

KIC 011769861

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})
011769861-01	OBS	No	397.315165	136.090172	314.3	2.178	13.2	4.8	0.98	6060	1.84	1.09
011769861-02	OBS	No	490.632562	464.676377	469.0	2.804	12.3	6.3	0.98	6060	2.13	0.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011769861-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011769861-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

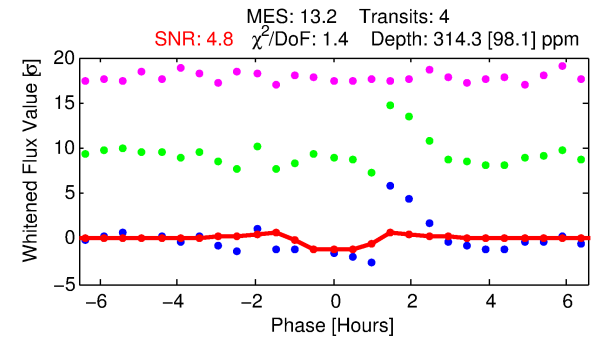
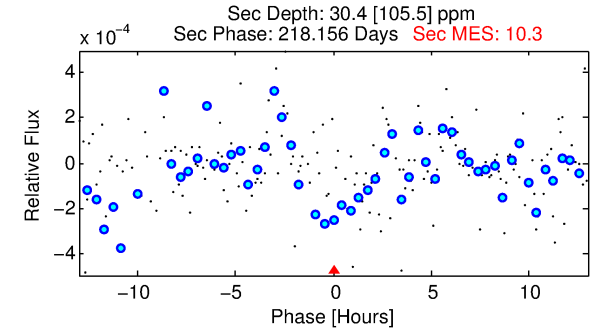
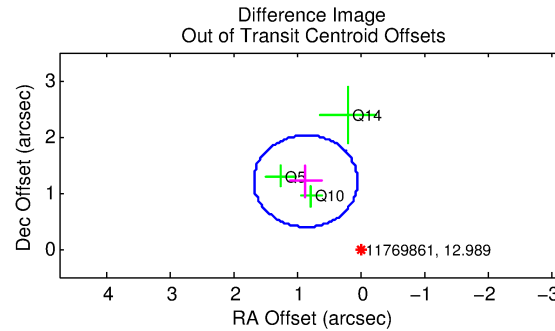
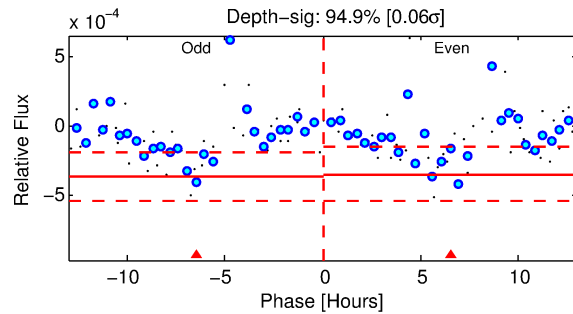
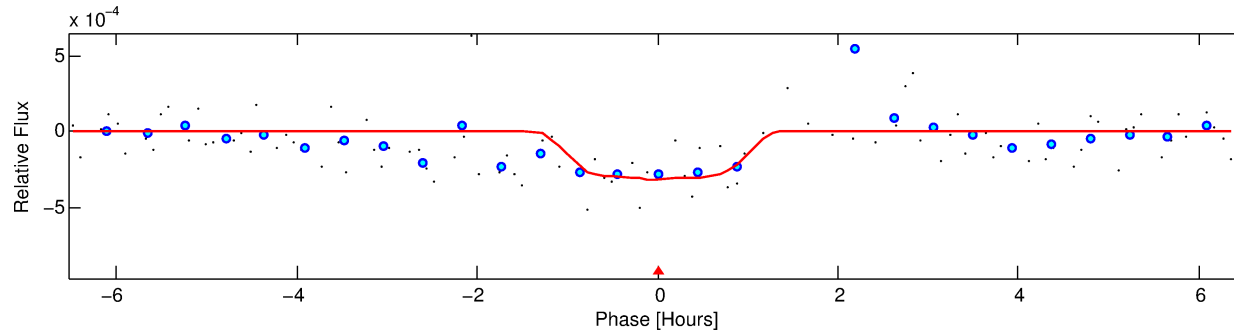
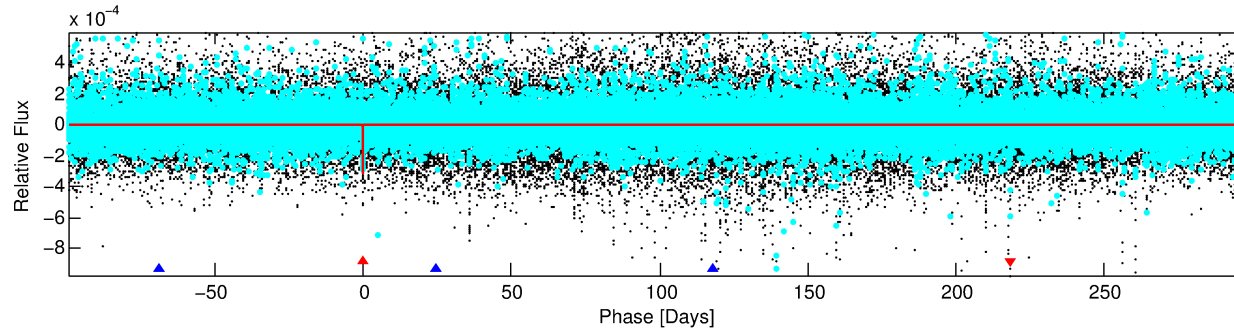
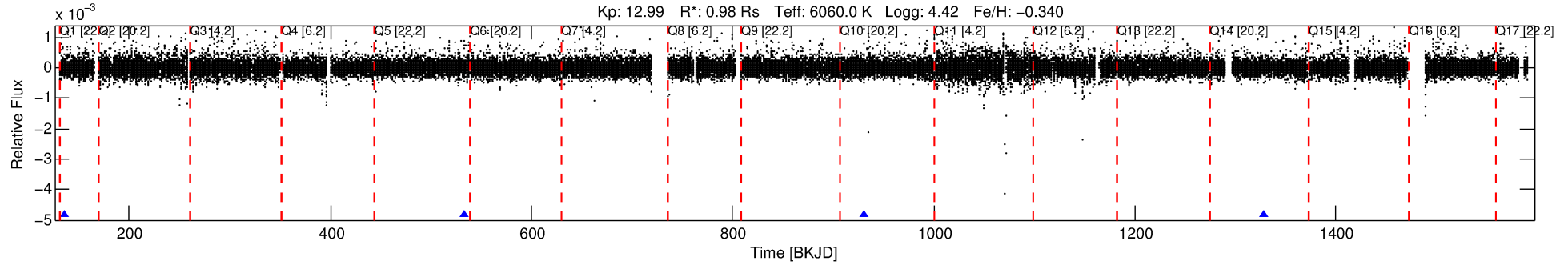
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011769861-01

No Significant Match Found

DV One-Page Summary

KIC: 11769861 Candidate: 1 of 2 Period: 397.315 d



DV Fit Results:

Period = 397.31516 [0.00563] d
Epoch = 136.0902 [0.0095] BKJD
Rp/R* = 0.0171 [0.0443]
a/R* = 1103.24 [14483.83]
b = 0.64 [12.29]
Seff = 1.09 [0.42]
Teq = 261 [25] K
Rp = 1.84 [4.79] Re
a = 1.0369 [0.2506] AU
Ag = 5295.59 [33027.07] [0.16 σ]
Teffp = 3437 [5350] K [0.59 σ]

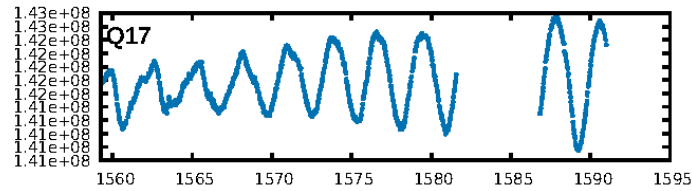
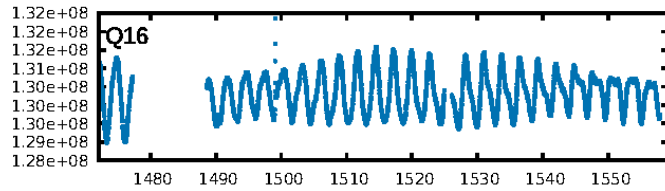
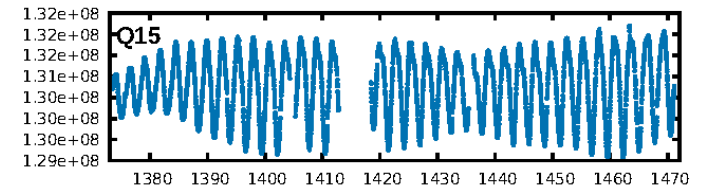
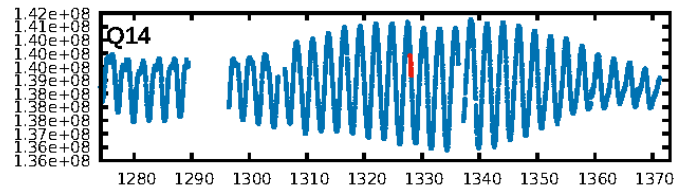
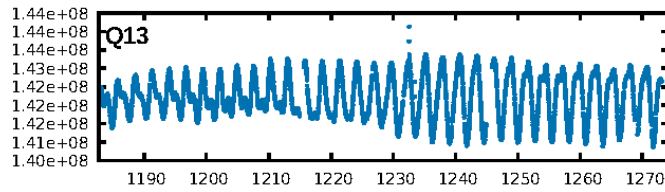
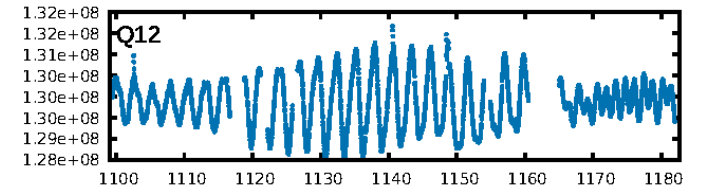
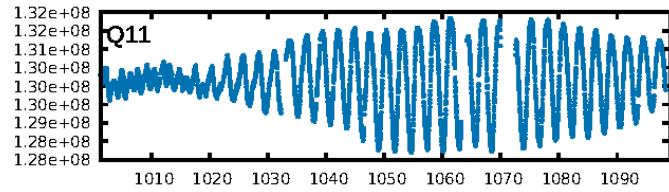
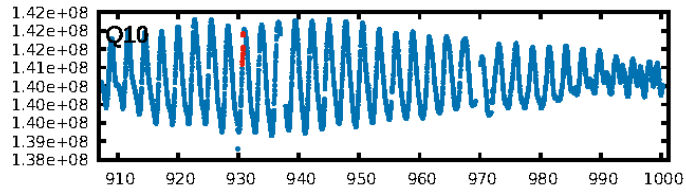
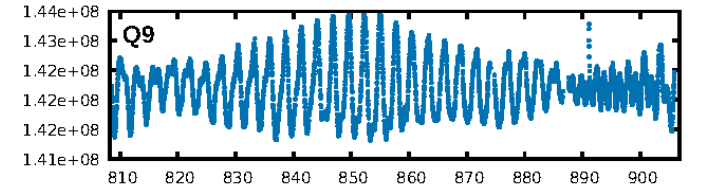
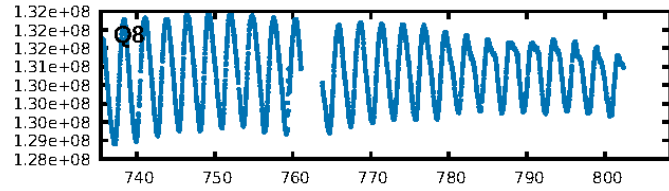
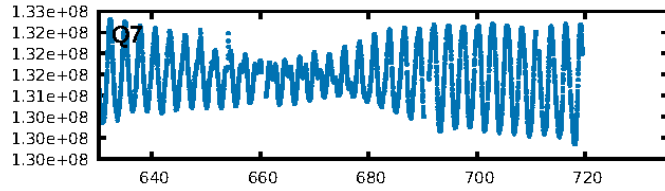
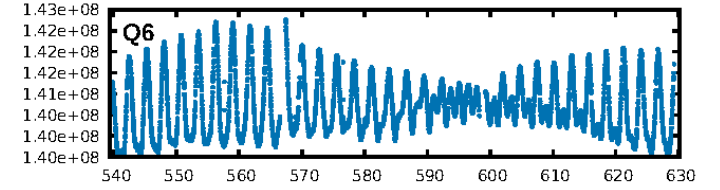
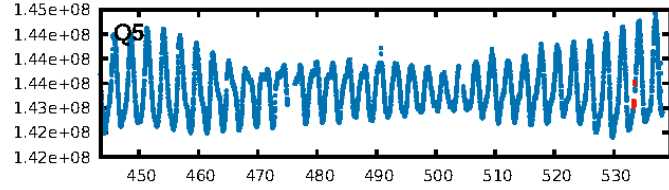
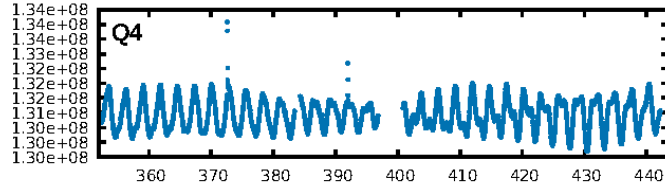
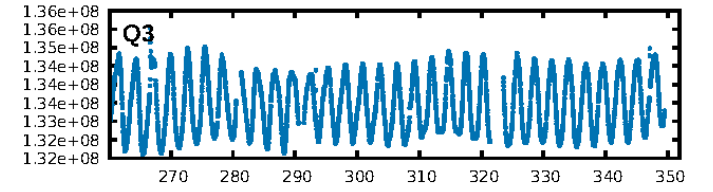
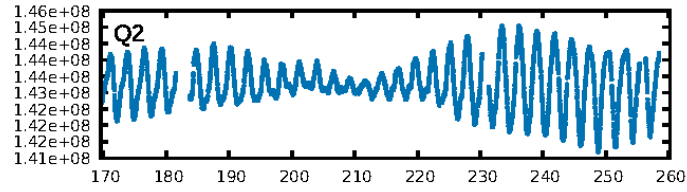
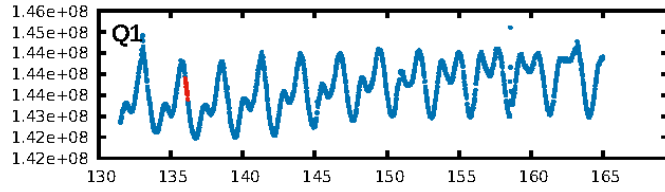
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [630.80 σ]
ModelChiSquare2-sig: 12.1%
ModelChiSquareGof-sig: 69.6%
Bootstrap-pfa: 1.02e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.07
Centroid-sig: 7.9%
Centroid-so: 3.571 arcsec [1.59 σ]
OotOffset-rm: 1.489 arcsec [5.46 σ]
KicOffset-rm: 1.403 arcsec [5.13 σ]
OotOffset-st: 2/0/0/1 [3]
KicOffset-st: 2/0/0/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [4/4]

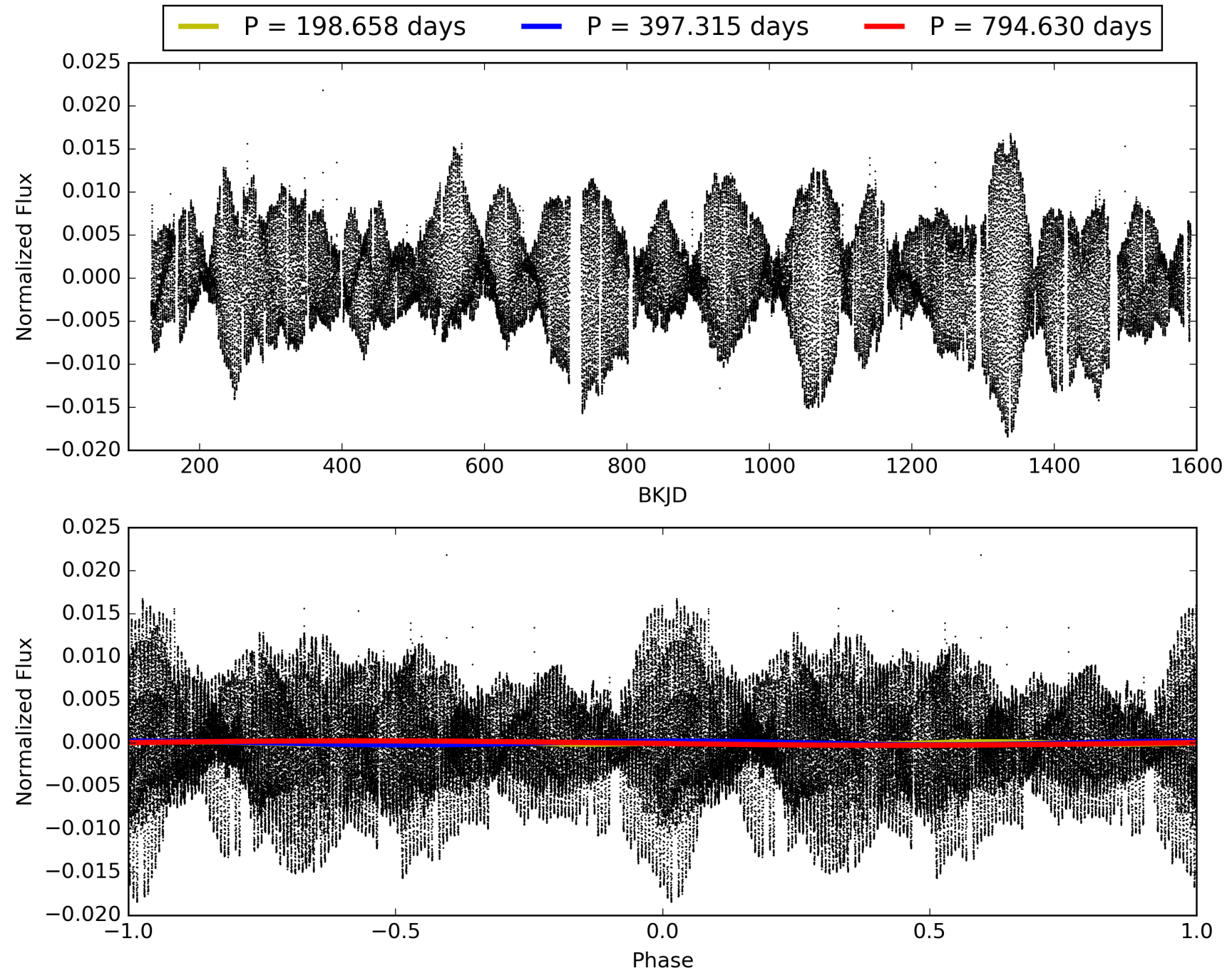
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 10:21:03 Z

