

KIC 010618236

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})
010618236-01	OBS	No	0.656090	131.998689	69.2	1.892	8.2	8.1	0.88	5815	0.87	3674.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010618236-01	OBS	FP	0.00	1	0	1	1	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_UNRESOLVED_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.

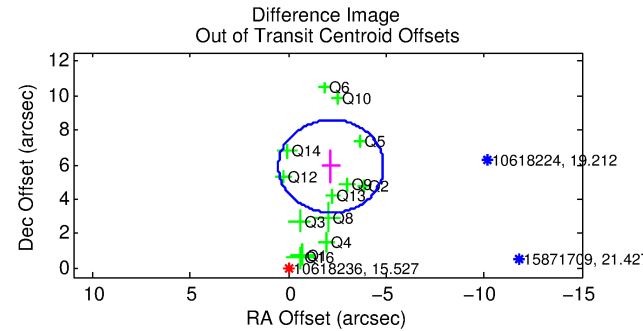
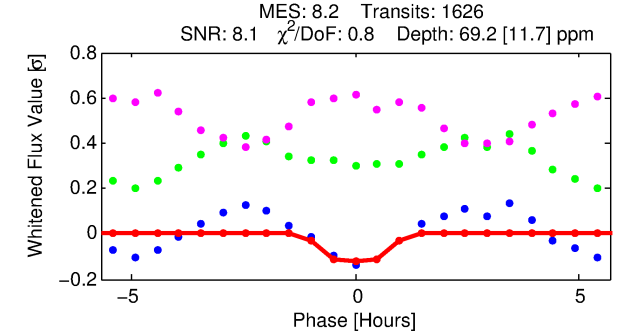
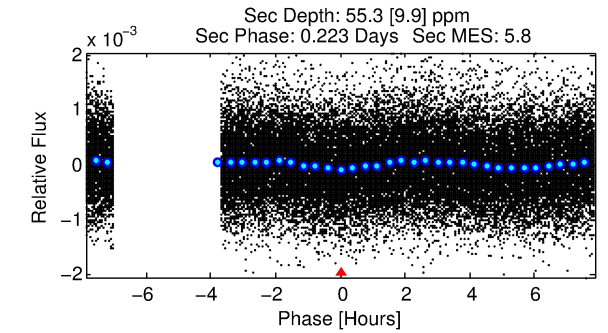
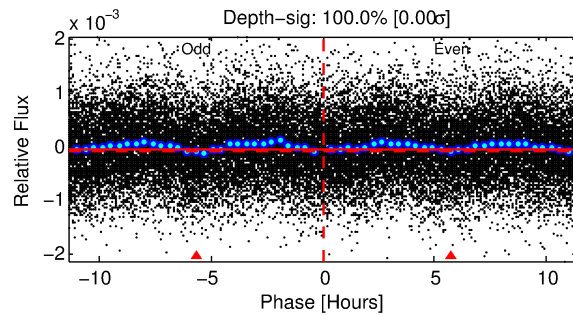
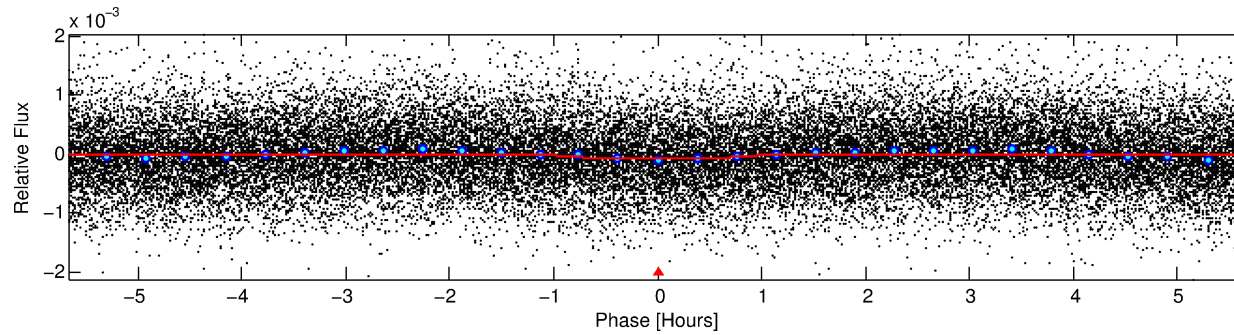
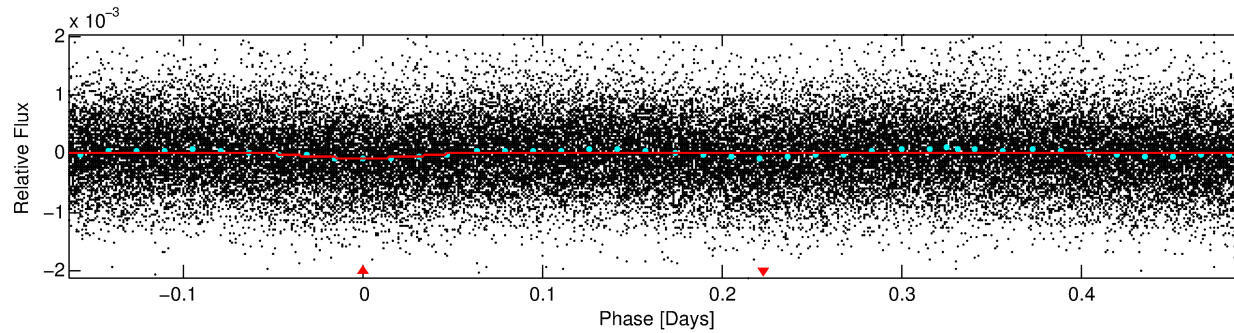
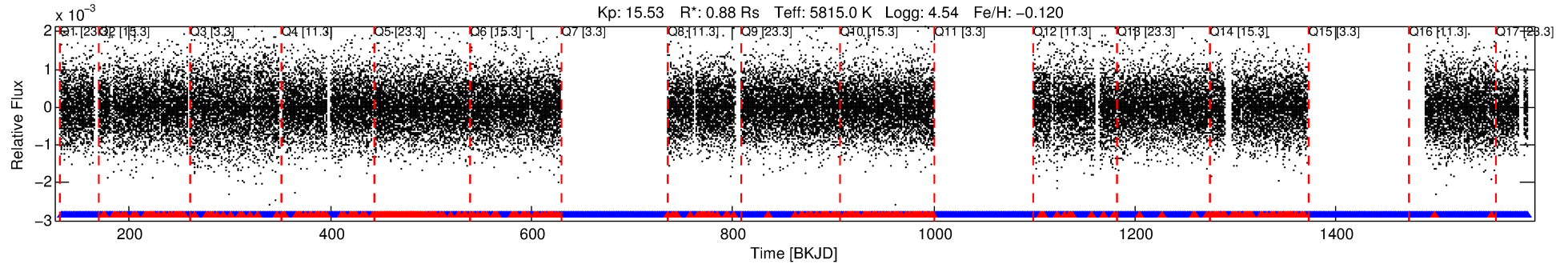
Ephemeris Match Information For 010618236-01

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
010618236-01	10618236	010618322-01	10618322	1:1	64.8	17	0	12.96	15.53	1.06	Direct-PRF	1	2.03	1.20

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: 10618236 Candidate: 1 of 1 Period: 0.656 d



DV Fit Results:

Period = 0.65609 [0.00001] d
Epoch = 131.9987 [0.0033] BKJD
Rp/R* = 0.0091 [0.0070]
a/R* = 1.53 [3.31]
b = 0.90 [0.82]
Seff = 3674.02 [1173.53]
Teq = 1985 [159] K
Rp = 0.87 [0.70] Re
a = 0.0146 [0.0030] AU
Ag = 8.68 [13.67] [0.56σ]
Teffp = 5269 [2043] K [1.60σ]

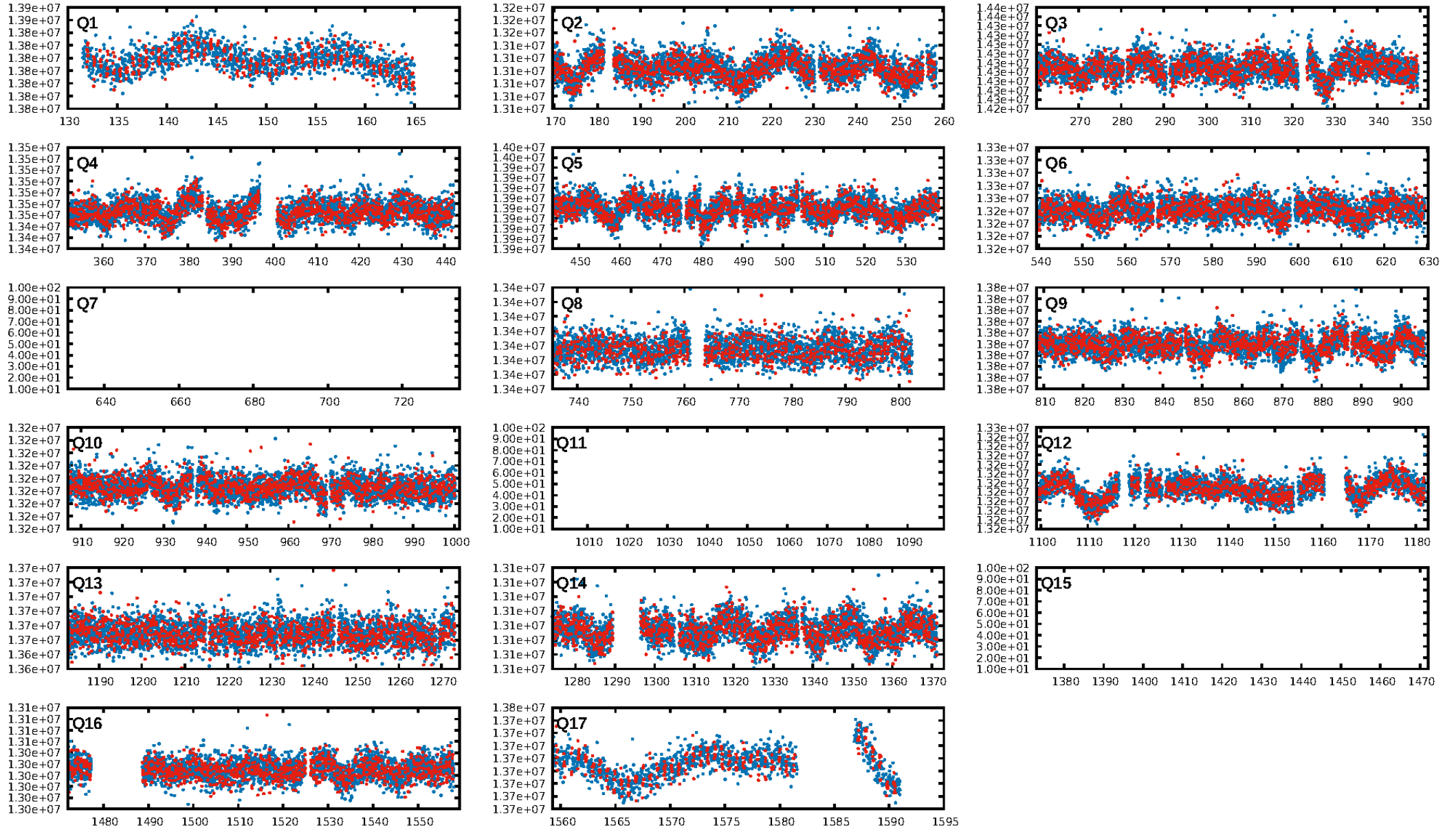
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.02e-16
RollingBand-fgt: 0.77 [1184/1535]
GhostDiagnostic-chr: -0.4628
Centroid-sig: 0.0%
Centroid-so: 7.400 arcsec [3.86σ]
OotOffset-rm: 6.293 arcsec [7.04σ]
KicOffset-rm: 6.156 arcsec [6.82σ]
OotOffset-st: 4/1/4/4 [13]
KicOffset-st: 4/1/4/4 [13]
DiffImageQuality-fgm: 0.08 [1/13]
DiffImageOverlap-fno: 1.00 [14/14]

