

KIC 009278553

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})
009278553-01	OBS	1385.01	18.610093	139.085046	50607.3	4.963	1281.9	1243.9	0.89	6077	29.55	52.31

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009278553-01	OBS	FP	0.00	0	1	0	0	DEEP_V_SHAPED

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 009278553-01

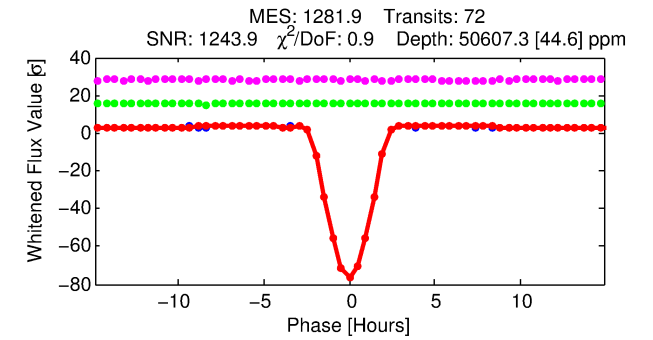
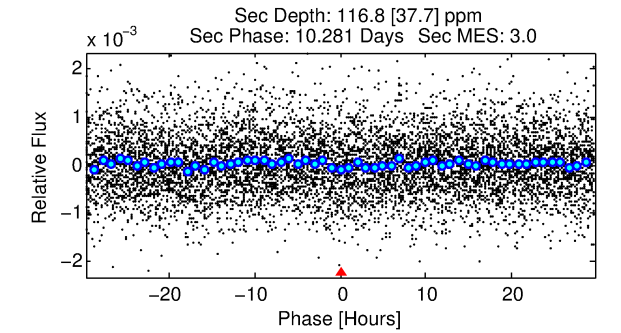
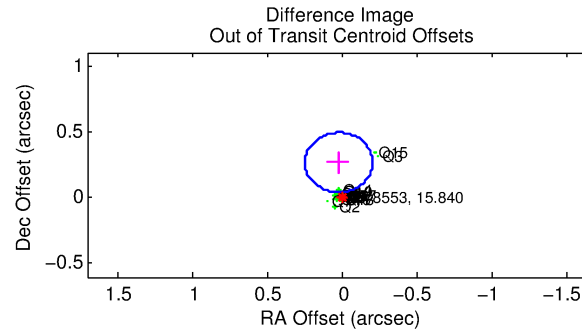
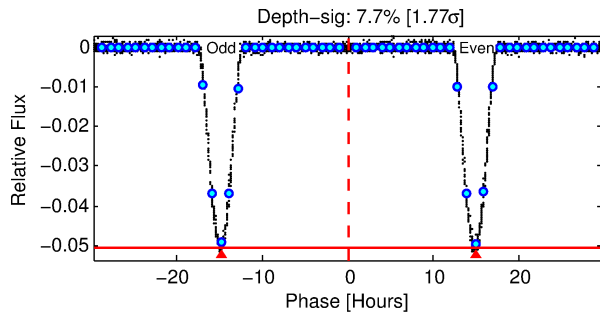
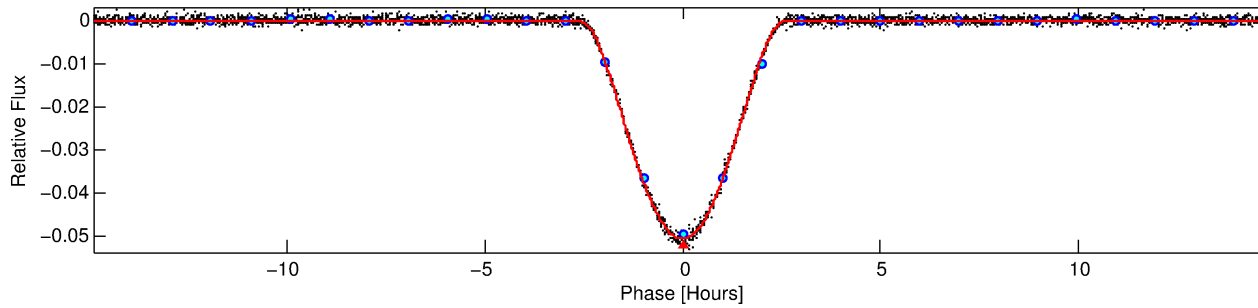
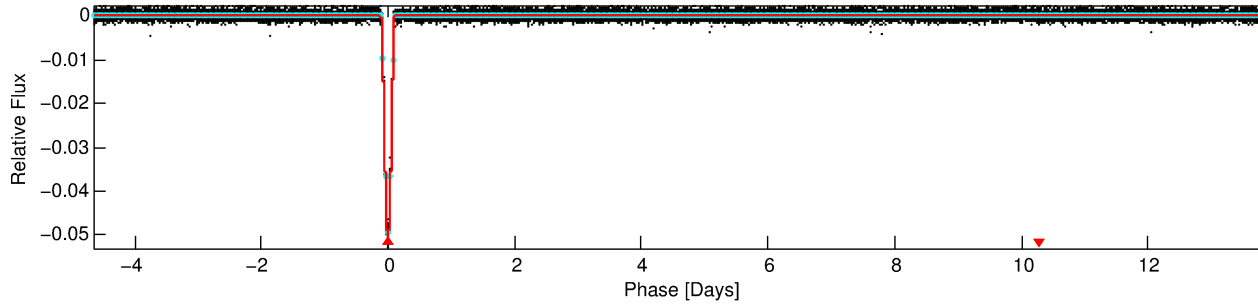
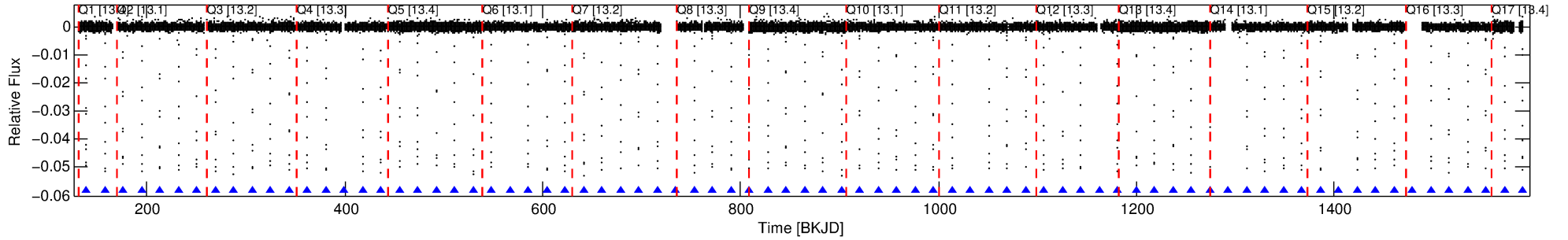
No Significant Match Found

DV One-Page Summary

KIC: 9278553 Candidate: 1 of 1 Period: 18.610 d

KOI: K01385.01 Corr: 0.998

Kp: 15.84 R*: 0.89 Rs Teff: 6077.0 K Logg: 4.53 Fe/H: -0.340



DV Fit Results:

Period = 18.61009 [0.00000] d
Epoch = 139.0850 [0.0001] BKJD
Rp/R* = 0.3039 [0.0114]
a/R* = 26.22 [0.08]
b = 0.93 [0.02]
Seff = 52.31 [18.95]
Teq = 686 [62] K
Rp = 29.55 [8.27] Re
a = 0.1362 [0.0317] AU
Ag = 1.36 [0.65] [0.56σ]
Teffp = 1146 [102] K [3.85σ]

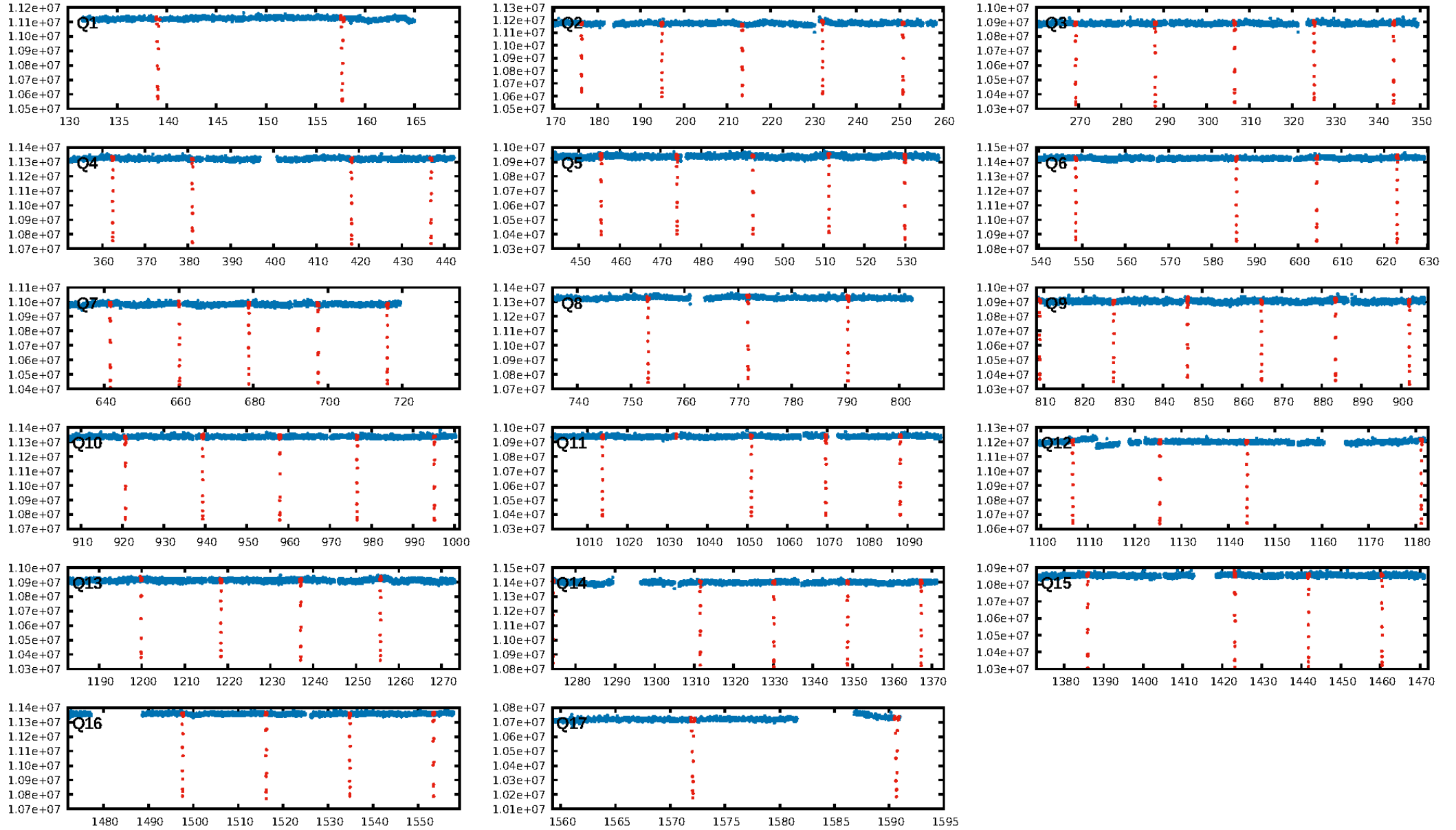
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [68/68]
GhostDiagnostic-chr: 4.161
Centroid-sig: 0.0%
Centroid-so: 0.192 arcsec [18.69σ]
OotOffset-rm: 0.267 arcsec [3.55σ]
KicOffset-rm: 0.150 arcsec [1.98σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

