

KIC 005816165

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})
005816165-01	OBS	1043.01	0.591901	131.621810	449.2	0.843	27.0	30.7	0.66	5122	1.70	1739.73

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005816165-01	OBS	FP	0.00	0	1	0	0	MOD_ODDEVEN_ALT

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 005816165-01

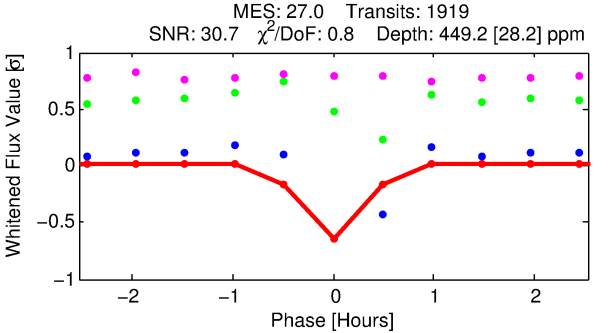
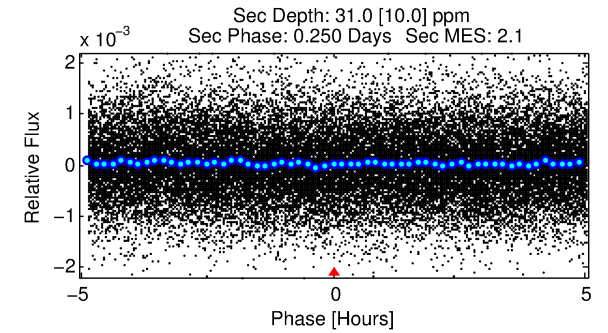
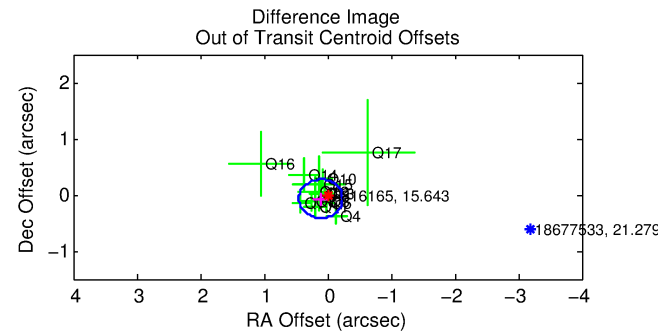
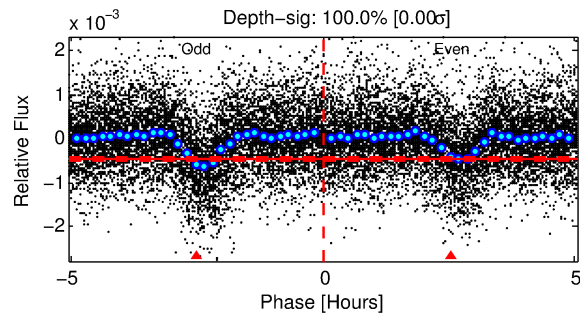
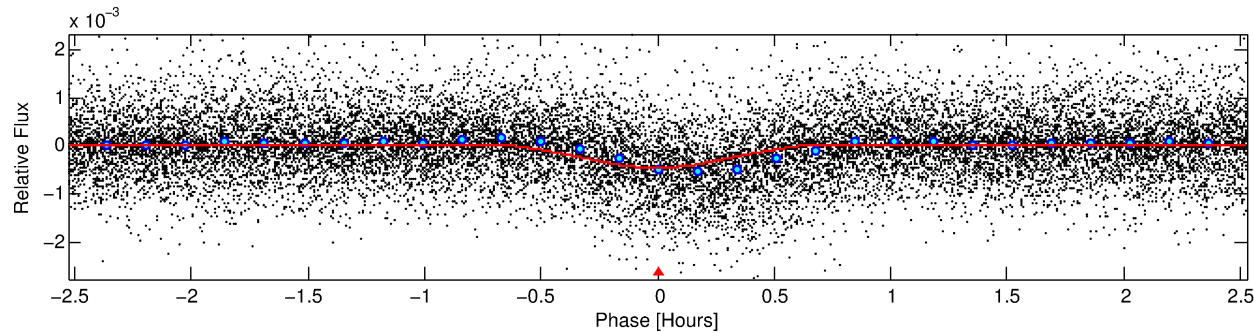
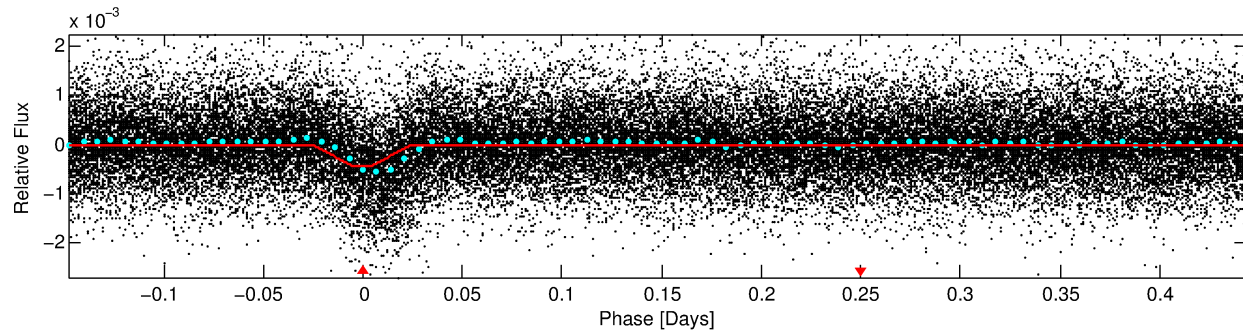
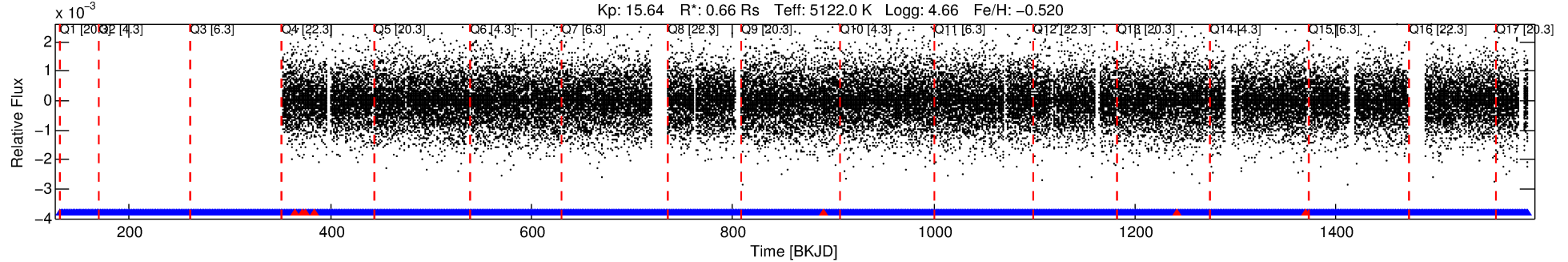
No Significant Match Found

DV One-Page Summary

KIC: 5816165 Candidate: 1 of 1 Period: 0.592 d

KOI: K01043.01 Corr: 0.758

Kp: 15.64 R*: 0.66 Rs Teff: 5122.0 K Logg: 4.66 Fe/H: -0.520



DV Fit Results:

Period = 0.59190 [0.00000] d
Epoch = 131.6218 [0.0005] BKJD
Rp/R* = 0.0238 [0.0059]
a/R* = 2.78 [2.46]
b = 0.90 [0.22]
Seff = 1739.73 [358.49]
Teq = 1647 [85] K
Rp = 1.70 [0.48] Re
a = 0.0123 [0.0013] AU
Ag = 0.90 [0.55] [-0.19σ]
Teffp = 2477 [378] K [2.15σ]

