

KIC 008242769

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})
008242769-01	OBS	No	370.652050	230.807551	1669.0	20.368	11.9	11.7	1.00	5763	7.83	0.97
008242769-02	OBS	7875.01	21.972352	137.666076	181.2	5.610	7.4	7.5	1.00	5763	1.64	41.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008242769-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008242769-02	OBS	PC	0.83	0	0	0	0	NO_COMMENT

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

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

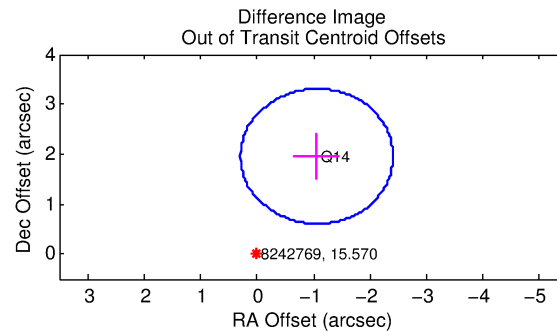
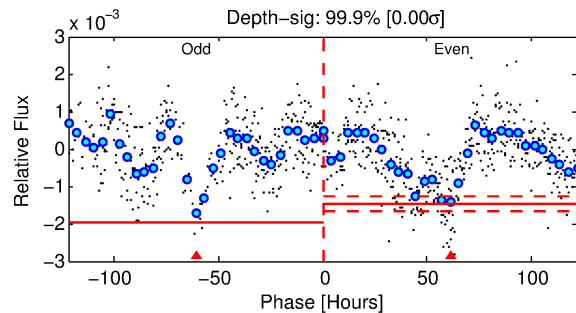
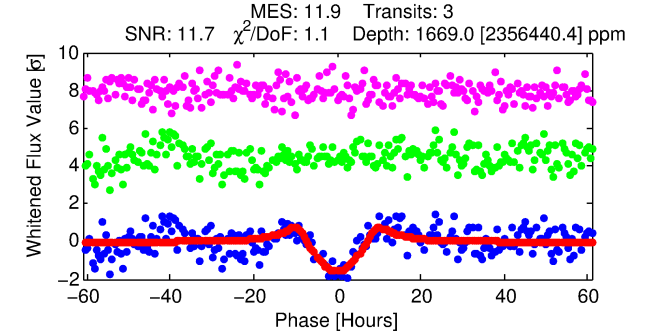
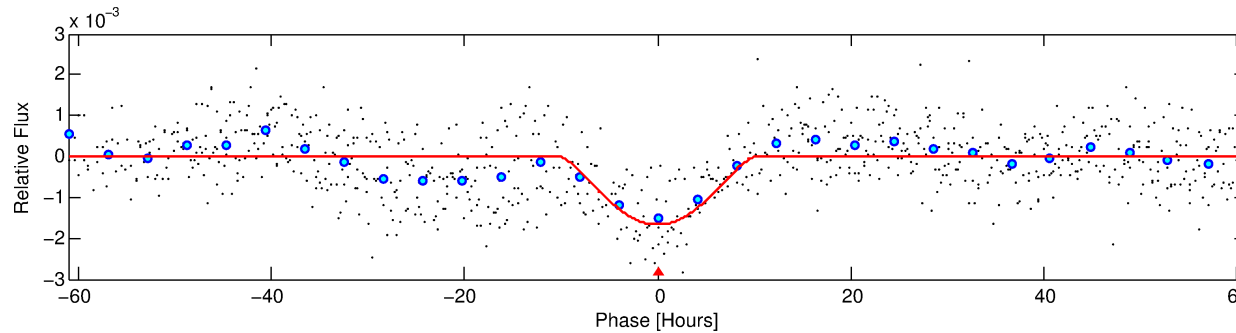
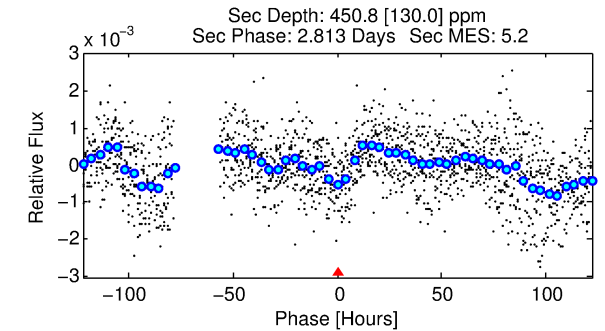
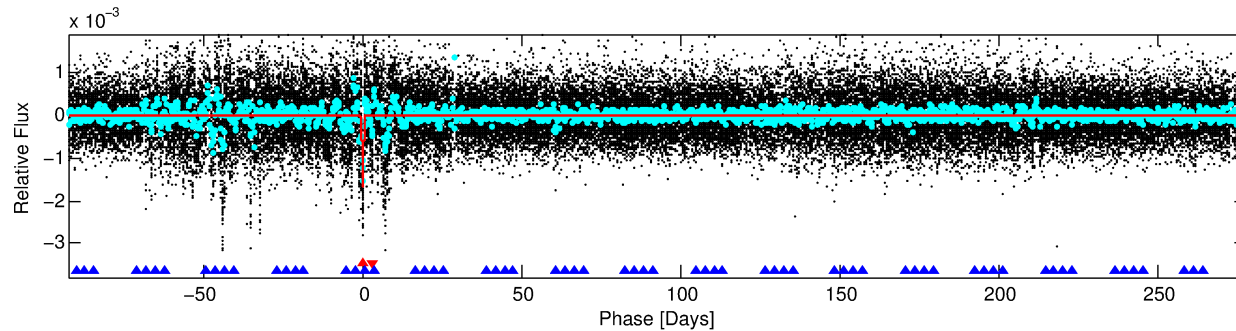
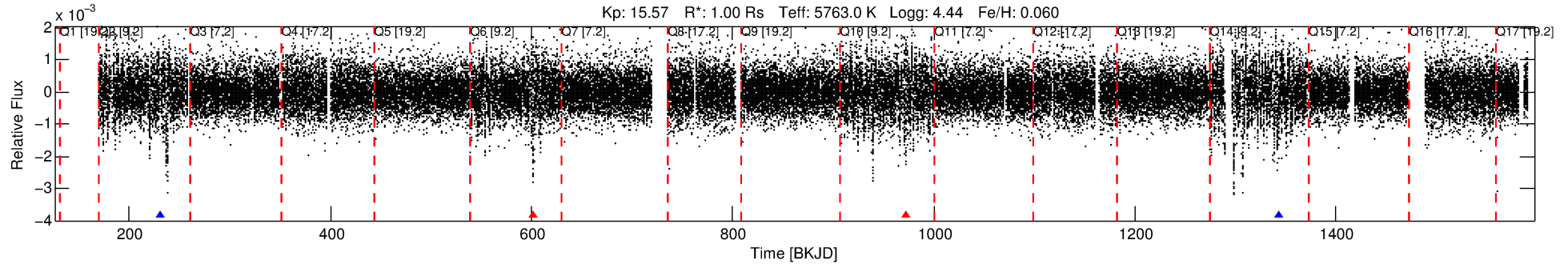
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008242769-01

No Significant Match Found

DV One-Page Summary

KIC: 8242769 Candidate: 1 of 2 Period: 370.652 d



DV Fit Results:

Period = 370.65205 [0.02024] d
Epoch = 230.8076 [0.0412] BKJD
Rp/R* = 0.0720 [0.1599]
a/R* = 53.69 [26.27]
b = 1.00 [67.58]
Seff = 0.97 [0.38]
Teq = 253 [25] K
Rp = 7.83 [17.55] Re
a = 1.0065 [0.2497] AU
Ag = 4100.05 [18320.24] [0.22σ]
Teffp = 3131 [3488] K [0.83σ]

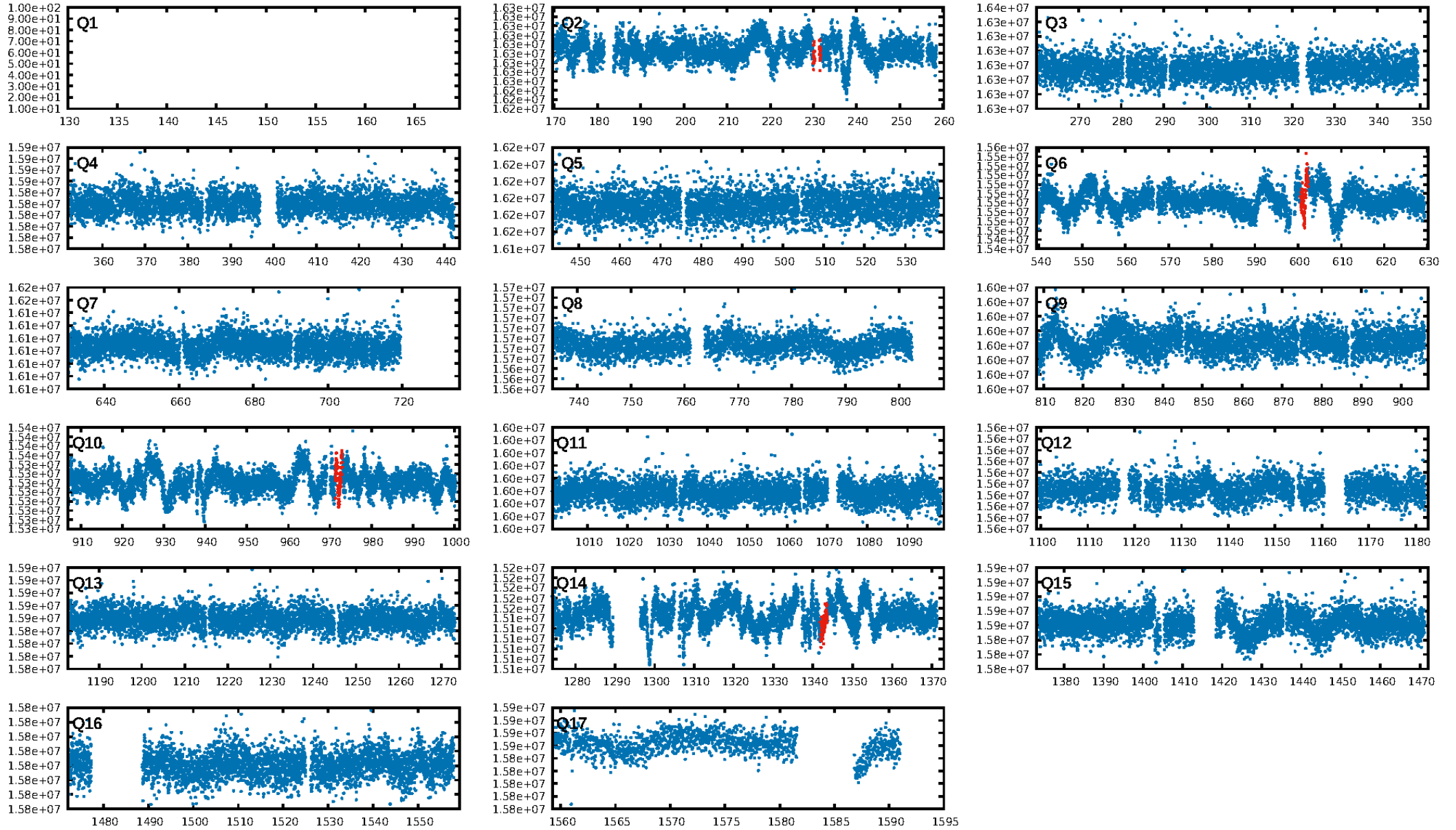
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [396.11σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 1.96e-13
RollingBand-fgt: 0.33 [1/3]
GhostDiagnostic-chr: 3.697
Centroid-sig: 0.8%
Centroid-so: 5.129 arcsec [2.45σ]
OotOffset-rm: 2.224 arcsec [4.94σ]
KicOffset-rm: 2.048 arcsec [4.61σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [1/1]

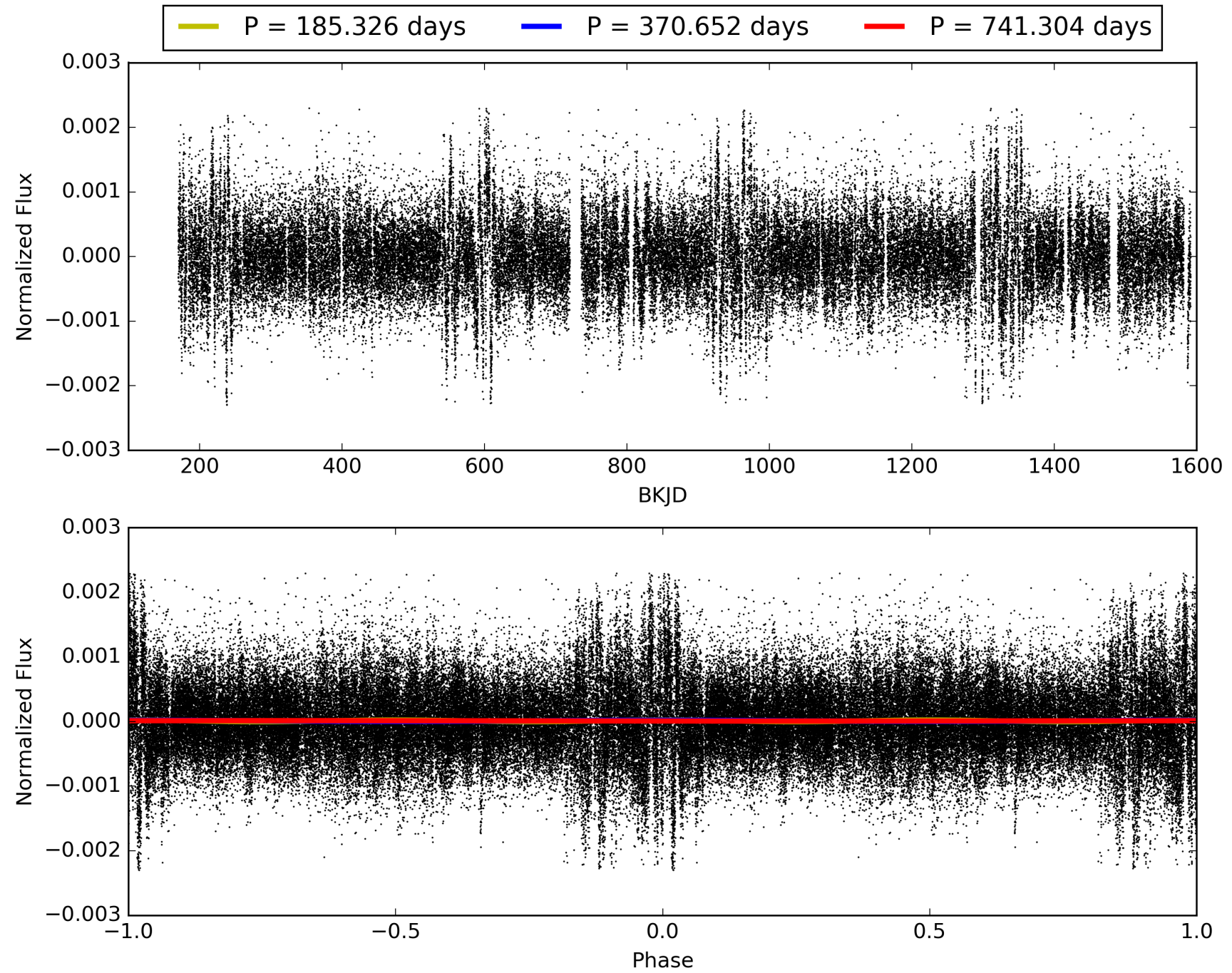
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 05:13:00 Z

