

KIC 009349482

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})
009349482-01	OBS	2020.01	110.964251	187.047014	1301.8	12.846	33.0	36.2	0.55	4441	2.13	0.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009349482-01	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 009349482-01

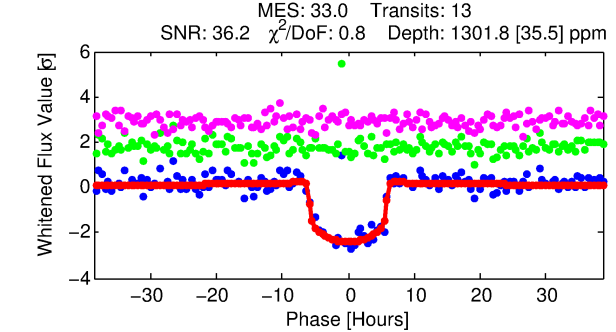
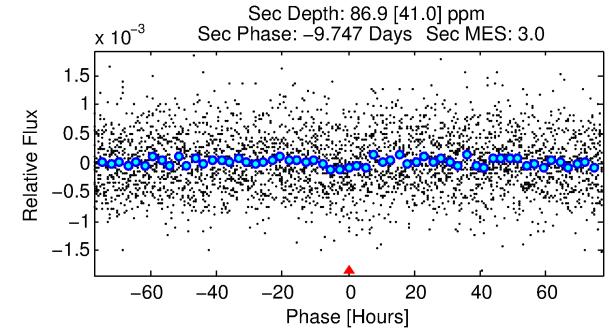
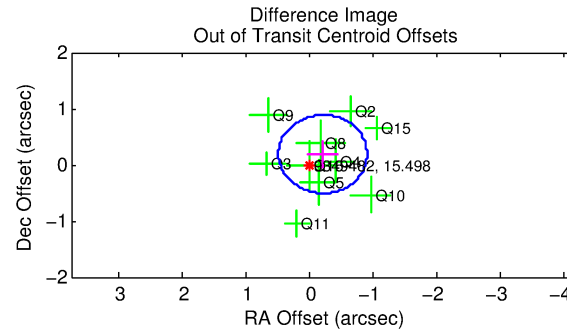
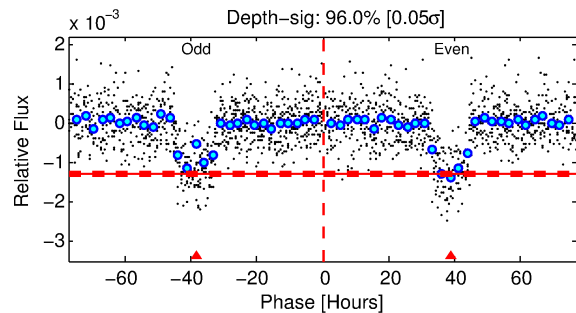
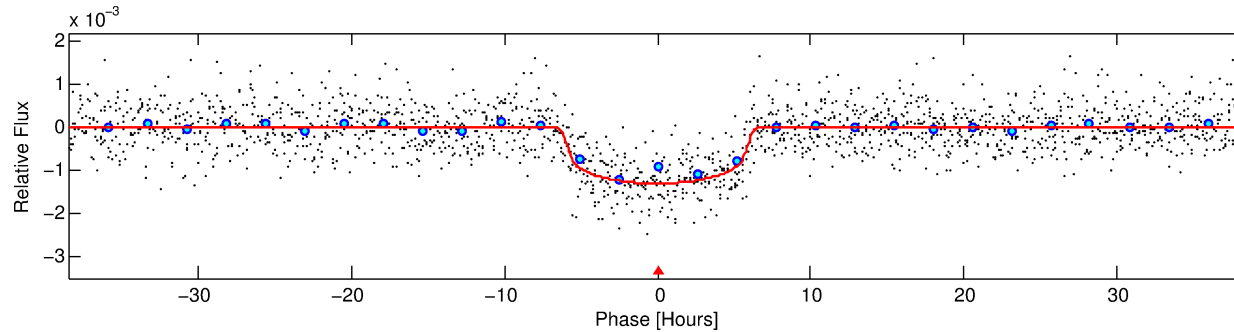
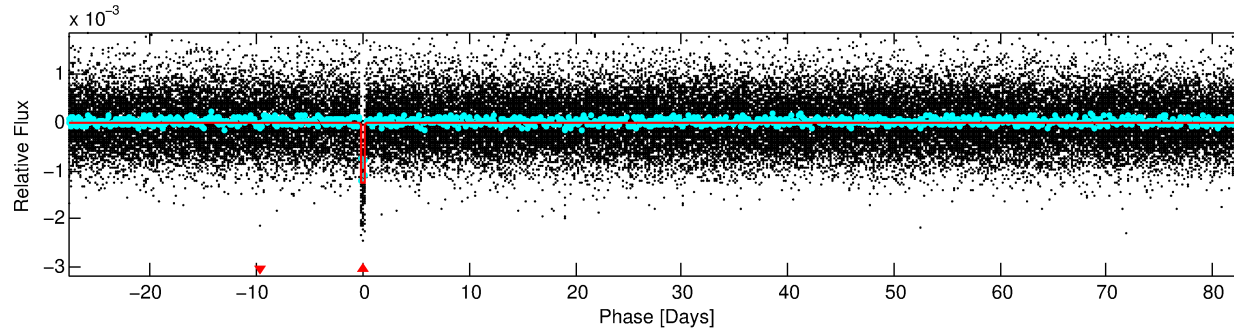
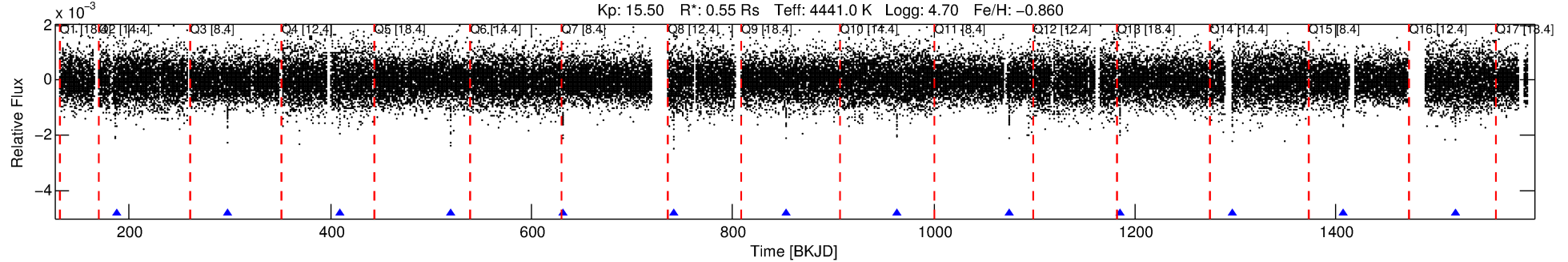
No Significant Match Found

DV One-Page Summary

KIC: 9349482 Candidate: 1 of 1 Period: 110.964 d

KOI: K02020.01 Corr: 0.992

Kp: 15.50 R*: 0.55 Rs Teff: 4441.0 K Logg: 4.70 Fe/H: -0.860



DV Fit Results:

Period = 110.96425 [0.00083] d
Epoch = 187.0470 [0.0059] BKJD
Rp/R* = 0.0358 [0.0026]
a/R* = 48.09 [12.41]
b = 0.74 [0.16]
Seff = 0.77 [0.13]
Teq = 239 [10] K
Rp = 2.13 [0.24] Re
a = 0.3678 [0.0276] AU
Ag = 1423.50 [718.94] [1.98σ]
Teffp = 2267 [289] K [7.01σ]

