

KIC 003120355

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})
003120355-01	OBS	2099.01	78.099705	139.497685	646.0	8.516	20.0	20.9	1.28	5779	3.51	12.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003120355-01	OBS	PC	0.99	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 003120355-01

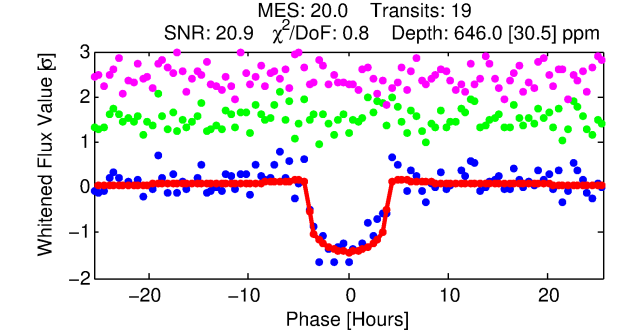
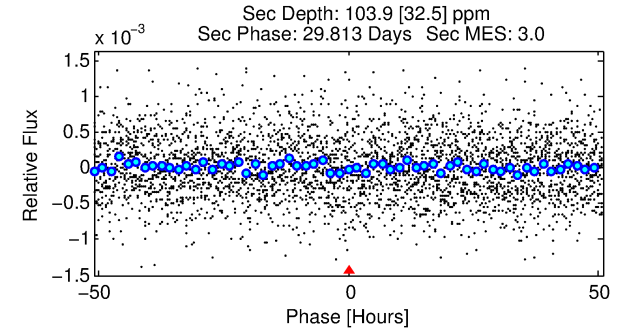
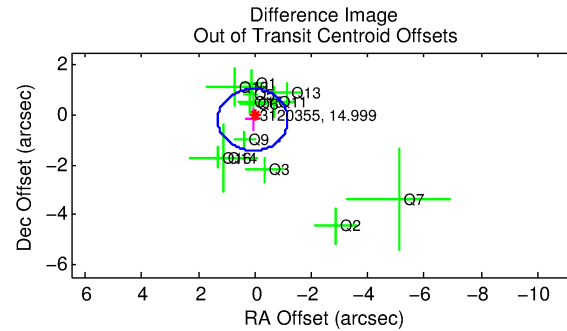
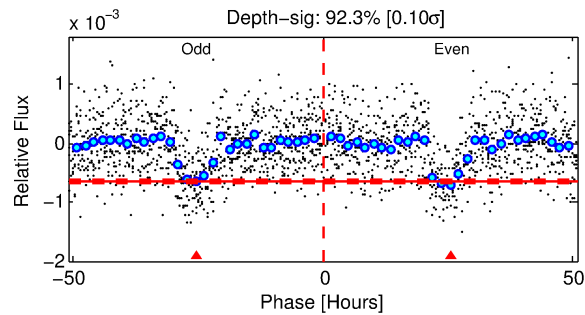
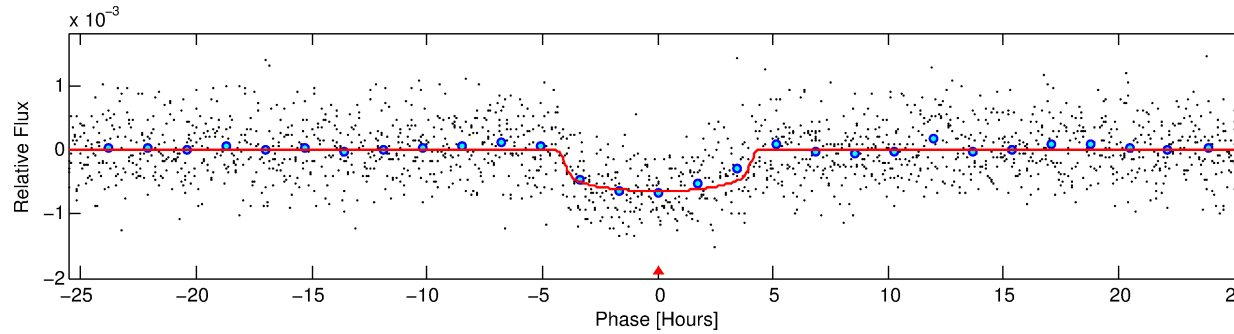
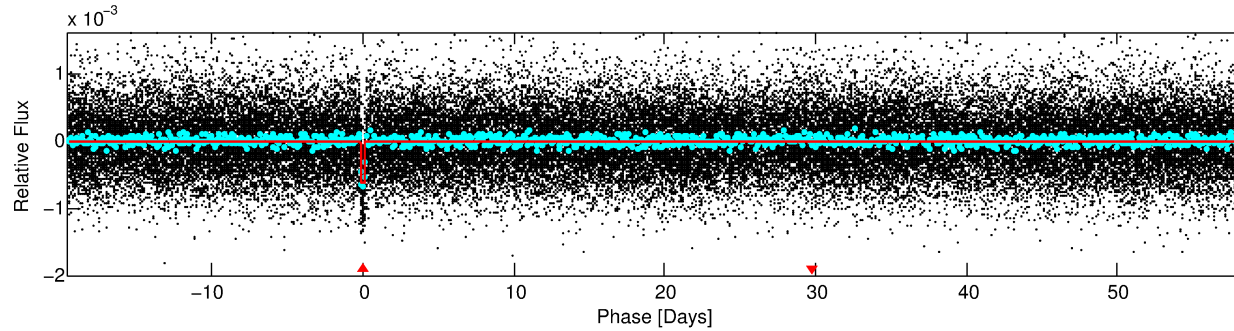
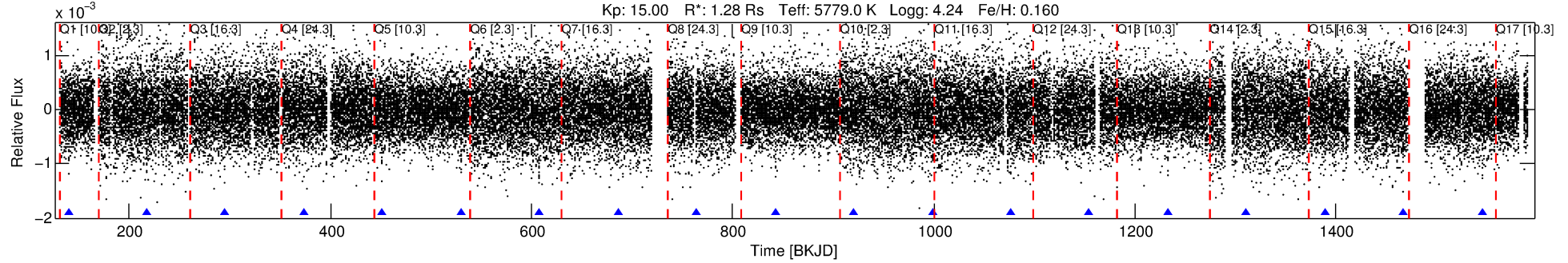
No Significant Match Found

DV One-Page Summary

KIC: 3120355 Candidate: 1 of 1 Period: 78.100 d

KOI: K02099.01 Corr: 0.988

Kp: 15.00 R*: 1.28 Rs Teff: 5779.0 K Logg: 4.24 Fe/H: 0.160



DV Fit Results:

Period = 78.09970 [0.00067] d
Epoch = 139.4977 [0.0067] BKJD
Rp/R* = 0.0251 [0.0059]
a/R* = 50.83 [52.08]
b = 0.72 [0.68]
Seff = 12.55 [3.16]
Teq = 480 [30] K
Rp = 3.51 [1.02] Re
a = 0.3624 [0.0567] AU
Ag = 608.86 [377.04] [1.61σ]
Teffp = 3686 [526] K [6.09σ]

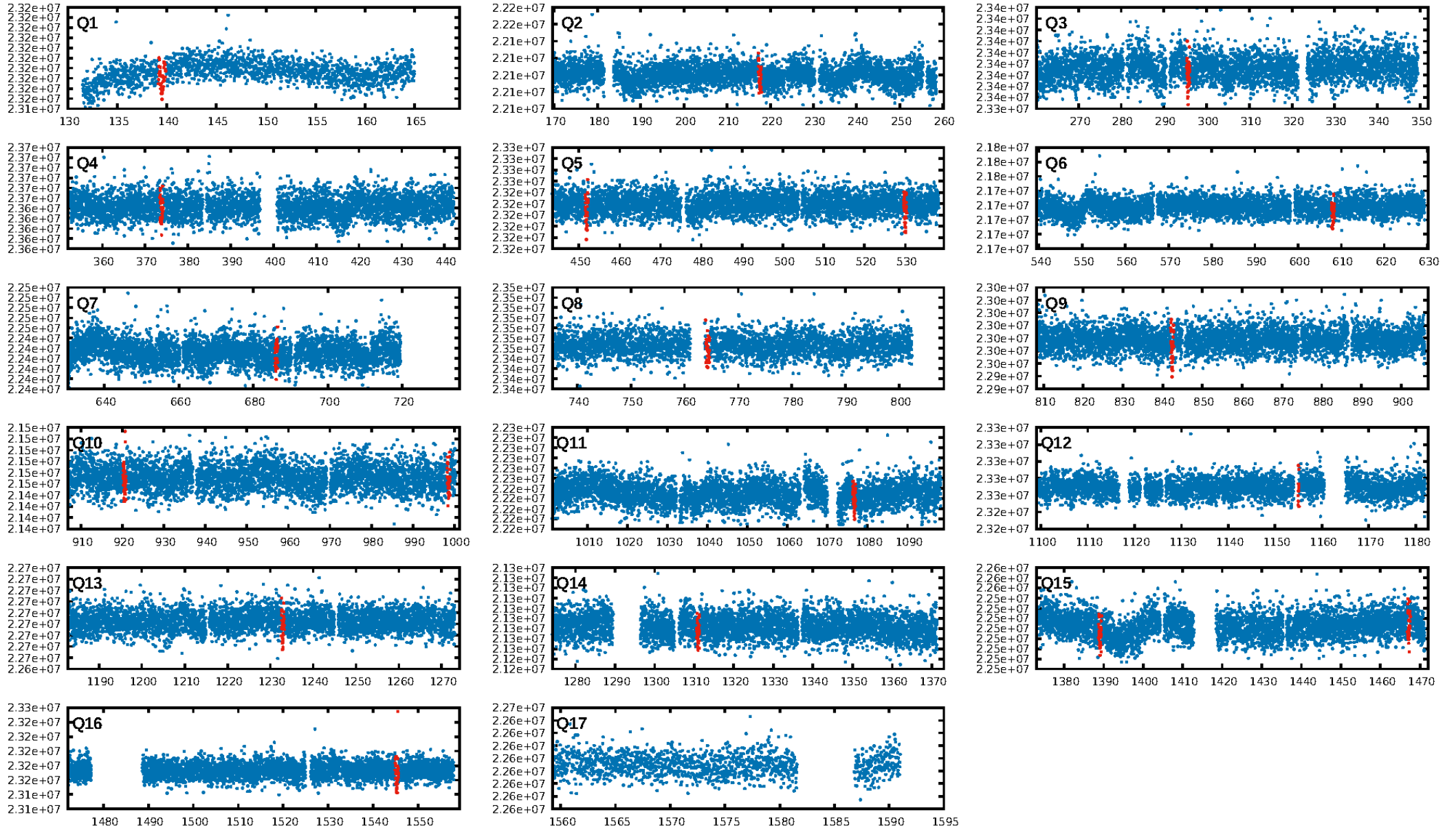
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 50.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.14e-96
RollingBand-fgt: 1.00 [18/18]
GhostDiagnostic-chr: 11.48
Centroid-sig: 58.3%
Centroid-so: 0.136 arcsec [0.21σ]
OotOffset-rm: 0.211 arcsec [0.51σ]
KicOffset-rm: 0.260 arcsec [0.49σ]
OotOffset-st: 4/4/1/4 [13]
KicOffset-st: 4/4/1/4 [13]
DiffImageQuality-fgm: 0.77 [10/13]
DiffImageOverlap-fno: 1.00 [13/13]

