

KIC 008022475

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})
008022475-01	OBS	No	375.727766	261.201669	483.4	14.026	7.7	5.8	0.67	5047	1.62	0.31

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008022475-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

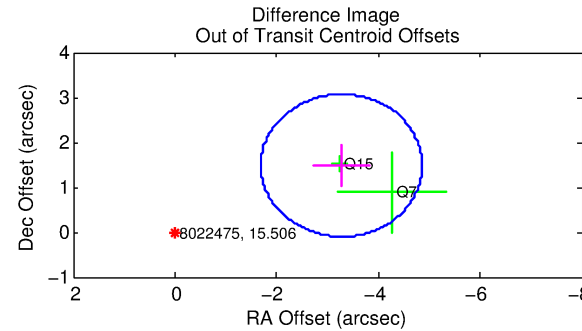
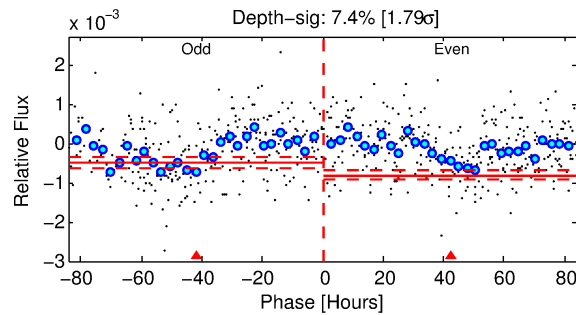
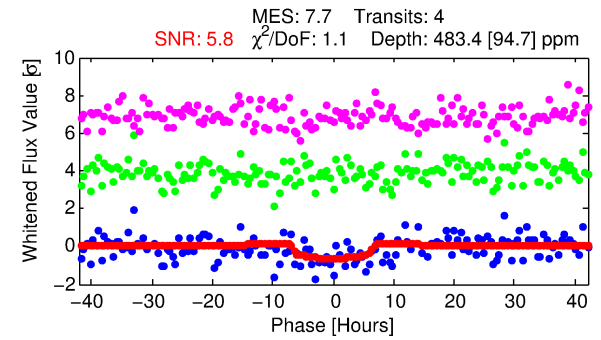
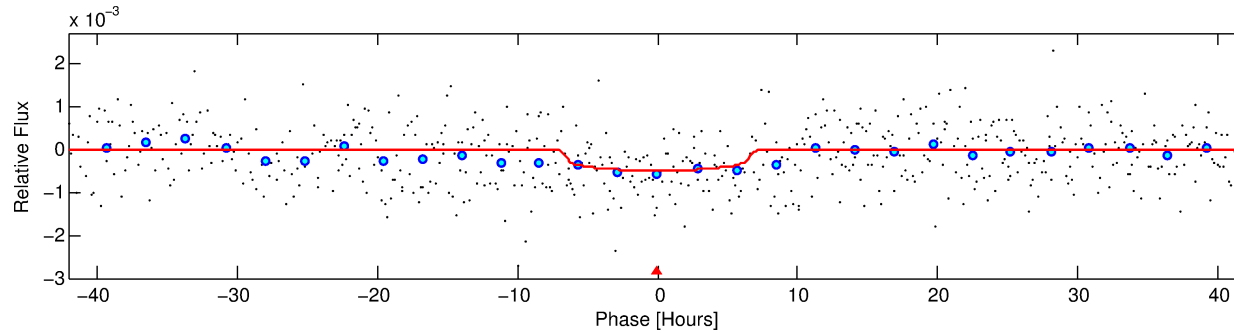
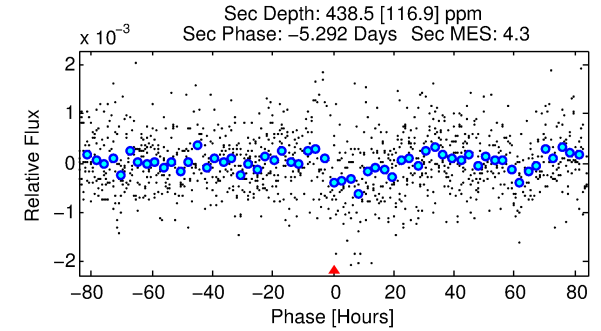
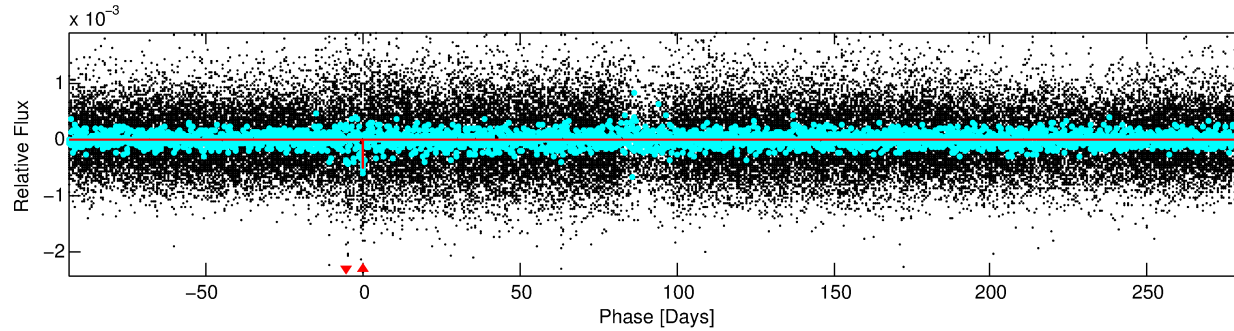
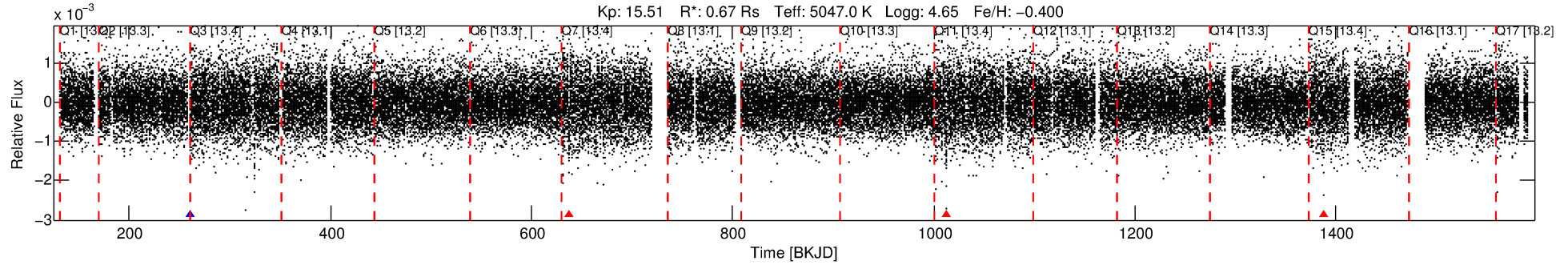
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008022475-01

No Significant Match Found

DV One-Page Summary

KIC: 8022475 Candidate: 1 of 1 Period: 375.728 d



DV Fit Results:

Period = 375.72777 [0.02141] d
Epoch = 261.2017 [0.0408] BKJD
Rp/R* = 0.0223 [0.0122]
a/R* = 133.62 [270.77]
b = 0.79 [1.00]
Seff = 0.31 [0.06]
Teq = 190 [9] K
Rp = 1.62 [0.91] Re
a = 0.9175 [0.0915] AU
Ag = 77160.37 [87247.37] [0.88σ]
Teff = 4888 [1380] K [3.41σ]