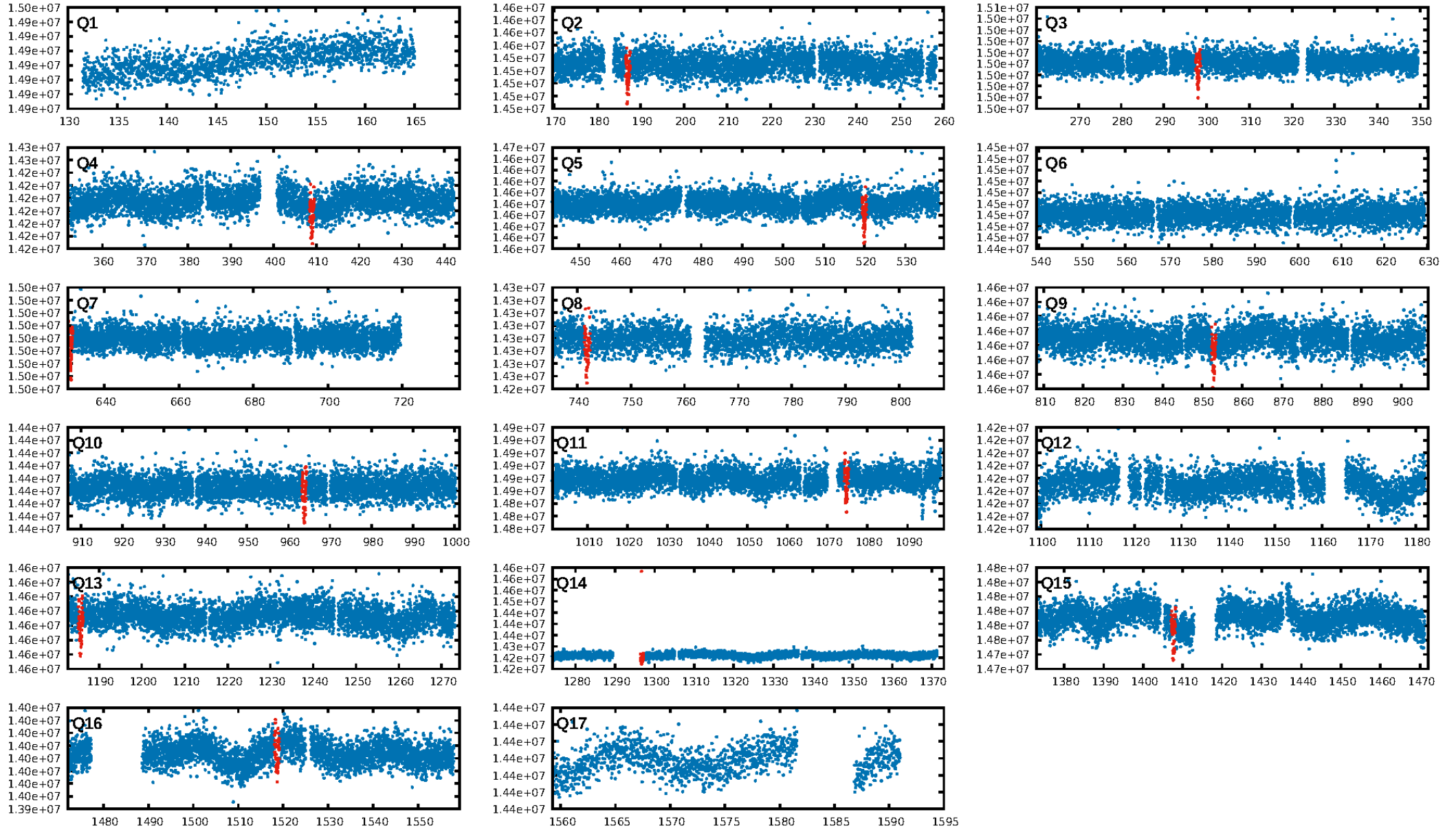
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 81.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.23e-227
RollingBand-fgt: 1.00 [13/13]
GhostDiagnostic-chr: 3.69
Centroid-sig: 15.5%
Centroid-so: 0.581 arcsec [1.65σ]
OotOffset-rm: 0.279 arcsec [1.20σ]
KicOffset-rm: 0.561 arcsec [2.33σ]
OotOffset-st: 2/3/3/2 [10]
KicOffset-st: 2/3/3/2 [10]
DiffImageQuality-fgm: 1.00 [10/10]
DiffImageOverlap-fno: 1.00 [10/10]

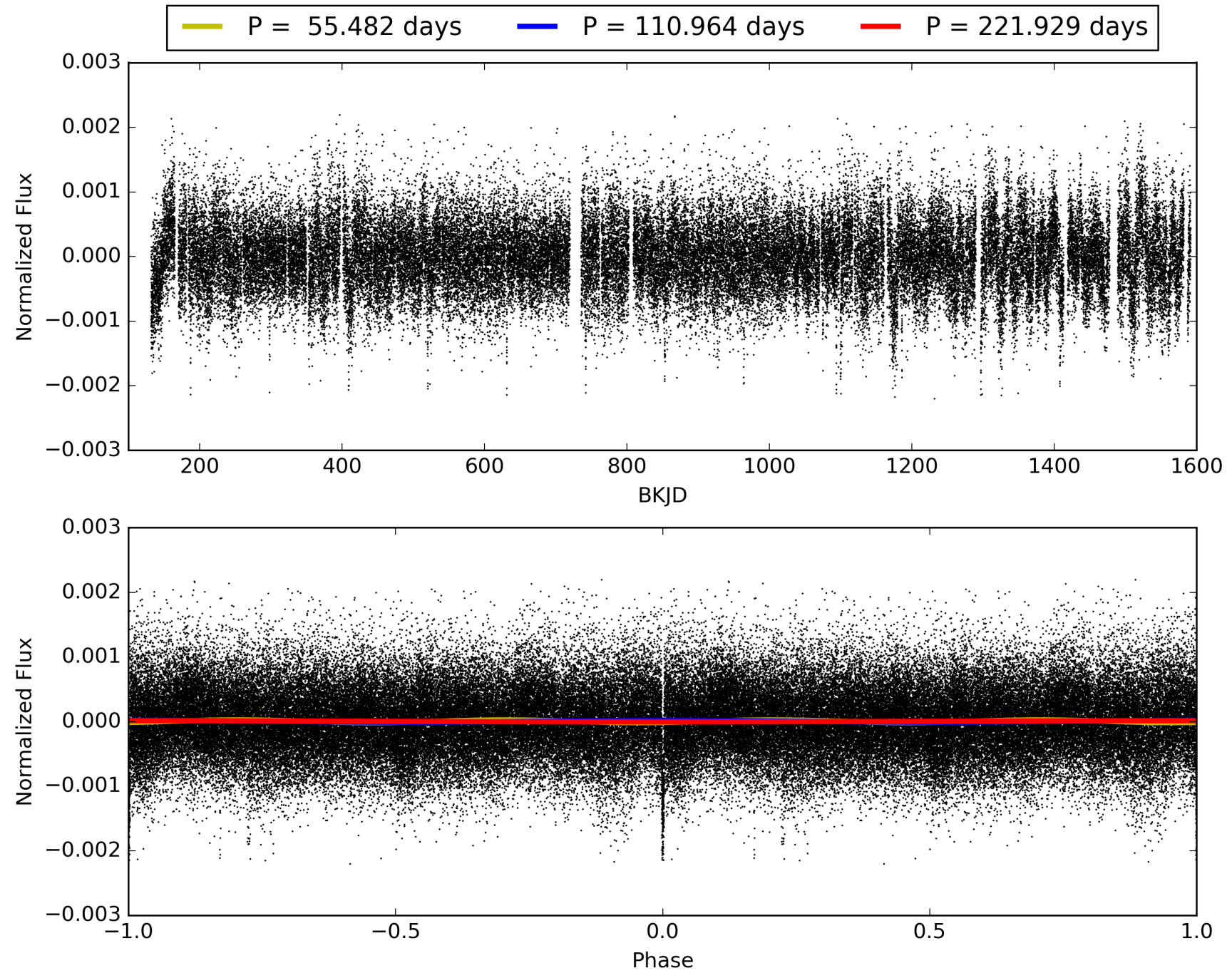
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:30:35 Z

