

KIC 009656252

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})
009656252-01	OBS	2044.01	16.923476	145.812379	1119.1	4.347	32.0	34.8	0.99	5786	3.67	57.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009656252-01	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.

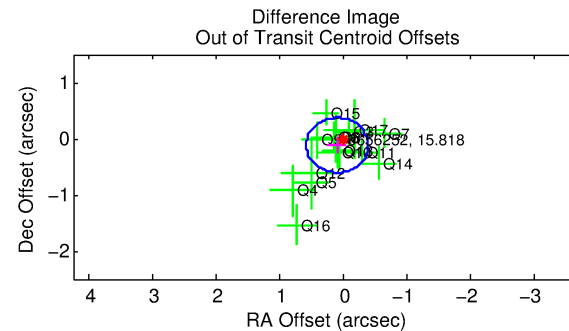
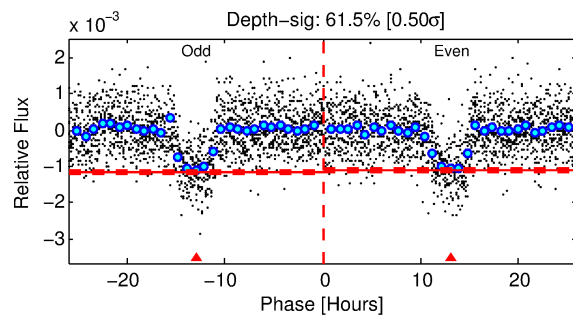
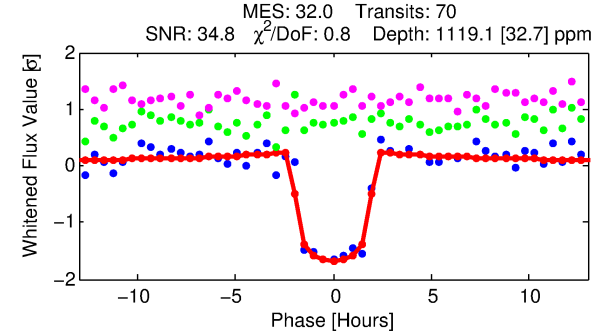
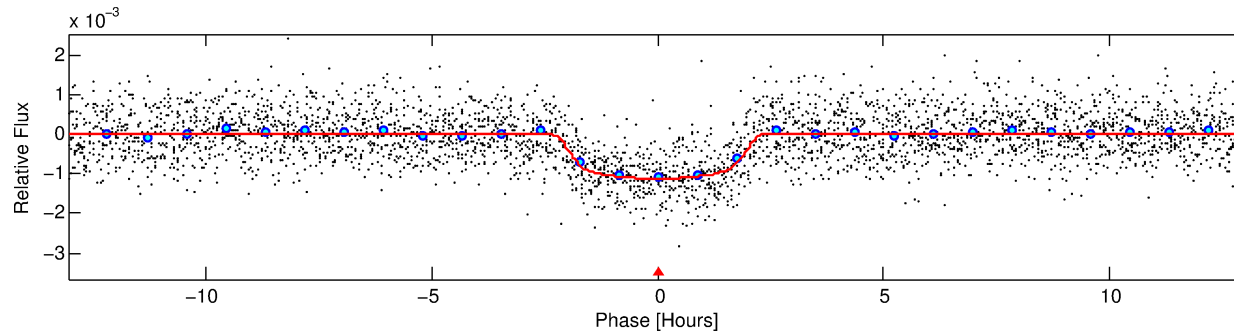
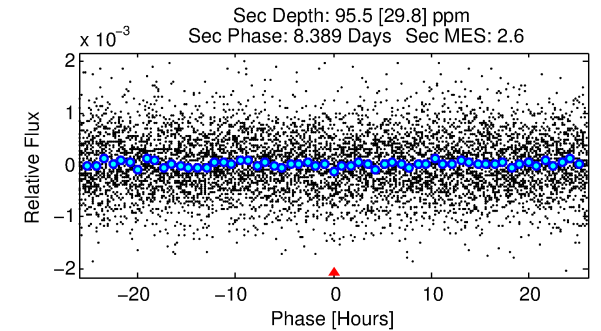
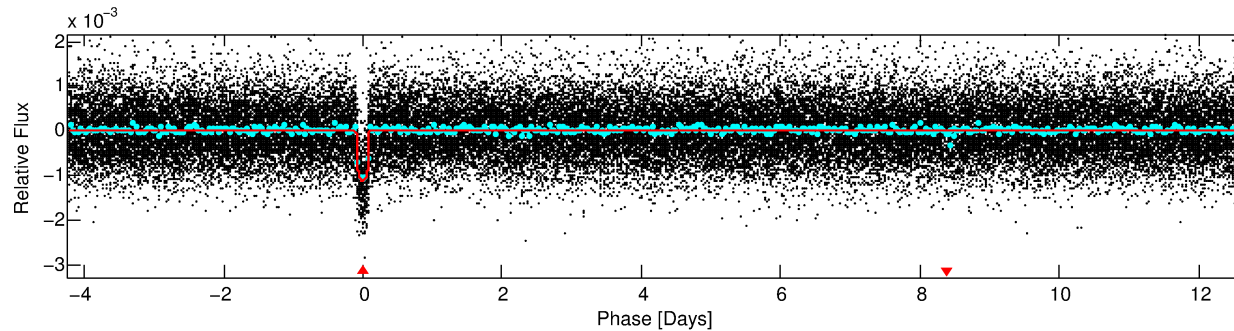
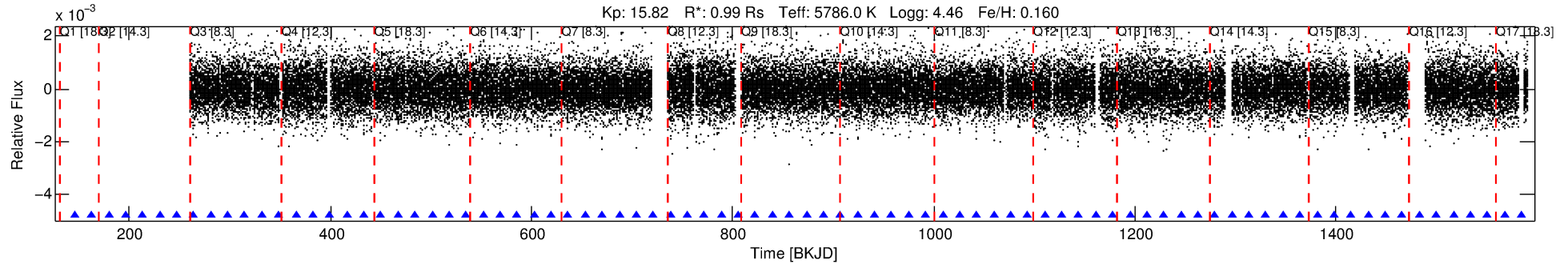
Ephemeris Match Information For 009656252-01

No Significant Match Found

DV One-Page Summary

KIC: 9656252 Candidate: 1 of 1 Period: 16.923 d

KOI: K02044.01 Corr: 0.966



DV Fit Results:

Period = 16.92348 [0.00006] d
Epoch = 145.8124 [0.0029] BKJD
Rp/R* = 0.0340 [0.0039]
a/R* = 19.68 [9.57]
b = 0.79 [0.23]
Seff = 57.48 [12.50]
Teq = 702 [38] K
Rp = 3.67 [0.69] Re
a = 0.1309 [0.0177] AU
Ag = 66.73 [29.36] [2.24σ]
Teffp = 3103 [304] K [7.84σ]

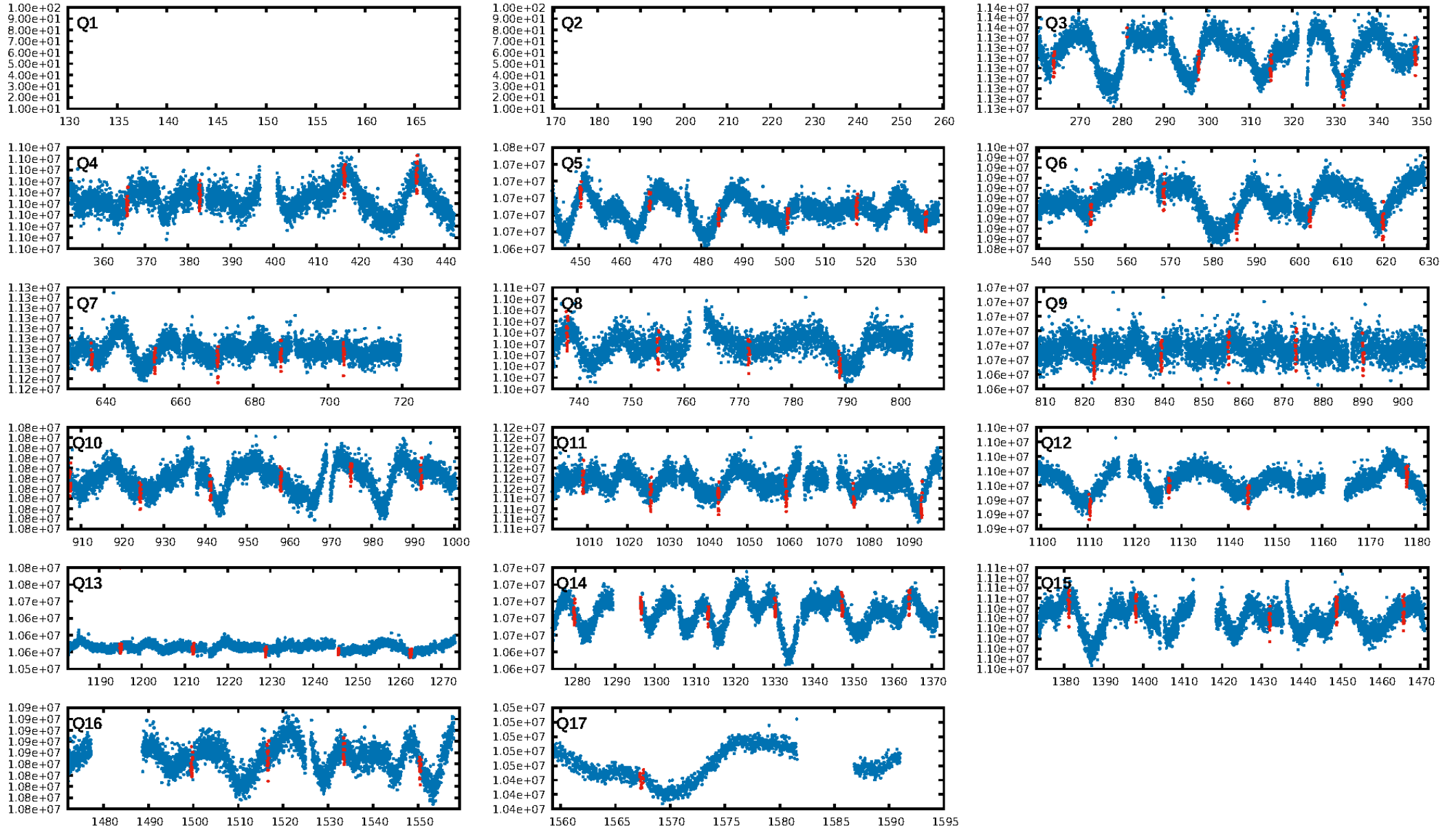
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.06e-218
RollingBand-fgt: 1.00 [69/69]
GhostDiagnostic-chr: 8.059
Centroid-sig: 0.1%
Centroid-so: 0.641 arcsec [2.11σ]
OotOffset-rm: 0.154 arcsec [0.95σ]
KicOffset-rm: 0.122 arcsec [0.88σ]
OotOffset-st: 3/4/4/4 [15]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 1.00 [15/15]
DiffImageOverlap-fno: 1.00 [15/15]