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

TCE 008242769-01, PDC Light Curves

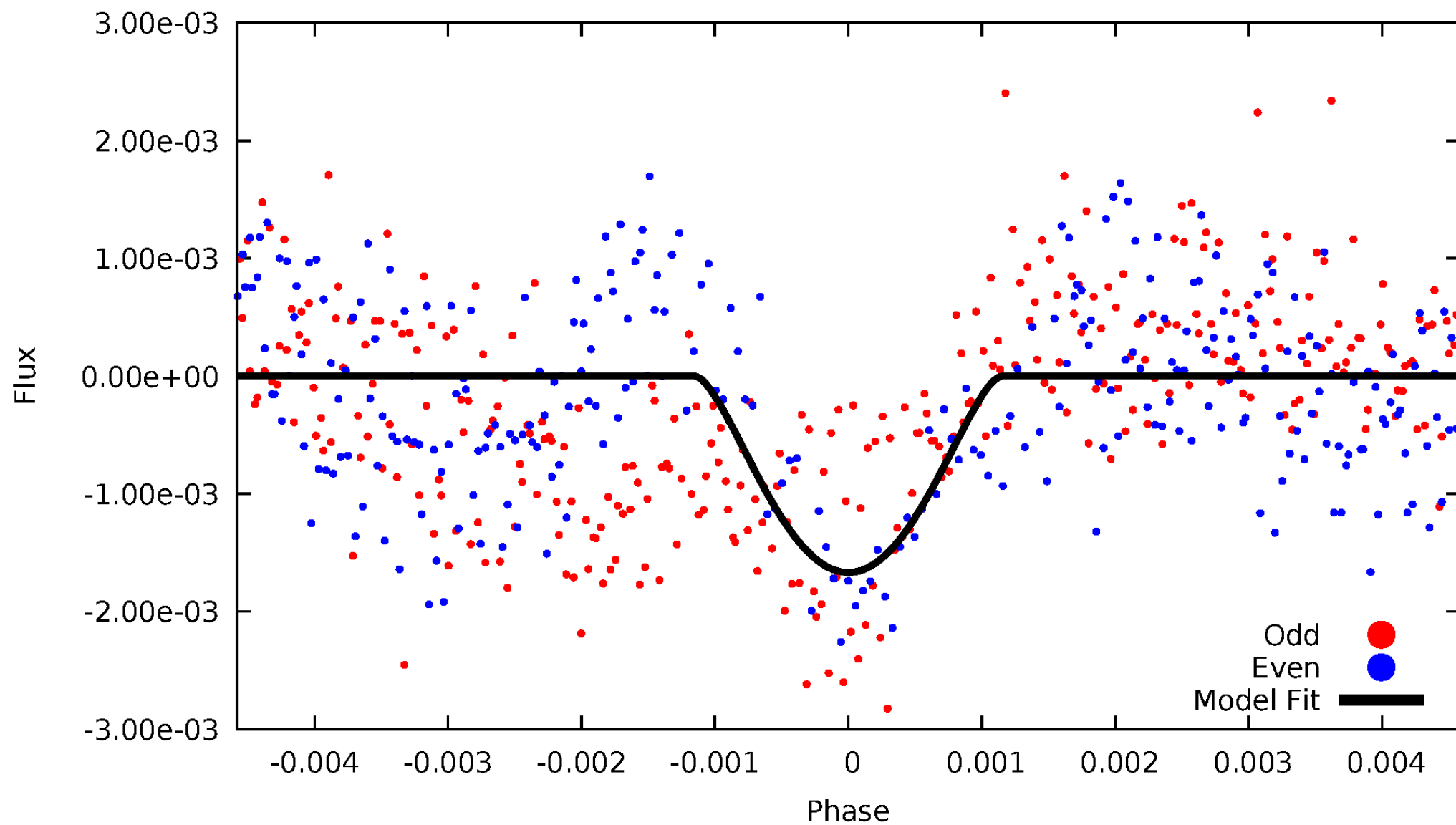


TCE 008242769-01



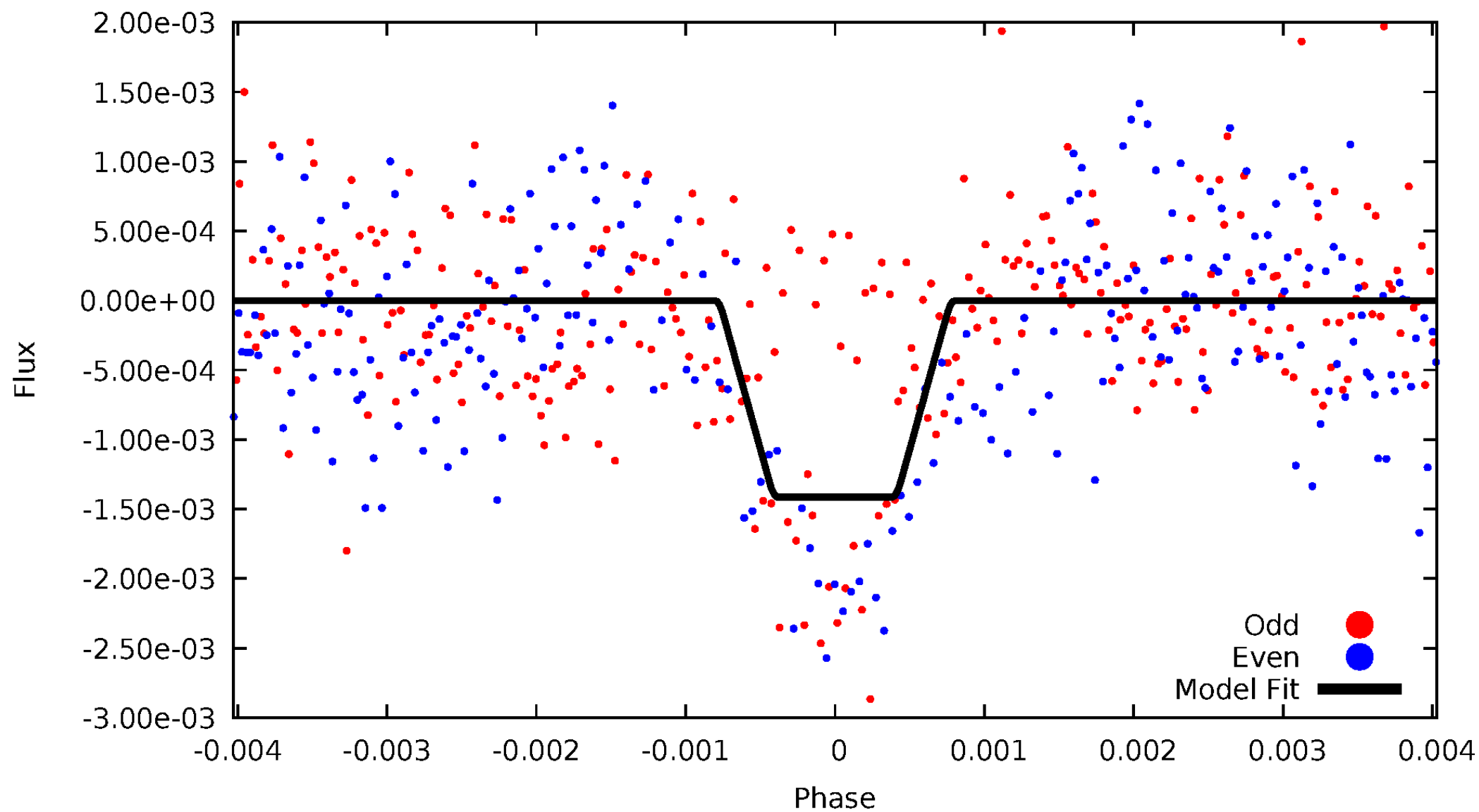
DV Odd/Even

TCE 008242769-01



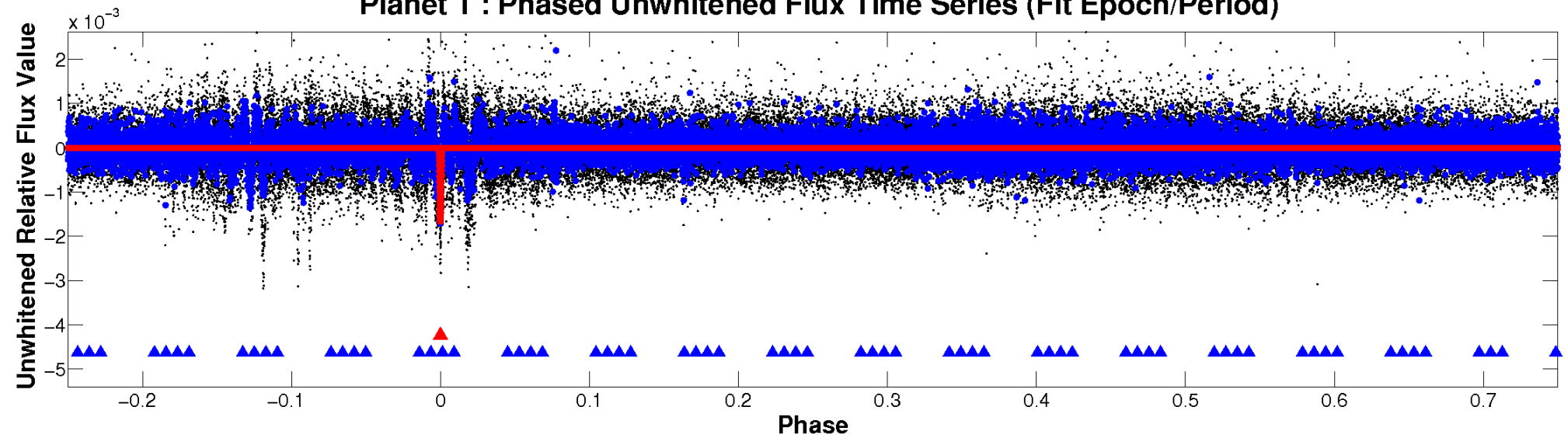
ALT Odd/Even

TCE 008242769-01

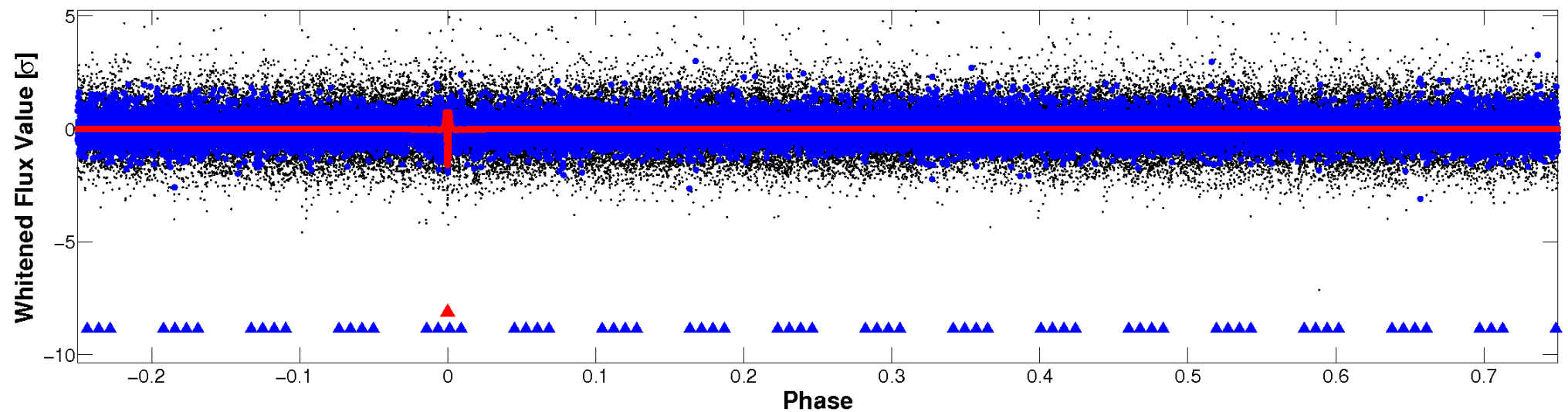


Non-Whitened Vs. Whitened Light Curve

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

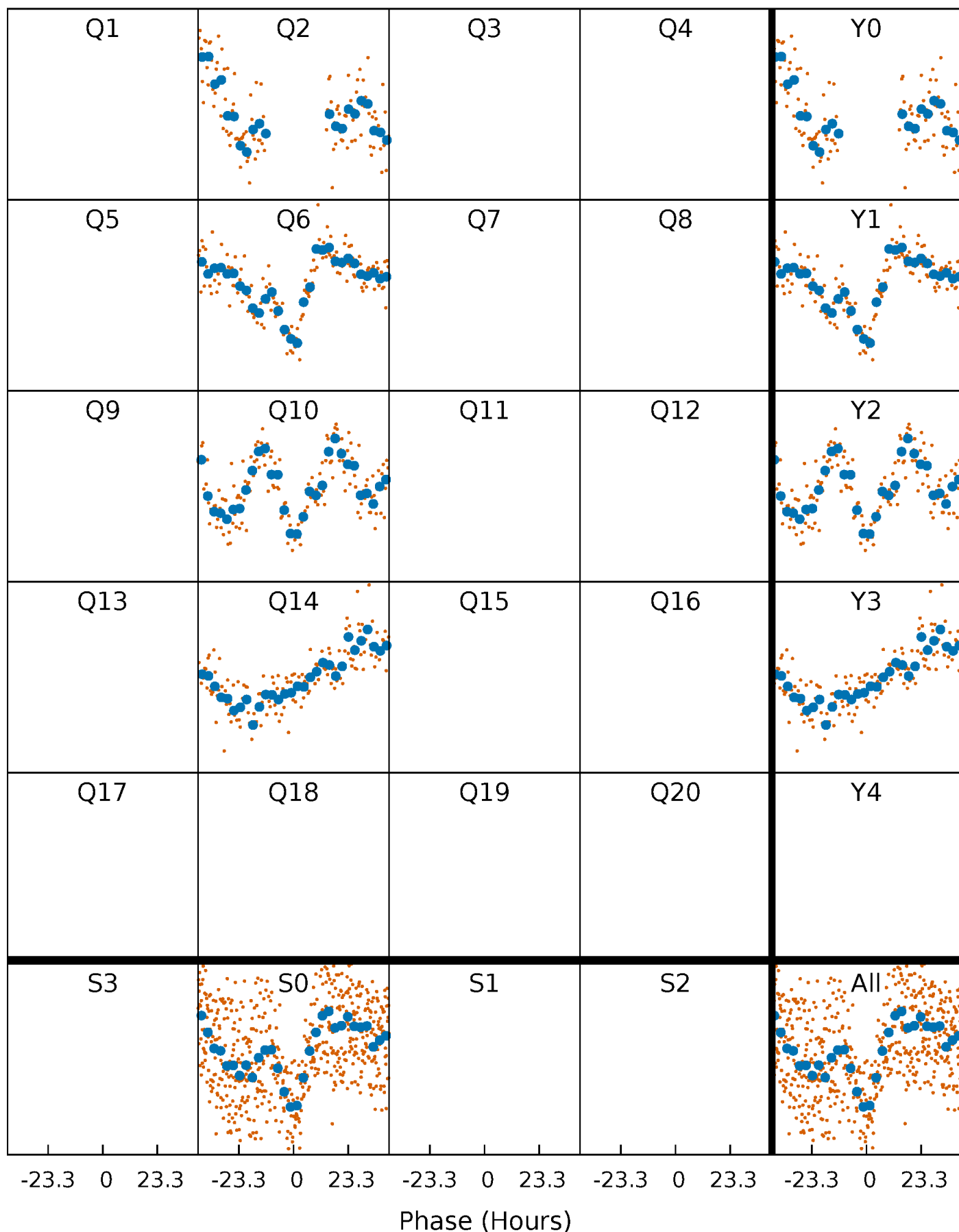


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



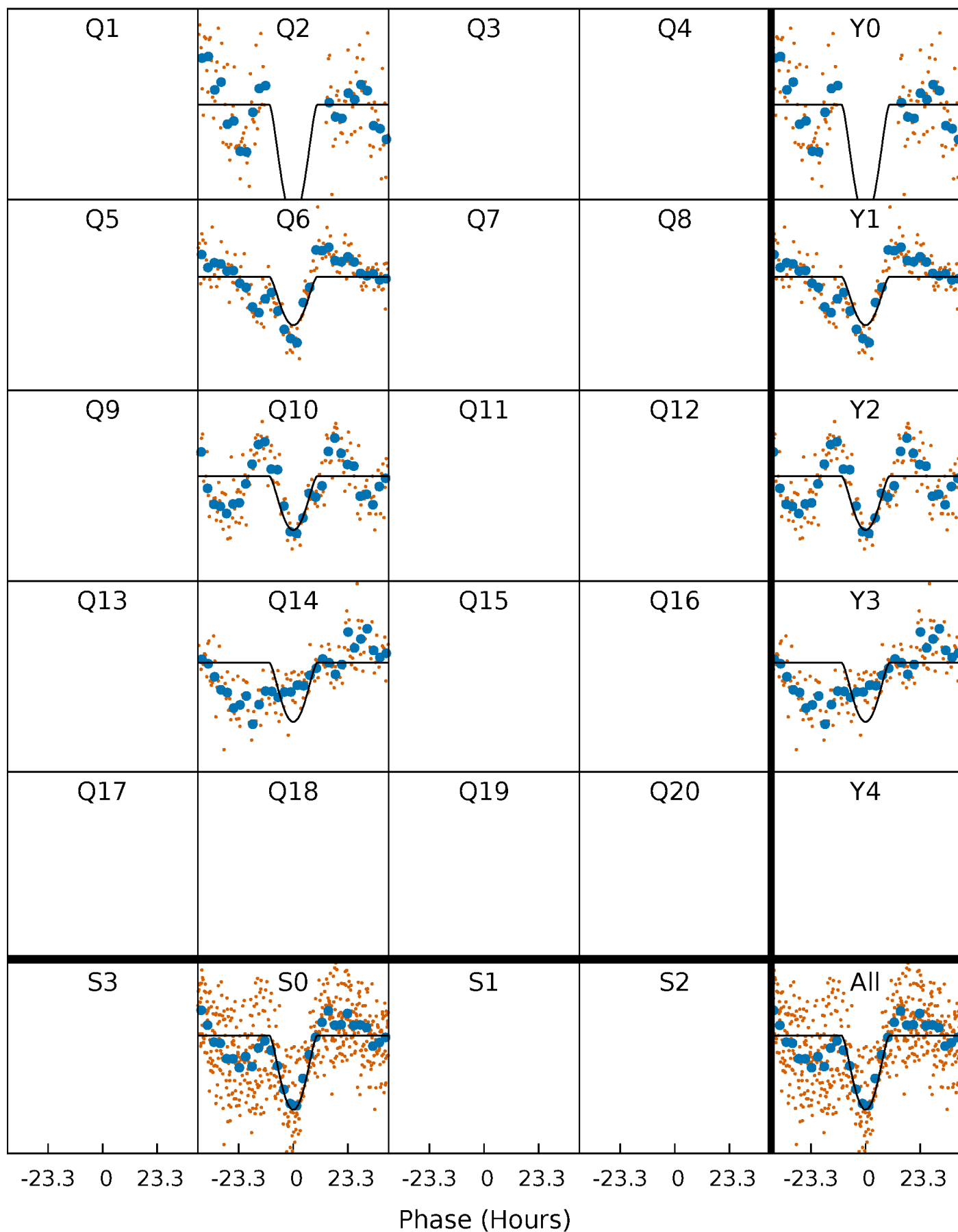
PDC Quarter-Phased Transit Curves

TCE 008242769-01 P=370.652050 Days $T_0=230.807551$ (BKJD)