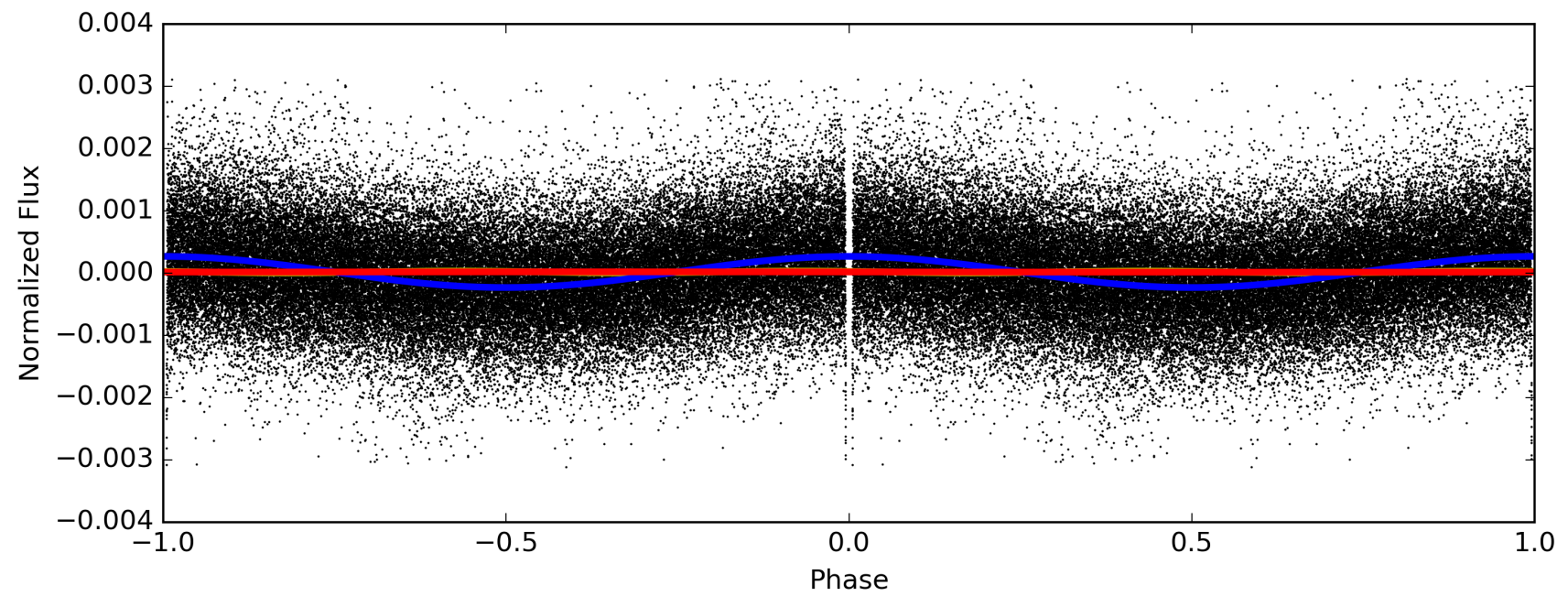
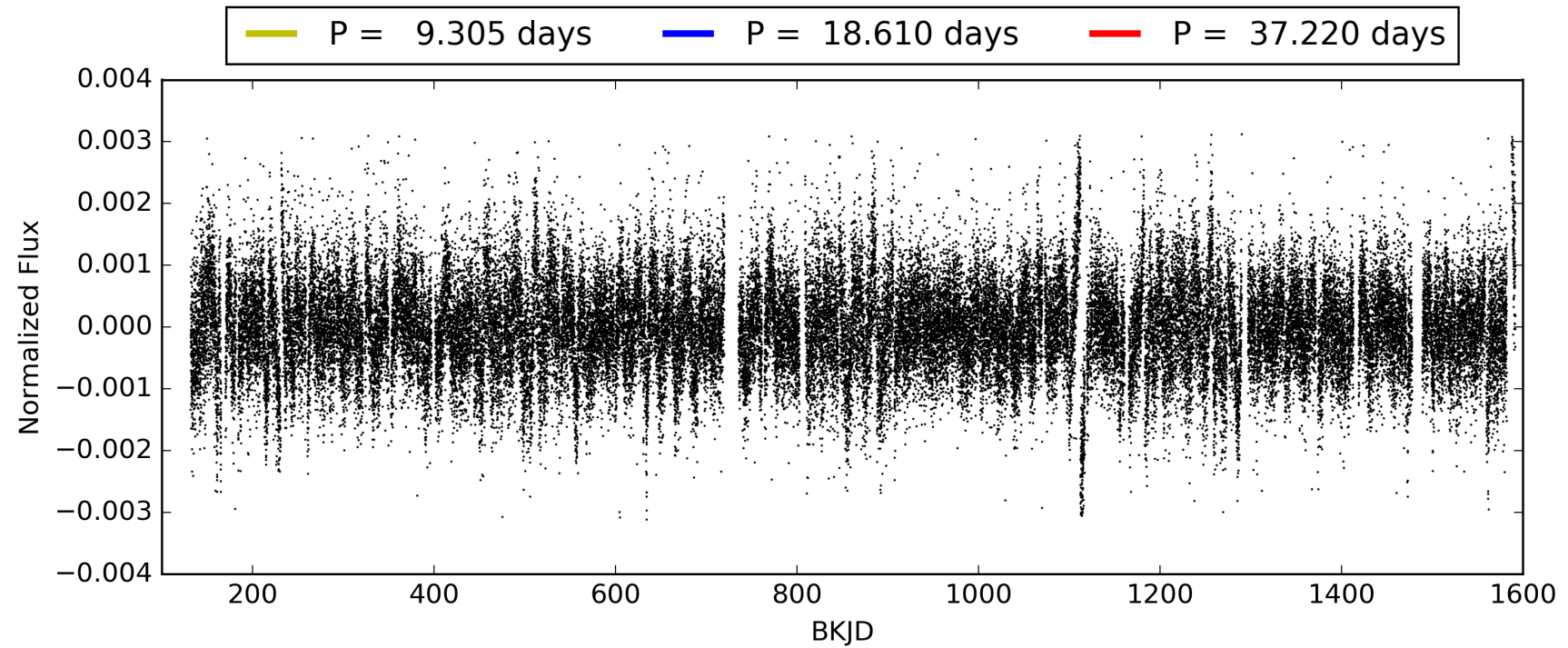
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:26:49 Z