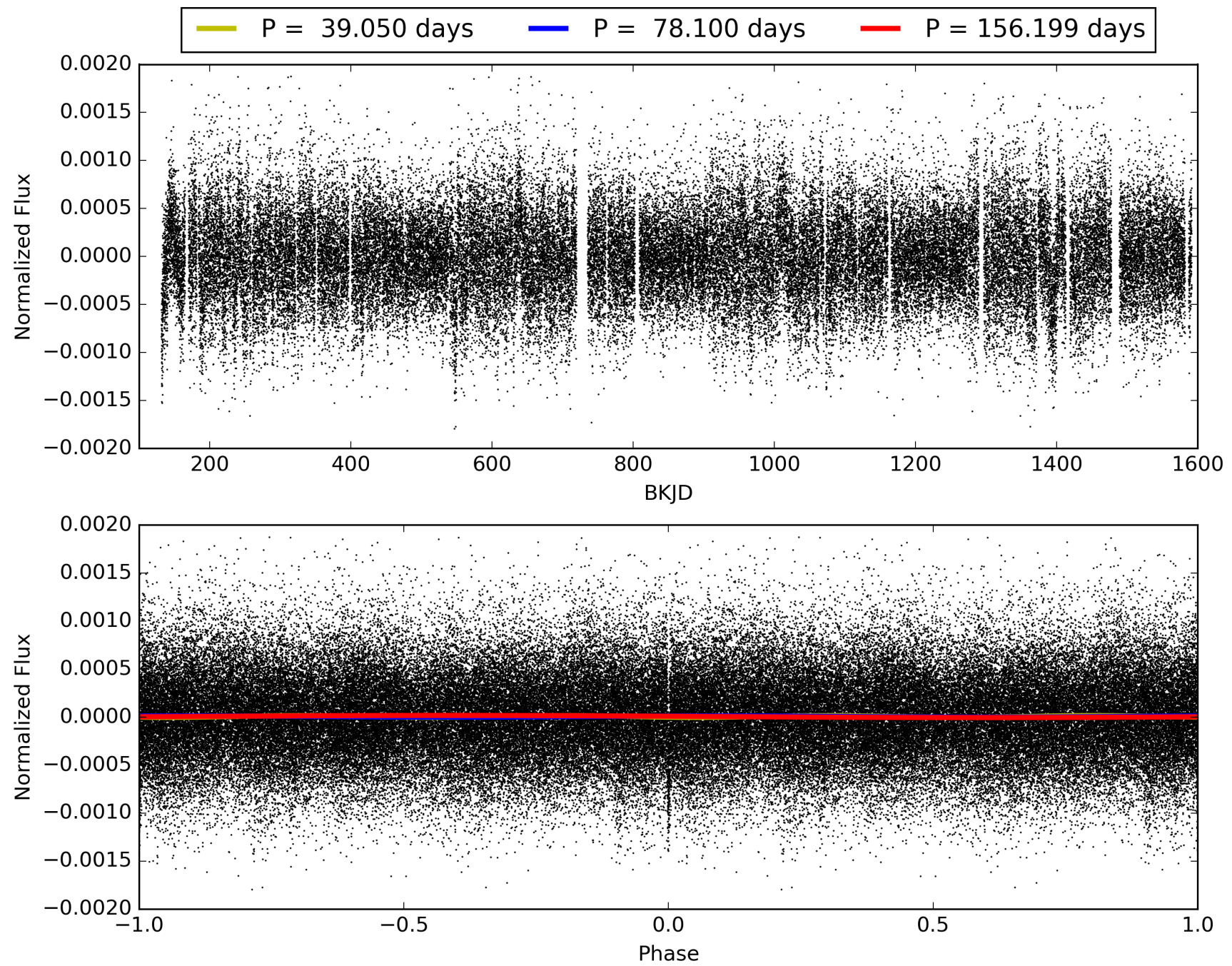
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 20:35:39 Z

