

KIC 003120431

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})
003120431-01	OBS	0798.01	1.670922	131.551191	430.4	2.921	32.7	34.8	0.81	5295	2.07	677.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003120431-01	OBS	FP	0.00	0	1	1	0	MOD_ODDEVEN_DV—CENT_UNRESOLVED_OFFSET—HALO_GHOST

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.

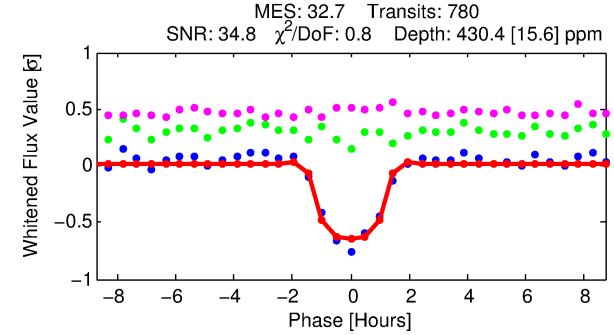
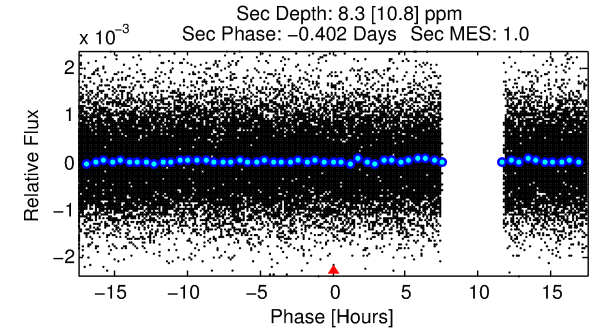
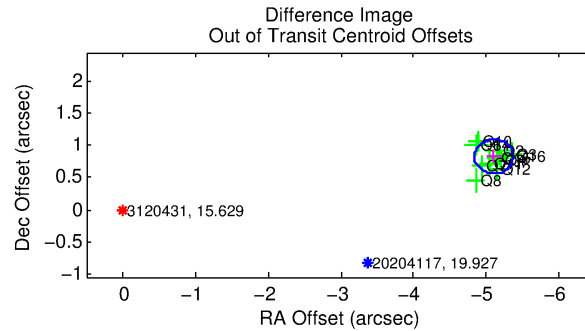
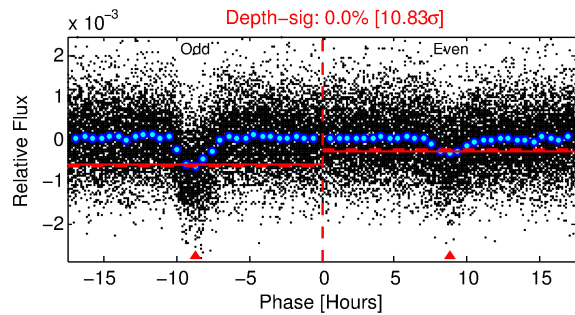
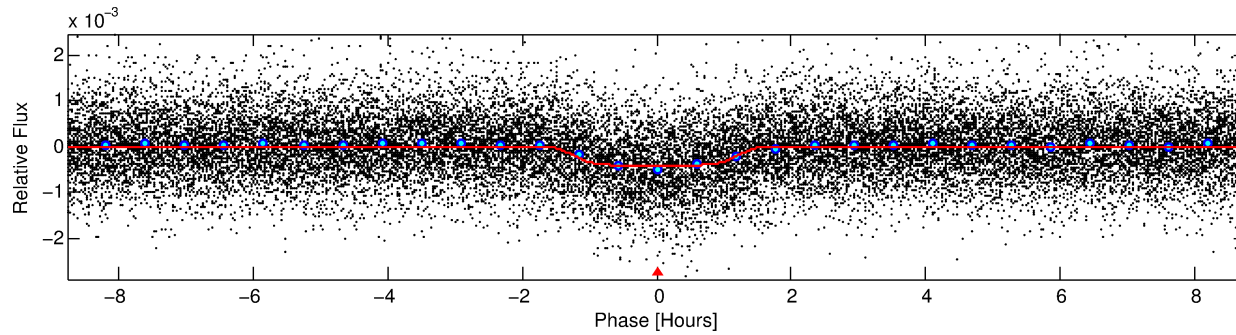
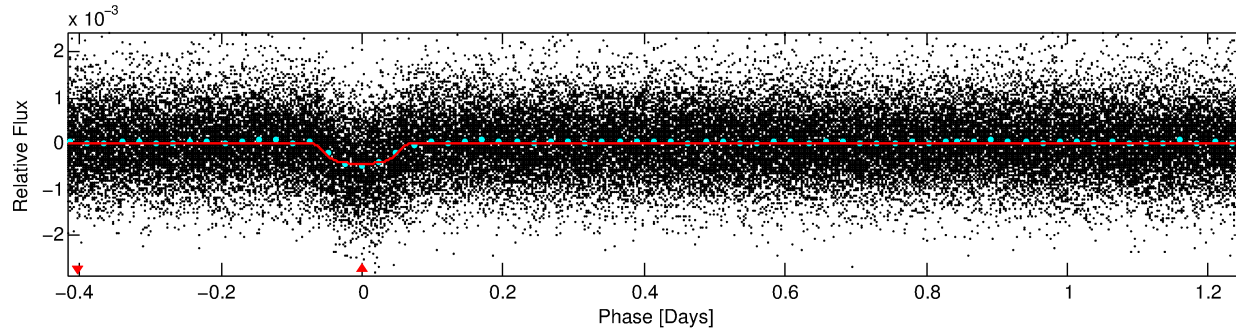
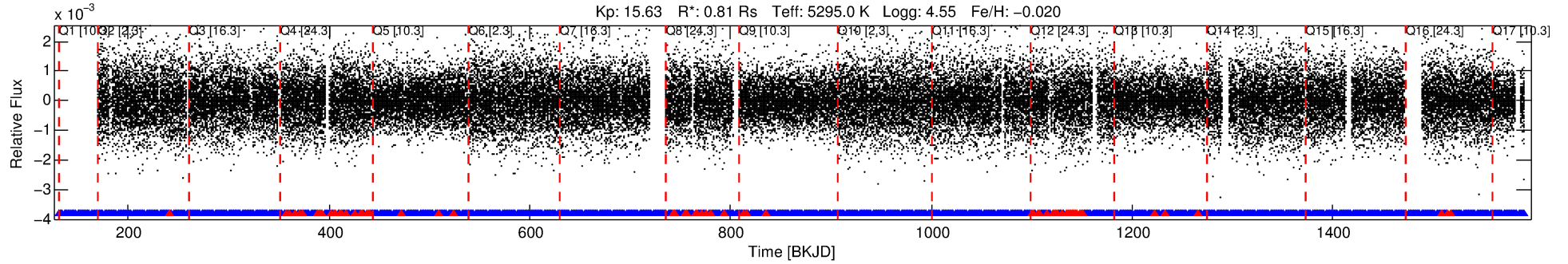
Ephemeris Match Information For 003120431-01

No Significant Match Found

DV One-Page Summary

KIC: 3120431 Candidate: 1 of 1 Period: 1.671 d
KOI: K00798 Corr: No Ephemeris Match

Kp: 15.63 R*: 0.81 Rs Teff: 5295.0 K Logg: 4.55 Fe/H: -0.020



DV Fit Results:

Period = 1.67092 [0.00000] d
Epoch = 131.5512 [0.0012] BKJD
Rp/R* = 0.0234 [0.0021]
a/R* = 2.20 [0.65]
b = 0.92 [0.07]
Seff = 677.79 [159.55]
Teq = 1301 [77] K
Rp = 2.07 [0.39] Re
a = 0.0261 [0.0036] AU
Ag = 0.72 [0.96] [-0.29σ]
Teff = 1856 [612] K [0.90σ]