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

TCE 009278553-01, PDC Light Curves

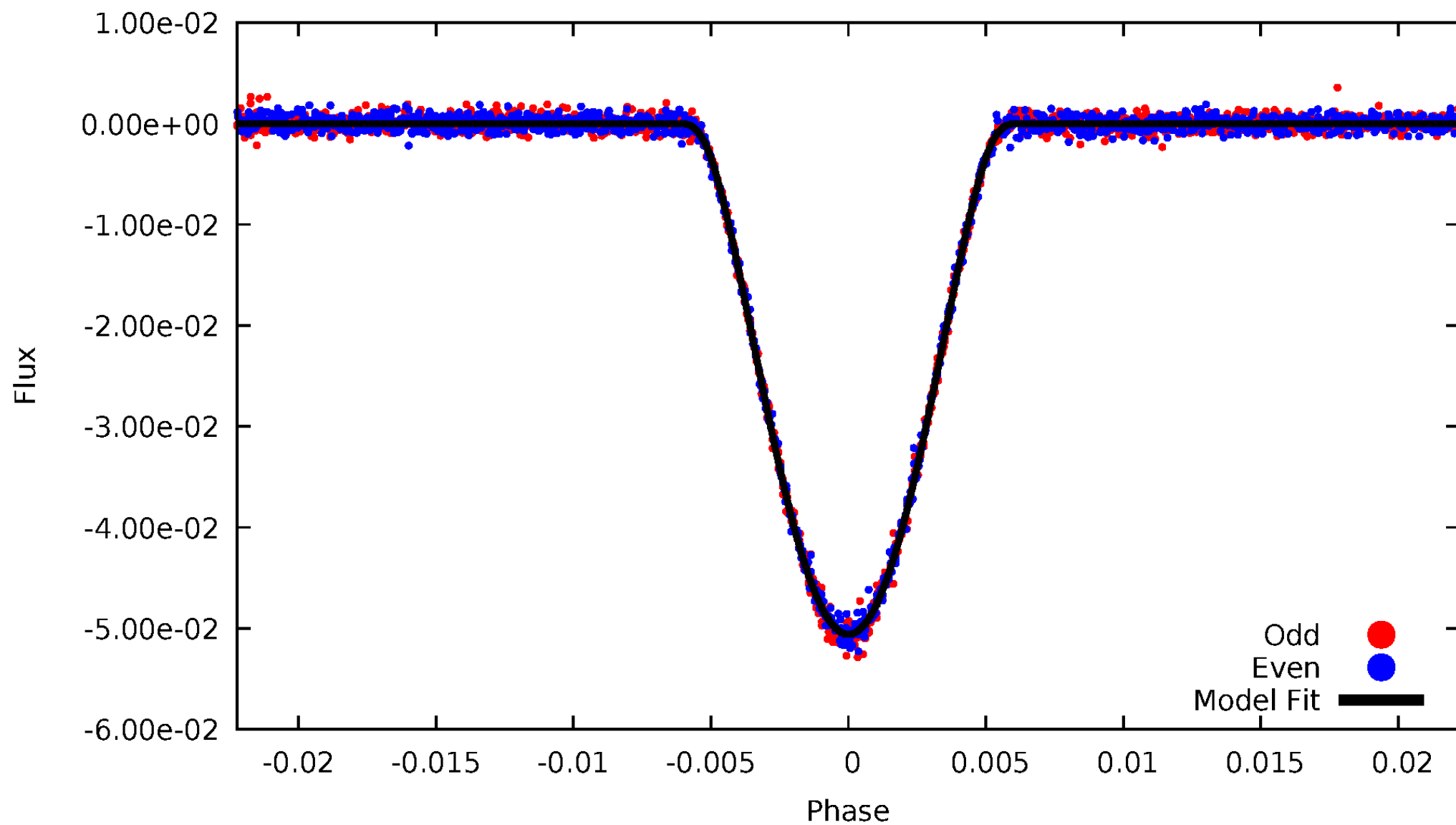


TCE 009278553-01



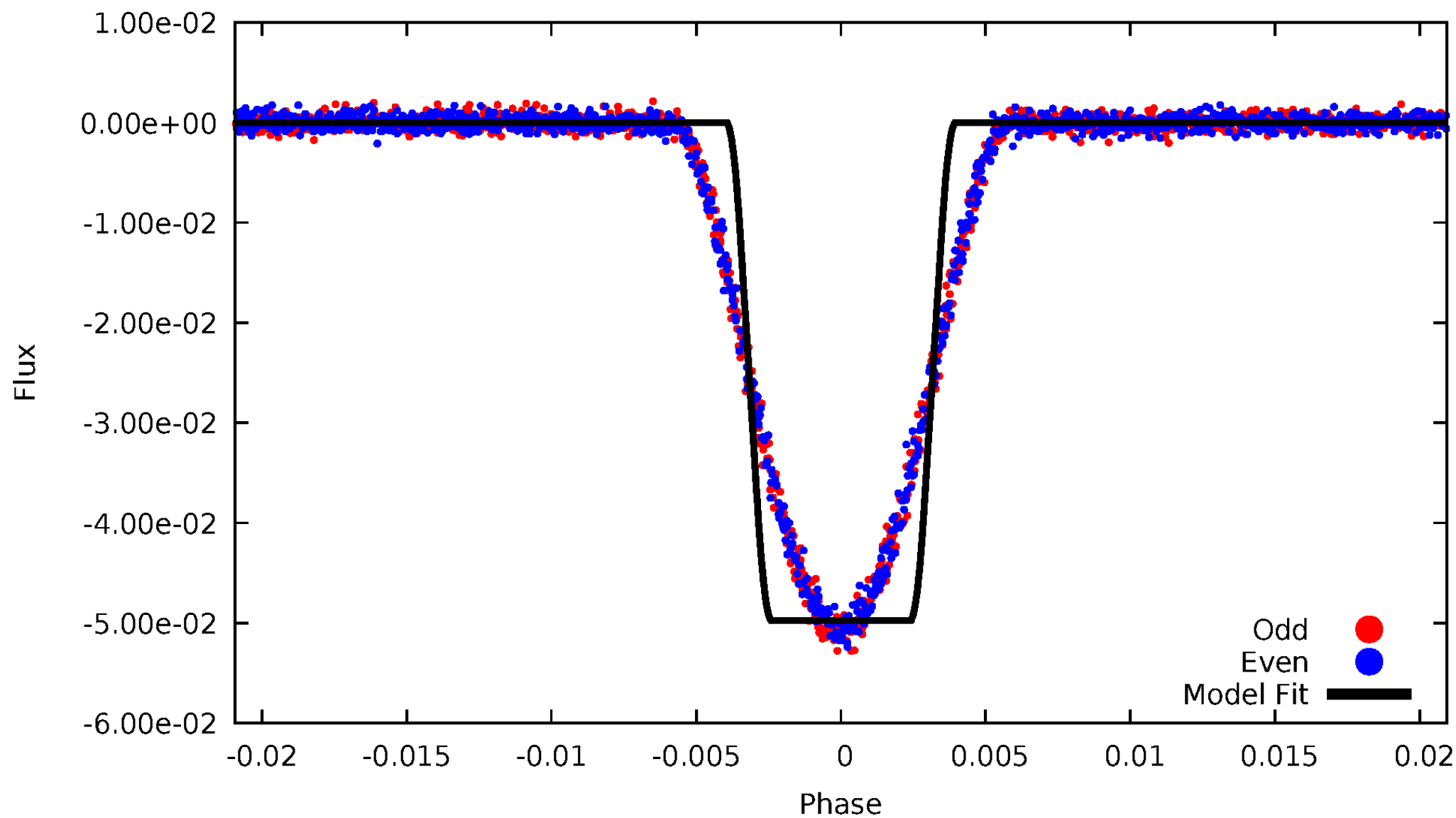
DV Odd/Even

TCE 009278553-01



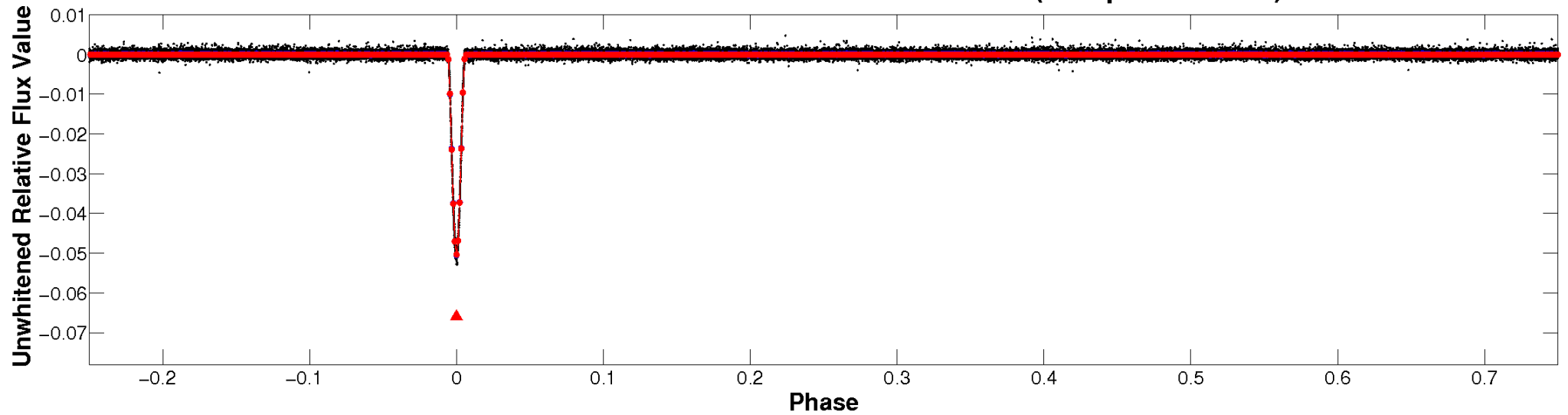
ALT Odd/Even

TCE 009278553-01

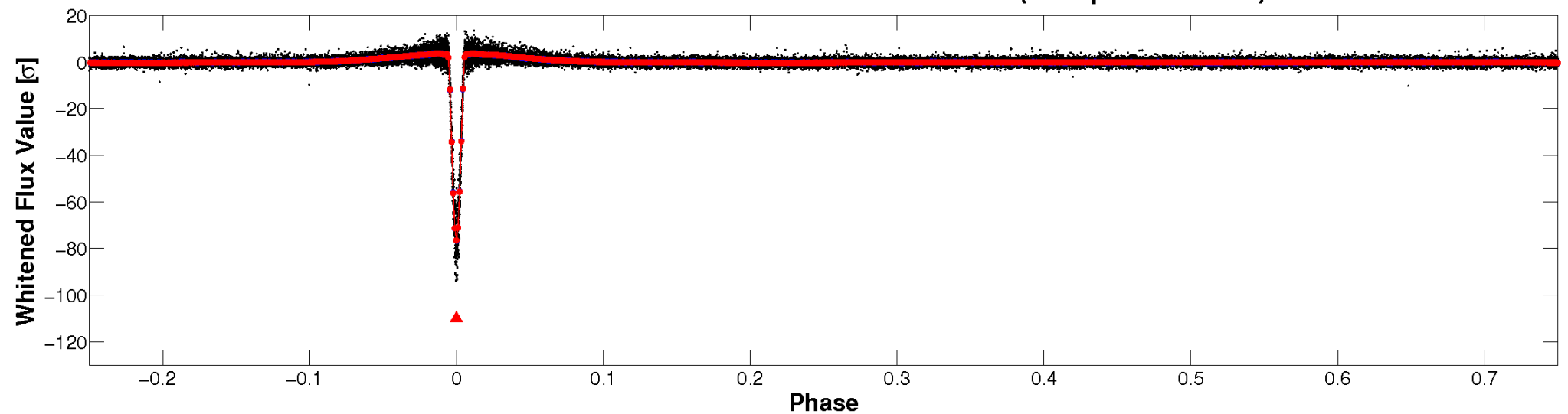


Non-Whitened Vs. Whitened Light Curve

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

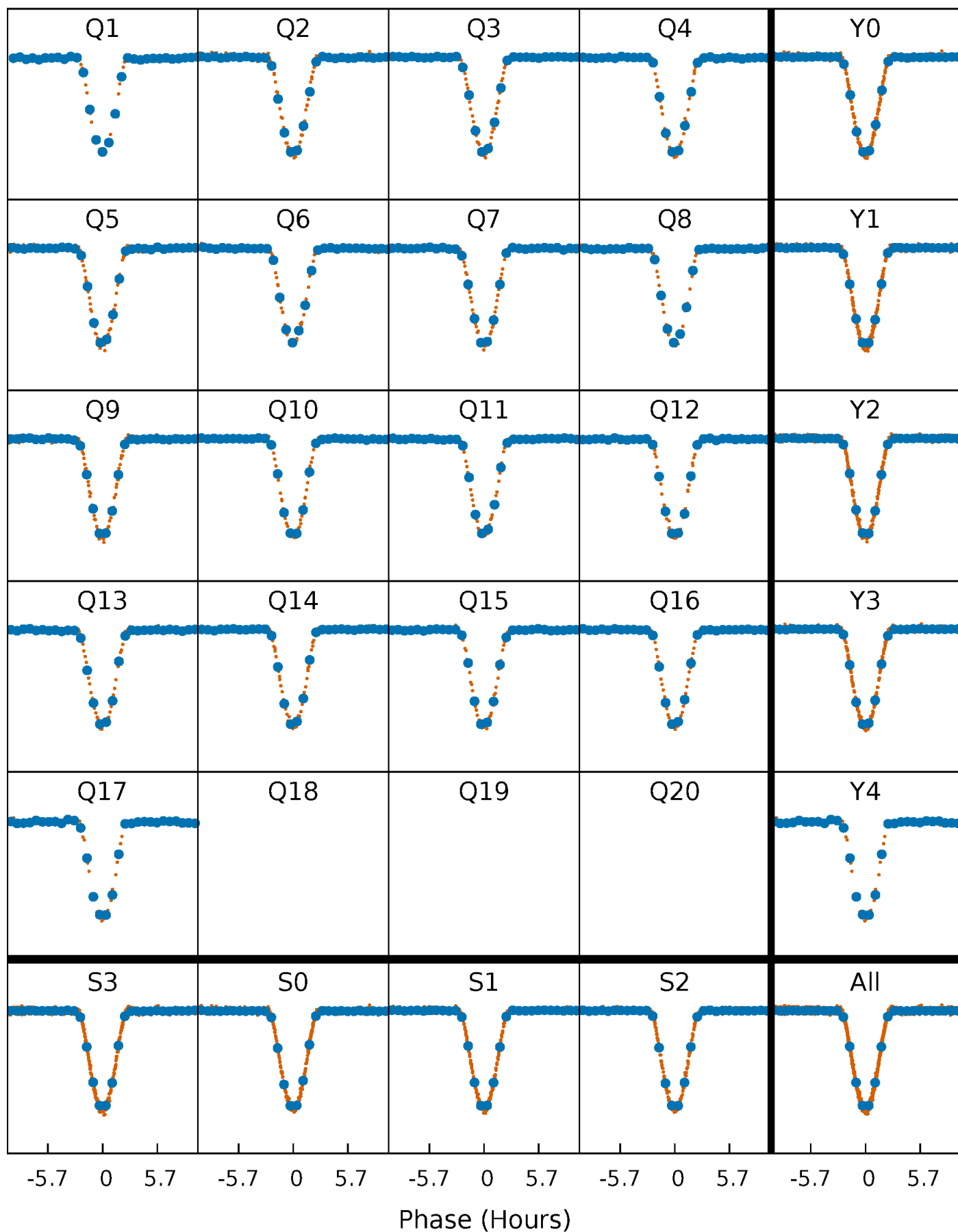


