

KIC 003340312

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})
003340312-01	OBS	0441.01	30.552798	143.352506	798.2	5.024	37.8	33.8	1.14	6284	5.05	47.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003340312-01	OBS	FP	0.00	0	0	1	1	CENT_RESOLVED_OFFSET—EPHEM_MATCH

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 003340312-01

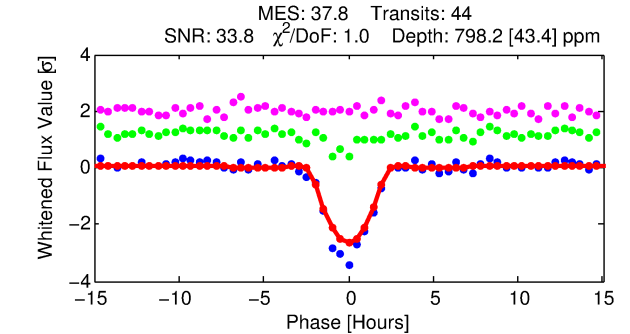
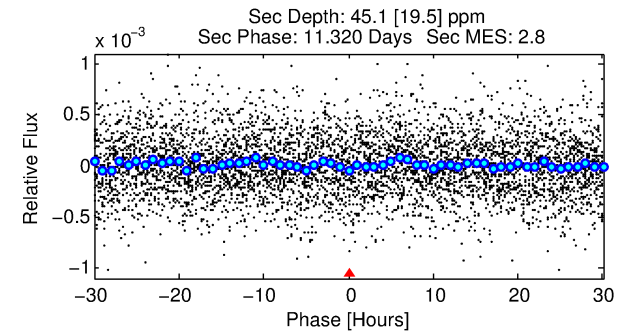
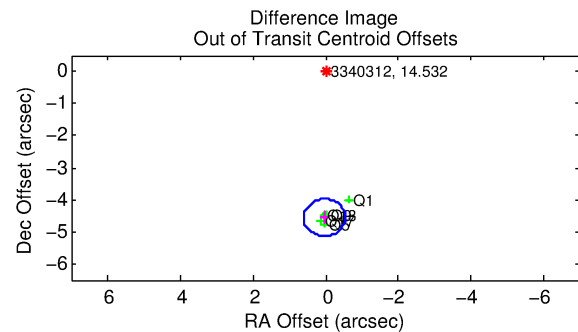
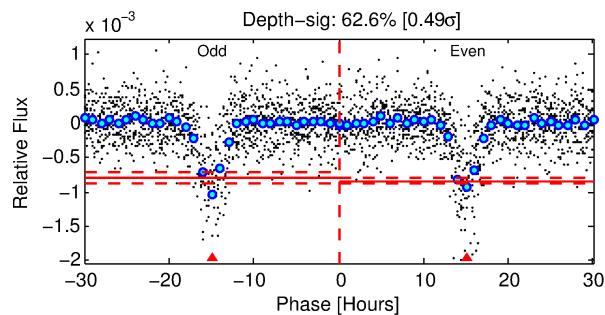
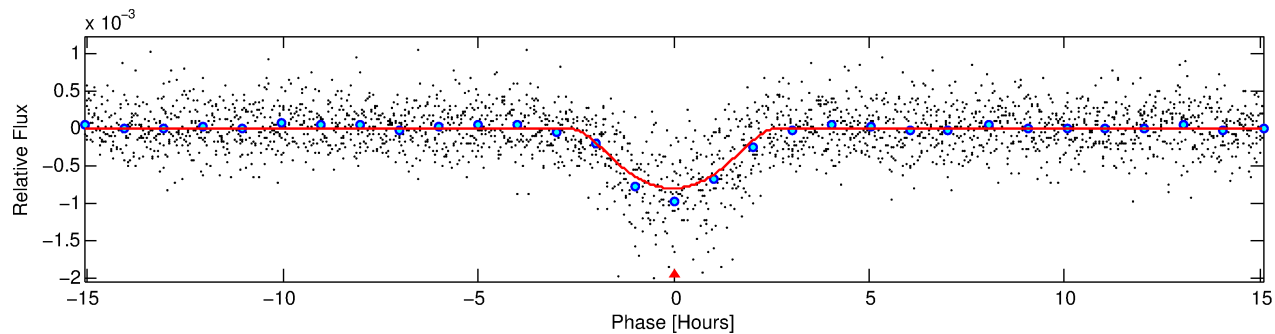
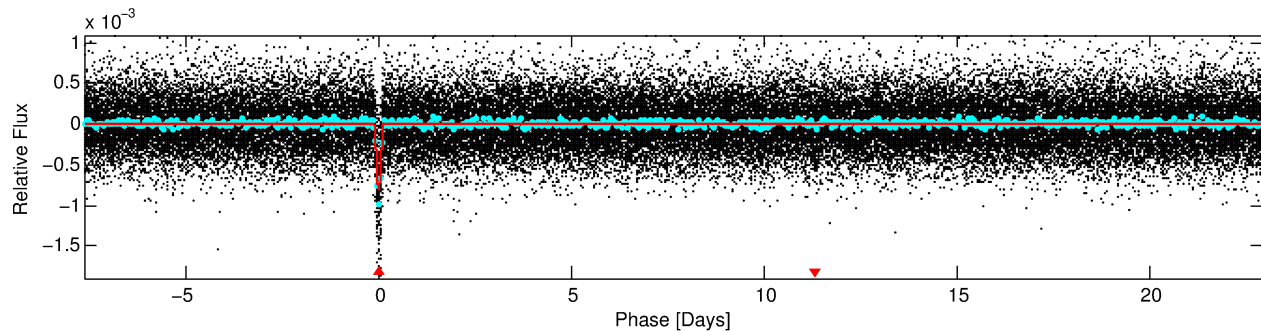
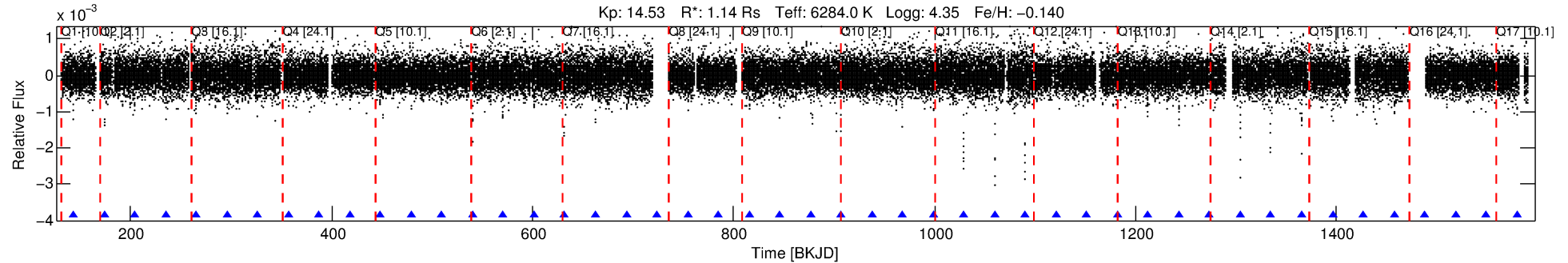
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
003340312-01	3340312	3677.01	3340313	1:1	11.0	-2	1	16.25	14.54	89.28	Direct-PRF	0	0.05	0.08

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 3340312 Candidate: 1 of 1 Period: 30.553 d
KOI: K00441.01 Corr: 0.979

Kp: 14.53 R*: 1.14 Rs Teff: 6284.0 K Logg: 4.35 Fe/H: -0.140



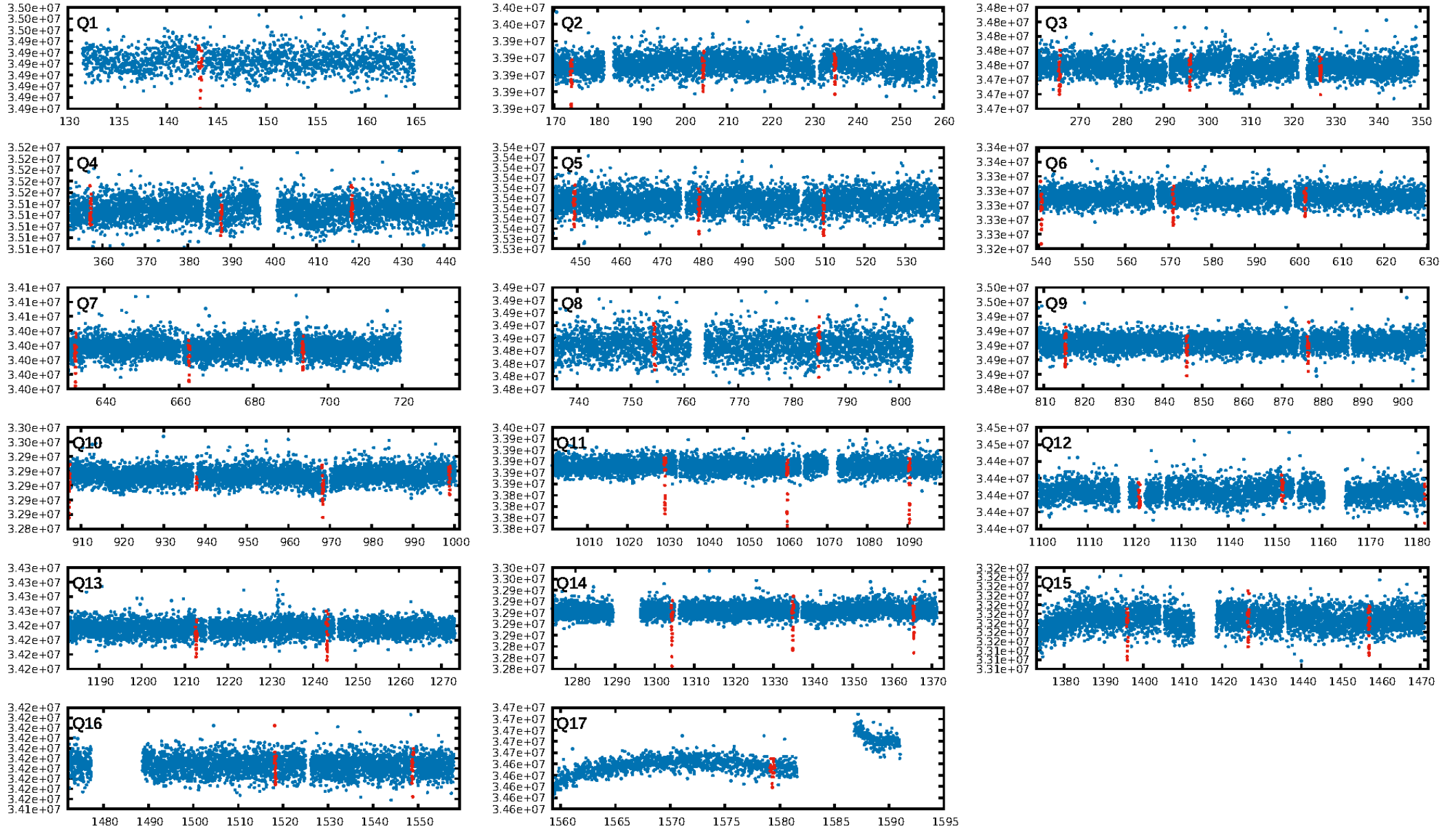
DV Fit Results:

