

KIC 008812512

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})
008812512-01	OBS	No	371.443045	231.097693	788.7	17.463	7.6	7.5	0.88	5847	2.50	0.85

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008812512-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—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.

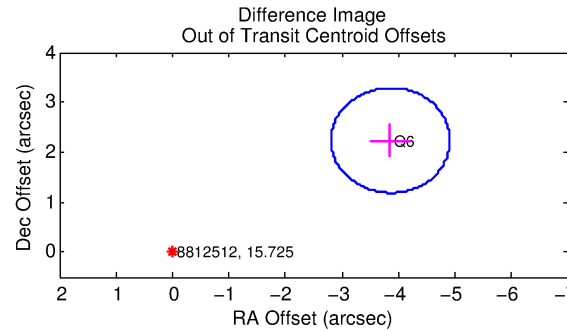
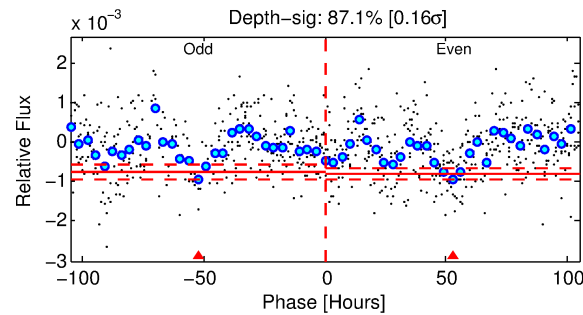
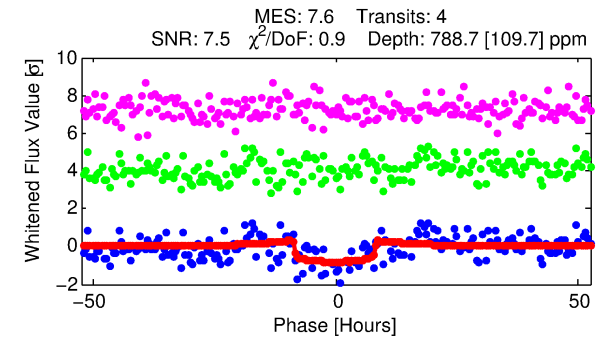
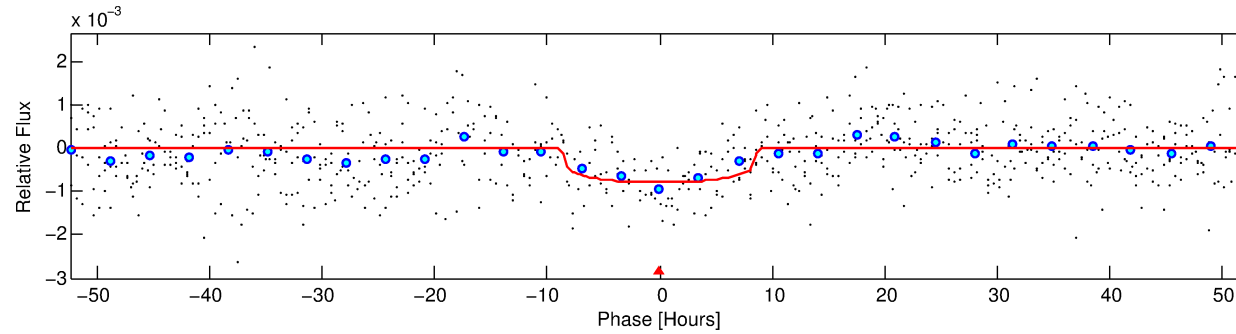
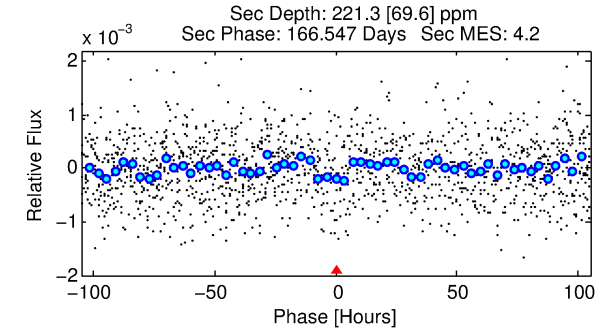
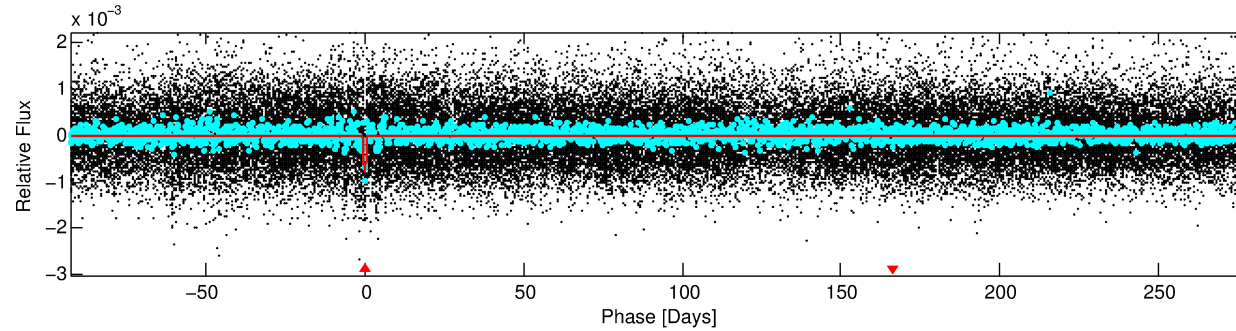
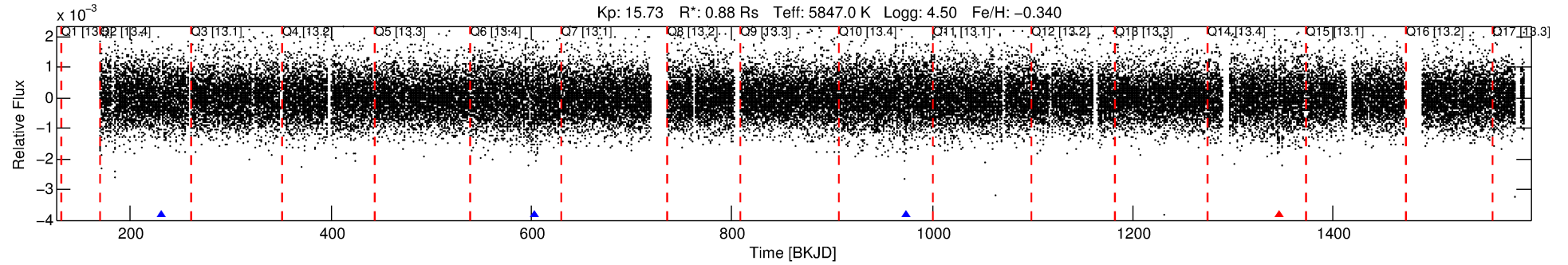
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008812512-01

No Significant Match Found

DV One-Page Summary

KIC: 8812512 Candidate: 1 of 1 Period: 371.443 d



DV Fit Results:

Period = 371.44304 [0.01228] d
Epoch = 231.0977 [0.0265] BKJD
Rp/R* = 0.0261 [0.0135]
a/R* = 152.01 [360.81]
b = 0.42 [4.67]
Seff = 0.85 [0.31]
Teq = 245 [22] K
Rp = 2.50 [1.46] Re
a = 0.9712 [0.2276] AU
Ag = 18345.05 [20721.58] [0.89σ]
Teff = 4411 [1194] K [3.49σ]