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

TCE 003120355-01, PDC Light Curves

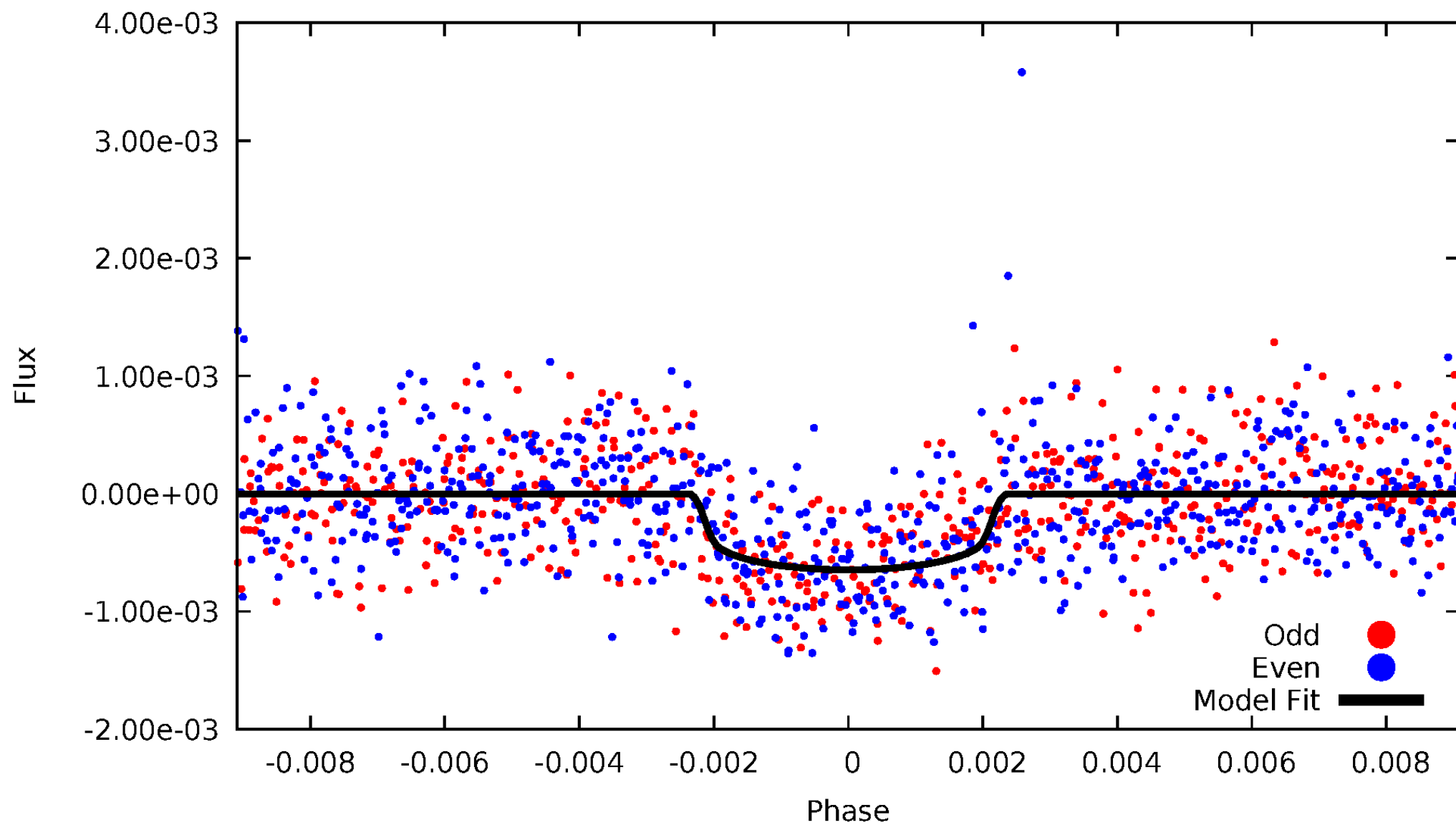


TCE 003120355-01



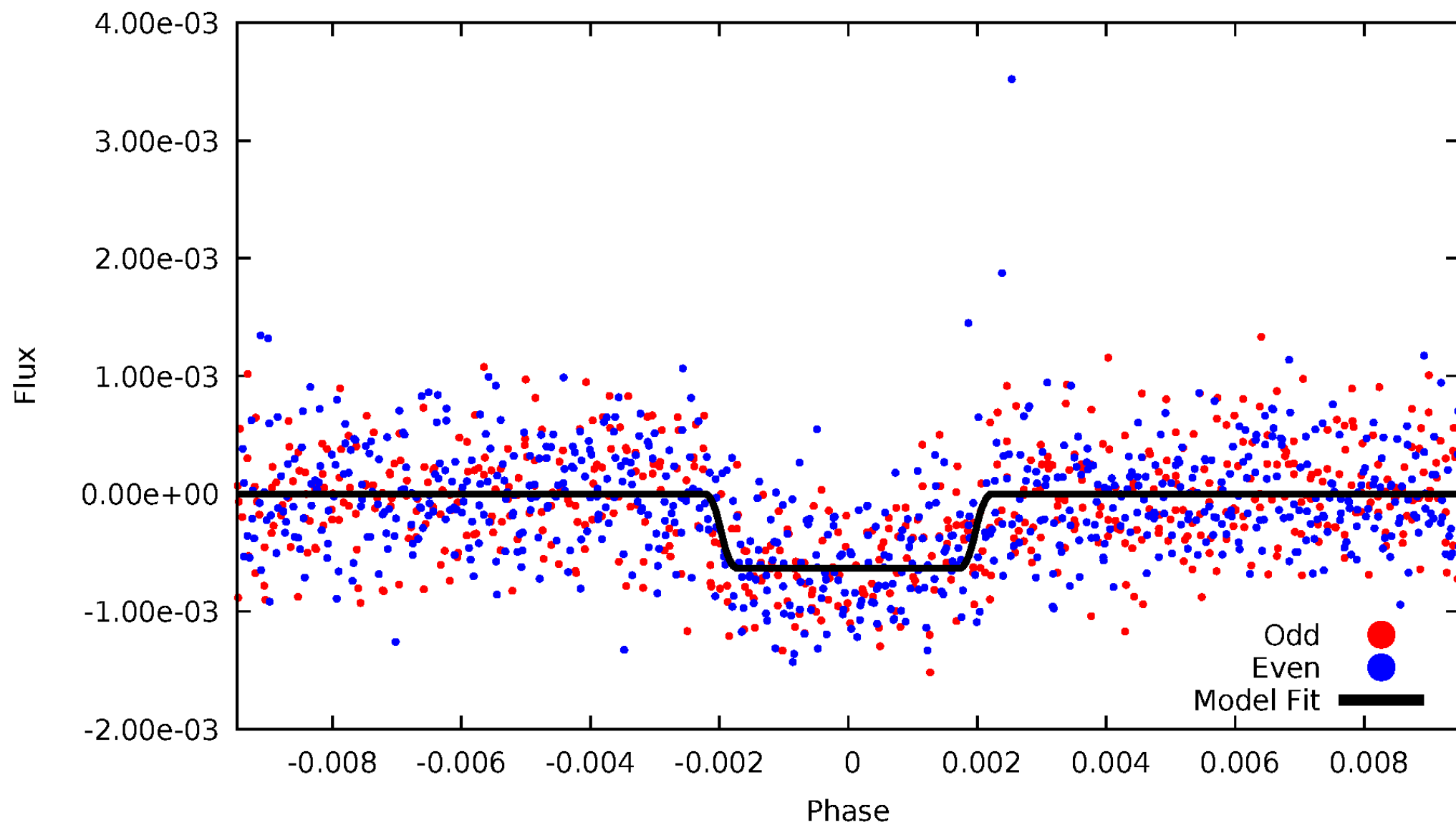
DV Odd/Even

TCE 003120355-01



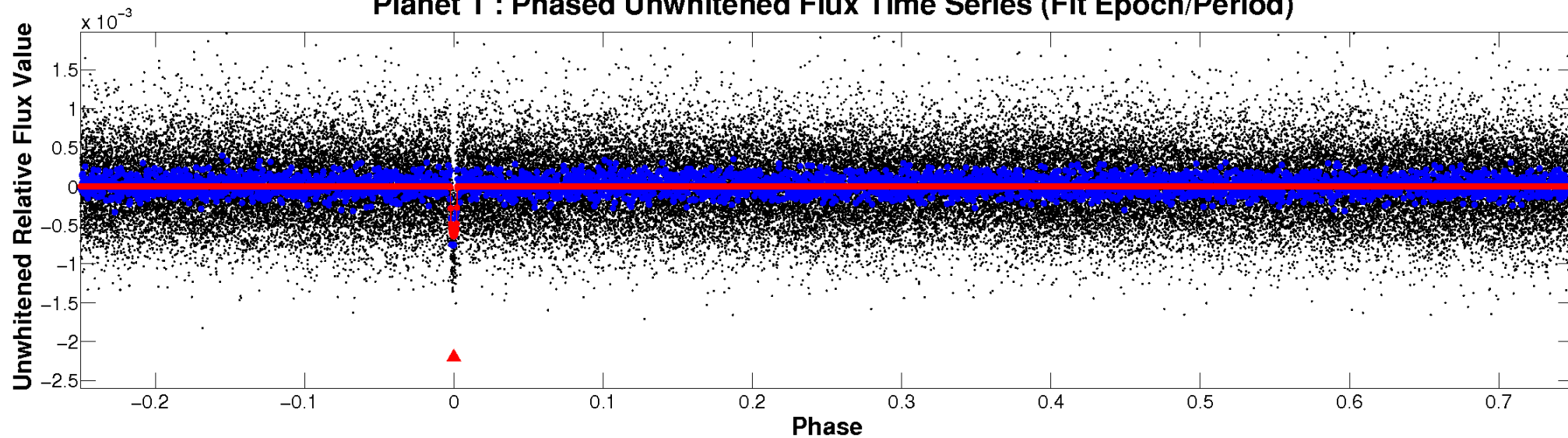
ALT Odd/Even

TCE 003120355-01

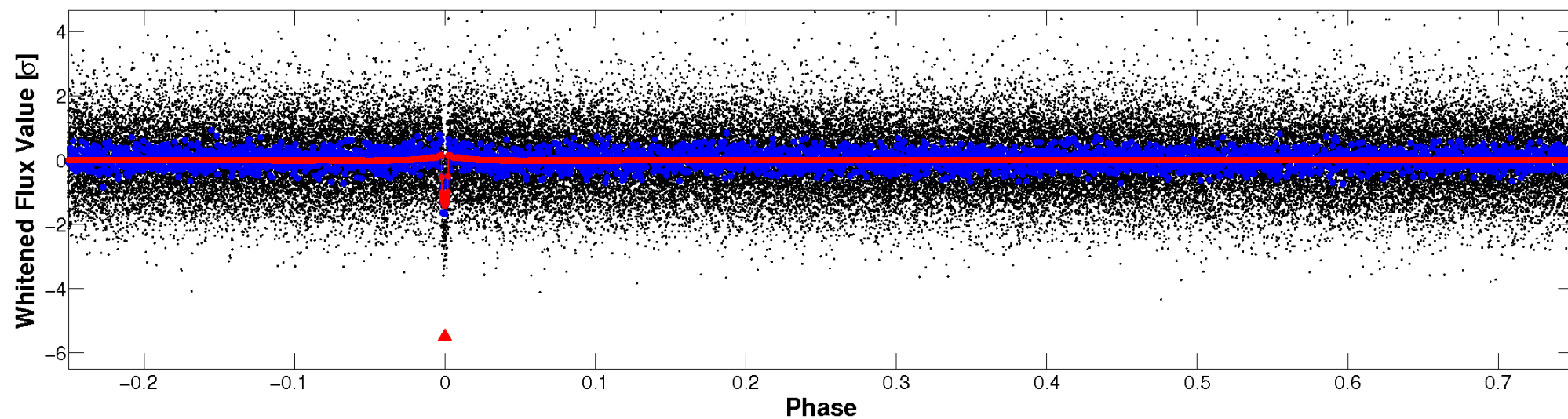


Non-Whitened Vs. Whitened Light Curve

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

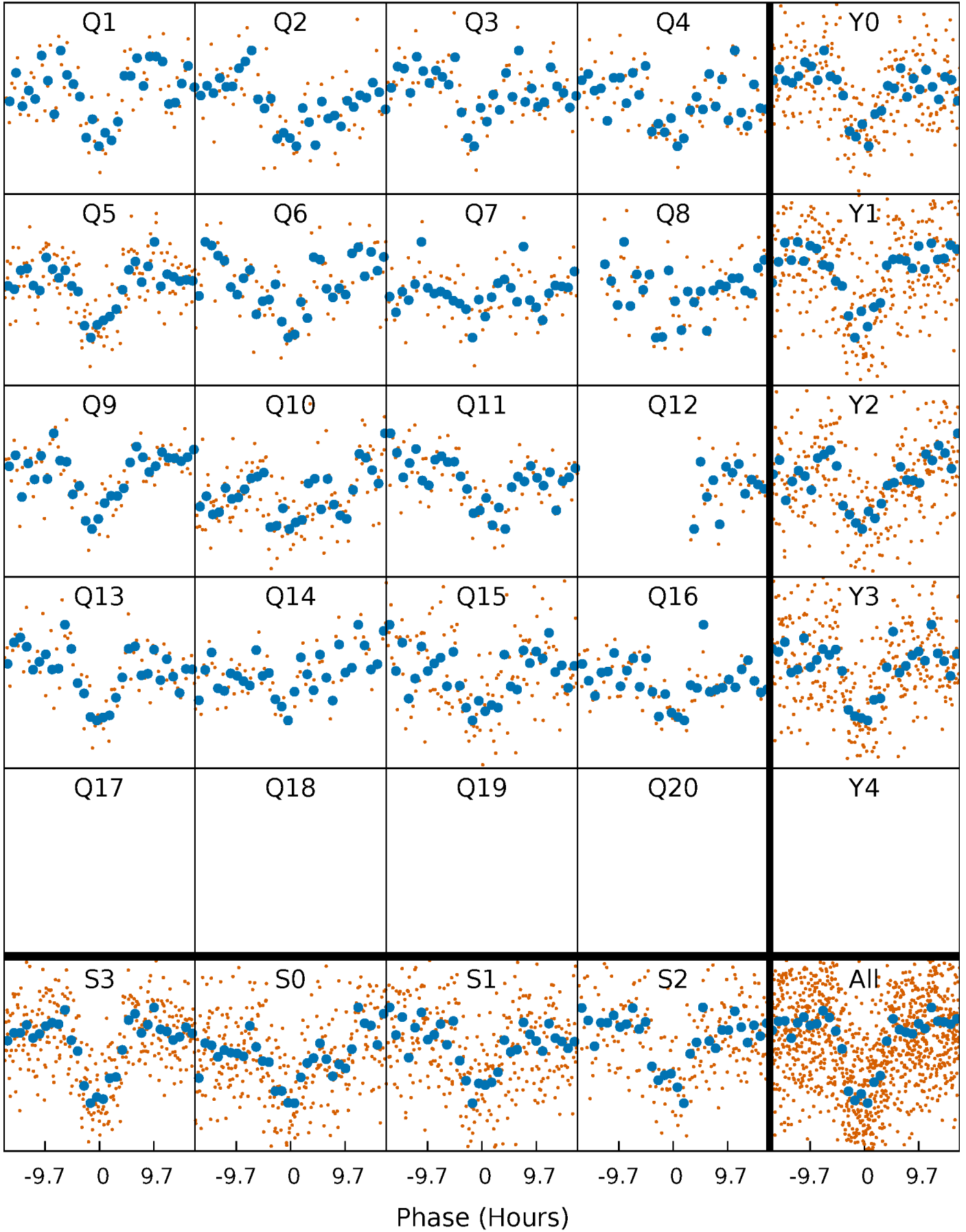