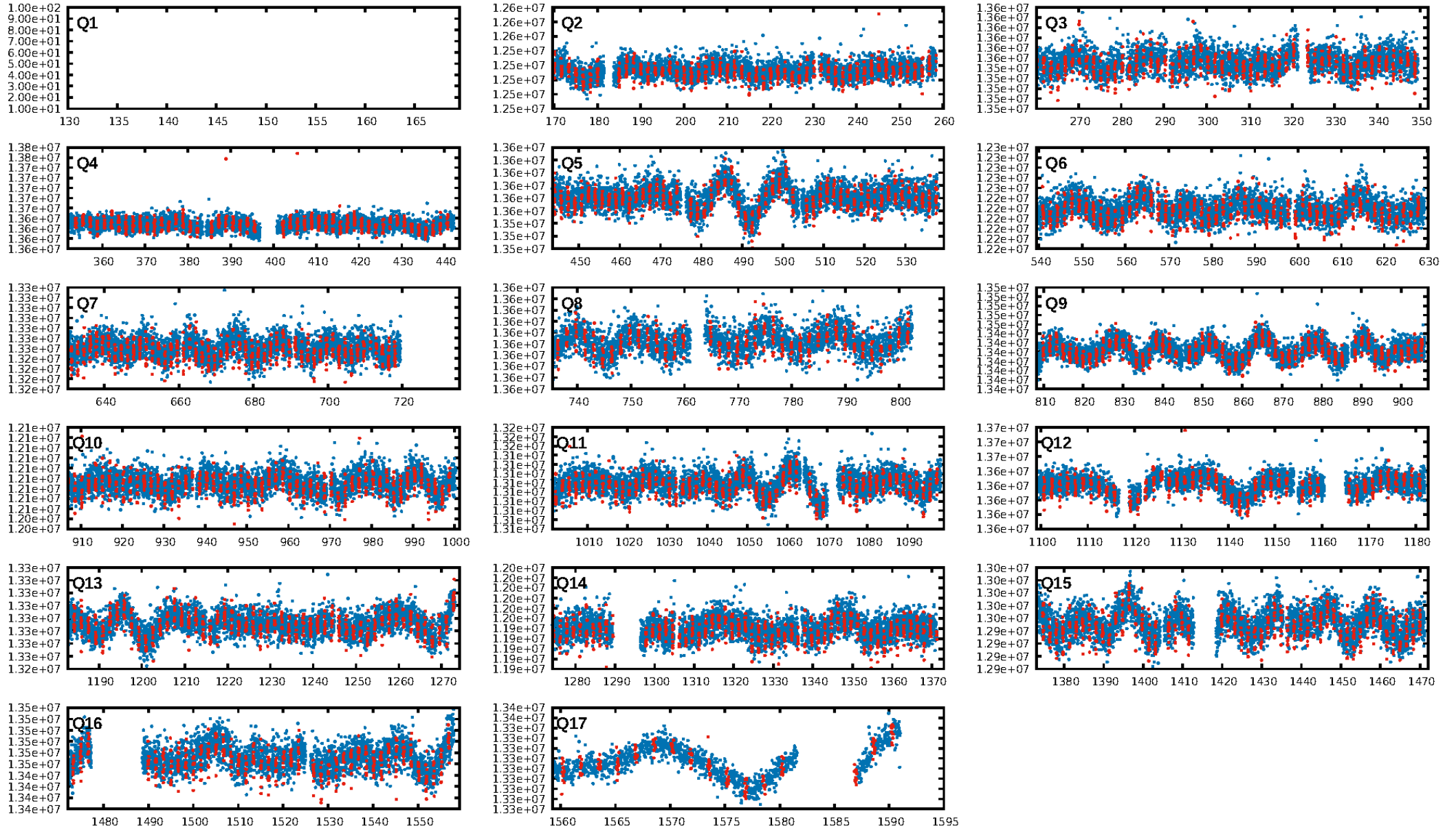
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 3.05e-224
RollingBand-fgt: 0.91 [699/764]
GhostDiagnostic-chr: 0.1499
Centroid-sig: 0.0%
Centroid-so: 8.544 arcsec [21.28σ]
OotOffset-rm: 5.172 arcsec [58.58σ]
KicOffset-rm: 5.364 arcsec [62.16σ]
OotOffset-st: 4/4/4/0 [12]
KicOffset-st: 4/4/4/0 [12]
DiffImageQuality-fgm: 1.00 [12/12]
DiffImageOverlap-fno: 1.00 [16/16]

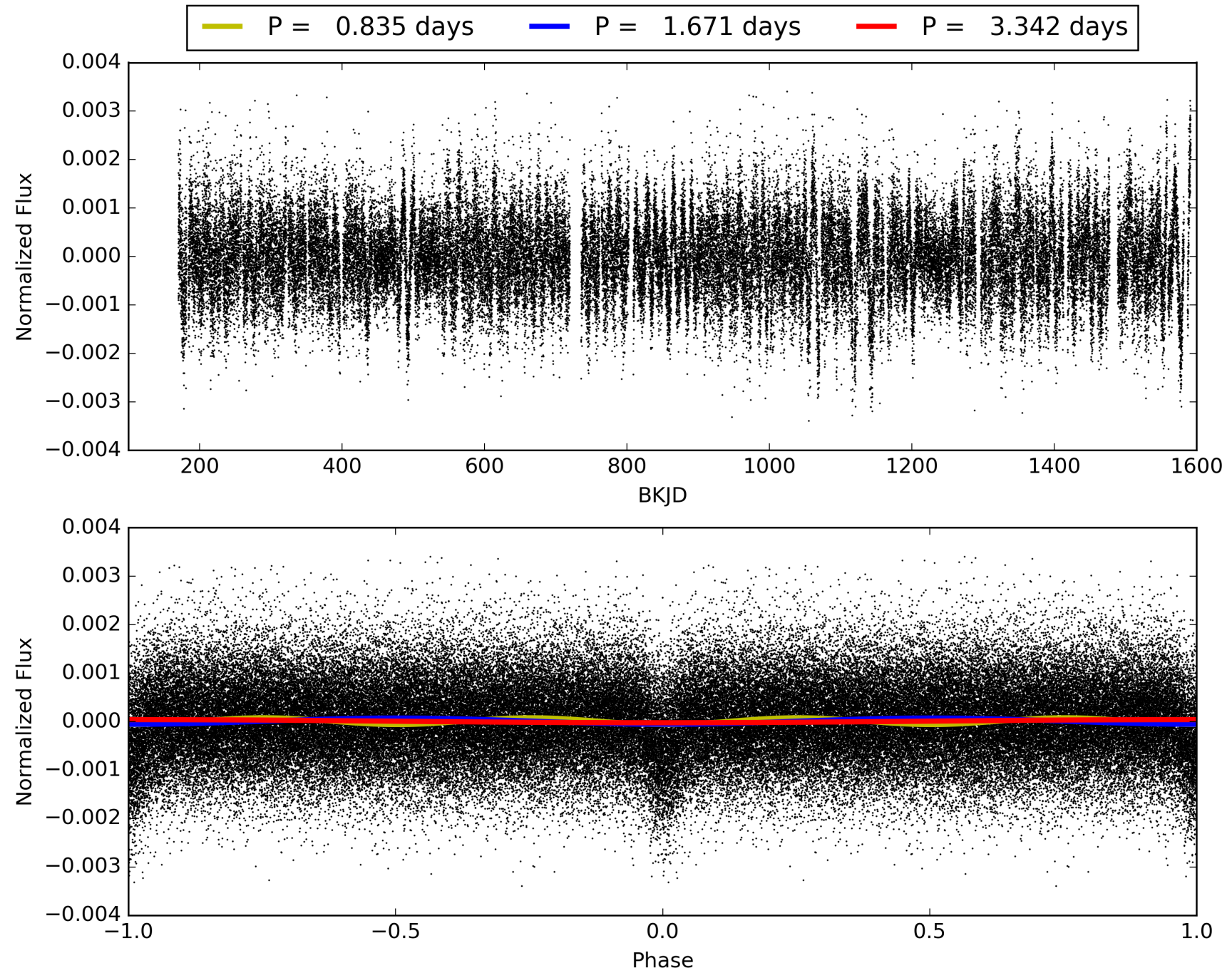
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 02:15:13 Z

