

KIC 011031746

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})
011031746-01	OBS	No	196.383930	218.096479	1538.3	19.736	17.6	3.1	0.36	3498	1.41	0.08
011031746-02	OBS	No	1.210074	132.339307	217.9	2.499	13.7	6.3	0.36	3498	0.63	67.64
011031746-03	OBS	No	312.774313	167.723087	5815.9	4.158	11.7	7.1	0.36	3498	2.70	0.04

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011031746-01	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_KIC_POS
011031746-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS—HALO_GHOST
011031746-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

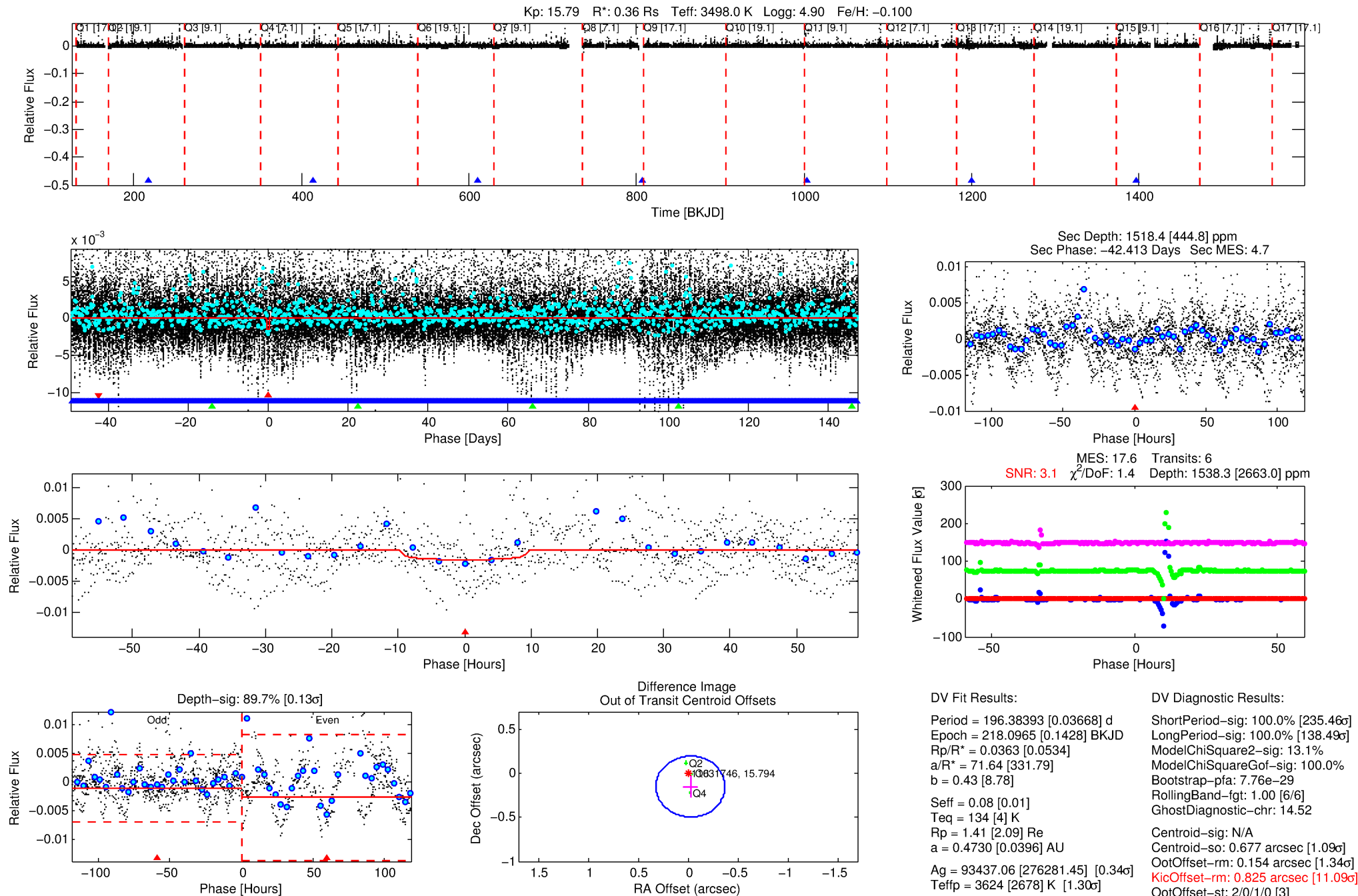
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011031746-01

No Significant Match Found

DV One-Page Summary

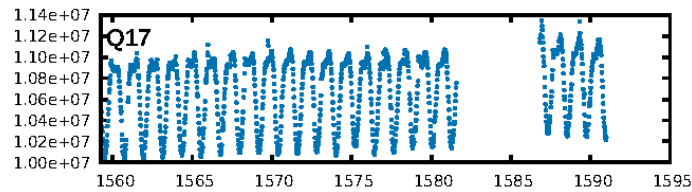
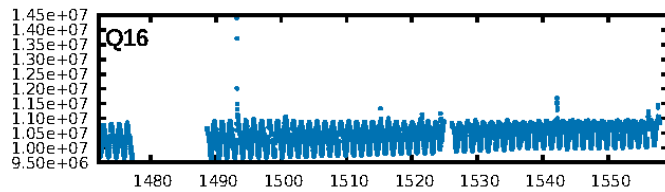
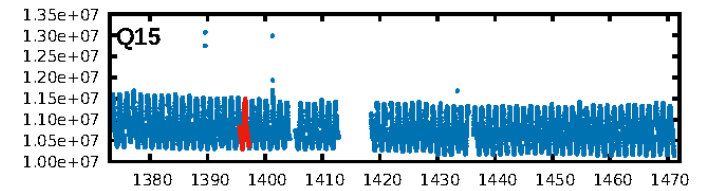
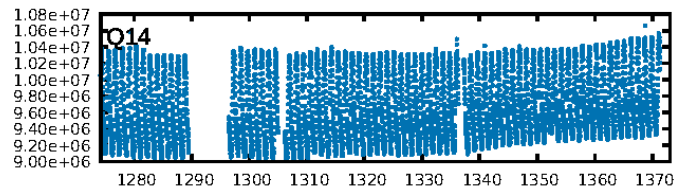
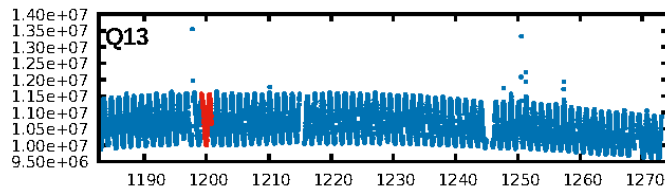
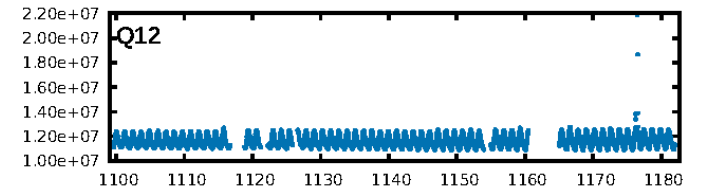
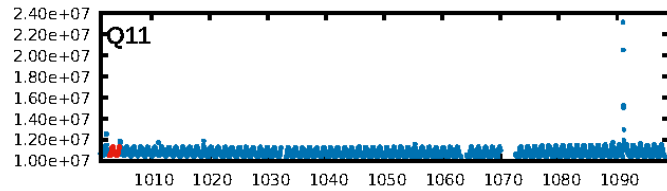
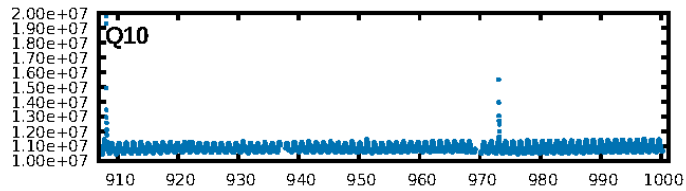
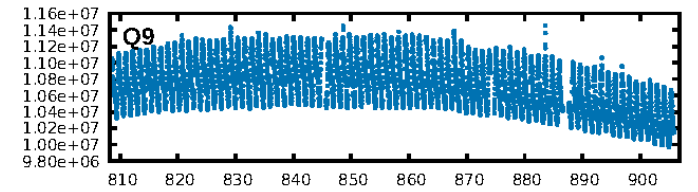
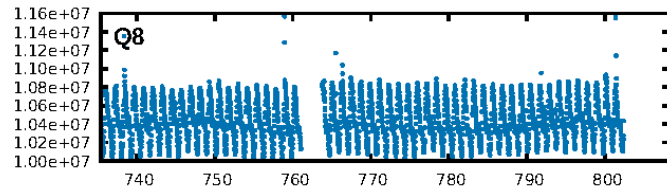
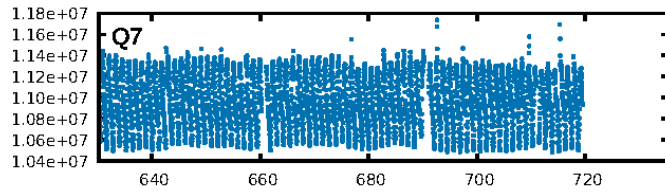
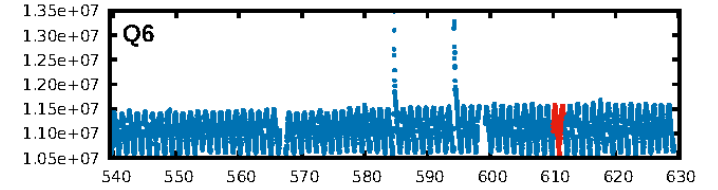
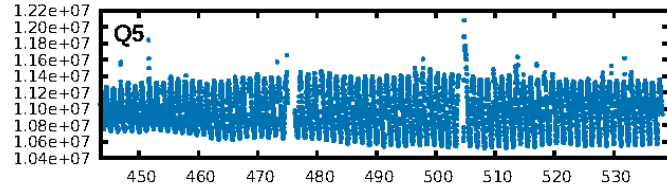
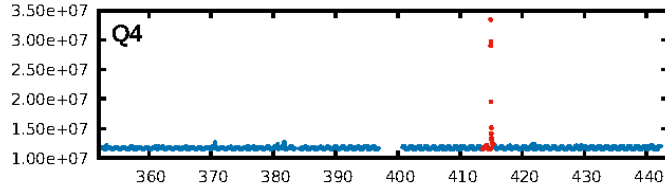
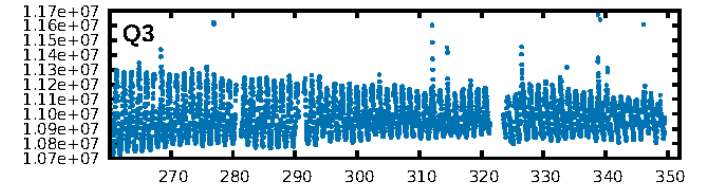
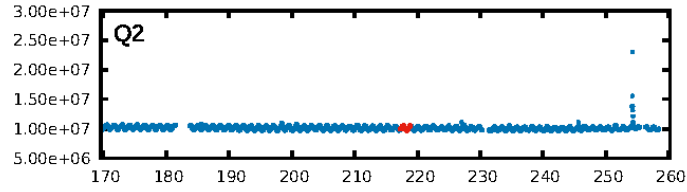
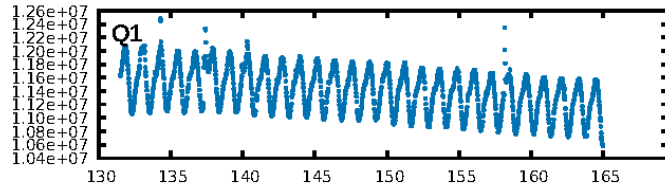
KIC: 11031746 Candidate: 1 of 3 Period: 196.384 d