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



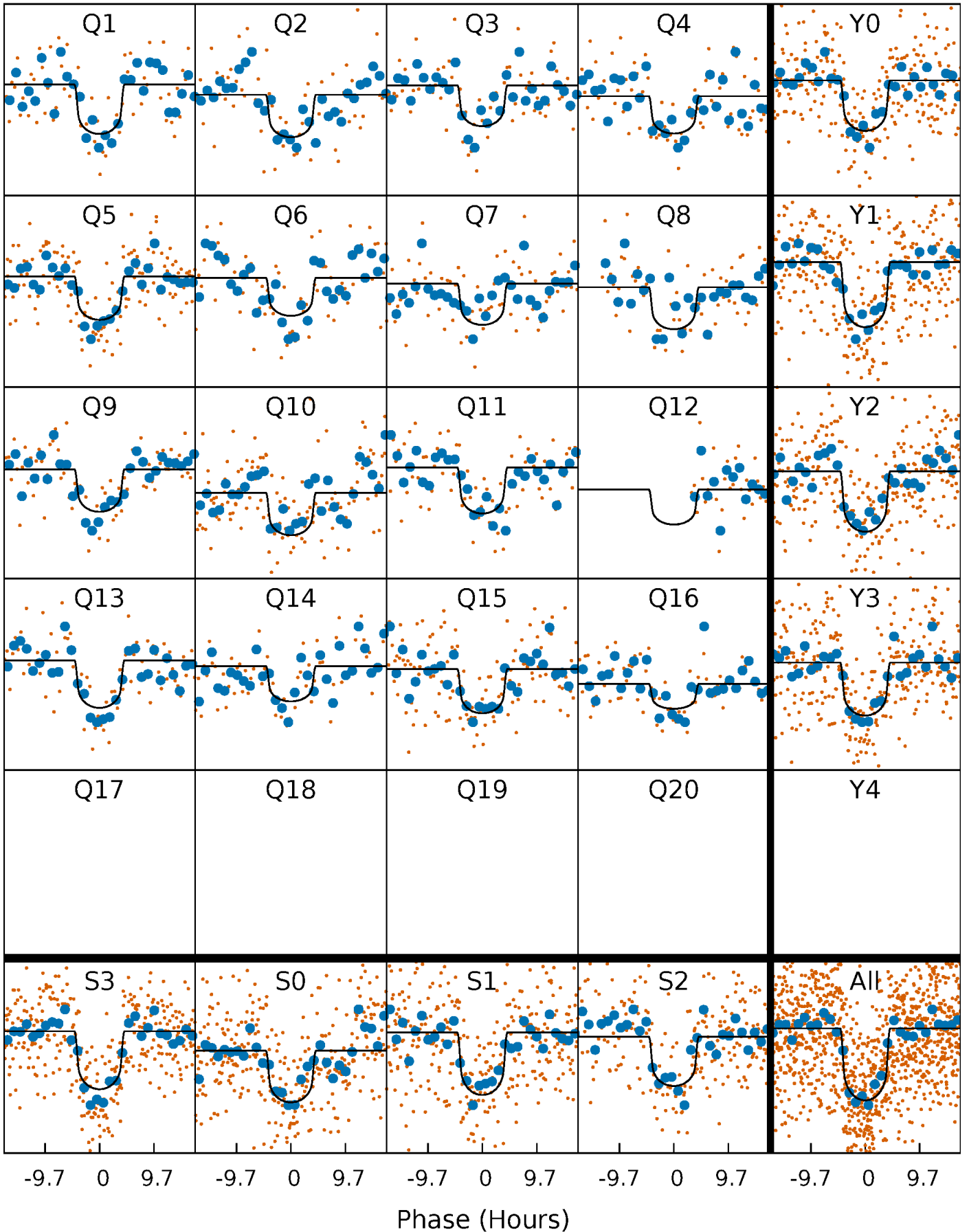
PDC Quarter-Phased Transit Curves

TCE 003120355-01 P= 78.099705 Days $T_0=139.497685$ (BKJD)



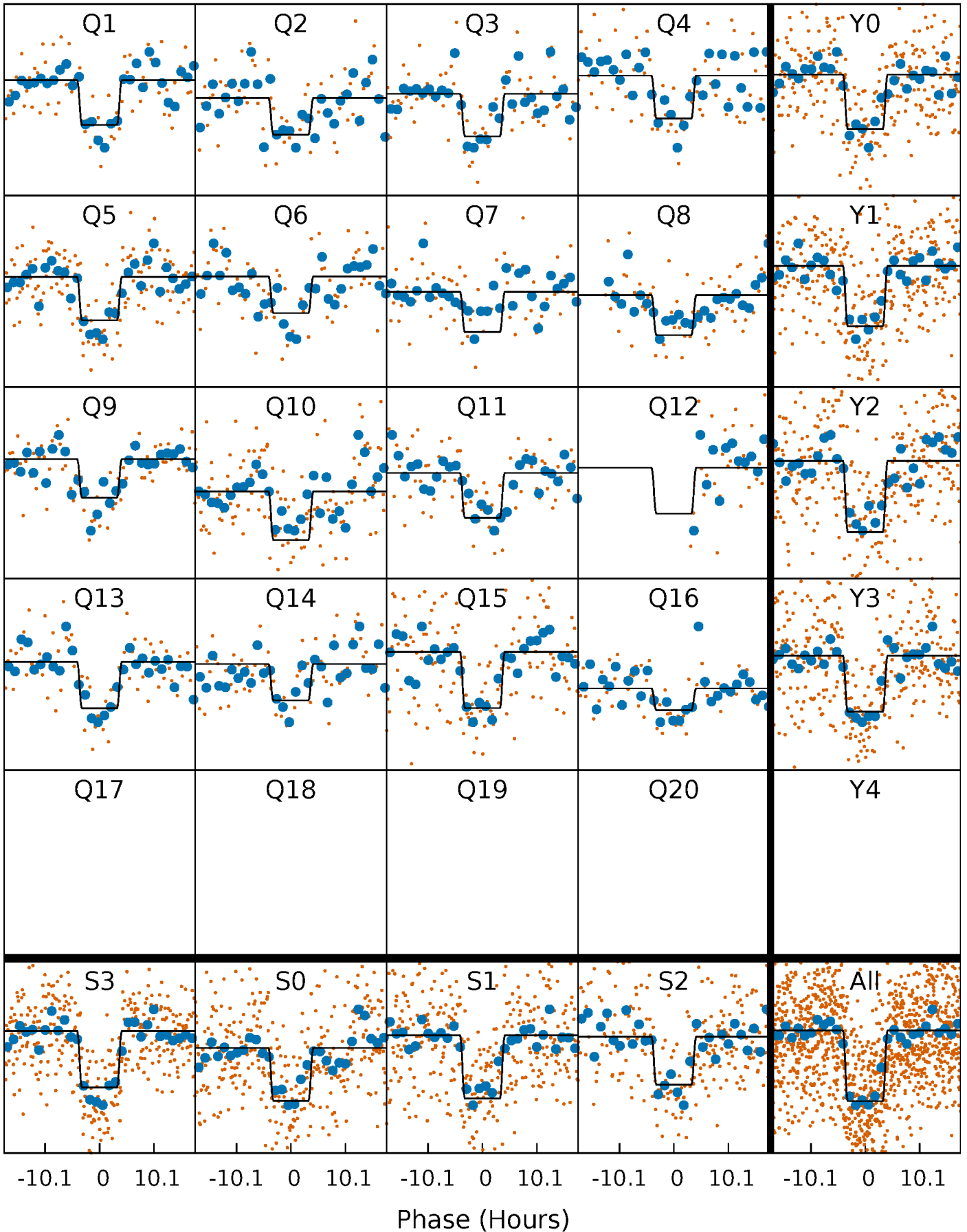
DV Quarter-Phased Transit Curves

TCE 003120355-01 P= 78.099705 Days $T_0=139.497685$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

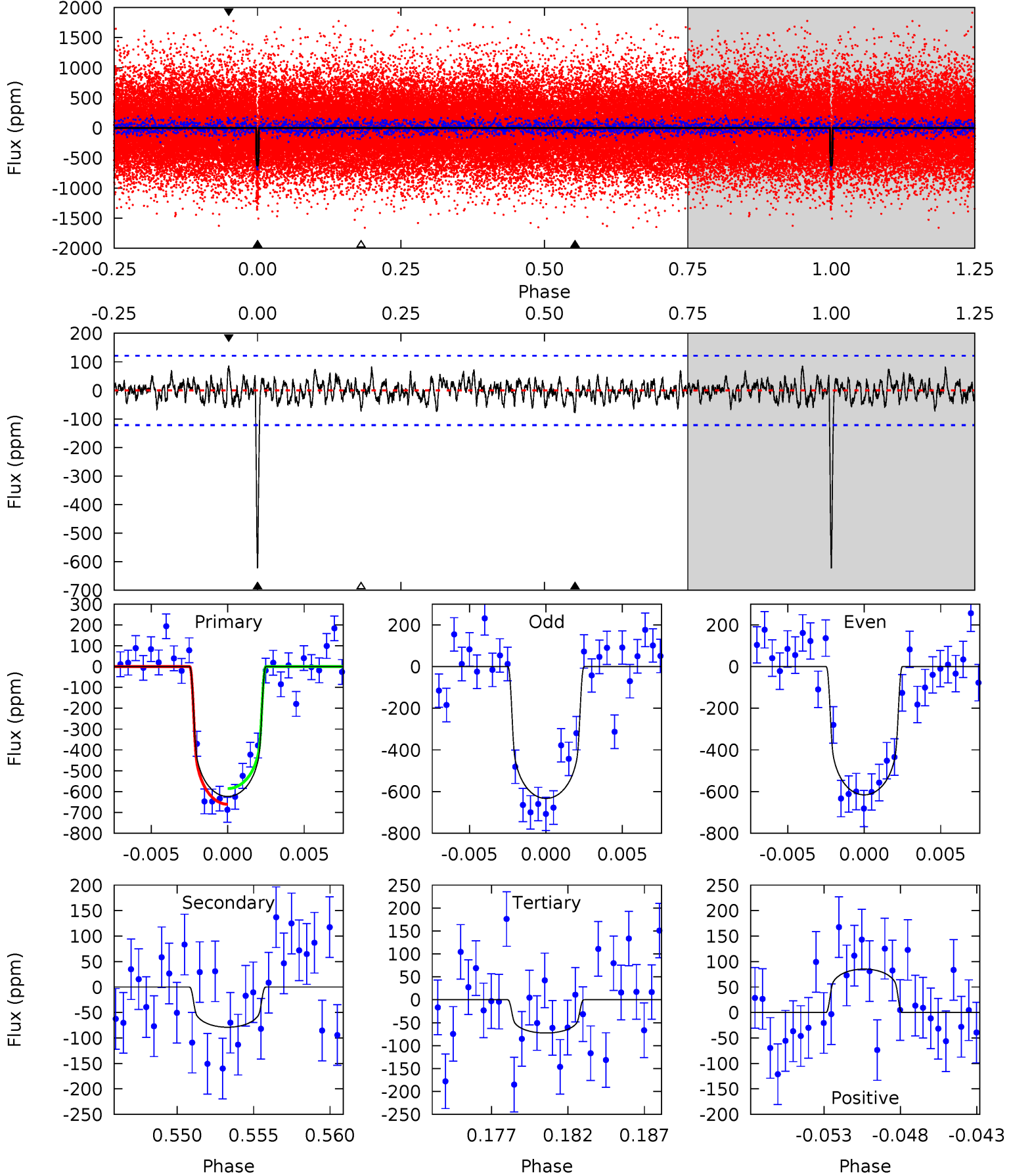
TCE 003120355-01 P= 78.100235 Days $T_0=139.491855$ (BKJD)



