

KIC 010491044

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})
010491044-01	OBS	1763.01	2.199079	133.064575	374.8	4.376	17.4	19.1	0.71	5003	2.83	330.96

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010491044-01	OBS	FP	0.00	0	0	1	1	CENT_RESOLVED_OFFSET—HALO_GHOST—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 010491044-01

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
010491044-01	10491044	7336.01	10491031	1:1	21.0	-4	3	13.24	15.95	605.36	Direct-PRF	0	0.31	0.07

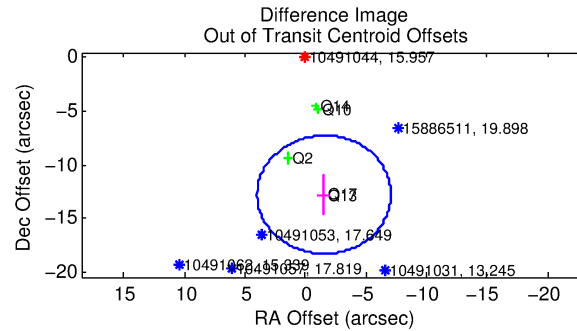
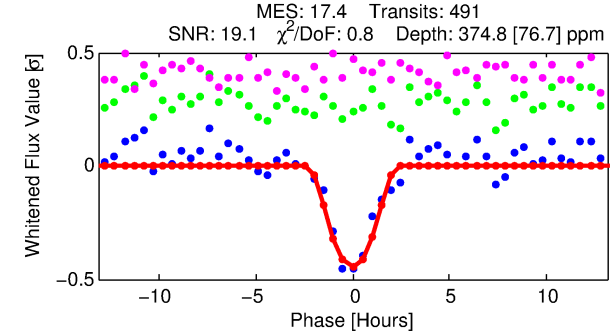
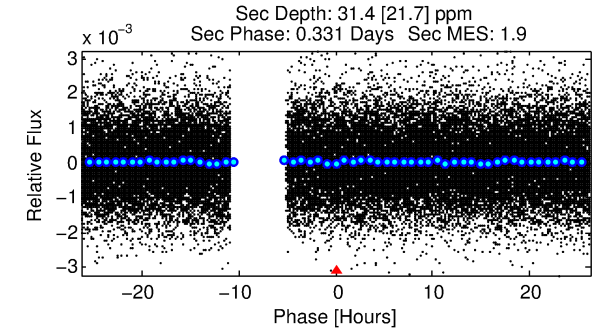
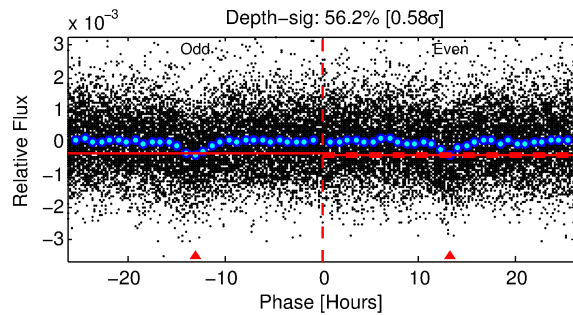
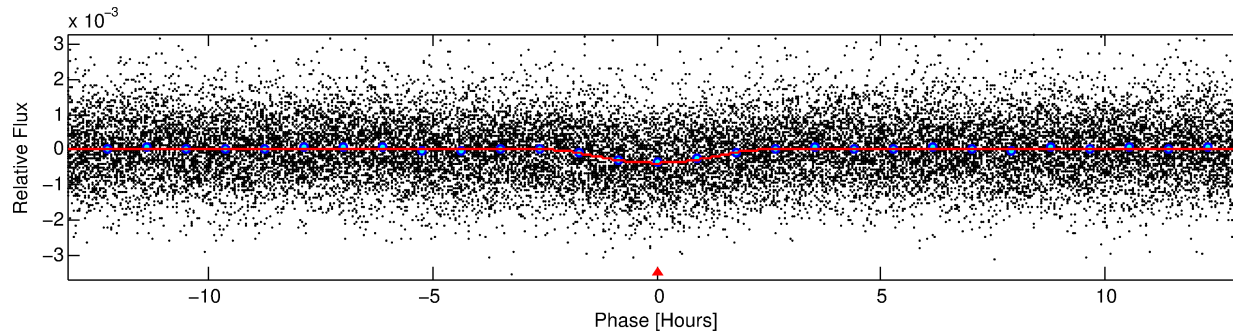
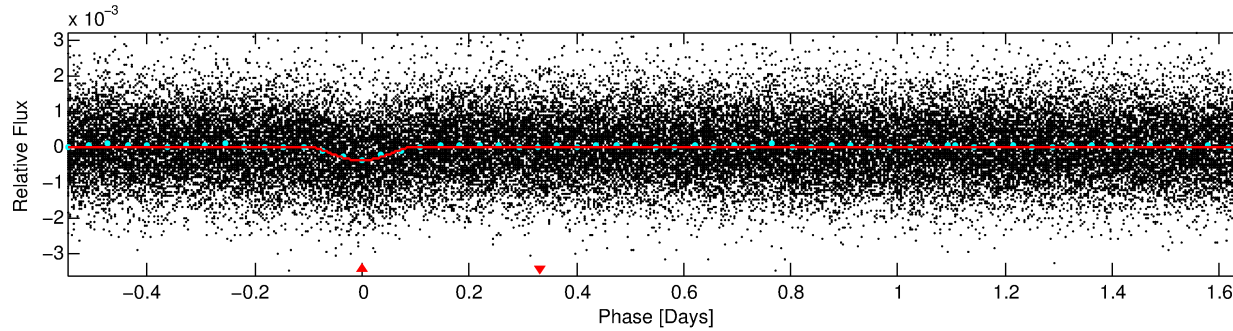
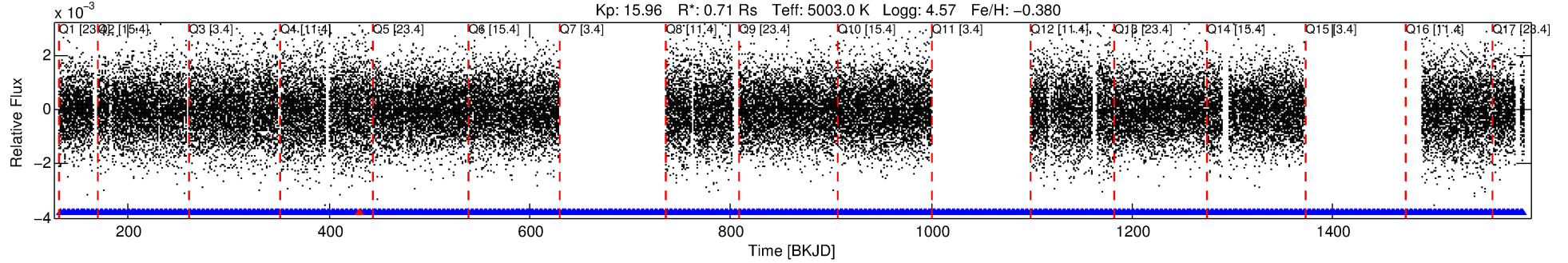
Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match 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: 10491044 Candidate: 1 of 1 Period: 2.199 d

KOI: K01763.01 Corr: 0.816

Kp: 15.96 R*: 0.71 Rs Teff: 5003.0 K Logg: 4.57 Fe/H: -0.380



DV Fit Results:

Period = 2.19908 [0.00001] d
Epoch = 133.0646 [0.0043] BKJD
Rp/R* = 0.0367 [0.0824]
a/R* = 1.47 [0.37]
b = 1.00 [0.12]
Seff = 330.96 [58.33]
Teq = 1088 [48] K
Rp = 2.83 [6.36] Re
a = 0.0291 [0.0025] AU
Ag = 1.83 [8.33] [0.10σ]
Teff = 1956 [2224] K [0.39σ]

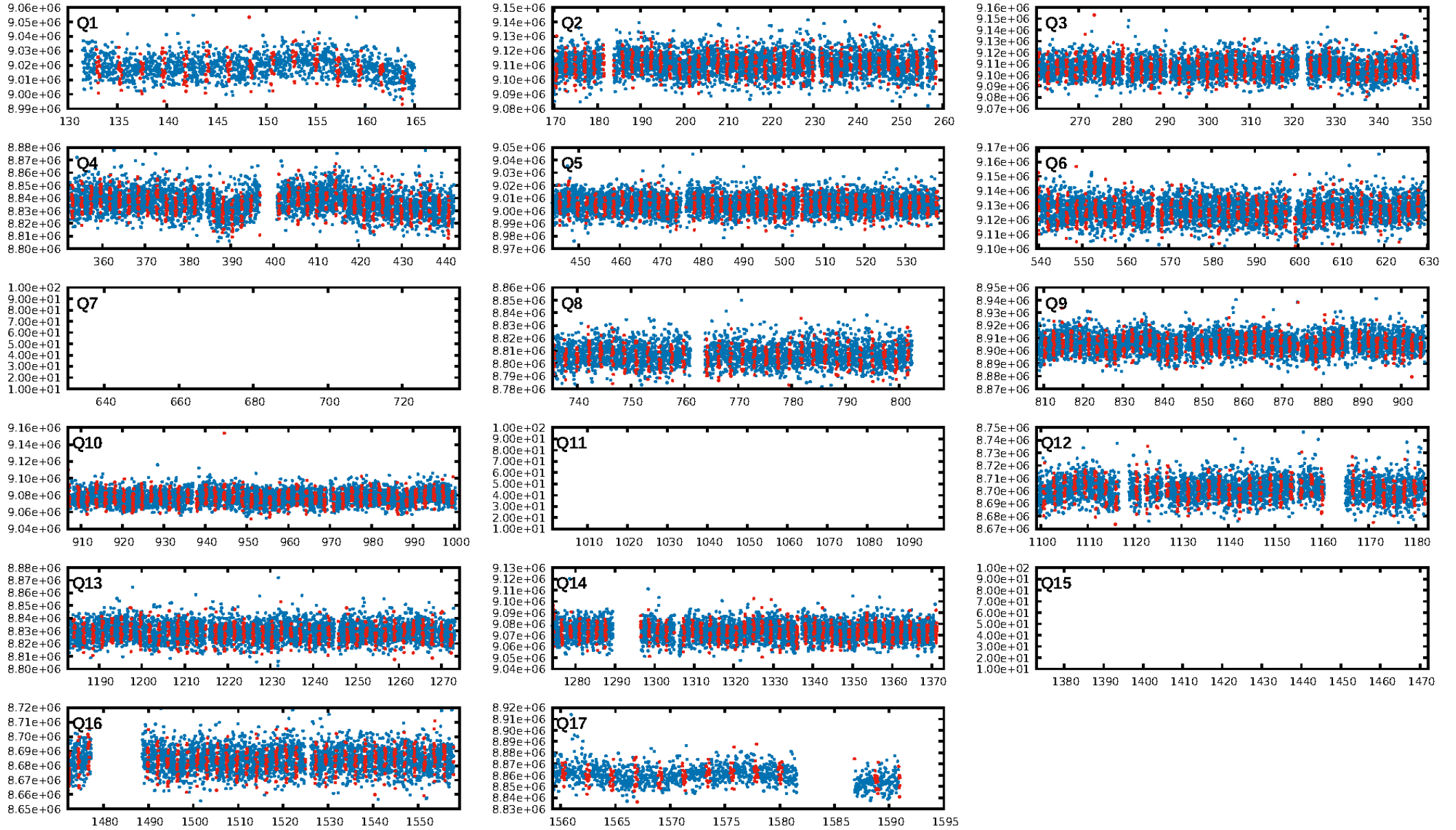
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 2.42e-66
RollingBand-fgt: 1.00 [463/464]
GhostDiagnostic-chr: -0.1789
Centroid-sig: 0.0%
Centroid-so: 6.733 arcsec [7.05σ]
OotOffset-rm: 12.899 arcsec [7.00σ]
KicOffset-rm: 12.794 arcsec [9.20σ]
OotOffset-st: 3/0/0/2 [5]
KicOffset-st: 3/0/0/2 [5]
DiffImageQuality-fgm: 0.60 [3/5]
DiffImageOverlap-fno: 1.00 [14/14]

