

KIC 010191070

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})
010191070-01	OBS	0727.01	1.213677	131.773251	139.6	2.696	21.1	14.3	0.66	4820	0.95	571.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010191070-01	OBS	FP	0.00	0	0	1	1	CENT_FEW_DIFFS—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 010191070-01

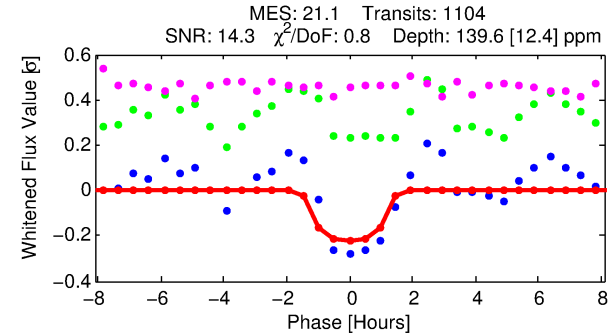
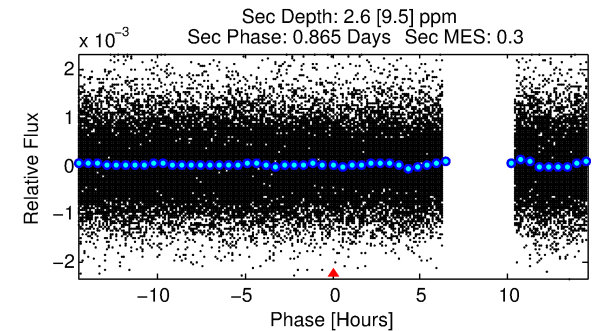
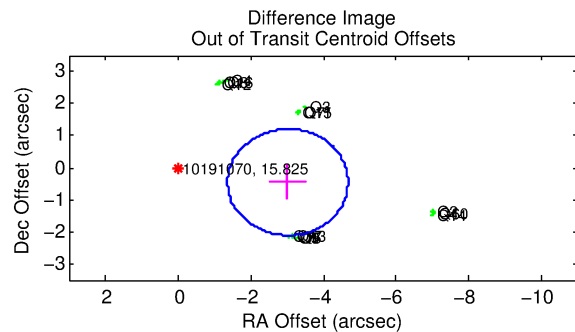
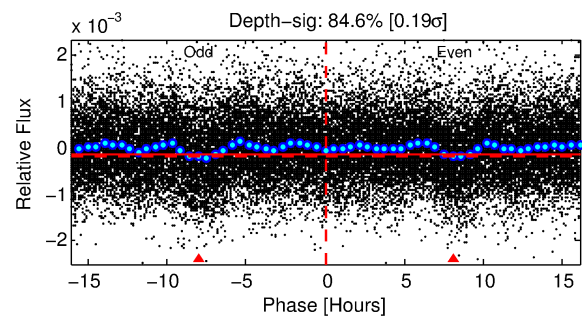
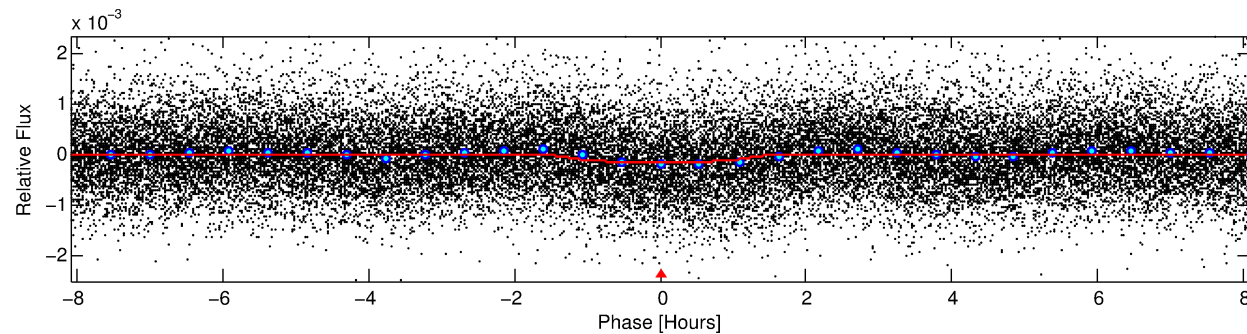
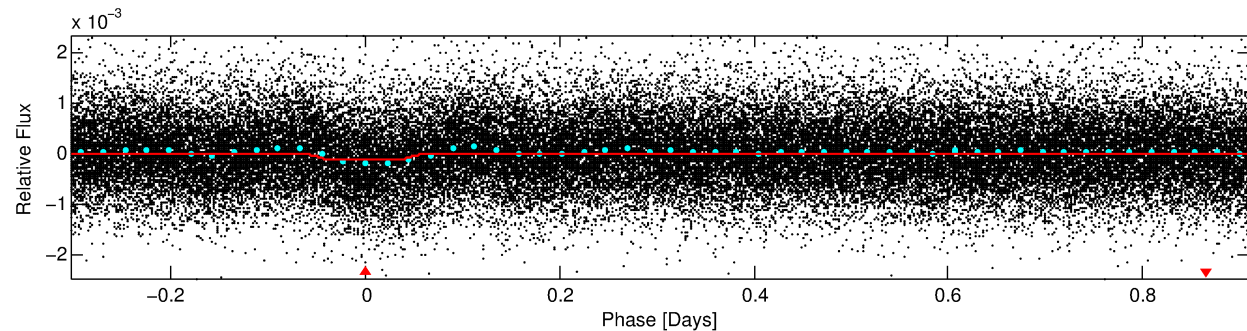
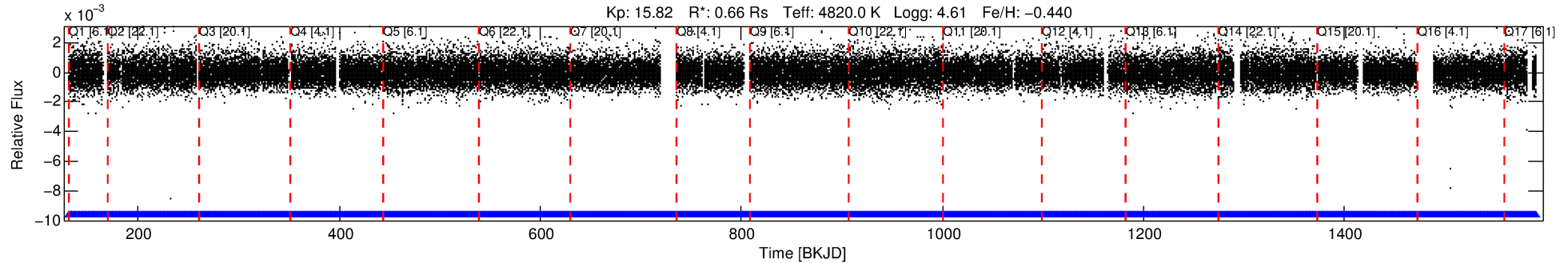
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	ΔRow	ΔCol	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
010191070-01	10191070	5774.01	10191056	1:1	26.5	-1	-7	10.81	15.82	1320.90	Direct-PRF	0	4.96	2.10

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol 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: 10191070 Candidate: 1 of 1 Period: 1.214 d
KOI: K00727 Corr: No Ephemeris Match

Kp: 15.82 R*: 0.66 Rs Teff: 4820.0 K Logg: 4.61 Fe/H: -0.440



DV Fit Results:

Period = 1.21368 [0.00001] d
Epoch = 131.7733 [0.0027] BKJD
Rp/R* = 0.0132 [0.0079]
a/R* = 1.85 [3.10]
b = 0.90 [0.51]
Seff = 571.58 [94.57]
Teq = 1247 [52] K
Rp = 0.96 [0.58] Re
a = 0.0192 [0.0015] AU
Ag = 0.59 [2.22] [-0.19σ]
Teffp = 1688 [1597] K [0.28σ]

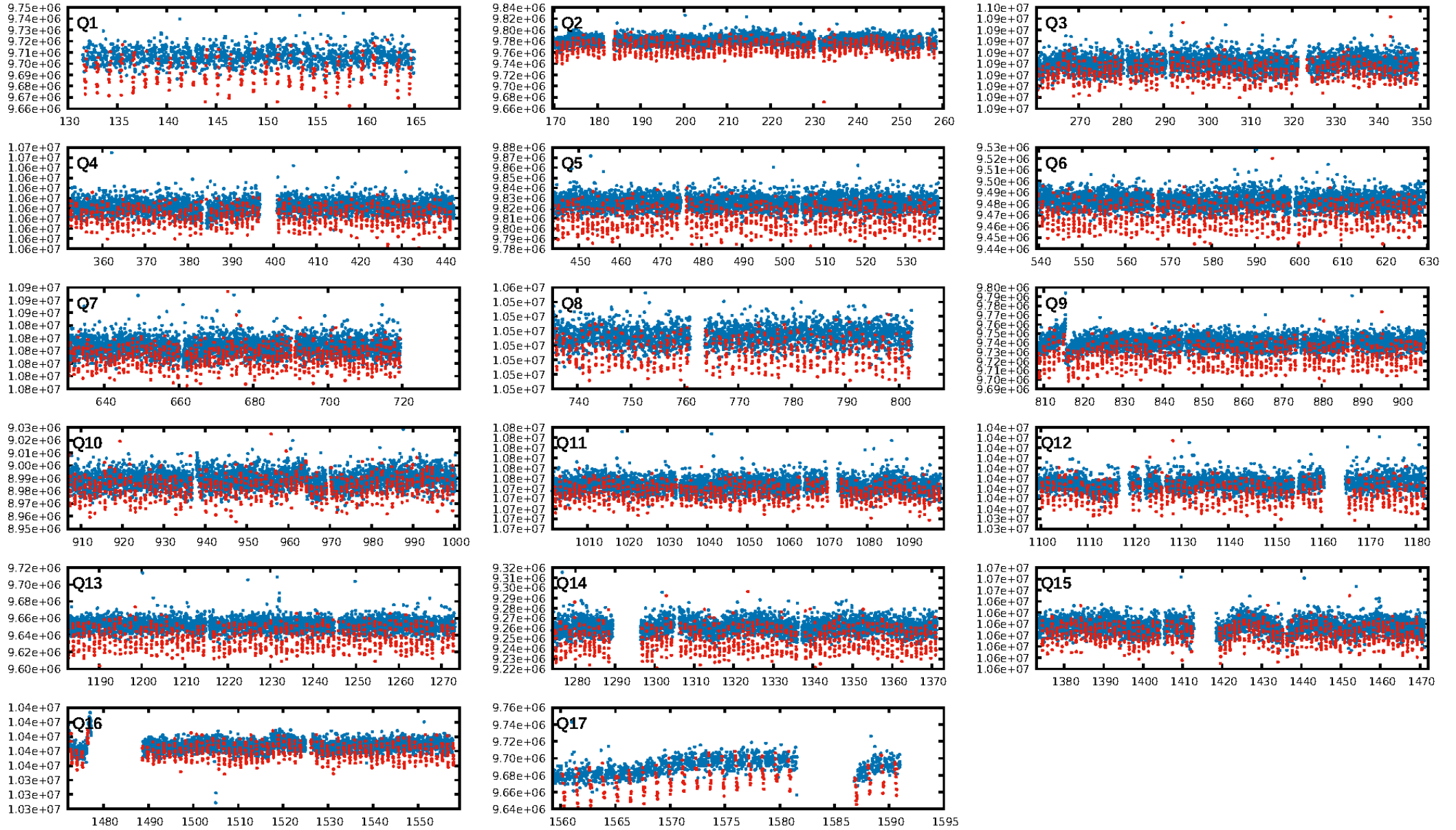
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.66e-95
RollingBand-fgt: 1.00 [1054/1054]
GhostDiagnostic-chr: 0.1385
Centroid-sig: 0.0%
Centroid-so: 18.568 arcsec [15.97σ]
OotOffset-rm: 3.056 arcsec [5.54σ]
KicOffset-rm: 4.410 arcsec [7.72σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.53 [9/17]
DiffImageOverlap-fno: 1.00 [17/17]