DV Model-Shift Uniqueness Test

003120355-01, P = 78.099705 Days, E = 61.397980 Days

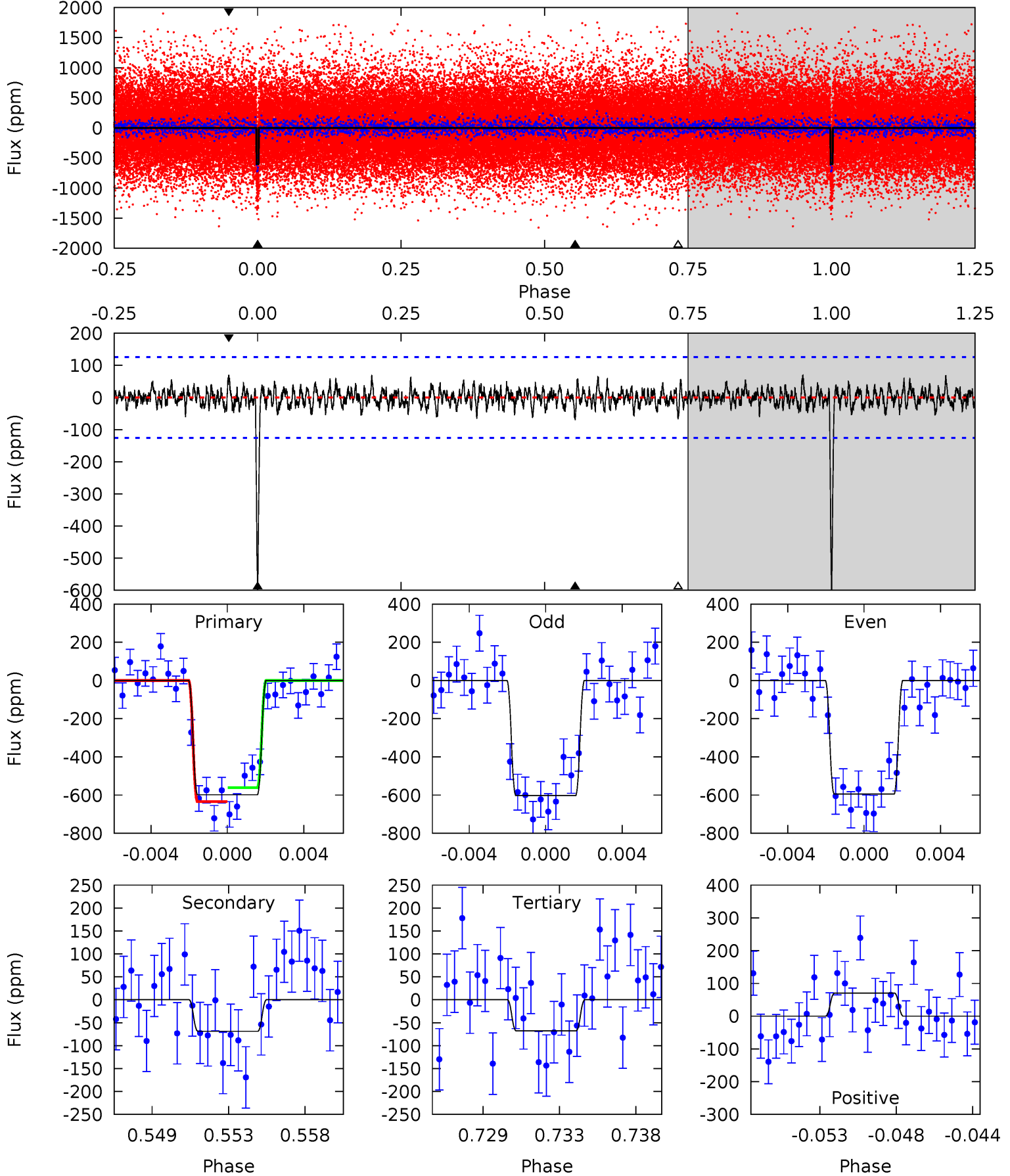
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.5	3.36	3.08	3.62	5.17	2.82	1.13	23.4	22.9	0.27	-0.27	0.37	0.95	0.12	1.60



Alt Model-Shift Uniqueness Test

003120355-01, P = 78.100235 Days, E = 61.391620 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.6	2.84	2.79	2.90	5.18	2.85	0.91	21.9	21.7	0.05	-0.06	0.15	0.99	0.11	1.52



Stellar Parameters For KIC 003120355

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5779^{+78}_{-78}	$4.238^{+0.143}_{-0.117}$	$0.160^{+0.150}_{-0.150}$	$1.284^{+0.215}_{-0.215}$	$1.039^{+0.081}_{-0.065}$	$0.692^{+0.478}_{-0.243}$
	+1%/-1%	+3%/-3%	+94%/-94%	+17%/-17%	+8%/-6%	+69%/-35%
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 003120355-01 / KOI 2099.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-79 ± 24	$3.50^{+0.89}_{-0.89}$	669^{+29}_{-32}	3810^{+434}_{-343}	475^{+409}_{-218}
Alt.	-69 ± 24	$3.47^{+0.99}_{-0.87}$	669^{+30}_{-32}	3734^{+410}_{-373}	410^{+373}_{-195}

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

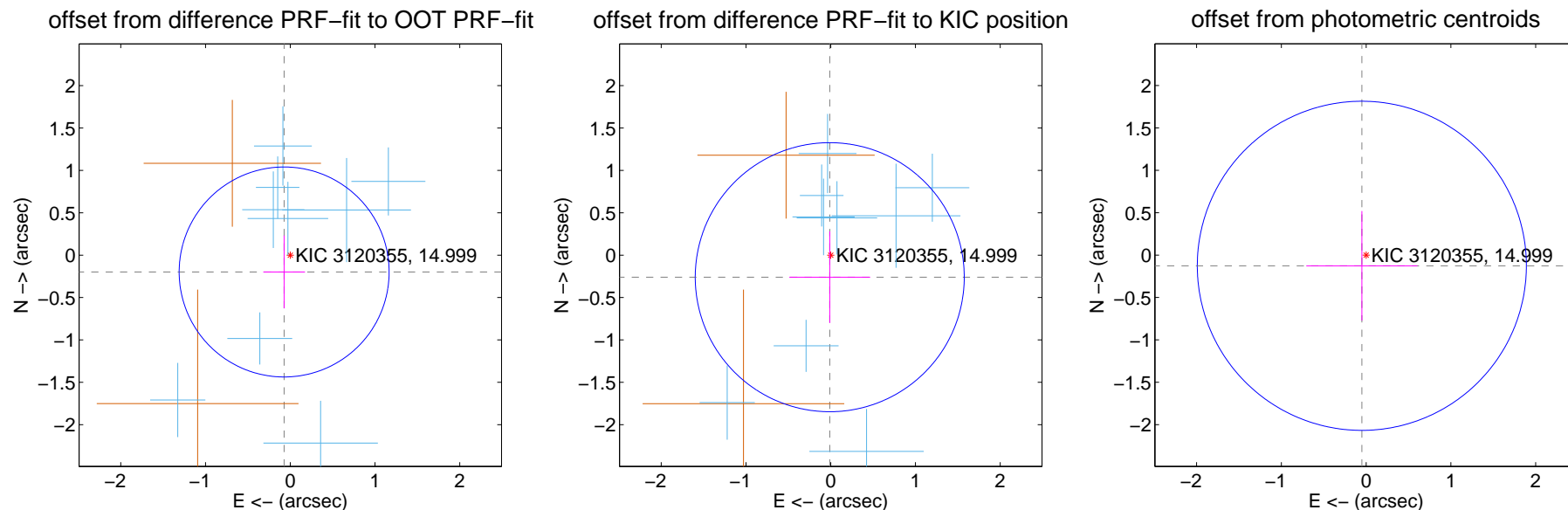
DV Centroid Data

Supplemental centroid analysis for 003120355-01. Kepler magnitude: 15.00. Transit SNR 20.94