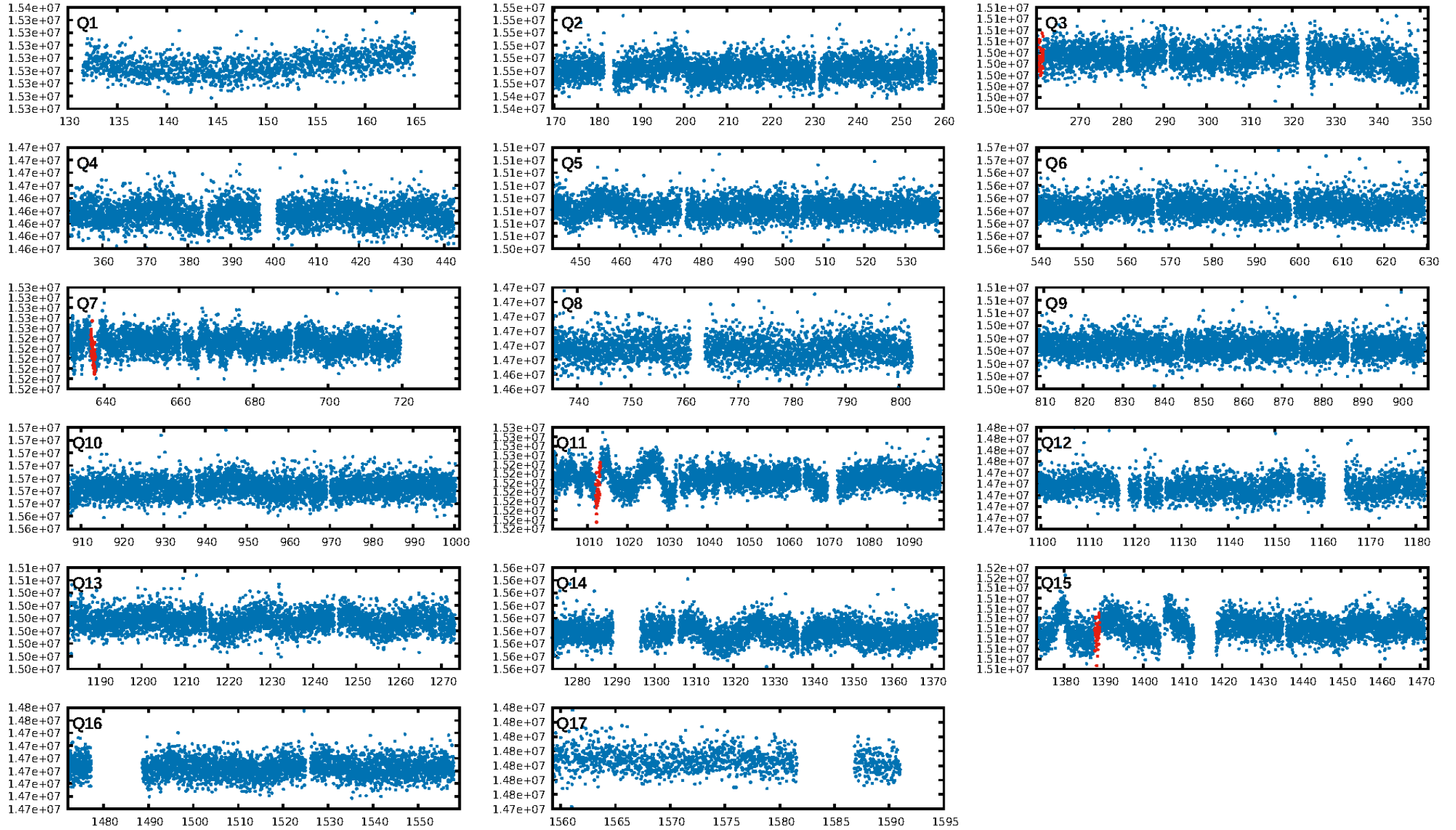
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 18.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.18e-09
RollingBand-fgt: 0.25 [1/4]
GhostDiagnostic-chr: 1.147
Centroid-sig: 94.4%
Centroid-so: 0.750 arcsec [0.24σ]
OotOffset-rm: 3.593 arcsec [6.80σ]
KicOffset-rm: 3.639 arcsec [6.87σ]
OotOffset-st: 0/2/0/0 [2]
KicOffset-st: 0/2/0/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [3/3]

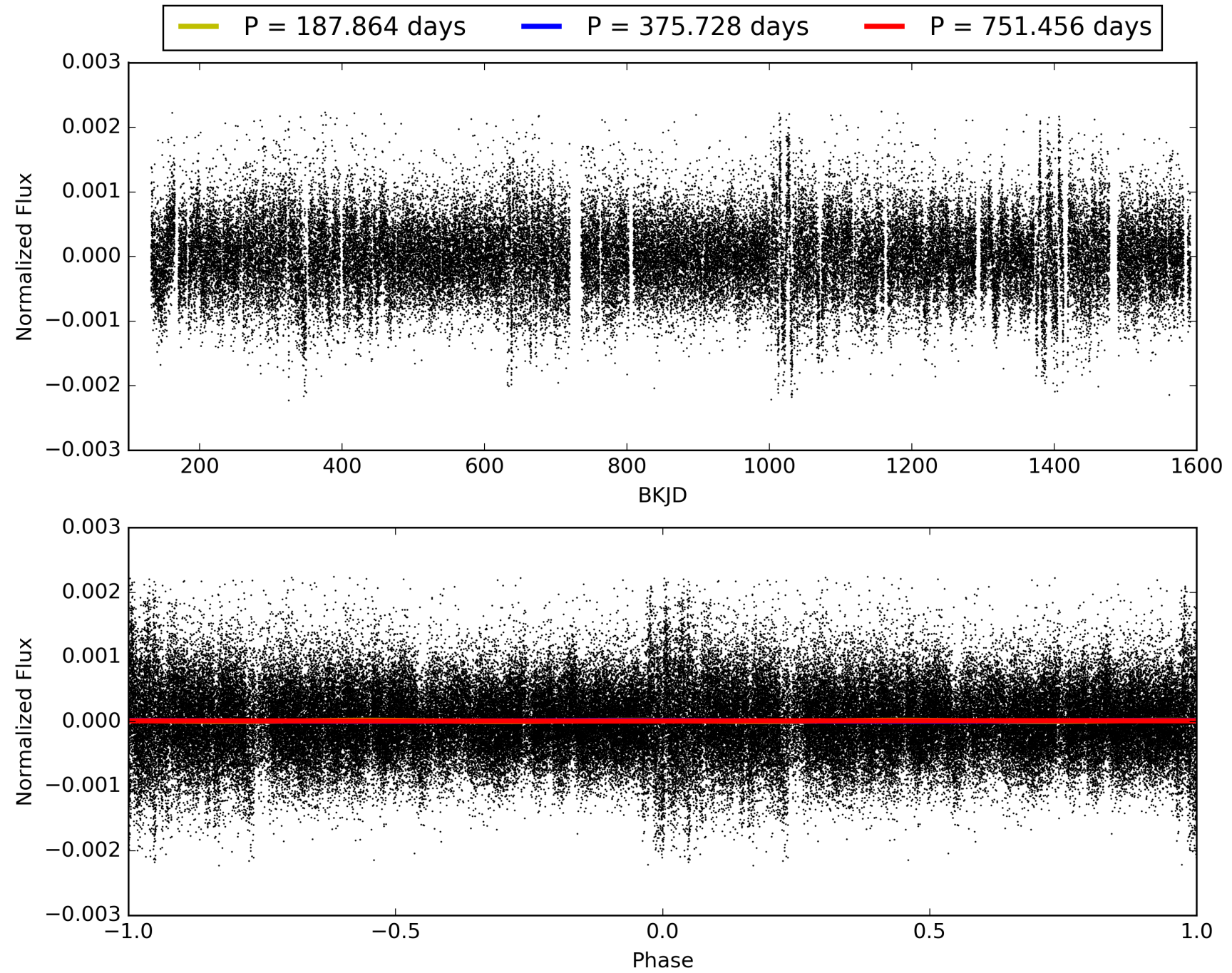
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:26:42 Z