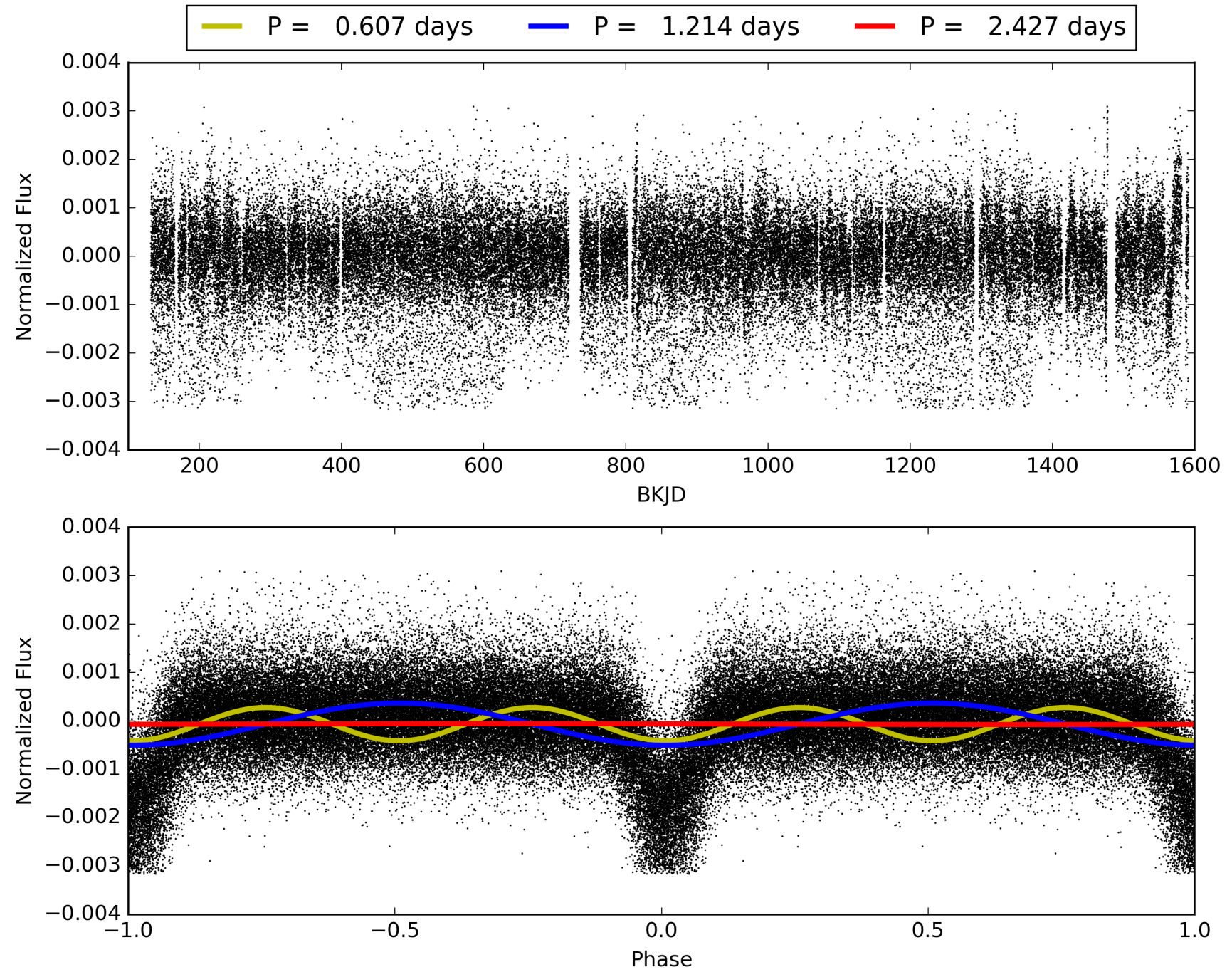
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 04:21:13 Z