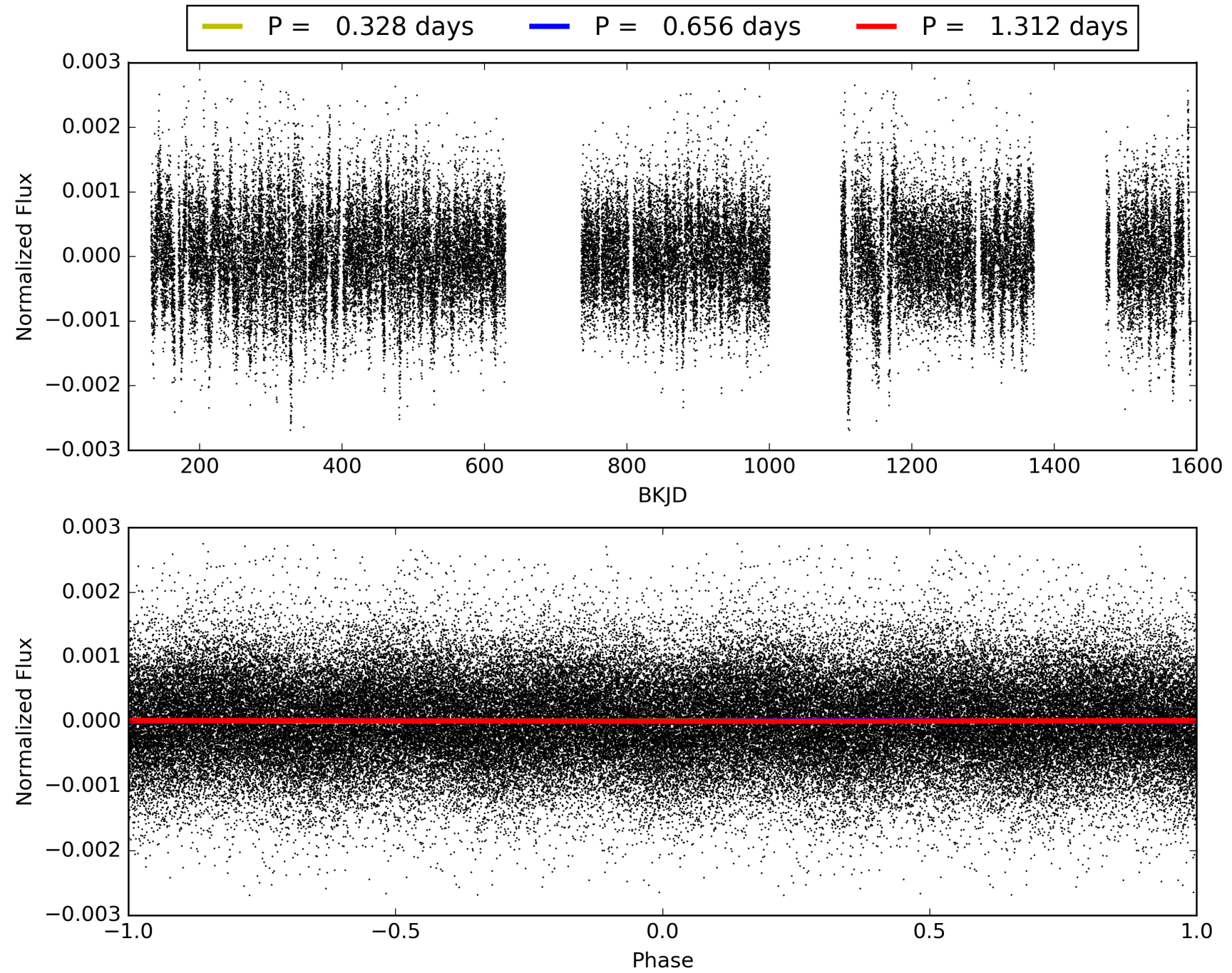
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:16:05 Z