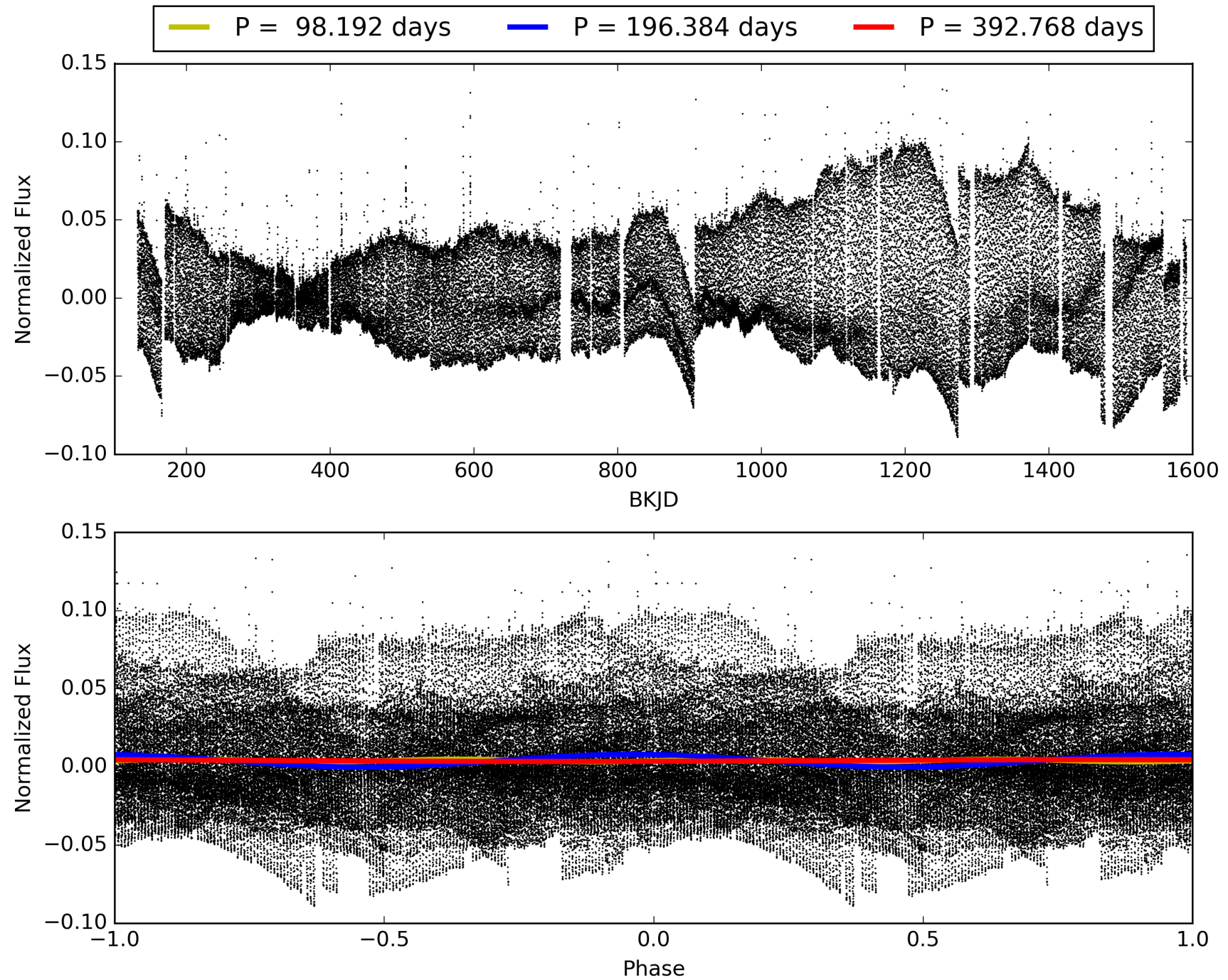
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 18:12:37 Z