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



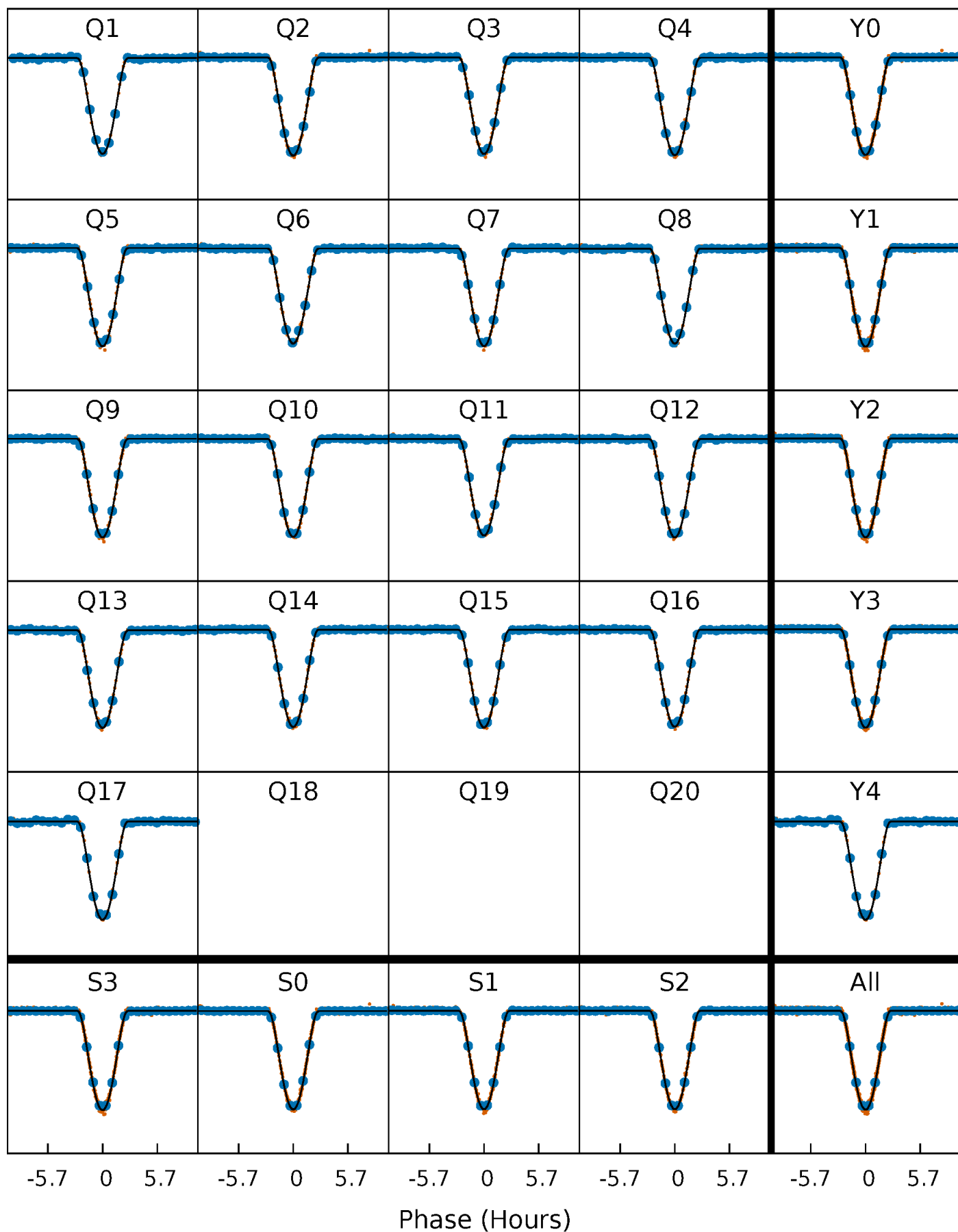
PDC Quarter-Phased Transit Curves

TCE 009278553-01 P= 18.610093 Days $T_0=139.085046$ (BKJD)



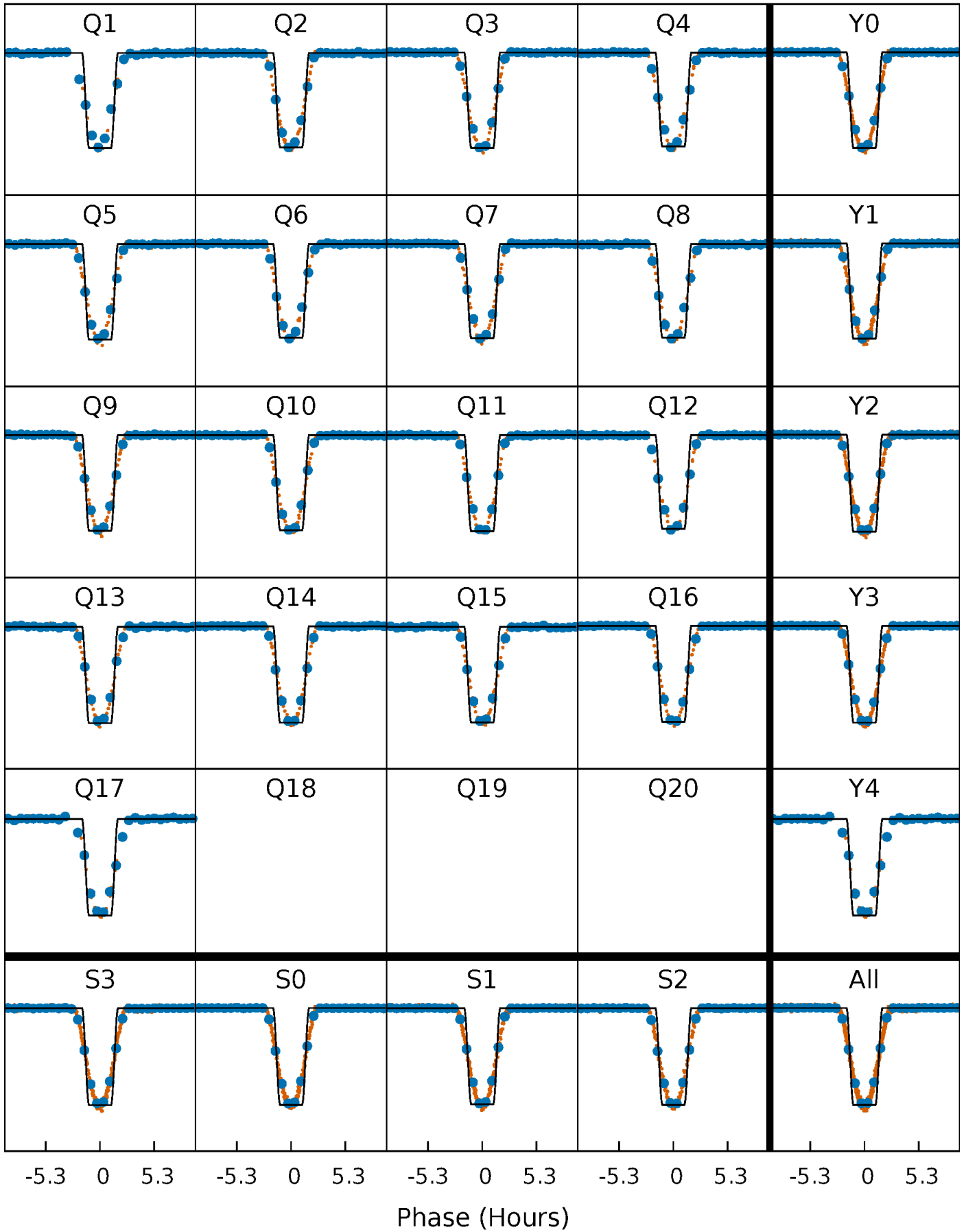
DV Quarter-Phased Transit Curves

TCE 009278553-01 P= 18.610093 Days $T_0=139.085046$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

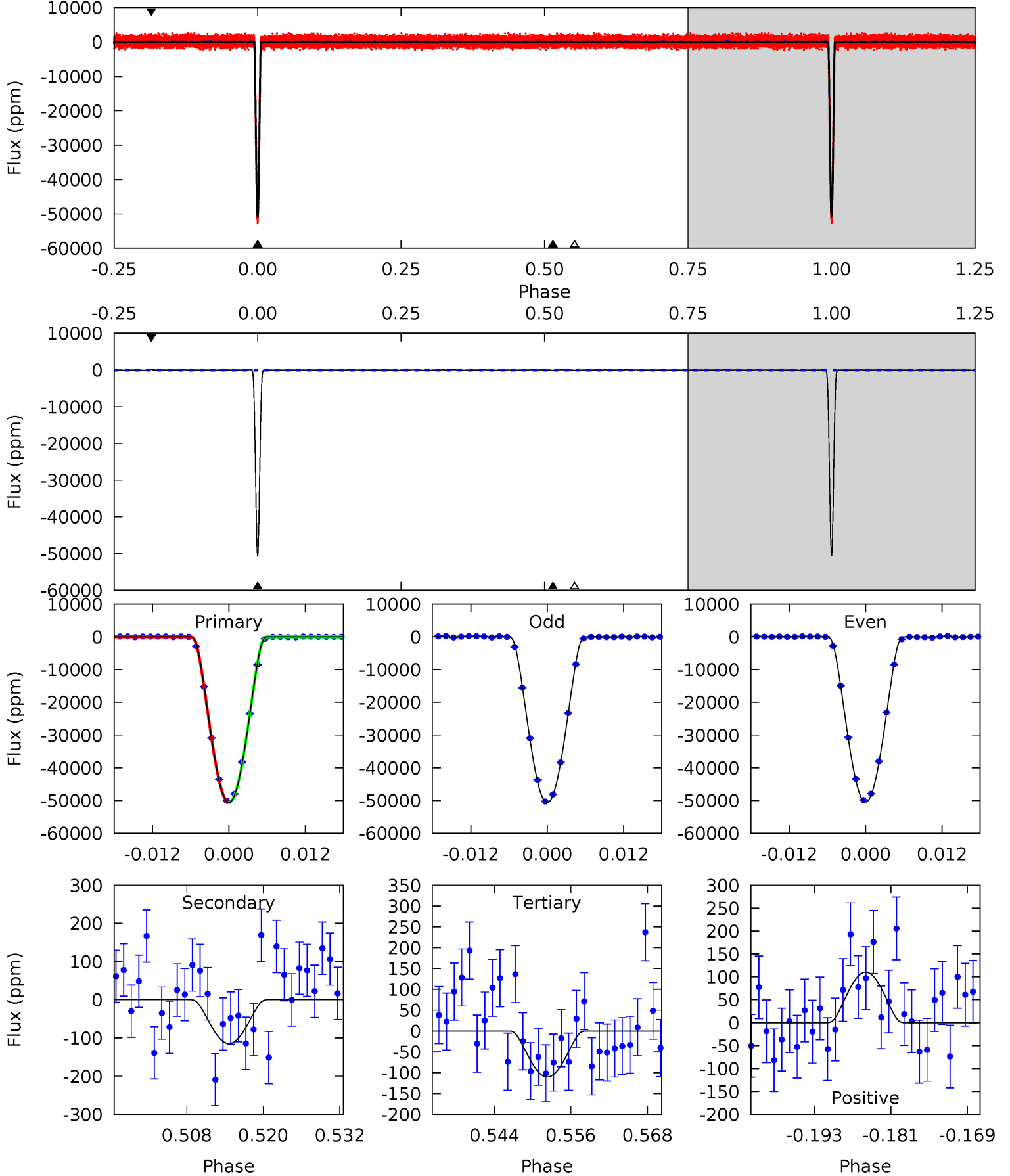
TCE 009278553-01 P= 18.610011 Days $T_0=139.088181$ (BKJD)