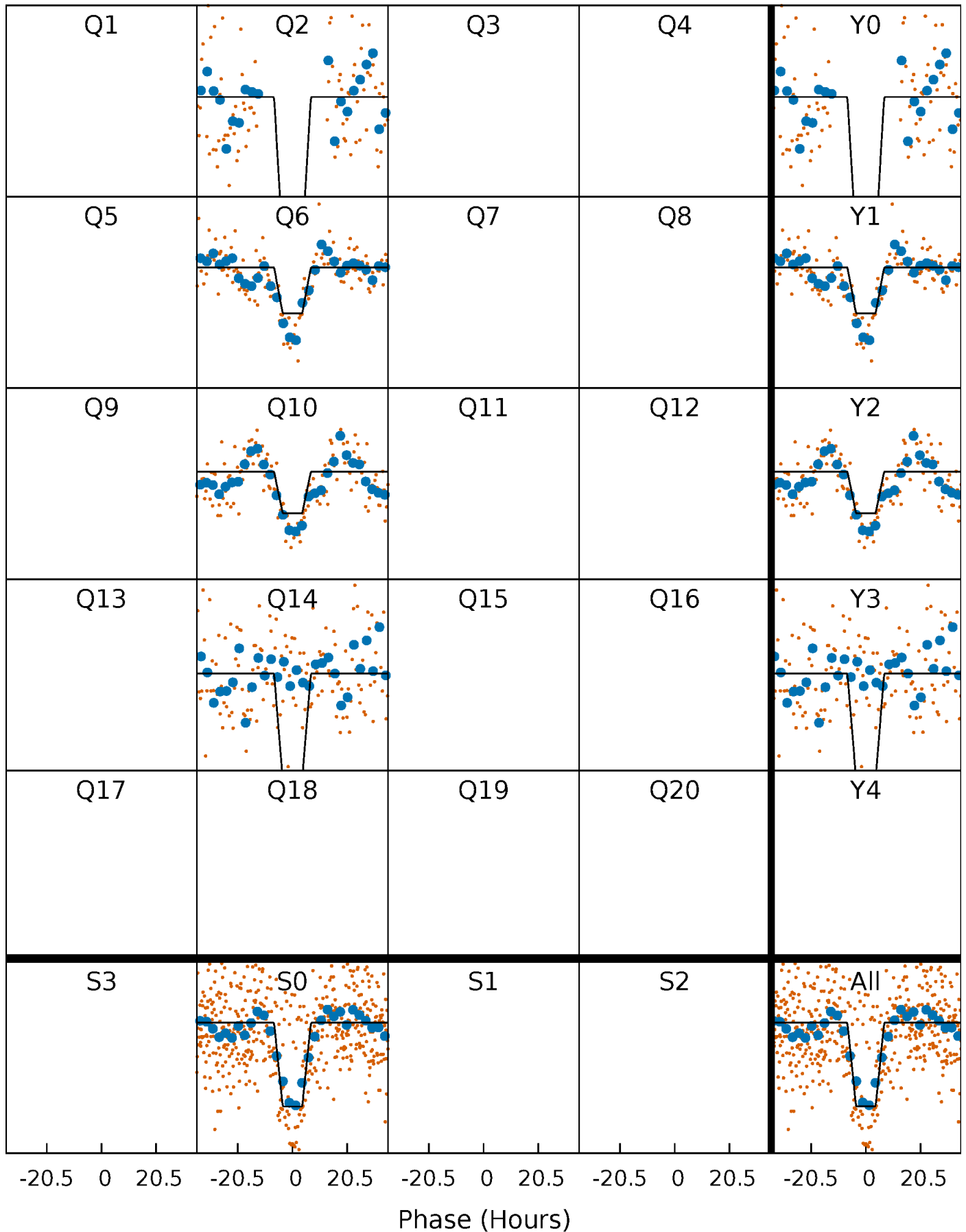
DV Quarter-Phased Transit Curves

TCE 008242769-01 P=370.652050 Days $T_0=230.807551$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

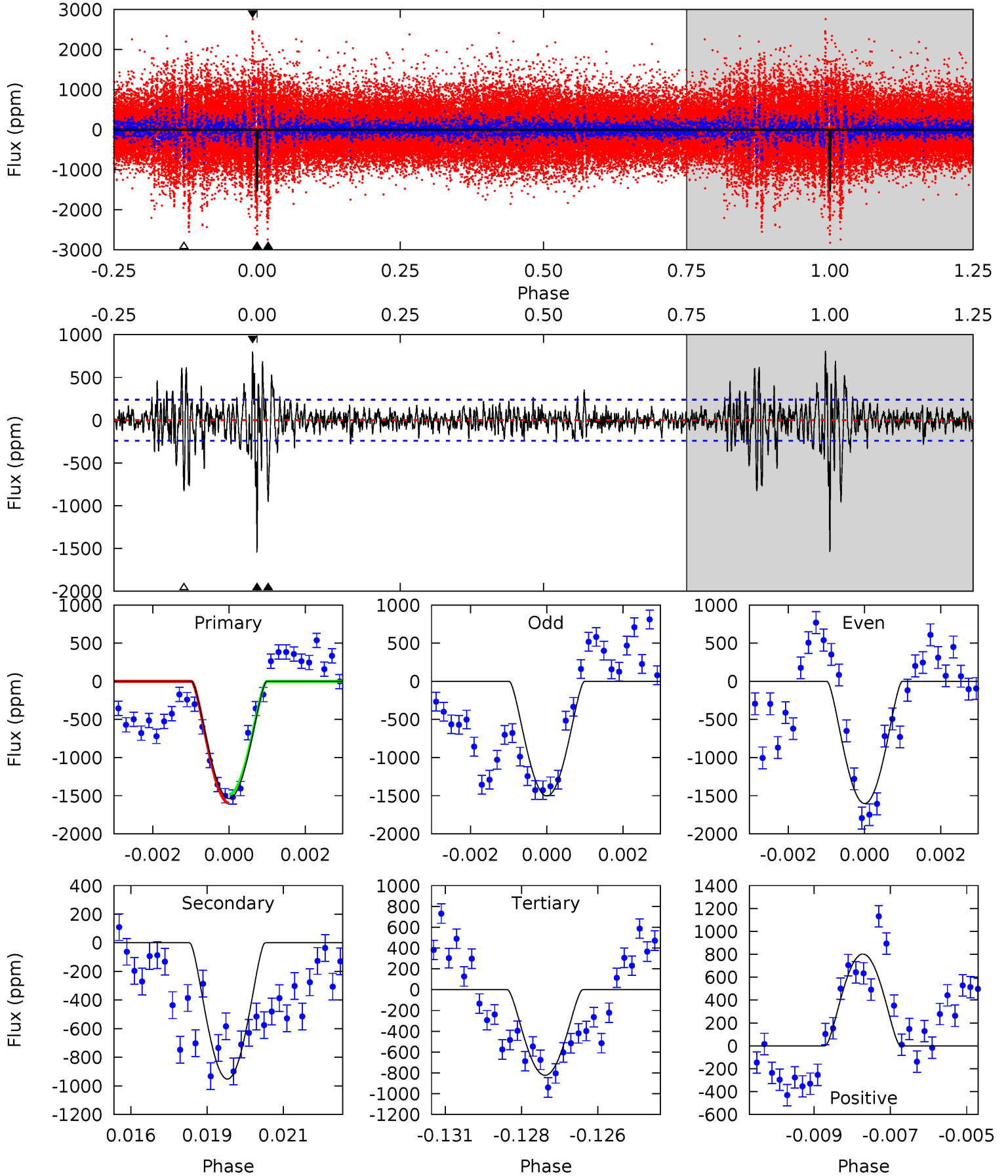
TCE 008242769-01 P=370.630722 Days $T_0=230.850910$ (BKJD)



DV Model-Shift Uniqueness Test

008242769-01, P = 370.652050 Days, E = 230.807551 Days

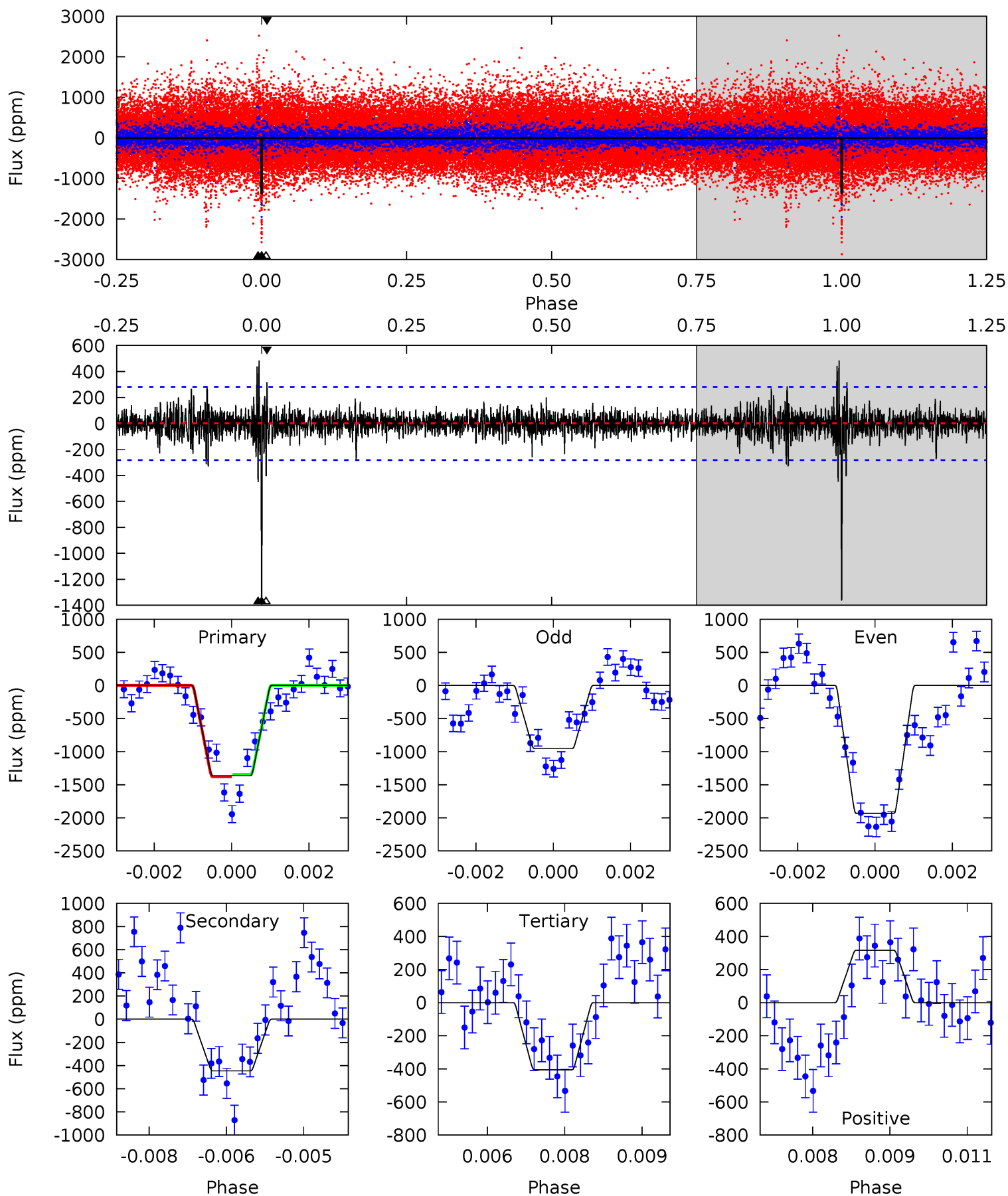
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.8	20.9	18.1	17.6	5.30	3.04	3.04	15.7	16.1	2.83	3.31	1.02	0.96	0.34	1.25



Alt Model-Shift Uniqueness Test

008242769-01, P = 370.630722 Days, E = 230.850910 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.9	8.50	7.72	6.02	5.37	3.16	1.25	18.2	19.9	0.78	2.48	8.89	0.69	0.26	0.33



Stellar Parameters For KIC 008242769

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5763^{+182}_{-222}	$4.436^{+0.084}_{-0.196}$	$0.060^{+0.250}_{-0.300}$	$0.997^{+0.295}_{-0.126}$	$0.989^{+0.125}_{-0.114}$	$1.408^{+0.524}_{-0.742}$
	+3%/-4%	+2%/-4%	+417%/-500%	+30%/-13%	+13%/-12%	+37%/-53%
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 008242769-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-952 ± 46	$16.15^{+15.46}_{-10.94}$	358^{+25}_{-21}	3255^{+1562}_{-545}	2026^{+17482}_{-1500}
Alt.	-447 ± 53	$13.68^{+14.19}_{-9.46}$	358^{+25}_{-20}	3052^{+1508}_{-532}	1334^{+13081}_{-1026}

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 $A_{obs} \gg 1.0$

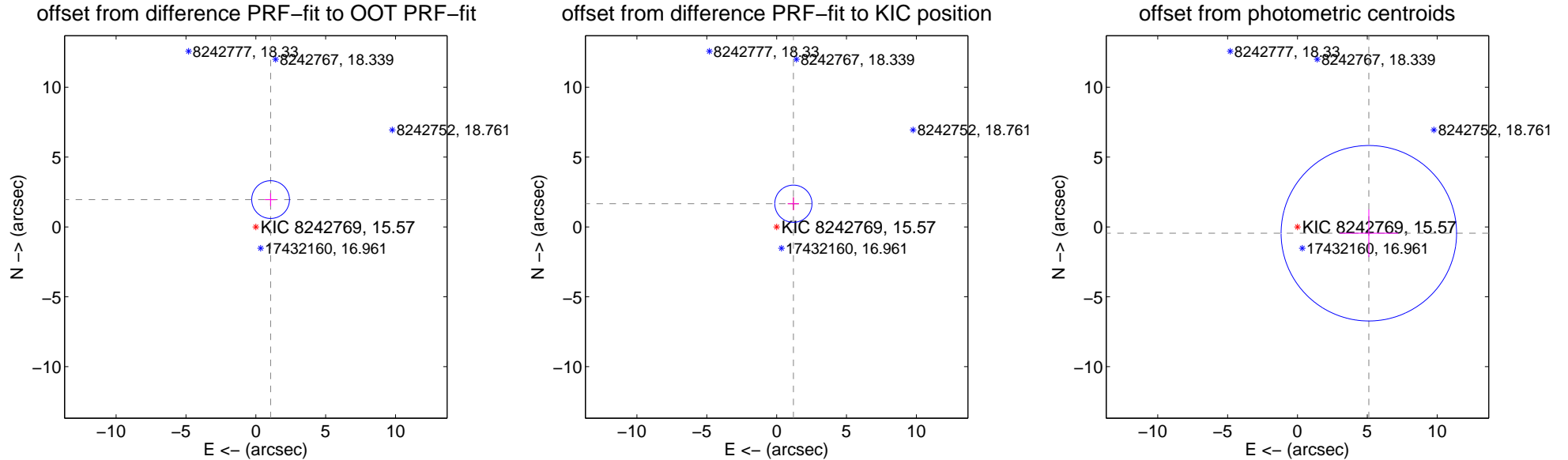
DV Centroid Data

Supplemental centroid analysis for 008242769-01. Kepler magnitude: 15.57. Transit SNR 11.67

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.33 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.224 ± 0.450	4.94	-1.057 ± 0.406	1.956 ± 0.463
PRF-fit source offset from KIC position	2.048 ± 0.444	4.61	-1.199 ± 0.406	1.661 ± 0.463
photometric centroid source offset	5.13 ± 2.09	2.45	-5.11 ± 2.10	-0.45 ± 1.70



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.



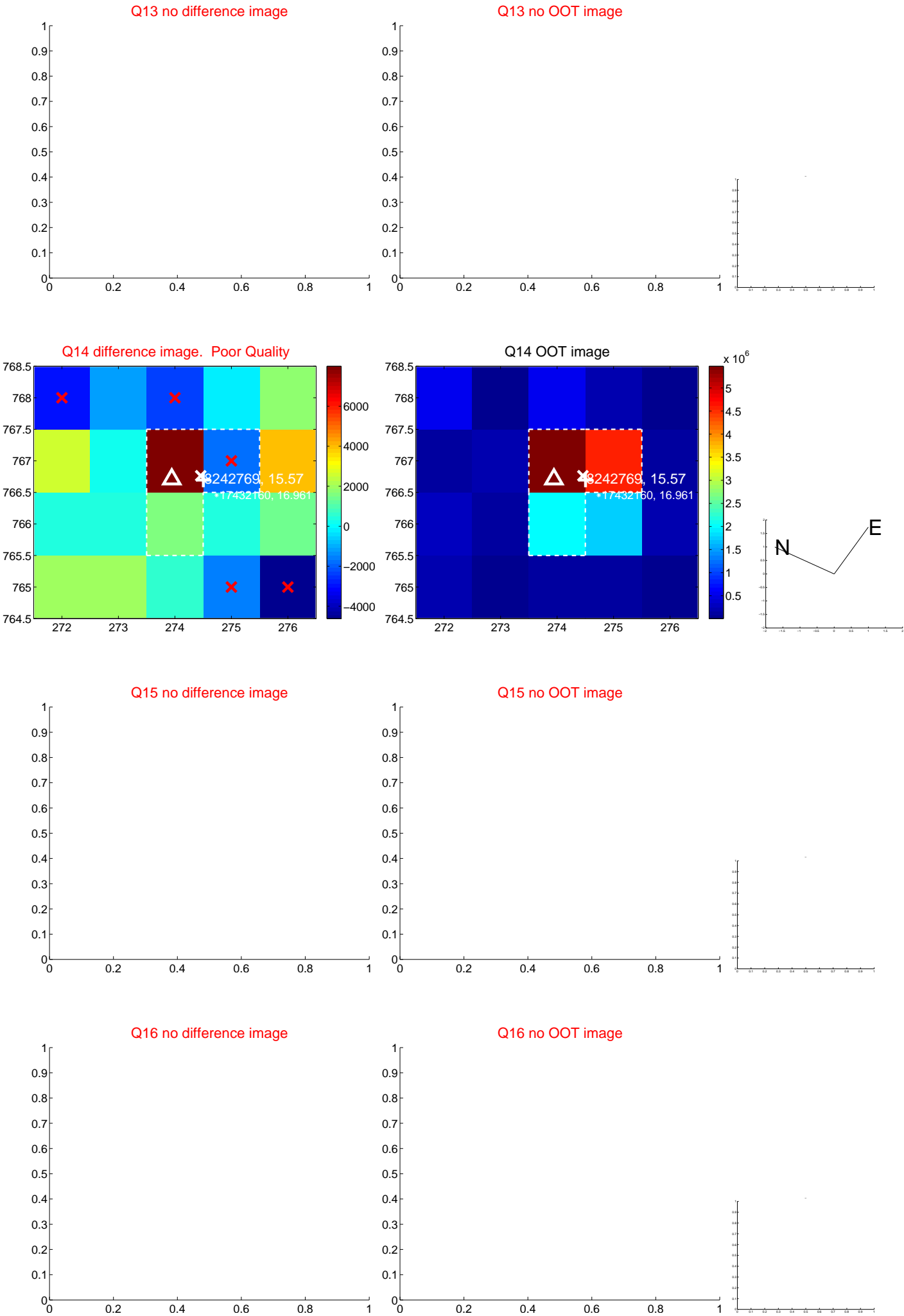
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