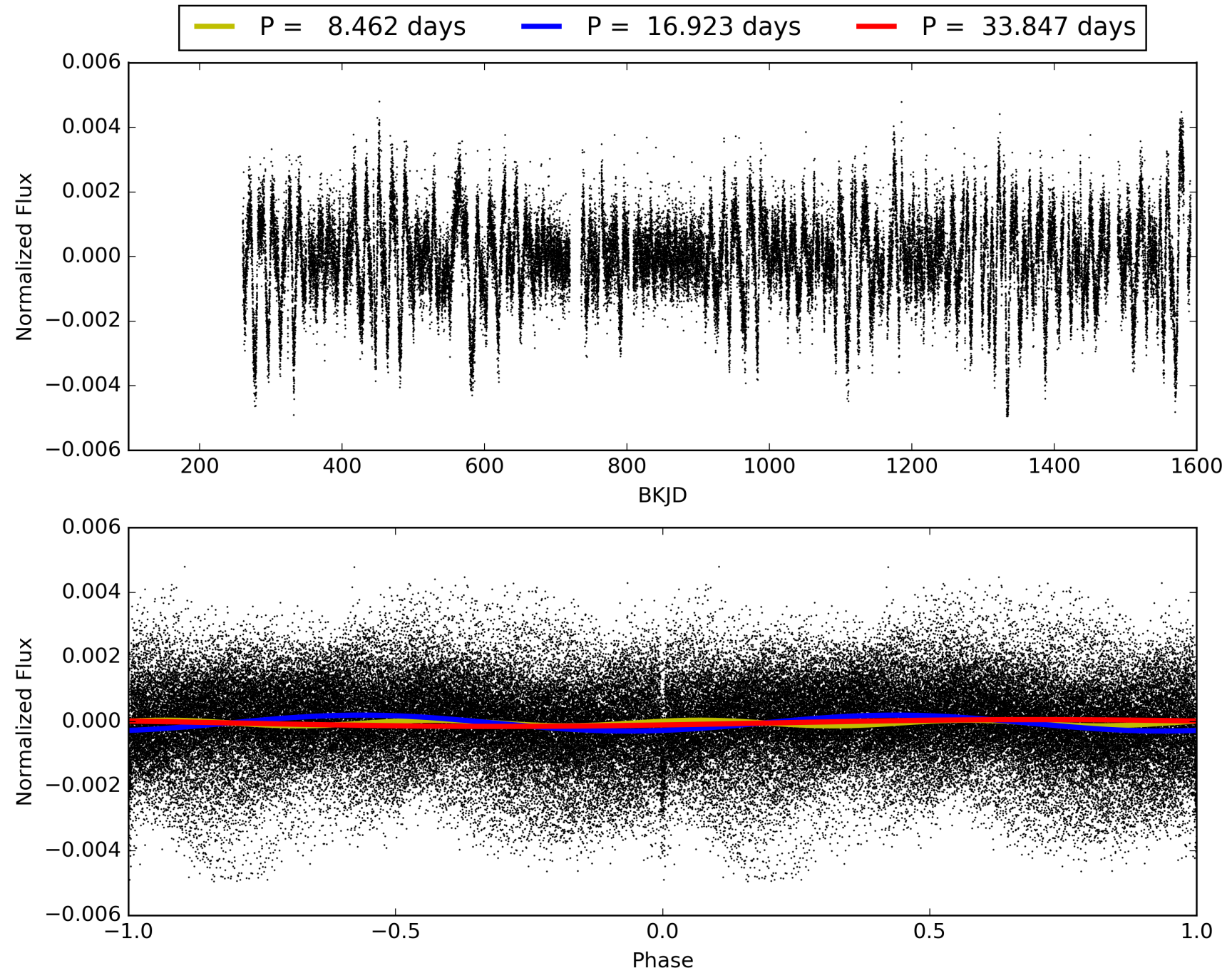
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 16:11:12 Z

