

KIC 009473078

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})
009473078-01	OBS	2079.01	0.693840	132.181903	40.2	1.819	23.6	24.3	1.20	5457	0.91	5162.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009473078-01	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.

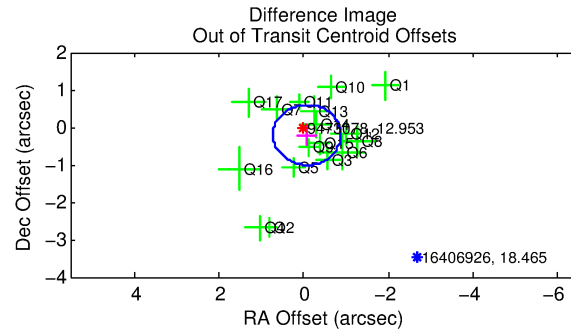
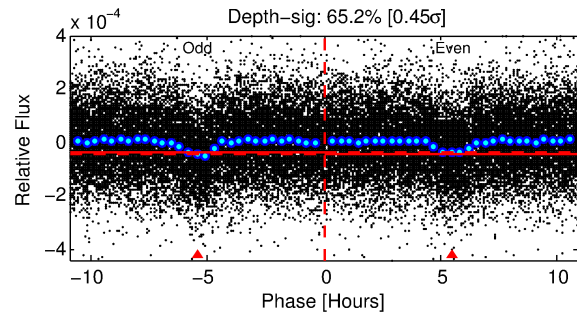
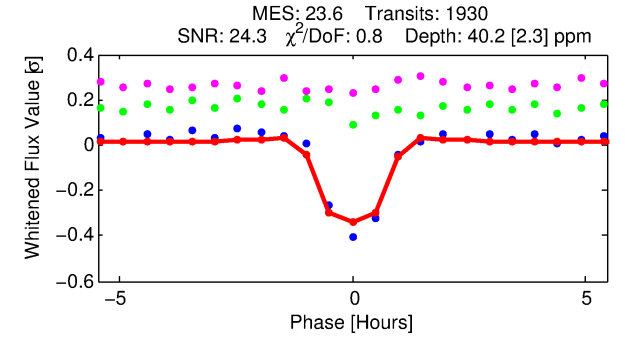
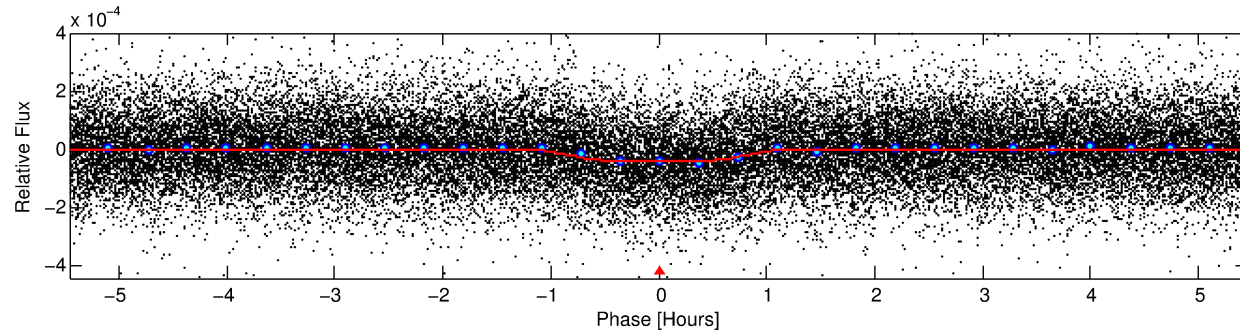
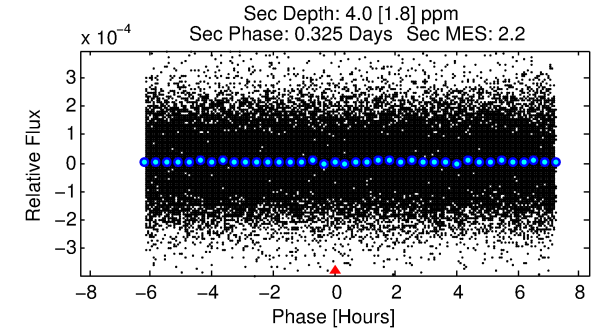
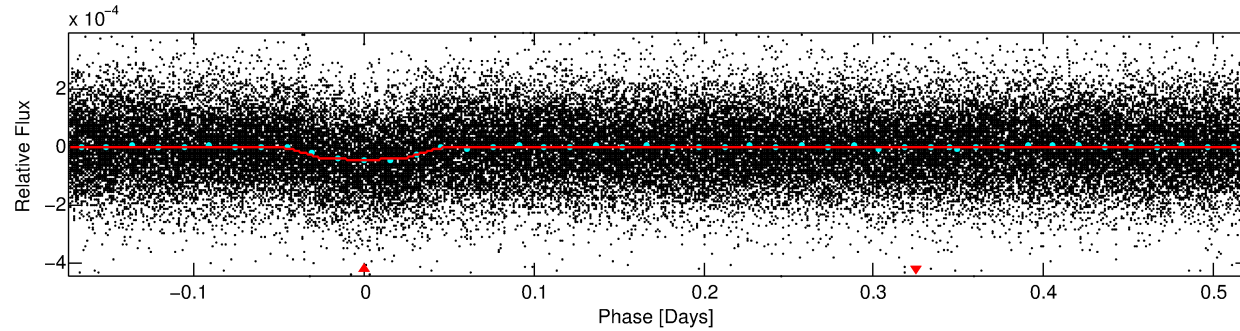
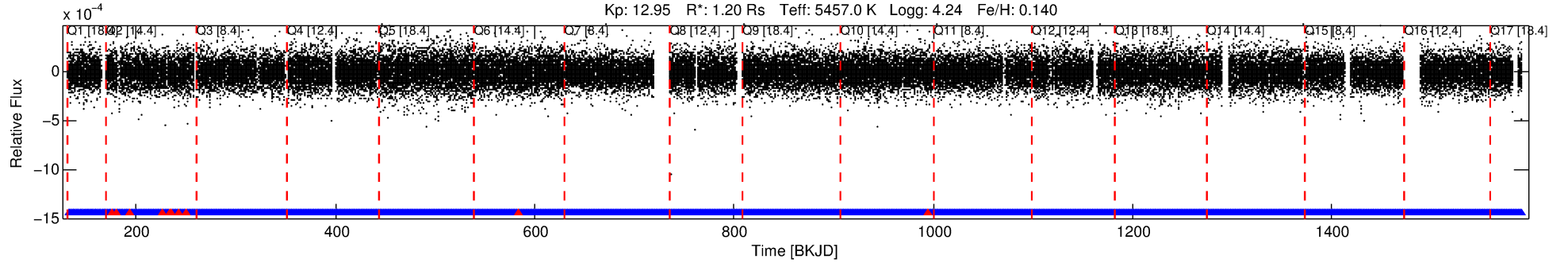
Ephemeris Match Information For 009473078-01

No Significant Match Found

DV One-Page Summary

KIC: 9473078 Candidate: 1 of 1 Period: 0.694 d

KOI: K02079.01 Corr: 0.915



DV Fit Results:

Period = 0.69384 [0.00000] d
Epoch = 132.1819 [0.0010] BKJD
Rp/R* = 0.0070 [0.0019]
a/R* = 1.61 [1.21]
b = 0.90 [0.26]
Seff = 5162.40 [2000.76]
Teq = 2161 [209] K
Rp = 0.91 [0.33] Re
a = 0.0148 [0.0035] AU
Ag = 0.57 [0.46] [-0.92σ]
Teffp = 2907 [520] K [1.33σ]

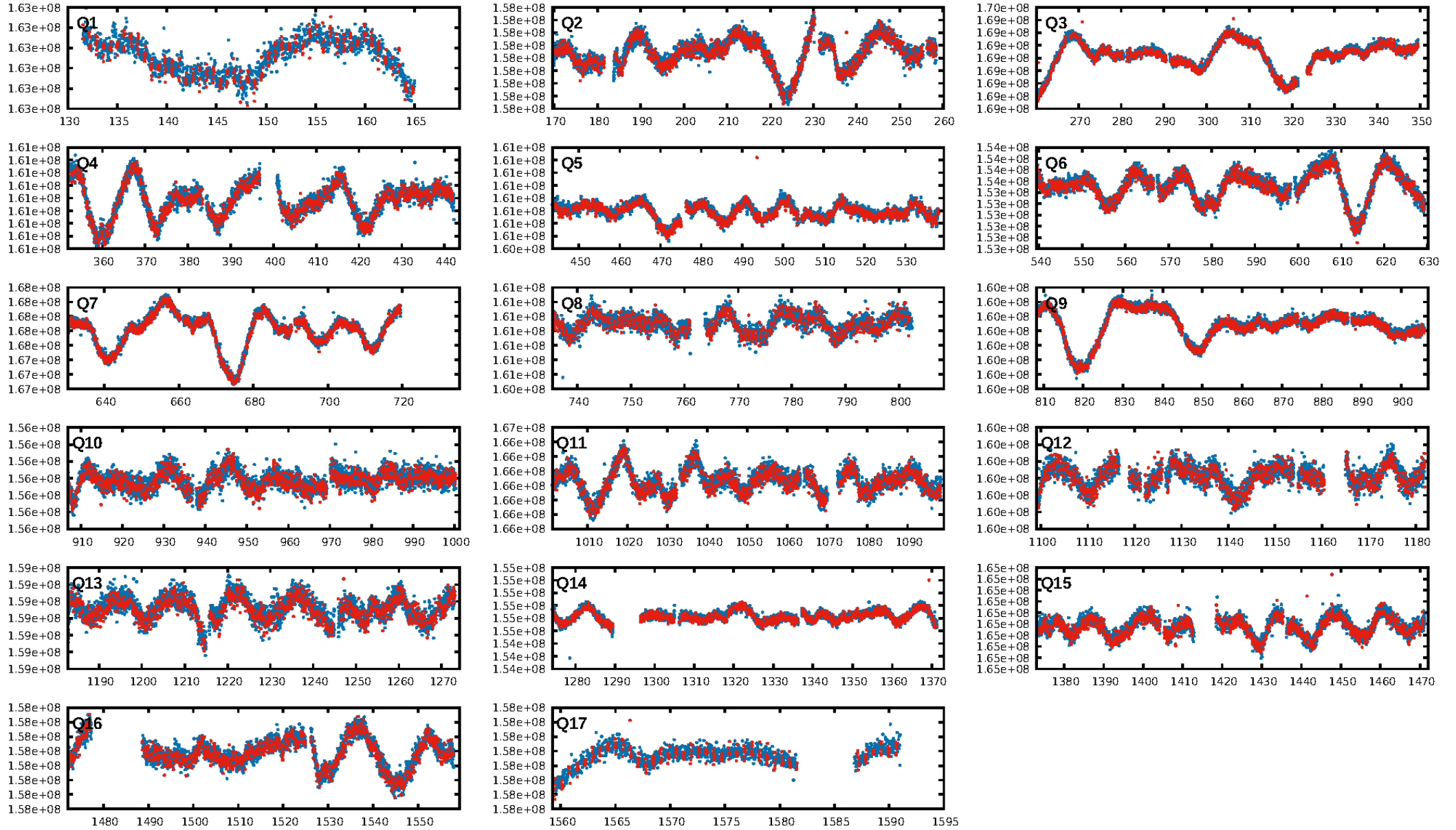
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.94e-109
RollingBand-fgt: 0.99 [1831/1842]
GhostDiagnostic-chr: 5.598
Centroid-sig: 0.0%
Centroid-so: 0.707 arcsec [1.80σ]
OotOffset-rm: 0.221 arcsec [0.83σ]
KicOffset-rm: 0.129 arcsec [0.56σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