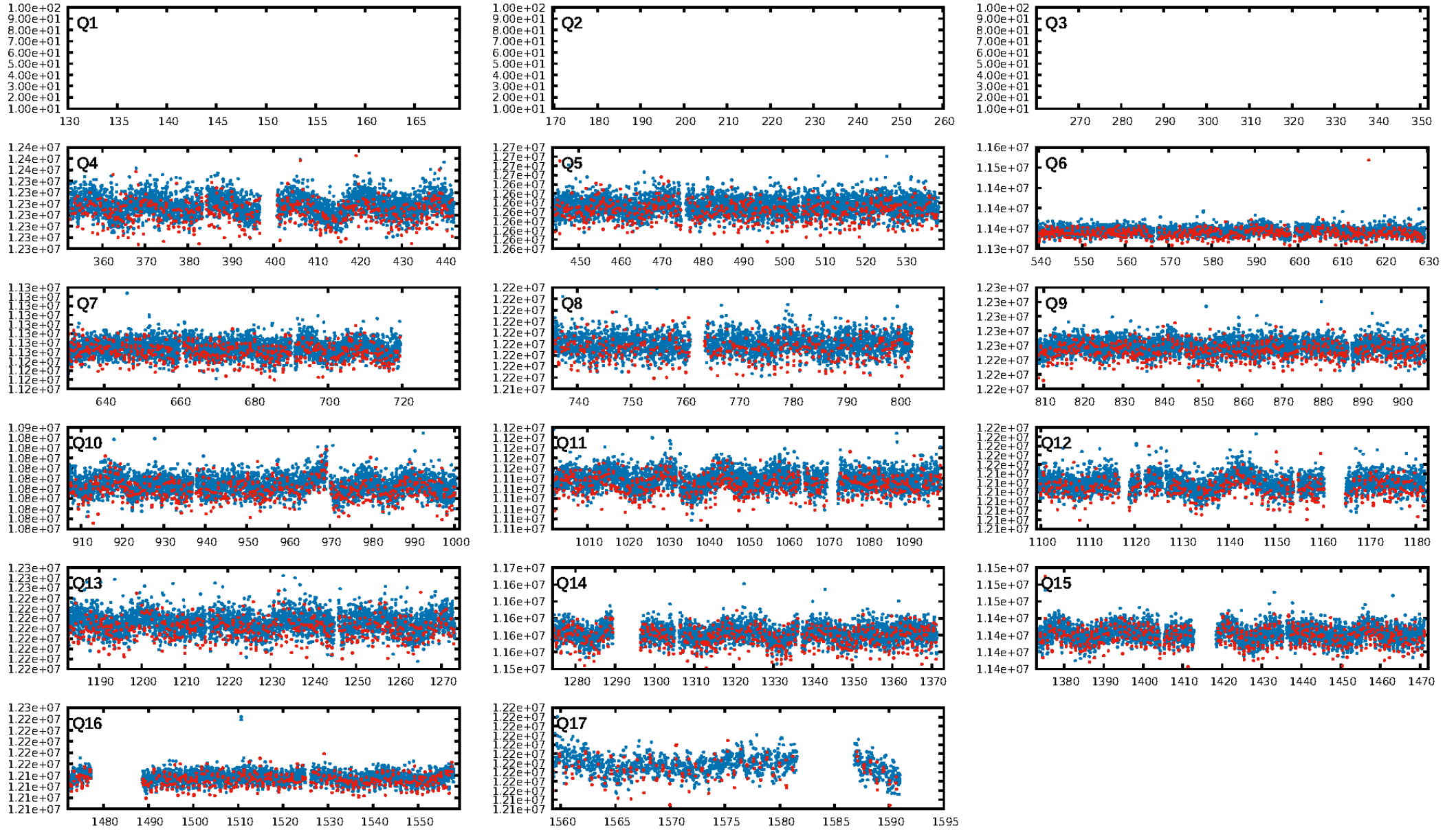
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.08e-144
RollingBand-fgt: 1.00 [1867/1874]
GhostDiagnostic-chr: 2.028
Centroid-sig: 0.1%
Centroid-so: 1.221 arcsec [2.66σ]
OotOffset-rm: 0.131 arcsec [1.14σ]
KicOffset-rm: 0.184 arcsec [1.57σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

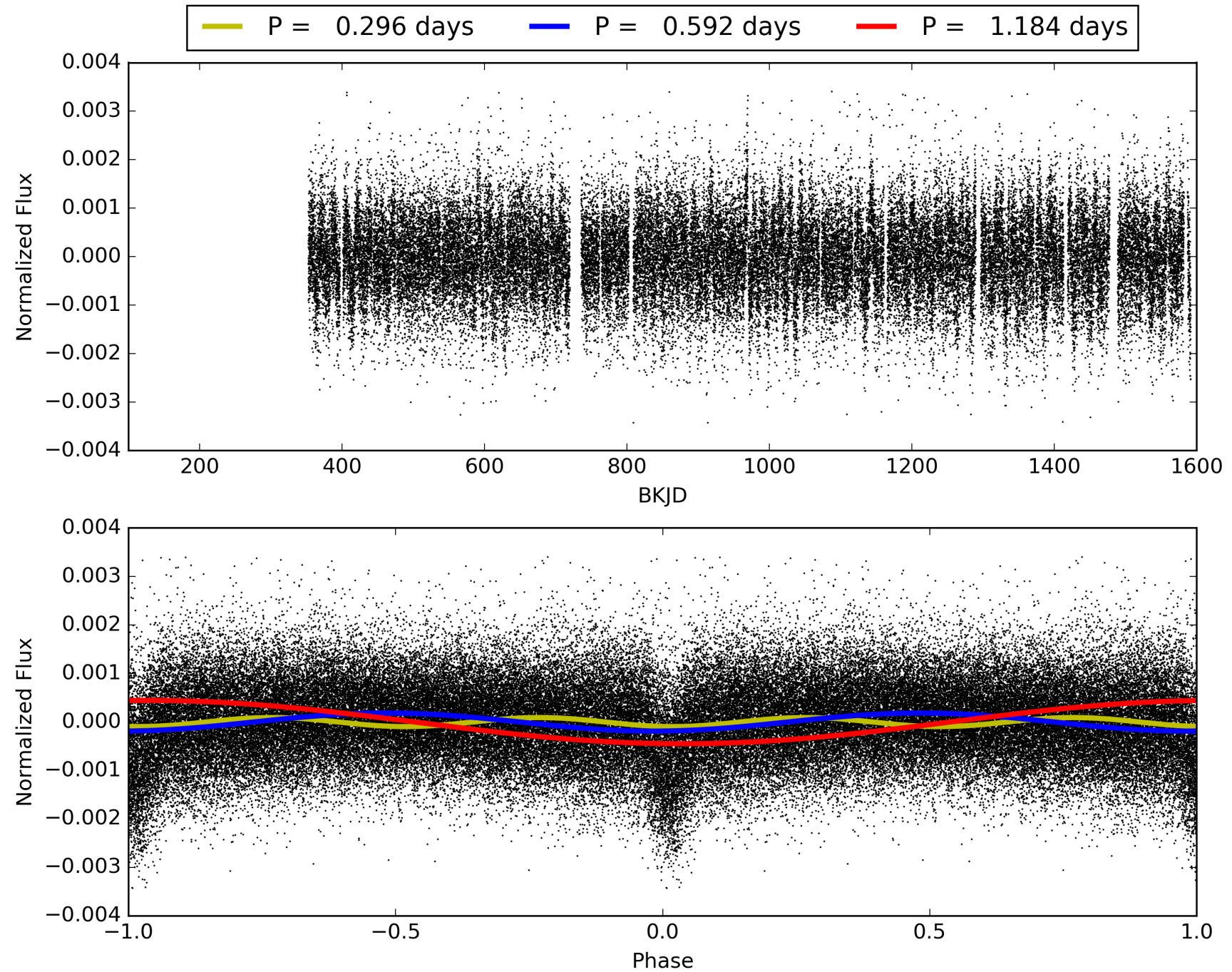
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 17:52:00 Z