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

TCE 009656252-01, PDC Light Curves

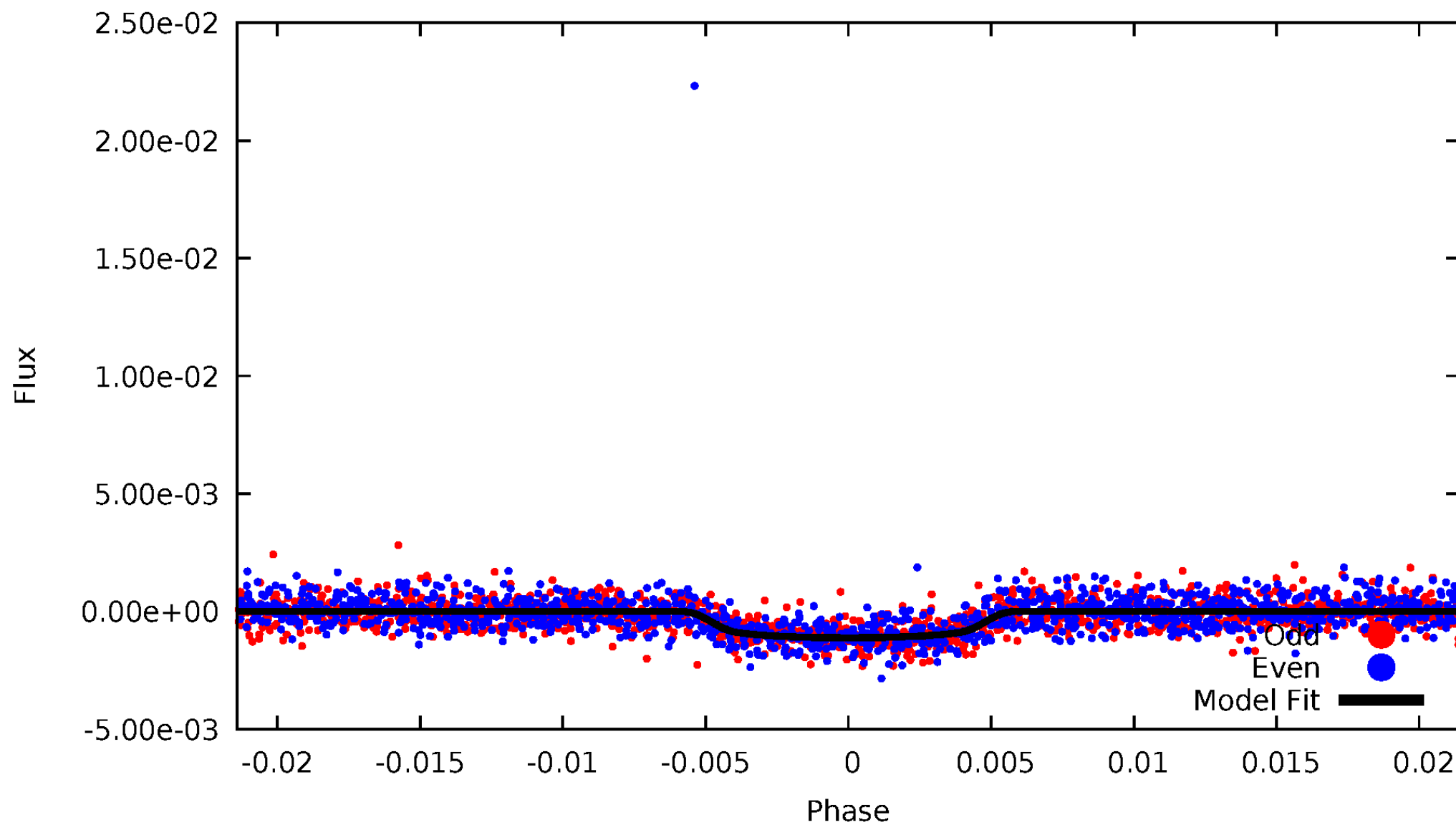


TCE 009656252-01



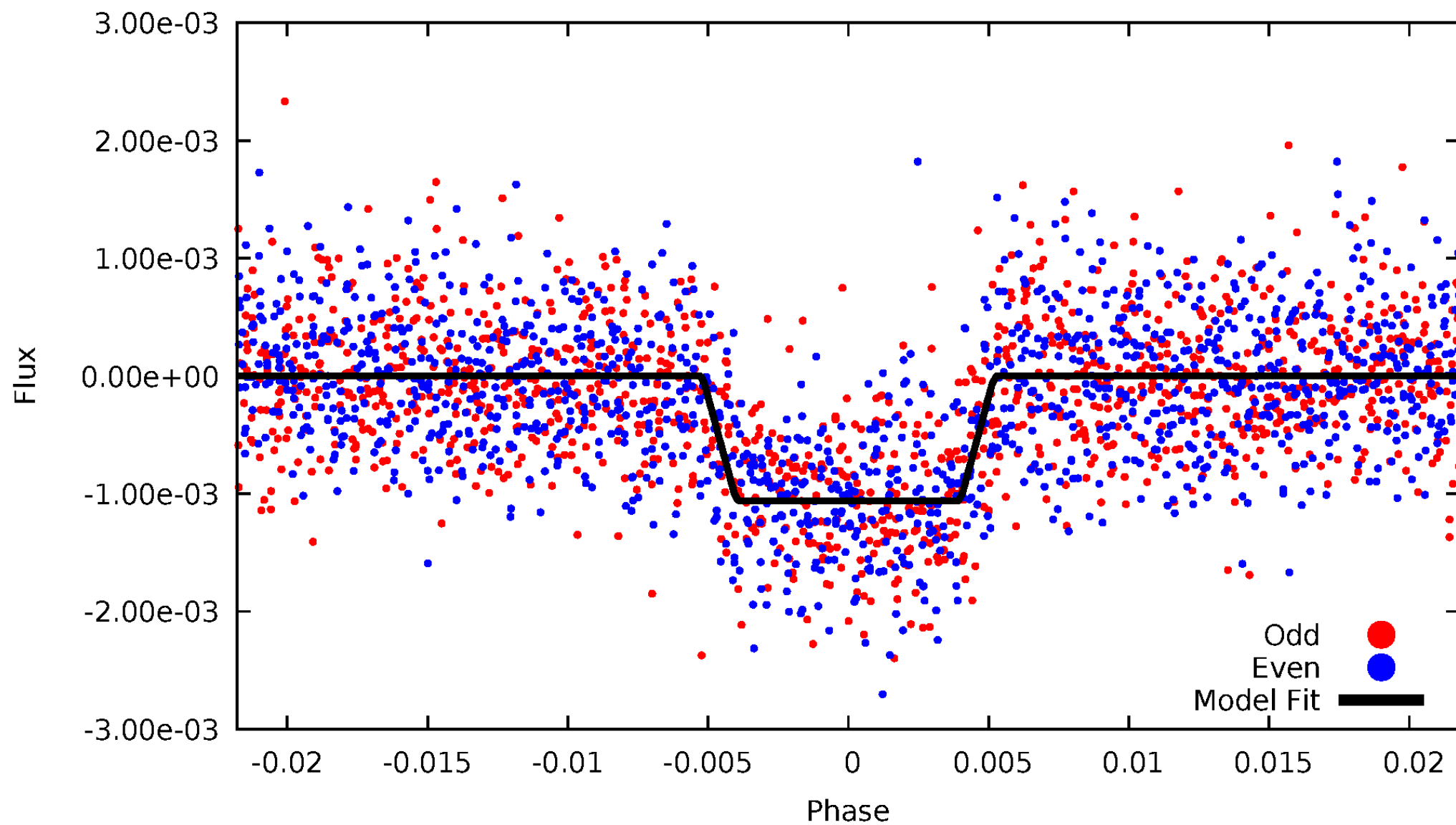
DV Odd/Even

TCE 009656252-01



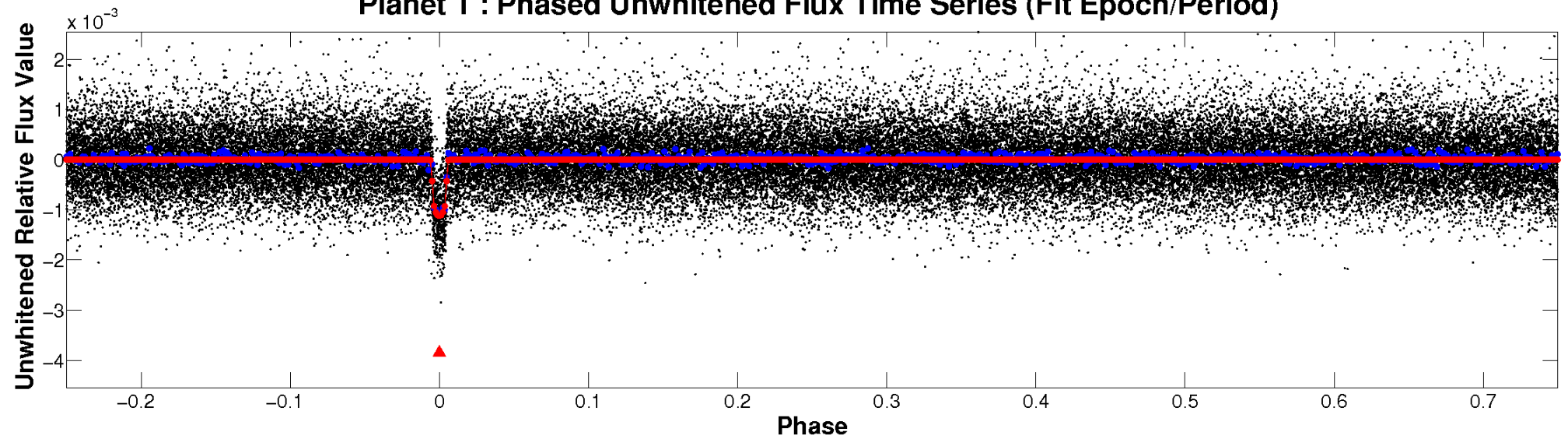
ALT Odd/Even

TCE 009656252-01

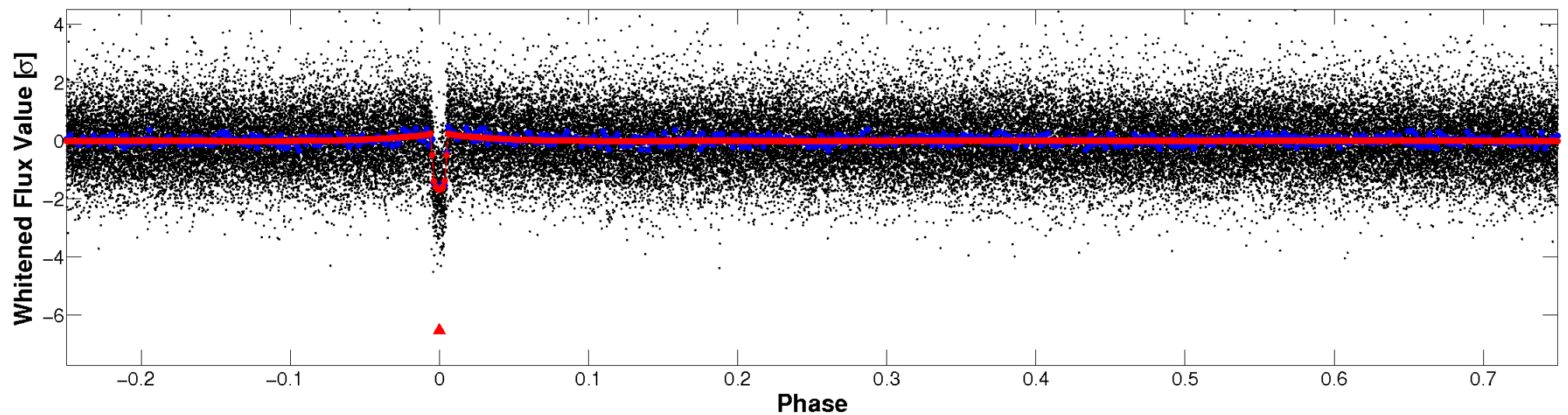


Non-Whitened Vs. Whitened Light Curve

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

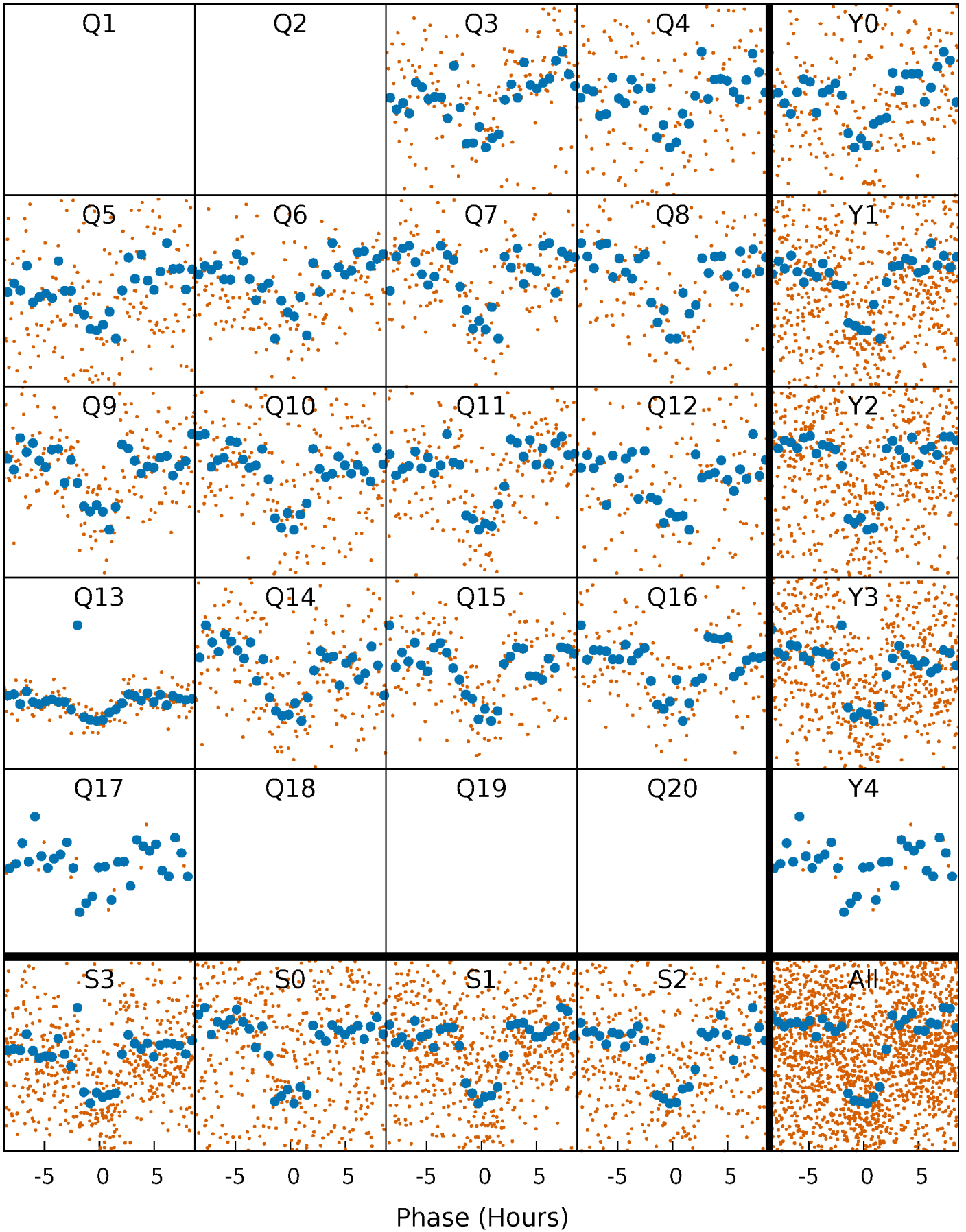


