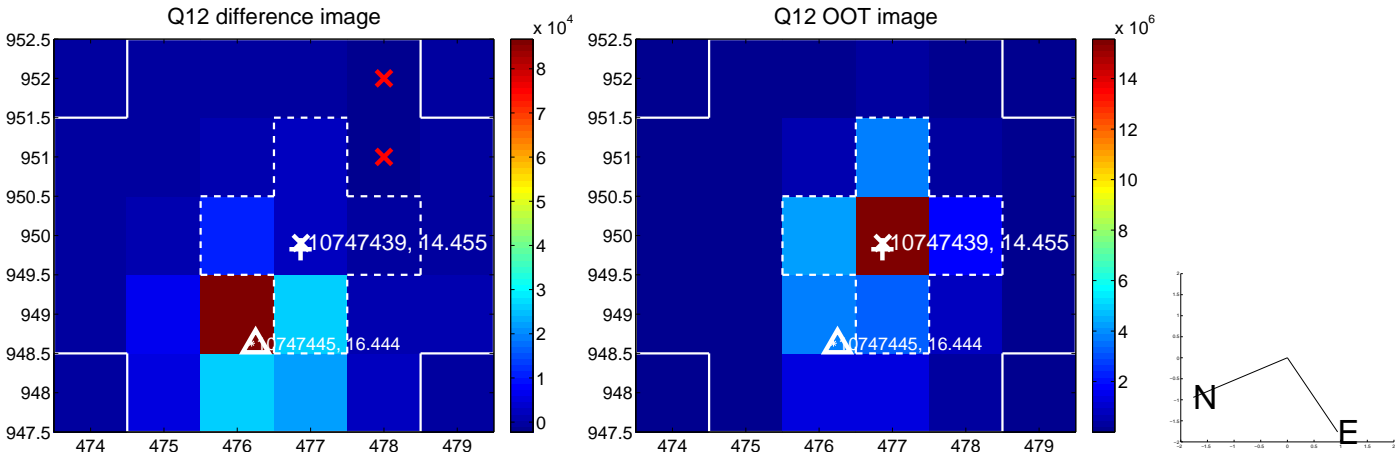
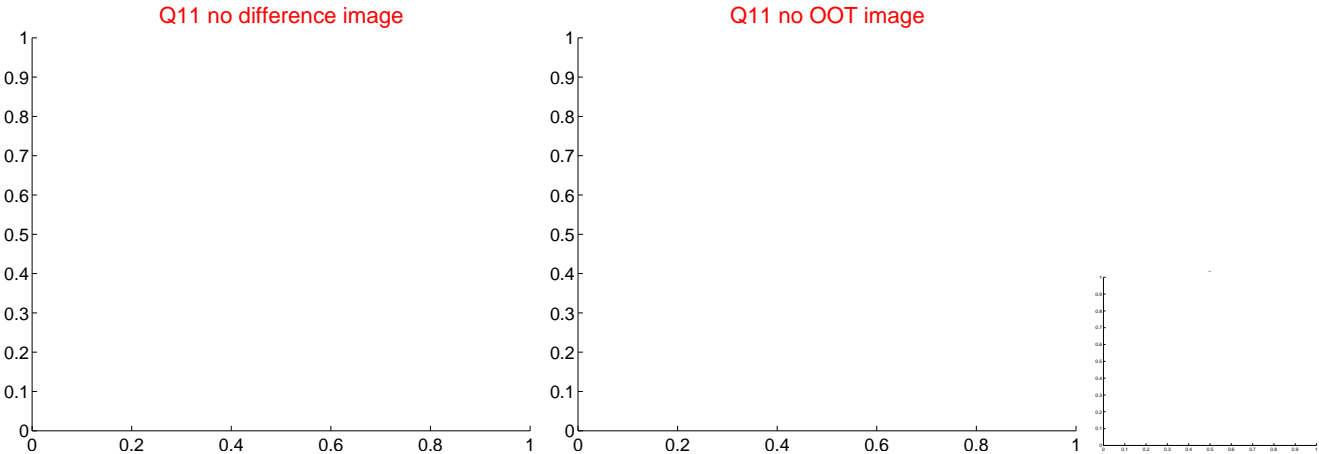
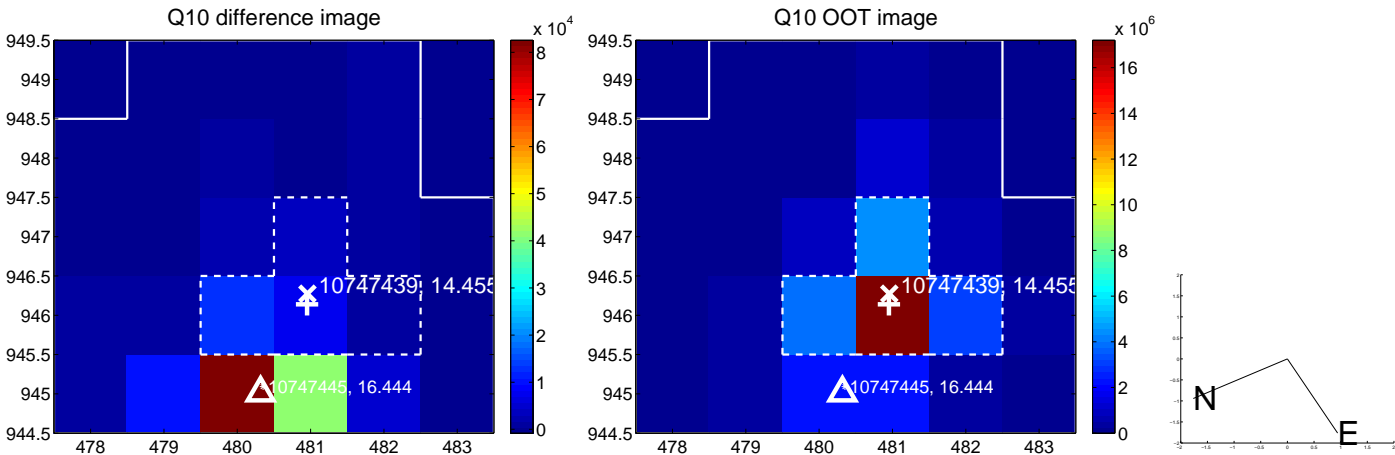