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

TCE 005816165-01, PDC Light Curves

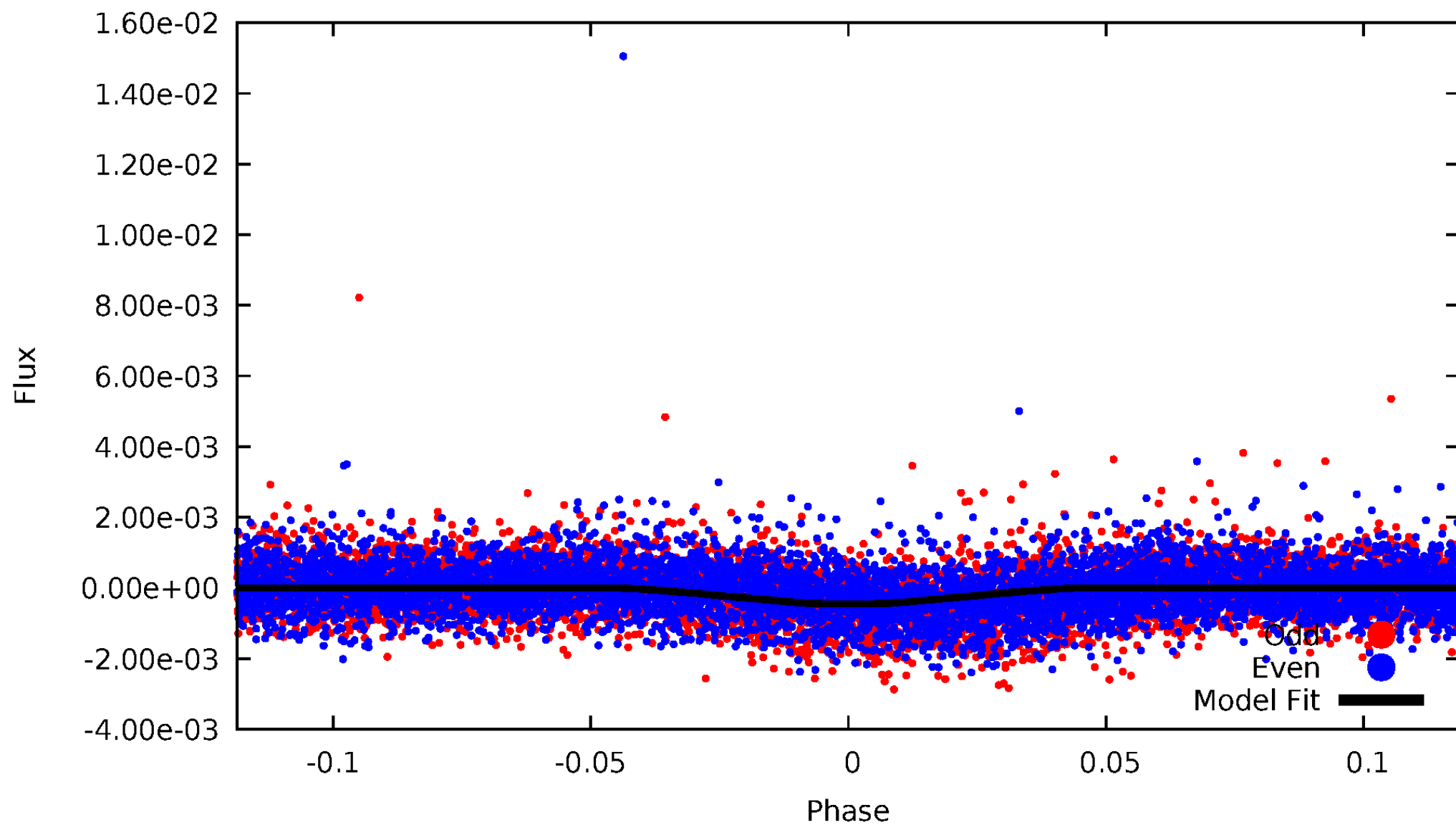


TCE 005816165-01



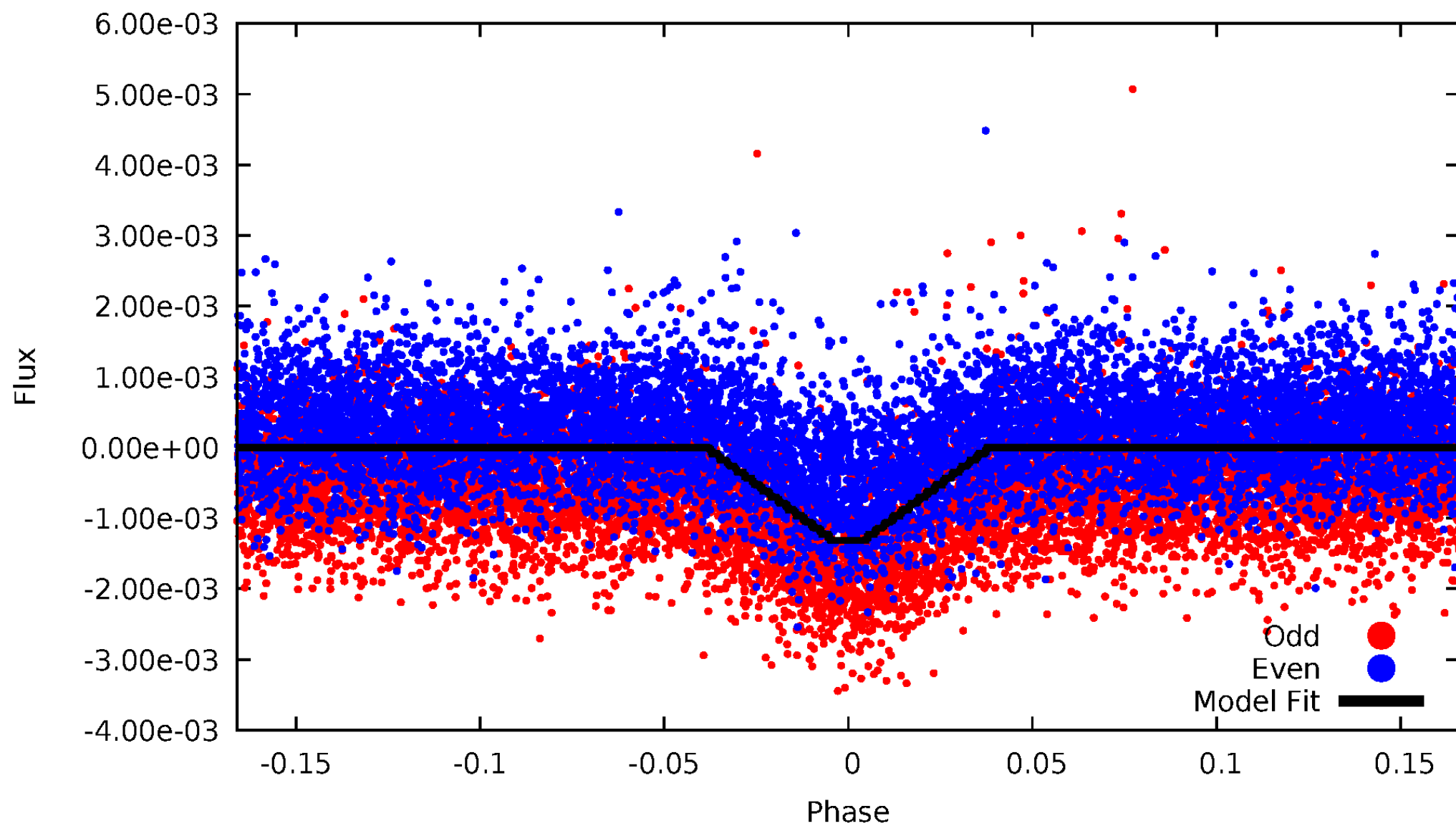
DV Odd/Even

TCE 005816165-01

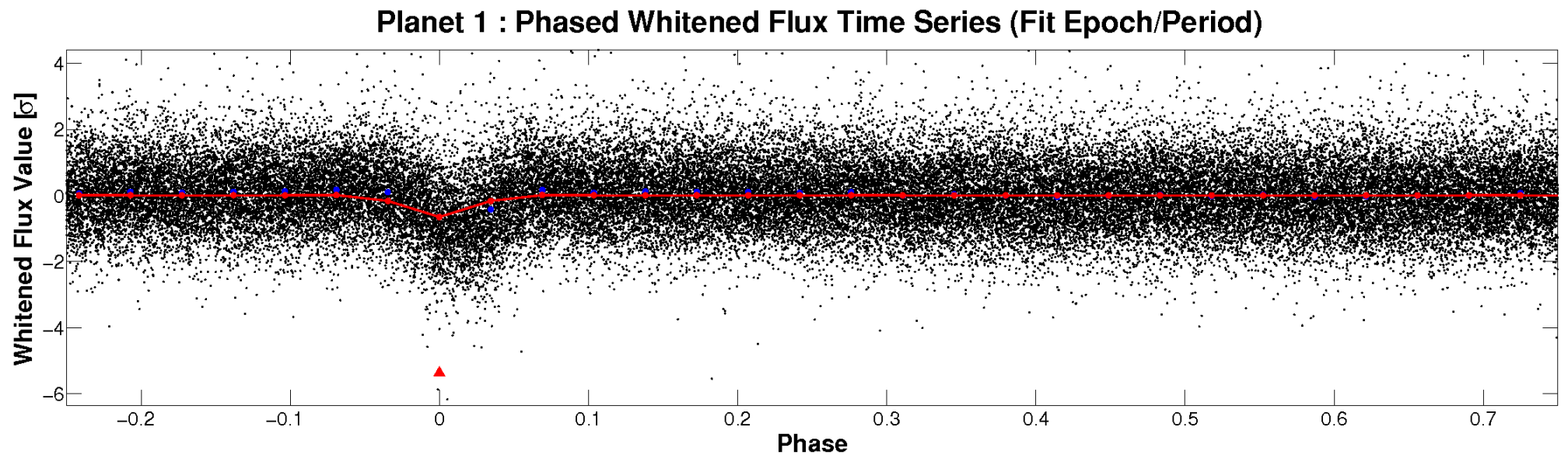
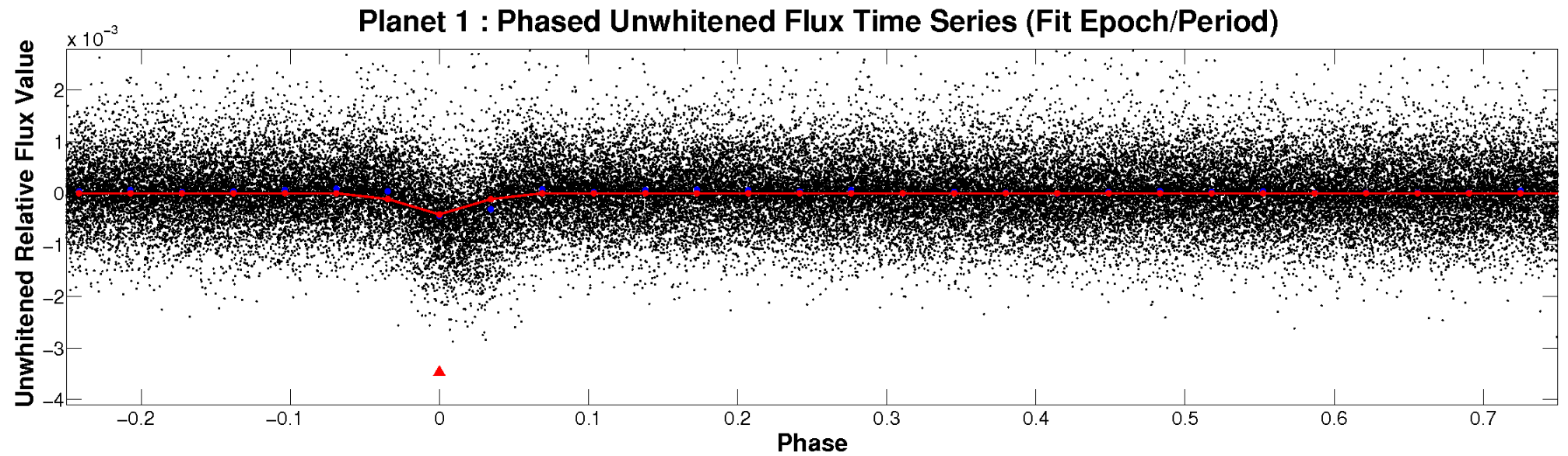


