

KIC 004376629

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})
004376629-01	OBS	3378.01	27.677683	146.119457	255.8	1.801	11.4	12.8	0.83	5797	1.52	22.96

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004376629-01	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 004376629-01

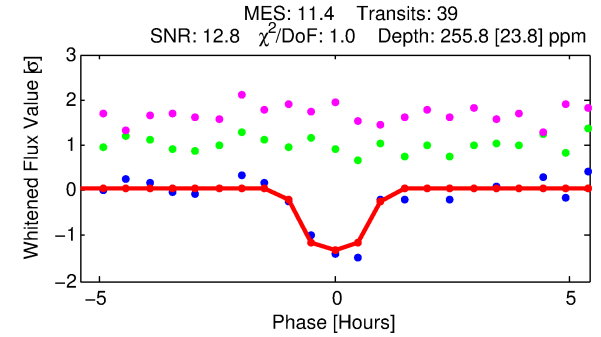
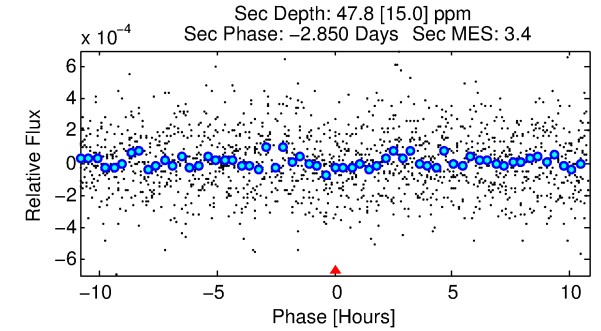
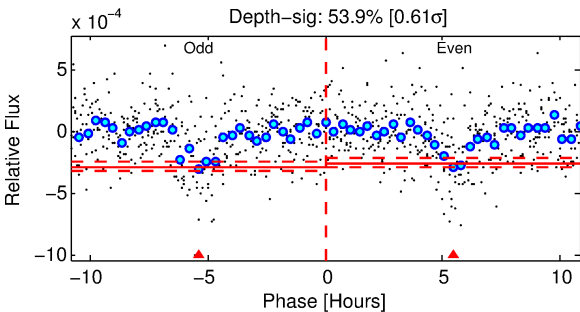
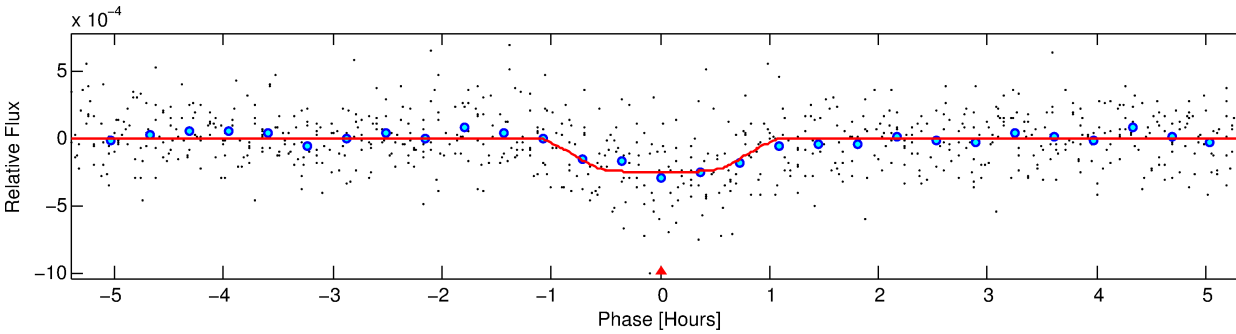
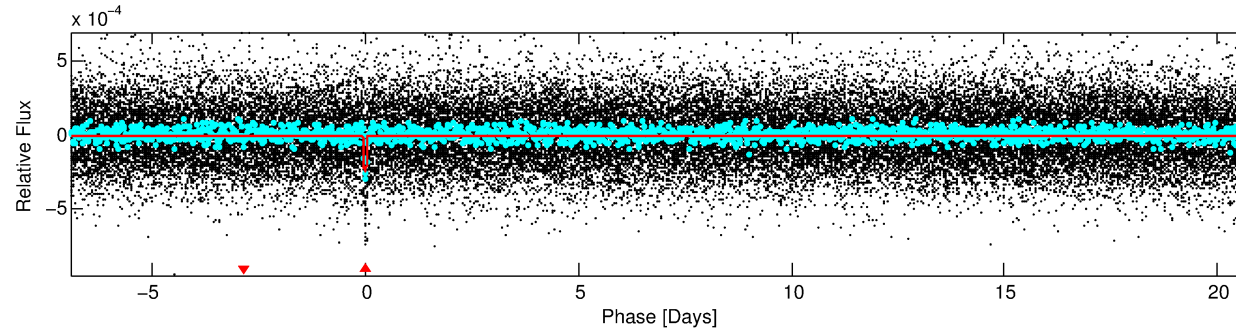
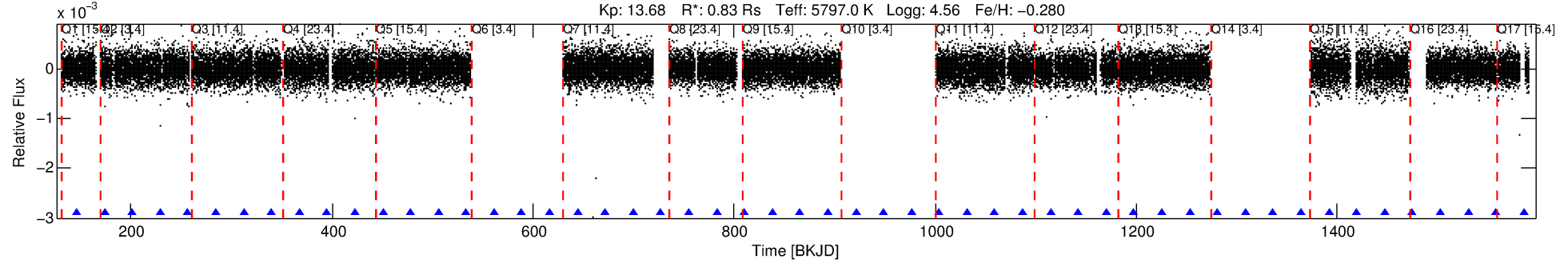
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
004376629-01	4376629	397.01	4376644	1:1	9.5	1	-2	13.77	13.68	46.79	Direct-PRF	0	0.00	0.01

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: 4376629 Candidate: 1 of 1 Period: 27.678 d
KOI: K03378.01 Corr: 0.998

Kp: 13.68 R*: 0.83 Rs Teff: 5797.0 K Logg: 4.56 Fe/H: -0.280



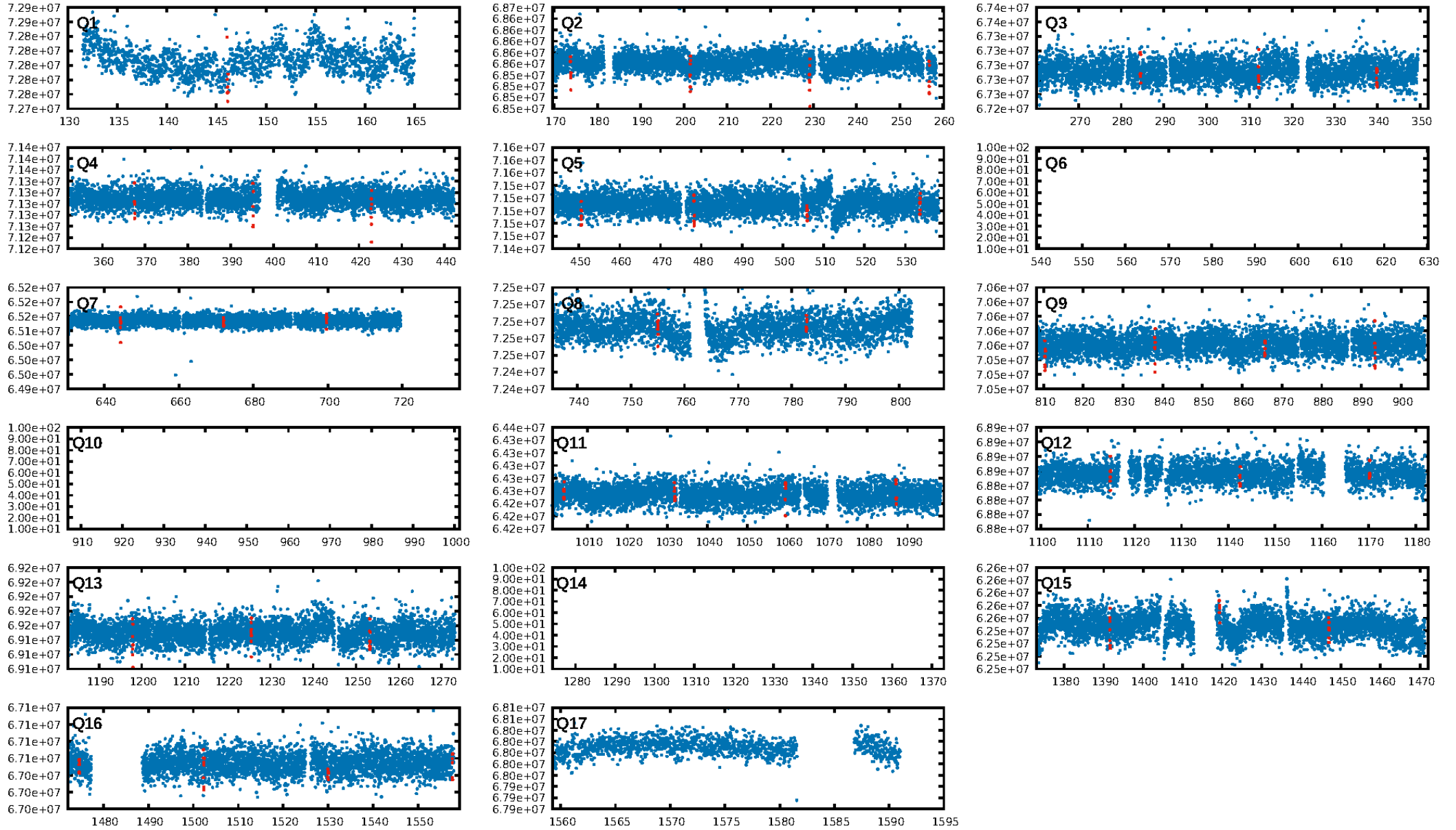
DV Fit Results:

