

KIC 009458343

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})
009458343-01	OBS	2246.01	11.895193	132.891357	183.9	3.571	19.0	20.4	0.99	5649	1.63	90.91

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009458343-01	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.

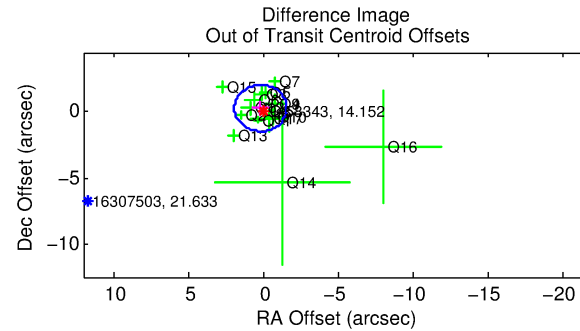
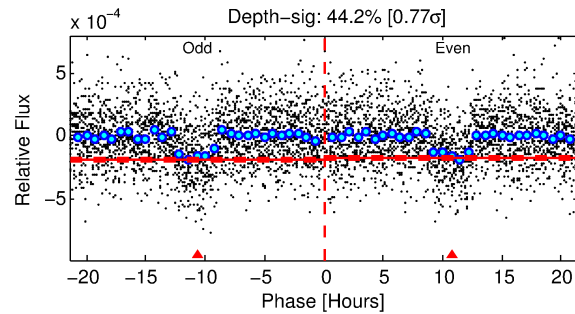
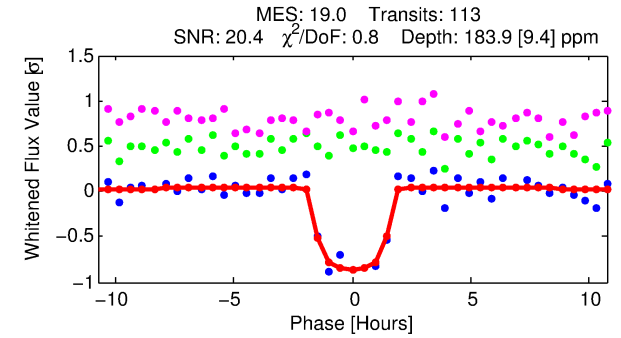
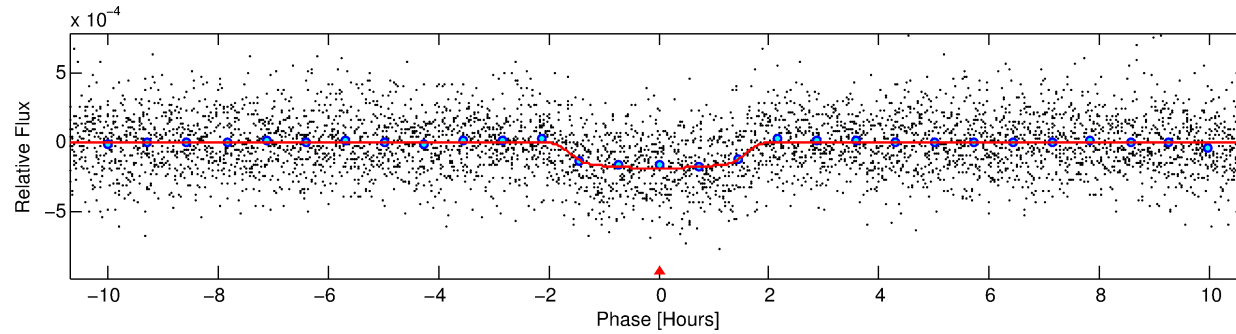
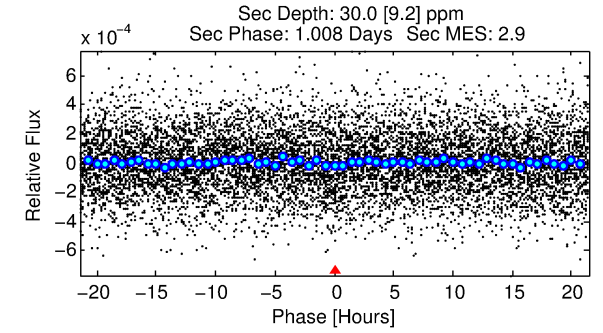
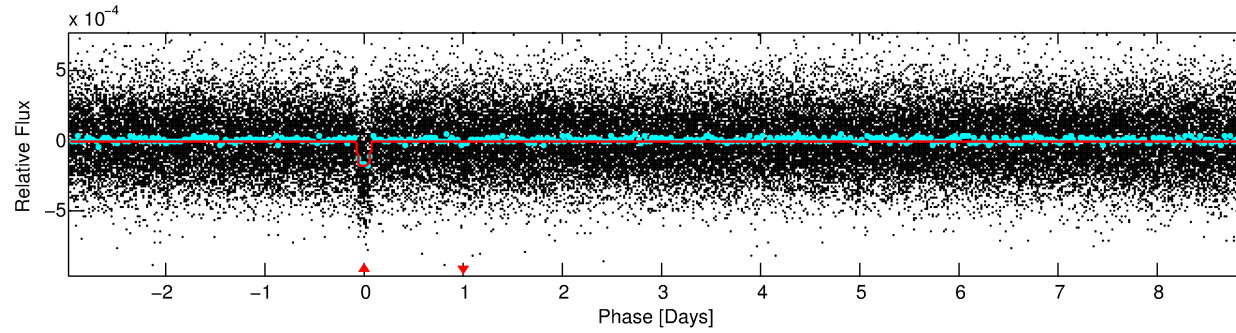
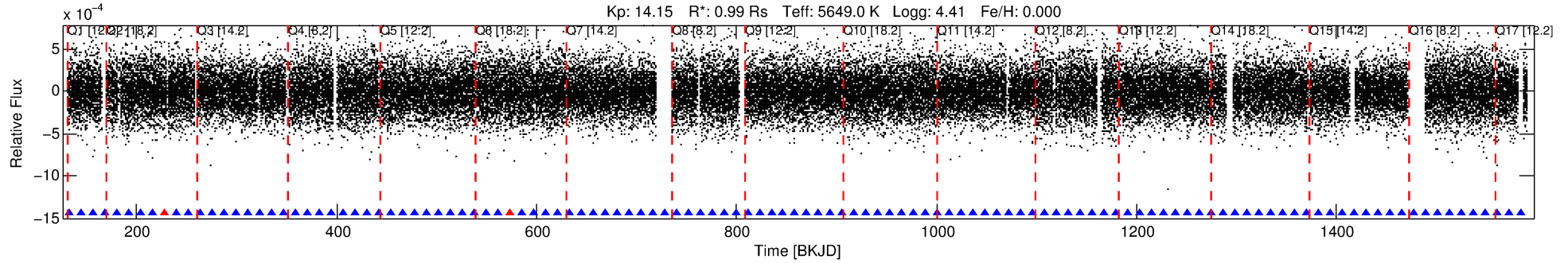
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009458343-01

No Significant Match Found

DV One-Page Summary

KIC: 9458343 Candidate: 1 of 1 Period: 11.895 d
KOI: K02246.01 Corr: 0.990



DV Fit Results:

Period = 11.89519 [0.00006] d
Epoch = 132.8914 [0.0037] BKJD
Rp/R* = 0.0150 [0.0031]
a/R* = 11.30 [10.66]
b = 0.91 [0.18]
Seff = 90.91 [18.58]
Teq = 787 [40] K
Rp = 1.63 [0.41] Re
a = 0.0994 [0.0126] AU
Ag = 61.48 [33.36] [1.81σ]
Teffp = 3409 [439] K [5.95σ]

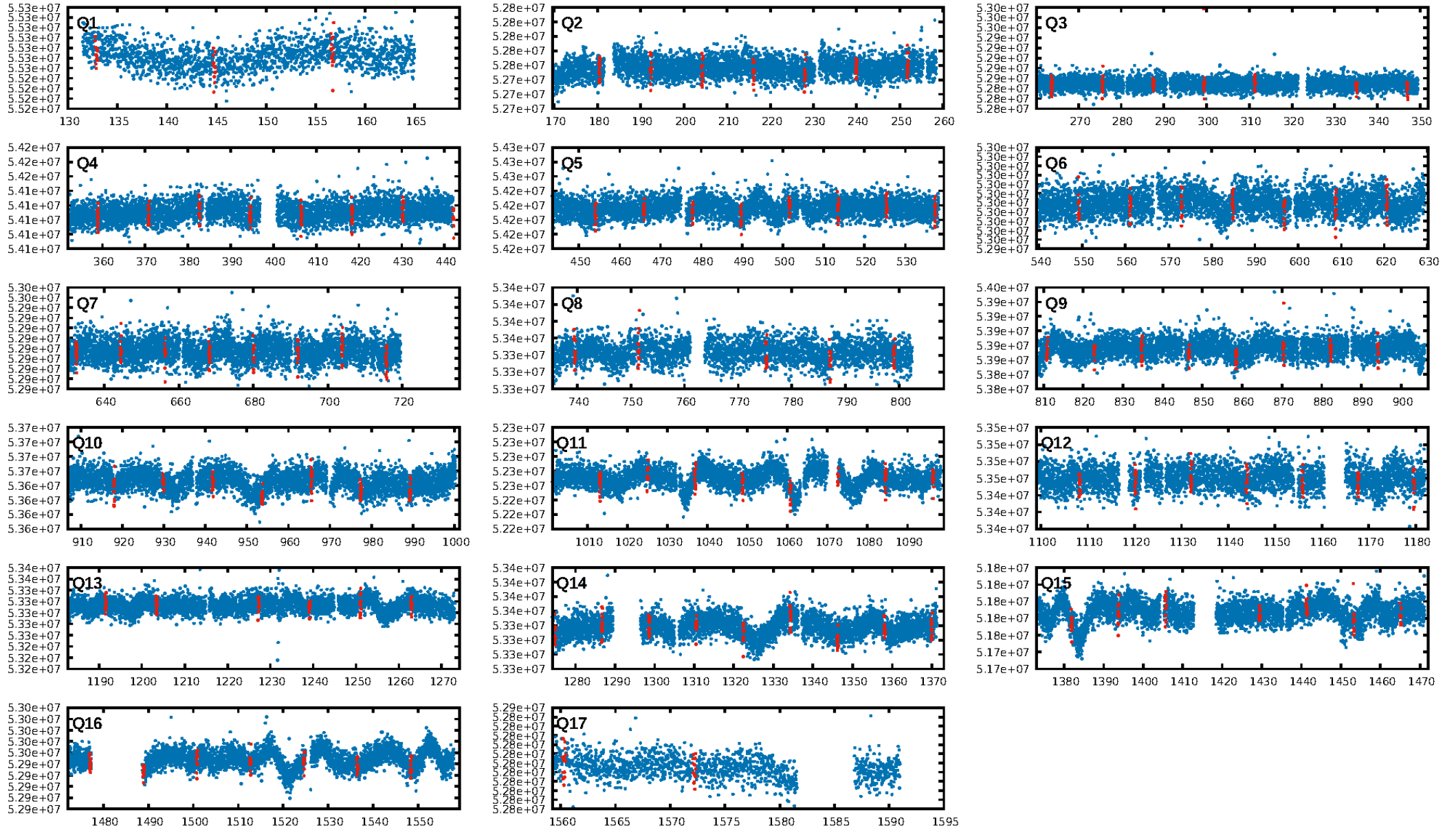
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.21e-78
RollingBand-fgt: 0.98 [106/108]
GhostDiagnostic-chr: 7.339
Centroid-sig: 60.6%
Centroid-so: 0.246 arcsec [0.40σ]
OotOffset-rm: 0.311 arcsec [0.53σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-rm: 0.447 arcsec [0.76σ]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.88 [14/16]
DiffImageOverlap-fno: 1.00 [17/17]

