

KIC 007765236

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})
007765236-01	OBS	No	1.796503	132.294178	63.6	5.647	7.1	4.8	0.54	4742	0.52	235.16
007765236-02	OBS	No	376.359722	360.914782	1921.0	12.912	10.7	7.9	0.54	4742	2.35	0.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007765236-01	OBS	FP	0.00	1	0	0	0	LPP_DV
007765236-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—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.

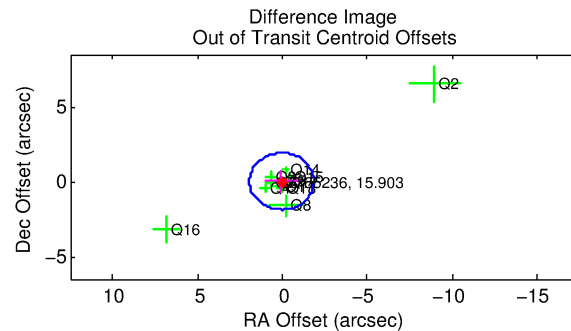
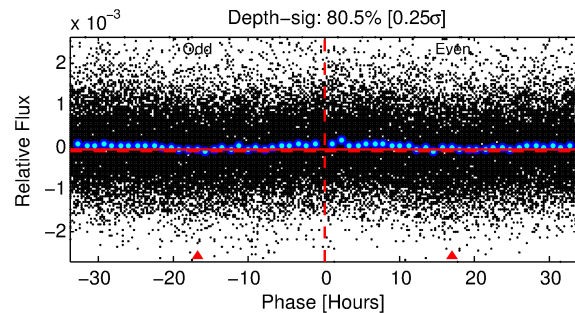
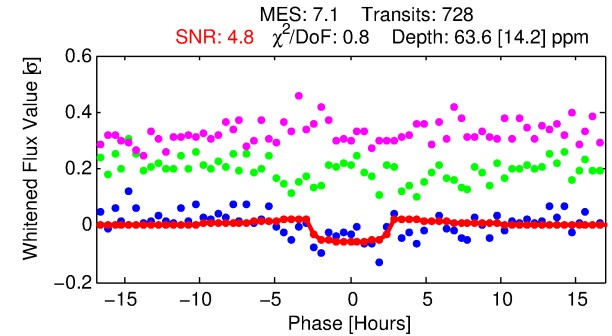
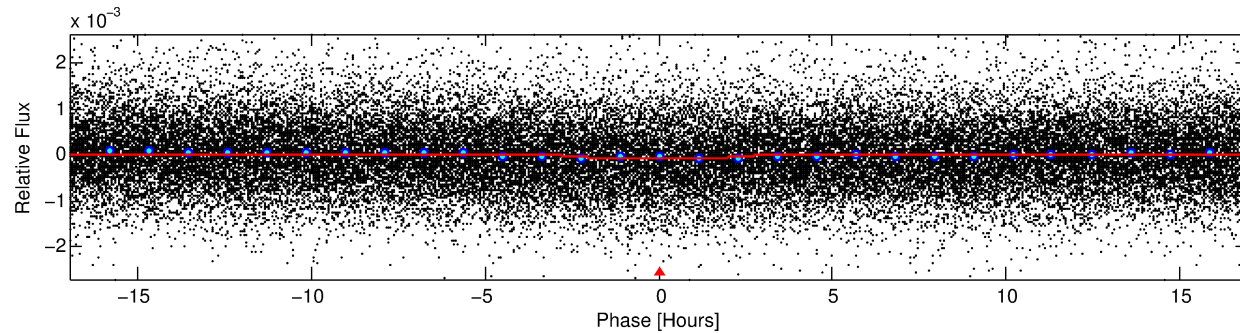
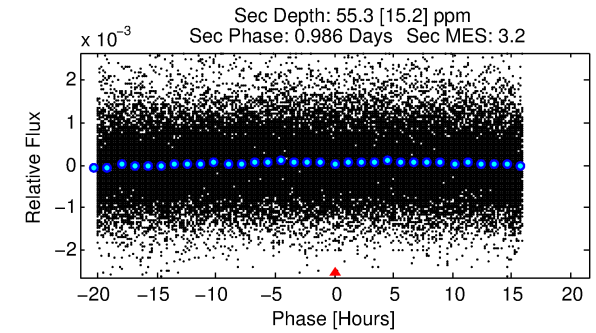
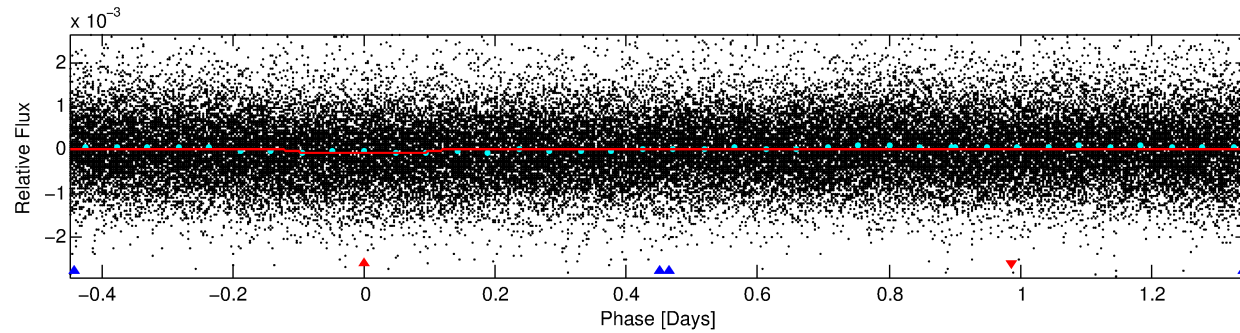
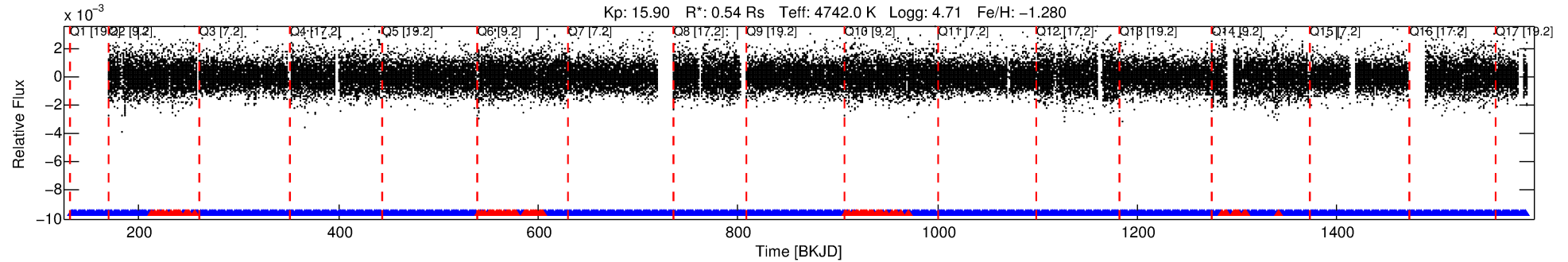
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007765236-01

No Significant Match Found

DV One-Page Summary

KIC: 7765236 Candidate: 1 of 2 Period: 1.797 d



DV Fit Results:

Period = 1.79650 [0.00003] d
Epoch = 132.2942 [0.0100] BKJD
Rp/R* = 0.0088 [0.0072]
a/R* = 1.44 [2.58]
b = 0.90 [0.72]
Seff = 235.16 [38.67]
Teff = 999 [41] K
Rp = 0.52 [0.43] Re
a = 0.0236 [0.0013] AU
Ag = 63.27 [105.19] [0.59σ]
Teffp = 4354 [1814] K [1.85σ]

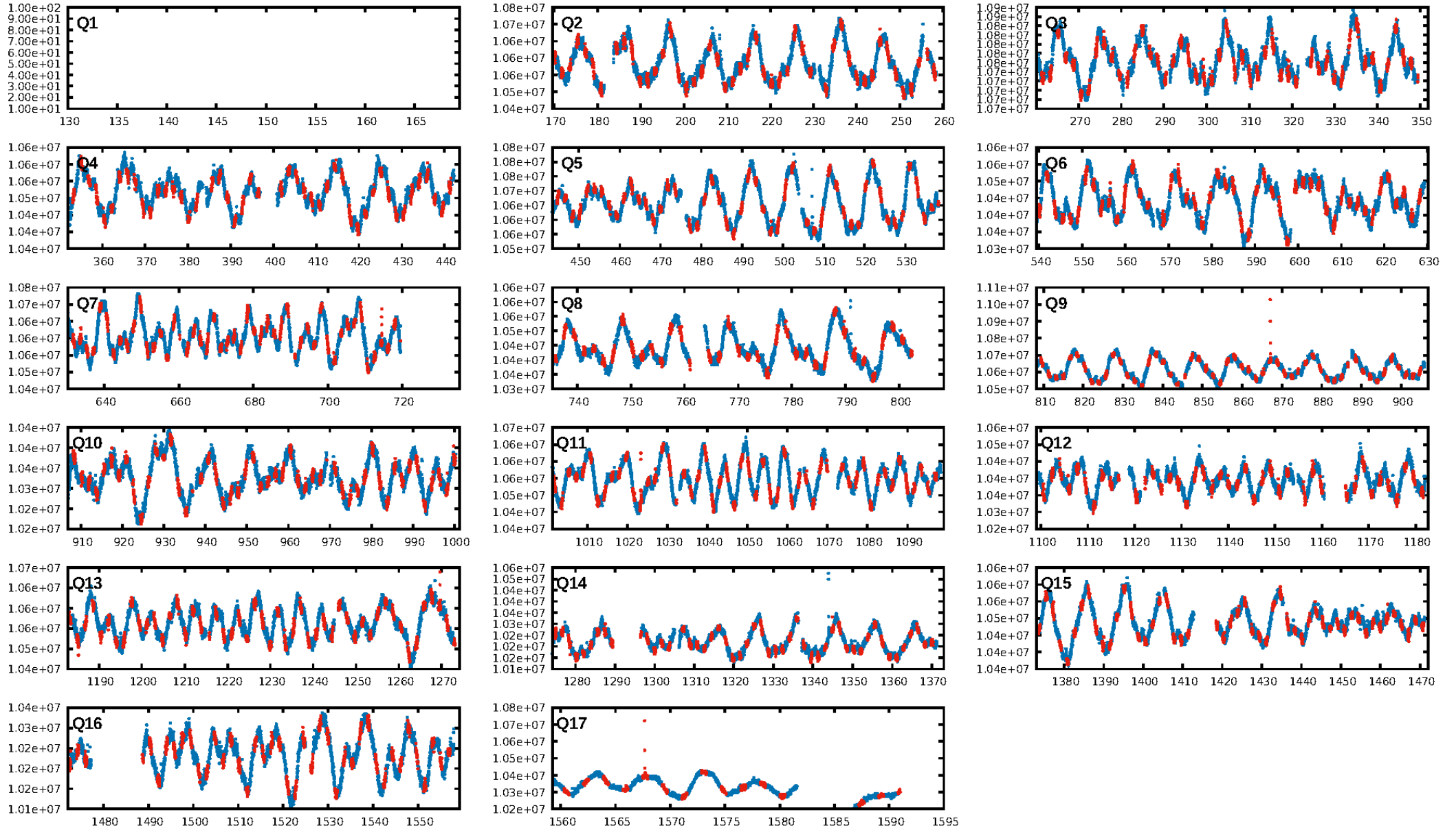
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [637.88σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 2.98e-11
RollingBand-fgt: 0.89 [634/713]
GhostDiagnostic-chr: 0.427
Centroid-sig: 99.6%
Centroid-so: 0.123 arcsec [0.05σ]
OotOffset-rm: 0.045 arcsec [0.07σ]
KicOffset-rm: 0.087 arcsec [0.07σ]
OotOffset-st: 2/3/4/3 [12]
KicOffset-st: 2/3/4/3 [12]
DiffImageQuality-fgm: 0.50 [6/12]
DiffImageOverlap-fno: 1.00 [16/16]

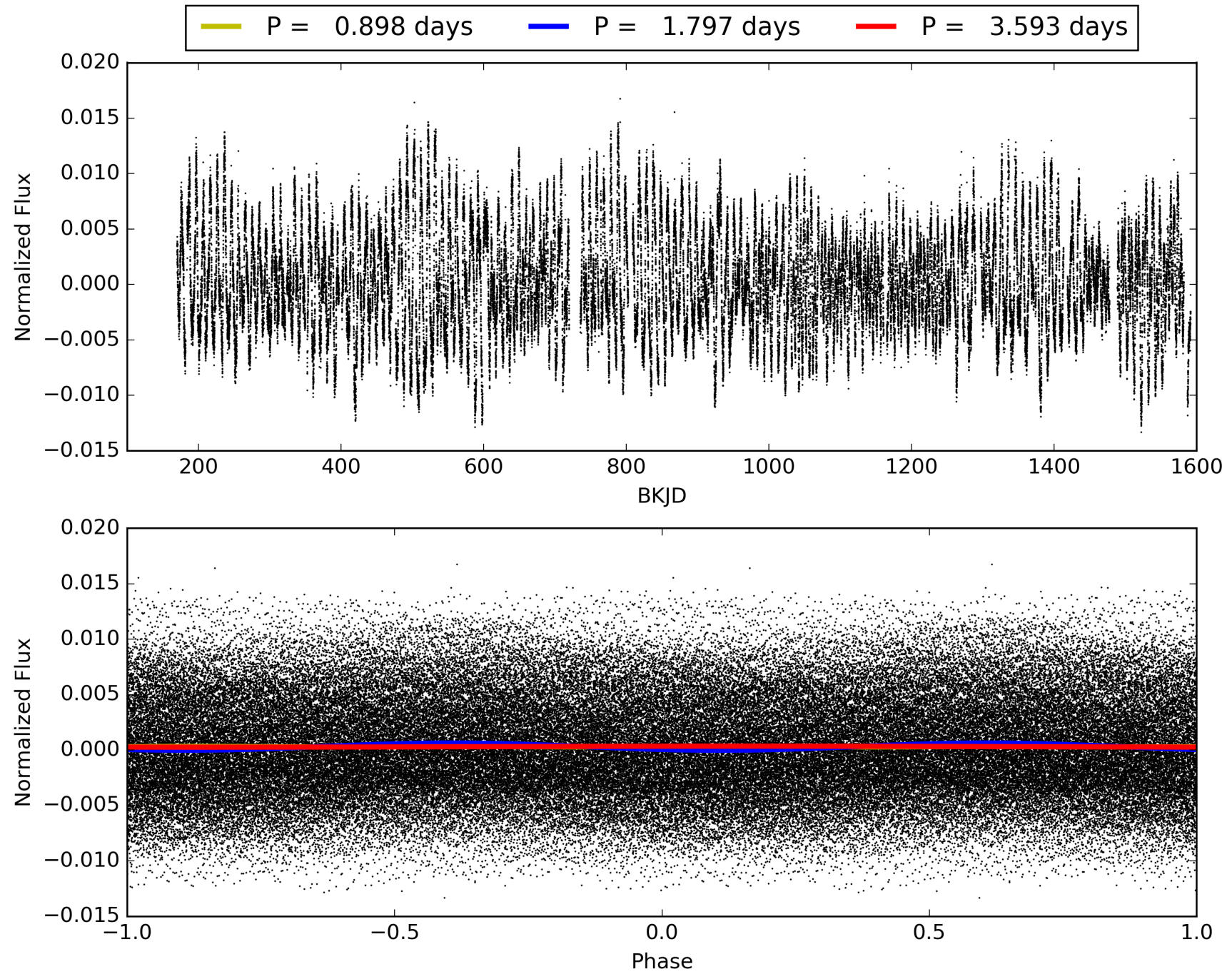
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 12:31:13 Z