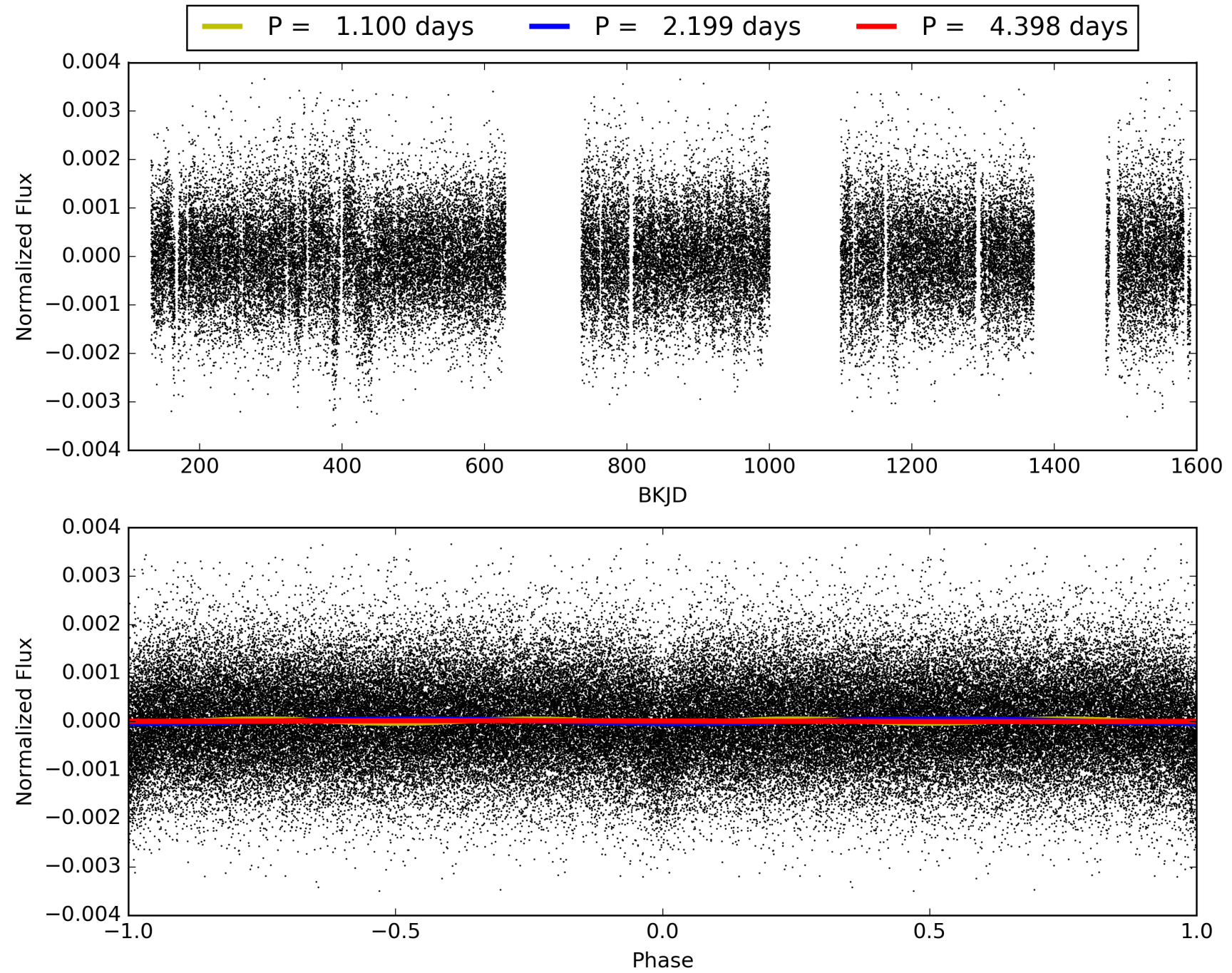
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:42:38 Z