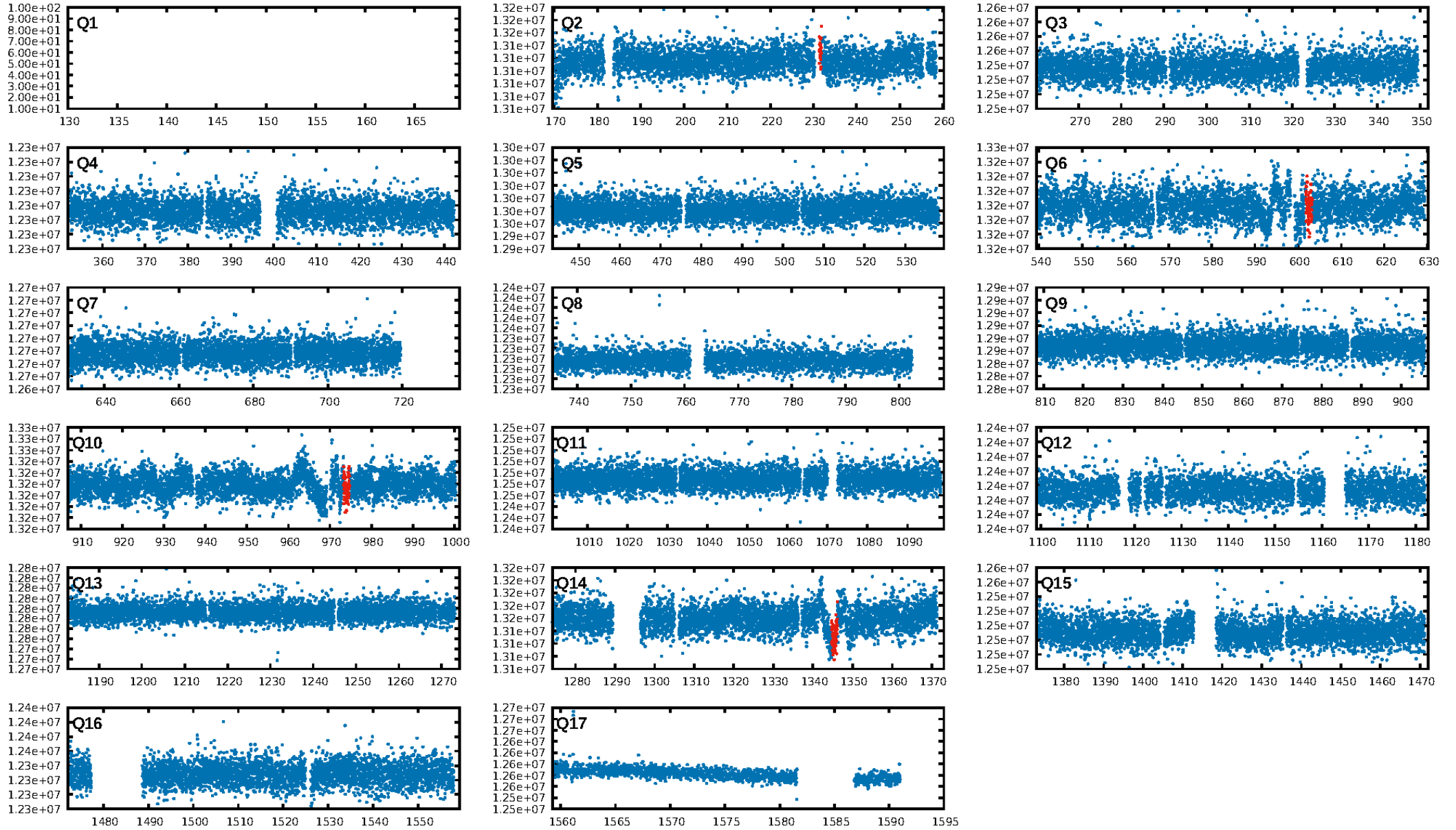
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 9.1%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 1.70e-11
RollingBand-fgt: 0.75 [3/4]
GhostDiagnostic-chr: 0.7331
Centroid-sig: 1.6%
Centroid-so: 4.338 arcsec [2.24σ]
OotOffset-rm: 4.457 arcsec [12.73σ]
KicOffset-rm: 4.419 arcsec [12.63σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [3/3]

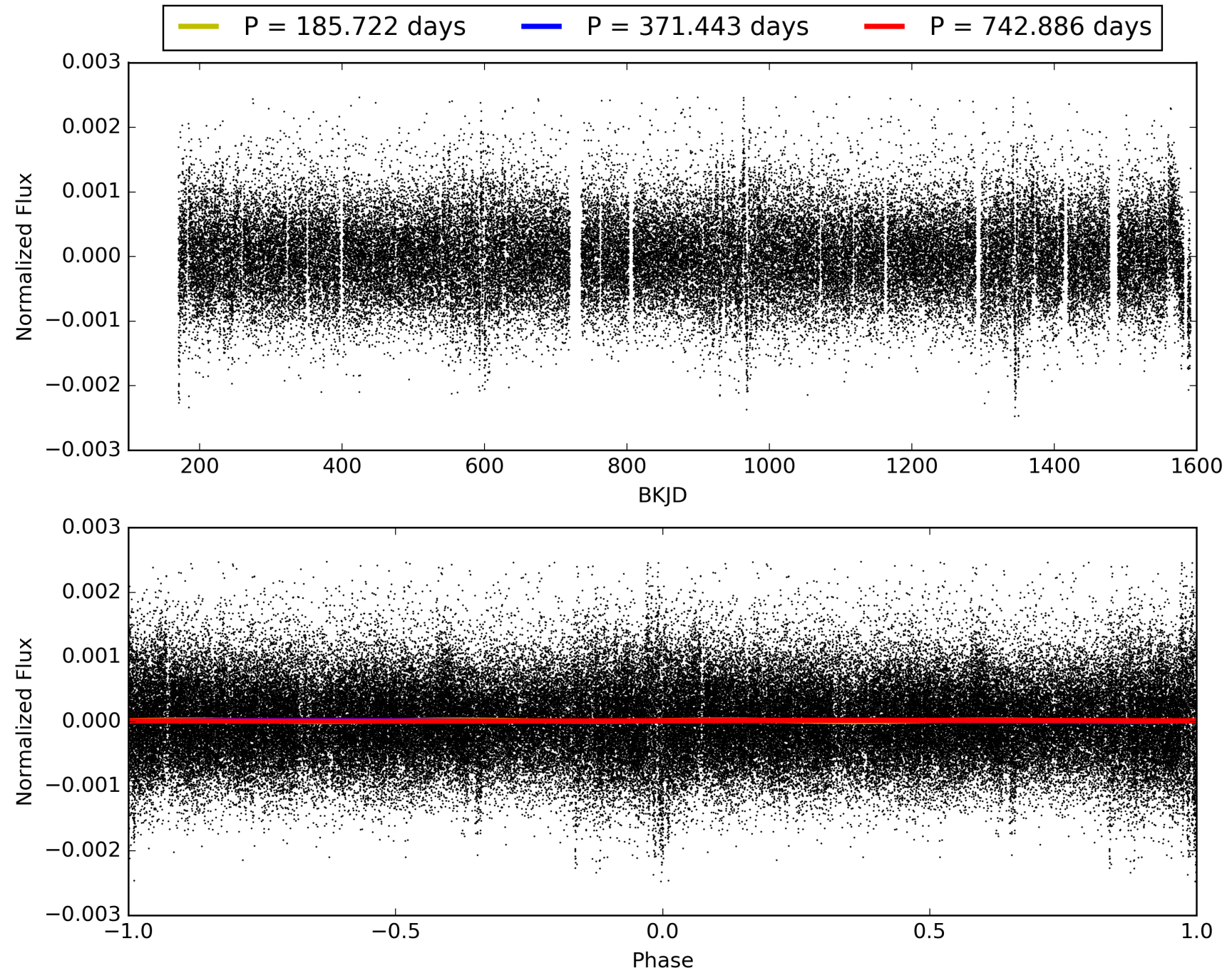
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:56:27 Z