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

TCE 007765236-01, PDC Light Curves

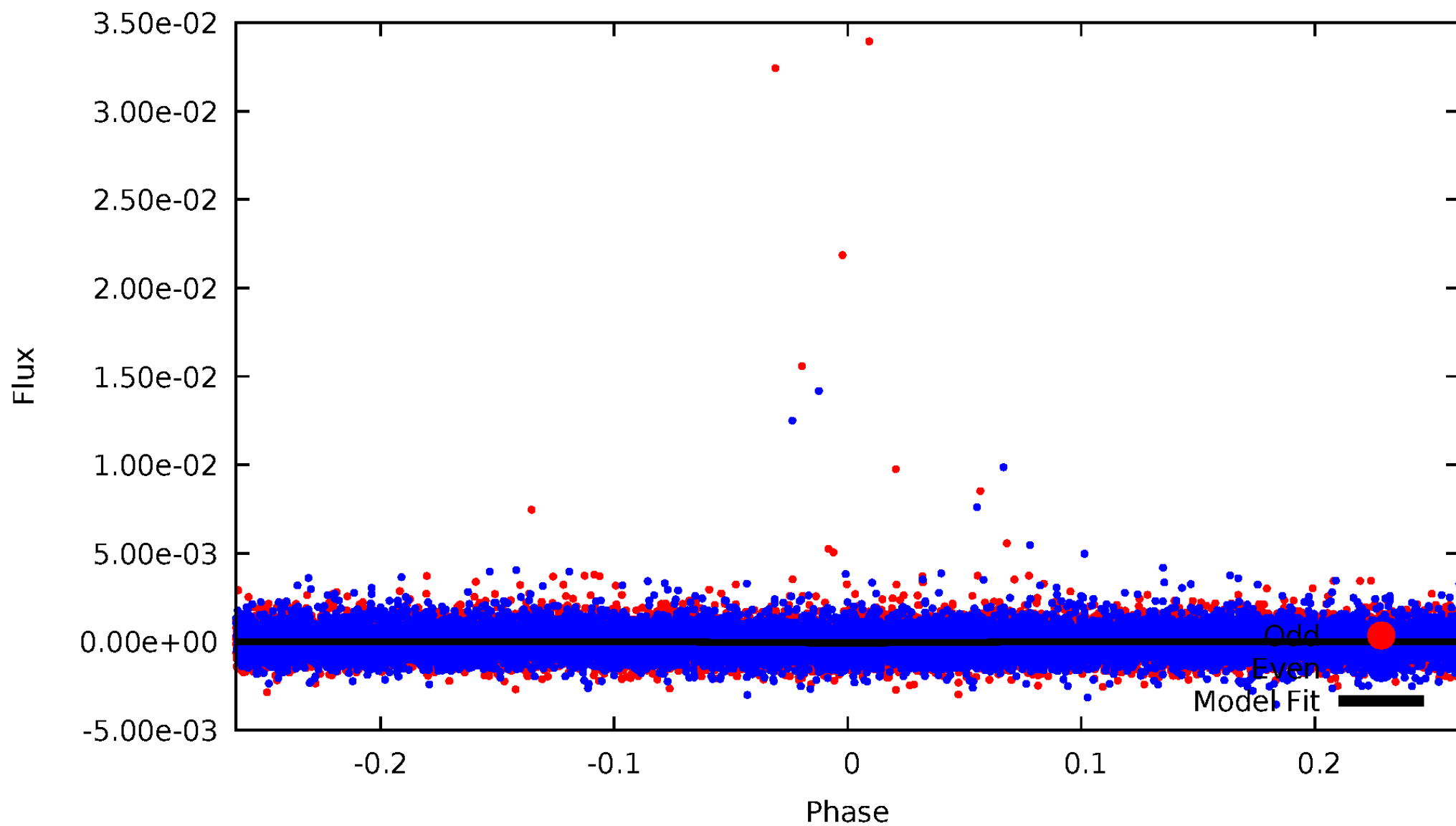


TCE 007765236-01



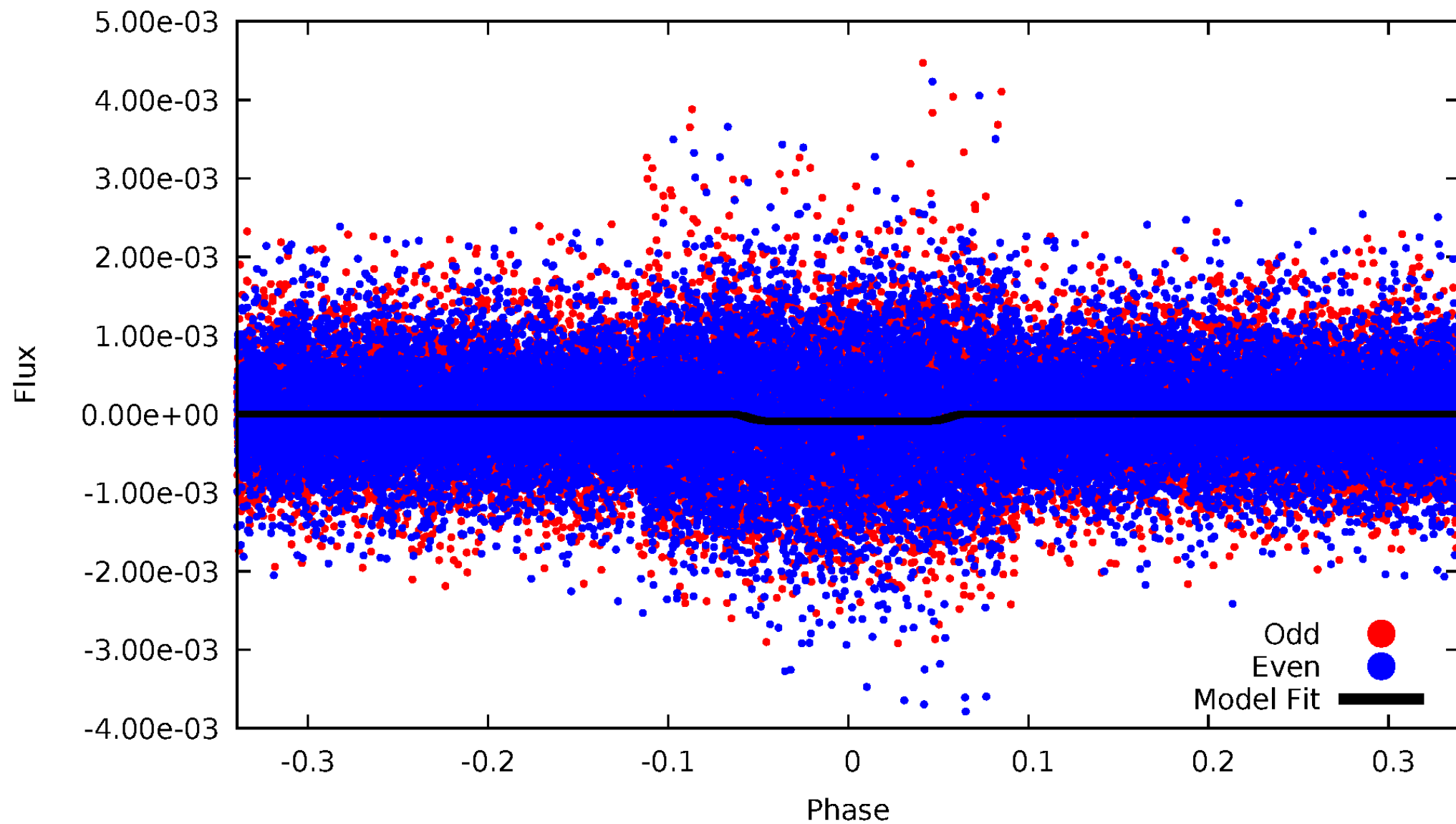
DV Odd/Even

TCE 007765236-01



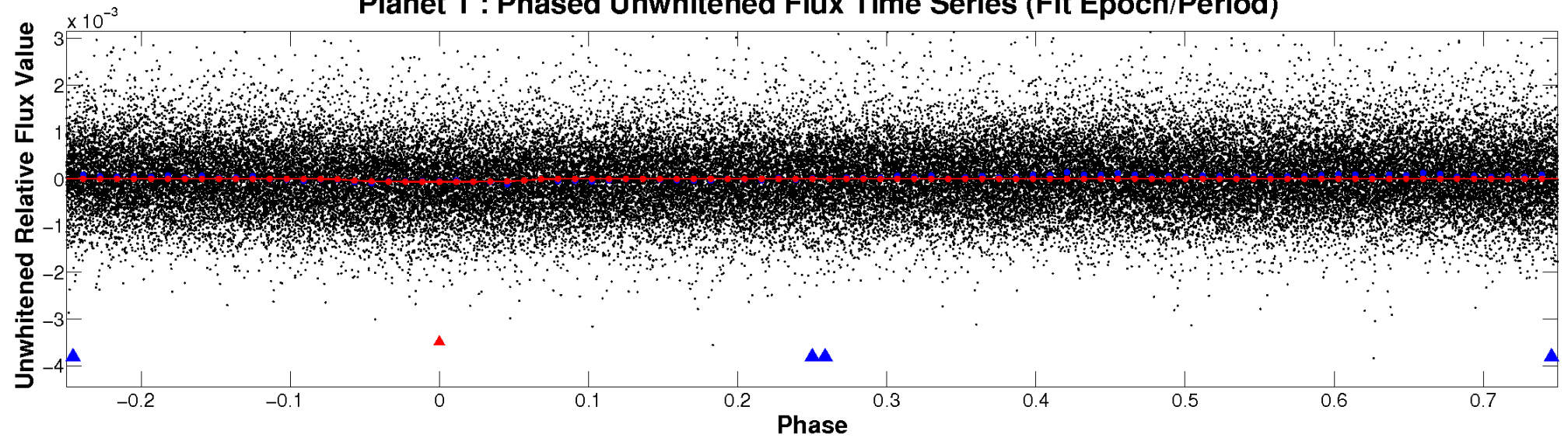
ALT Odd/Even

TCE 007765236-01

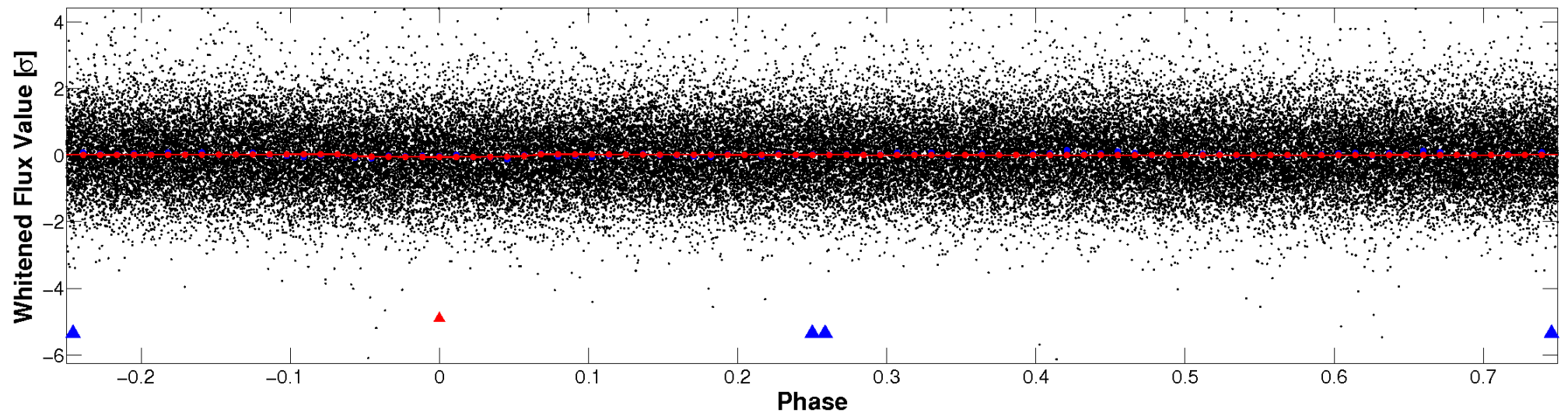


Non-Whitened Vs. Whitened Light Curve

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

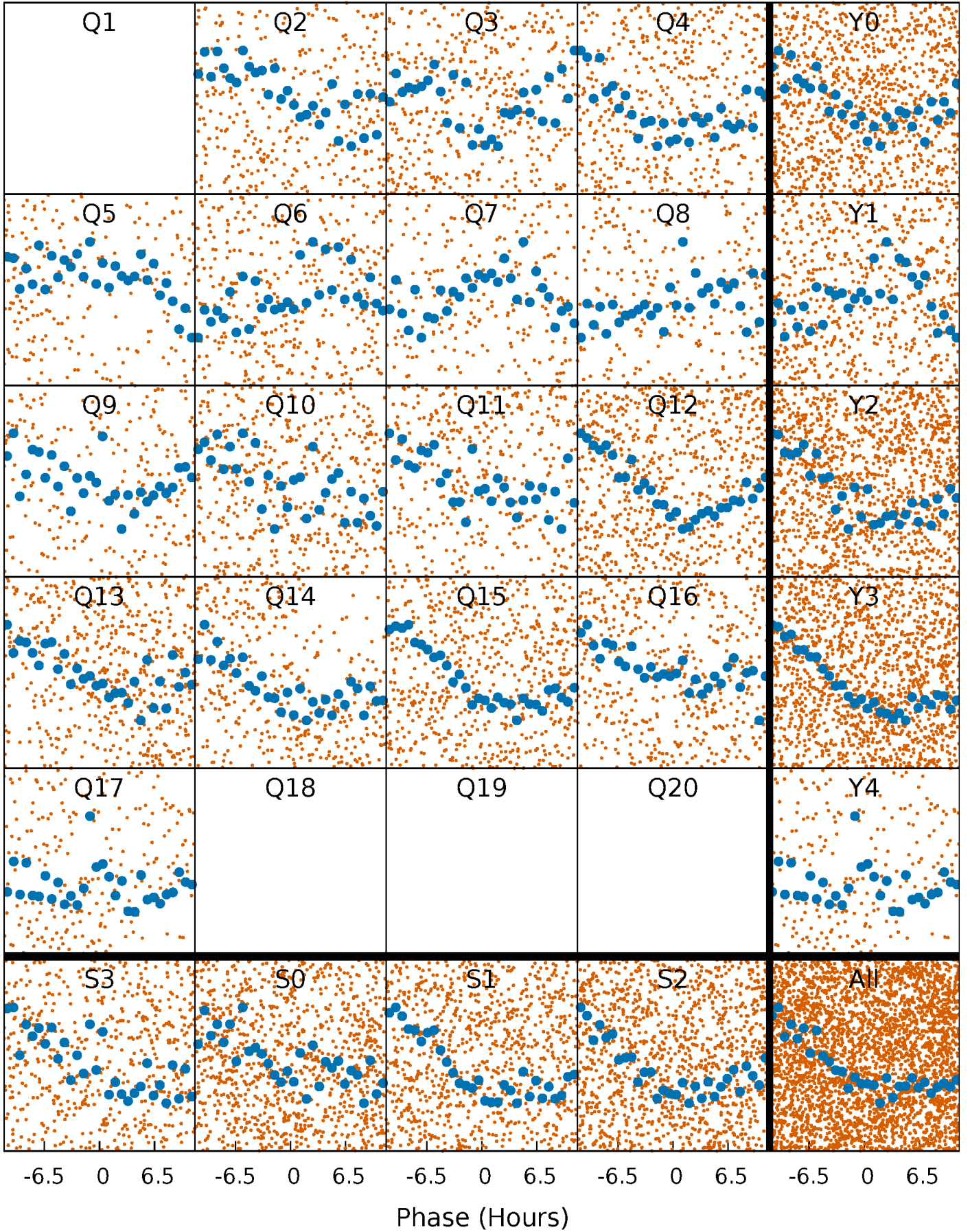


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



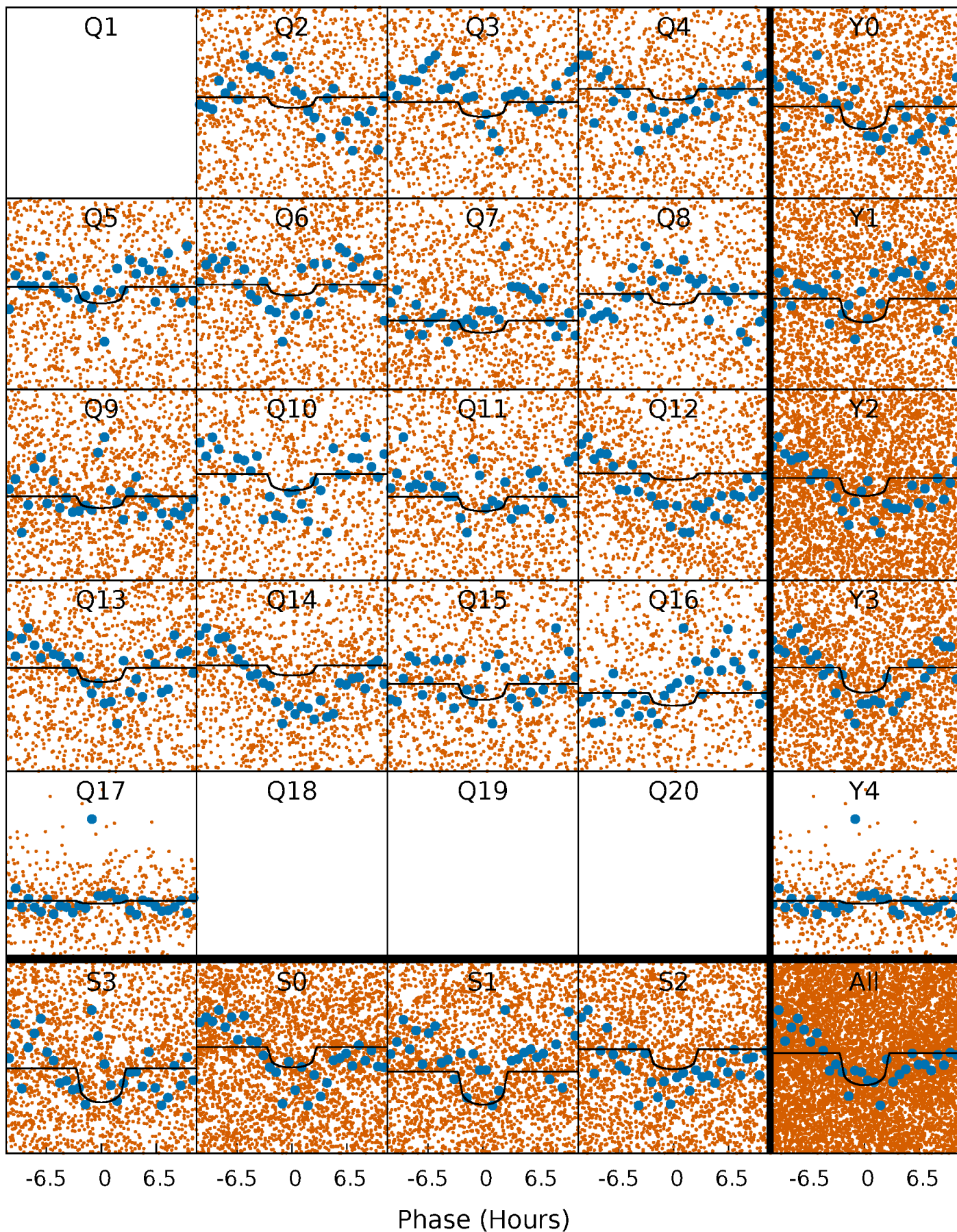
PDC Quarter-Phased Transit Curves

TCE 007765236-01 P= 1.796503 Days $T_0=132.294177$ (BKJD)



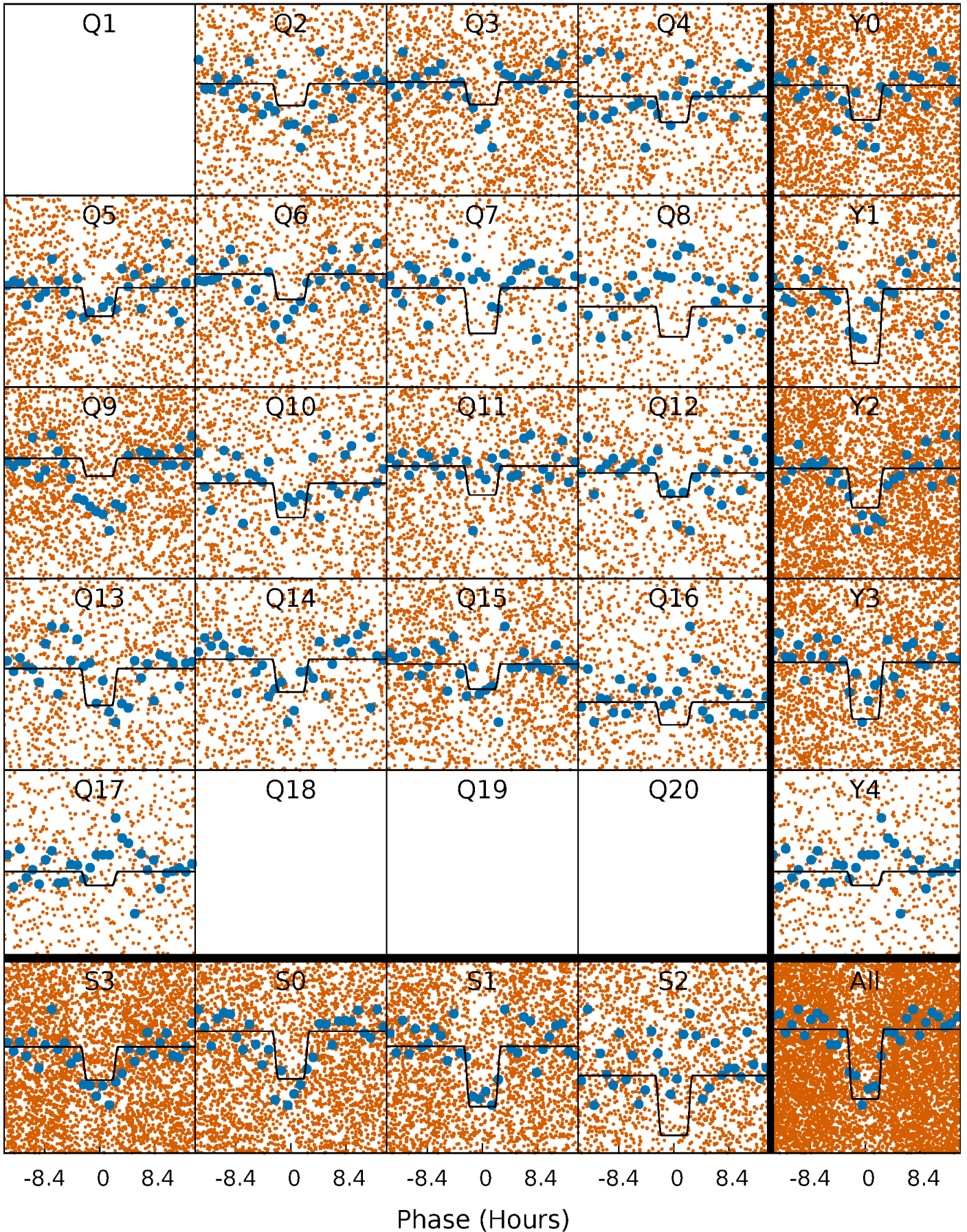
DV Quarter-Phased Transit Curves

TCE 007765236-01 P= 1.796503 Days $T_0=132.294177$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