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

TCE 011769861-01, PDC Light Curves

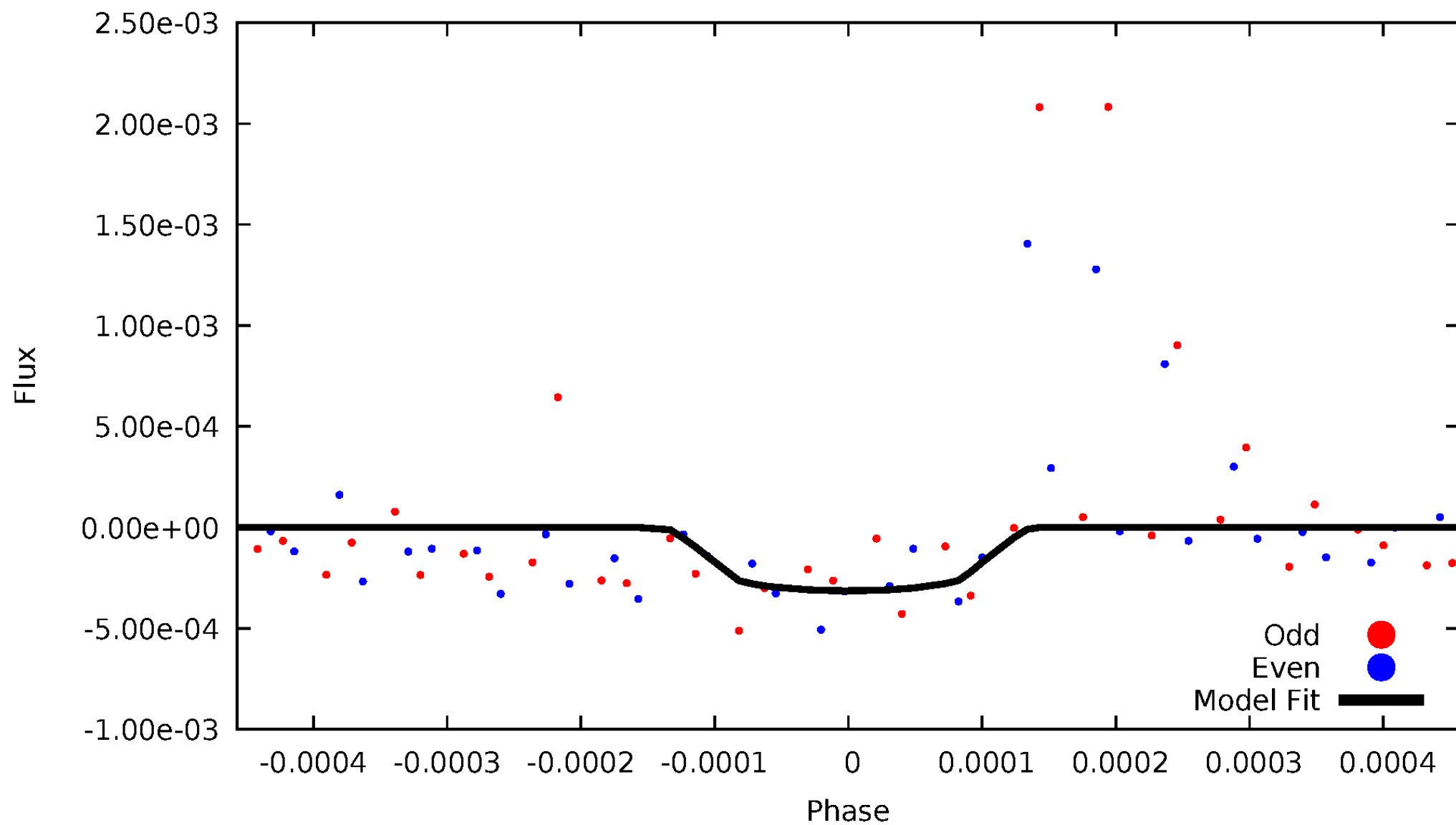


TCE 011769861-01



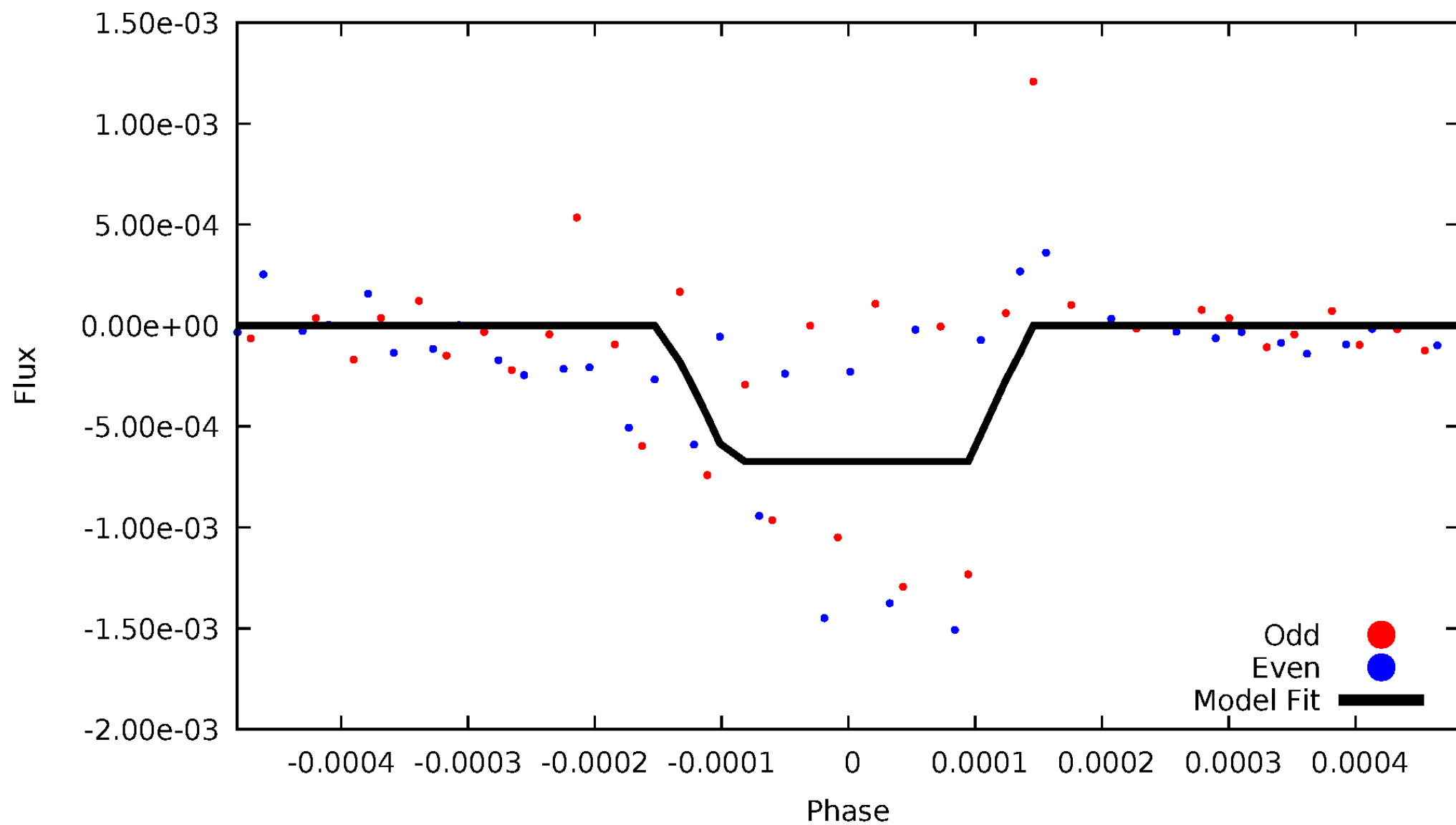
DV Odd/Even

TCE 011769861-01

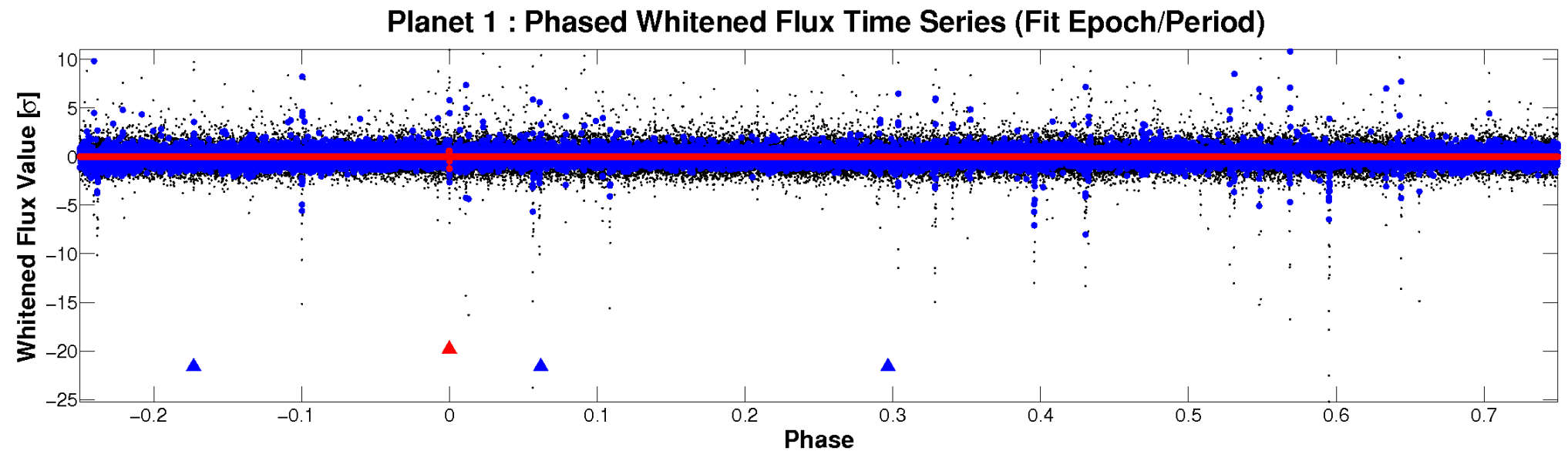
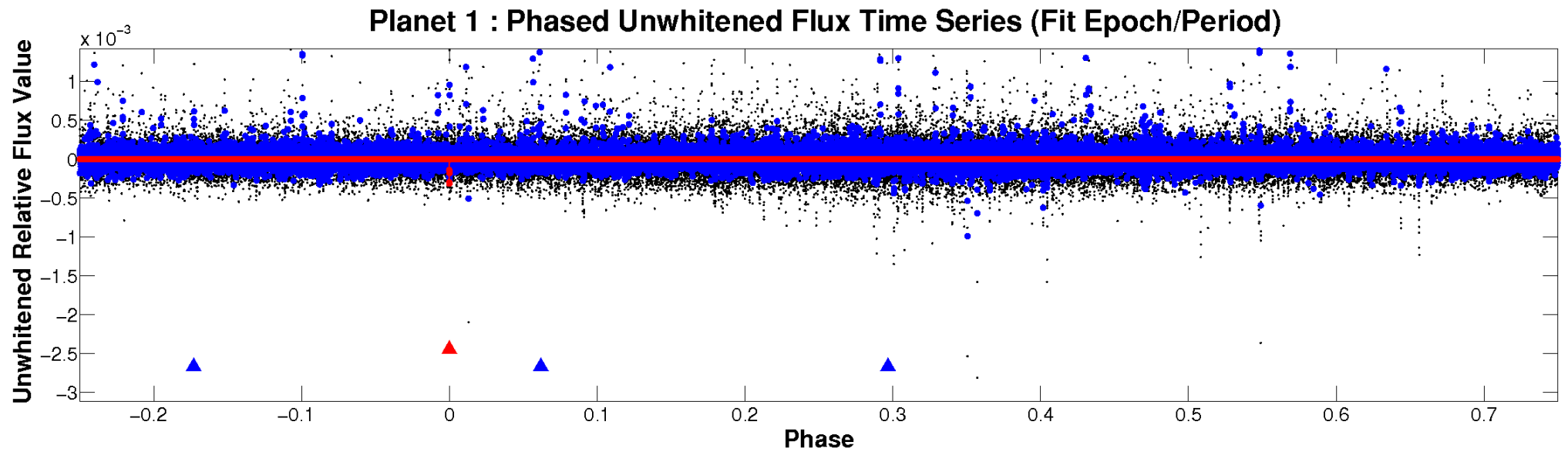


ALT Odd/Even

TCE 011769861-01

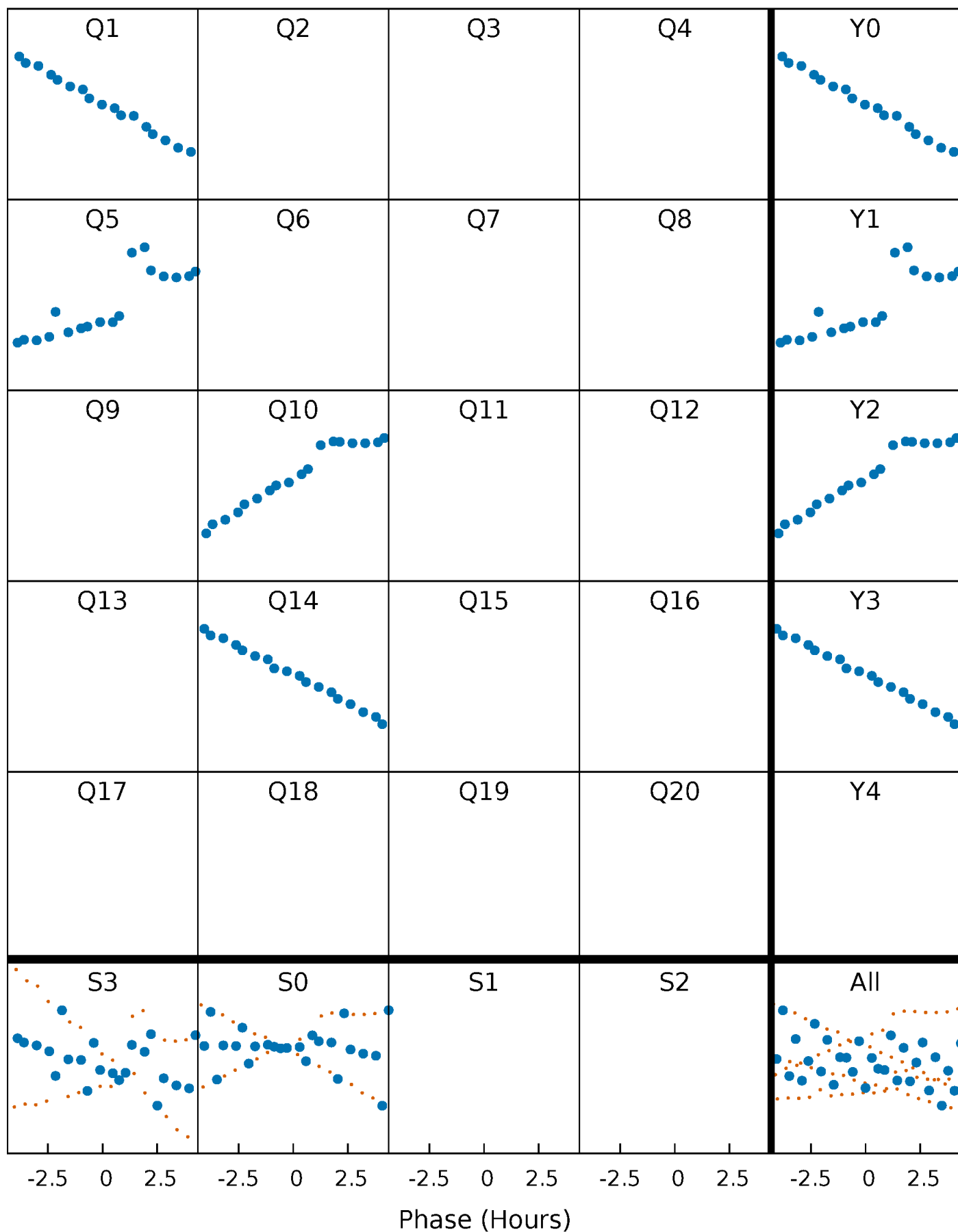


Non-Whitened Vs. Whitened Light Curve



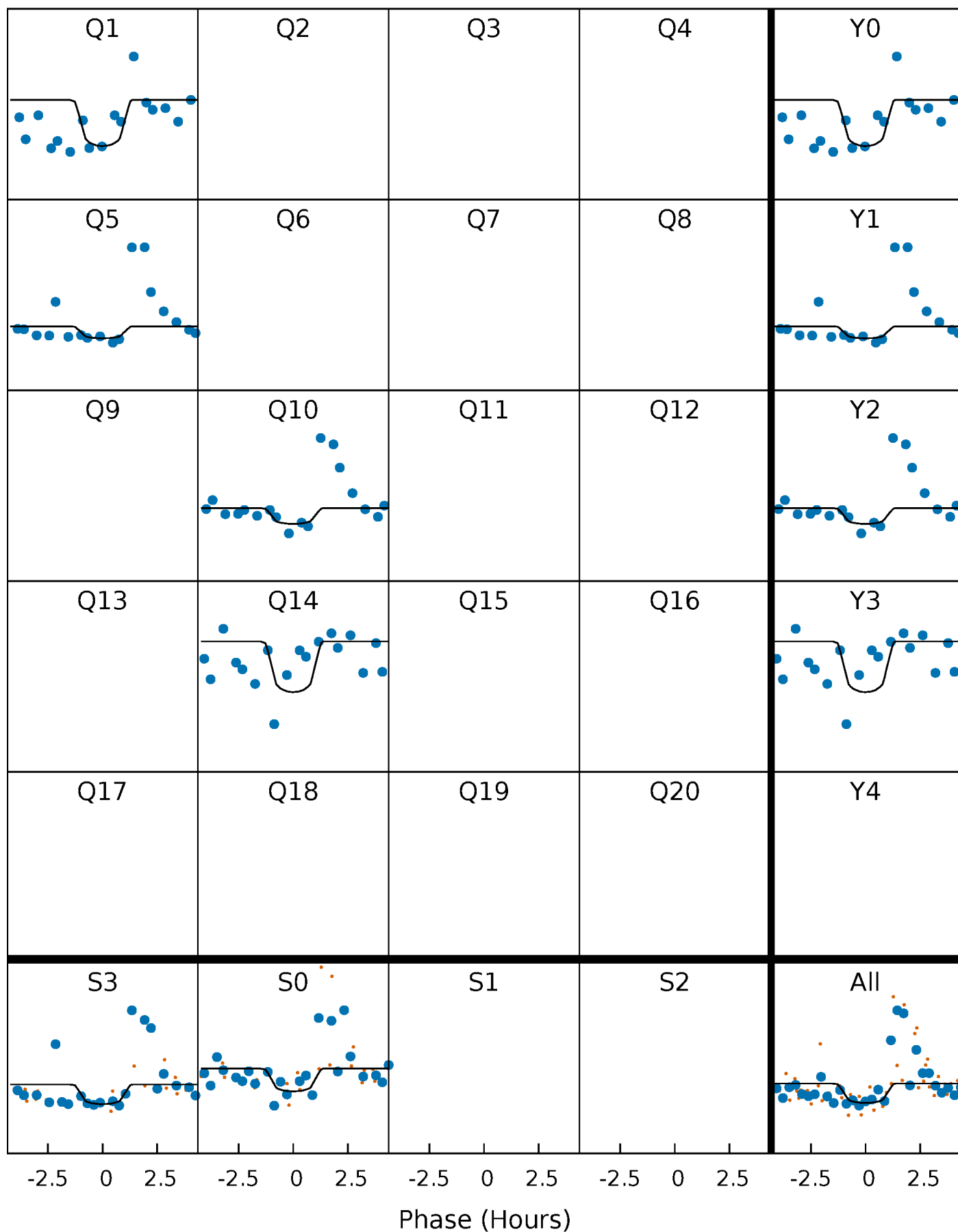
PDC Quarter-Phased Transit Curves

TCE 011769861-01 P=397.315165 Days $T_0=136.090172$ (BKJD)