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

TCE 008022475-01, PDC Light Curves

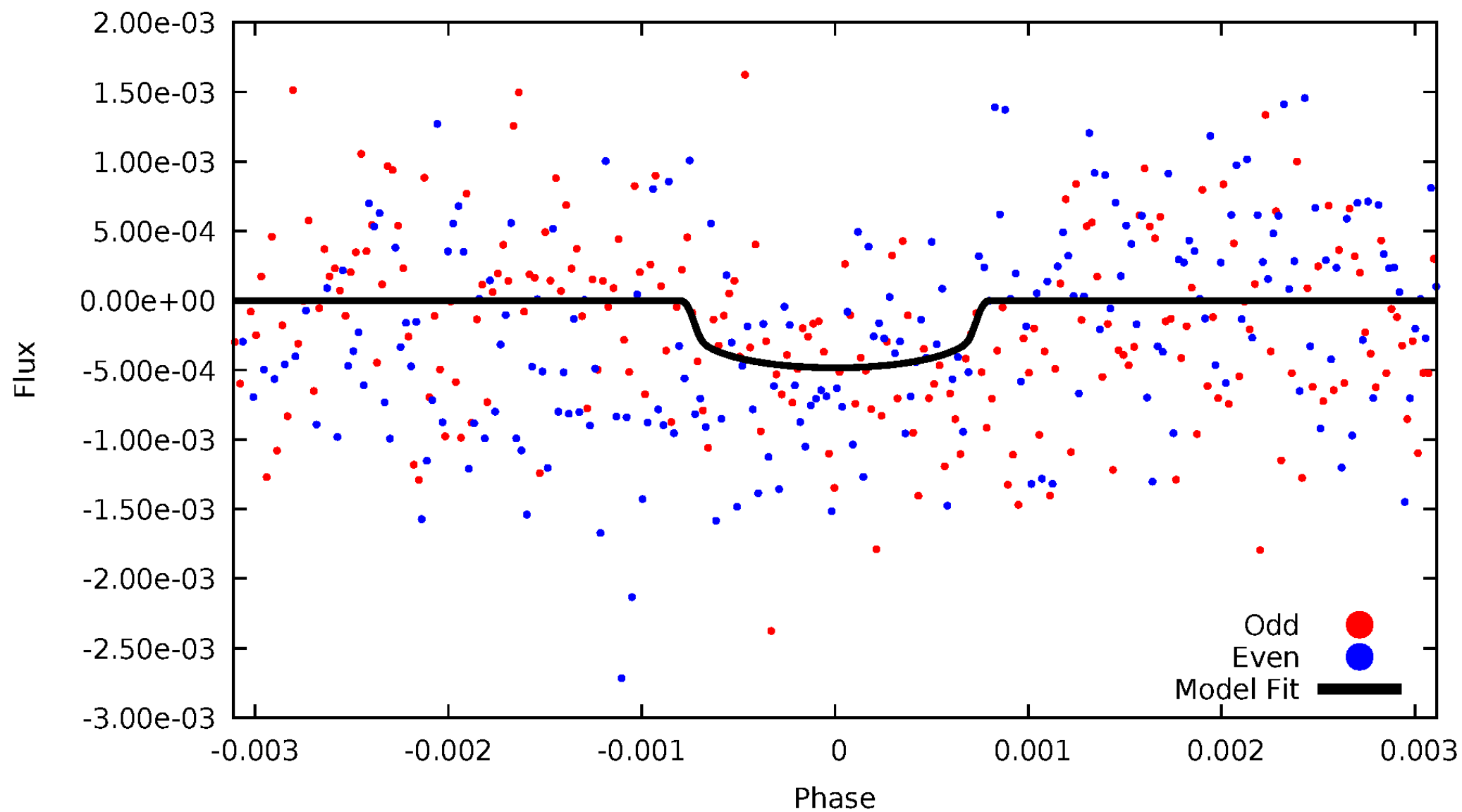


TCE 008022475-01



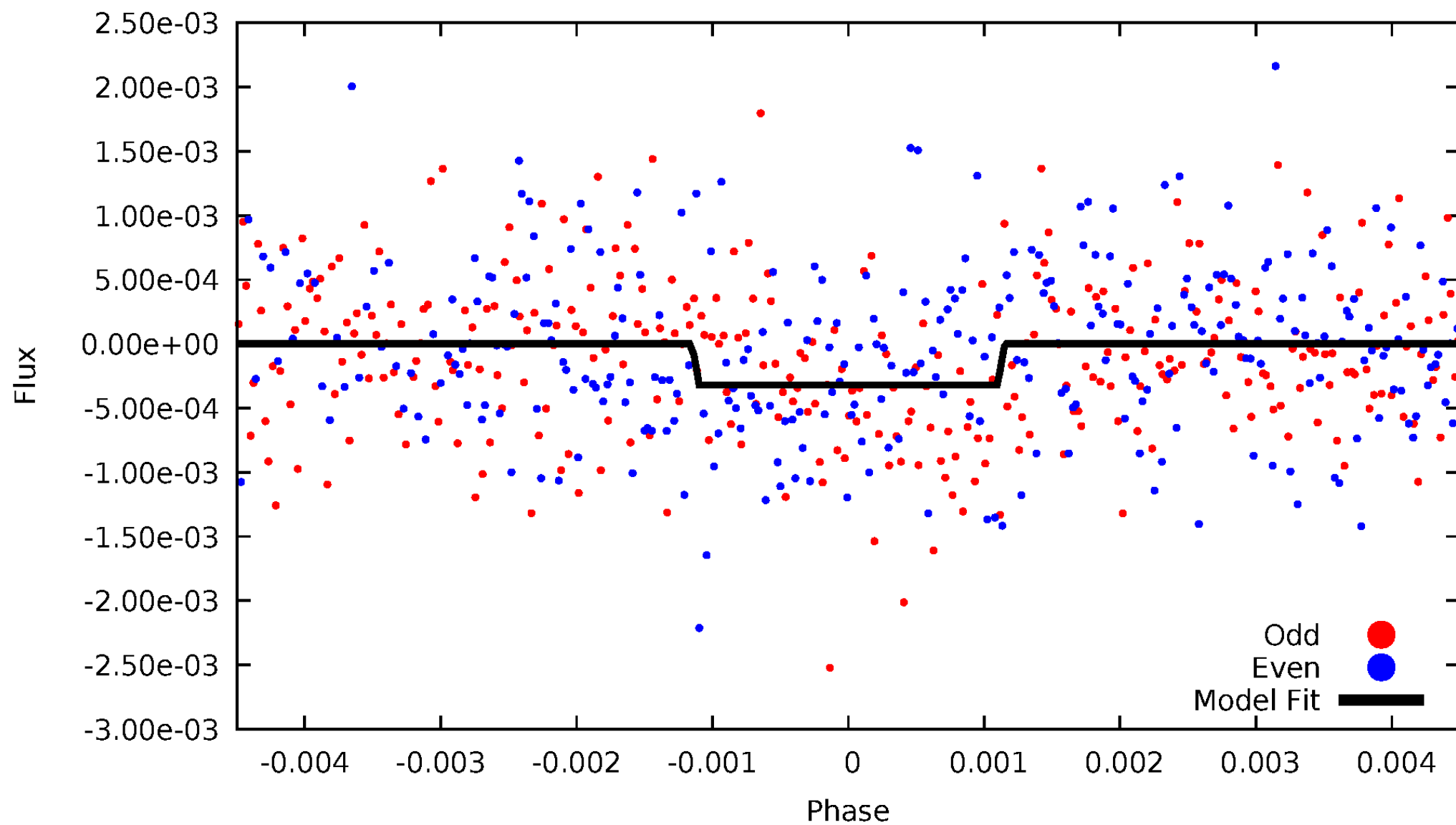
DV Odd/Even

TCE 008022475-01

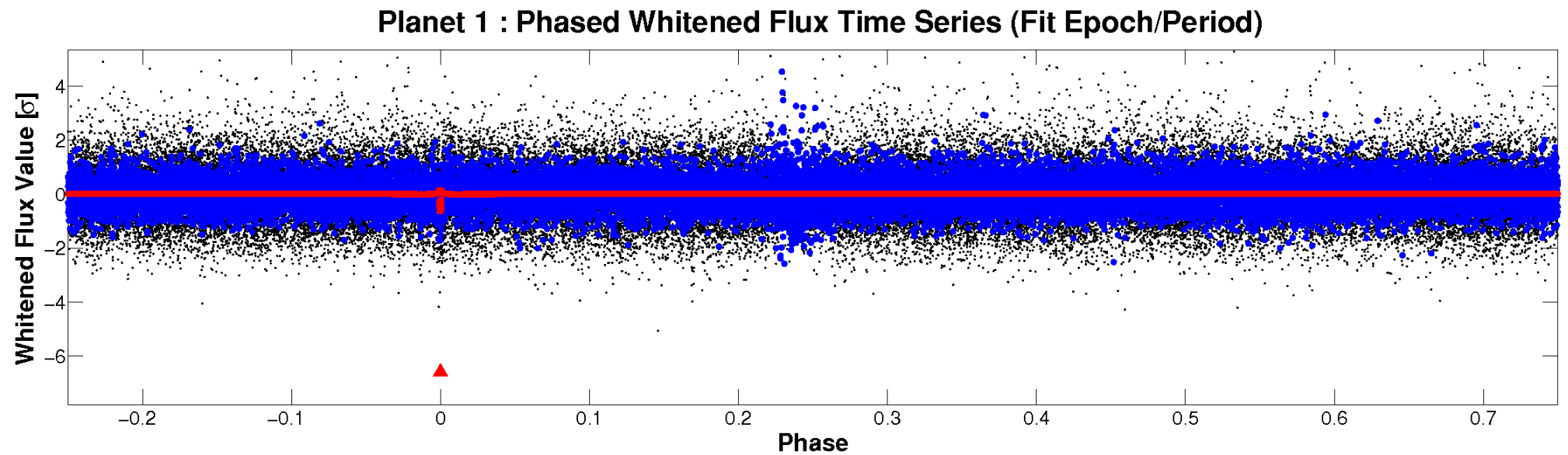