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

TCE 008812512-01, PDC Light Curves

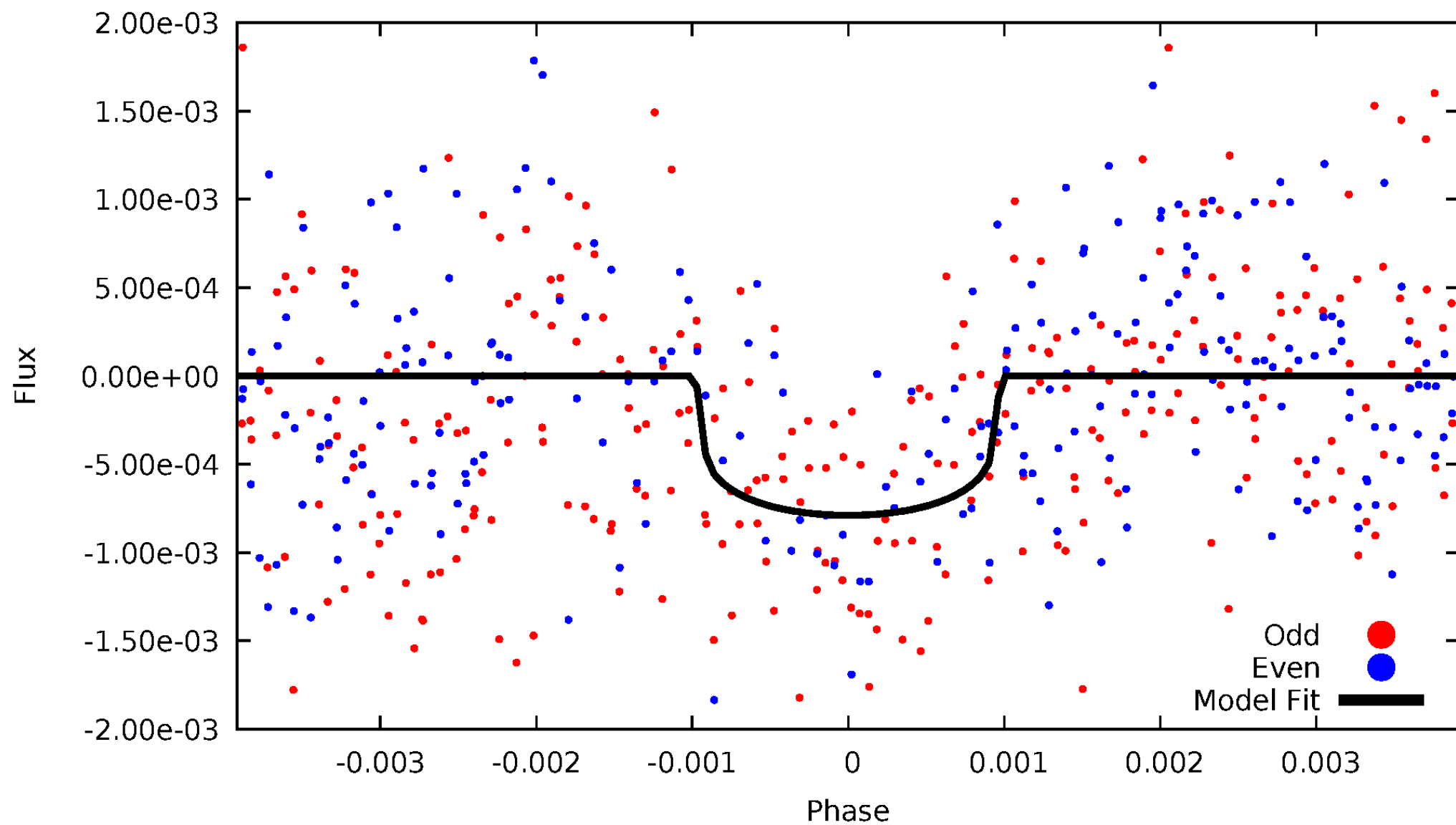


TCE 008812512-01



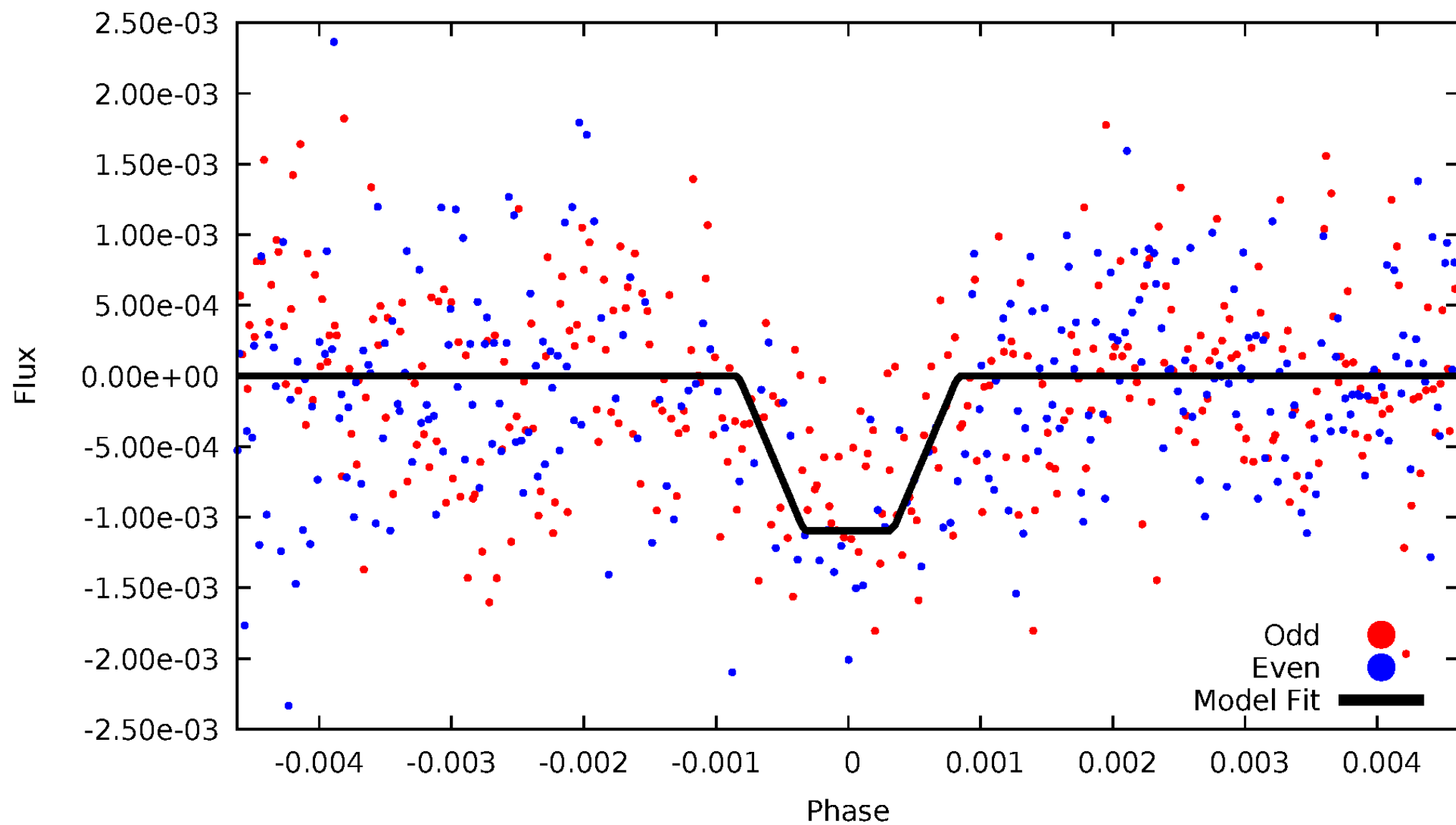
DV Odd/Even

TCE 008812512-01



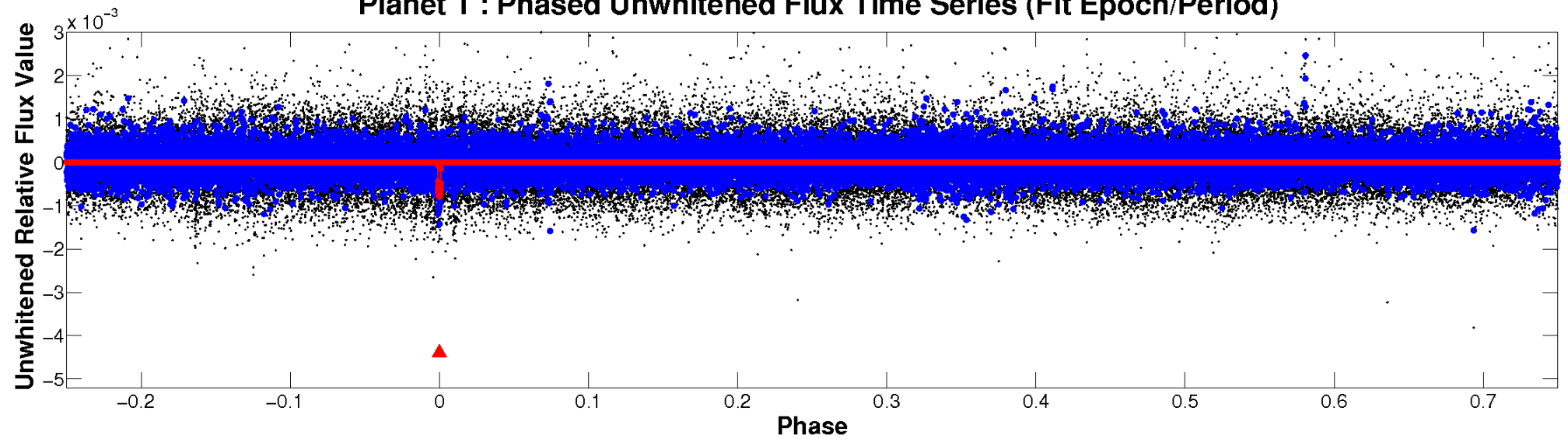
ALT Odd/Even

TCE 008812512-01