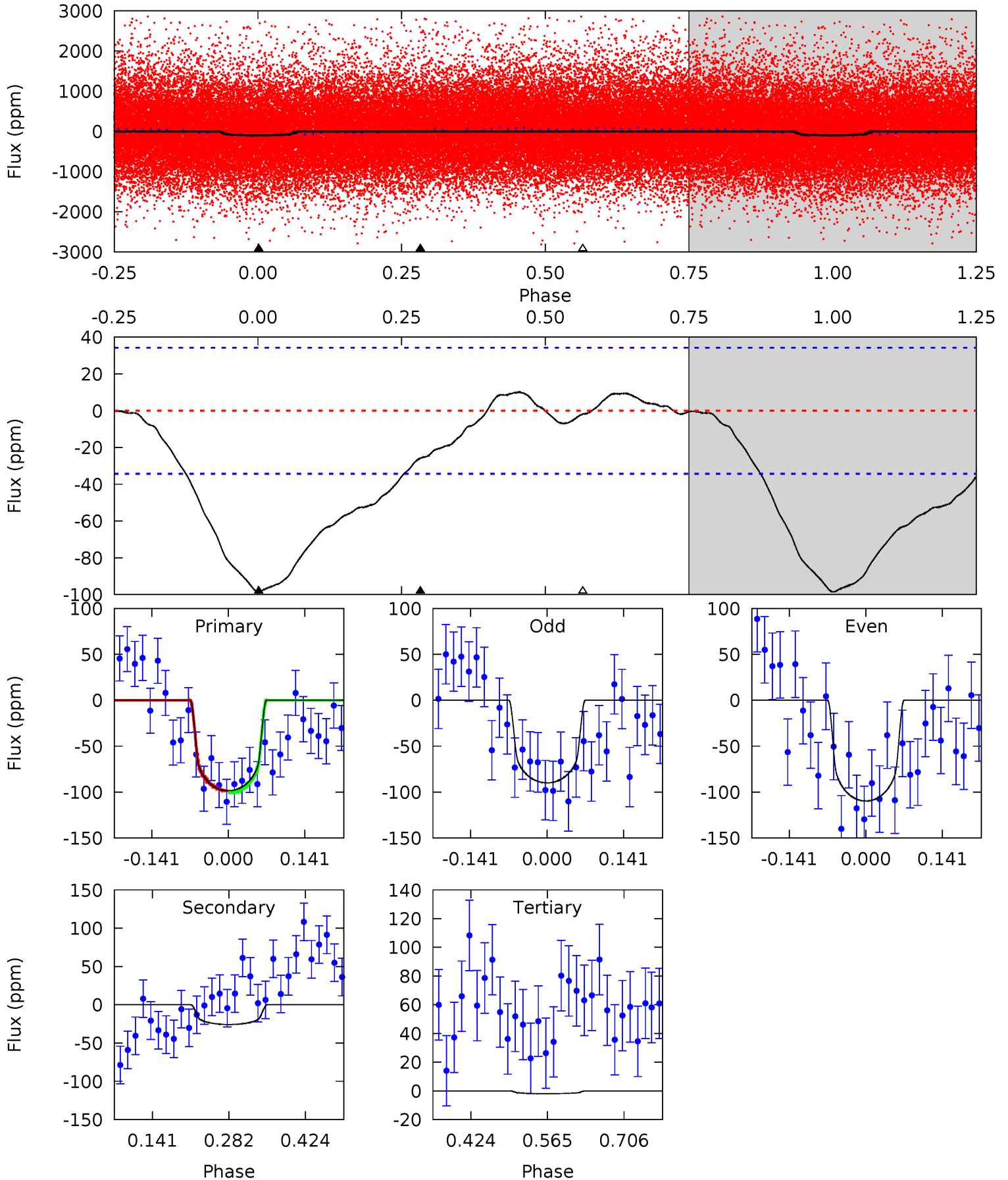
TCE 007765236-01 P= 1.796378 Days $T_0=132.328374$ (BKJD)



DV Model-Shift Uniqueness Test

007765236-01, P = 1.796503 Days, E = 132.294177 Days

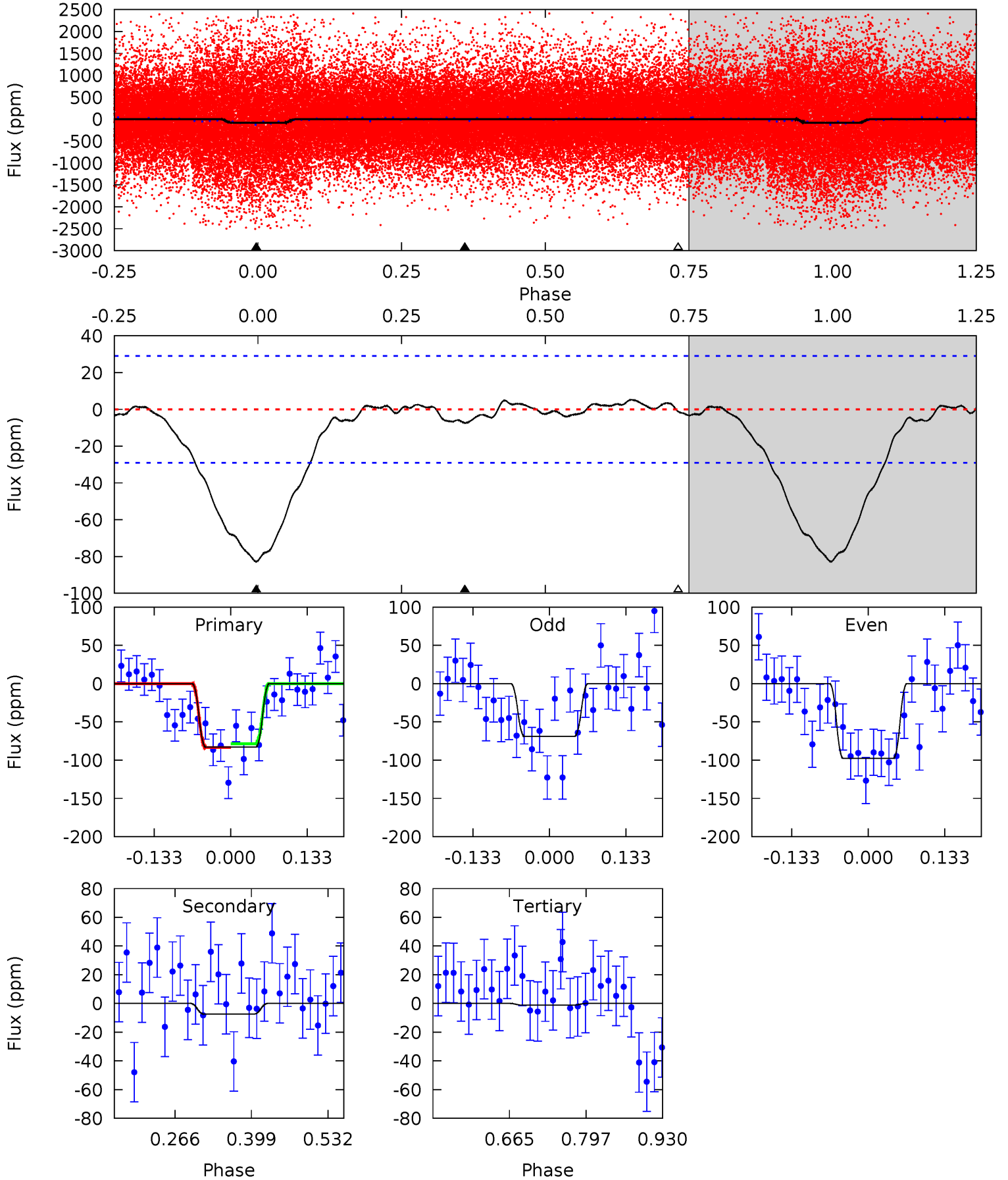
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	3.39	0.25	0	4.49	1.47	1.02	12.7	12.9	3.14	3.39	1.30	0.66	0.09	0.15



Alt Model-Shift Uniqueness Test

007765236-01, P = 1.796378 Days, E = 132.328374 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	1.14	0.18	0	4.50	1.50	0.60	12.7	12.8	0.96	1.14	2.24	1.11	0.06	0.39



Stellar Parameters For KIC 007765236

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4742^{+153}_{-167}	$4.712^{+0.048}_{-0.028}$	$-1.280^{+0.300}_{-0.300}$	$0.538^{+0.031}_{-0.034}$	$0.544^{+0.040}_{-0.023}$	$4.910^{+0.968}_{-0.555}$
	+3%/-4%	+1%/-1%	+23%/-23%	+6%/-6%	+7%/-4%	+20%/-11%
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 007765236-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-26 ± 8	$0.59^{+0.36}_{-0.34}$	1390^{+49}_{-52}	3698^{+1443}_{-600}	23^{+113}_{-15}
Alt.	-7 ± 6	$0.60^{+0.37}_{-0.37}$	1389^{+48}_{-56}	2923^{+1100}_{-794}	$5.255^{+34.613}_{-4.598}$

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

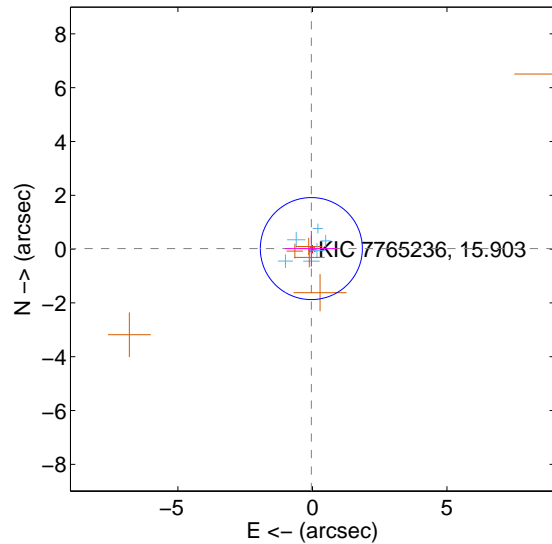
Supplemental centroid analysis for 007765236-01. Kepler magnitude: 15.90. Transit SNR 4.83

There are 6 quarters with good PRF difference image offsets

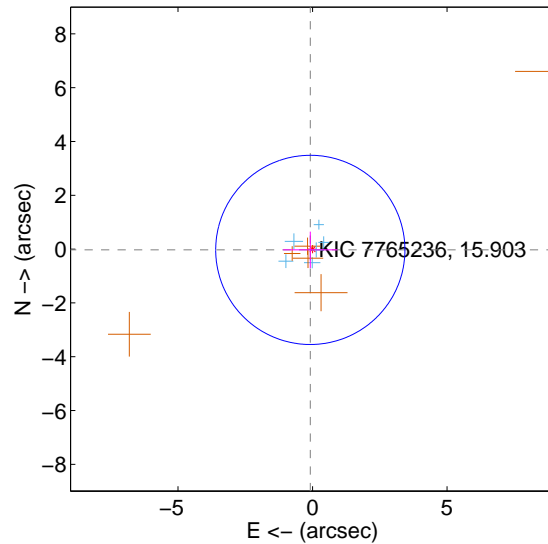
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.045 ± 0.632	0.07	0.041 ± 0.974	0.019 ± 0.654
PRF-fit source offset from KIC position	0.087 ± 1.172	0.07	0.082 ± 1.014	-0.030 ± 0.679
photometric centroid source offset	0.12 ± 2.46	0.05	0.09 ± 2.27	0.09 ± 2.62

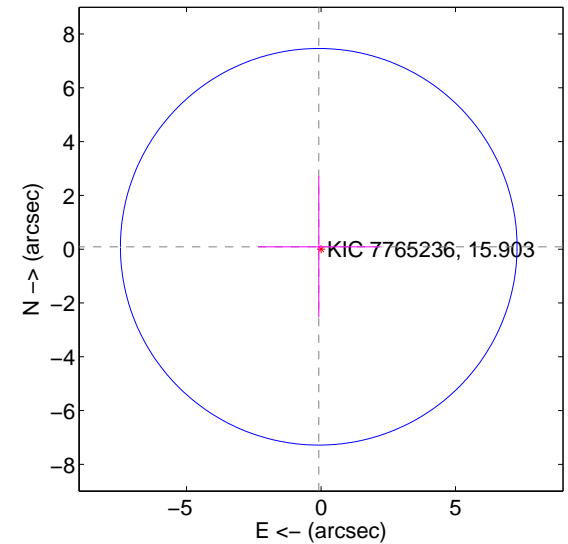
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