There are 10 quarters with good PRF difference image offsets

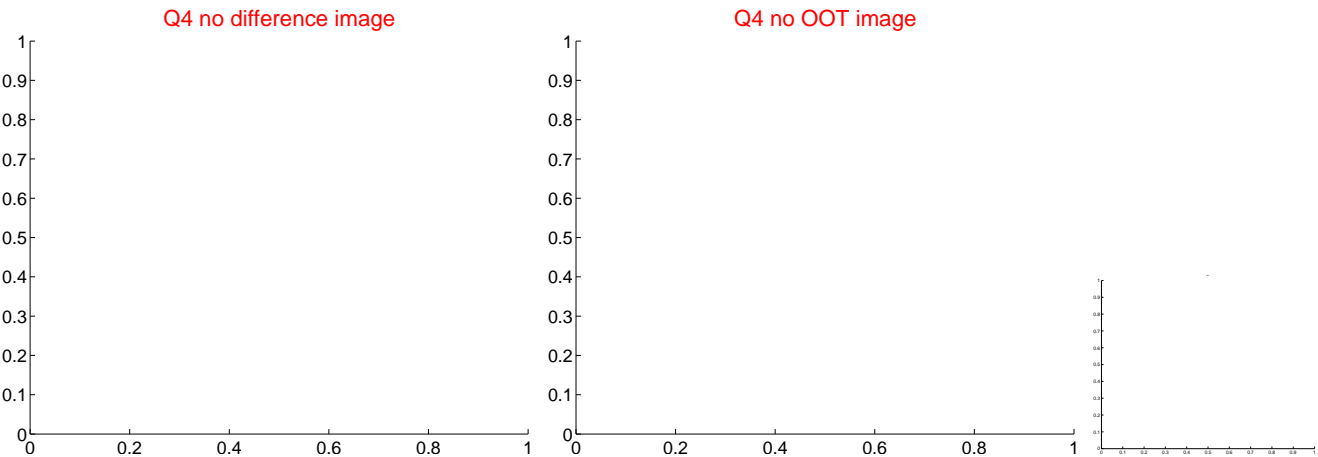
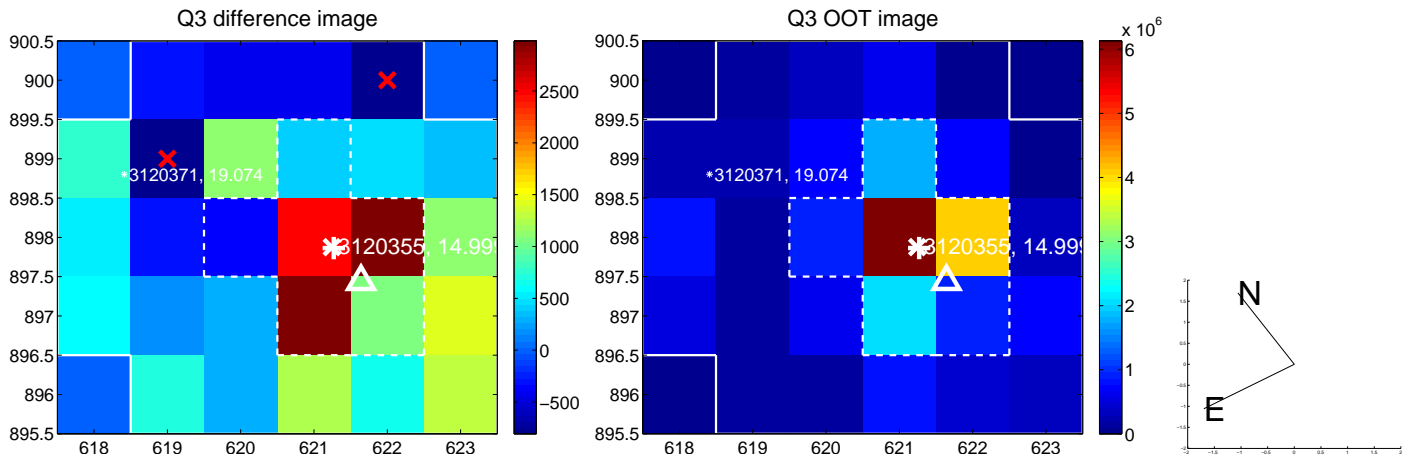
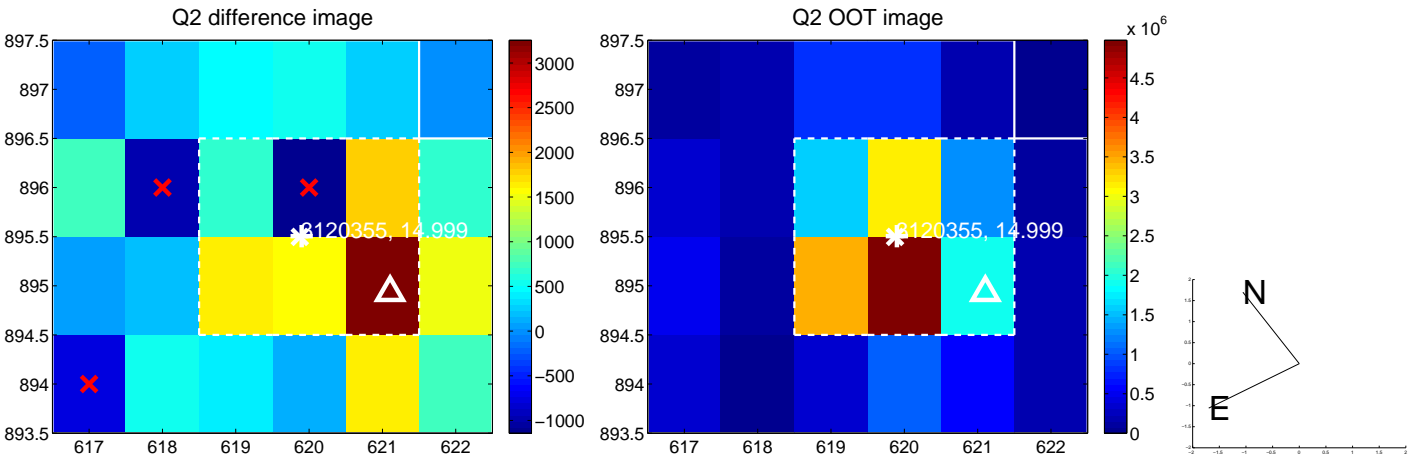
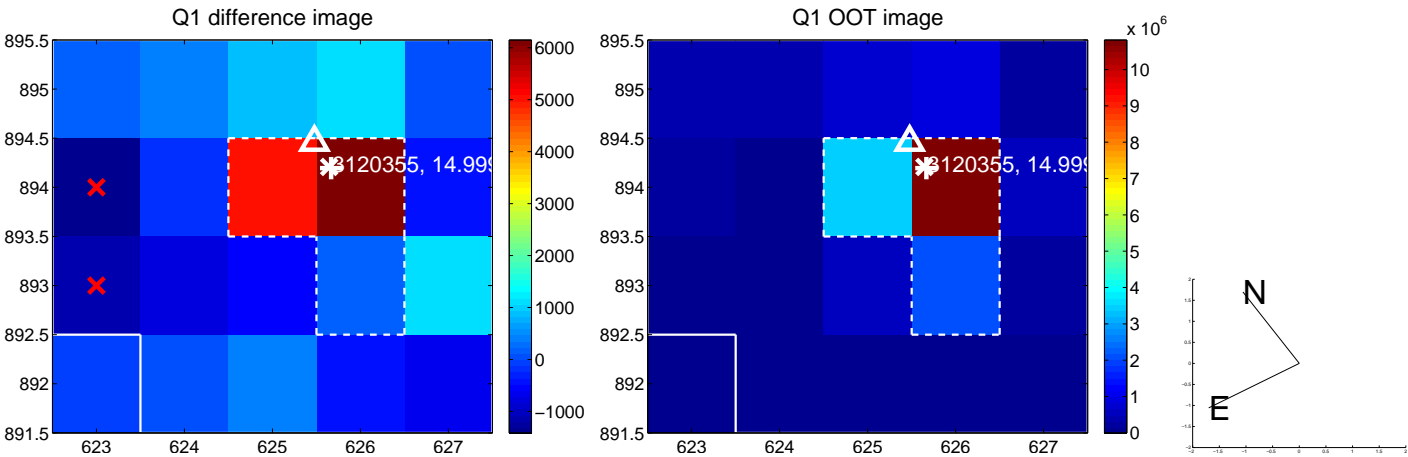
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.211 ± 0.413	0.51	0.072 ± 0.246	-0.198 ± 0.430
PRF-fit source offset from KIC position	0.260 ± 0.529	0.49	0.011 ± 0.477	-0.260 ± 0.540
photometric centroid source offset	0.14 ± 0.65	0.21	0.05 ± 0.66	-0.13 ± 0.65

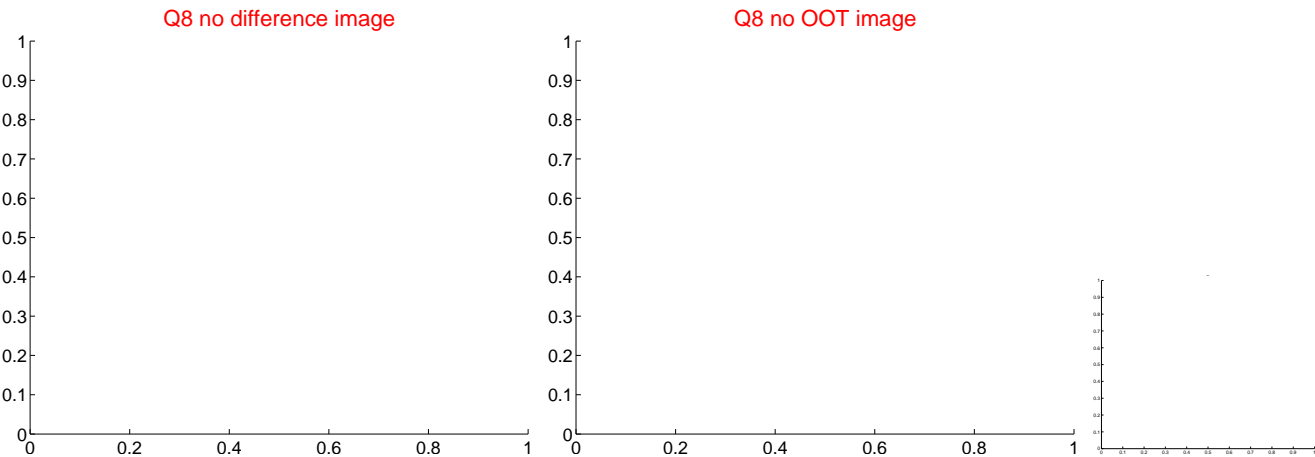
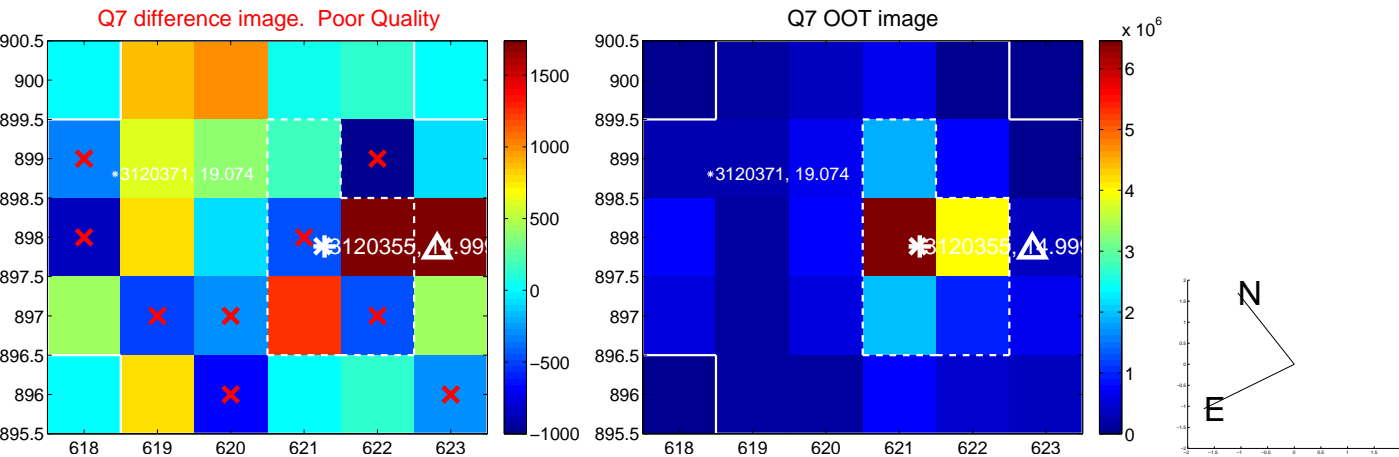
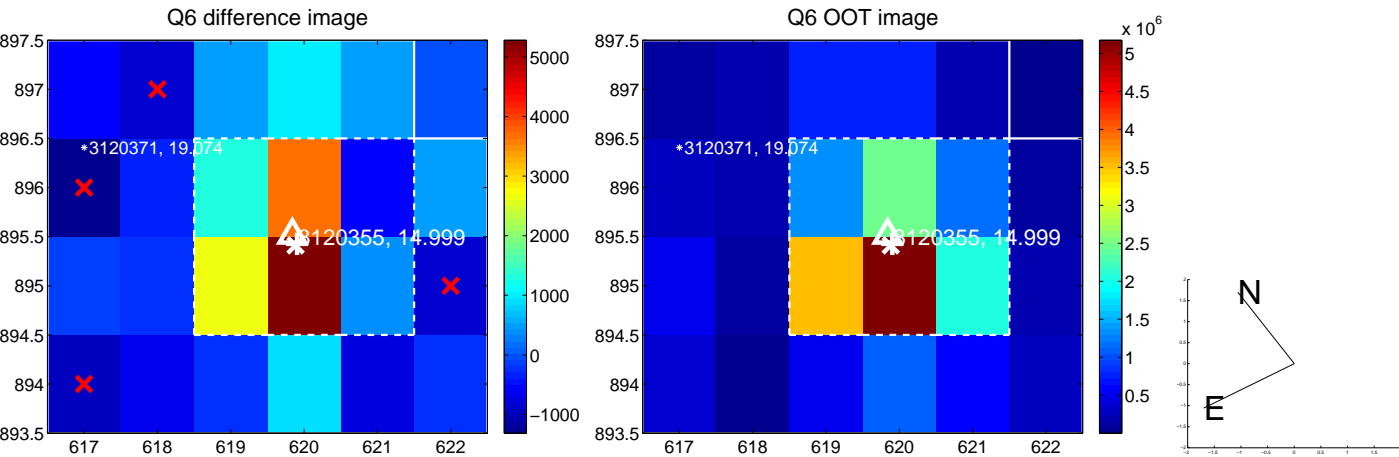
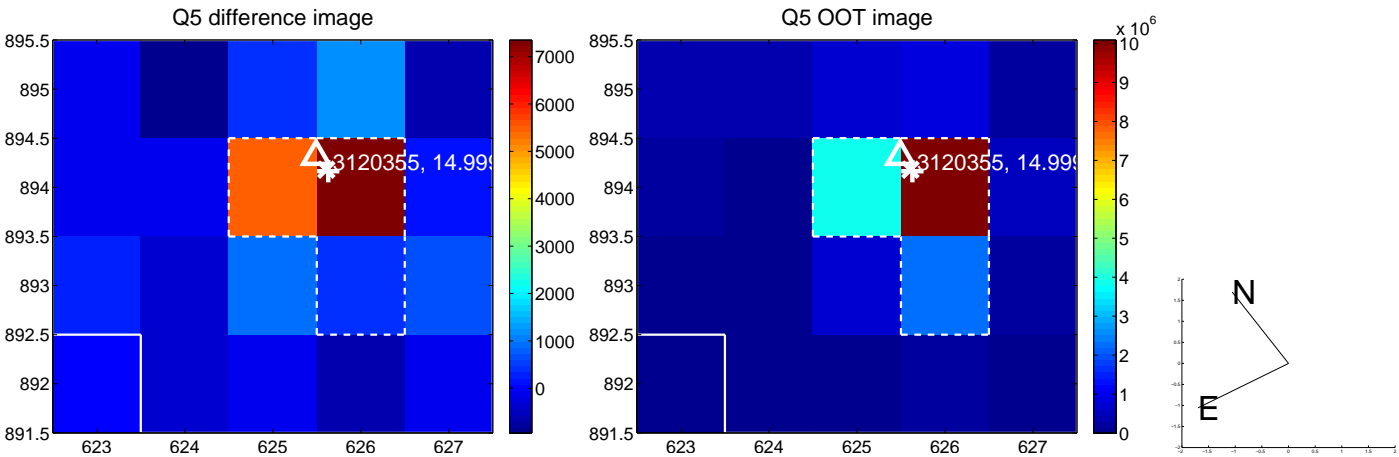