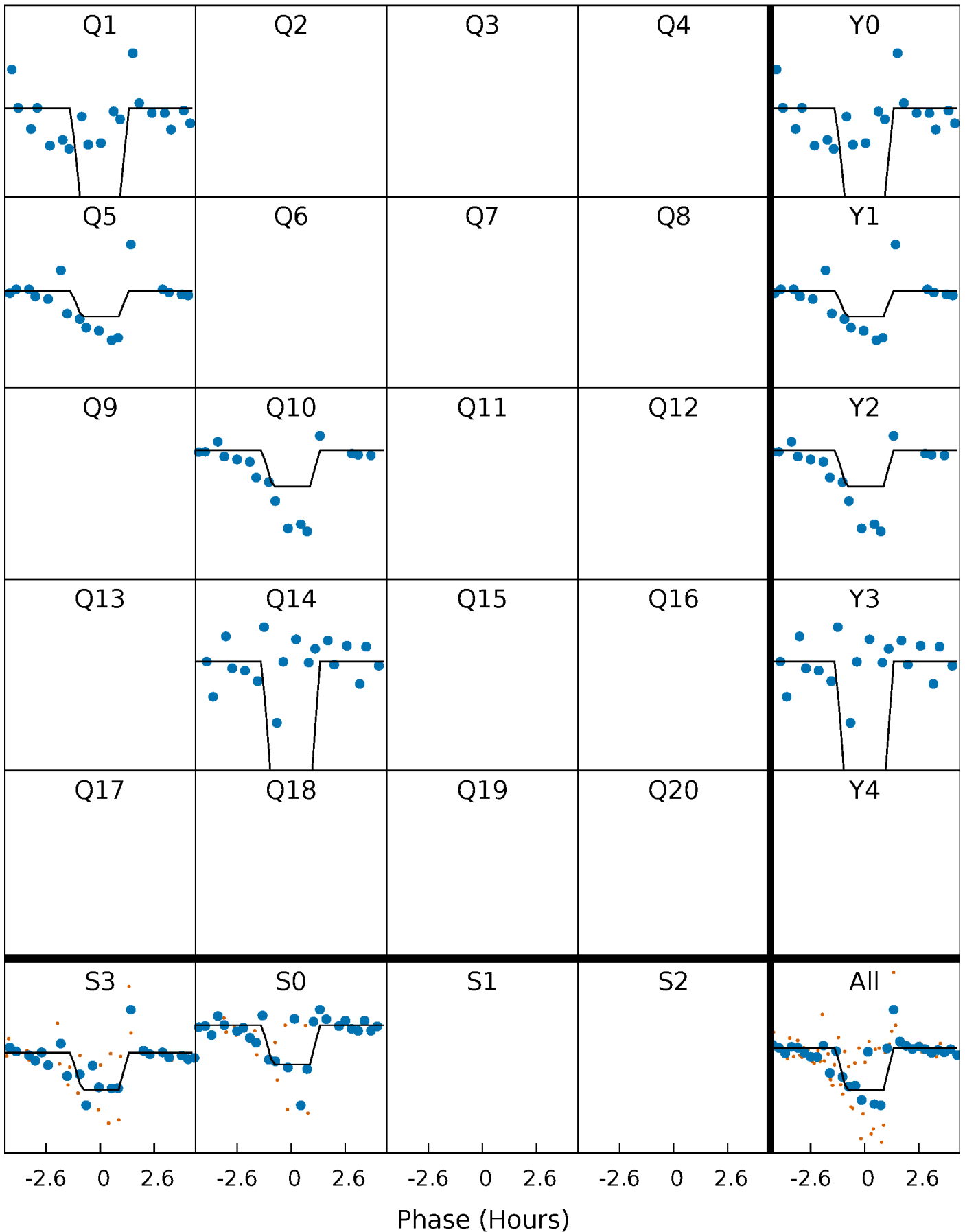
DV Quarter-Phased Transit Curves

TCE 011769861-01 P=397.315165 Days $T_0=136.090172$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

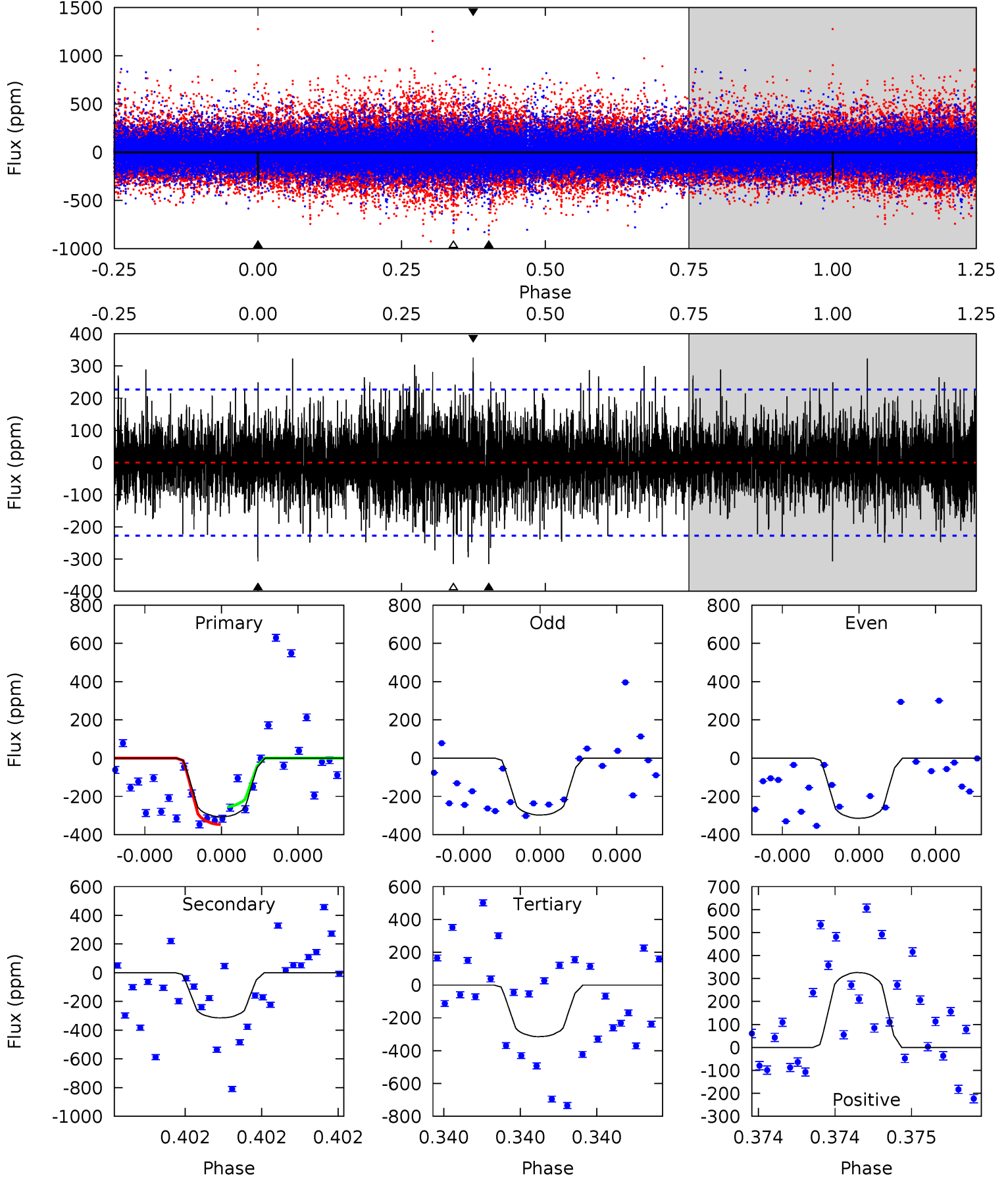
TCE 011769861-01 P=397.315695 Days $T_0=136.088454$ (BKJD)



DV Model-Shift Uniqueness Test

011769861-01, P = 397.315165 Days, E = 136.090172 Days

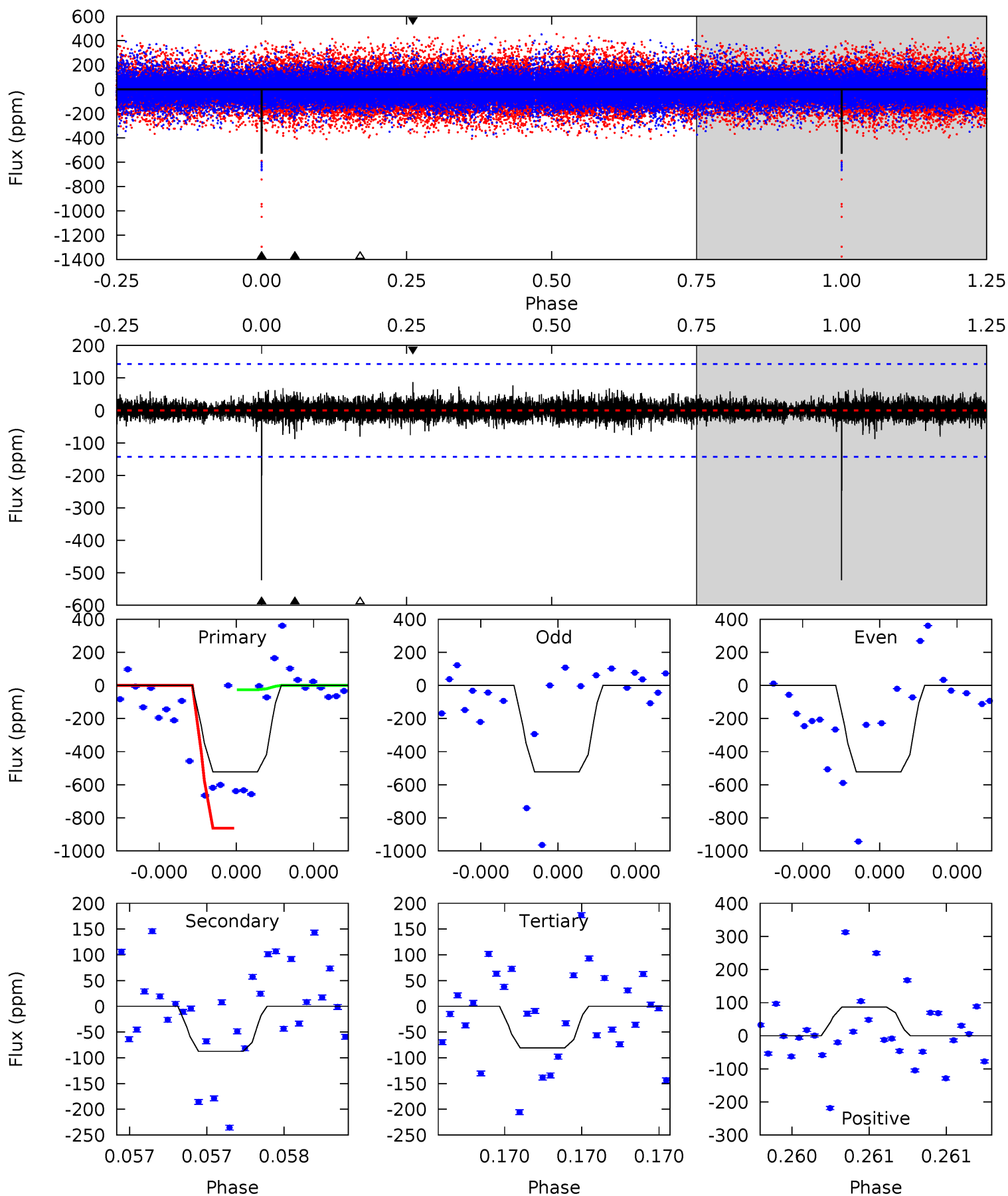
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.67	7.88	7.88	8.16	5.68	3.65	1.78	-0.21	-0.49	0.00	-0.29	0.20	0.99	0.51	1.16



Alt Model-Shift Uniqueness Test

011769861-01, P = 397.315695 Days, E = 136.088454 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.7	3.48	3.20	3.45	5.68	3.64	0.63	17.5	17.3	0.27	0.03	0.02	1.02	0.14	14.3



Stellar Parameters For KIC 011769861

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6060^{+164}_{-182}	$4.425^{+0.087}_{-0.203}$	$-0.340^{+0.300}_{-0.300}$	$0.985^{+0.273}_{-0.147}$	$0.944^{+0.120}_{-0.109}$	$1.389^{+0.624}_{-0.692}$
	+3%/-3%	+2%/-5%	+88%/-88%	+28%/-15%	+13%/-12%	+45%/-50%
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 011769861-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-315 ± 40	$4.26^{+3.80}_{-2.87}$	371^{+28}_{-21}	4372^{+2978}_{-906}	10272^{+82859}_{-7465}
Alt.	-88 ± 25	$4.86^{+3.98}_{-3.23}$	368^{+25}_{-19}	3331^{+1569}_{-547}	2125^{+17483}_{-1535}

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

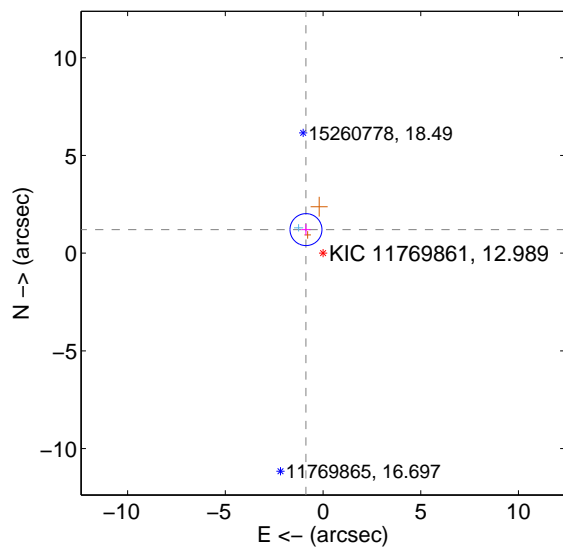
Supplemental centroid analysis for 011769861-01. Kepler magnitude: 12.99. Transit SNR 4.78

There are 1 quarters with good PRF difference image offsets

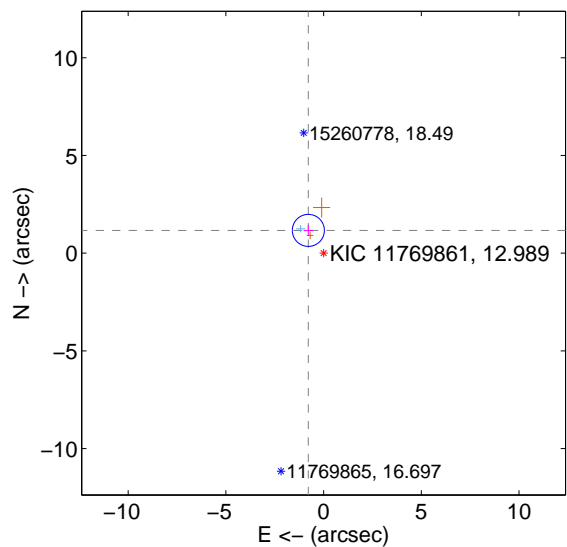
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.489 ± 0.272	5.46	0.873 ± 0.243	1.206 ± 0.287
PRF-fit source offset from KIC position	1.403 ± 0.273	5.13	0.780 ± 0.250	1.166 ± 0.283
photometric centroid source offset	3.57 ± 2.25	1.59	3.44 ± 2.22	0.97 ± 2.53

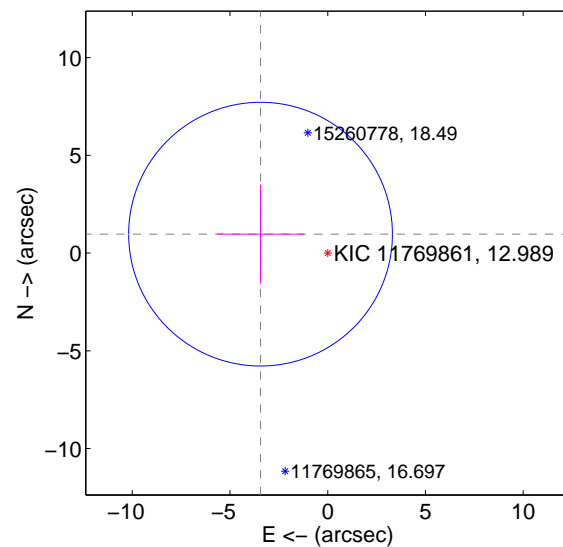
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