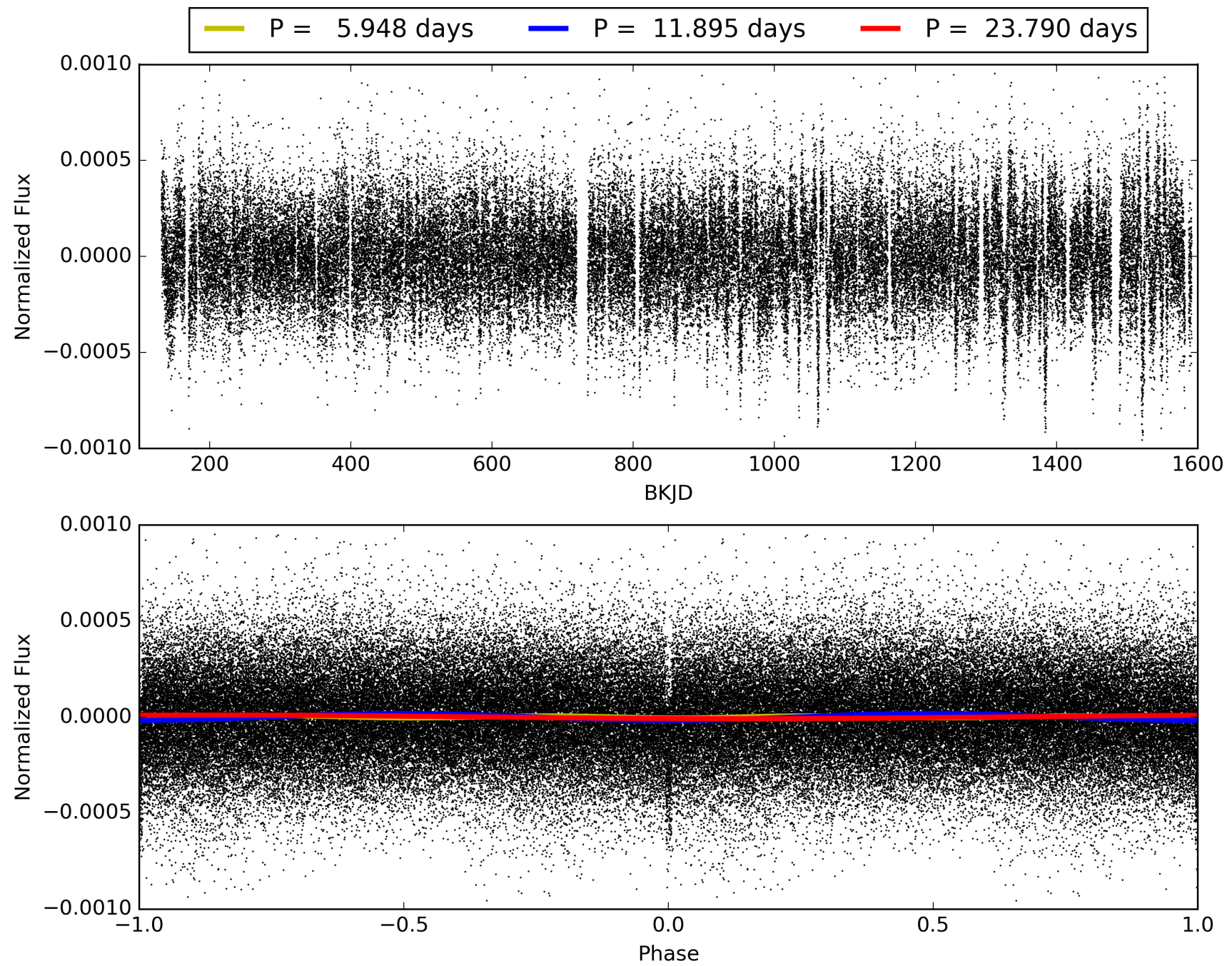
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:12:19 Z