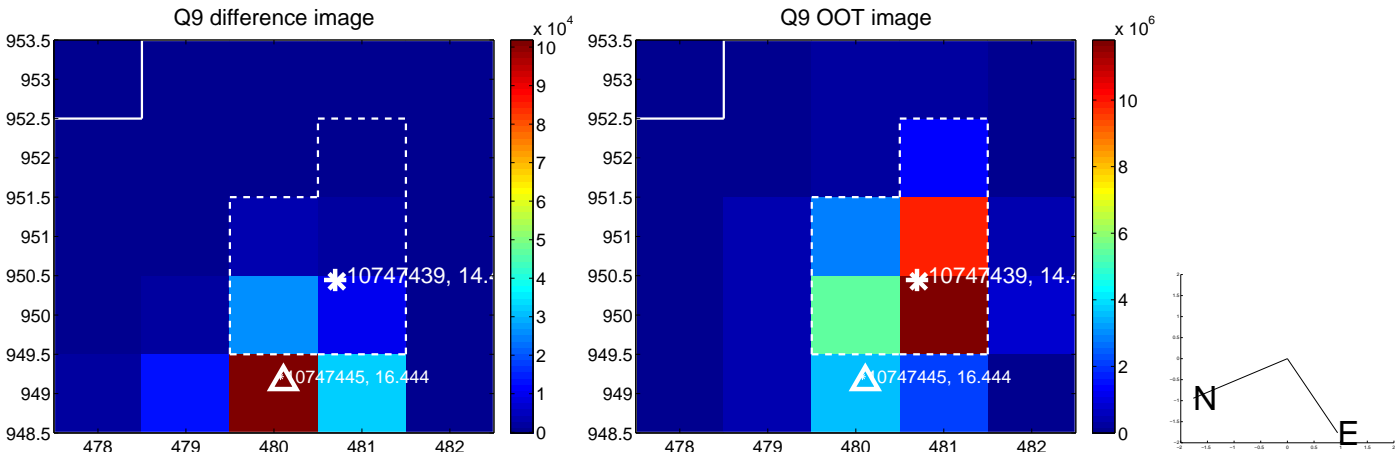
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



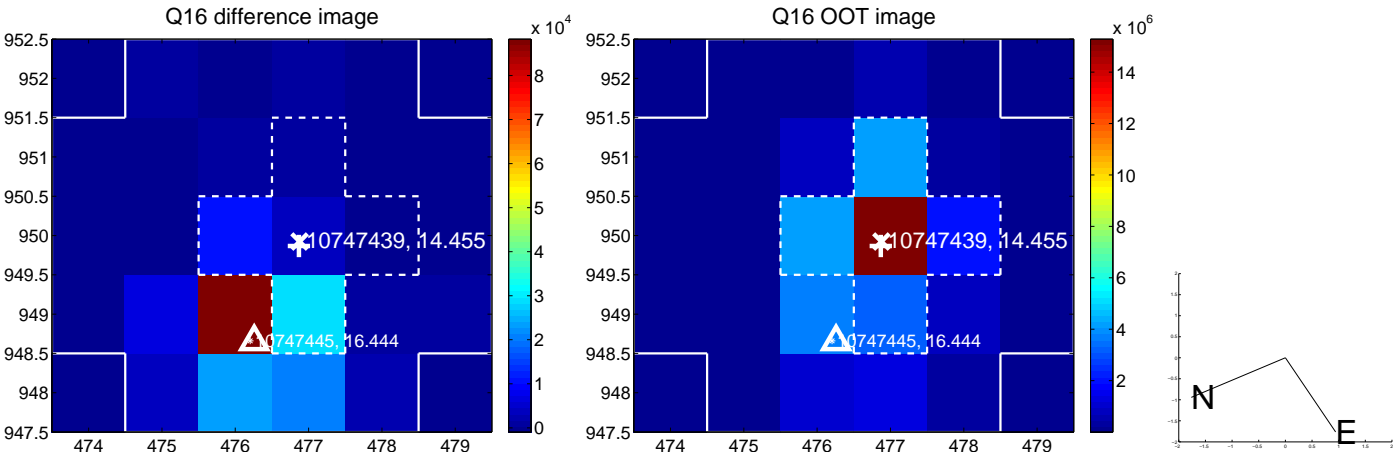