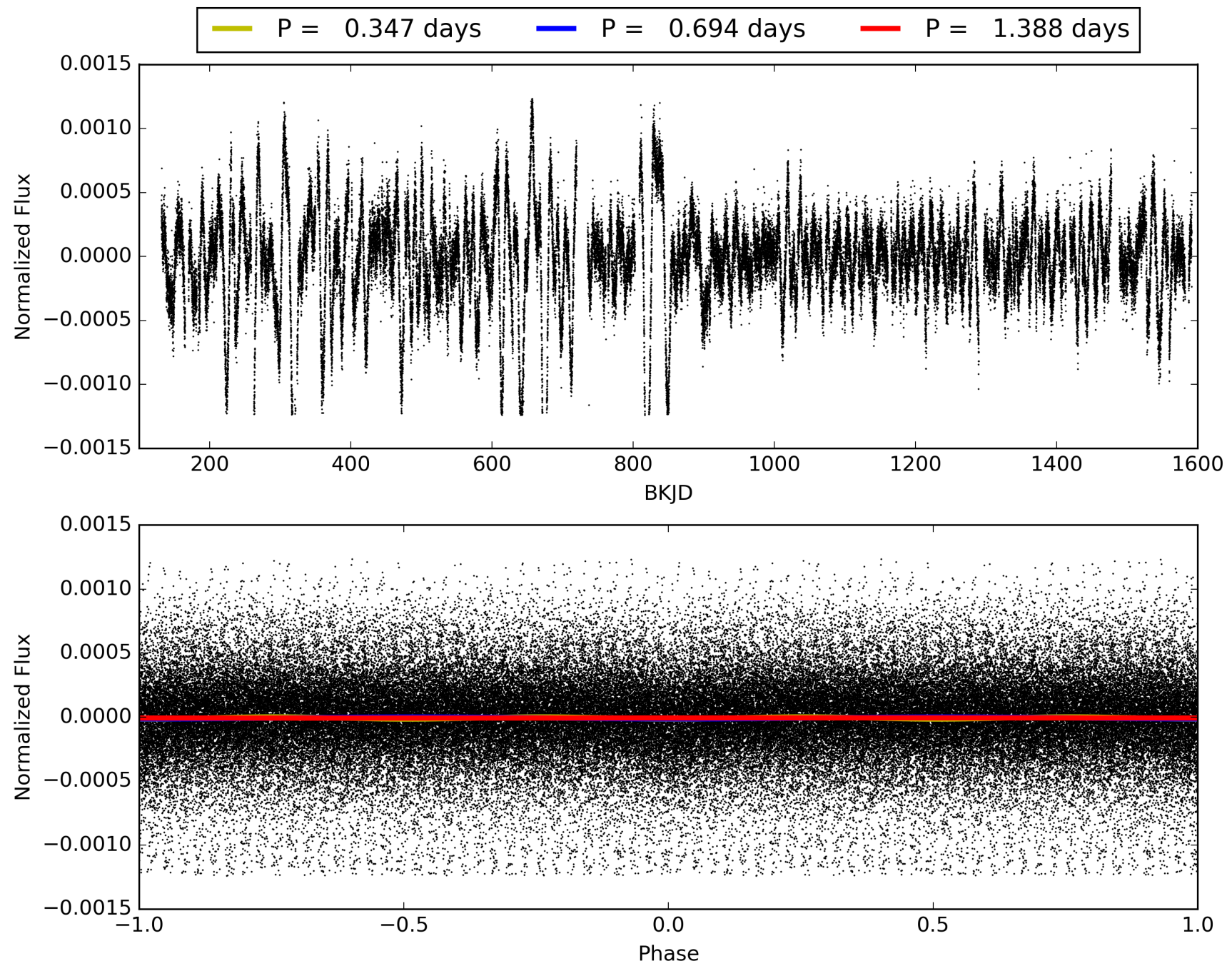
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:26:41 Z