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



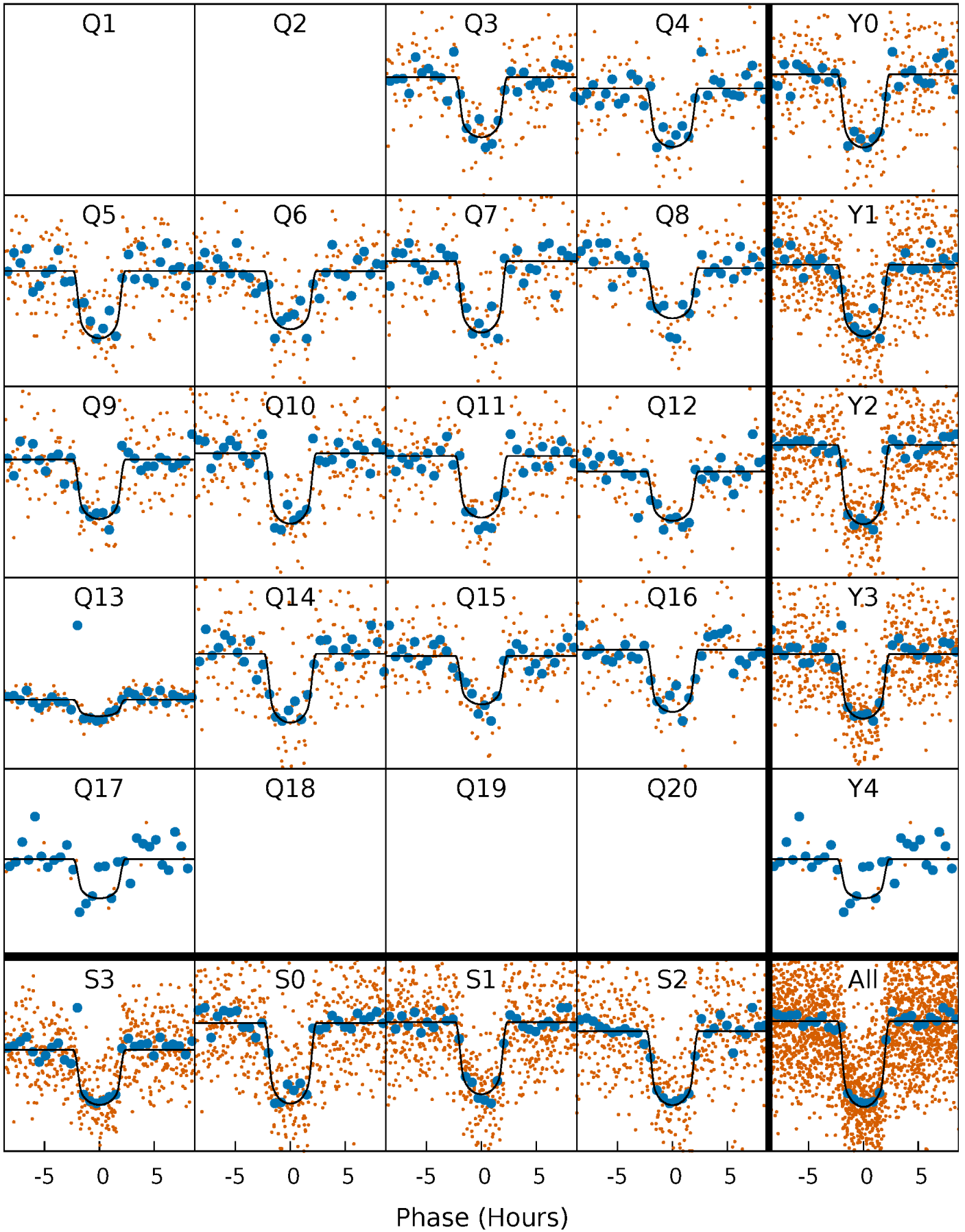
PDC Quarter-Phased Transit Curves

TCE 009656252-01 P= 16.923476 Days $T_0=145.812379$ (BKJD)



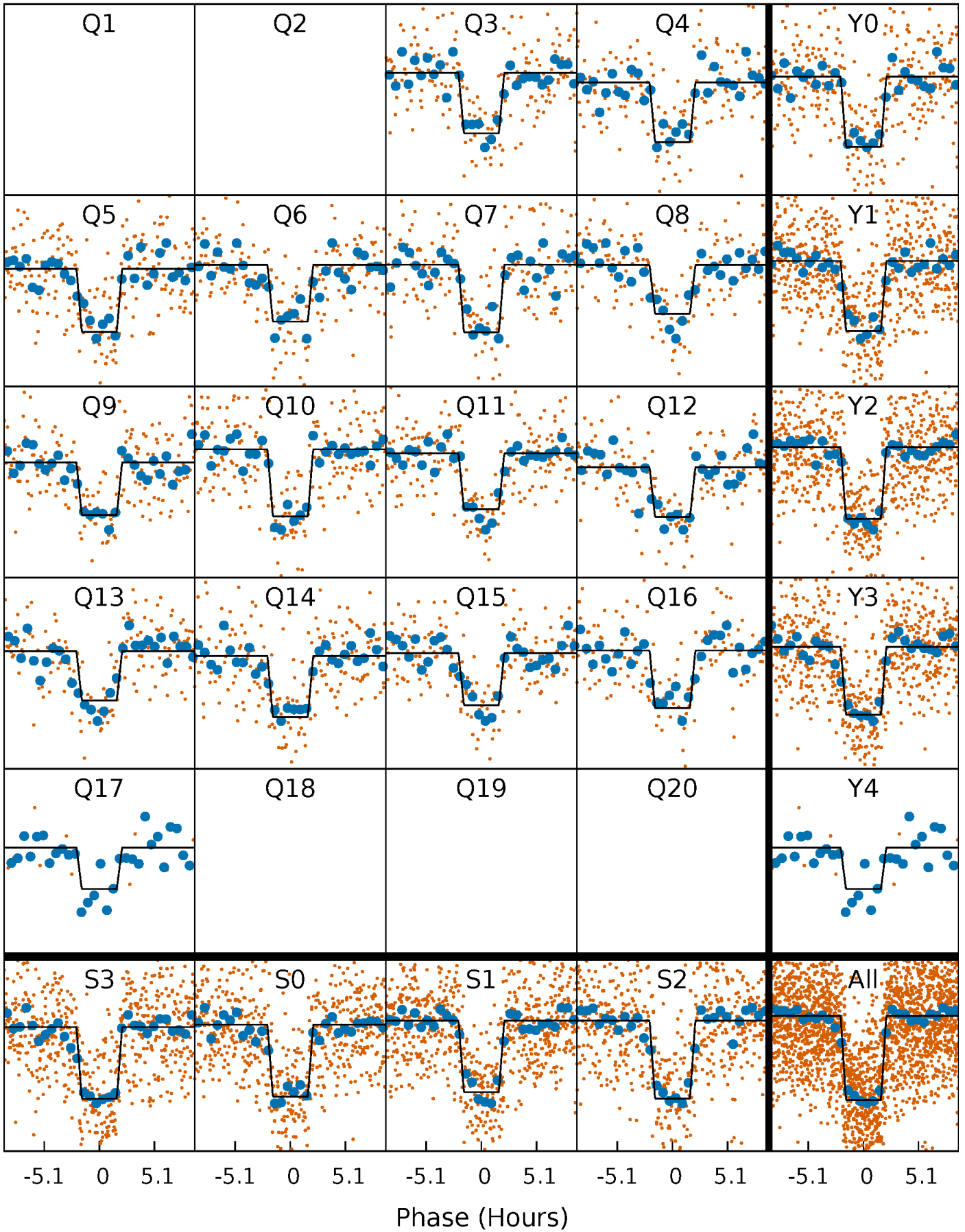
DV Quarter-Phased Transit Curves

TCE 009656252-01 P= 16.923476 Days $T_0=145.812379$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

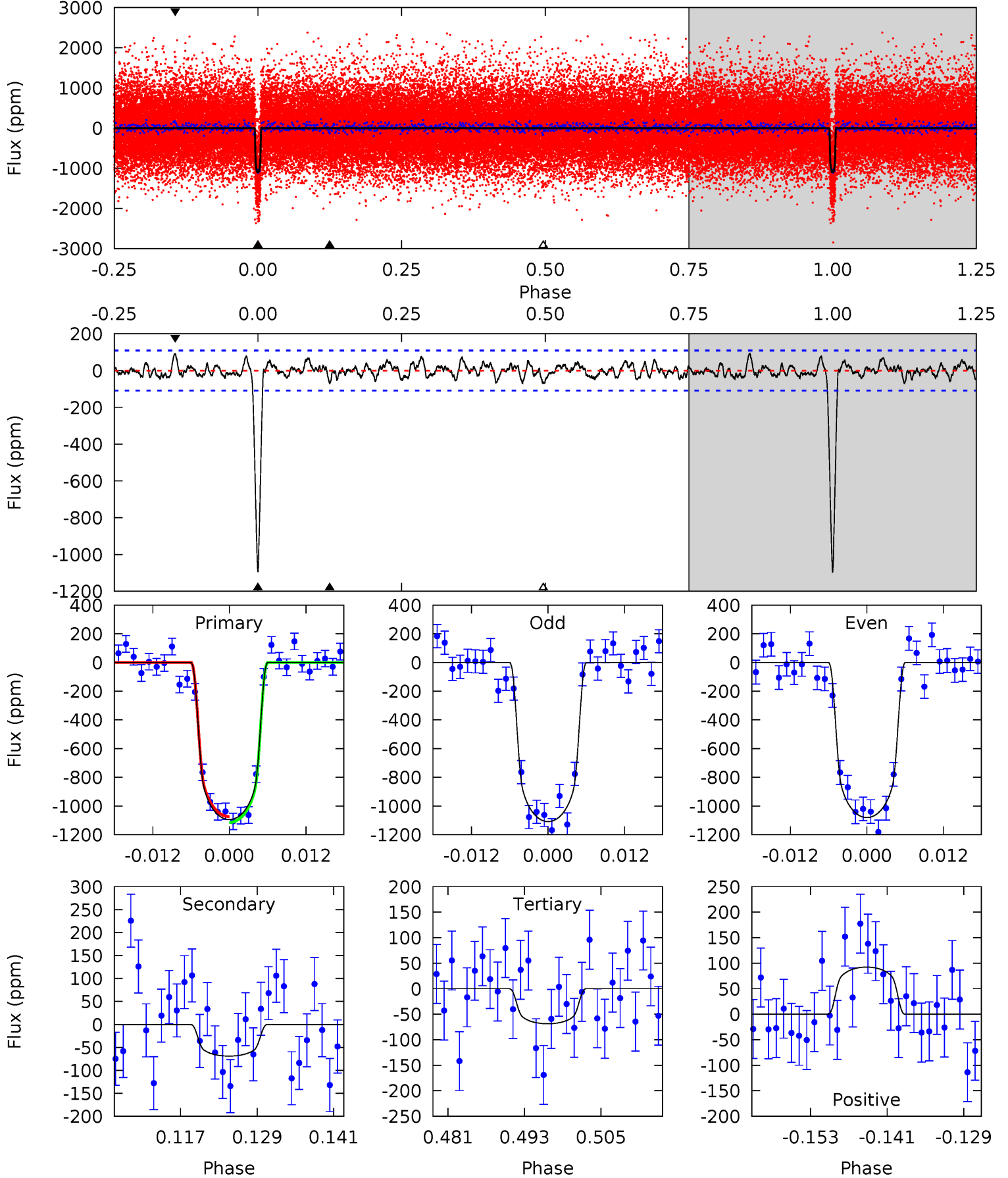
TCE 009656252-01 P= 16.923475 Days $T_0=145.811436$ (BKJD)