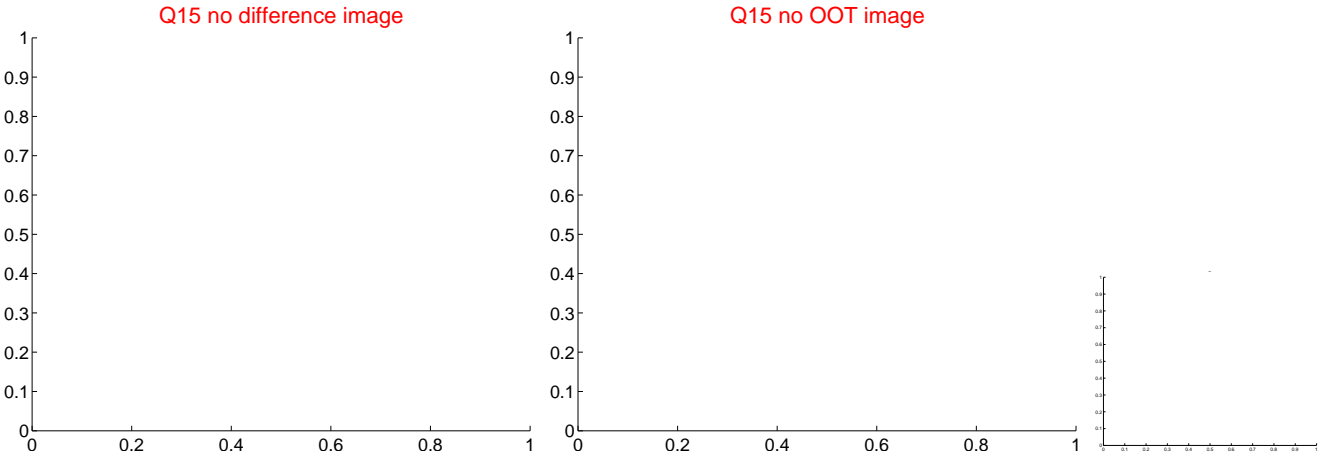
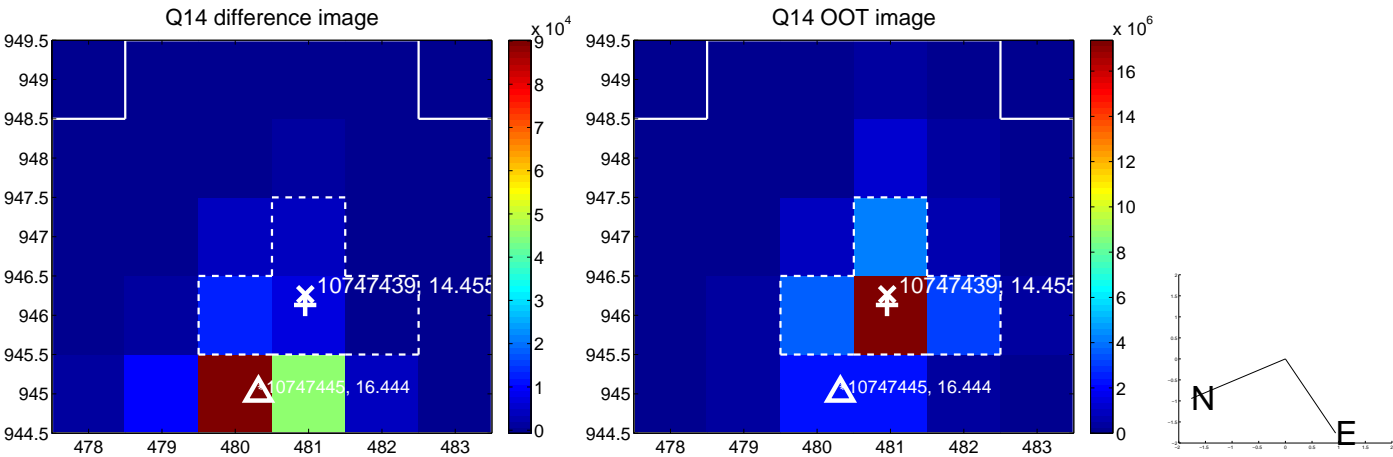
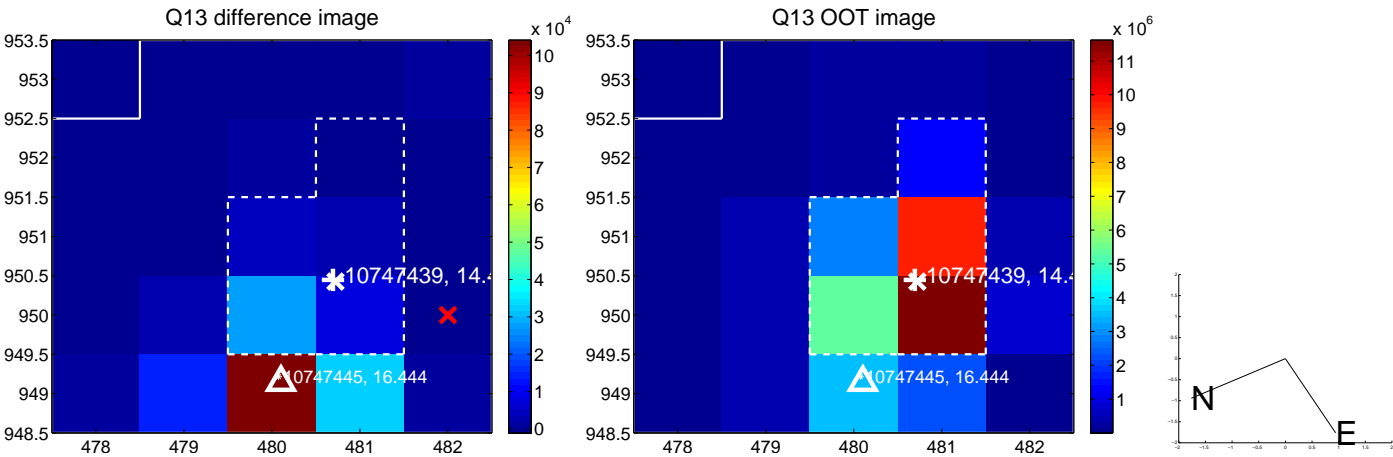