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

TCE 009473078-01, PDC Light Curves

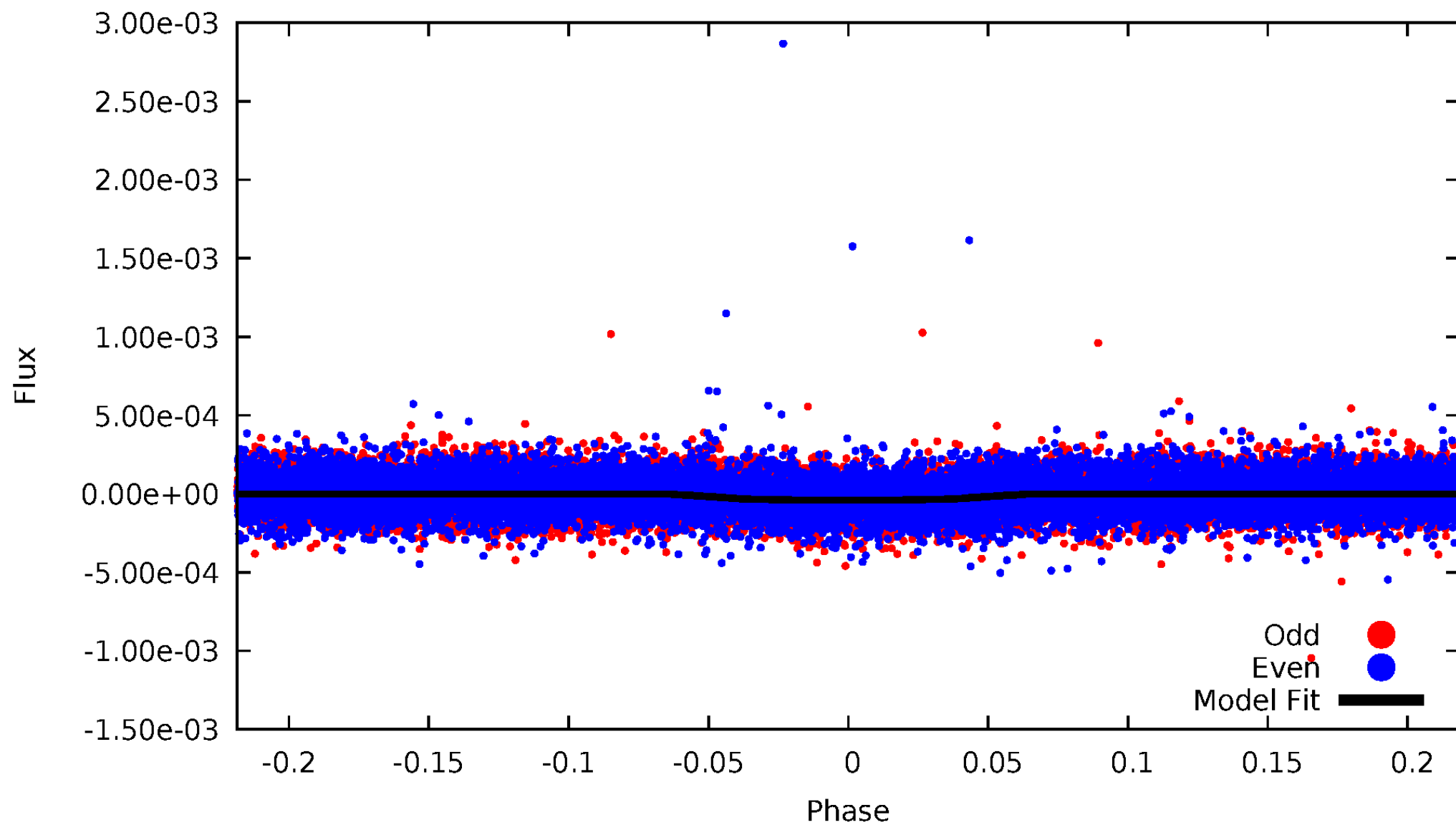


TCE 009473078-01



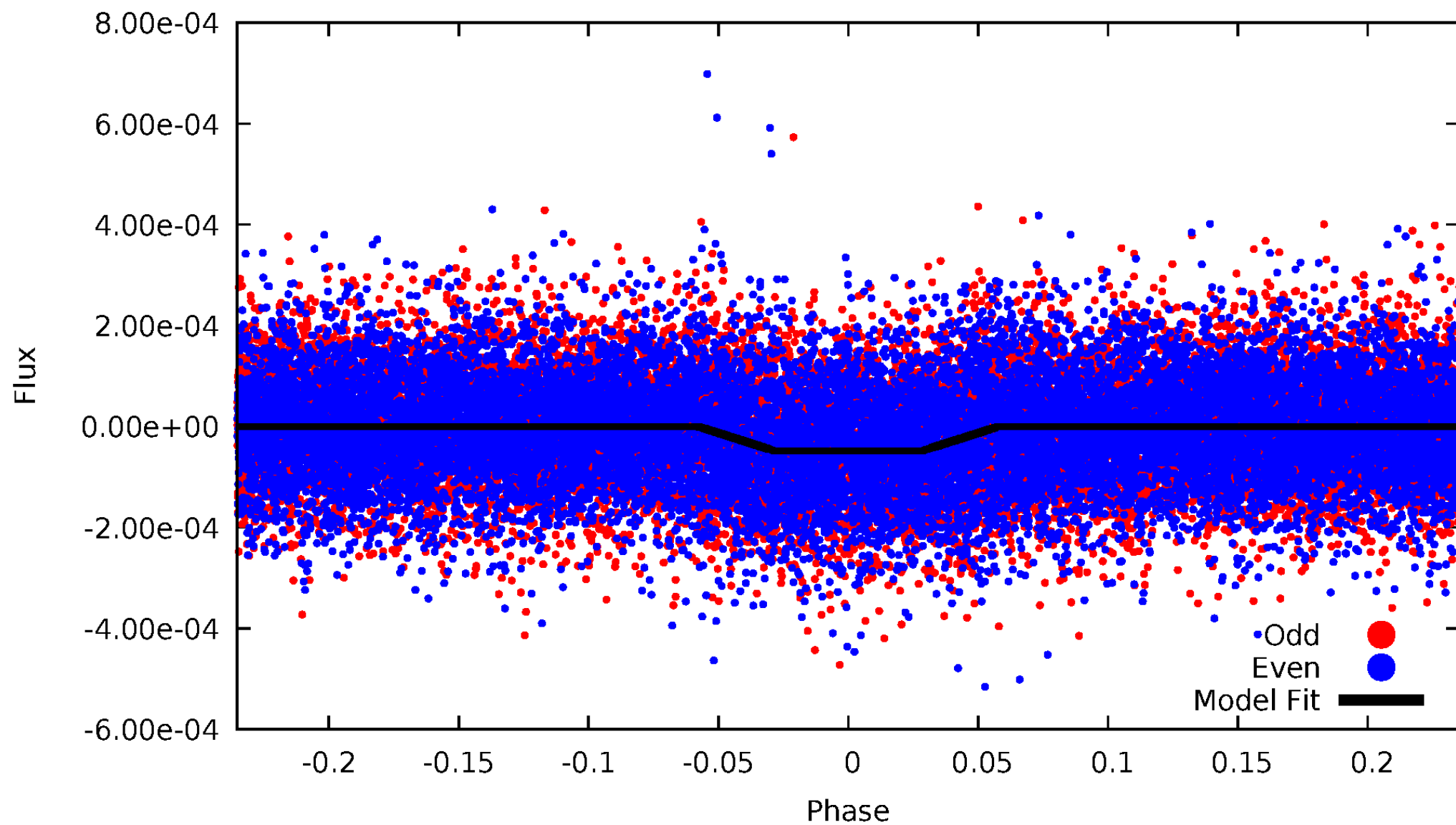
DV Odd/Even

TCE 009473078-01



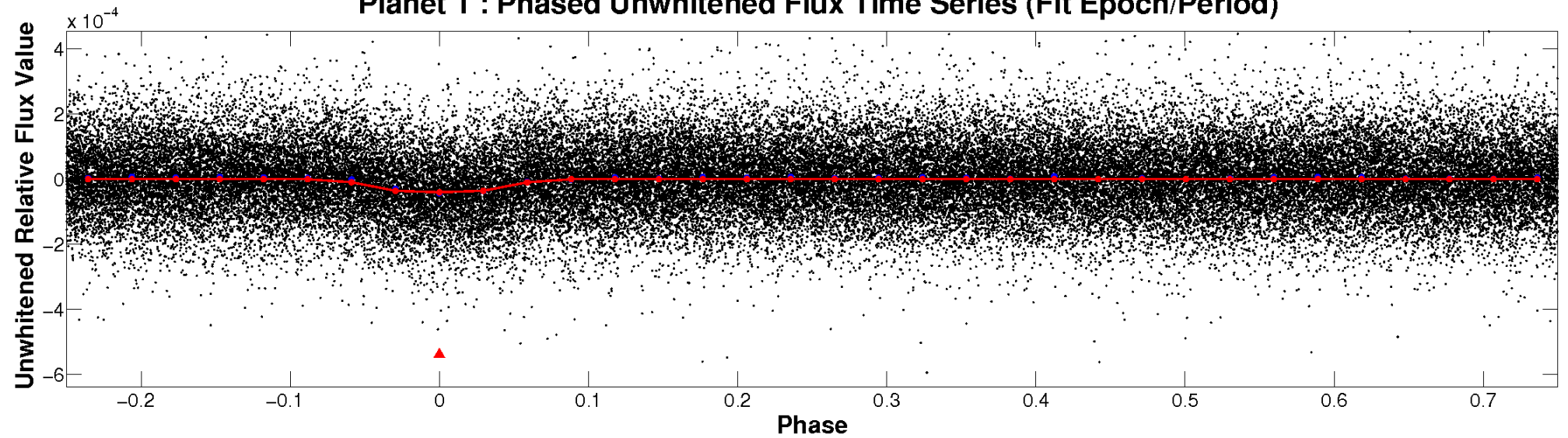
ALT Odd/Even

TCE 009473078-01

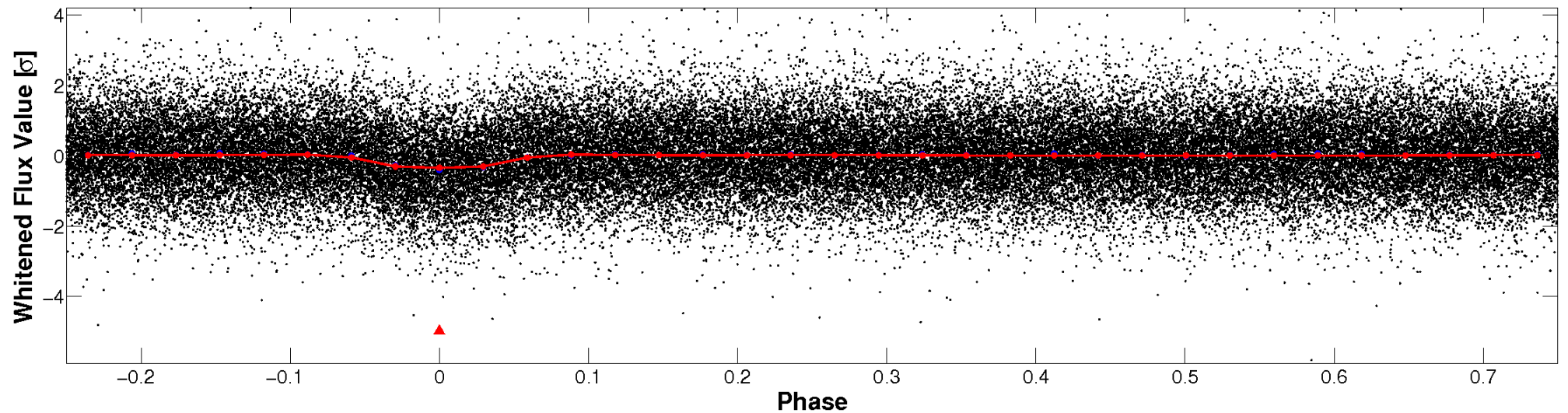


Non-Whitened Vs. Whitened Light Curve

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