DV Model-Shift Uniqueness Test

009278553-01, P = 18.610093 Days, E = 120.474953 Days

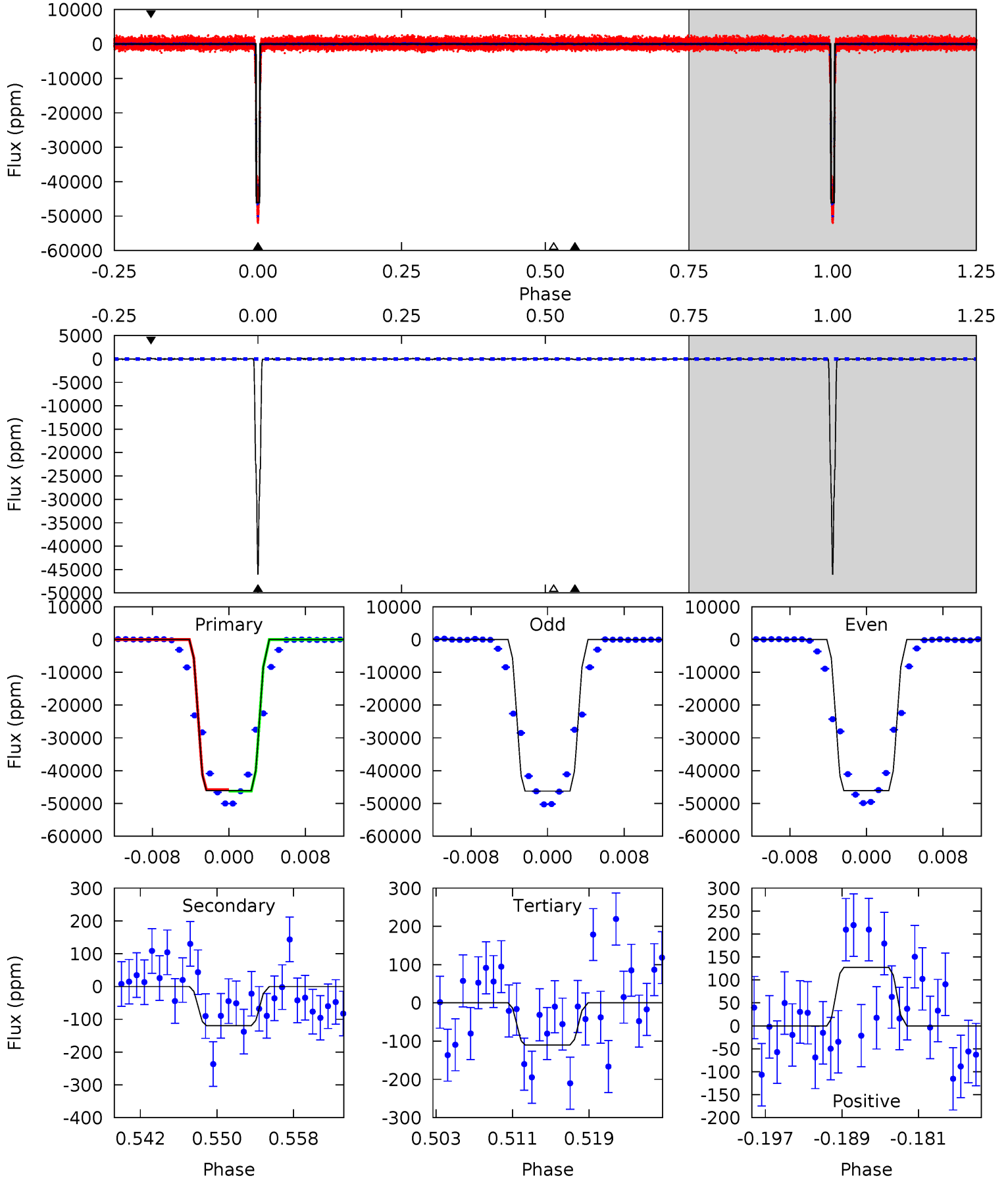
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2252	5.10	4.91	4.90	4.99	2.51	1.61	2247	2247	0.20	0.20	4.38	1.00	0.00	0.32



Alt Model-Shift Uniqueness Test

009278553-01, P = 18.610011 Days, E = 120.478170 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1366	3.54	3.26	3.78	5.07	2.66	1.09	1363	1363	0.28	-0.24	1.71	1.00	0.00	7.44



Stellar Parameters For KIC 009278553

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6077^{+164}_{-200}	$4.526^{+0.046}_{-0.184}$	$-0.340^{+0.300}_{-0.300}$	$0.891^{+0.247}_{-0.082}$	$0.974^{+0.116}_{-0.128}$	$1.936^{+0.474}_{-0.932}$
	+3%/-3%	+1%/-4%	+88%/-88%	+28%/-9%	+12%/-13%	+24%/-48%
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 009278553-01 / KOI 1385.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-115 ± 22	$30.45^{+4.80}_{-2.66}$	977^{+66}_{-43}	2048^{+67}_{-73}	$1.208^{+0.351}_{-0.349}$
Alt.	-120 ± 34	$22.50^{+3.29}_{-2.16}$	979^{+69}_{-44}	2237^{+86}_{-98}	$2.295^{+0.860}_{-0.742}$

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 $A_{obs} \gg 1.0$

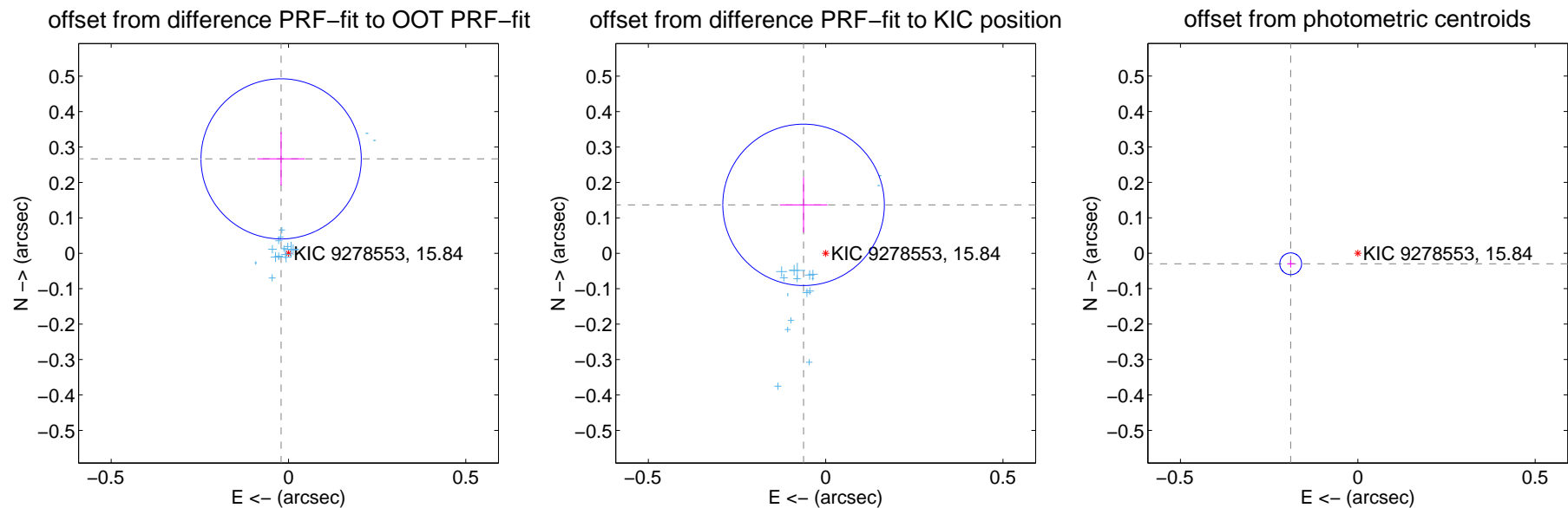
DV Centroid Data

Supplemental centroid analysis for 009278553-01. Kepler magnitude: 15.84. Transit SNR 1243.94

There are 17 quarters with good PRF difference image offsets

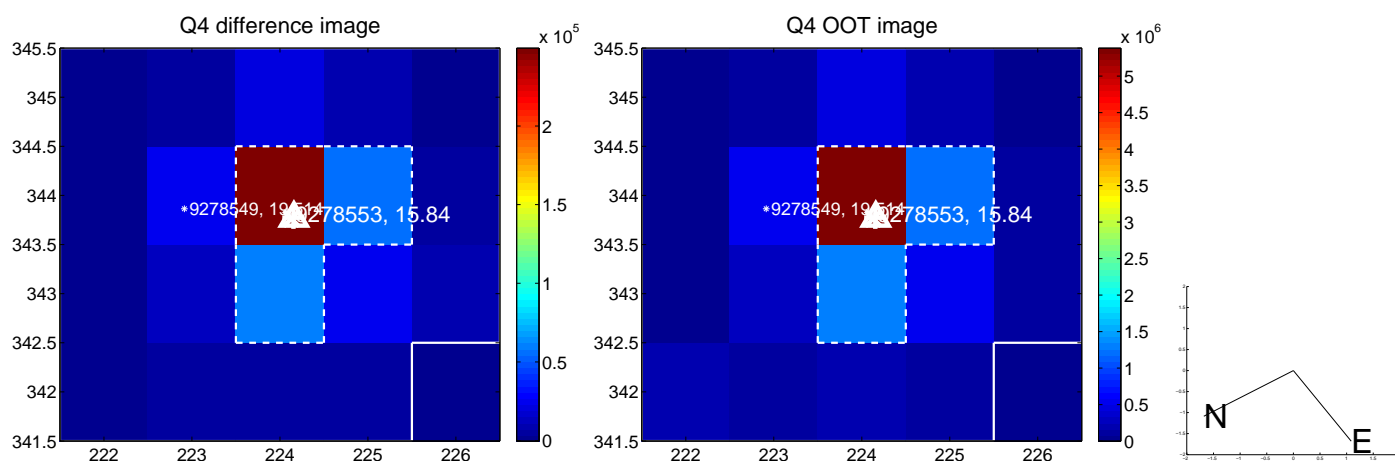
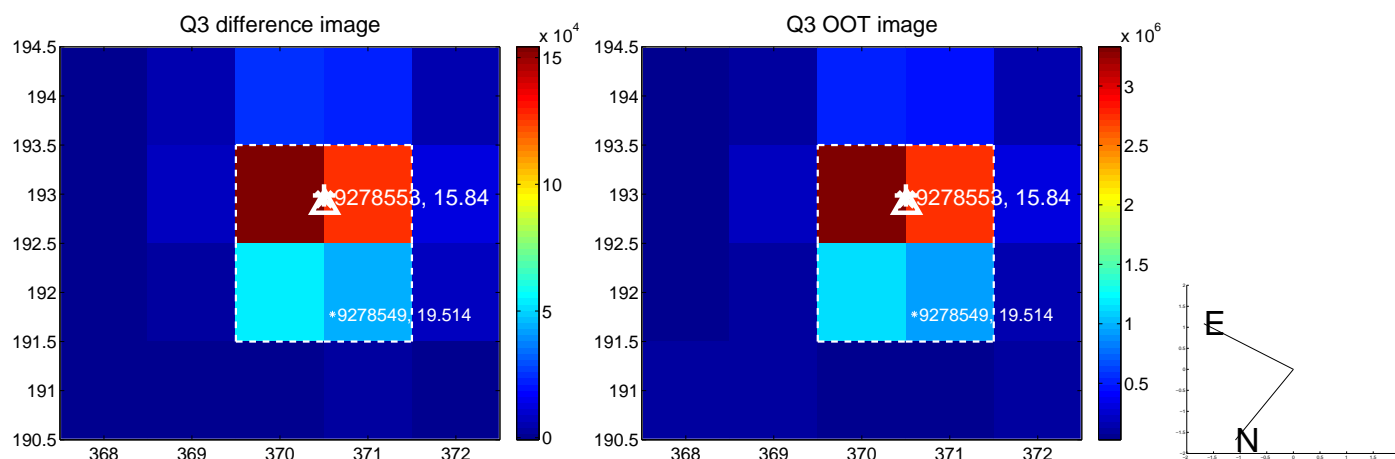
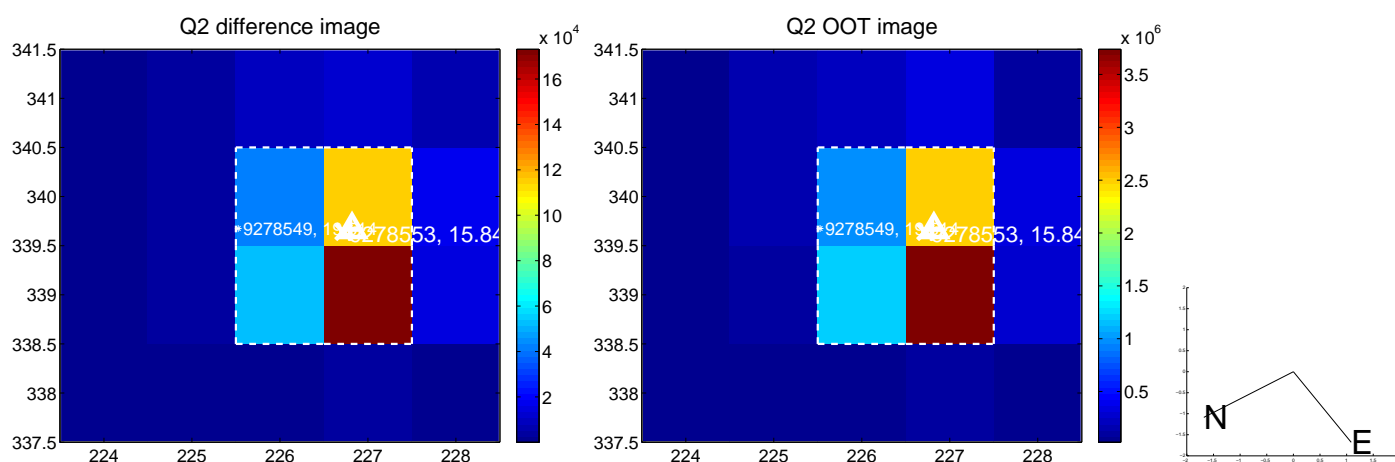
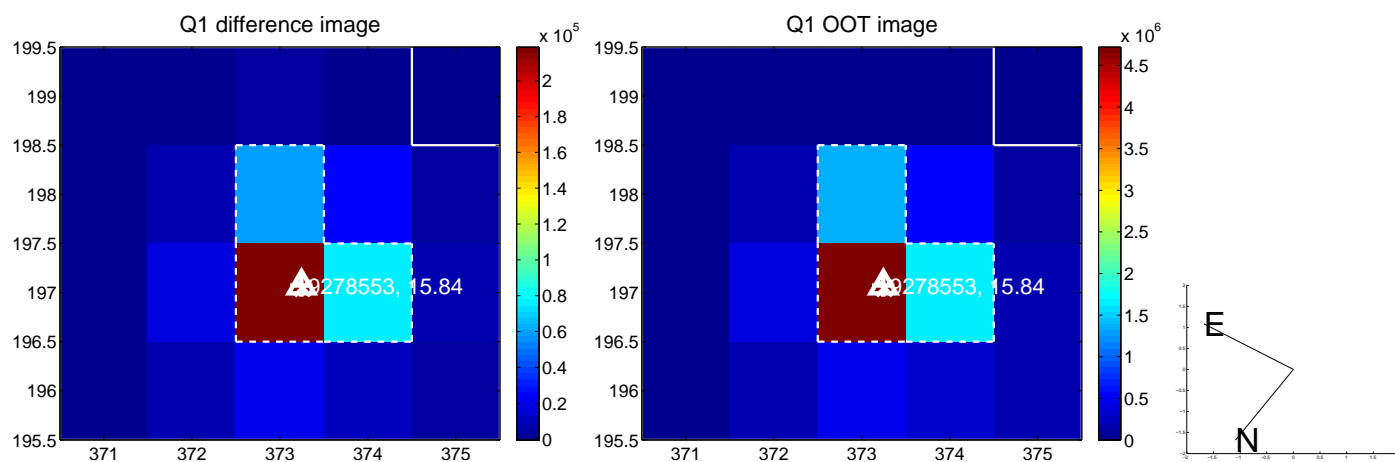
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.267 ± 0.075	3.55	0.021 ± 0.067	0.267 ± 0.075
PRF-fit source offset from KIC position	0.150 ± 0.076	1.98	0.062 ± 0.067	0.137 ± 0.078
photometric centroid source offset	0.19 ± 0.01	18.69	0.19 ± 0.01	-0.03 ± 0.01