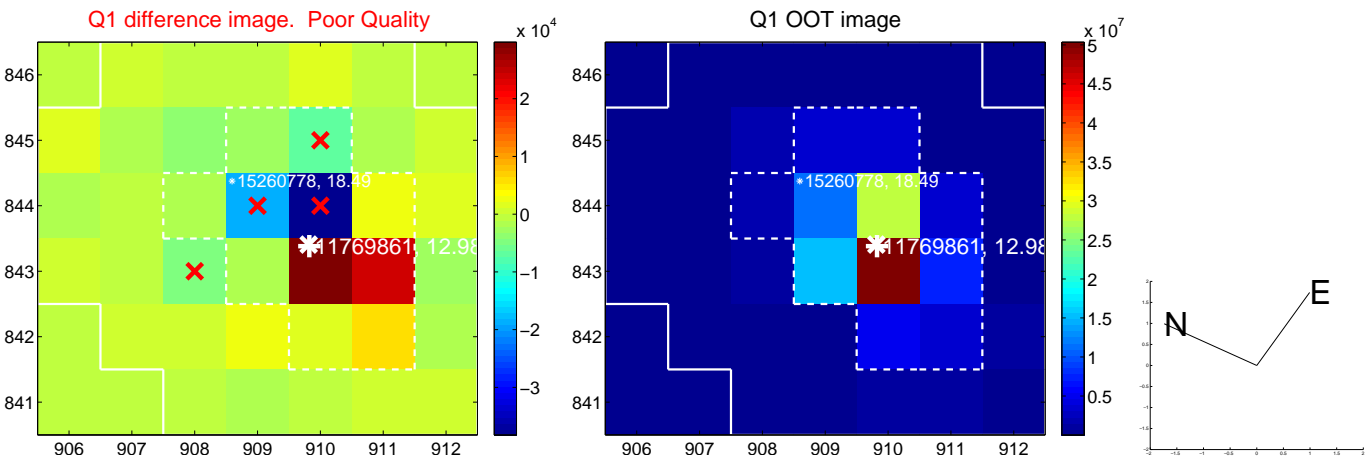


offset from photometric centroids

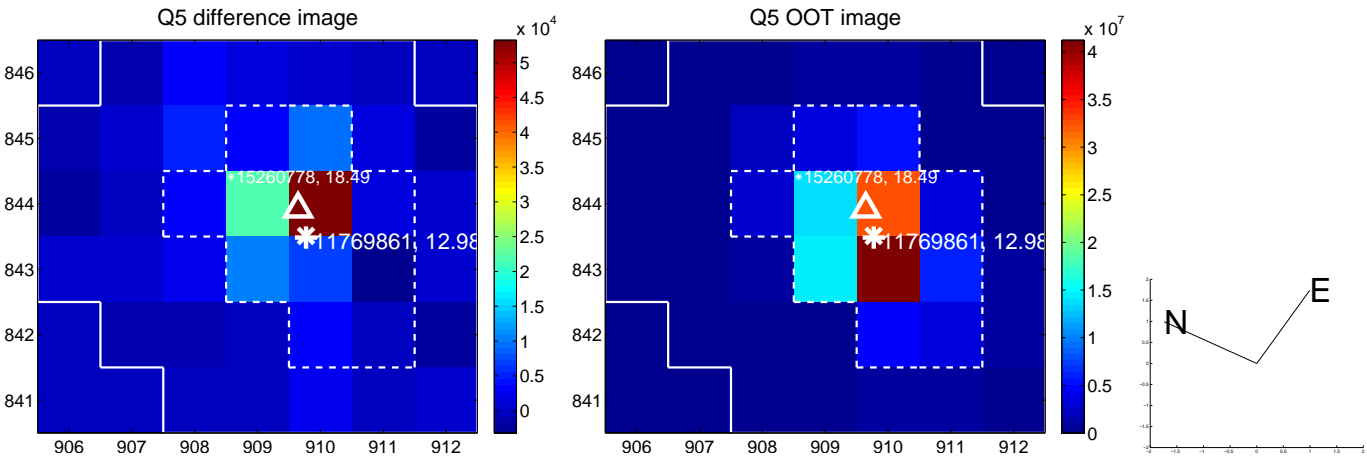


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

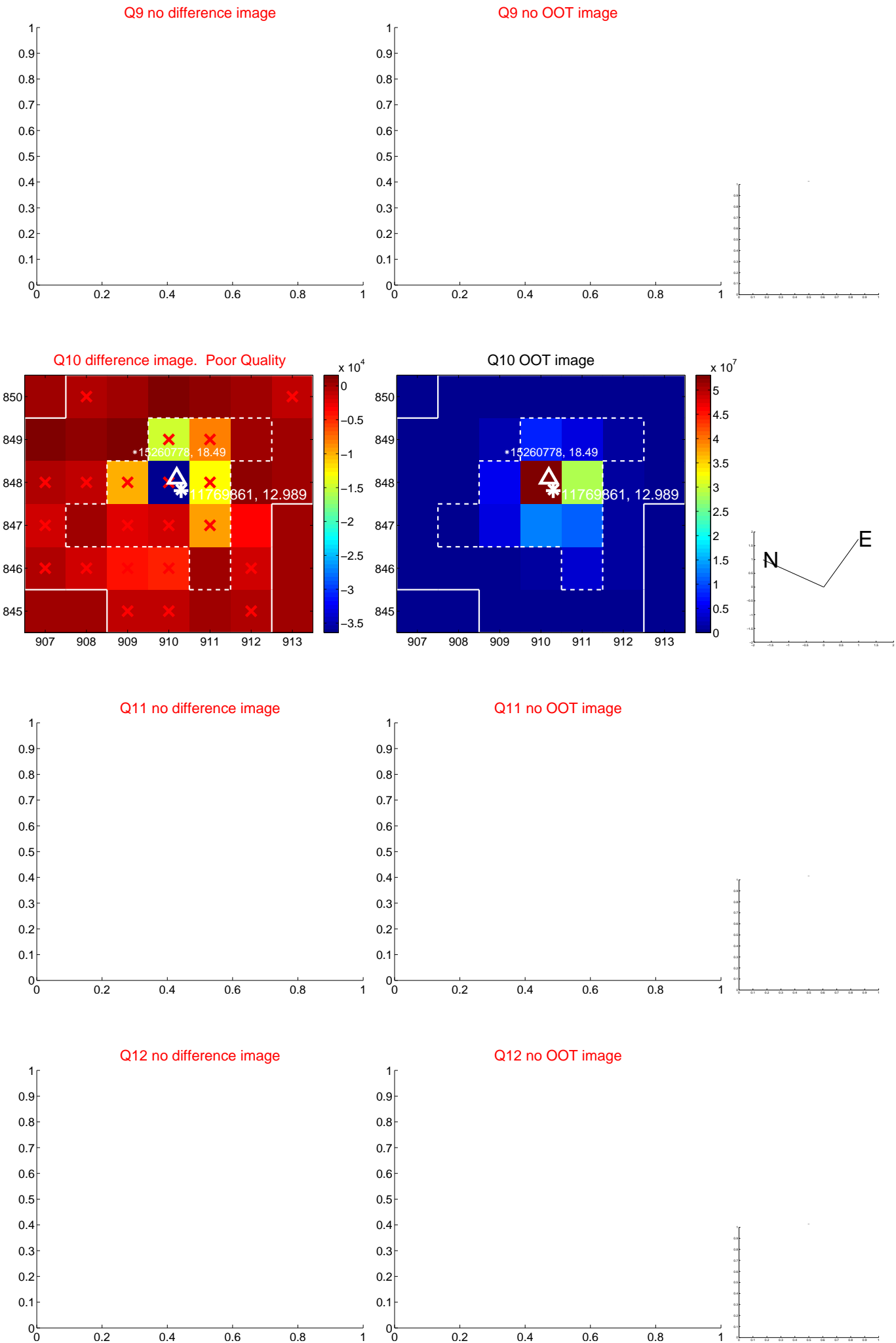
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



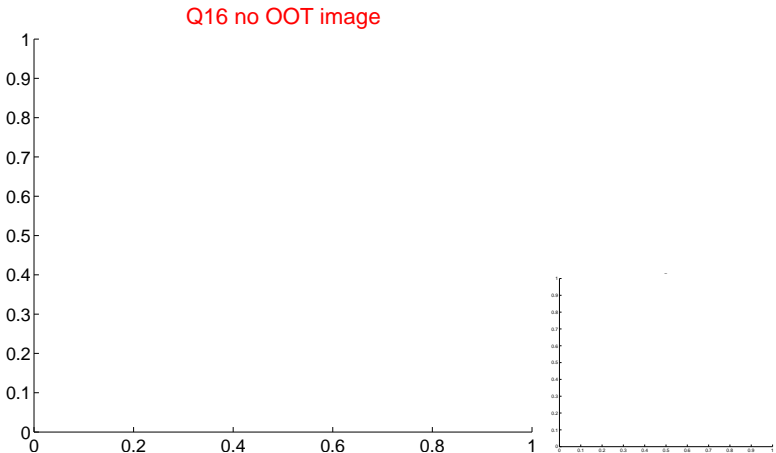
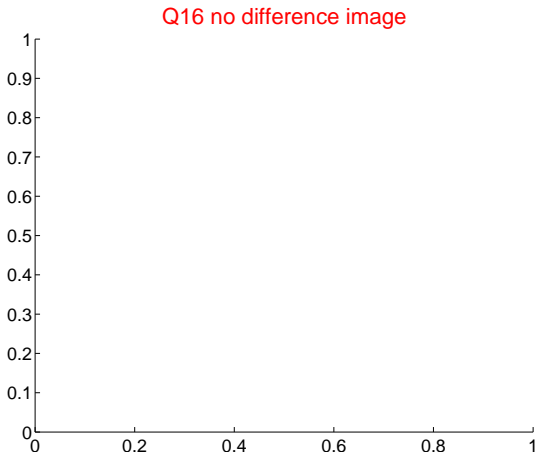
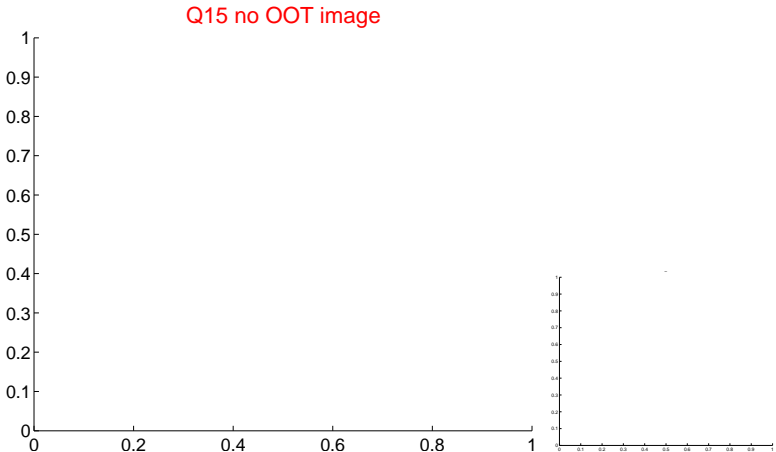
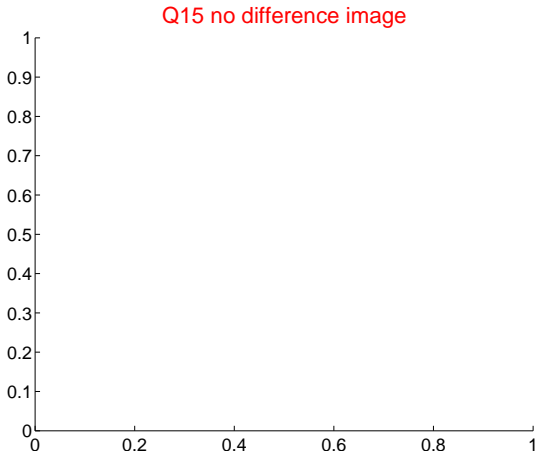
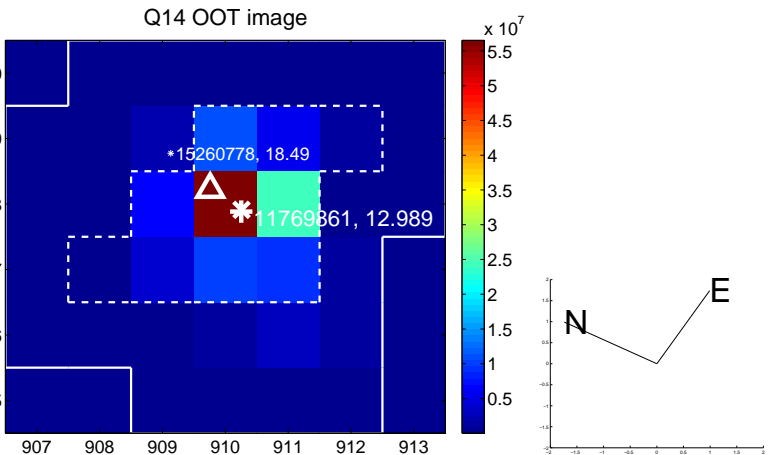
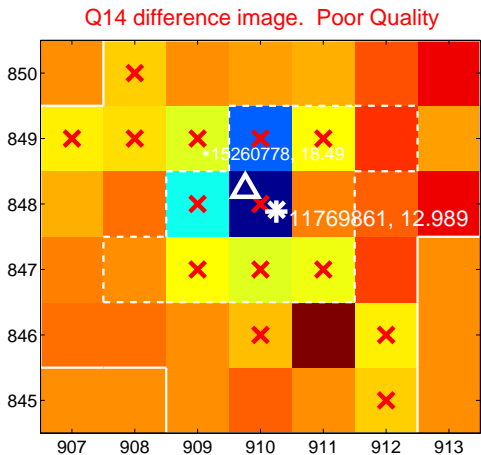
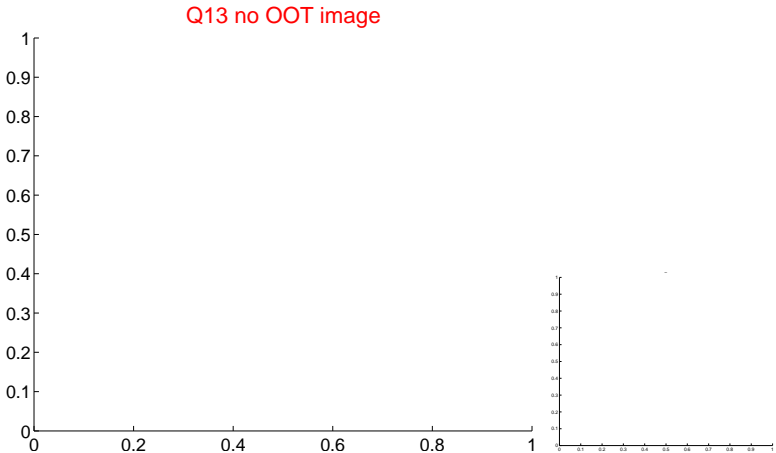
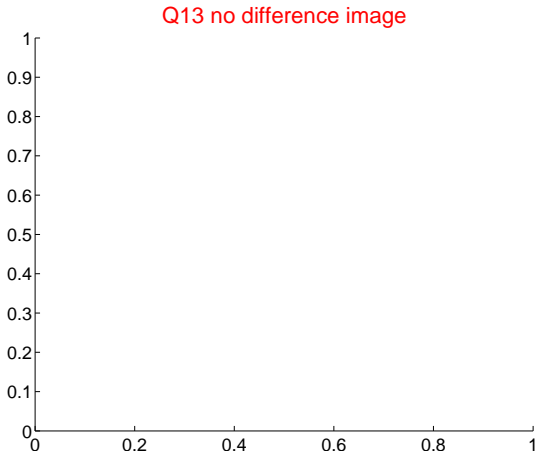
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



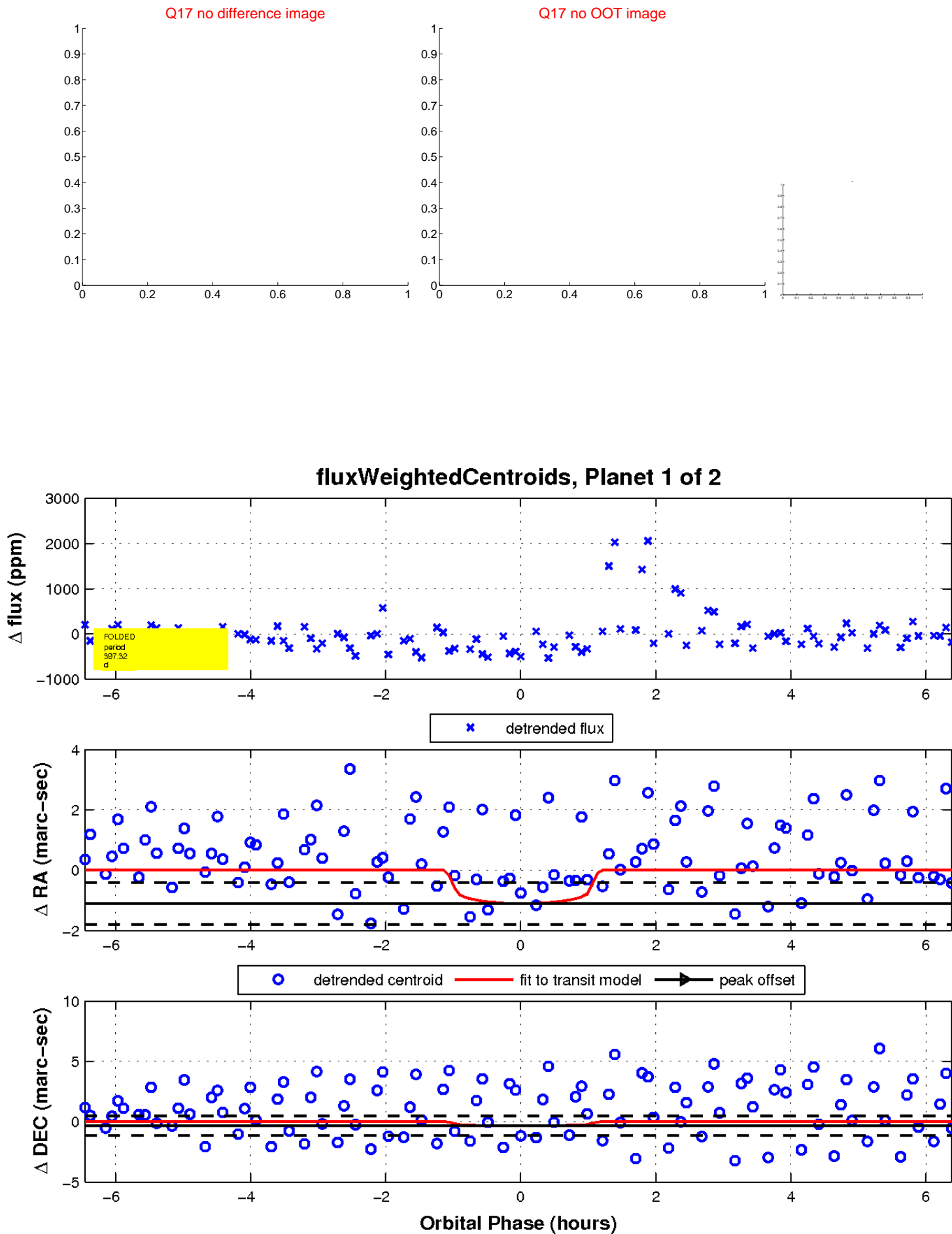
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