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

TCE 009349482-01, PDC Light Curves

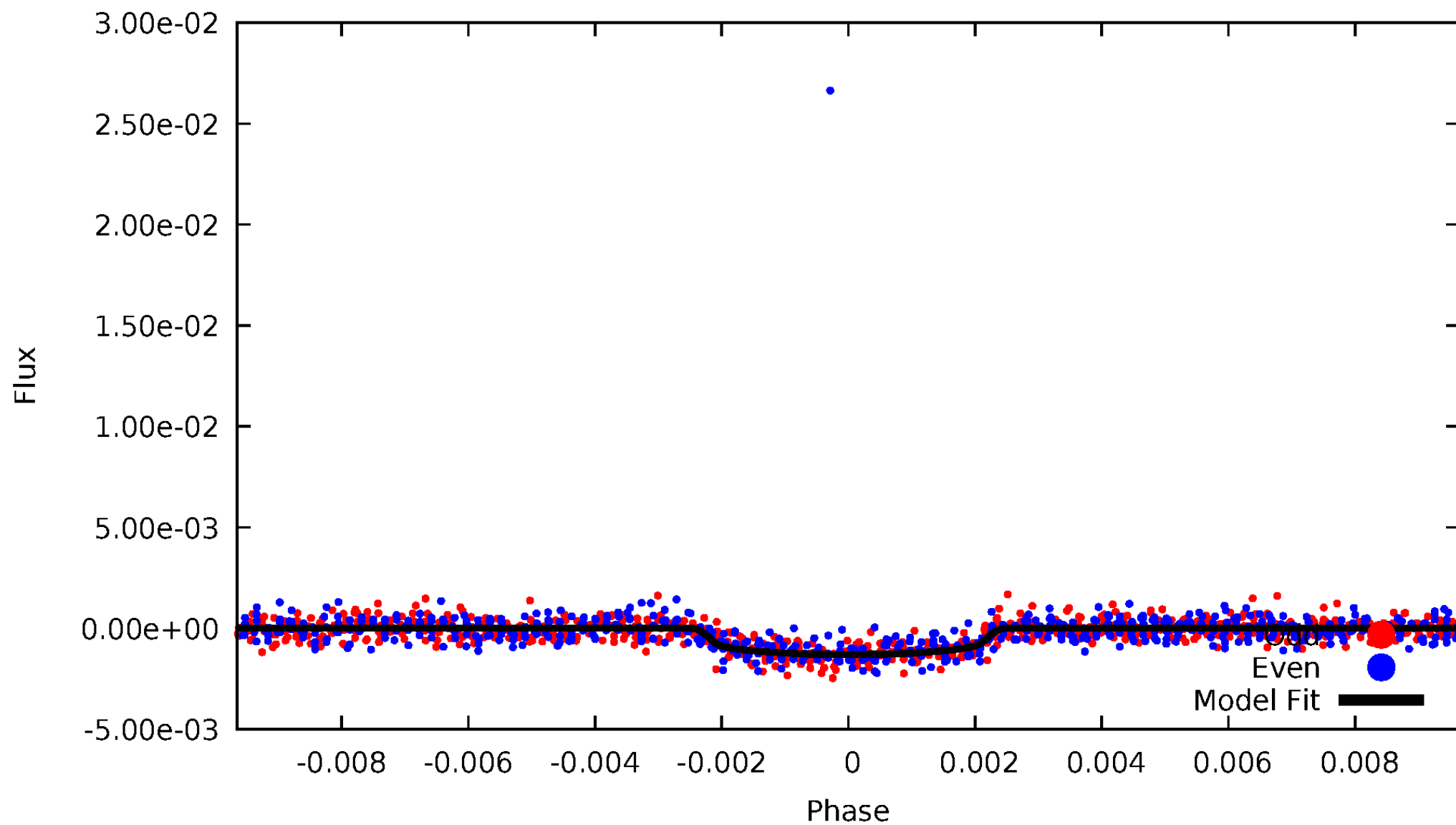


TCE 009349482-01



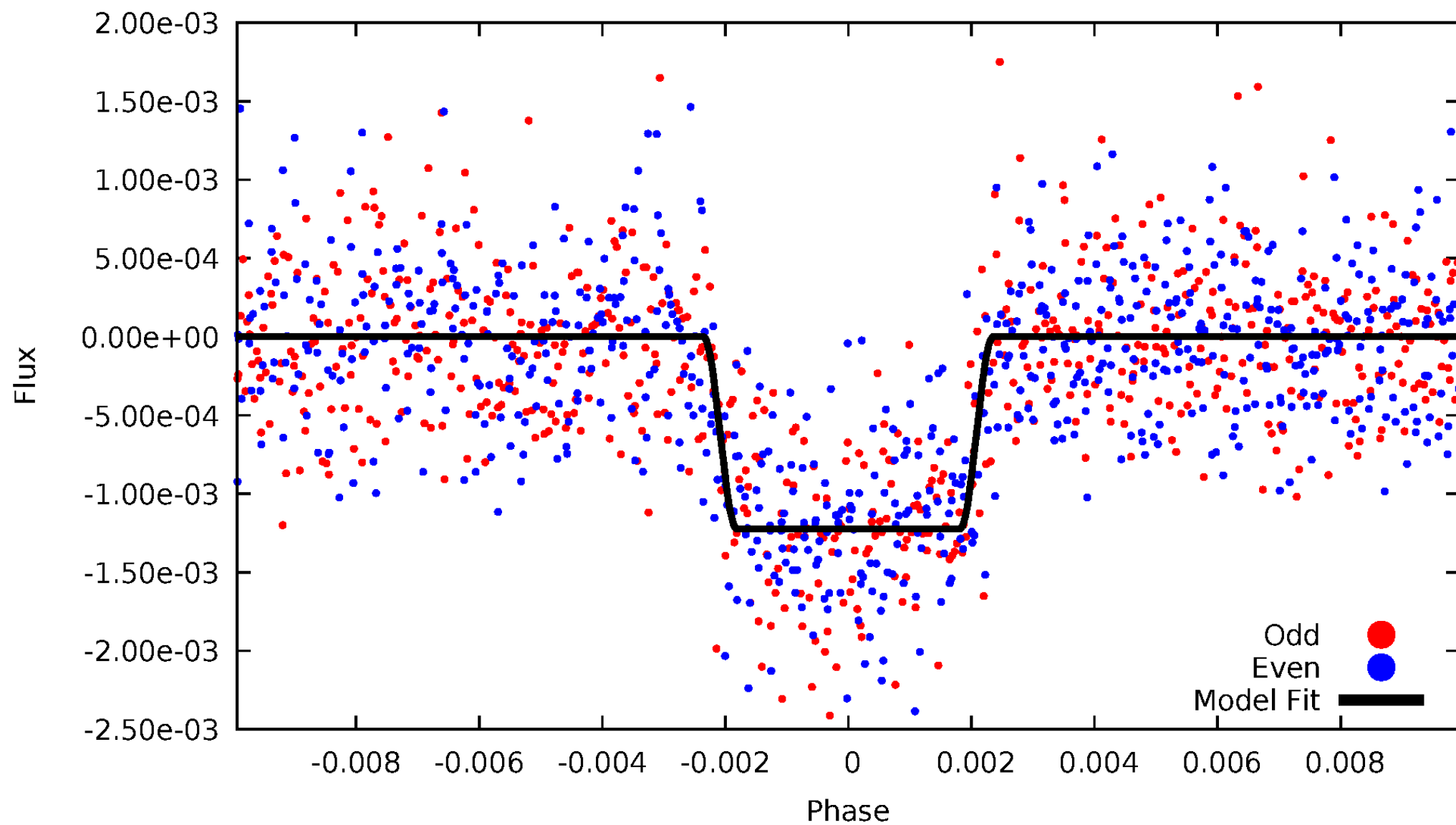
DV Odd/Even

TCE 009349482-01



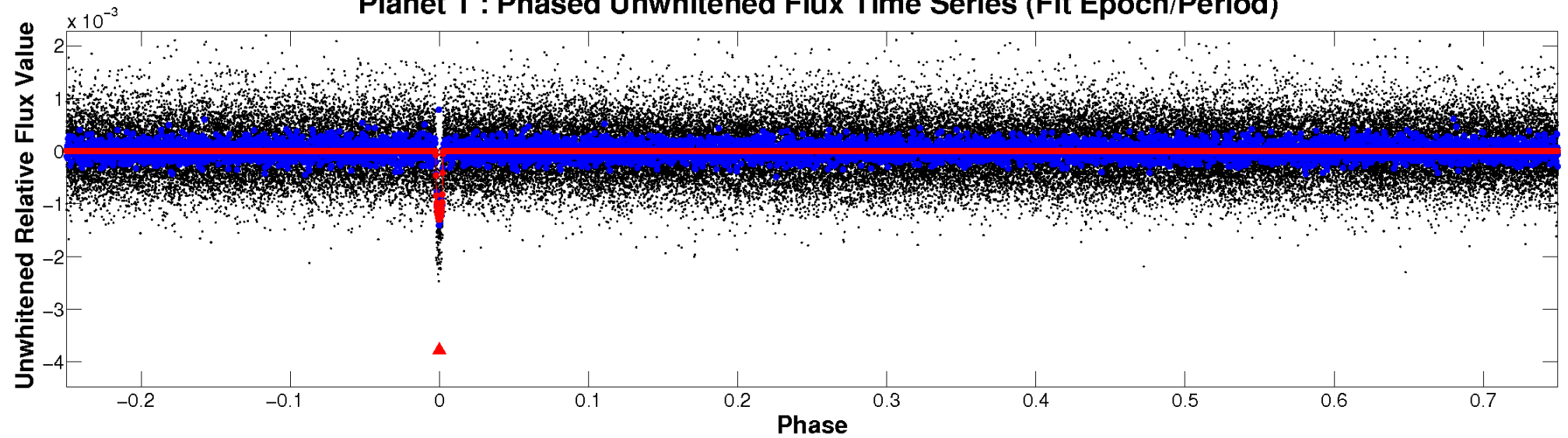
ALT Odd/Even

TCE 009349482-01

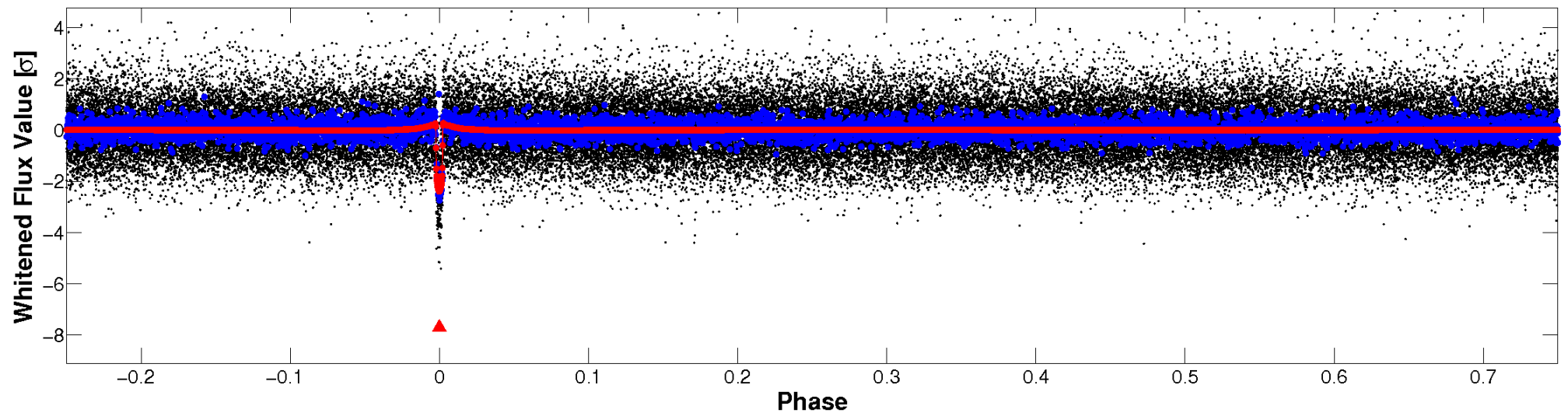


Non-Whitened Vs. Whitened Light Curve

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