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

TCE 011031746-01, PDC Light Curves

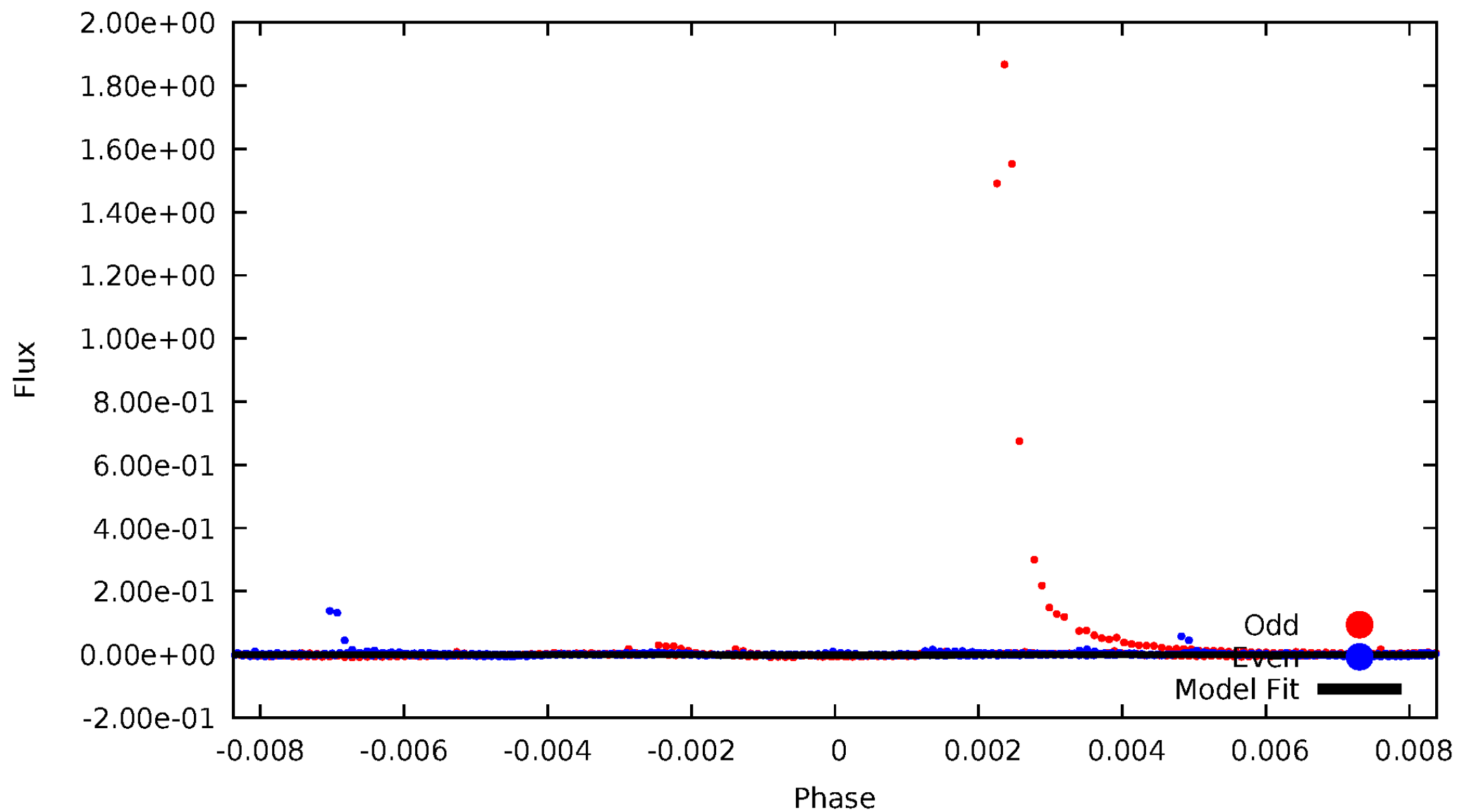


TCE 011031746-01



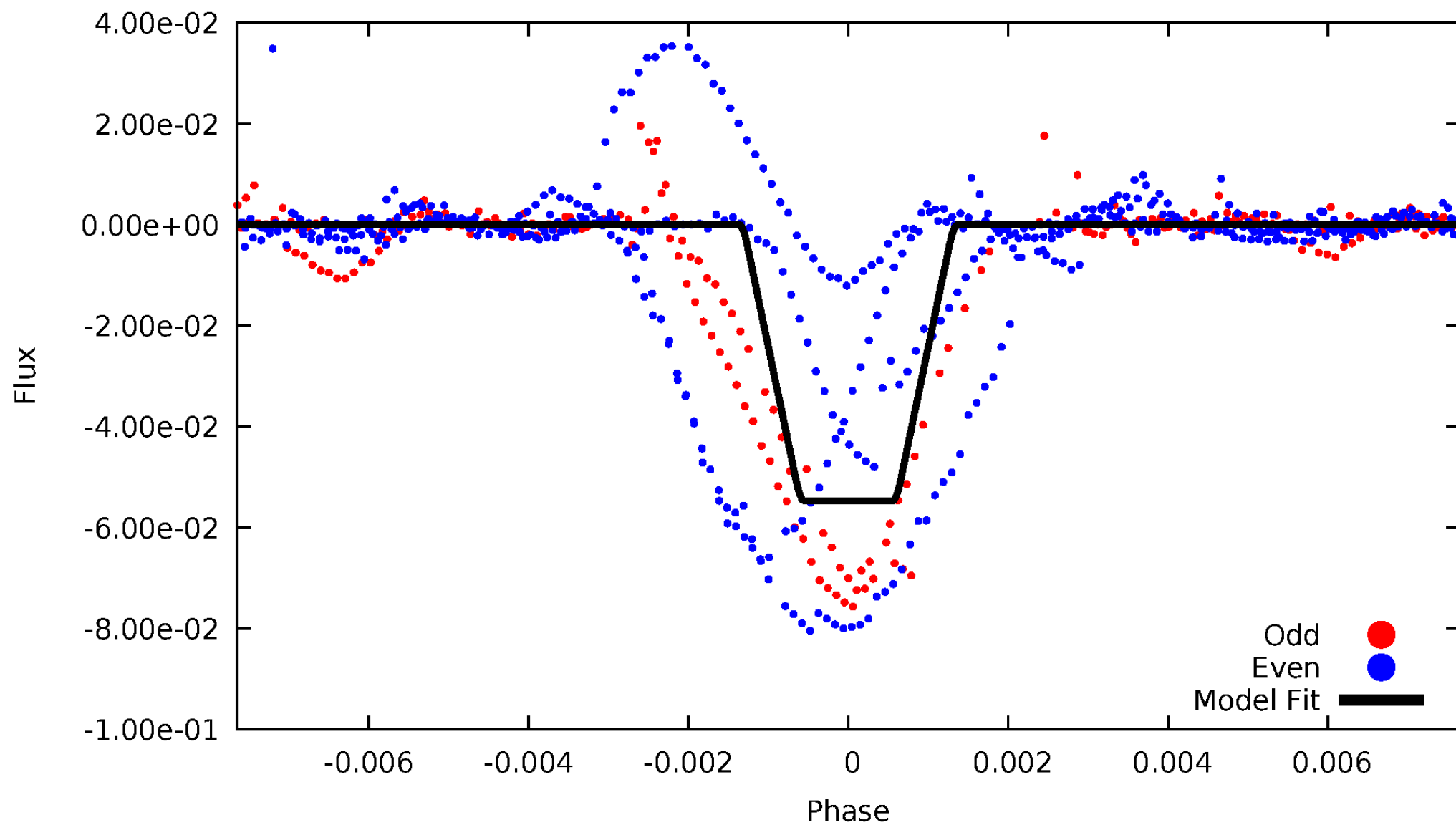
DV Odd/Even

TCE 011031746-01



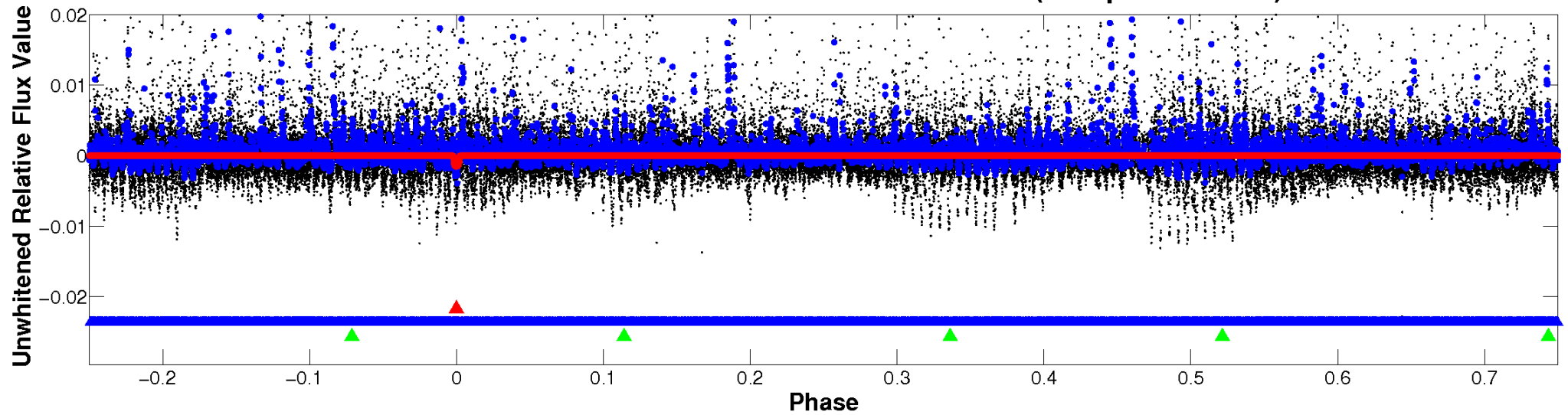
ALT Odd/Even

TCE 011031746-01

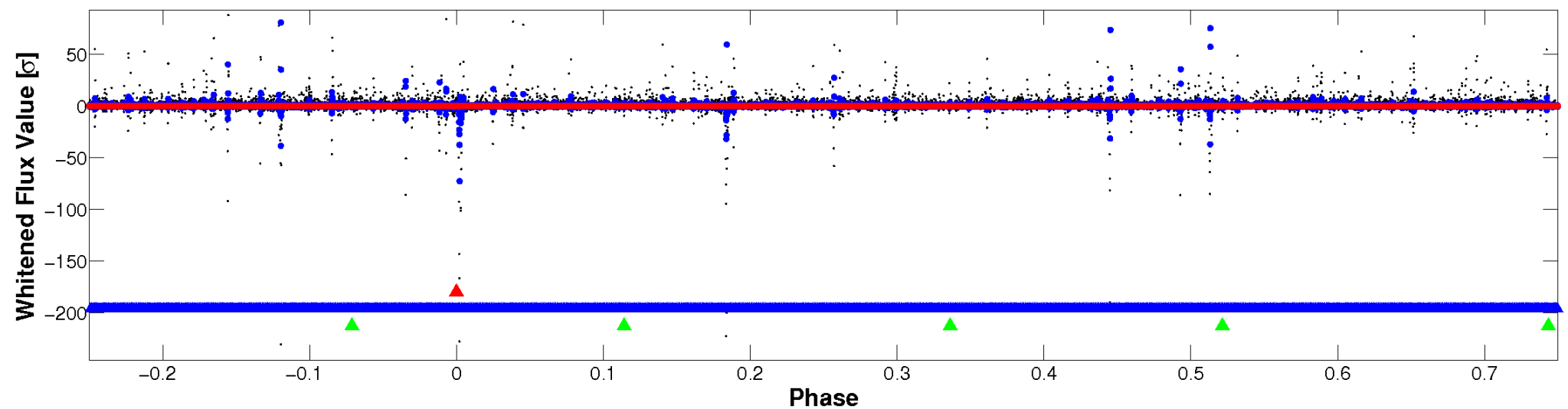