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

TCE 010491044-01, PDC Light Curves

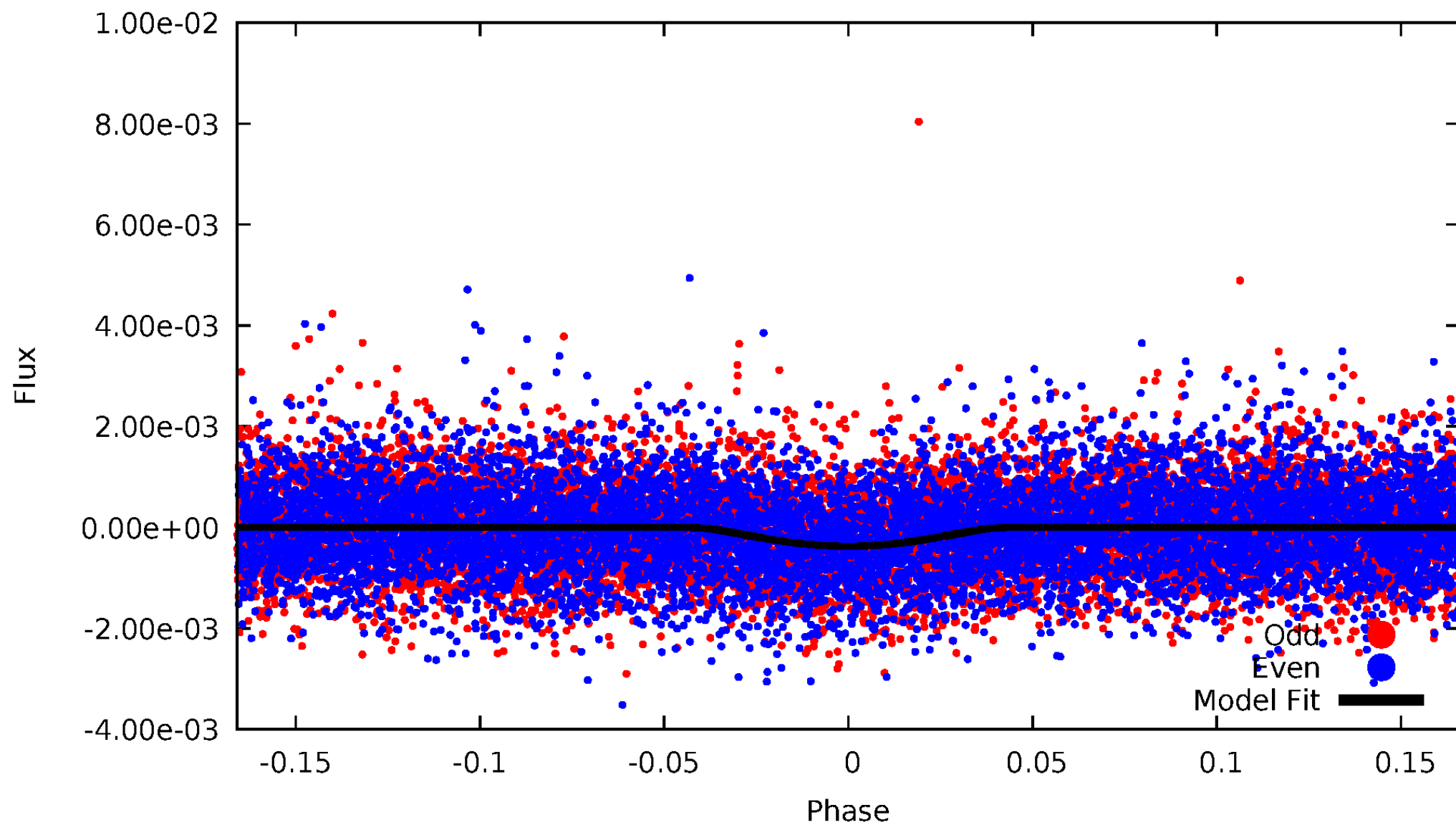


TCE 010491044-01



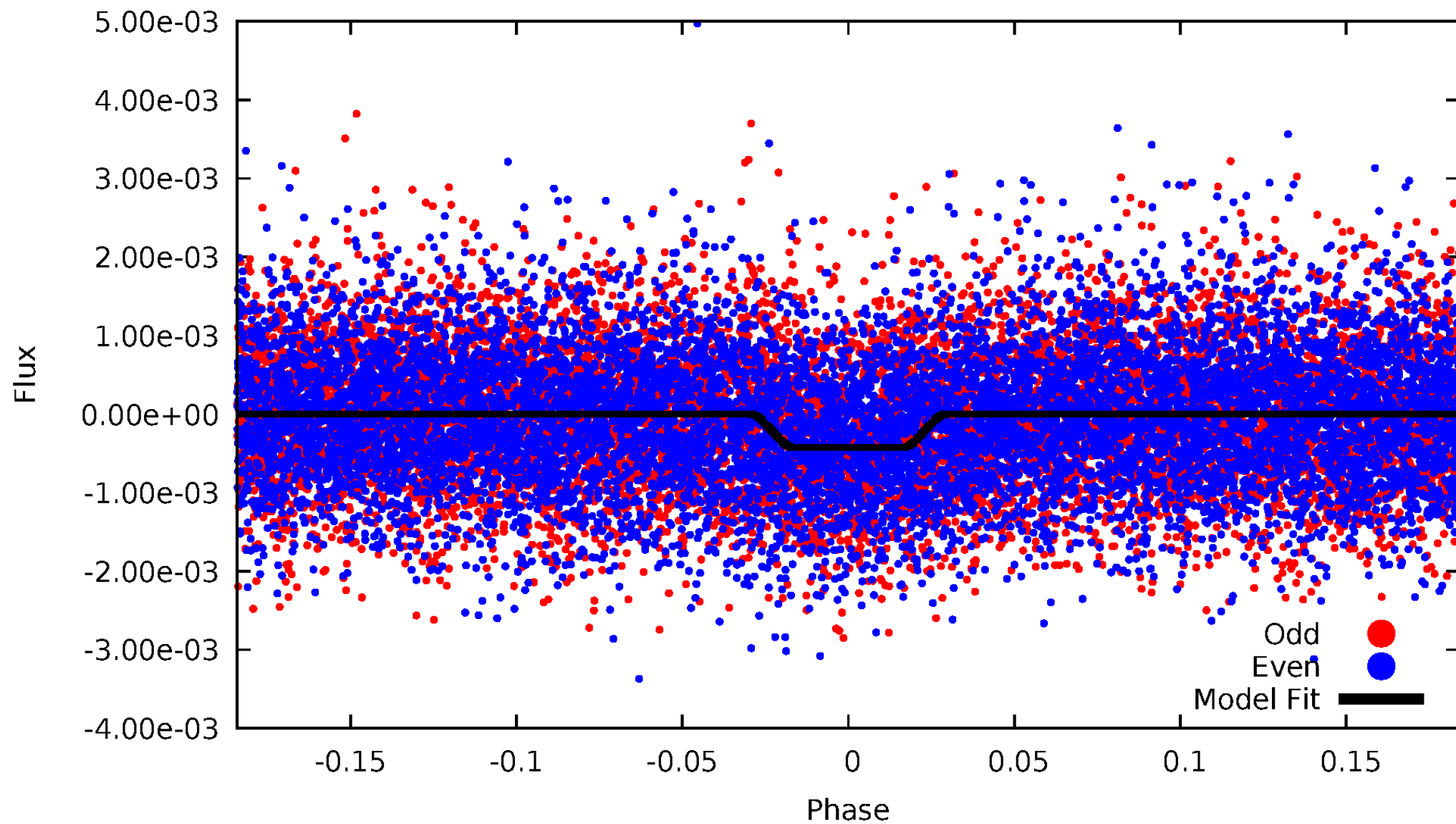
DV Odd/Even

TCE 010491044-01



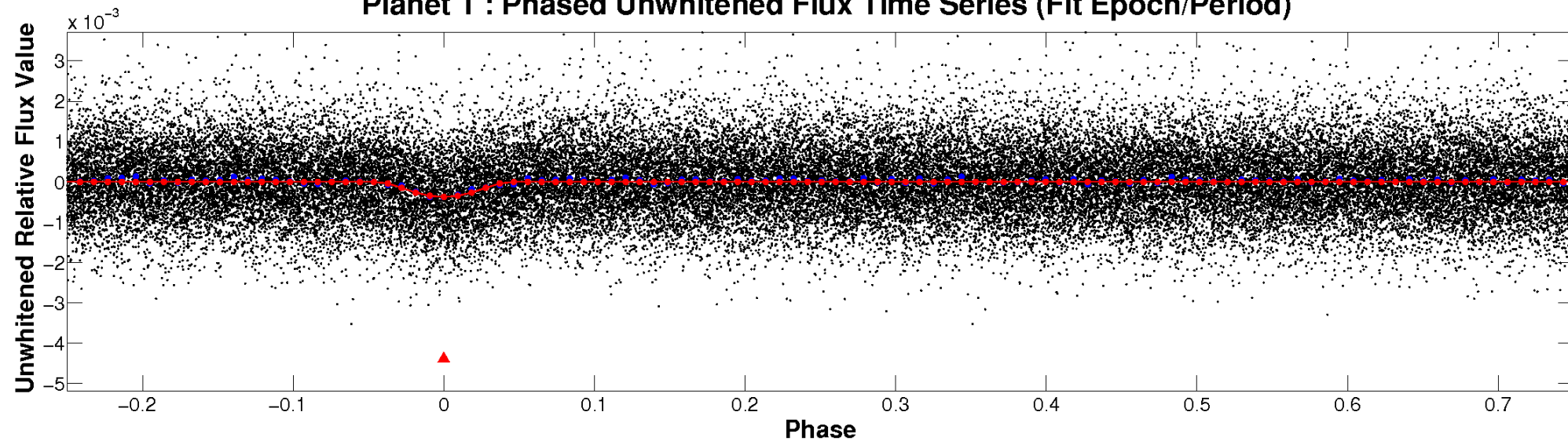
ALT Odd/Even

TCE 010491044-01

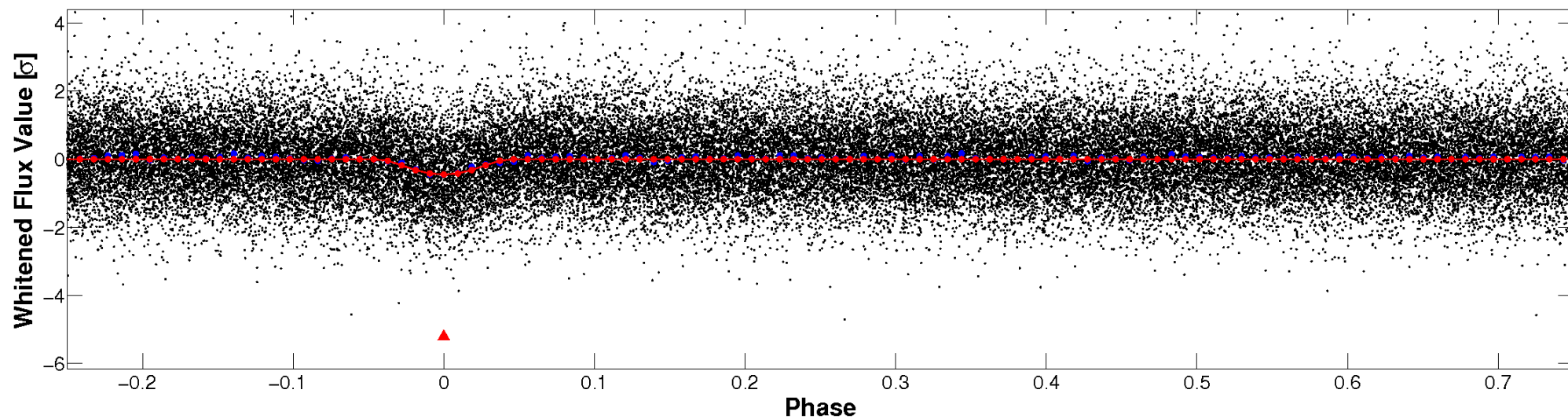


Non-Whitened Vs. Whitened Light Curve

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

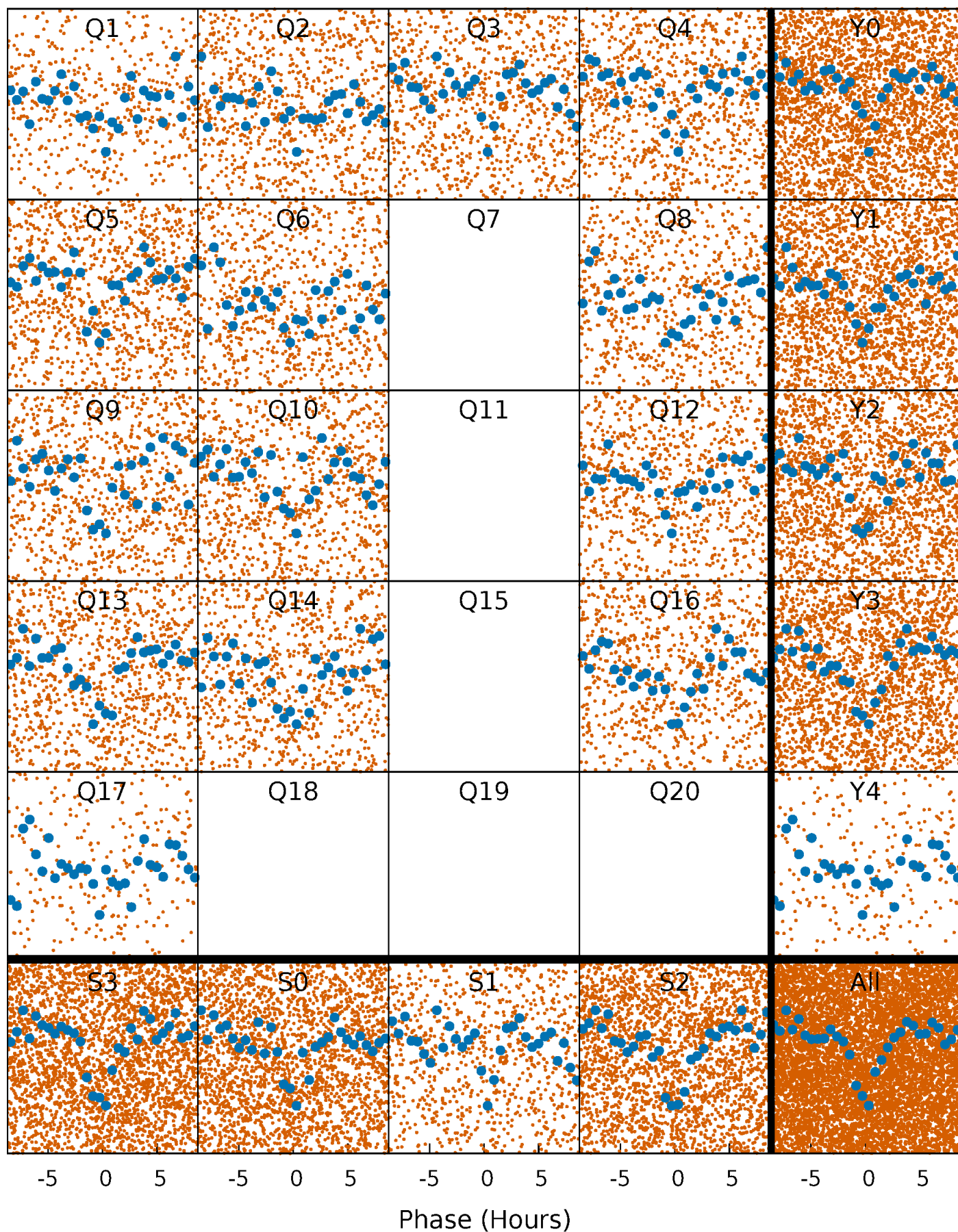


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



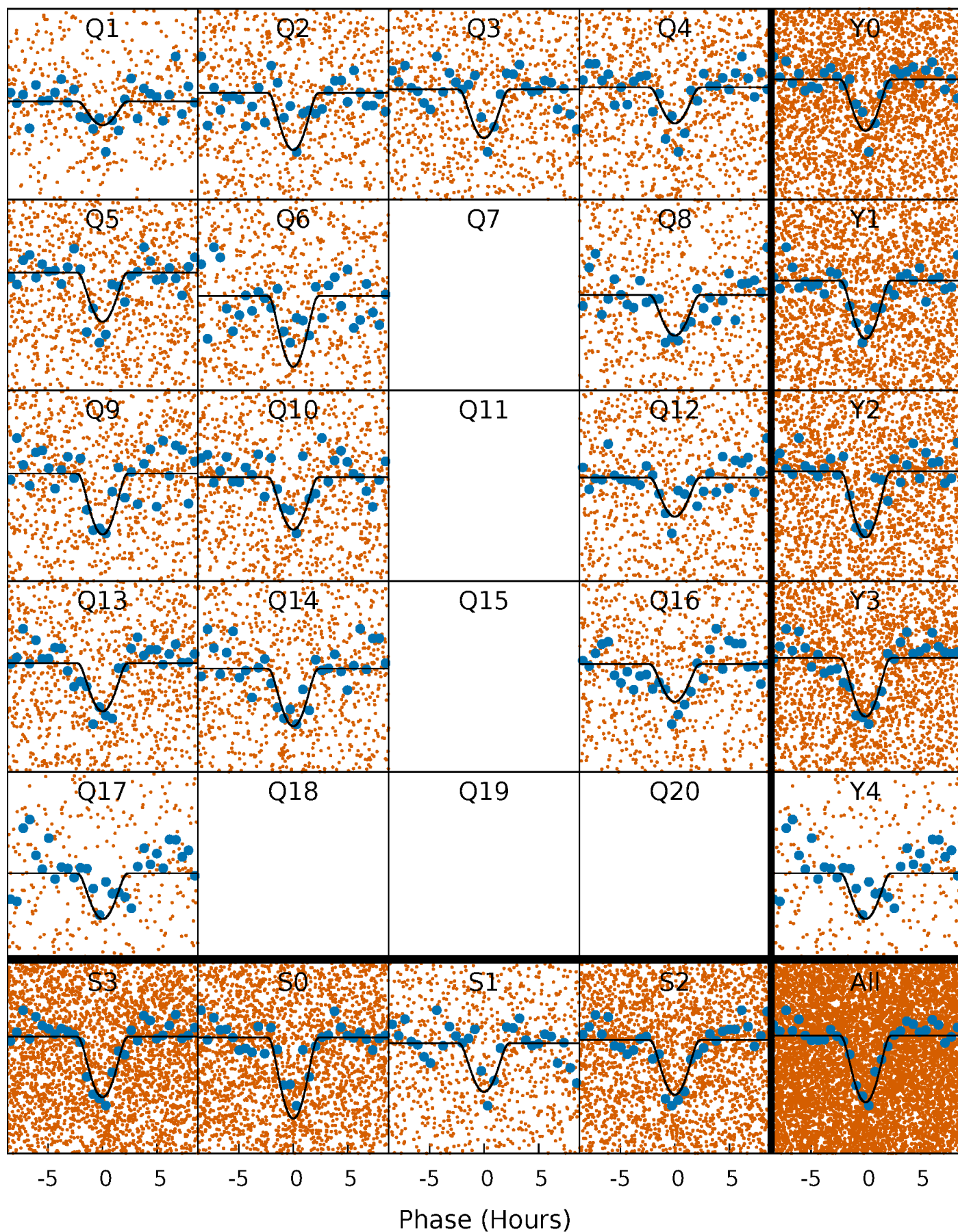
PDC Quarter-Phased Transit Curves

TCE 010491044-01 P= 2.199079 Days $T_0=133.064575$ (BKJD)