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

TCE 010191070-01, PDC Light Curves

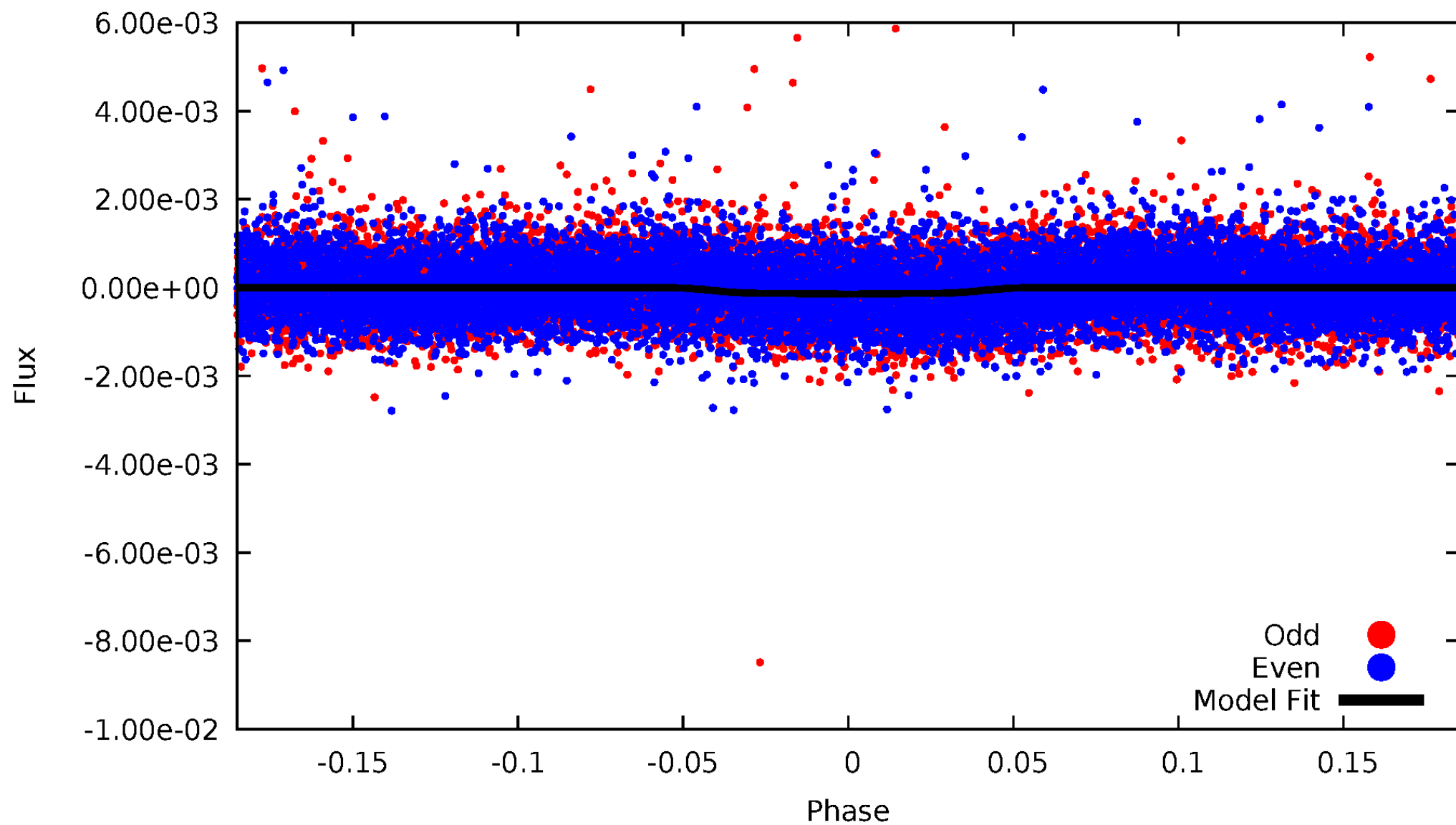


TCE 010191070-01



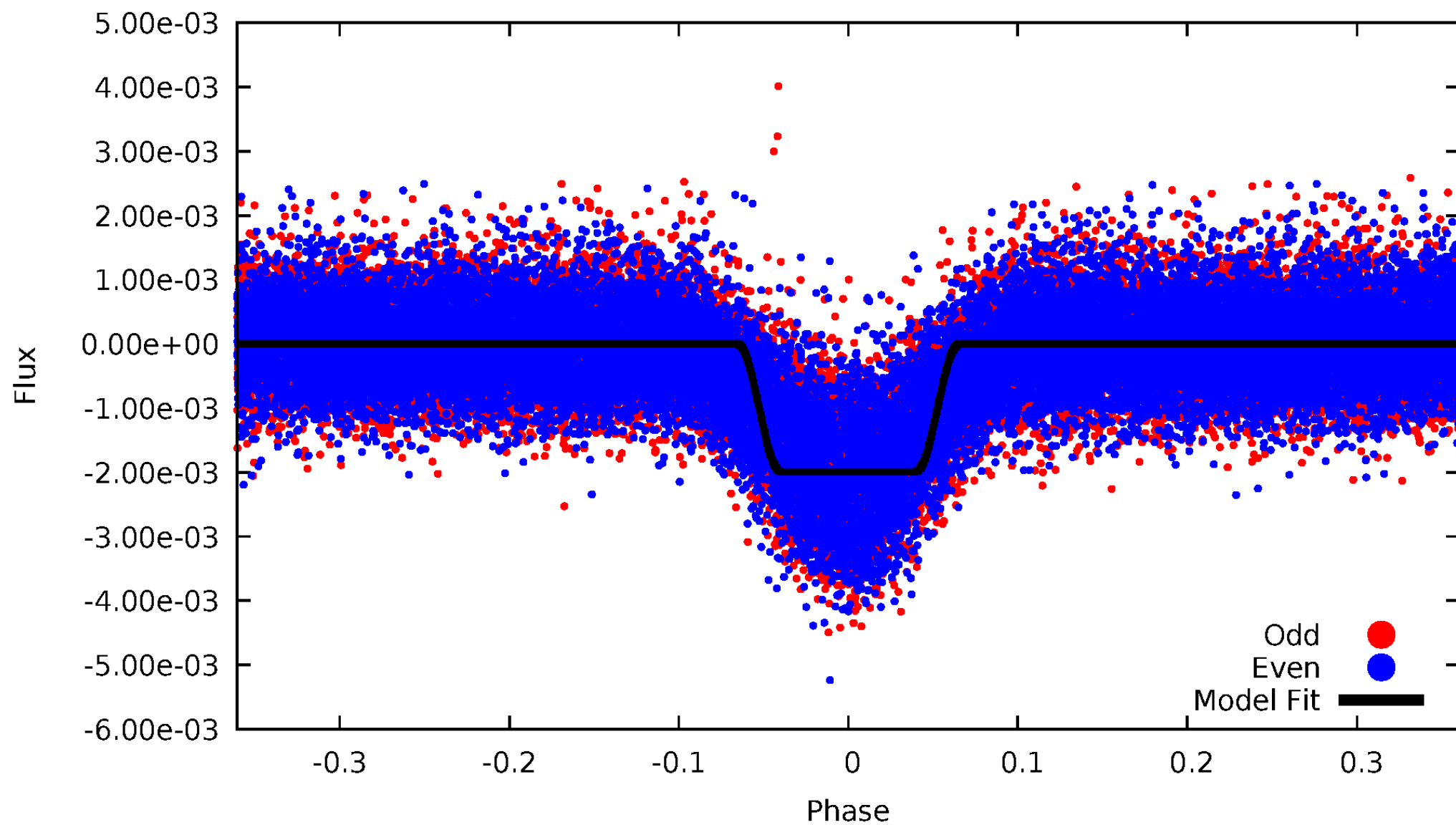
DV Odd/Even

TCE 010191070-01



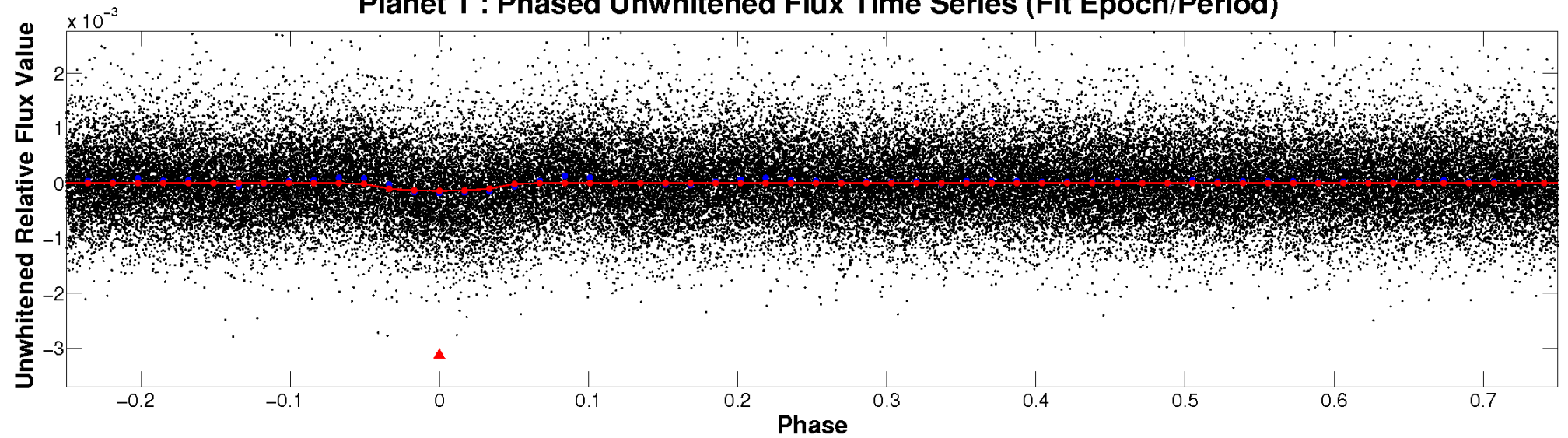
ALT Odd/Even

TCE 010191070-01

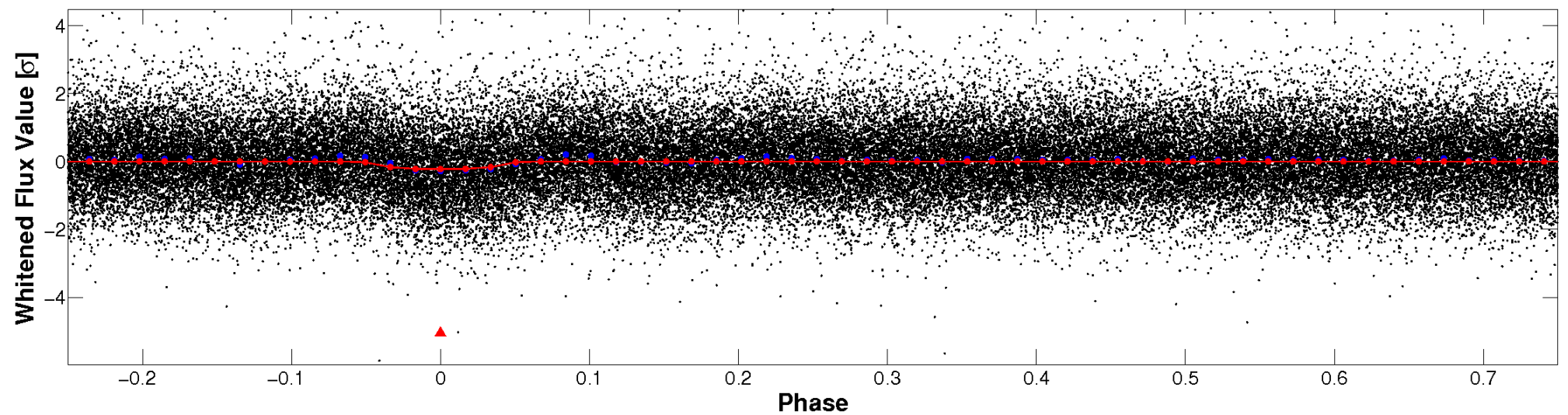


Non-Whitened Vs. Whitened Light Curve

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

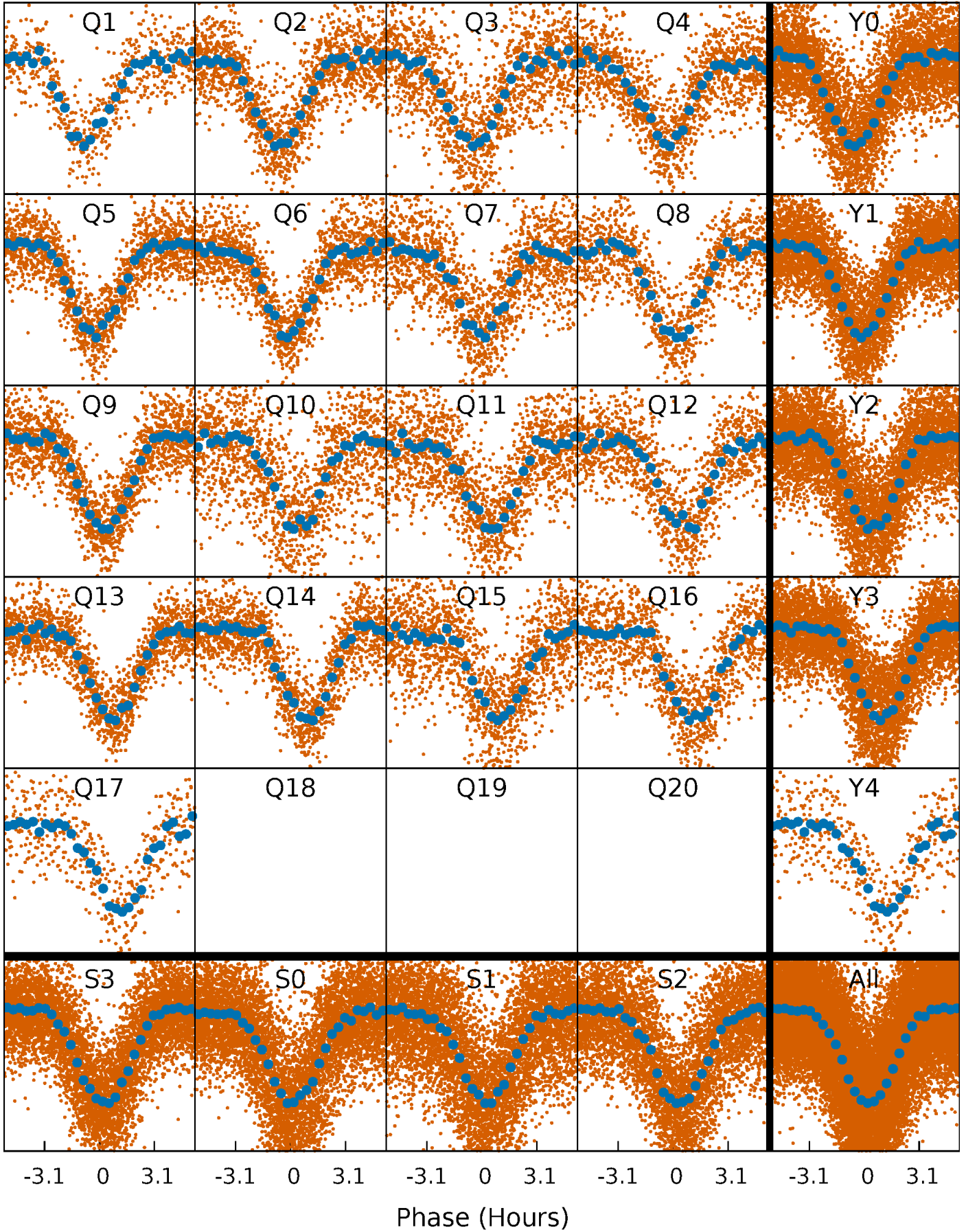


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



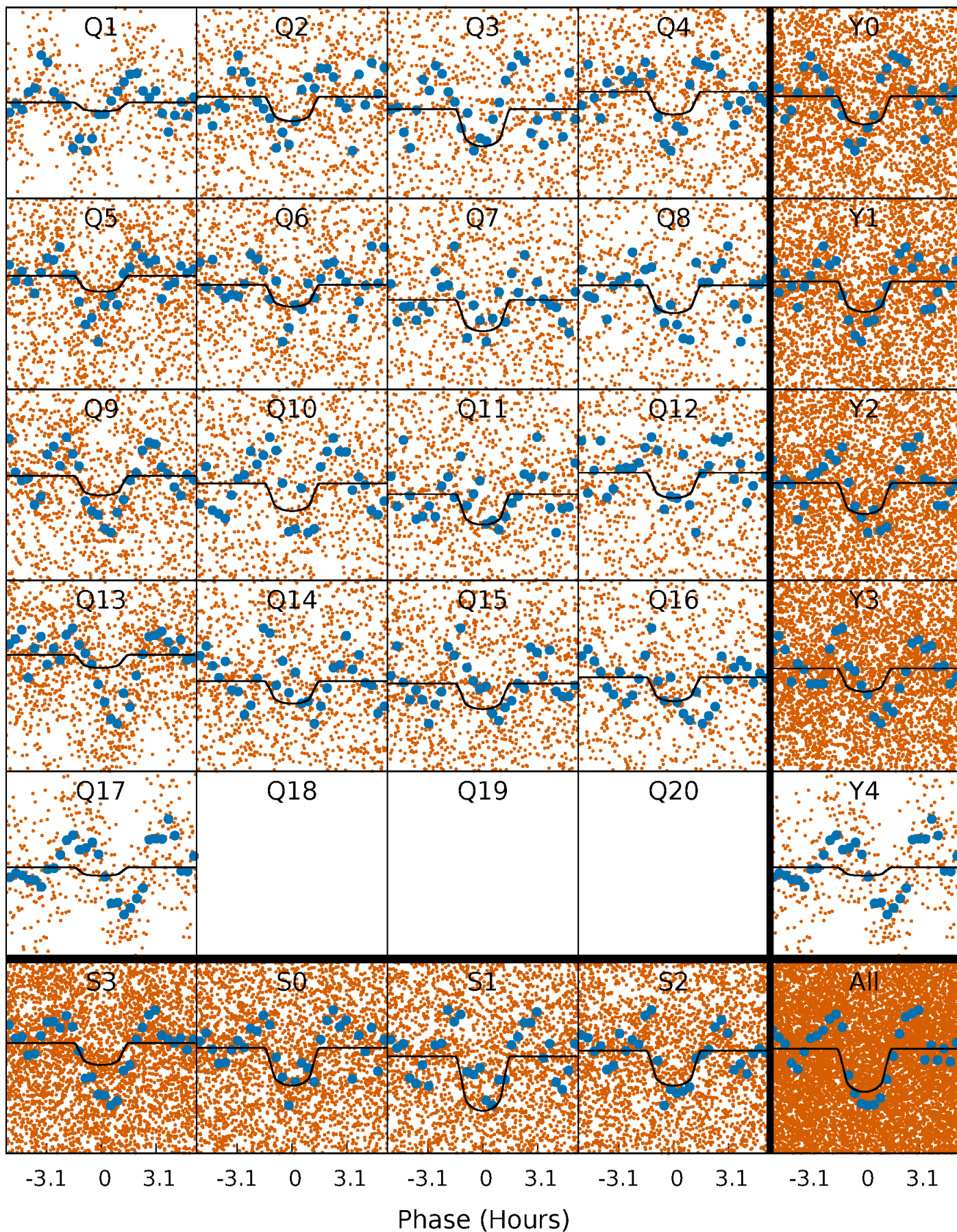
PDC Quarter-Phased Transit Curves

TCE 010191070-01 P= 1.213677 Days $T_0=131.773251$ (BKJD)