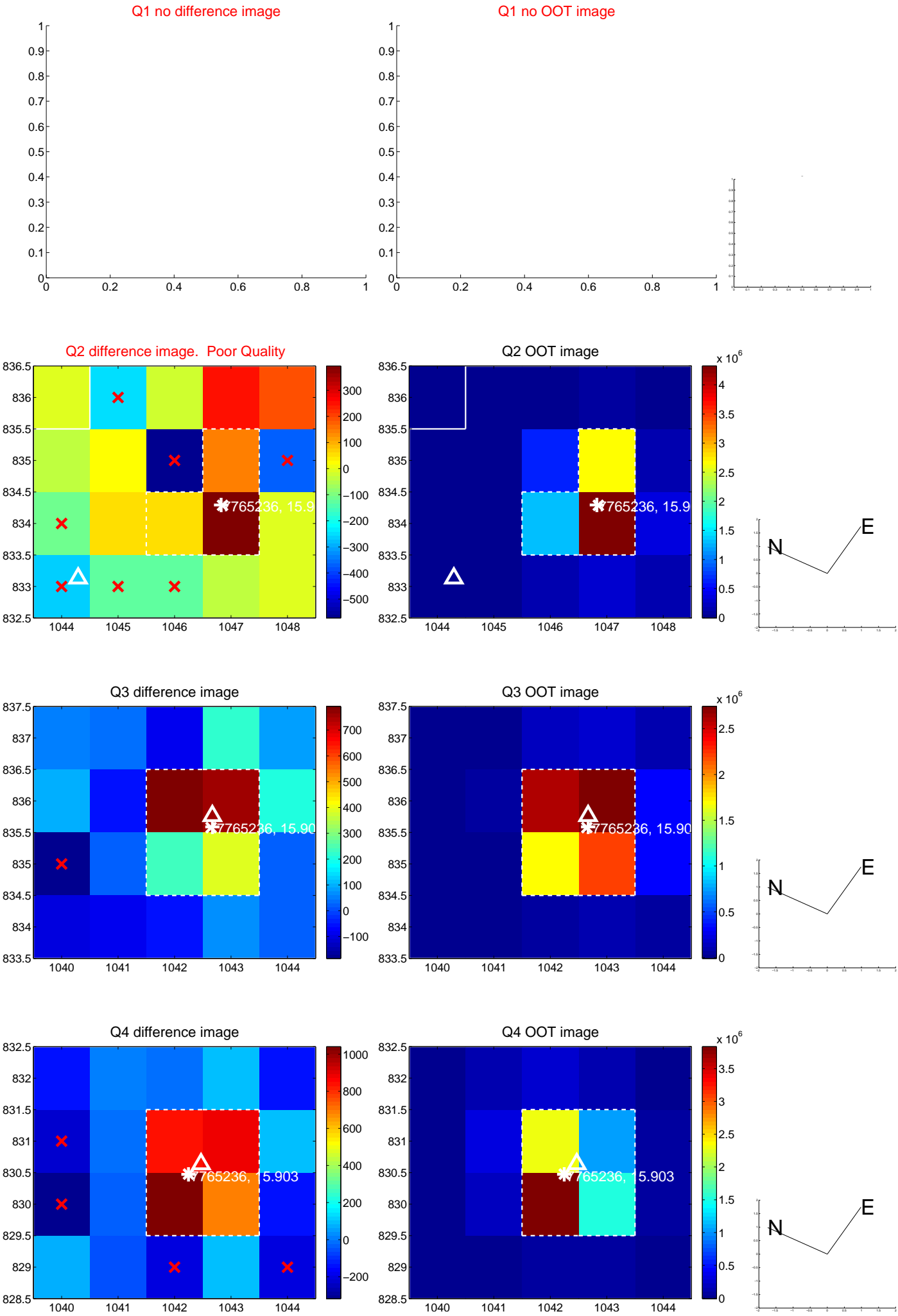


offset from photometric centroids

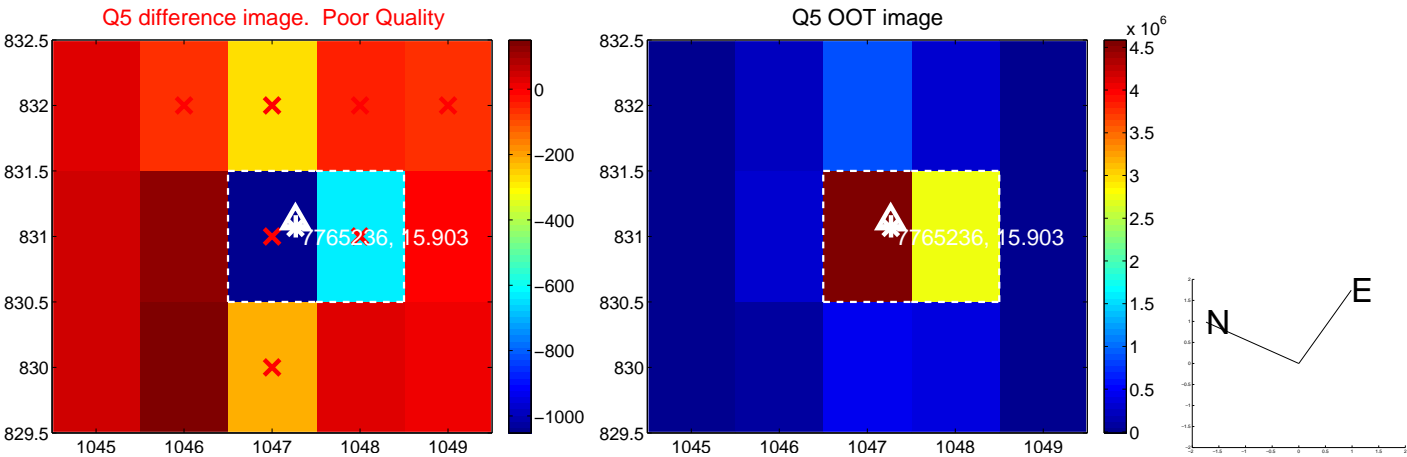


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

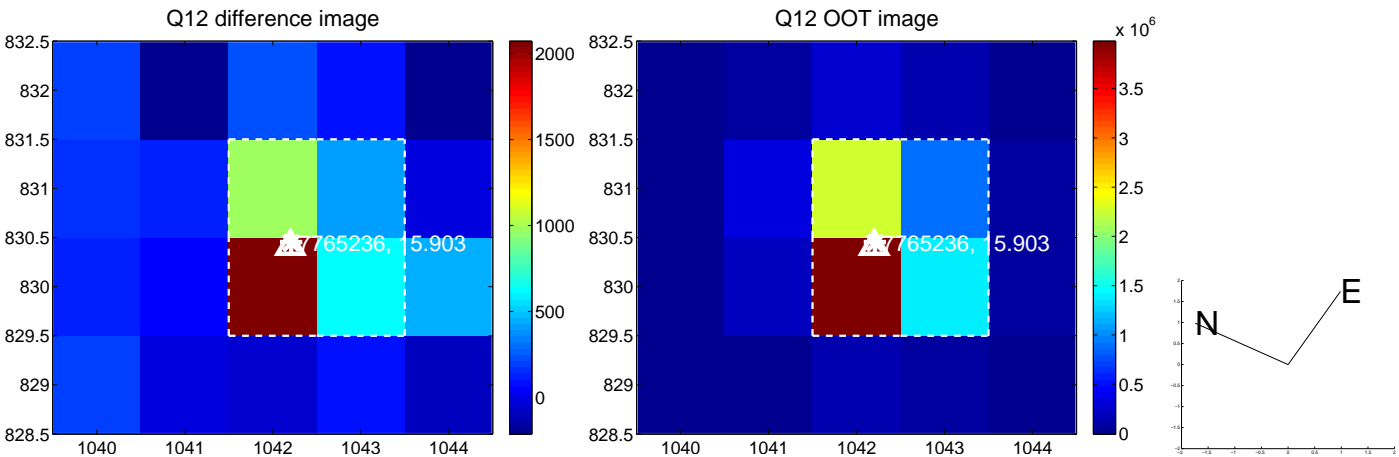
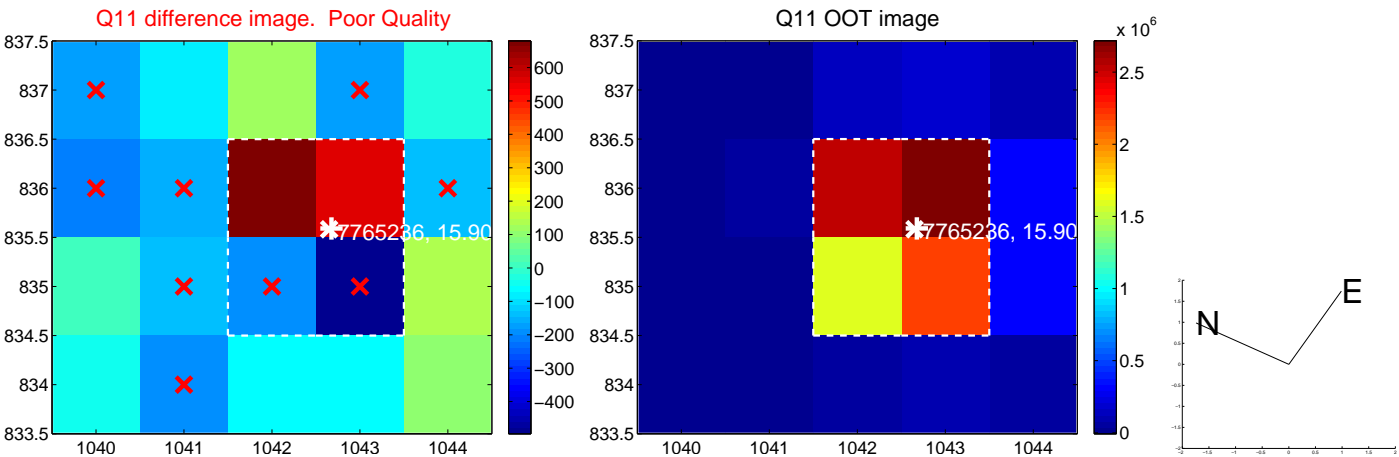
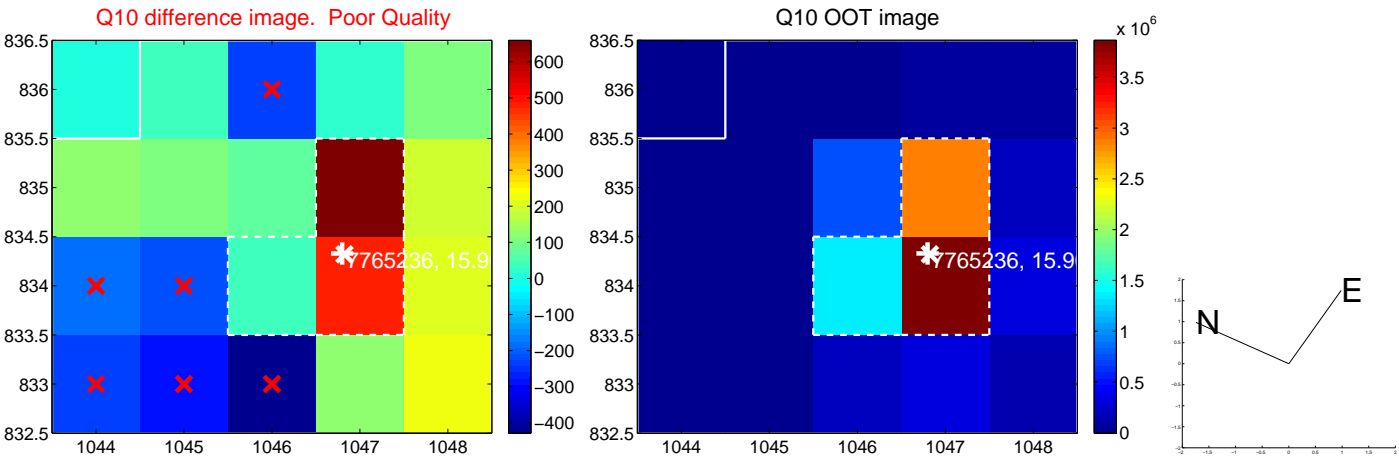
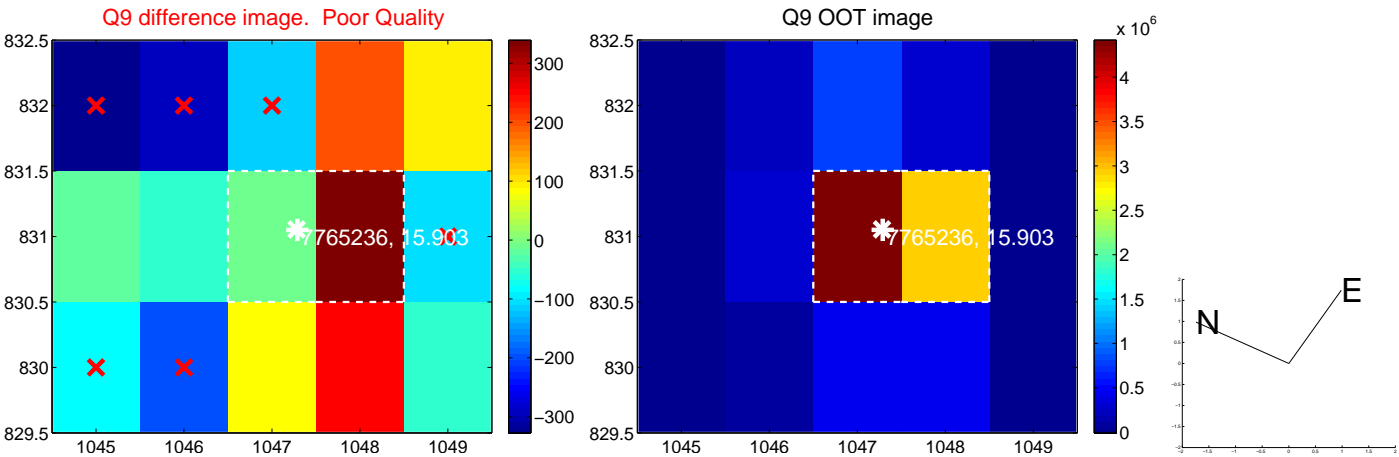
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



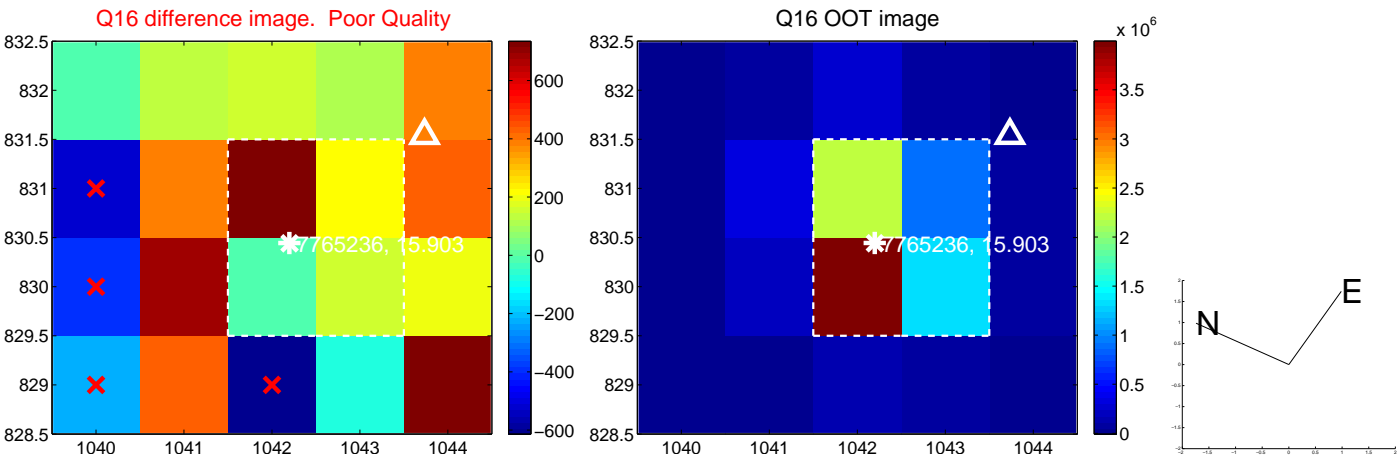
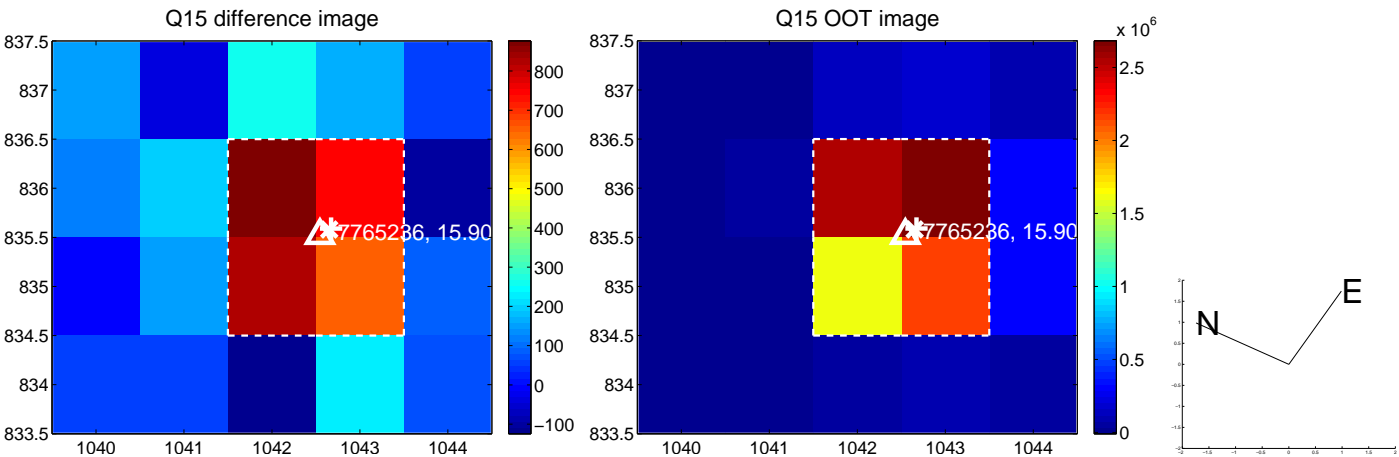
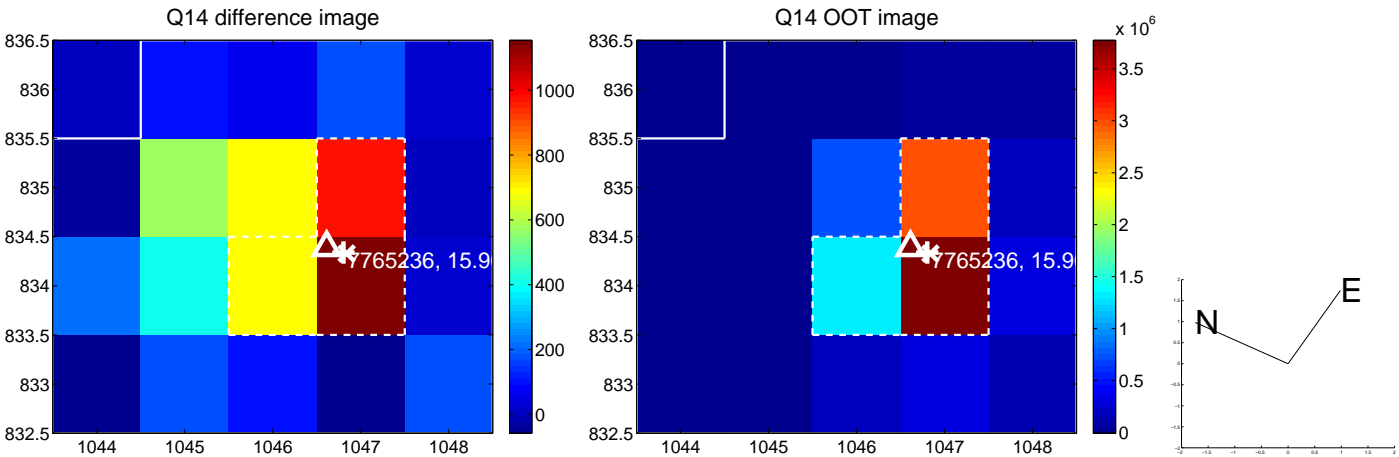
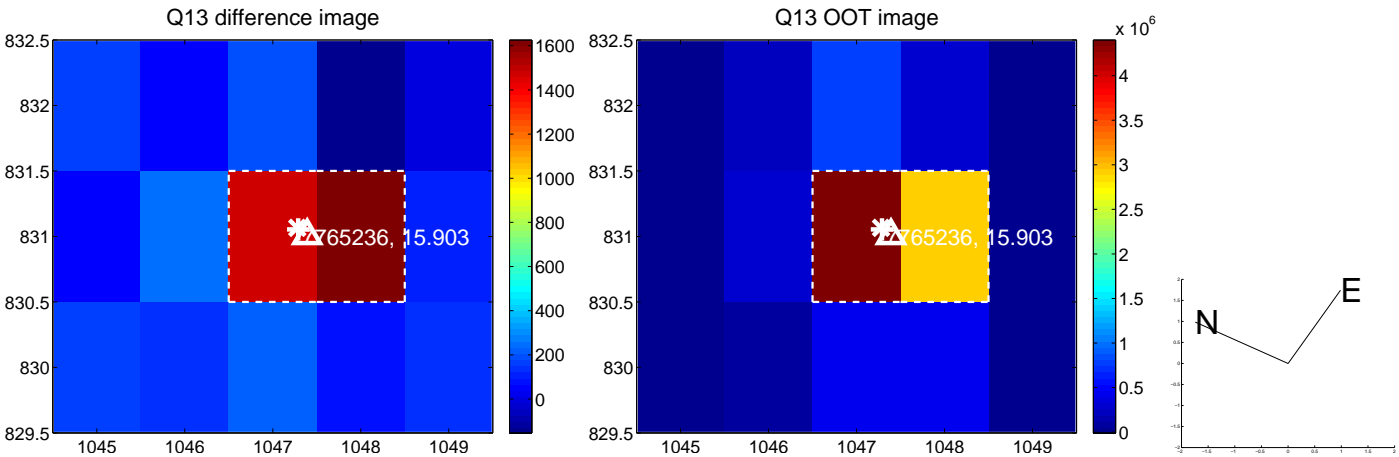
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



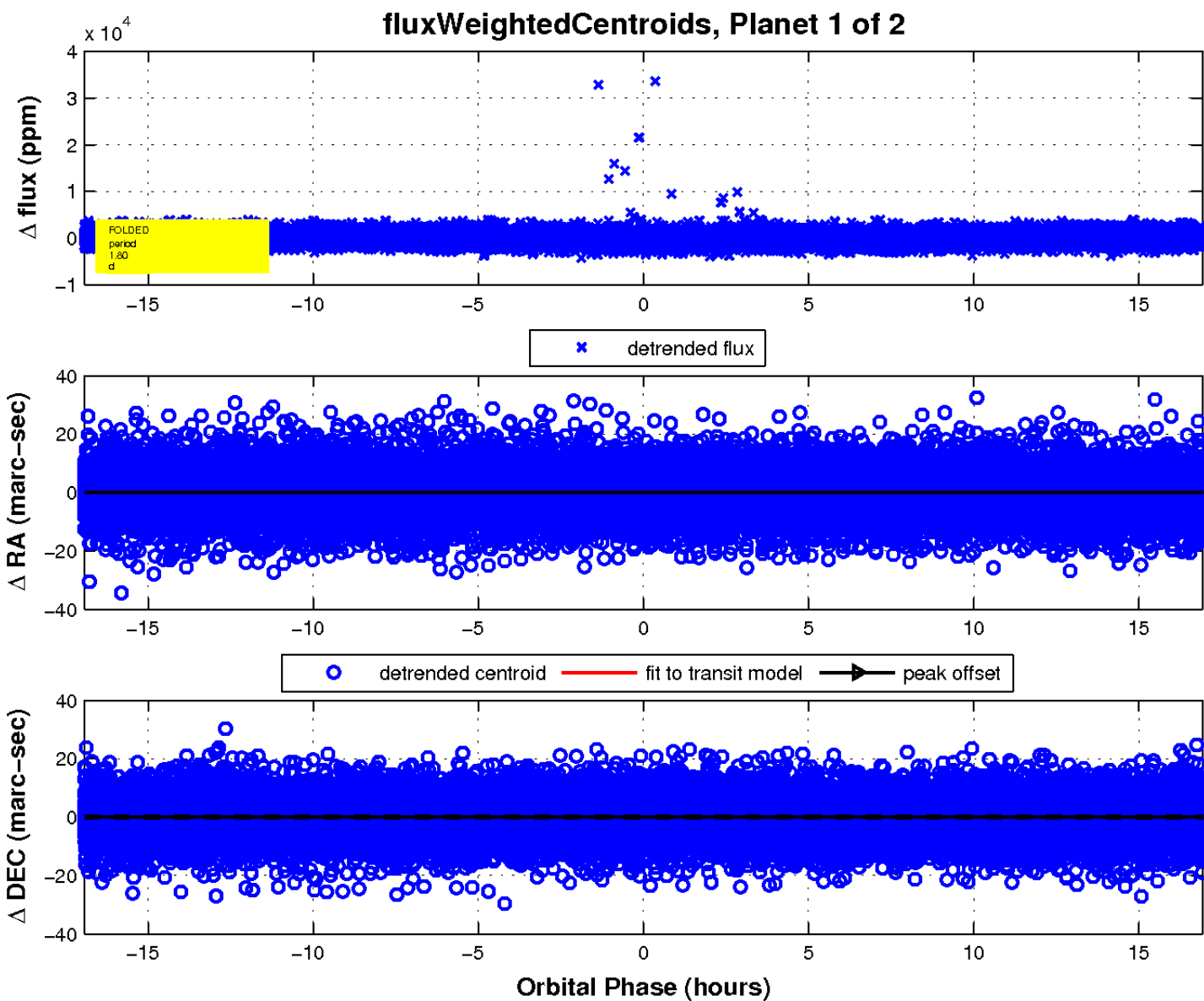
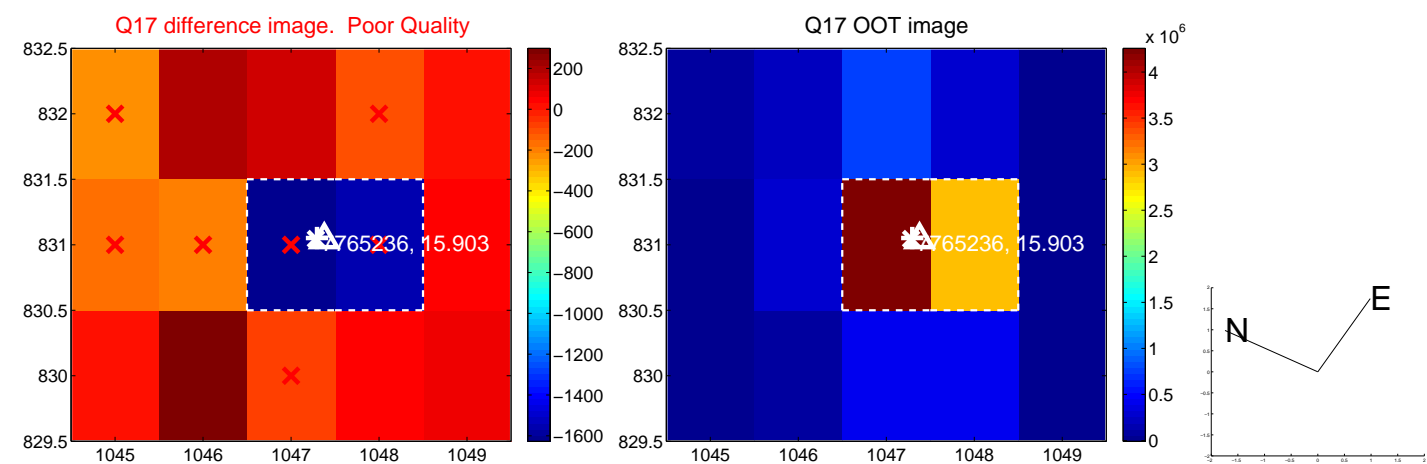
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