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

TCE 009458343-01, PDC Light Curves

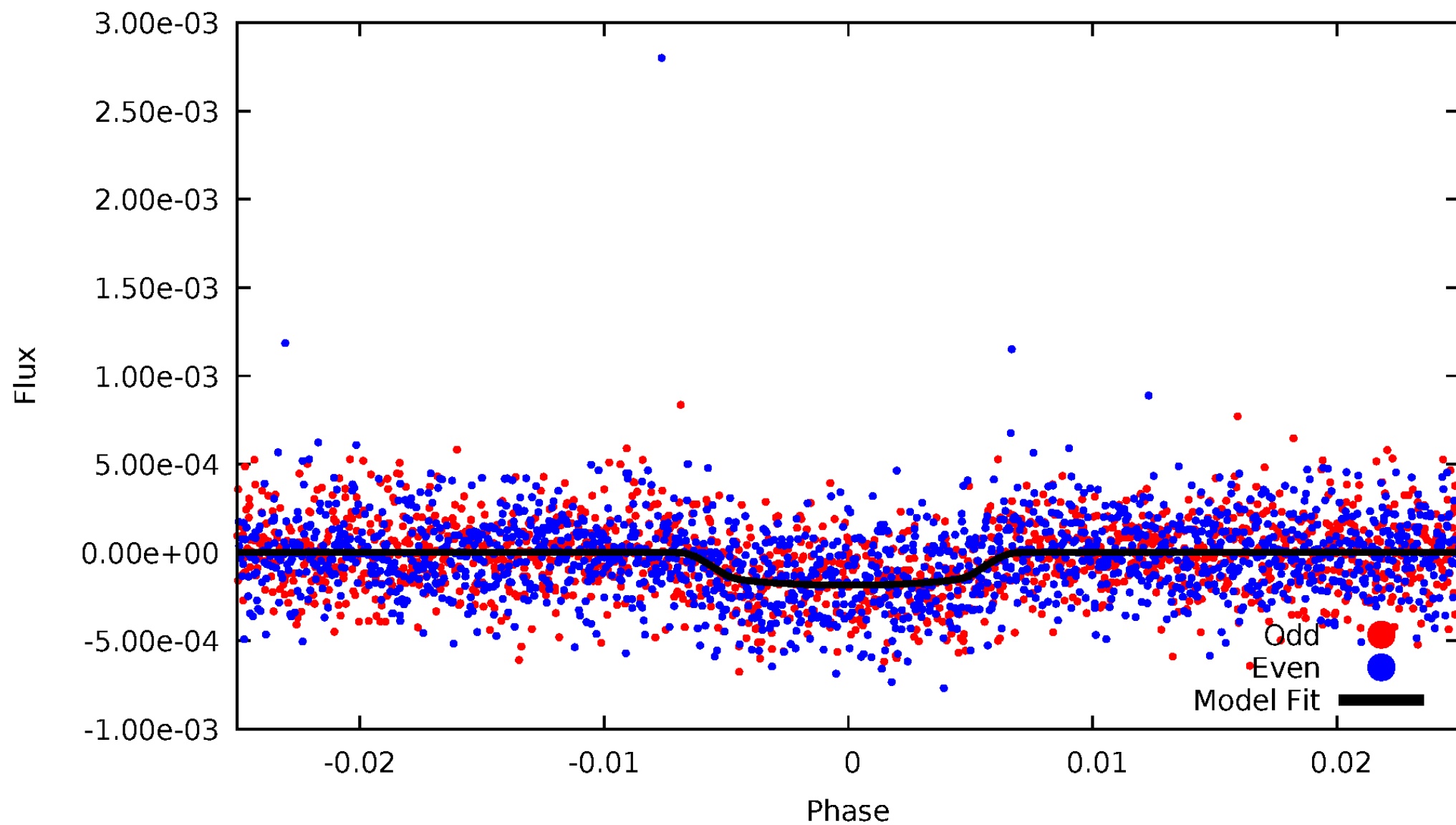


TCE 009458343-01



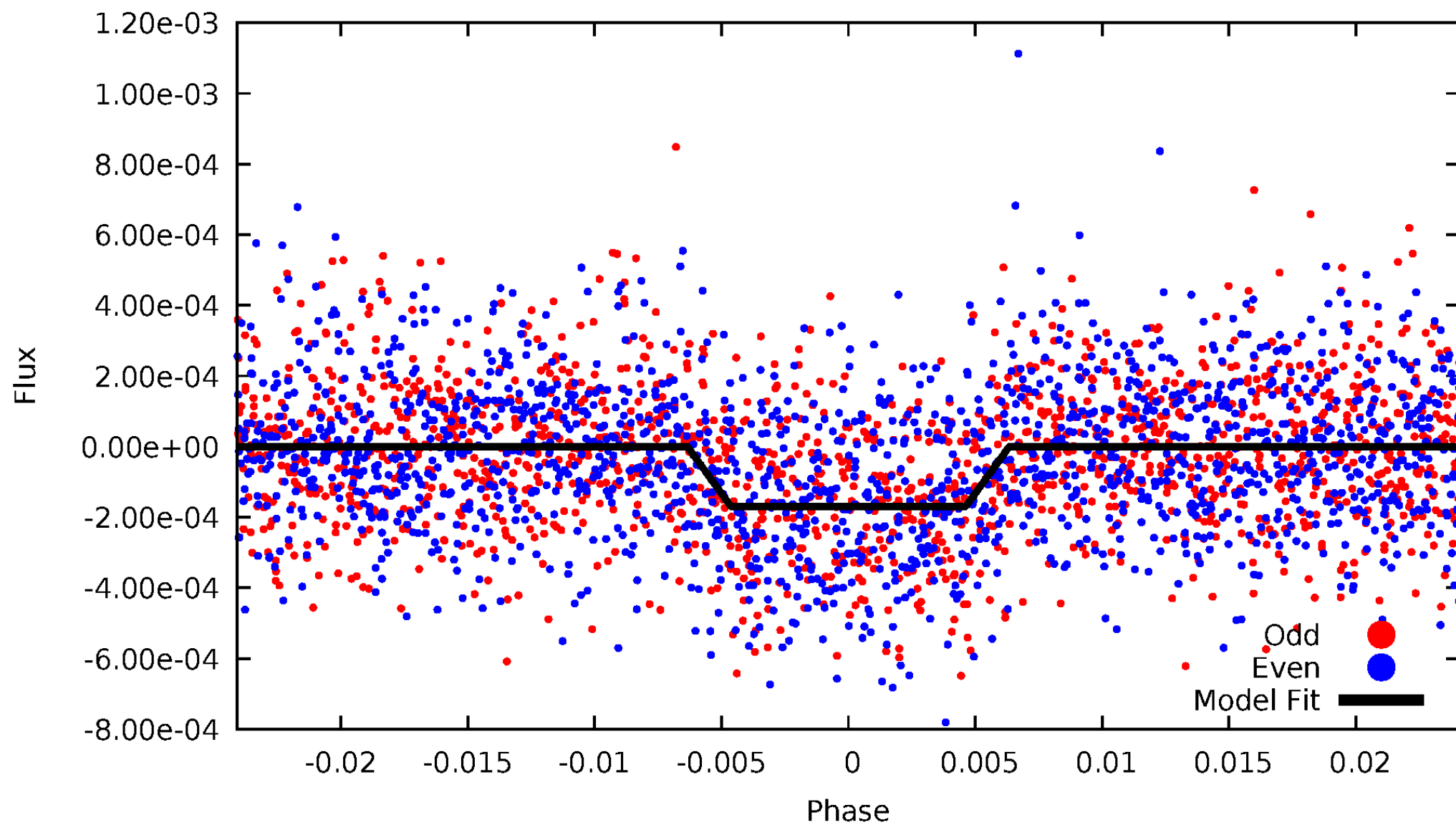
DV Odd/Even

TCE 009458343-01

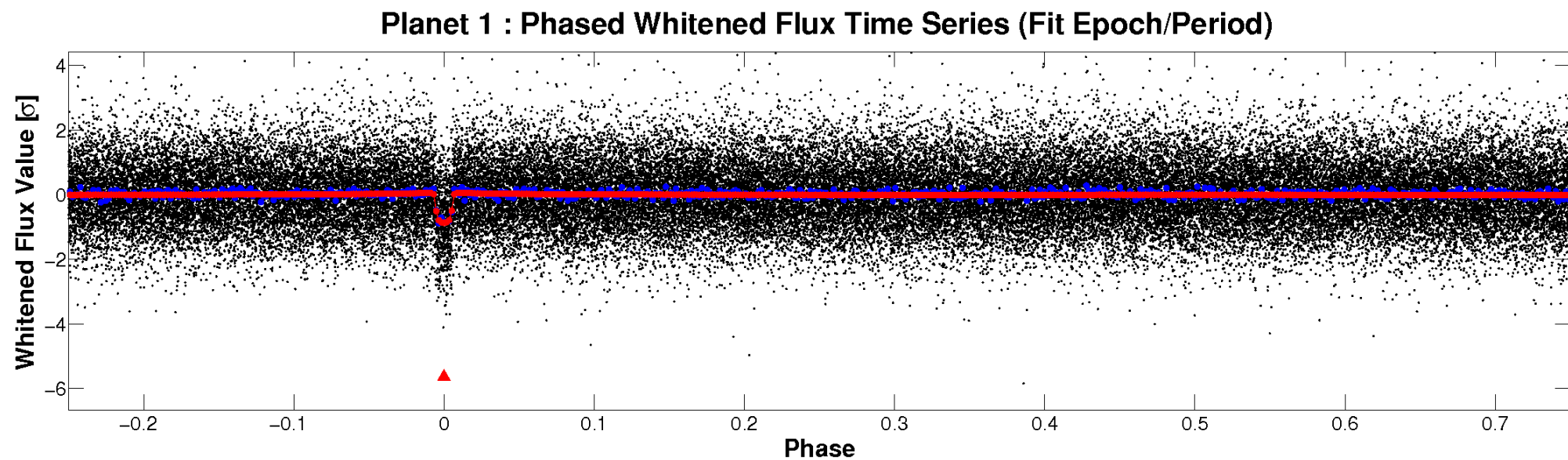
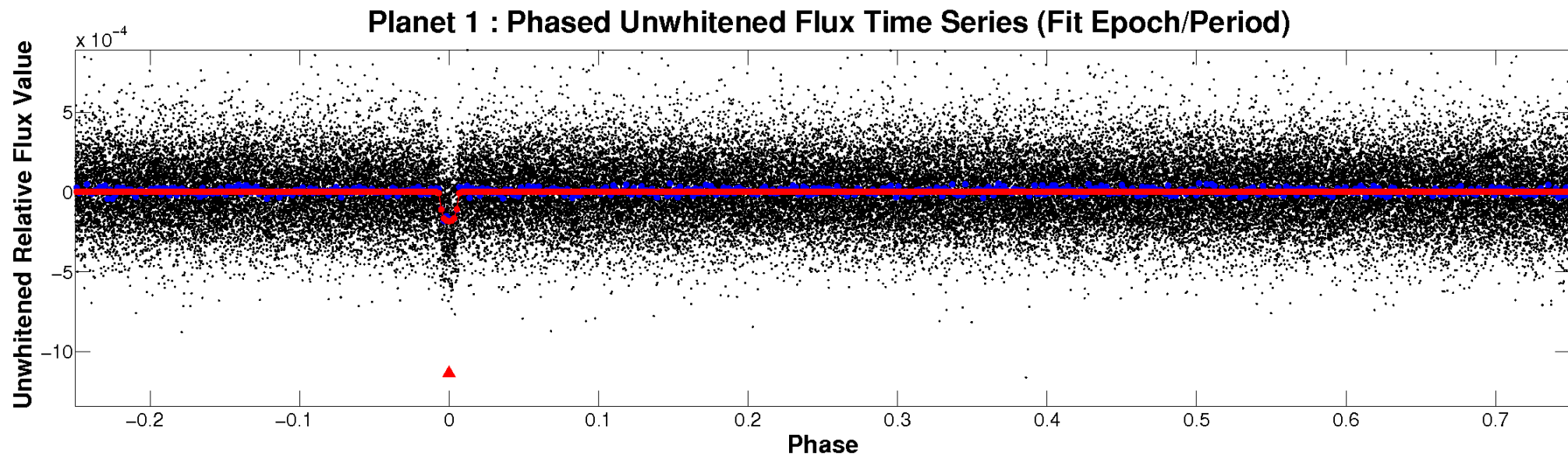


ALT Odd/Even

TCE 009458343-01

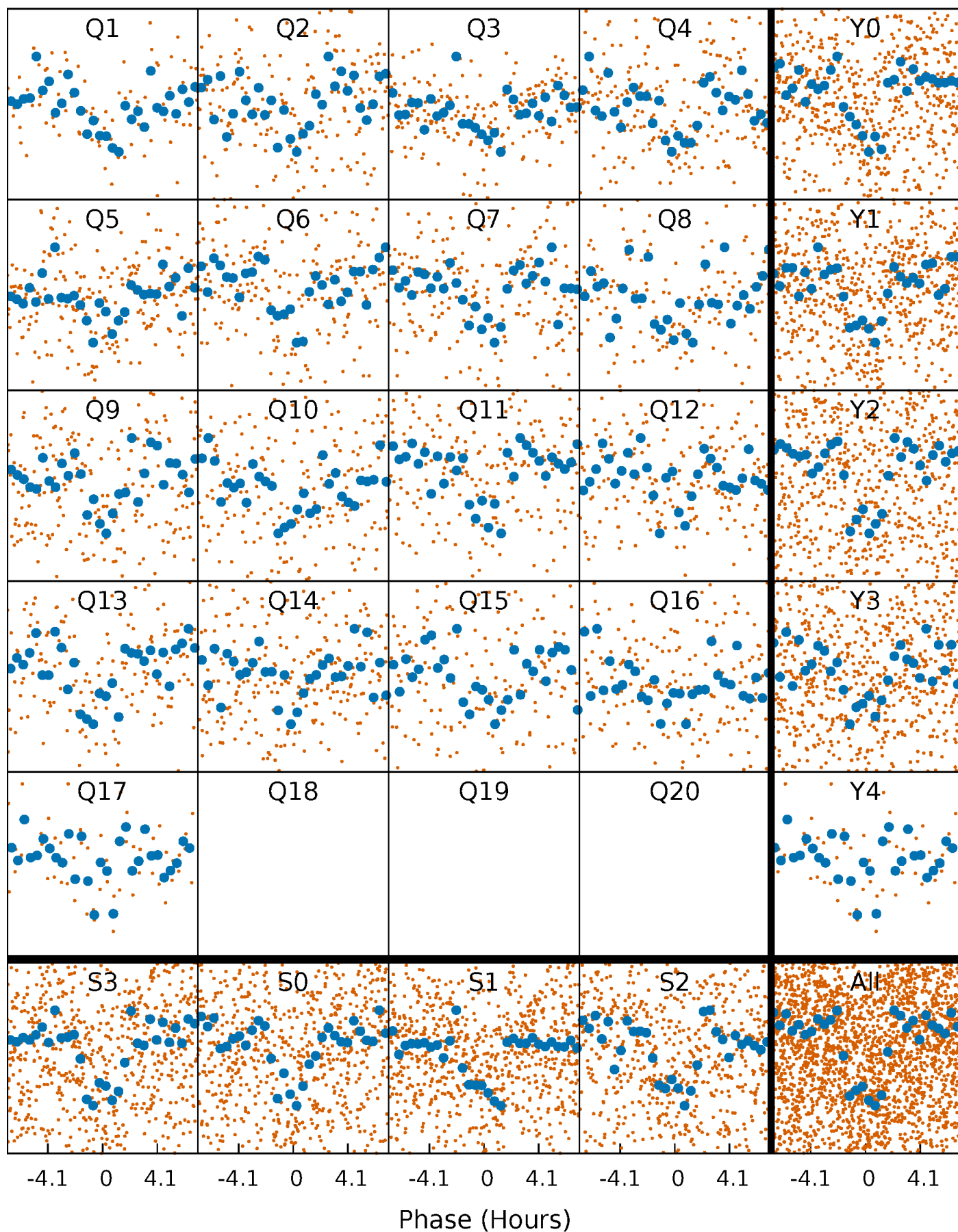


Non-Whitened Vs. Whitened Light Curve



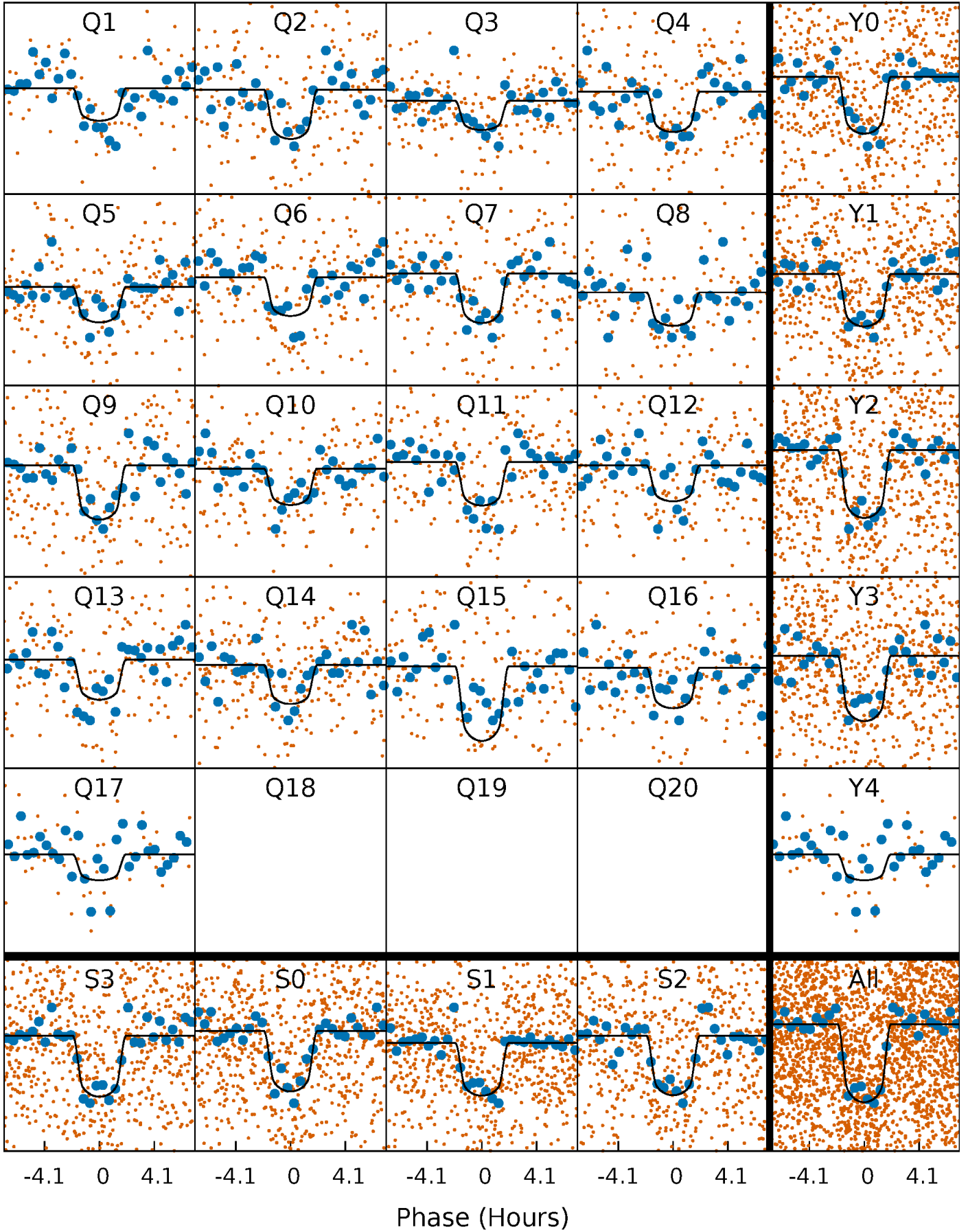
PDC Quarter-Phased Transit Curves

TCE 009458343-01 P= 11.895193 Days $T_0=132.891357$ (BKJD)