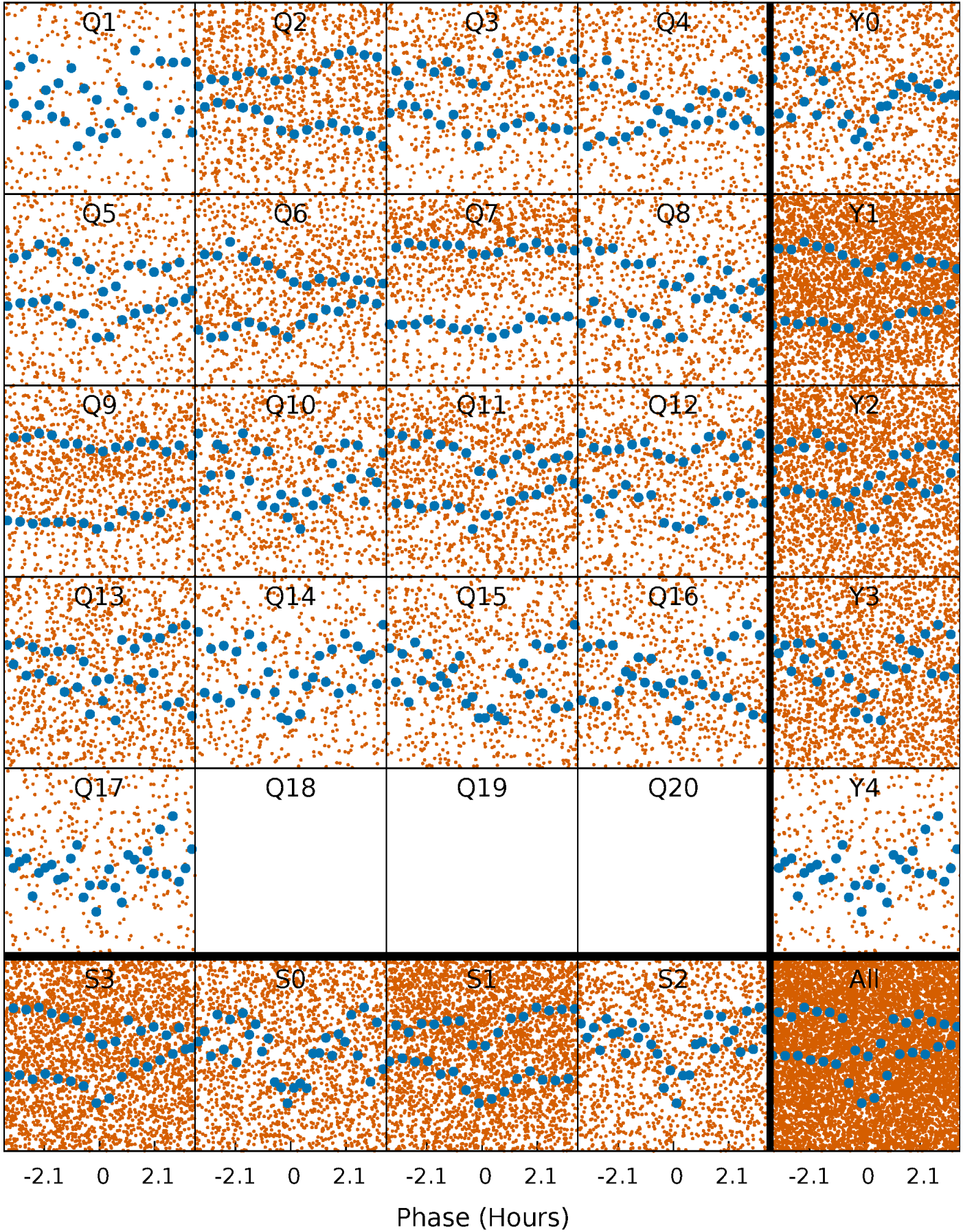


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



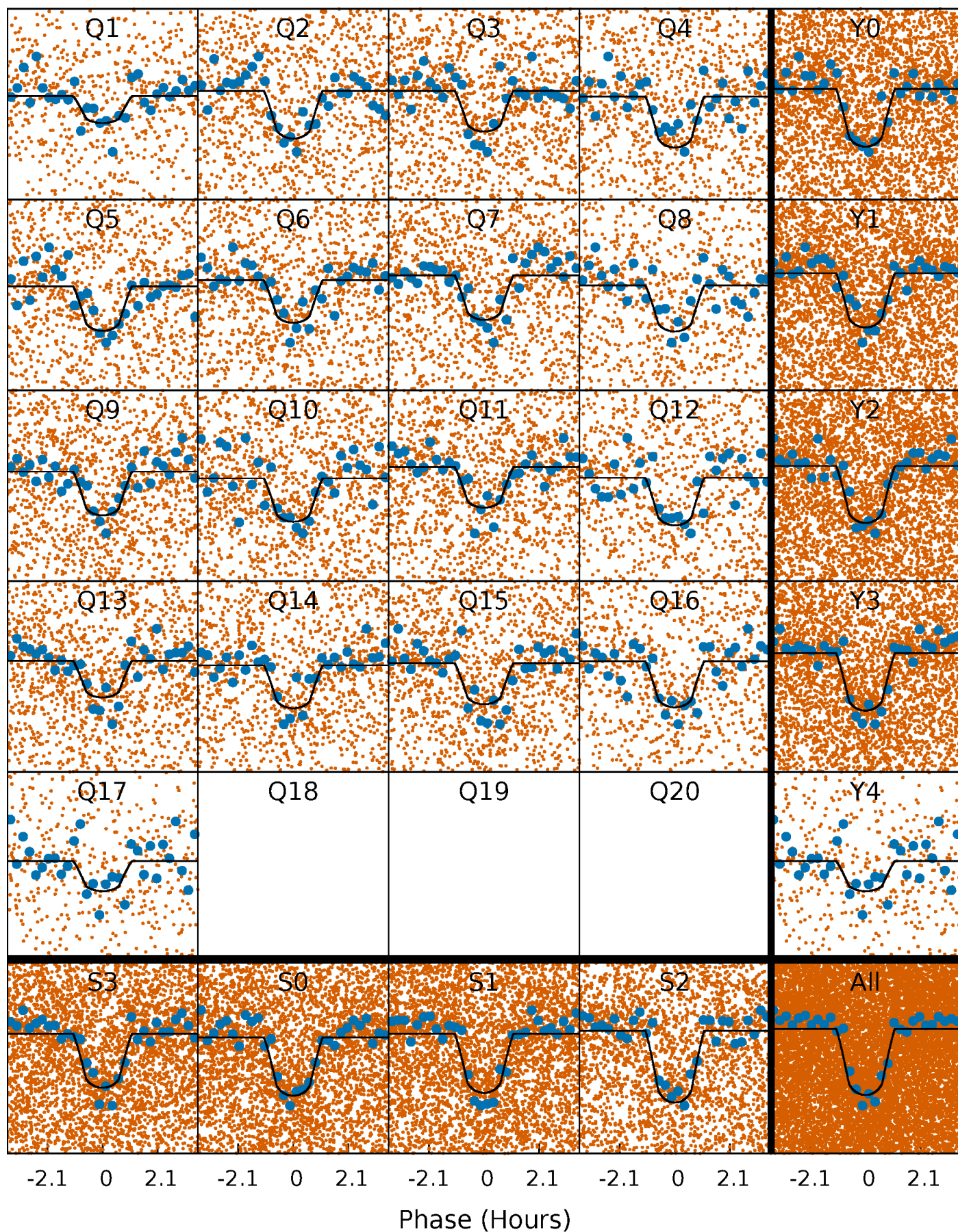
PDC Quarter-Phased Transit Curves

TCE 009473078-01 P= 0.693840 Days $T_0=132.181903$ (BKJD)



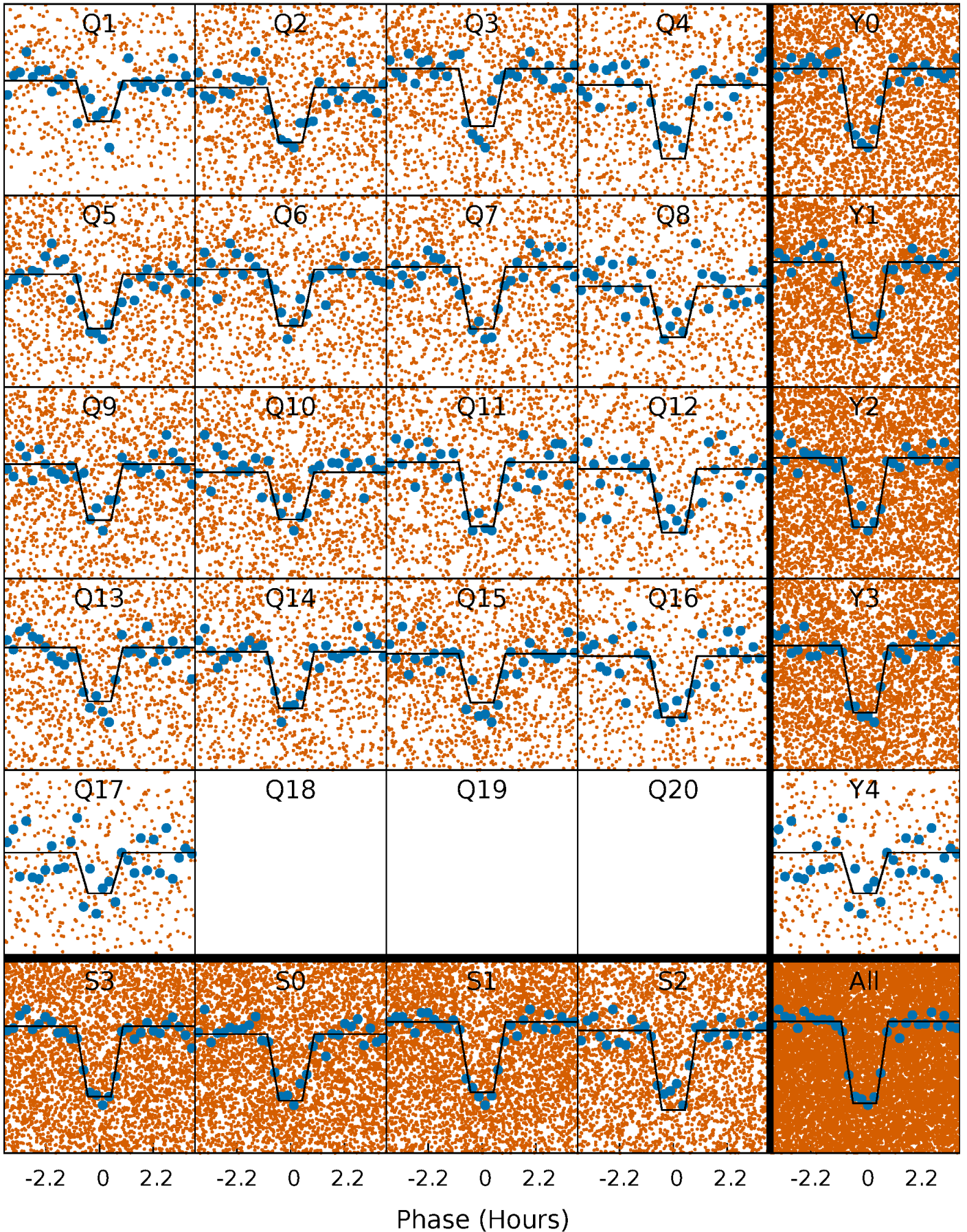
DV Quarter-Phased Transit Curves

TCE 009473078-01 P= 0.693840 Days $T_0=132.181903$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