Period = 30.55280 [0.00013] d
Epoch = 143.3525 [0.0035] BKJD
Rp/R* = 0.0407 [0.0215]
a/R* = 15.59 [2.95]
b = 0.99 [0.04]
Seff = 47.70 [10.77]
Teq = 670 [38] K
Rp = 5.05 [2.80] Re
a = 0.1948 [0.0289] AU
Ag = 36.86 [42.80] [0.84σ]
Teffp = 2553 [728] K [2.58σ]

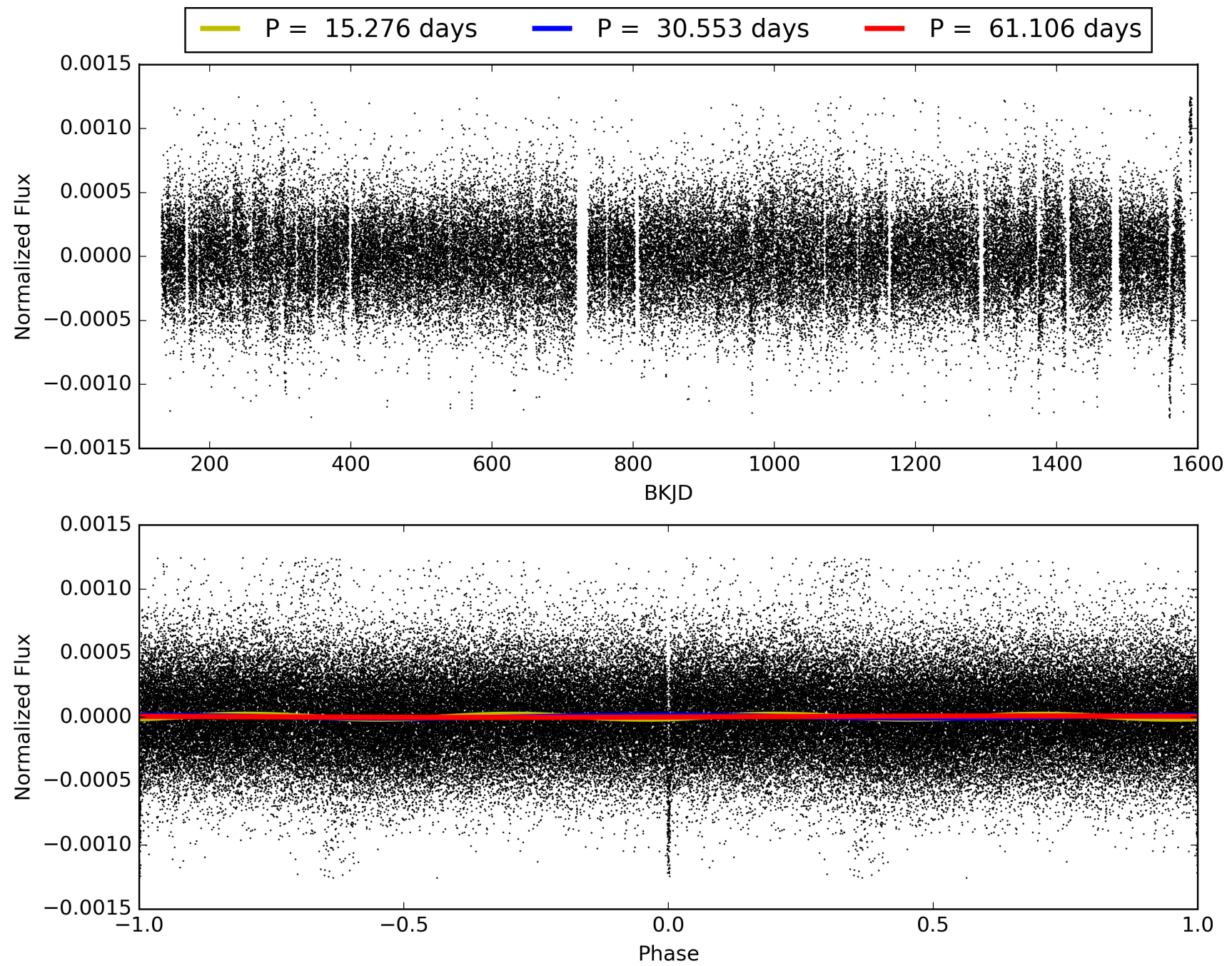
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.77e-304
RollingBand-fgt: 1.00 [42/42]
GhostDiagnostic-chr: -1.03
Centroid-sig: 0.0%
Centroid-so: 42.893 arcsec [120.51σ]
OotOffset-rm: 4.552 arcsec [23.74σ]
KicOffset-rm: 4.653 arcsec [24.64σ]
OotOffset-st: 0/0/0/5 [5]
KicOffset-st: 0/0/0/5 [5]
DiffImageQuality-fgm: 1.00 [5/5]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 003340312-01, PDC Light Curves