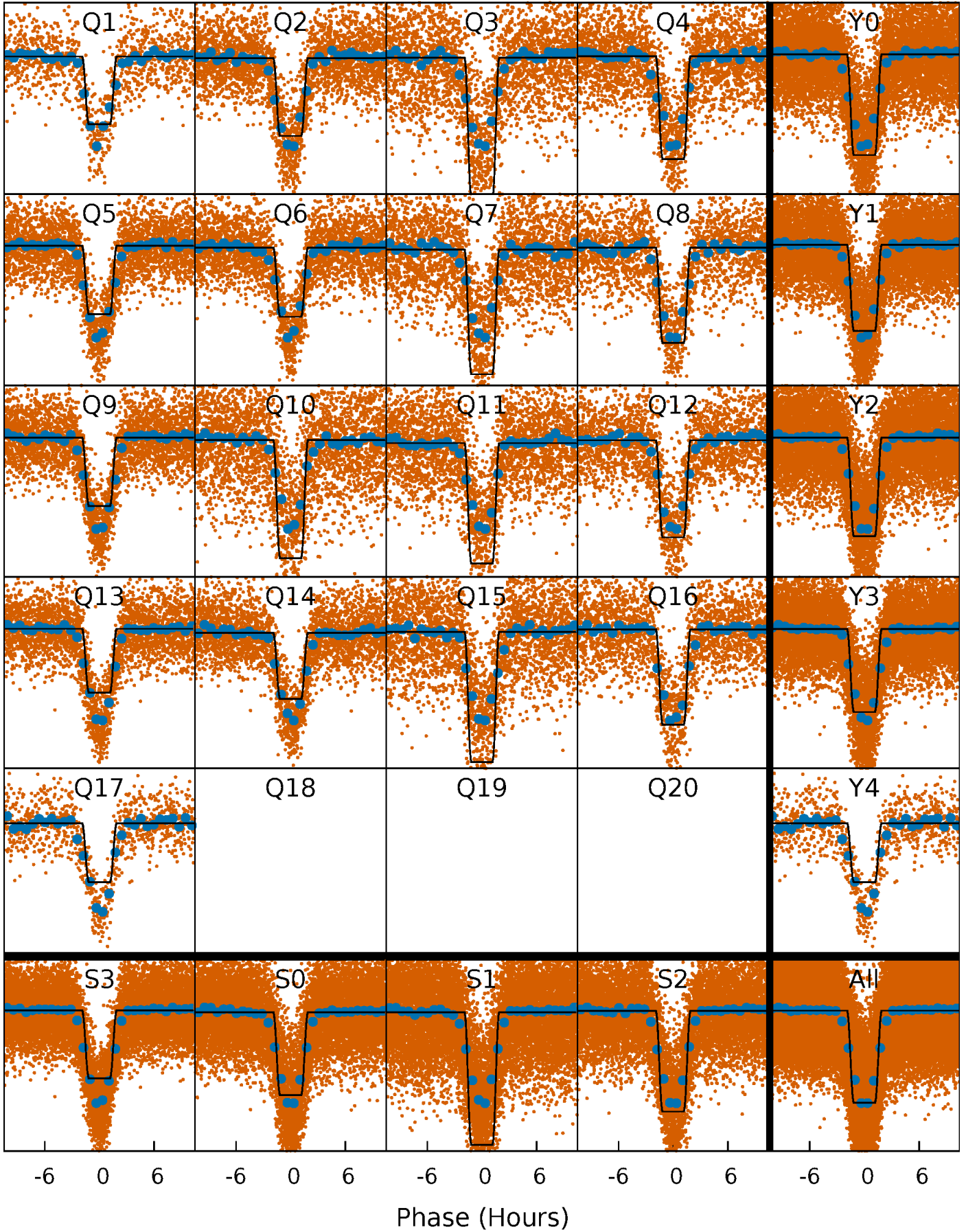
DV Quarter-Phased Transit Curves

TCE 010191070-01 P= 1.213677 Days $T_0=131.773251$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

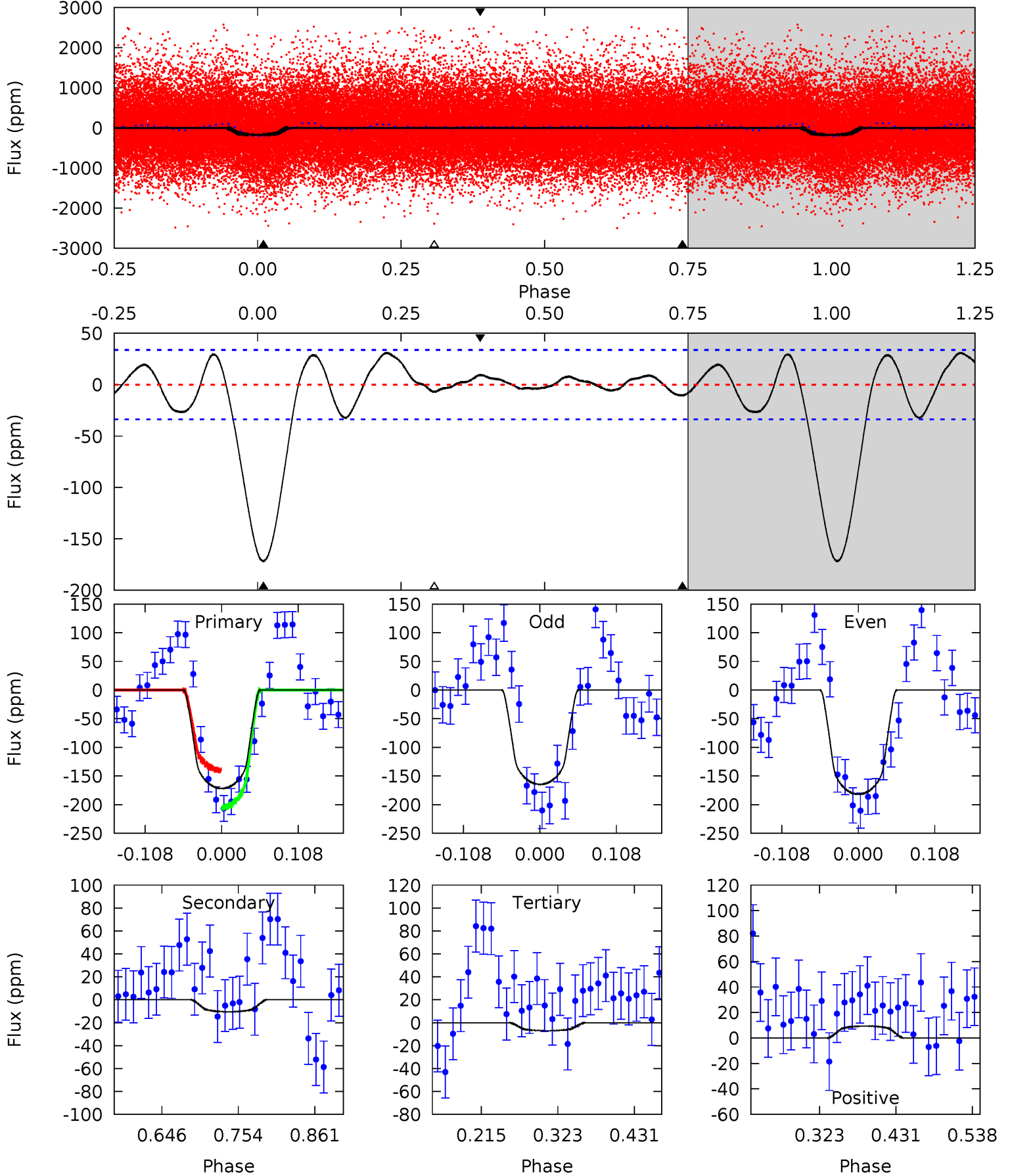
TCE 010191070-01 P= 1.213739 Days $T_0=131.747268$ (BKJD)



DV Model-Shift Uniqueness Test

010191070-01, P = 1.213677 Days, E = 130.559574 Days

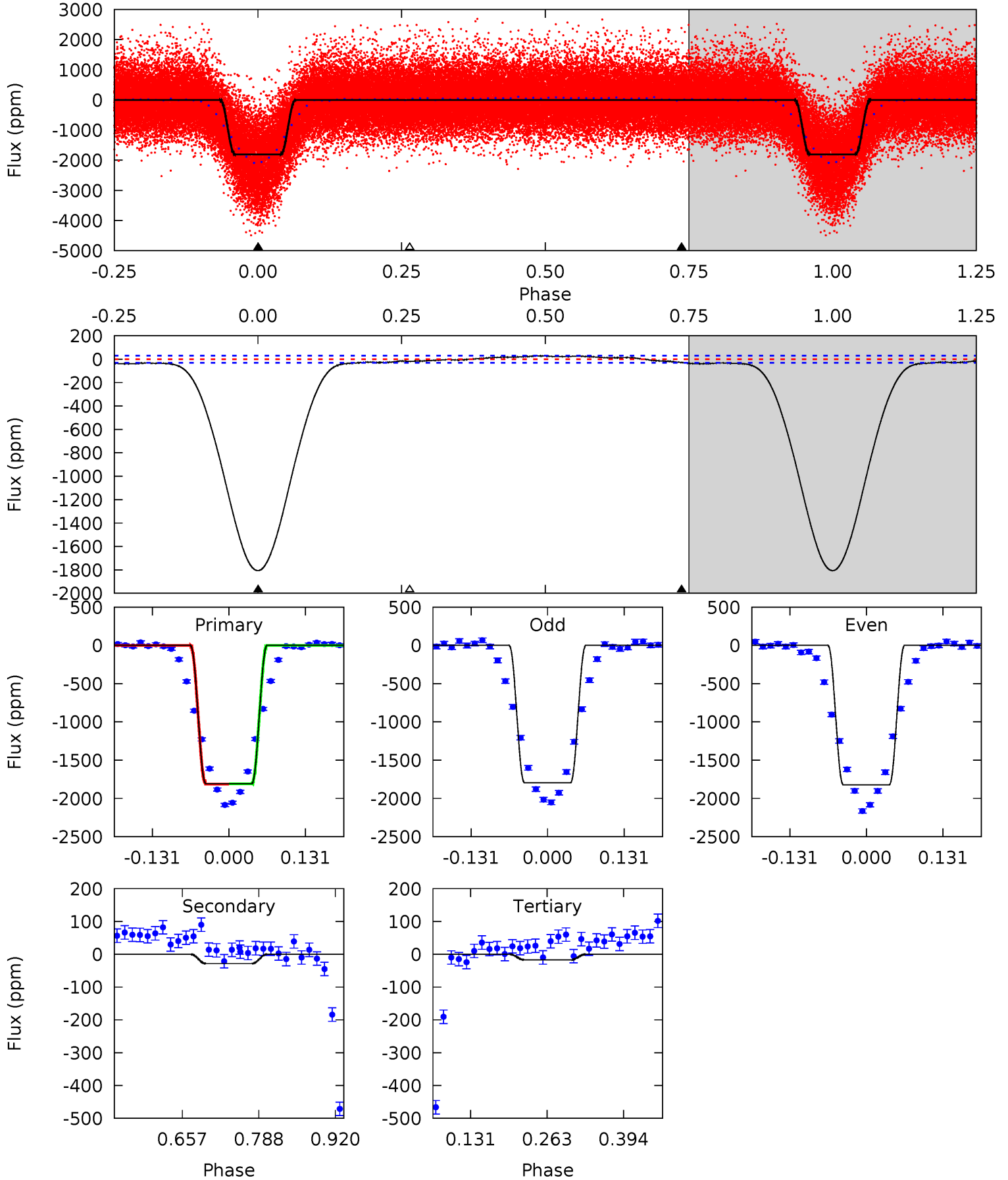
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.1	1.42	0.94	1.26	4.55	1.61	1.81	22.2	21.9	0.47	0.16	1.17	1.00	0.15	4.38