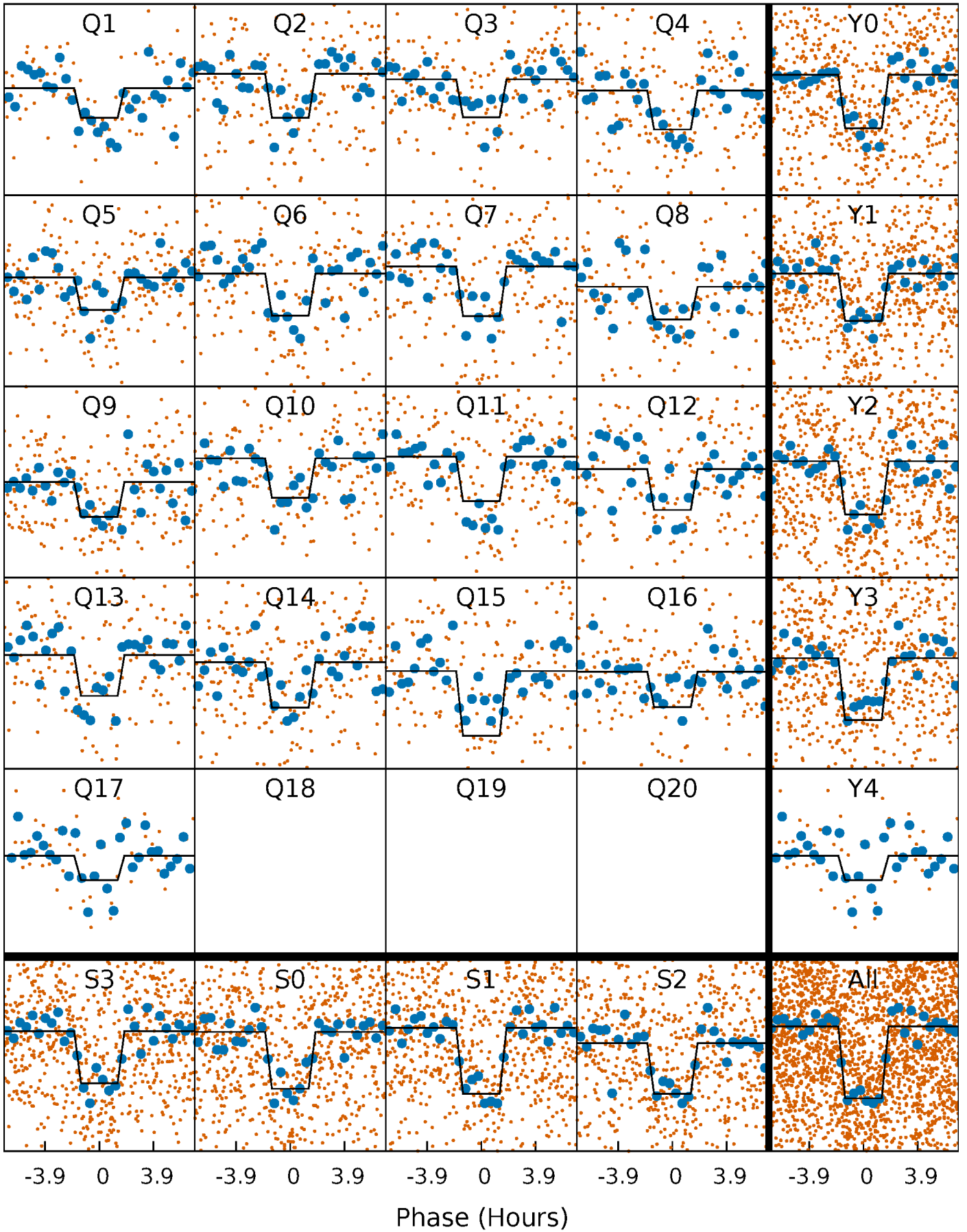
DV Quarter-Phased Transit Curves

TCE 009458343-01 P= 11.895193 Days $T_0=132.891357$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

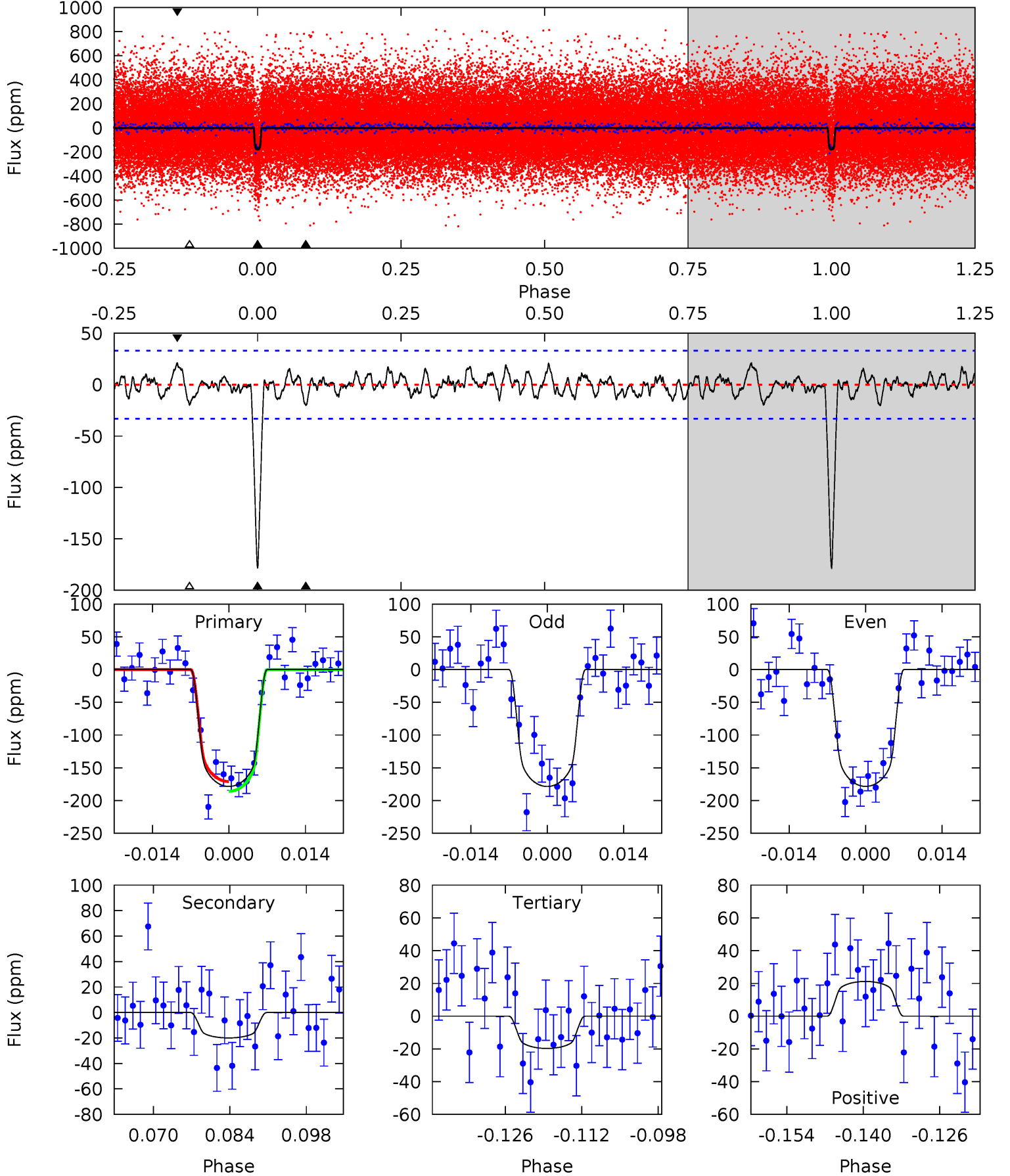
TCE 009458343-01 P= 11.895177 Days $T_0=132.892262$ (BKJD)



DV Model-Shift Uniqueness Test

009458343-01, P = 11.895193 Days, E = 120.996164 Days

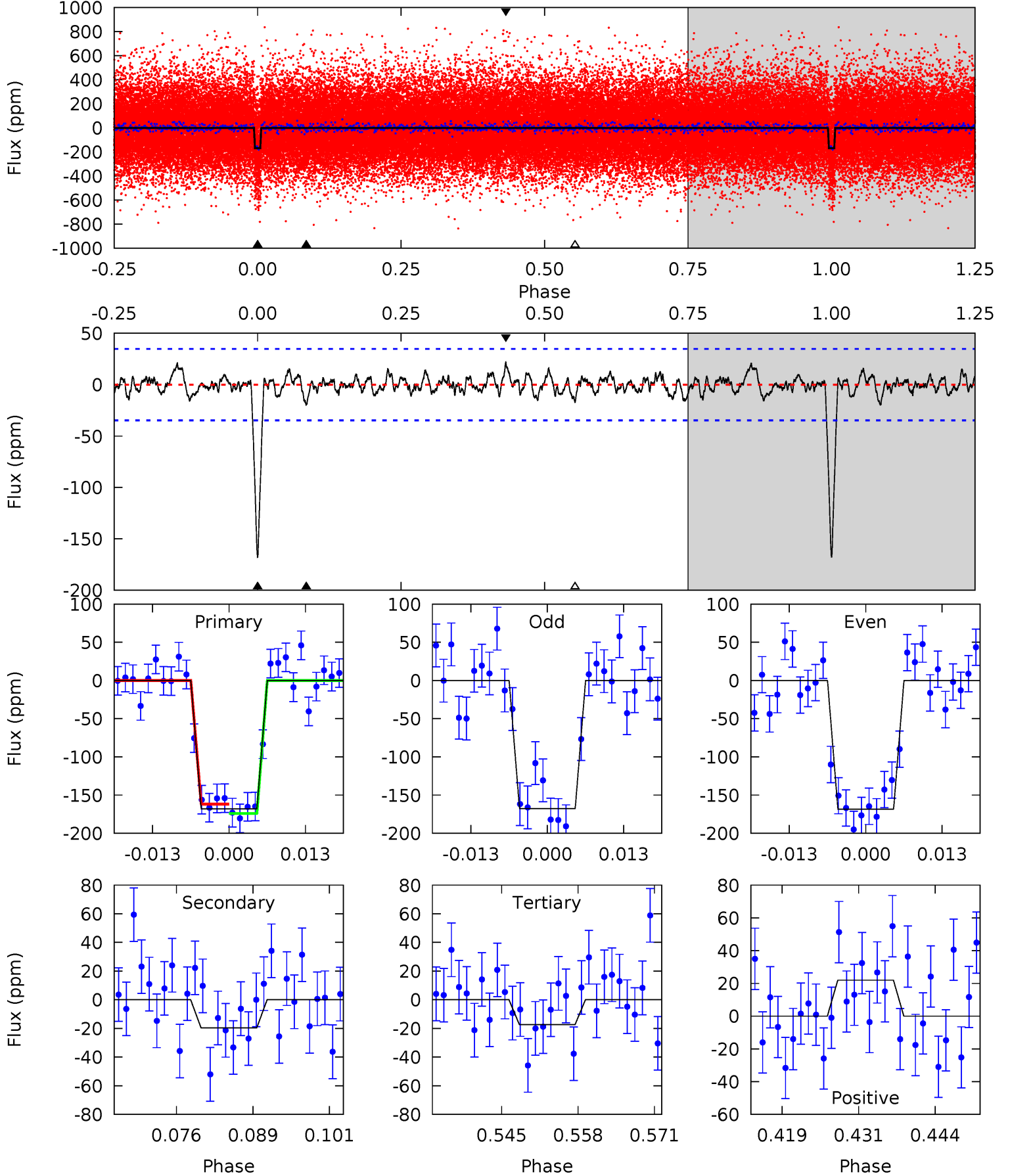
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.8	3.00	2.96	3.18	4.96	2.46	1.13	23.8	23.6	0.04	-0.18	0.01	0.99	0.11	1.12