DV Model-Shift Uniqueness Test

009656252-01, P = 16.923476 Days, E = 145.812379 Days

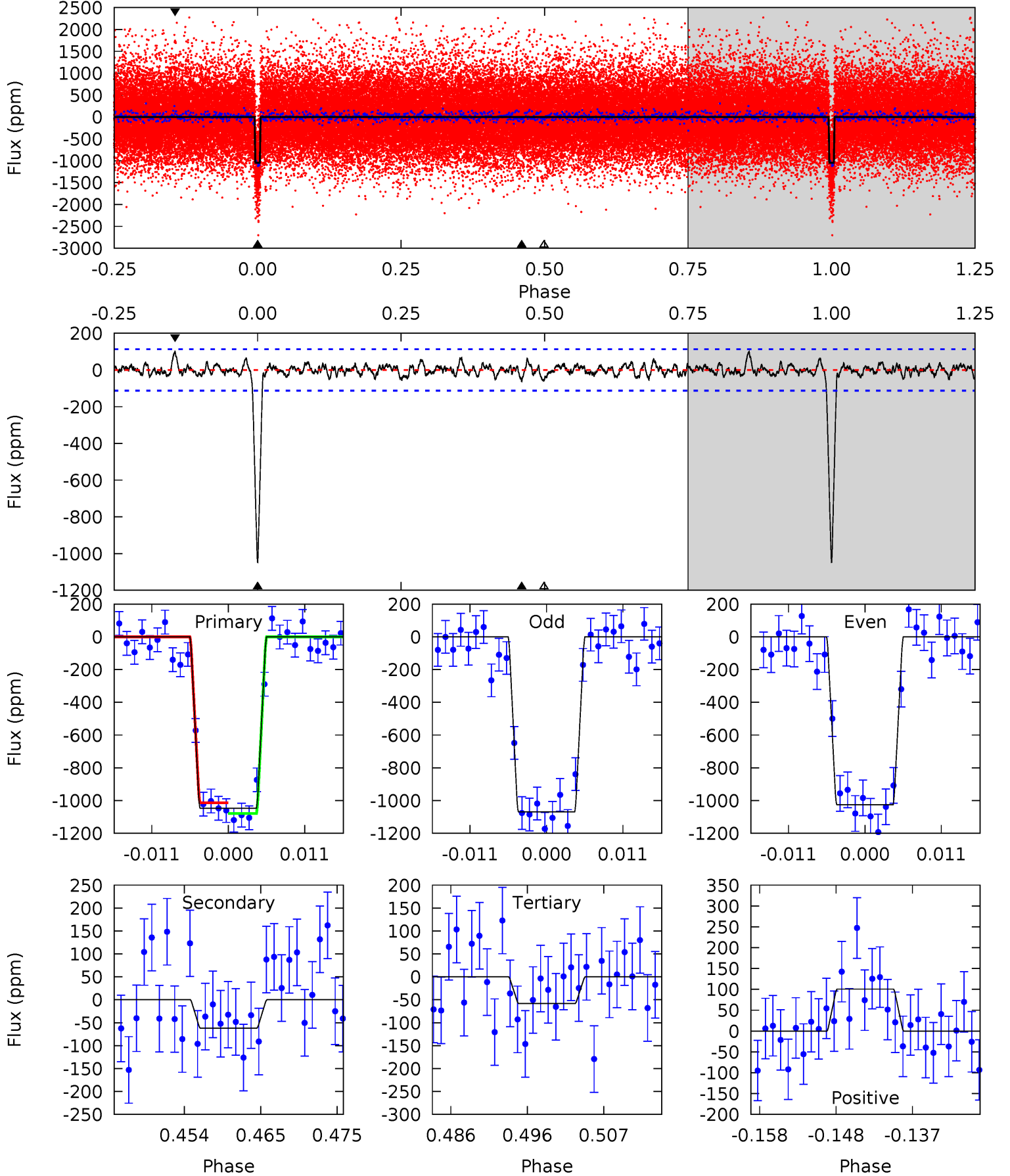
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
50.3	3.17	3.16	4.25	5.00	2.52	1.29	47.2	46.1	0.01	-1.08	0.65	0.99	0.08	0.94



Alt Model-Shift Uniqueness Test

009656252-01, P = 16.923475 Days, E = 145.811436 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
46.5	2.76	2.59	4.47	5.02	2.56	1.02	43.9	42.0	0.17	-1.71	0.94	0.98	0.09	1.46



Stellar Parameters For KIC 009656252

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5786^{+78}_{-86}	$4.465^{+0.038}_{-0.120}$	$0.160^{+0.150}_{-0.150}$	$0.990^{+0.147}_{-0.063}$	$1.044^{+0.051}_{-0.072}$	$1.516^{+0.225}_{-0.516}$
	+1%/-1%	+1%/-3%	+94%/-94%	+15%/-6%	+5%/-7%	+15%/-34%
Source	SPE90	SPE90	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 009656252-01 / KOI 2044.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-69 ± 22	$3.75^{+0.52}_{-0.46}$	991^{+35}_{-26}	3383^{+208}_{-225}	46^{+23}_{-17}
Alt.	-62 ± 23	$3.63^{+0.45}_{-0.45}$	990^{+39}_{-26}	3356^{+211}_{-244}	43^{+23}_{-17}

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 $A_{obs} \gg 1.0$

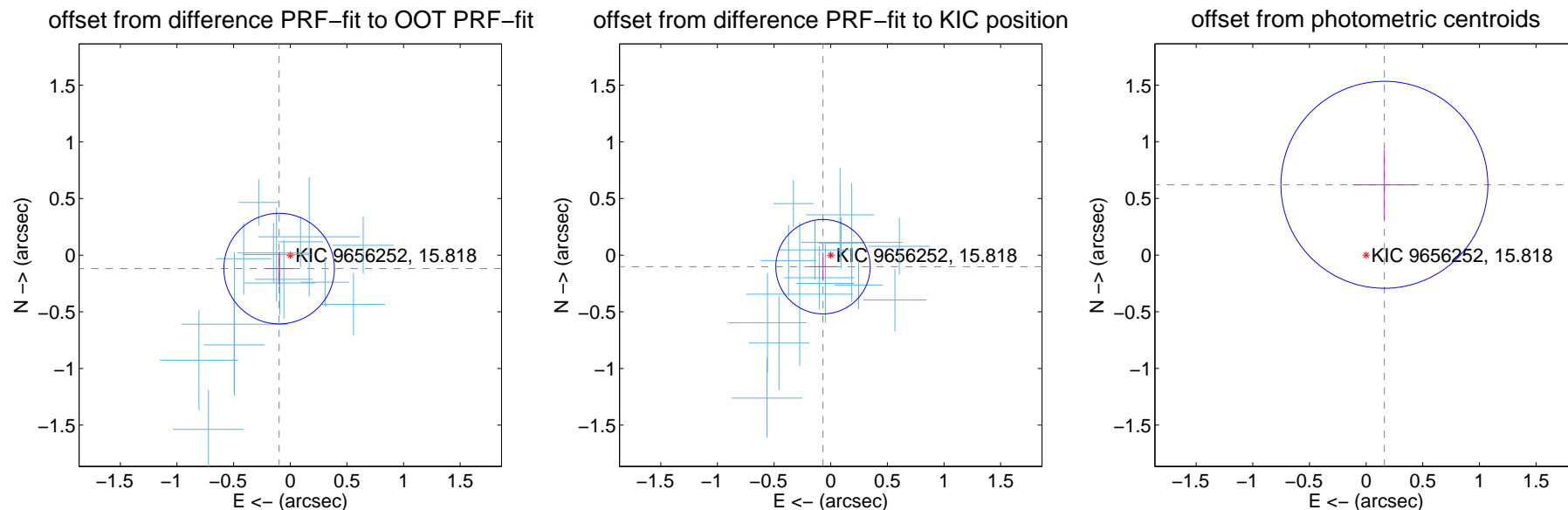
DV Centroid Data

Supplemental centroid analysis for 009656252-01. Kepler magnitude: 15.82. Transit SNR 34.76

There are 15 quarters with good PRF difference image offsets

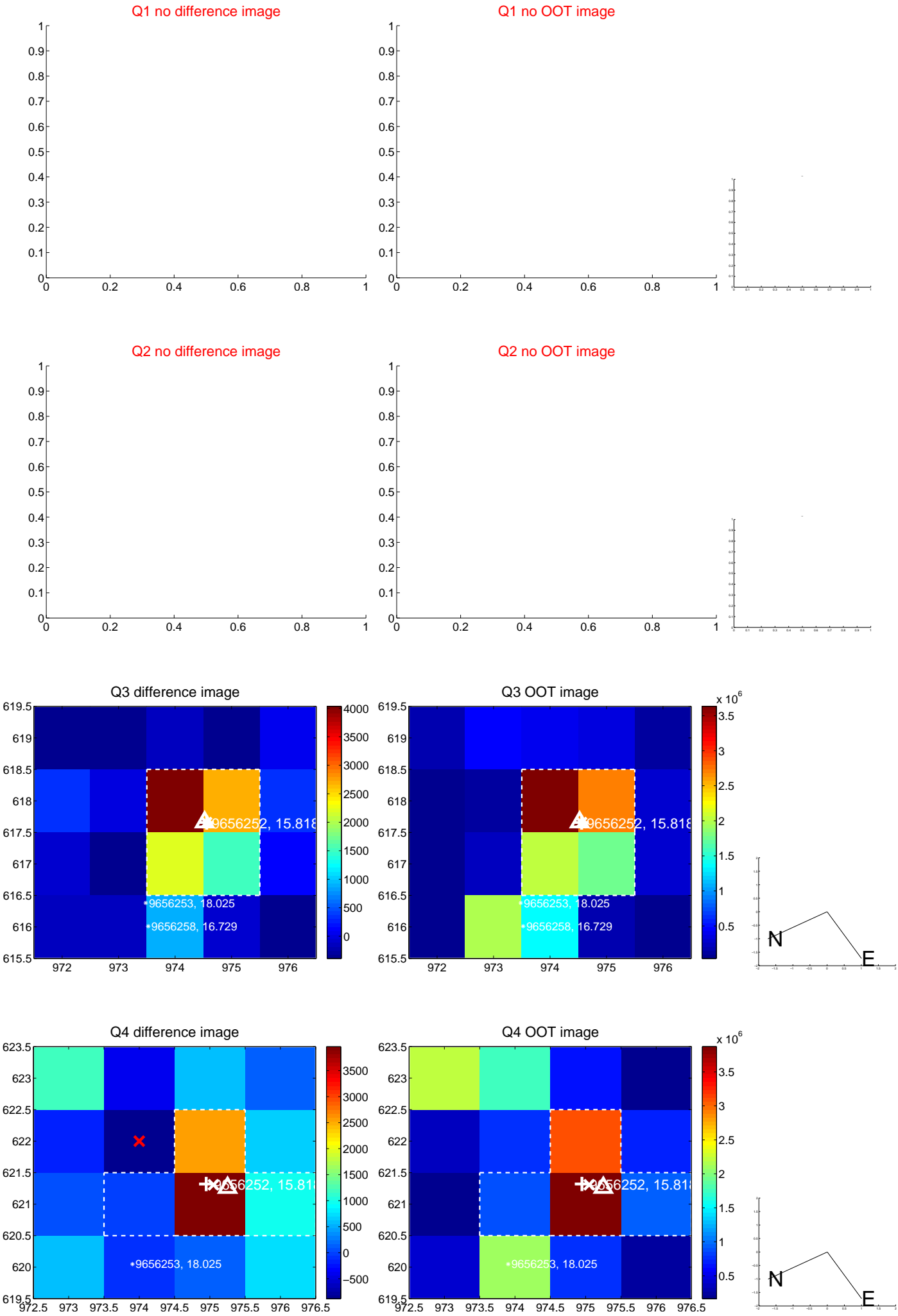
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.154 ± 0.163	0.95	0.098 ± 0.125	-0.119 ± 0.145
PRF-fit source offset from KIC position	0.122 ± 0.139	0.88	0.068 ± 0.114	-0.102 ± 0.125
photometric centroid source offset	0.64 ± 0.30	2.11	-0.16 ± 0.28	0.62 ± 0.31