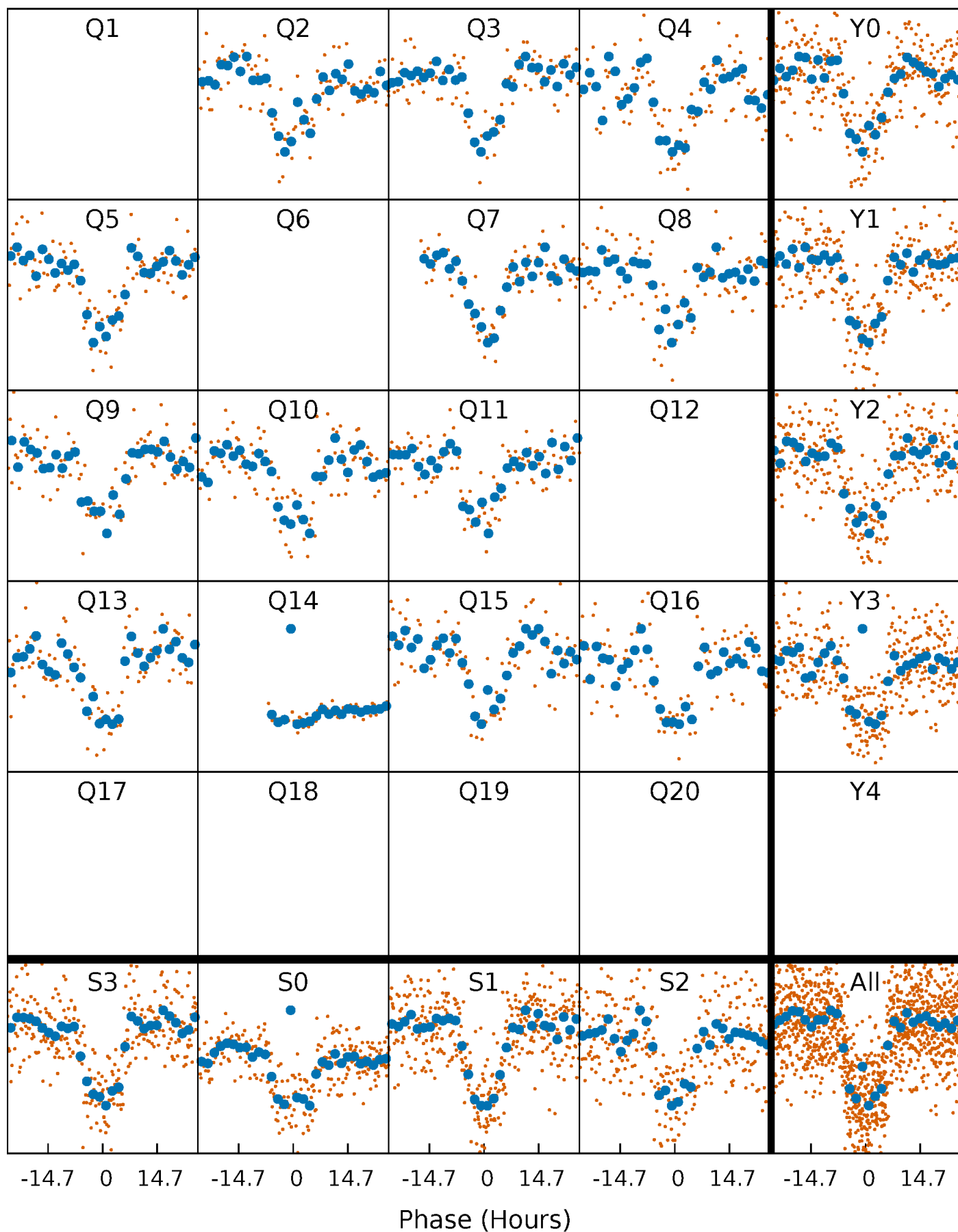


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



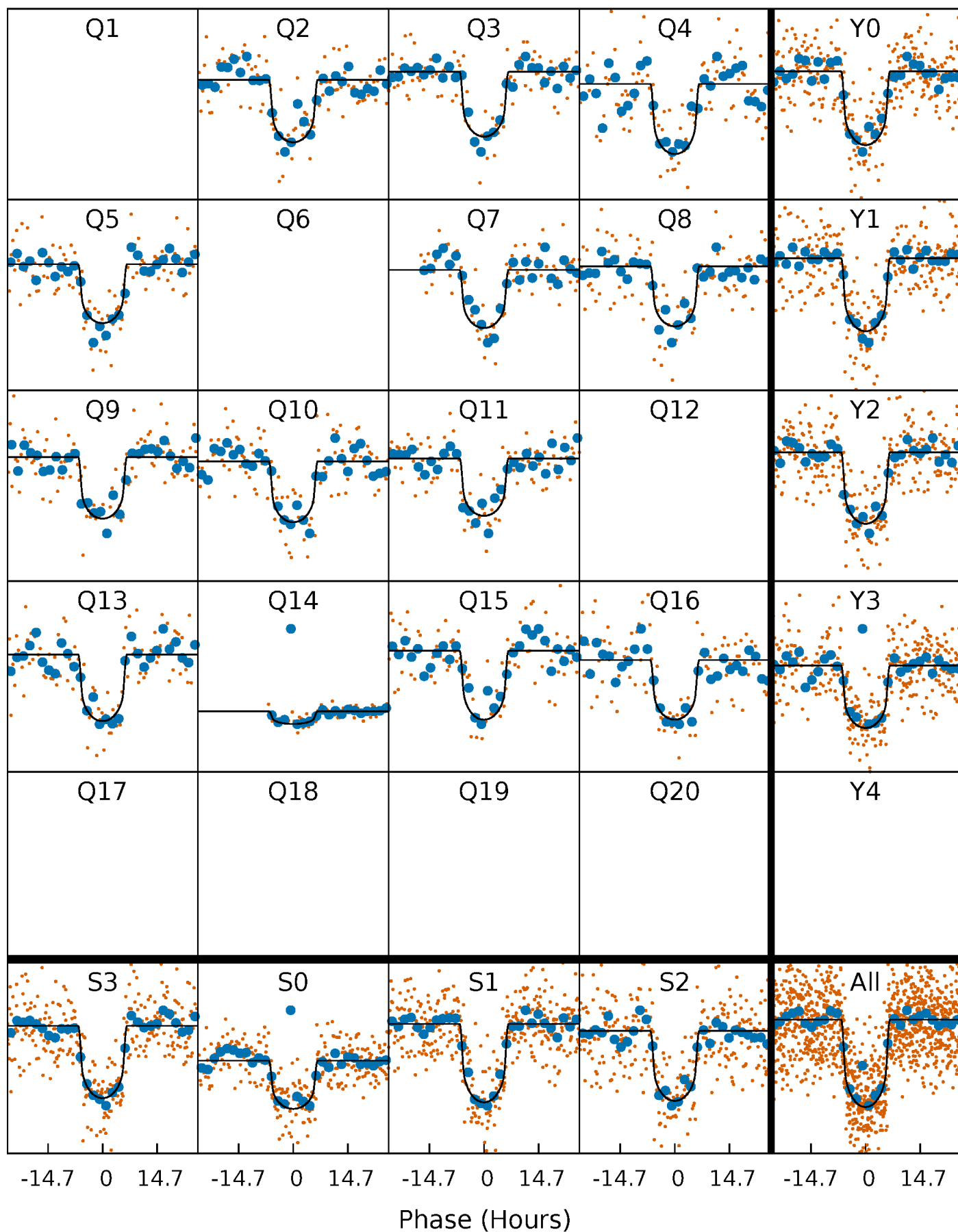
PDC Quarter-Phased Transit Curves

TCE 009349482-01 P=110.964251 Days $T_0=187.047014$ (BKJD)



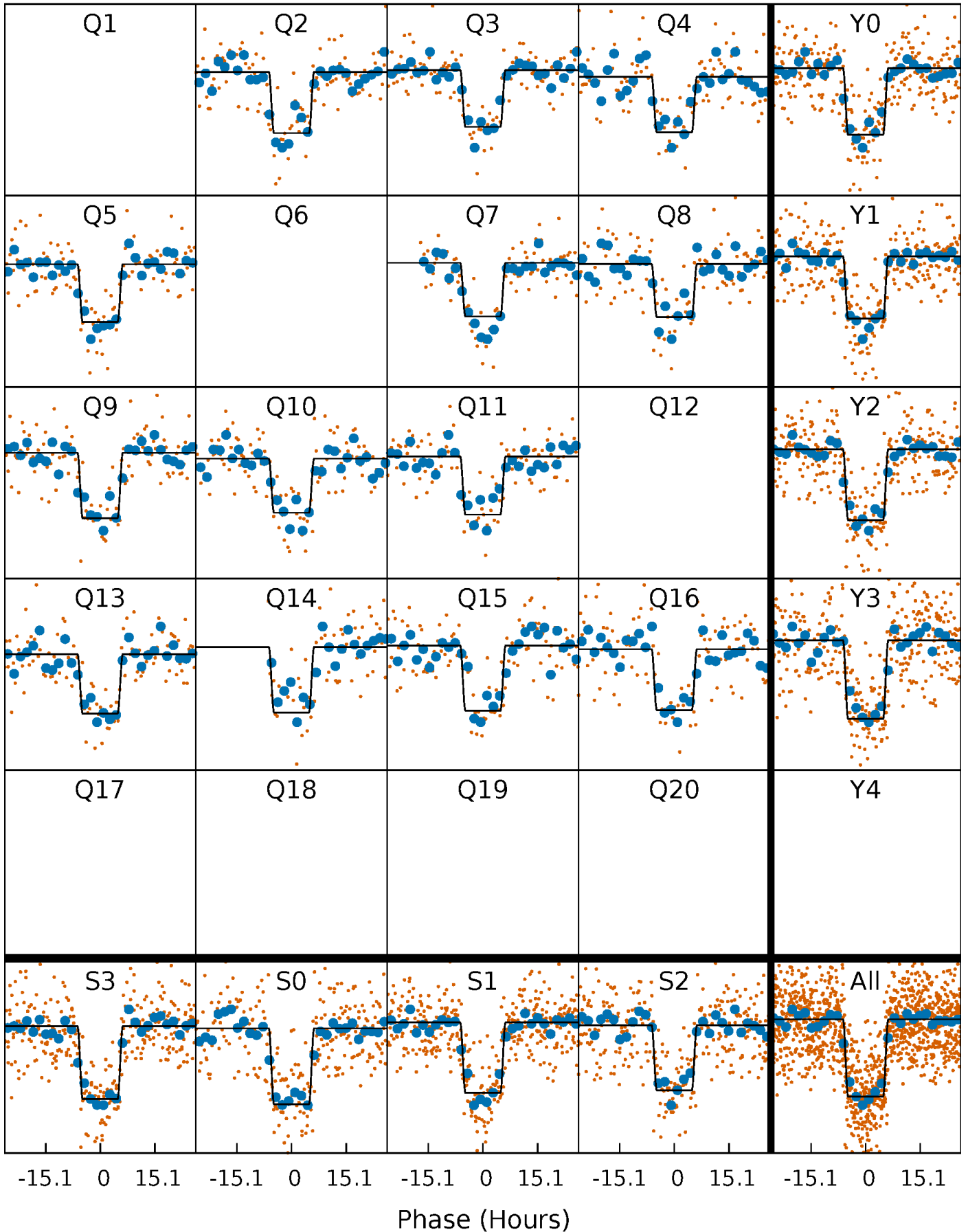
DV Quarter-Phased Transit Curves

TCE 009349482-01 P=110.964251 Days $T_0=187.047014$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