Alt Model-Shift Uniqueness Test

009458343-01, $P = 11.895177$ Days, $E = 120.997085$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.0	2.81	2.48	3.14	4.98	2.49	0.95	21.6	20.9	0.33	-0.33	0.05	1.03	0.12	0.87



Stellar Parameters For KIC 009458343

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5649^{+112}_{-112}	$4.411^{+0.095}_{-0.105}$	$0.000^{+0.150}_{-0.150}$	$0.992^{+0.145}_{-0.097}$	$0.923^{+0.066}_{-0.053}$	$1.334^{+0.487}_{-0.422}$
	+2%/-2%	+2%/-2%	+inf%/-inf%	+15%/-10%	+7%/-6%	+36%/-32%
Source	SPE57	SPE57	SPE57	DSEP		

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

Secondary Eclipse Parameters for KIC 009458343-01 / KOI 2246.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-20 ± 7	$1.65^{+0.34}_{-0.35}$	1098^{+47}_{-39}	3521^{+312}_{-313}	39^{+28}_{-17}
Alt.	-20 ± 7	$1.43^{+0.36}_{-0.34}$	1101^{+49}_{-41}	3660^{+419}_{-307}	50^{+42}_{-22}

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 $A_{obs} \gg 1.0$

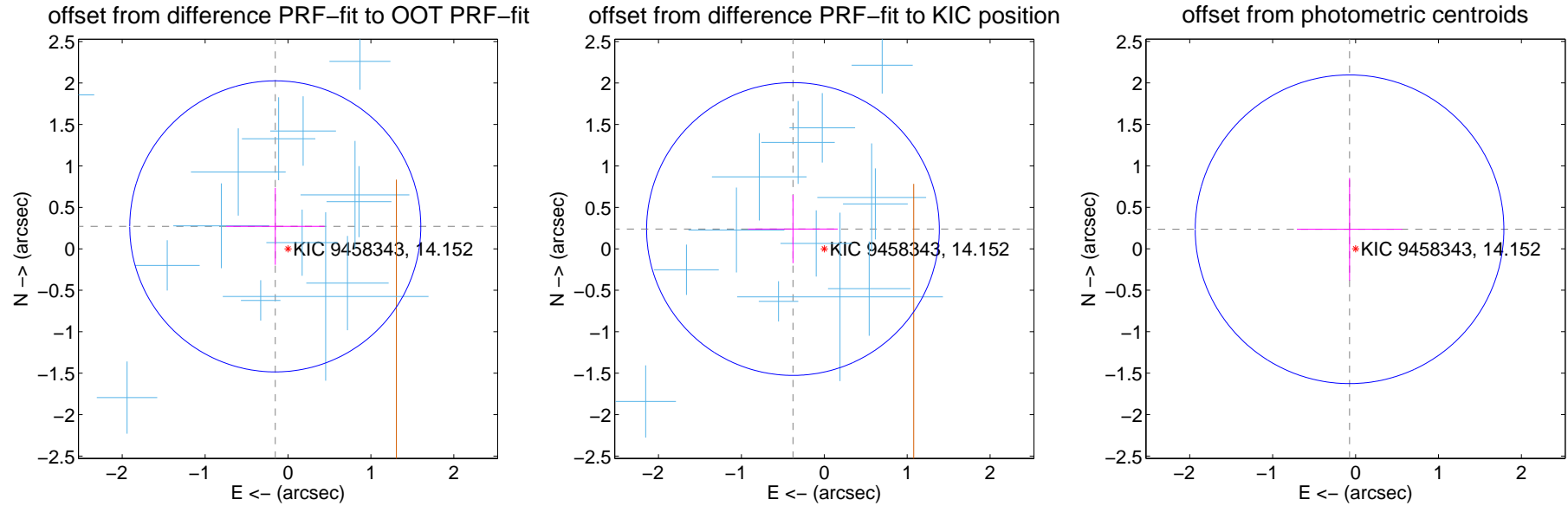
DV Centroid Data

Supplemental centroid analysis for 009458343-01. Kepler magnitude: 14.15. Transit SNR 20.40

There are 14 quarters with good PRF difference image offsets

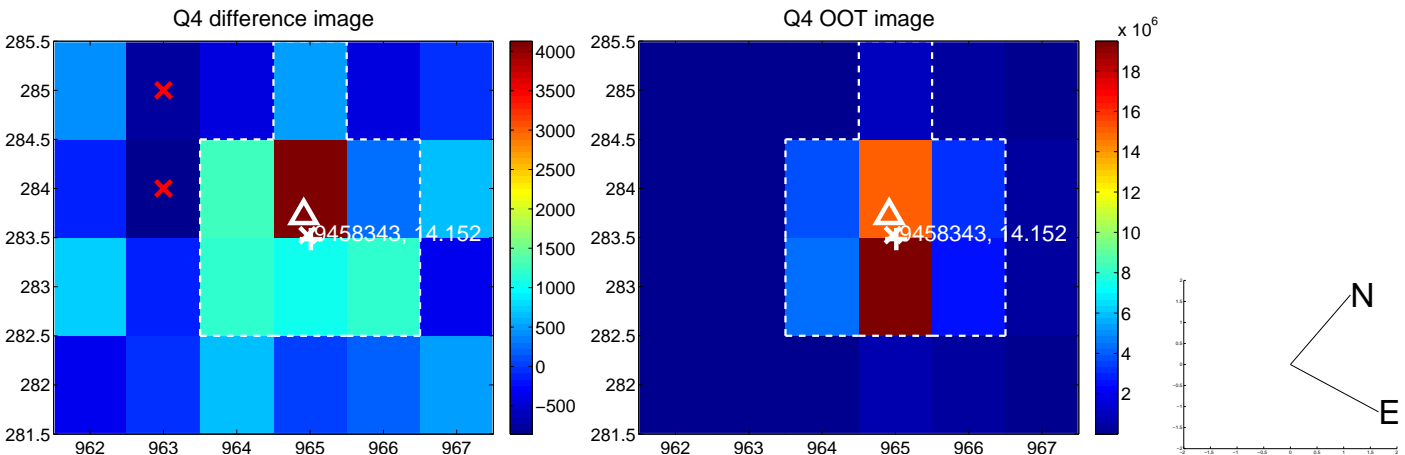
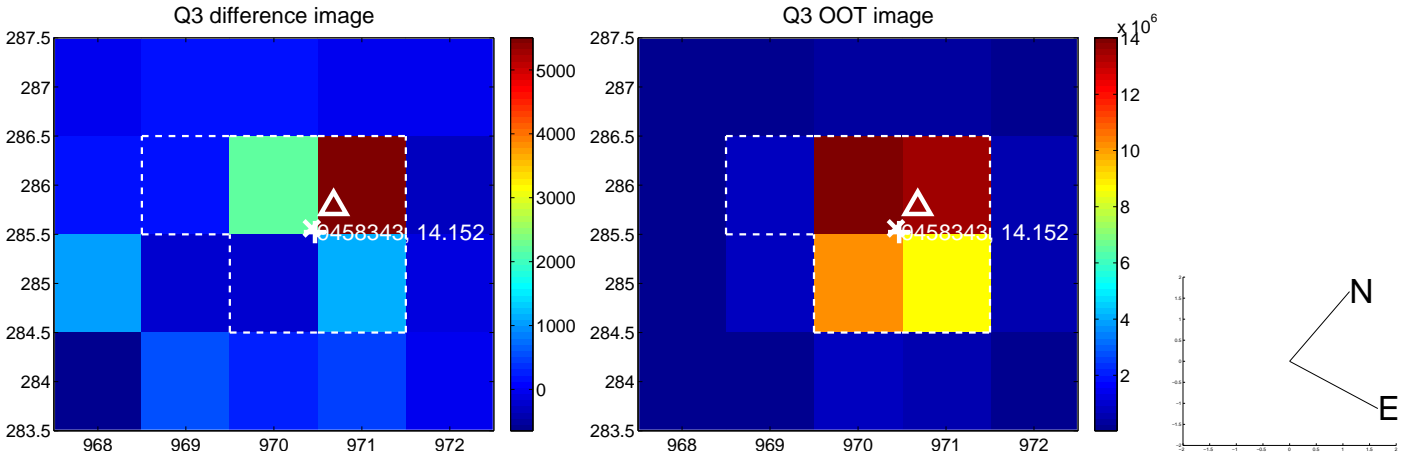
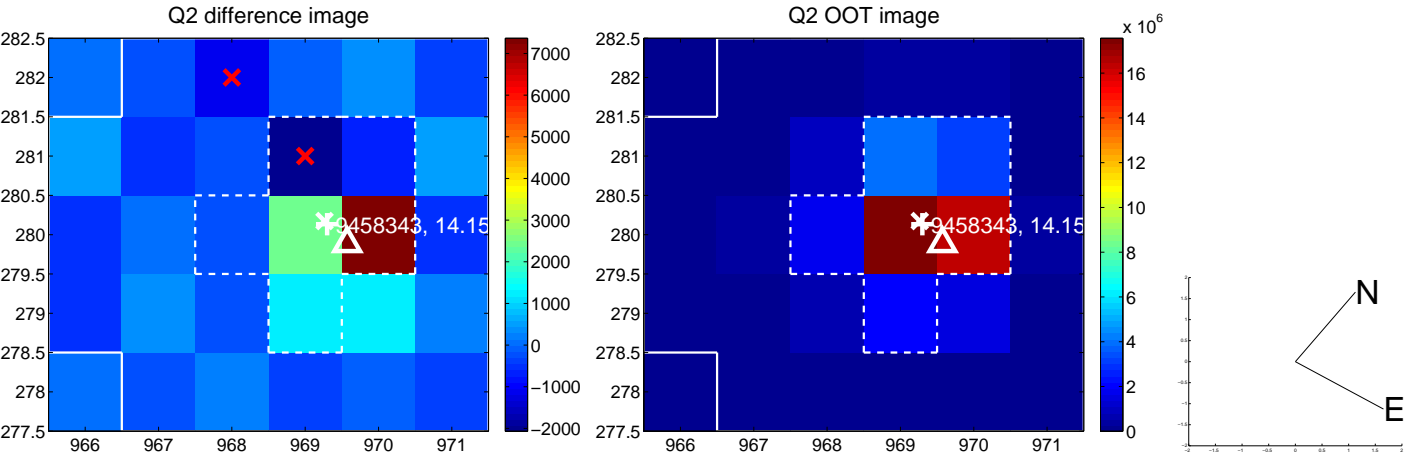
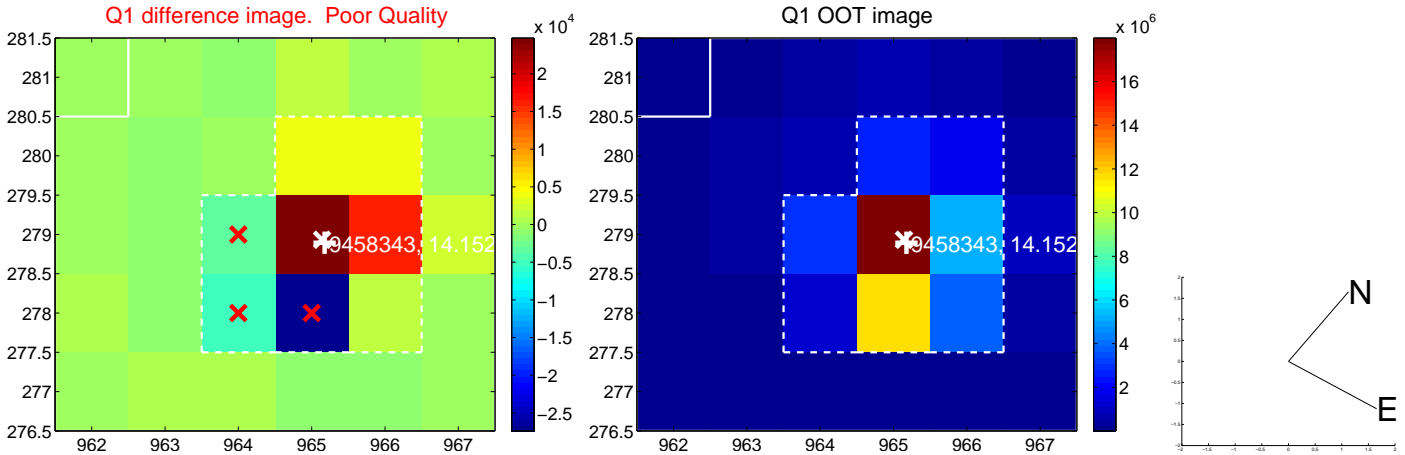
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.311 ± 0.585	0.53	0.153 ± 0.593	0.271 ± 0.464
PRF-fit source offset from KIC position	0.447 ± 0.588	0.76	0.378 ± 0.541	0.239 ± 0.412
photometric centroid source offset	0.25 ± 0.62	0.40	0.07 ± 0.63	0.23 ± 0.62