ALT Odd/Even

TCE 005816165-01

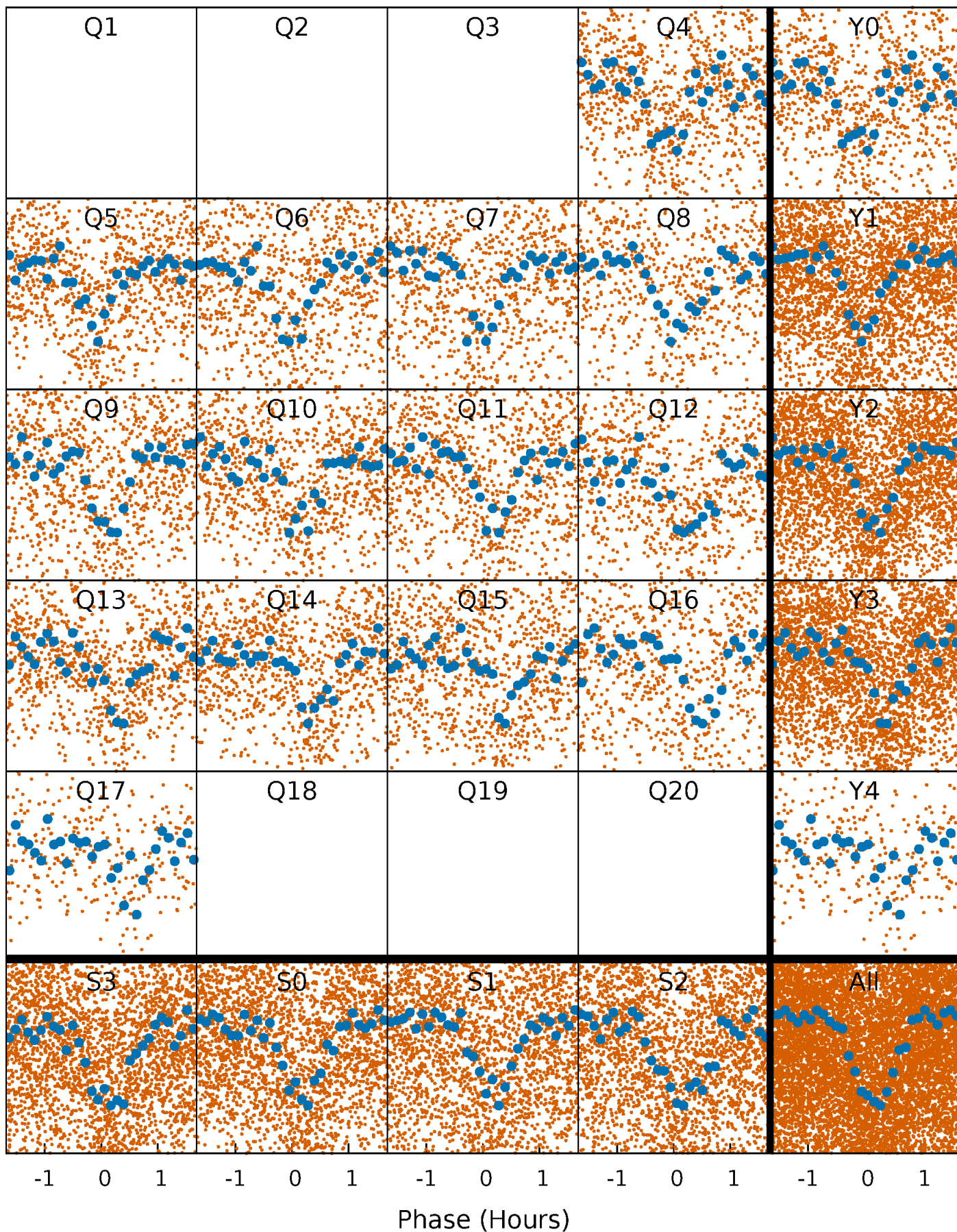


Non-Whitened Vs. Whitened Light Curve



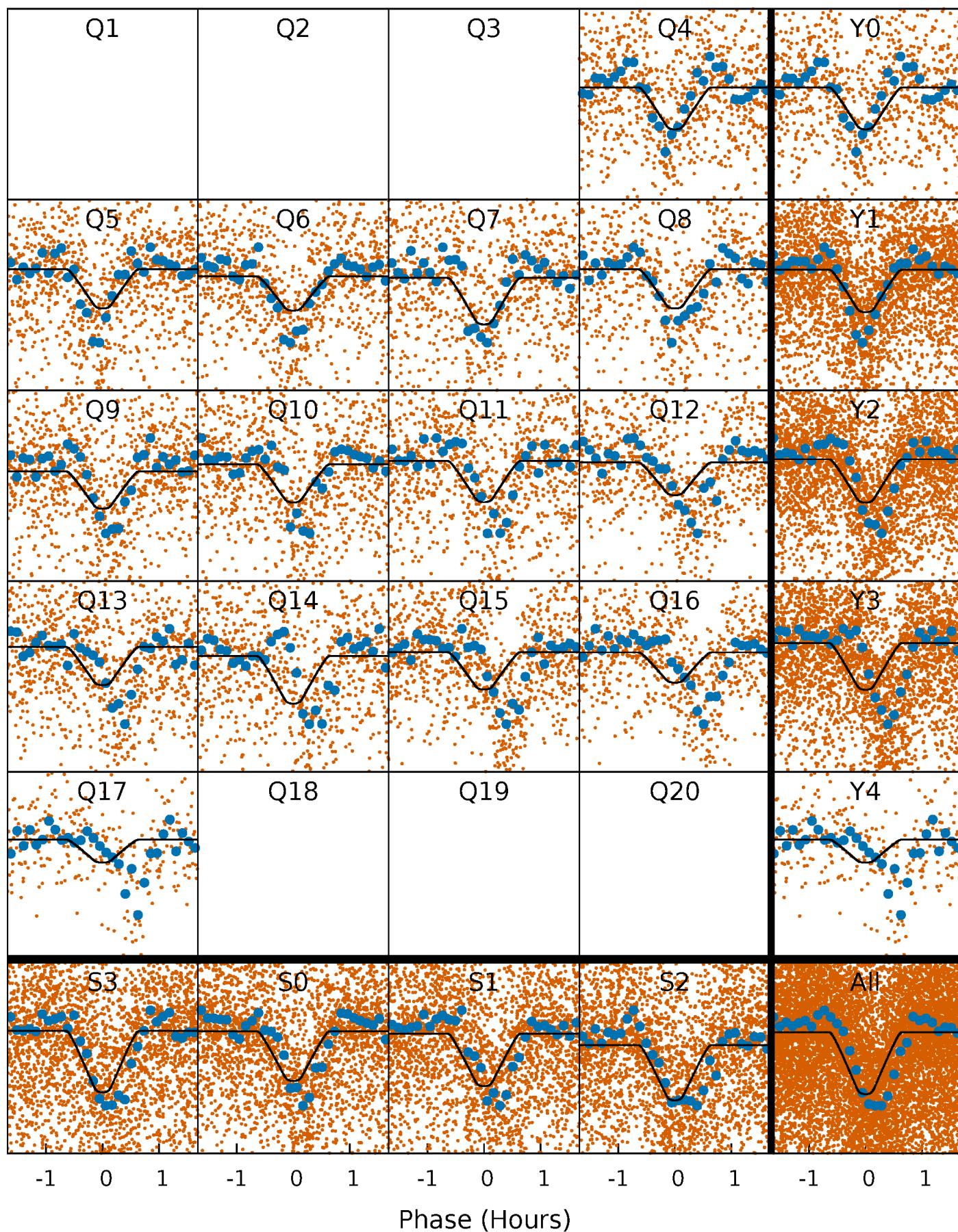
PDC Quarter-Phased Transit Curves

TCE 005816165-01 P= 0.591901 Days $T_0=131.621810$ (BKJD)