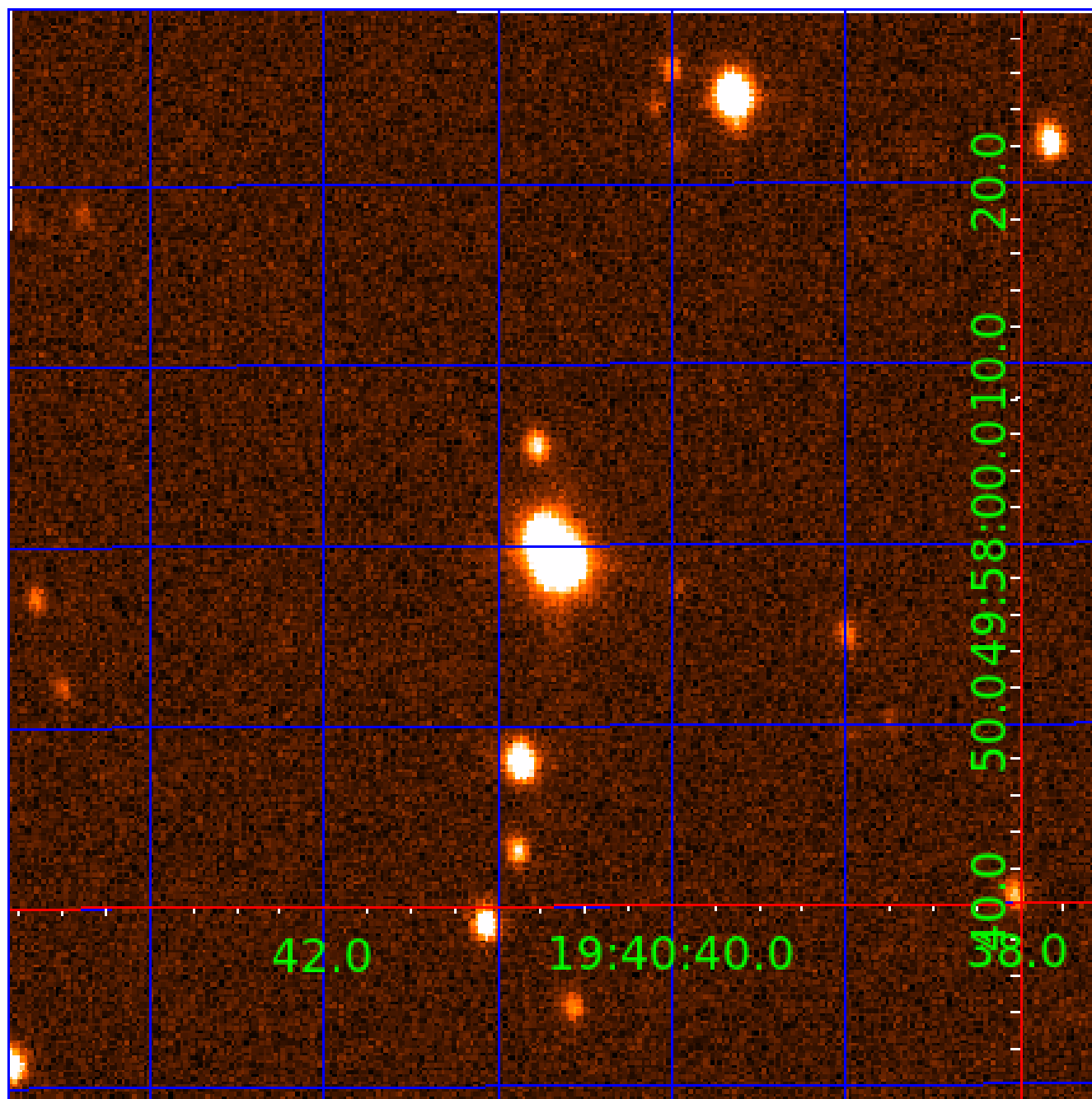


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011769861

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})
011769861-01	OBS	No	397.315165	136.090172	314.3	2.178	13.2	4.8	0.98	6060	1.84	1.09
011769861-02	OBS	No	490.632562	464.676377	469.0	2.804	12.3	6.3	0.98	6060	2.13	0.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011769861-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011769861-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

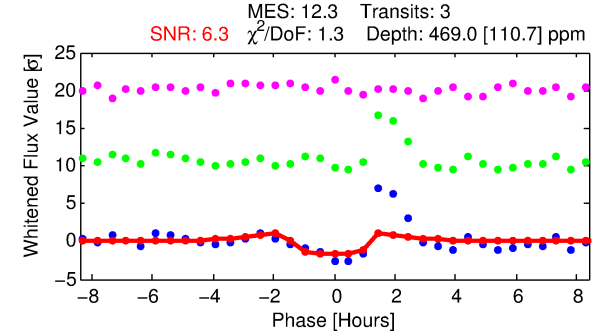
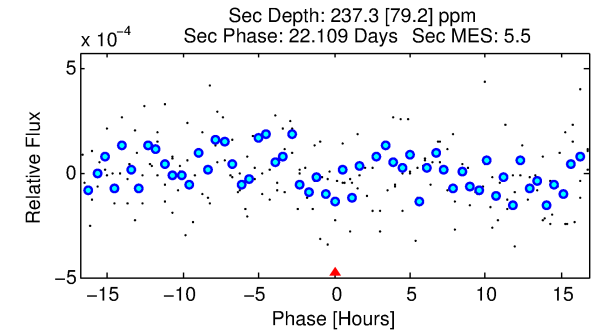
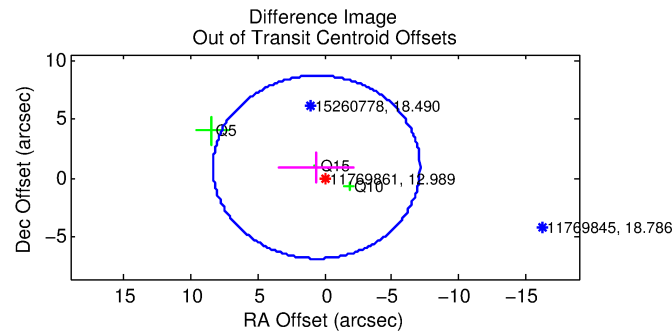
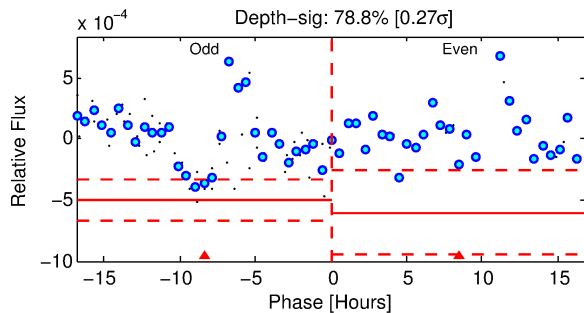
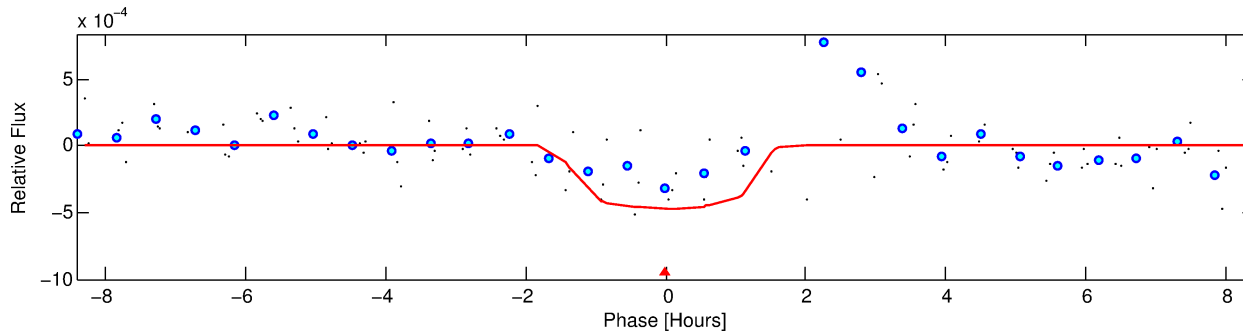
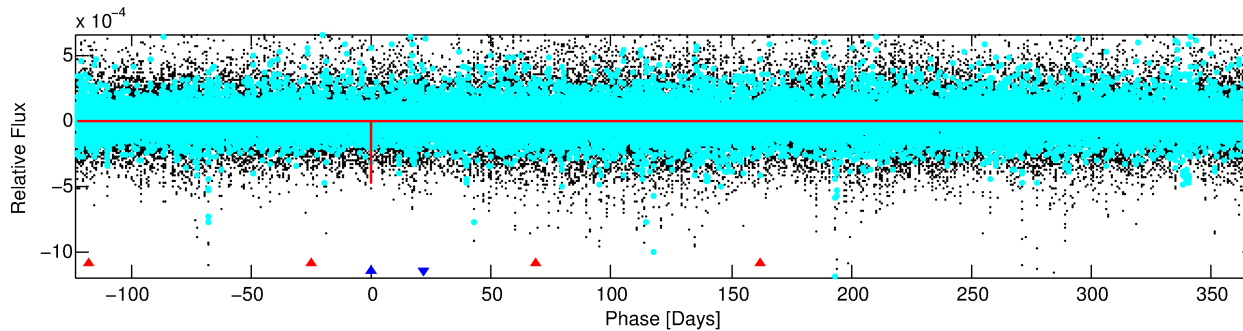
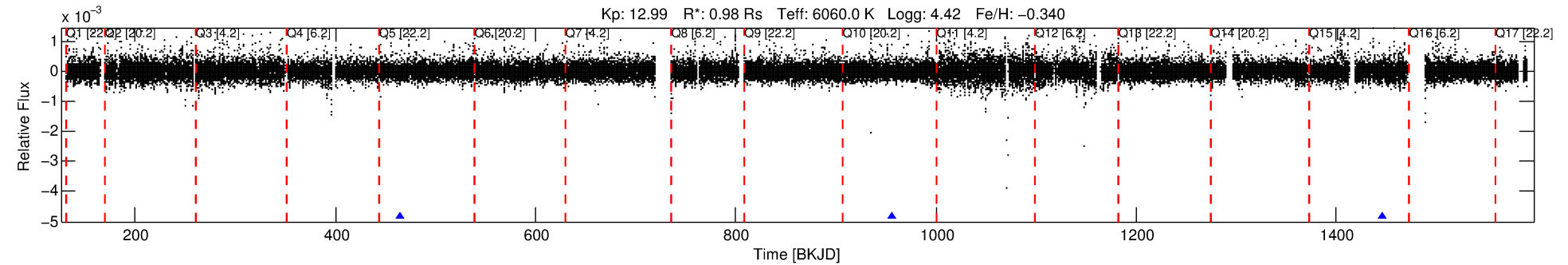
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011769861-02

No Significant Match Found

DV One-Page Summary

KIC: 11769861 Candidate: 2 of 2 Period: 490.633 d



DV Fit Results:

Period = 490.63256 [0.00877] d
Epoch = 464.6764 [0.0170] BKJD
Rp/R* = 0.0199 [0.01917]
a/R* = 1362.28 [64401.56]
b = 0.04 [1173.60]
Seff = 0.82 [0.31]
Teq = 243 [23] K
Rp = 2.13 [20.61] Re
a = 1.1935 [0.2885] AU
Ag = 40806.53 [787770.18] [0.05 σ]
Teffp = 5337 [25754] K [0.20 σ]

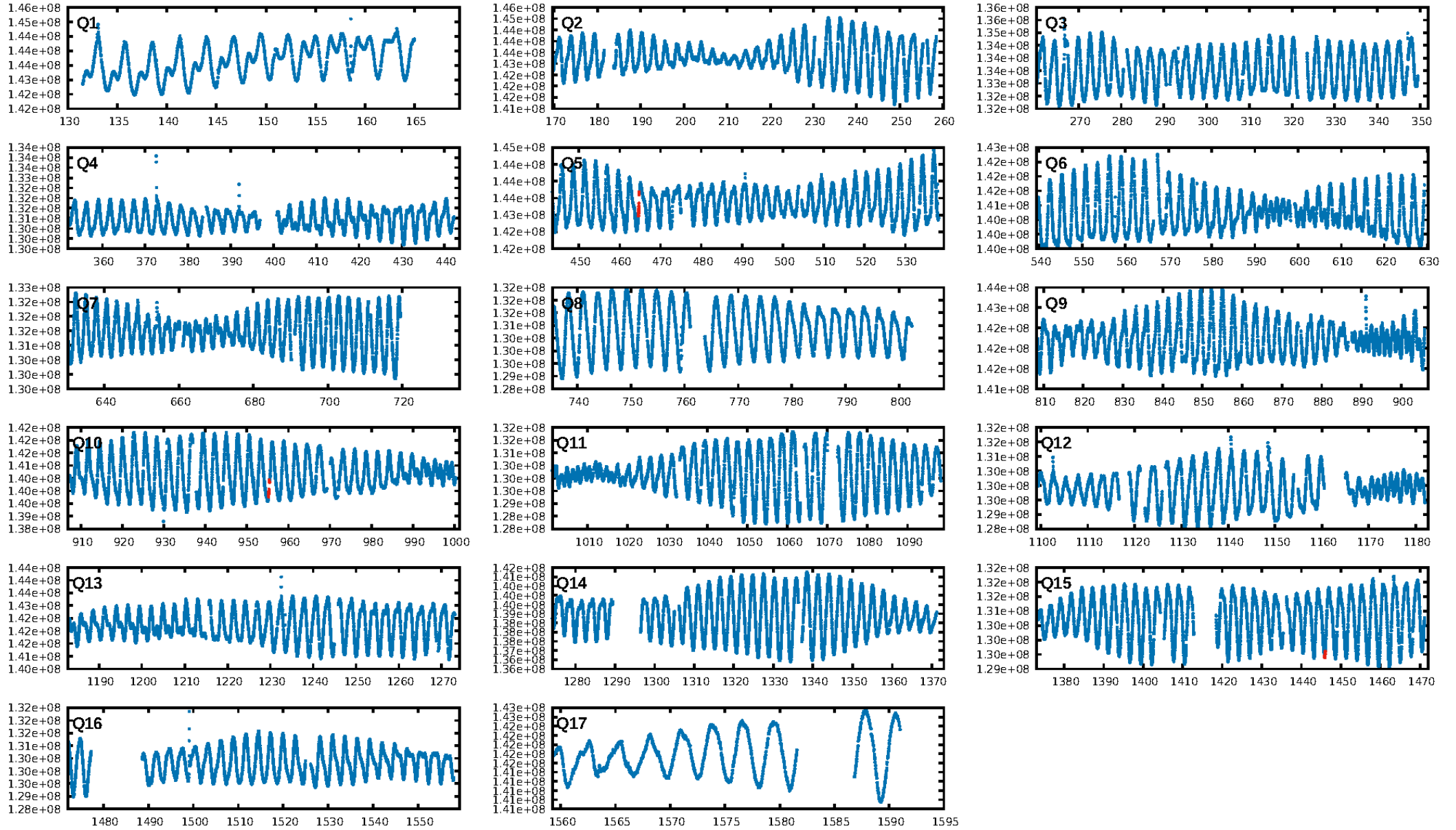
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [630.80 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 20.8%
ModelChiSquareGof-sig: 52.5%
Bootstrap-pfa: 4.33e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 22.96
Centroid-sig: 54.7%
Centroid-so: 0.884 arcsec [0.56 σ]
OotOffset-rm: 1.128 arcsec [0.44 σ]
KicOffset-rm: 1.120 arcsec [0.58 σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

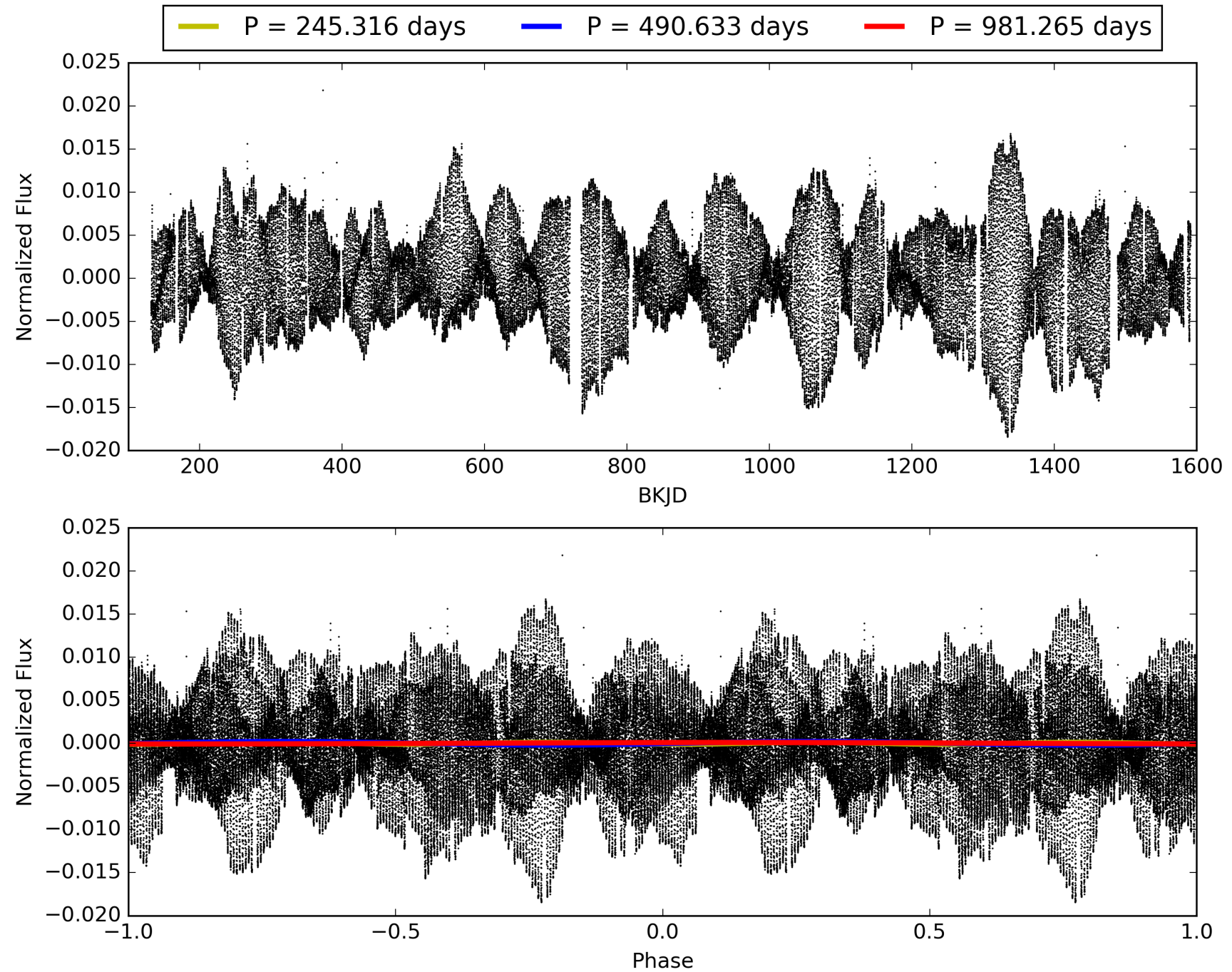
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 10:21:27 Z