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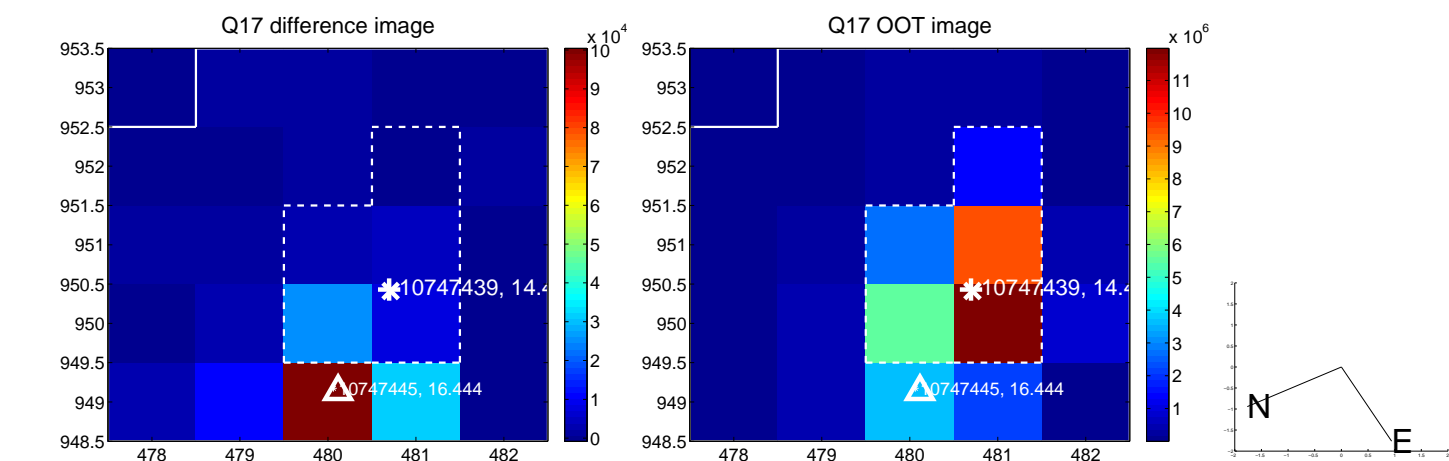