Non-Whitened Vs. Whitened Light Curve

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

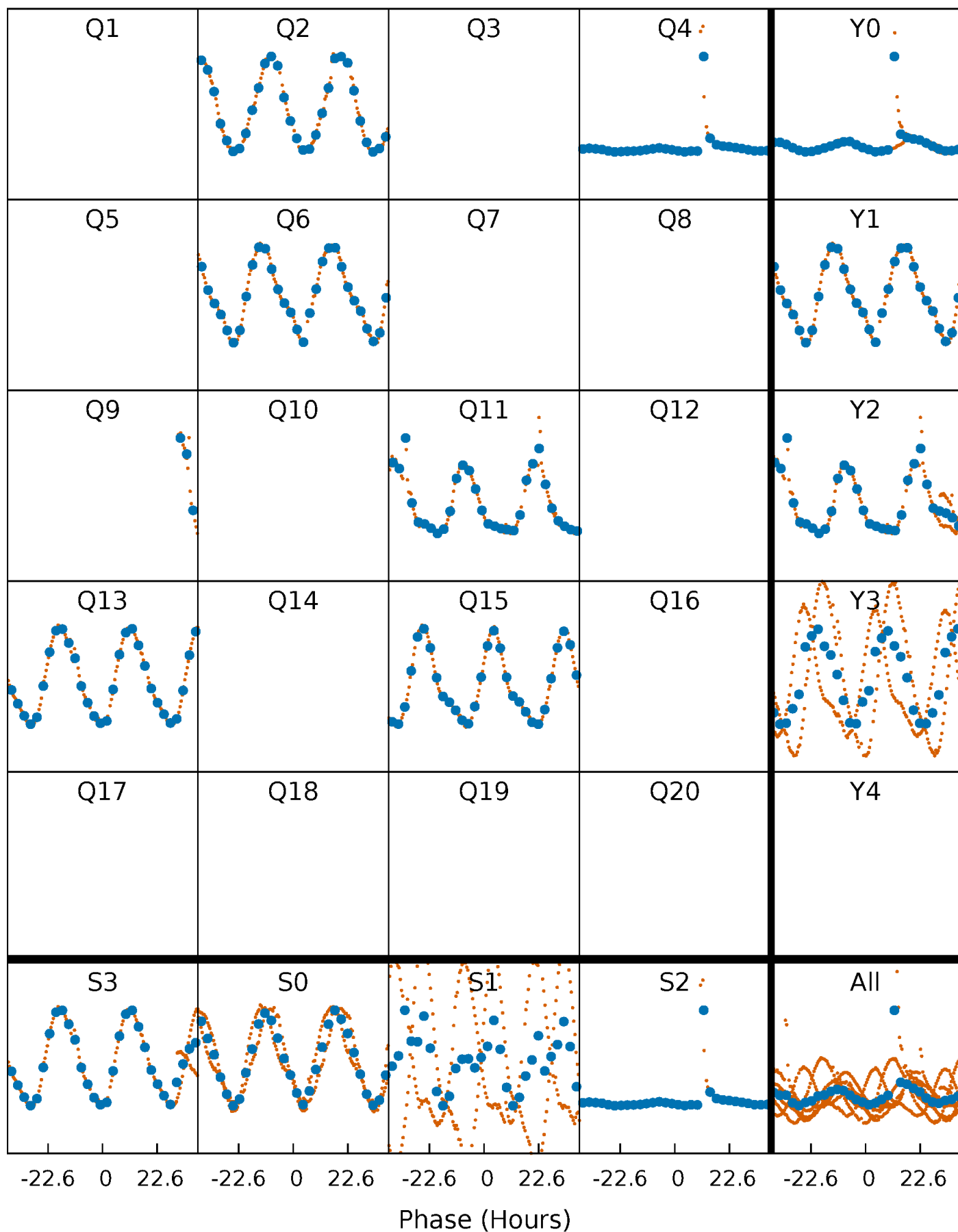


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



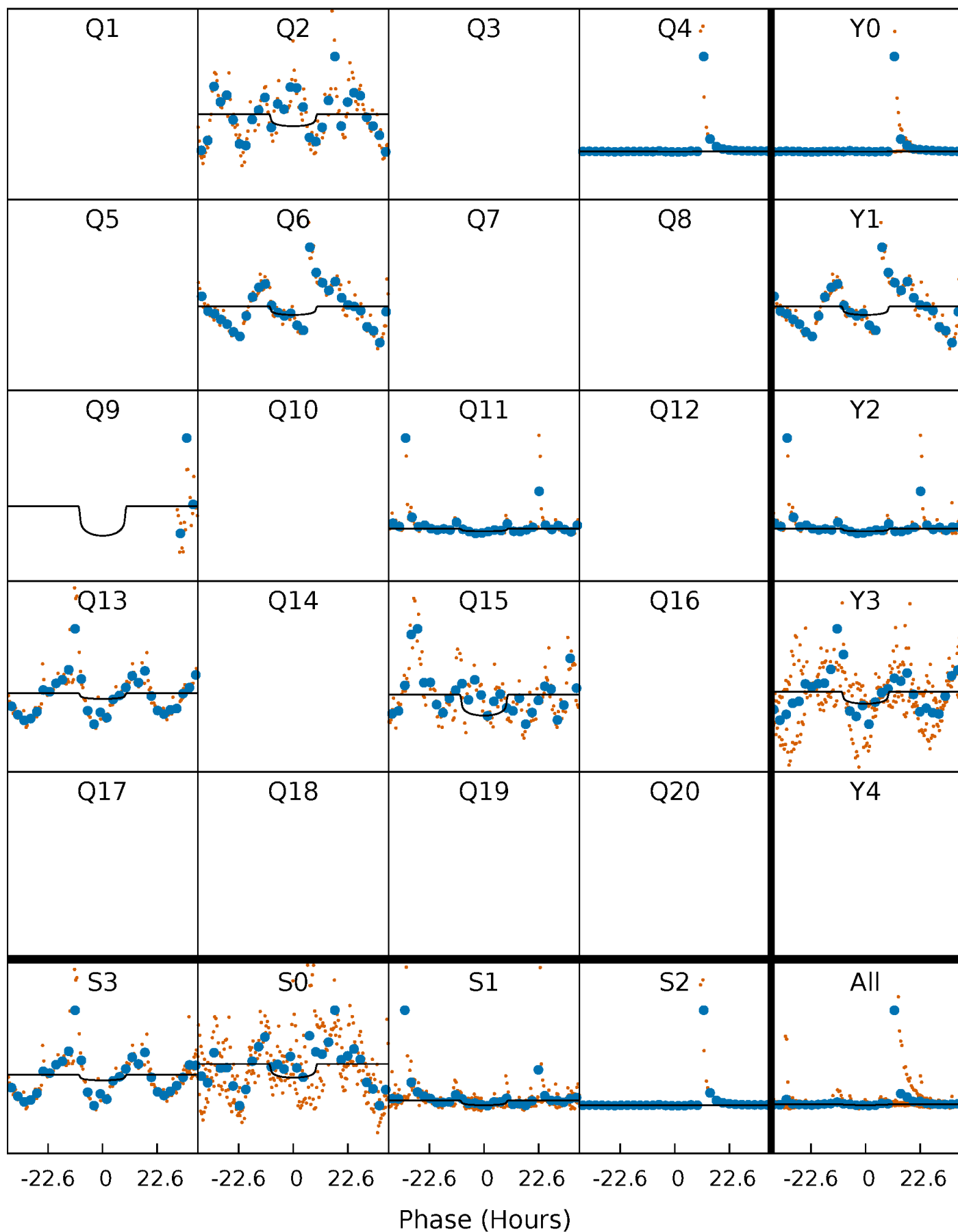
PDC Quarter-Phased Transit Curves

TCE 011031746-01 P=196.383930 Days $T_0=218.096479$ (BKJD)