Alt Model-Shift Uniqueness Test

010191070-01, P = 1.213739 Days, E = 130.533529 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
269.5	4.25	2.58	0	4.51	1.51	3.37	266.9	269.5	1.67	4.25	1.97	1.02	0.02	0.23



Stellar Parameters For KIC 010191070

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4820^{+145}_{-145}	$4.606^{+0.063}_{-0.032}$	$-0.440^{+0.300}_{-0.300}$	$0.661^{+0.059}_{-0.059}$	$0.644^{+0.084}_{-0.042}$	$3.138^{+0.837}_{-0.458}$
	+3%/-3%	+1%/-1%	+68%/-68%	+9%/-9%	+13%/-7%	+27%/-15%
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 010191070-01 / KOI 0727.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-11 ± 7	$0.96^{+0.58}_{-0.46}$	1727^{+60}_{-61}	2885^{+721}_{-800}	$2.209^{+6.761}_{-1.799}$
Alt.	-28 ± 7	$3.25^{+0.58}_{-0.57}$	1731^{+61}_{-64}	2250^{+238}_{-296}	$0.542^{+0.342}_{-0.176}$

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

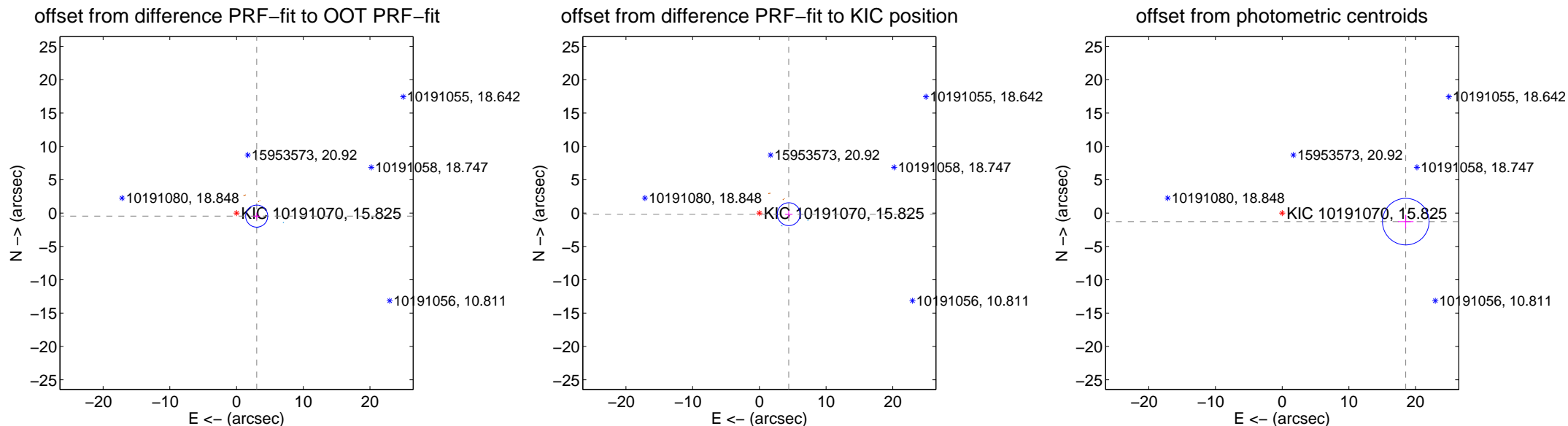
DV Centroid Data

Supplemental centroid analysis for 010191070-01. Kepler magnitude: 15.82. Transit SNR 14.27

There are 9 quarters with good PRF difference image offsets

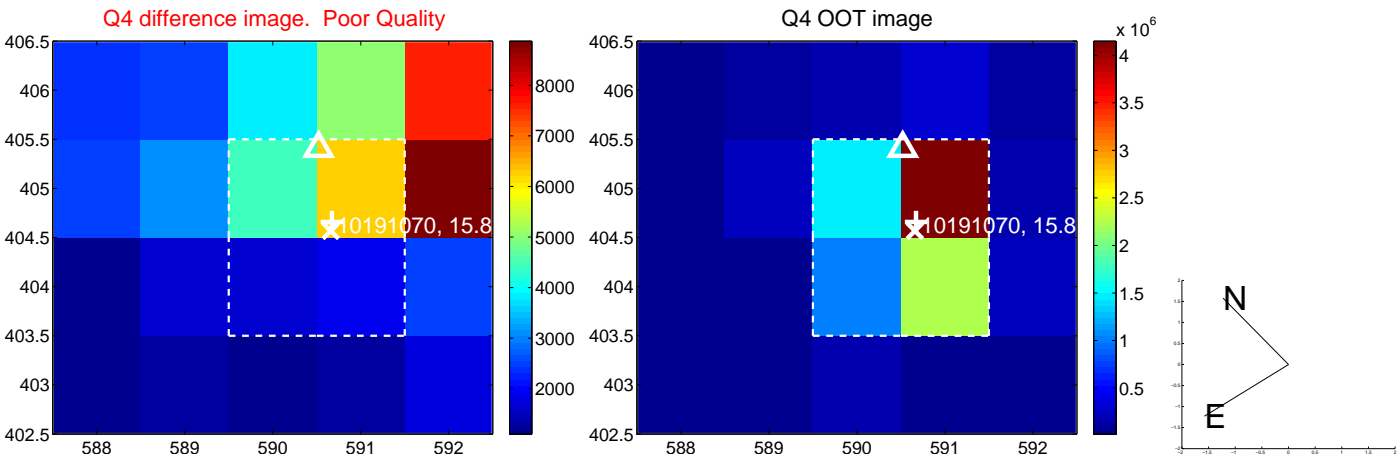
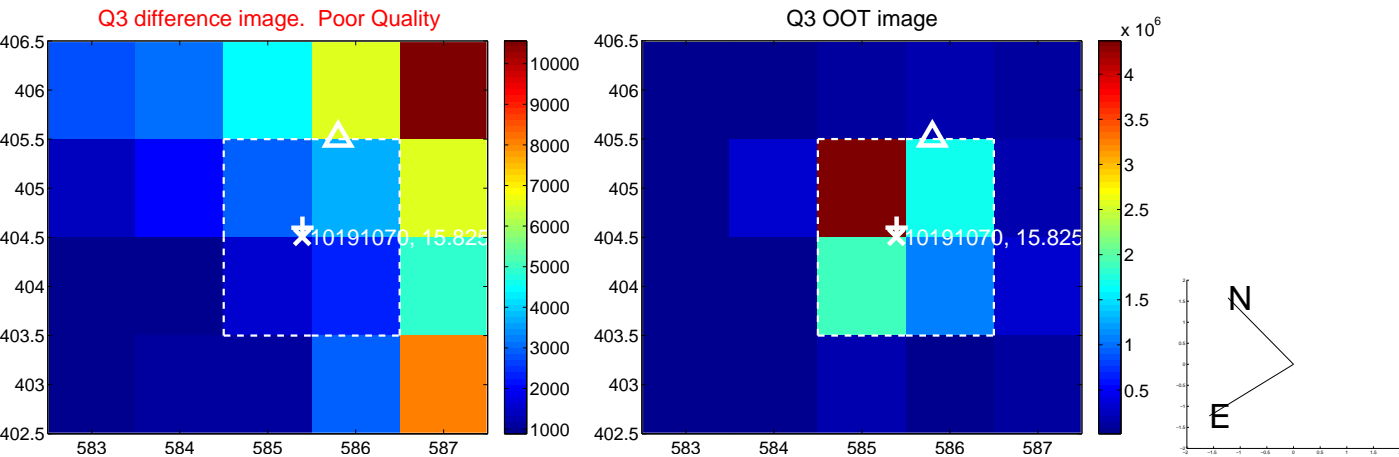
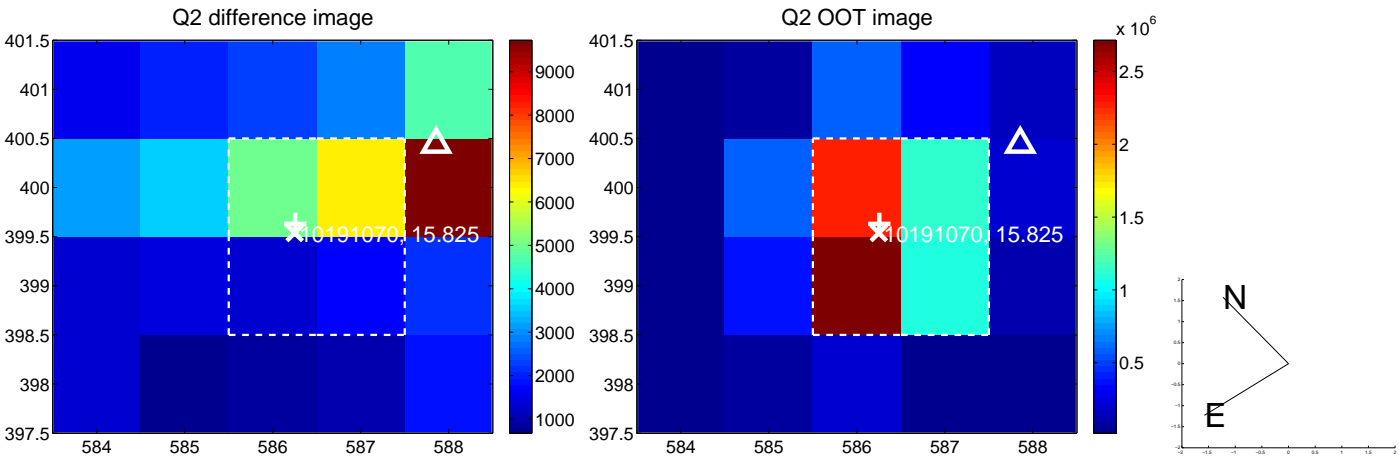
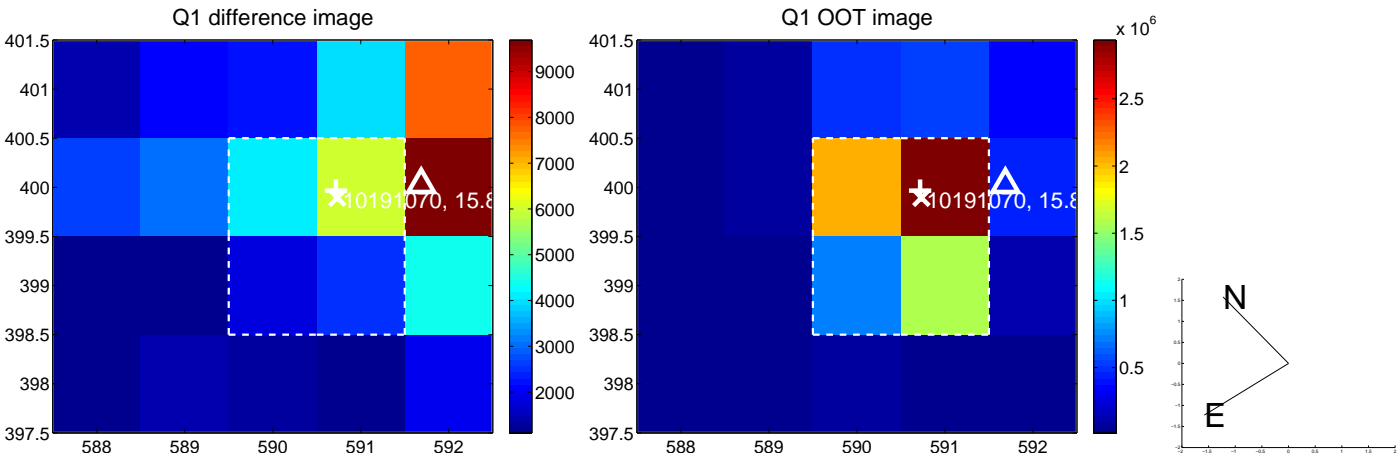
The direct PRF centroid is offset from the target star catalog position by about 0.34 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.056 ± 0.552	5.54	-3.021 ± 0.507	-0.456 ± 0.516
PRF-fit source offset from KIC position	4.410 ± 0.571	7.72	-4.407 ± 0.571	-0.167 ± 0.545
photometric centroid source offset	18.57 ± 1.16	15.97	-18.52 ± 1.16	-1.29 ± 1.02