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

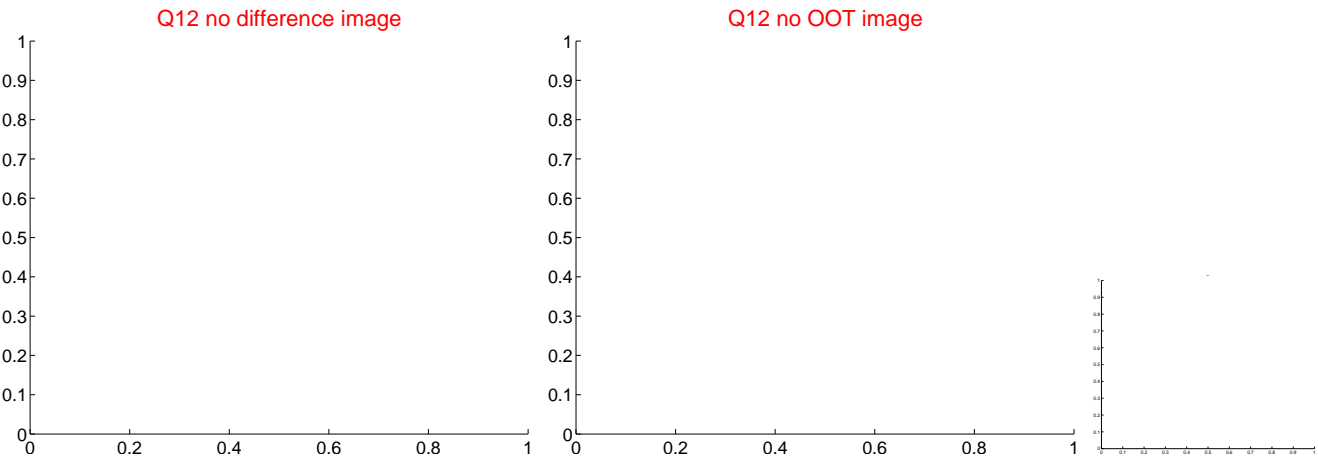
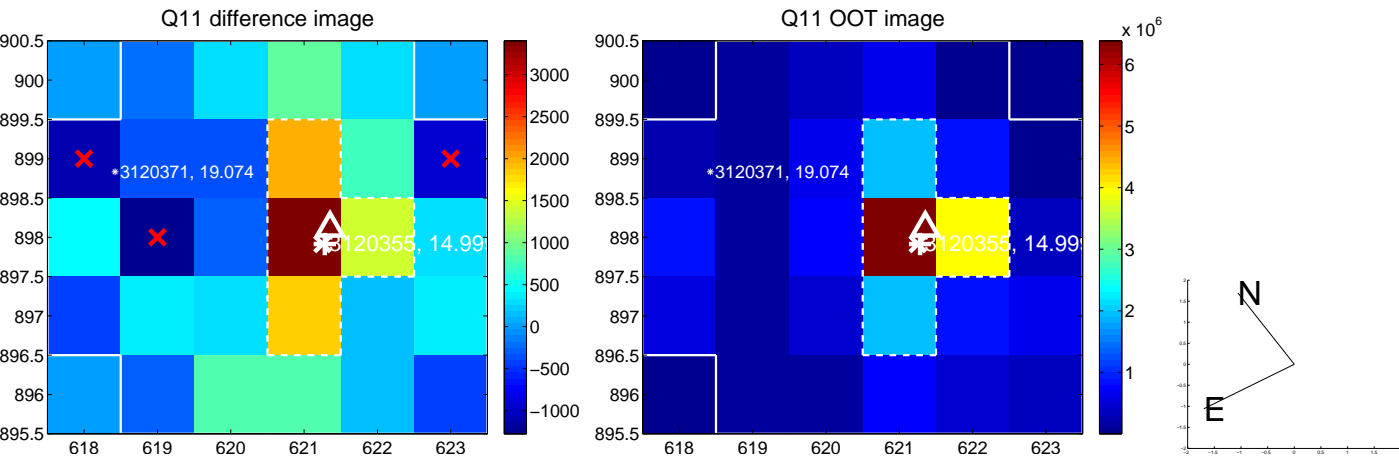
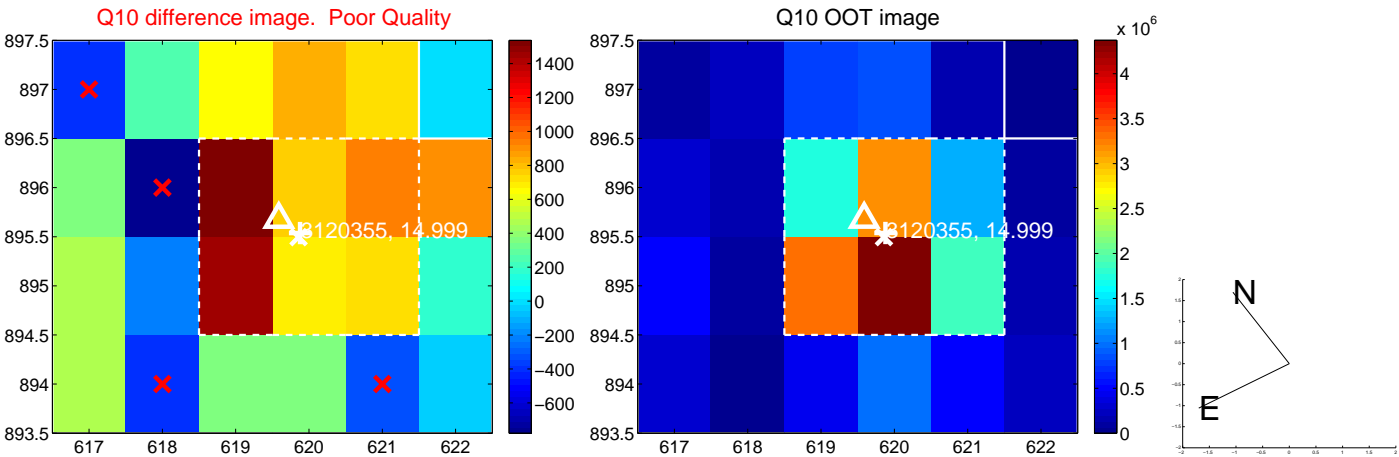
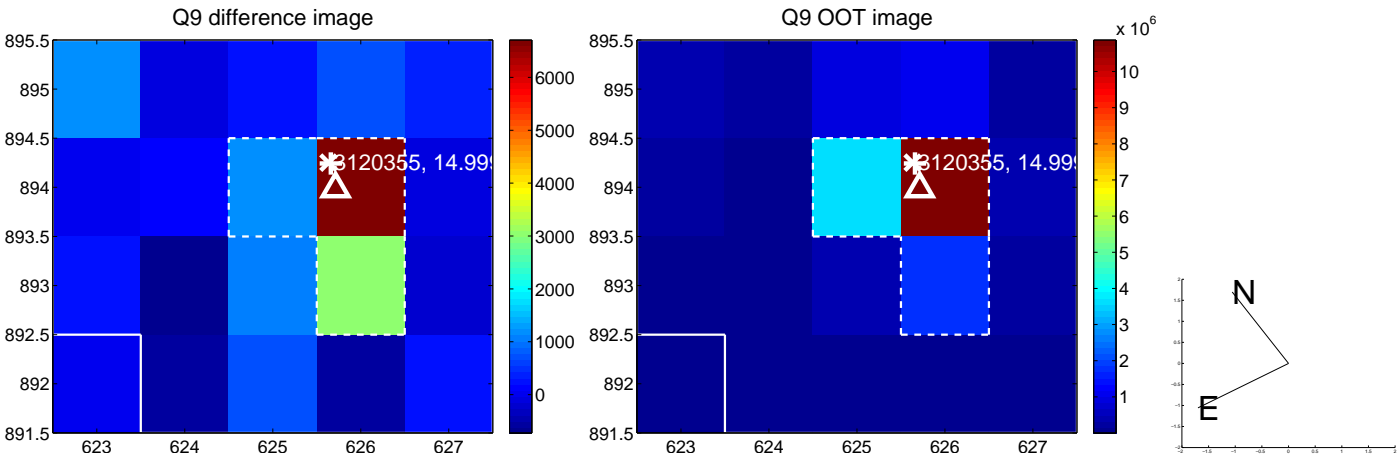
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