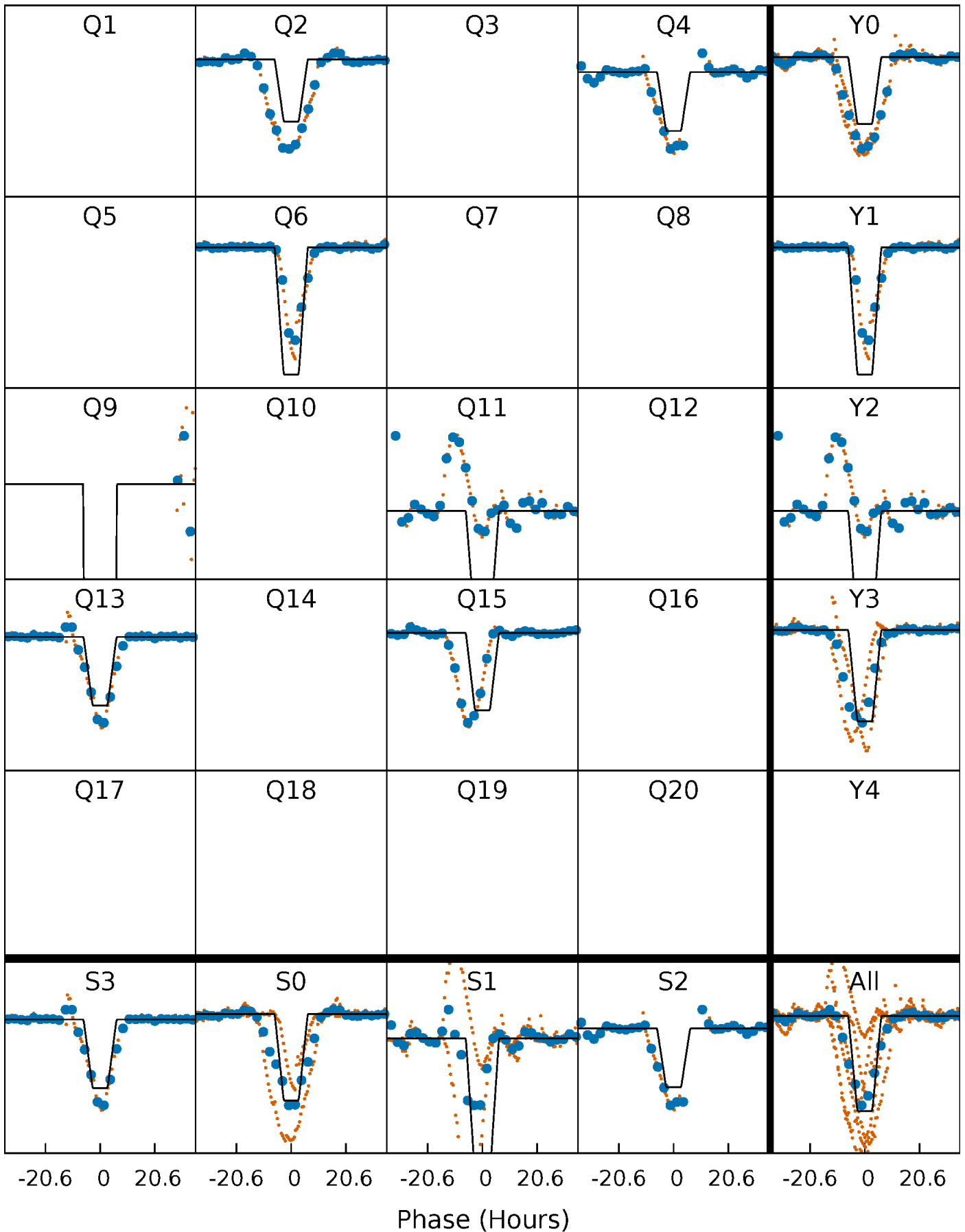
DV Quarter-Phased Transit Curves

TCE 011031746-01 P=196.383930 Days $T_0=218.096479$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

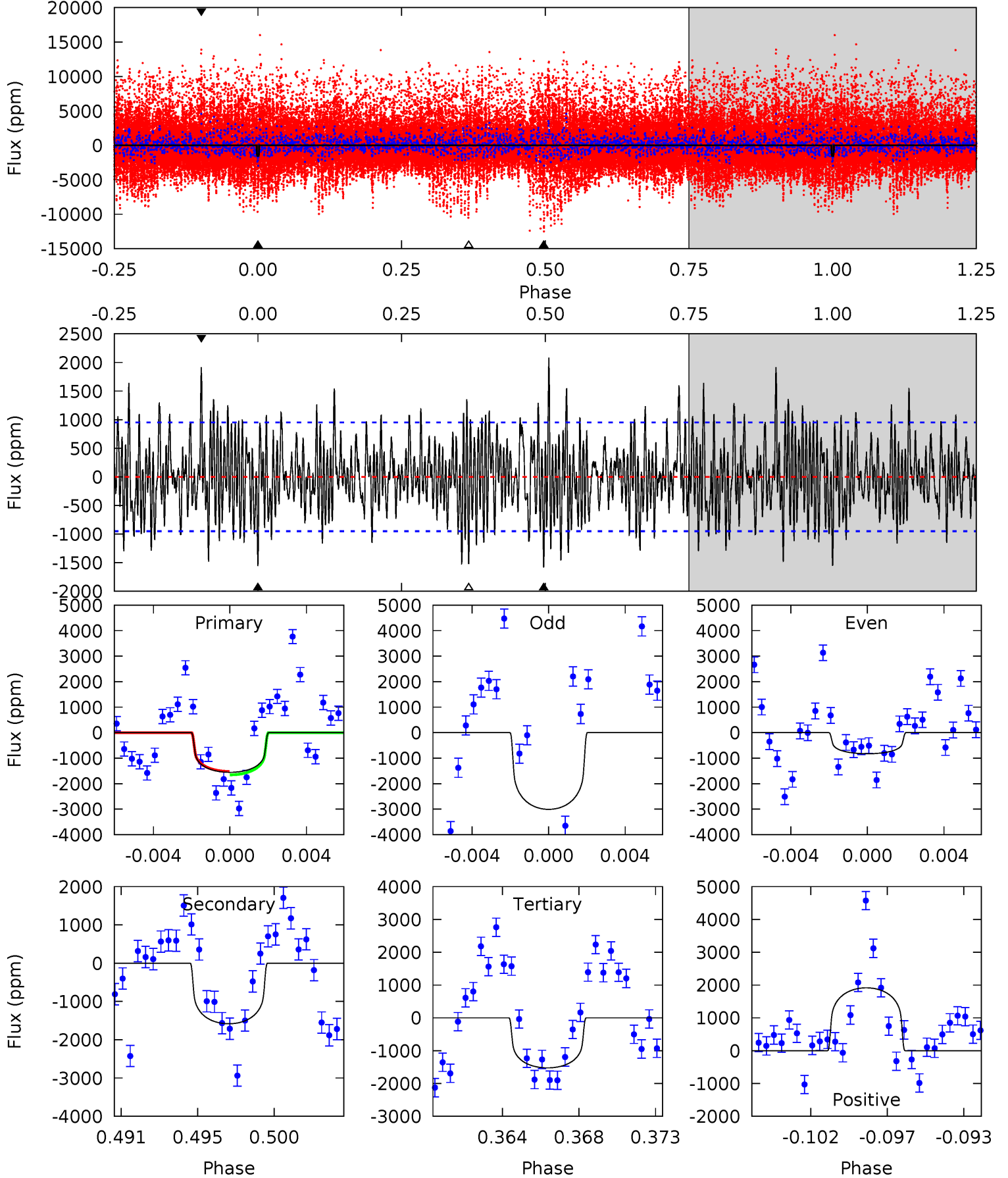
TCE 011031746-01 P=196.339267 Days $T_0=218.348258$ (BKJD)



DV Model-Shift Uniqueness Test

011031746-01, P = 196.383930 Days, E = 21.712549 Days

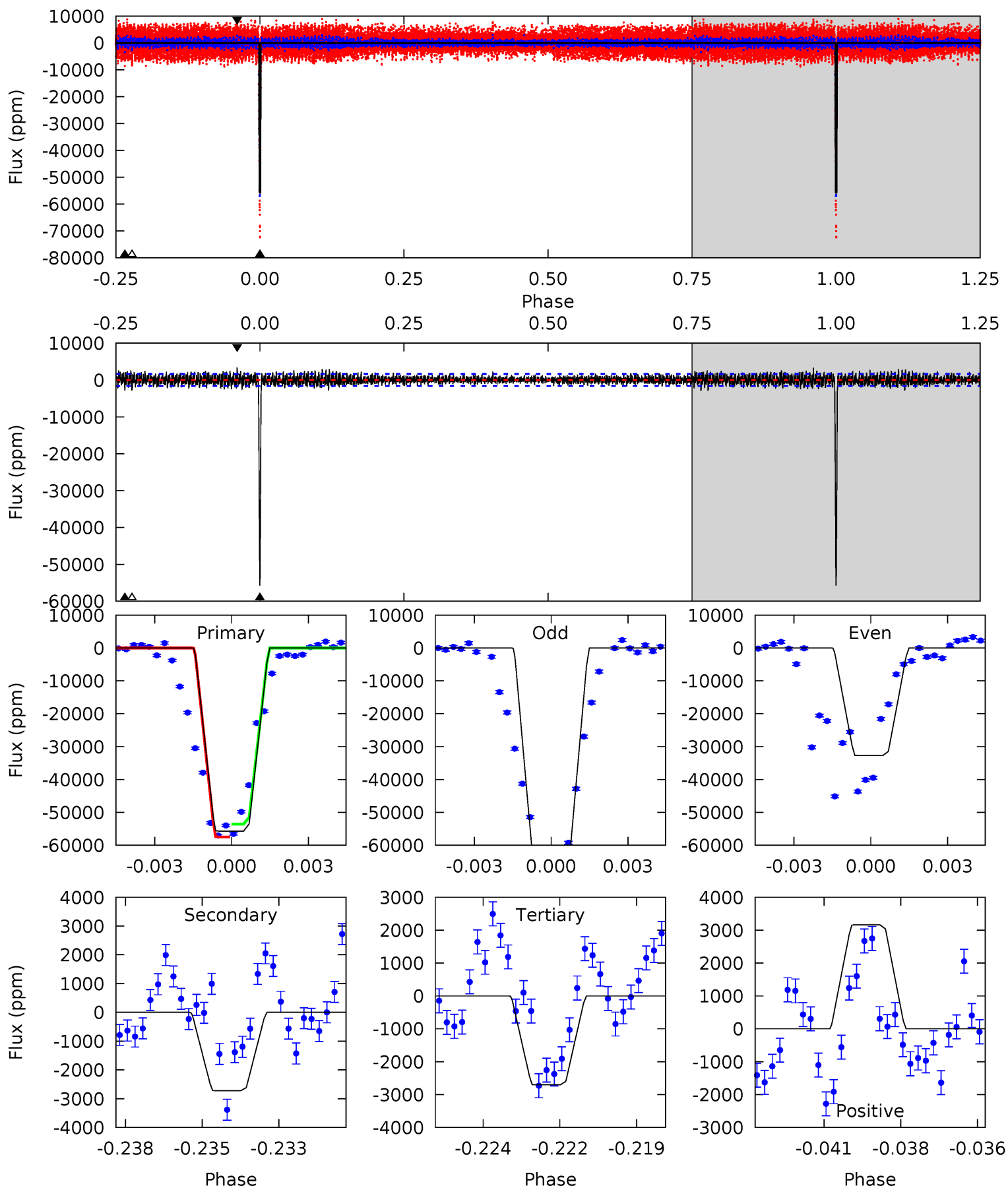
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.49	8.64	8.32	10.5	5.19	2.86	2.95	0.16	-1.97	0.32	-1.82	4.93	1.27	0.57	0.36