Period = 27.67768 [0.00014] d
Epoch = 146.1195 [0.0041] BKJD
Rp/R* = 0.0168 [0.0154]
a/R* = 64.11 [281.74]
b = 0.86 [1.38]
Seff = 22.96 [4.55]
Teq = 558 [28] K
Rp = 1.52 [1.40] Re
a = 0.1738 [0.0211] AU
Ag = 344.24 [642.33] [0.53σ]
Teffp = 3717 [1726] K [1.83σ]

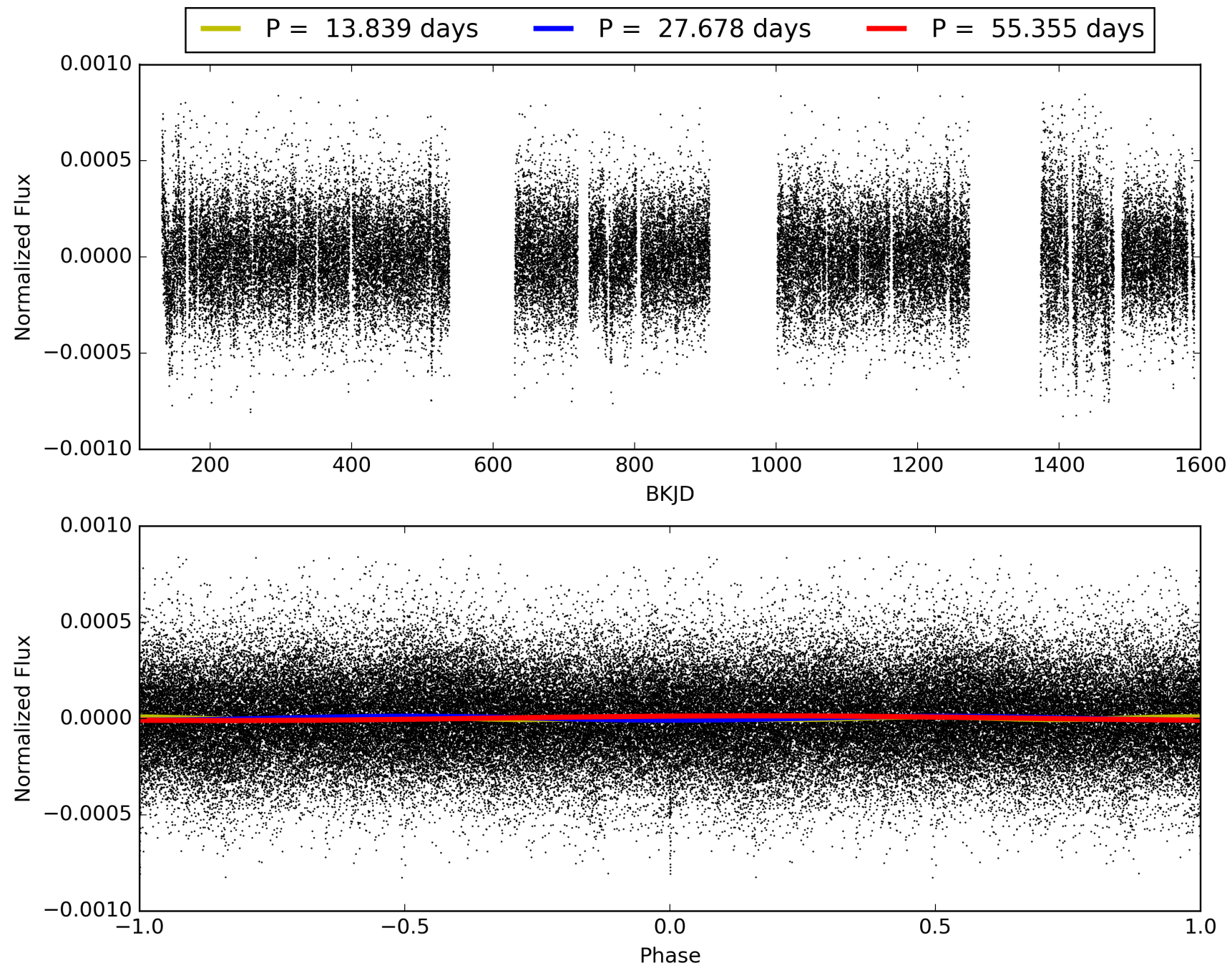
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 82.3%
Bootstrap-pfa: 3.22e-28
RollingBand-fgt: 1.00 [38/38]
GhostDiagnostic-chr: -0.311
Centroid-sig: 0.0%
Centroid-so: 43.098 arcsec [49.71σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [13/13]