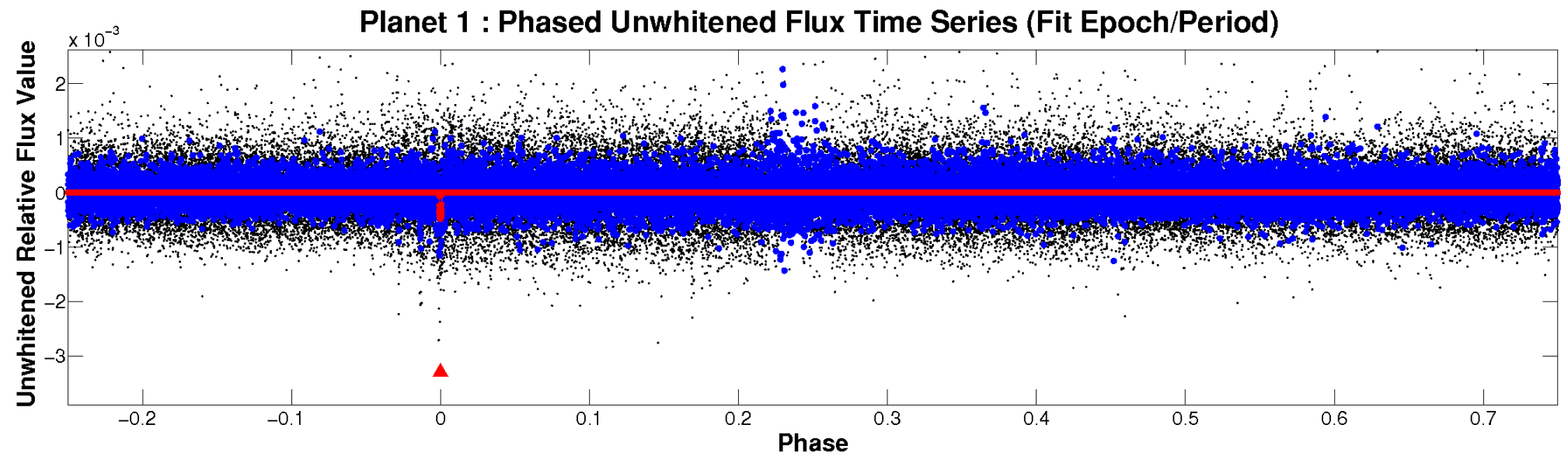


ALT Odd/Even

TCE 008022475-01

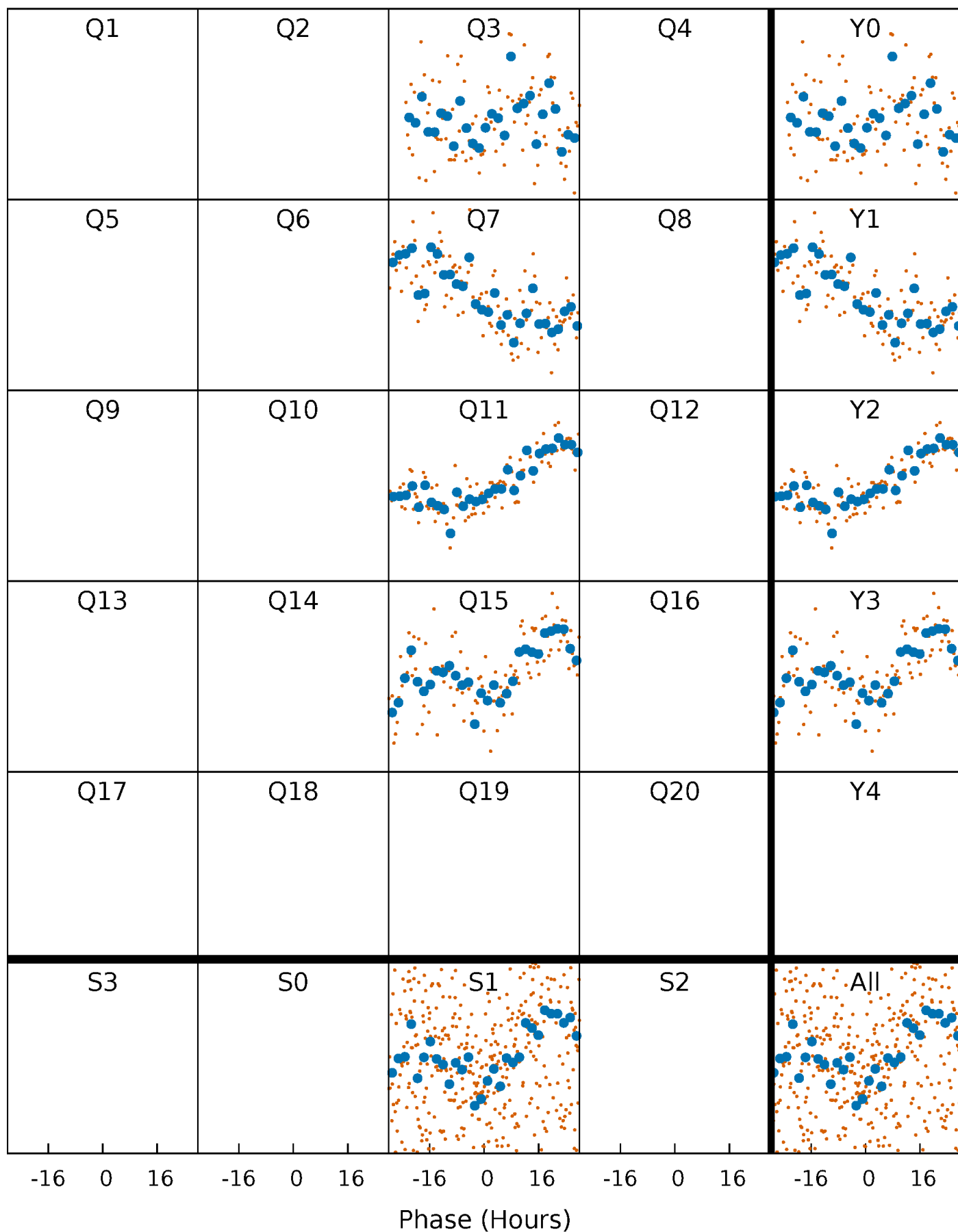


Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 008022475-01 P=375.727766 Days $T_0=261.201669$ (BKJD)