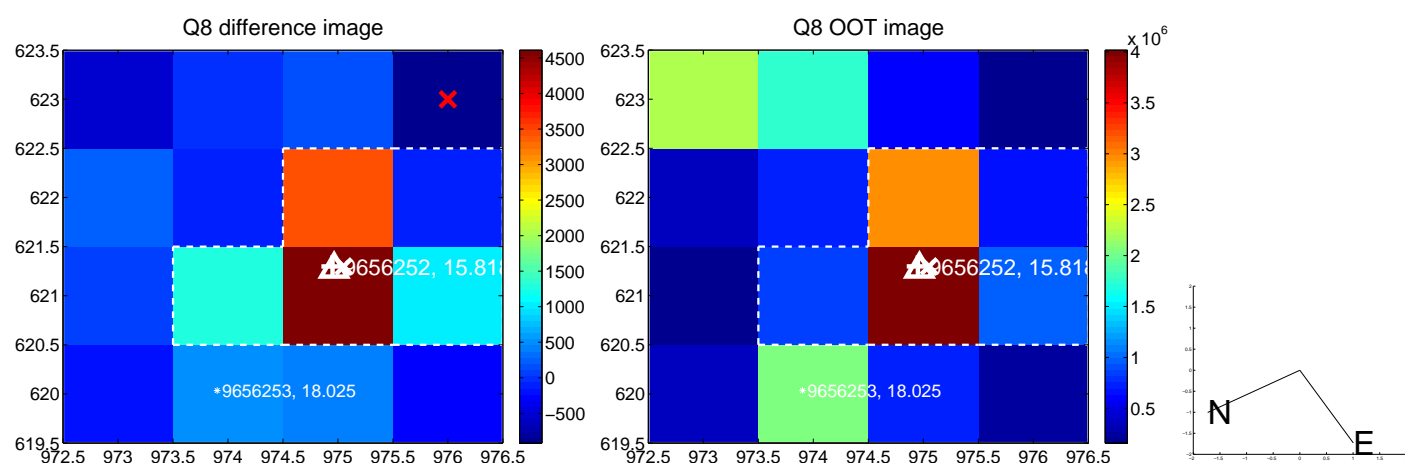
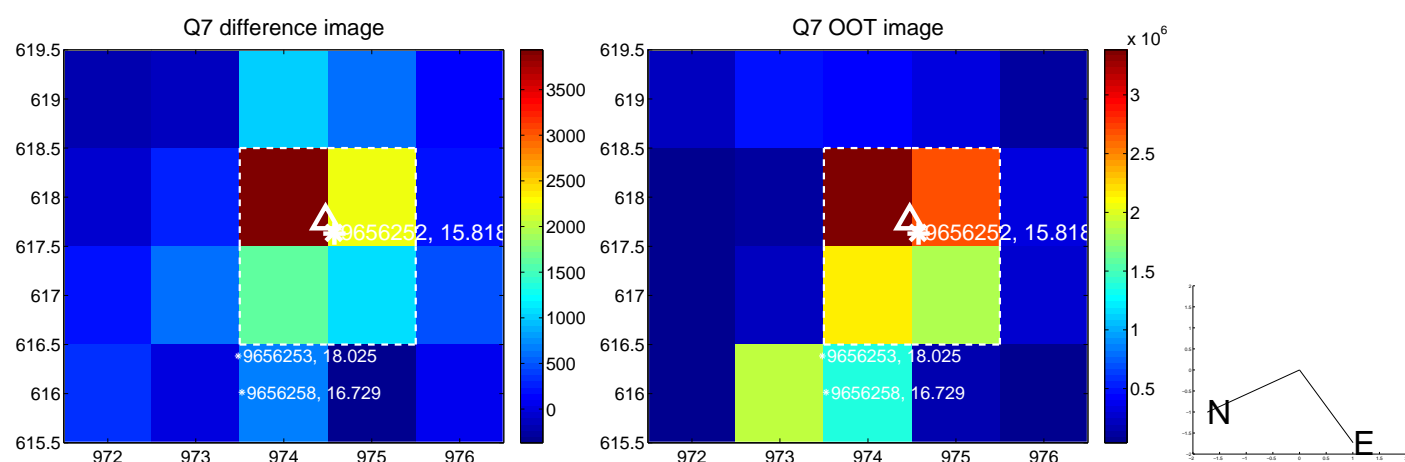
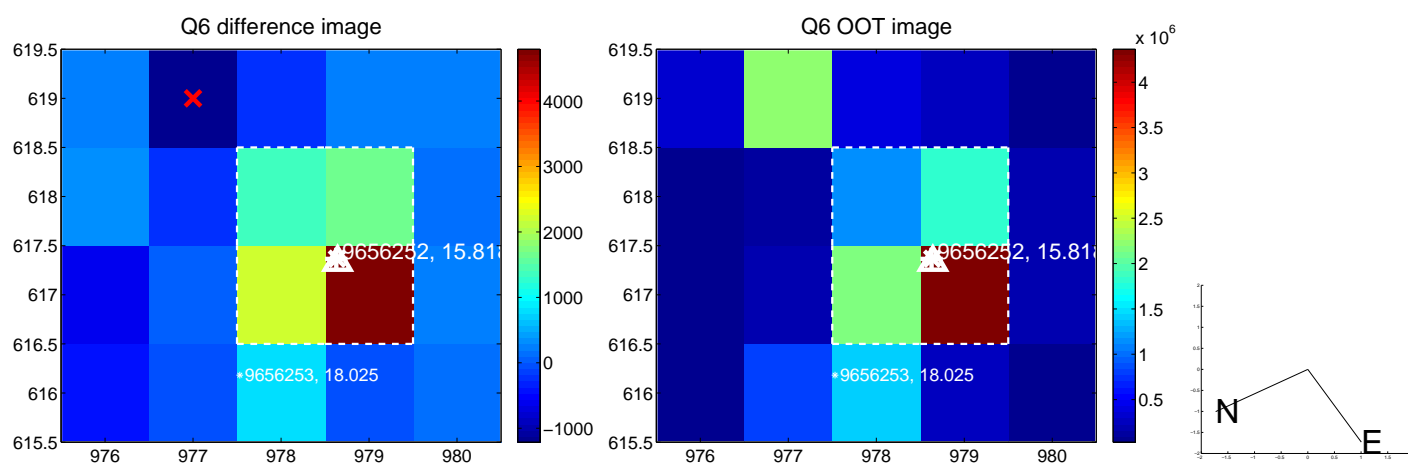
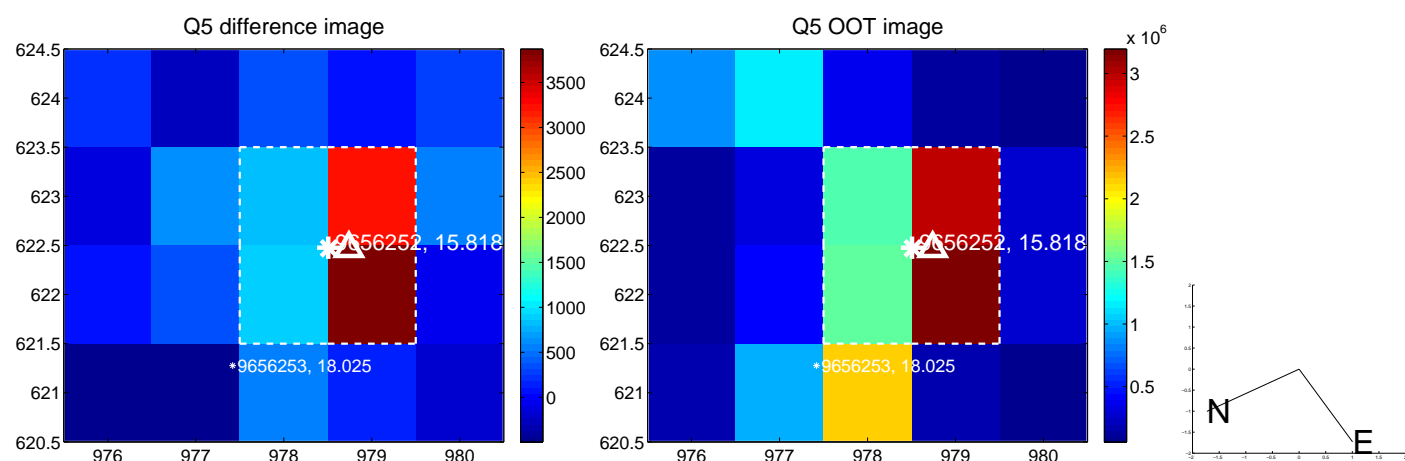