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

TCE 011769861-02, PDC Light Curves

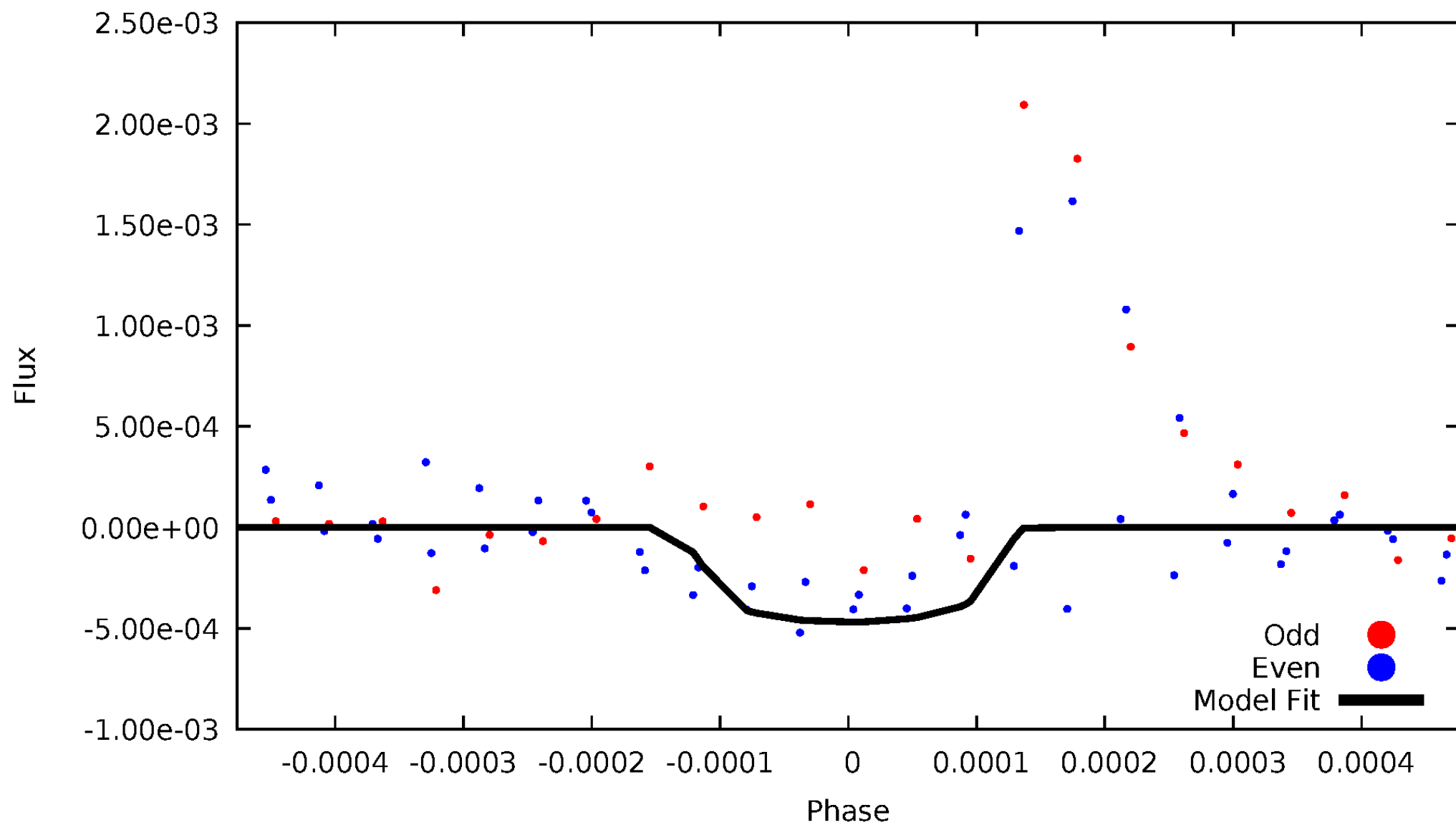


TCE 011769861-02



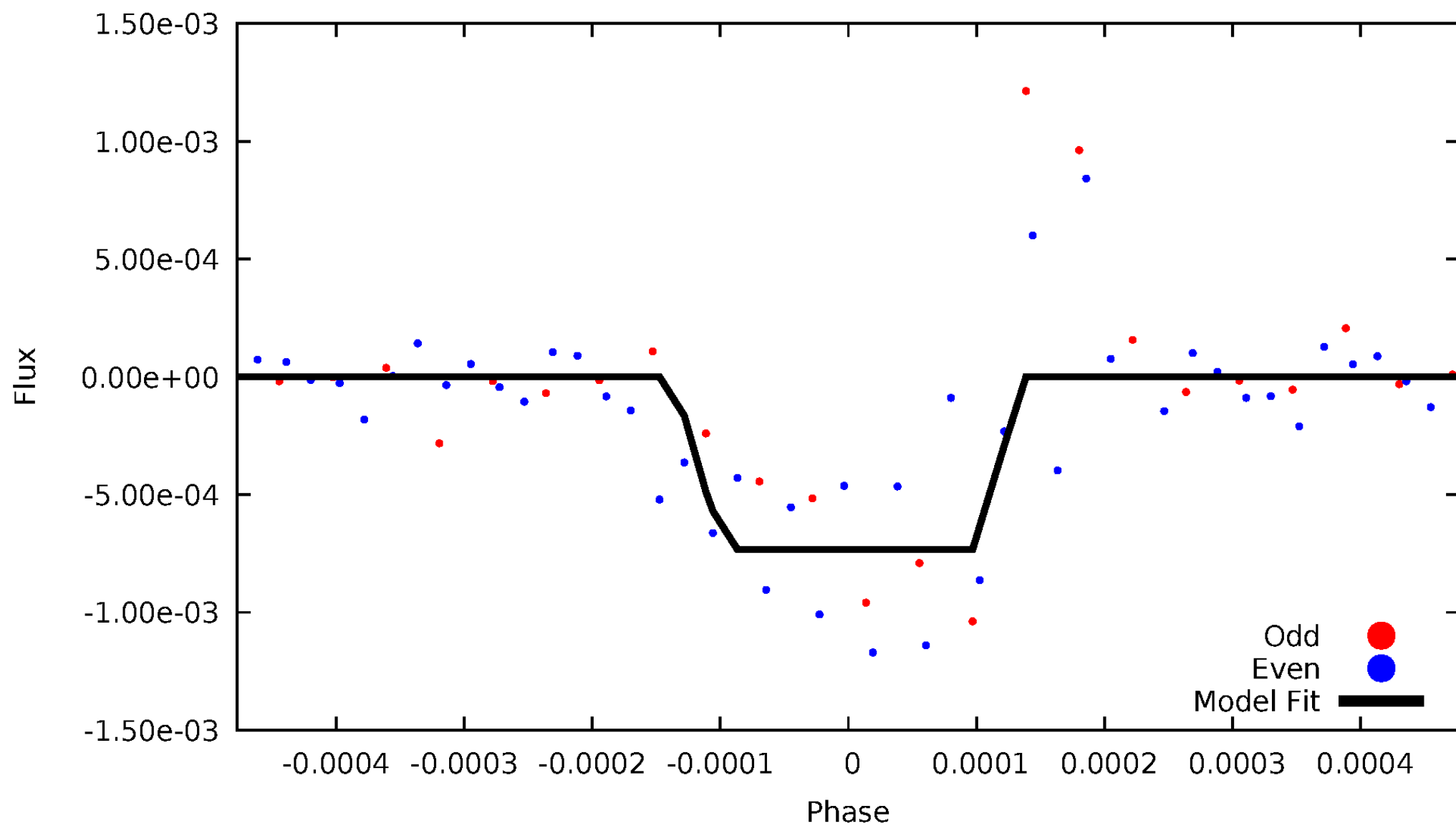
DV Odd/Even

TCE 011769861-02



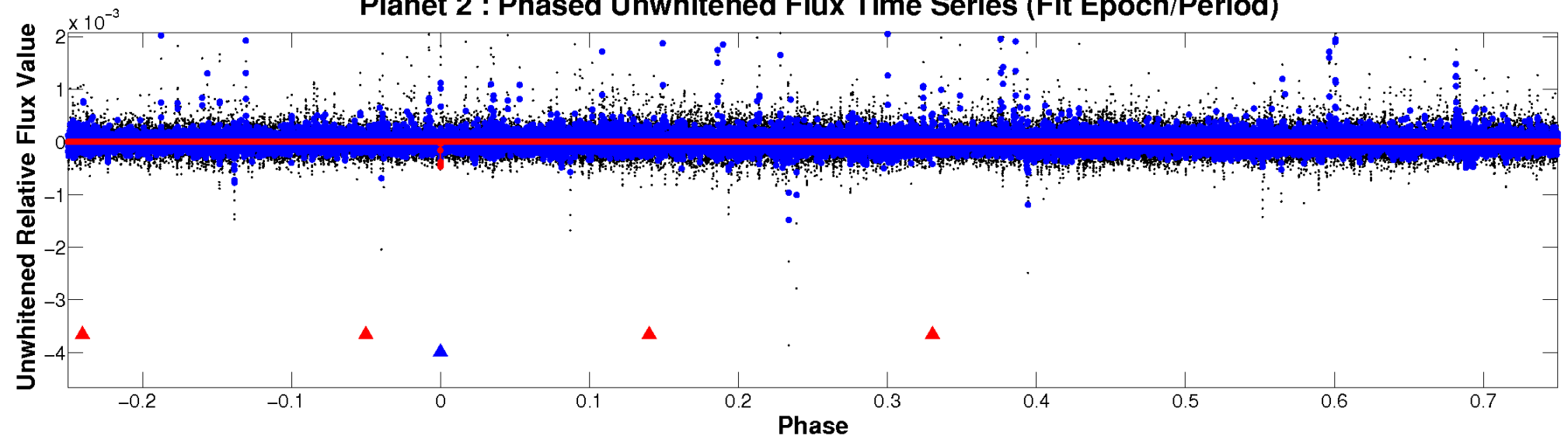
ALT Odd/Even

TCE 011769861-02

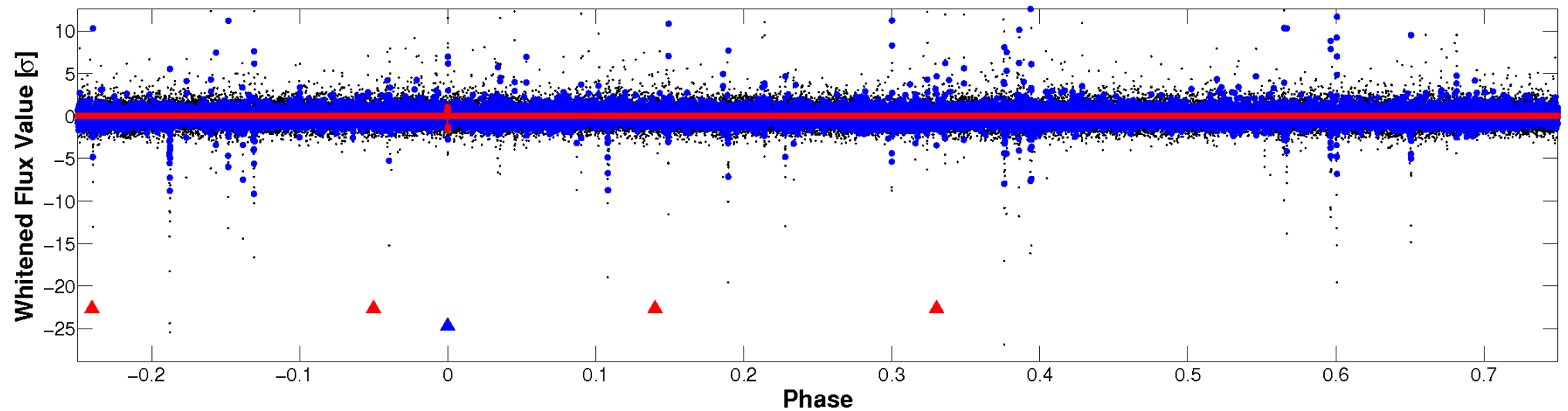


Non-Whitened Vs. Whitened Light Curve

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

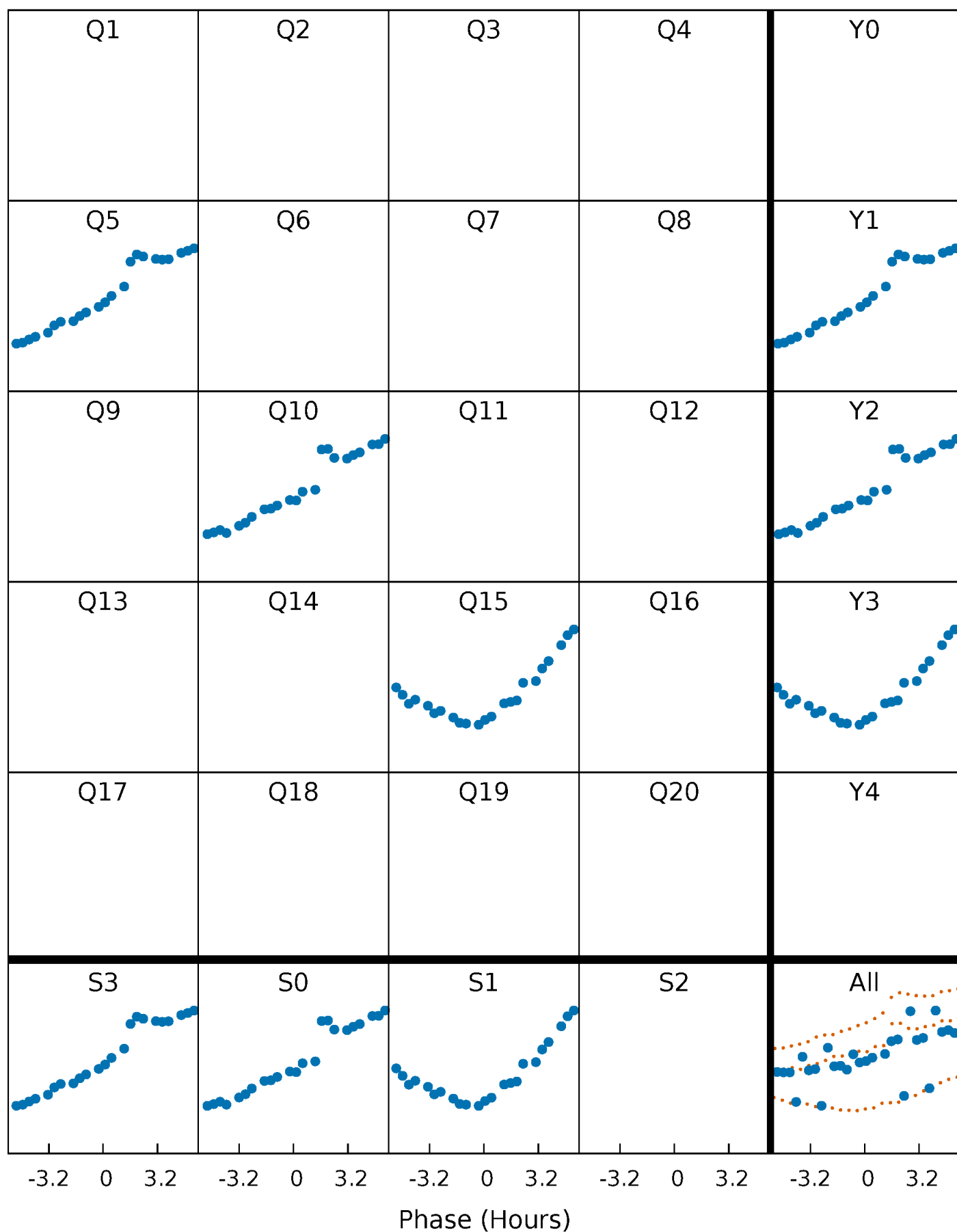


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



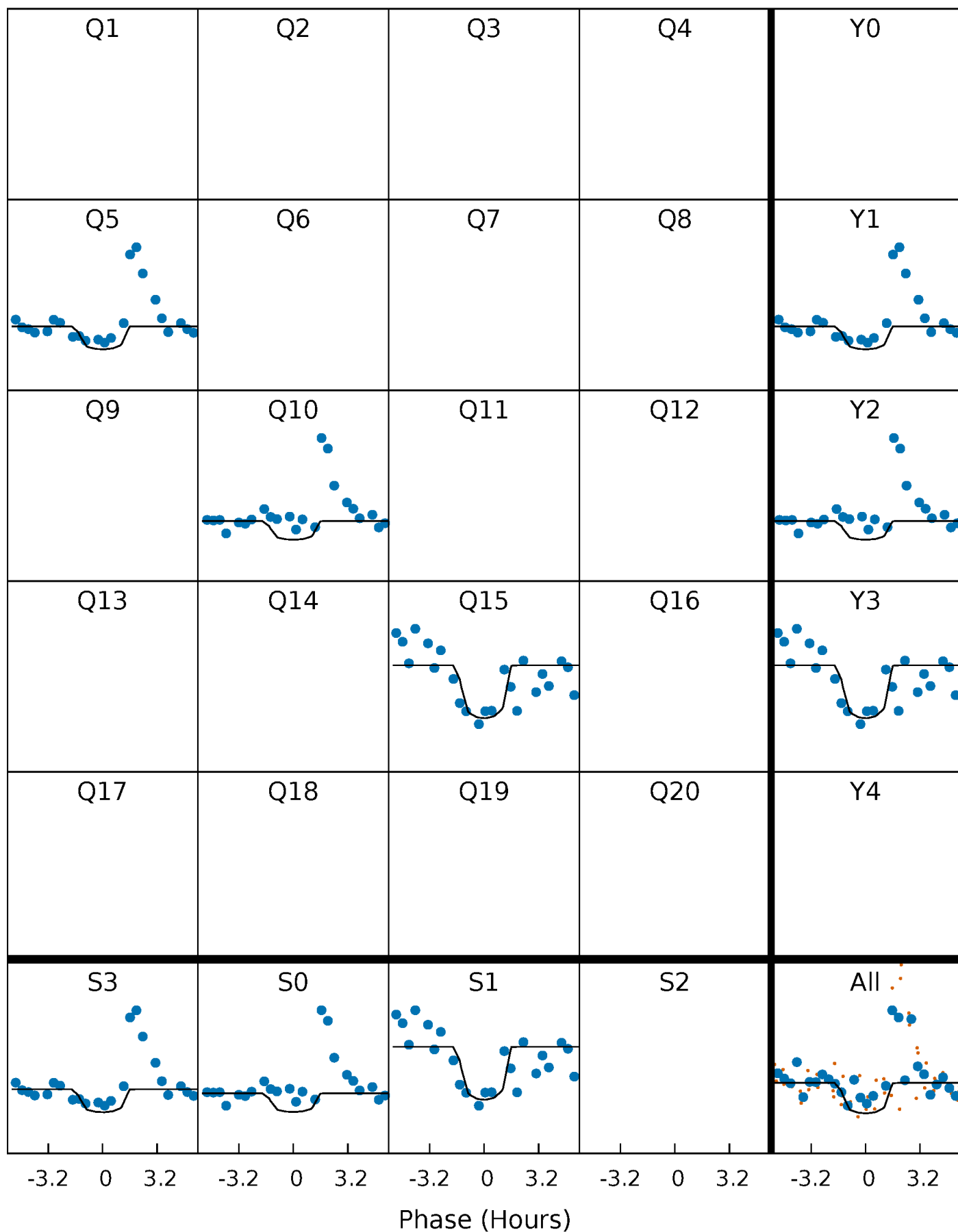
PDC Quarter-Phased Transit Curves

TCE 011769861-02 $P=490.632563$ Days $T_0=464.676377$ (BKJD)