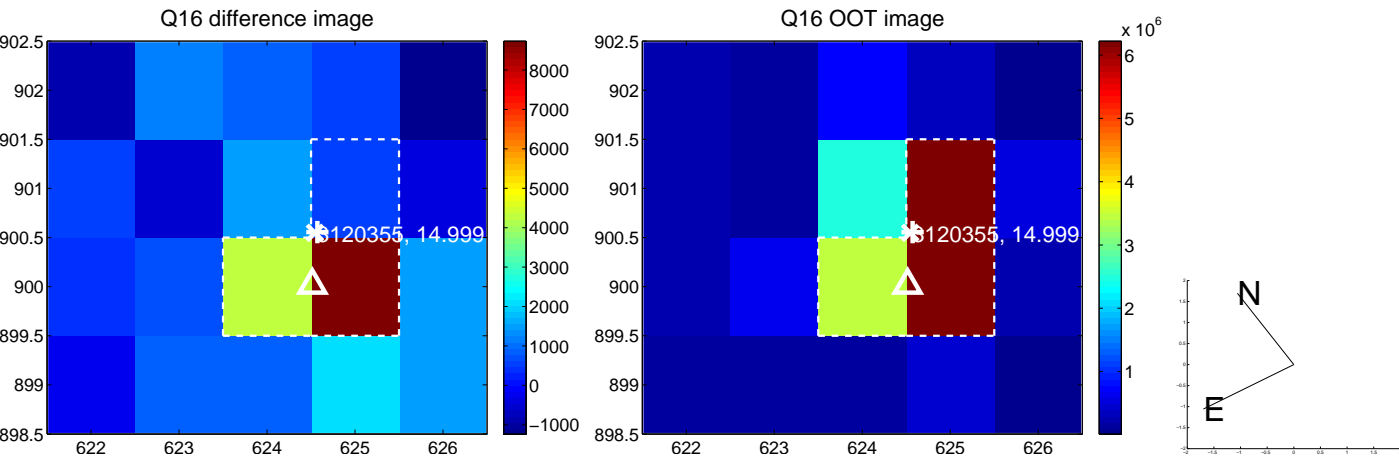
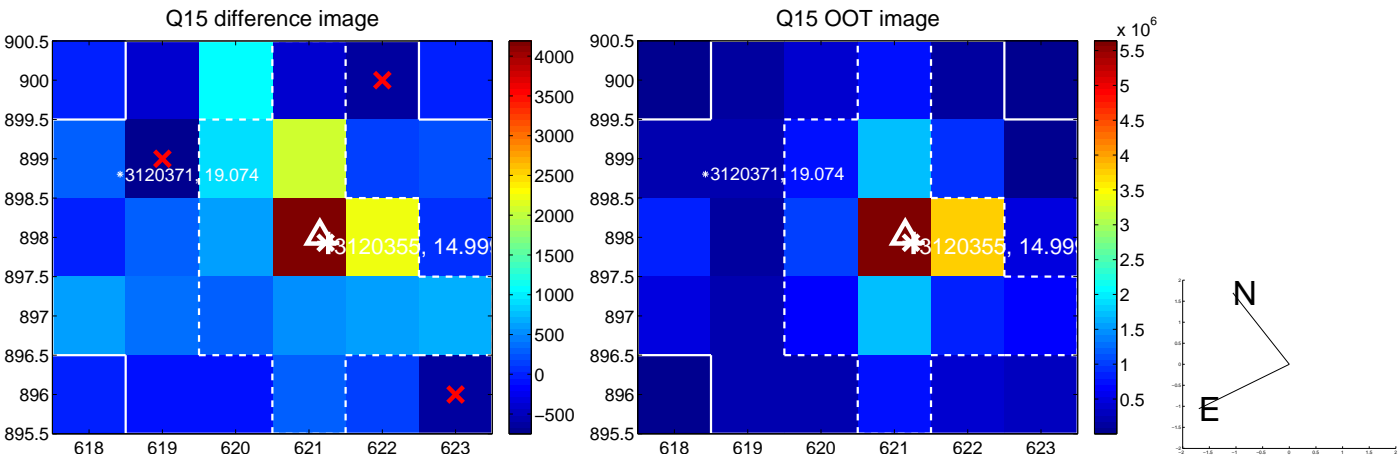
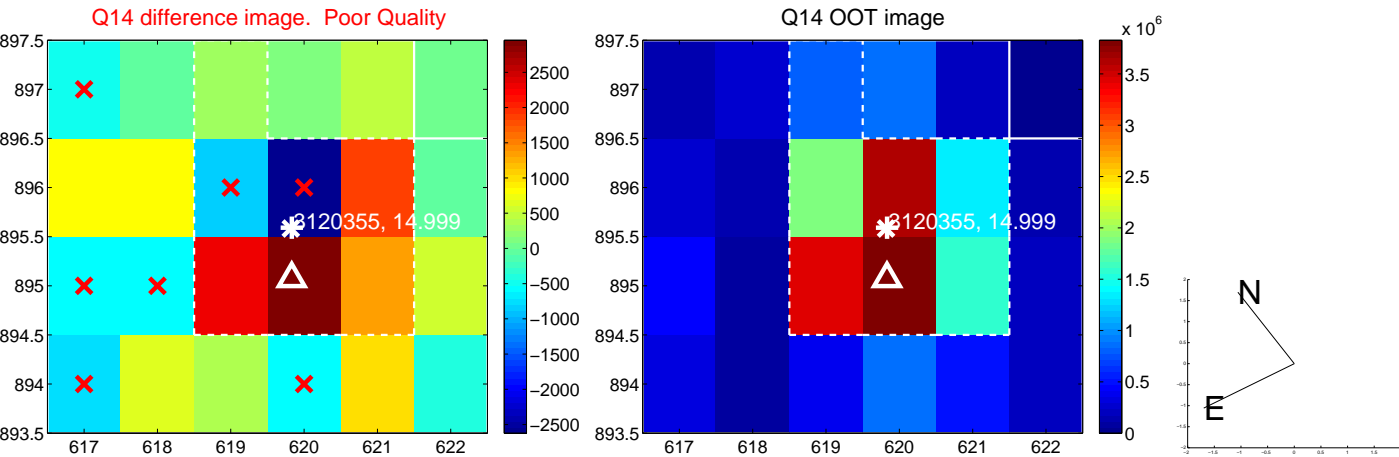
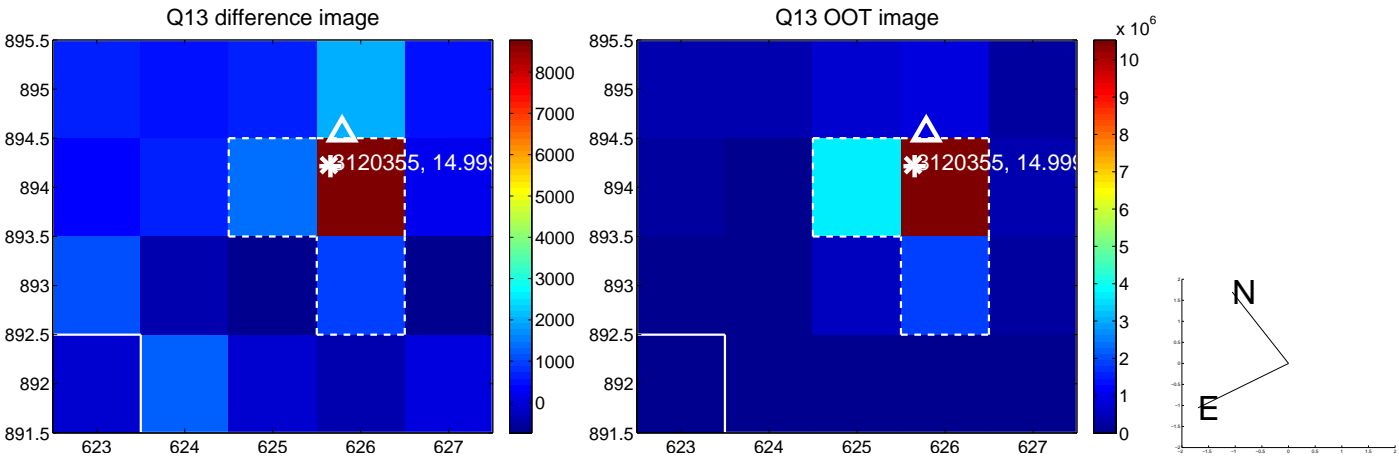
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



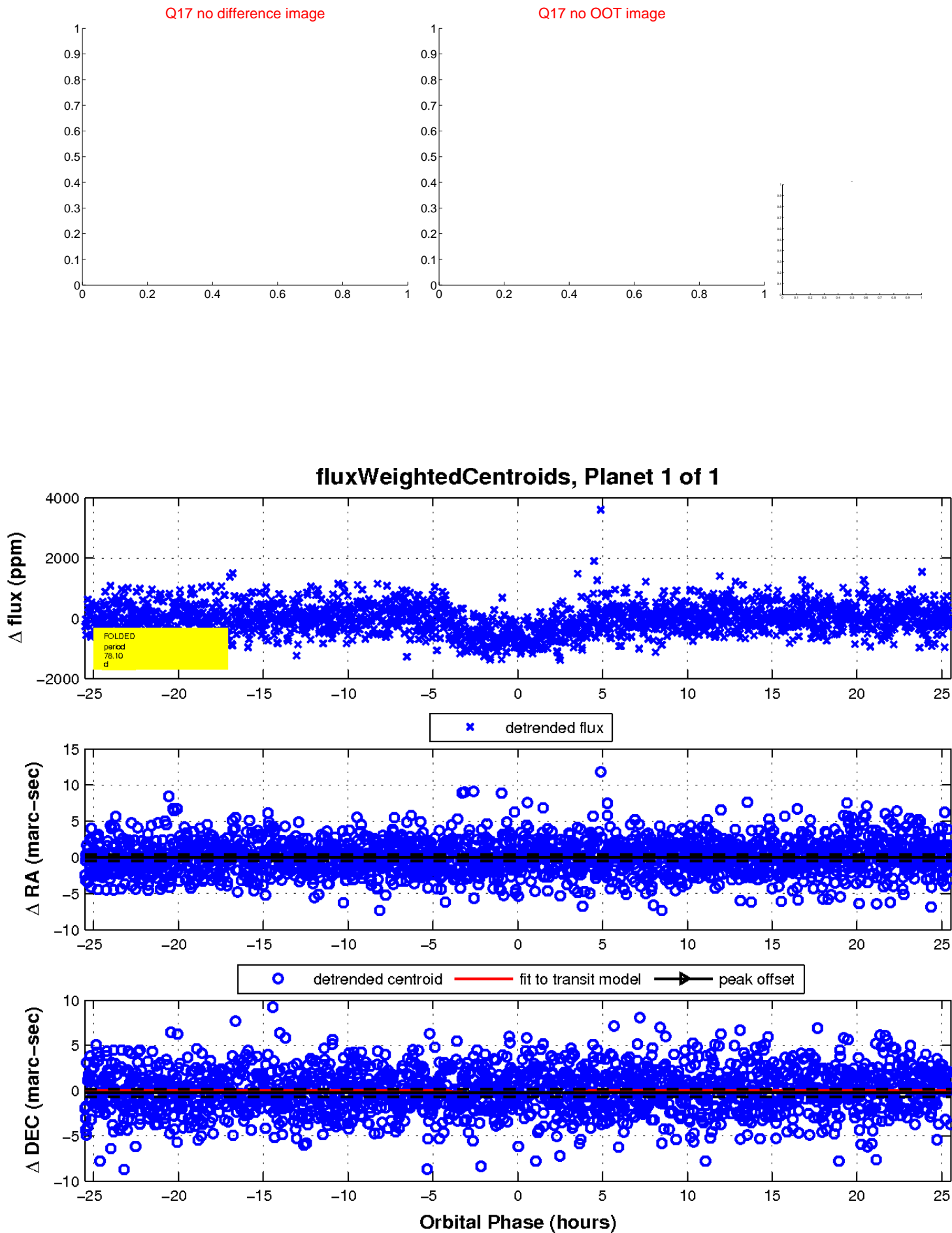
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UKIRT Image

Declination