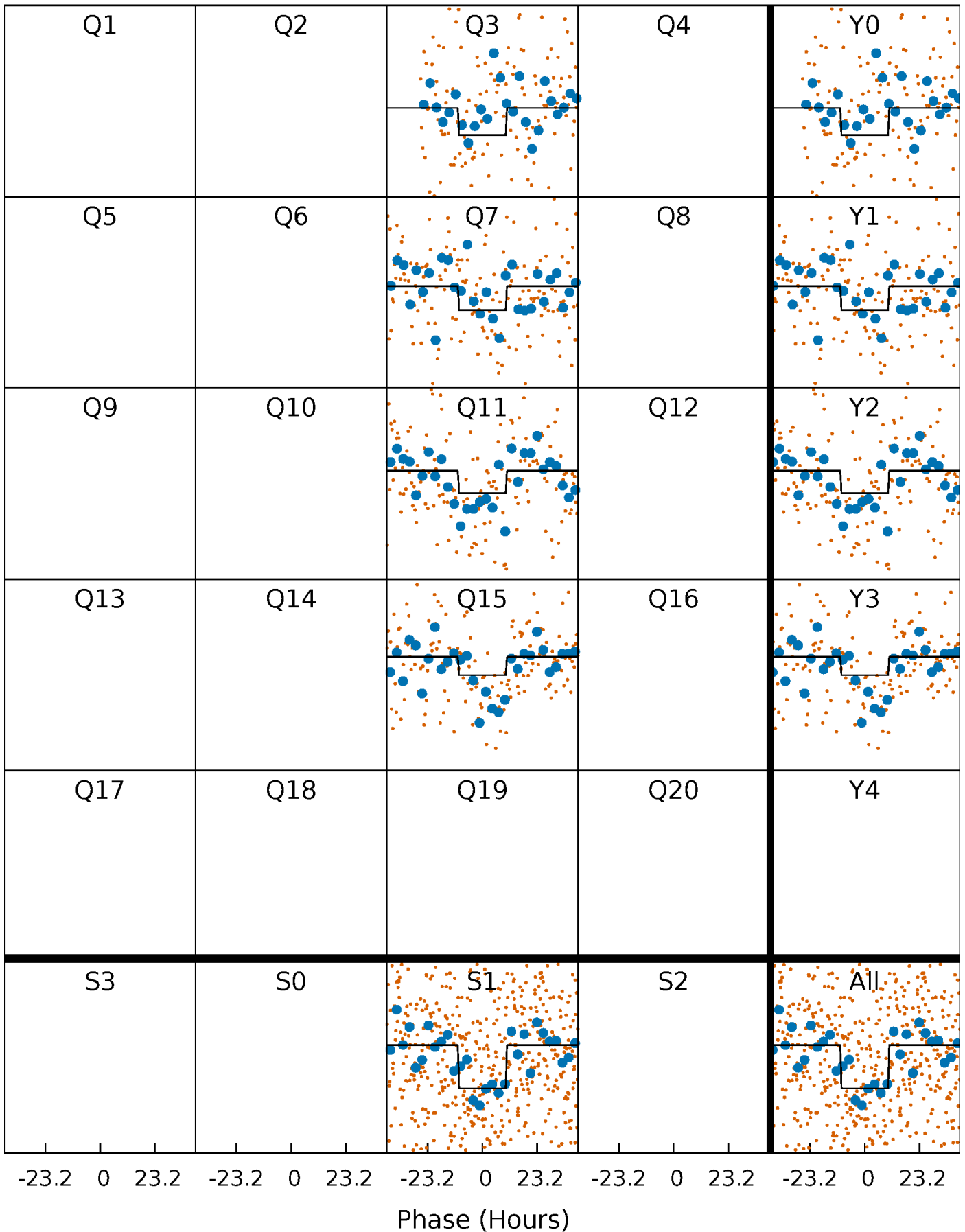
DV Quarter-Phased Transit Curves

TCE 008022475-01 P=375.727766 Days $T_0=261.201669$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

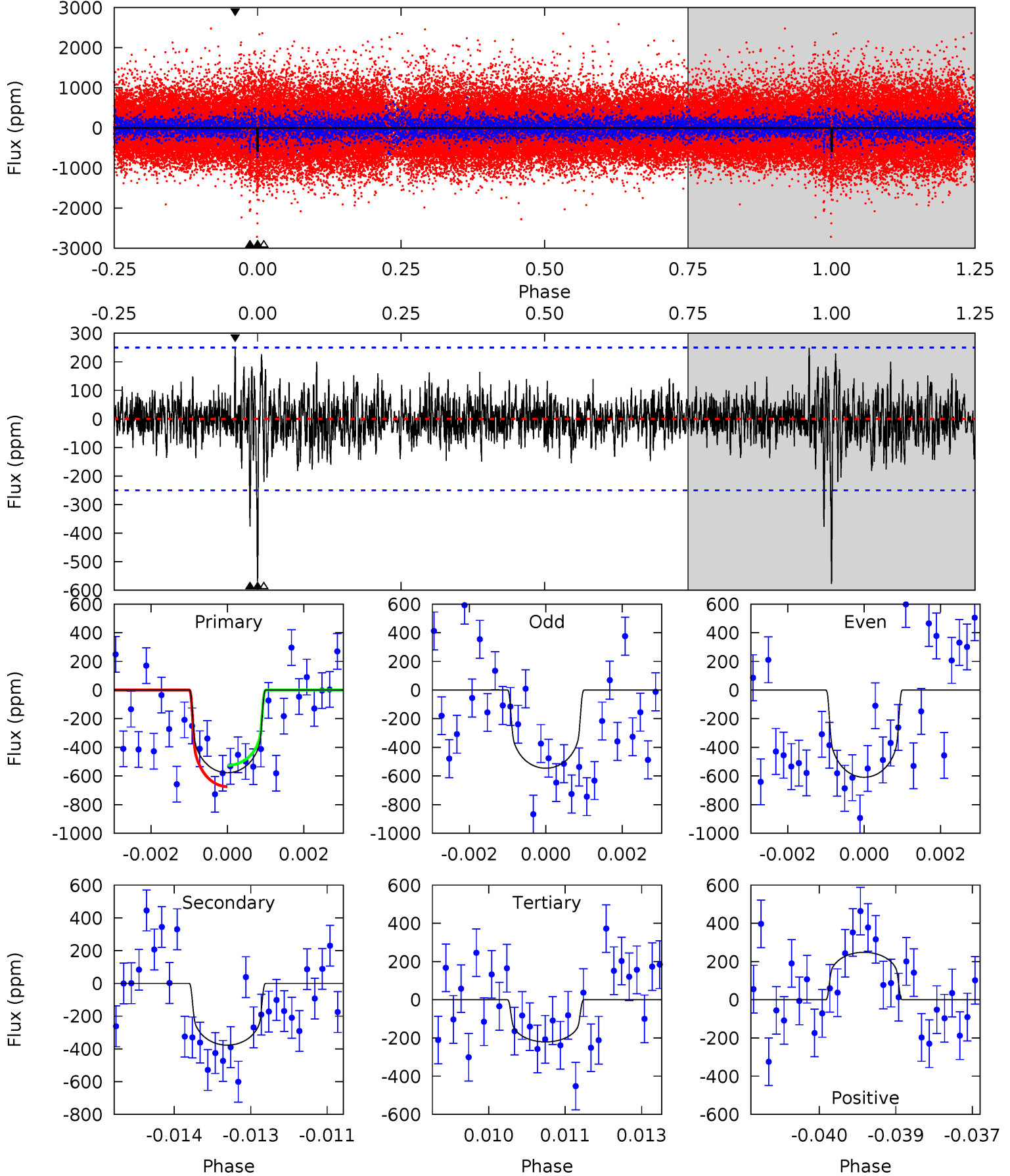
TCE 008022475-01 P=375.657378 Days $T_0=261.339757$ (BKJD)