TCE 004376629-01, PDC Light Curves

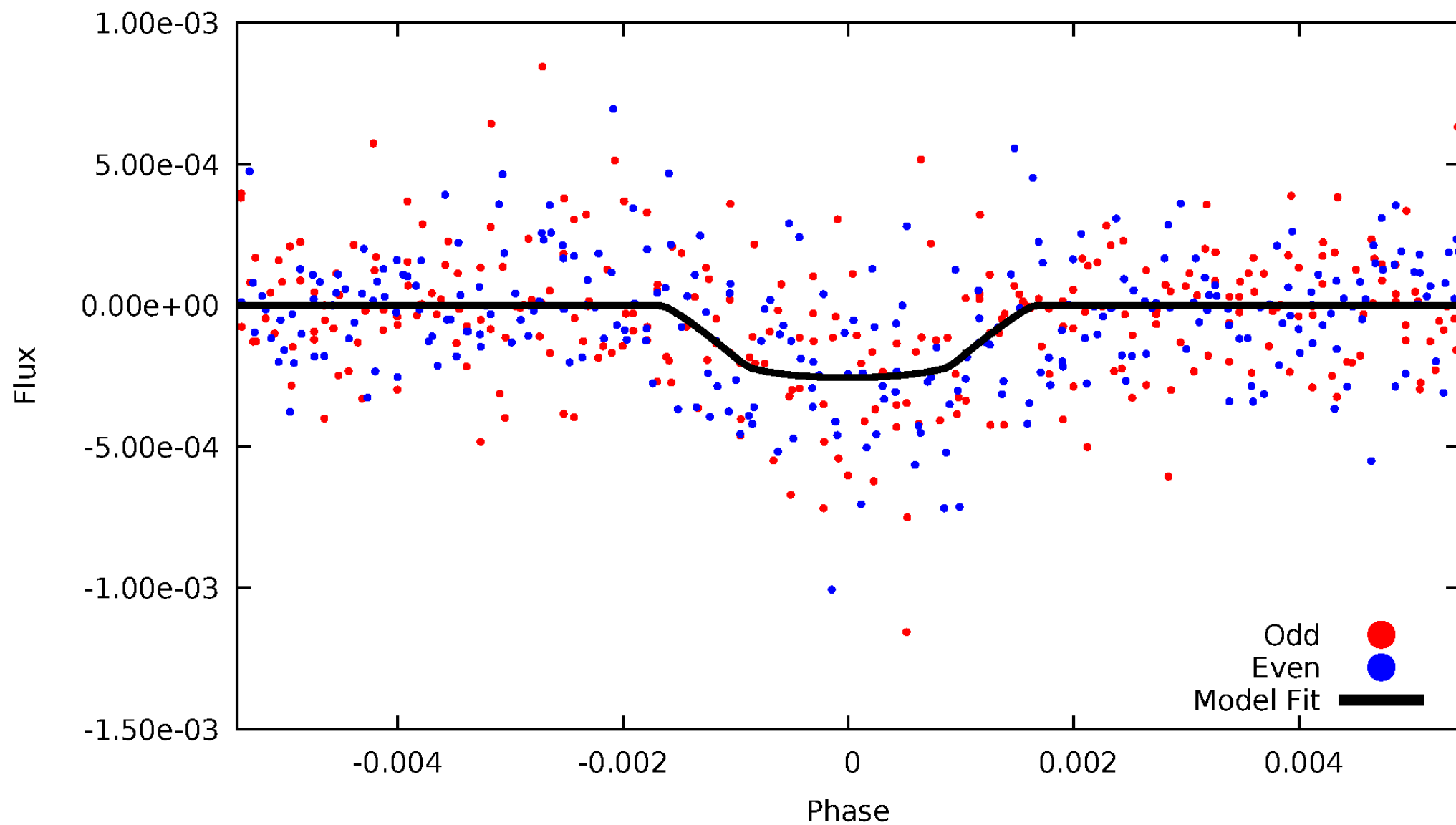


TCE 004376629-01



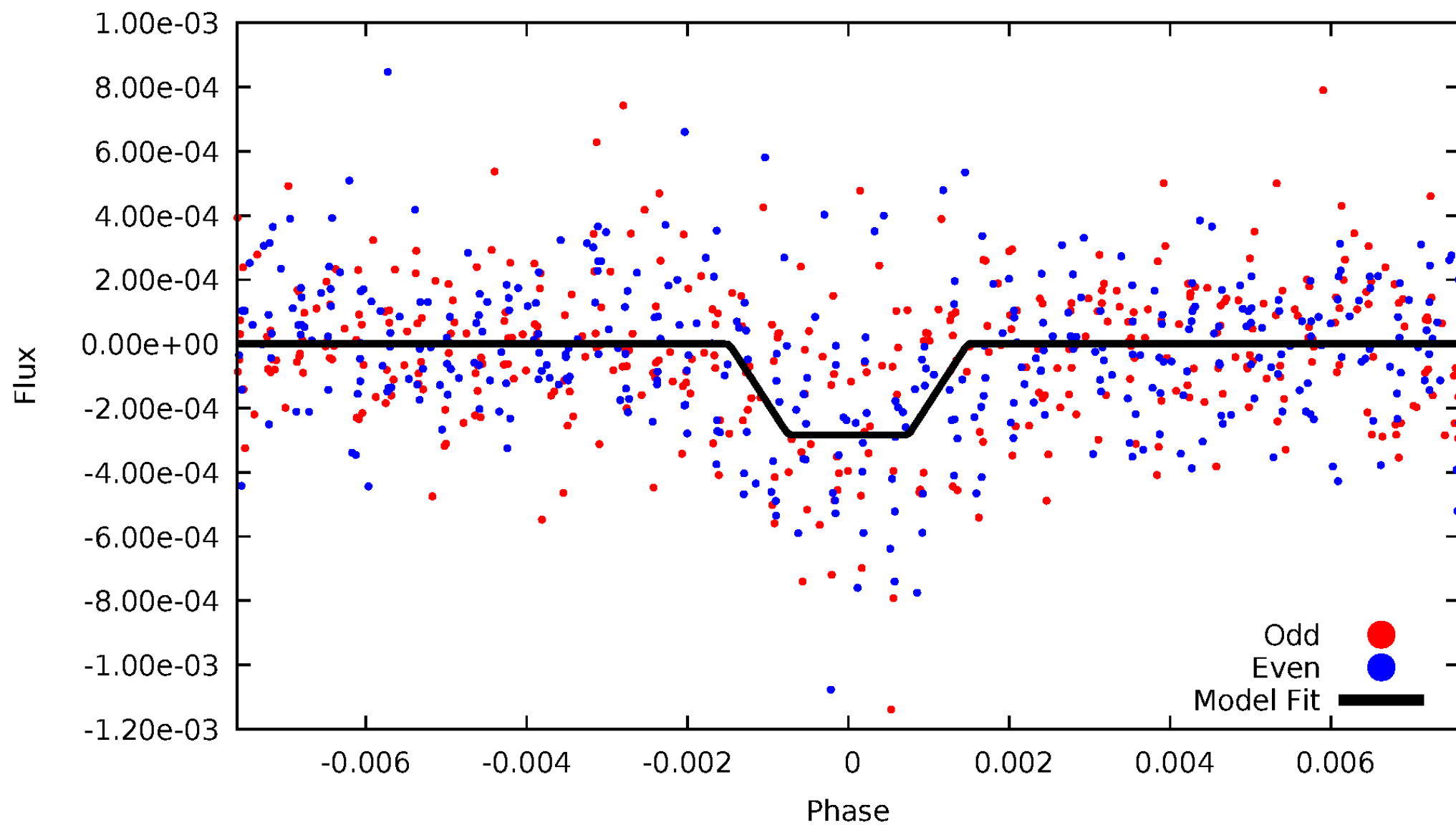
DV Odd/Even

TCE 004376629-01

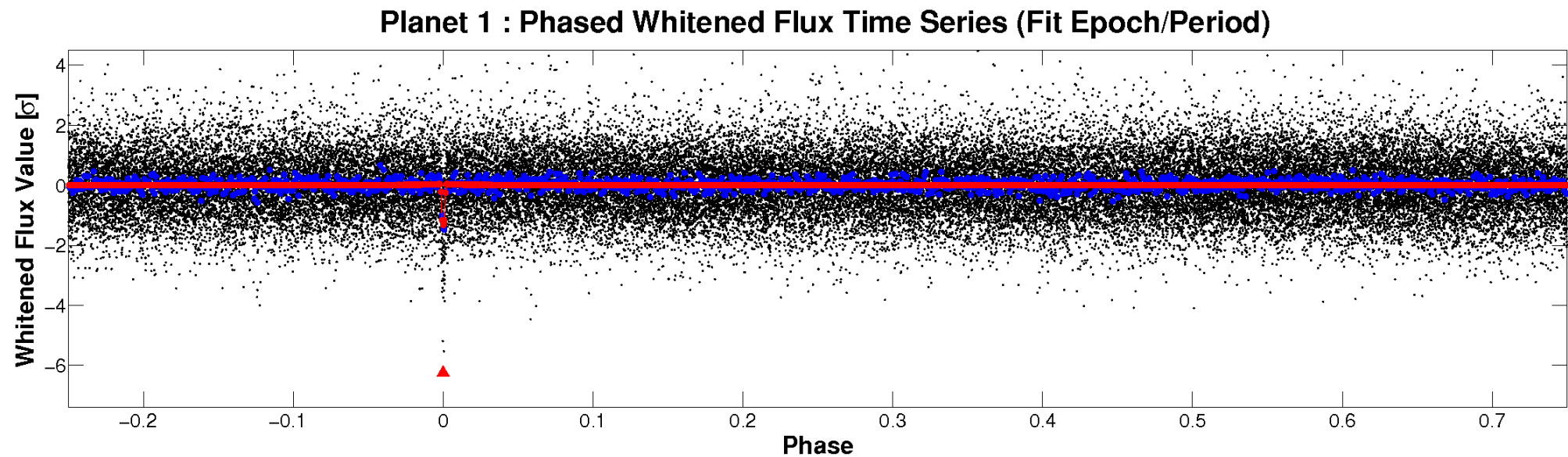
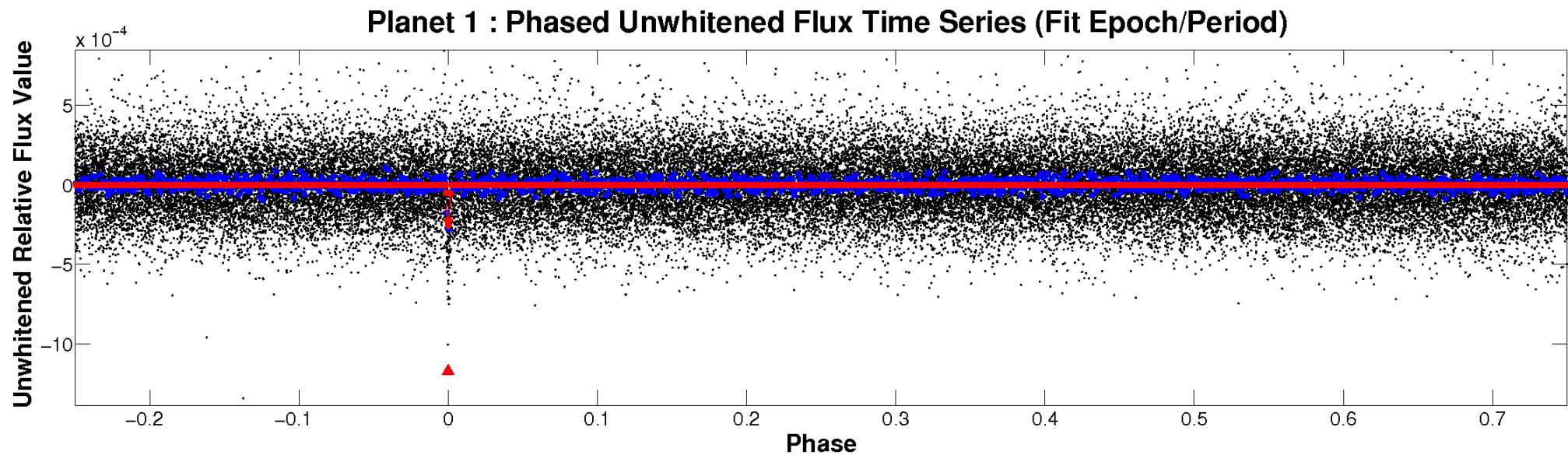