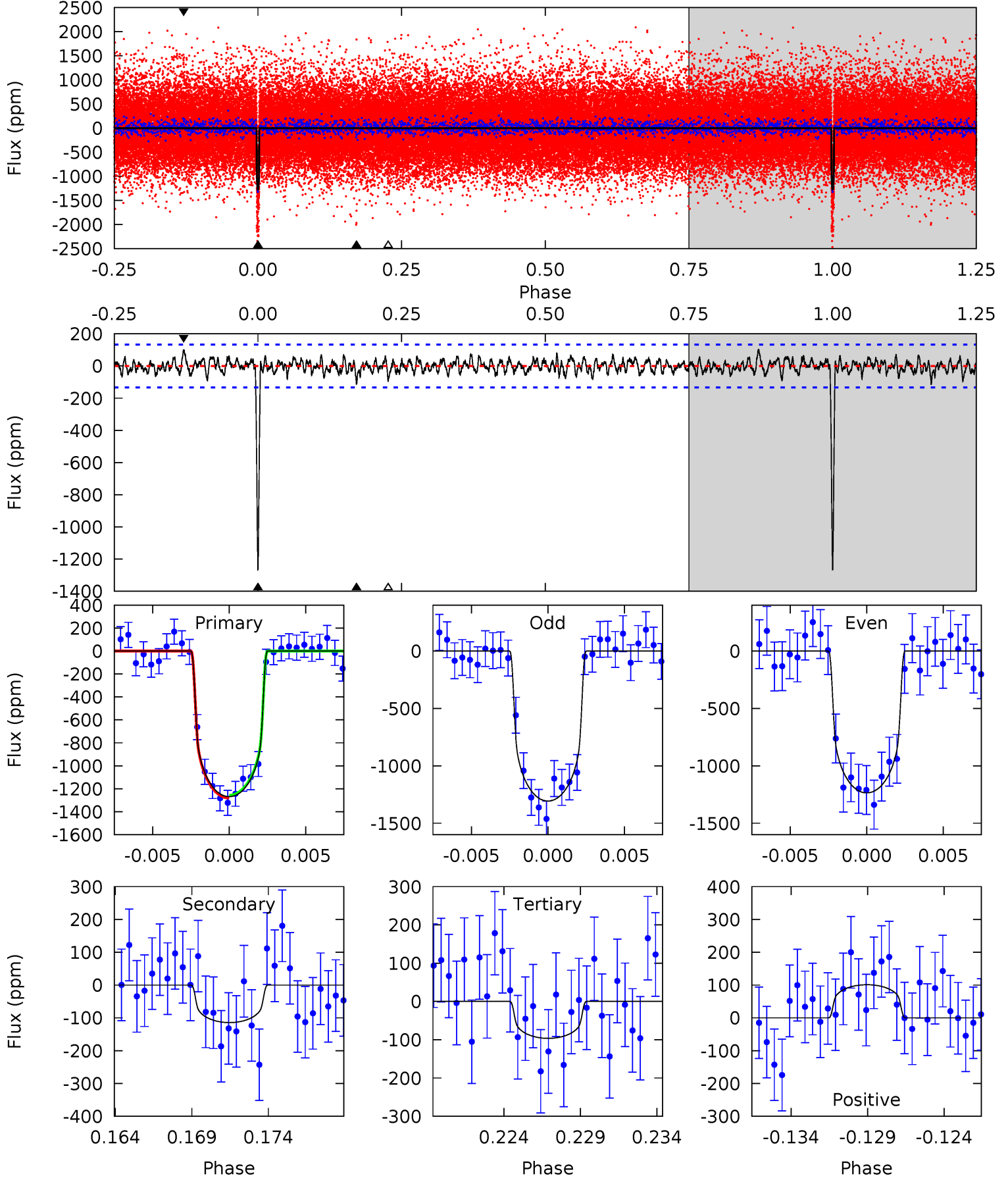
TCE 009349482-01 P=110.961042 Days $T_0=187.069008$ (BKJD)



DV Model-Shift Uniqueness Test

009349482-01, P = 110.964251 Days, E = 76.082763 Days

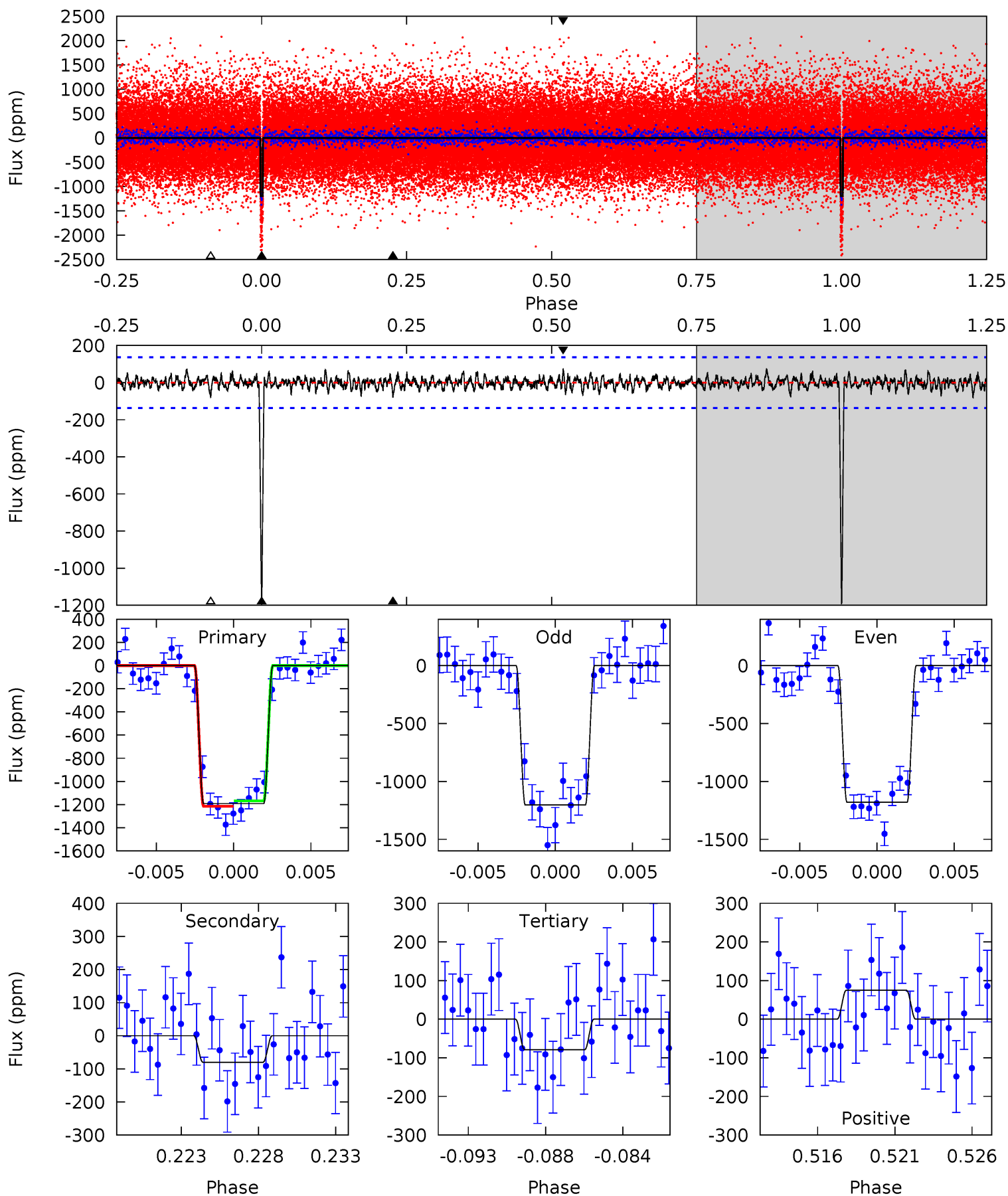
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
49.1	4.43	3.73	3.91	5.16	2.81	1.19	45.4	45.2	0.70	0.52	1.38	0.90	0.07	0.47



Alt Model-Shift Uniqueness Test

009349482-01, $P = 110.961042$ Days, $E = 76.107966$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
45.1	3.03	2.99	2.83	5.17	2.83	0.87	42.1	42.2	0.05	0.20	0.45	1.01	0.06	0.87



Stellar Parameters For KIC 009349482

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4441^{+133}_{-146}	$4.695^{+0.059}_{-0.027}$	$-0.860^{+0.300}_{-0.300}$	$0.546^{+0.039}_{-0.049}$	$0.538^{+0.045}_{-0.034}$	$4.665^{+1.157}_{-0.641}$
	+3%/-3%	+1%/-1%	+35%/-35%	+7%/-9%	+8%/-6%	+25%/-14%
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 009349482-01 / KOI 2020.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-114 ± 26	$2.11^{+0.18}_{-0.17}$	332^{+11}_{-12}	2987^{+127}_{-126}	1932^{+520}_{-491}
Alt.	-80 ± 26	$2.06^{+0.19}_{-0.17}$	332^{+11}_{-13}	2868^{+142}_{-177}	1422^{+549}_{-461}