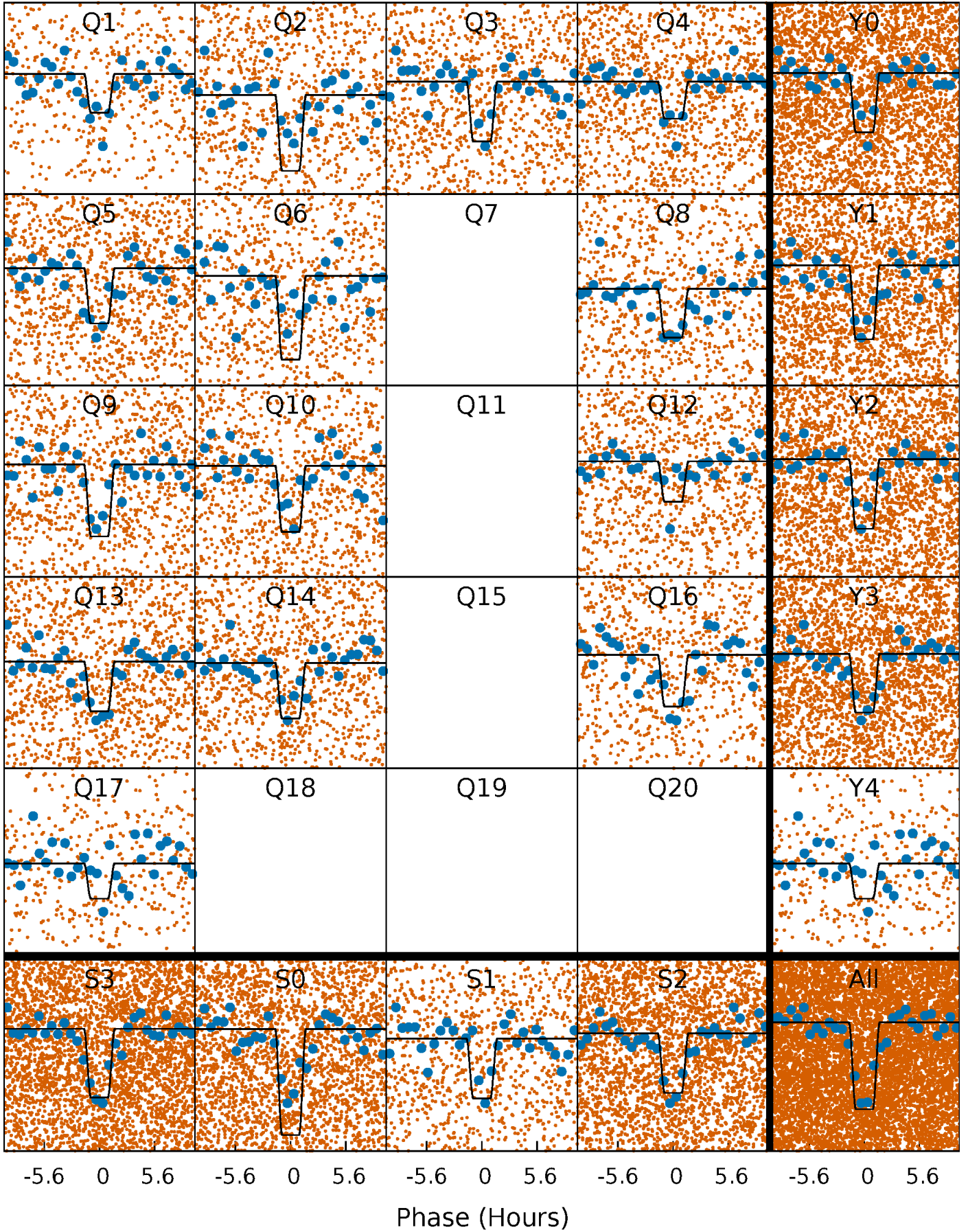
DV Quarter-Phased Transit Curves

TCE 010491044-01 P= 2.199079 Days $T_0=133.064575$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

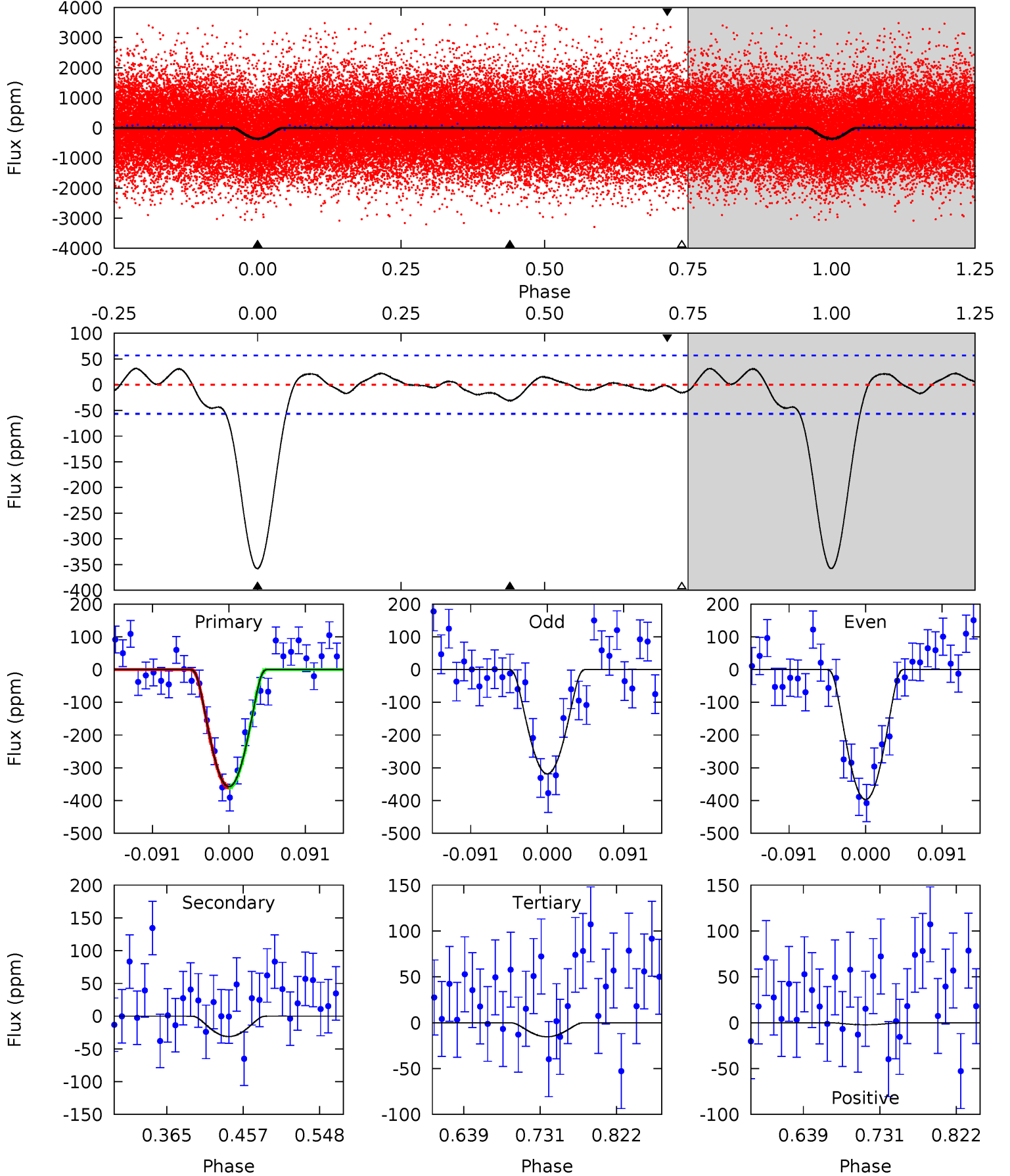
TCE 010491044-01 P= 2.199057 Days $T_0=133.071083$ (BKJD)