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

TCE 010618236-01, PDC Light Curves

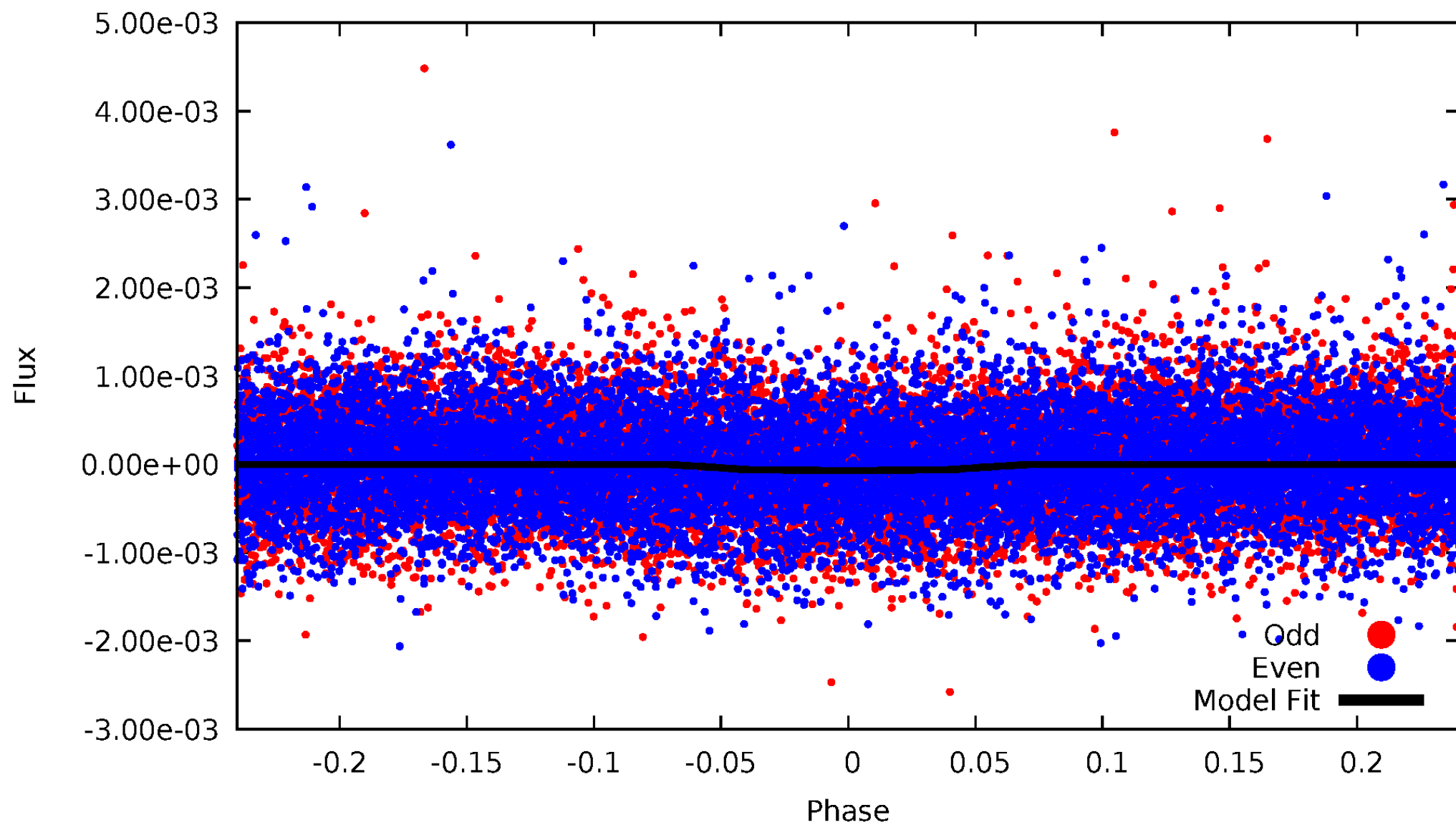


TCE 010618236-01



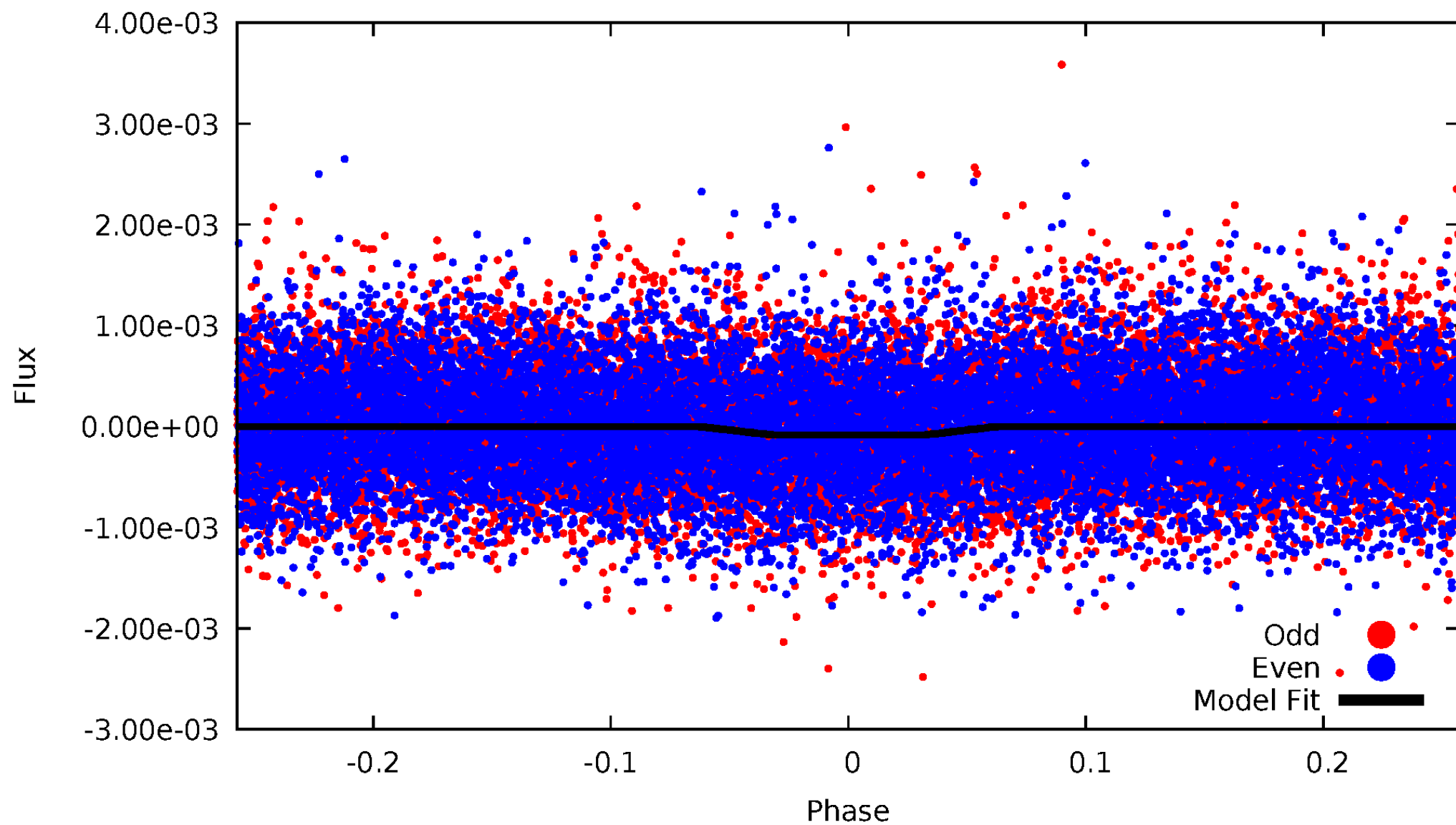
DV Odd/Even

TCE 010618236-01

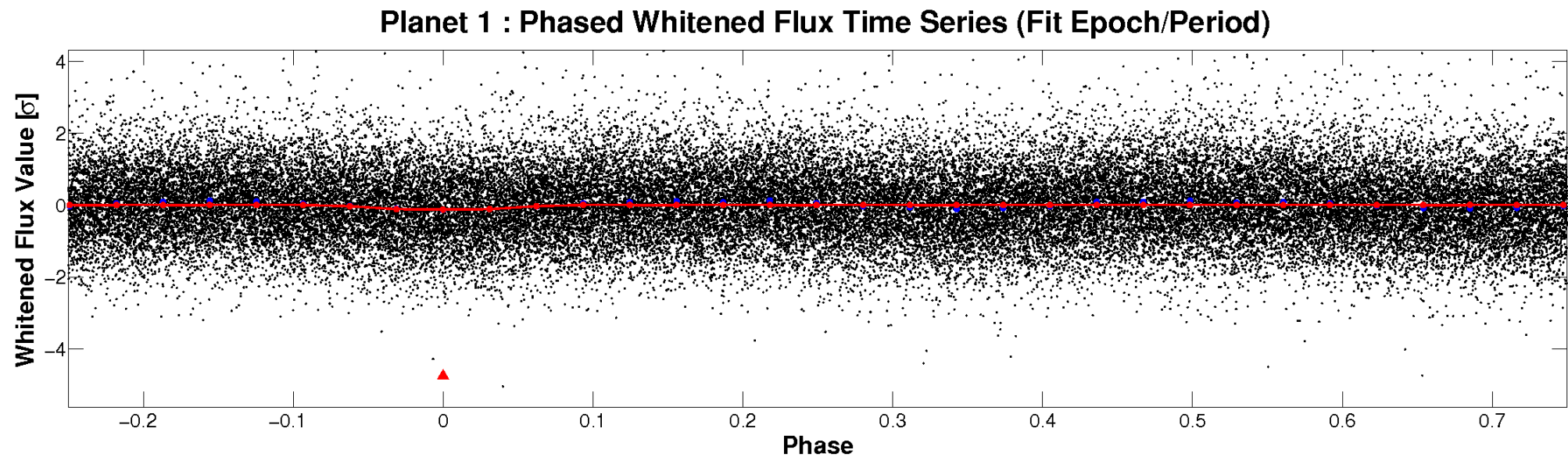
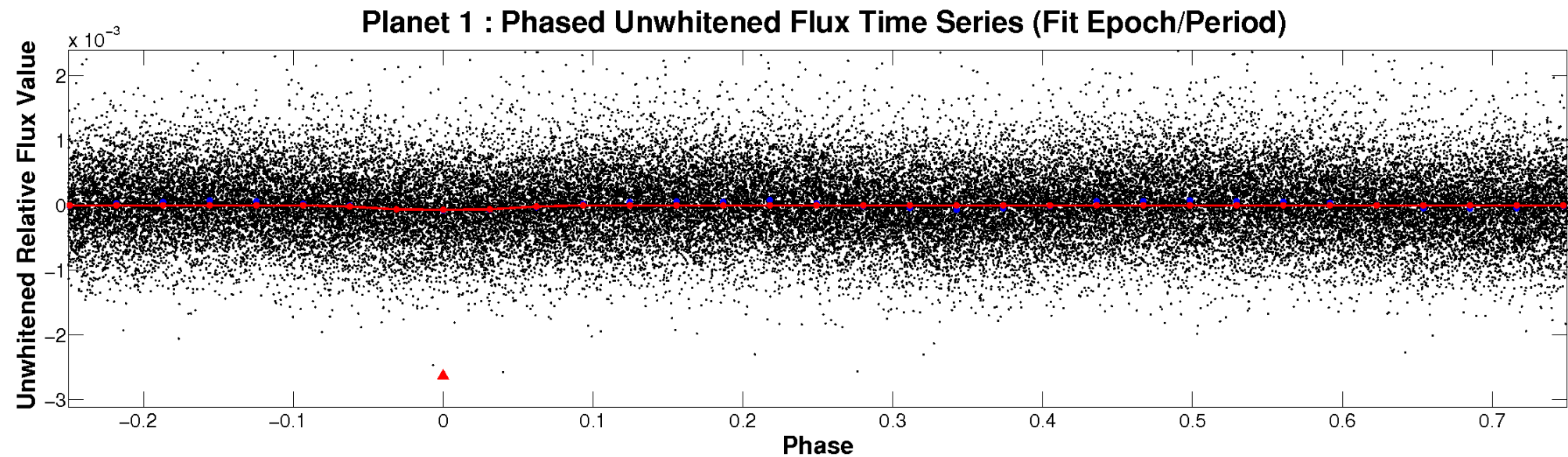