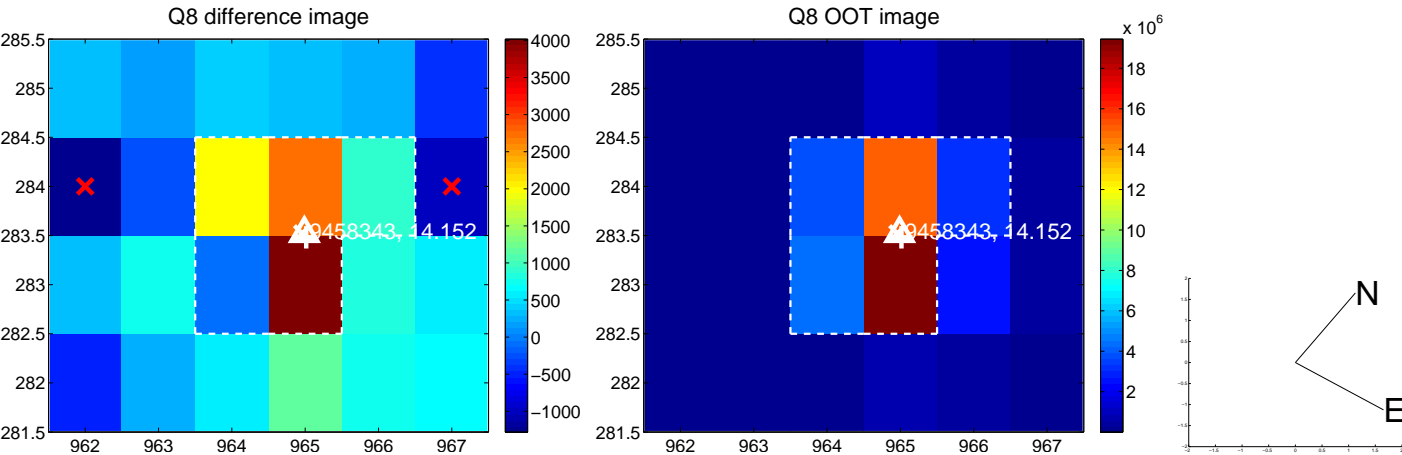
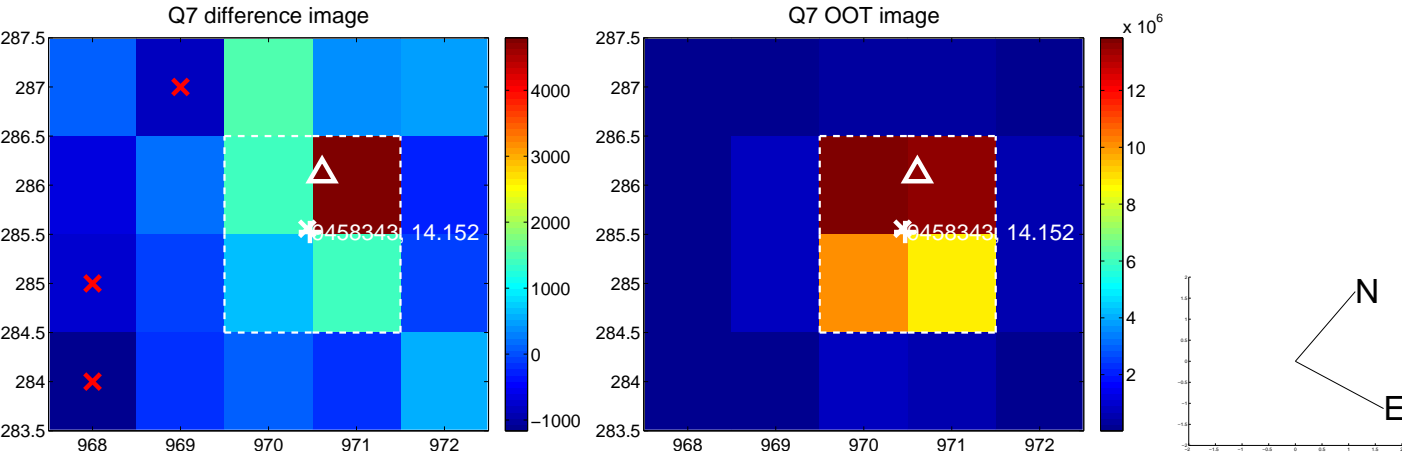
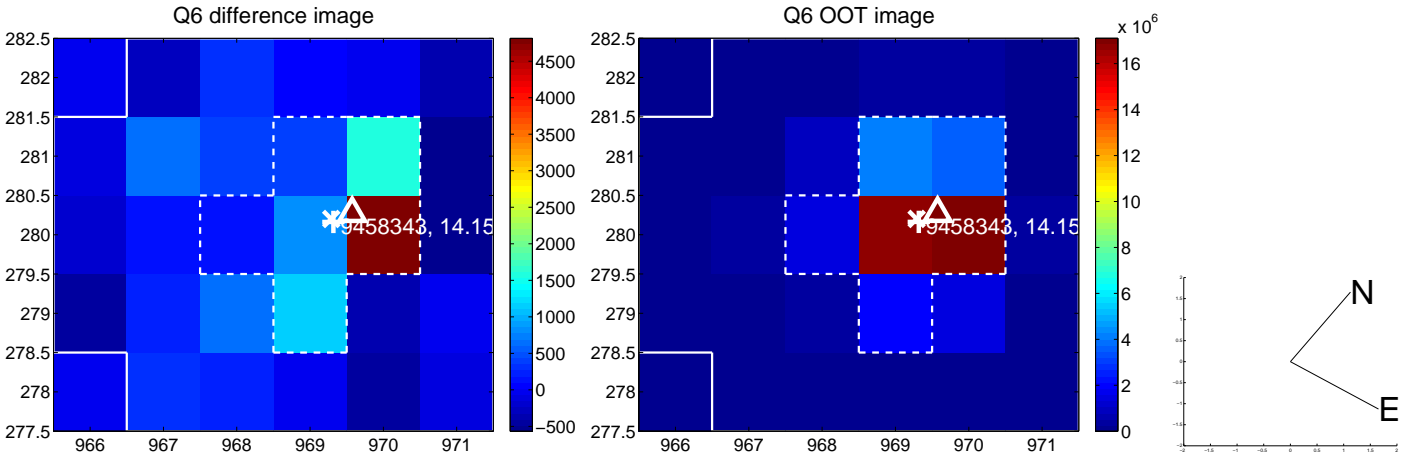
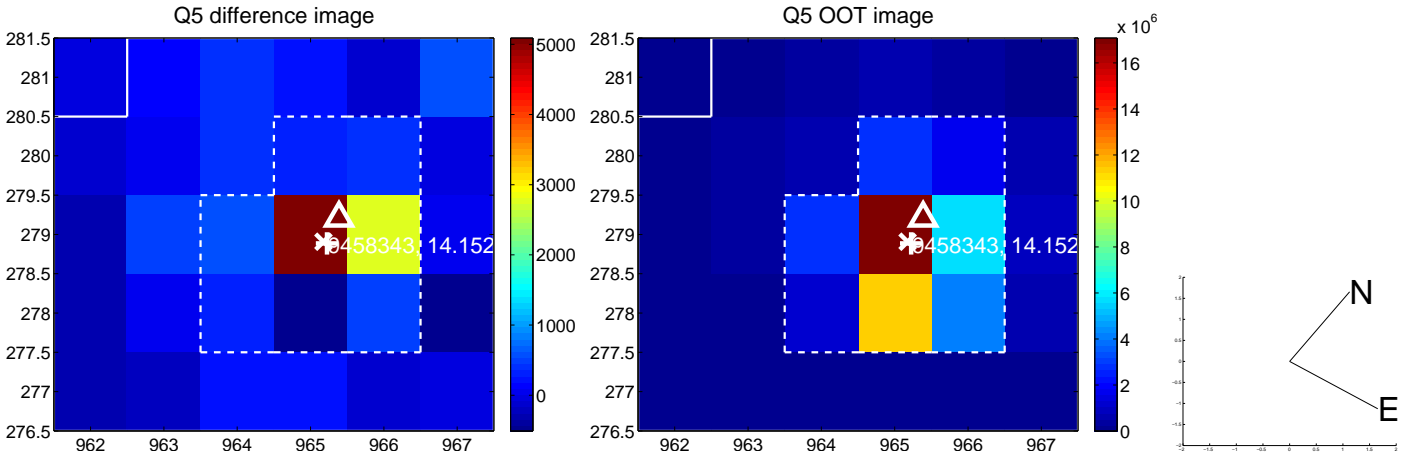