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

TCE 003120431-01, PDC Light Curves

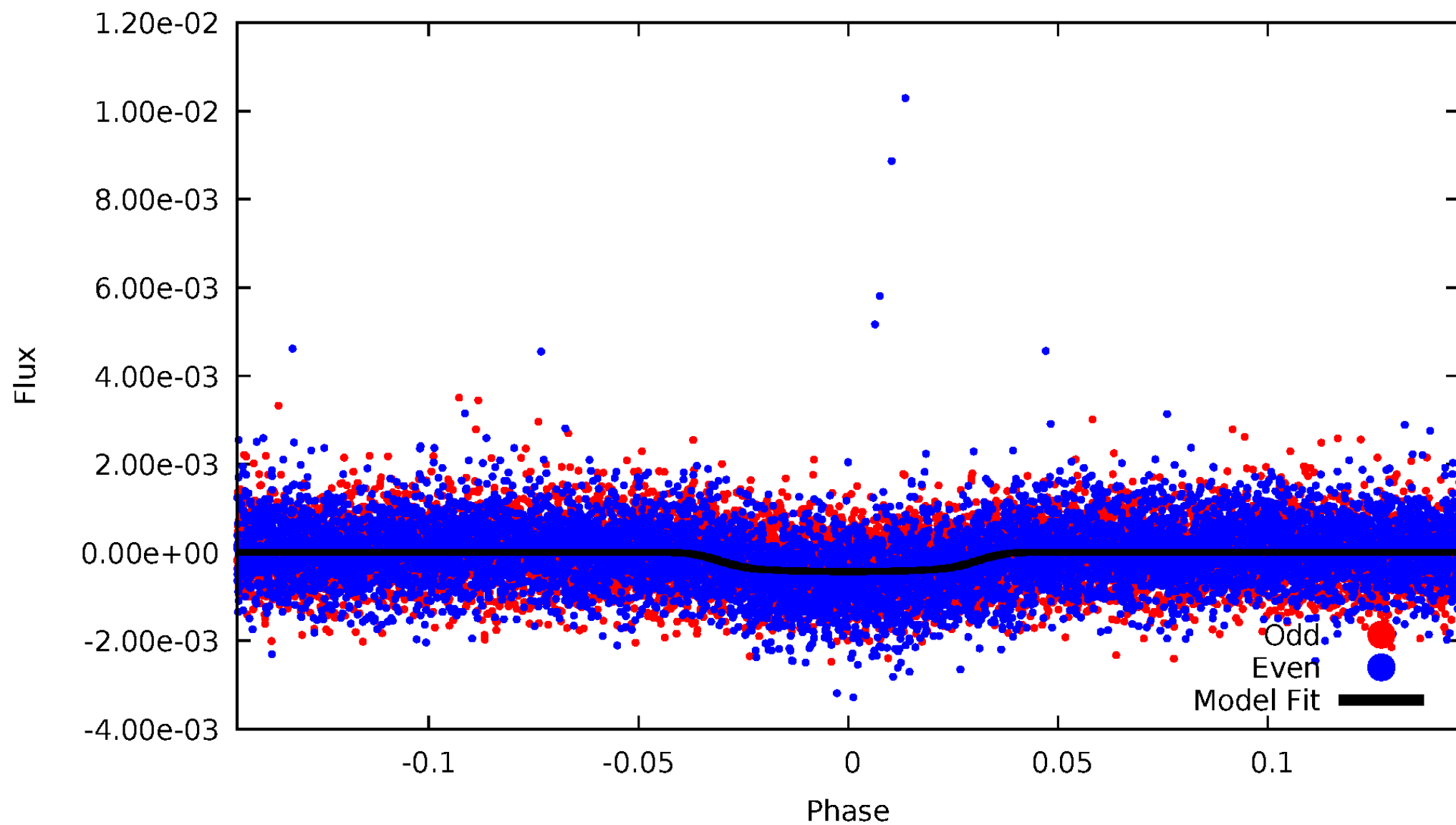


TCE 003120431-01



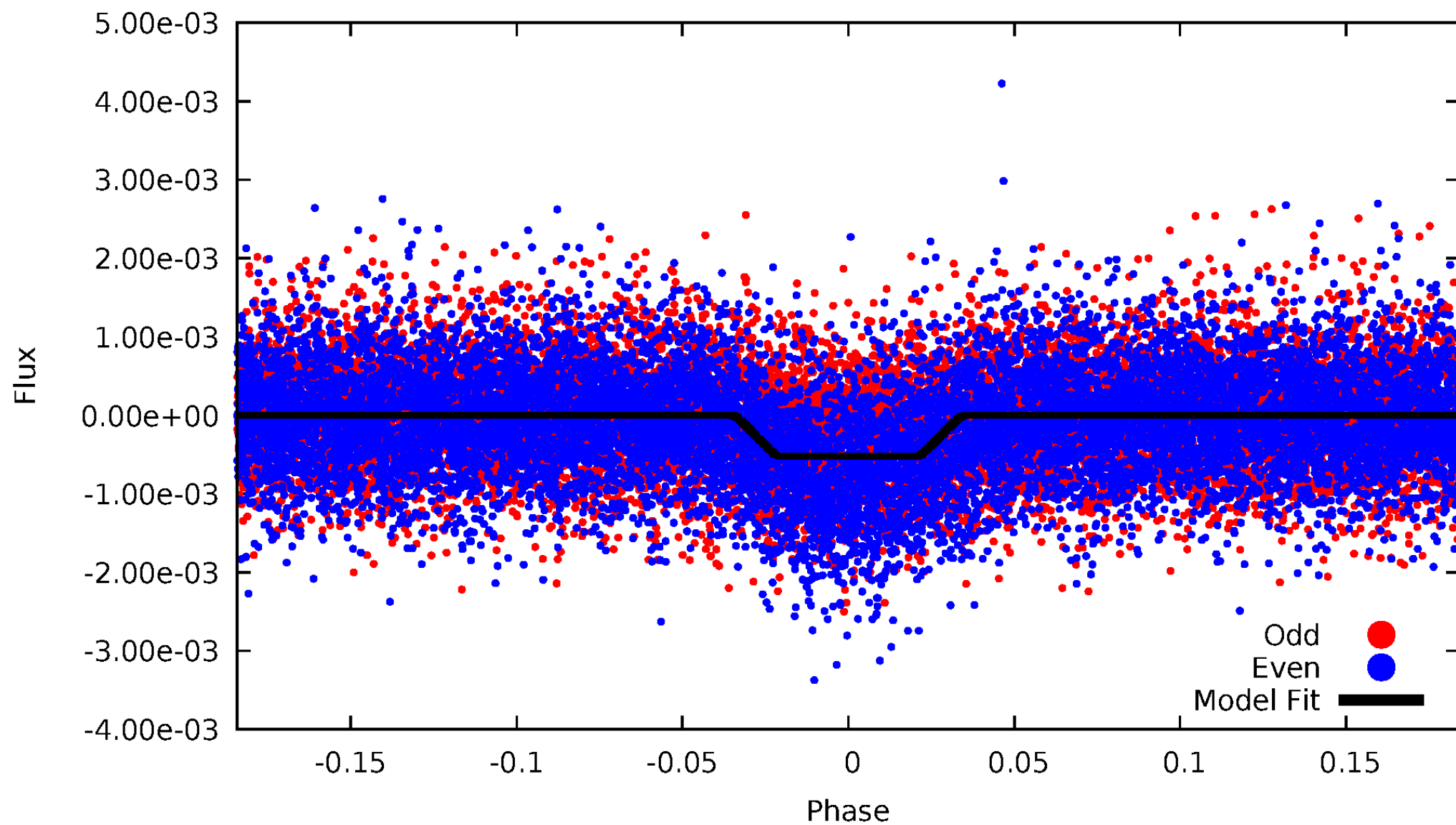
DV Odd/Even

TCE 003120431-01

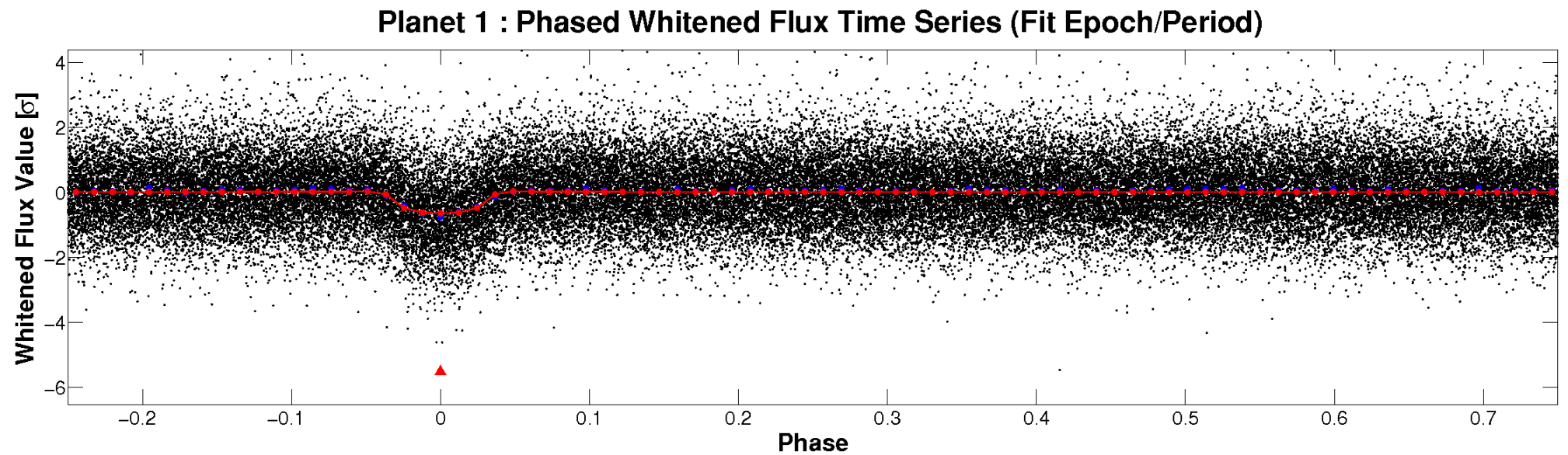
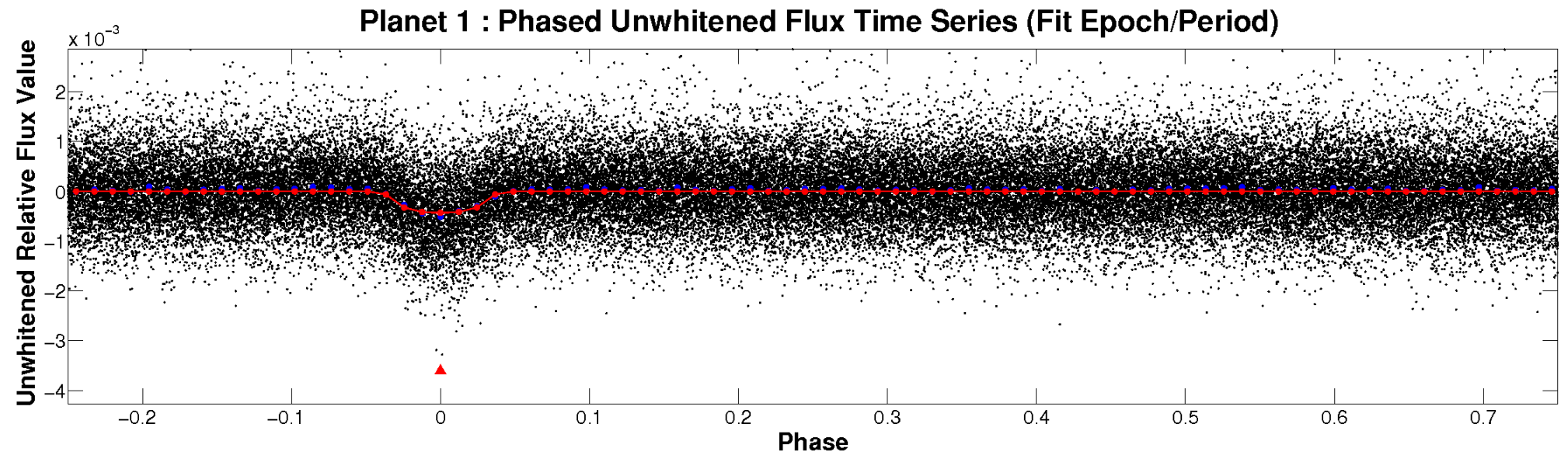