DV Model-Shift Uniqueness Test

008022475-01, P = 375.727766 Days, E = 261.201669 Days

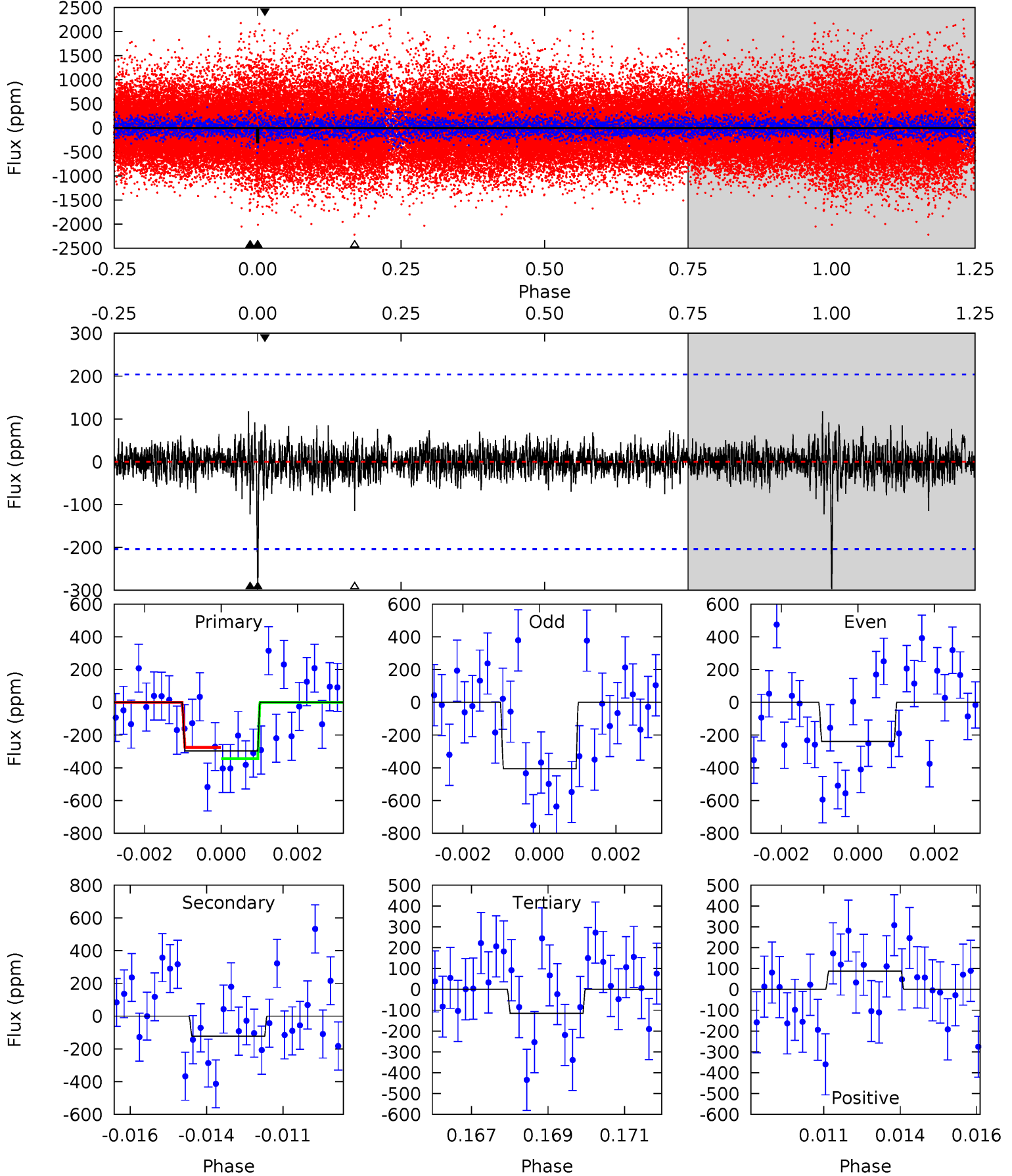
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	8.09	4.73	5.33	5.37	3.16	1.22	7.66	7.06	3.36	2.76	0.68	1.06	0.30	1.59



Alt Model-Shift Uniqueness Test

008022475-01, $P = 375.657378$ Days, $E = 261.339757$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.73	3.19	3.00	2.27	5.30	3.05	0.62	4.73	5.47	0.19	0.92	2.20	0.93	0.28	0.90



Stellar Parameters For KIC 008022475

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5047^{+136}_{-151}	$4.654^{+0.030}_{-0.070}$	$-0.400^{+0.300}_{-0.300}$	$0.666^{+0.084}_{-0.052}$	$0.737^{+0.064}_{-0.078}$	$3.509^{+0.469}_{-0.891}$
	+3%/-3%	+1%/-2%	+75%/-75%	+13%/-8%	+9%/-11%	+13%/-25%
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 008022475-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-377 ± 47	$1.71^{+0.94}_{-0.87}$	267^{+10}_{-9}	4716^{+1626}_{-757}	$58953^{+183537}_{-34474}$
Alt.	-122 ± 38	$1.41^{+0.85}_{-0.79}$	267^{+10}_{-9}	4029^{+1765}_{-606}	$26296^{+132363}_{-16254}$

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 $A_{obs} \gg 1.0$

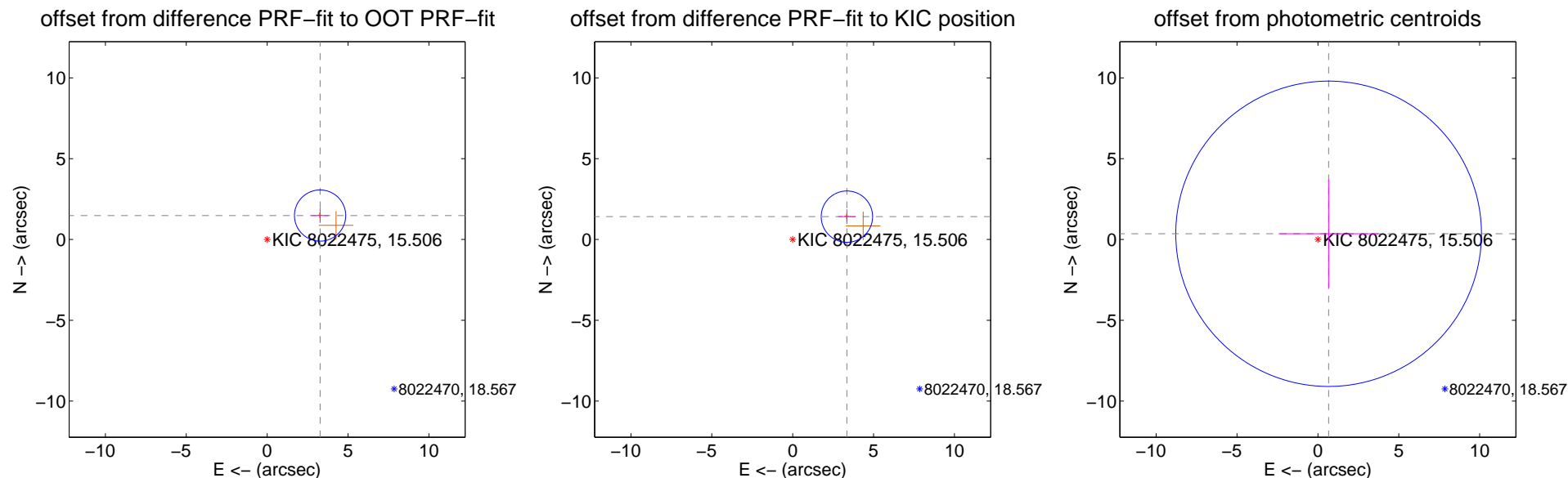
DV Centroid Data

Supplemental centroid analysis for 008022475-01. Kepler magnitude: 15.51. Transit SNR 5.81