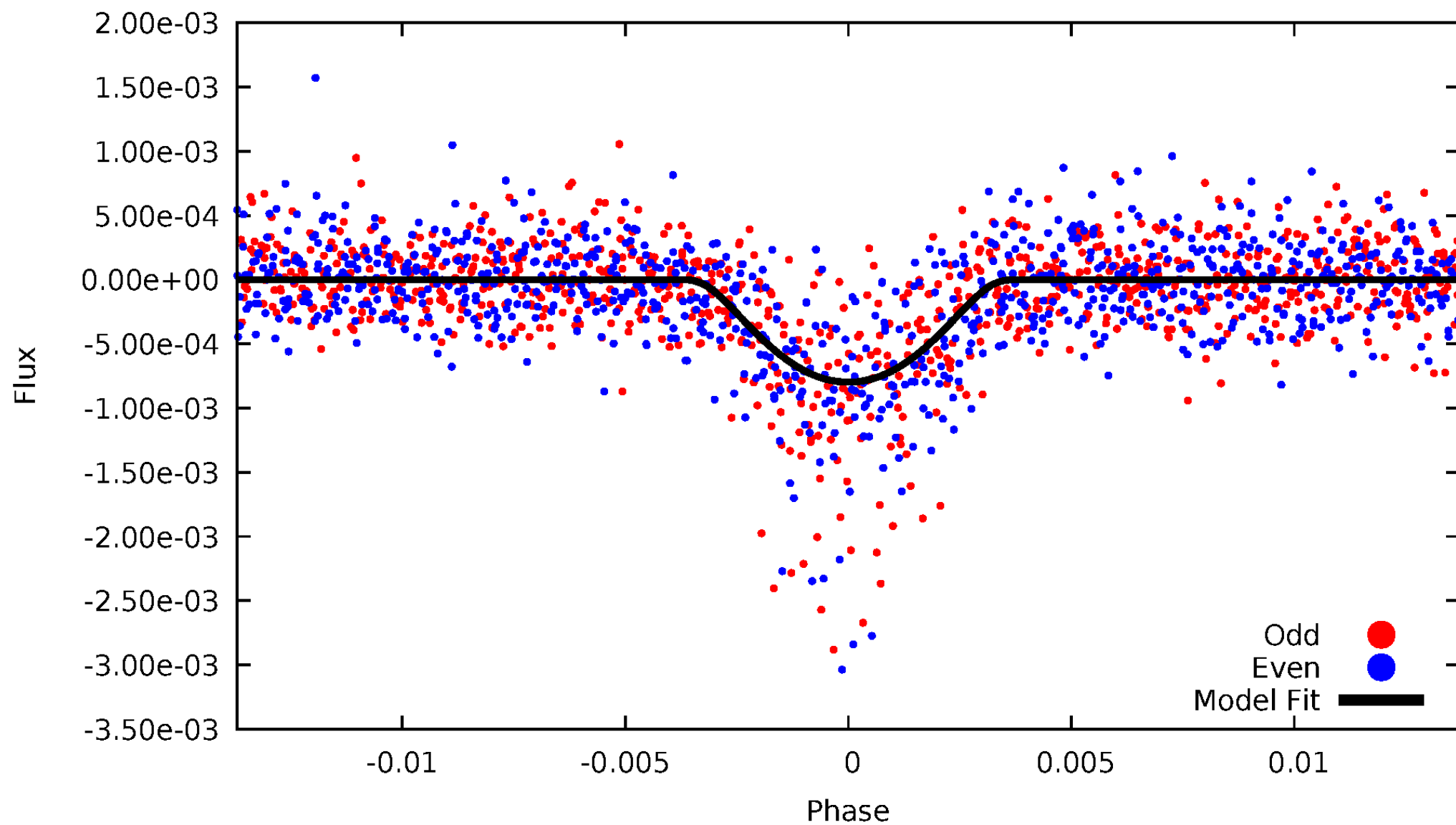


TCE 003340312-01



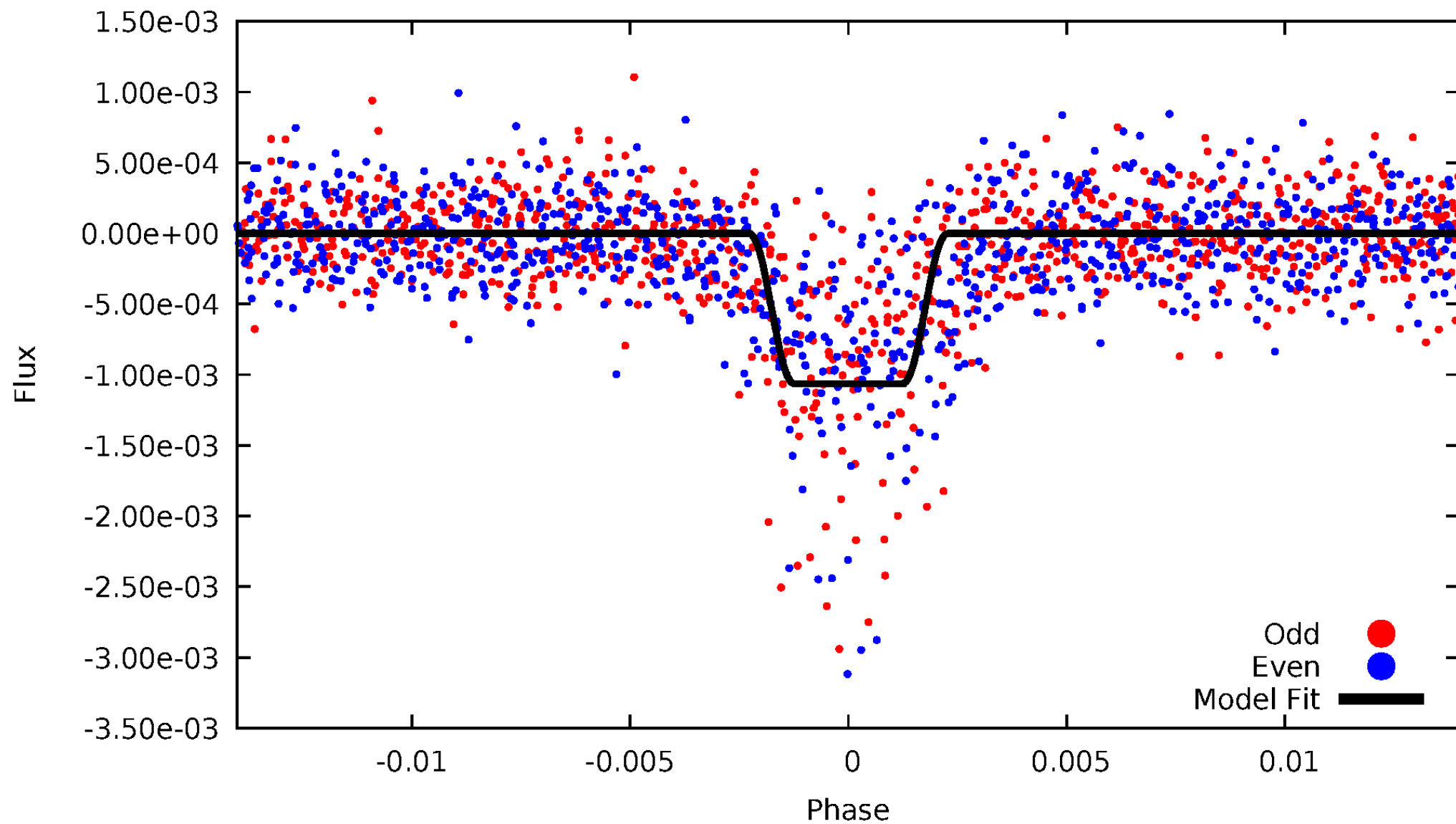
DV Odd/Even

TCE 003340312-01

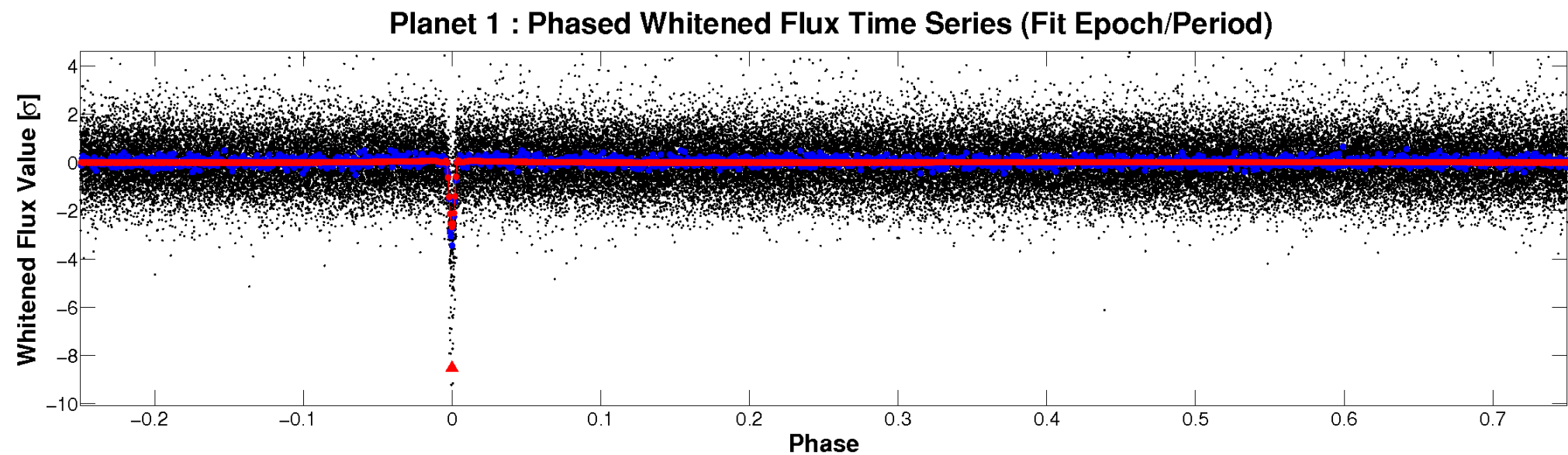
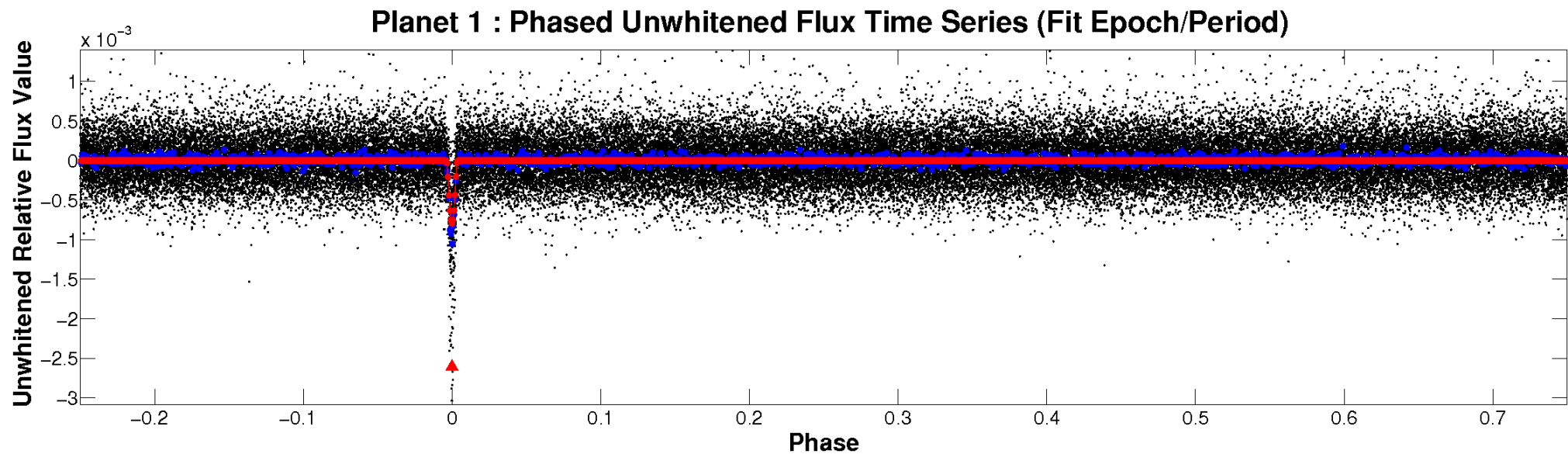