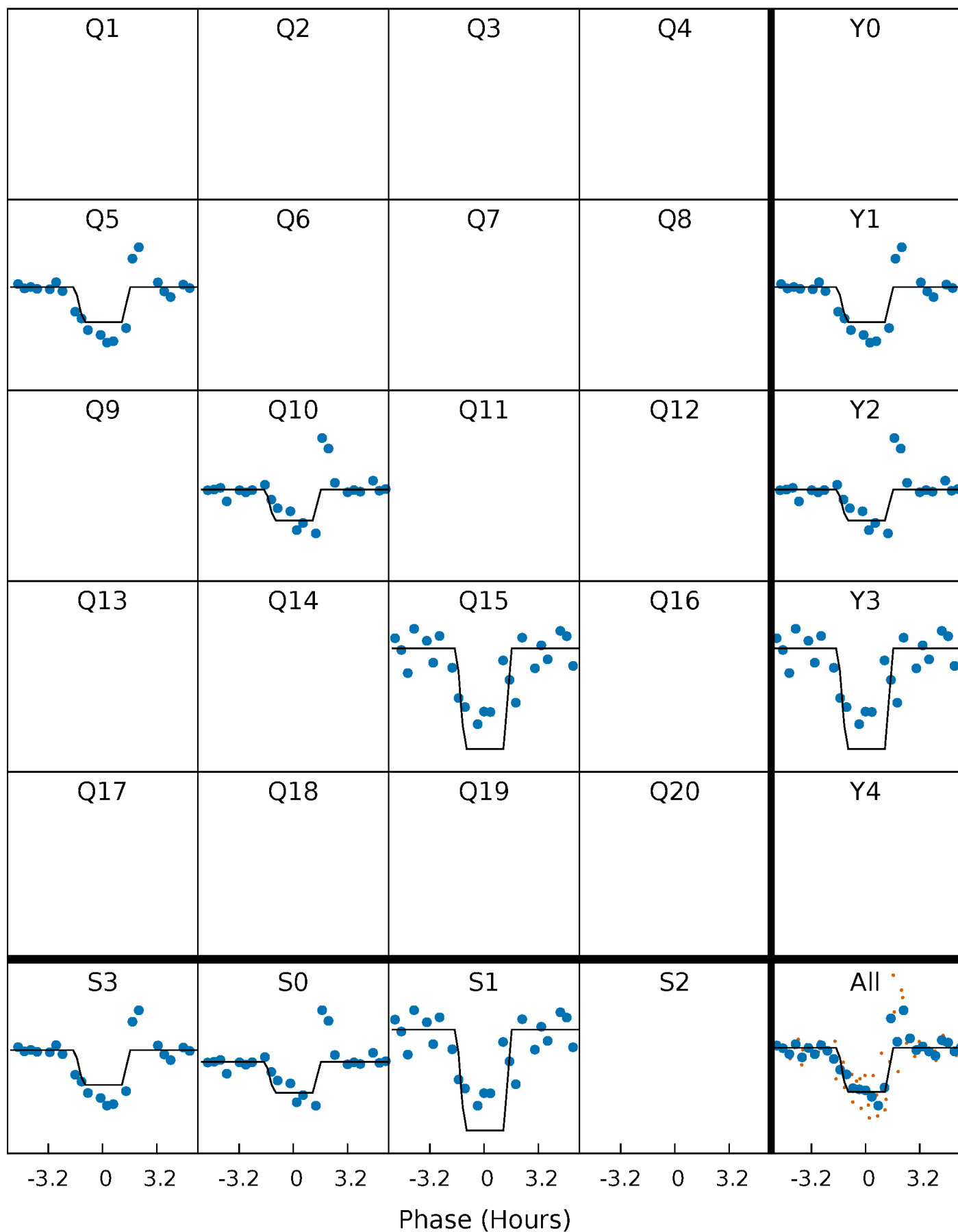
DV Quarter-Phased Transit Curves

TCE 011769861-02 $P=490.632563$ Days $T_0=464.676377$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

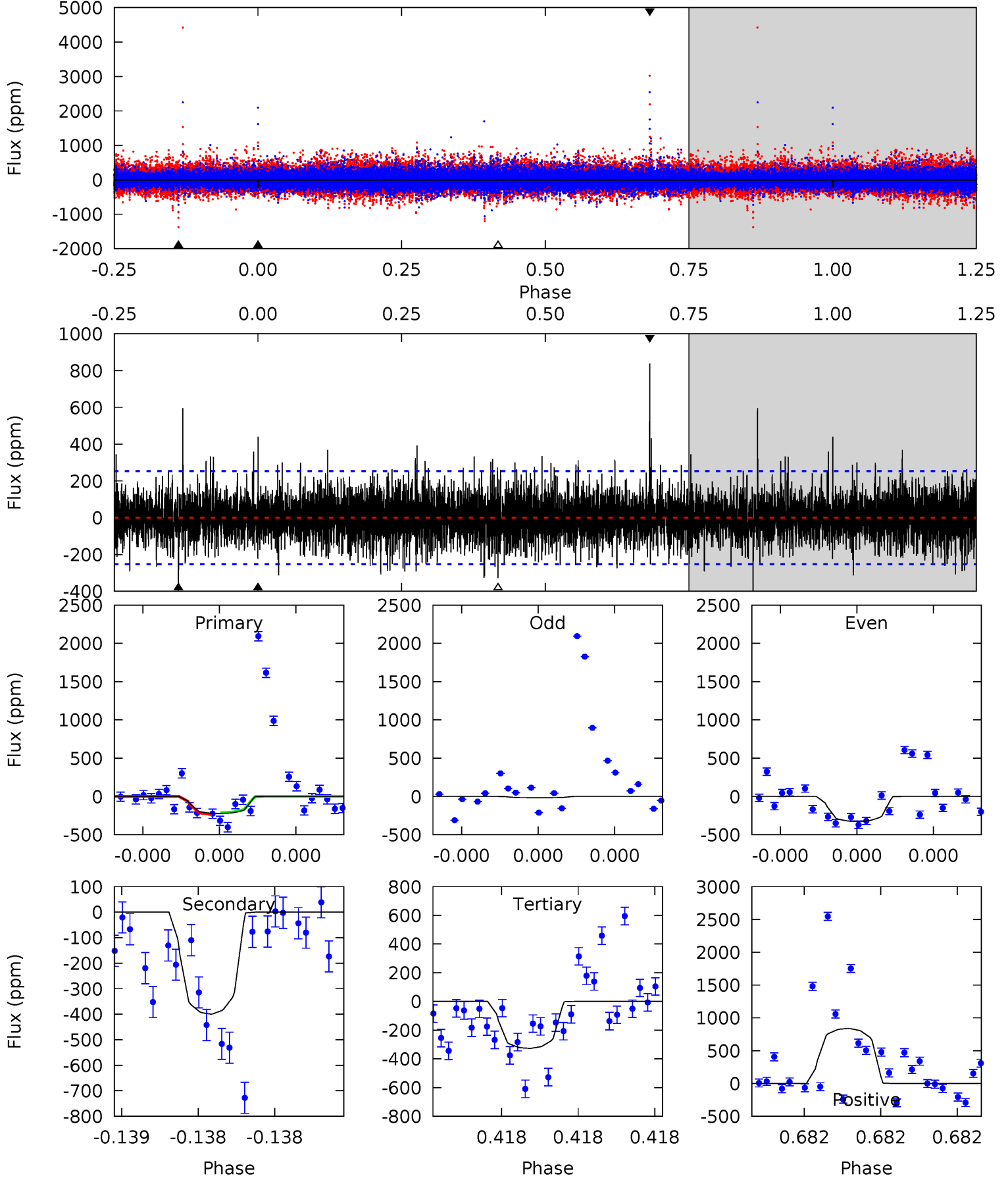
TCE 011769861-02 P=490.637020 Days $T_0=464.670984$ (BKJD)



DV Model-Shift Uniqueness Test

011769861-02, P = 490.632563 Days, E = 464.676377 Days

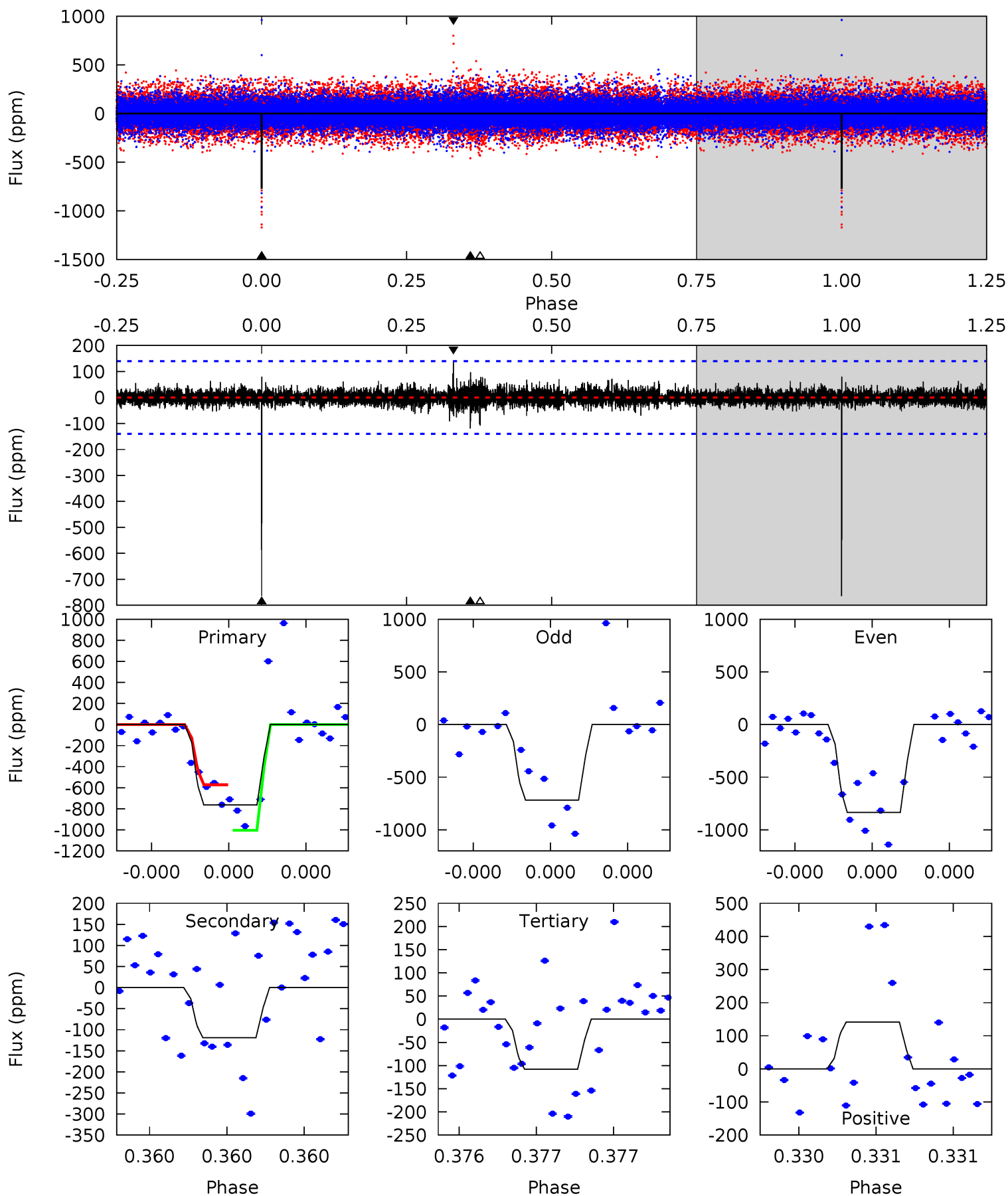
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.00	8.94	7.31	18.8	5.67	3.62	1.95	-2.32	-13.8	1.63	-9.81	2.82	0.95	0.68	0.27



Alt Model-Shift Uniqueness Test

011769861-02, P = 490.637020 Days, E = 464.670984 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.0	4.82	4.37	5.74	5.68	3.65	0.66	26.7	25.3	0.45	-0.91	2.22	1.00	0.16	8.24



Stellar Parameters For KIC 011769861

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6060^{+164}_{-182}	$4.425^{+0.087}_{-0.203}$	$-0.340^{+0.300}_{-0.300}$	$0.985^{+0.273}_{-0.147}$	$0.944^{+0.120}_{-0.109}$	$1.389^{+0.624}_{-0.692}$
	+3%/-3%	+2%/-5%	+88%/-88%	+28%/-15%	+13%/-12%	+45%/-50%
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 011769861-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-400 ± 45	$15.36^{+16.50}_{-10.72}$	345^{+24}_{-19}	2987^{+1413}_{-513}	1307^{+13107}_{-1005}
Alt.	-119 ± 25	$16.30^{+16.76}_{-10.82}$	346^{+25}_{-20}	2508^{+972}_{-373}	347^{+3134}_{-264}

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

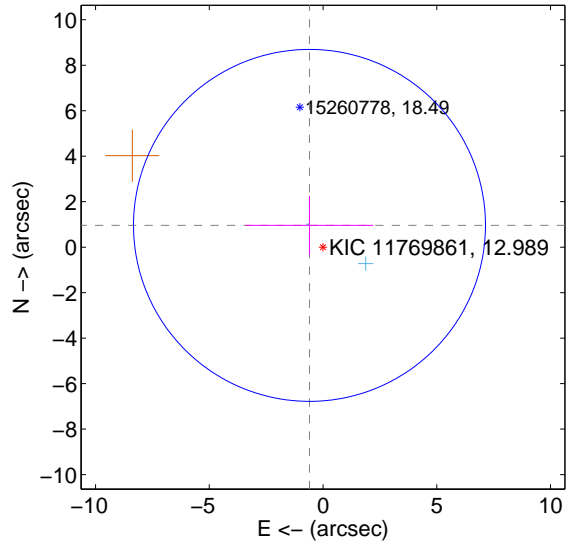
Supplemental centroid analysis for 011769861-02. Kepler magnitude: 12.99. Transit SNR 6.32

There are 2 quarters with good PRF difference image offsets

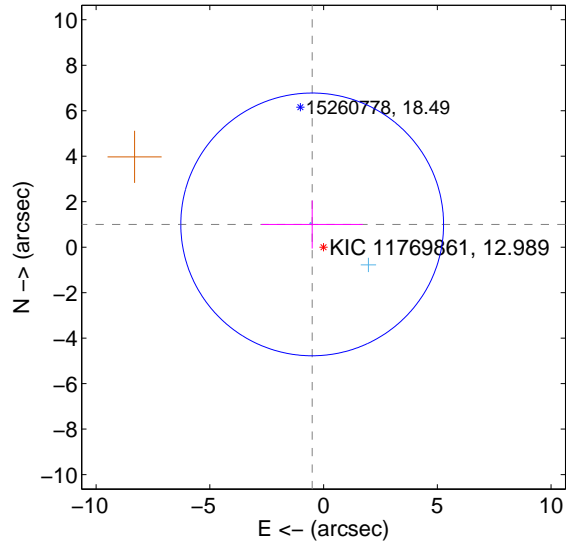
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.128 ± 2.579	0.44	0.596 ± 2.805	0.958 ± 1.296
PRF-fit source offset from KIC position	1.120 ± 1.926	0.58	0.501 ± 2.228	1.001 ± 1.057
photometric centroid source offset	0.88 ± 1.57	0.56	0.48 ± 1.43	0.74 ± 1.63

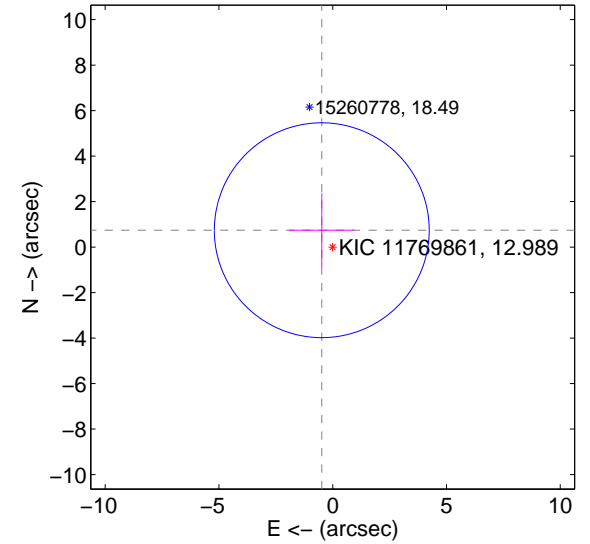
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