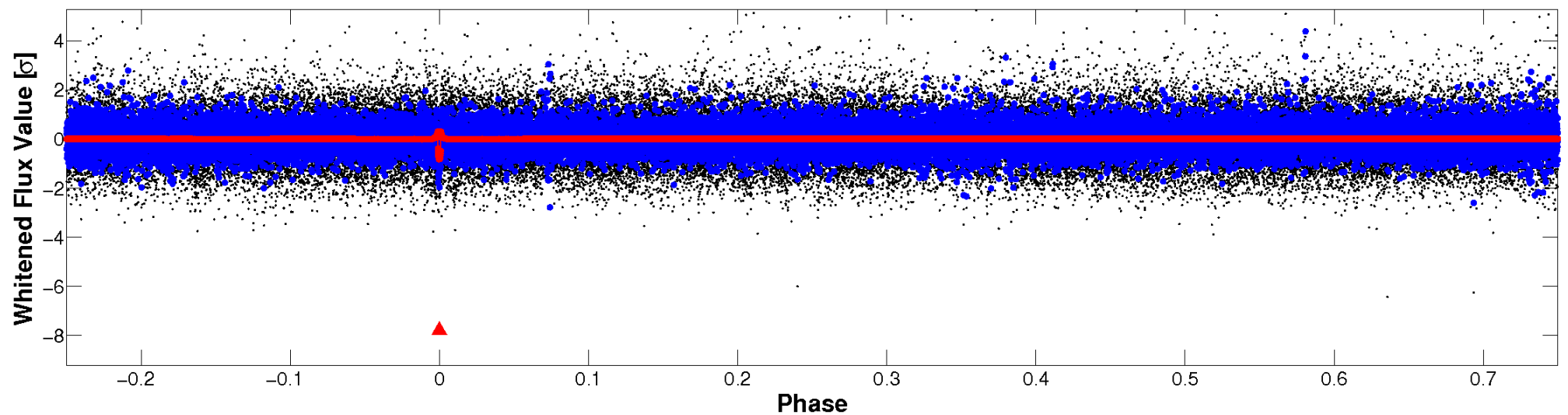


Non-Whitened Vs. Whitened Light Curve

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



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



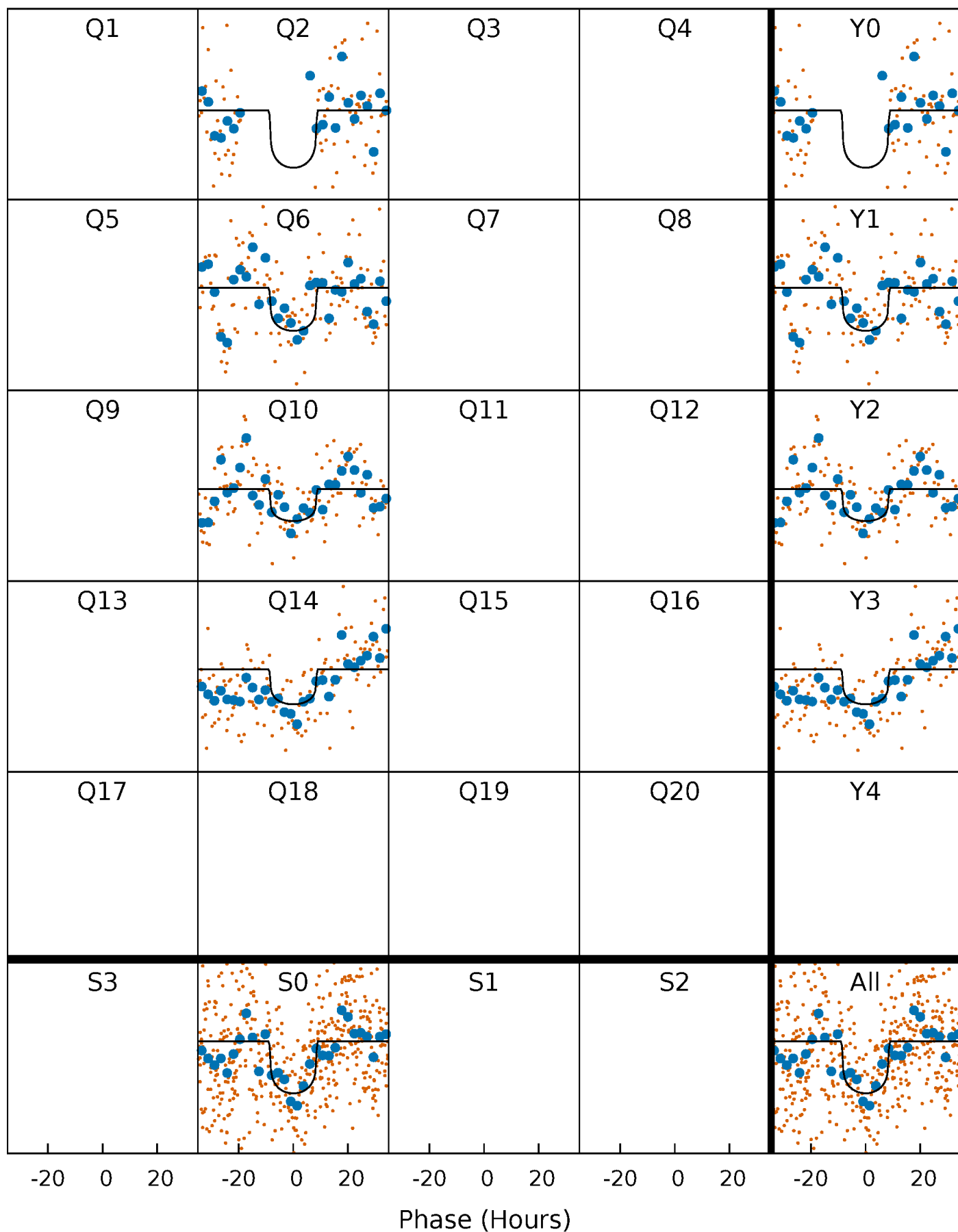
PDC Quarter-Phased Transit Curves

TCE 008812512-01 P=371.443045 Days $T_0=231.097693$ (BKJD)