Alt Model-Shift Uniqueness Test

011031746-01, P = 196.339267 Days, E = 22.008991 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
179.9	8.79	8.73	10.2	5.27	3.00	2.63	171.1	169.7	0.06	-1.42	84.7	0.97	0.05	0



Stellar Parameters For KIC 011031746

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3498^{+52}_{-57}	$4.896^{+0.044}_{-0.036}$	$-0.100^{+0.100}_{-0.100}$	$0.357^{+0.033}_{-0.041}$	$0.368^{+0.040}_{-0.049}$	$11.410^{+2.487}_{-1.858}$
	+1%/-2%	+1%/-1%	+100%/-100%	+9%/-11%	+11%/-13%	+22%/-16%
Source	PHO2	PHO2	PHO2	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 011031746-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1583 ± 183	$2.14^{+1.80}_{-1.41}$	187^{+4}_{-4}	3169^{+1370}_{-502}	$44991^{+313856}_{-32296}$
Alt.	-2722 ± 310	$9.10^{+2.29}_{-2.28}$	187^{+5}_{-5}	2337^{+154}_{-120}	4081^{+3096}_{-1494}

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

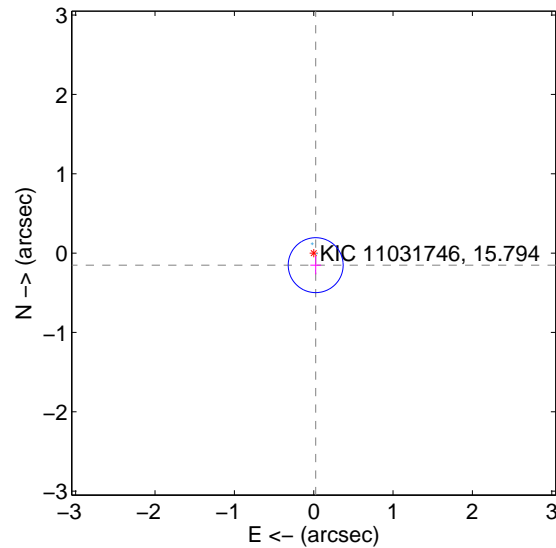
Supplemental centroid analysis for 011031746-01. Kepler magnitude: 15.79. Transit SNR 3.12

There are 3 quarters with good PRF difference image offsets

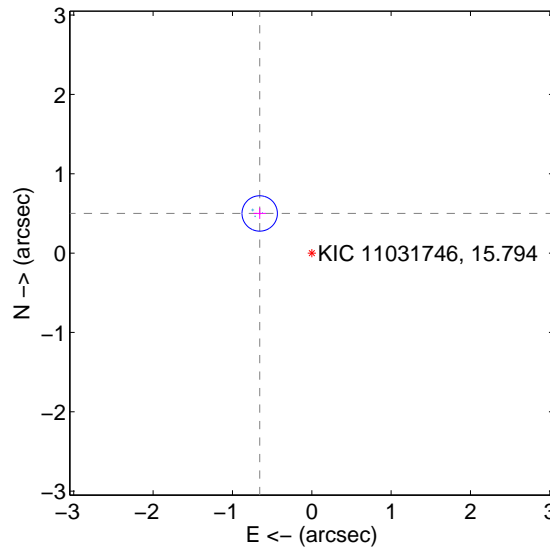
The direct PRF centroid is offset from the target star catalog position by about 0.89 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.154 ± 0.115	1.34	-0.025 ± 0.068	-0.152 ± 0.116
PRF-fit source offset from KIC position	0.825 ± 0.074	11.09	0.656 ± 0.077	0.500 ± 0.069
photometric centroid source offset	0.68 ± 0.62	1.09	0.51 ± 0.56	-0.45 ± 0.69

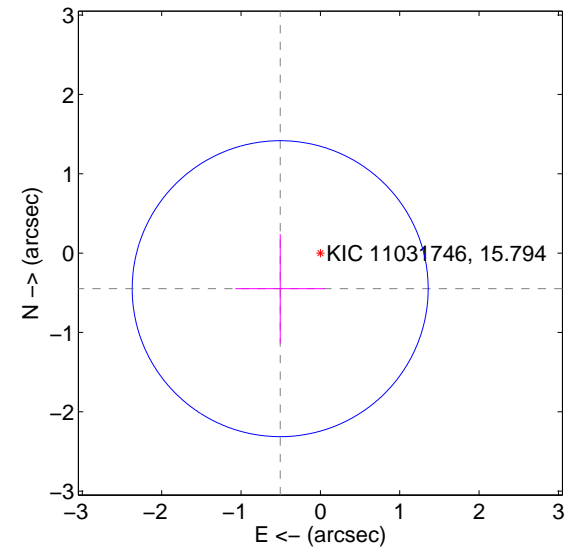
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

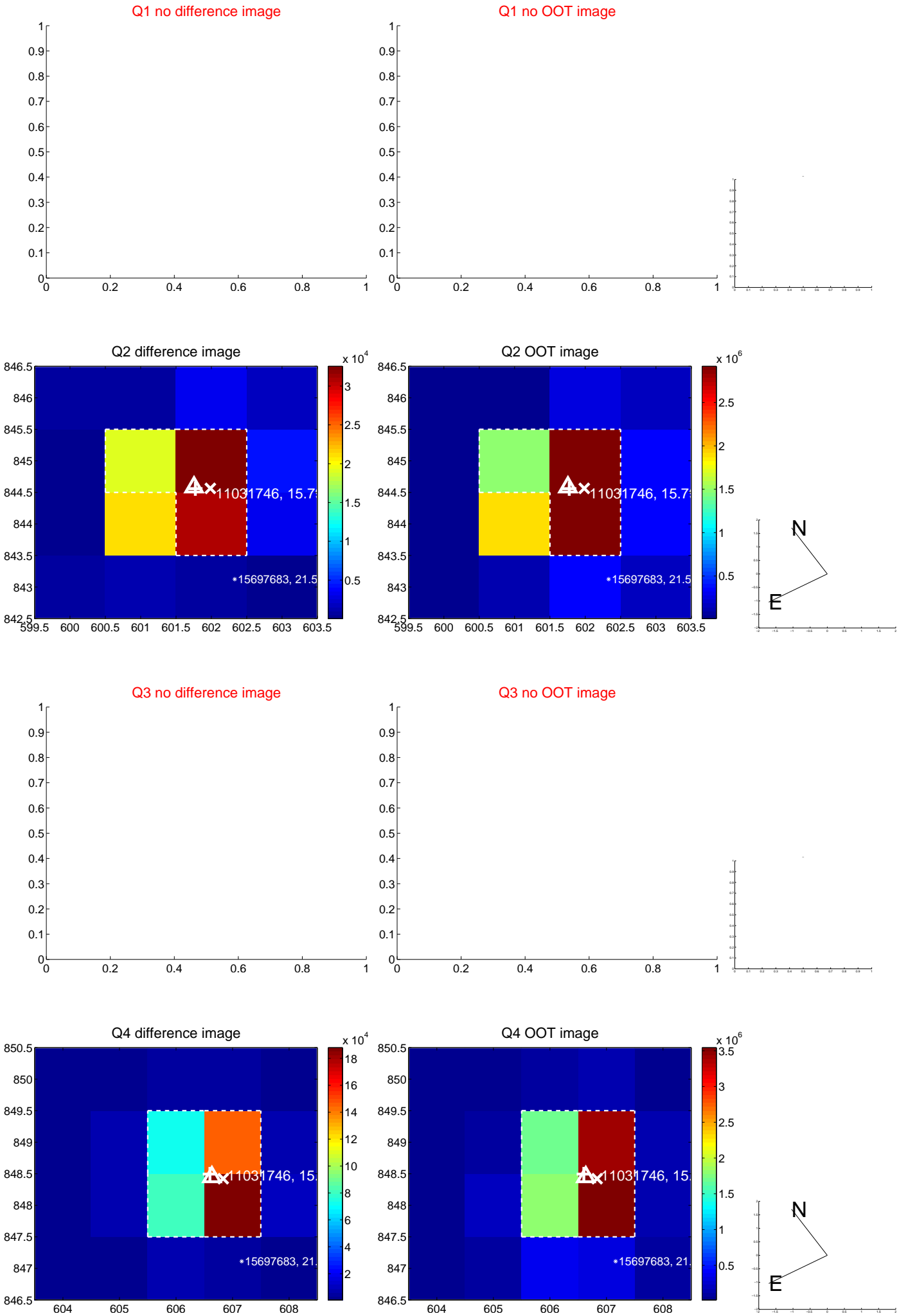


offset from photometric centroids



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.