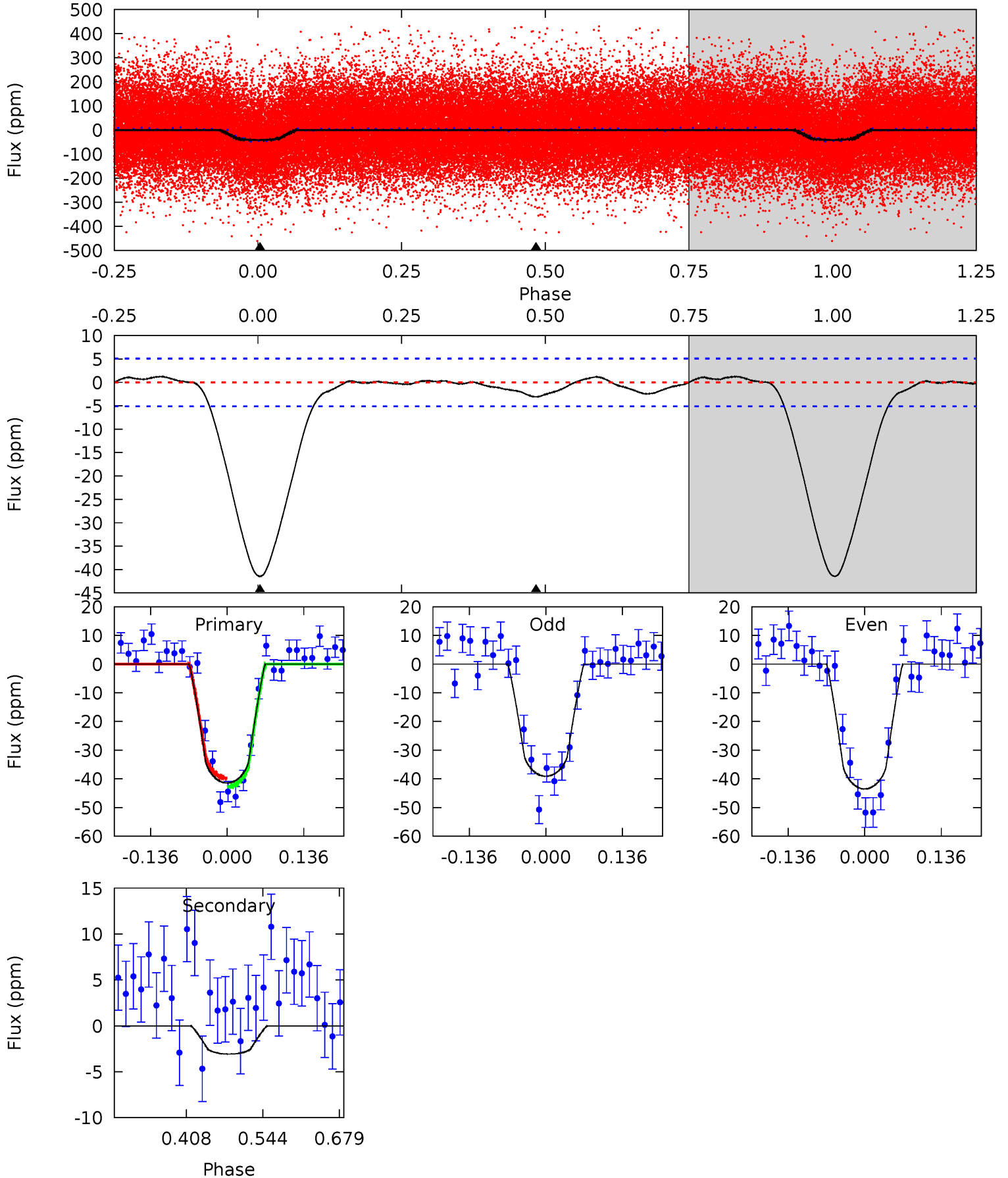
TCE 009473078-01 P= 0.693843 Days $T_0=132.181709$ (BKJD)



DV Model-Shift Uniqueness Test

009473078-01, P = 0.693840 Days, E = 131.488063 Days

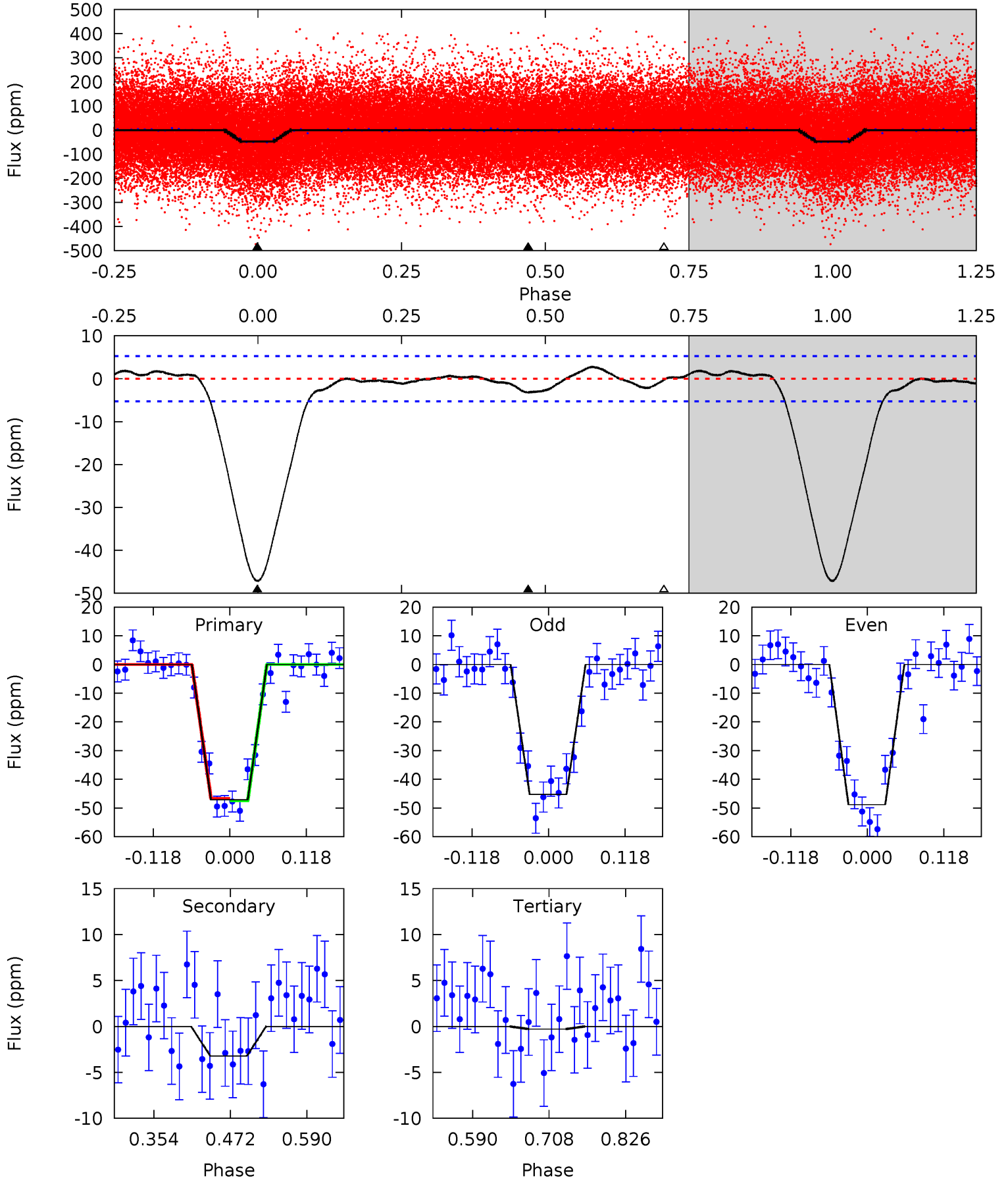
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
36.5	2.71	0	0	4.50	1.49	0.82	36.5	36.5	2.71	2.71	1.95	0.97	0.03	1.33



Alt Model-Shift Uniqueness Test

009473078-01, P = 0.693843 Days, E = 131.487866 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
40.4	2.75	0.25	0	4.53	1.56	0.92	40.1	40.4	2.50	2.75	1.53	0.98	0.06	0.34



Stellar Parameters For KIC 009473078

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5457^{+81}_{-73}	$4.239^{+0.228}_{-0.152}$	$0.140^{+0.150}_{-0.150}$	$1.196^{+0.251}_{-0.279}$	$0.903^{+0.060}_{-0.042}$	$0.744^{+0.923}_{-0.307}$
	+1%/-1%	+5%/-4%	+107%/-107%	+21%/-23%	+7%/-5%	+124%/-41%
Source	SPE90	FLK73	SPE90	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 009473078-01 / KOI 2079.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-3 ± 1	$0.89^{+0.30}_{-0.26}$	3019^{+179}_{-213}	2763^{+662}_{-5383}	$0.436^{+0.524}_{-0.219}$
Alt.	-3 ± 1	$0.91^{+0.28}_{-0.26}$	3031^{+176}_{-222}	2819^{+615}_{-5410}	$0.455^{+0.525}_{-0.228}$