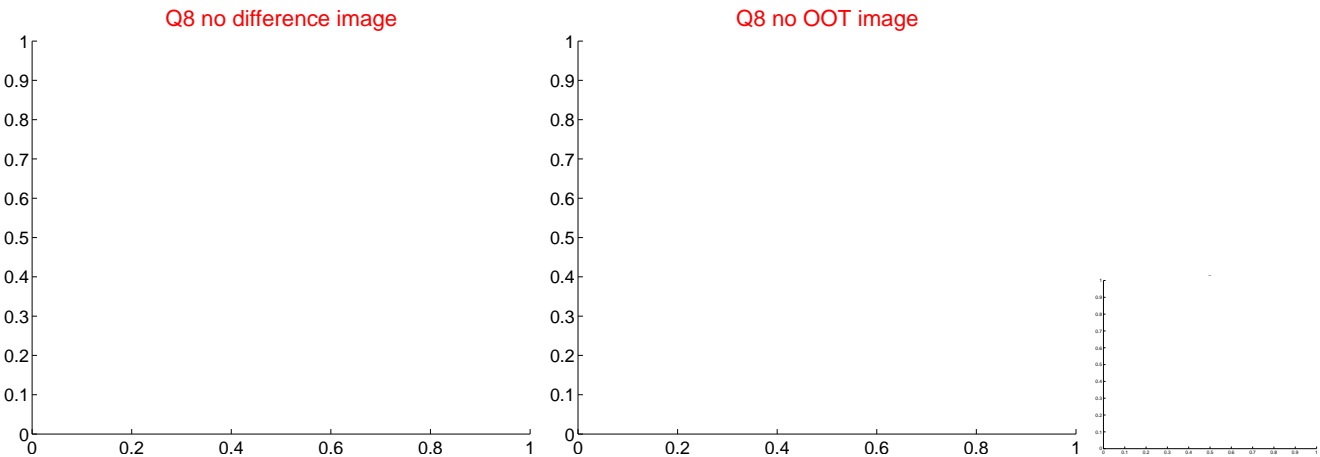
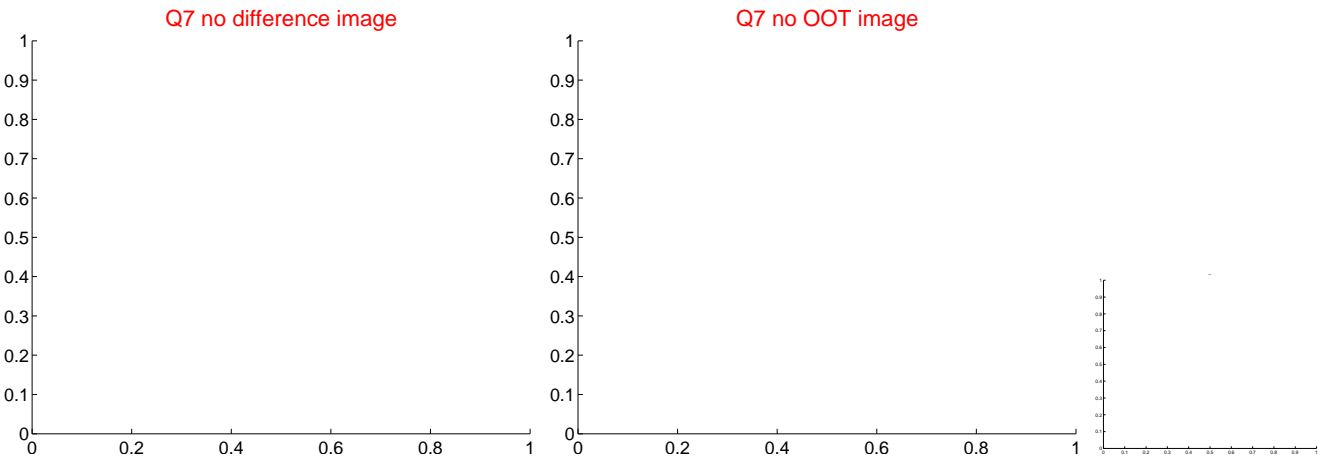
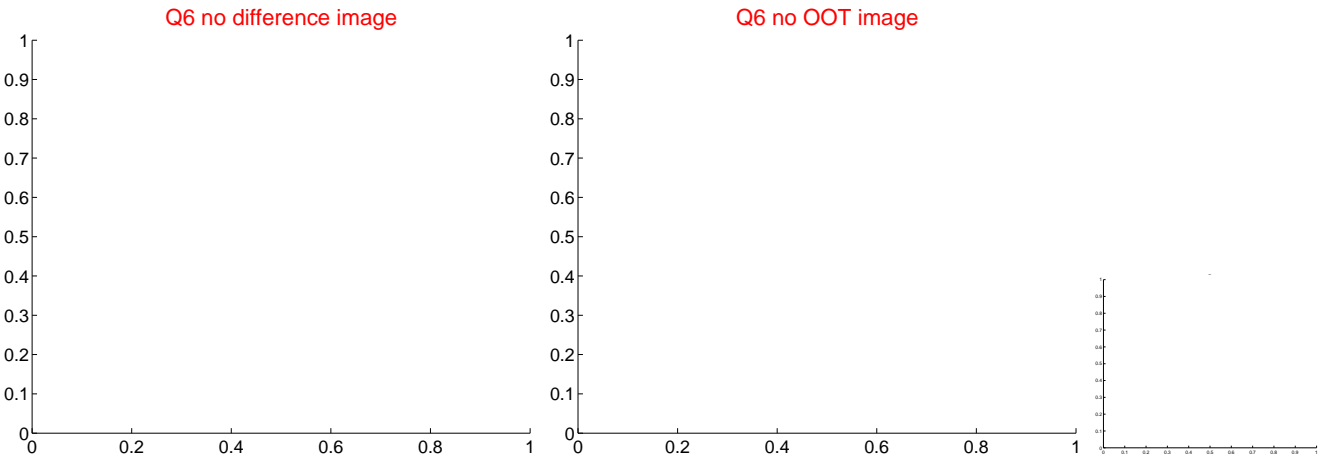
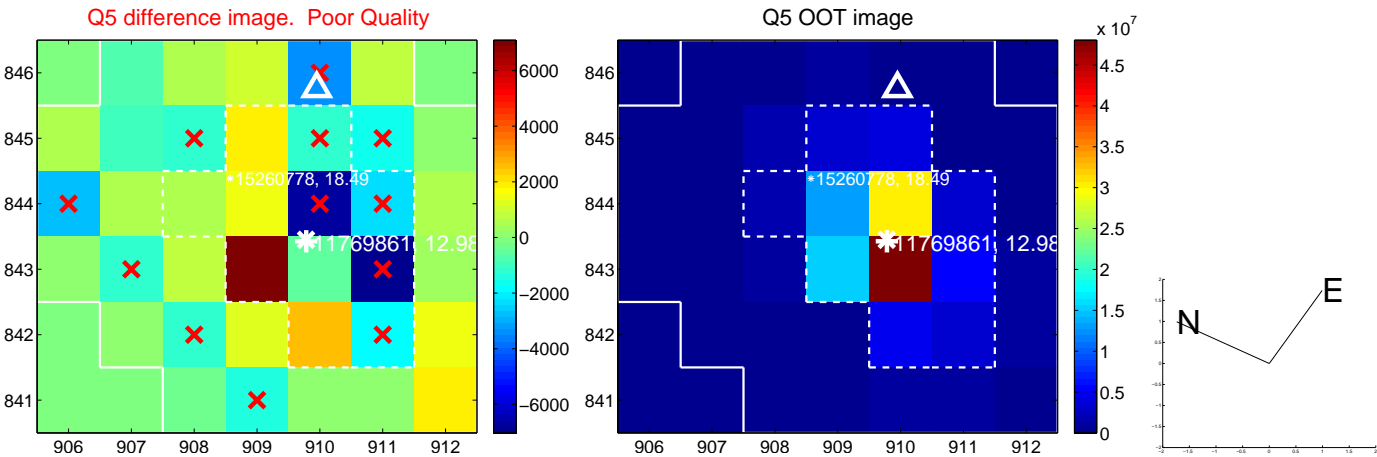


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

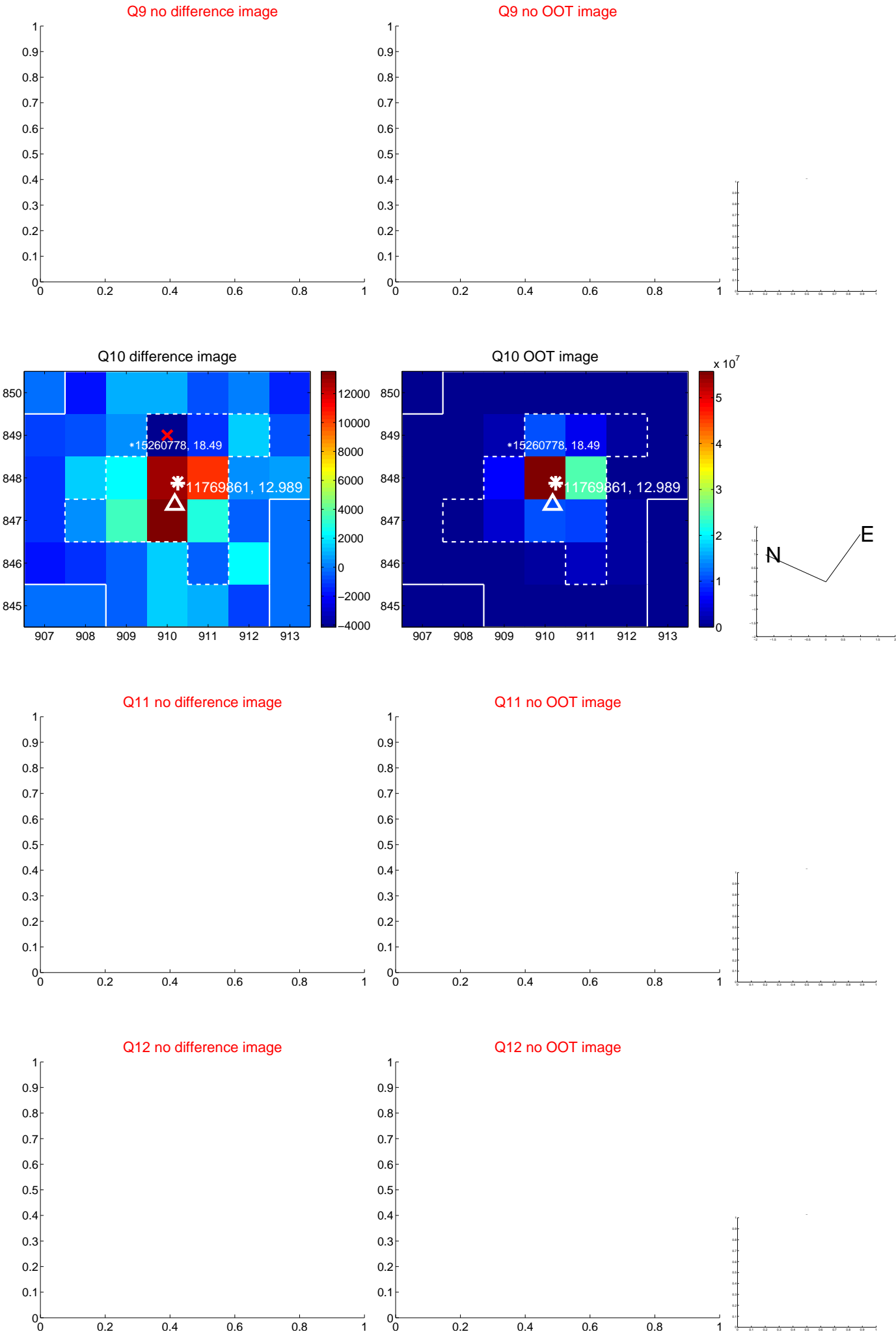
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



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

Q13 no difference image



Q13 no OOT image



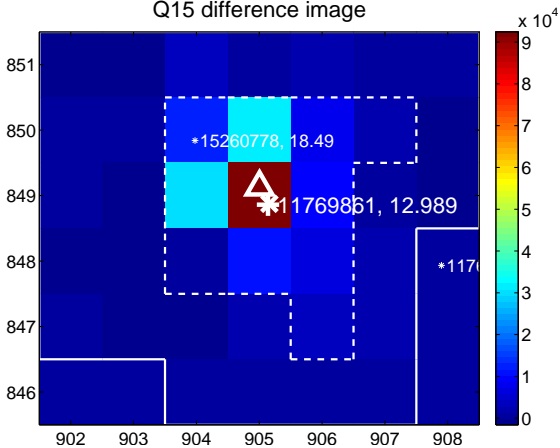
Q14 no difference image



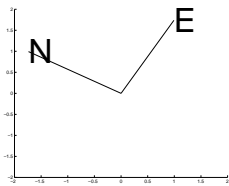
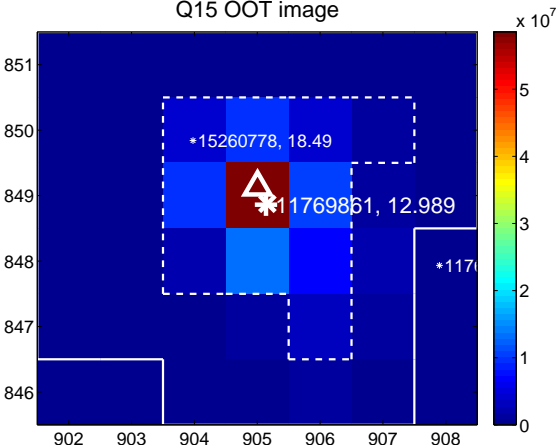
Q14 no OOT image



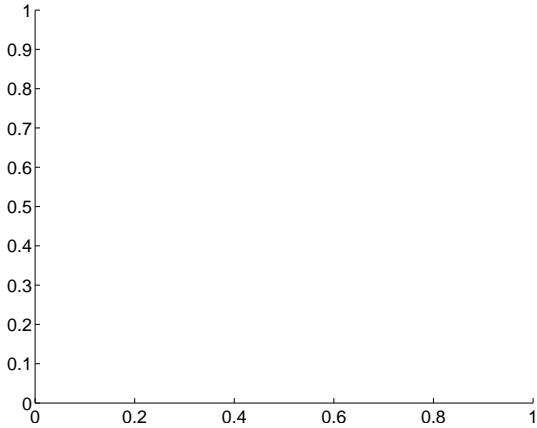
Q15 difference image



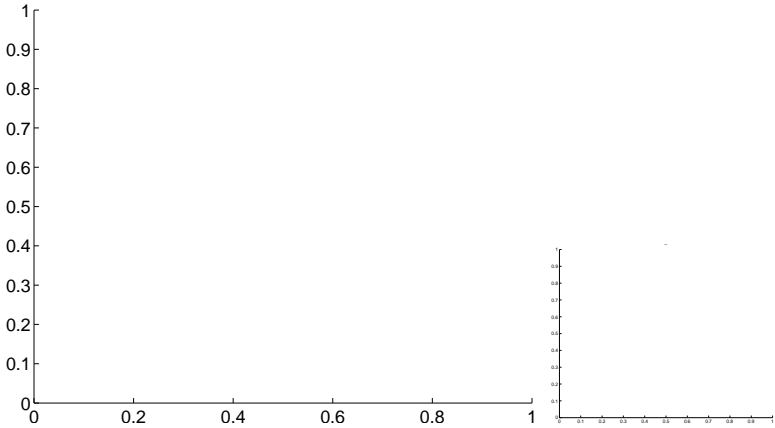
Q15 OOT image



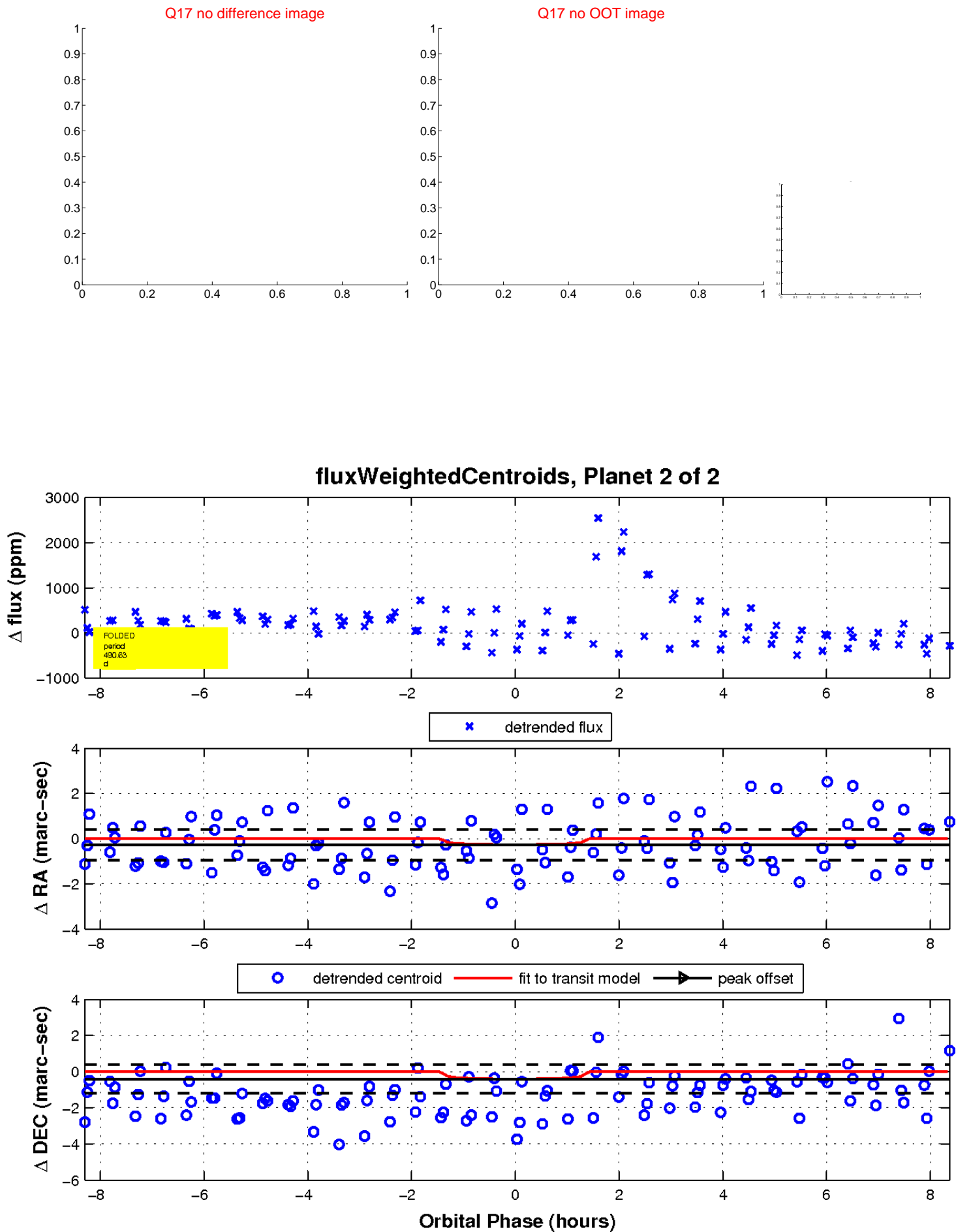
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