DV Model-Shift Uniqueness Test

010491044-01, P = 2.199079 Days, E = 130.865496 Days

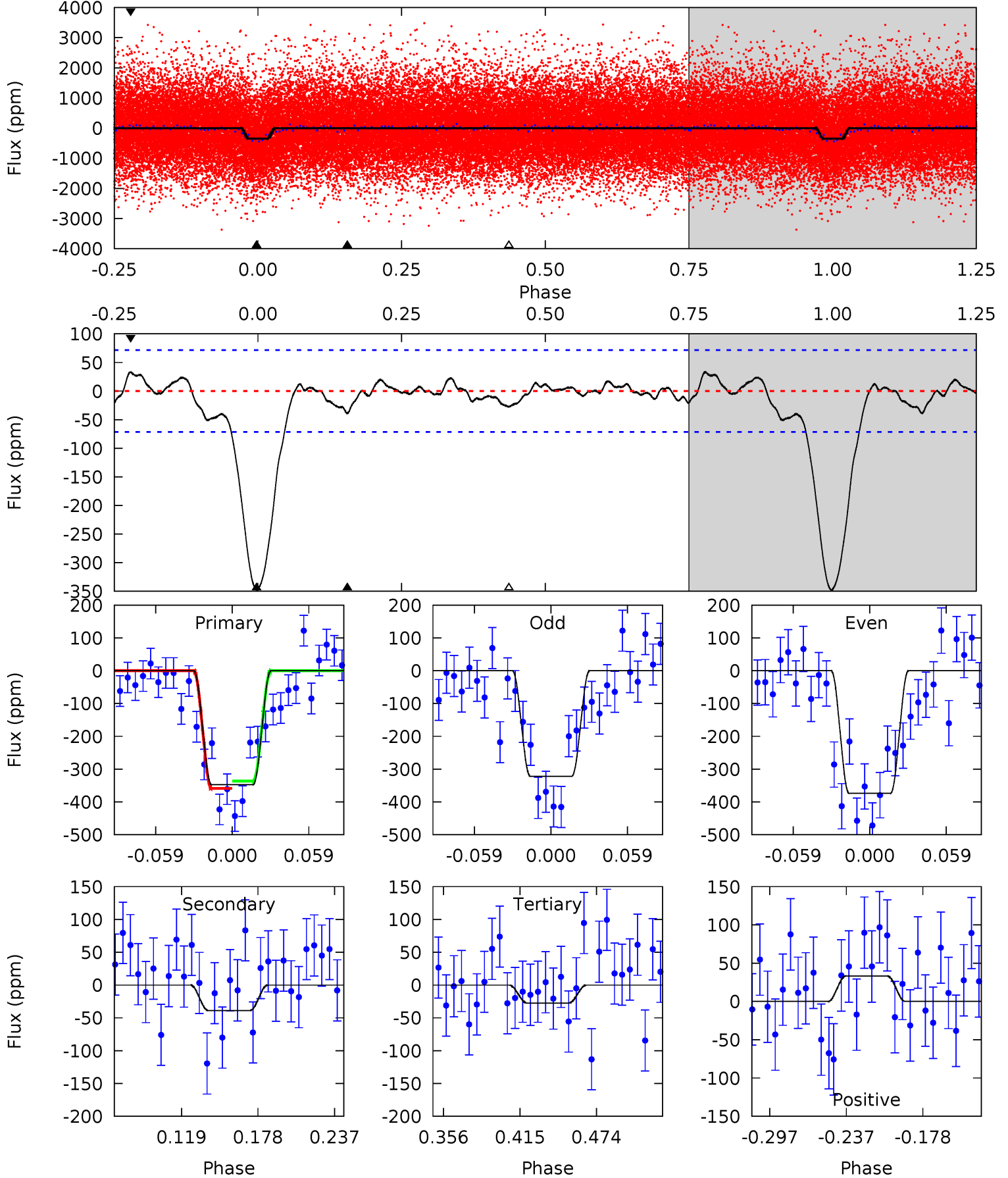
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.9	2.52	1.24	-0.19	4.58	1.69	1.04	27.6	29.0	1.28	2.70	3.18	0.99	0.08	0.02



Alt Model-Shift Uniqueness Test

010491044-01, P = 2.199057 Days, E = 130.872026 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.7	2.53	1.79	2.16	4.67	1.89	1.01	20.9	20.6	0.74	0.37	1.70	1.09	0.09	0.74



Stellar Parameters For KIC 010491044

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5003^{+151}_{-151}	$4.572^{+0.071}_{-0.052}$	$-0.380^{+0.350}_{-0.300}$	$0.707^{+0.072}_{-0.072}$	$0.681^{+0.093}_{-0.050}$	$2.714^{+0.824}_{-0.475}$
	+3%/-3%	+2%/-1%	+92%/-79%	+10%/-10%	+14%/-7%	+30%/-18%
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 010491044-01 / KOI 1763.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-31 ± 12	$5.62^{+5.58}_{-3.69}$	1518^{+57}_{-58}	2005^{+950}_{-4081}	$0.436^{+3.471}_{-0.329}$
Alt.	-39 ± 15	$5.15^{+4.71}_{-3.54}$	1521^{+55}_{-60}	2215^{+1006}_{-4224}	$0.637^{+6.472}_{-0.472}$

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 $A_{obs} \gg 1.0$

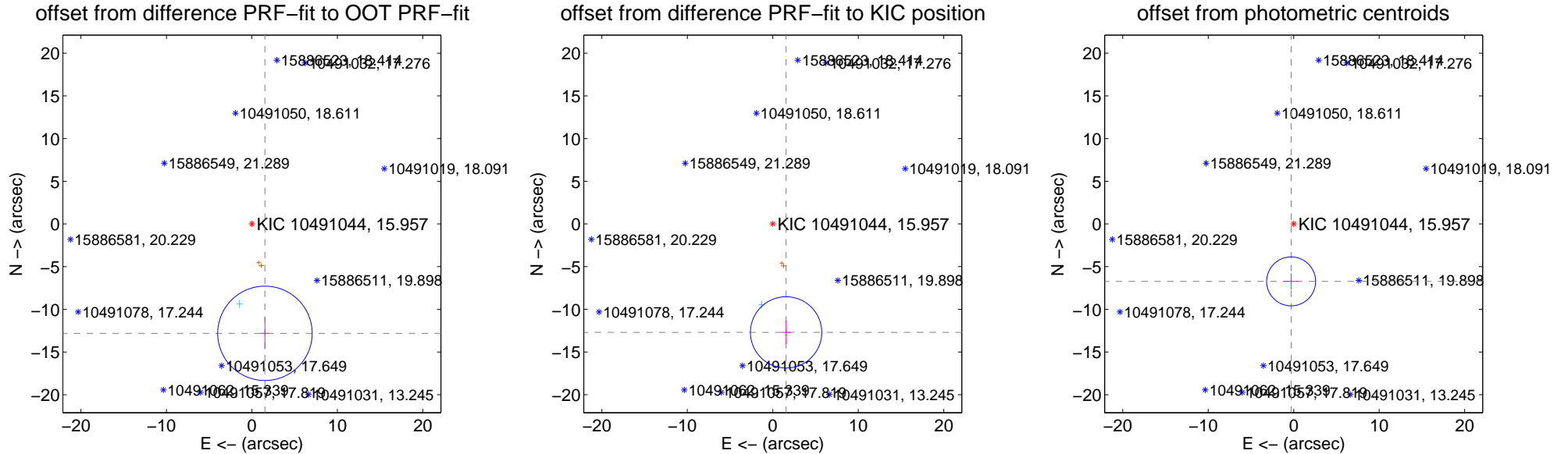
DV Centroid Data

Supplemental centroid analysis for 010491044-01. Kepler magnitude: 15.96. Transit SNR 19.14

There are 3 quarters with good PRF difference image offsets

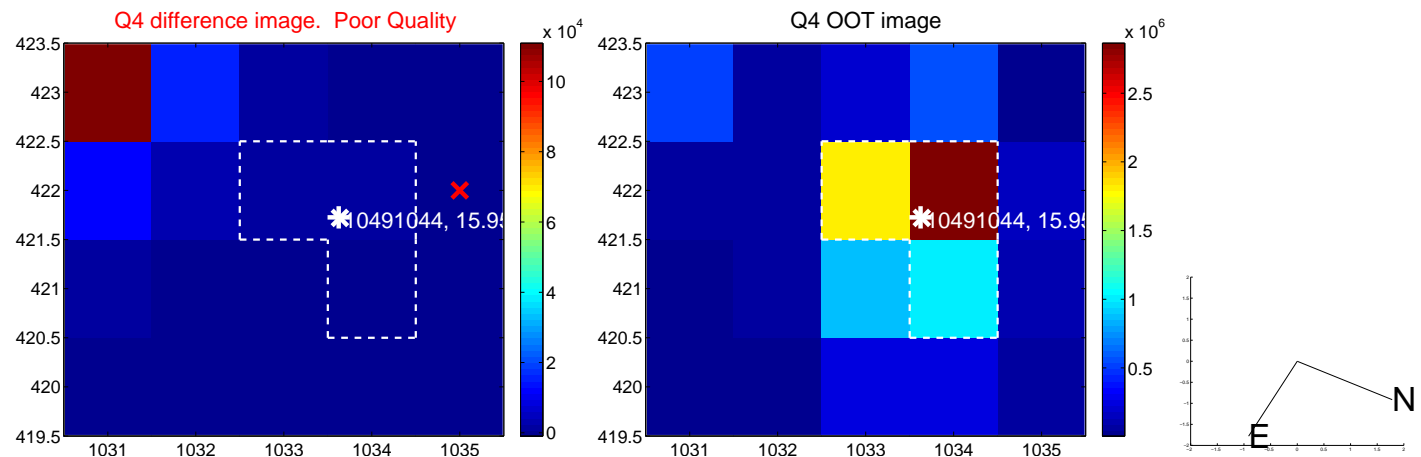
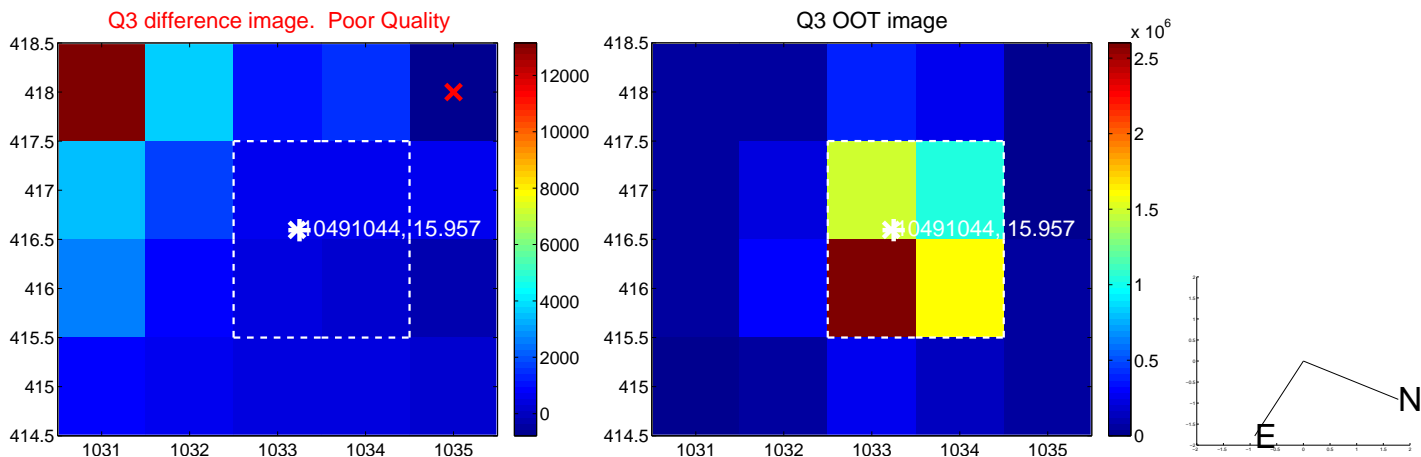
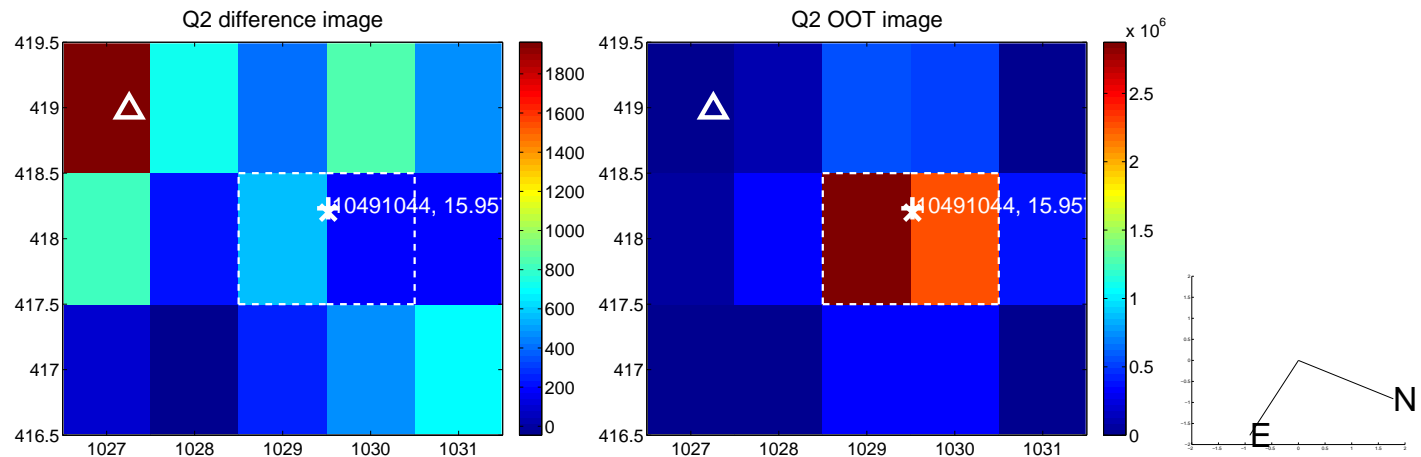
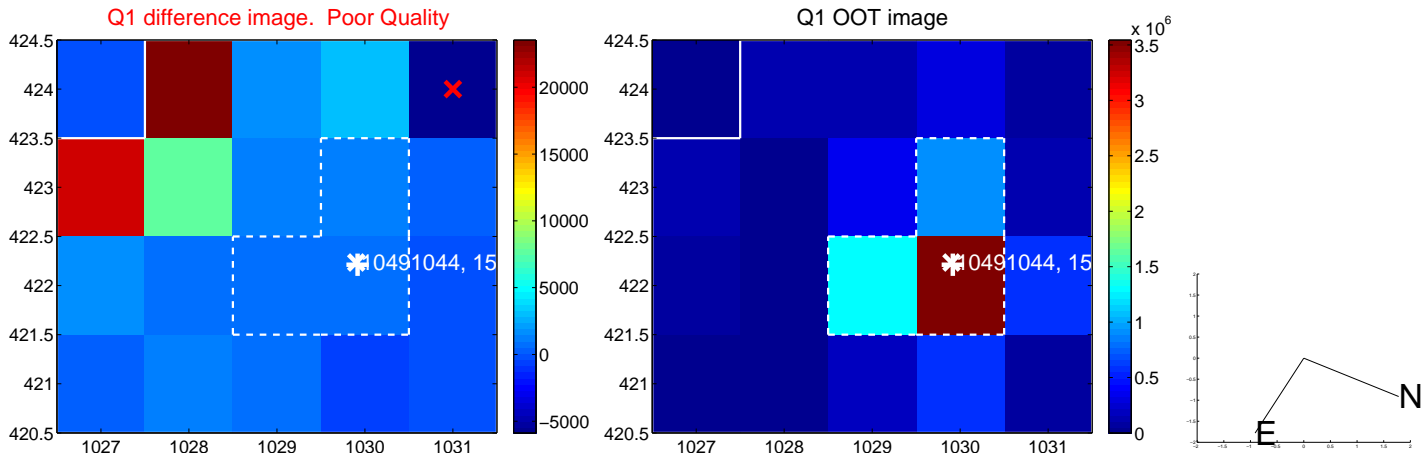
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	12.899 ± 1.842	7.00	-1.524 ± 0.503	-12.808 ± 1.839
PRF-fit source offset from KIC position	12.794 ± 1.391	9.20	-1.556 ± 0.541	-12.699 ± 1.387
photometric centroid source offset	6.73 ± 0.95	7.05	0.30 ± 0.90	-6.73 ± 0.96