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 $A_{obs} \gg 1.0$

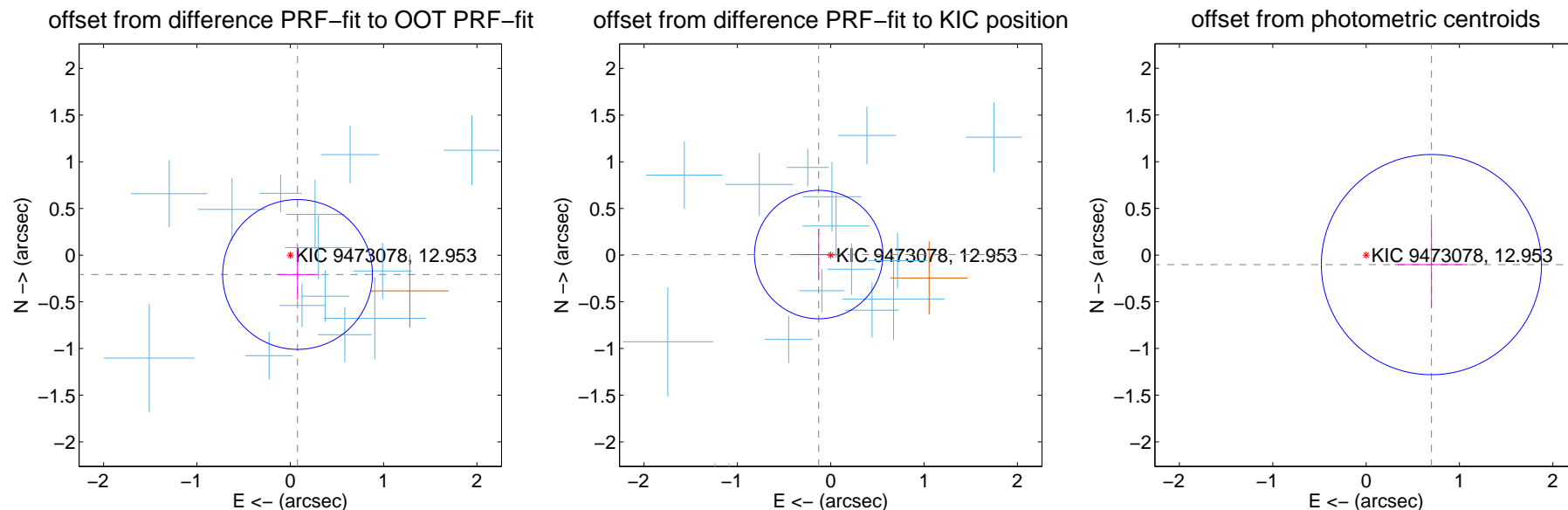
DV Centroid Data

Supplemental centroid analysis for 009473078-01. Kepler magnitude: 12.95. Transit SNR 24.31

There are 16 quarters with good PRF difference image offsets

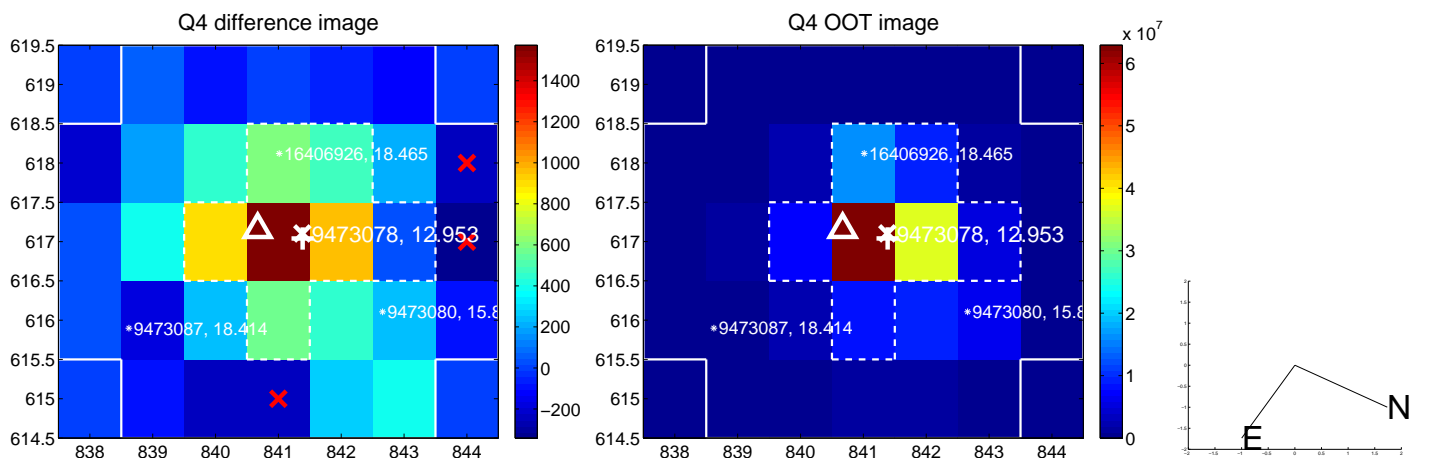
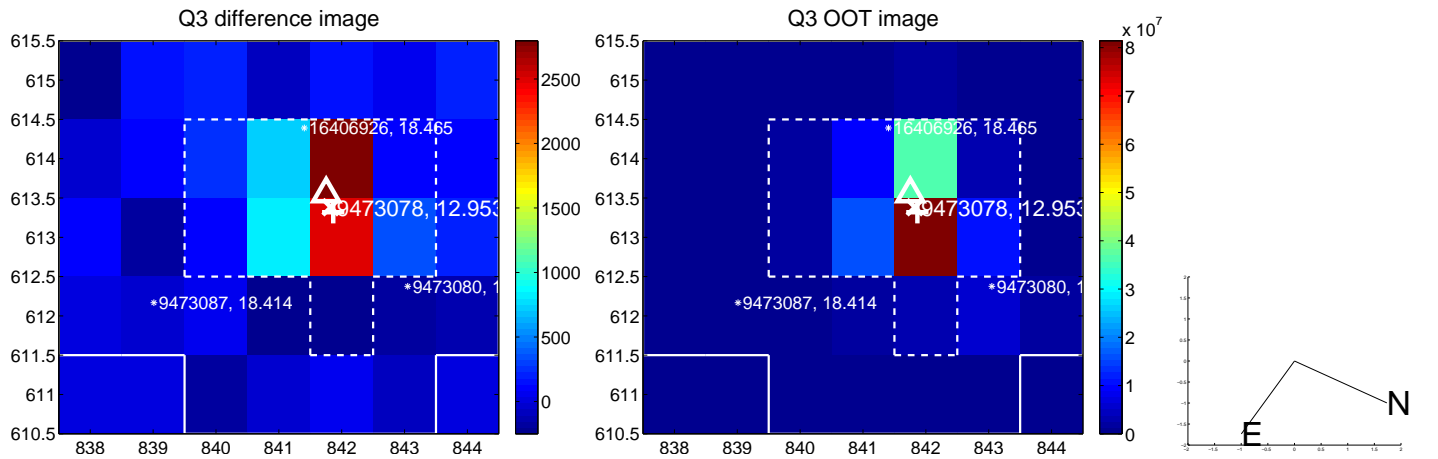
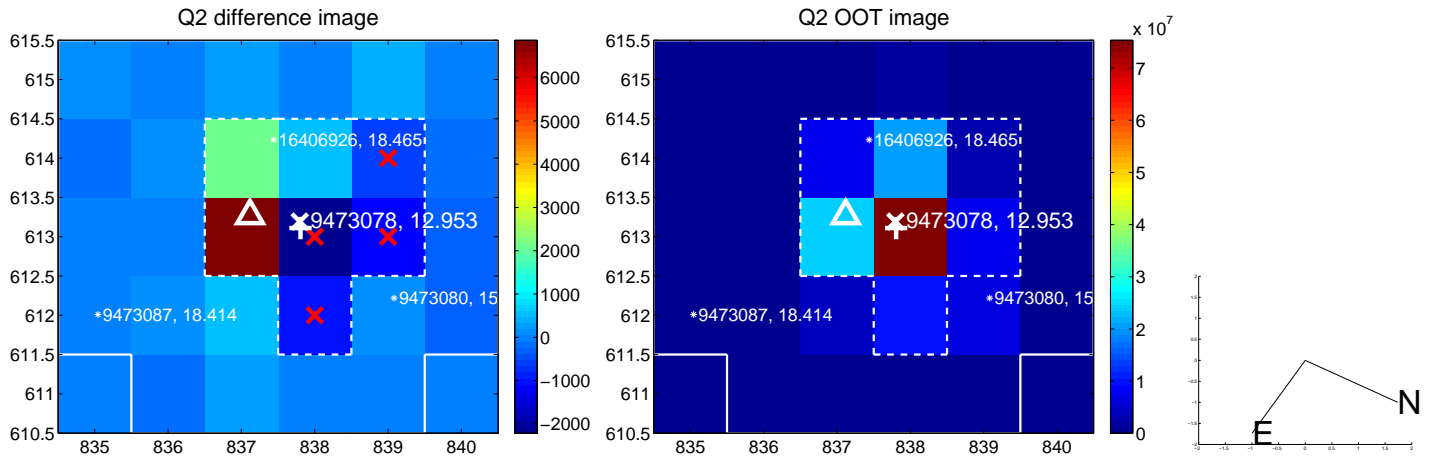
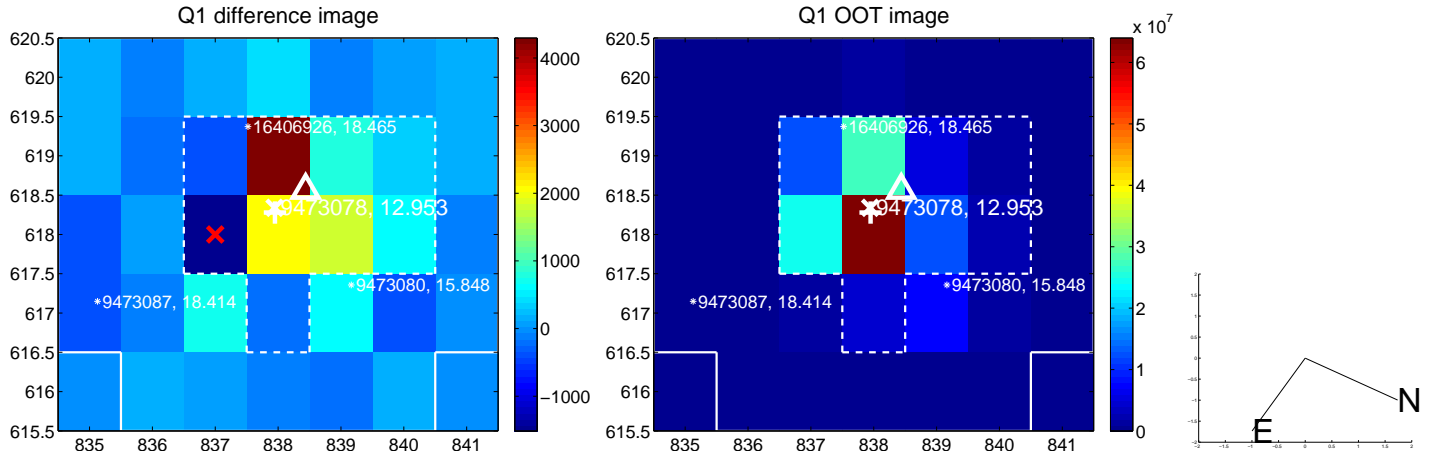
The direct PRF centroid is offset from the target star catalog position by about 0.34 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.221 ± 0.267	0.83	-0.078 ± 0.227	-0.207 ± 0.273
PRF-fit source offset from KIC position	0.129 ± 0.229	0.56	0.129 ± 0.229	0.006 ± 0.276
photometric centroid source offset	0.71 ± 0.39	1.80	-0.70 ± 0.39	-0.10 ± 0.46