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

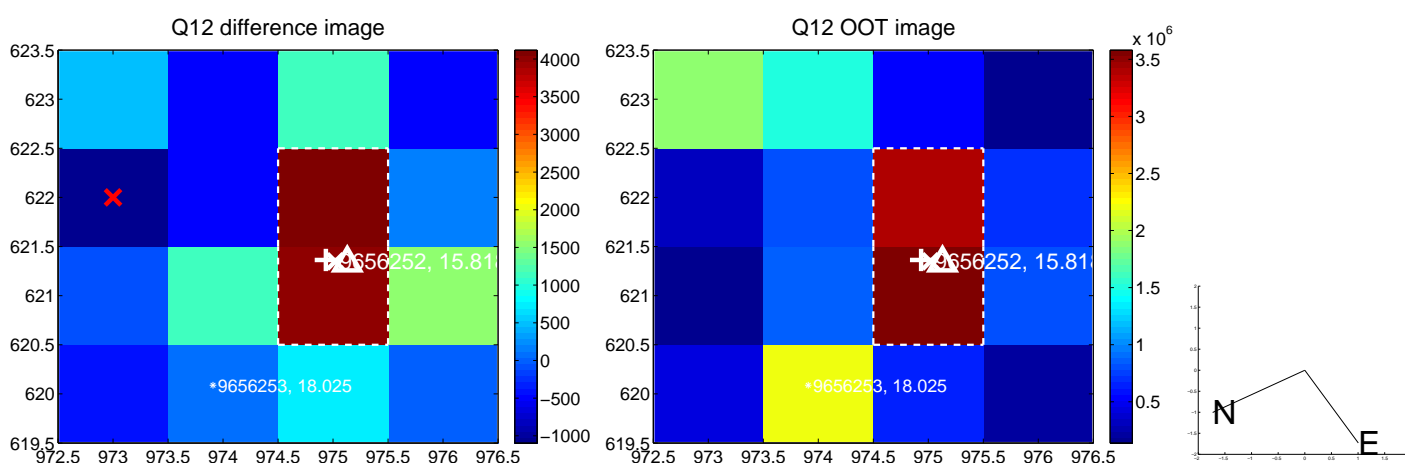
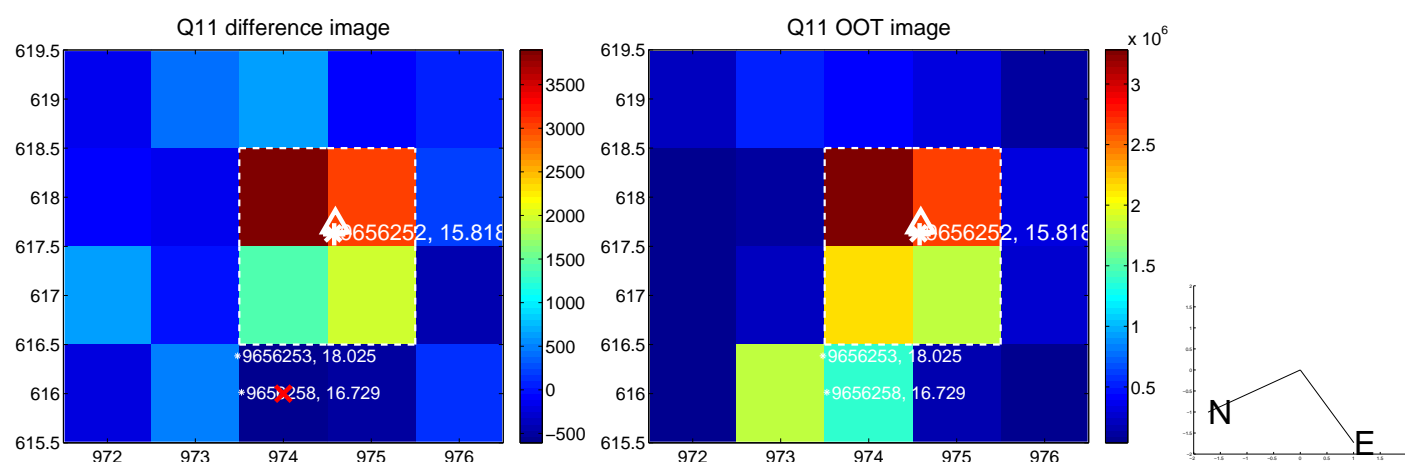
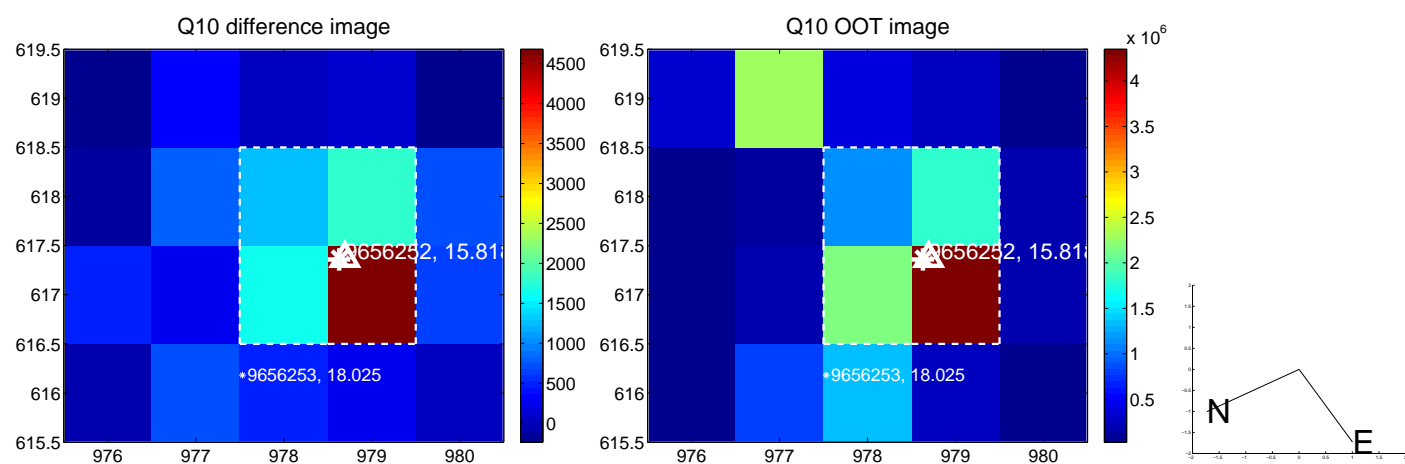
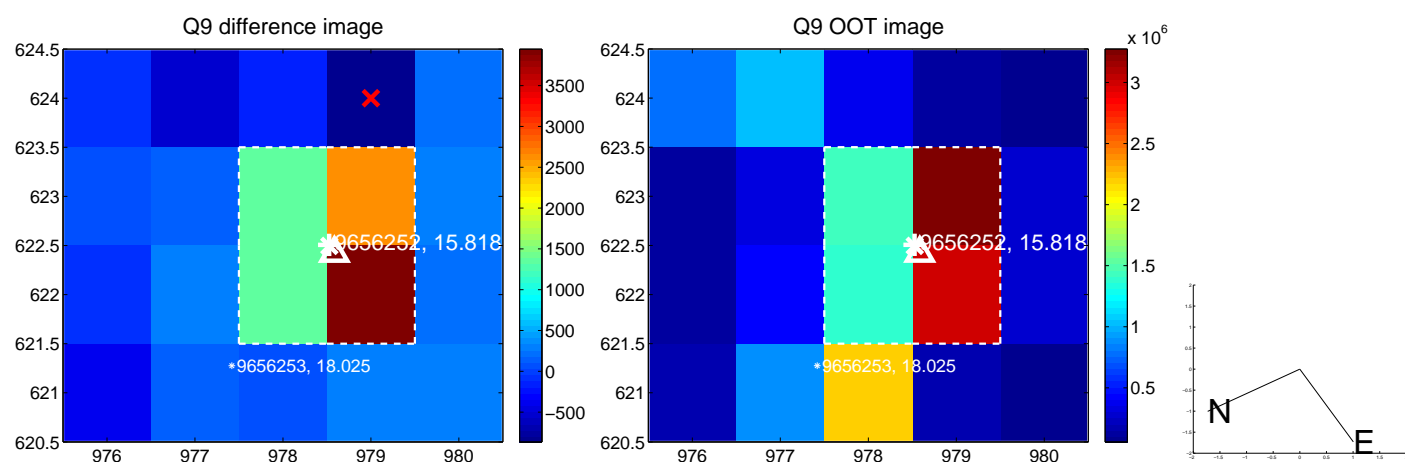
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