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

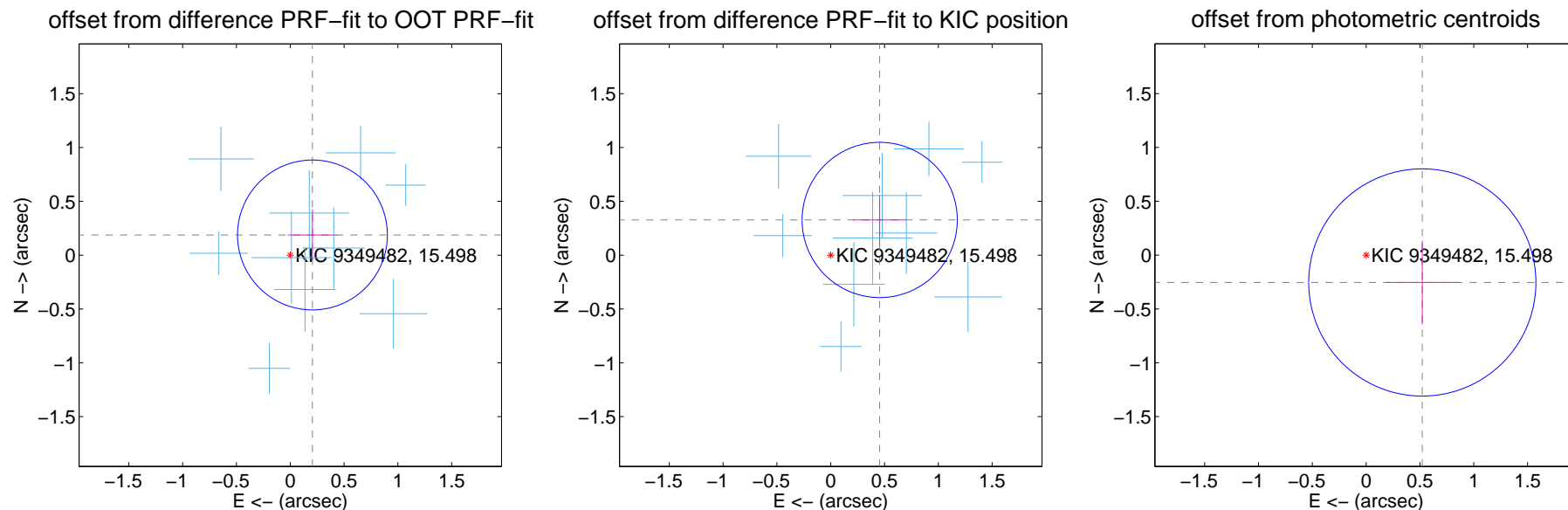
DV Centroid Data

Supplemental centroid analysis for 009349482-01. Kepler magnitude: 15.50. Transit SNR 36.21

There are 10 quarters with good PRF difference image offsets

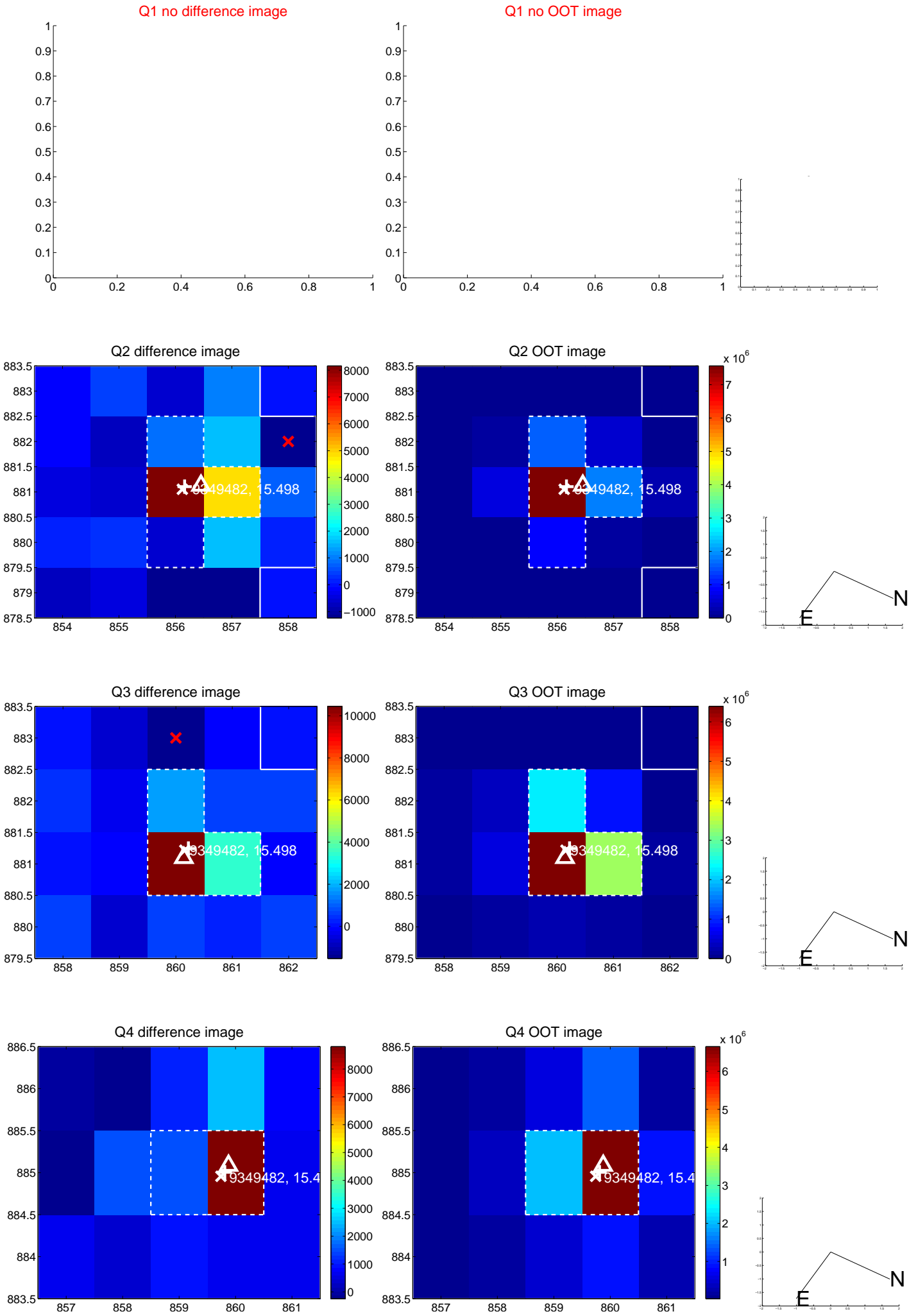
The direct PRF centroid is offset from the target star catalog position by about 0.42 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.279 ± 0.232	1.20	-0.206 ± 0.229	0.188 ± 0.236
PRF-fit source offset from KIC position	0.561 ± 0.240	2.33	-0.455 ± 0.247	0.327 ± 0.228
photometric centroid source offset	0.58 ± 0.35	1.65	-0.52 ± 0.34	-0.25 ± 0.39