ALT Odd/Even

TCE 004376629-01

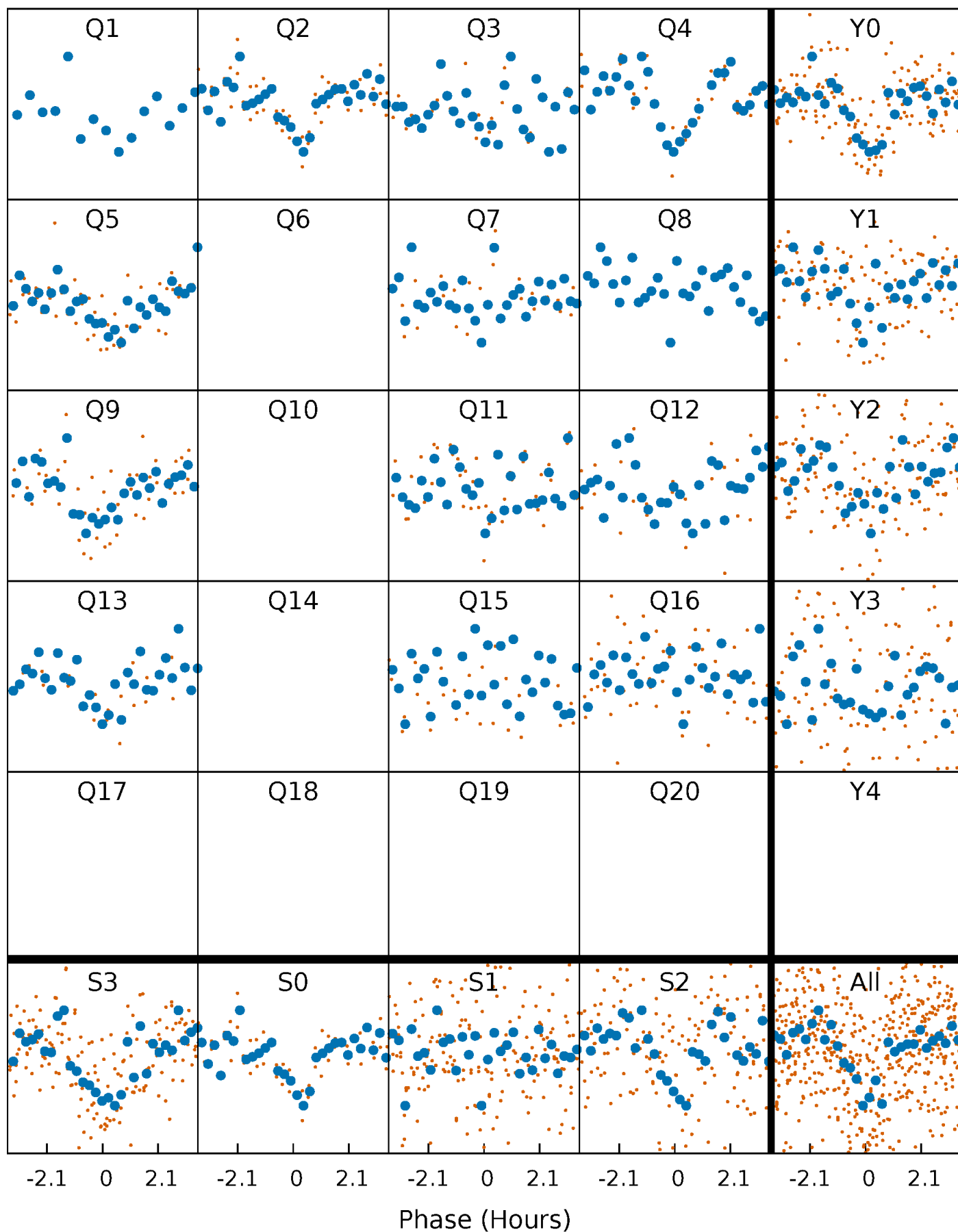


Non-Whitened Vs. Whitened Light Curve



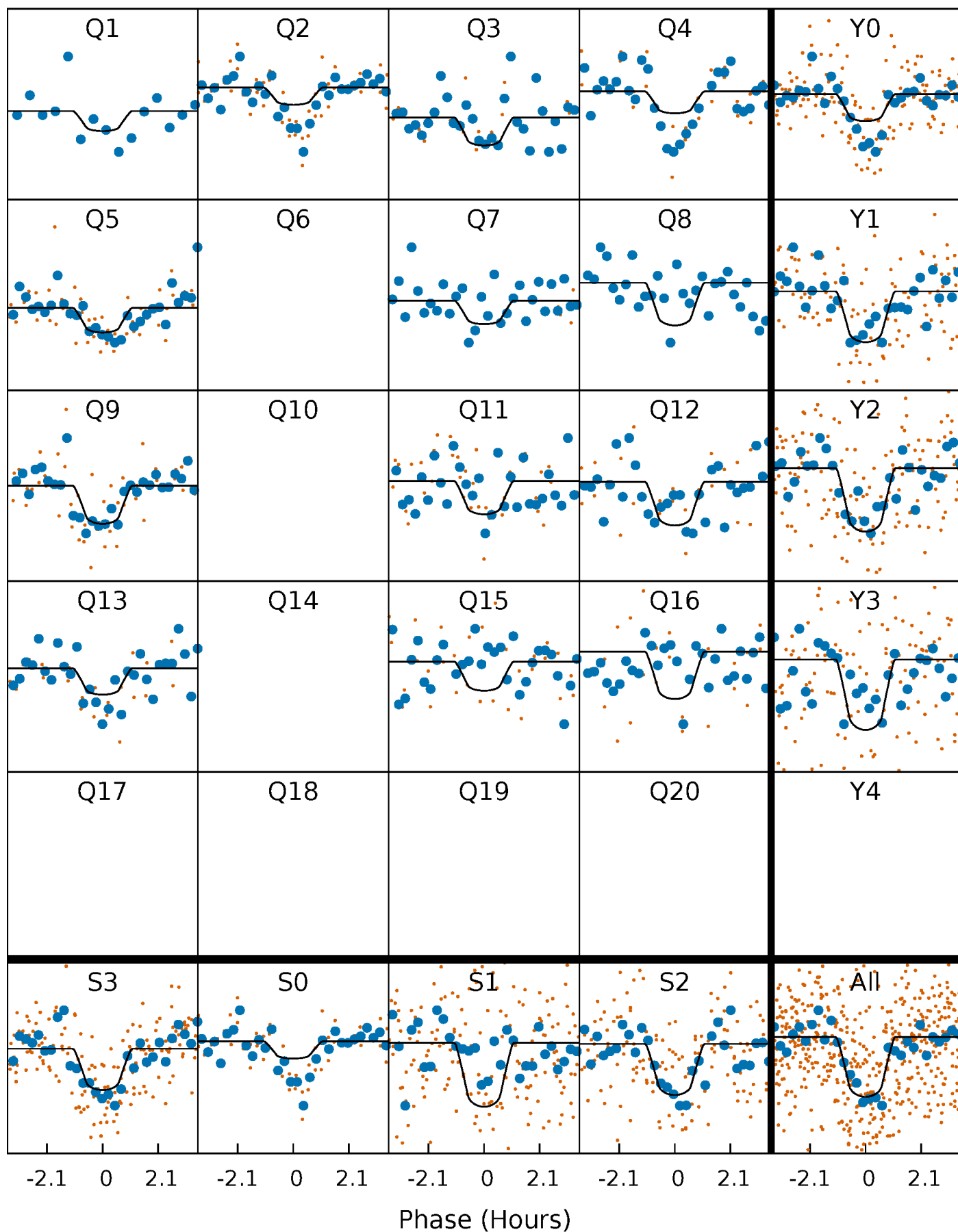
PDC Quarter-Phased Transit Curves

TCE 004376629-01 P= 27.677683 Days $T_0=146.119457$ (BKJD)



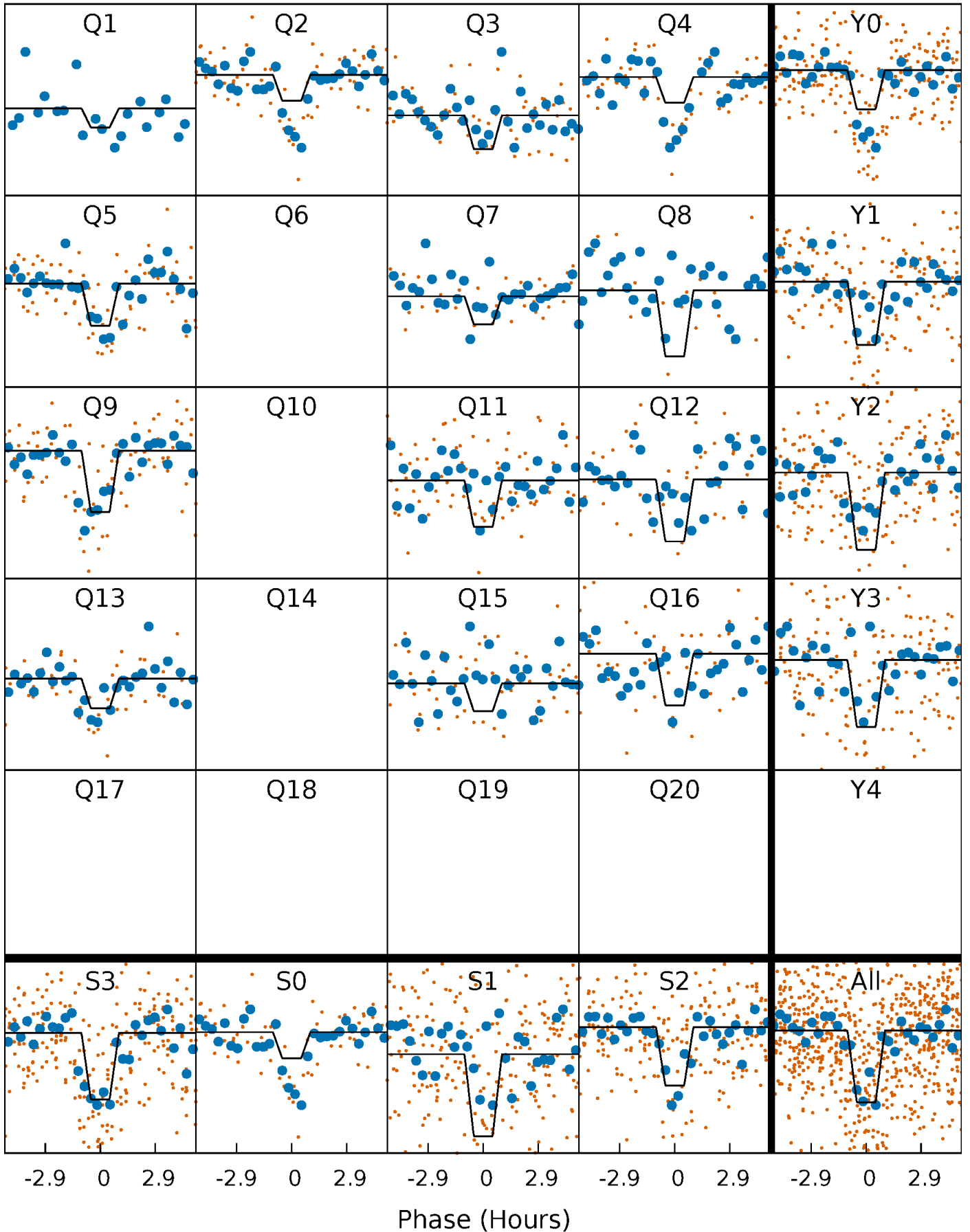
DV Quarter-Phased Transit Curves

TCE 004376629-01 P= 27.677683 Days $T_0=146.119457$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

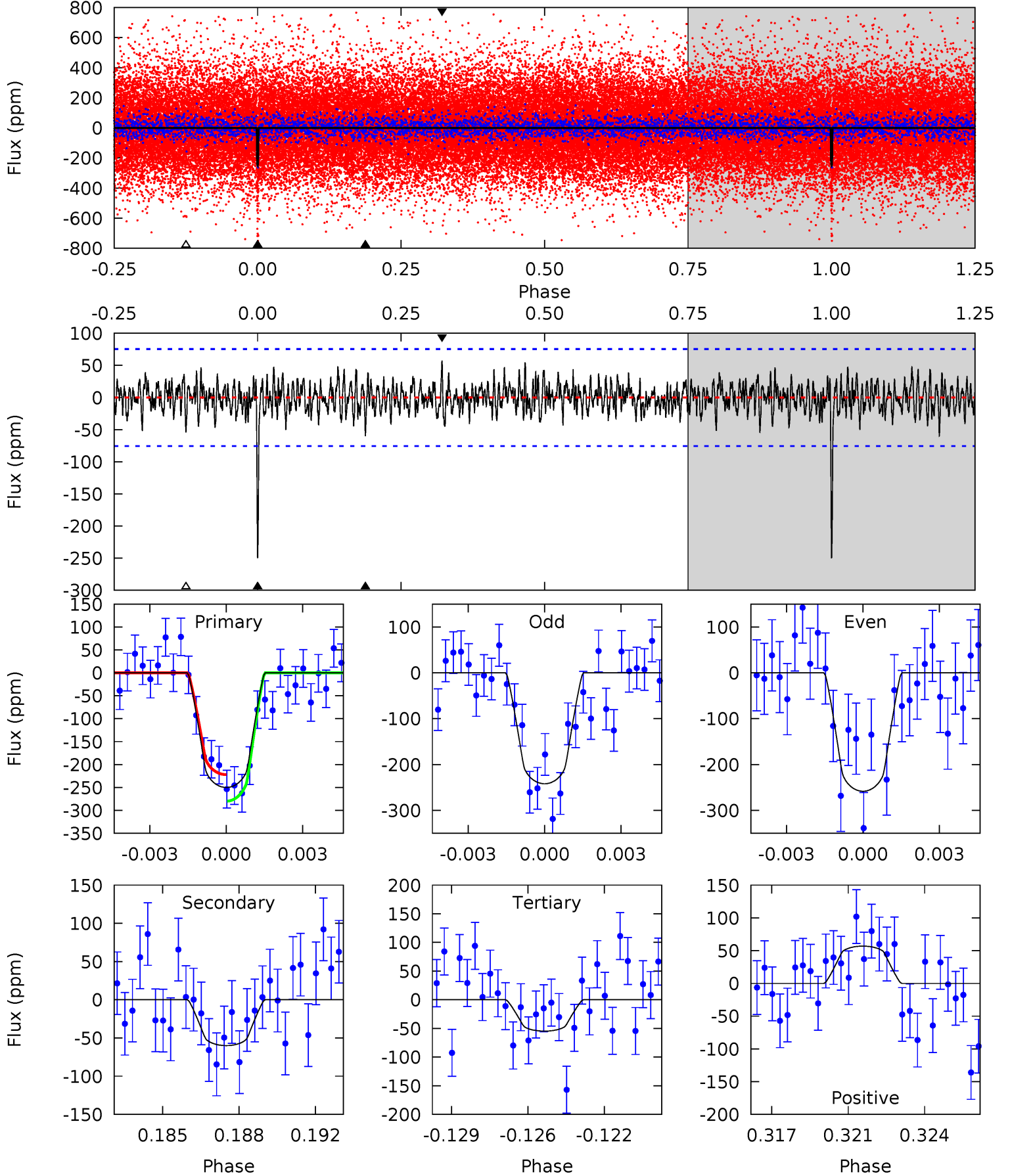
TCE 004376629-01 P= 27.678020 Days $T_0=146.118032$ (BKJD)