ALT Odd/Even

TCE 003340312-01

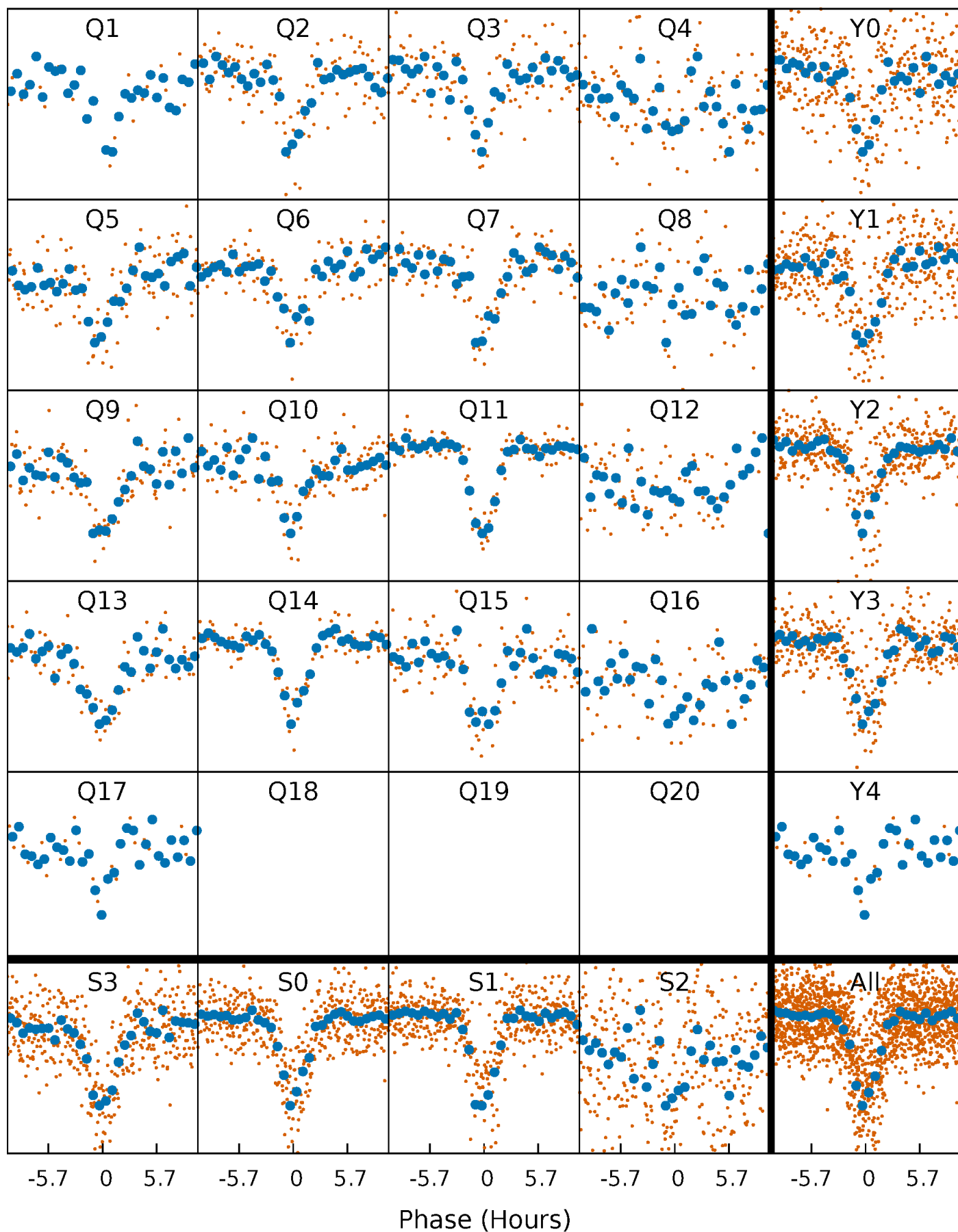


Non-Whitened Vs. Whitened Light Curve



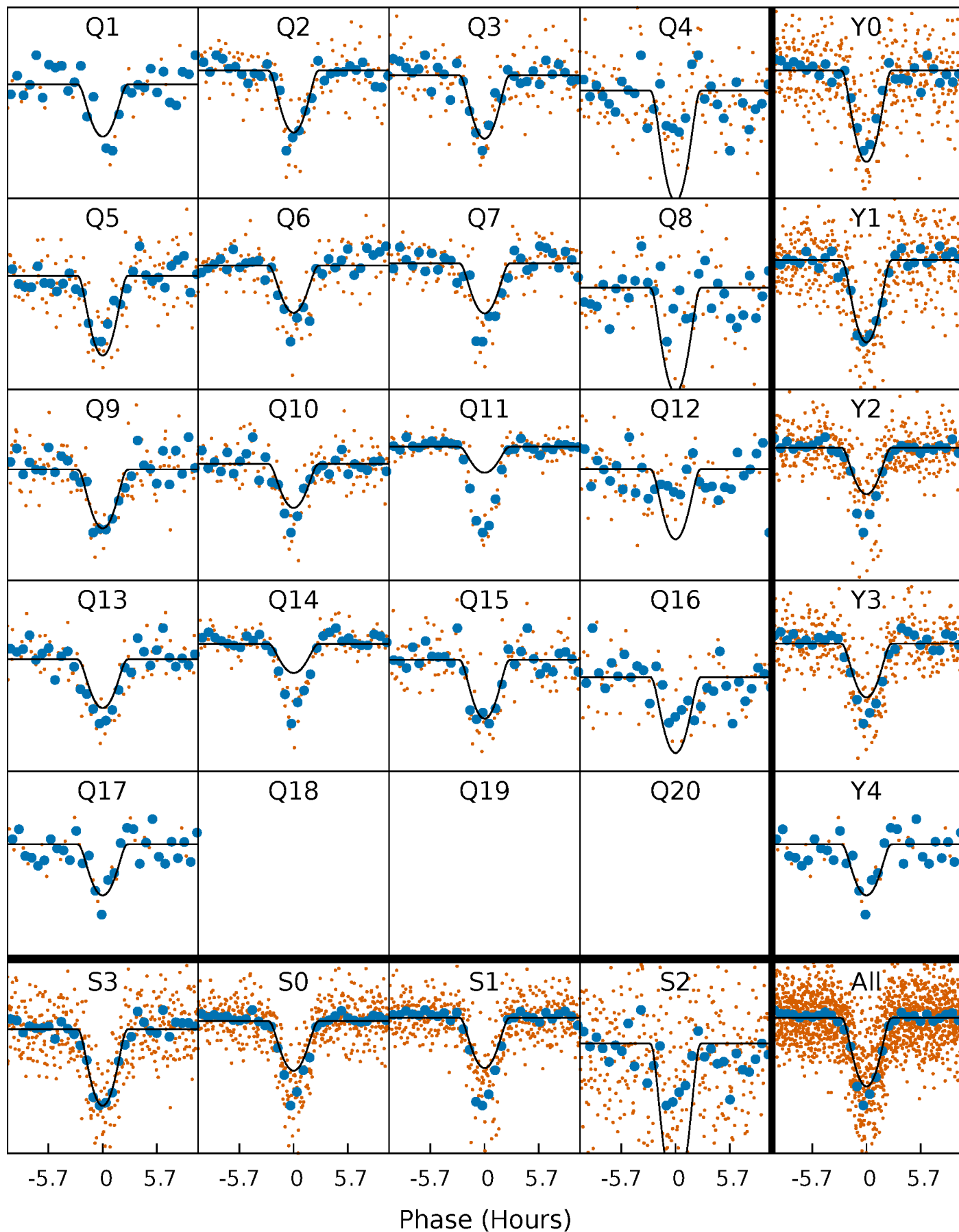
PDC Quarter-Phased Transit Curves

TCE 003340312-01 P= 30.552798 Days $T_0=143.352506$ (BKJD)



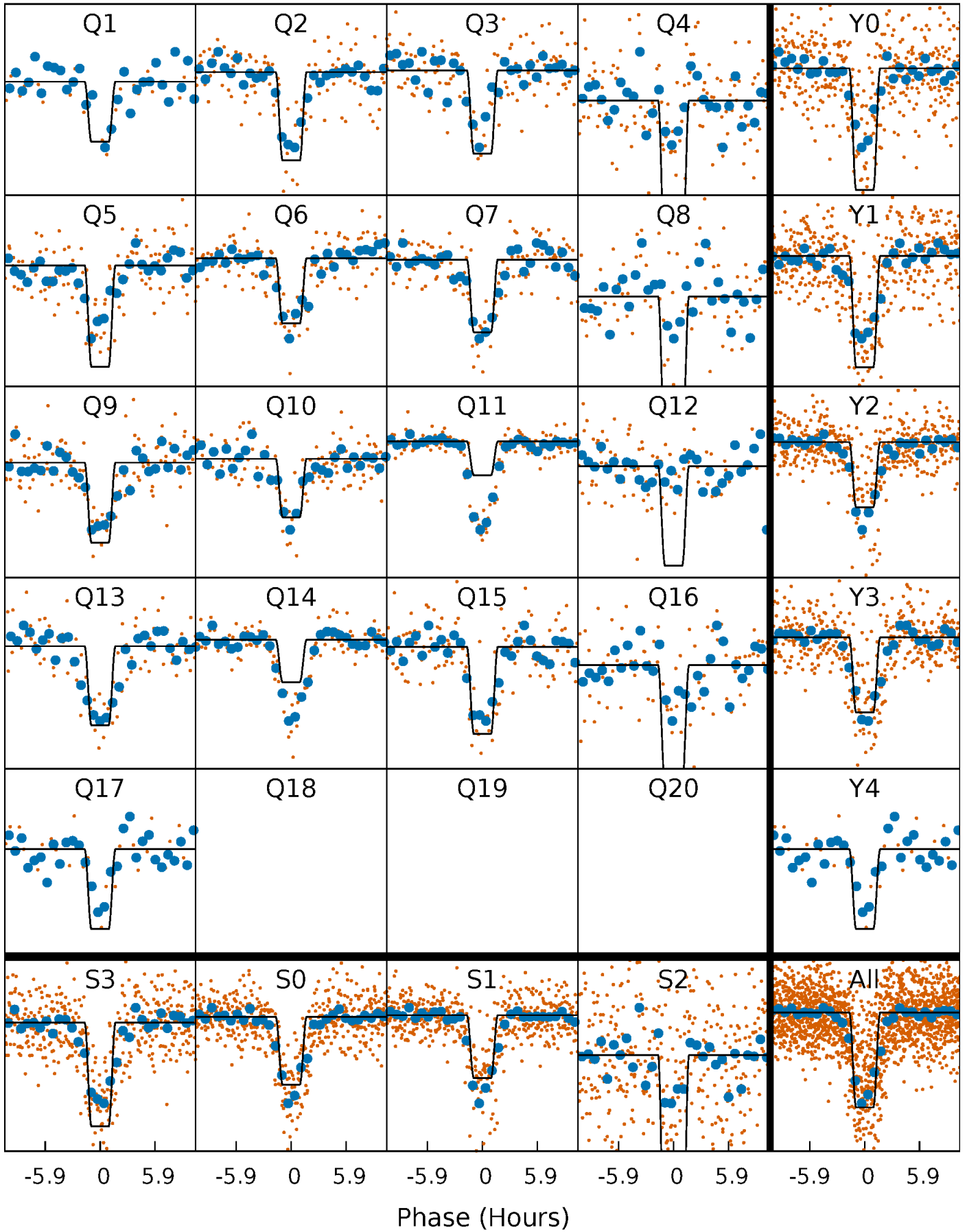
DV Quarter-Phased Transit Curves

TCE 003340312-01 P= 30.552798 Days $T_0=143.352506$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

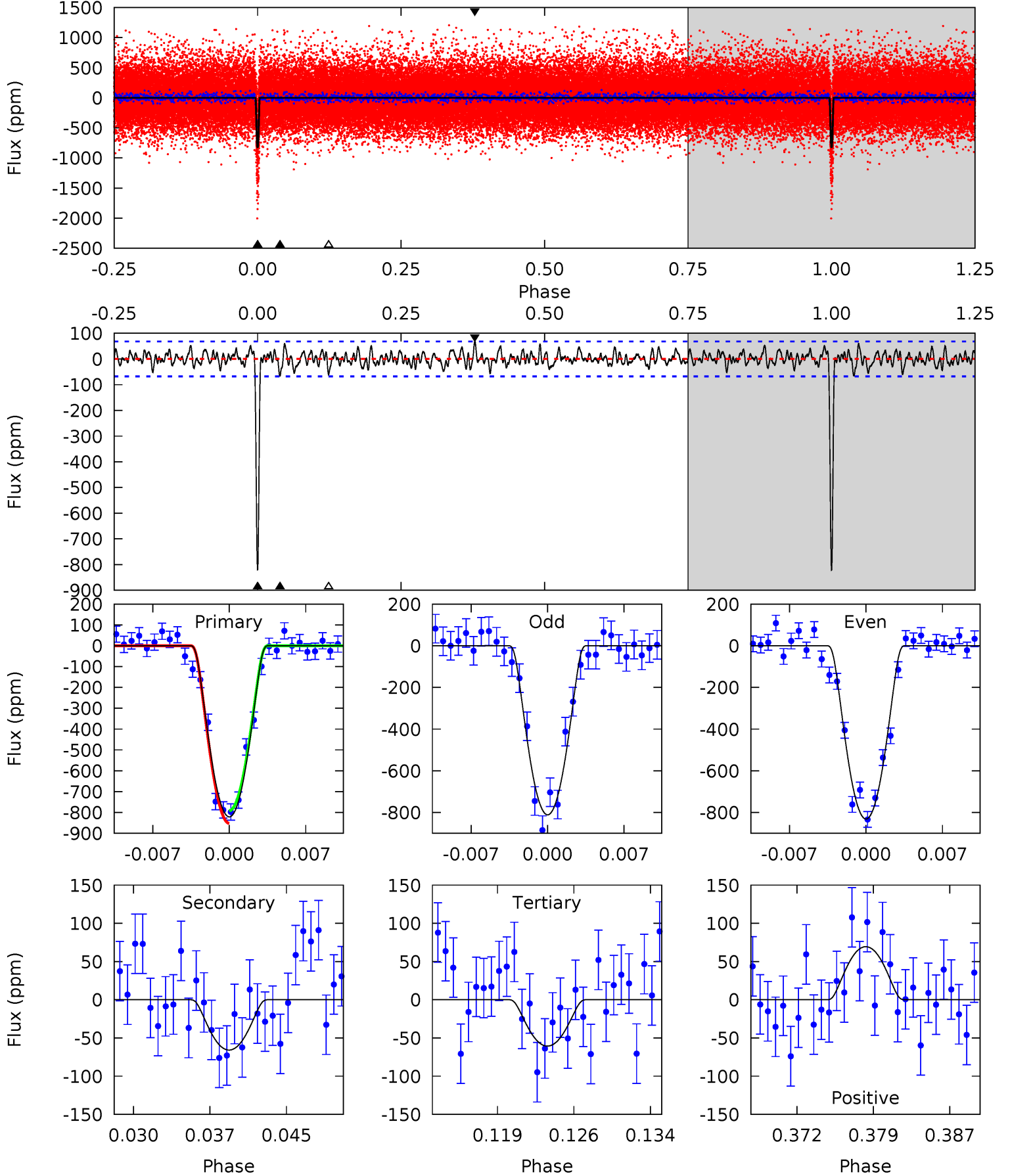
TCE 003340312-01 P= 30.552589 Days $T_0=143.354985$ (BKJD)