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.593 ± 0.528	6.80	-3.273 ± 0.542	1.482 ± 0.453
PRF-fit source offset from KIC position	3.639 ± 0.530	6.87	-3.353 ± 0.542	1.414 ± 0.453
photometric centroid source offset	0.75 ± 3.15	0.24	-0.66 ± 3.09	0.35 ± 3.36

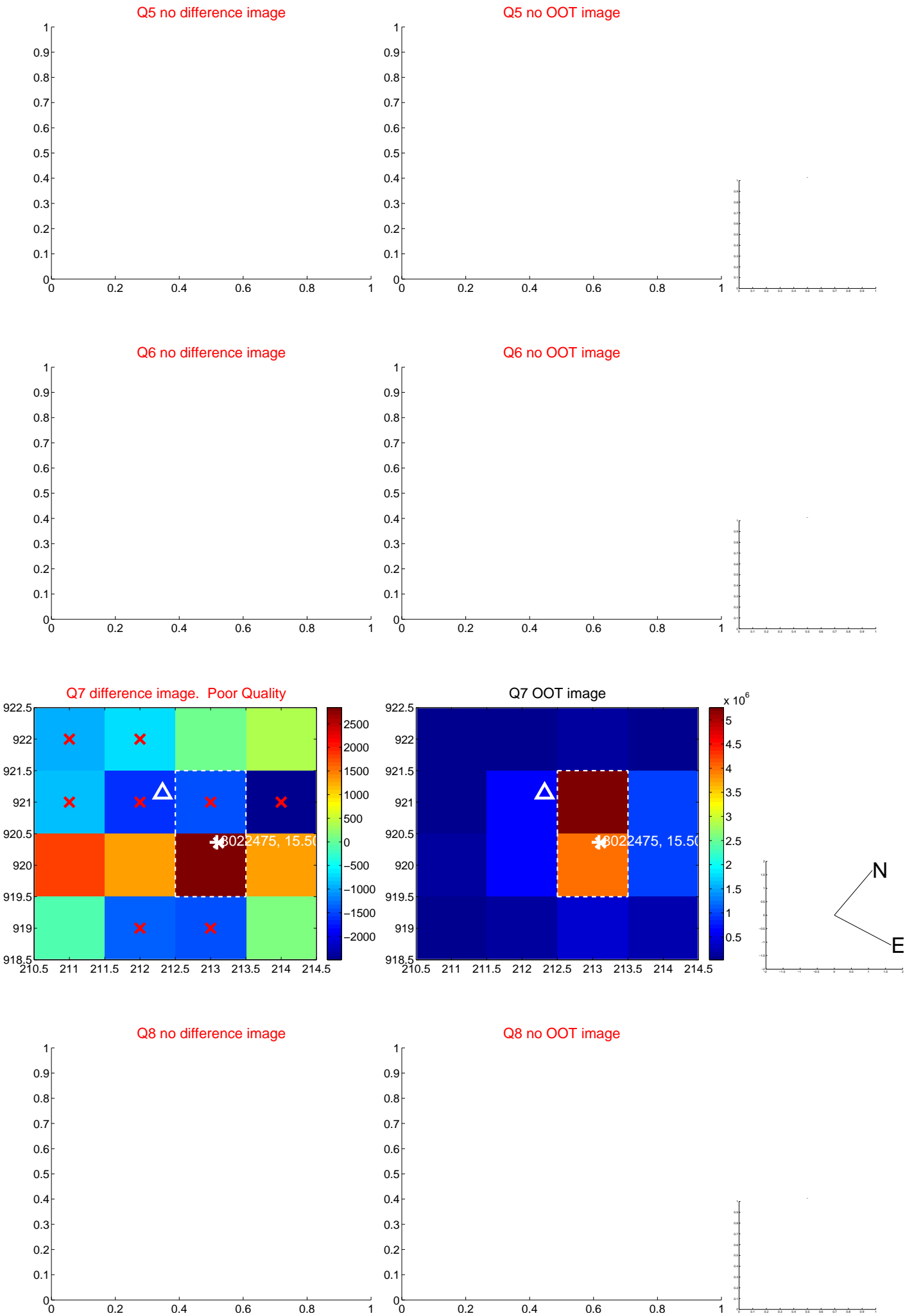


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

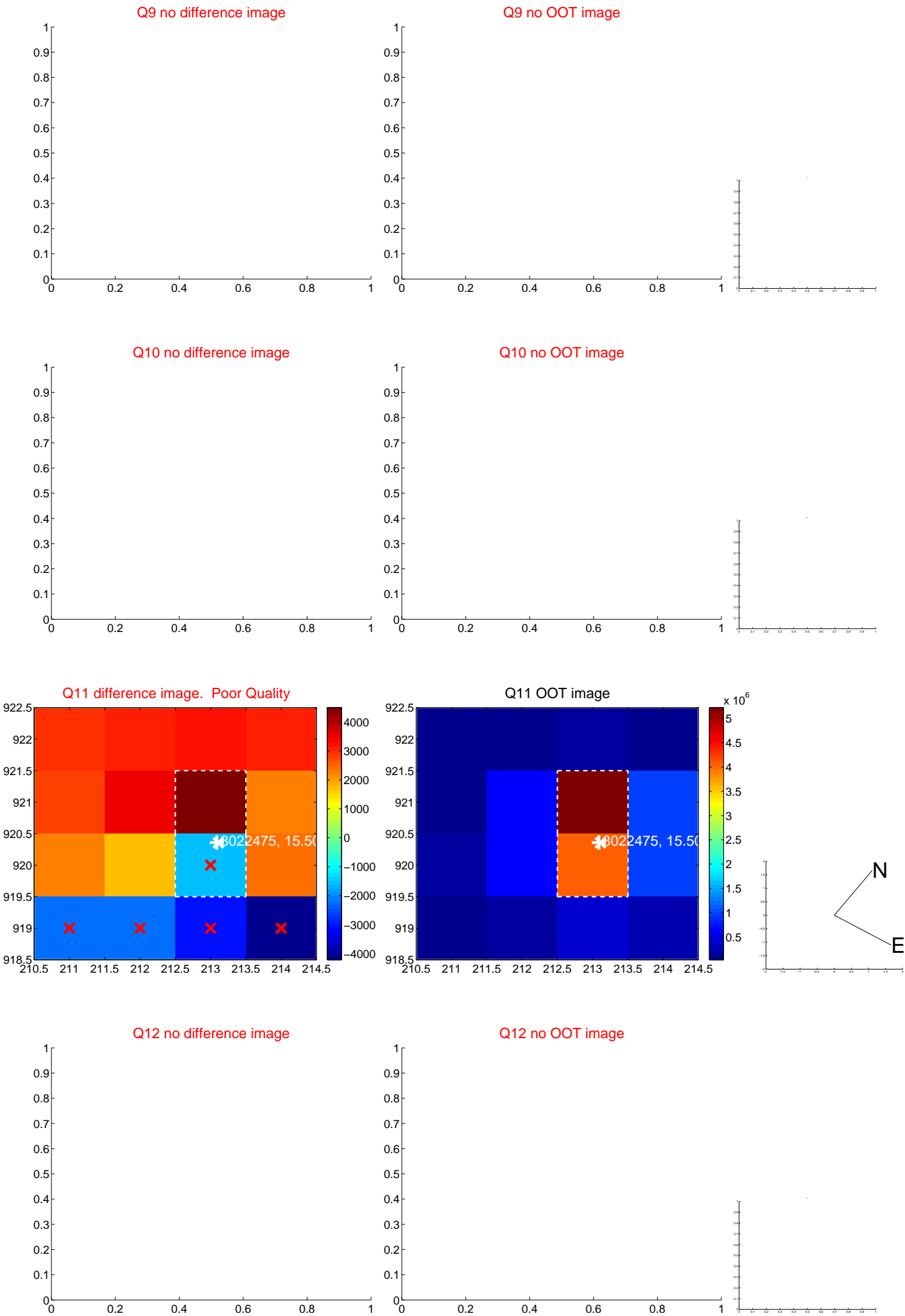
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