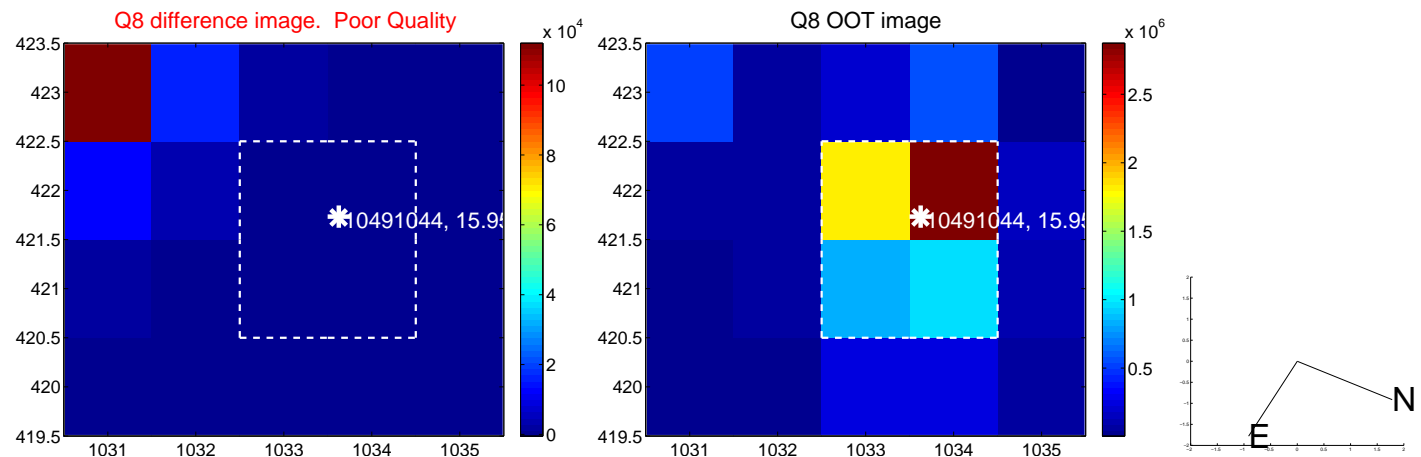
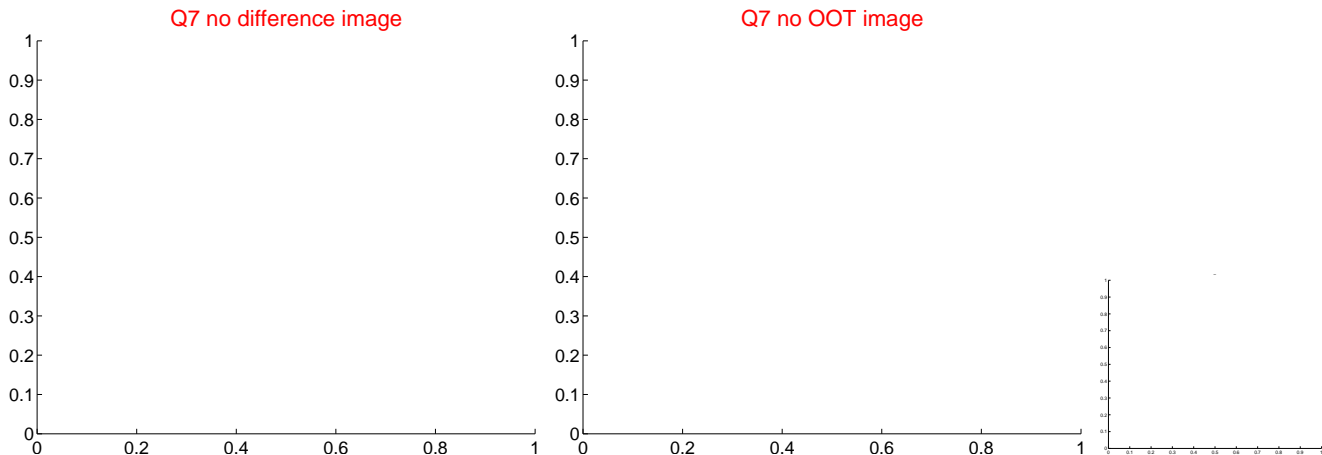
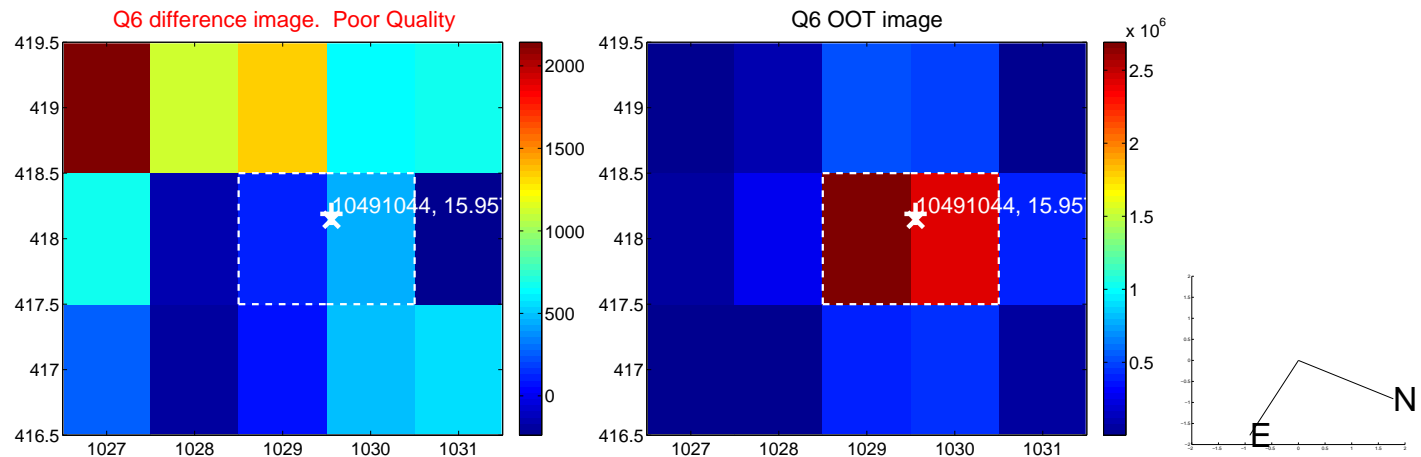
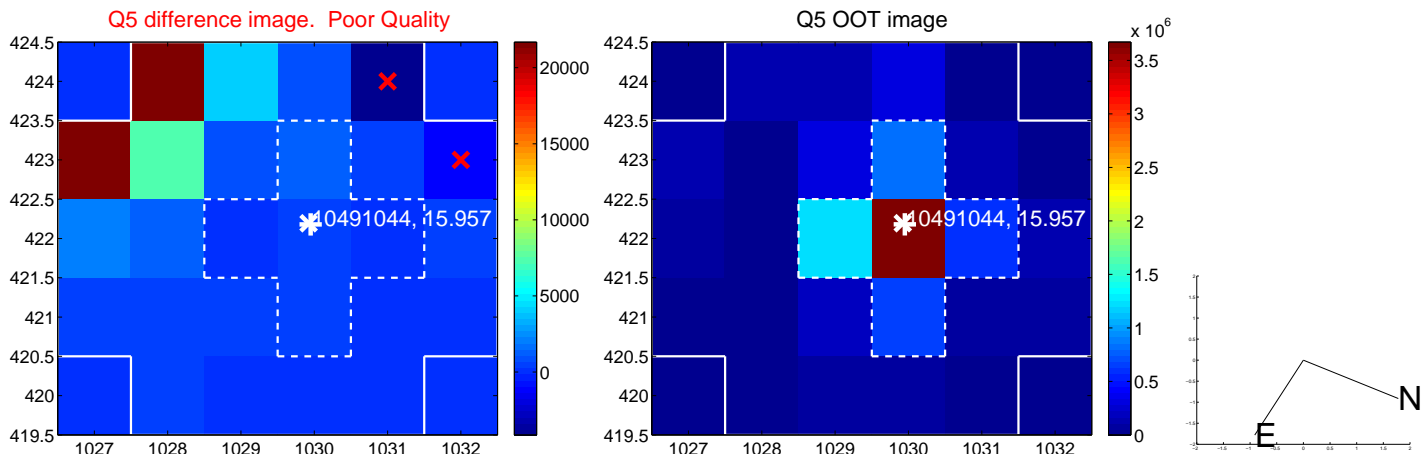