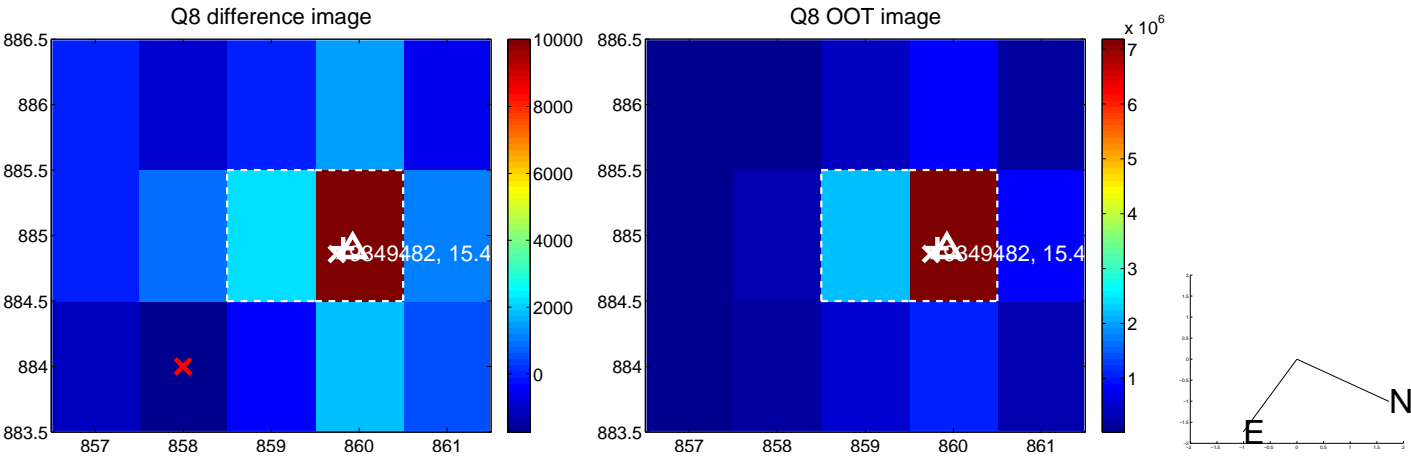
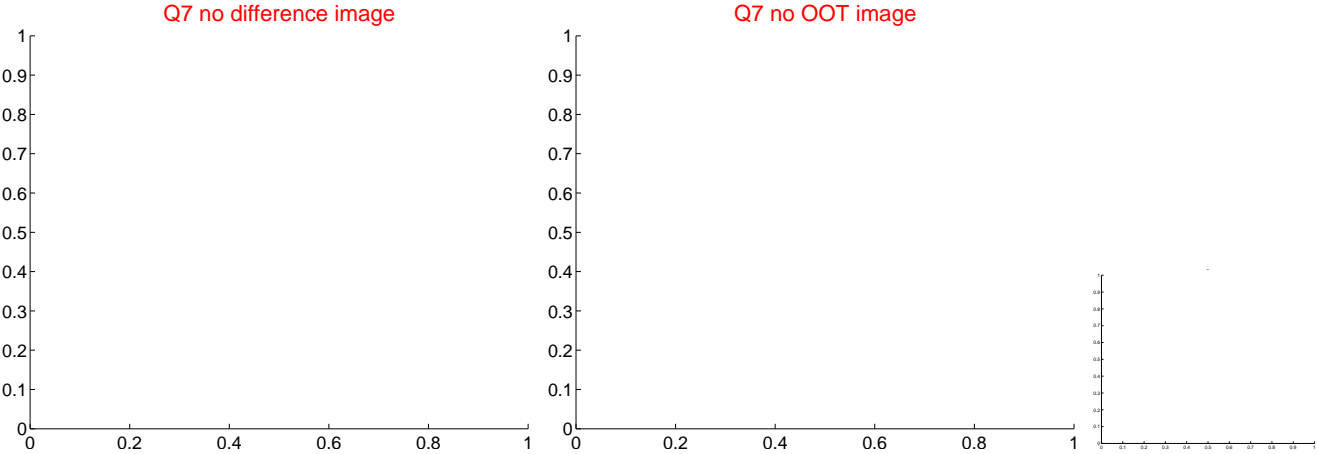
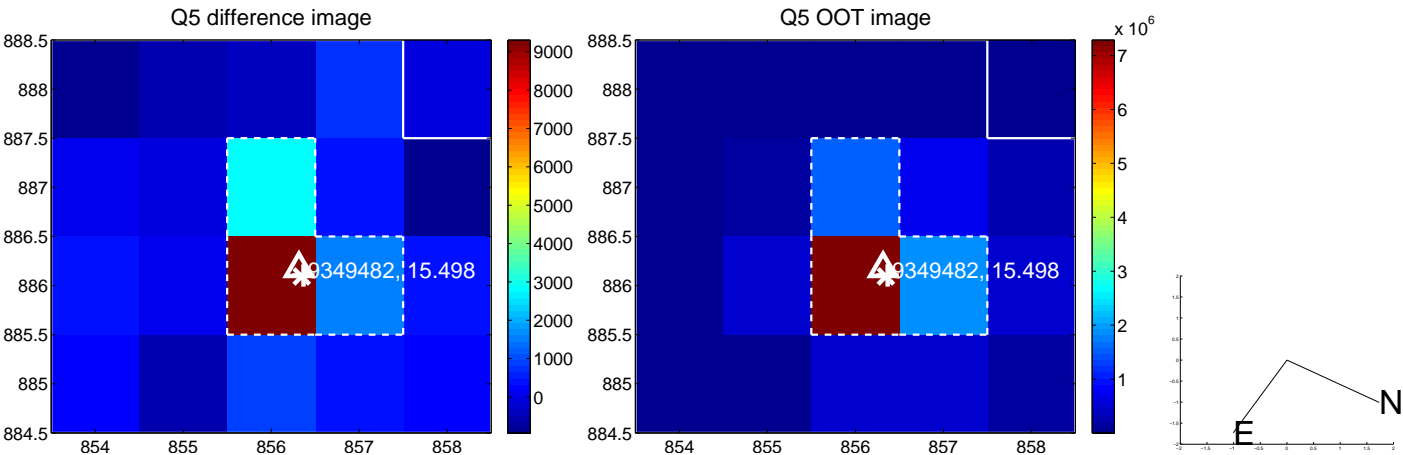


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

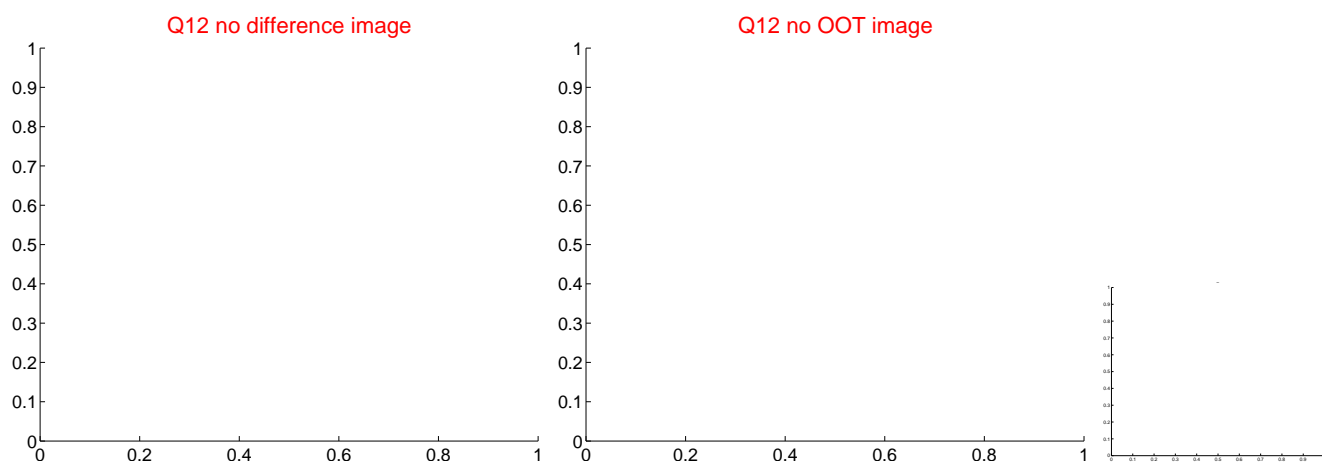
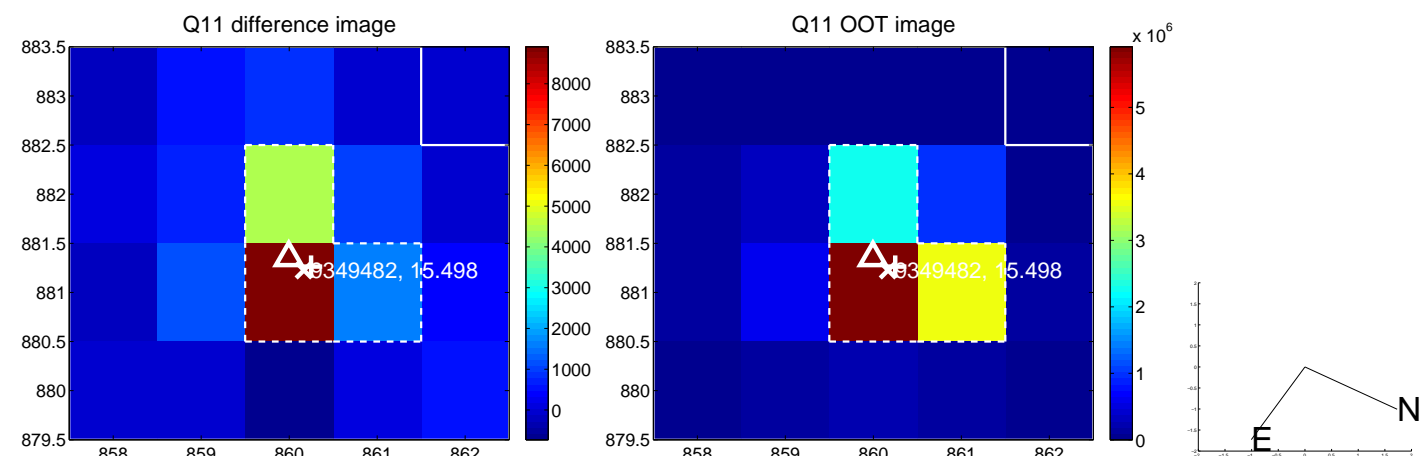
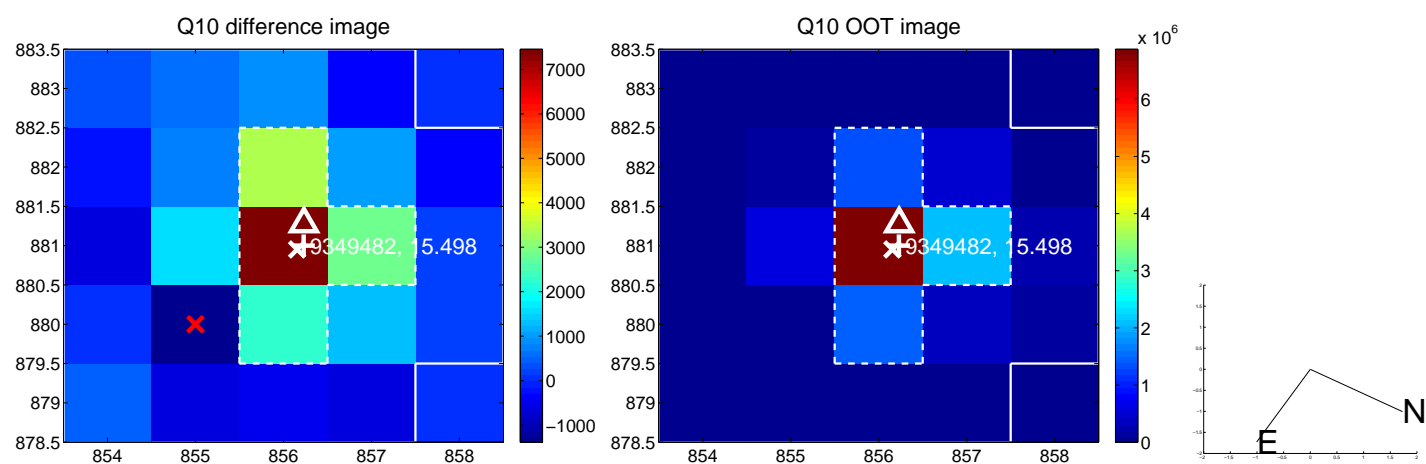
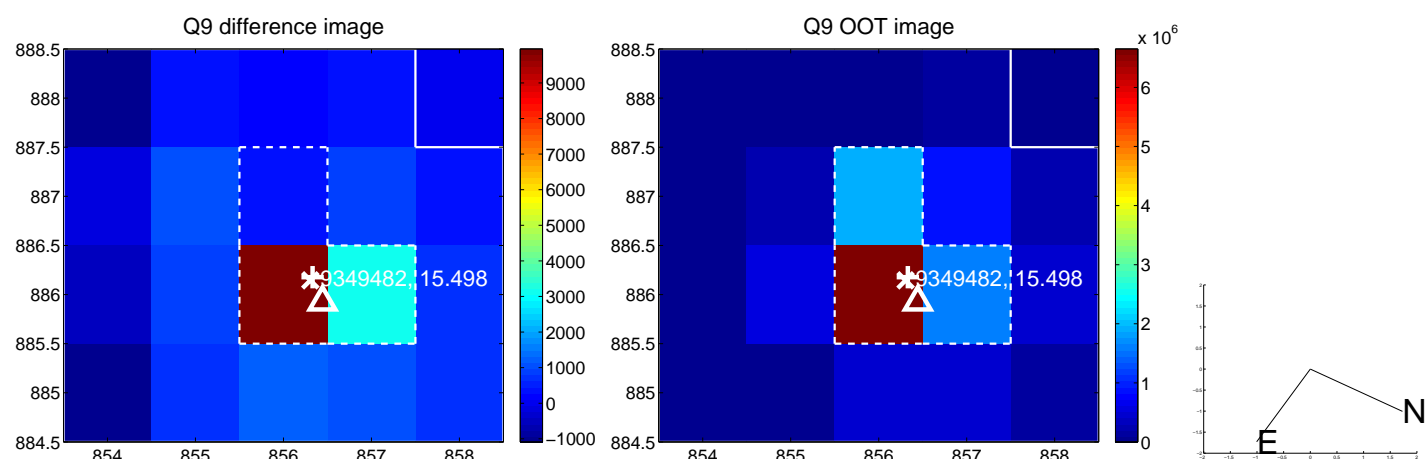
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