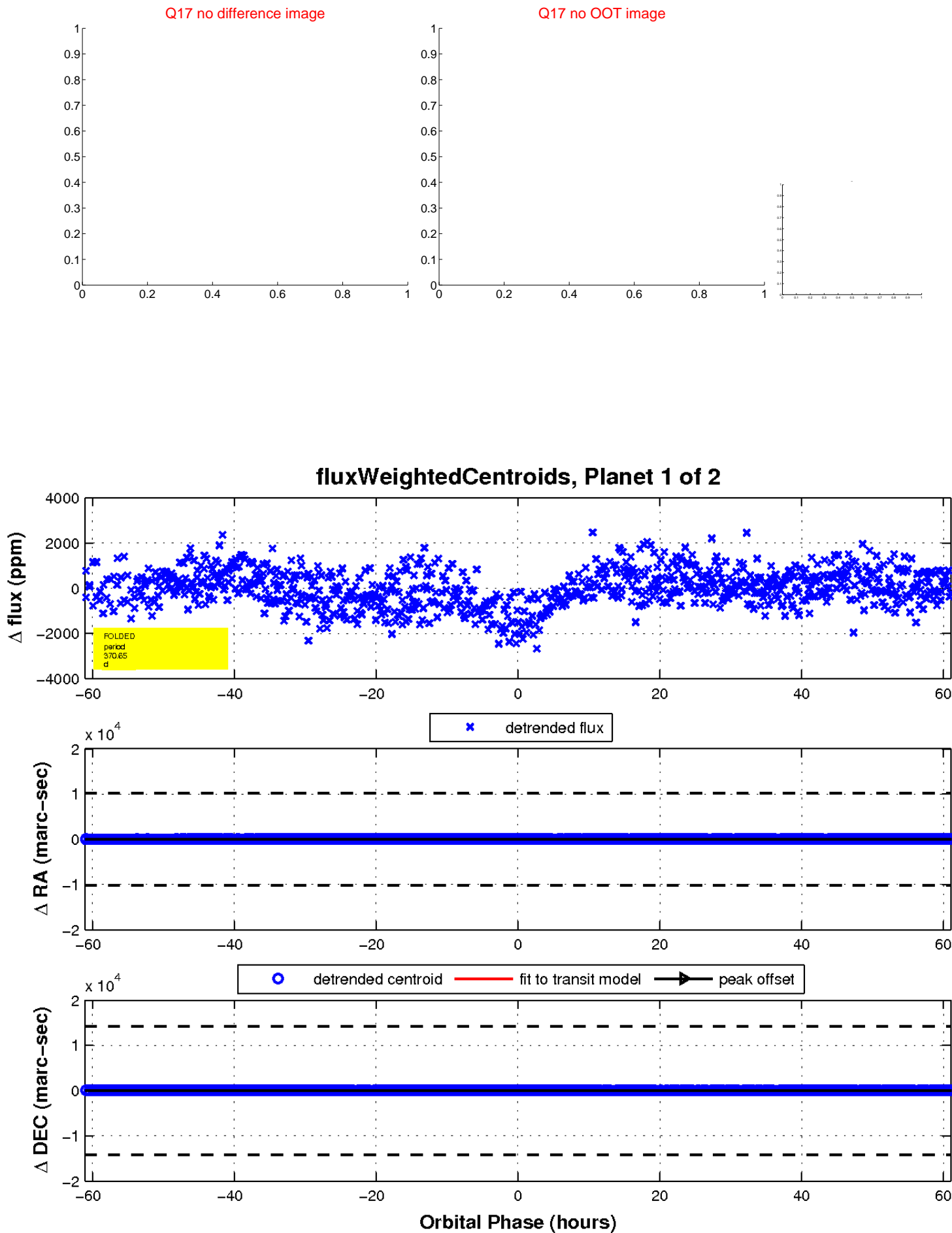
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

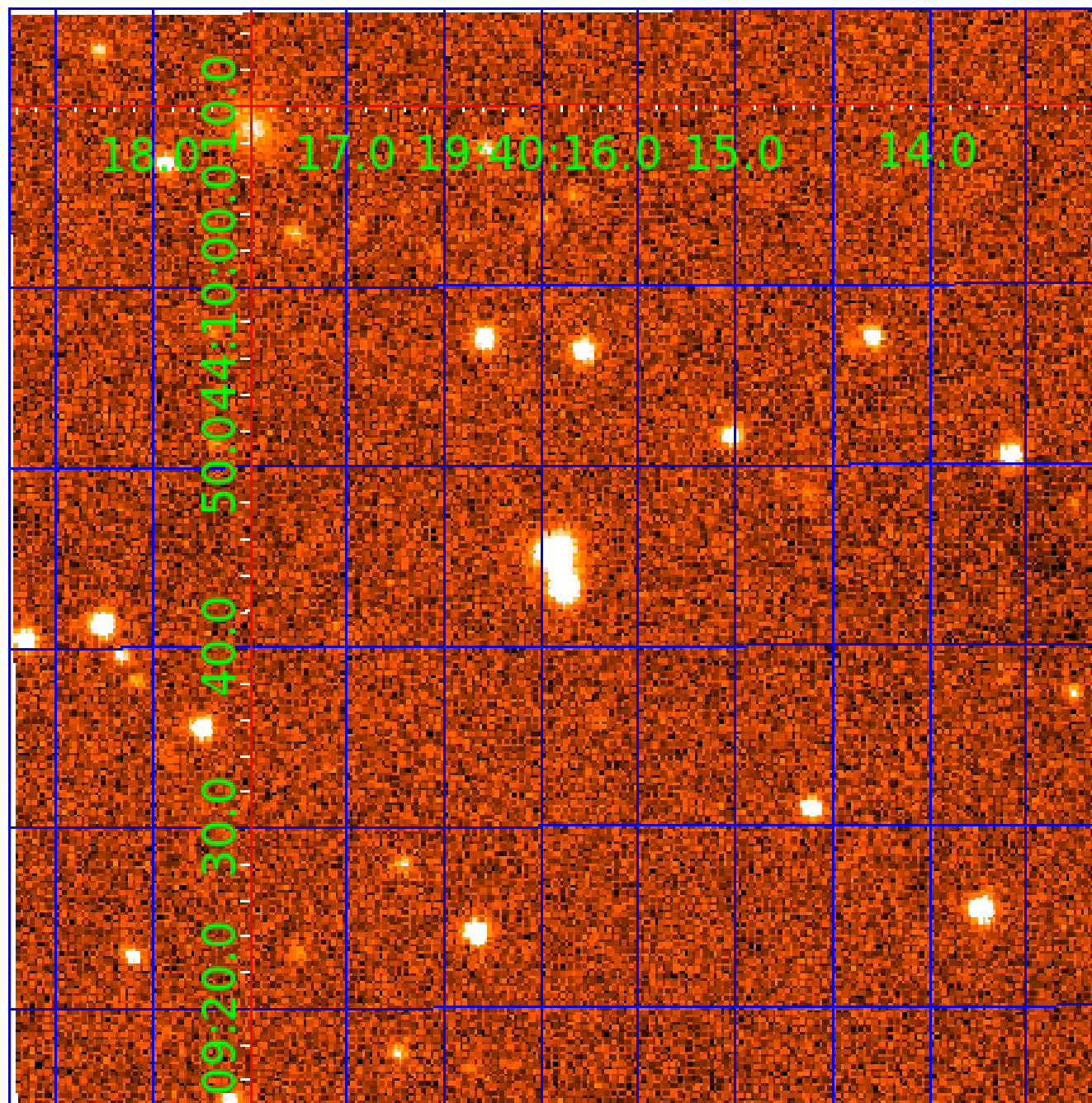


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008242769

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})
008242769-01	OBS	No	370.652050	230.807551	1669.0	20.368	11.9	11.7	1.00	5763	7.83	0.97
008242769-02	OBS	7875.01	21.972352	137.666076	181.2	5.610	7.4	7.5	1.00	5763	1.64	41.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008242769-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008242769-02	OBS	PC	0.83	0	0	0	0	NO_COMMENT

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

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

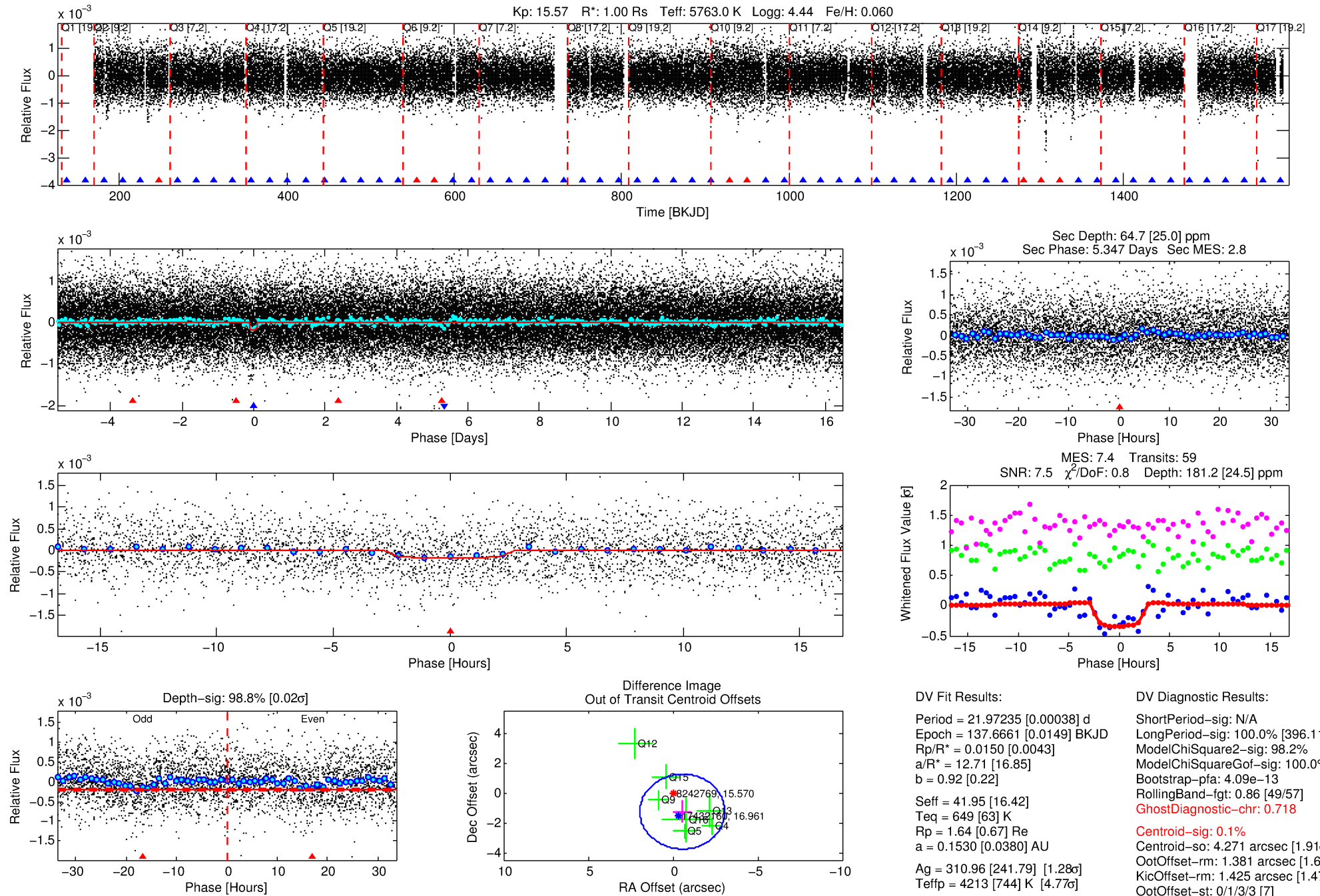
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008242769-02

No Significant Match Found

DV One-Page Summary

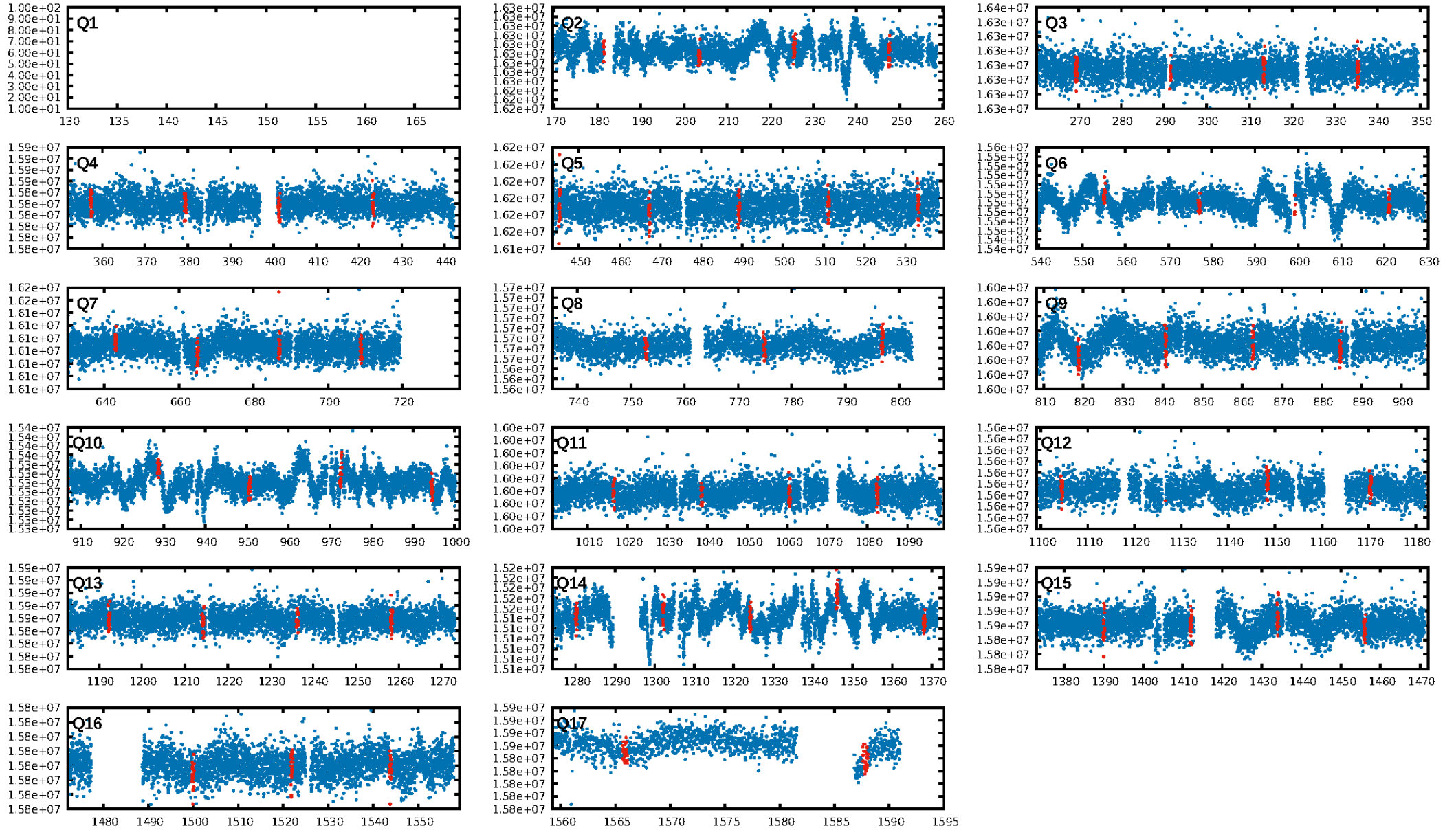
KIC: 8242769 Candidate: 2 of 2 Period: 21.972 d