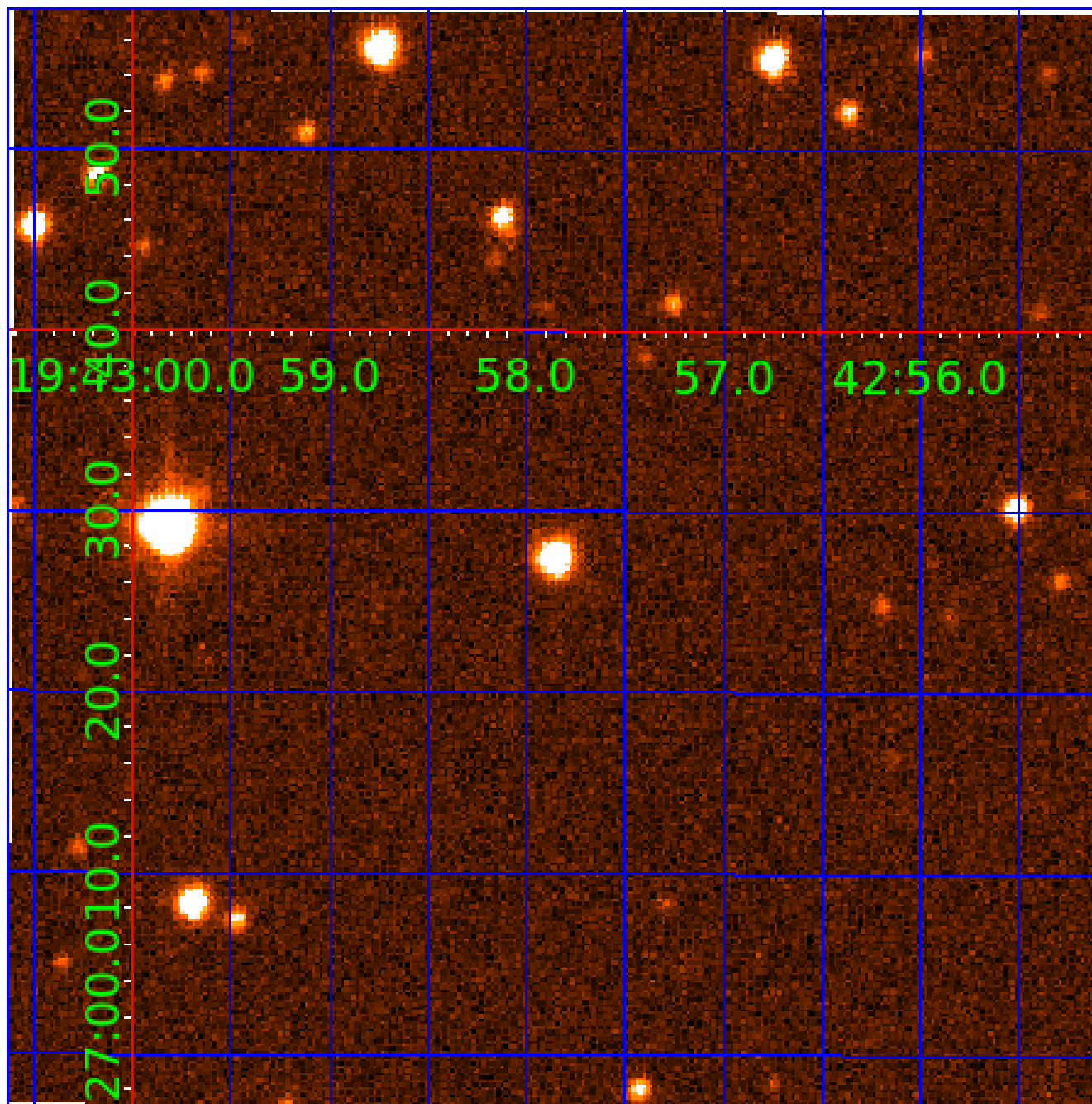


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007765236

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})
007765236-01	OBS	No	1.796503	132.294178	63.6	5.647	7.1	4.8	0.54	4742	0.52	235.16
007765236-02	OBS	No	376.359722	360.914782	1921.0	12.912	10.7	7.9	0.54	4742	2.35	0.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007765236-01	OBS	FP	0.00	1	0	0	0	LPP_DV
007765236-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—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.

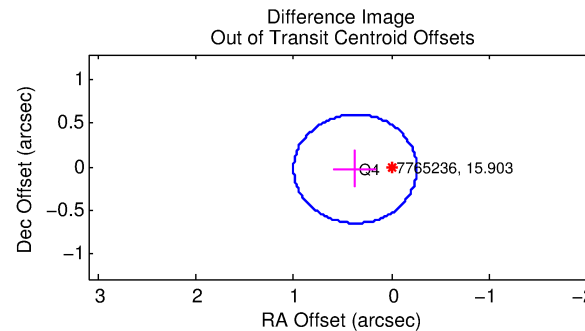
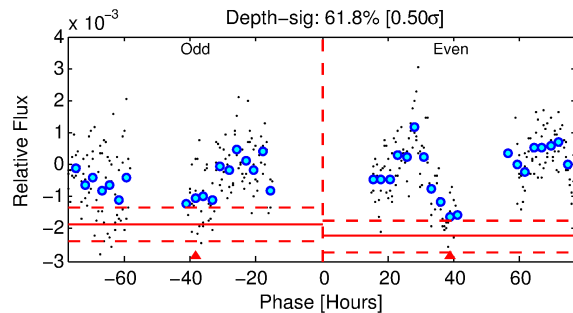
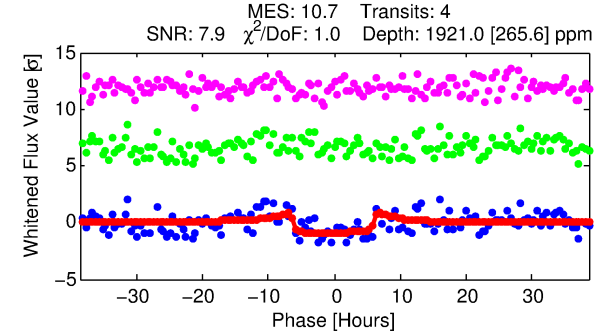
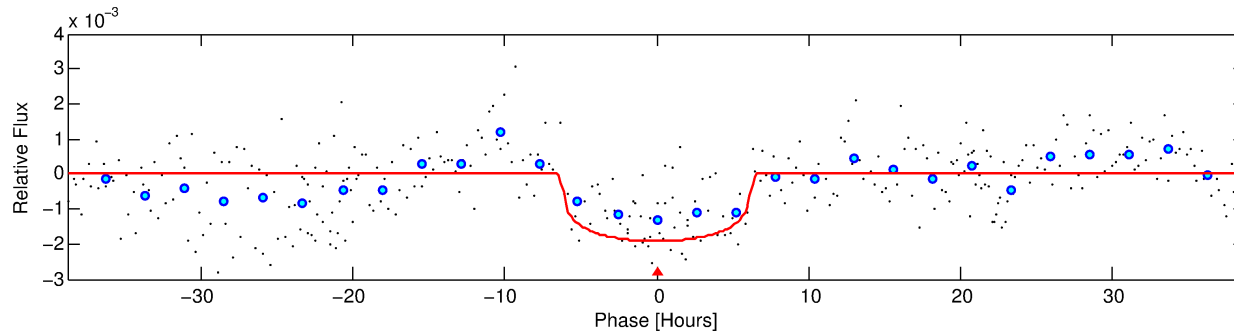
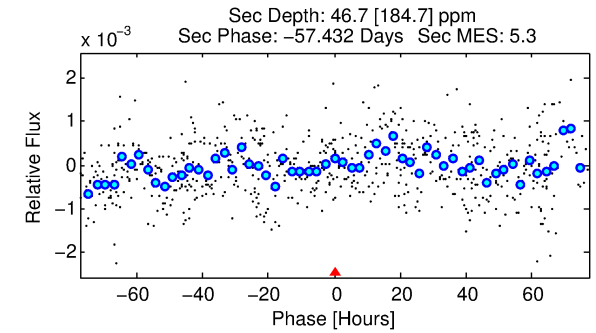
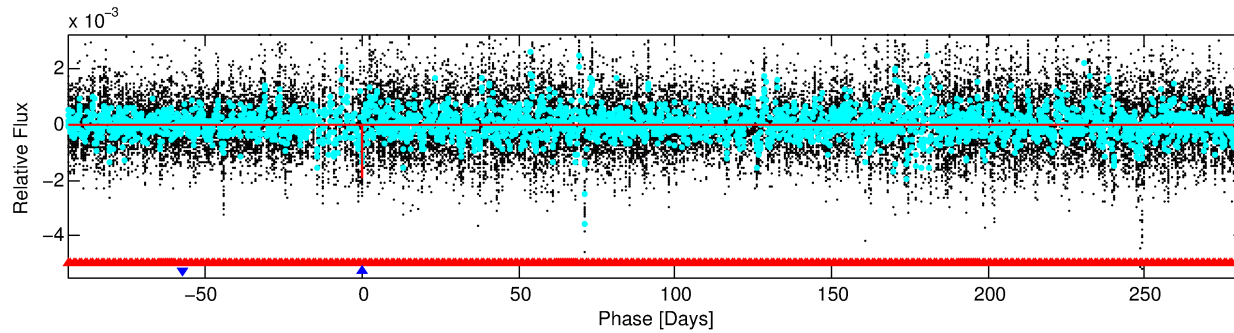
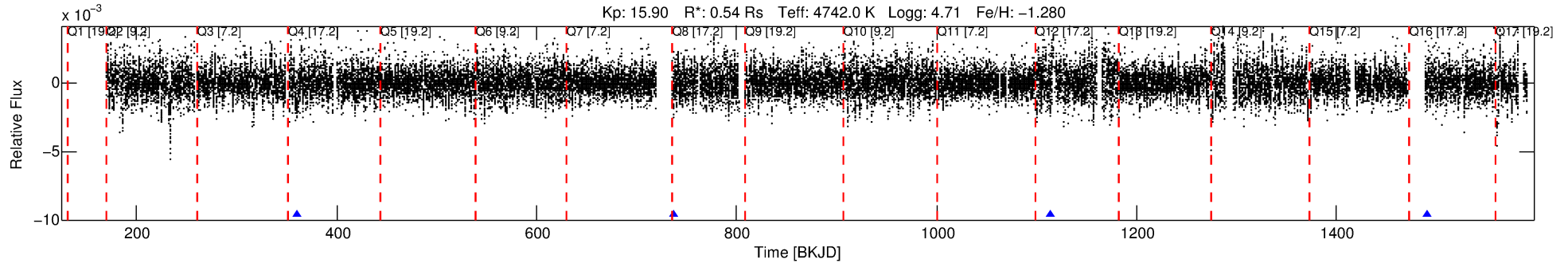
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007765236-02

No Significant Match Found

DV One-Page Summary

KIC: 7765236 Candidate: 2 of 2 Period: 376.360 d



DV Fit Results:

Period = 376.35972 [0.00907] d
Epoch = 360.9148 [0.0159] BKJD
Rp/R* = 0.0399 [0.0152]
a/R* = 218.93 [318.95]
b = 0.34 [3.83]
Seff = 0.19 [0.03]
Teq = 168 [7] K
Rp = 2.34 [0.91] Re
a = 0.8330 [0.0466] AU
Ag = 3245.50 [13066.35] [0.25σ]
Teffp = 1962 [1976] K [0.91σ]

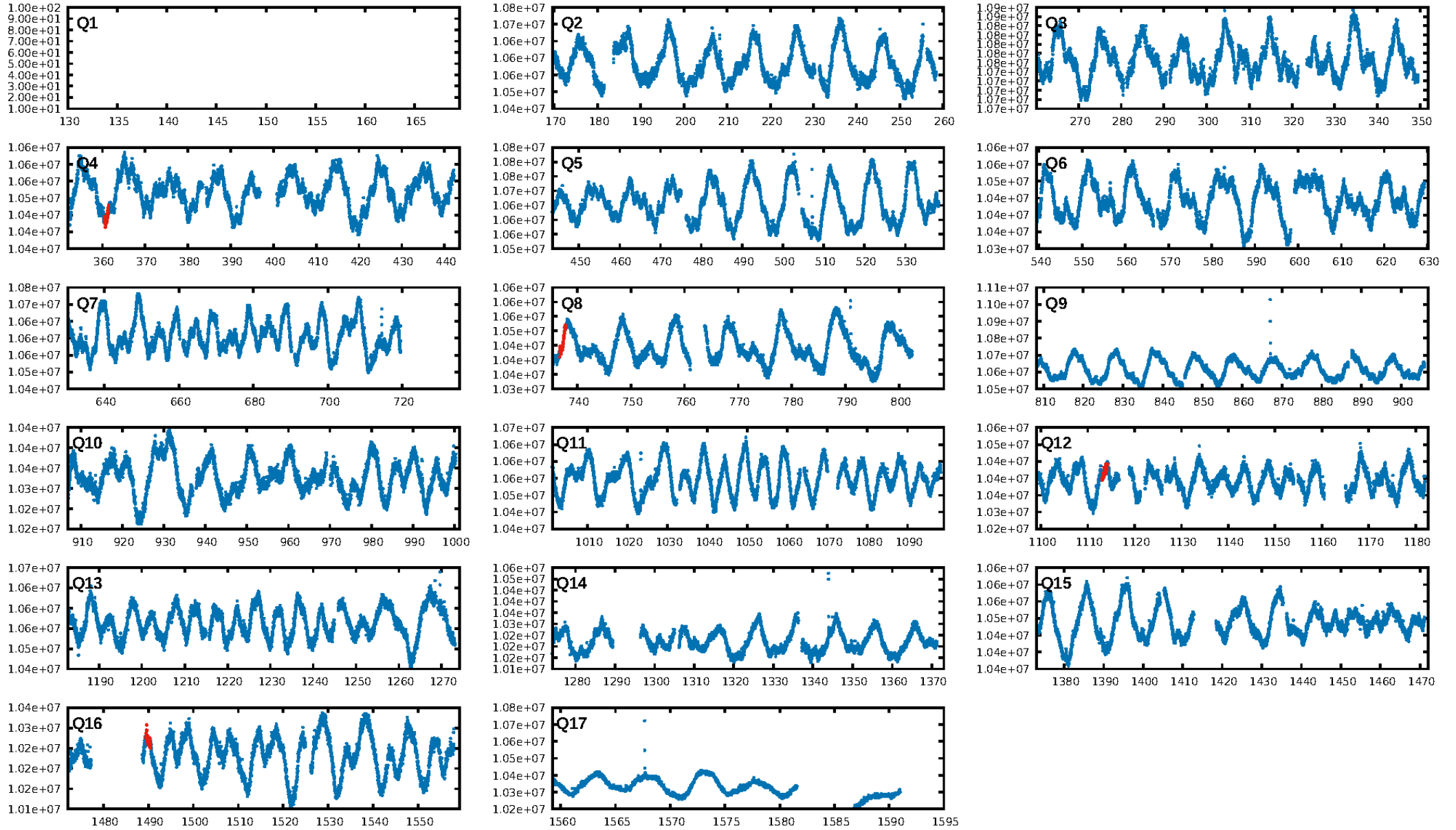
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [637.88σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 62.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.25e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.9944
Centroid-sig: 0.3%
Centroid-so: 2.208 arcsec [1.70σ]
OotOffset-rm: 0.373 arcsec [1.78σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-rm: 0.381 arcsec [1.82σ]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 0.00 [0/2]