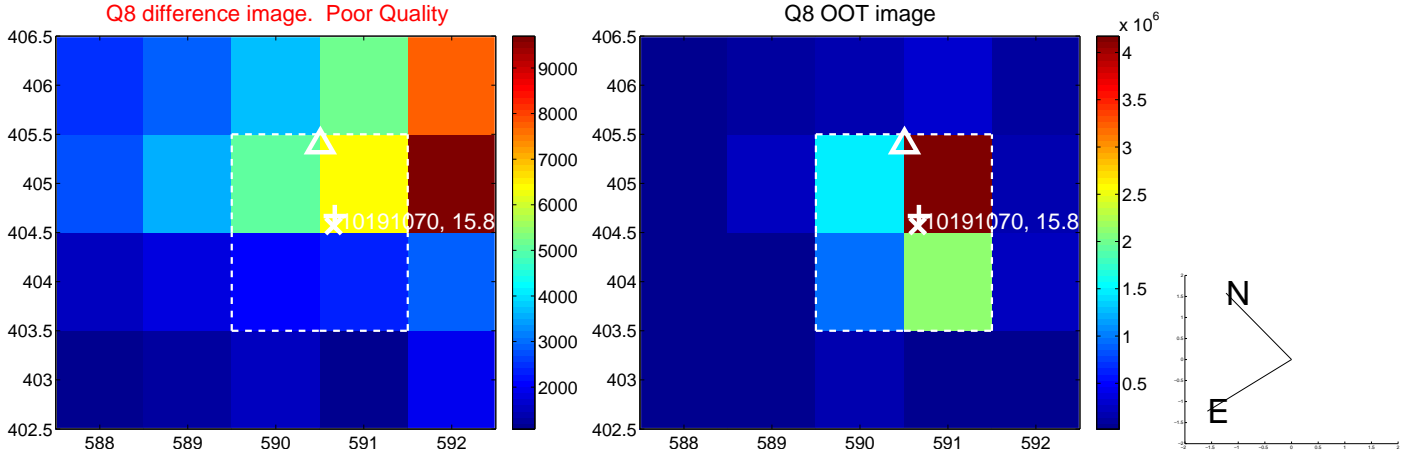
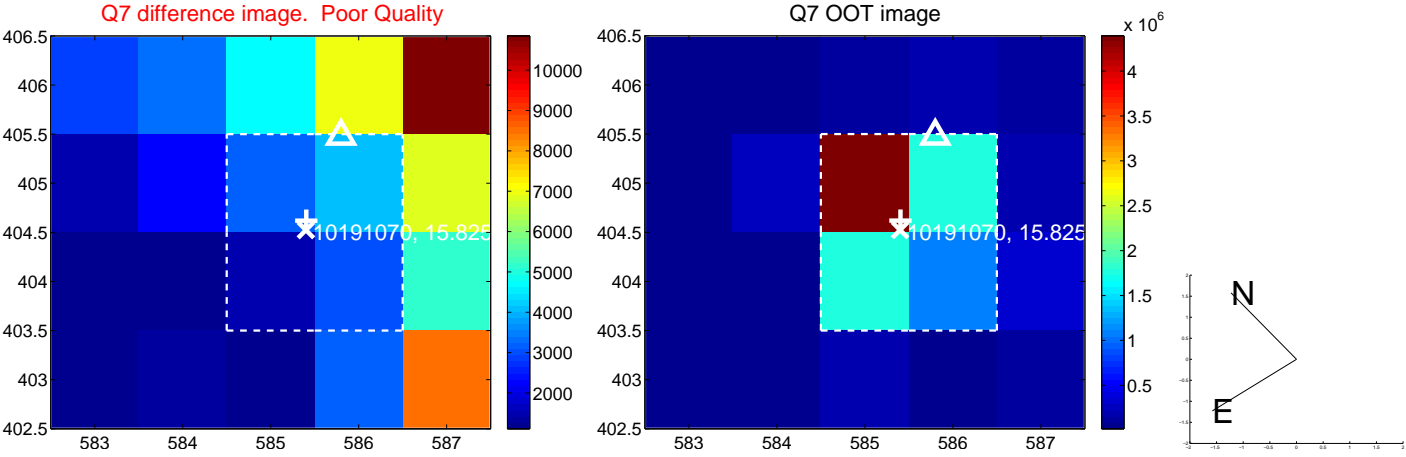
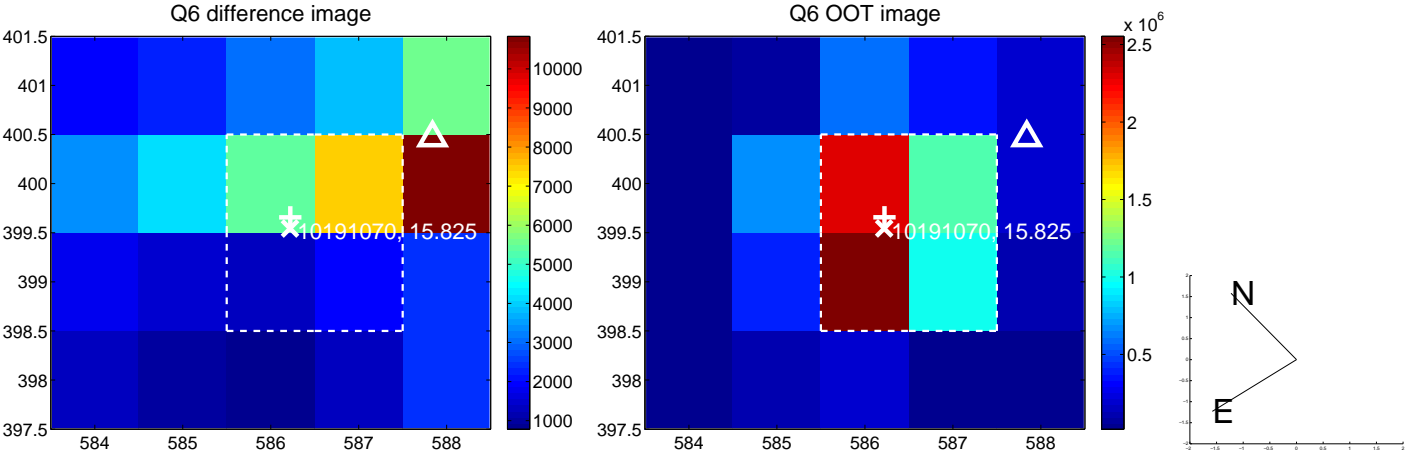
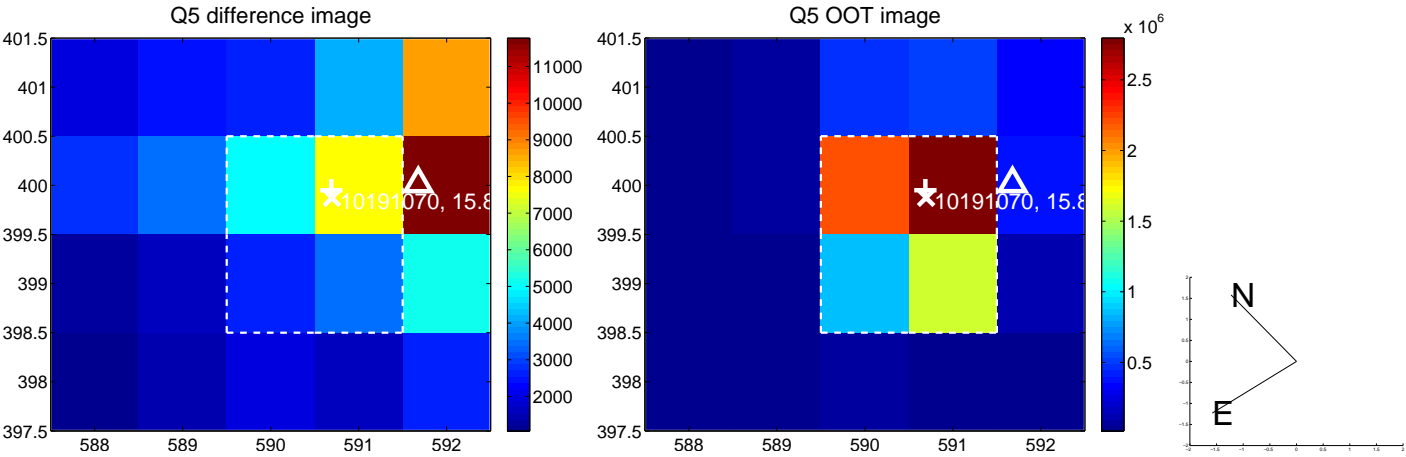