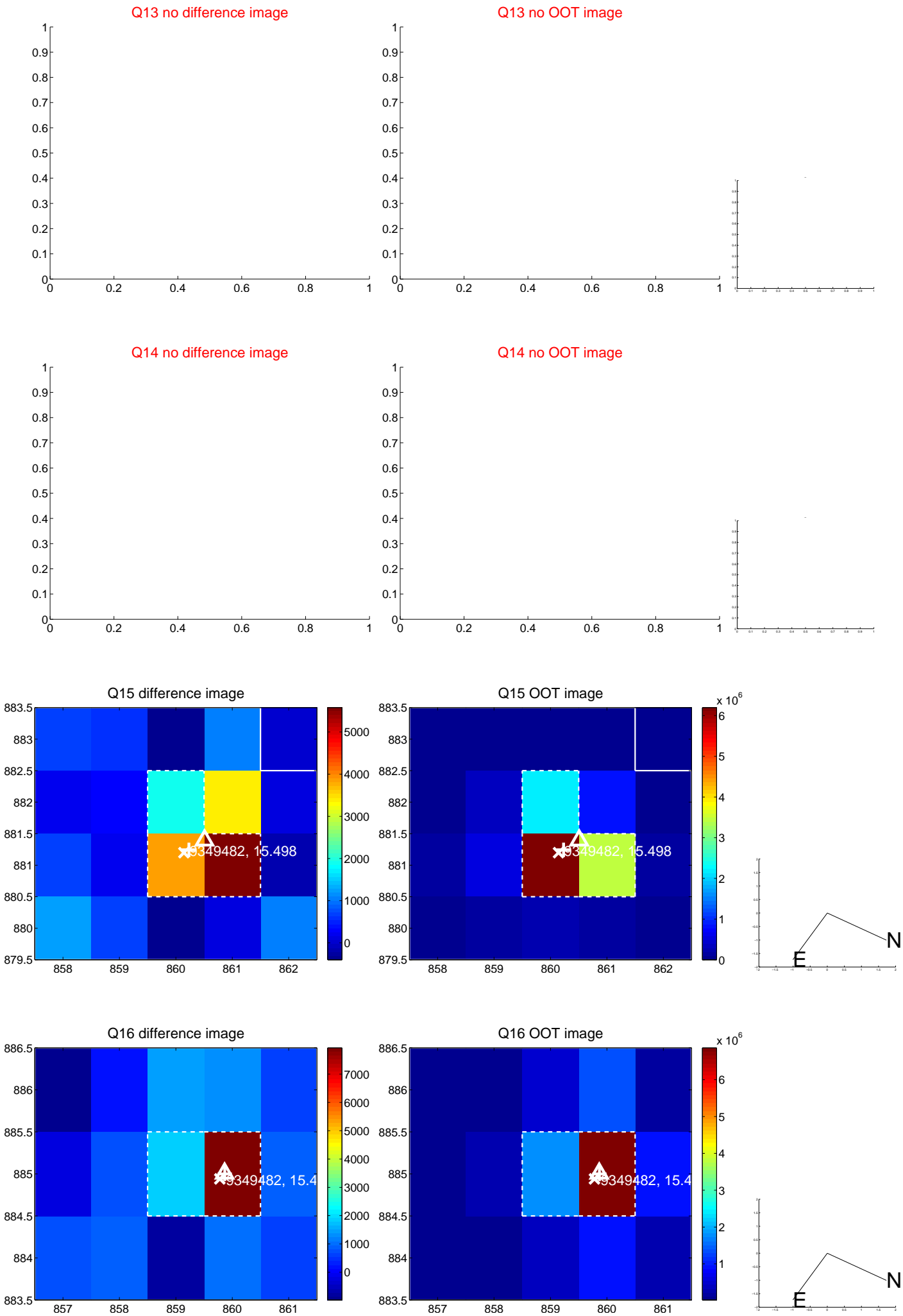
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



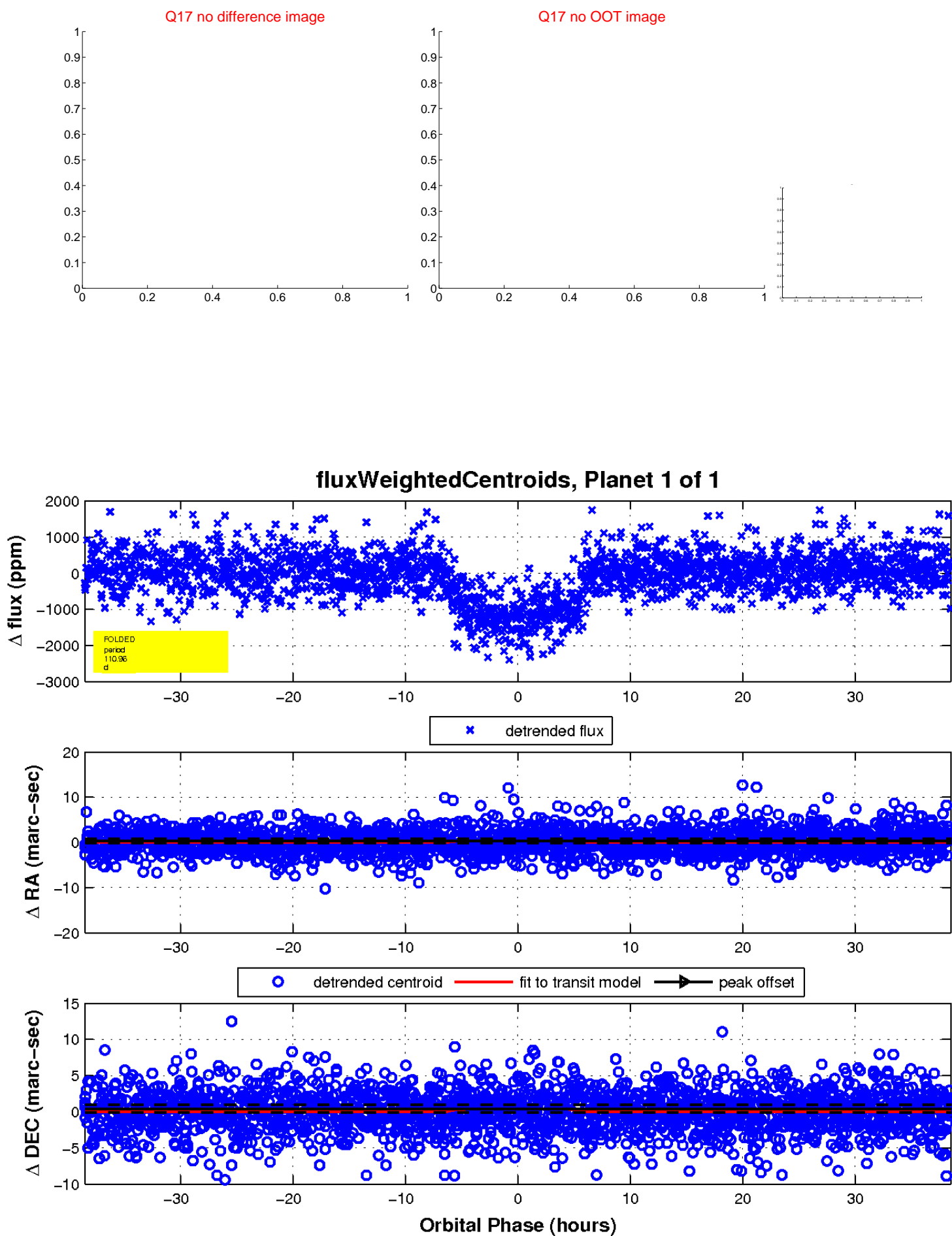
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



UKIRT Image

Declination