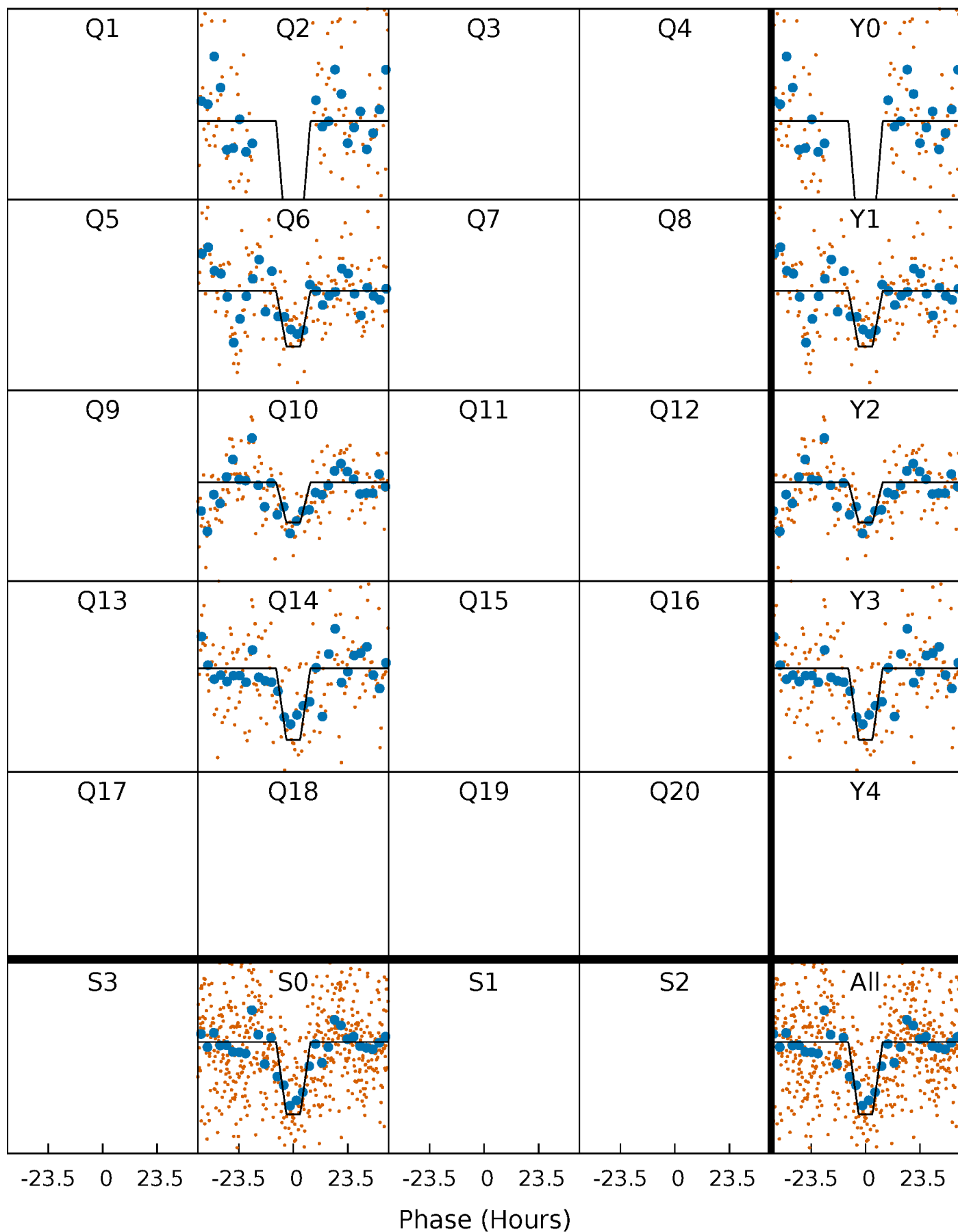
DV Quarter-Phased Transit Curves

TCE 008812512-01 P=371.443045 Days $T_0=231.097693$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

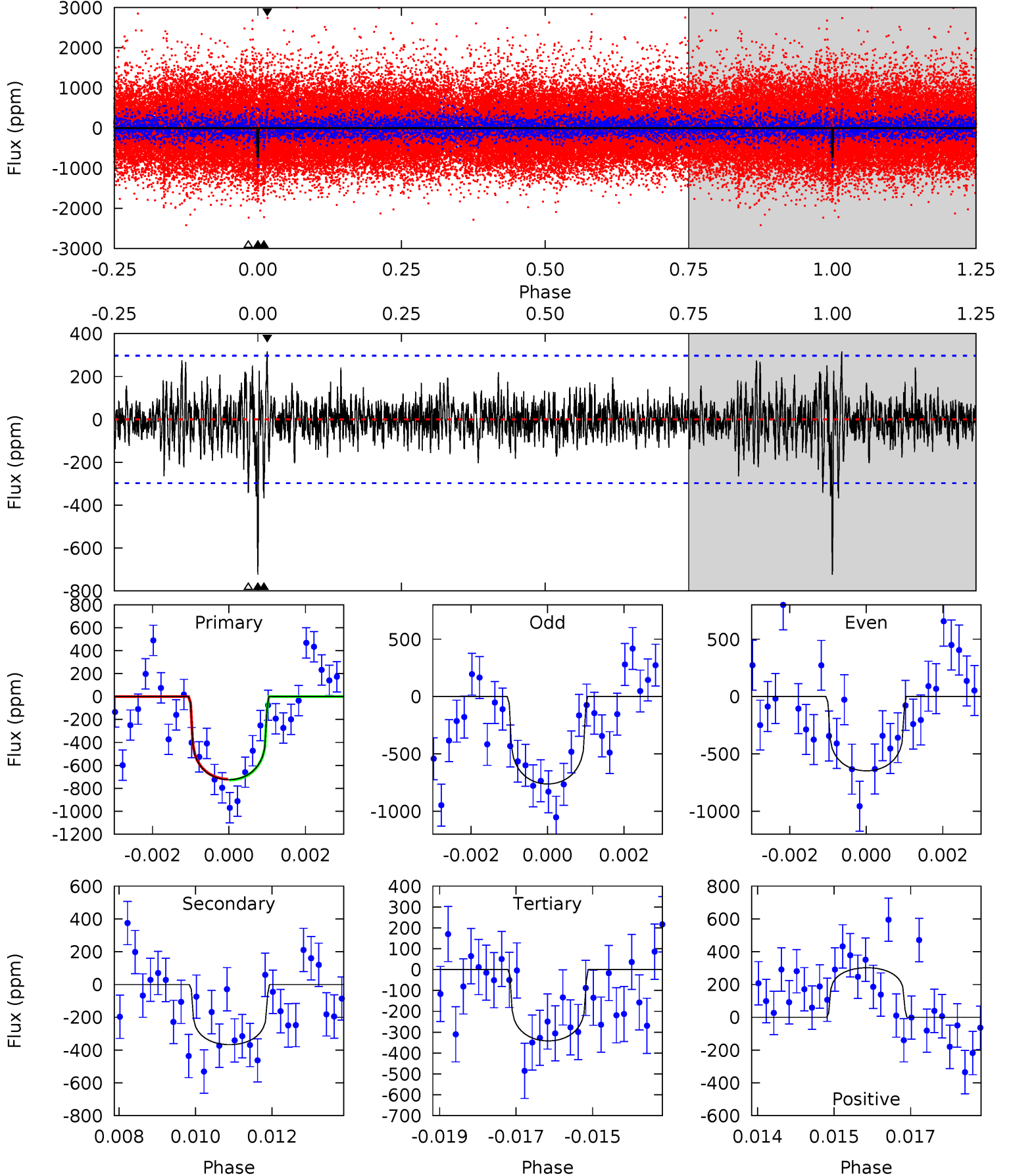
TCE 008812512-01 P=371.475310 Days $T_0=231.039950$ (BKJD)