DV Model-Shift Uniqueness Test

004376629-01, $P = 27.677683$ Days, $E = 118.441774$ Days

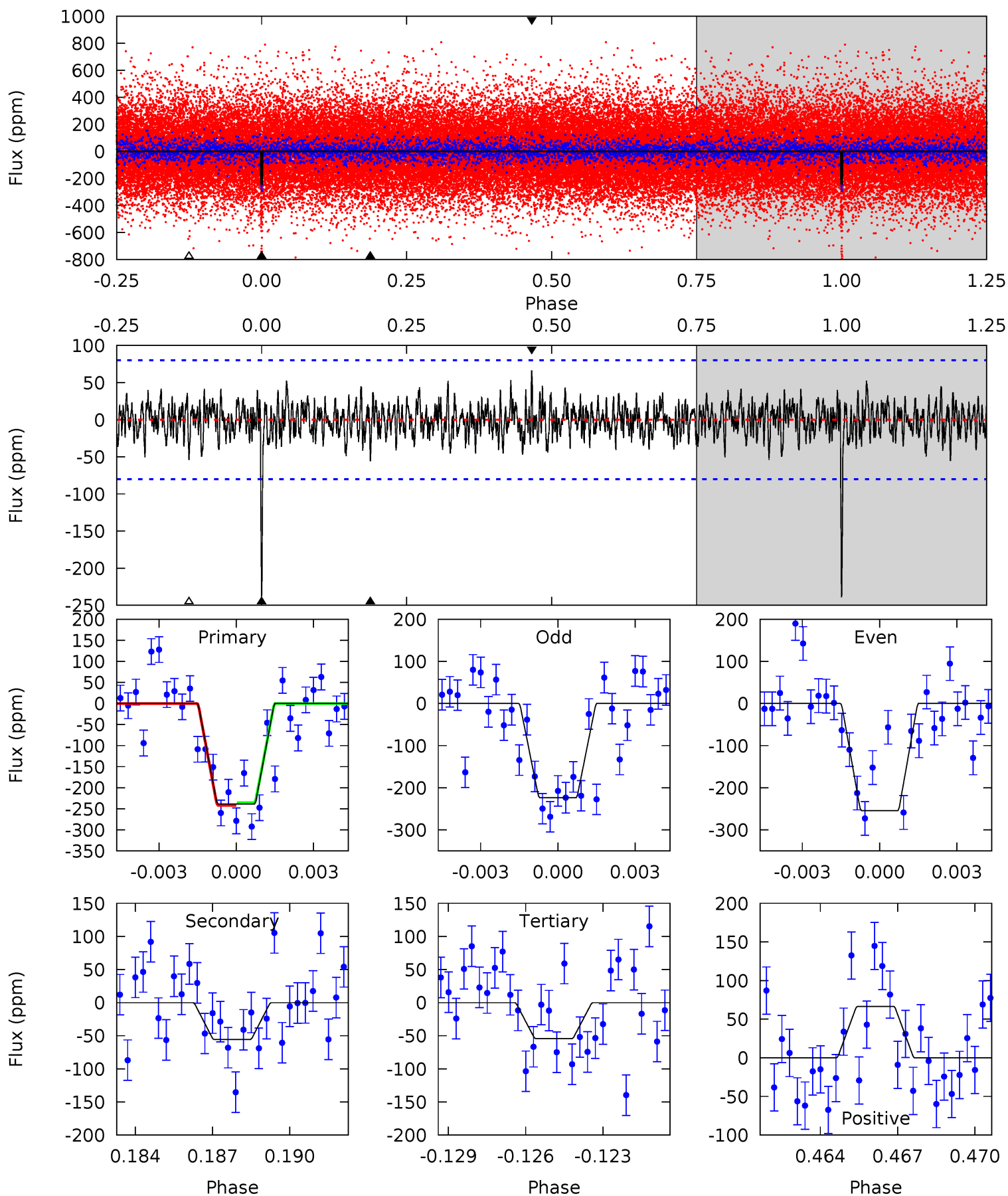
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.3	4.16	3.79	3.95	5.23	2.94	1.23	13.6	13.4	0.37	0.22	0.57	1.27	0.19	2.01



Alt Model-Shift Uniqueness Test

004376629-01, P = 27.678020 Days, E = 118.440012 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.7	3.64	3.56	4.35	5.25	2.97	1.18	12.1	11.3	0.08	-0.71	1.01	1.15	0.22	0.20



Stellar Parameters For KIC 004376629

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5797^{+78}_{-78}	$4.563^{+0.020}_{-0.111}$	$-0.280^{+0.150}_{-0.150}$	$0.828^{+0.107}_{-0.034}$	$0.916^{+0.045}_{-0.071}$	$2.275^{+0.221}_{-0.705}$
	+1%/-1%	+0%/-2%	+54%/-54%	+13%/-4%	+5%/-8%	+10%/-31%
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 004376629-01 / KOI 3378.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-60 ± 14	$1.85^{+1.34}_{-1.13}$	791^{+24}_{-18}	3935^{+1813}_{-662}	283^{+1568}_{-194}
Alt.	-56 ± 15	$1.77^{+1.29}_{-1.09}$	788^{+25}_{-16}	3941^{+1854}_{-660}	292^{+1638}_{-199}

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 $A_{obs} \gg 1.0$

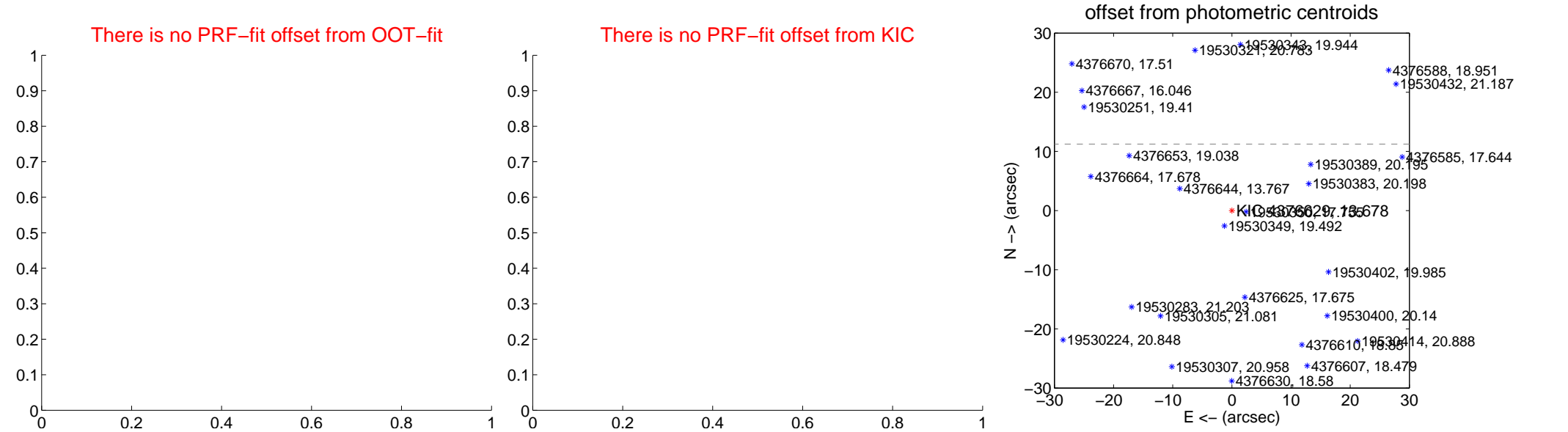
DV Centroid Data

Supplemental centroid analysis for 004376629-01. Kepler magnitude: 13.68. Transit SNR 12.81