ALT Odd/Even

TCE 010618236-01

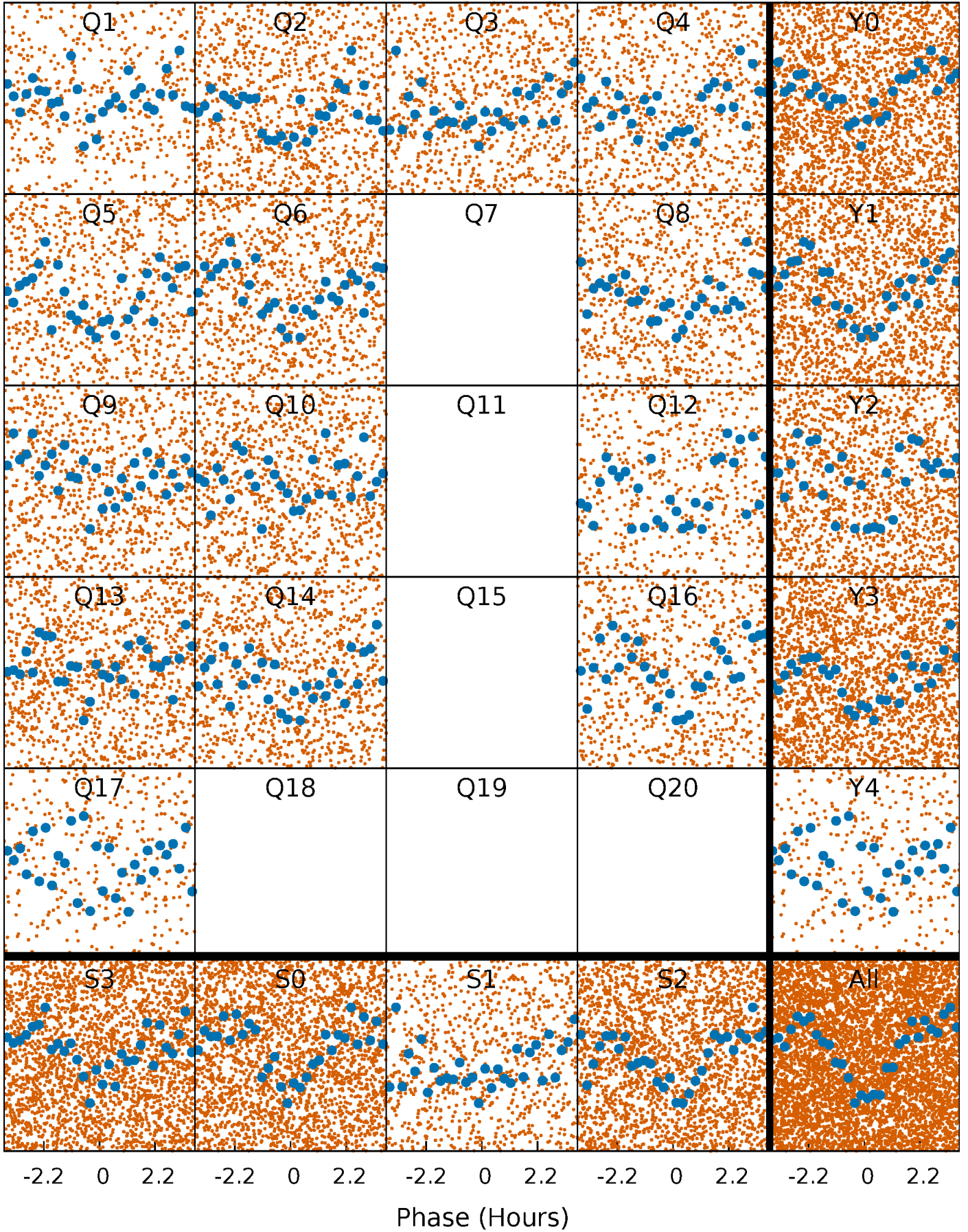


Non-Whitened Vs. Whitened Light Curve



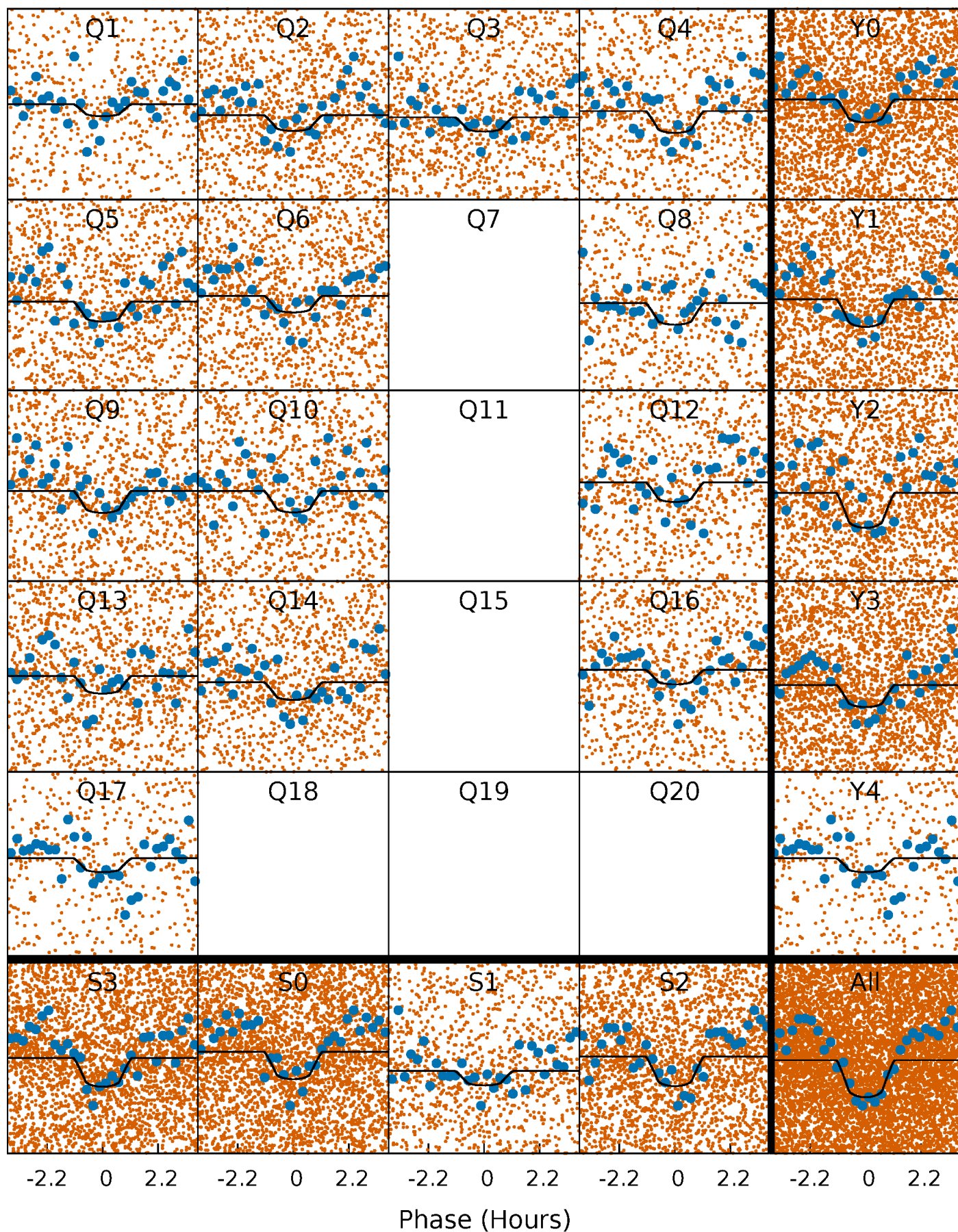
PDC Quarter-Phased Transit Curves

TCE 010618236-01 P= 0.656090 Days $T_0=131.998689$ (BKJD)



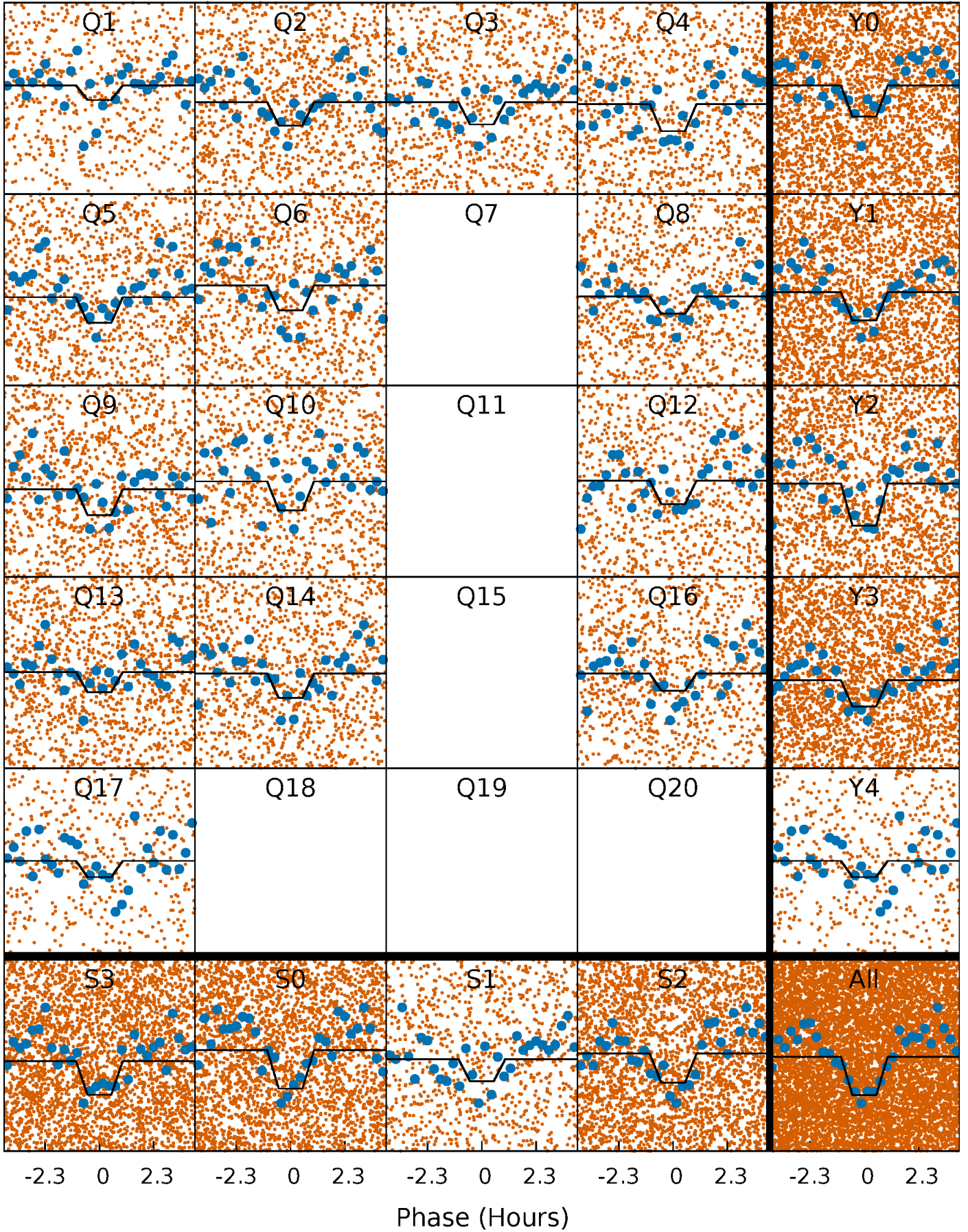
DV Quarter-Phased Transit Curves

TCE 010618236-01 P= 0.656090 Days $T_0=131.998689$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

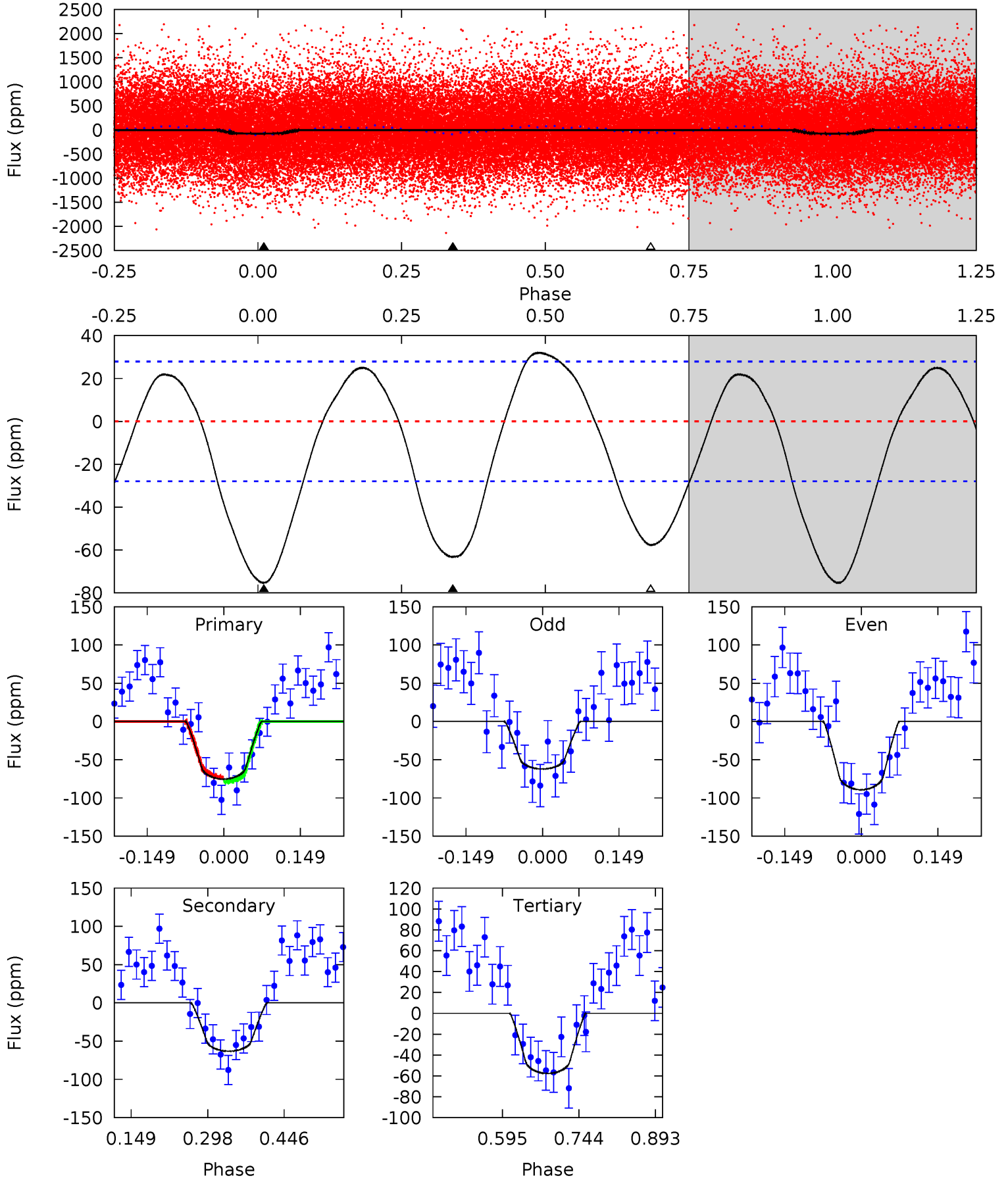
TCE 010618236-01 P= 0.656095 Days $T_0=131.998274$ (BKJD)