ALT Odd/Even

TCE 003120431-01

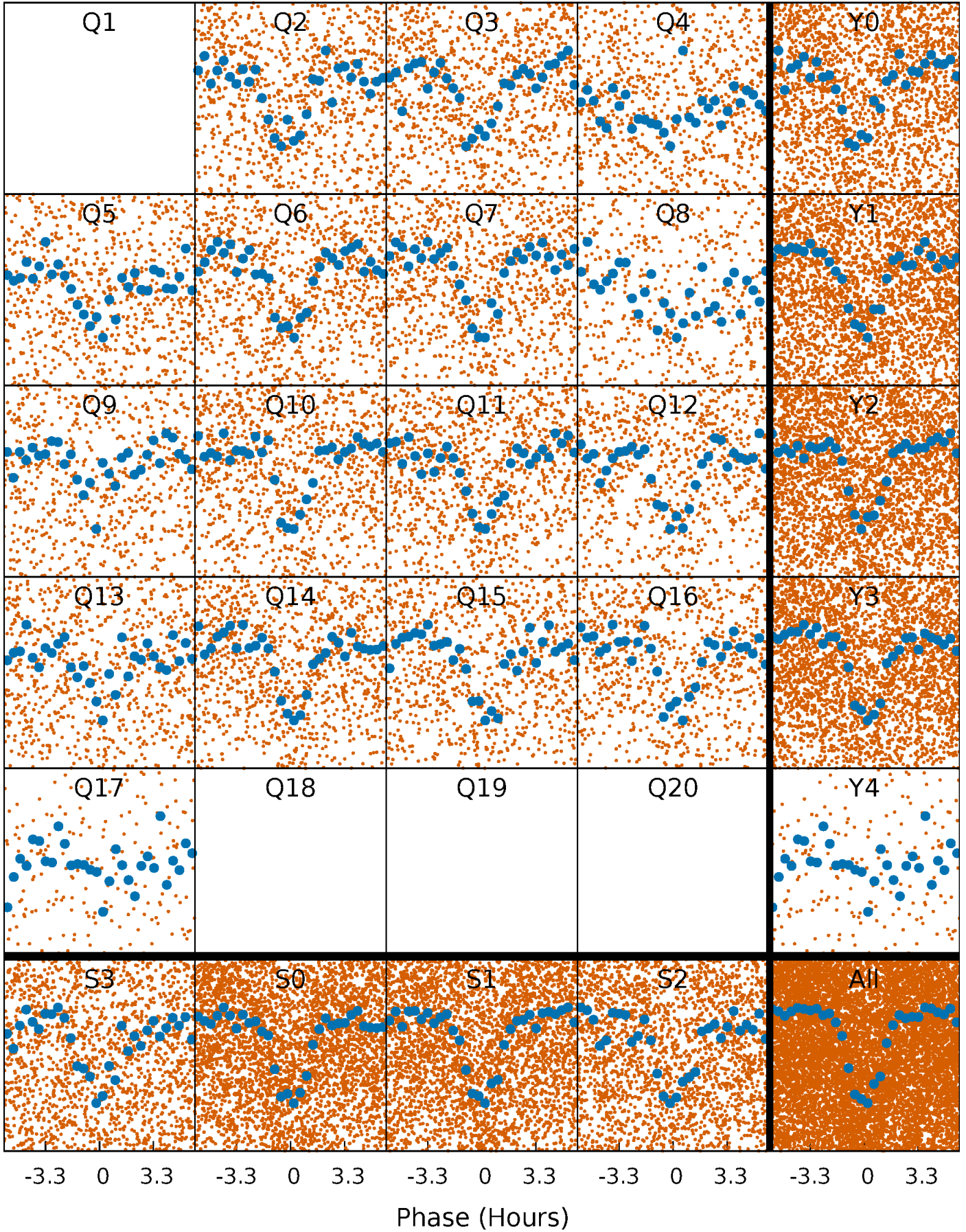


Non-Whitened Vs. Whitened Light Curve



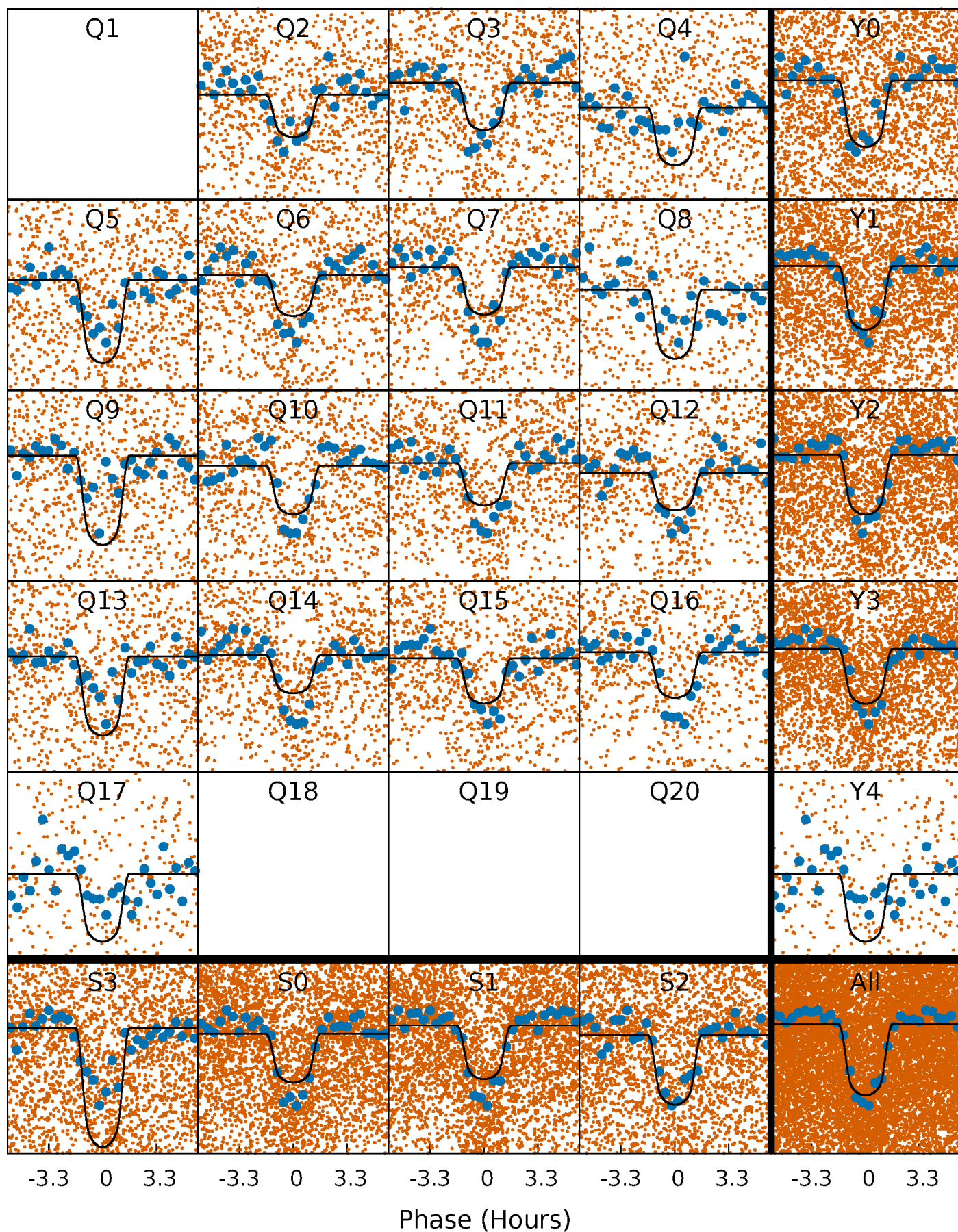
PDC Quarter-Phased Transit Curves

TCE 003120431-01 P= 1.670922 Days $T_0=131.551191$ (BKJD)