There are 0 quarters with good PRF difference image offsets

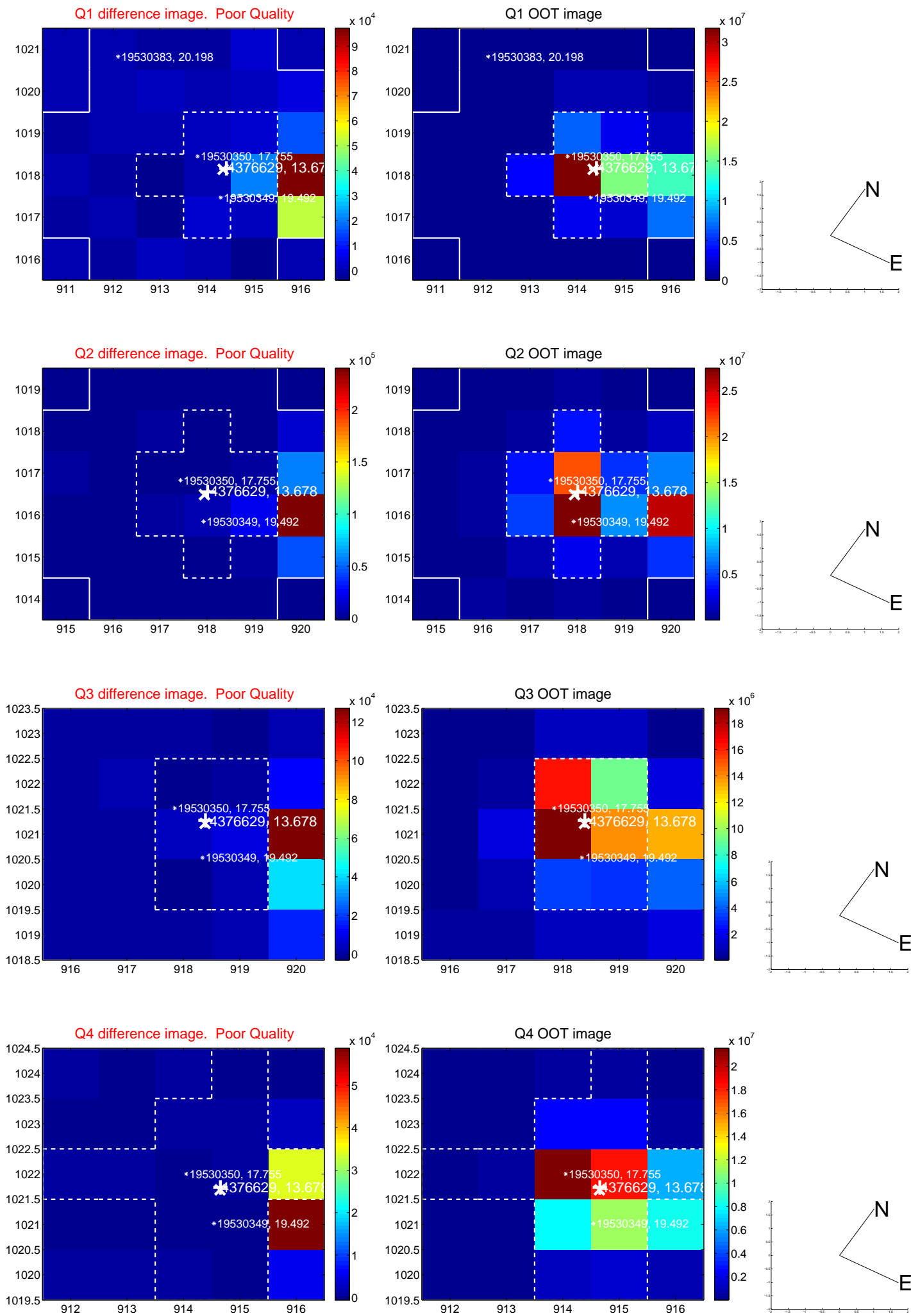
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	43.10 ± 0.87	49.71	41.60 ± 0.87	11.24 ± 0.78

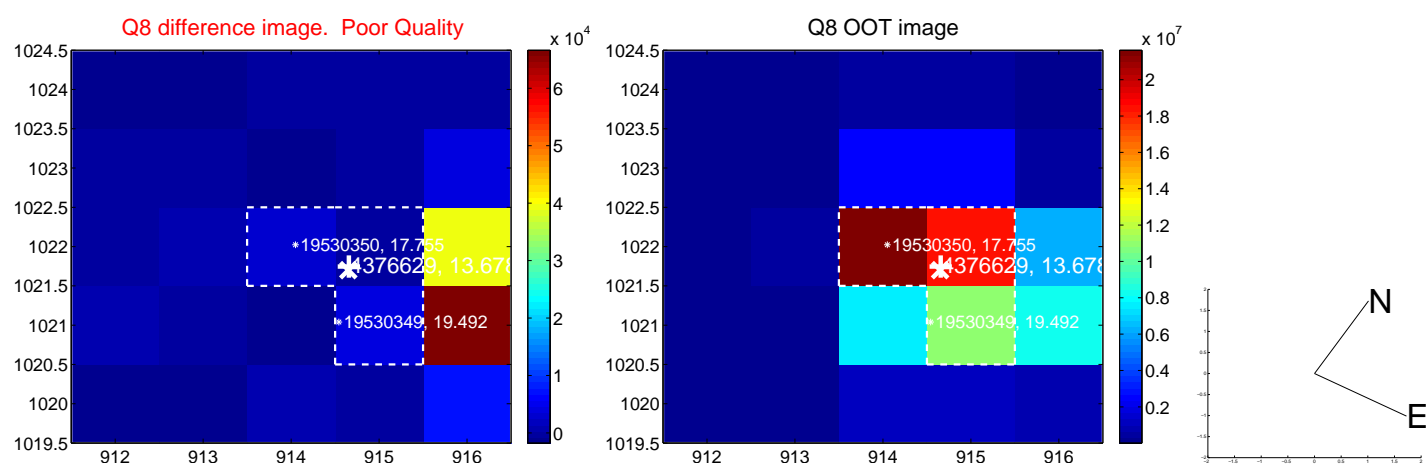
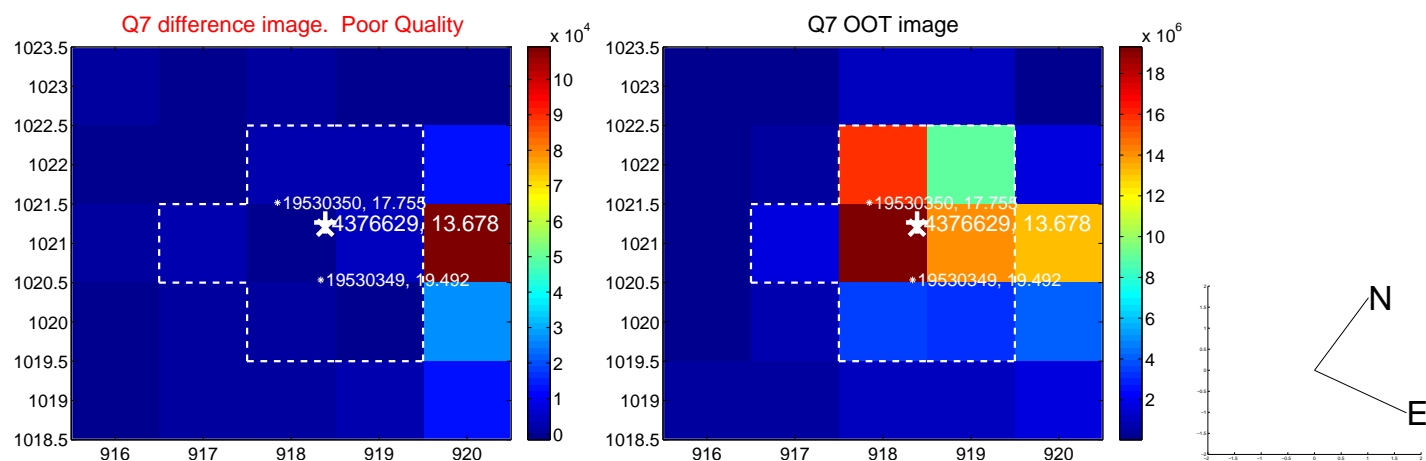
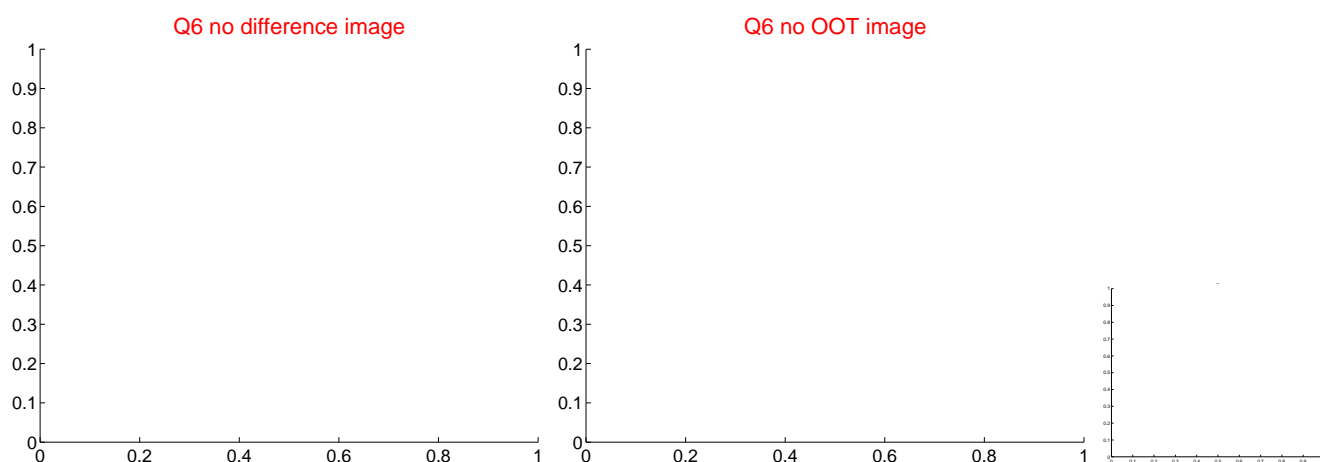
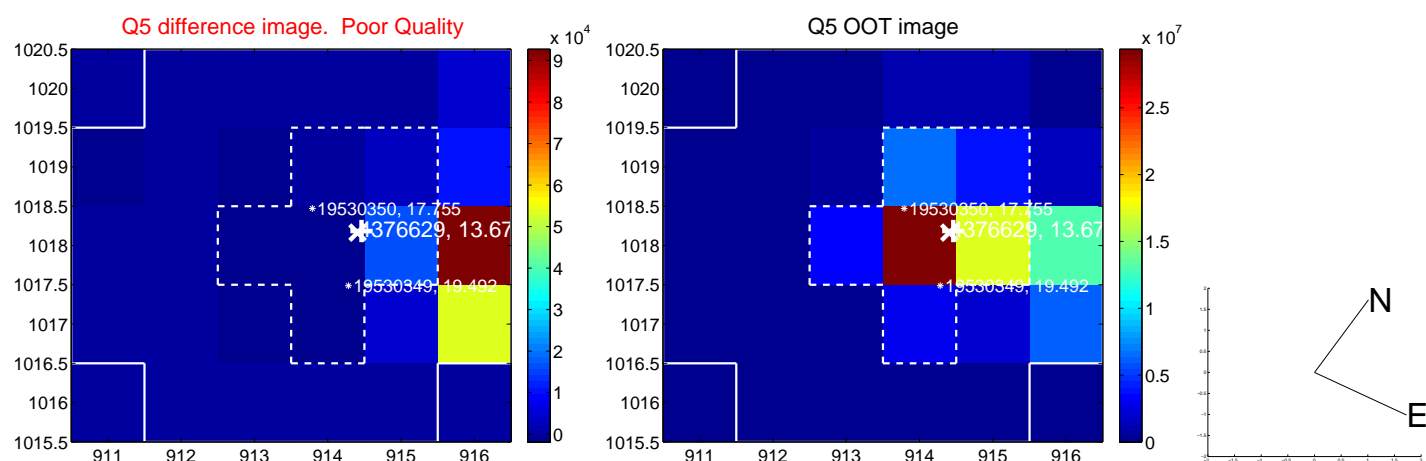