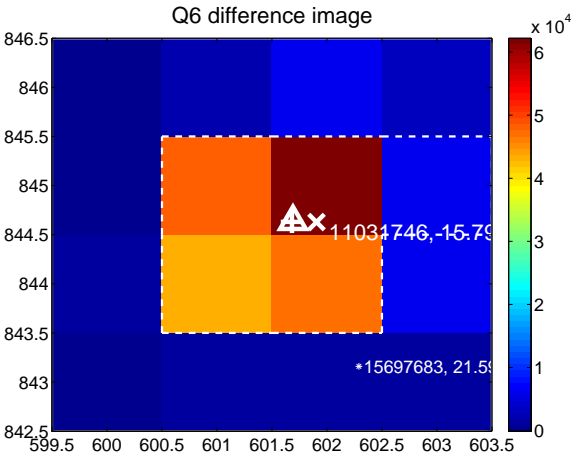
Q5 no difference image



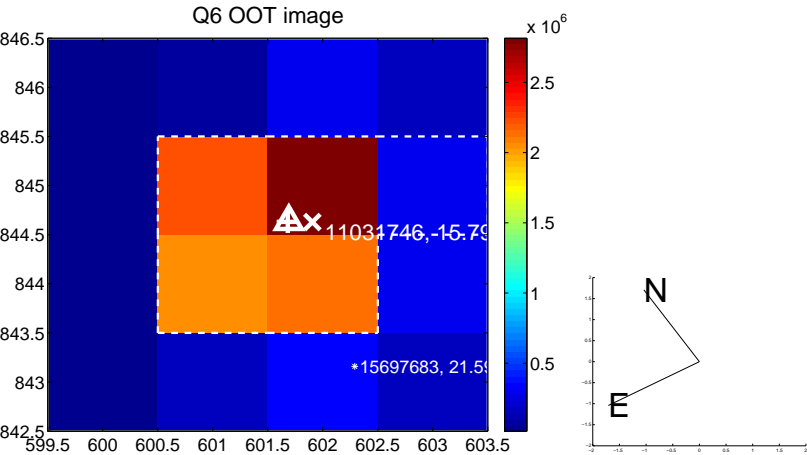
Q5 no OOT image



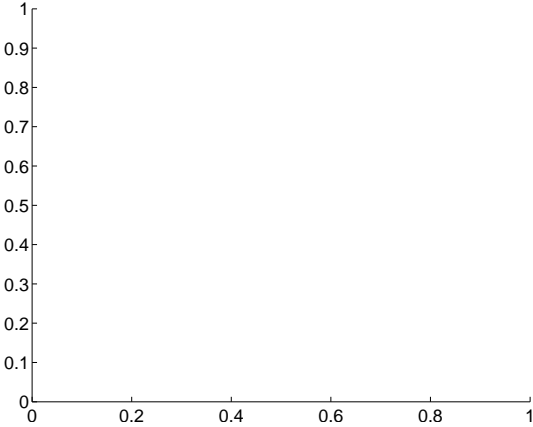
Q6 difference image



Q6 OOT image



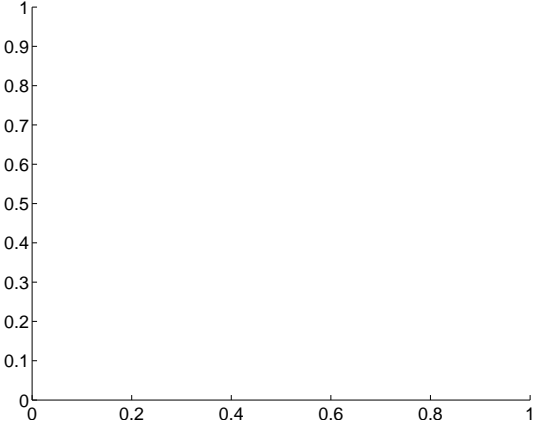
Q7 no difference image



Q7 no OOT image



Q8 no difference image



Q8 no OOT image



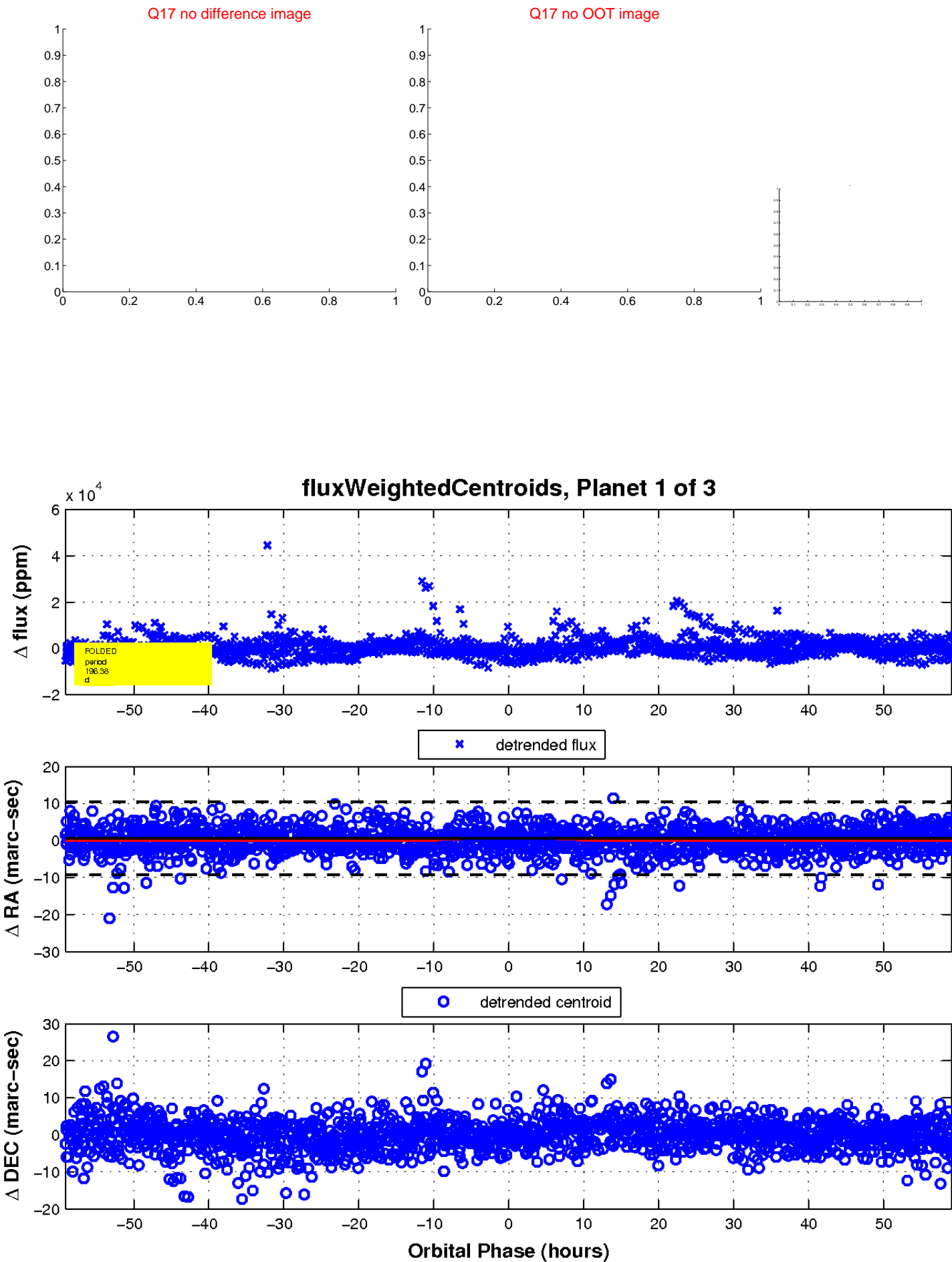
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