DV Model-Shift Uniqueness Test

003340312-01, $P = 30.552798$ Days, $E = 112.799708$ Days

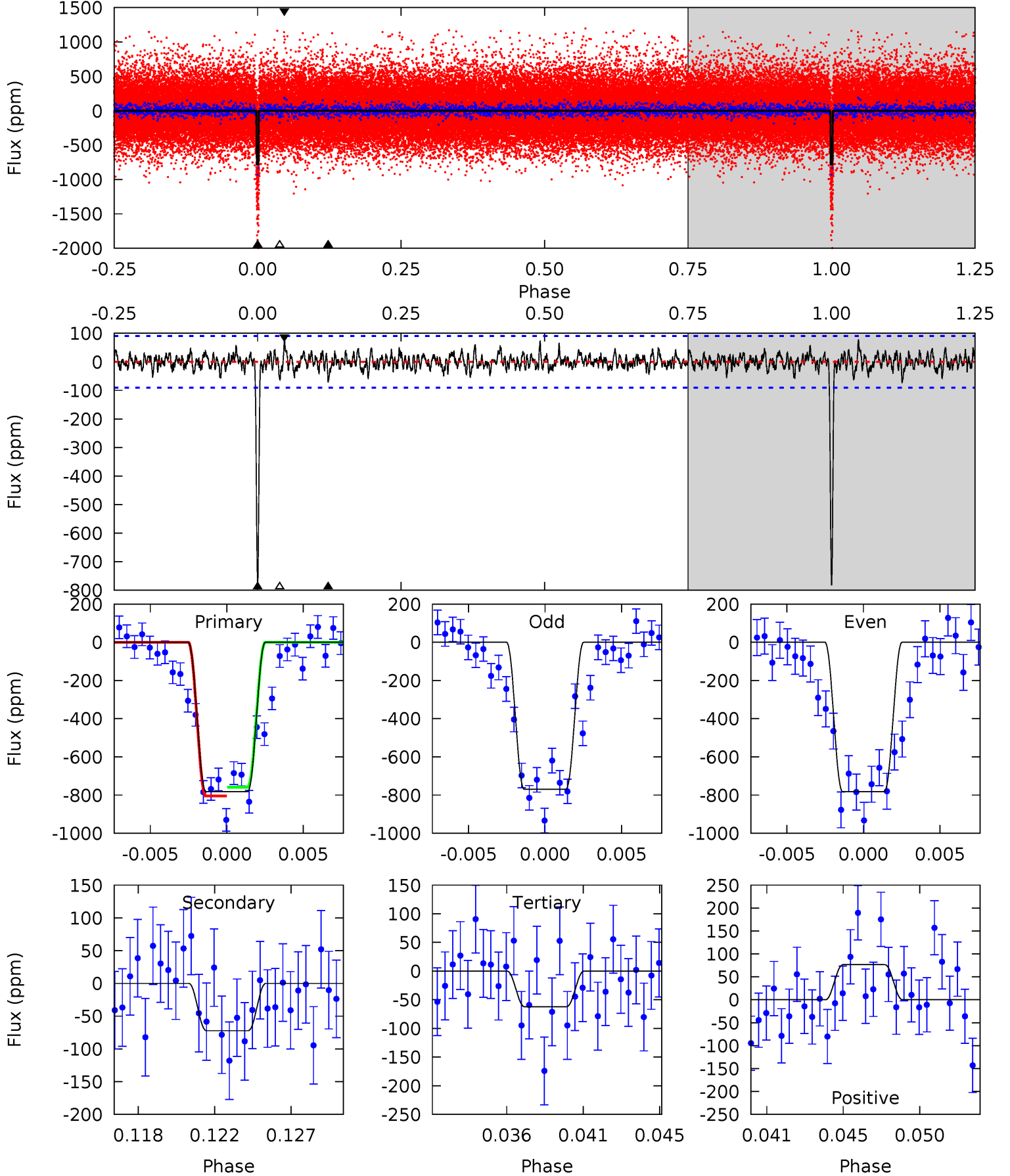
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
61.3	4.91	4.52	5.18	5.08	2.68	1.52	56.8	56.1	0.39	-0.27	0.75	1.11	0.08	2.31



Alt Model-Shift Uniqueness Test

003340312-01, $P = 30.552589$ Days, $E = 112.802396$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
44.7	4.13	3.56	4.37	5.18	2.84	1.13	41.1	40.3	0.57	-0.24	0.37	1.12	0.09	1.31



Stellar Parameters For KIC 003340312

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	6284^{+75}_{-75}	$4.349^{+0.066}_{-0.123}$	$-0.140^{+0.150}_{-0.150}$	$1.138^{+0.195}_{-0.090}$	$1.051^{+0.092}_{-0.052}$	$1.004^{+0.272}_{-0.337}$
	+1%/-1%	+2%/-3%	+107%/-107%	+17%/-8%	+9%/-5%	+27%/-34%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 003340312-01 / KOI 0441.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-66 ± 13	$5.24^{+2.63}_{-2.78}$	941^{+43}_{-27}	3312^{+963}_{-379}	50^{+170}_{-29}
Alt.	-72 ± 18	$4.24^{+2.66}_{-2.17}$	942^{+41}_{-28}	3613^{+1124}_{-530}	84^{+292}_{-54}

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

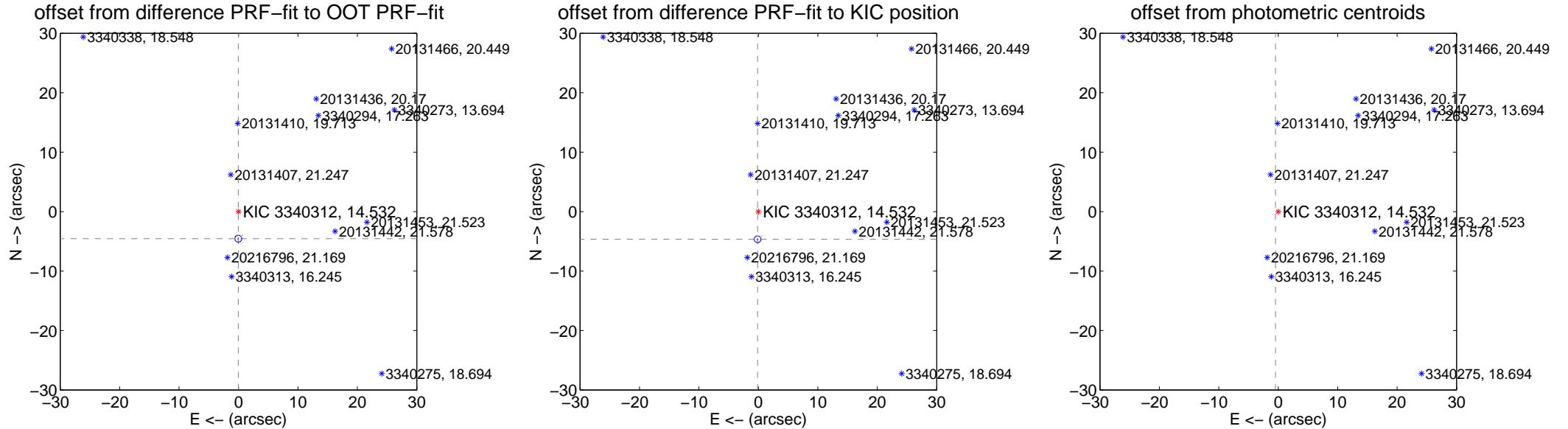
DV Centroid Data

Supplemental centroid analysis for 003340312-01. Kepler magnitude: 14.53. Transit SNR 33.78

There are 5 quarters with good PRF difference image offsets

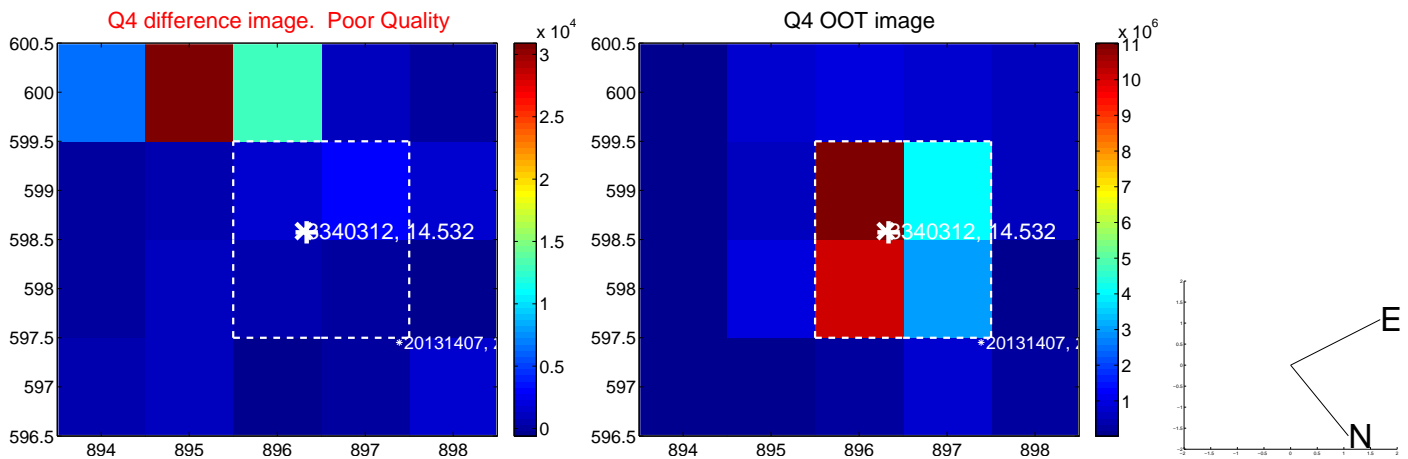
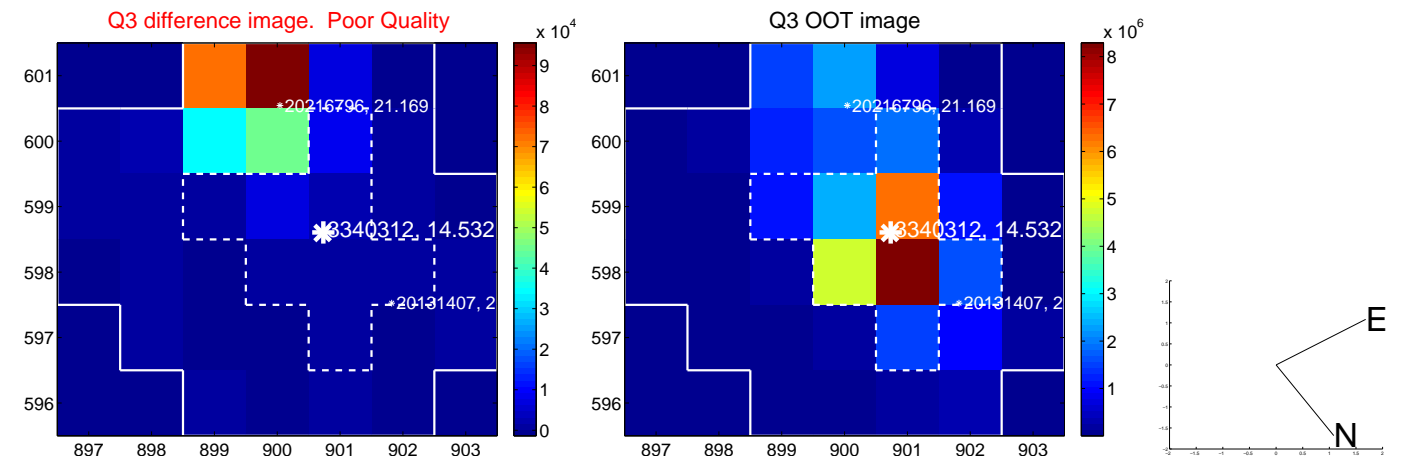
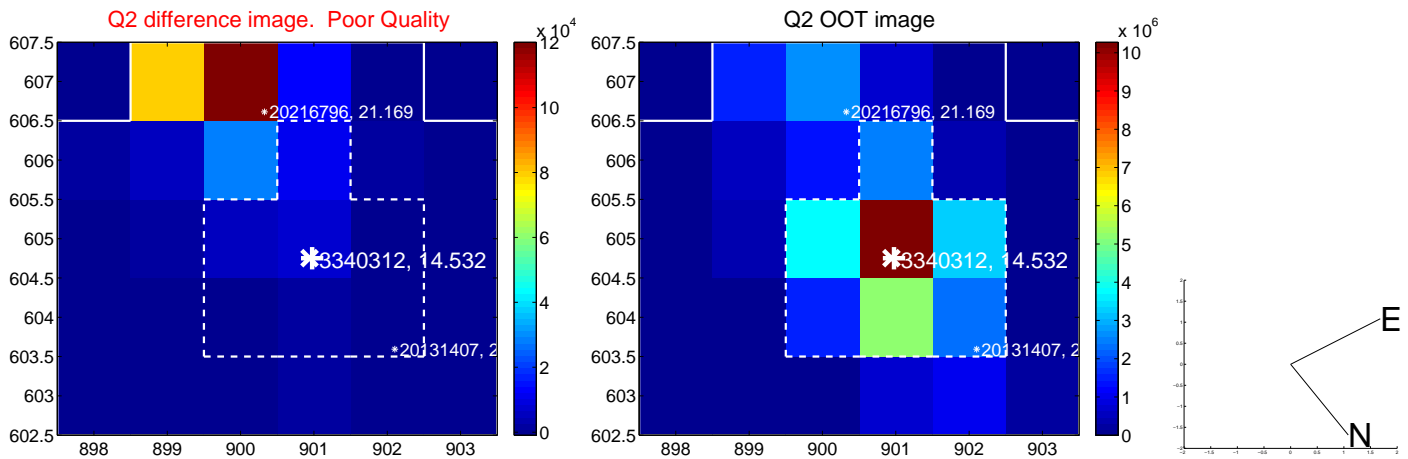
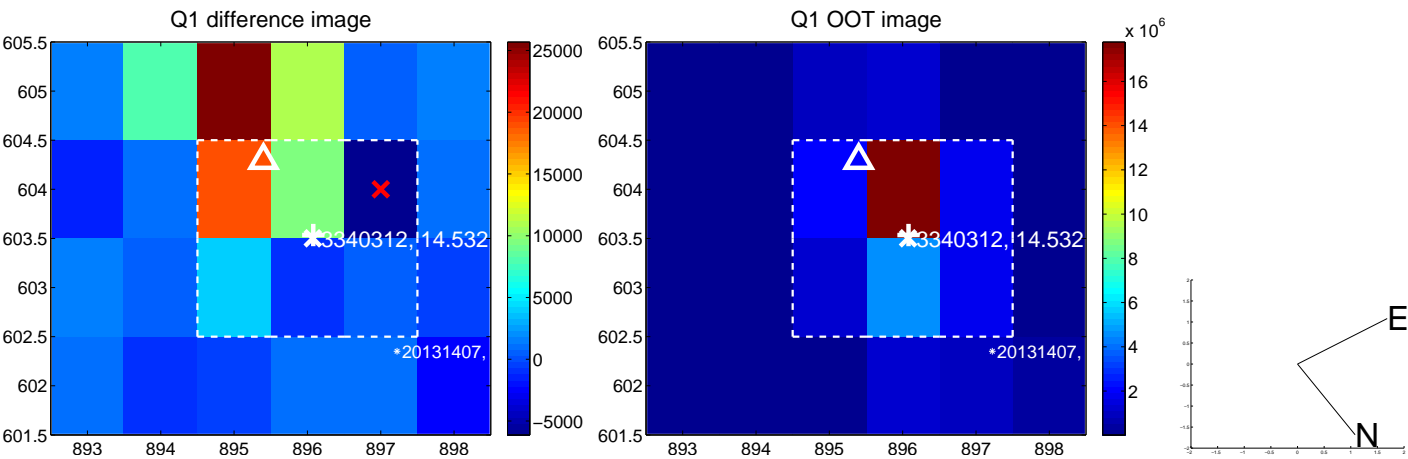
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.552 \pm 0.192	23.74	0.033 \pm 0.083	-4.551 \pm 0.192
PRF-fit source offset from KIC position	4.653 \pm 0.189	24.64	0.134 \pm 0.081	-4.651 \pm 0.189
photometric centroid source offset	42.89 \pm 0.36	120.51	0.46 \pm 0.35	-42.89 \pm 0.36