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

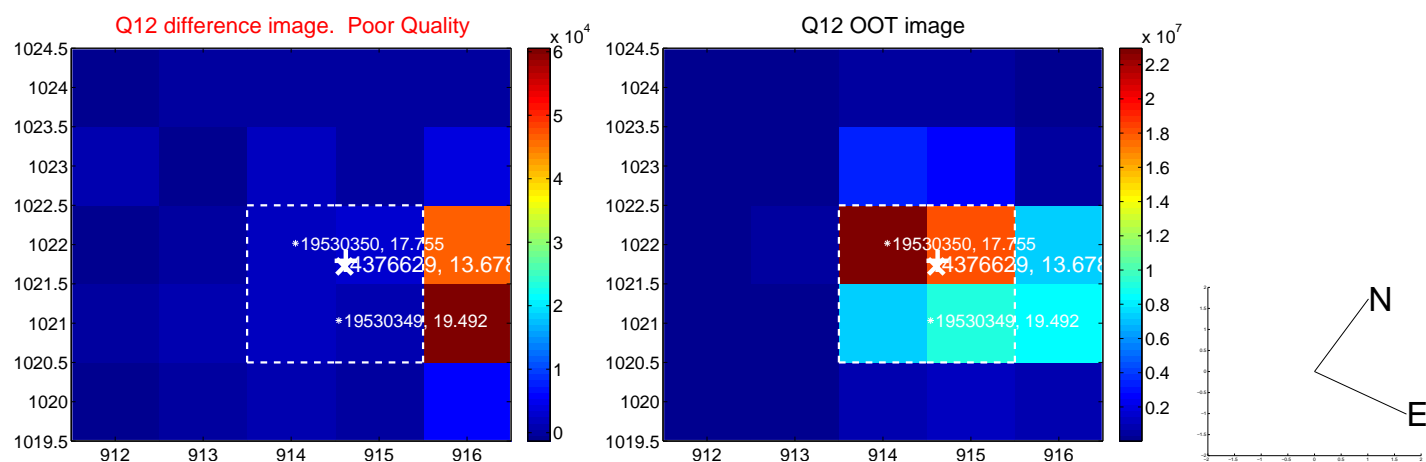
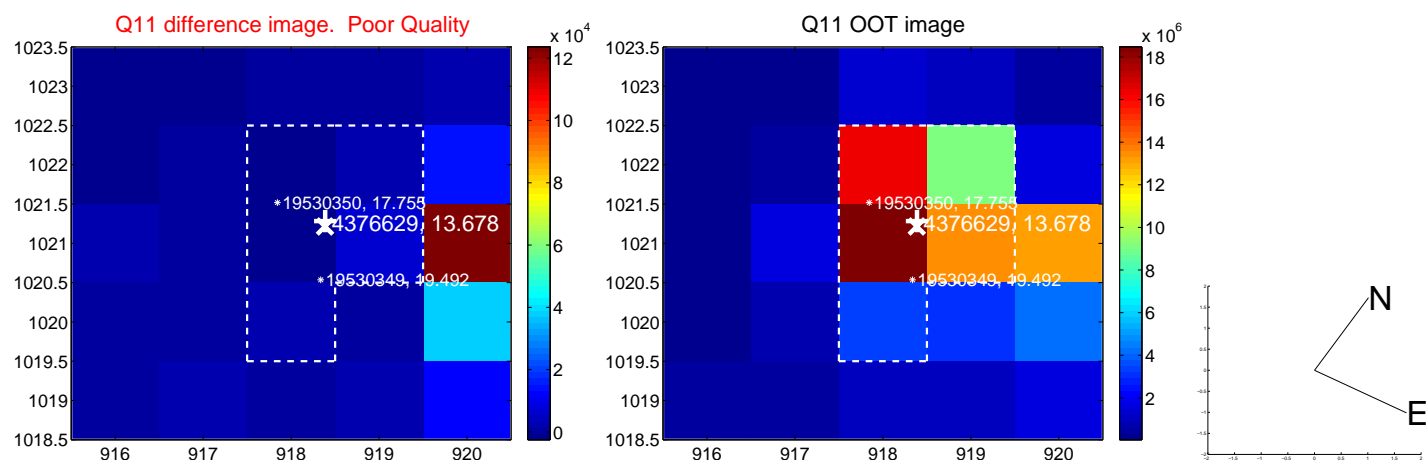
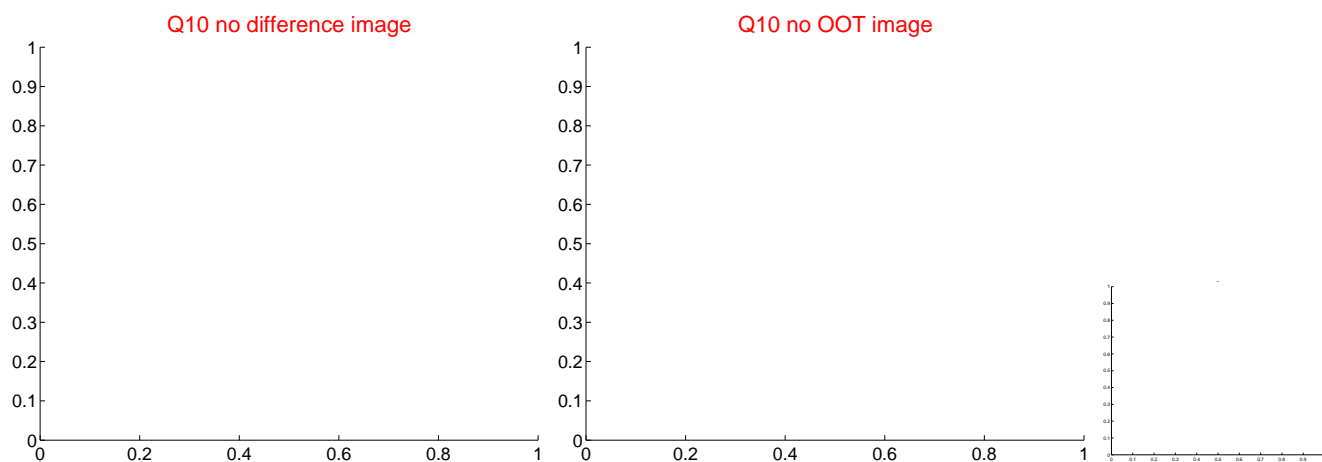
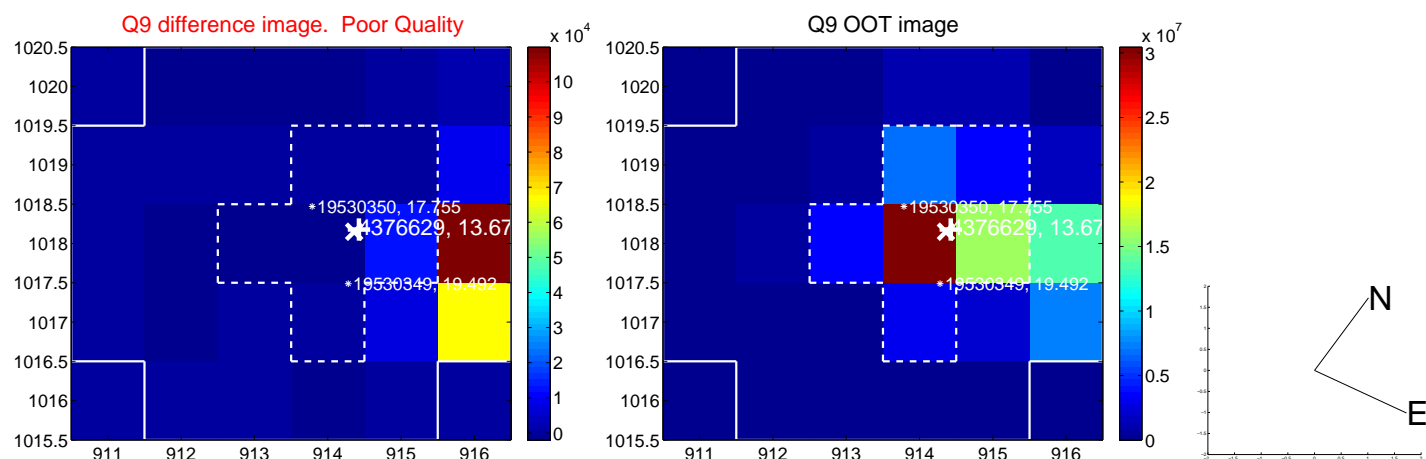
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