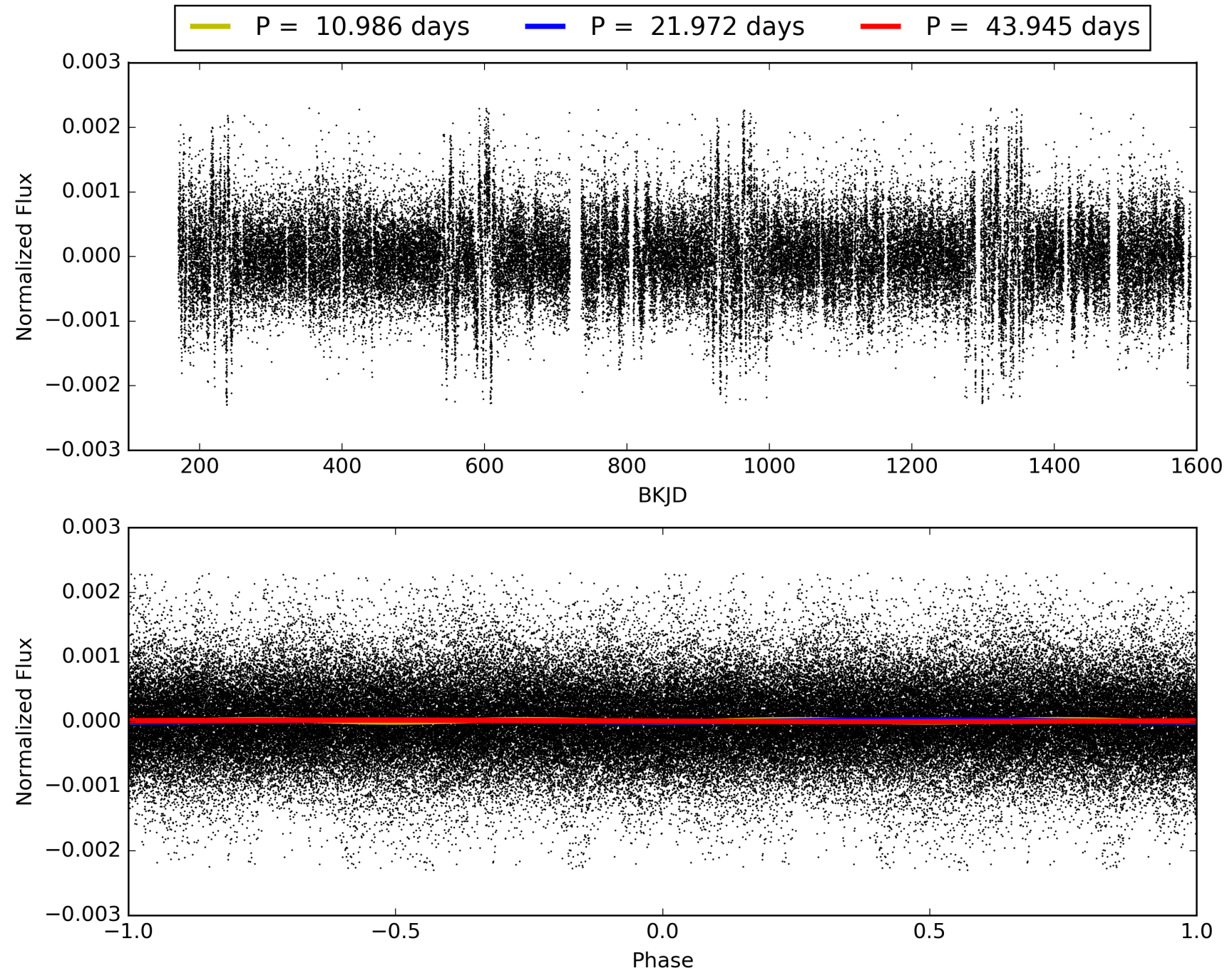
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 05:13:07 Z