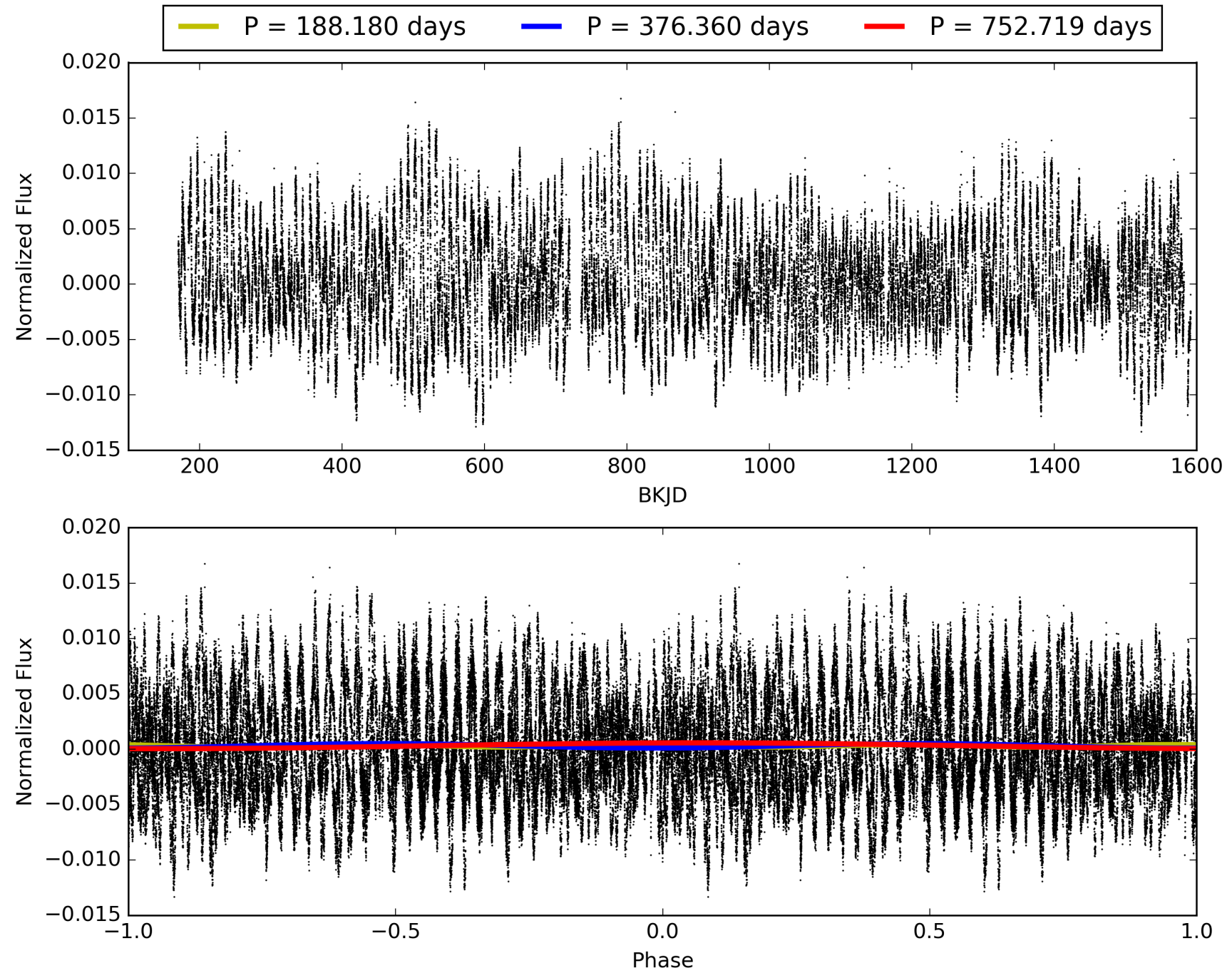
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 12:31:24 Z