DV Model-Shift Uniqueness Test

008812512-01, P = 371.443045 Days, E = 231.097693 Days

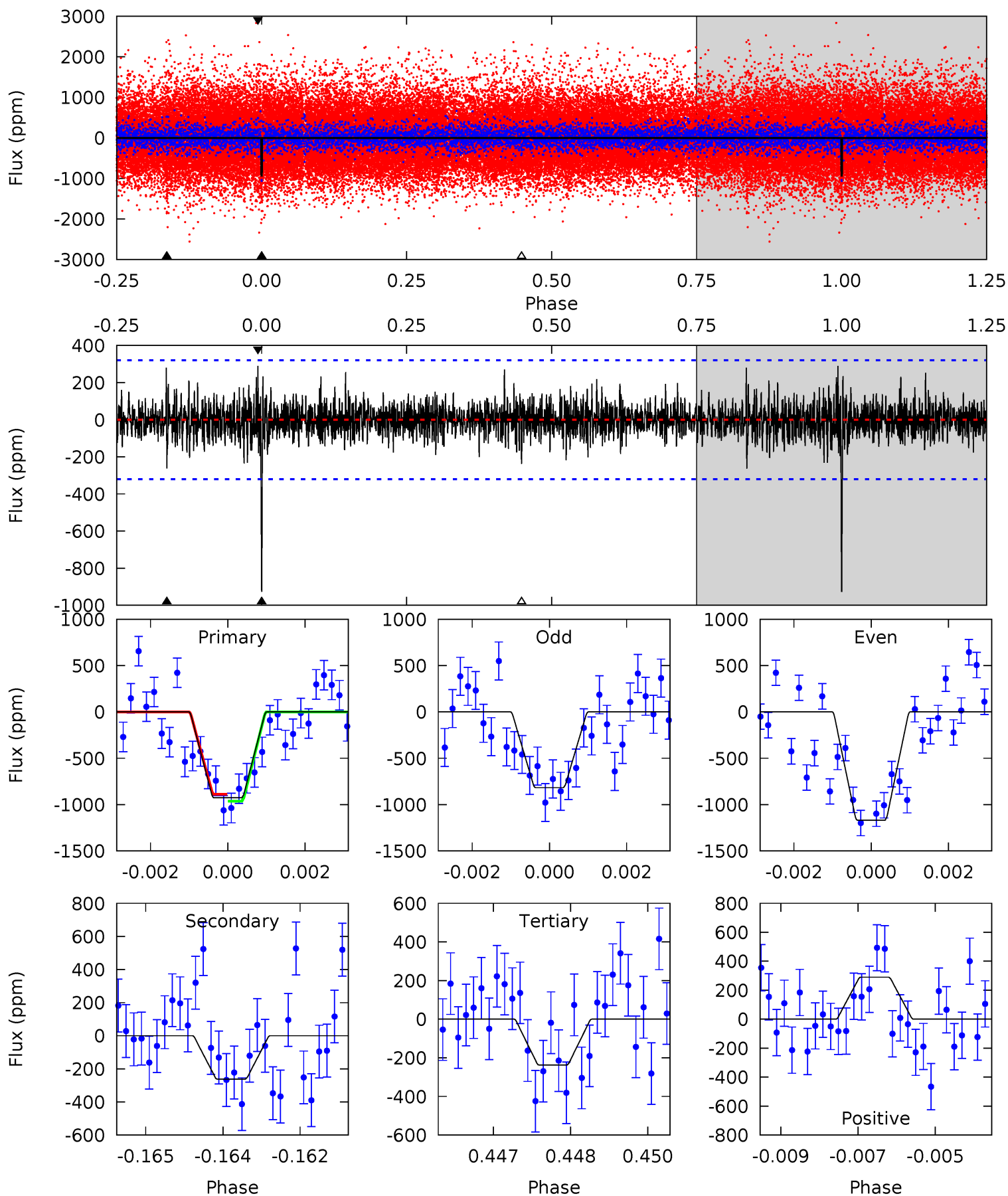
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	6.59	6.14	5.43	5.33	3.10	1.29	6.87	7.58	0.45	1.17	0.97	1.03	0.30	0.07



Alt Model-Shift Uniqueness Test

008812512-01, P = 371.475310 Days, E = 231.039950 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.5	4.39	3.97	4.85	5.36	3.14	1.11	11.5	10.6	0.42	-0.47	2.72	1.12	0.24	0.62



Stellar Parameters For KIC 008812512

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5847^{+158}_{-175}	$4.499^{+0.075}_{-0.188}$	$-0.340^{+0.300}_{-0.300}$	$0.877^{+0.243}_{-0.104}$	$0.888^{+0.109}_{-0.089}$	$1.851^{+0.598}_{-0.883}$
	+3%/-3%	+2%/-4%	+88%/-88%	+28%/-12%	+12%/-10%	+32%/-48%
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 008812512-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-367 ± 56	$2.63^{+1.39}_{-1.23}$	346^{+26}_{-16}	5057^{+1650}_{-796}	27487^{+69422}_{-16067}
Alt.	-262 ± 60	$3.29^{+1.47}_{-1.31}$	346^{+23}_{-16}	4304^{+1021}_{-555}	12572^{+21568}_{-6792}

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

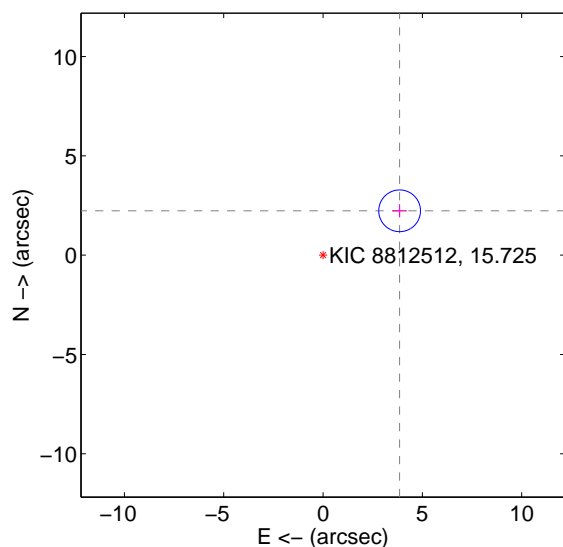
Supplemental centroid analysis for 008812512-01. Kepler magnitude: 15.72. Transit SNR 7.53

There are 0 quarters with good PRF difference image offsets

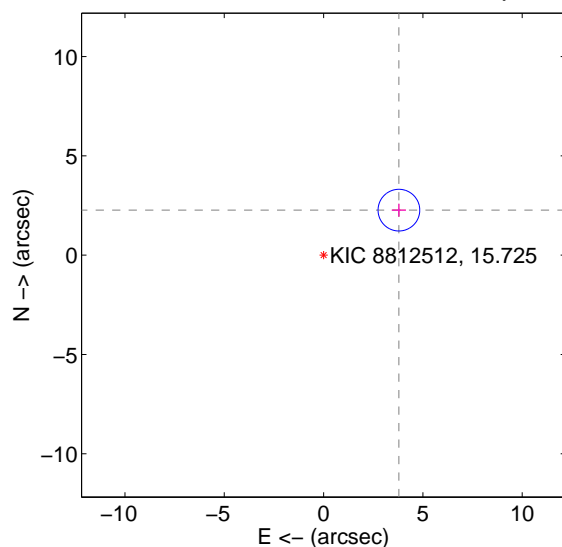
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.457 \pm 0.350	12.73	-3.856 \pm 0.358	2.234 \pm 0.327
PRF-fit source offset from KIC position	4.419 \pm 0.350	12.63	-3.793 \pm 0.358	2.267 \pm 0.327
photometric centroid source offset	4.34 \pm 1.94	2.24	-4.02 \pm 1.90	-1.63 \pm 2.14