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

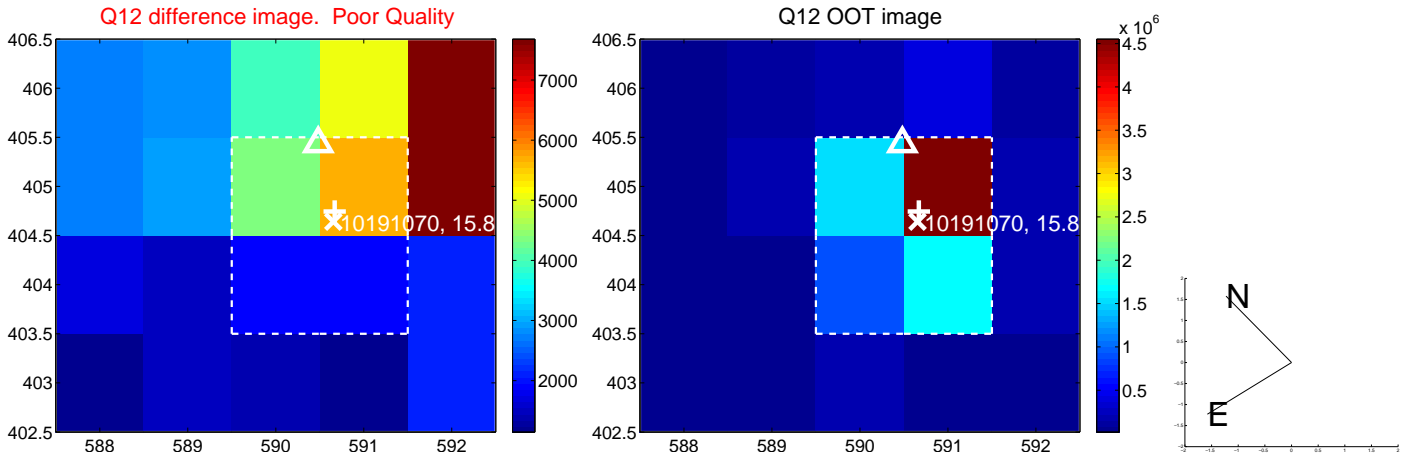
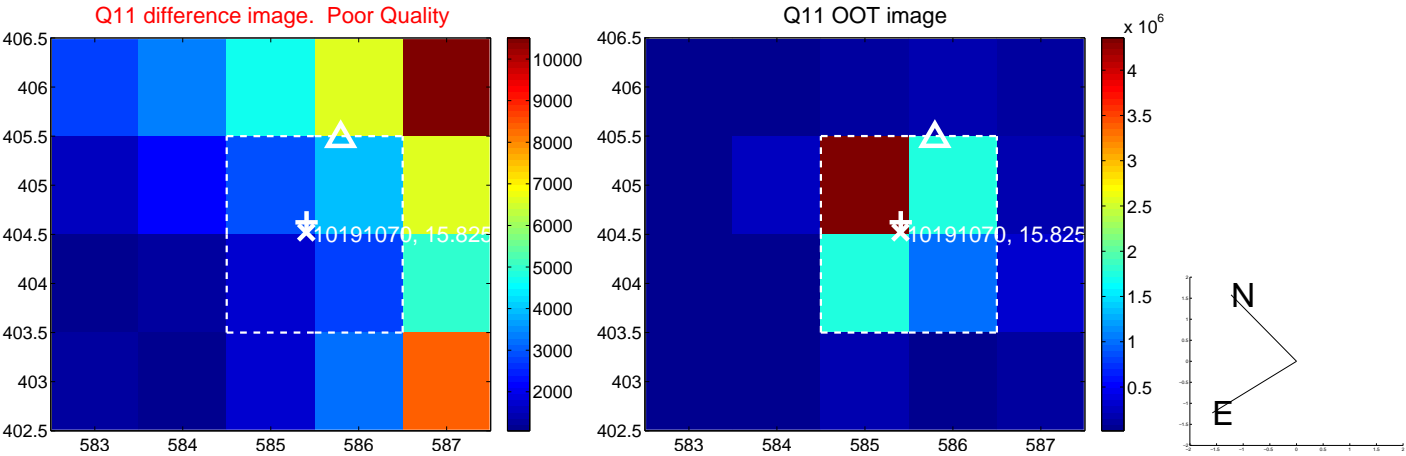
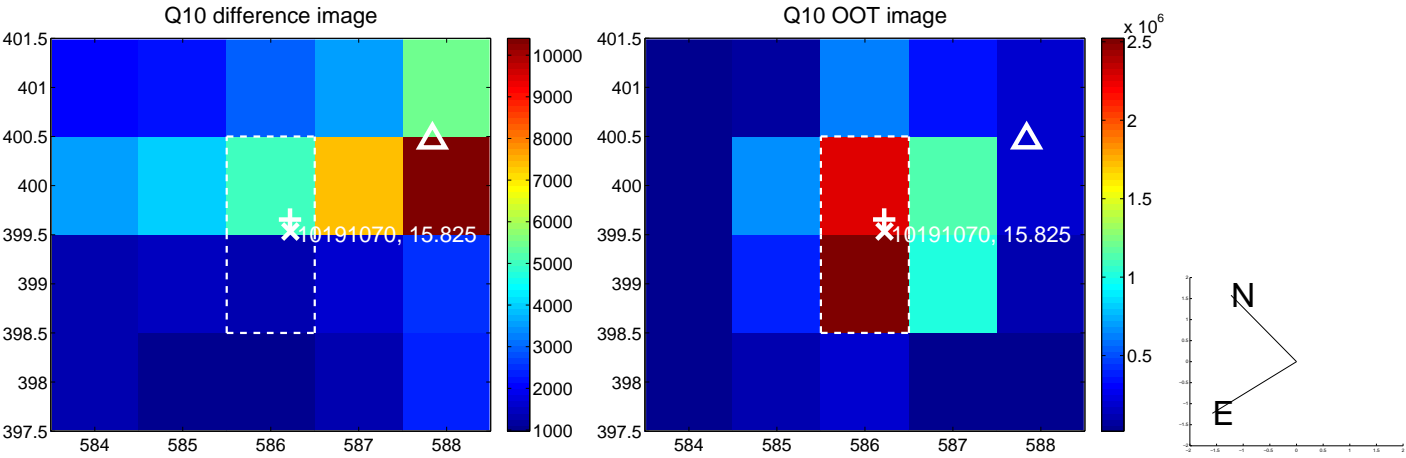
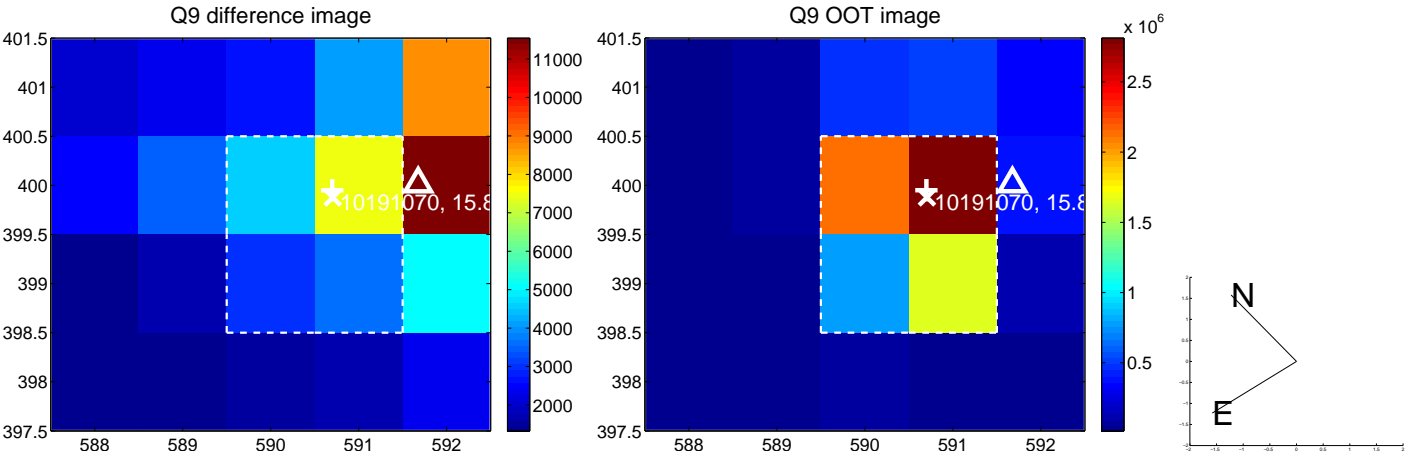
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