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

TCE 008242769-02, PDC Light Curves

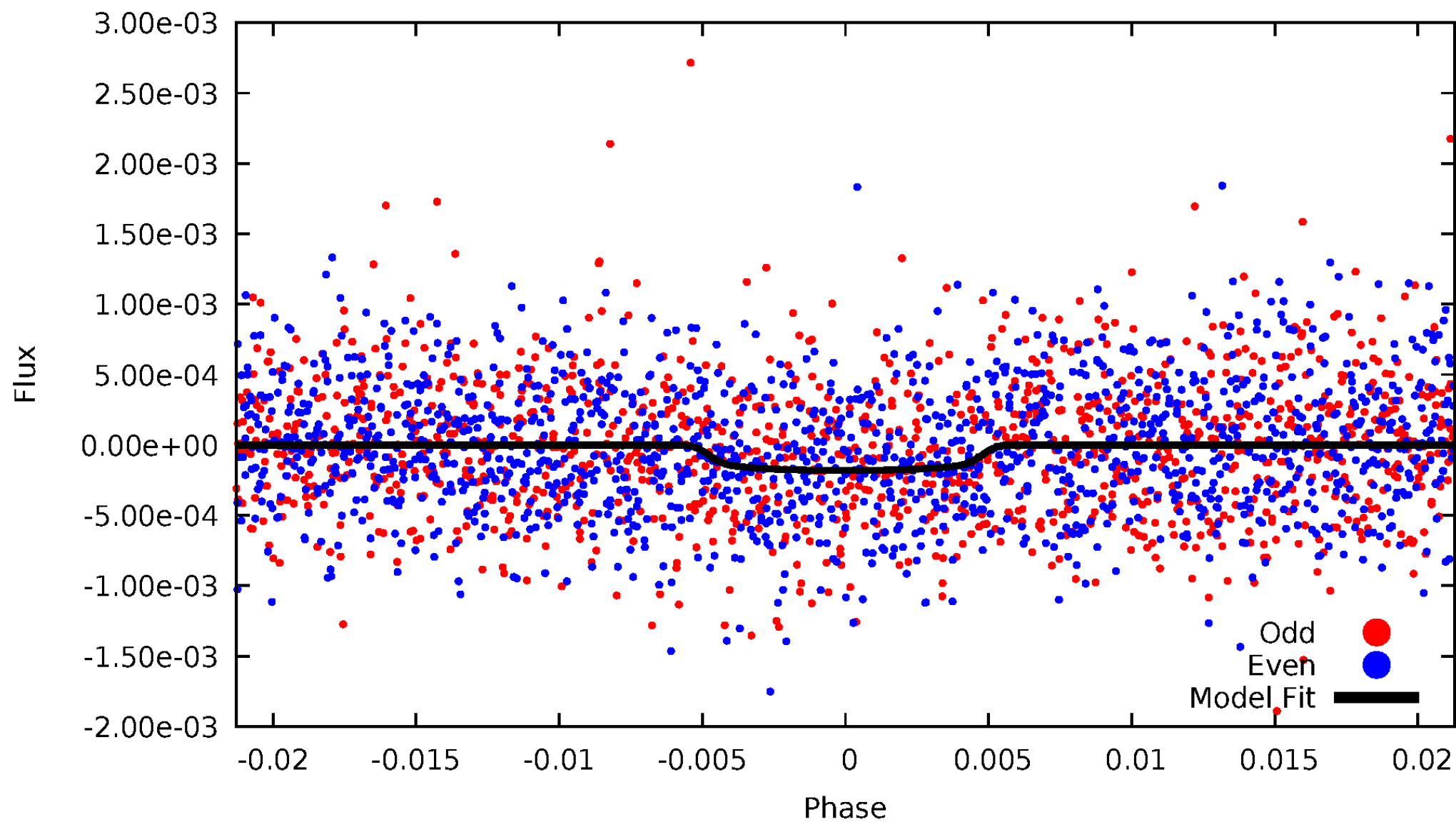


TCE 008242769-02



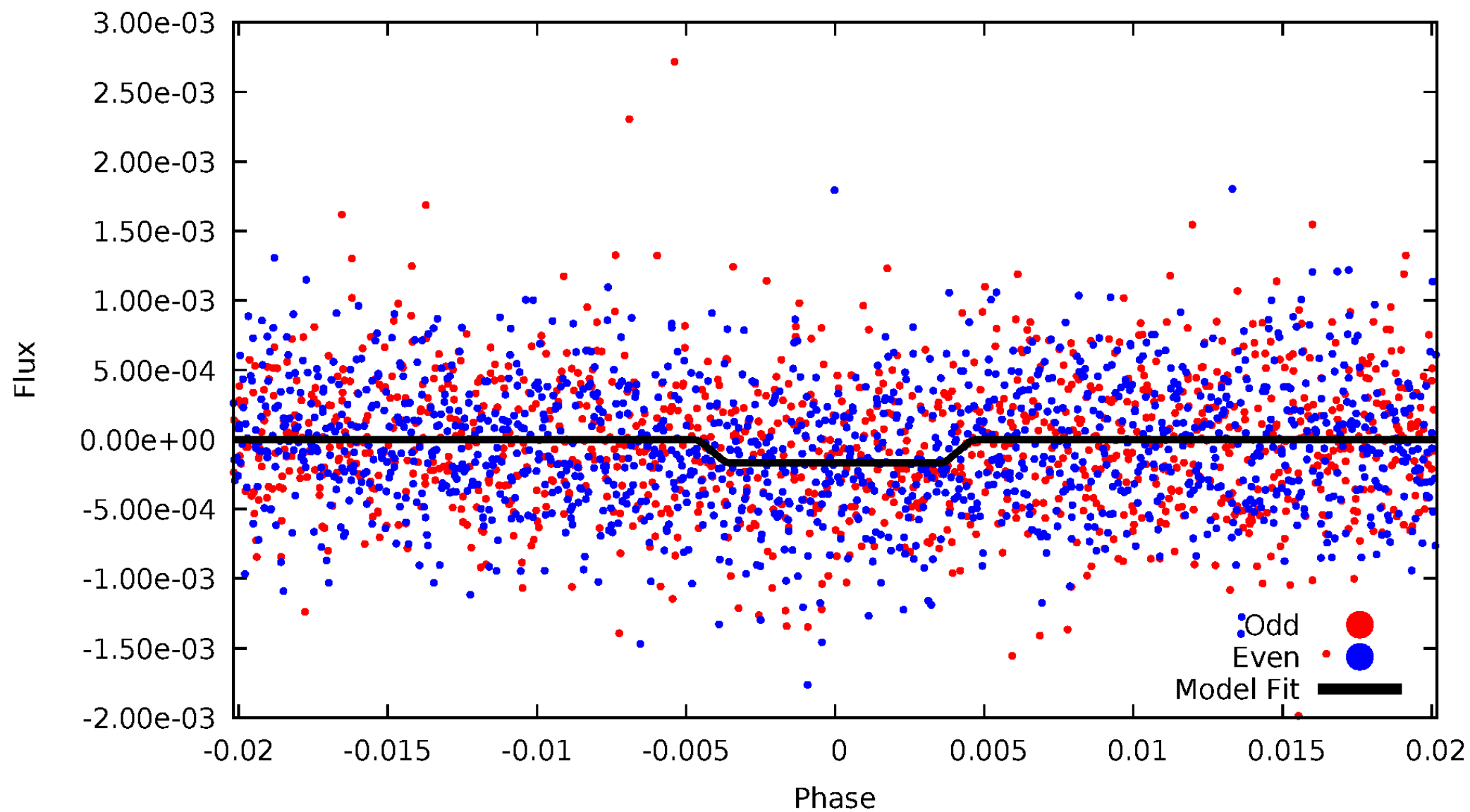
DV Odd/Even

TCE 008242769-02



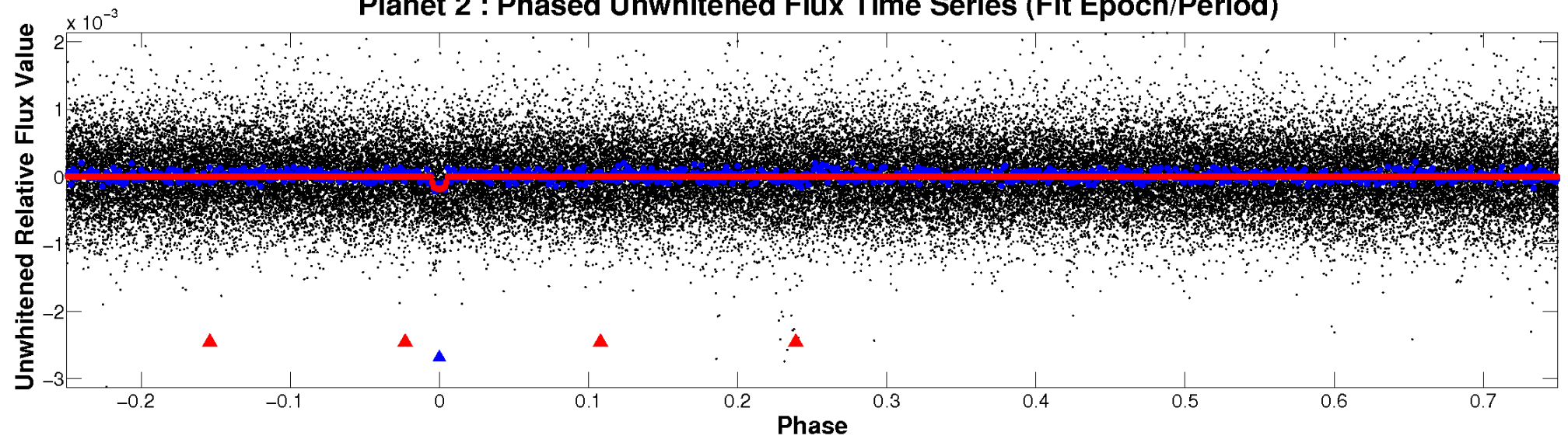
ALT Odd/Even

TCE 008242769-02

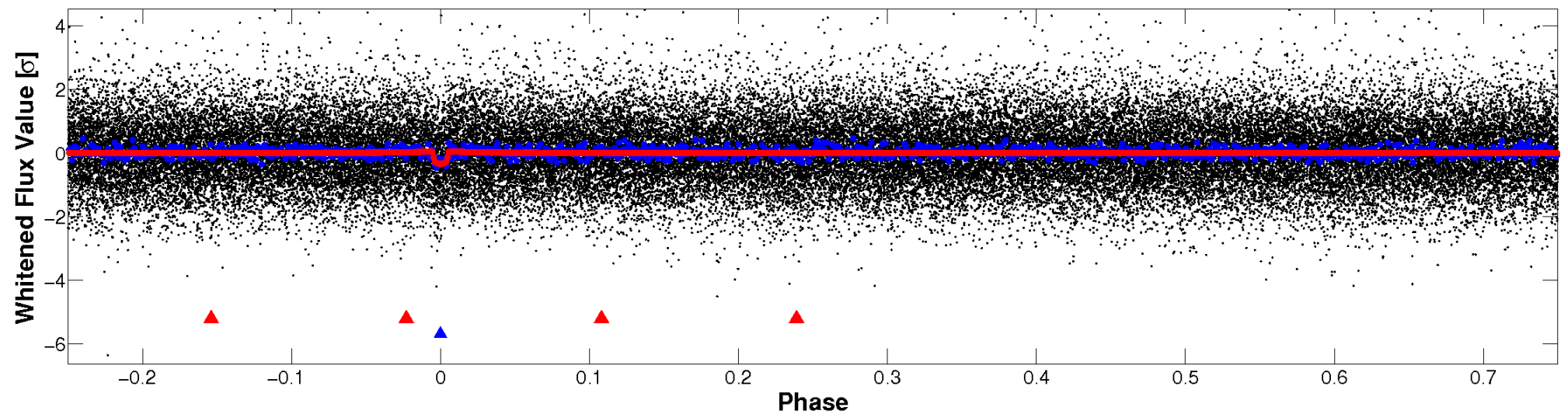


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

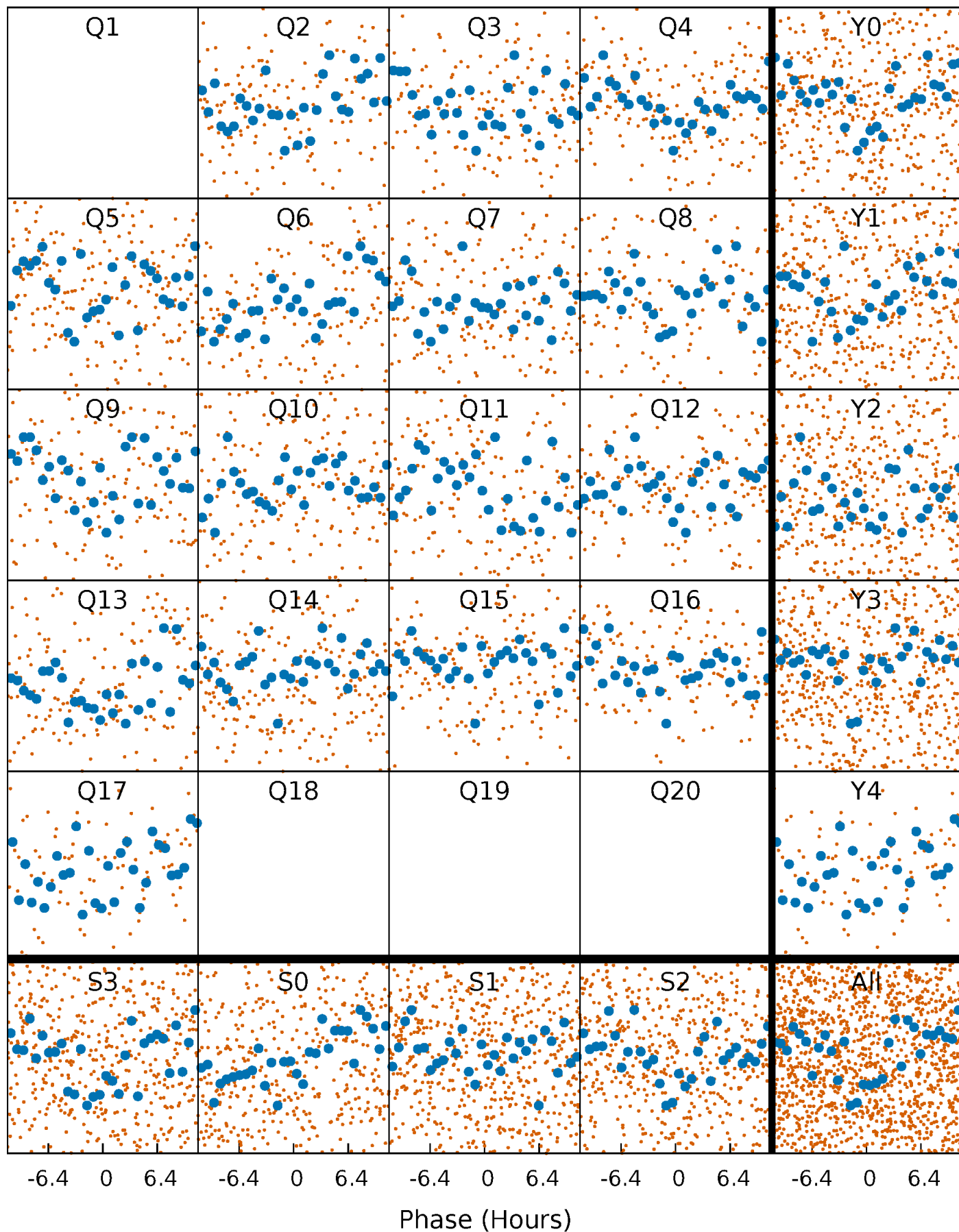


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



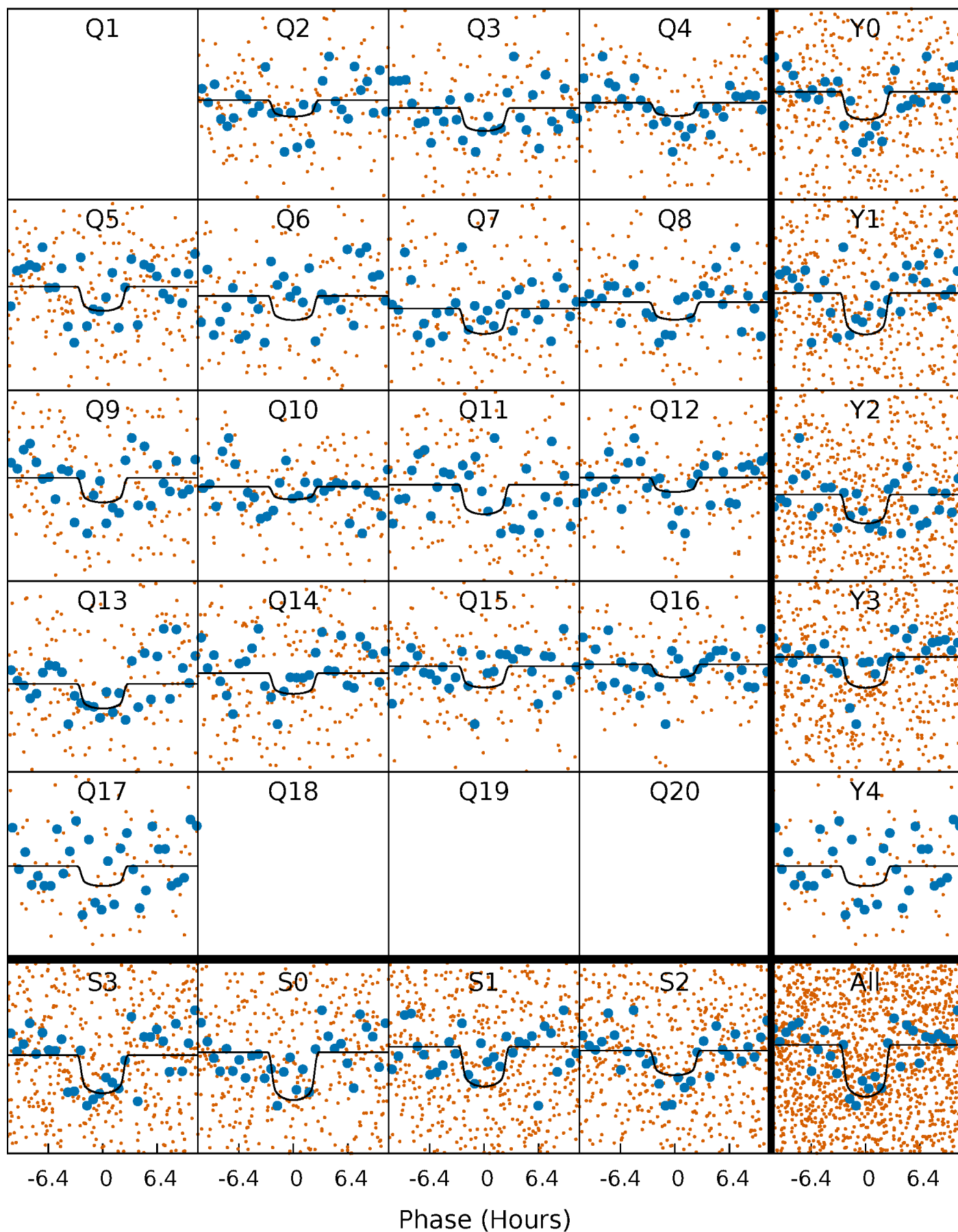
PDC Quarter-Phased Transit Curves

TCE 008242769-02 P= 21.972352 Days $T_0=137.666076$ (BKJD)



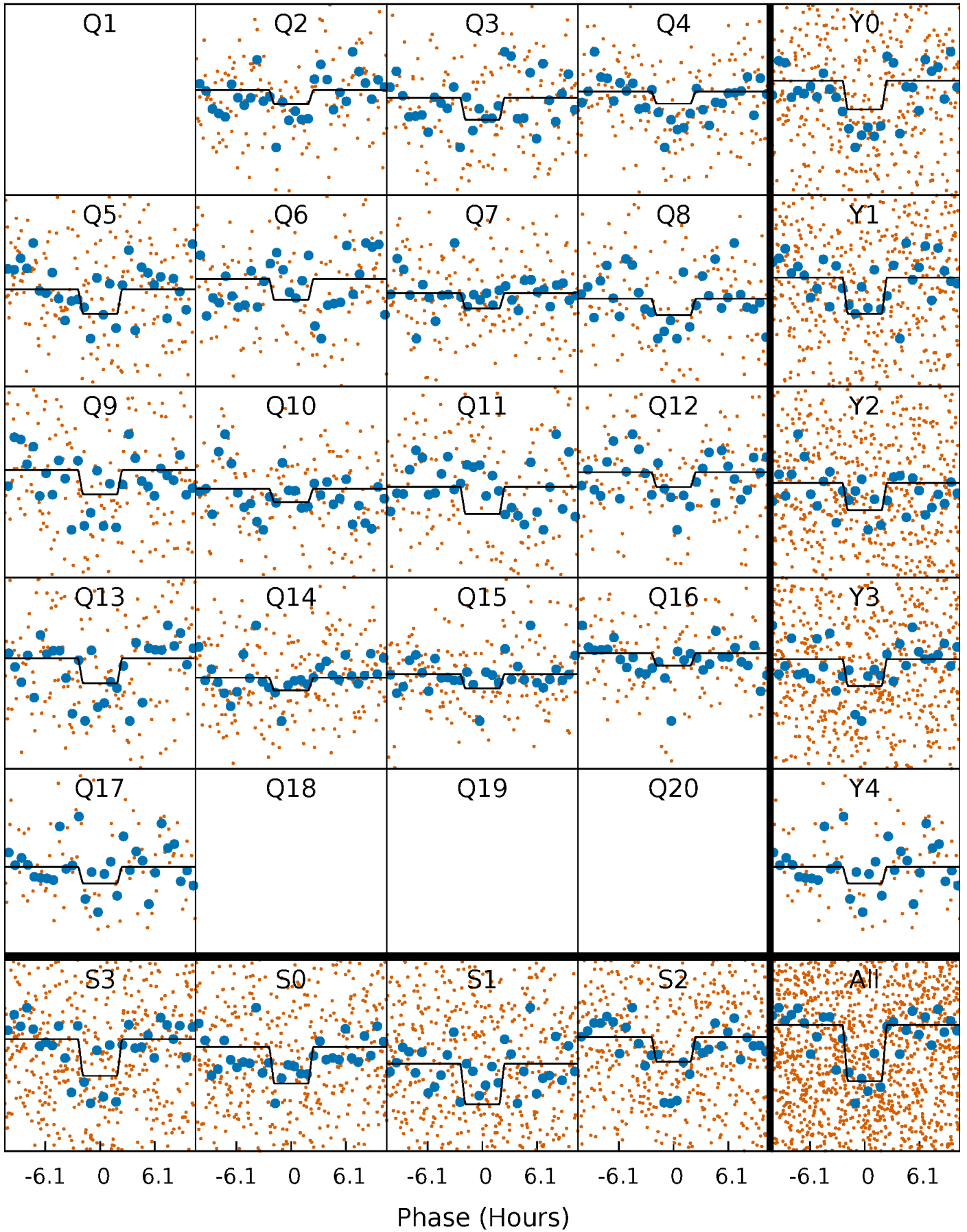
DV Quarter-Phased Transit Curves

TCE 008242769-02 P= 21.972352 Days $T_0=137.666076$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

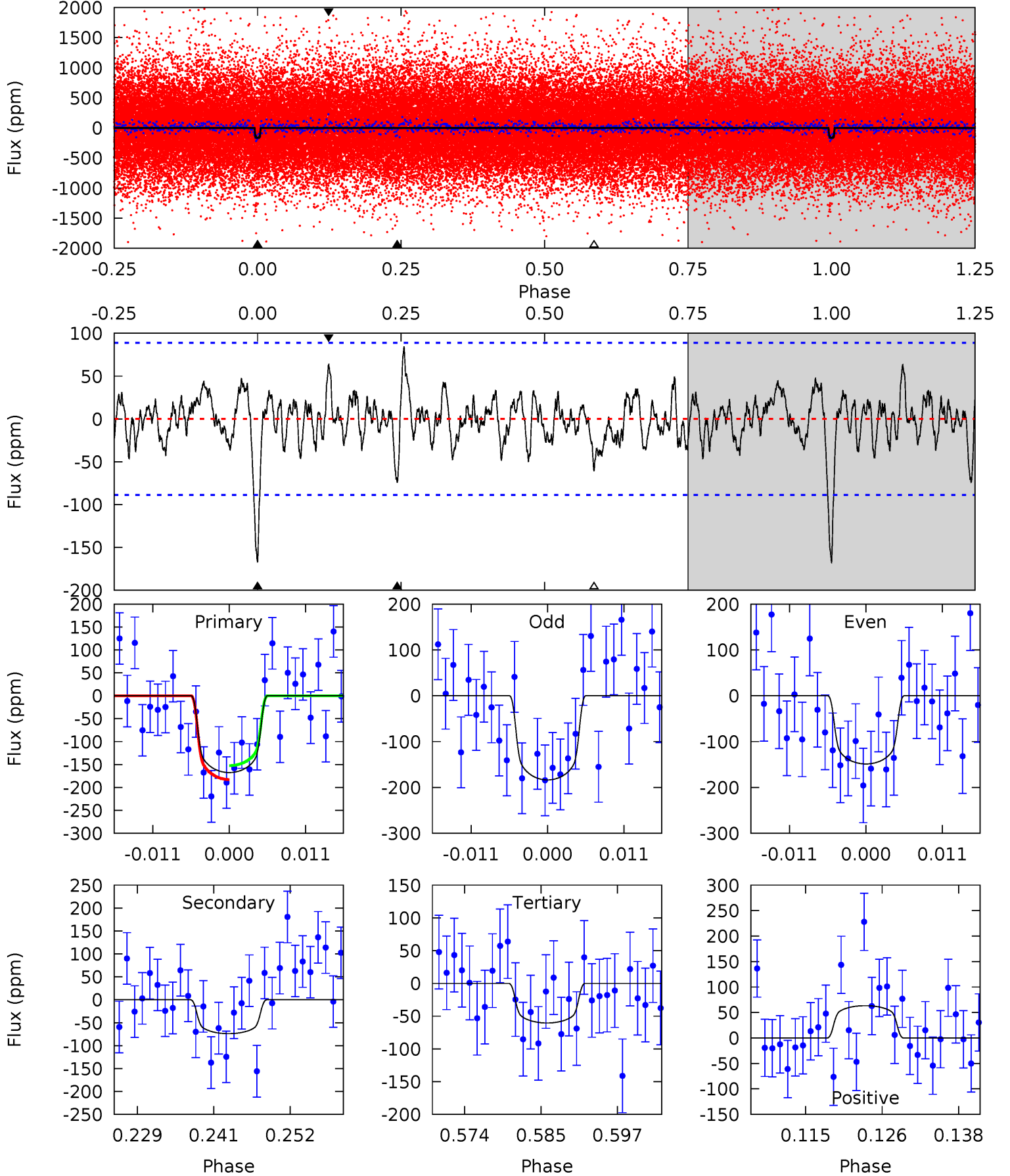
TCE 008242769-02 P= 21.971409 Days $T_0=137.688929$ (BKJD)



DV Model-Shift Uniqueness Test

008242769-02, P = 21.972352 Days, E = 137.666076 Days

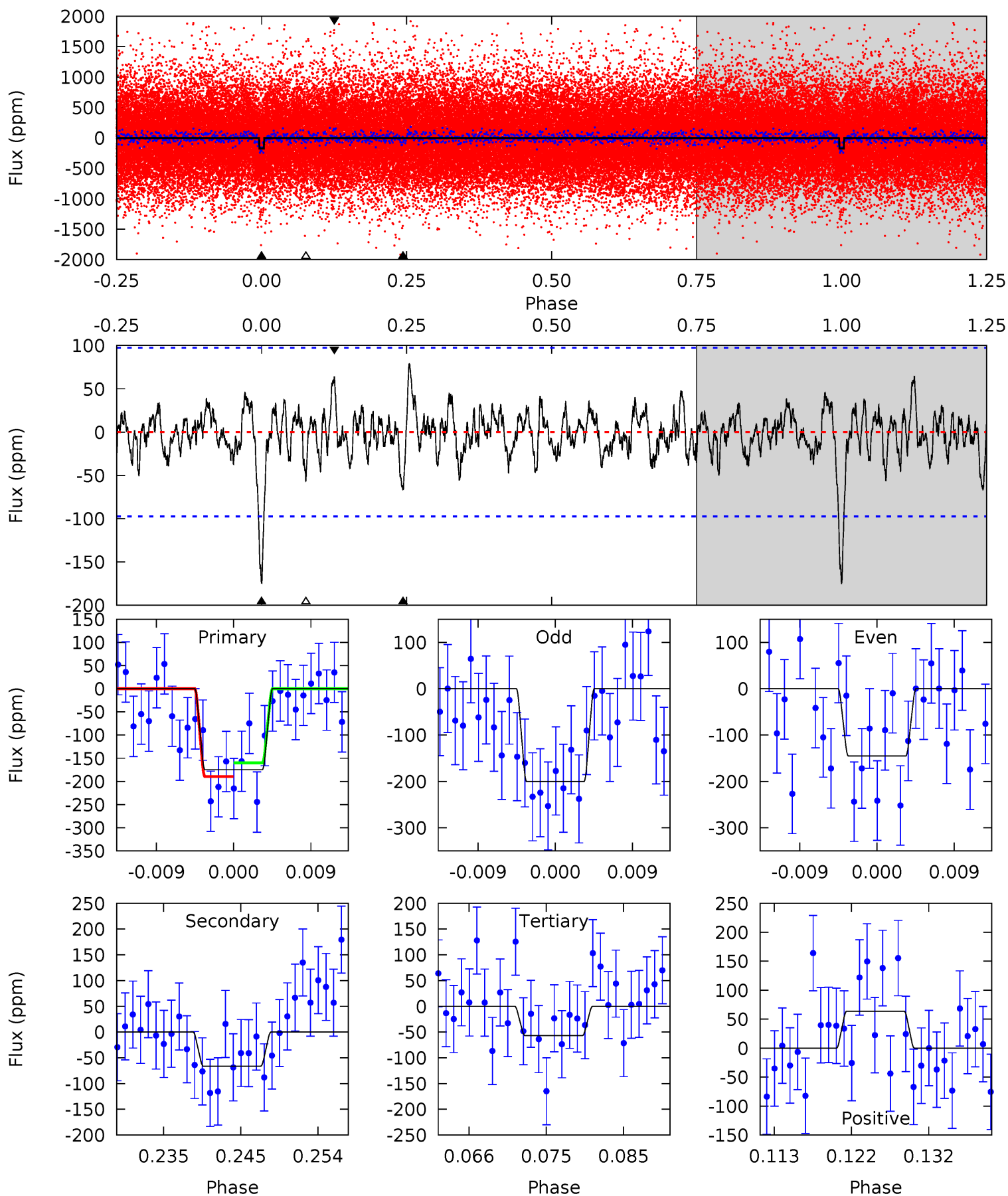
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.43	4.16	3.40	3.57	5.00	2.53	1.21	6.03	5.86	0.76	0.60	0.98	1.13	0.34	0.86



Alt Model-Shift Uniqueness Test

008242769-02, P = 21.971409 Days, E = 137.688929 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.03	3.42	2.93	3.30	5.04	2.60	1.07	6.10	5.73	0.49	0.12	1.42	1.06	0.31	0



Stellar Parameters For KIC 008242769

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5763^{+182}_{-222}	$4.436^{+0.084}_{-0.196}$	$0.060^{+0.250}_{-0.300}$	$0.997^{+0.295}_{-0.126}$	$0.989^{+0.125}_{-0.114}$	$1.408^{+0.524}_{-0.742}$
	+3%/-4%	+2%/-4%	+417%/-500%	+30%/-13%	+13%/-12%	+37%/-53%
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 008242769-02 / KOI 7875.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-74 ± 18	$1.67^{+0.55}_{-0.48}$	916^{+63}_{-51}	4524^{+732}_{-472}	339^{+339}_{-156}
Alt.	-66 ± 19	$1.47^{+0.50}_{-0.47}$	919^{+62}_{-51}	4648^{+855}_{-535}	372^{+497}_{-173}

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

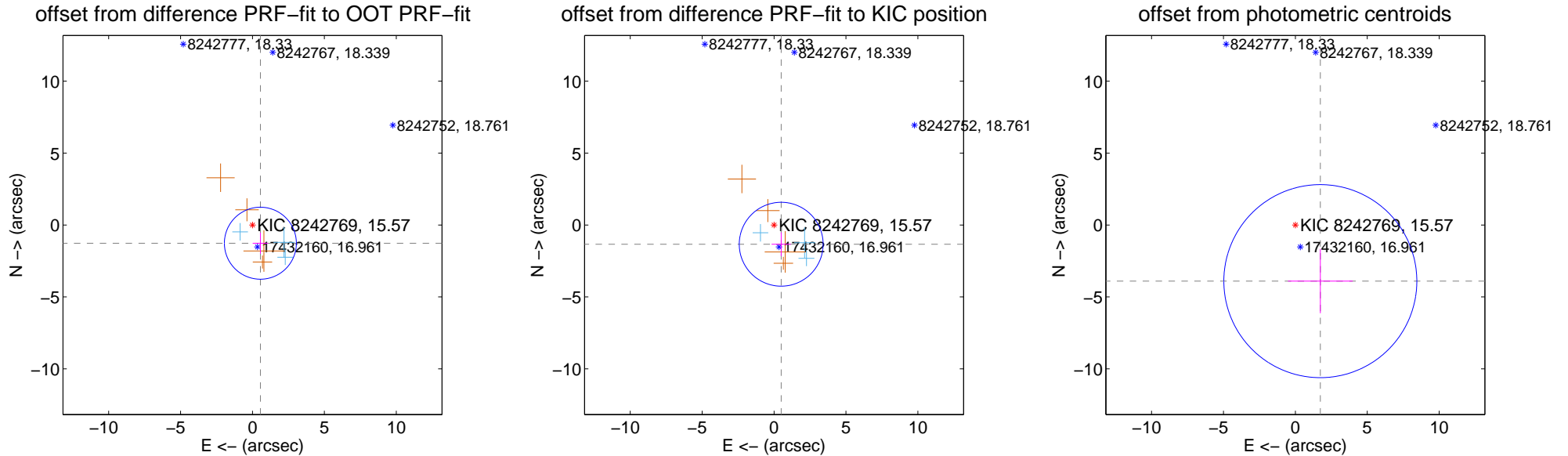
DV Centroid Data

Supplemental centroid analysis for 008242769-02. Kepler magnitude: 15.57. Transit SNR 7.48