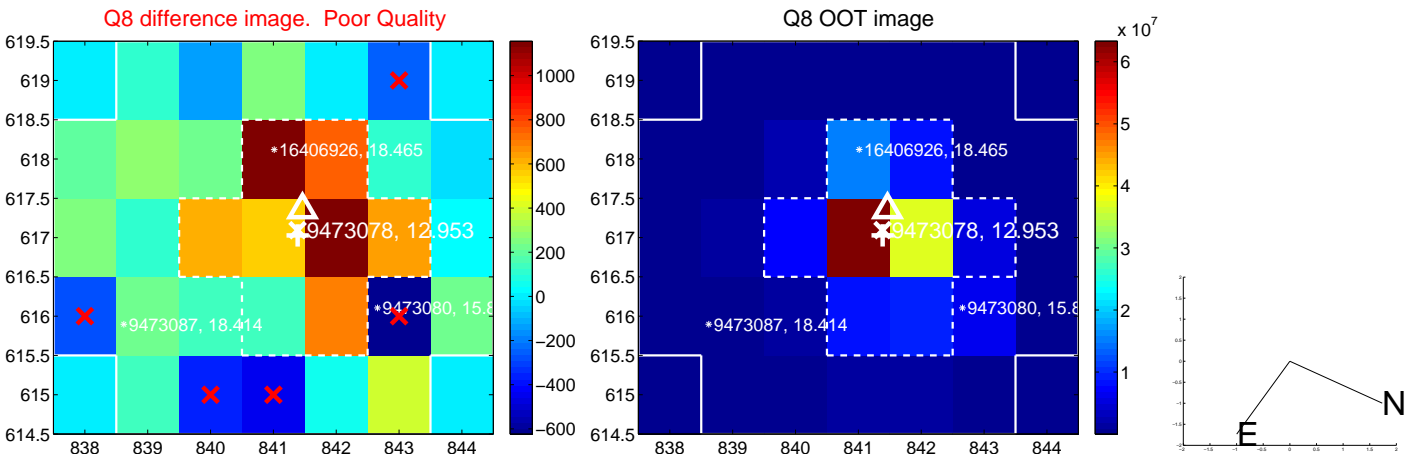
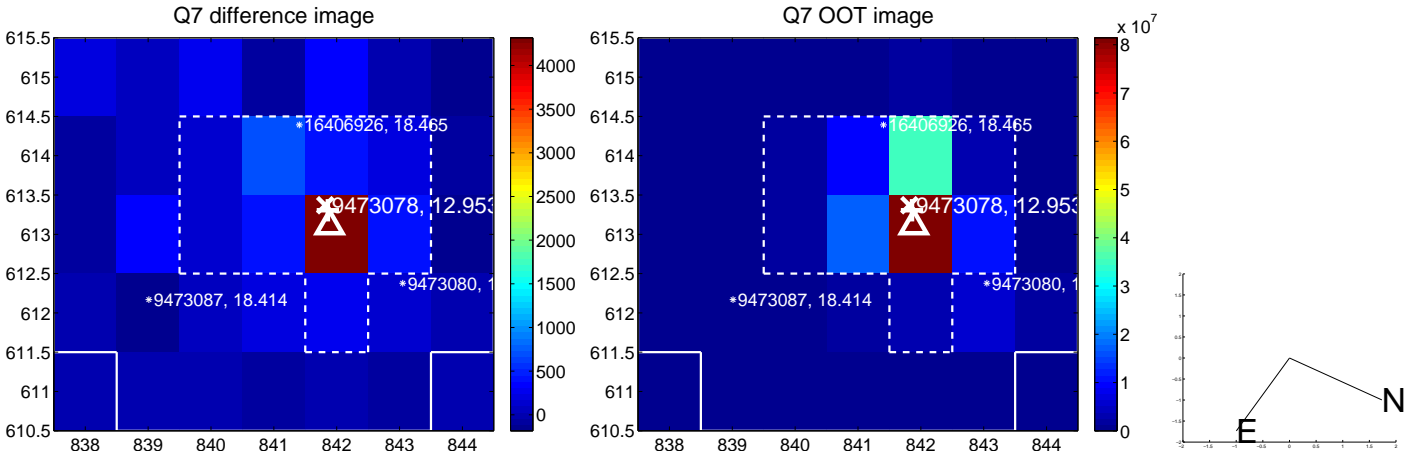
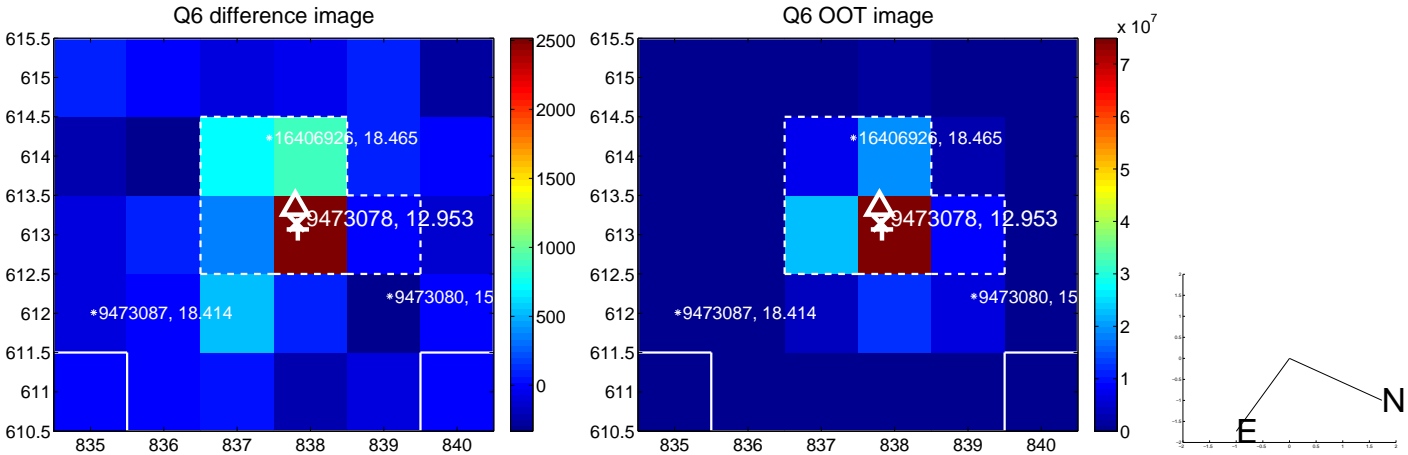
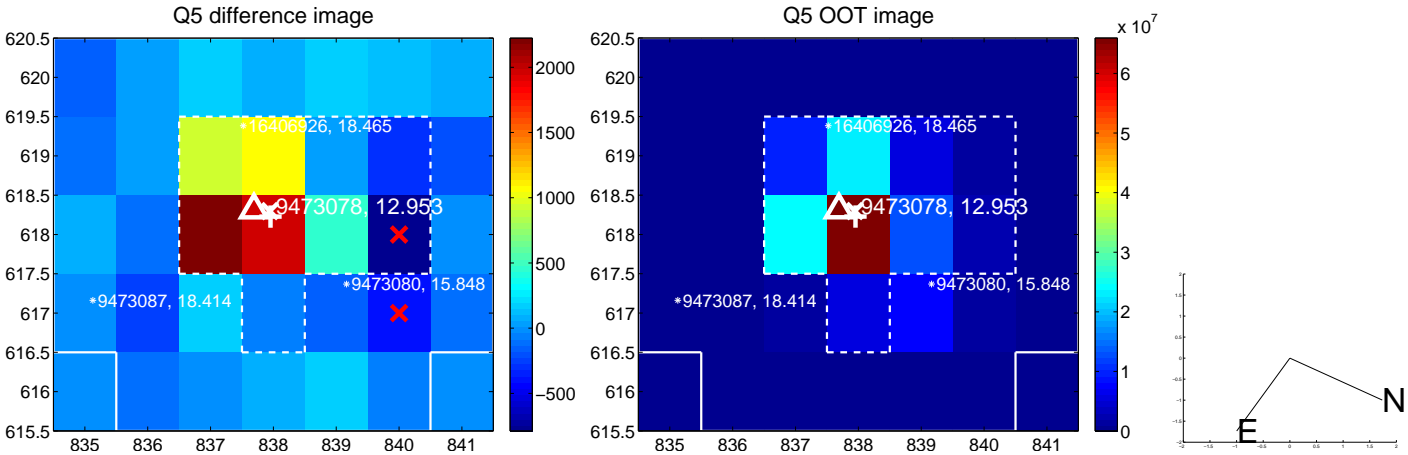