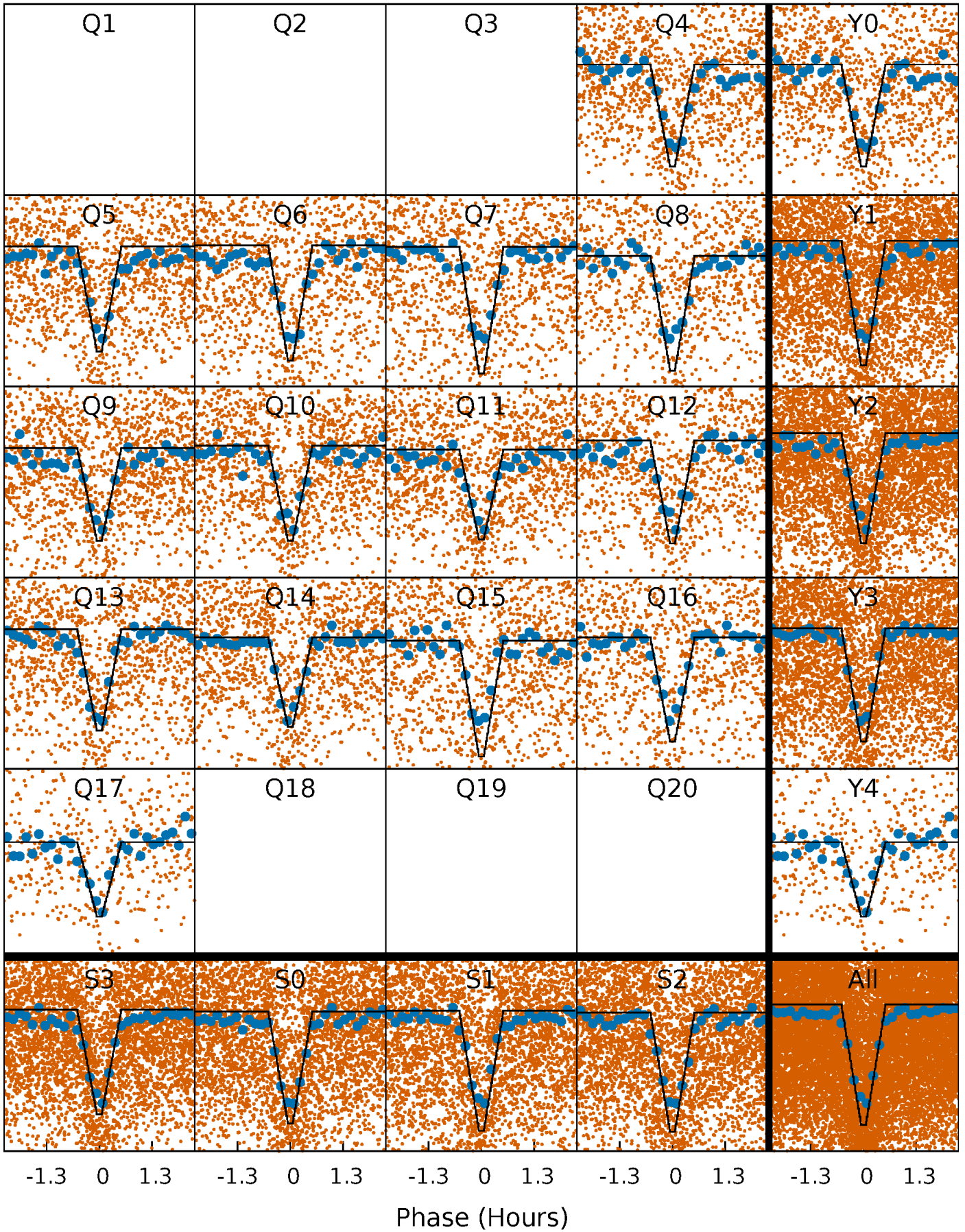
DV Quarter-Phased Transit Curves

TCE 005816165-01 P= 0.591901 Days $T_0=131.621810$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

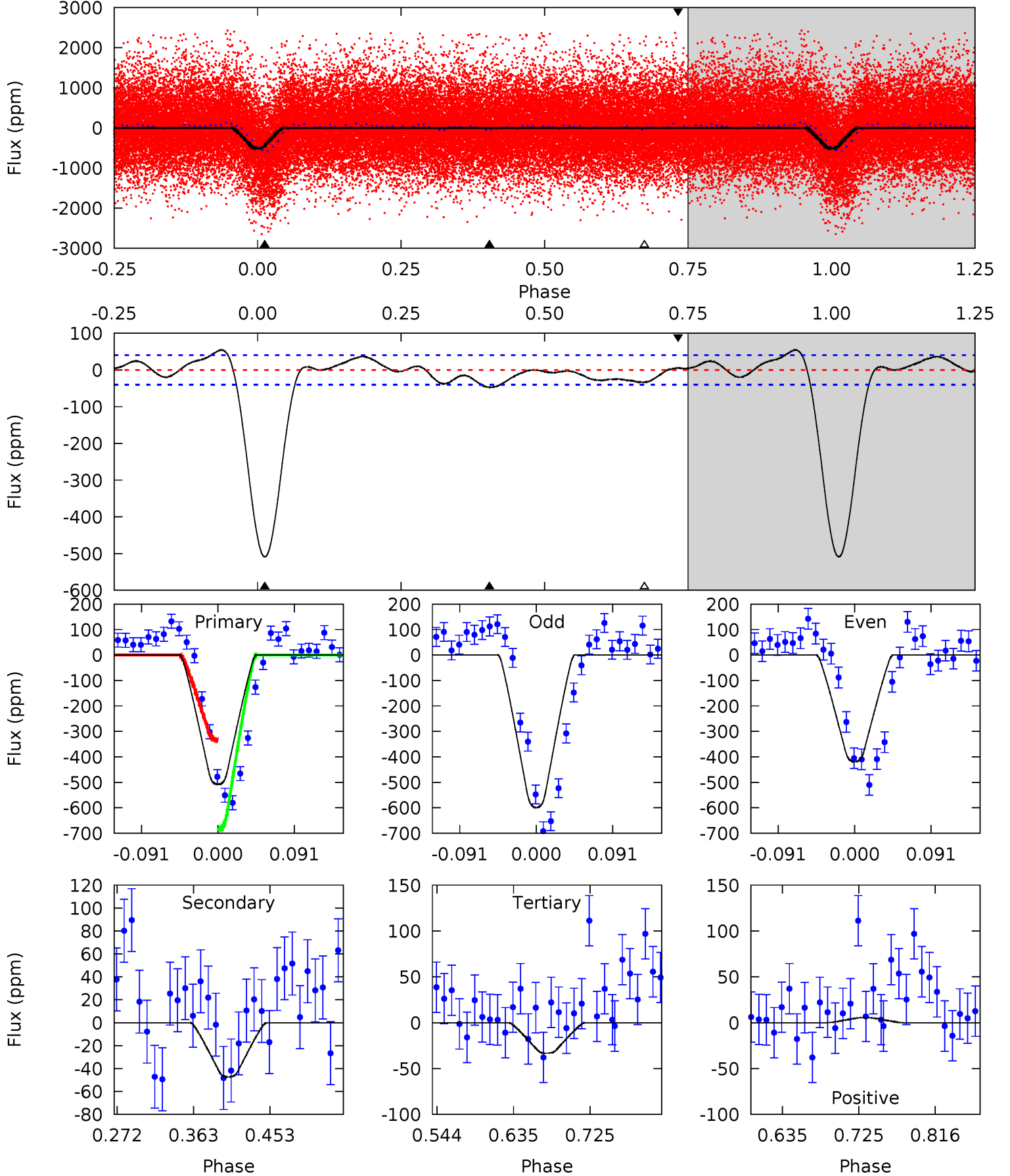
TCE 005816165-01 P= 0.591917 Days $T_0=131.607193$ (BKJD)