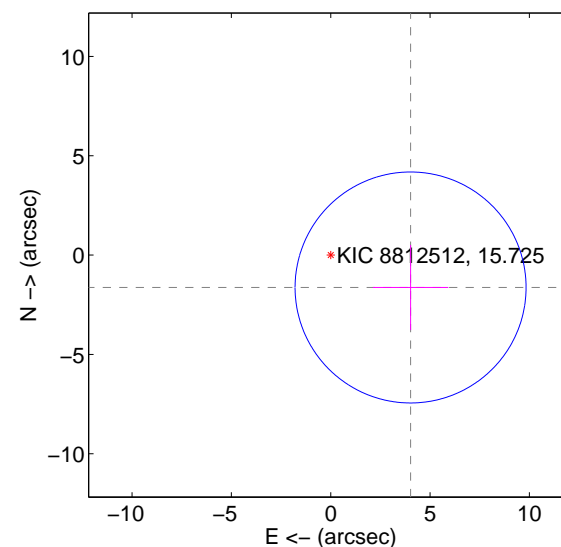
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

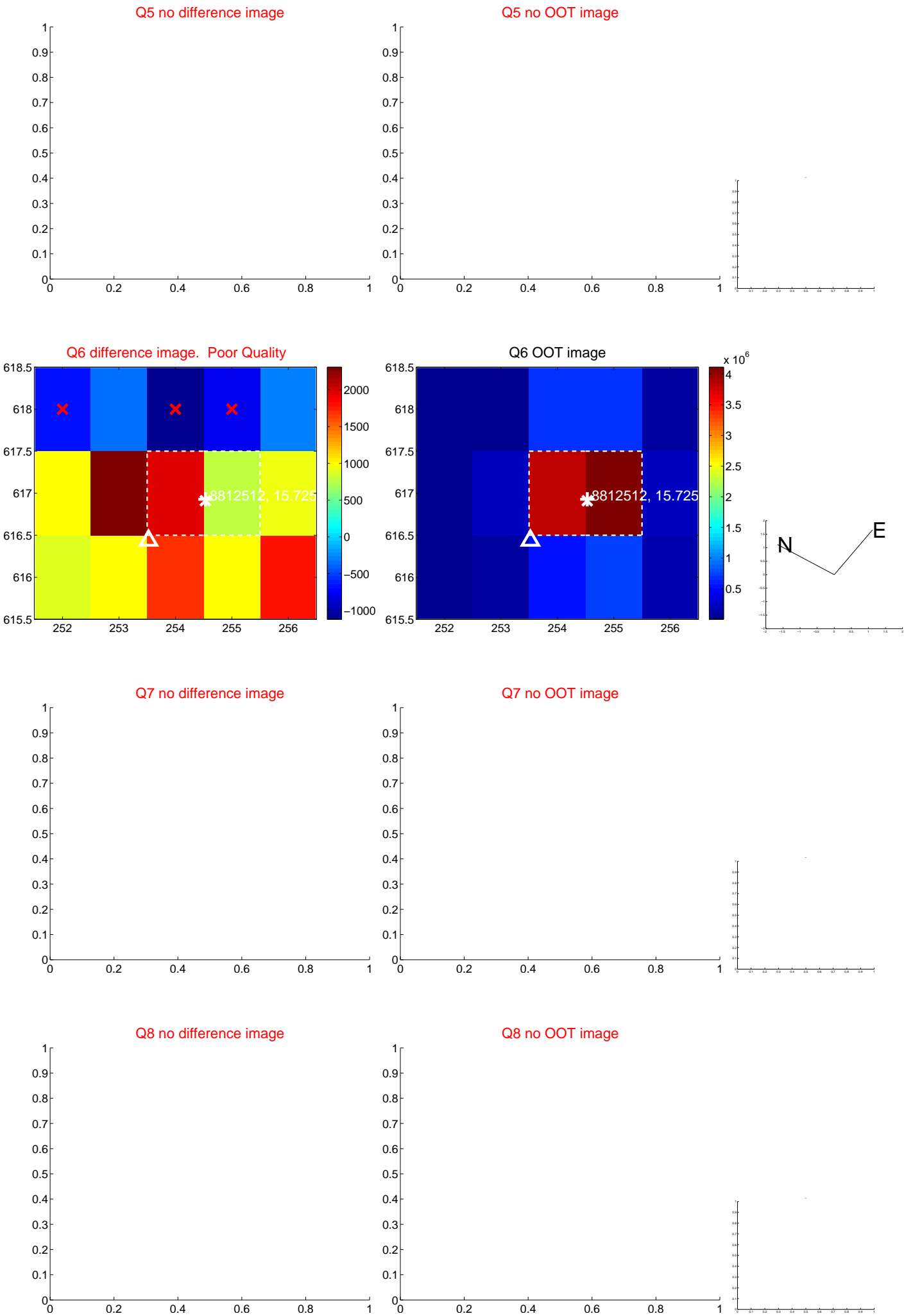


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

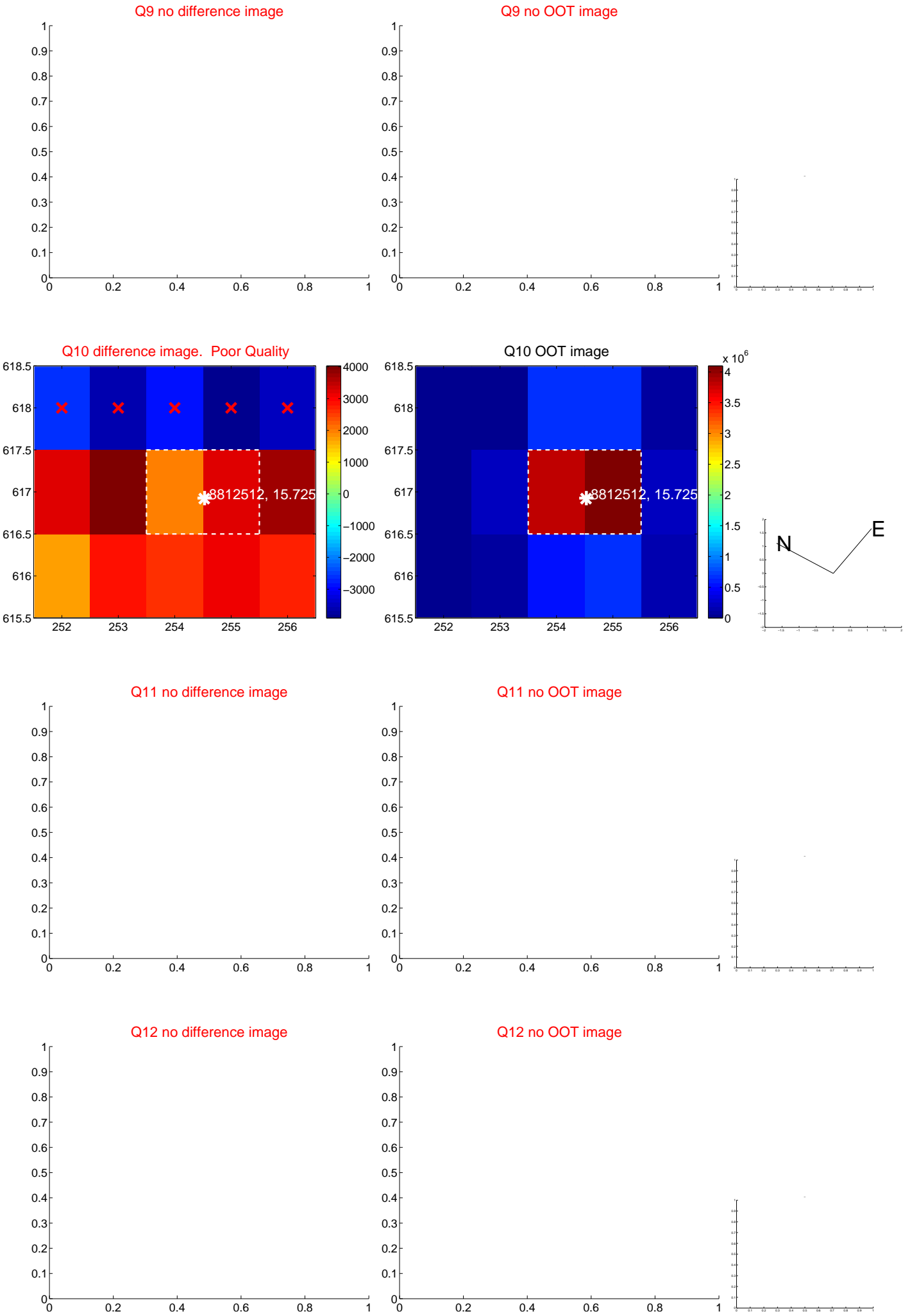
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