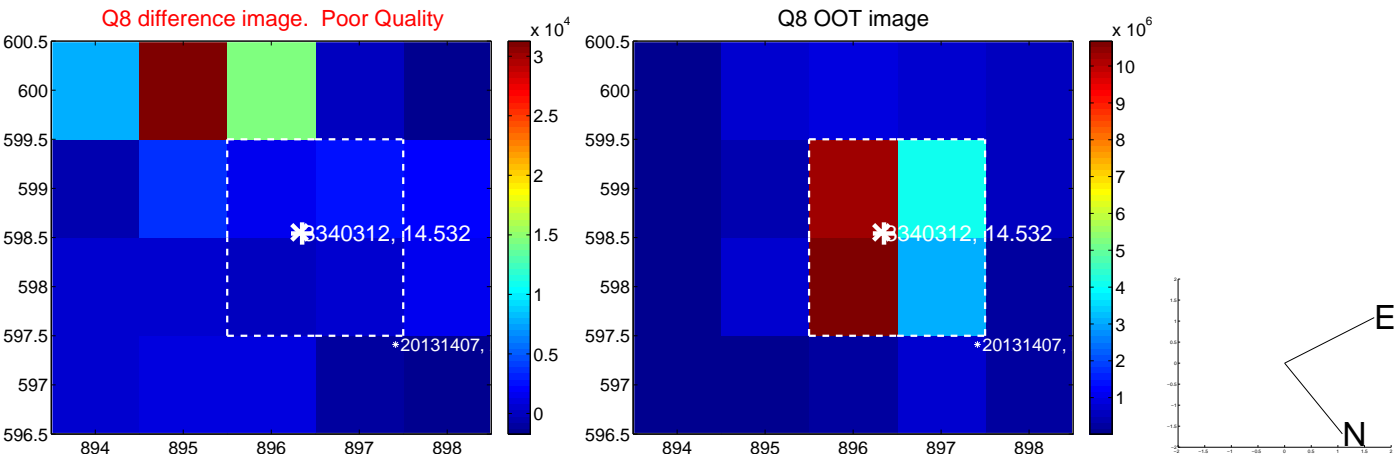
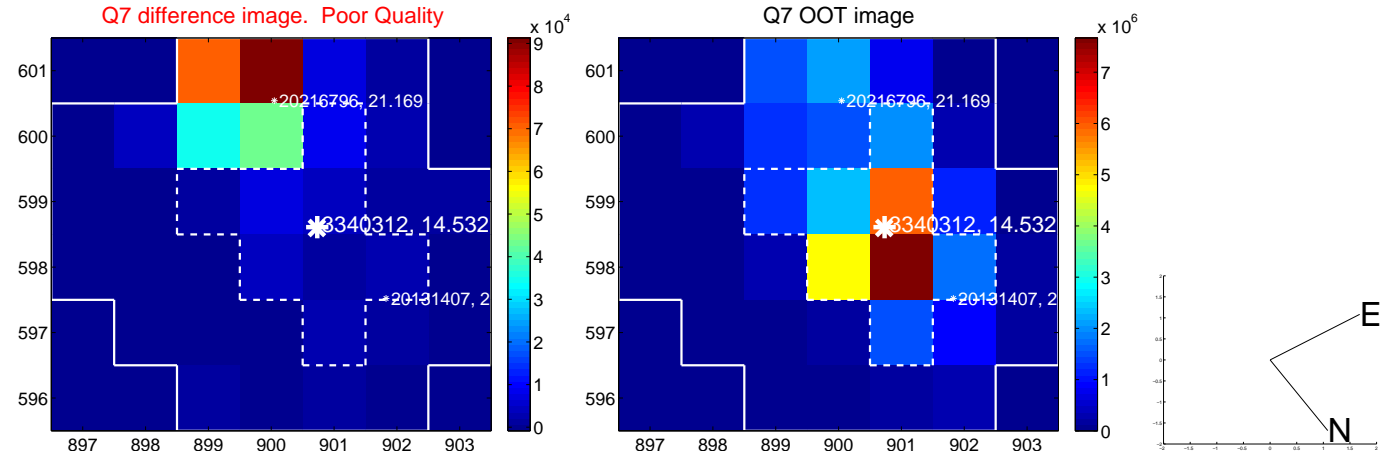
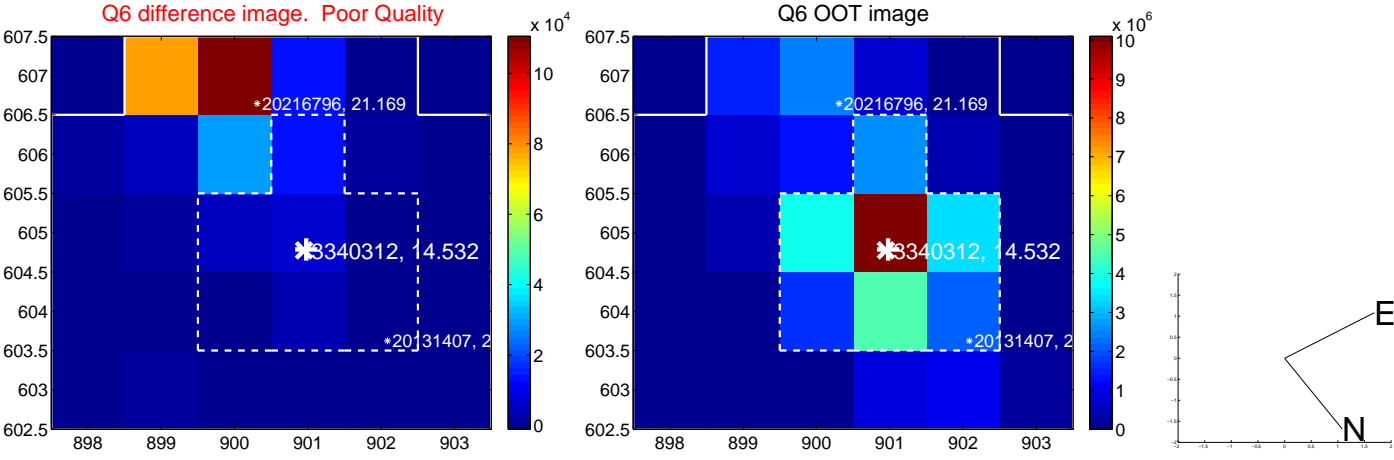
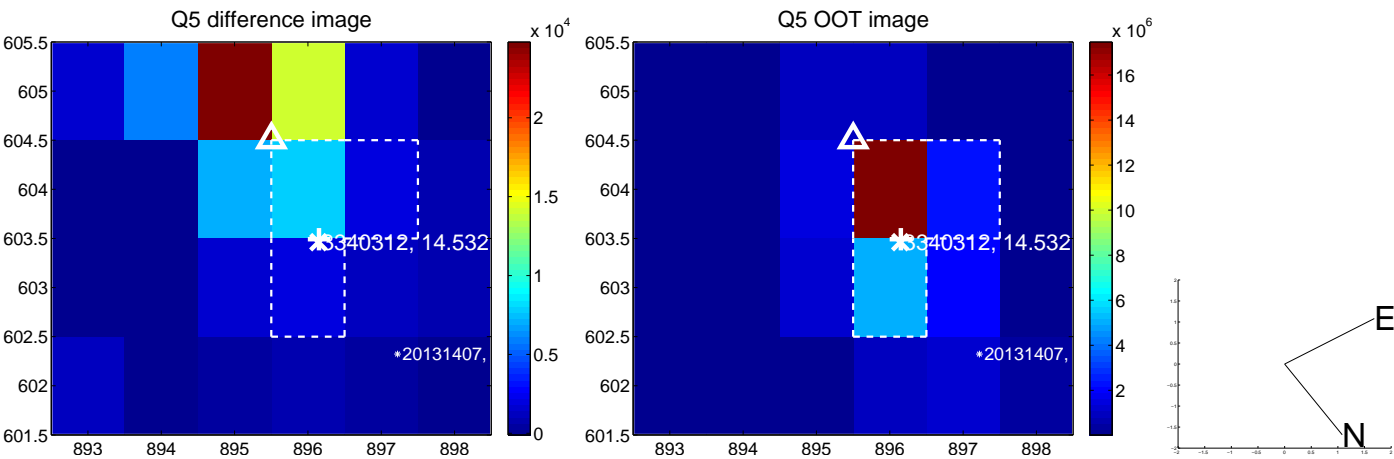