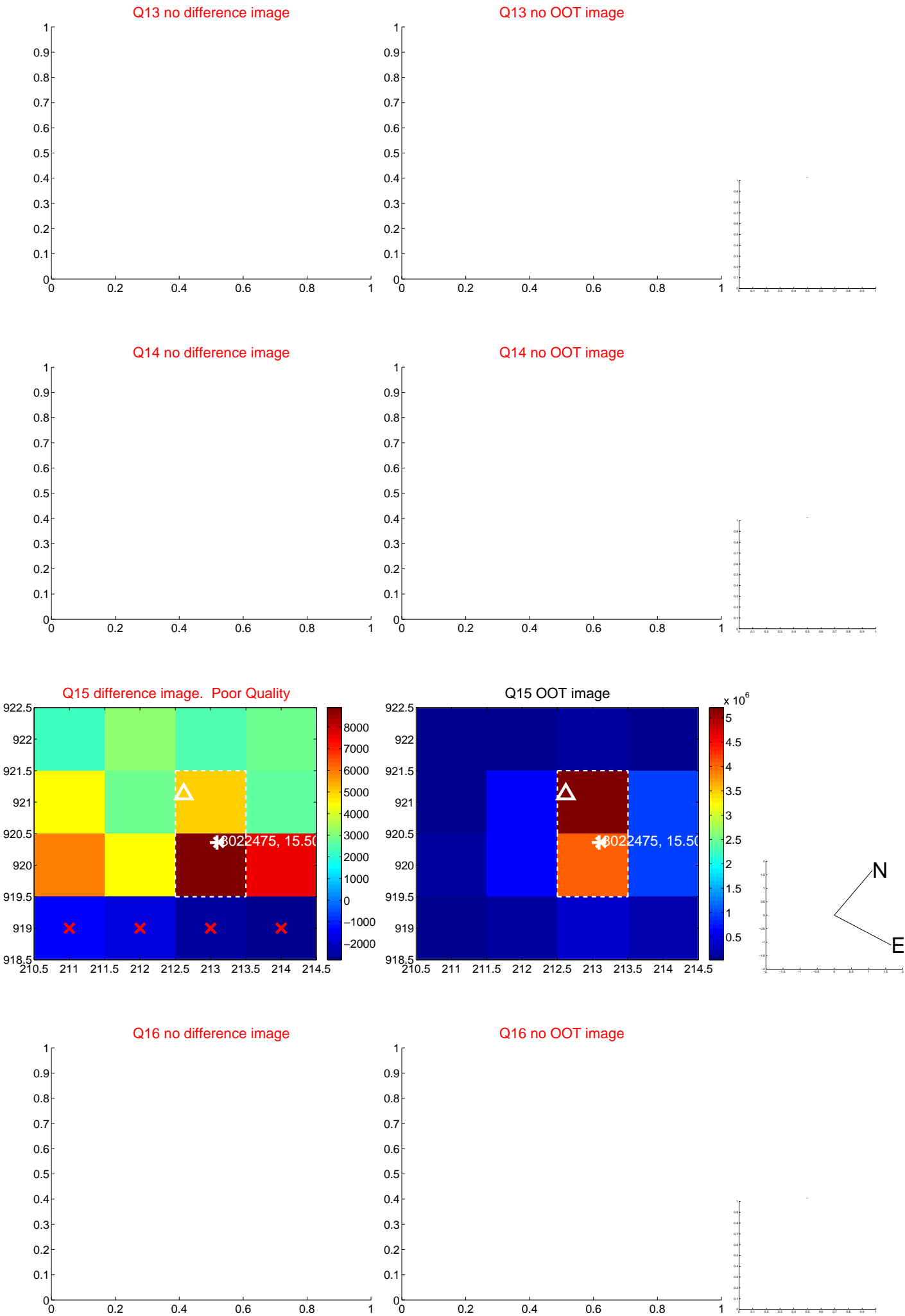
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



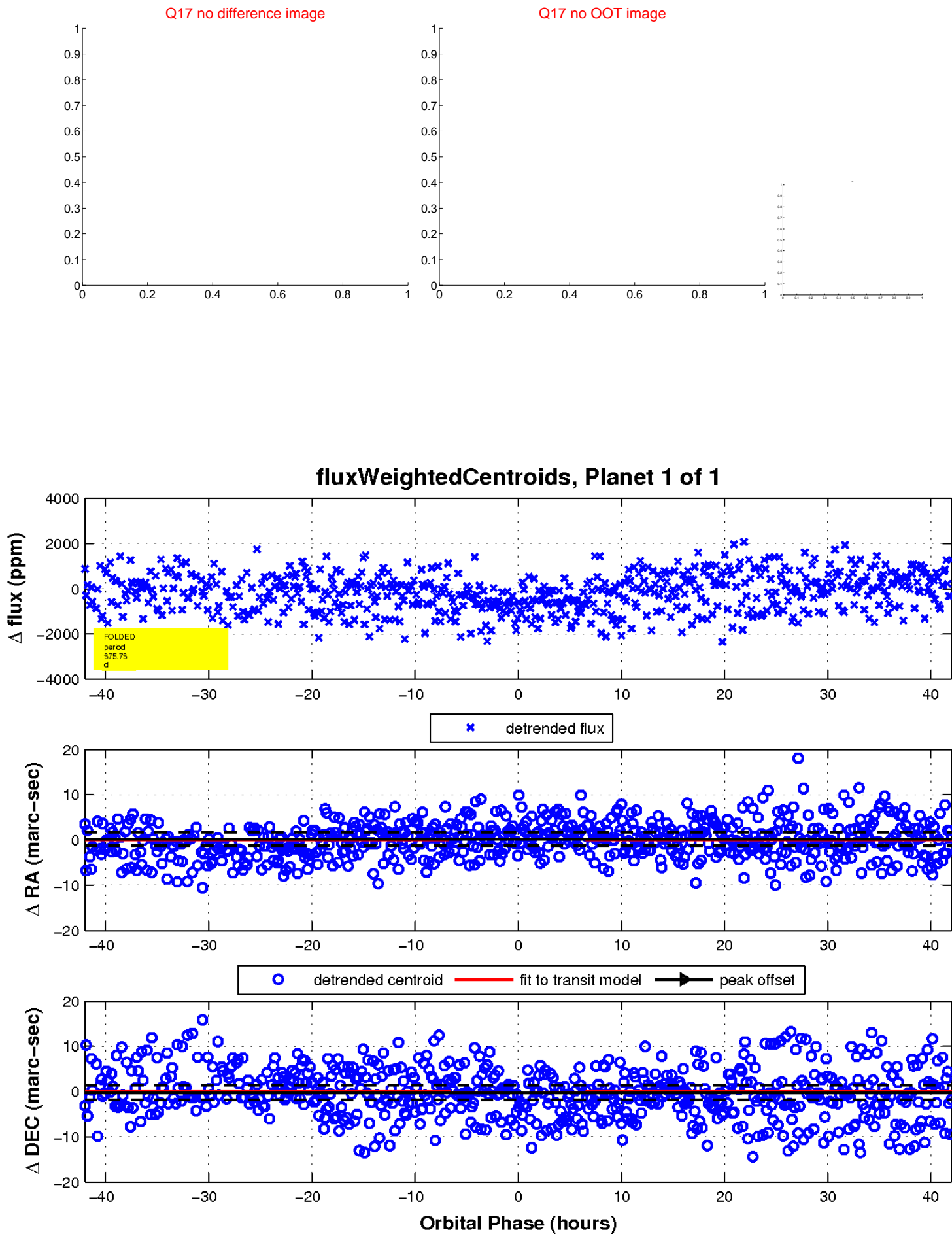
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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.



UKIRT Image

Declination