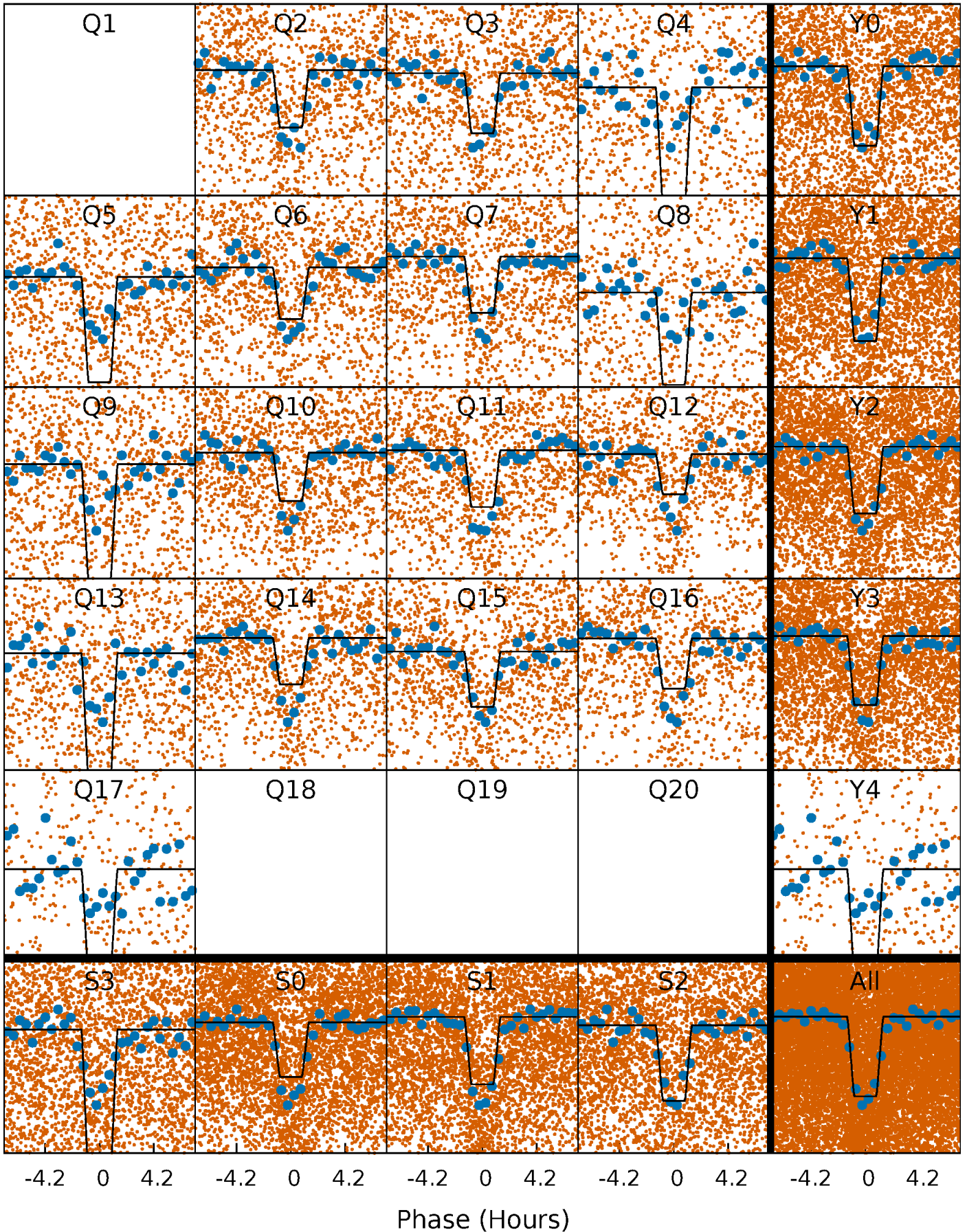
DV Quarter-Phased Transit Curves

TCE 003120431-01 P= 1.670922 Days $T_0=131.551191$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

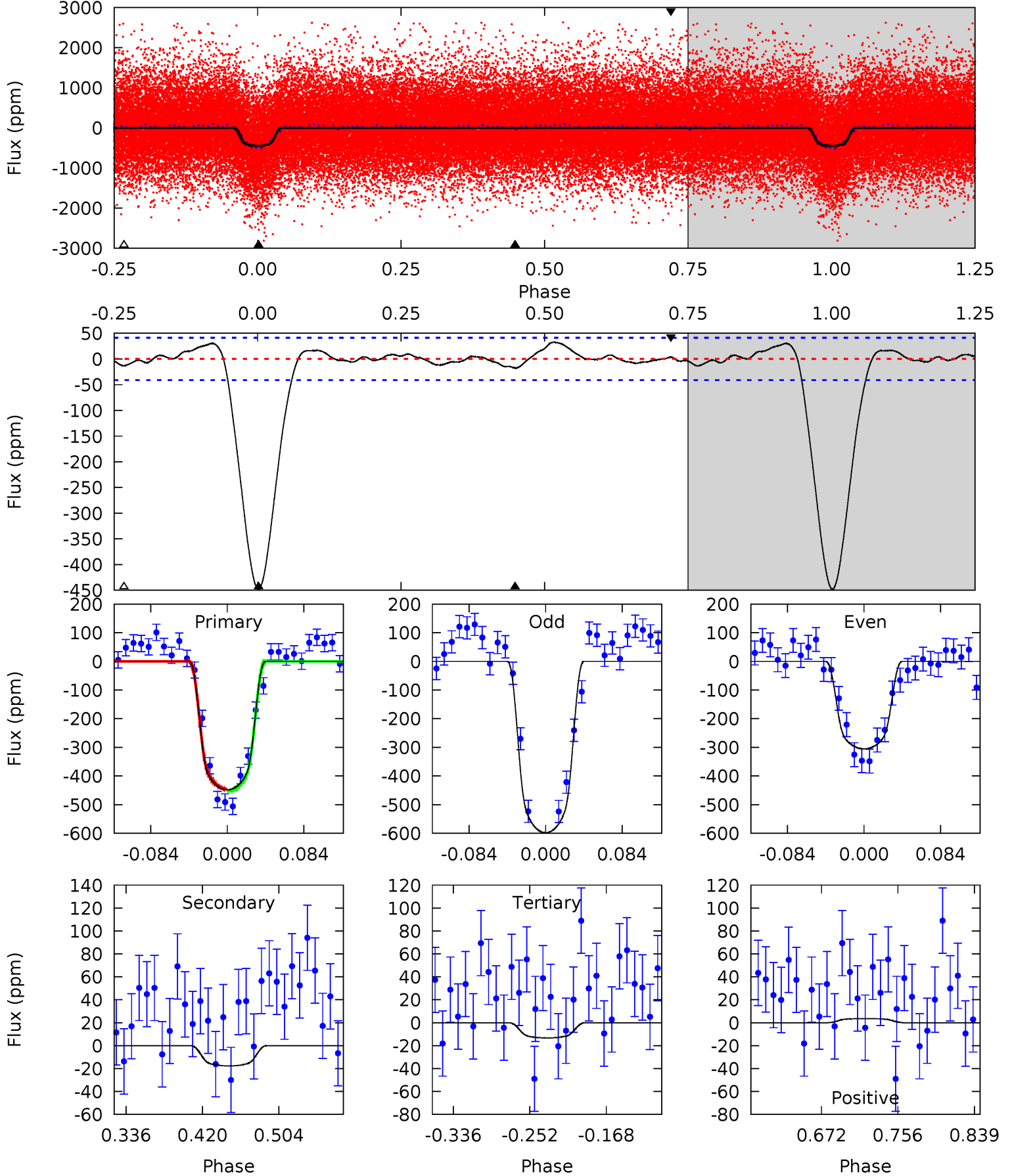
TCE 003120431-01 P= 1.670952 Days $T_0=131.538506$ (BKJD)