DV Model-Shift Uniqueness Test

005816165-01, P = 0.591901 Days, E = 131.621810 Days

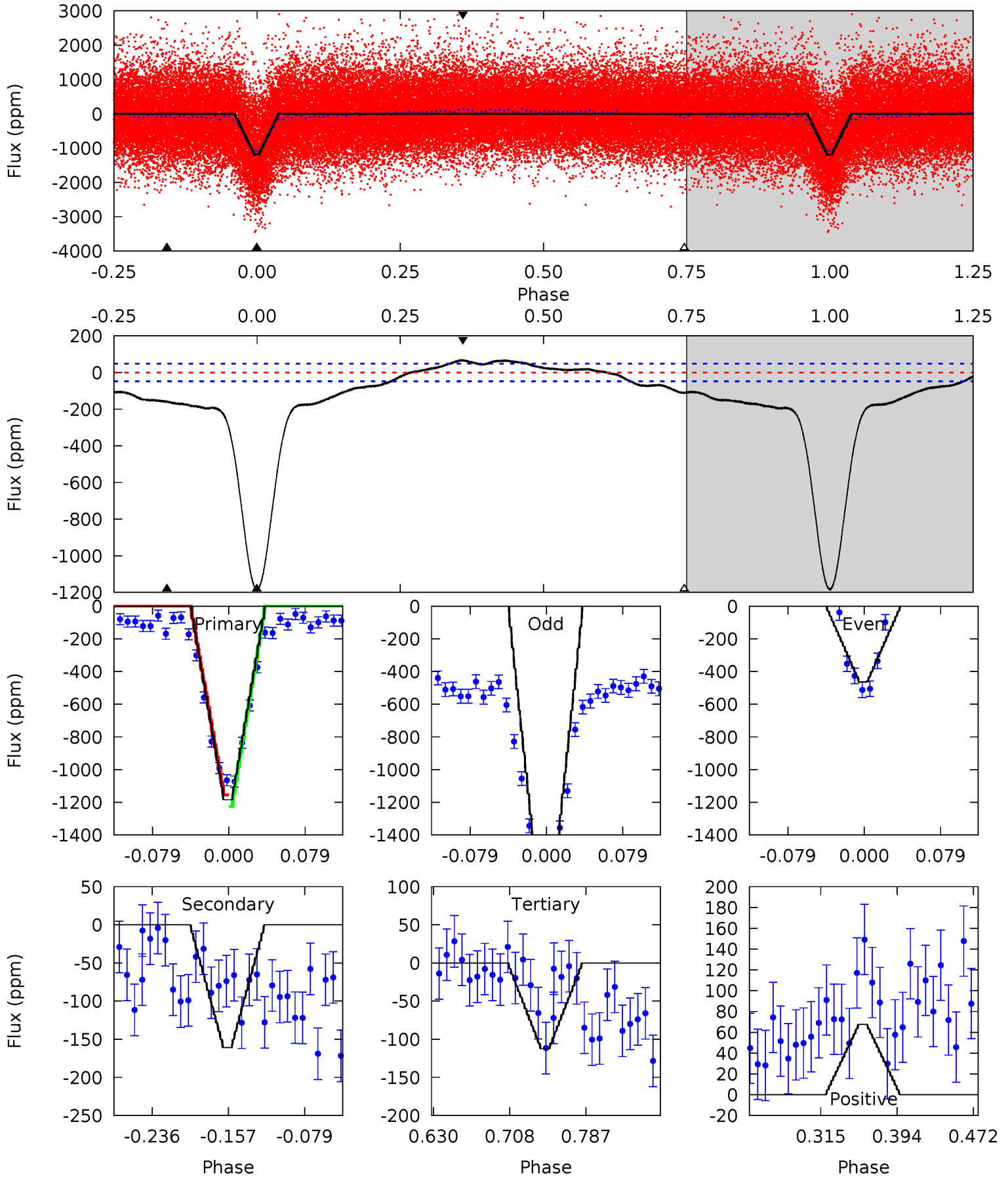
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
57.9	5.40	3.80	0.62	4.59	1.69	2.20	54.1	57.3	1.60	4.78	10.3	0.99	0.10	20.0



Alt Model-Shift Uniqueness Test

005816165-01, P = 0.591917 Days, E = 131.607193 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
113.1	15.4	10.7	6.46	4.61	1.76	6.54	102.4	106.7	4.62	8.90	68.6	0.98	0.05	3.28



Stellar Parameters For KIC 005816165

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5122^{+184}_{-184}	$4.659^{+0.033}_{-0.077}$	$-0.520^{+0.300}_{-0.300}$	$0.655^{+0.087}_{-0.047}$	$0.713^{+0.068}_{-0.068}$	$3.577^{+0.591}_{-0.884}$
	+4%/-4%	+1%/-2%	+58%/-58%	+13%/-7%	+10%/-10%	+17%/-25%
Source	KIC0	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 005816165-01 / KOI 1043.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-47 ± 9	$1.70^{+0.48}_{-0.38}$	2318^{+105}_{-94}	3159^{+362}_{-314}	$1.327^{+1.024}_{-0.537}$
Alt.	-161 ± 10	$2.58^{+0.47}_{-0.42}$	2317^{+112}_{-95}	3411^{+247}_{-225}	$1.998^{+0.888}_{-0.592}$

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

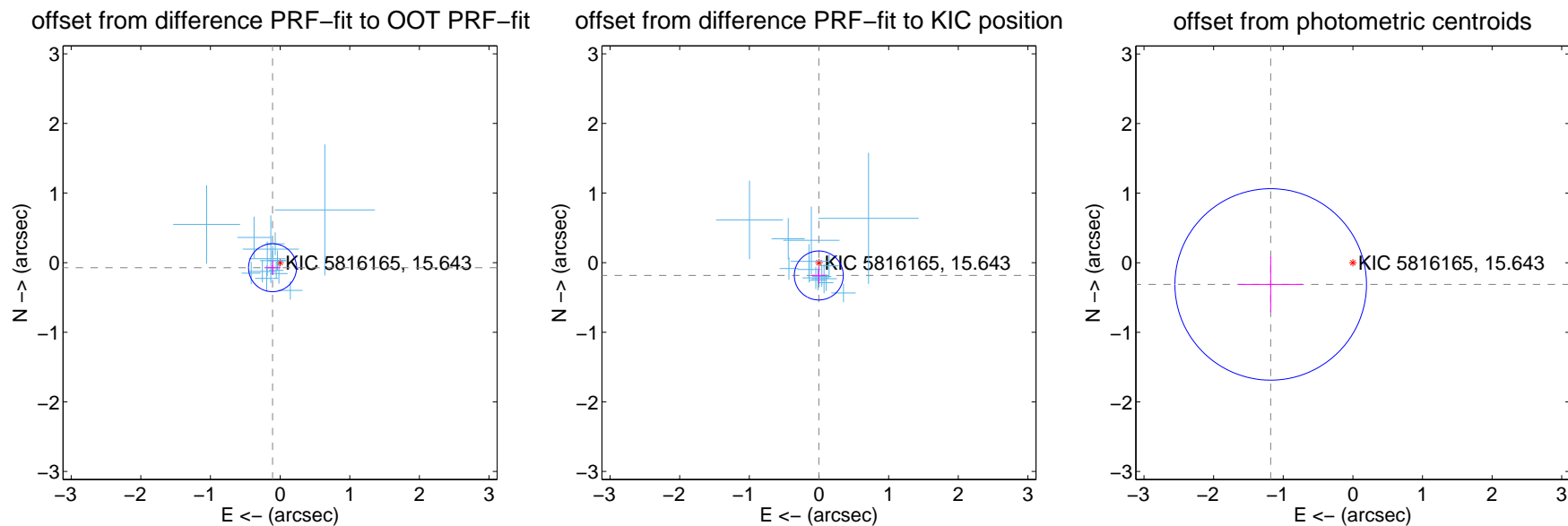
DV Centroid Data

Supplemental centroid analysis for 005816165-01. Kepler magnitude: 15.64. Transit SNR 30.73

There are 14 quarters with good PRF difference image offsets

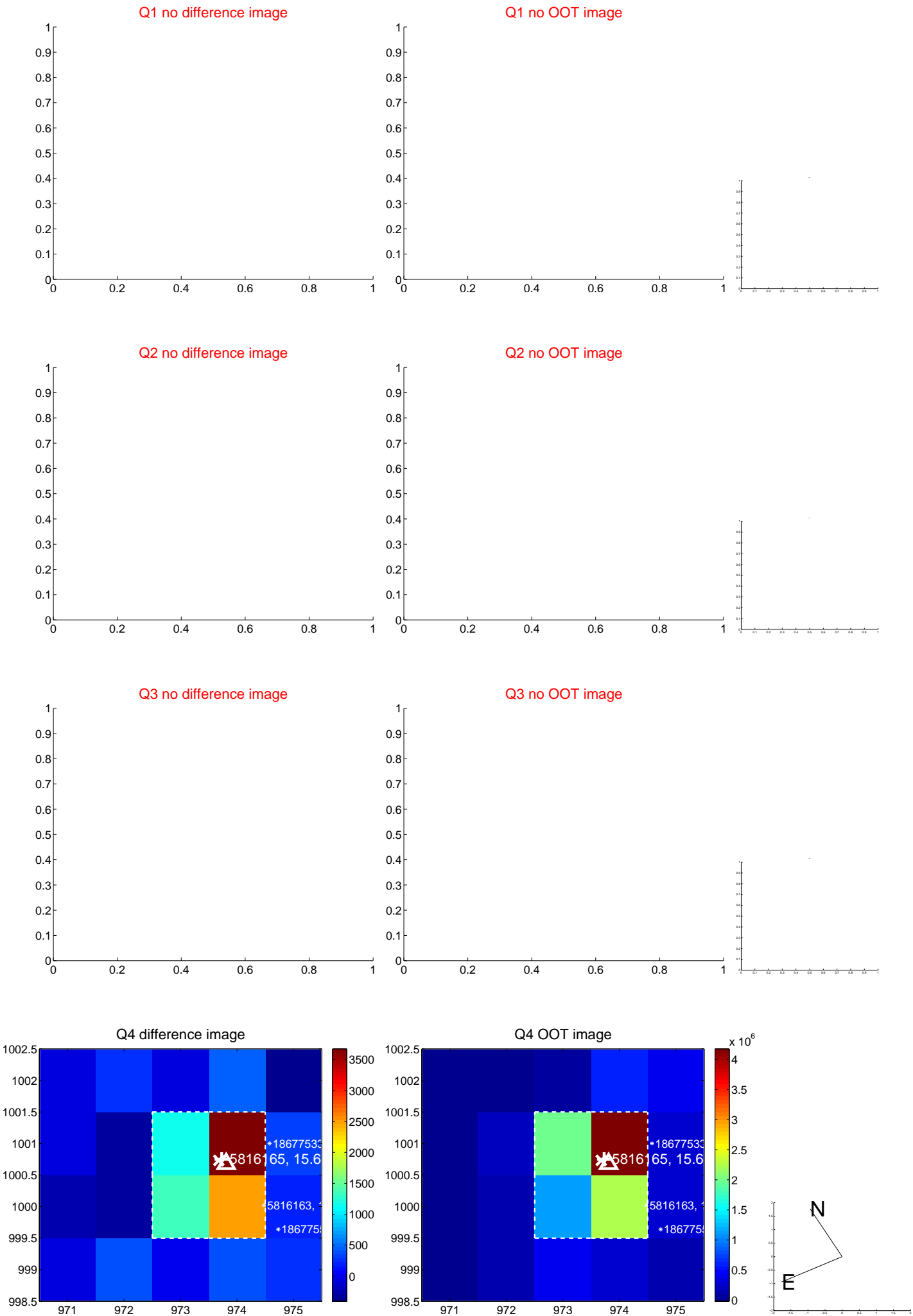
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.131 ± 0.115	1.14	0.109 ± 0.116	-0.073 ± 0.105
PRF-fit source offset from KIC position	0.184 ± 0.117	1.57	0.002 ± 0.104	-0.184 ± 0.117
photometric centroid source offset	1.22 ± 0.46	2.66	1.18 ± 0.46	-0.31 ± 0.40