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

TCE 007765236-02, PDC Light Curves

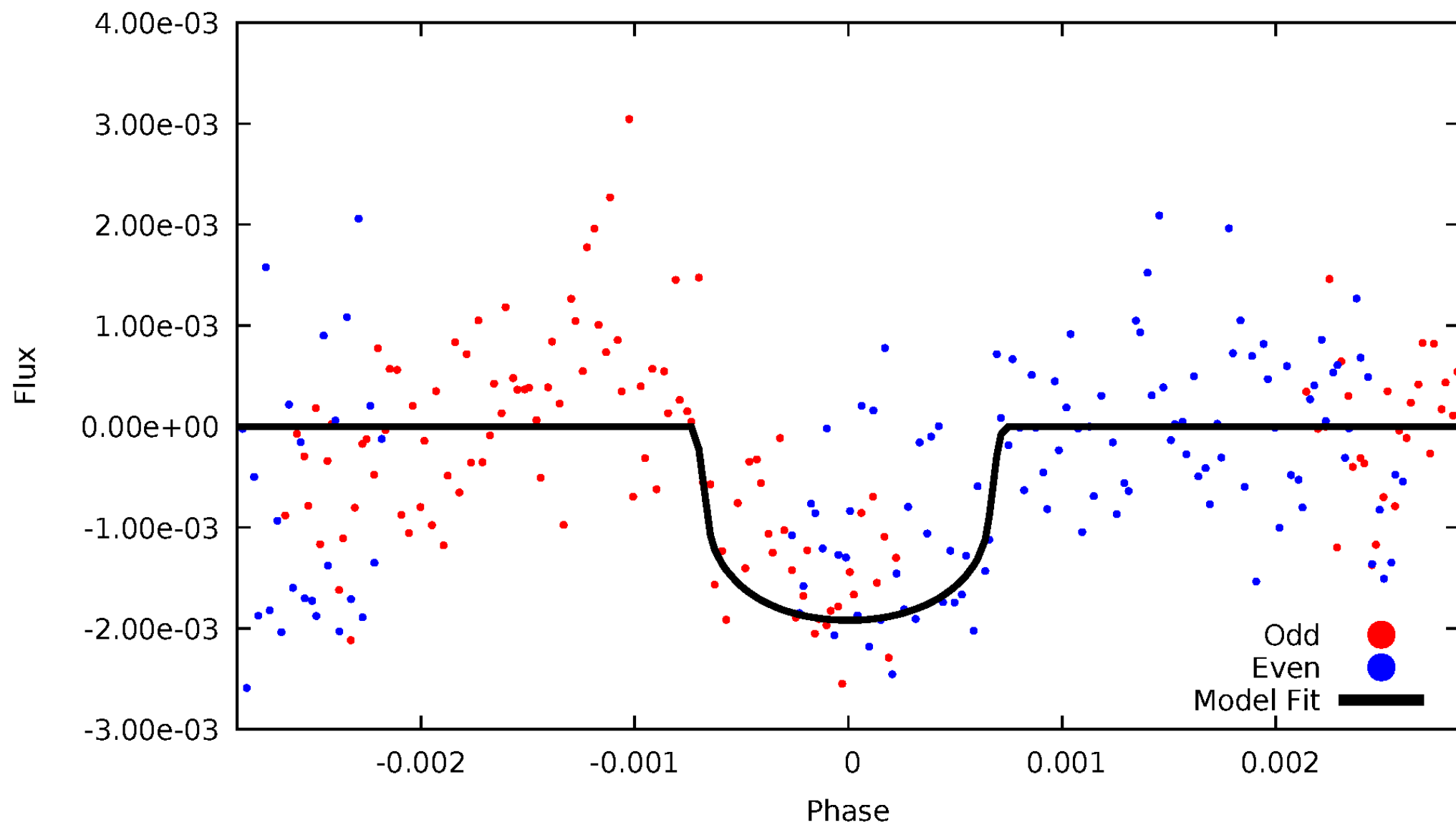


TCE 007765236-02



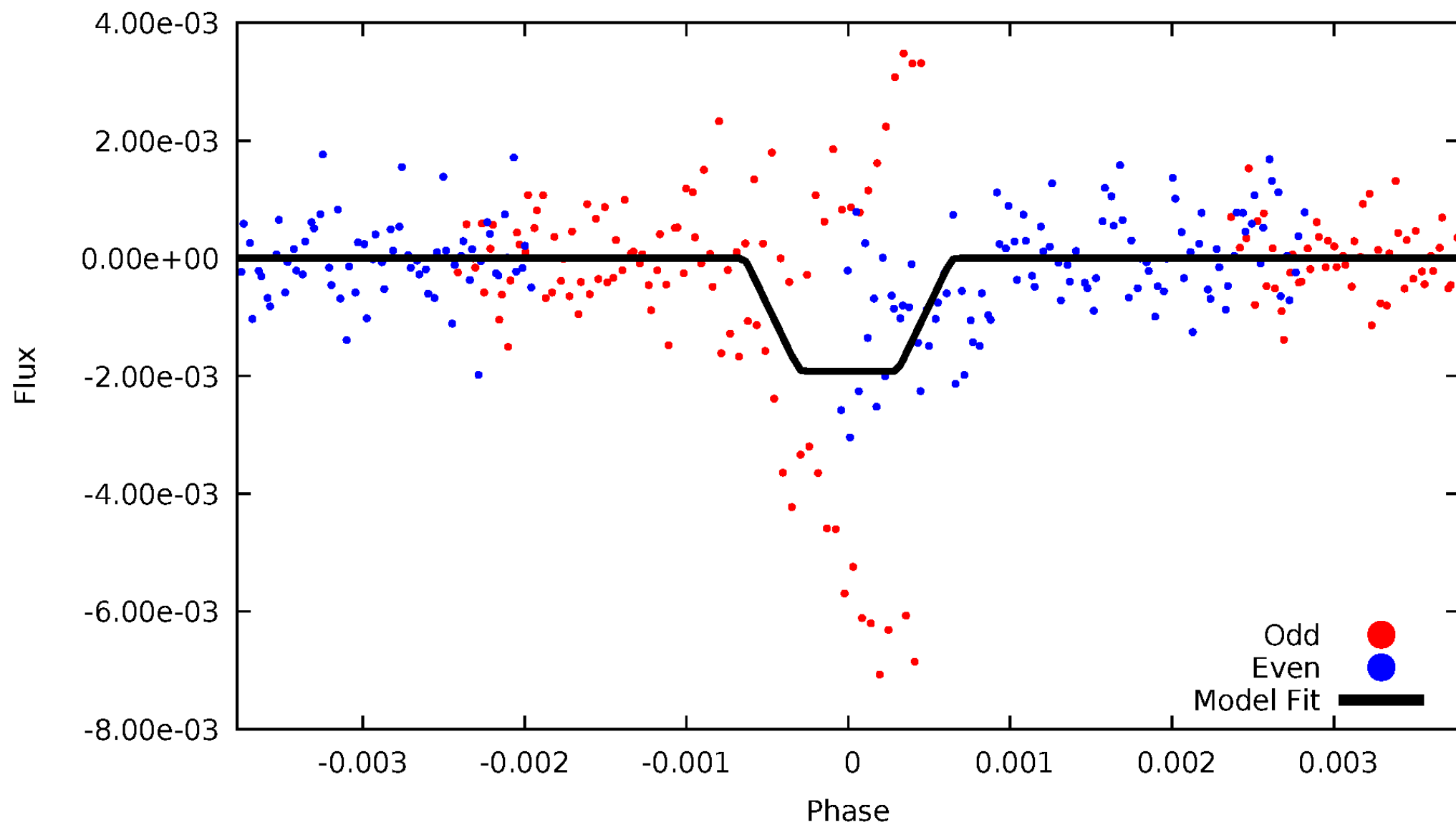
DV Odd/Even

TCE 007765236-02



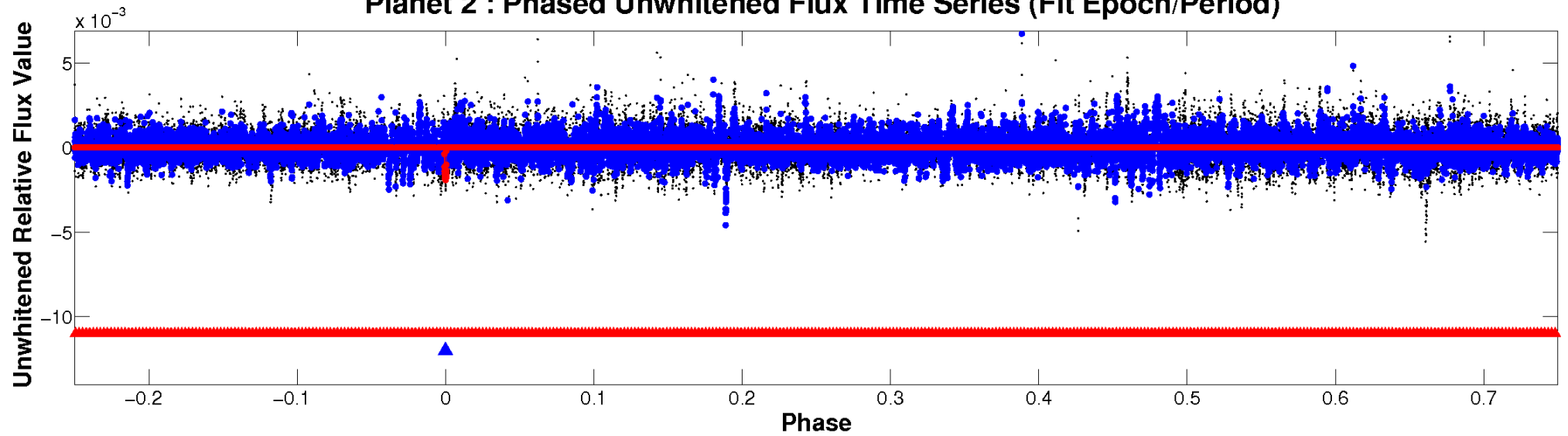
ALT Odd/Even

TCE 007765236-02

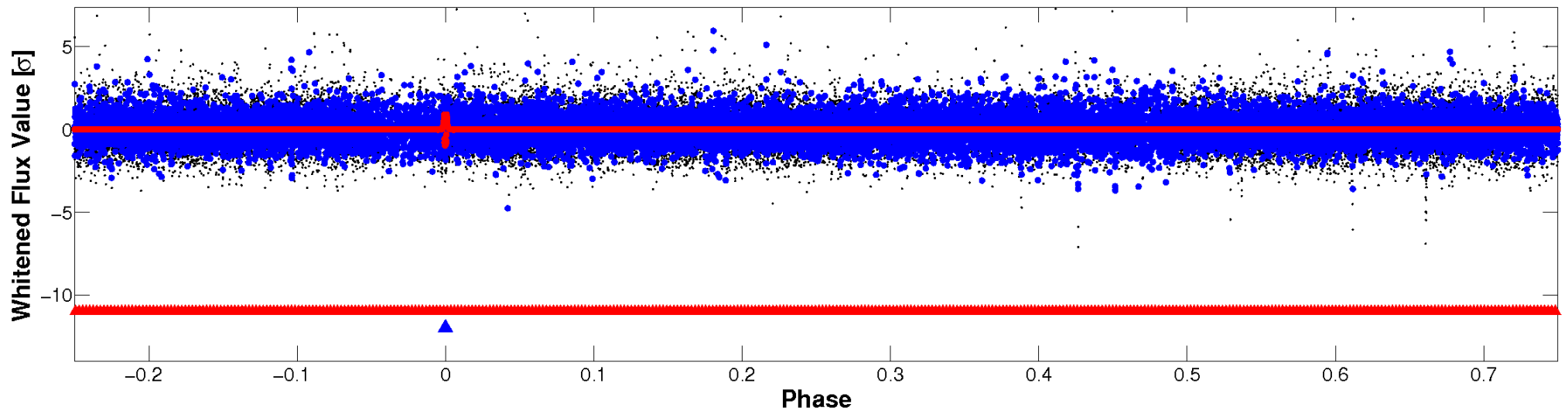


Non-Whitened Vs. Whitened Light Curve

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

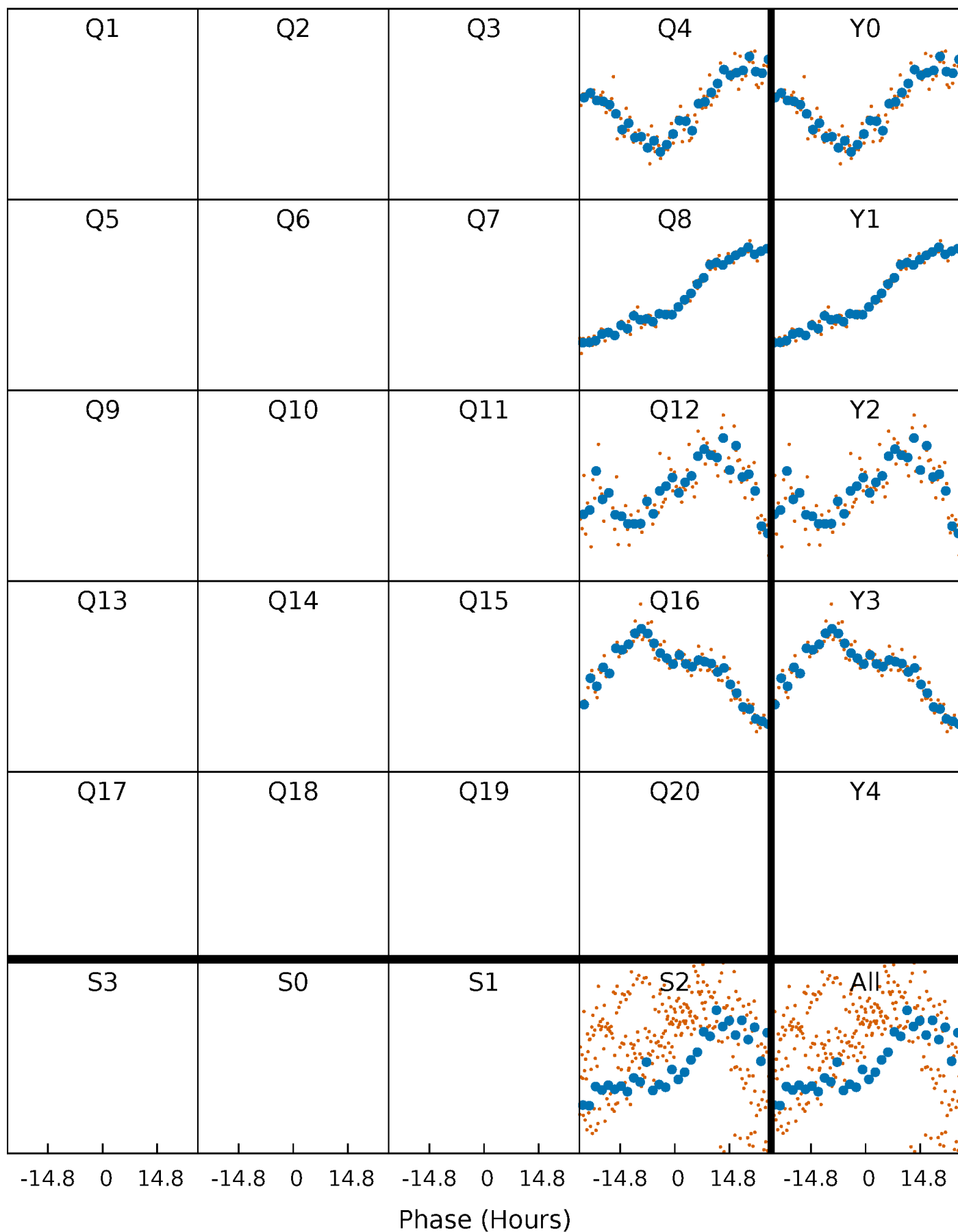


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



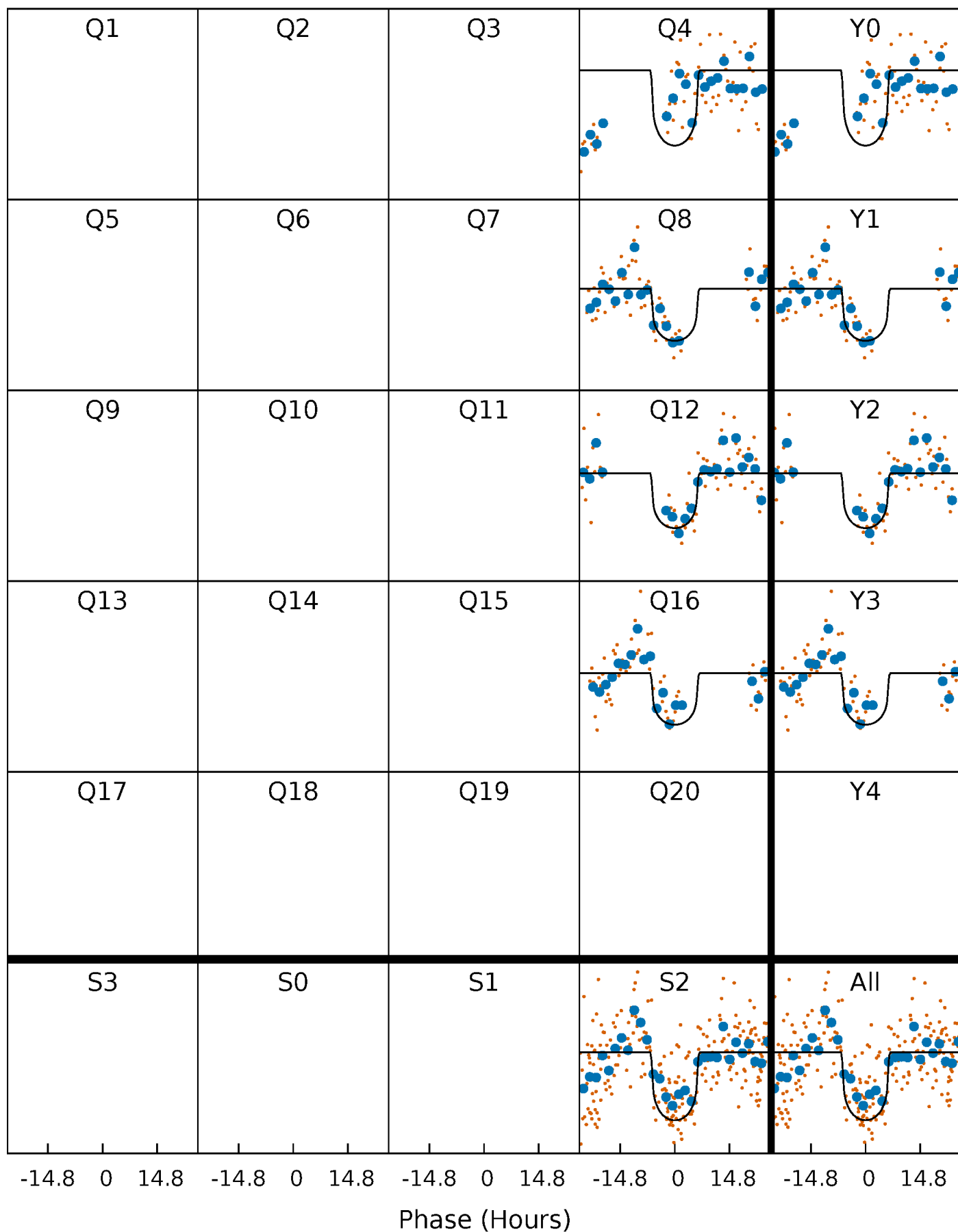
PDC Quarter-Phased Transit Curves

TCE 007765236-02 $P=376.359721$ Days $T_0=360.914782$ (BKJD)



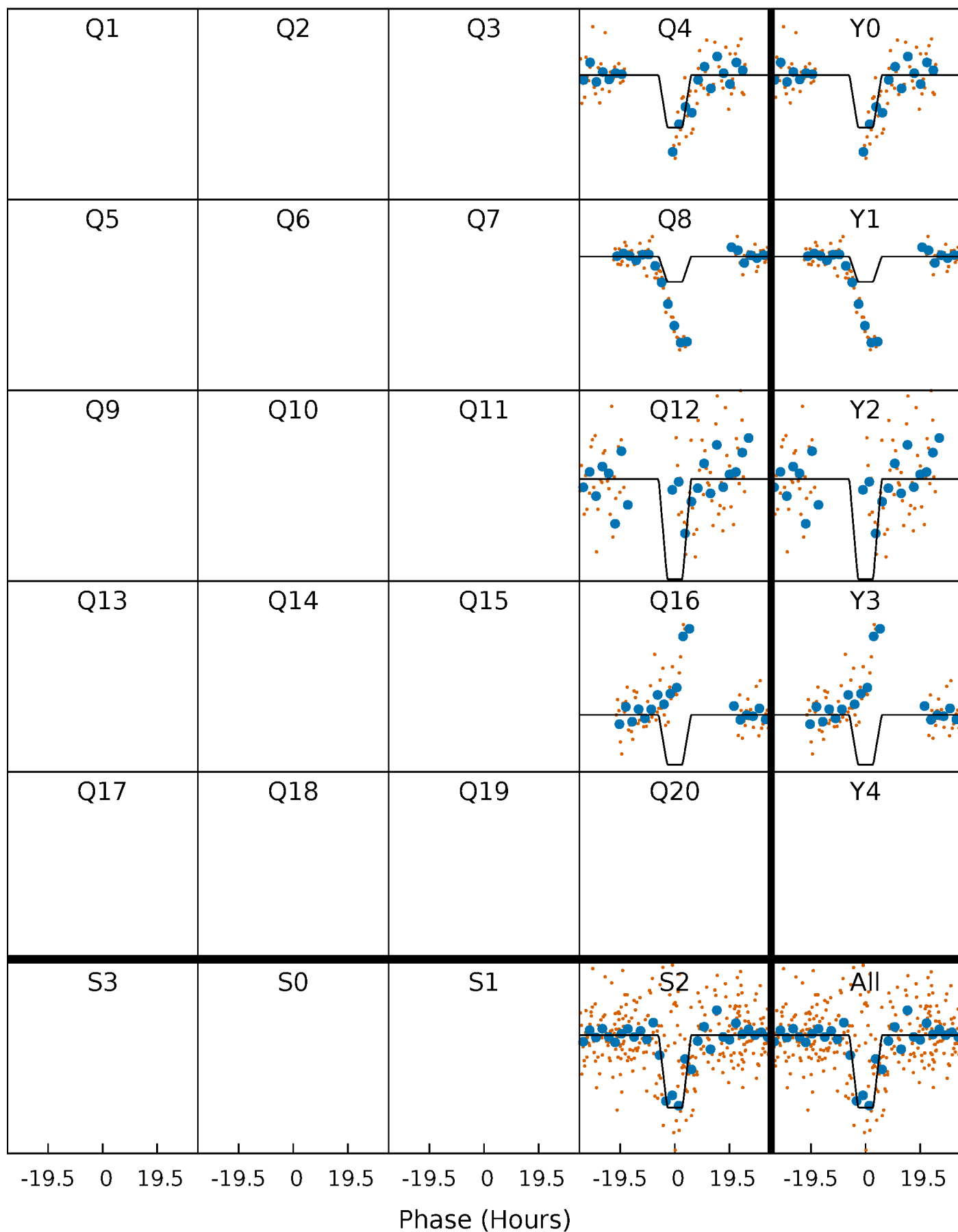
DV Quarter-Phased Transit Curves

TCE 007765236-02 $P=376.359721$ Days $T_0=360.914782$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

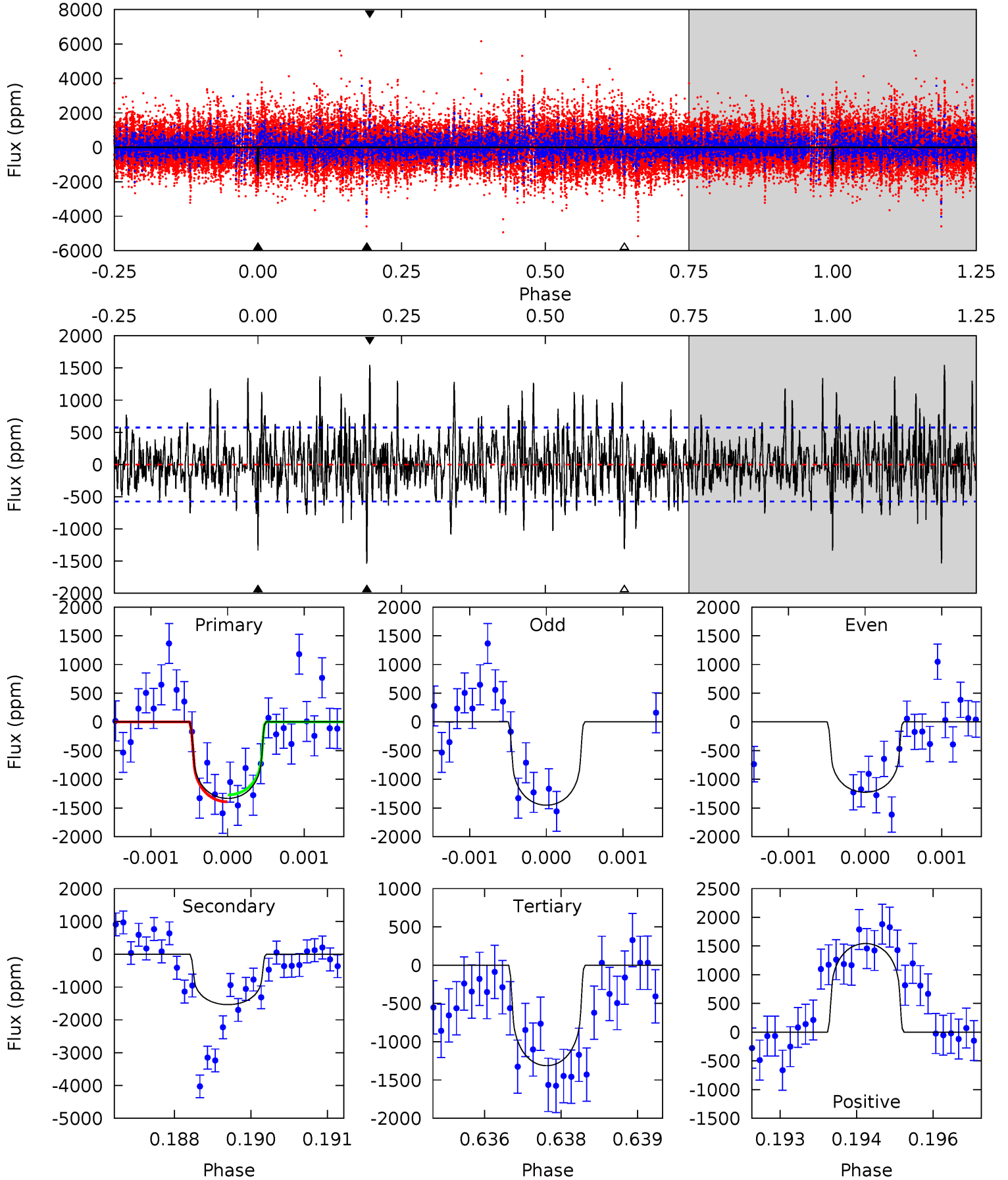
TCE 007765236-02 P=376.358930 Days $T_0=360.832039$ (BKJD)



DV Model-Shift Uniqueness Test

007765236-02, P = 376.359721 Days, E = 360.914782 Days

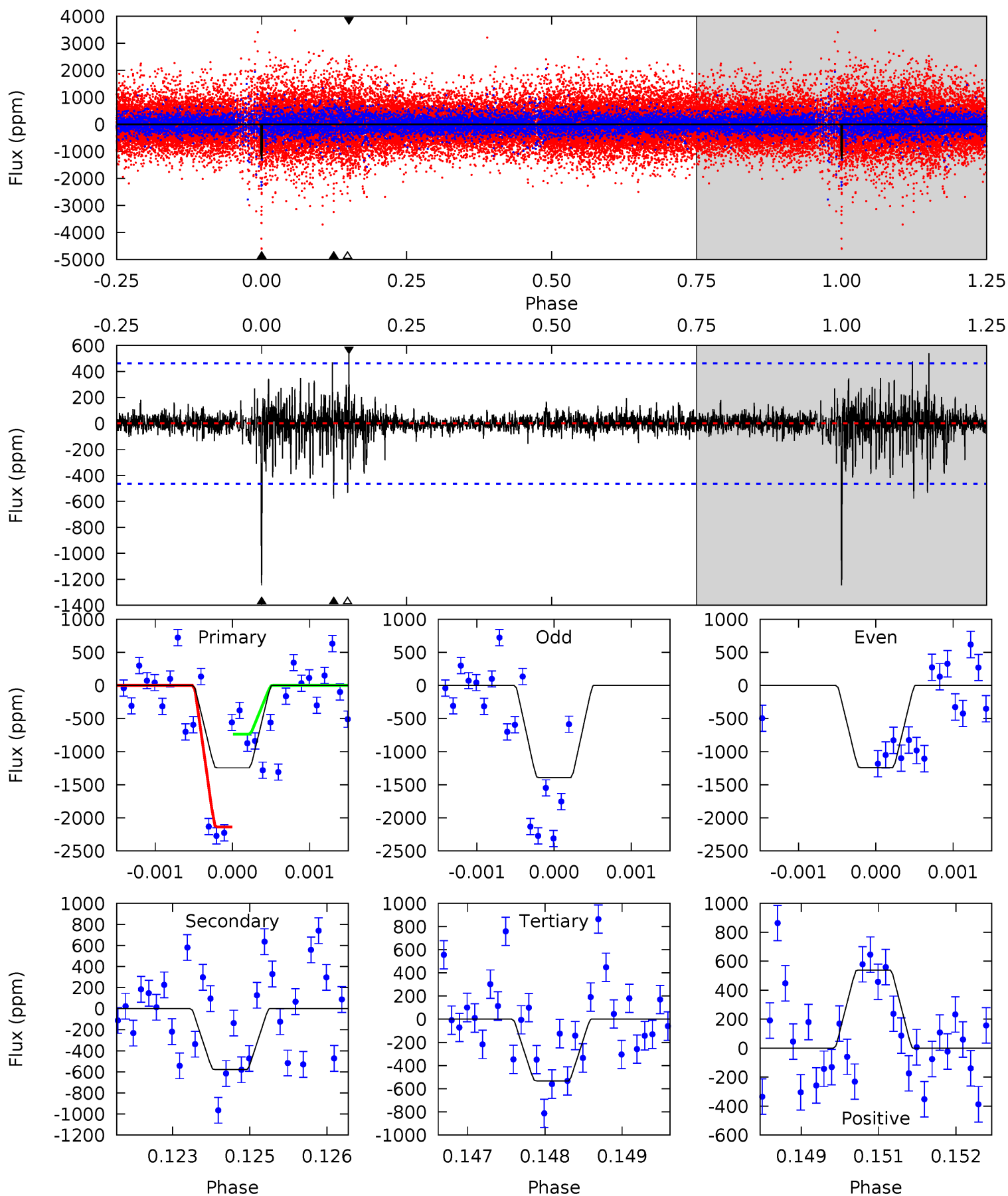
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.5	14.4	12.3	14.5	5.38	3.18	3.28	0.19	-1.97	2.08	-0.08	1.06	0.92	0.50	0.56



Alt Model-Shift Uniqueness Test

007765236-02, P = 376.358930 Days, E = 360.832039 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.5	6.73	6.20	6.28	5.40	3.22	0.83	8.31	8.22	0.53	0.45	0.95	1.28	0.30	8.05



Stellar Parameters For KIC 007765236

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4742^{+153}_{-167}	$4.712^{+0.048}_{-0.028}$	$-1.280^{+0.300}_{-0.300}$	$0.538^{+0.031}_{-0.034}$	$0.544^{+0.040}_{-0.023}$	$4.910^{+0.968}_{-0.555}$
	+3%/-4%	+1%/-1%	+23%/-23%	+6%/-6%	+7%/-4%	+20%/-11%
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 007765236-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1535 ± 107	$2.38^{+0.81}_{-0.87}$	234^{+8}_{-8}	4669^{+1059}_{-537}	$104002^{+153540}_{-46068}$
Alt.	-578 ± 86	$2.59^{+0.87}_{-0.85}$	233^{+9}_{-9}	3778^{+575}_{-354}	33643^{+41192}_{-15494}

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

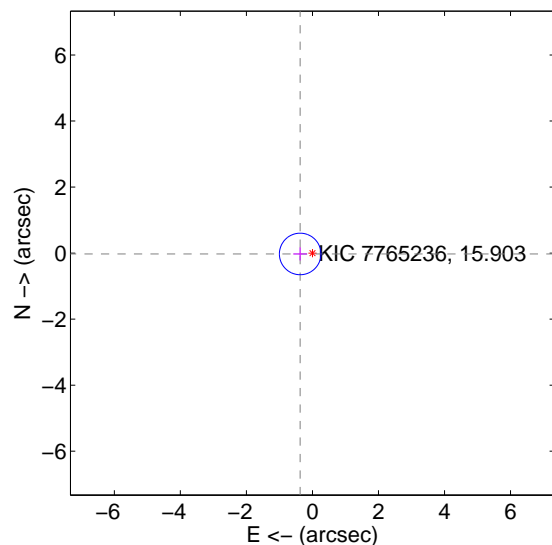
Supplemental centroid analysis for 007765236-02. Kepler magnitude: 15.90. Transit SNR 7.95

There are 1 quarters with good PRF difference image offsets

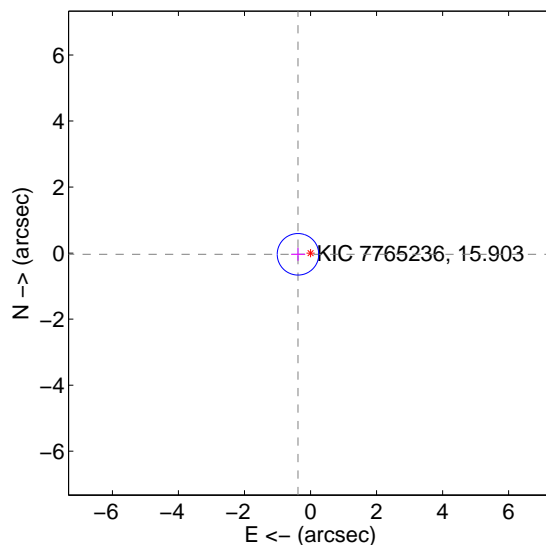
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.373 ± 0.210	1.78	0.372 ± 0.210	-0.026 ± 0.199
PRF-fit source offset from KIC position	0.381 ± 0.210	1.82	0.379 ± 0.210	-0.036 ± 0.199
photometric centroid source offset	2.21 ± 1.30	1.70	-0.09 ± 1.06	-2.21 ± 1.30

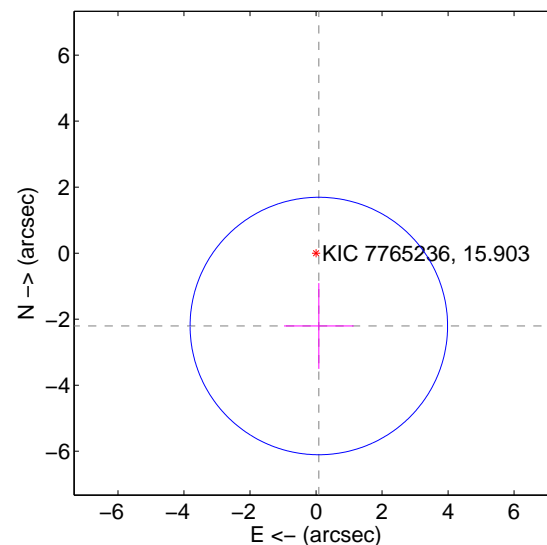
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