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

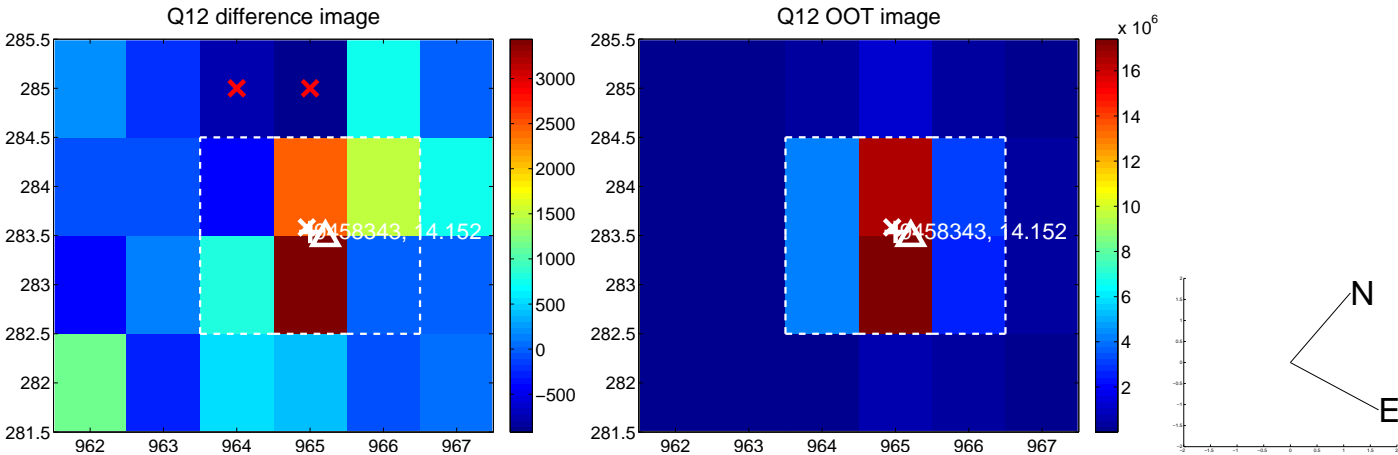
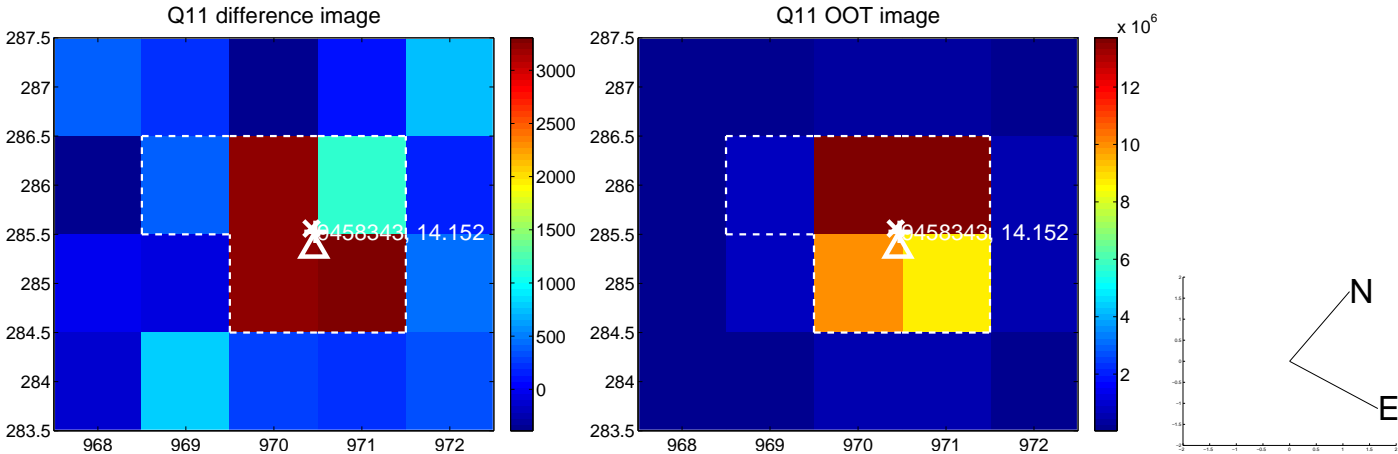
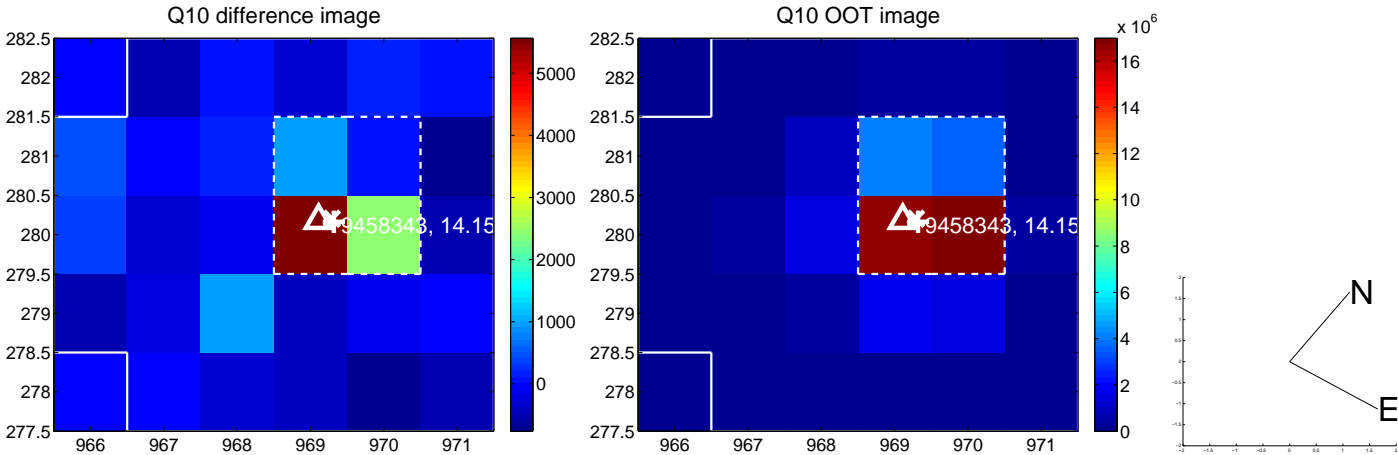
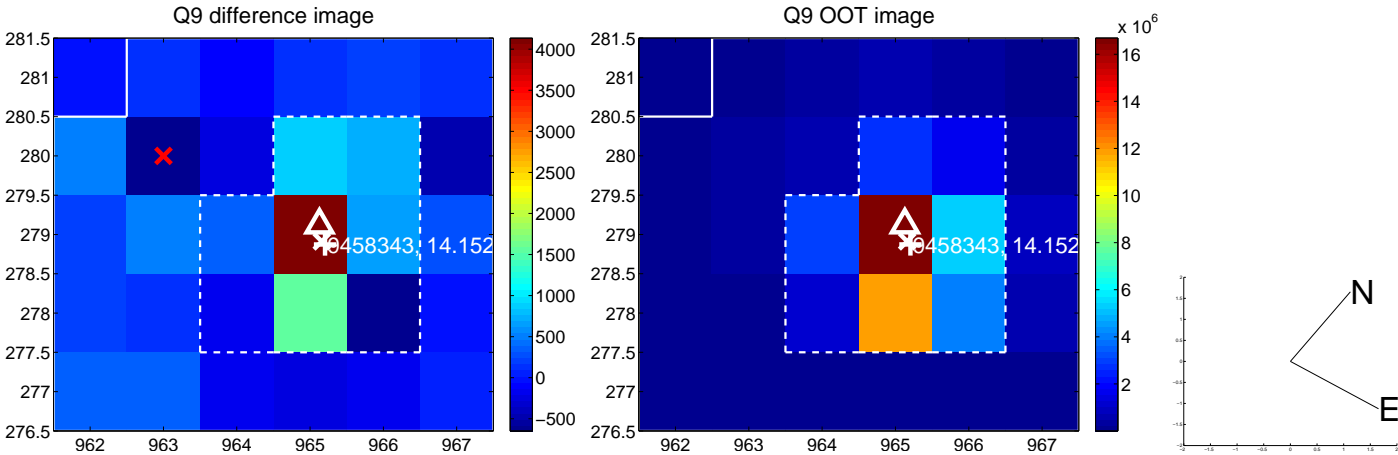
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