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

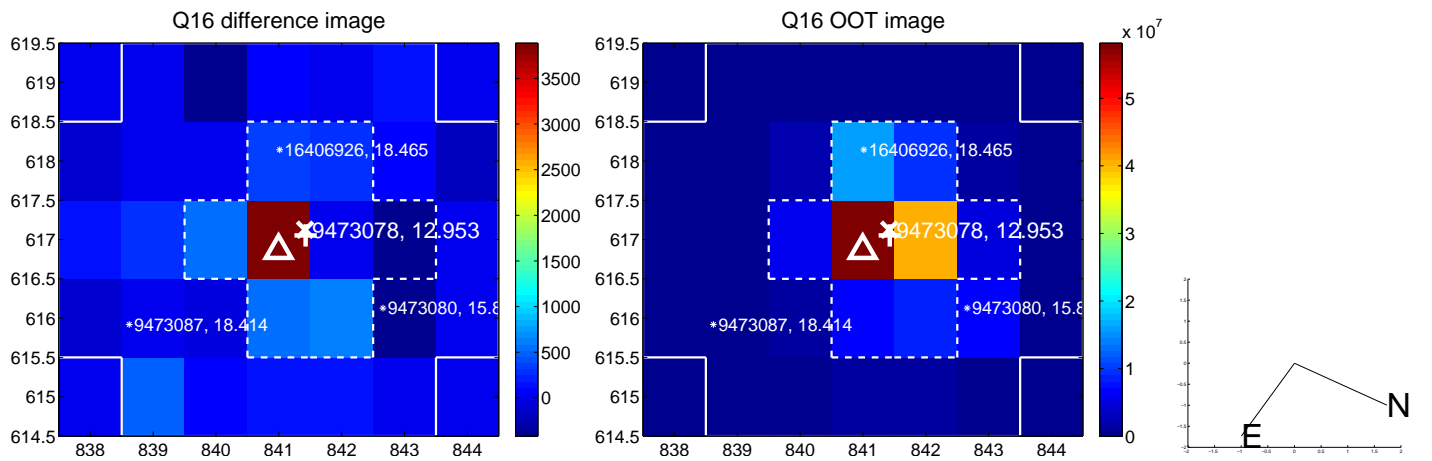
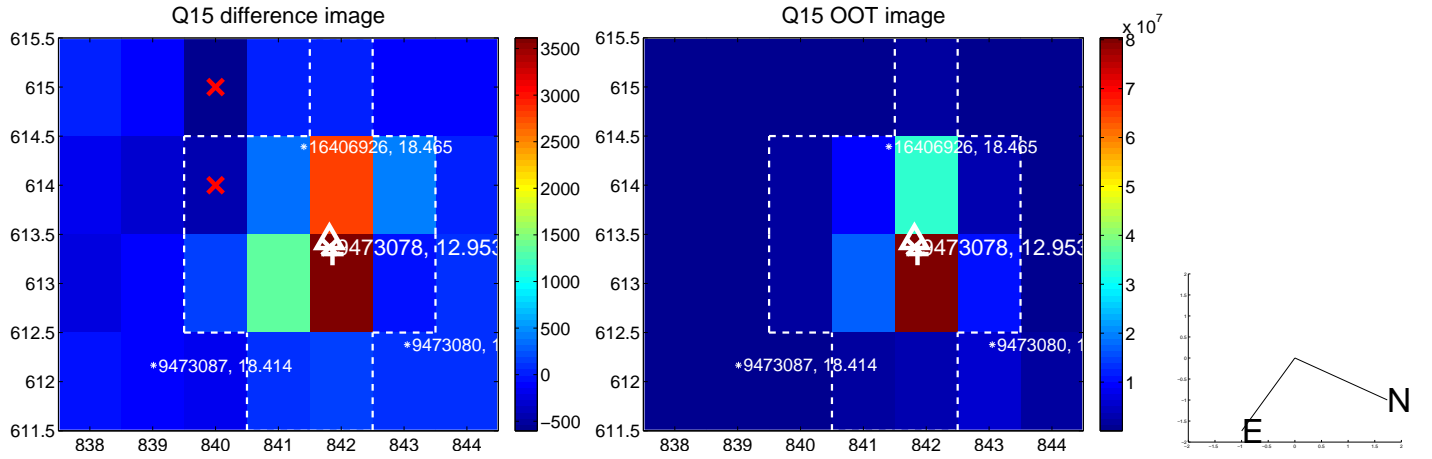
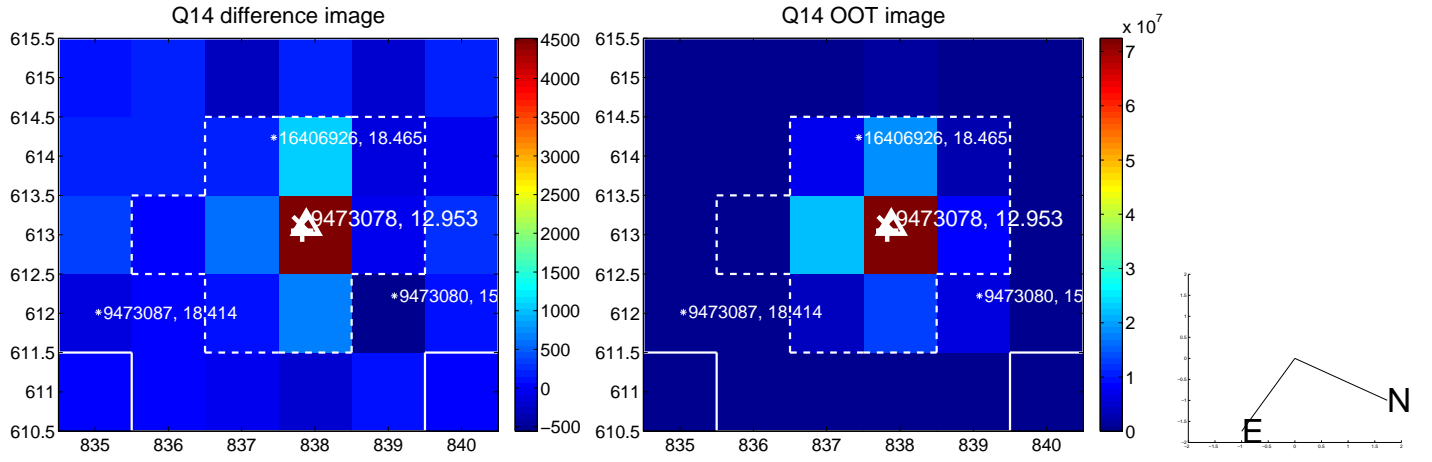
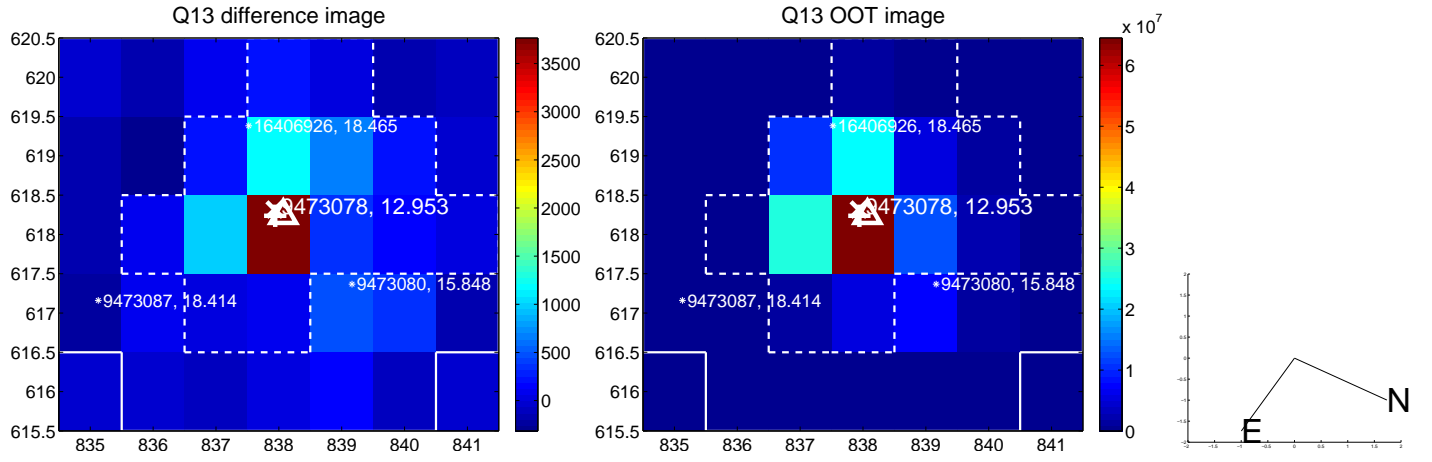
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