DV Model-Shift Uniqueness Test

010618236-01, P = 0.656090 Days, E = 131.342599 Days

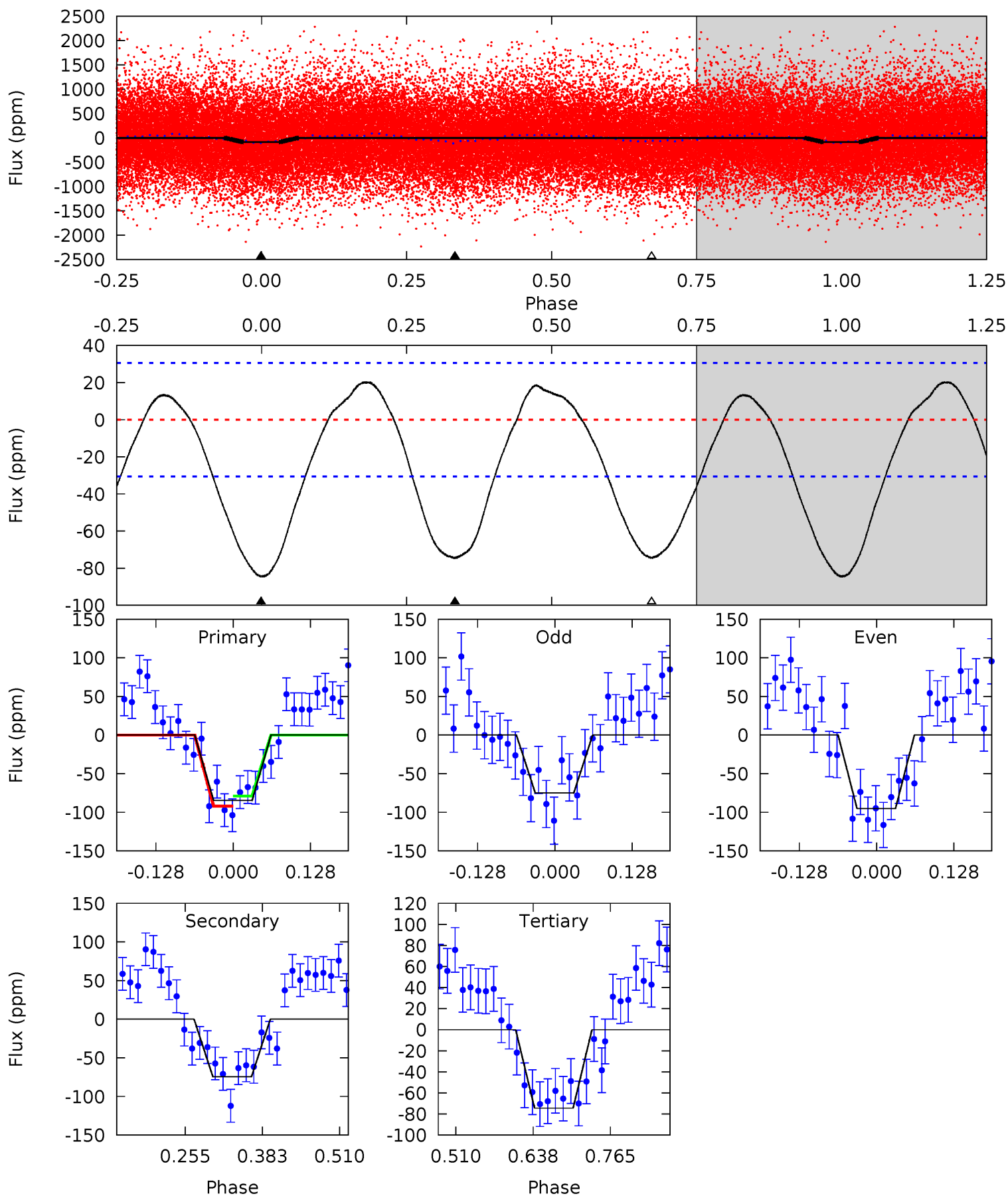
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	10.1	9.26	0	4.48	1.44	4.94	2.83	12.1	0.88	10.1	2.18	0.89	0.30	0.49



Alt Model-Shift Uniqueness Test

010618236-01, P = 0.656095 Days, E = 131.342179 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.5	11.0	11.0	0	4.51	1.52	4.80	1.48	12.5	0.02	11.0	1.48	0.85	0.19	0.96



Stellar Parameters For KIC 010618236

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5815^{+146}_{-175}	$4.540^{+0.040}_{-0.160}$	$-0.120^{+0.300}_{-0.300}$	$0.877^{+0.217}_{-0.087}$	$0.973^{+0.104}_{-0.127}$	$2.032^{+0.446}_{-0.916}$
	+3%/-3%	+1%/-4%	+250%/-250%	+25%/-10%	+11%/-13%	+22%/-45%
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 010618236-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-63 ± 6	$1.00^{+0.69}_{-0.53}$	2828^{+155}_{-123}	5201^{+2594}_{-1055}	$7.339^{+26.431}_{-4.800}$
Alt.	-75 ± 7	$1.00^{+0.61}_{-0.58}$	2832^{+154}_{-117}	5336^{+3400}_{-965}	$8.624^{+40.519}_{-5.275}$

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

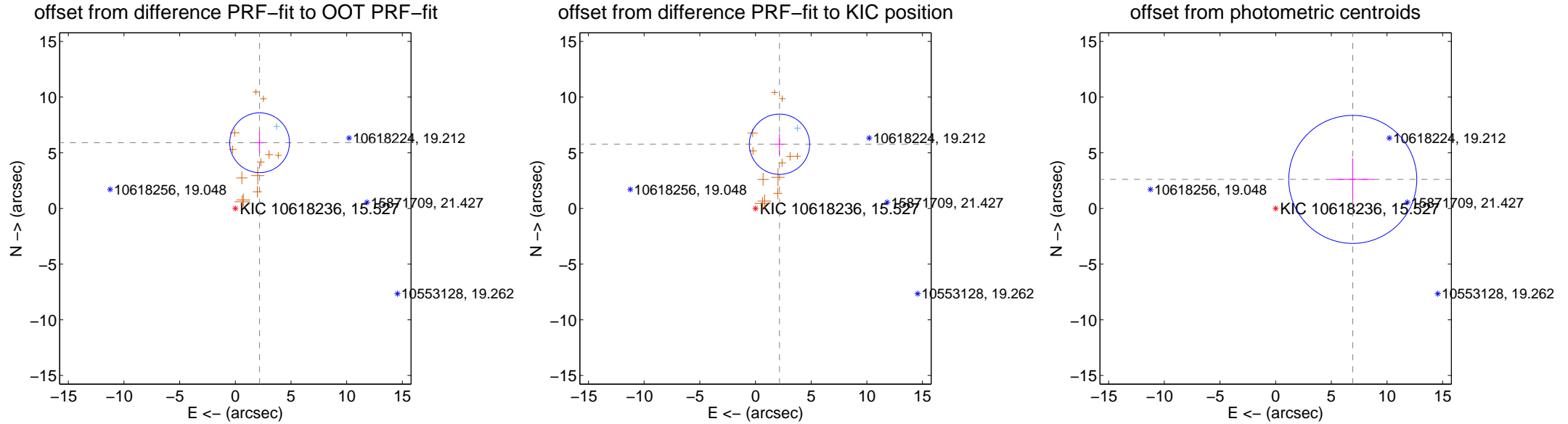
DV Centroid Data

Supplemental centroid analysis for 010618236-01. Kepler magnitude: 15.53. Transit SNR 8.10

There are 1 quarters with good PRF difference image offsets

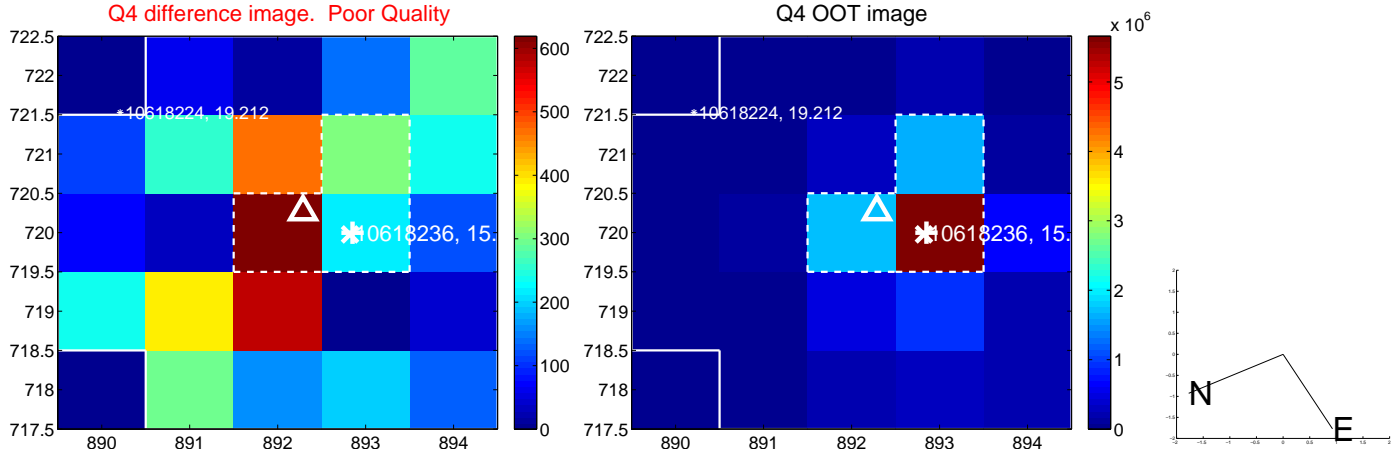
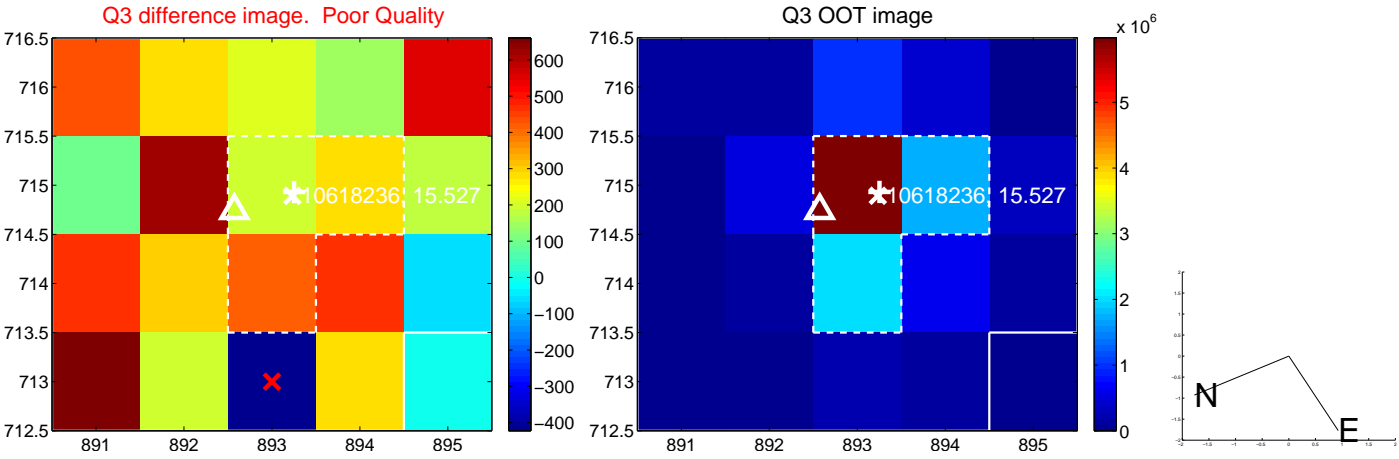
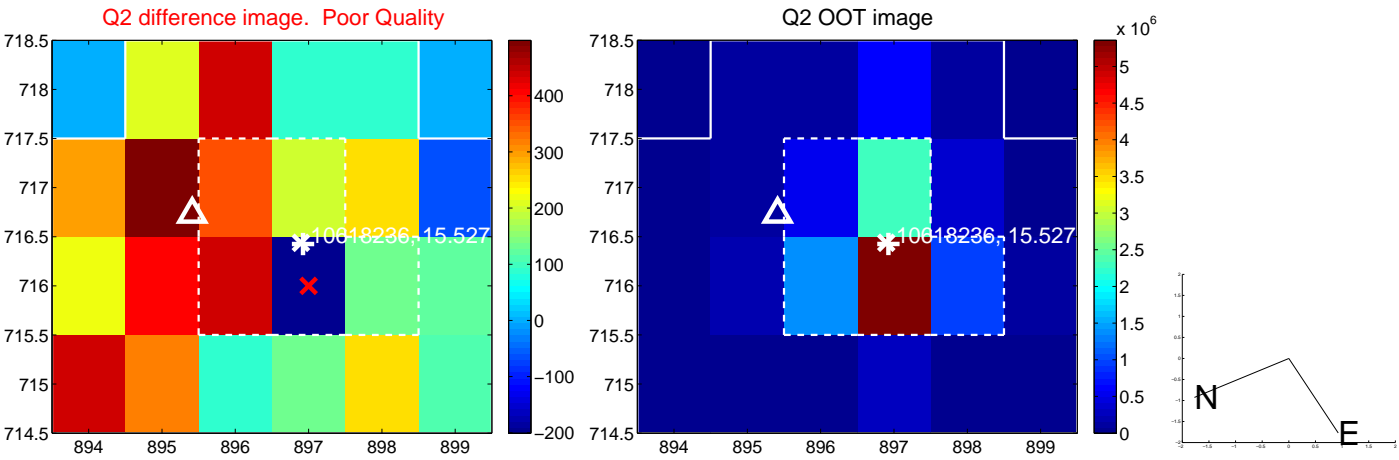
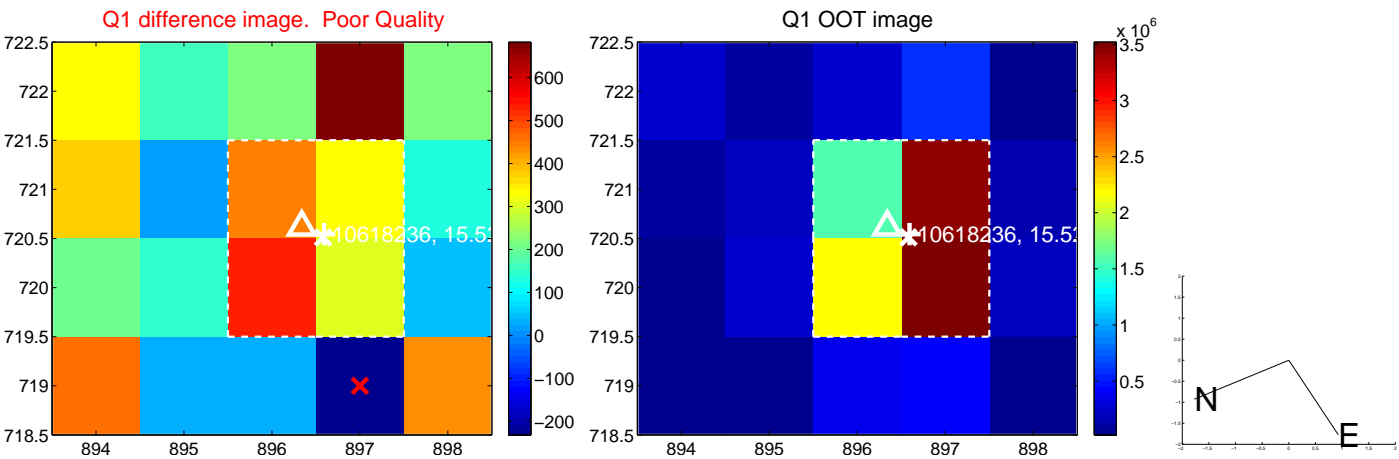
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.293 ± 0.894	7.04	-2.180 ± 0.419	5.903 ± 0.941
PRF-fit source offset from KIC position	6.156 ± 0.902	6.82	-2.155 ± 0.430	5.767 ± 0.950
photometric centroid source offset	7.40 ± 1.92	3.86	-6.93 ± 1.92	2.61 ± 1.91