DV Model-Shift Uniqueness Test

003120431-01, P = 1.670922 Days, E = 131.551191 Days

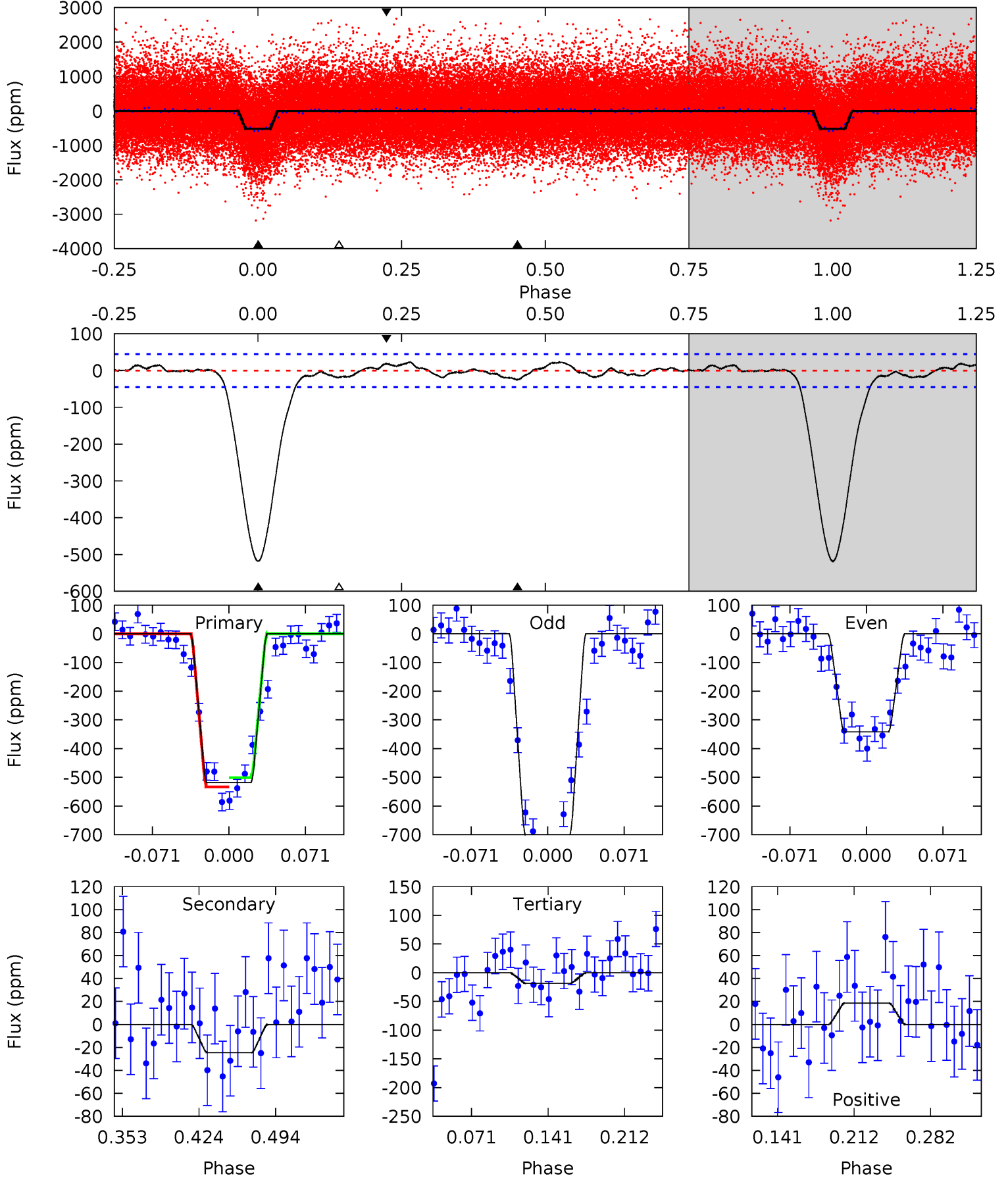
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
50.0	1.98	1.49	0.40	4.60	1.73	1.01	48.5	49.6	0.49	1.58	16.4	1.03	0.07	0.42



Alt Model-Shift Uniqueness Test

003120431-01, P = 1.670952 Days, E = 131.538506 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
53.4	2.54	1.90	1.92	4.64	1.81	1.08	51.5	51.5	0.64	0.62	18.6	1.03	0.04	1.66



Stellar Parameters For KIC 003120431

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5295^{+175}_{-159}	$4.551^{+0.049}_{-0.105}$	$-0.020^{+0.300}_{-0.300}$	$0.811^{+0.133}_{-0.071}$	$0.853^{+0.078}_{-0.078}$	$2.254^{+0.503}_{-0.704}$
	+3%/-3%	+1%/-2%	+1500%/-1500%	+16%/-9%	+9%/-9%	+22%/-31%
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 003120431-01 / KOI 0798.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-18 ± 9	$2.11^{+0.24}_{-0.23}$	1839^{+81}_{-80}	2837^{+229}_{-401}	$1.469^{+0.898}_{-0.805}$
Alt.	-25 ± 10	$2.05^{+0.24}_{-0.22}$	1835^{+85}_{-67}	3020^{+204}_{-252}	$2.165^{+1.034}_{-0.893}$

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 $A_{obs} \gg 1.0$

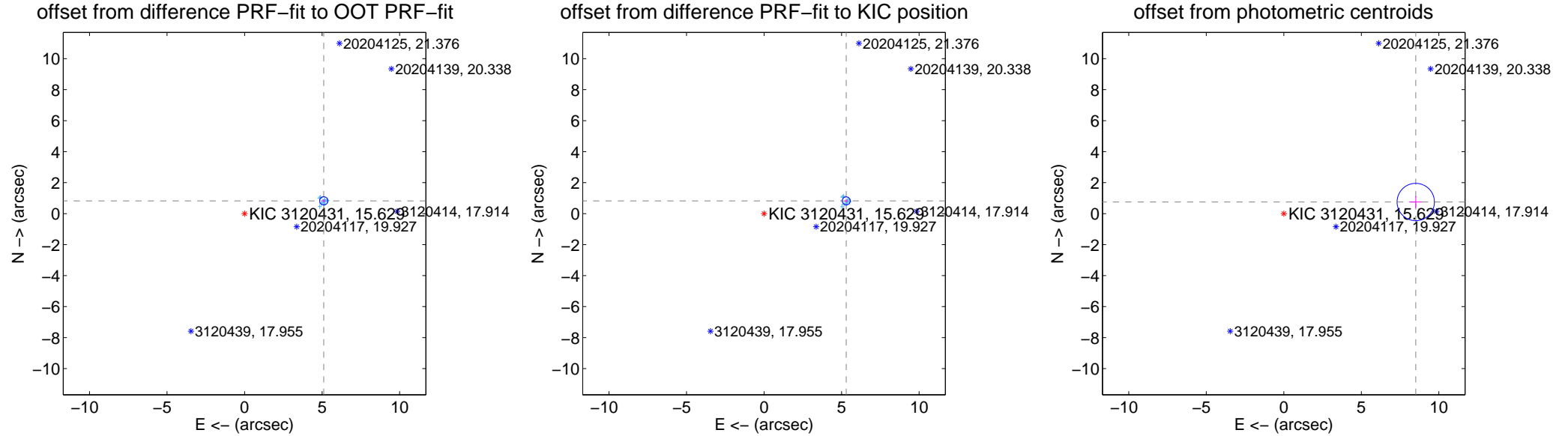
DV Centroid Data

Supplemental centroid analysis for 003120431-01. Kepler magnitude: 15.63. Transit SNR 34.77