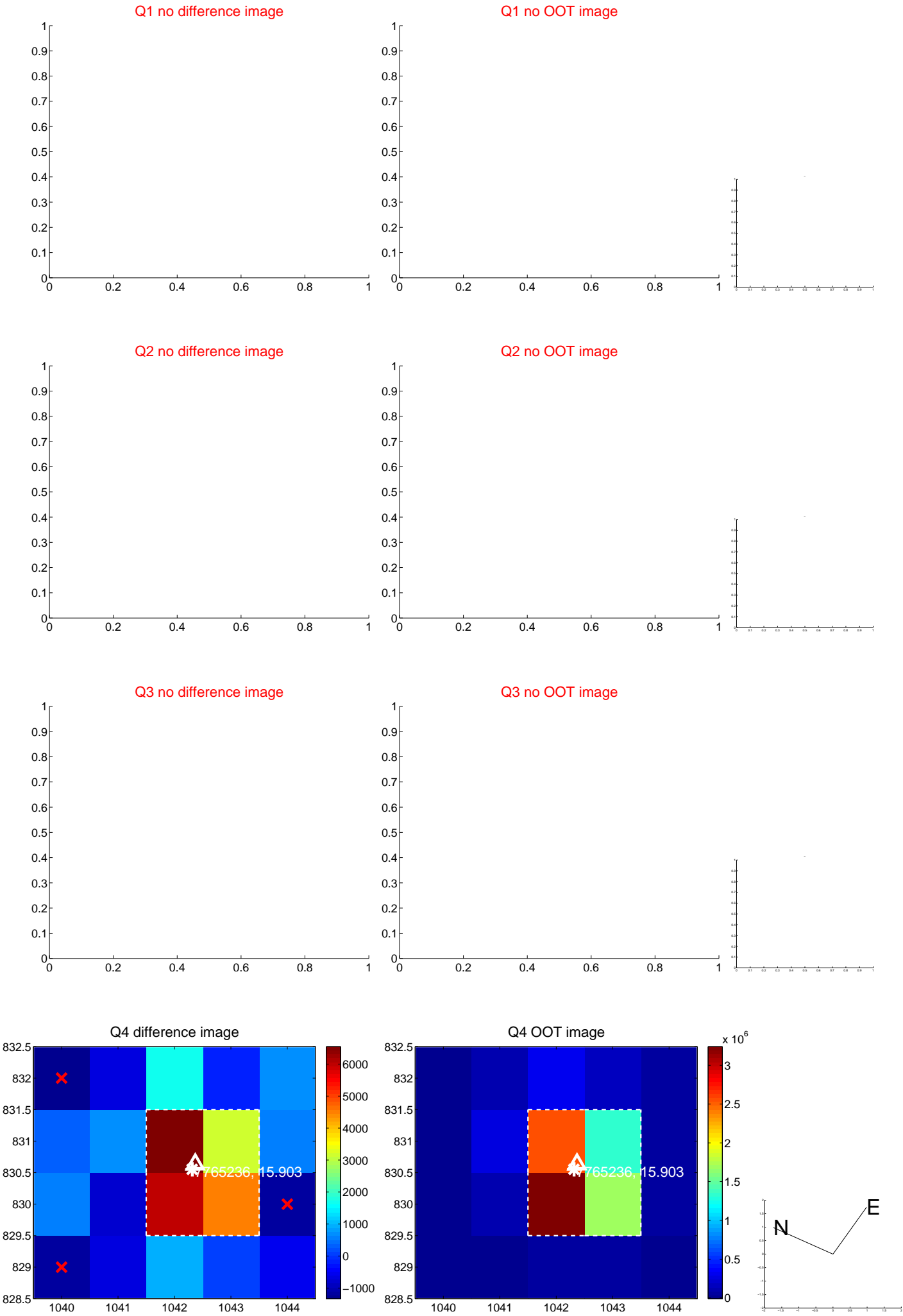


offset from photometric centroids

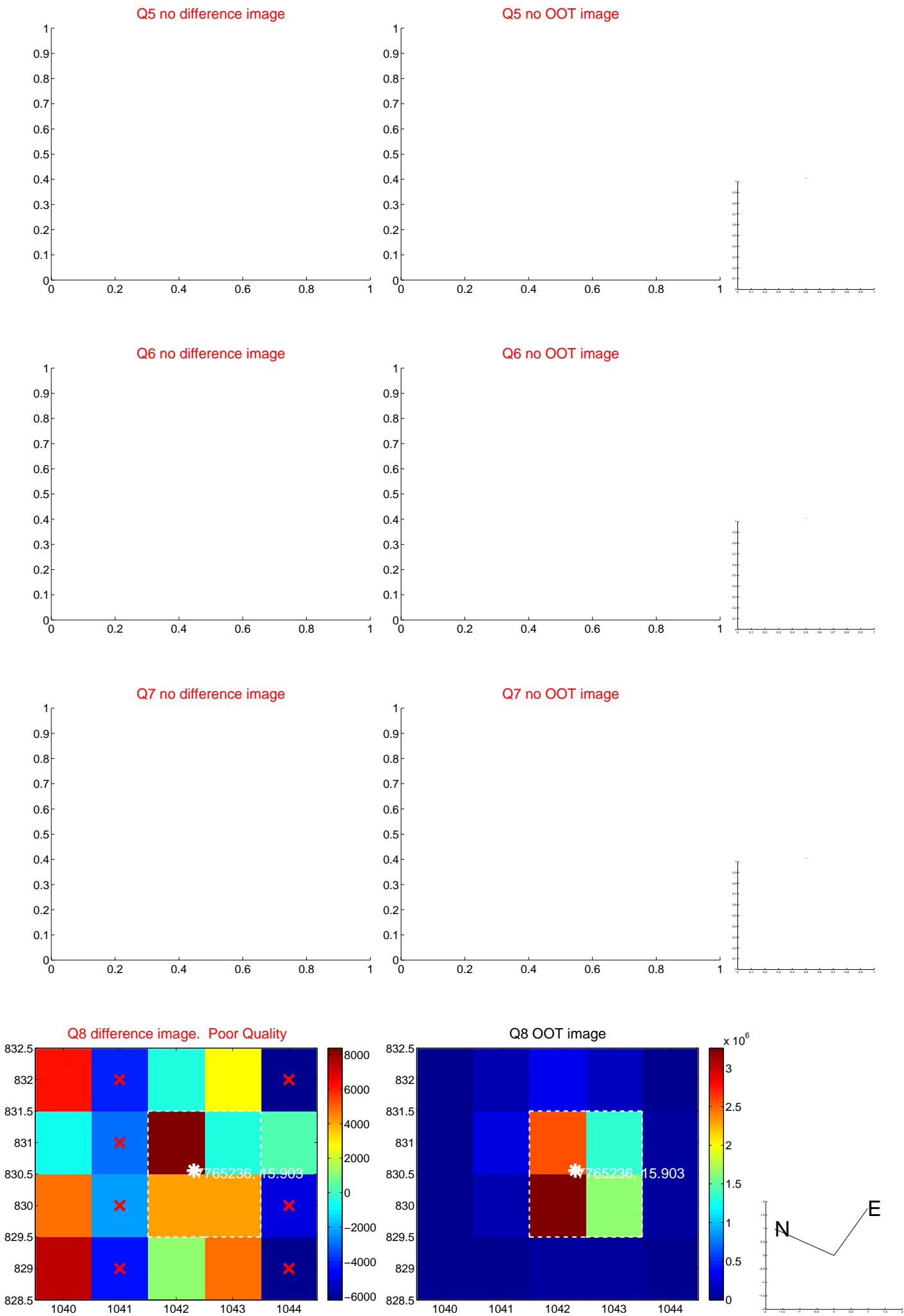


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

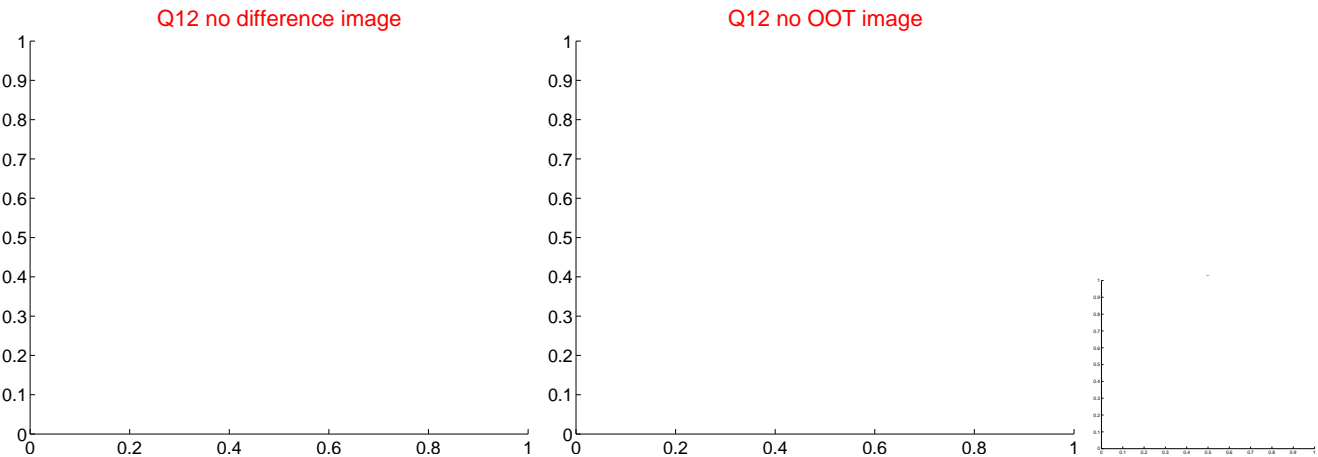
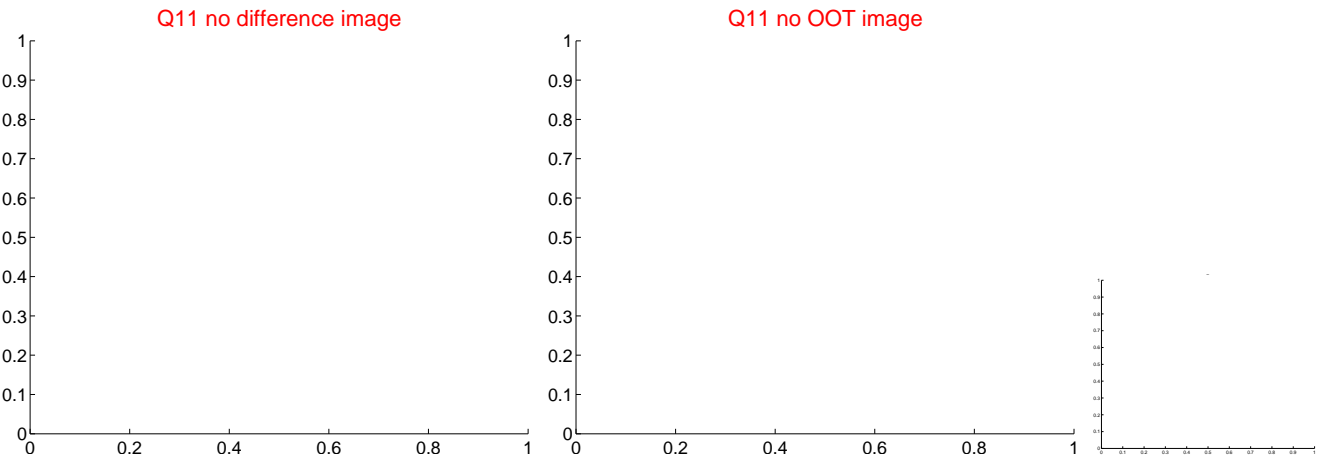
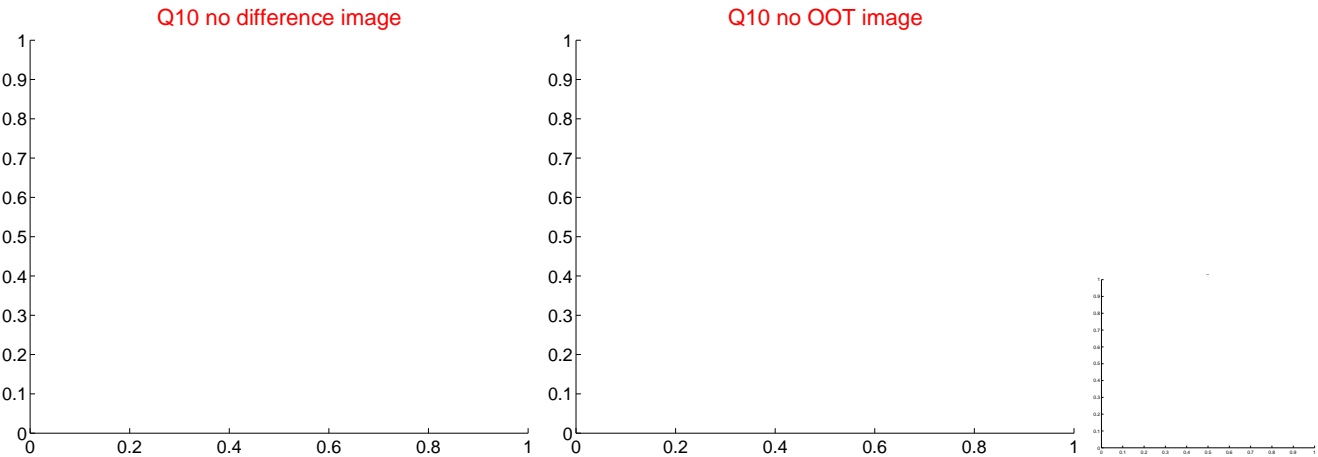
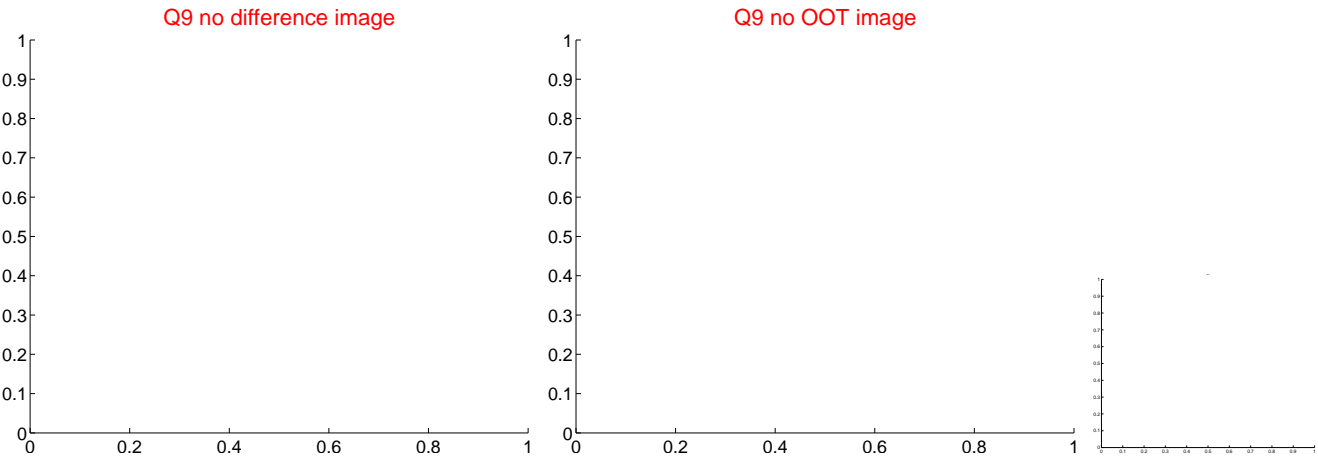
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



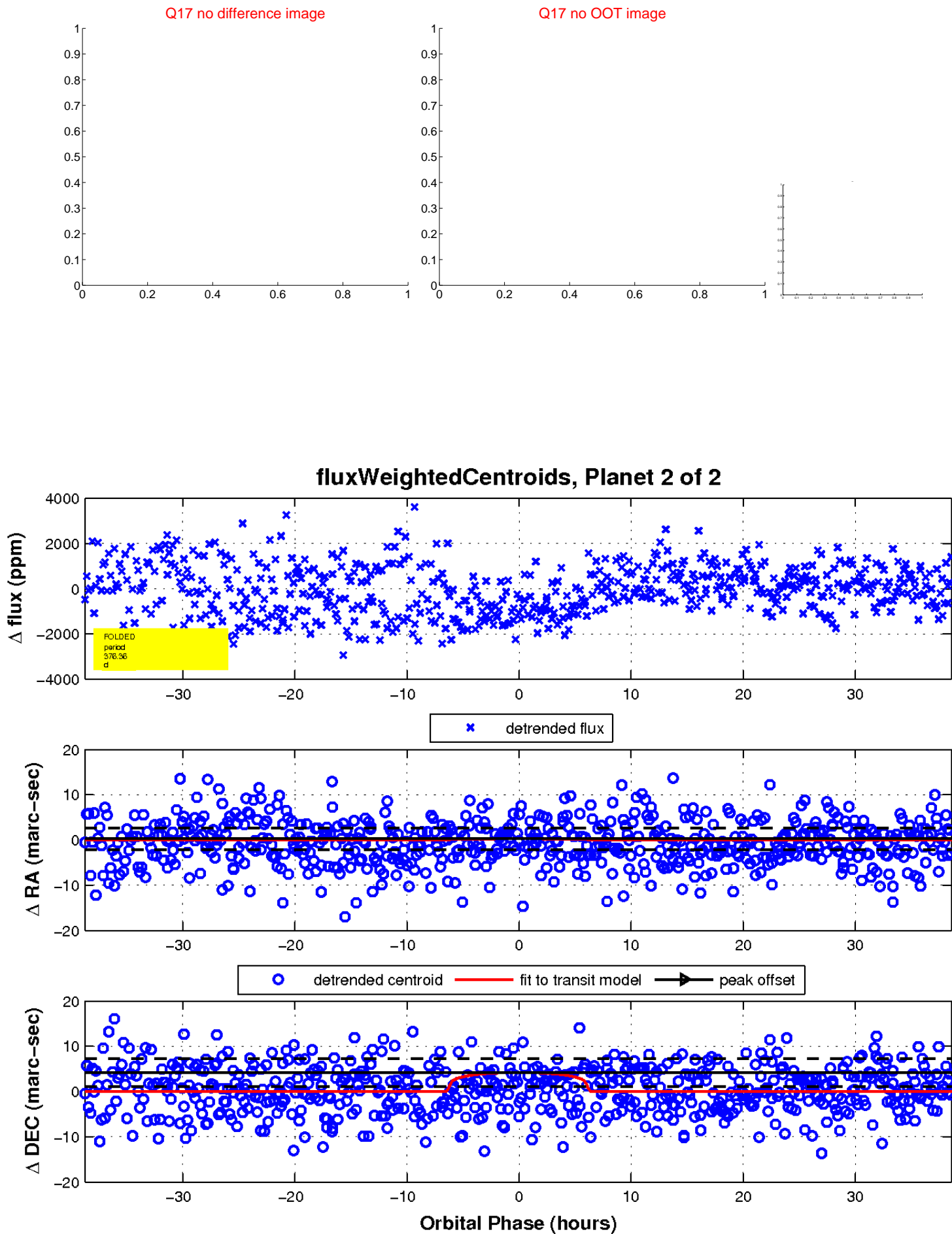
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