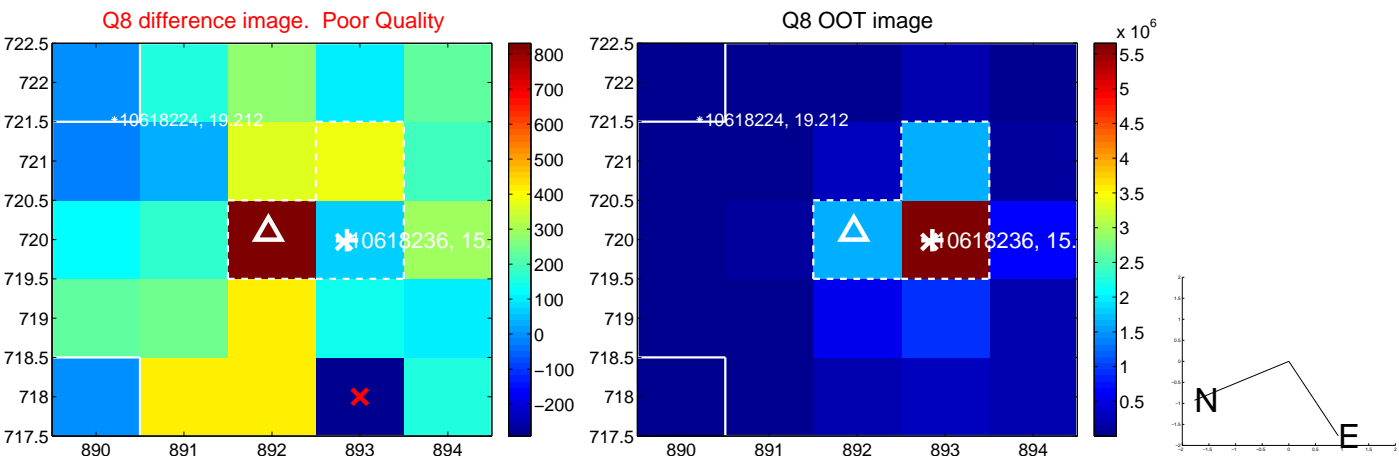
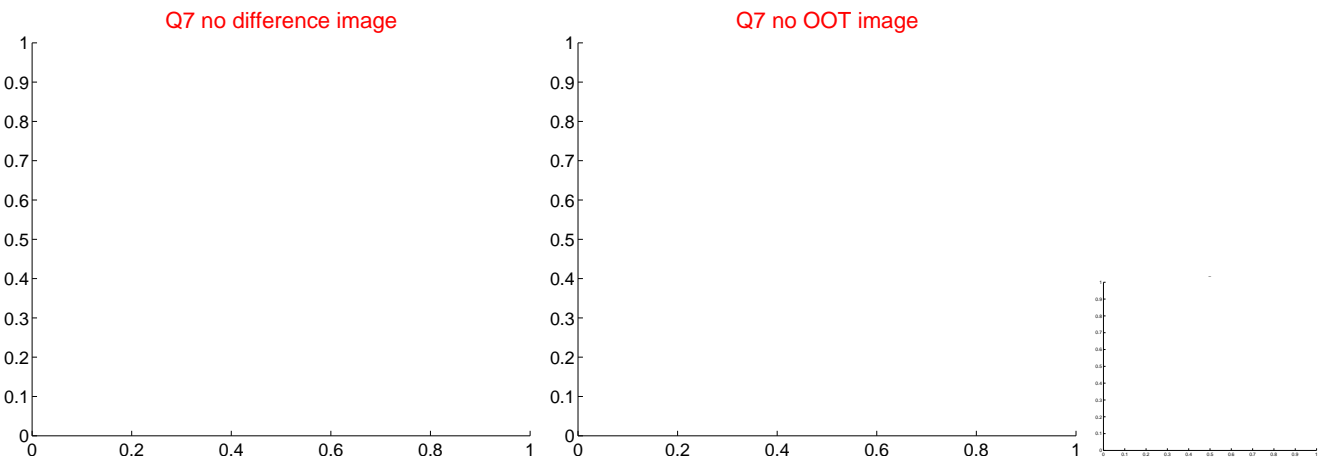
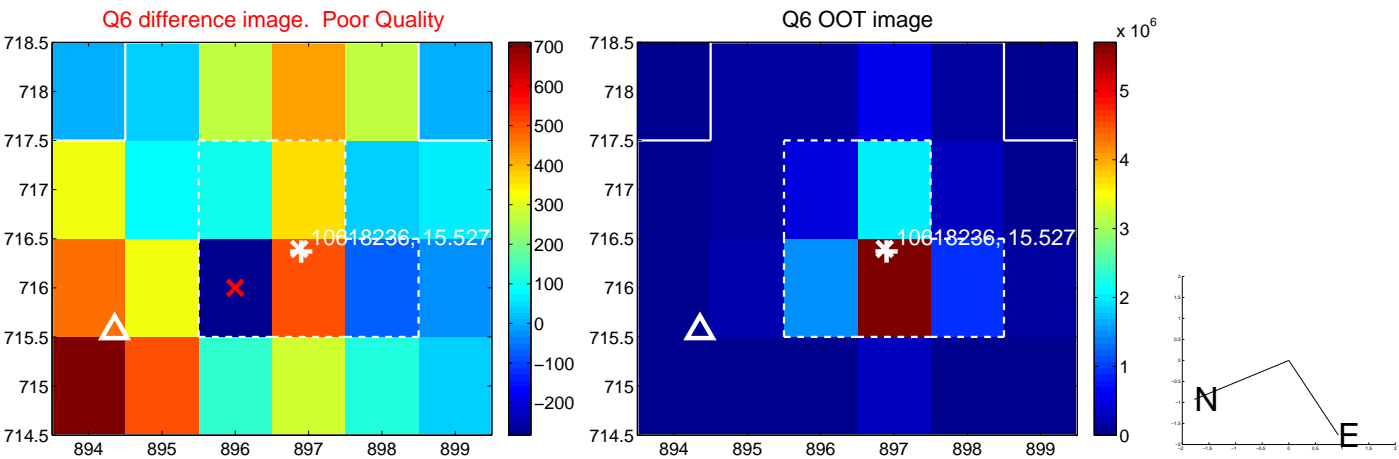
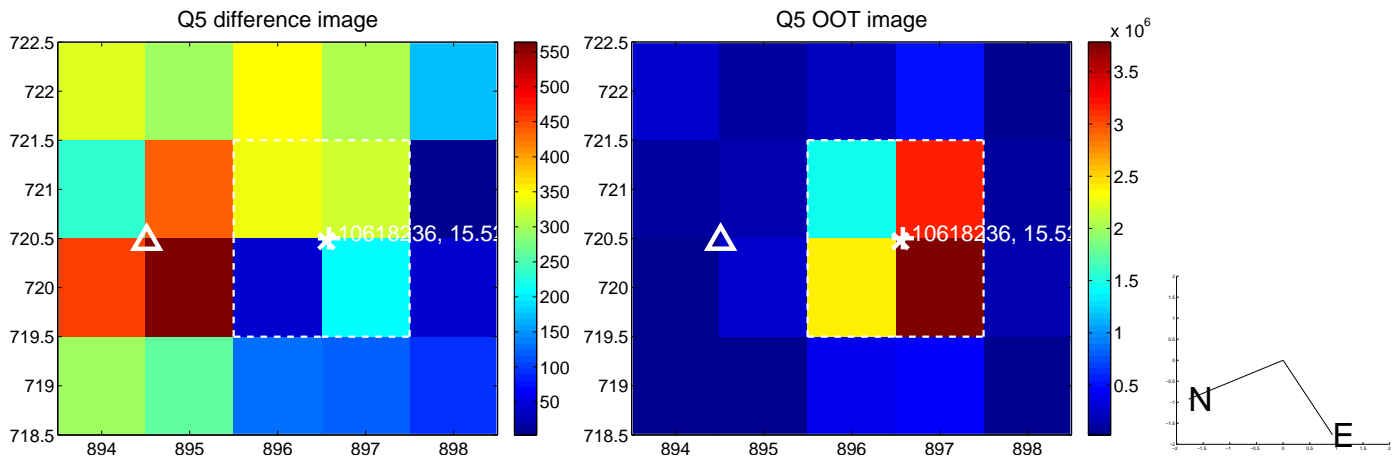