There are 3 quarters with good PRF difference image offsets

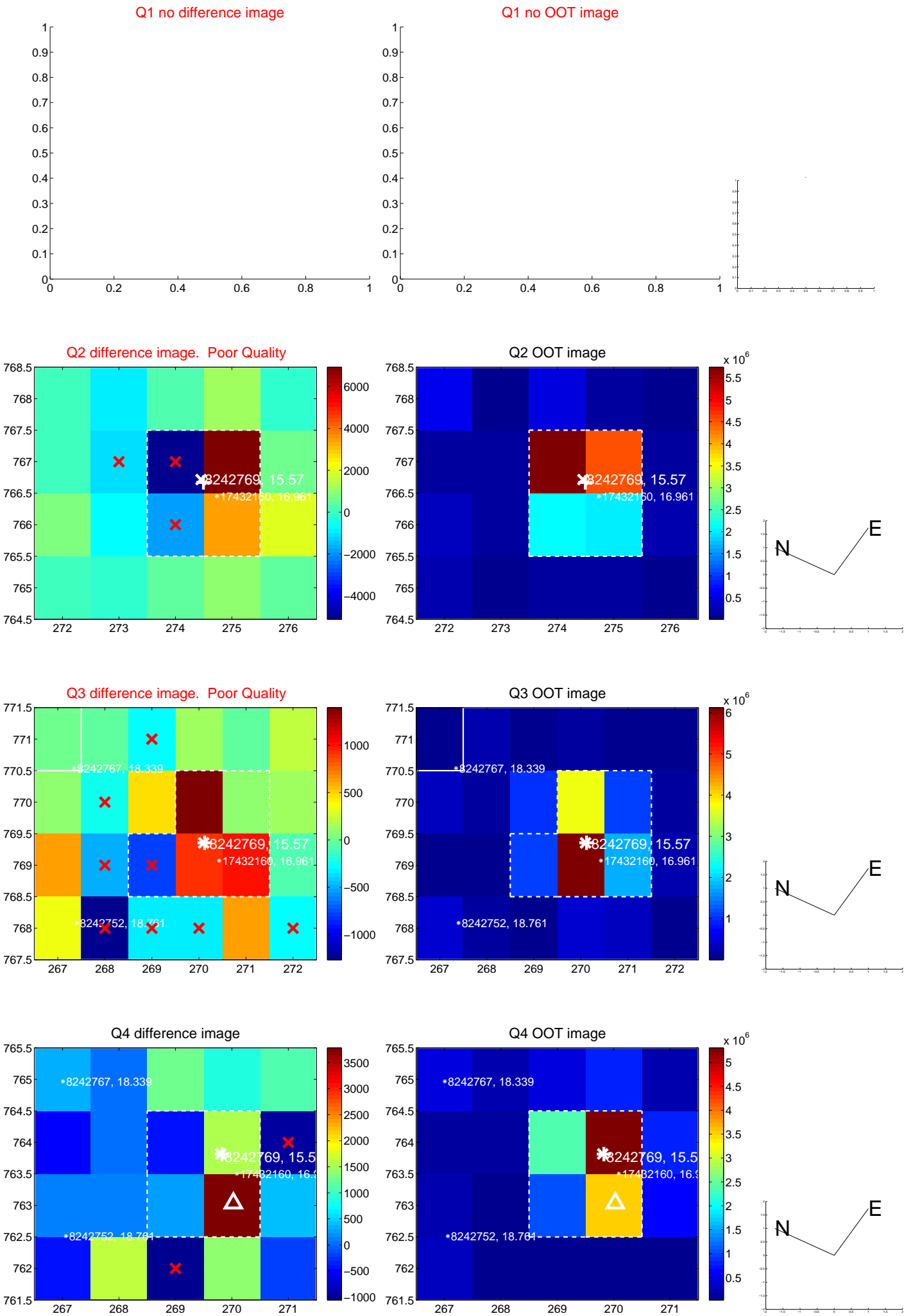
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.381 ± 0.834	1.66	-0.550 ± 0.532	-1.266 ± 0.734
PRF-fit source offset from KIC position	1.425 ± 0.972	1.47	-0.496 ± 0.667	-1.336 ± 0.819
photometric centroid source offset	4.27 ± 2.24	1.91	-1.74 ± 2.25	-3.90 ± 2.23

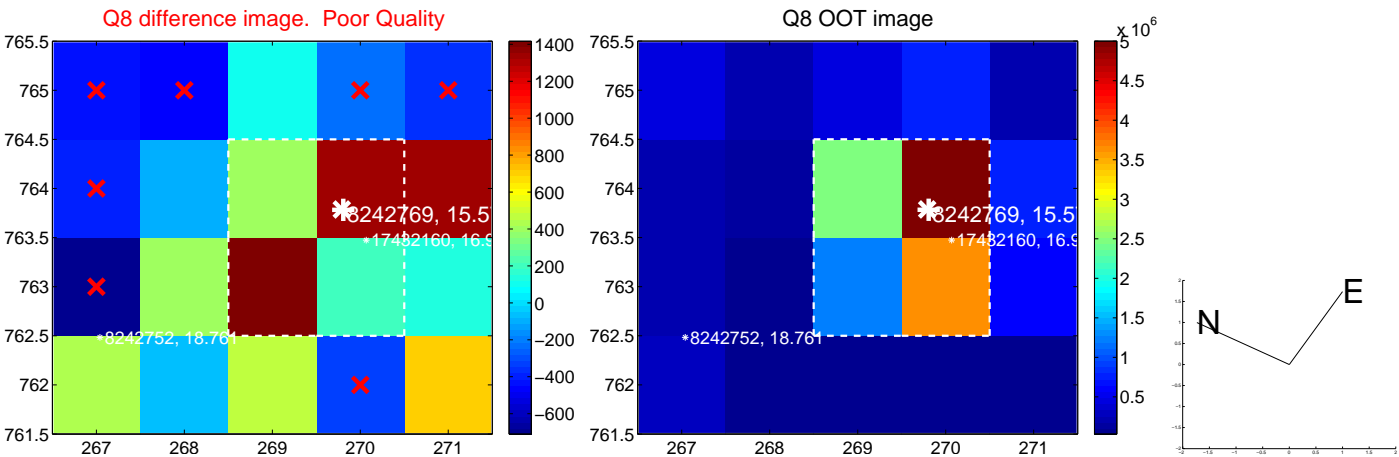
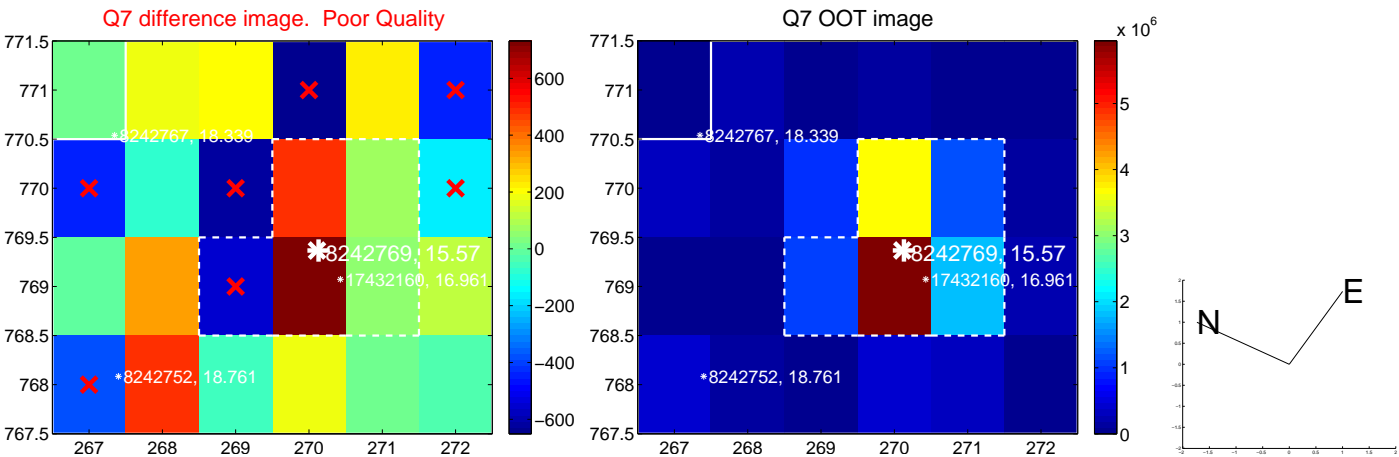
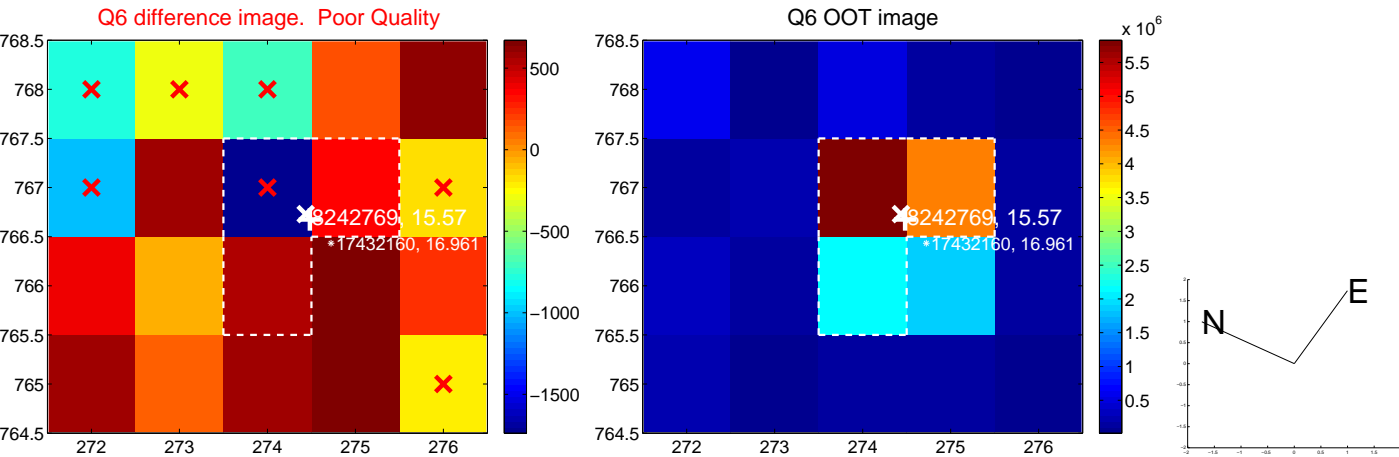
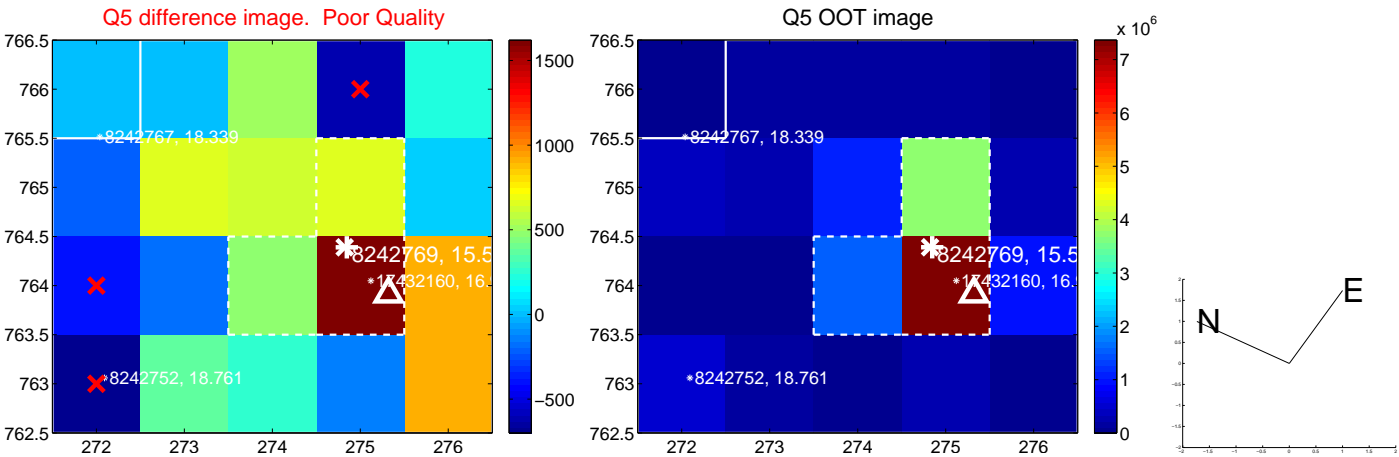


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

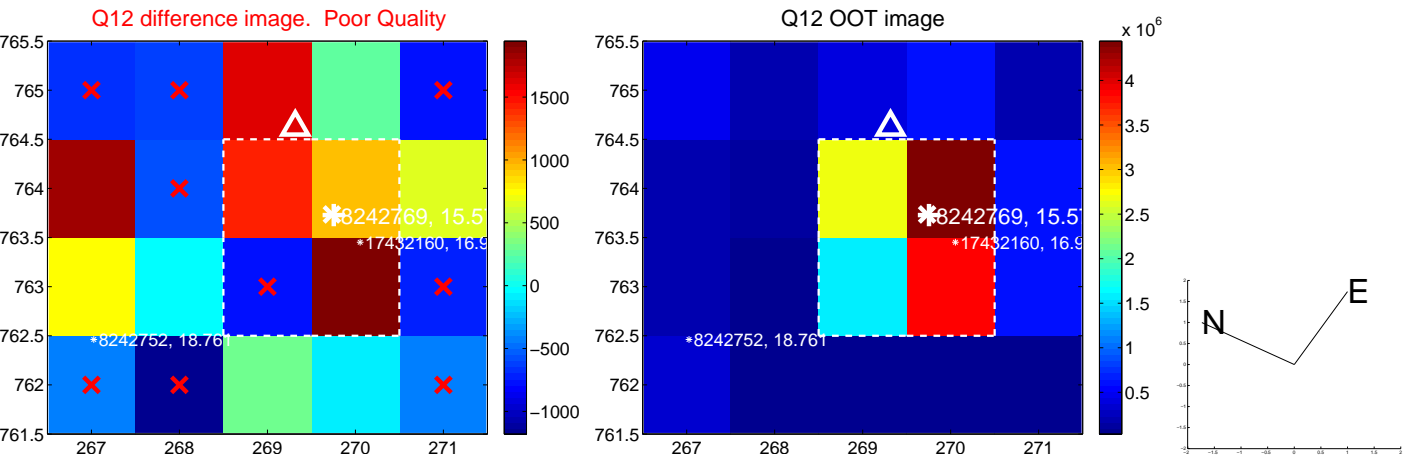
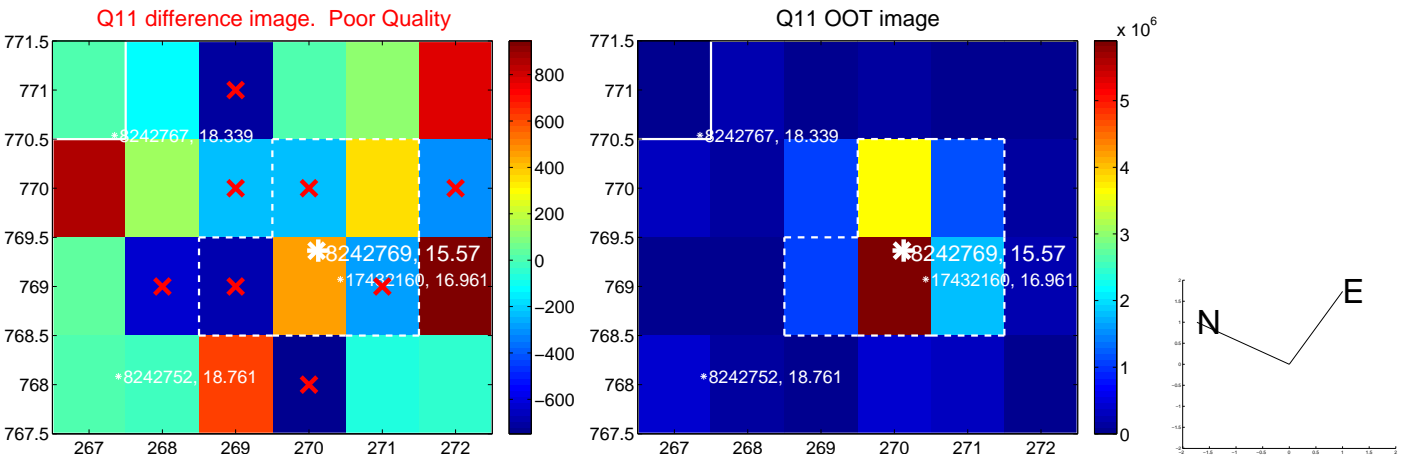
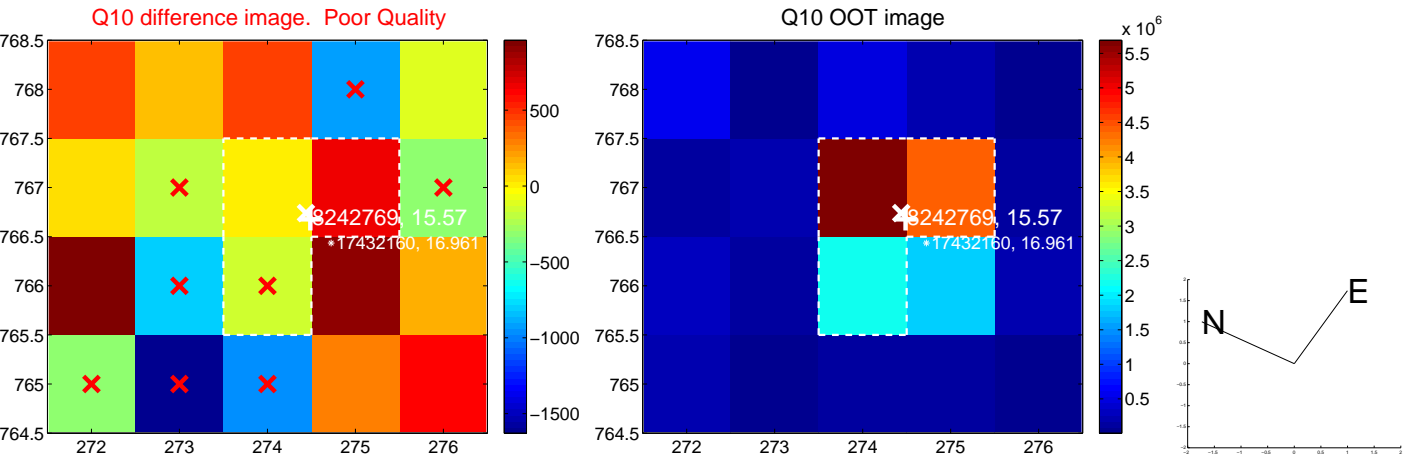
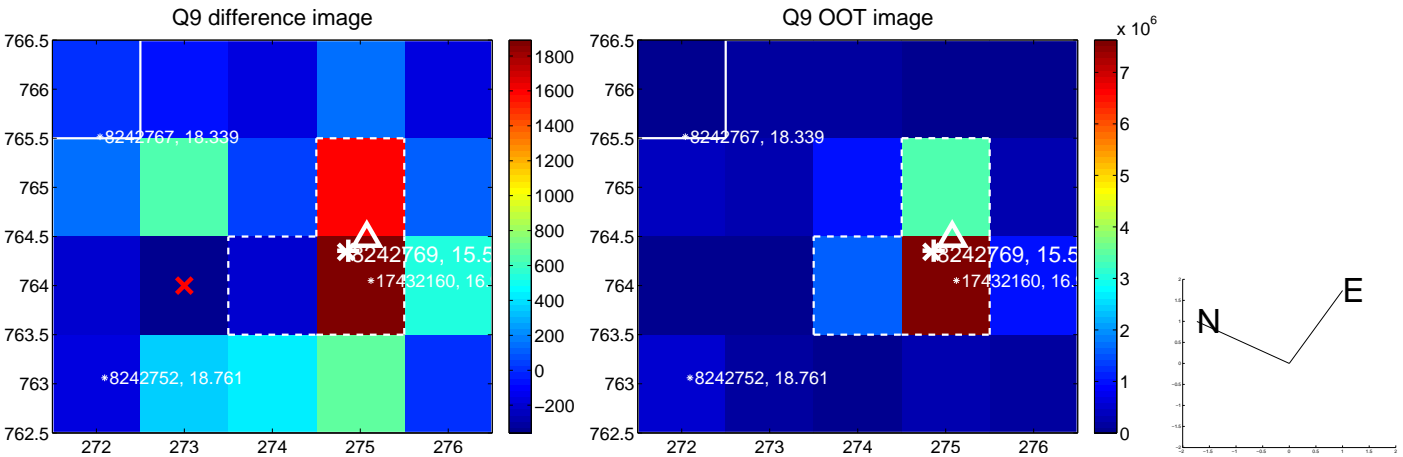
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