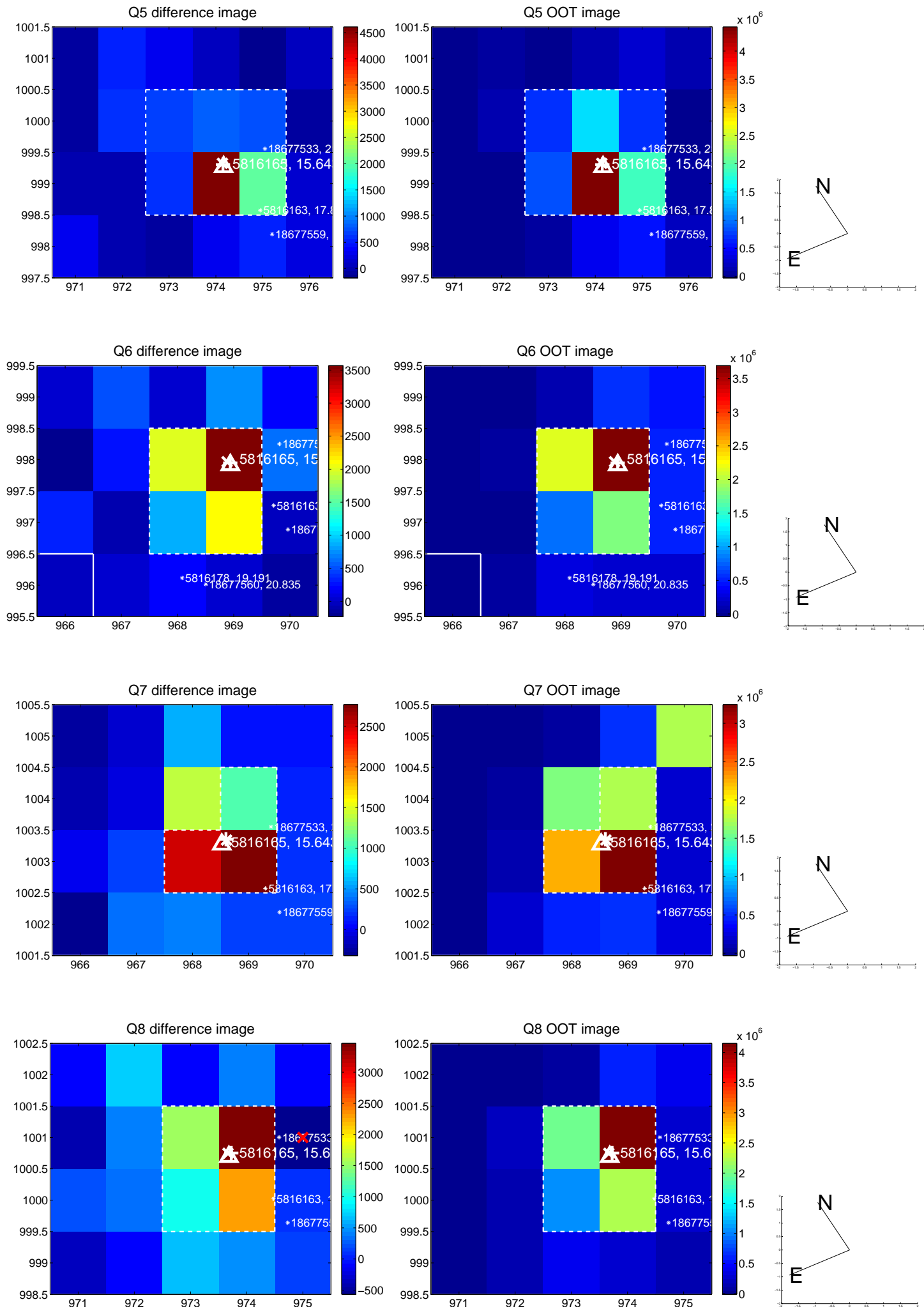


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

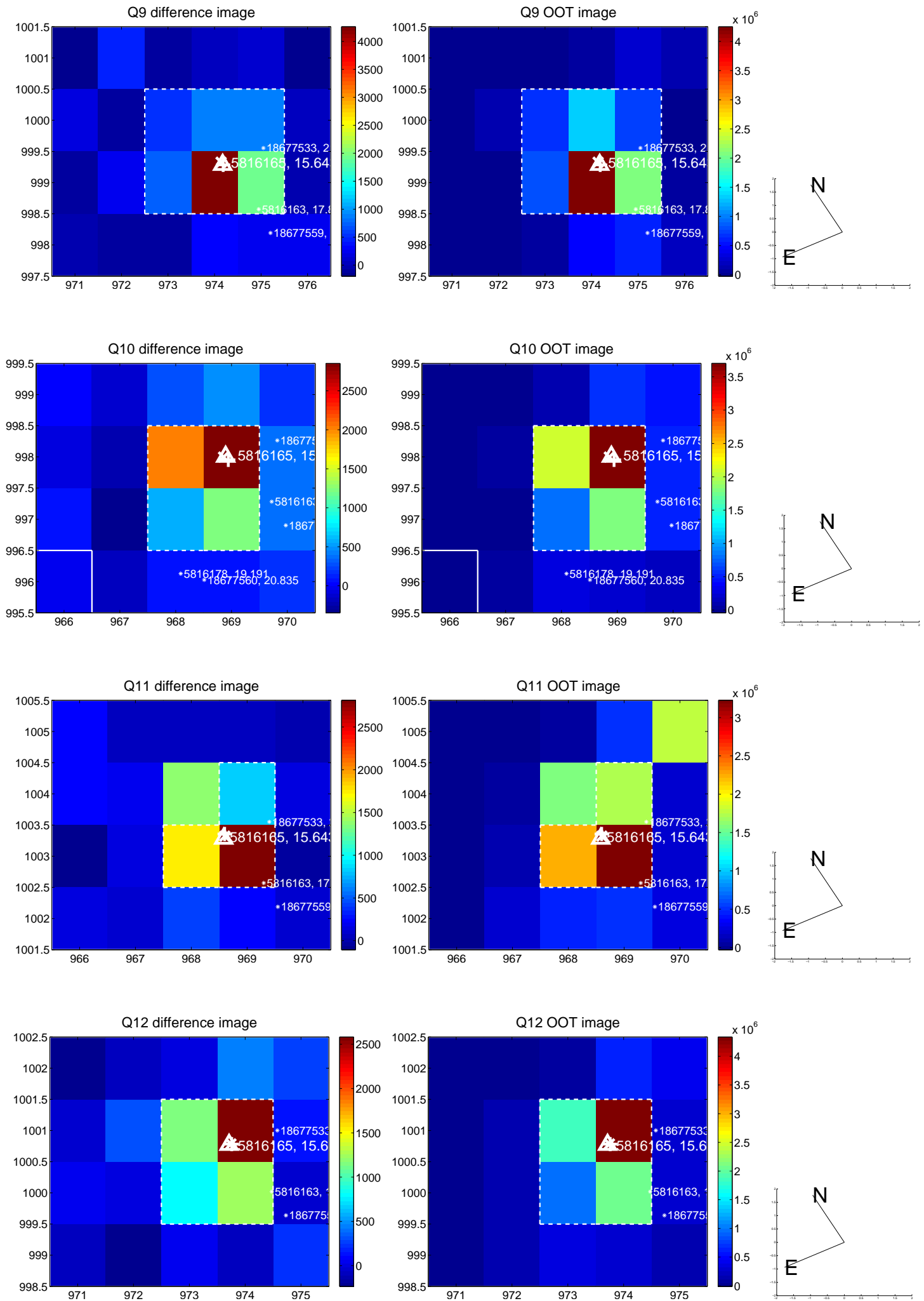
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