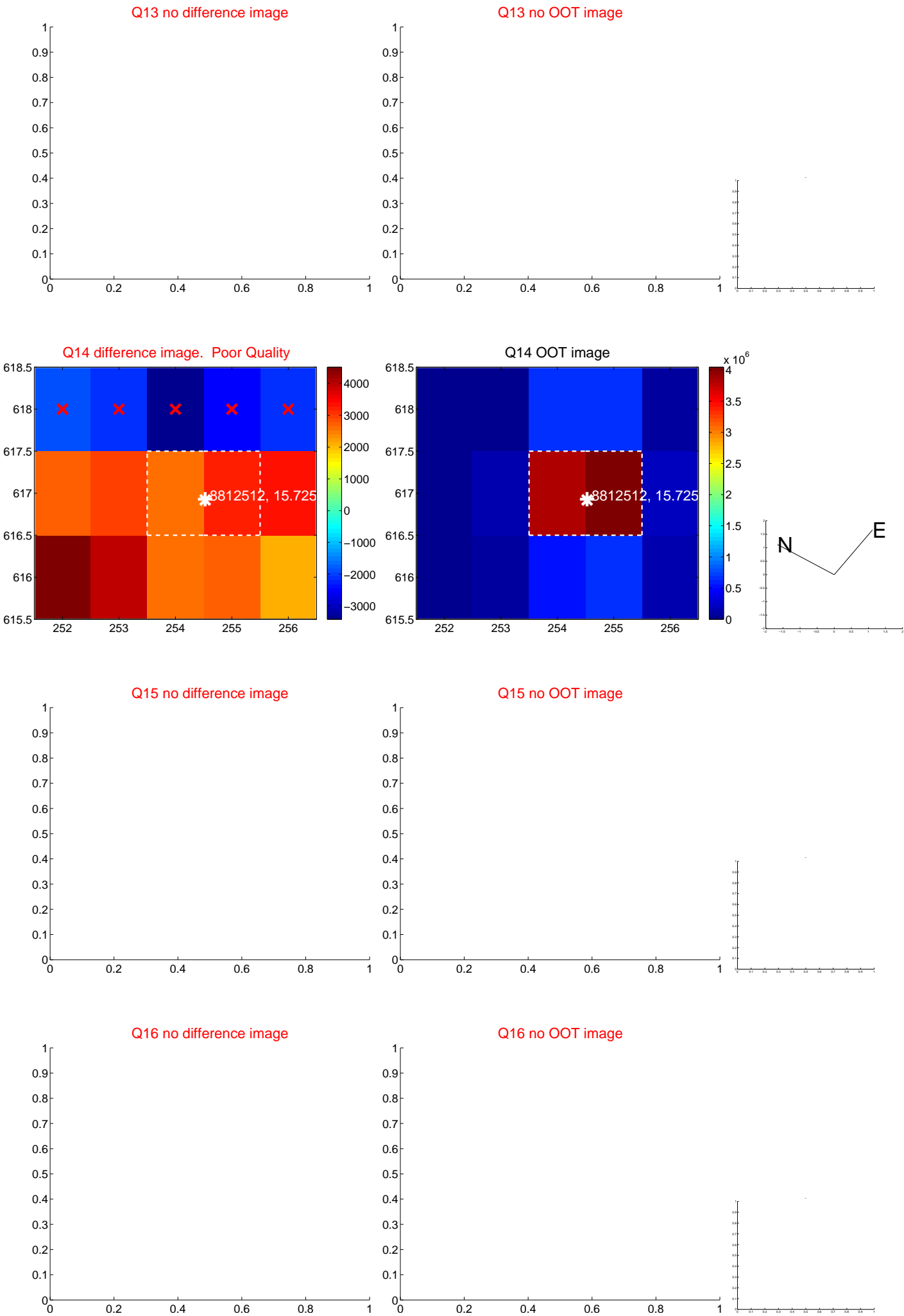
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



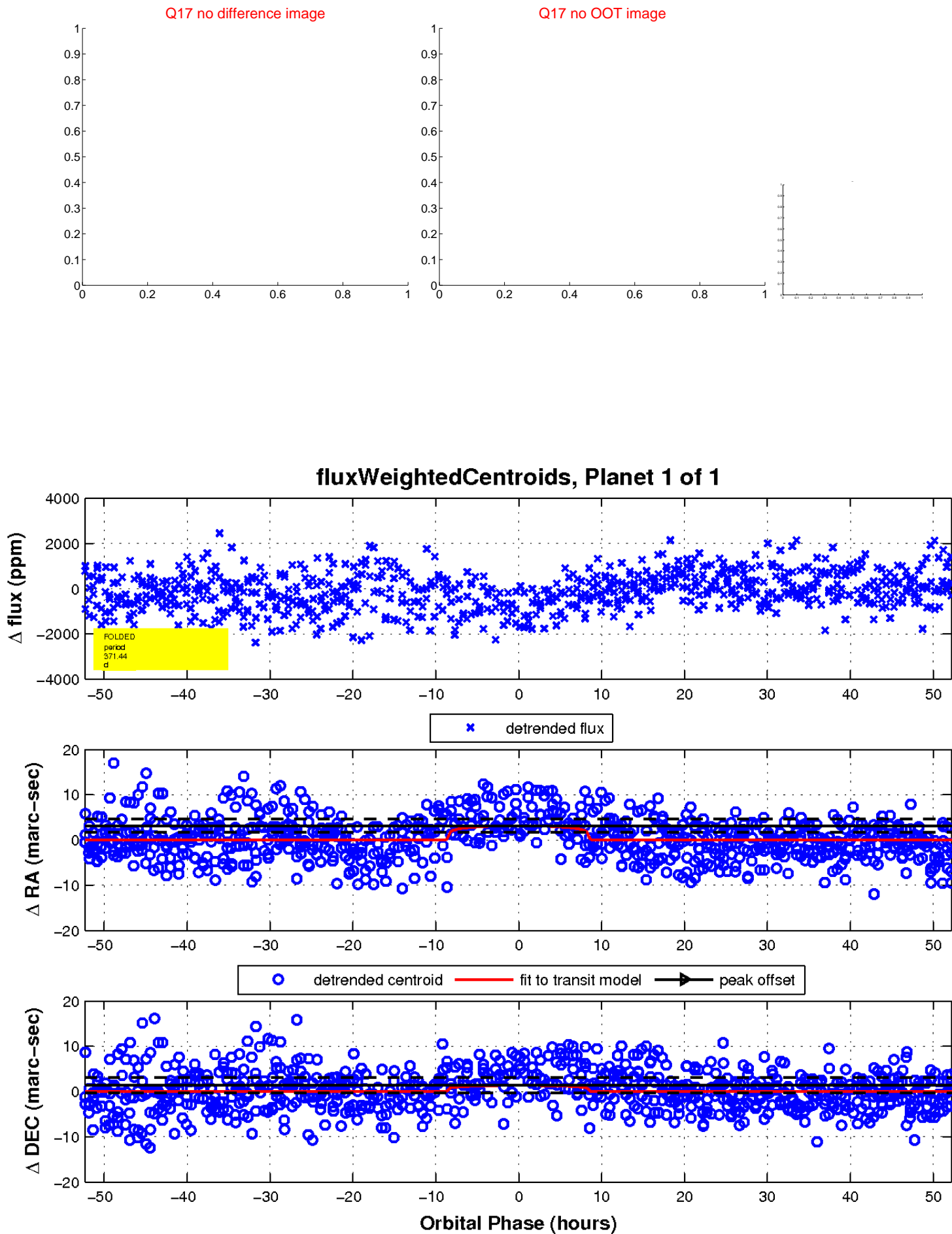
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