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

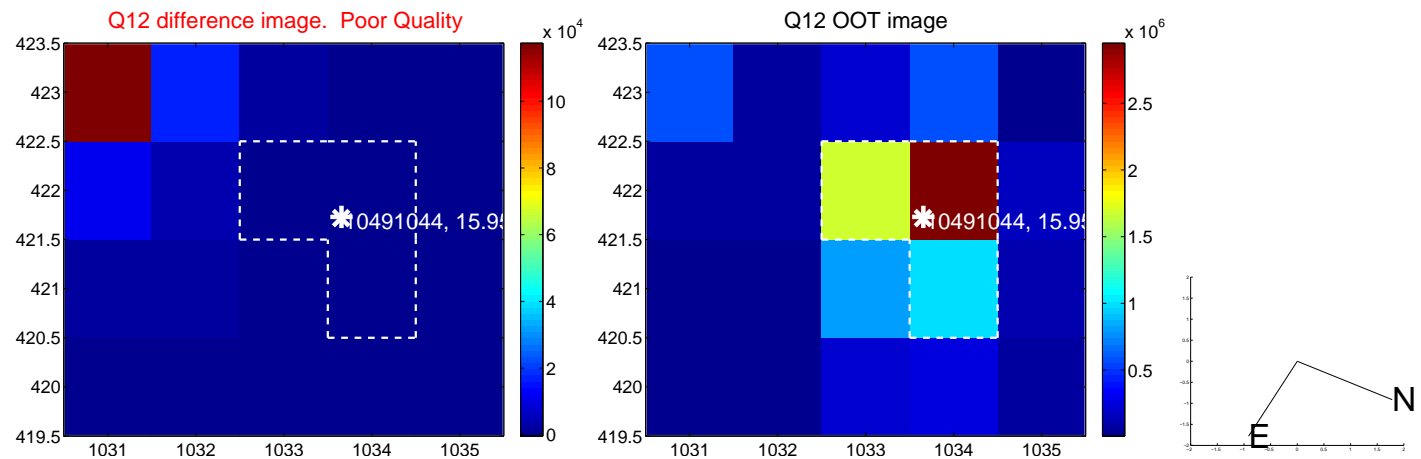
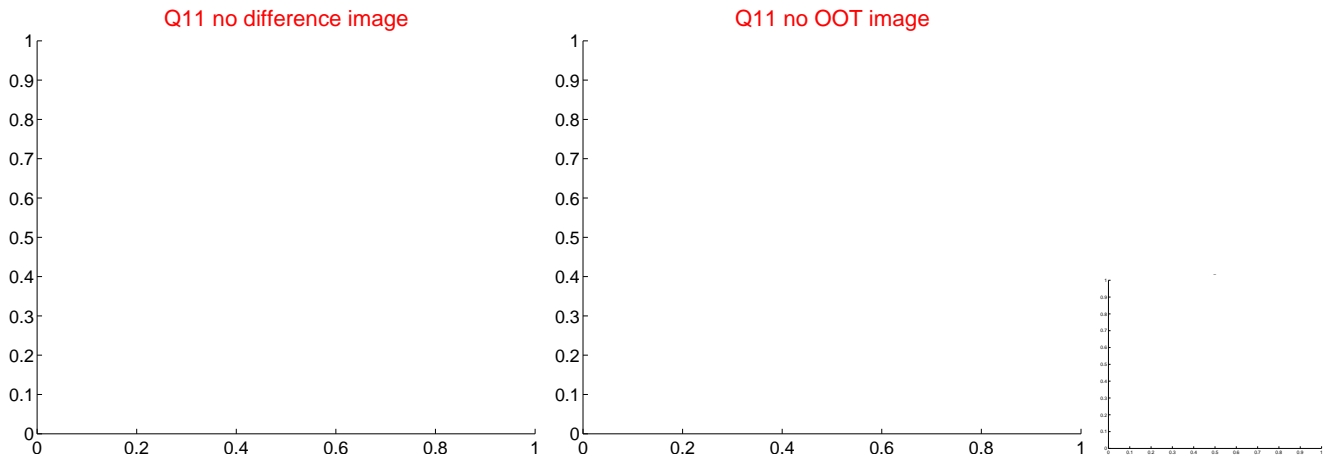
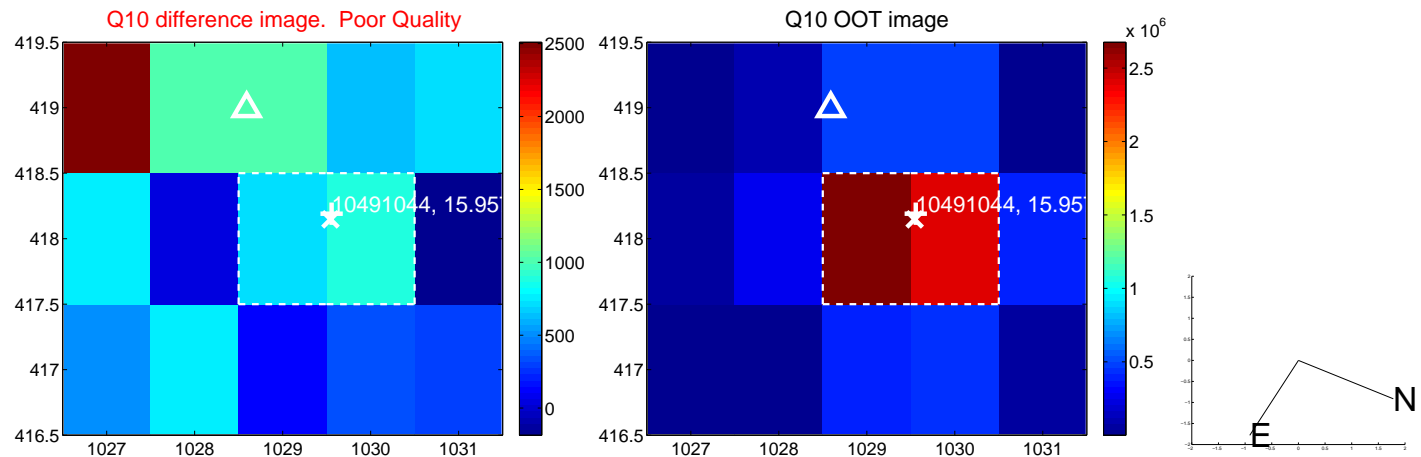
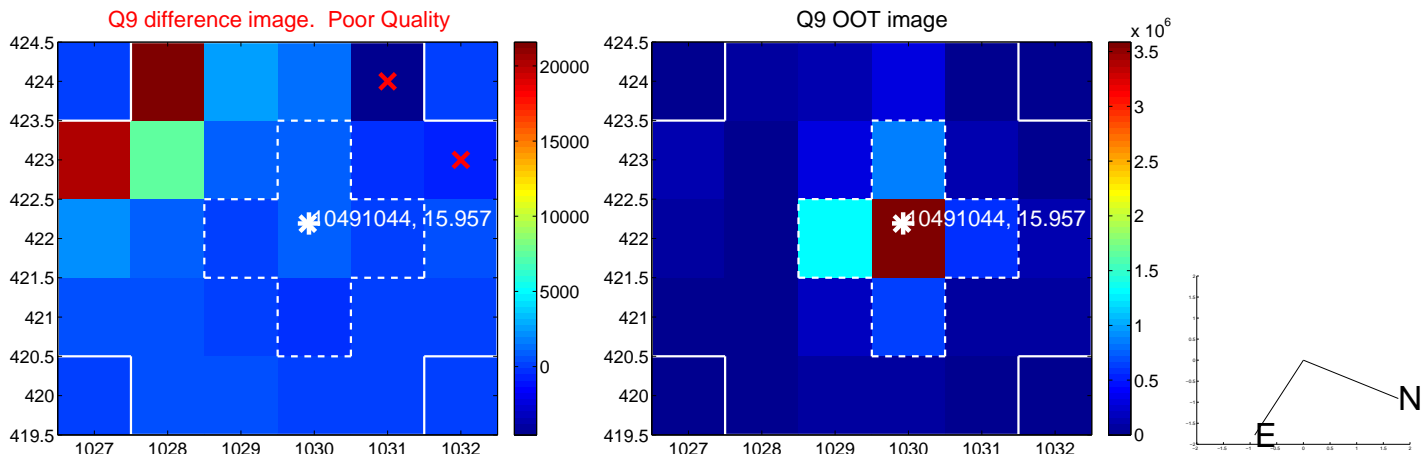
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