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

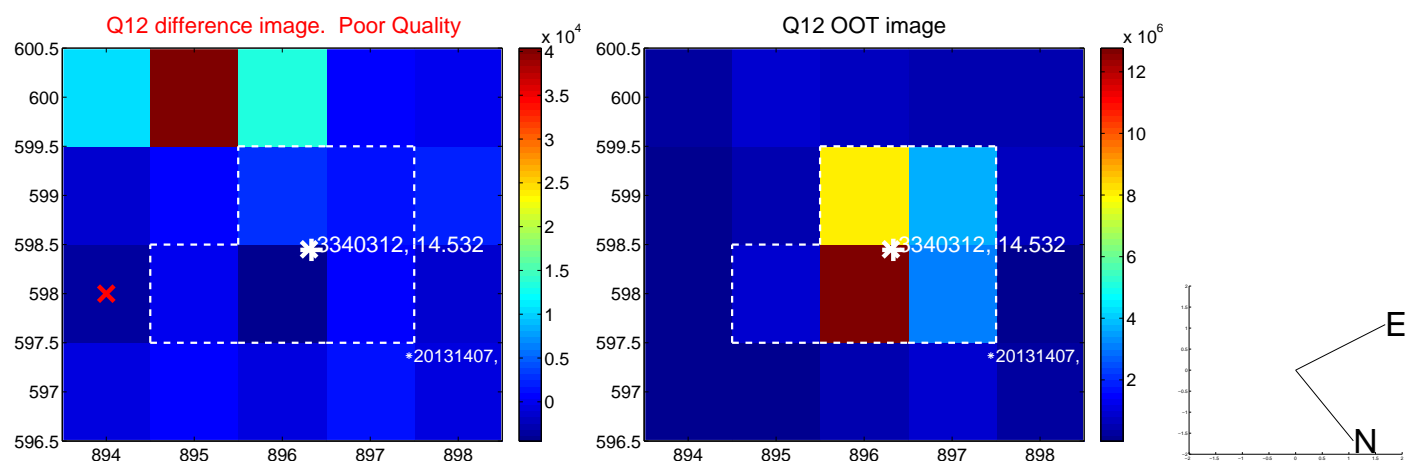
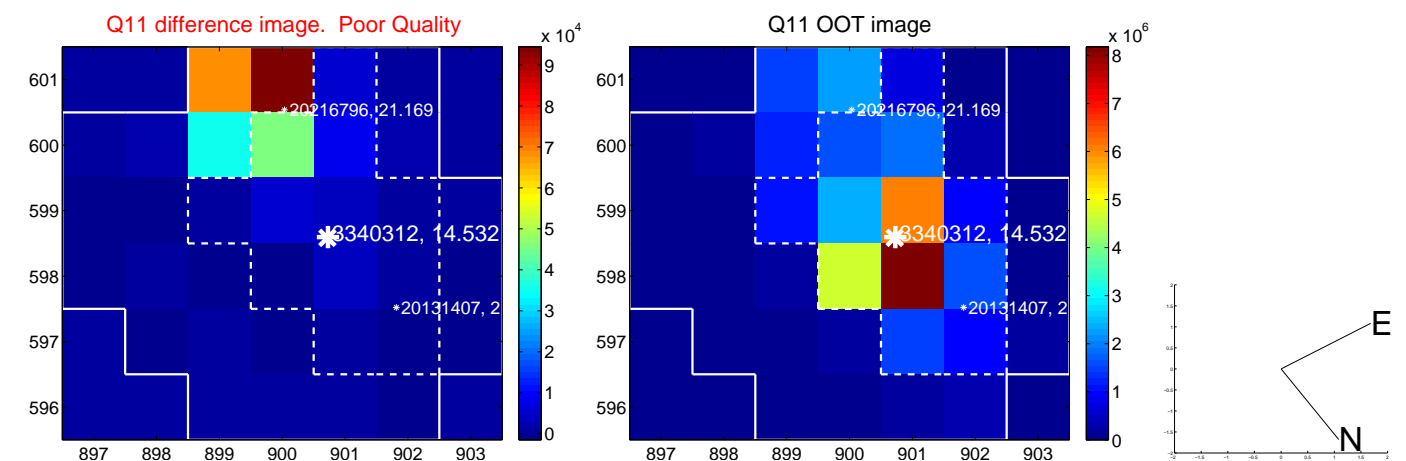
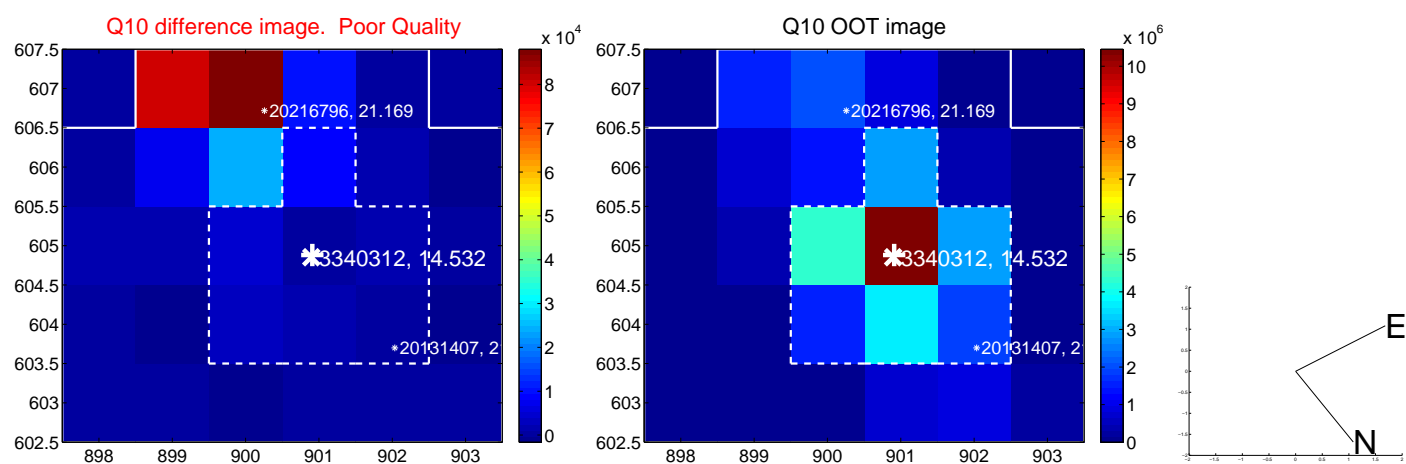
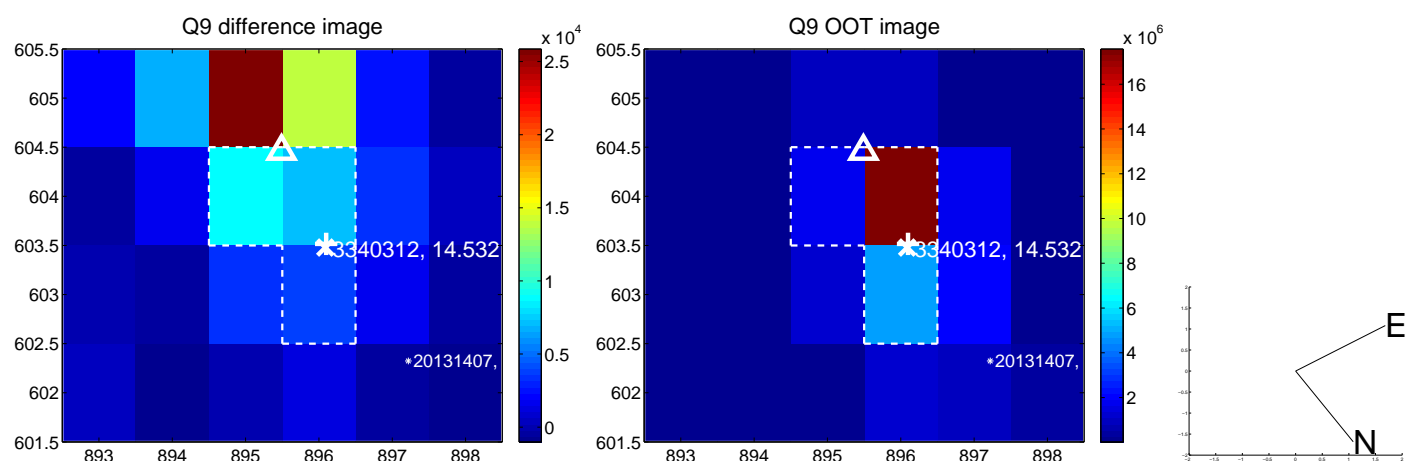
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