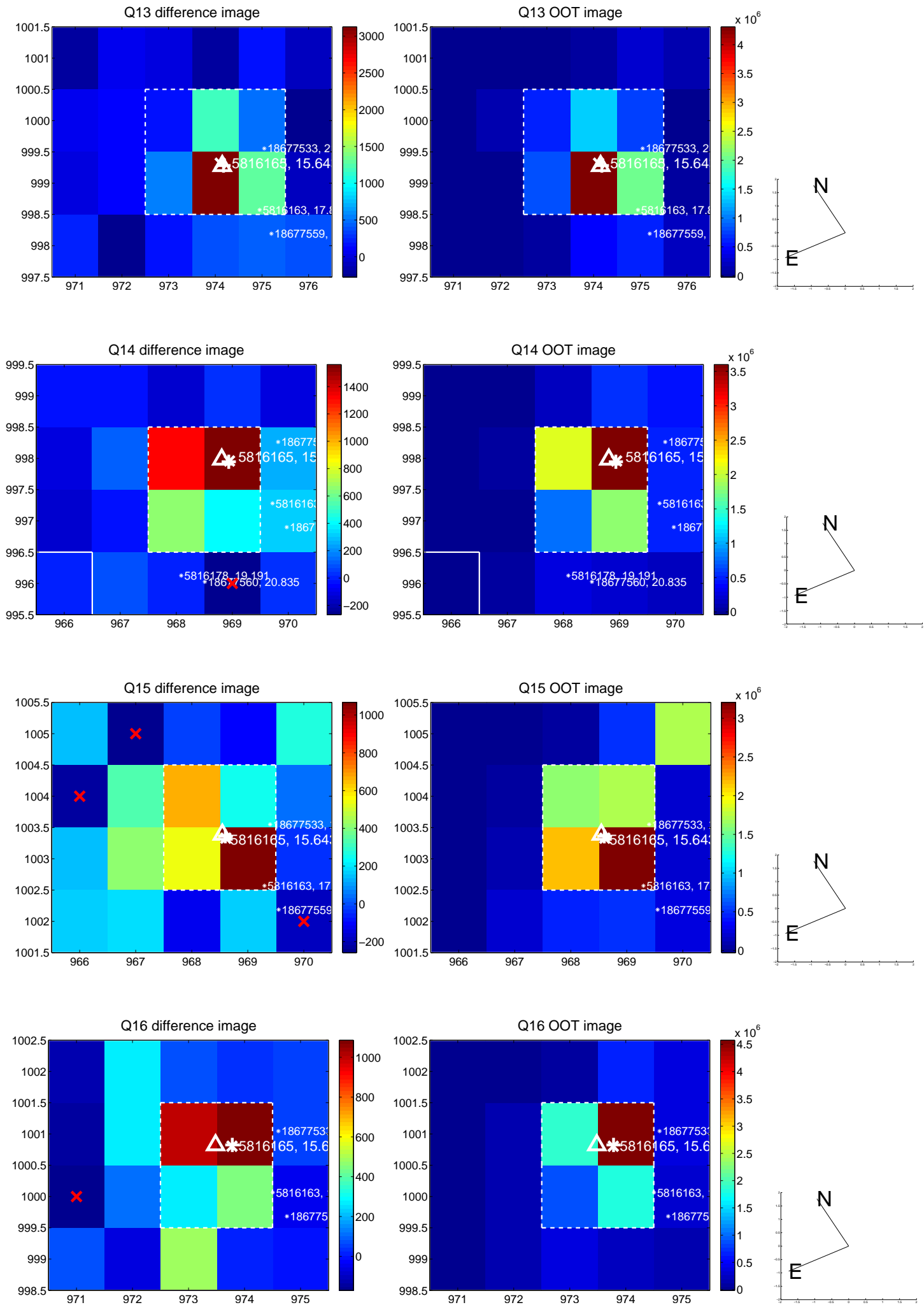
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



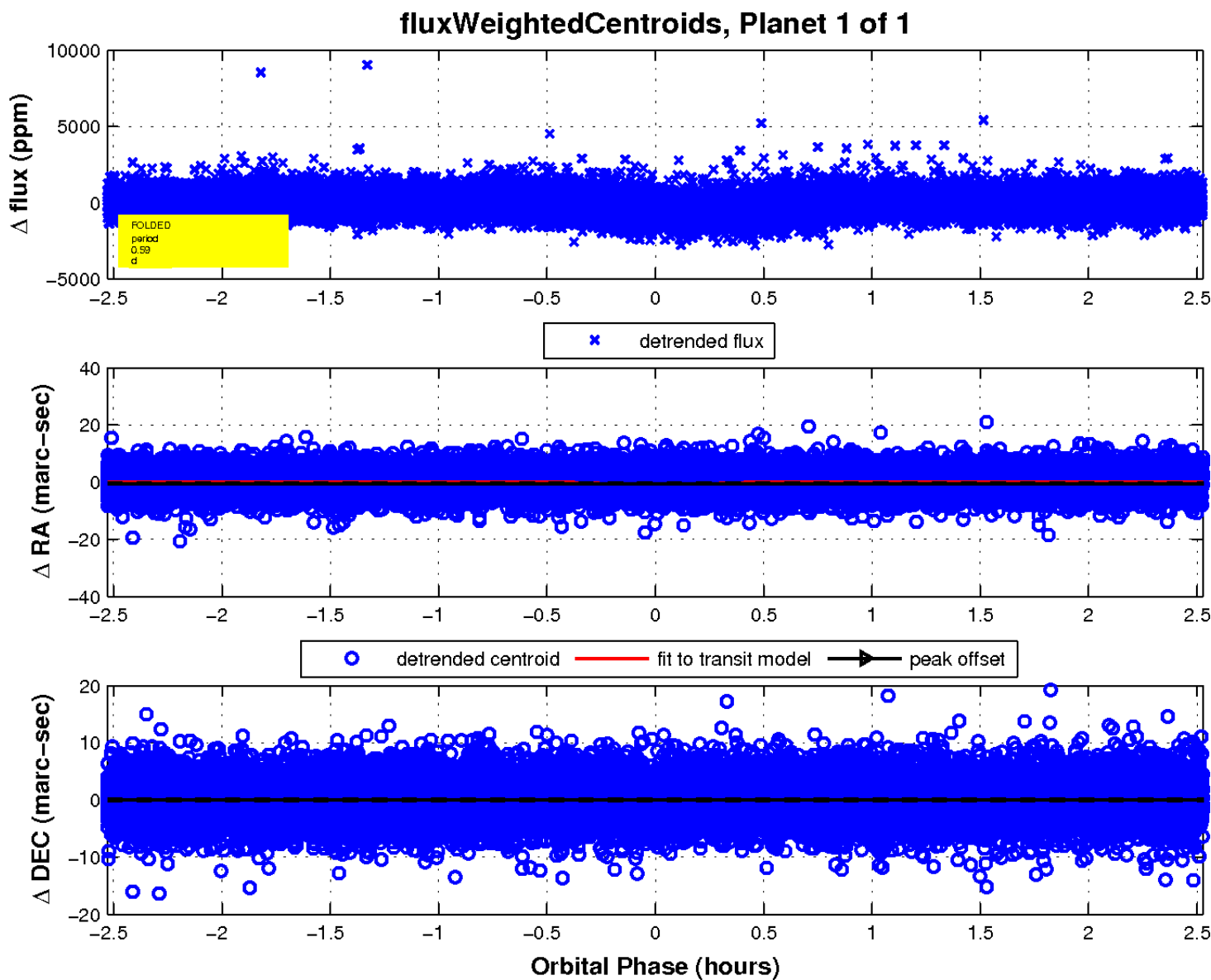
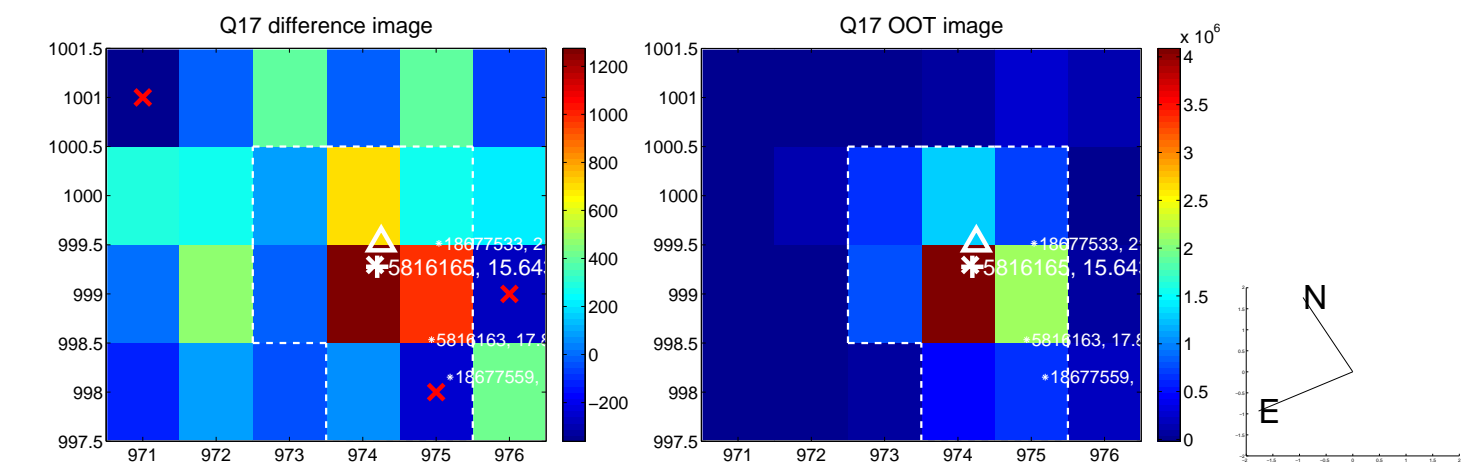
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