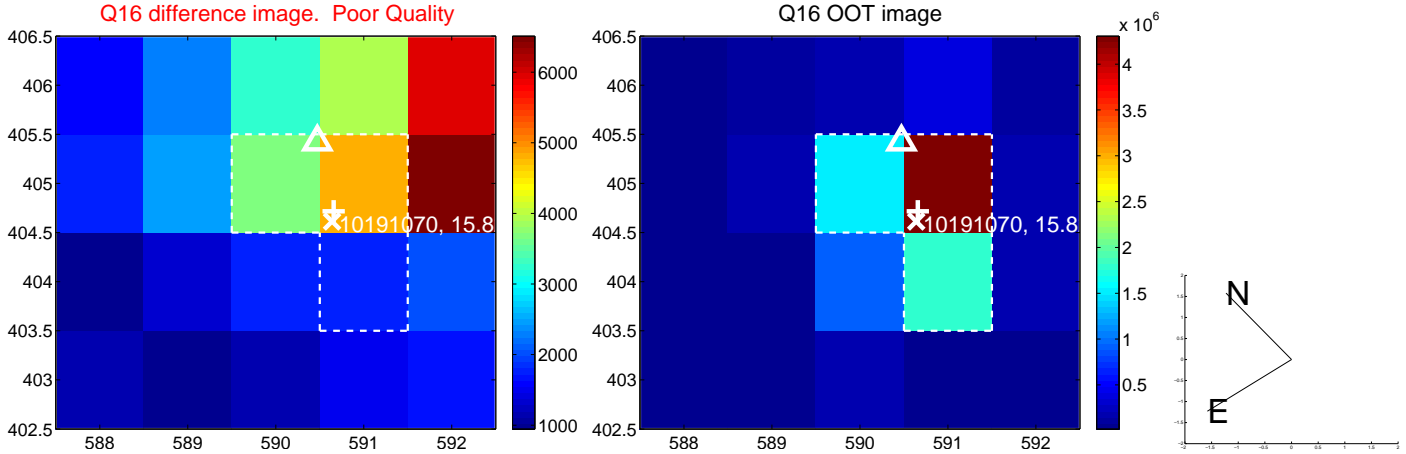
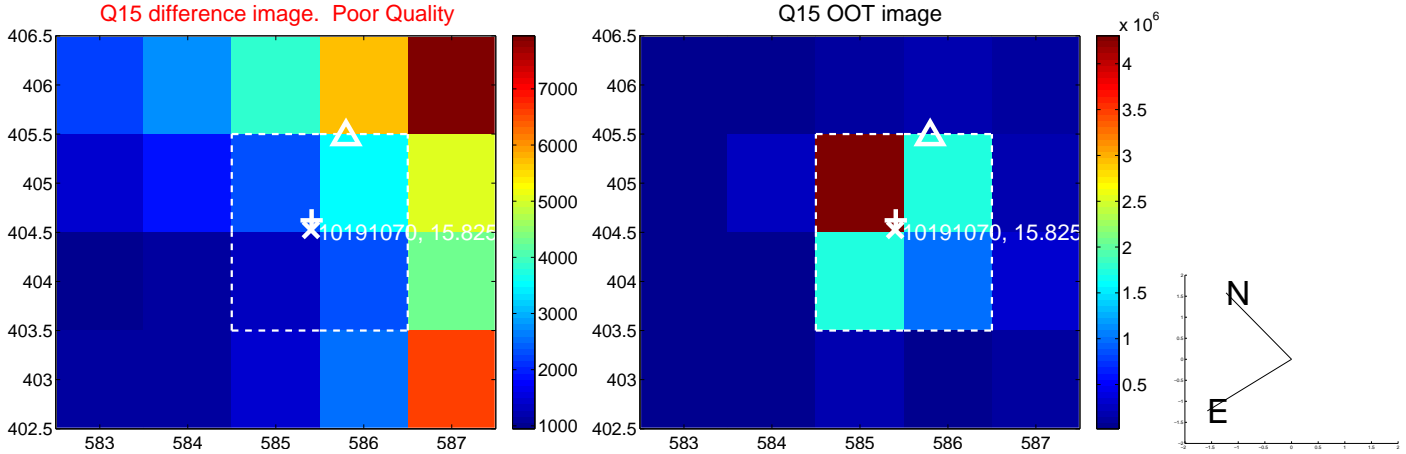
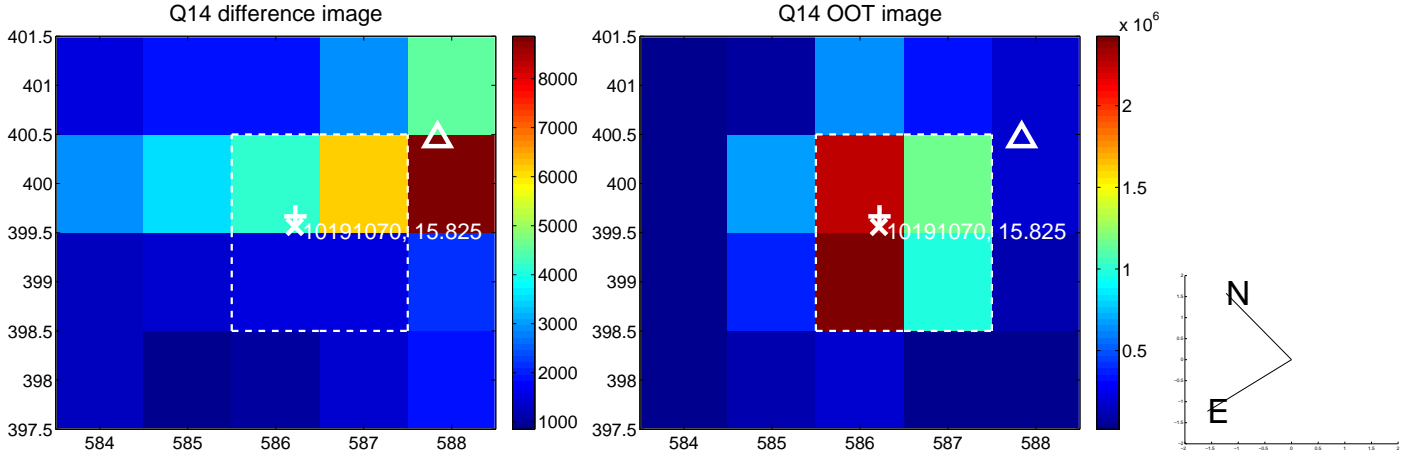
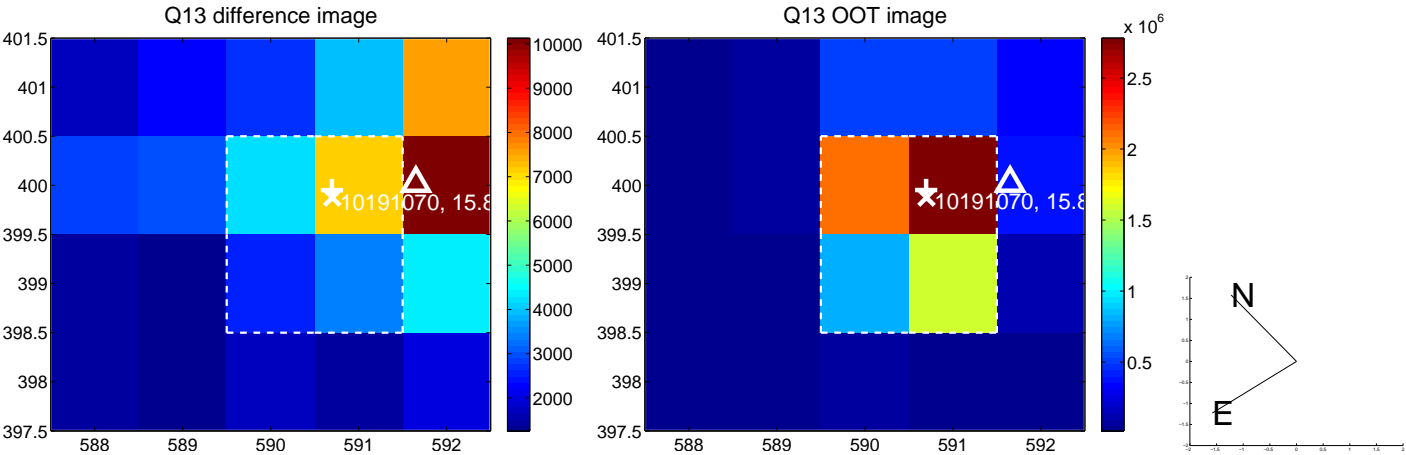
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



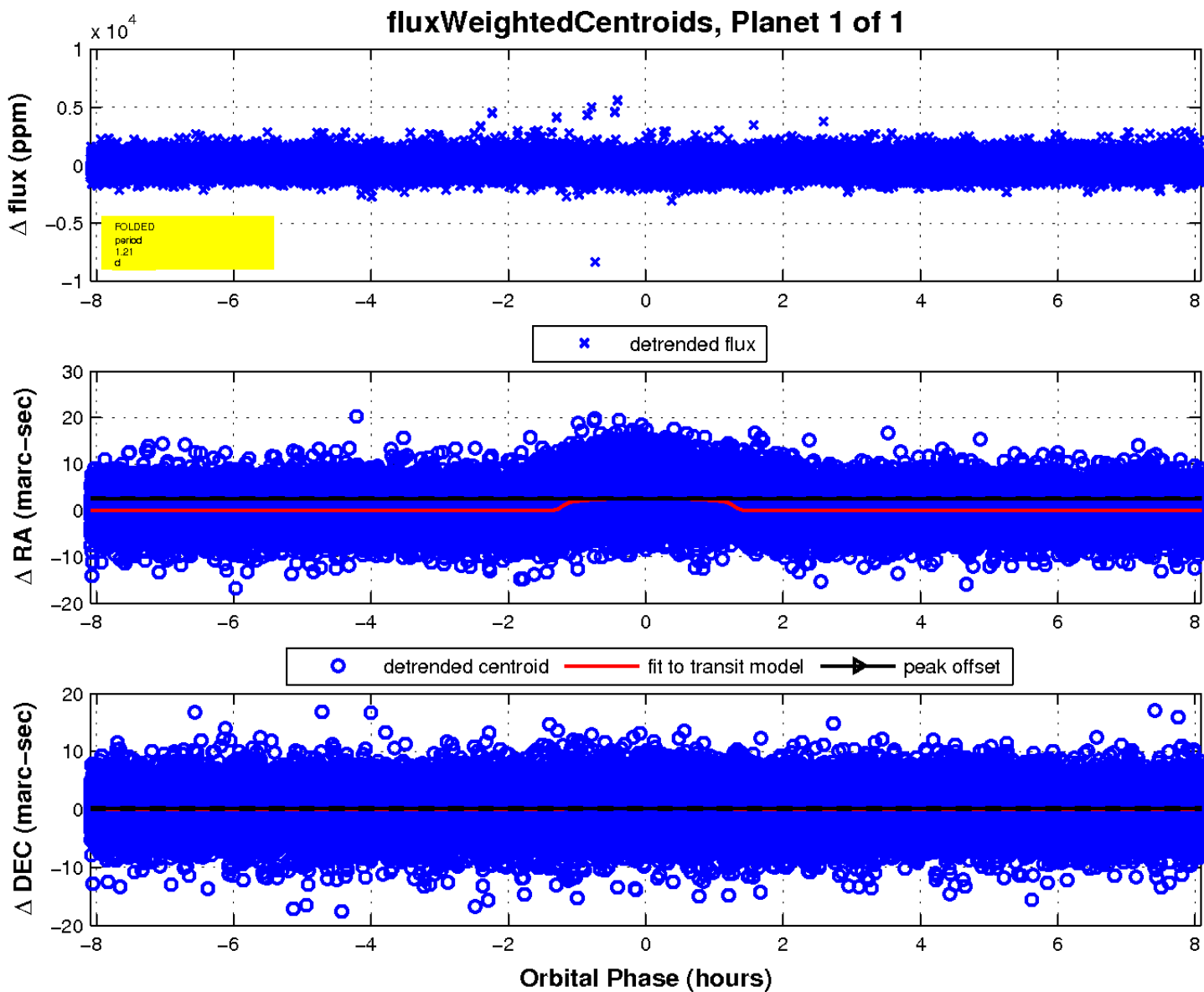
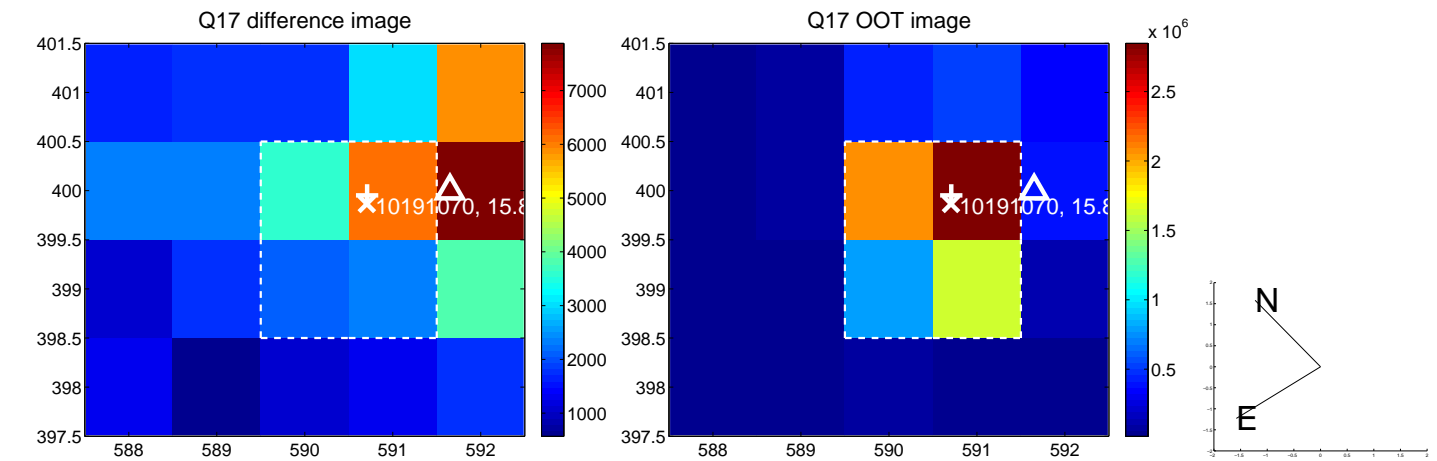
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