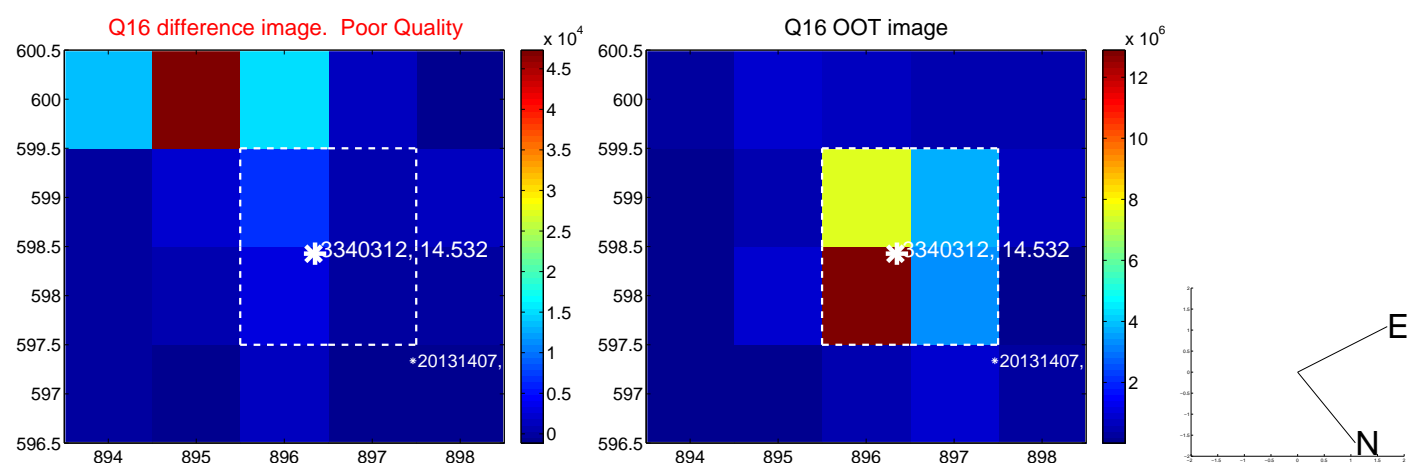
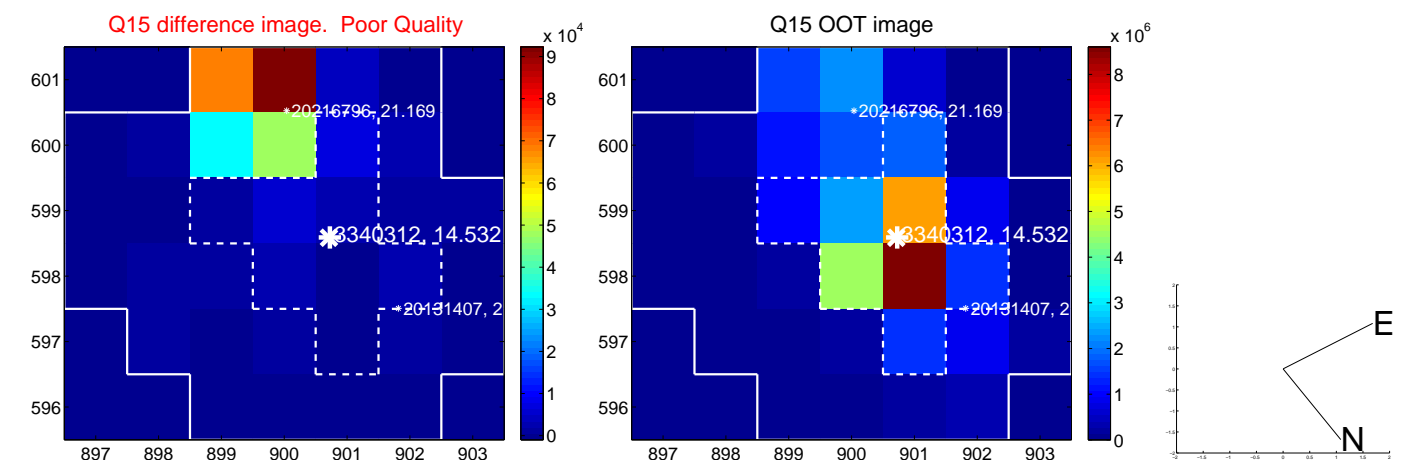
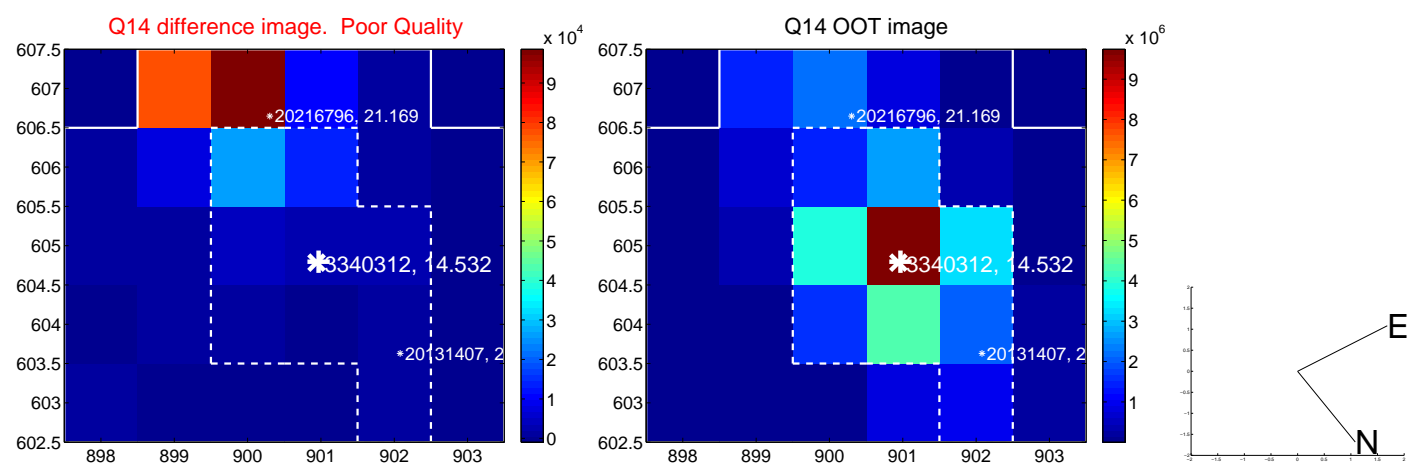
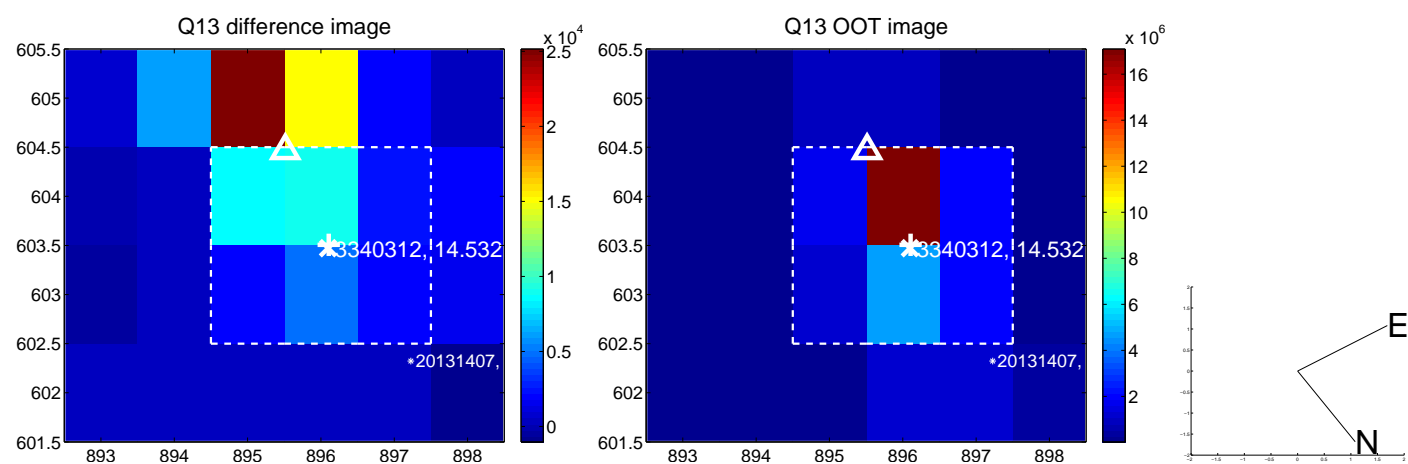
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



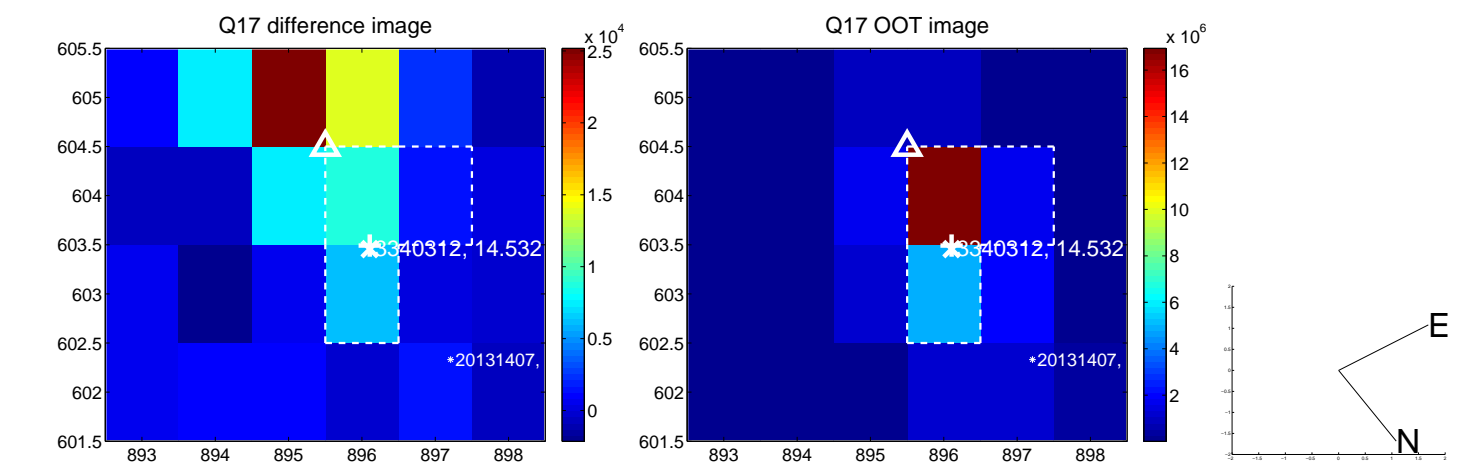
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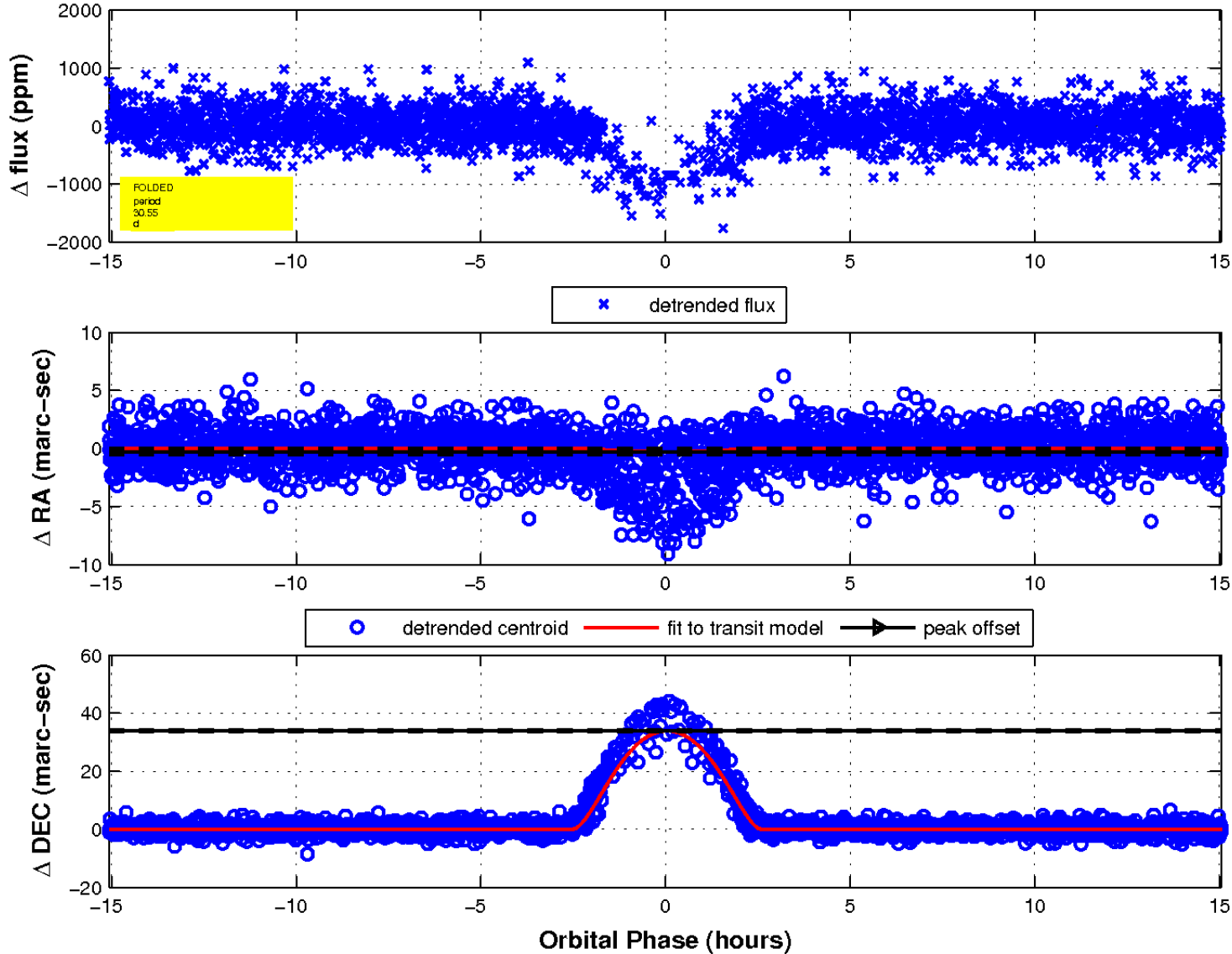
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