There are 12 quarters with good PRF difference image offsets

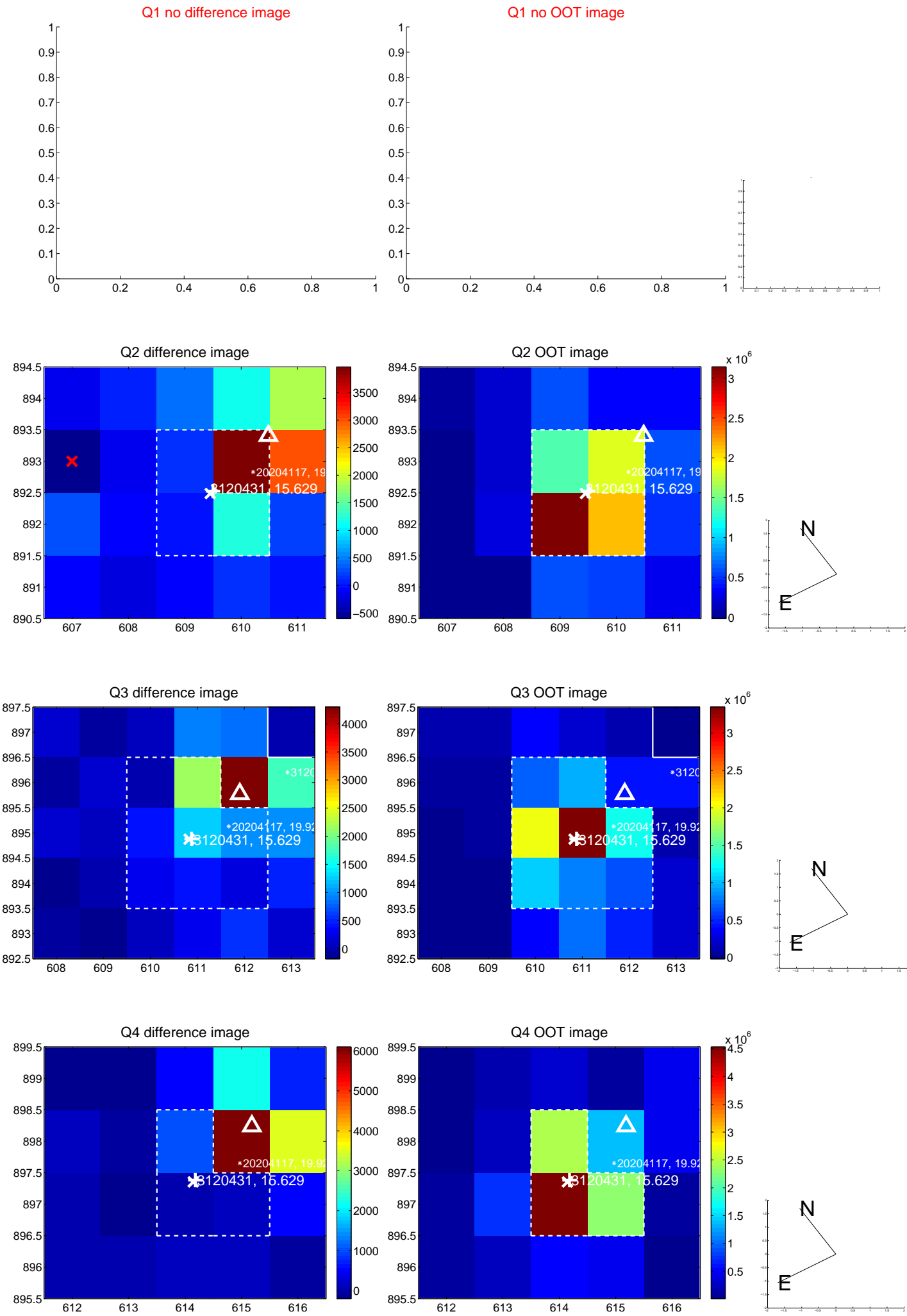
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.172 ± 0.088	58.58	-5.106 ± 0.088	0.825 ± 0.085
PRF-fit source offset from KIC position	5.364 ± 0.086	62.16	-5.301 ± 0.086	0.823 ± 0.092
photometric centroid source offset	8.54 ± 0.40	21.28	-8.51 ± 0.40	0.75 ± 0.38

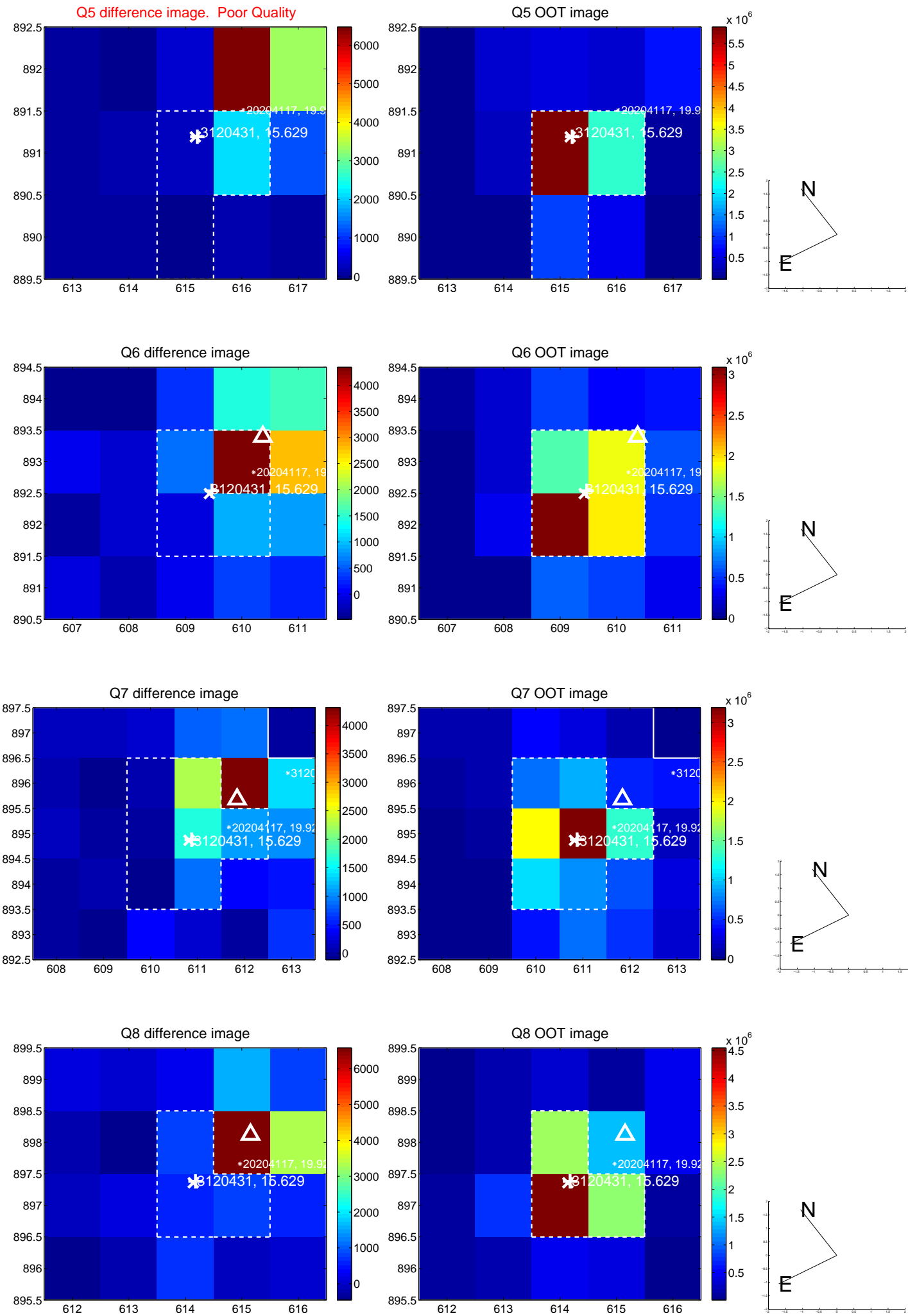


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

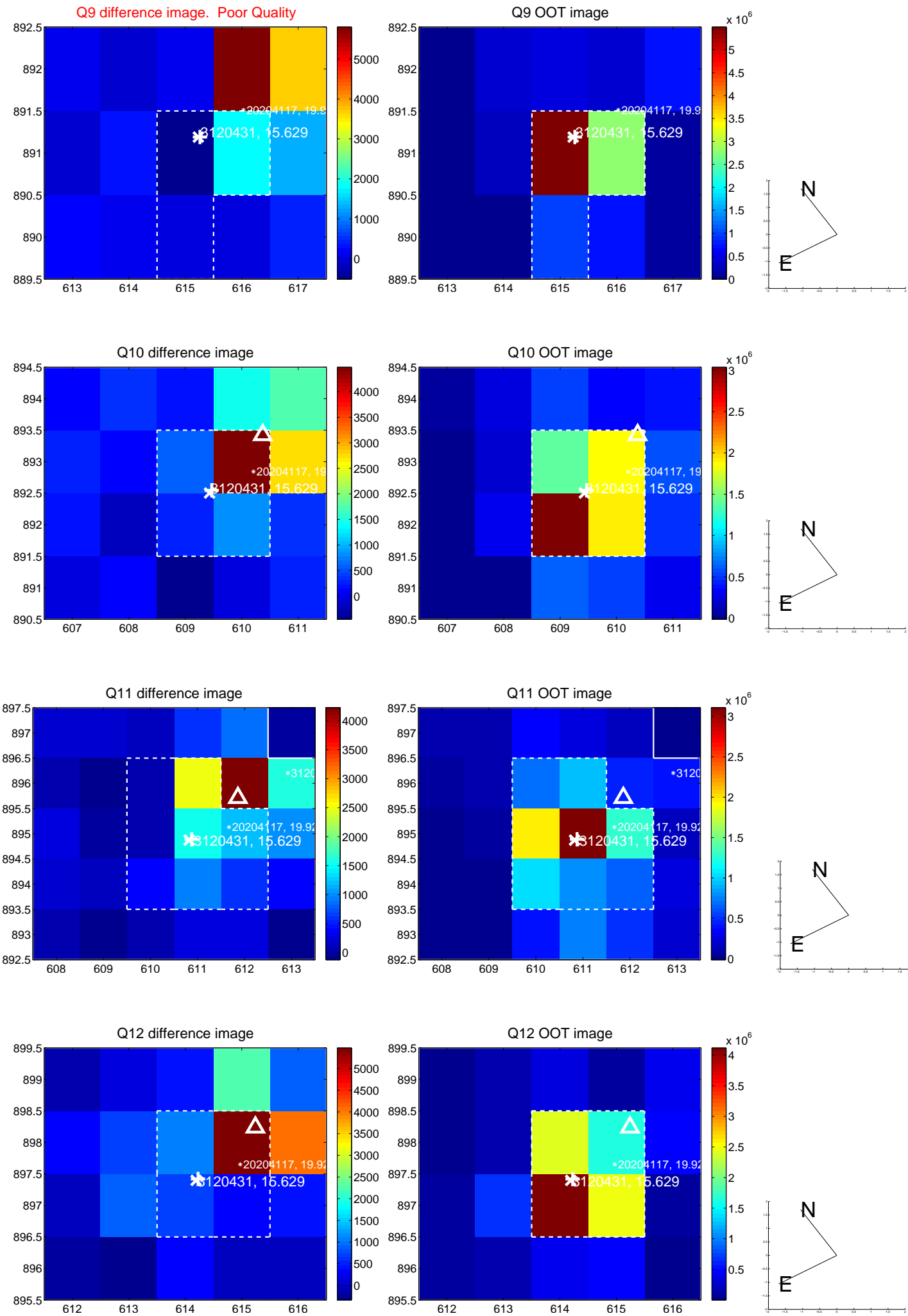
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