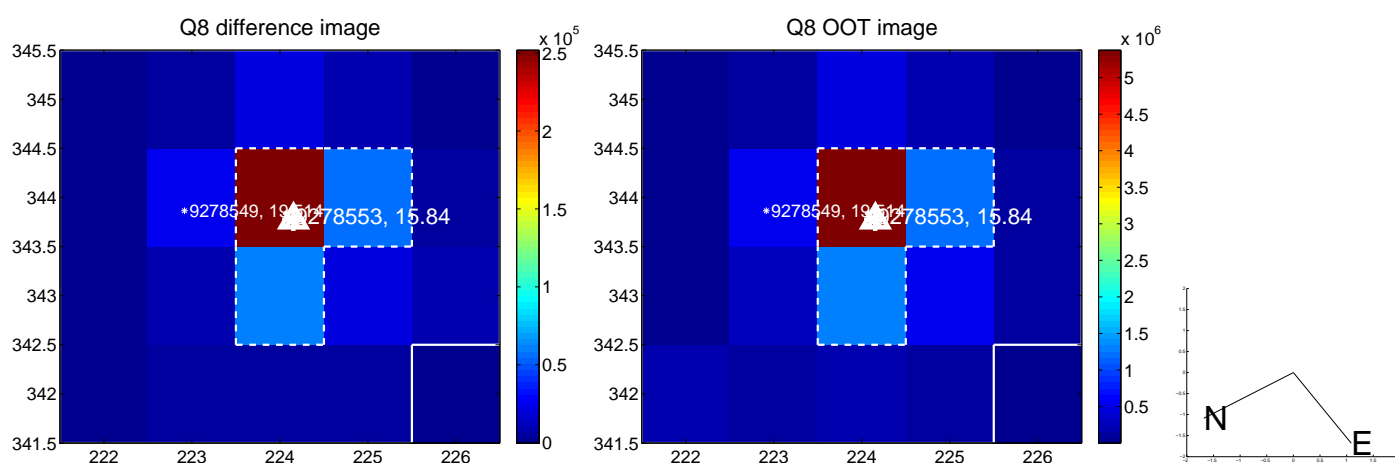
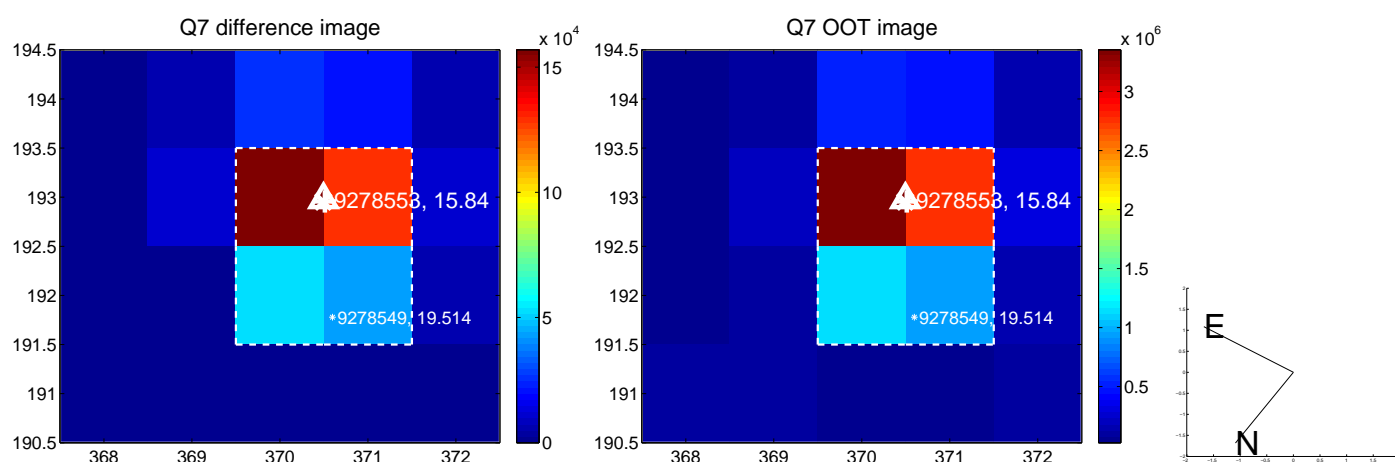
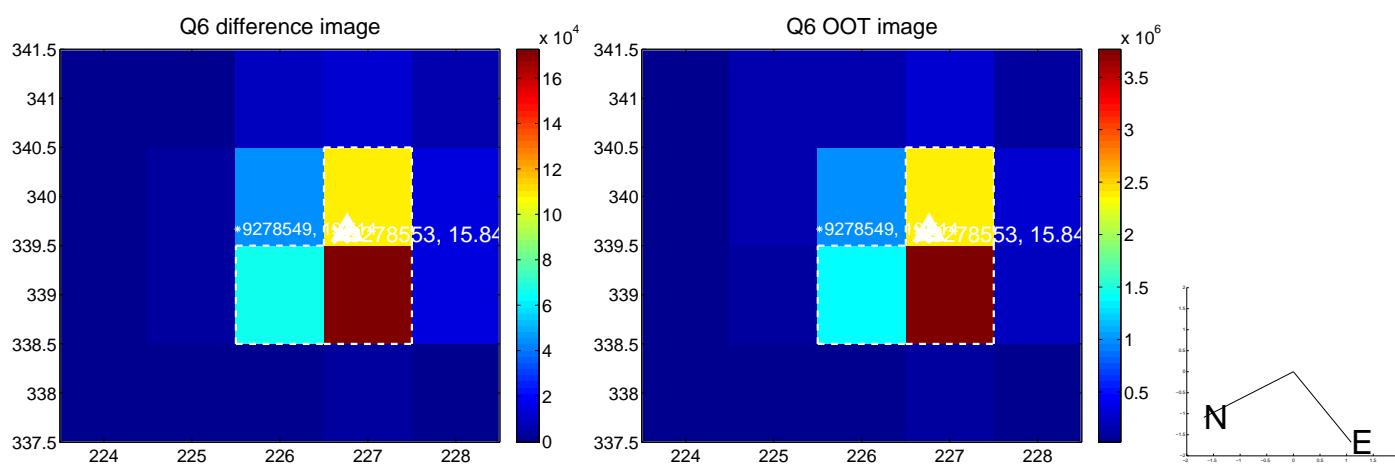
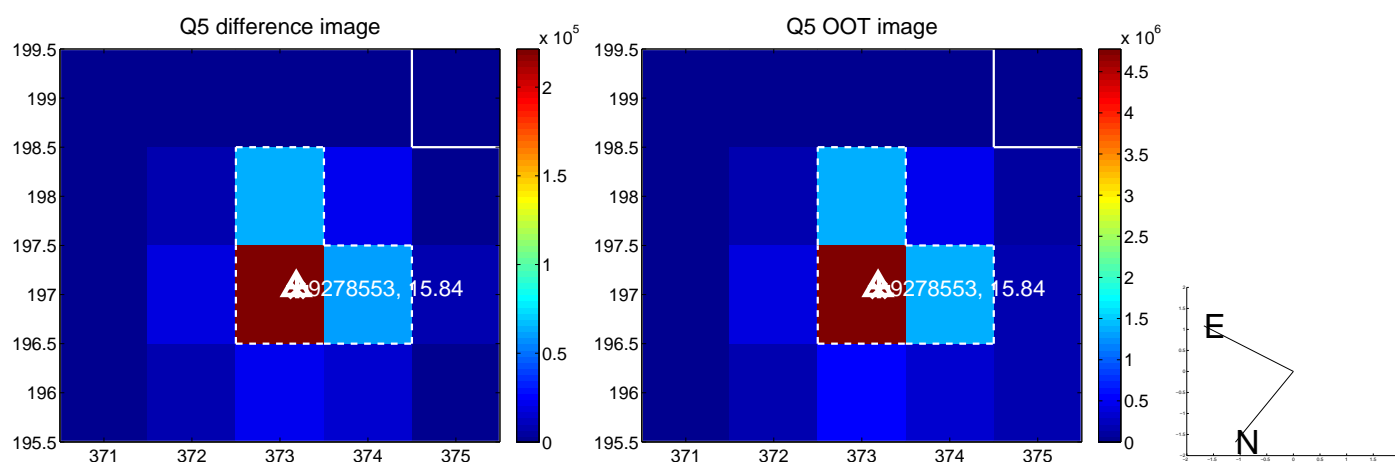