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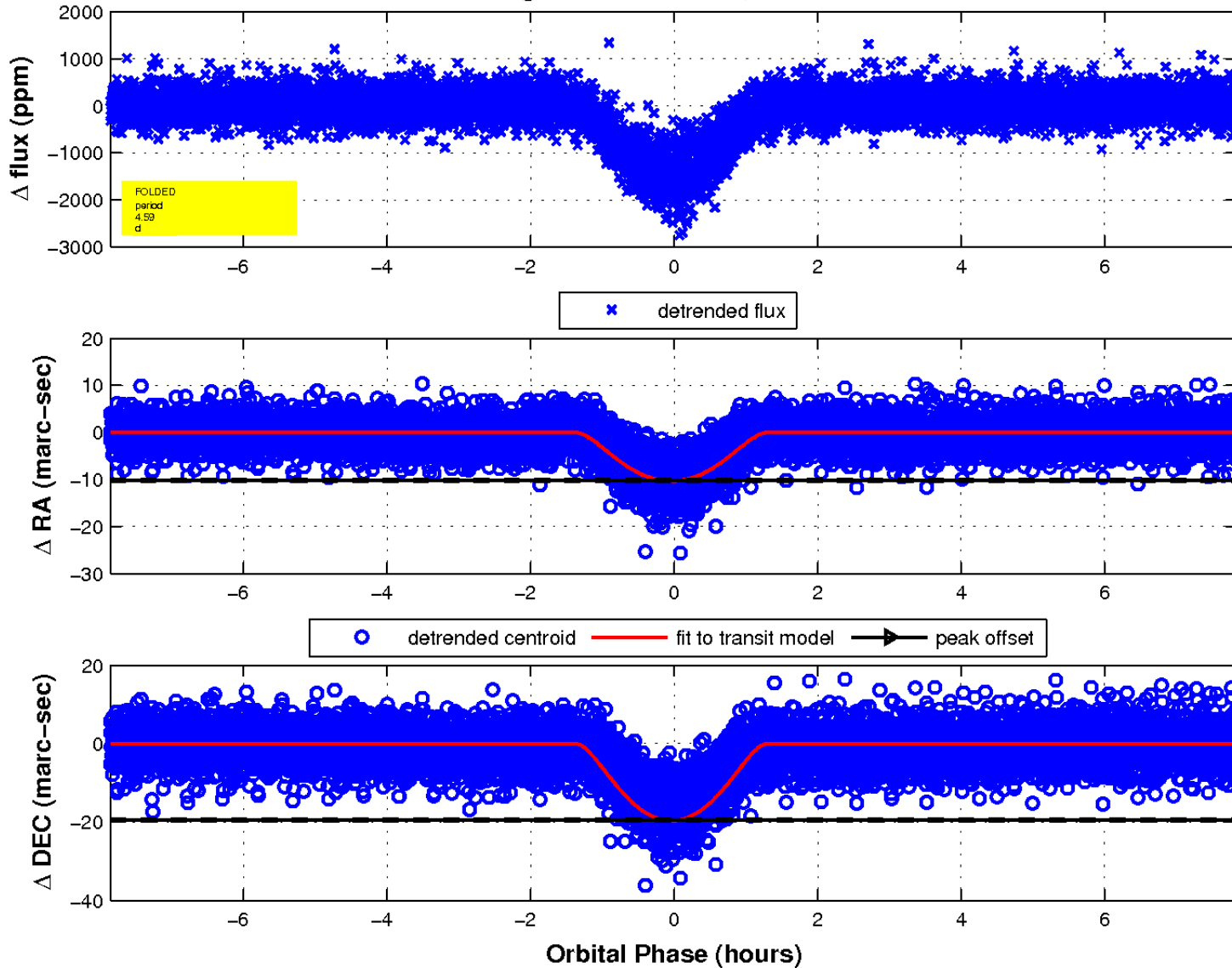
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