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

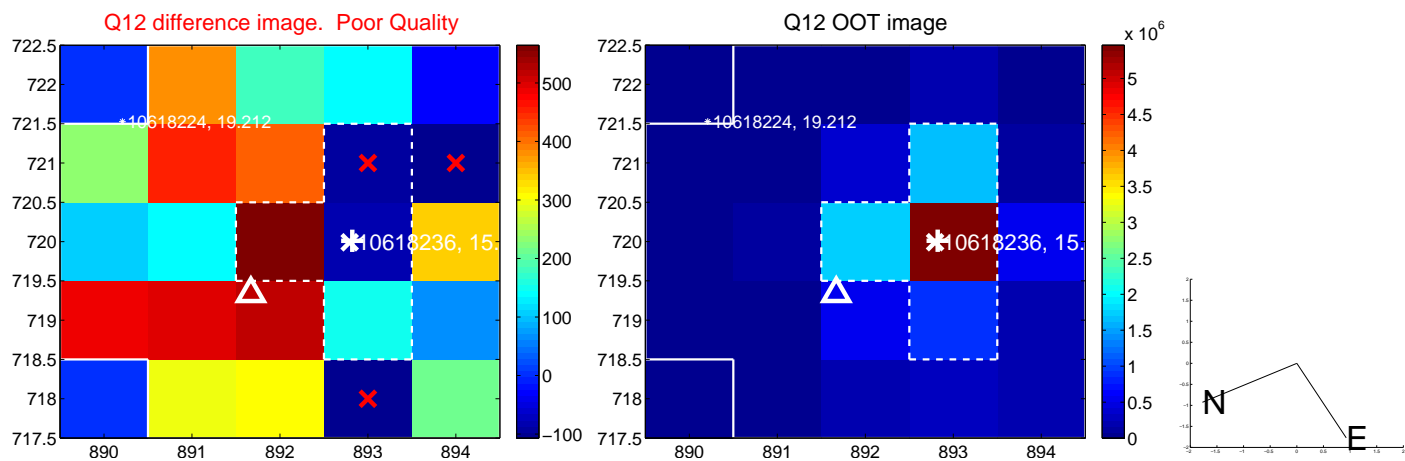
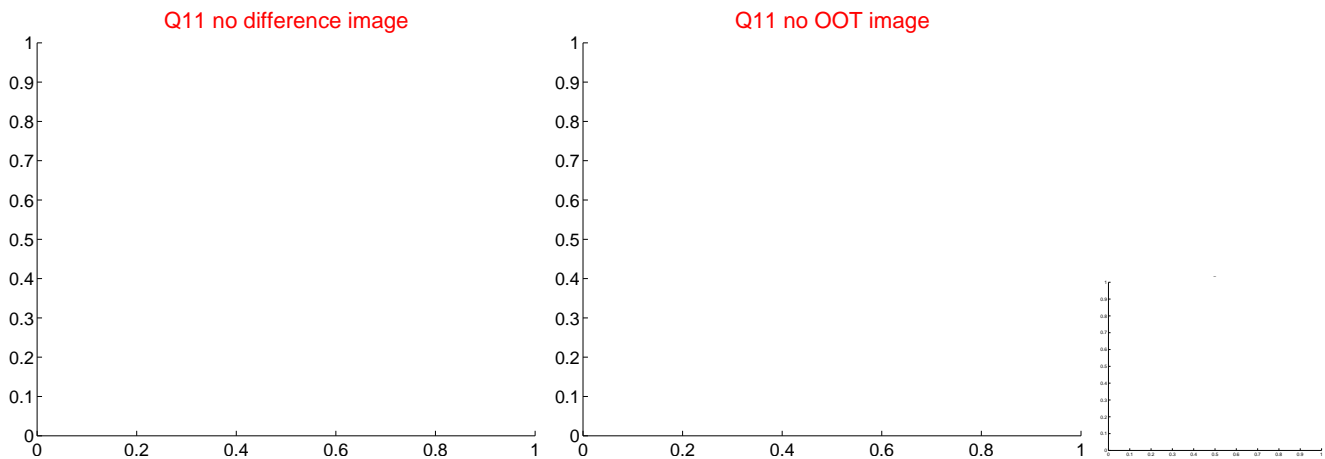
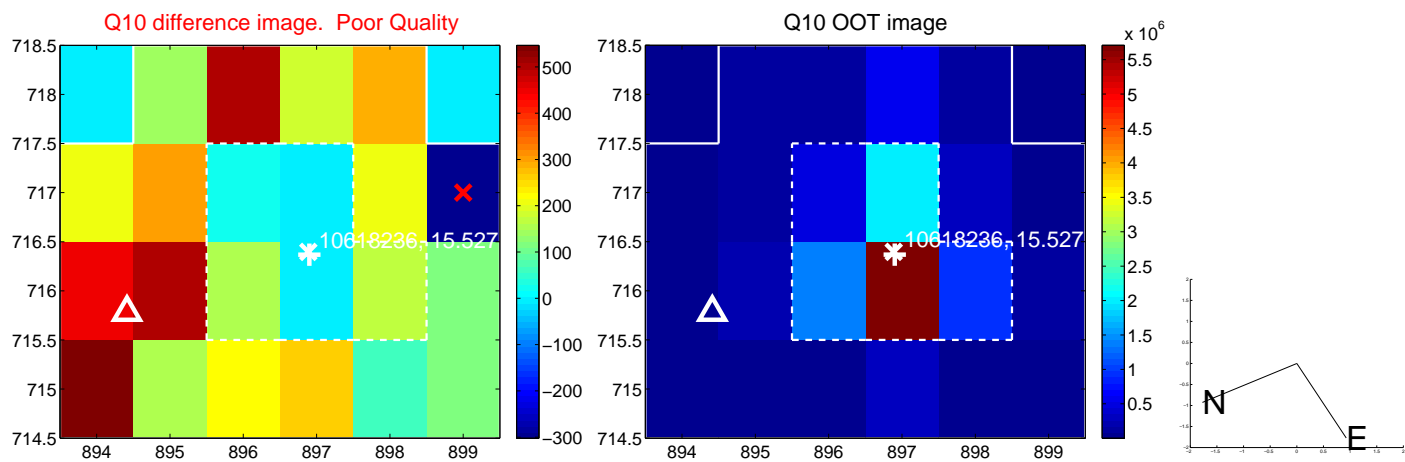
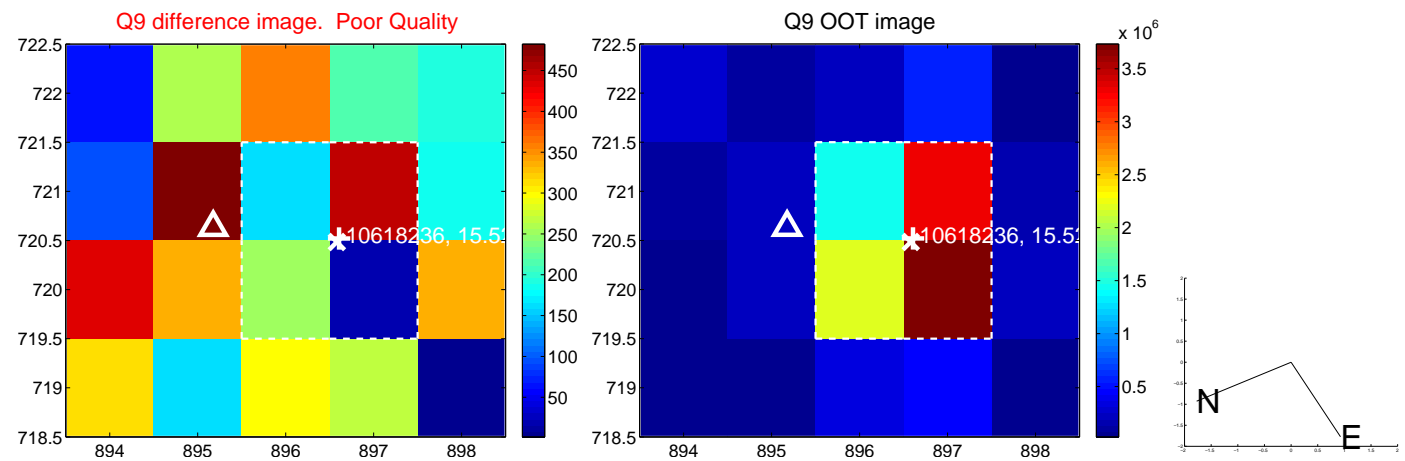
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