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

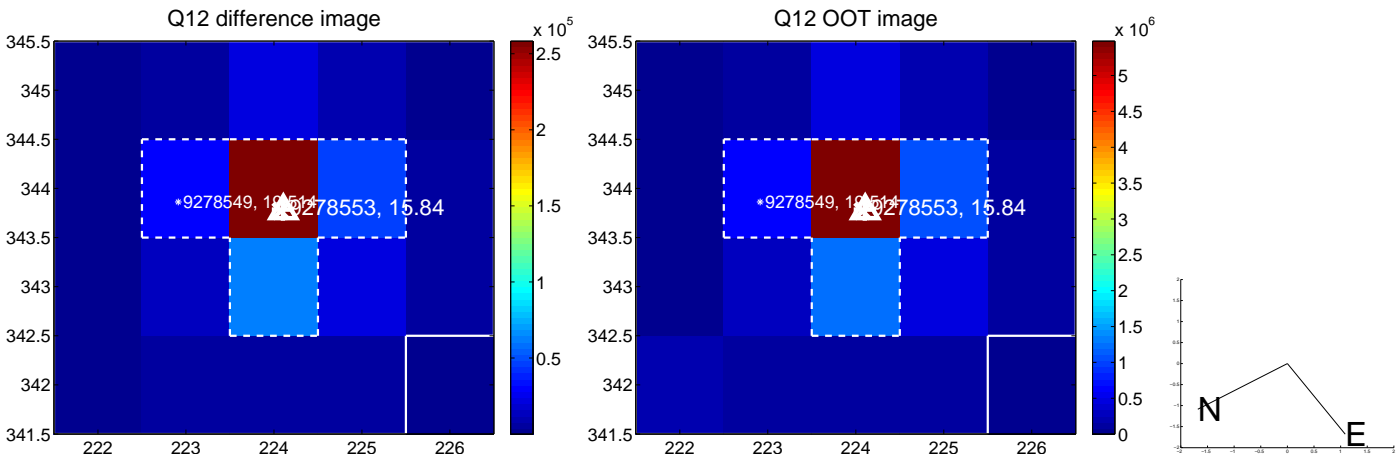
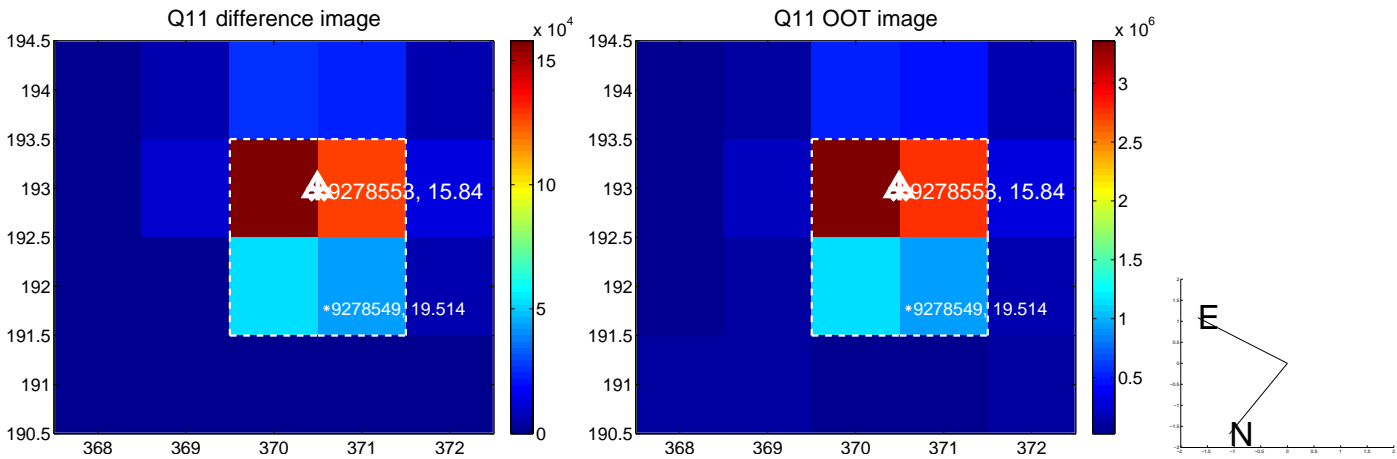
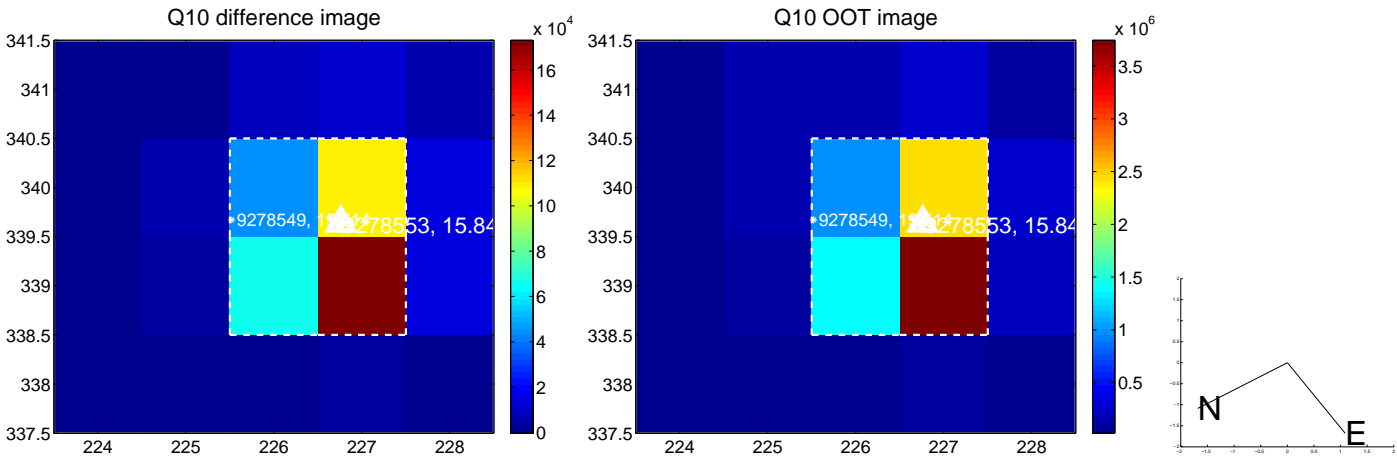
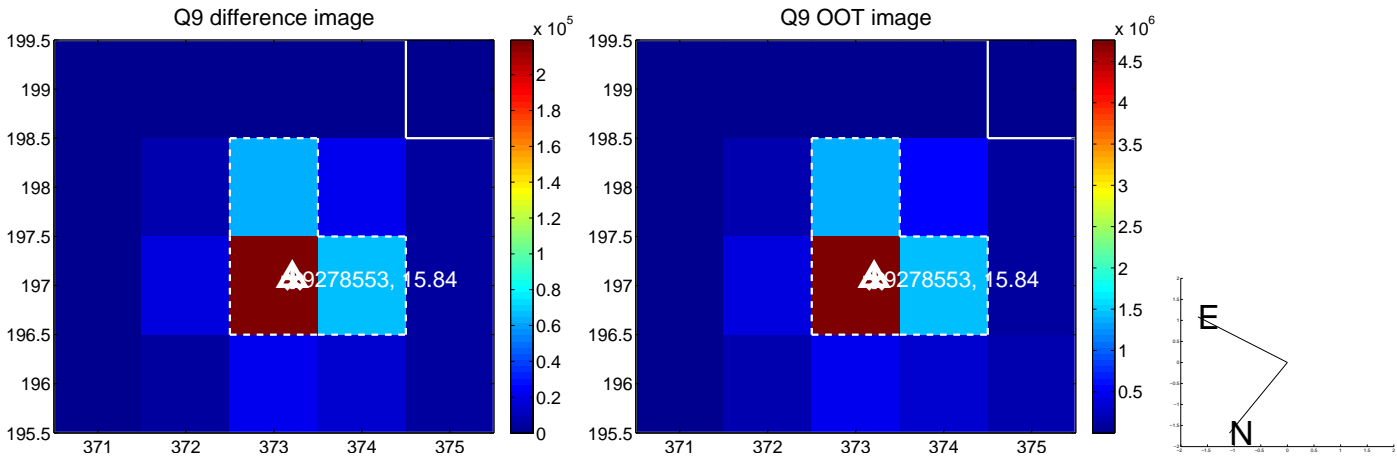
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