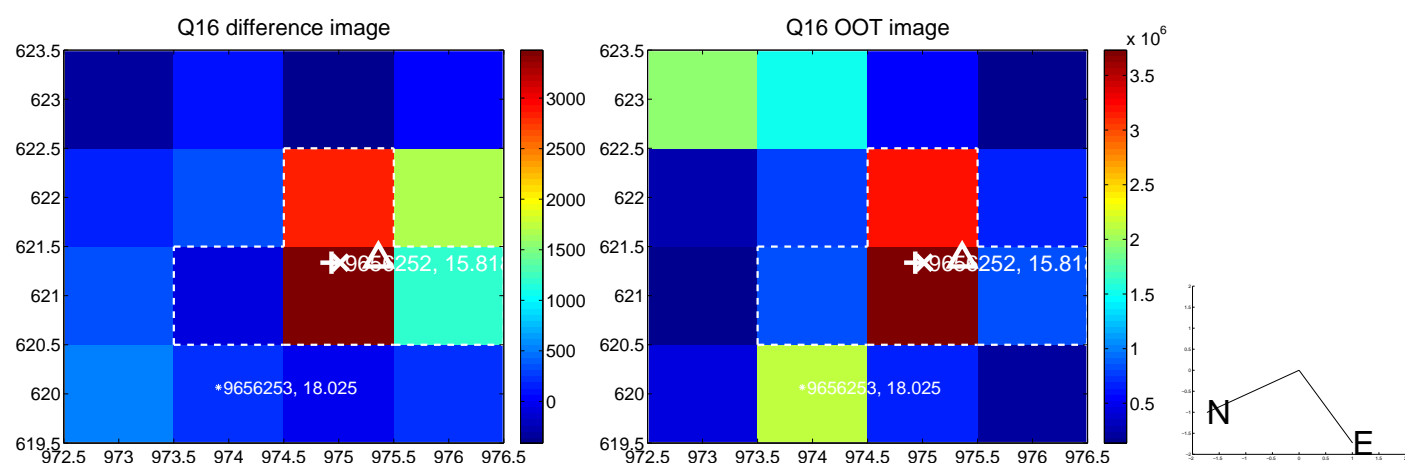
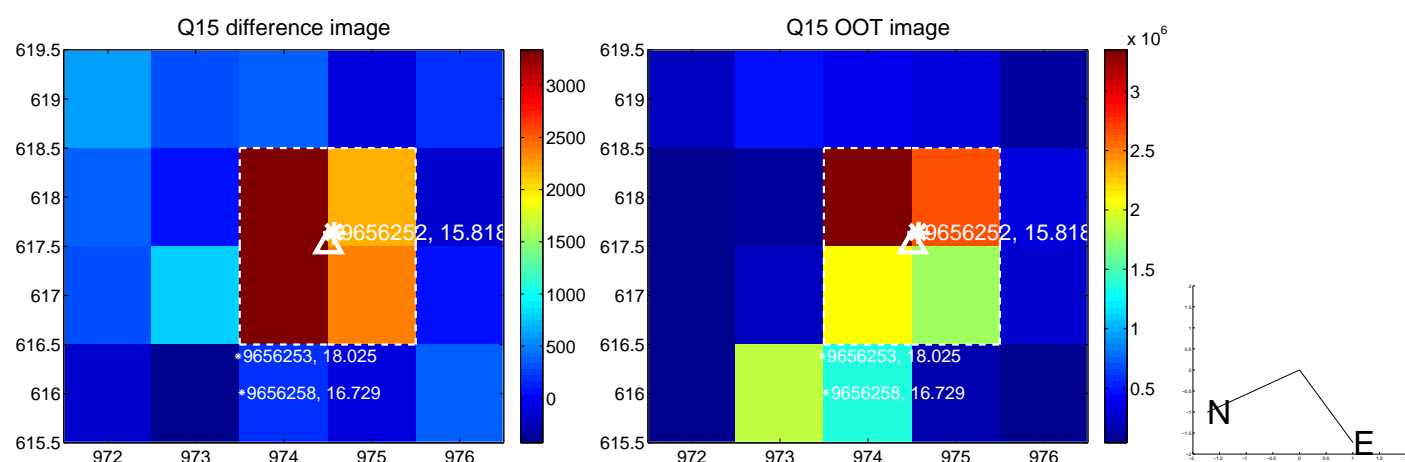
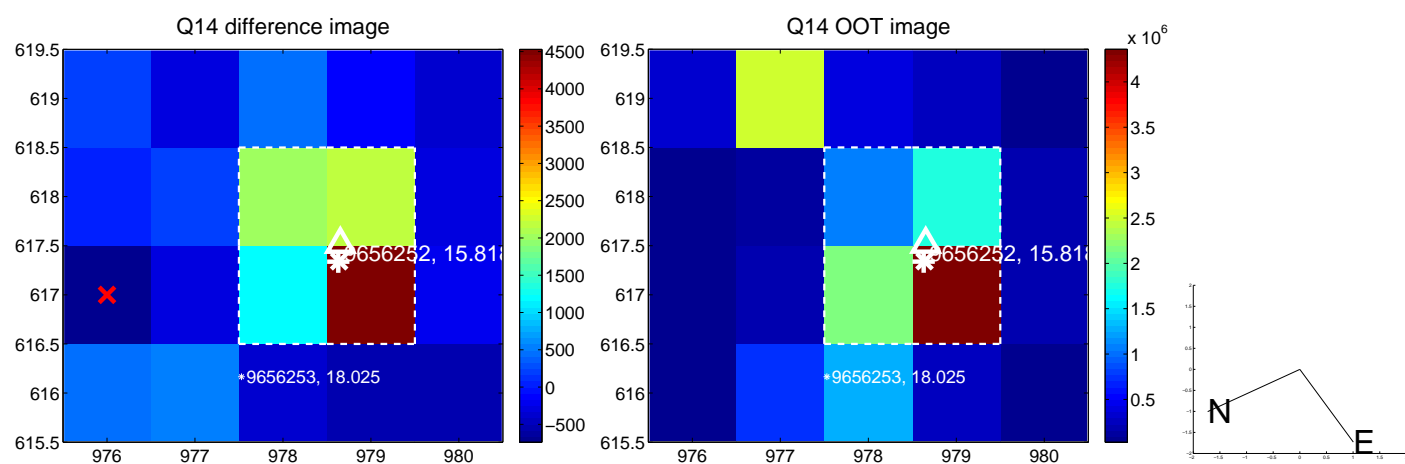
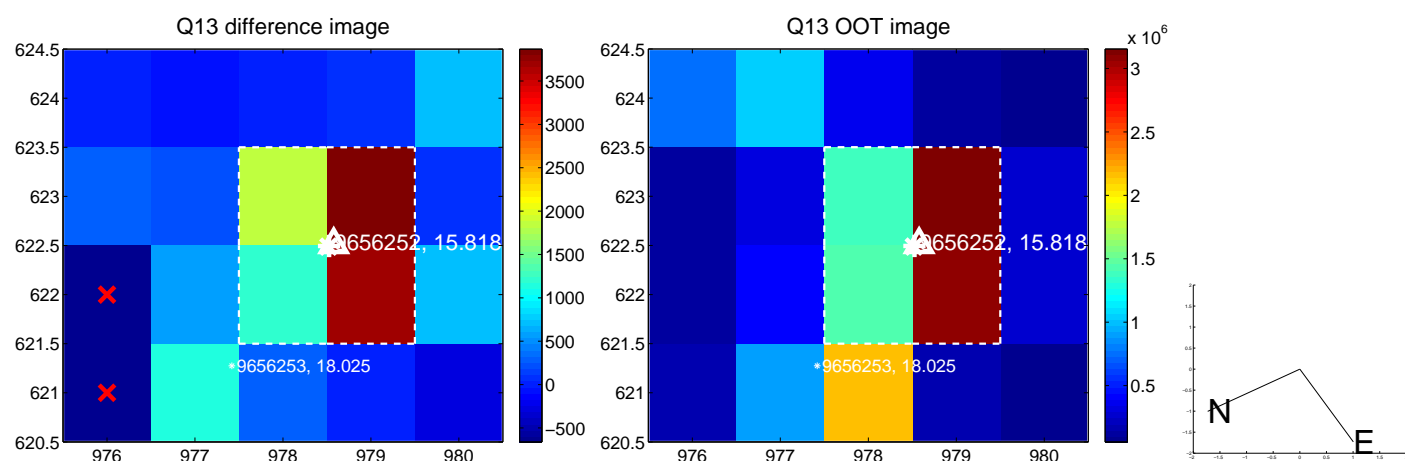
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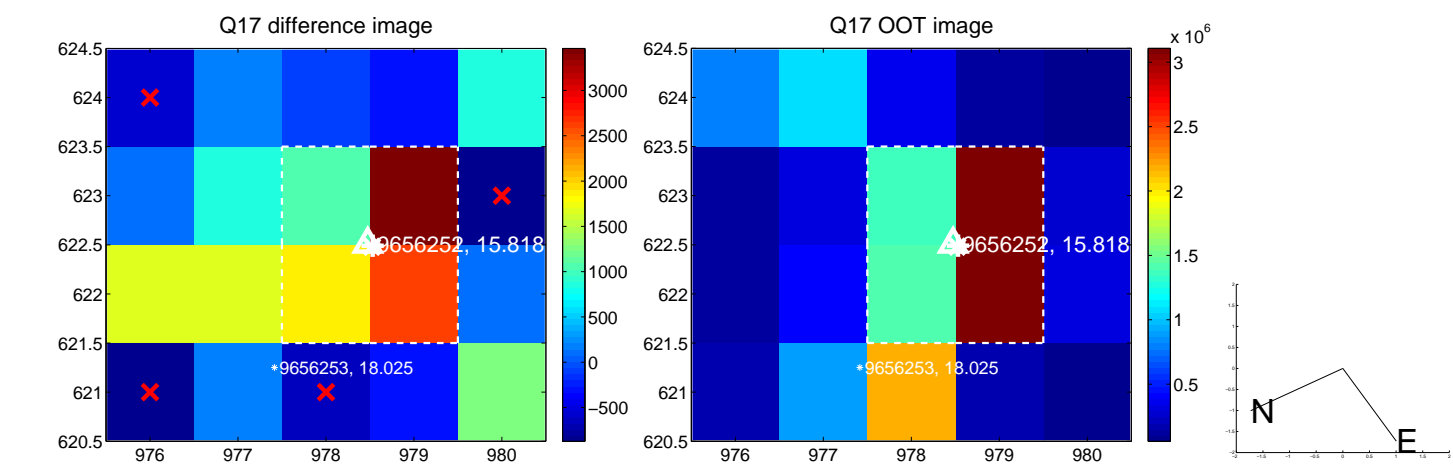
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



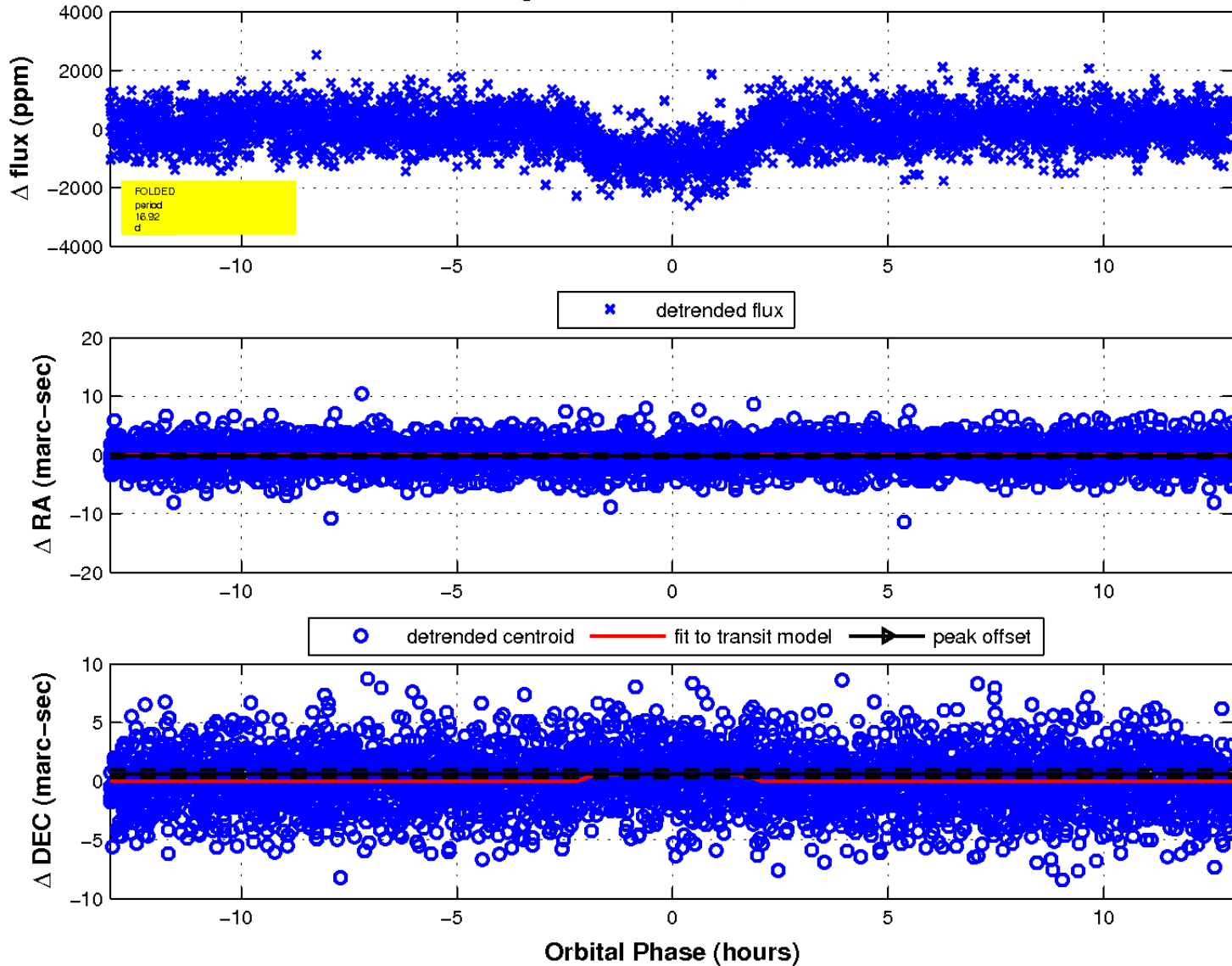
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