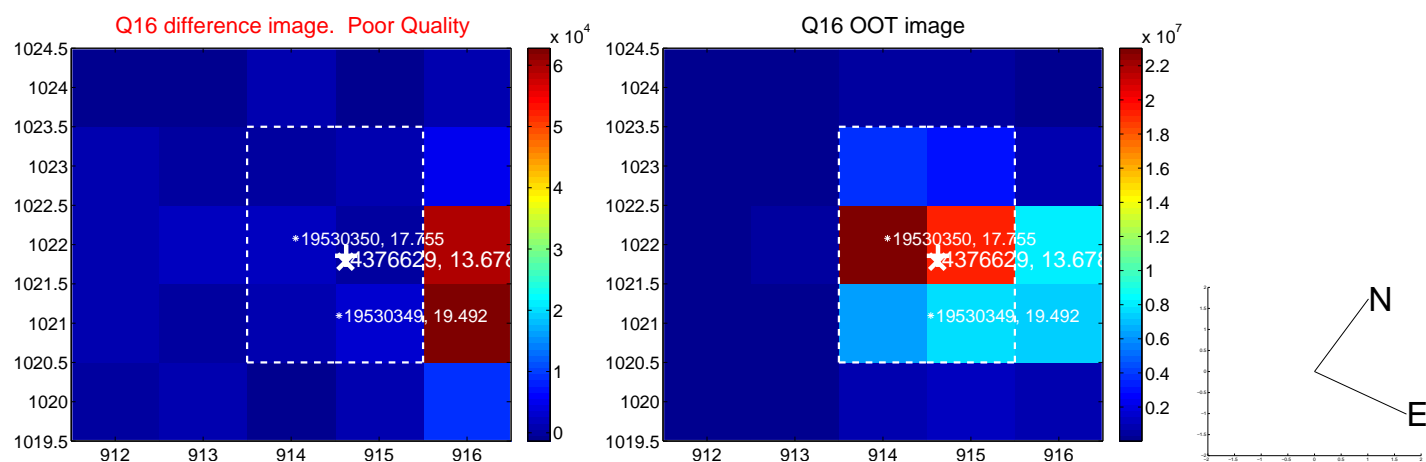
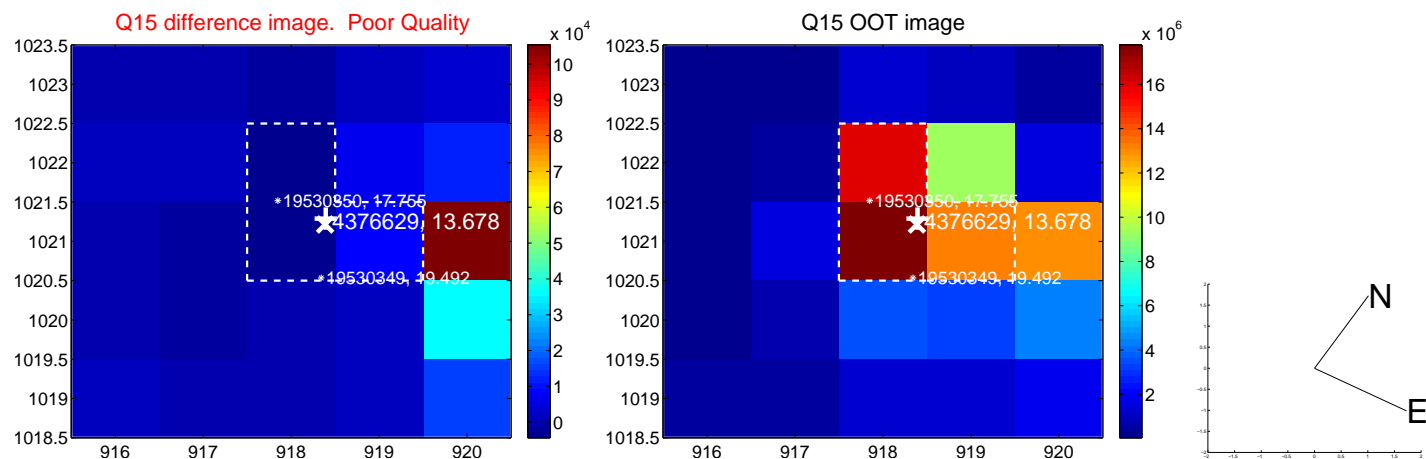
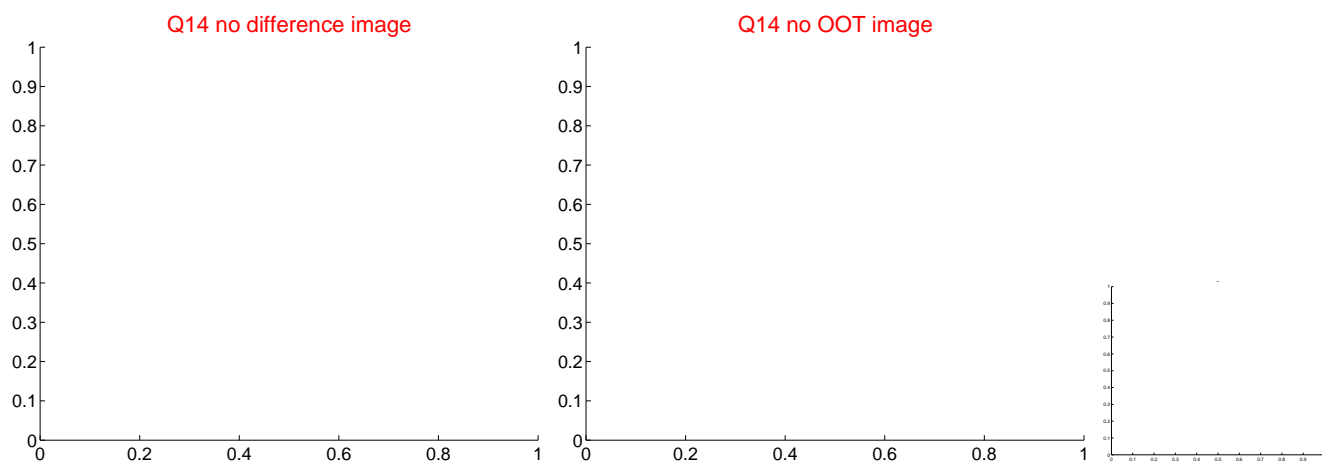
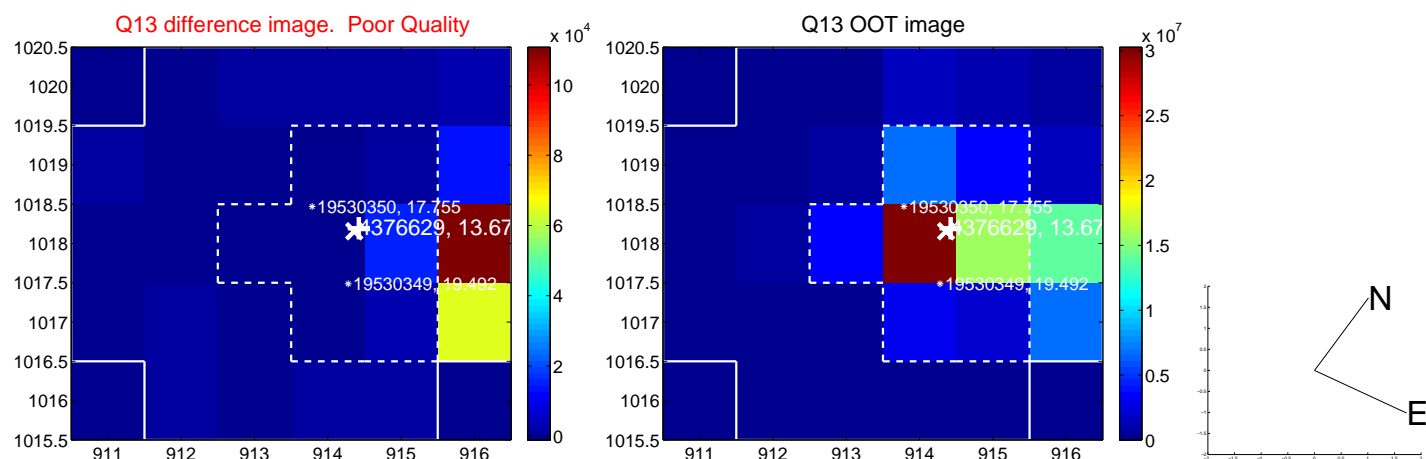
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



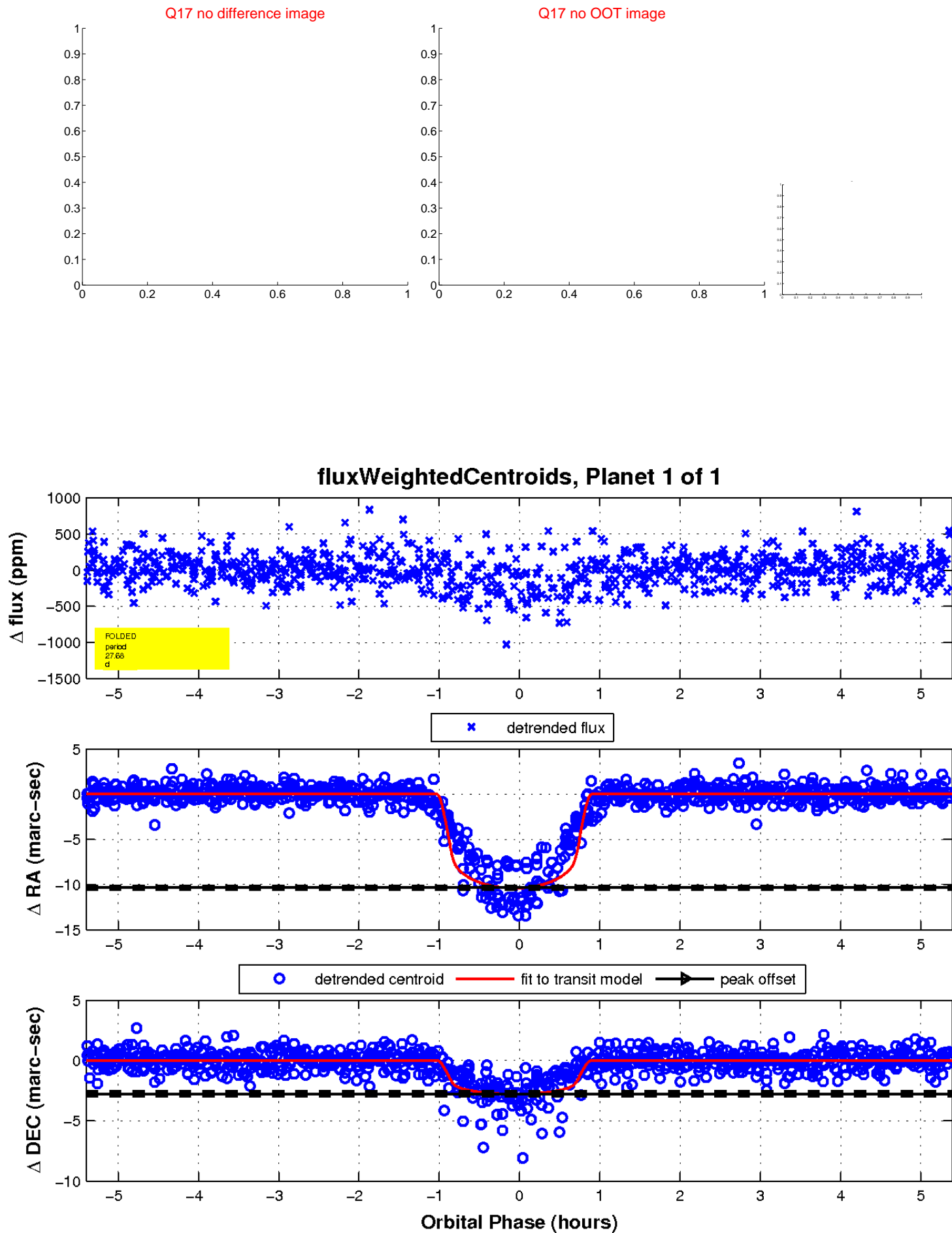
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