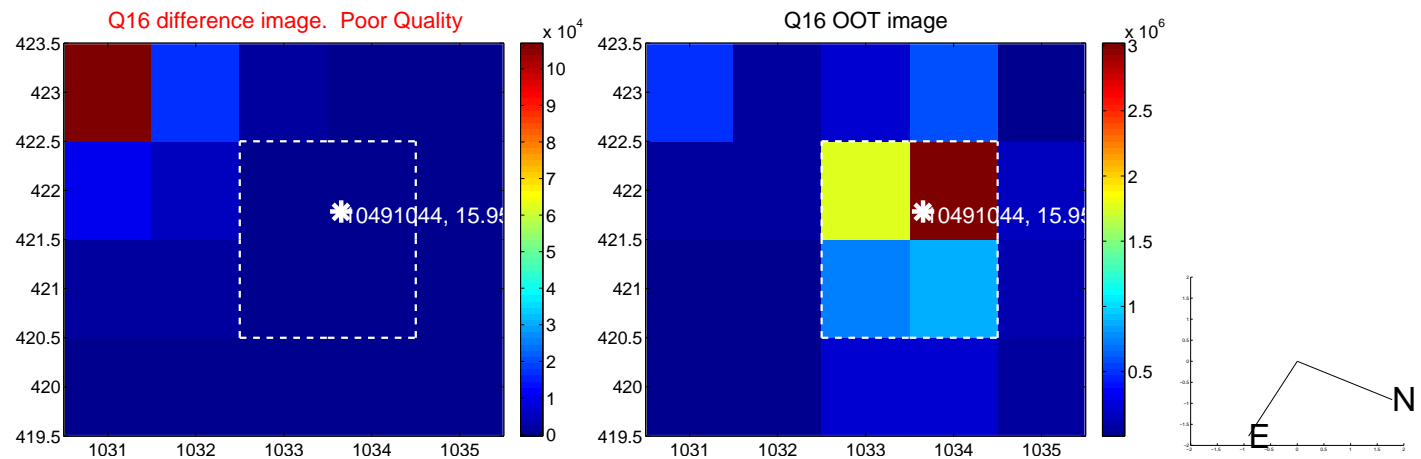
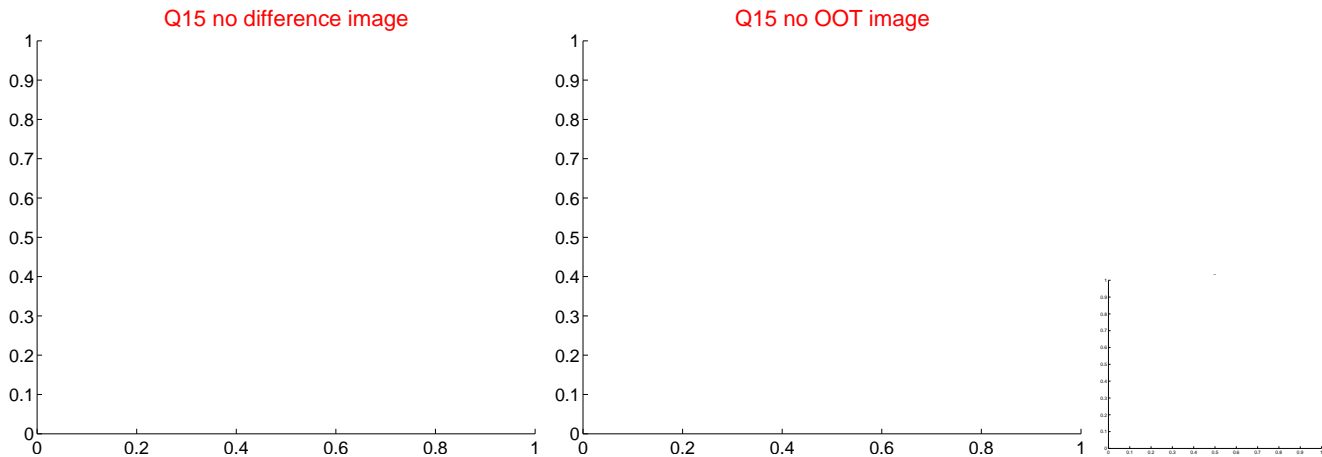
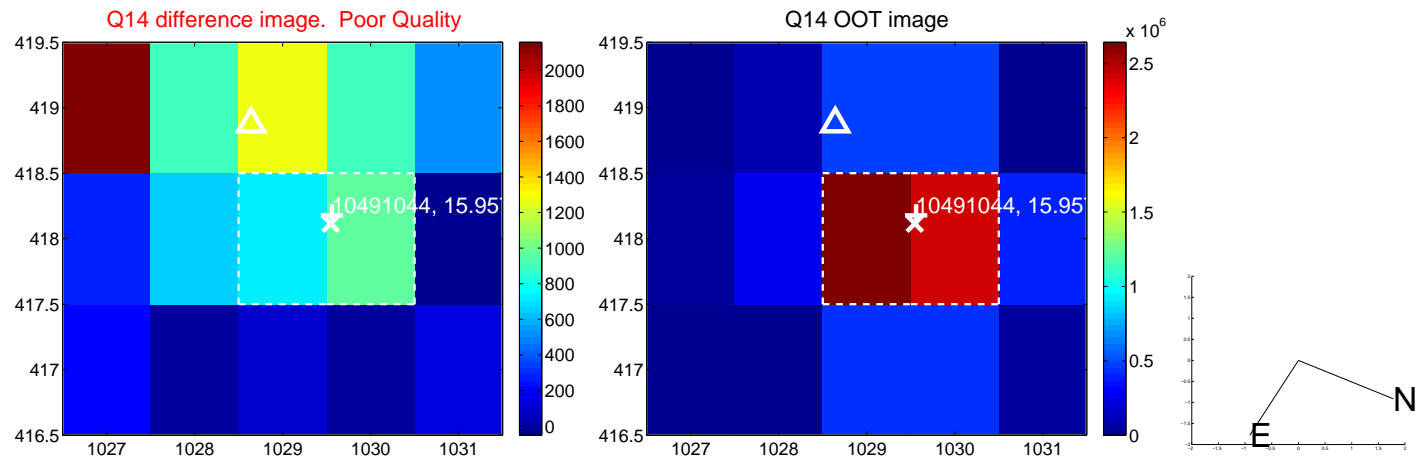
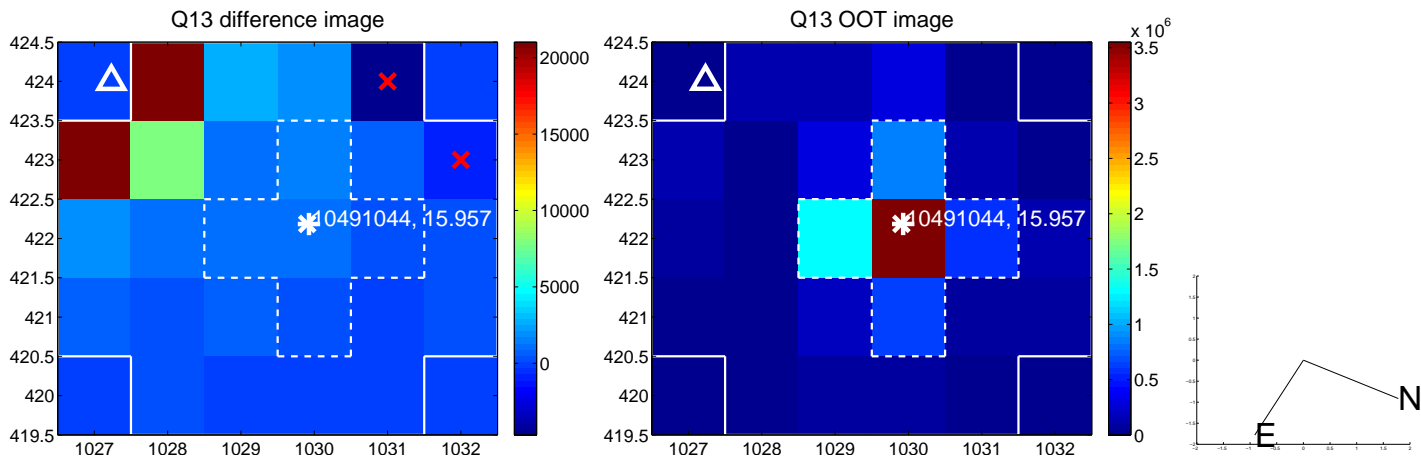
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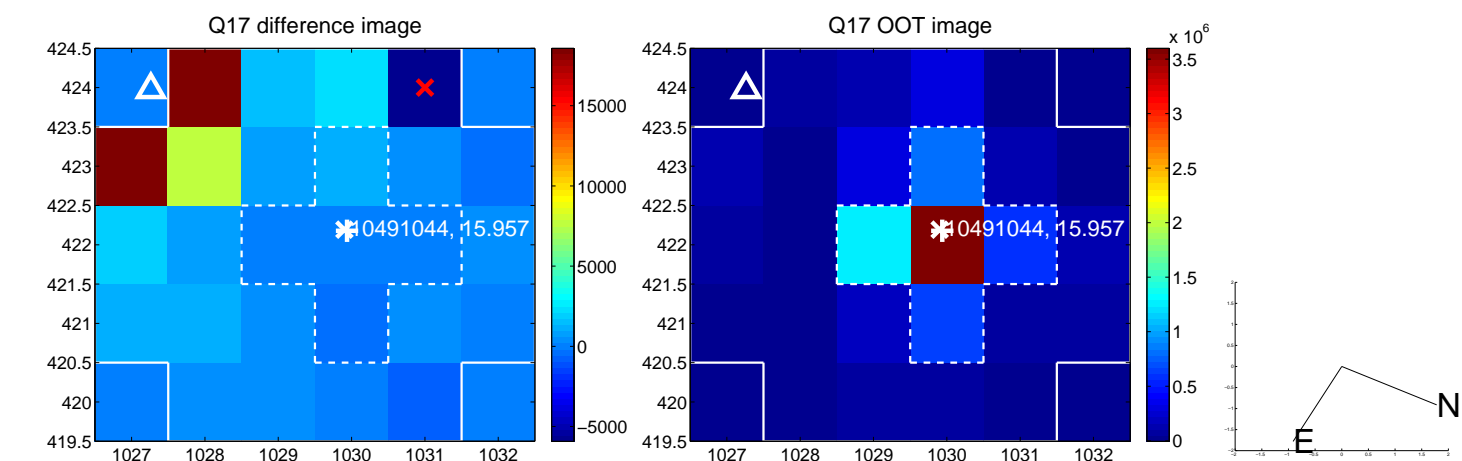
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



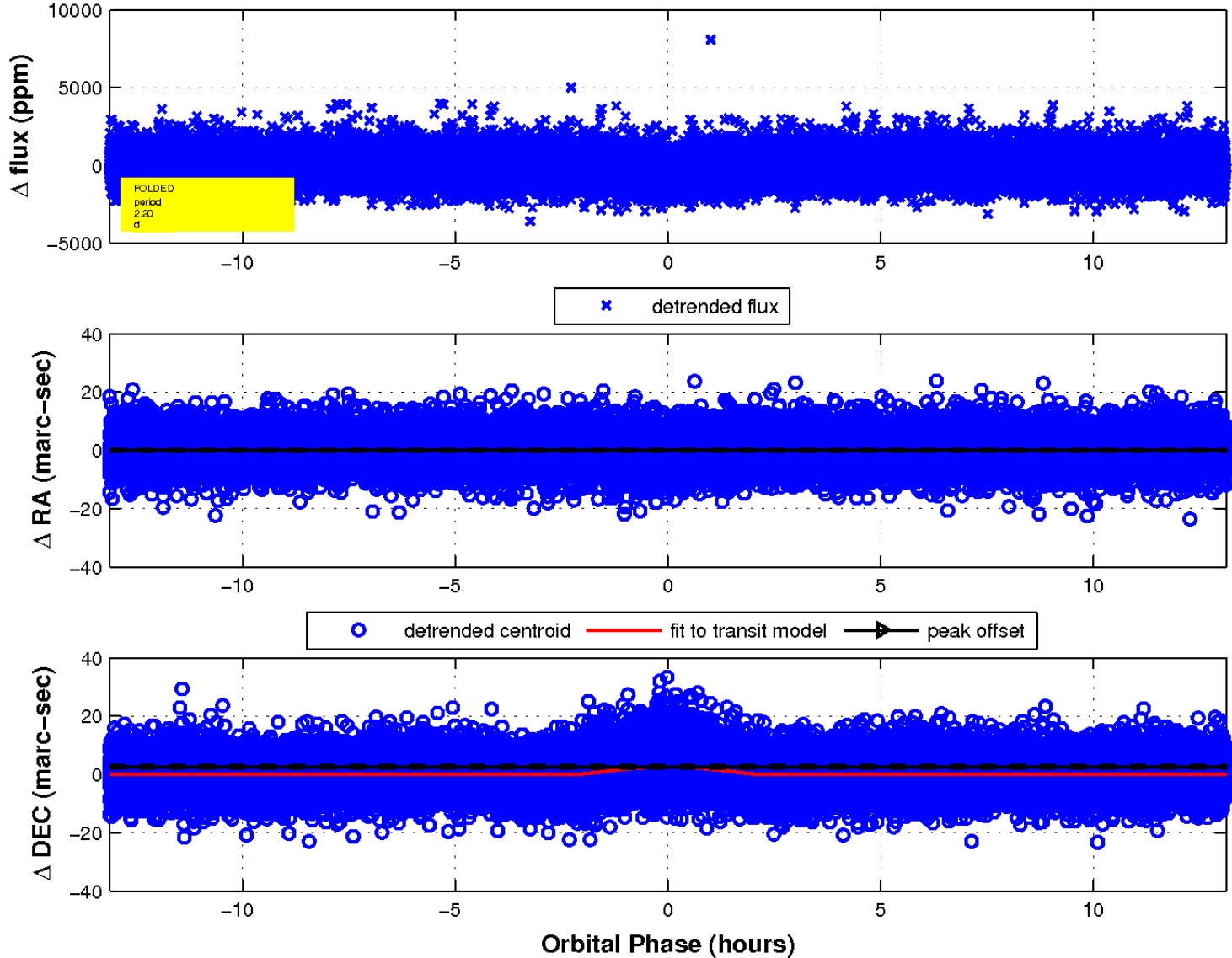
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