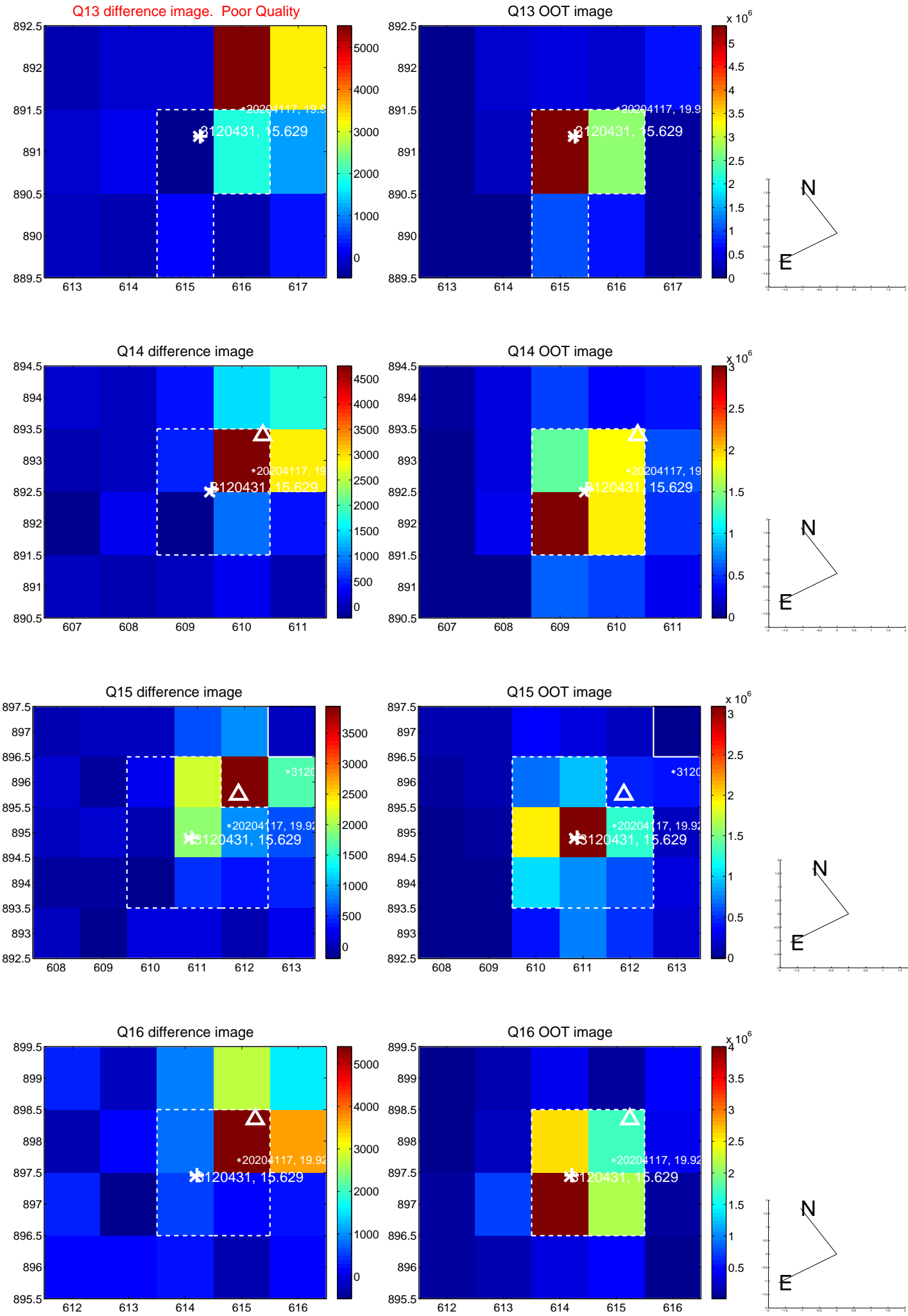
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



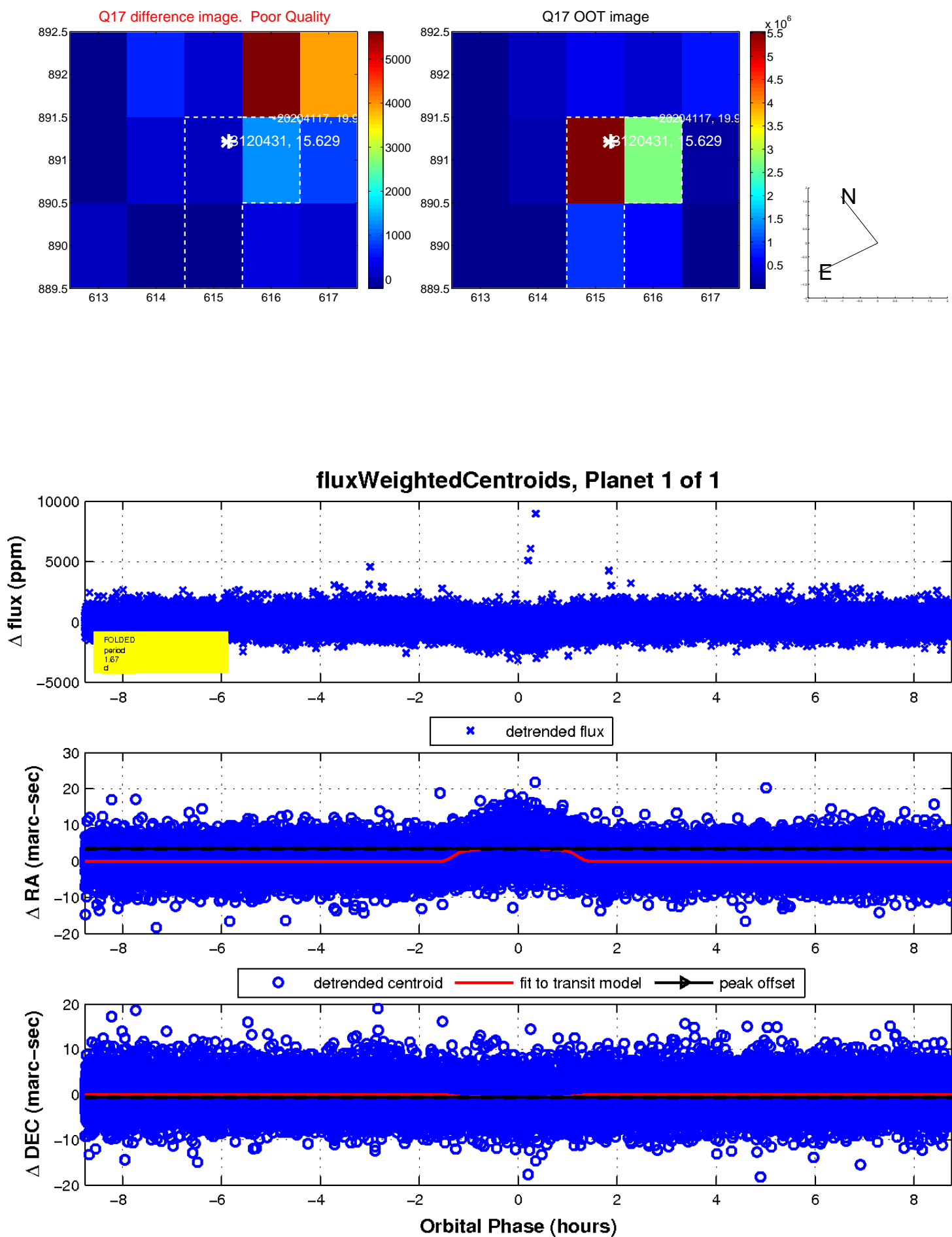
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