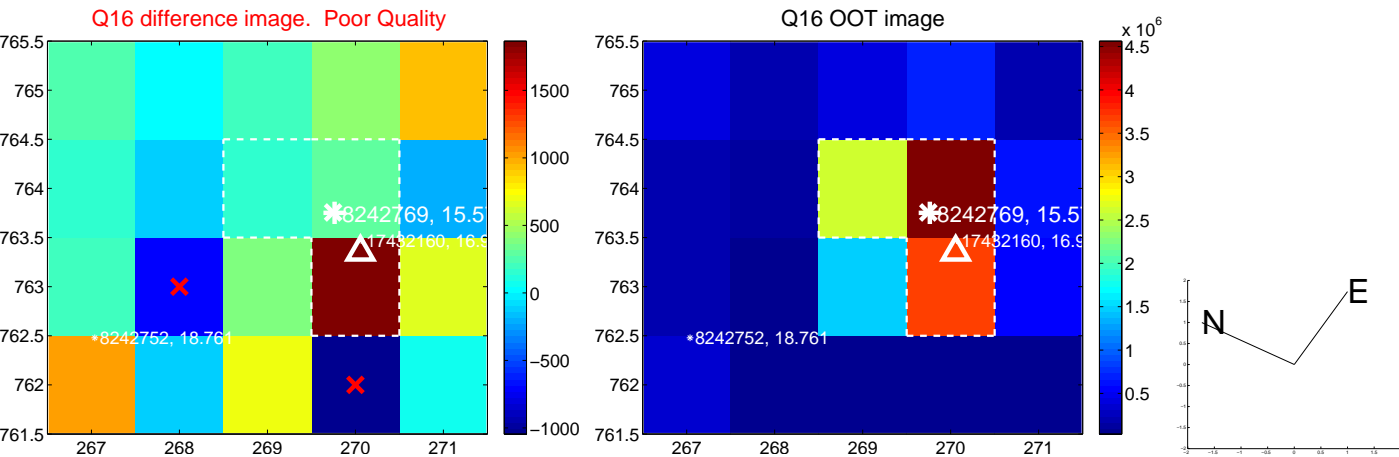
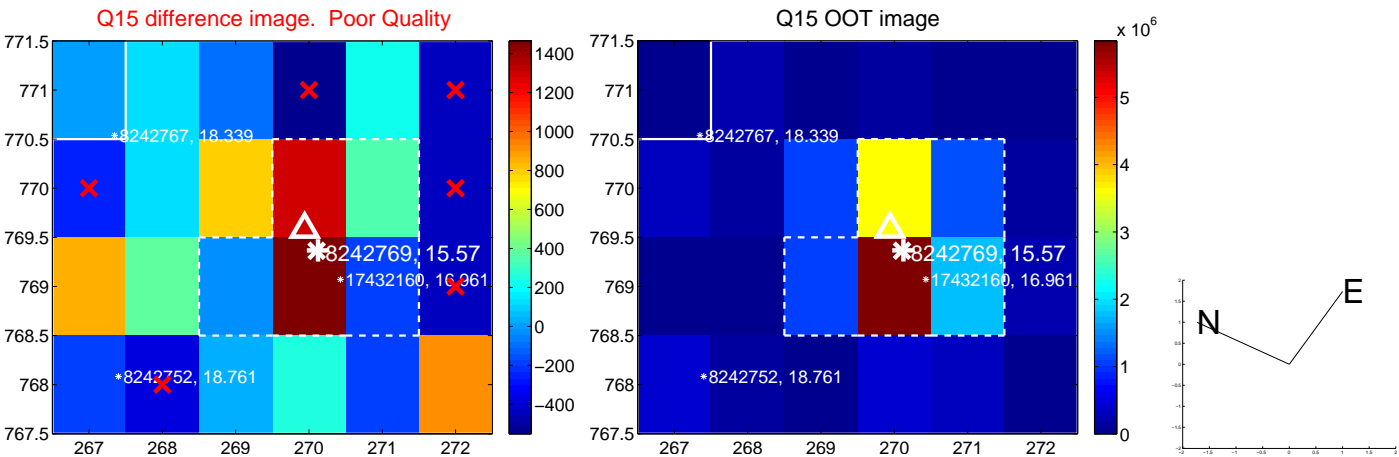
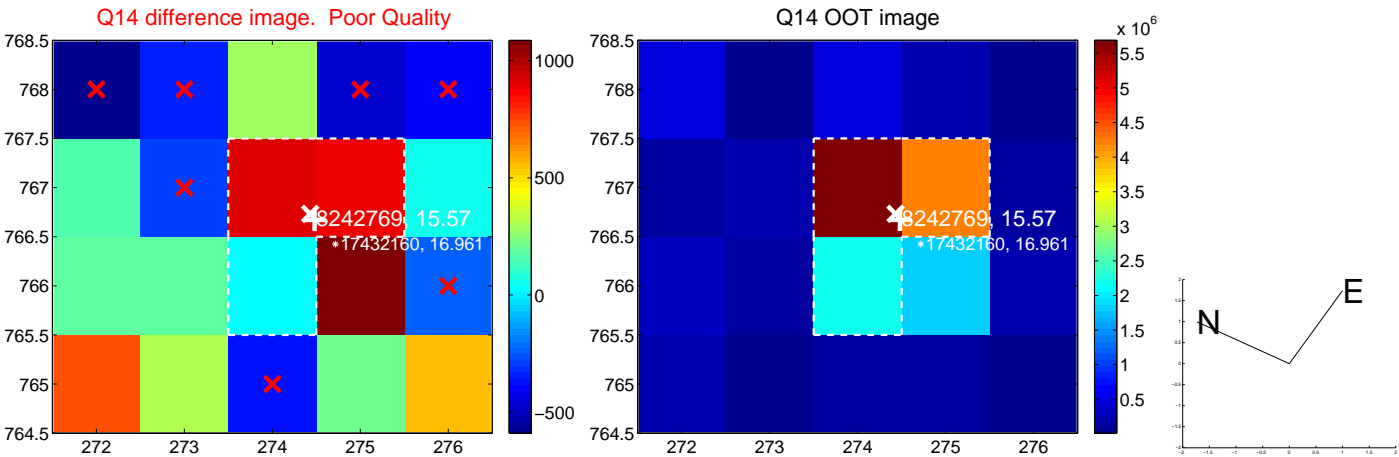
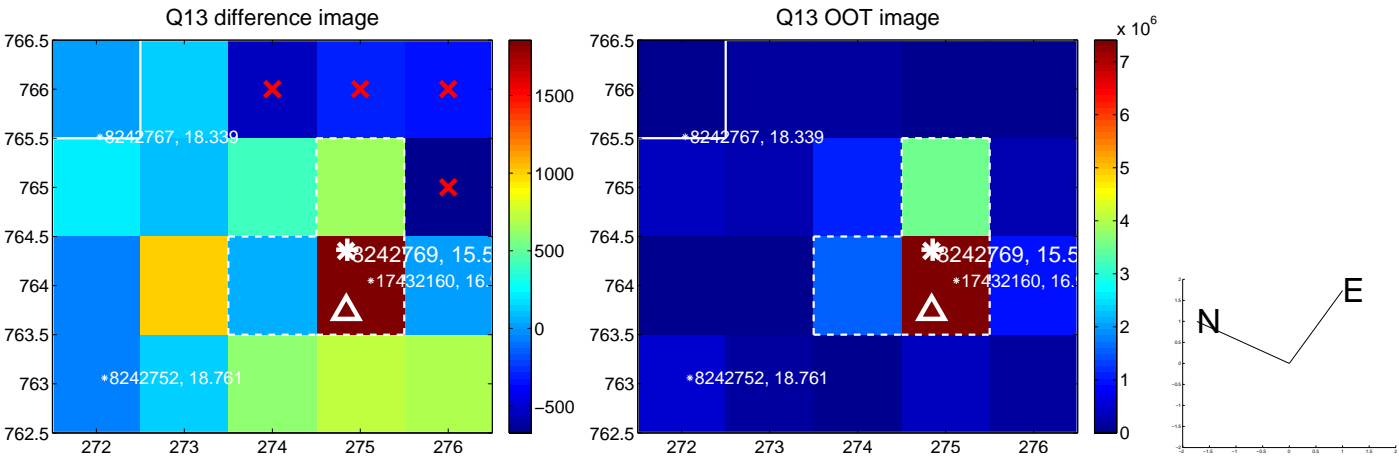
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



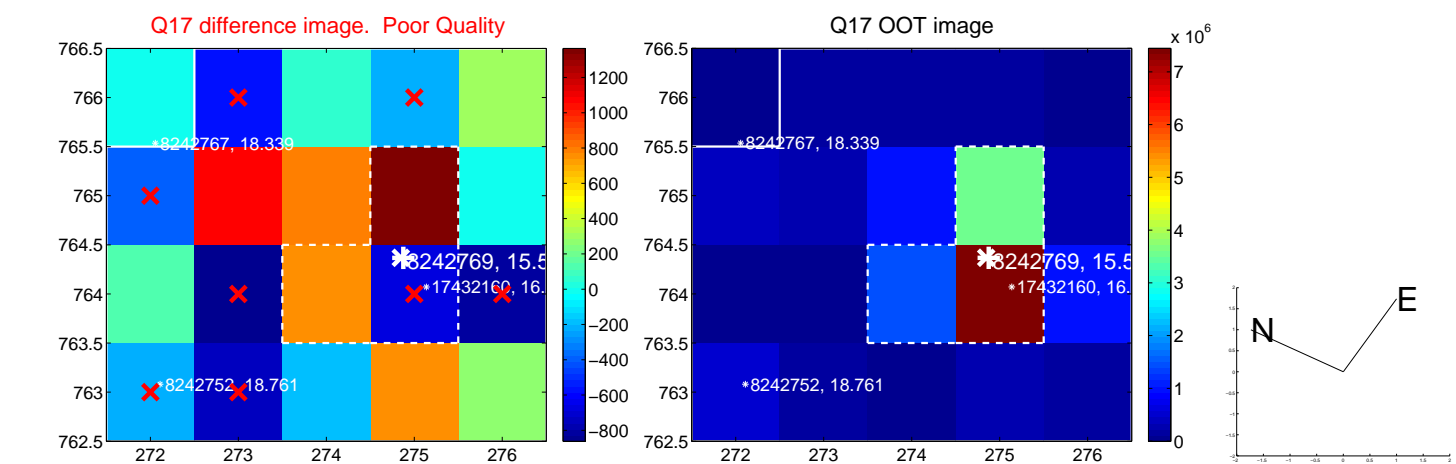
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



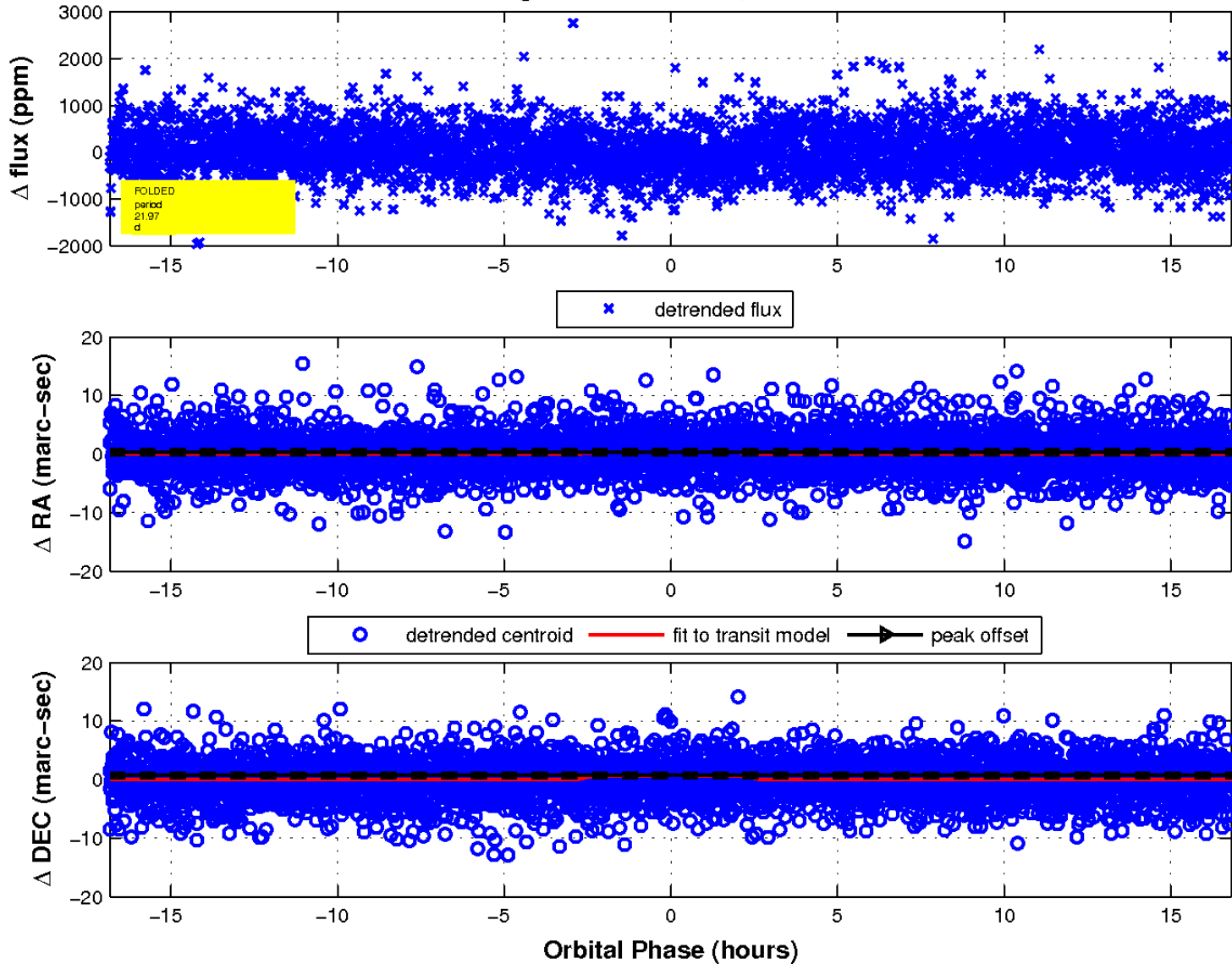
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