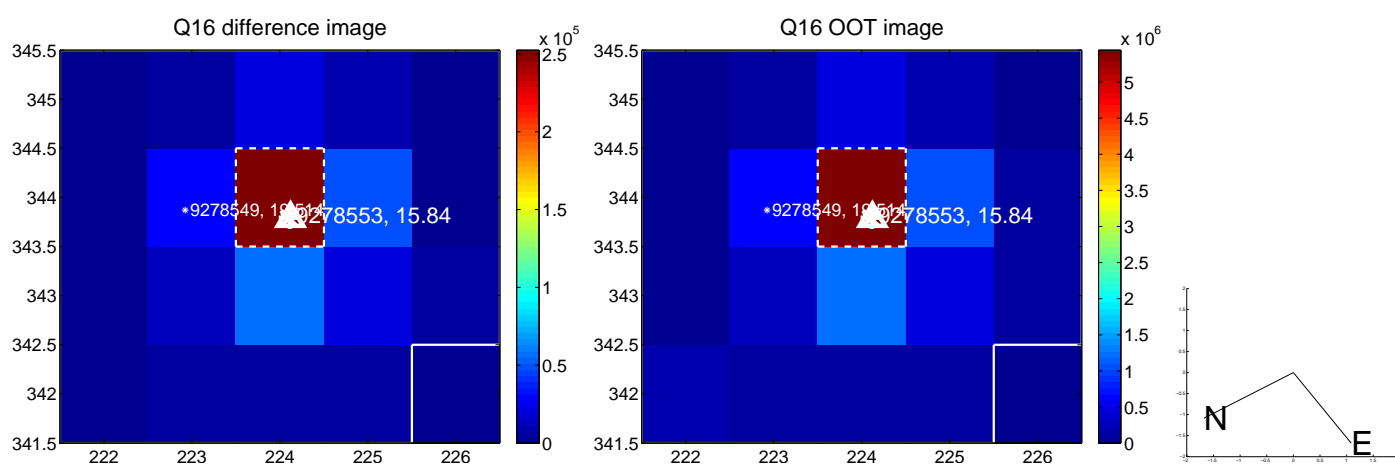
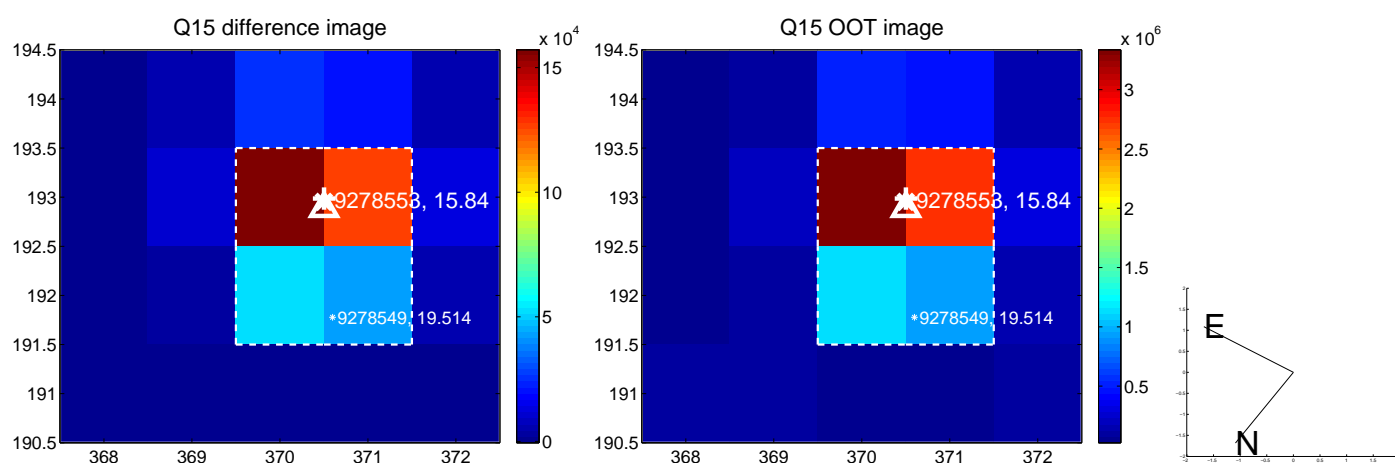
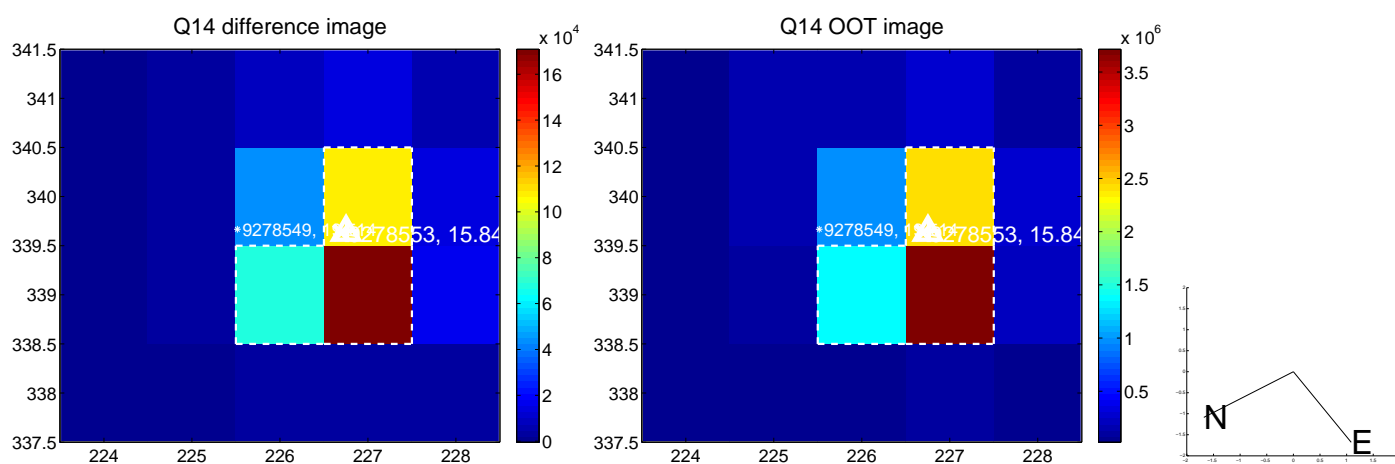
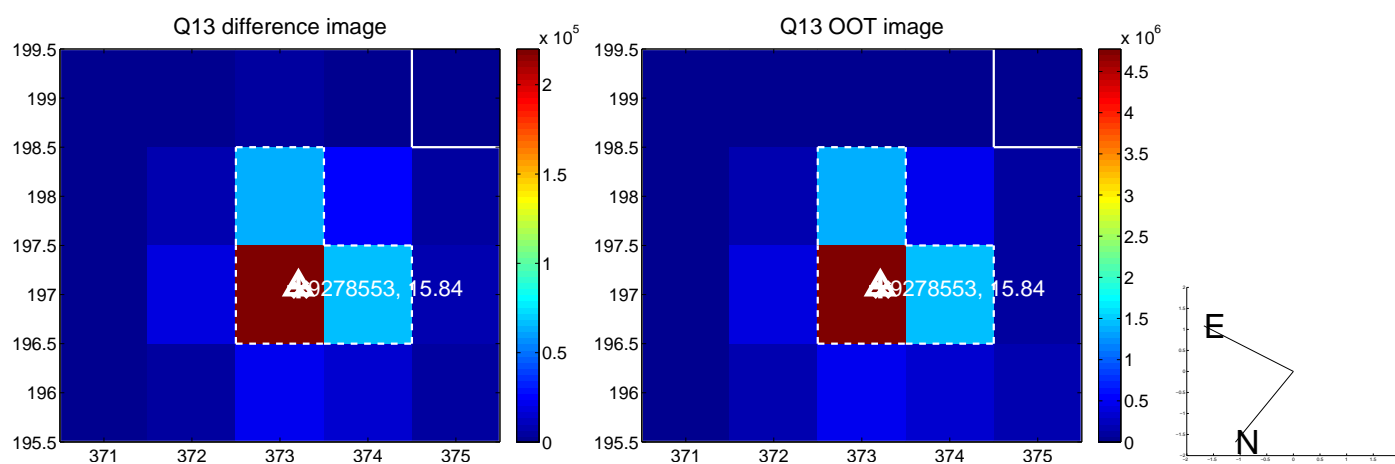
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



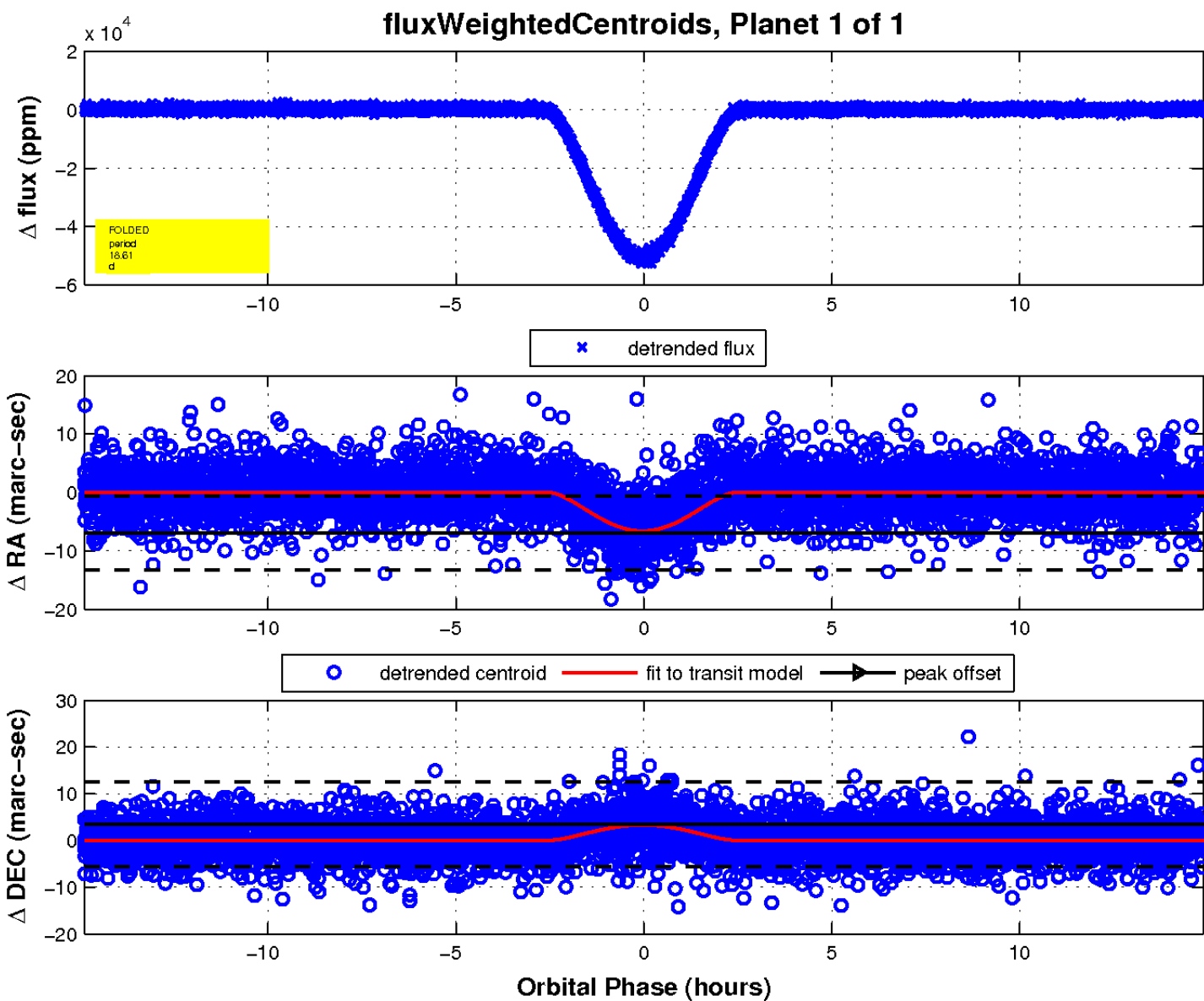
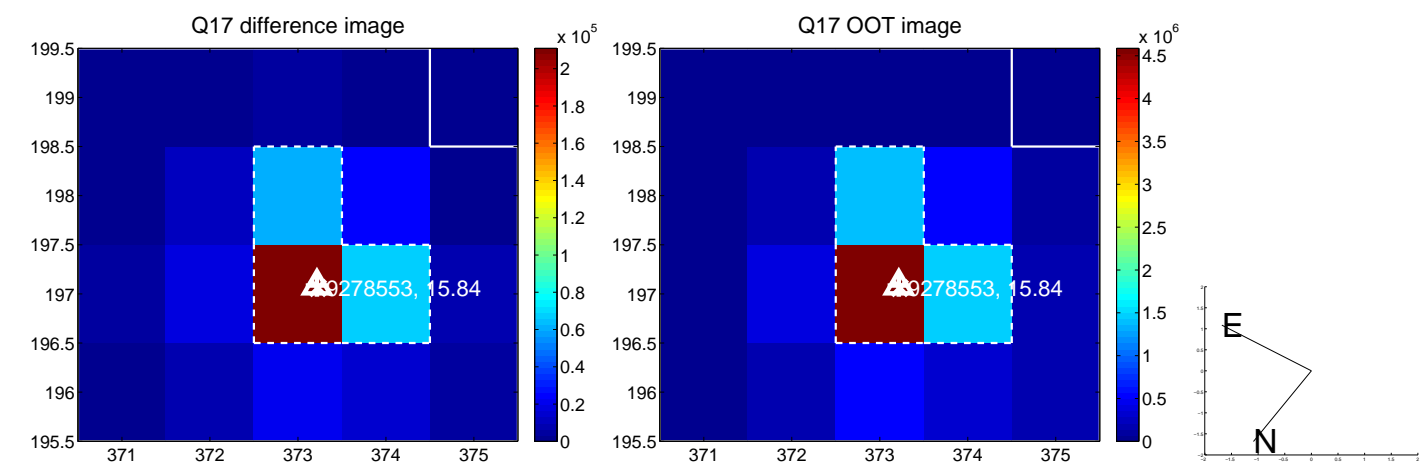
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