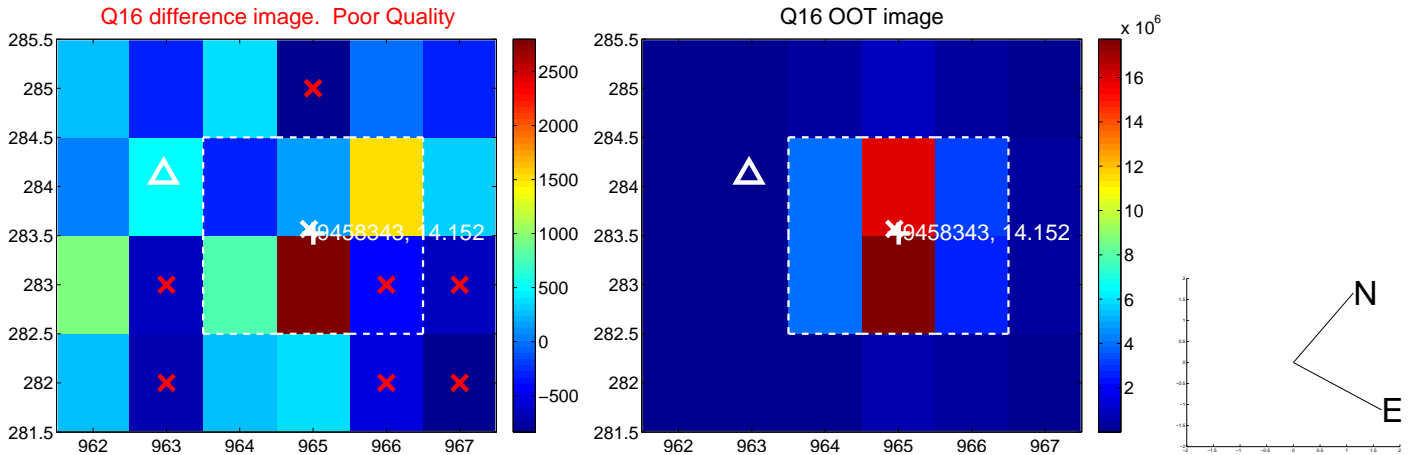
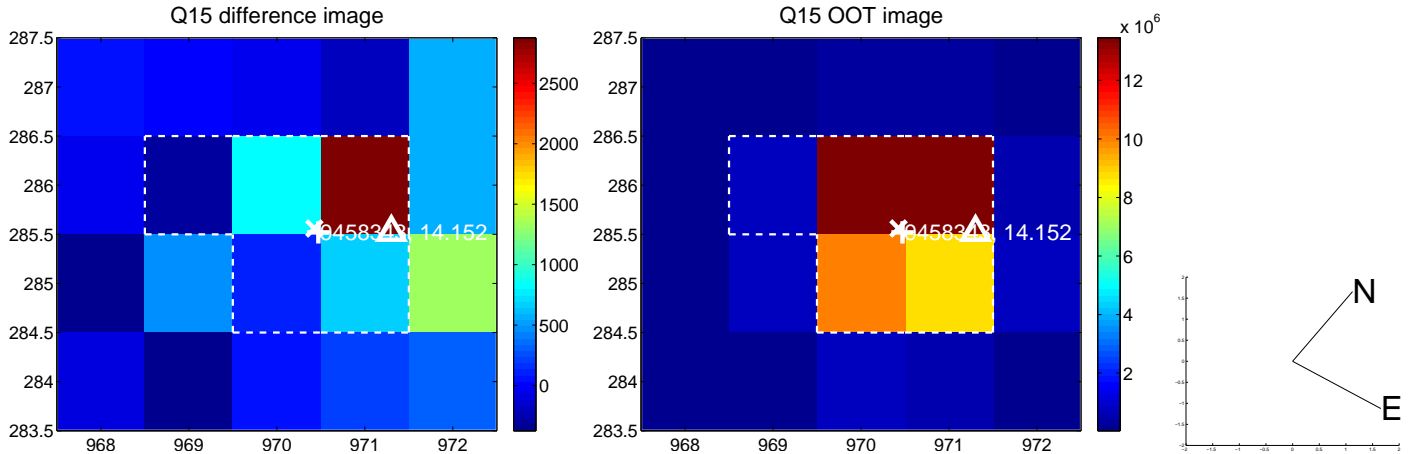
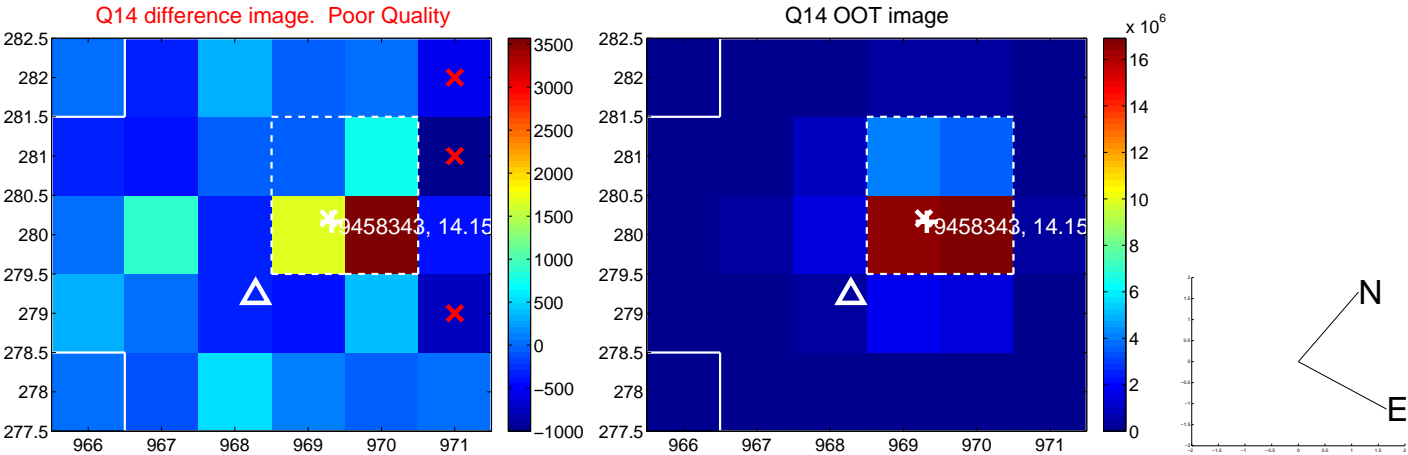
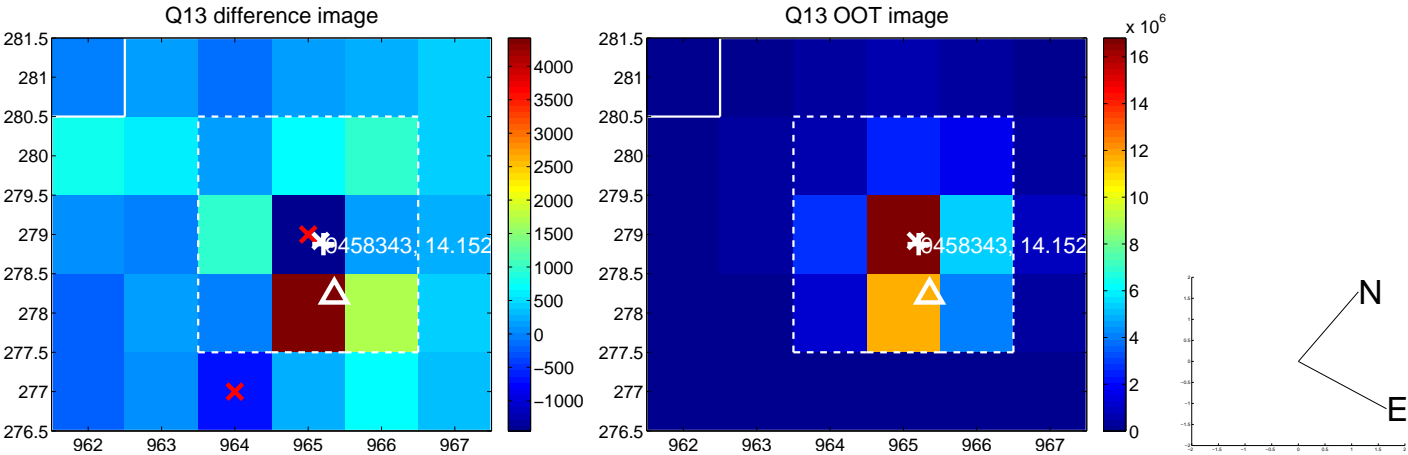
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



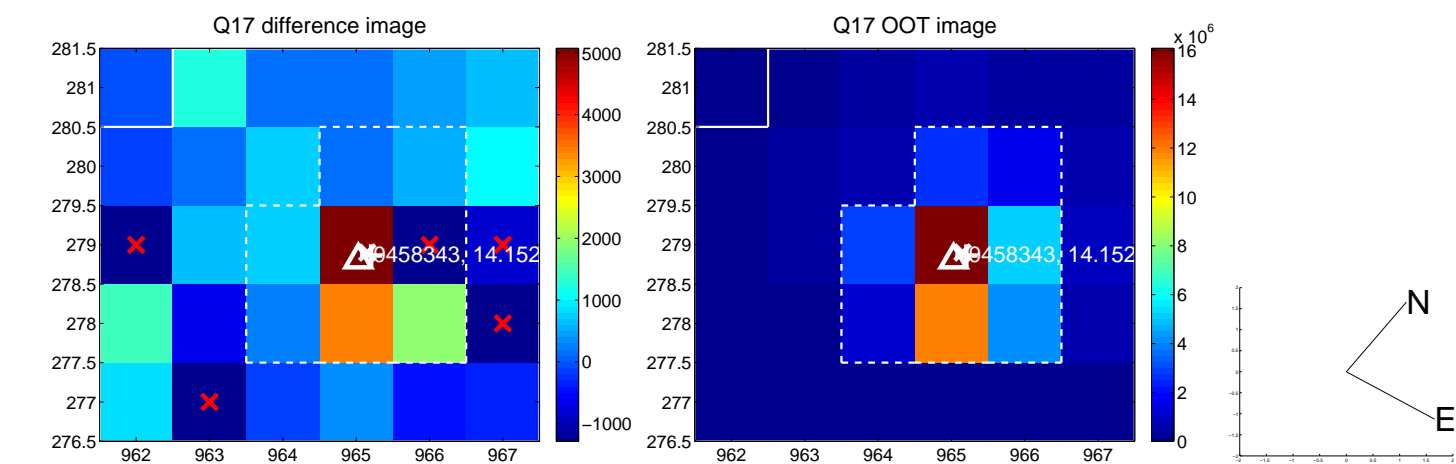
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



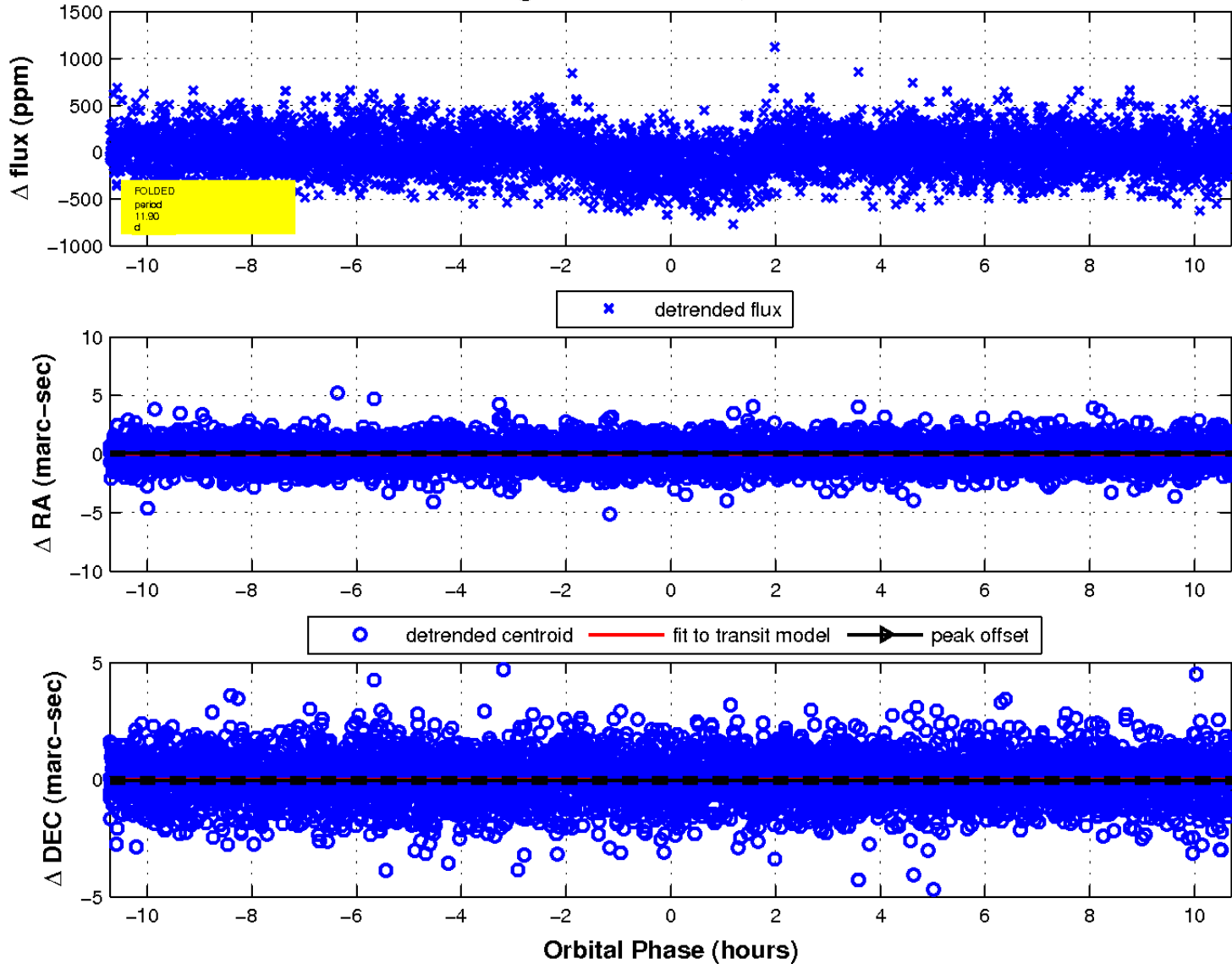
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