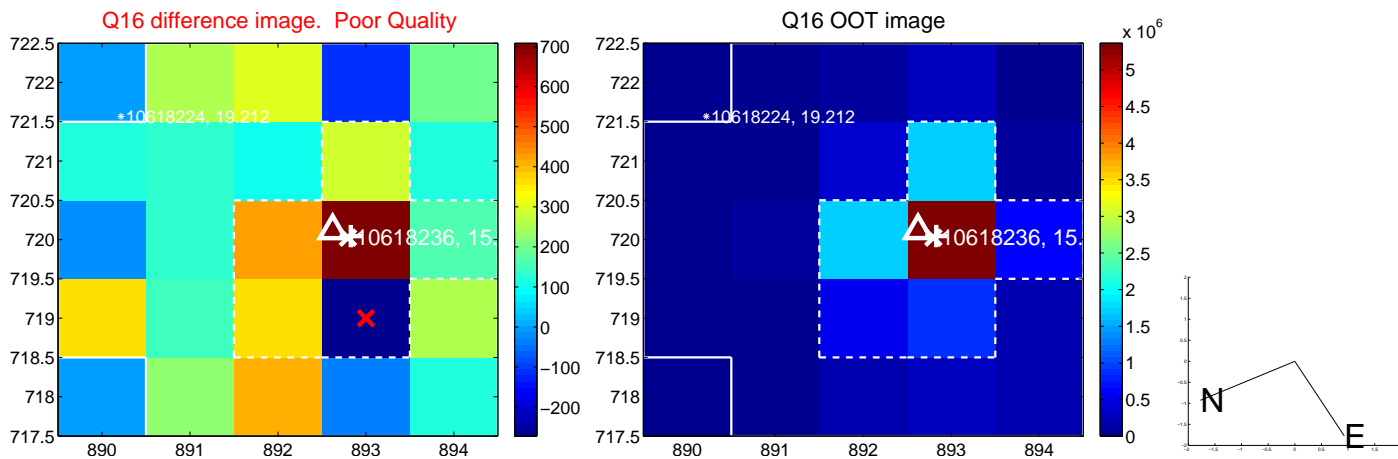
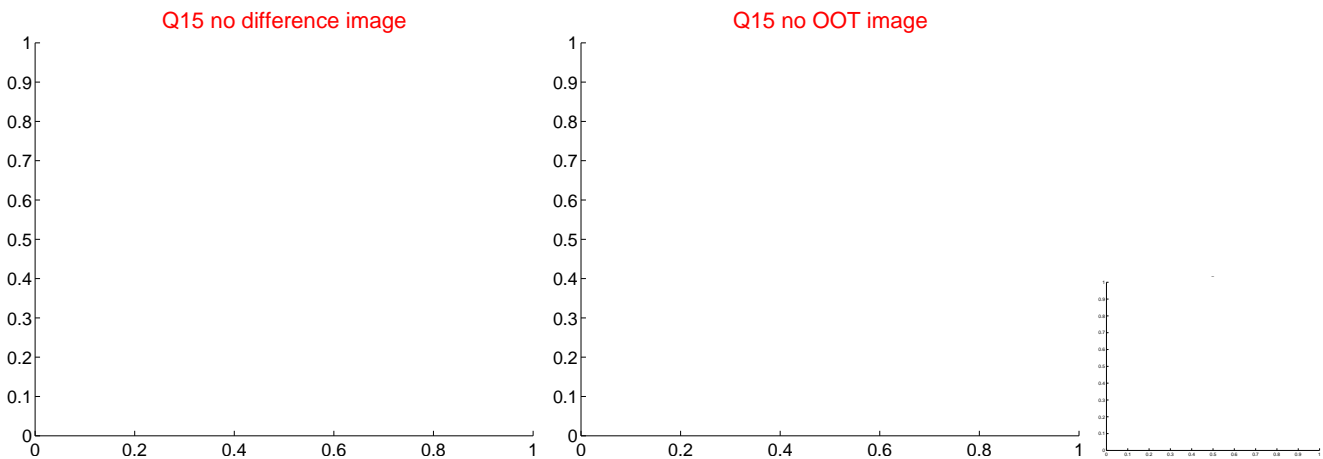
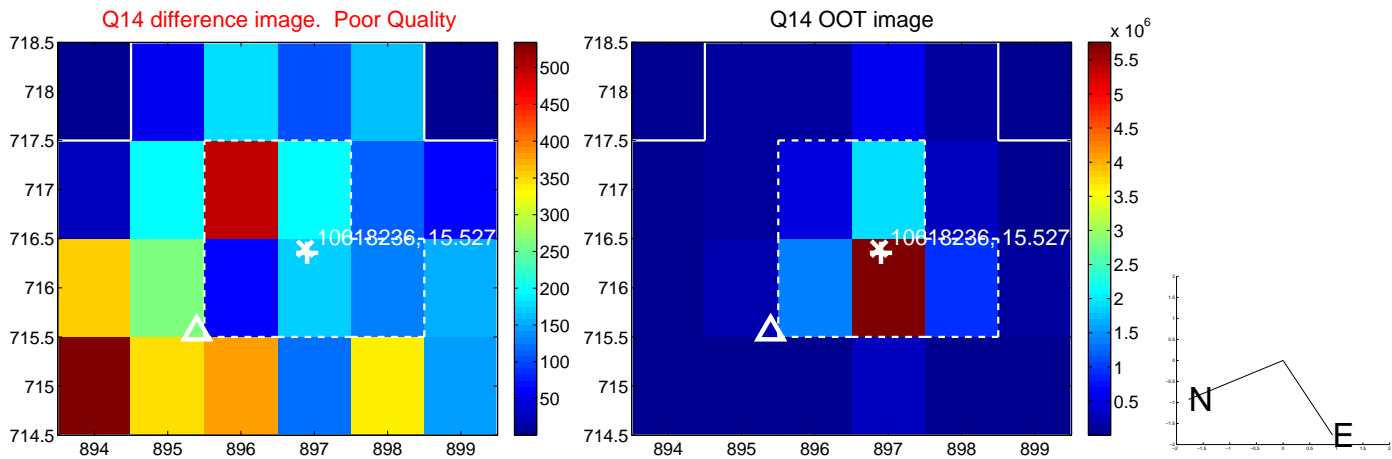
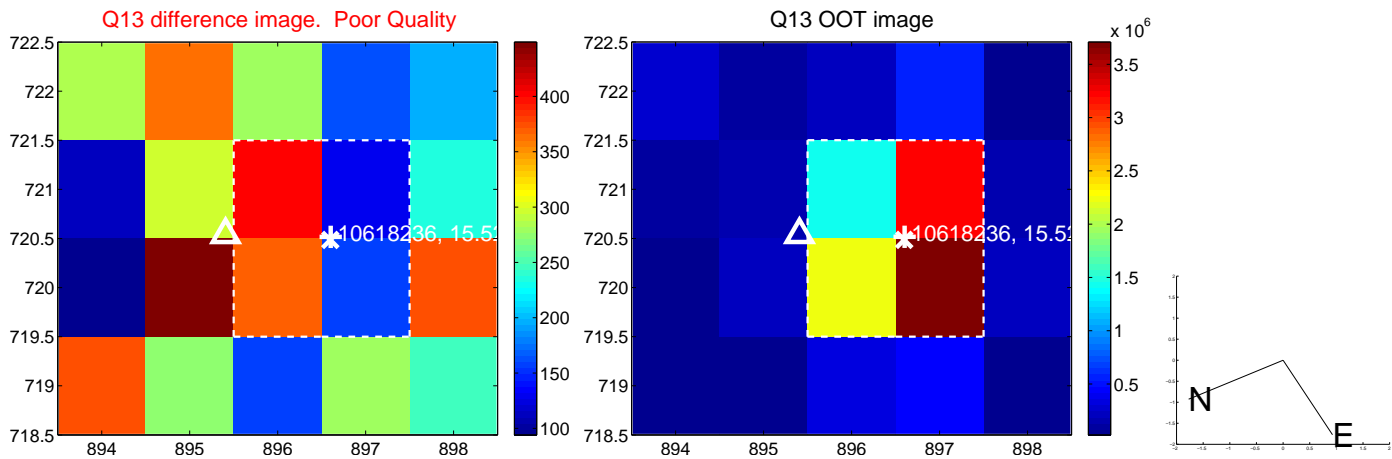
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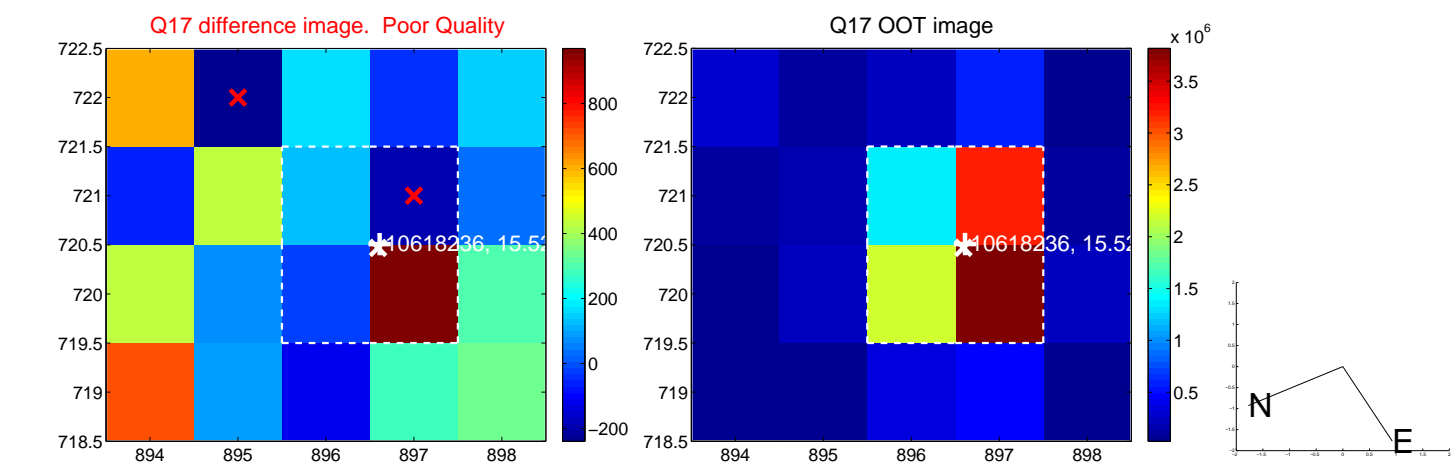
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



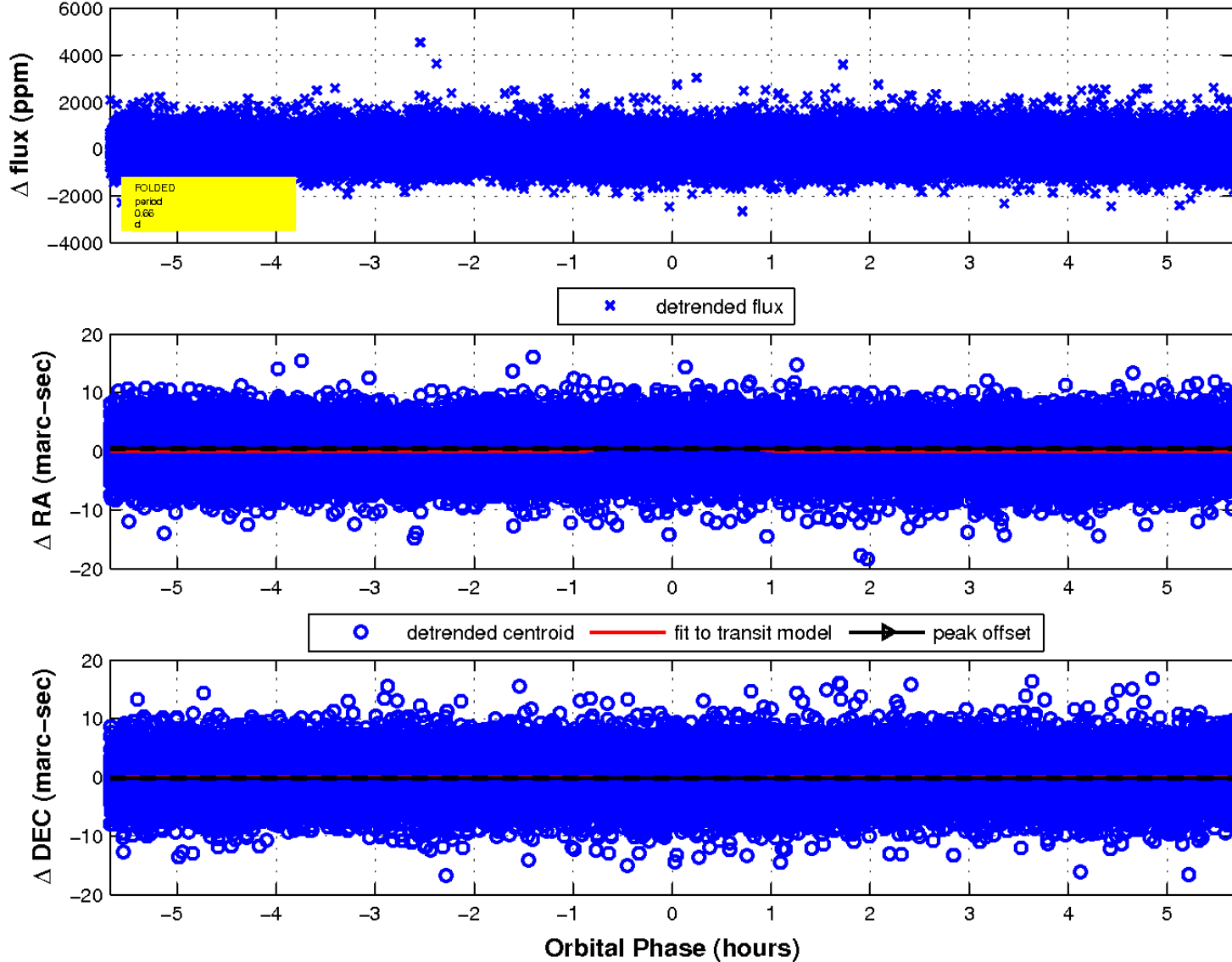
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