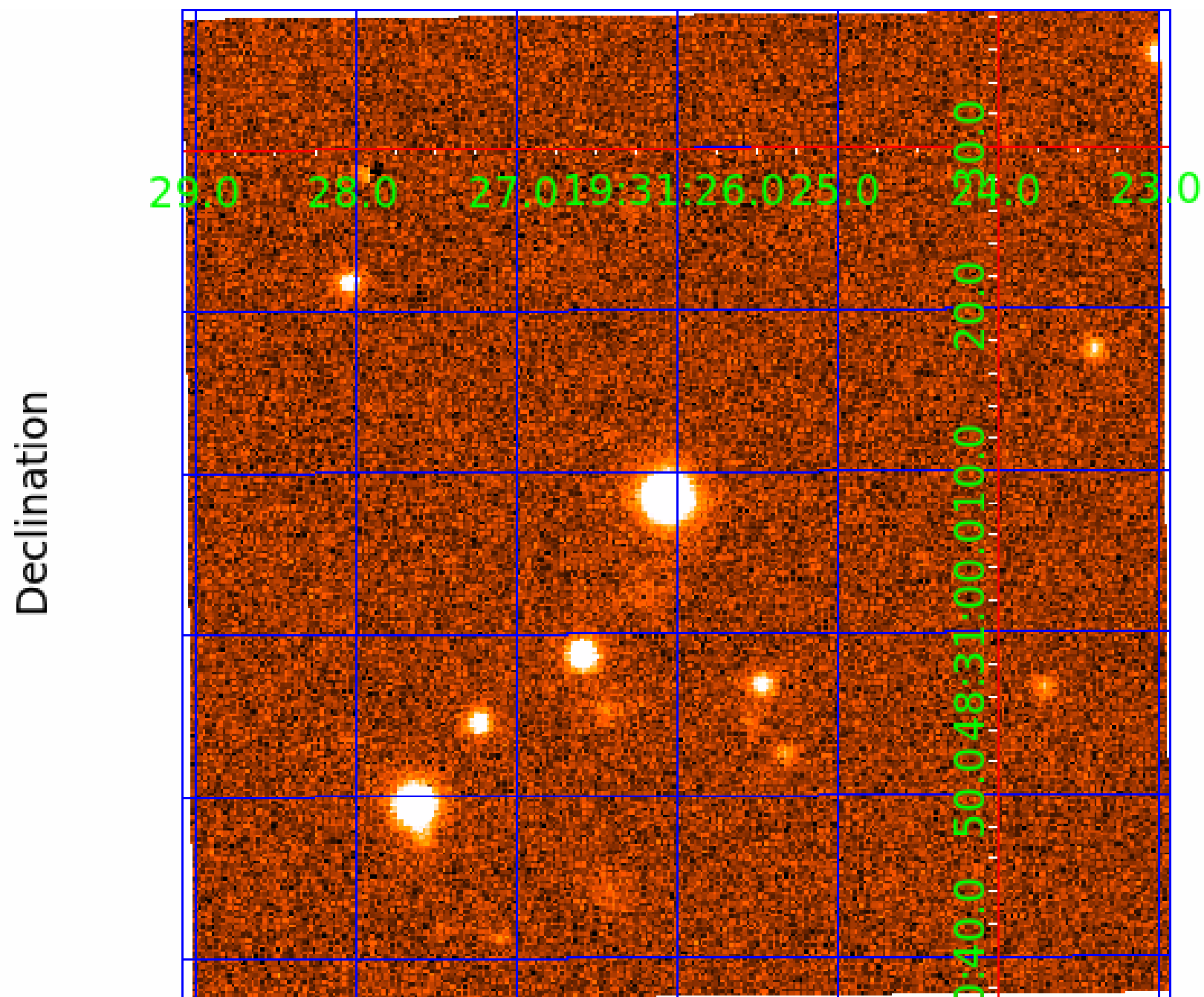
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image



KIC 011031746

Q1-17 DR25 TCE Parameters

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Robovetter Results

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011031746-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS—HALO_GHOST
011031746-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

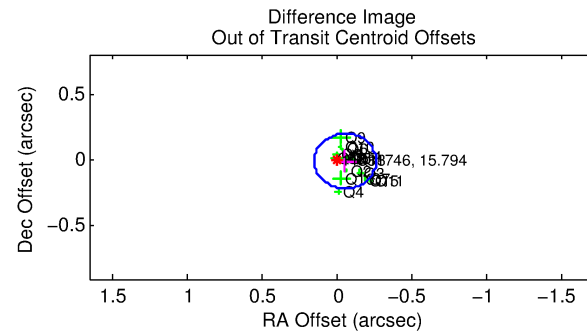
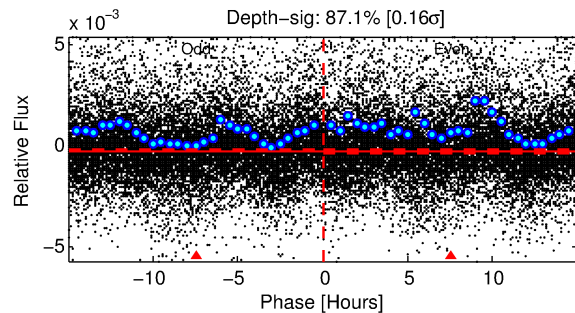
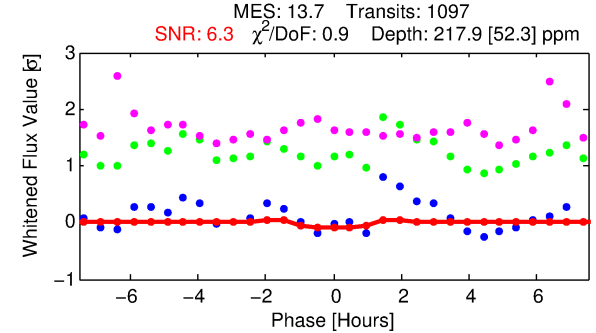
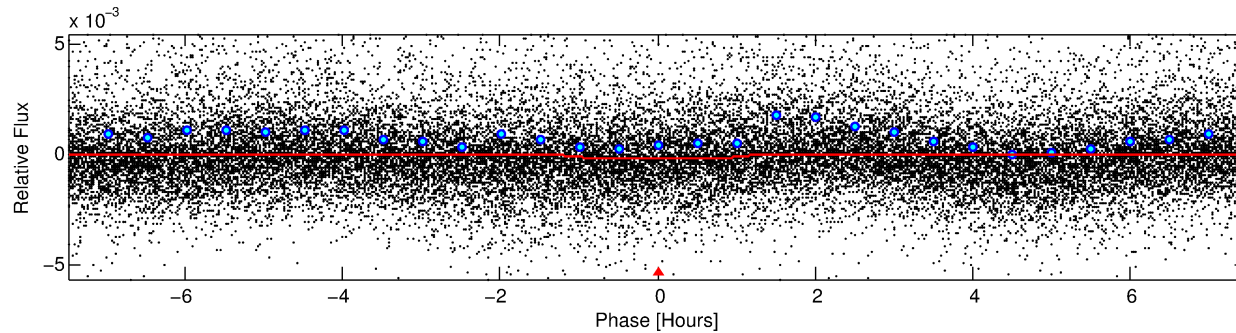
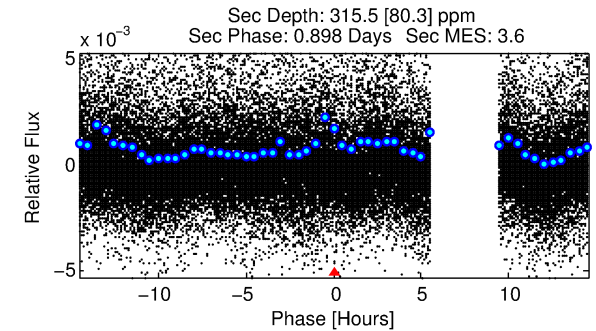
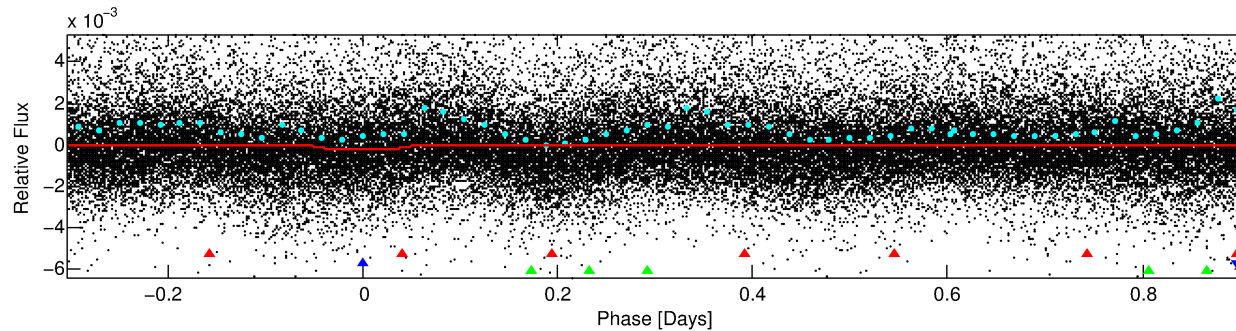
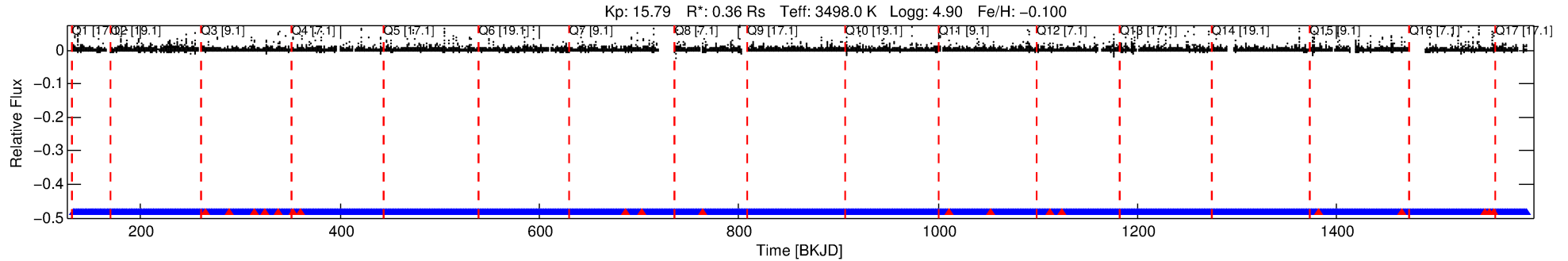
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011031746-02

No Significant Match Found

DV One-Page Summary

KIC: 11031746 Candidate: 2 of 3 Period: 1.210 d



DV Fit Results:

Period = 1.21007 [0.00002] d
Epoch = 132.3393 [0.0031] BKJD
Rp/R* = 0.0161 [0.0091]
a/R* = 1.99 [3.49]
b = 0.90 [0.51]
Seff = 67.64 [8.19]
Teq = 731 [22] K
Rp = 0.63 [0.36] Re
a = 0.0159 [0.0013] AU
Ag = 111.42 [129.81] [0.85σ]
Teffp = 3673 [1067] K [2.76σ]

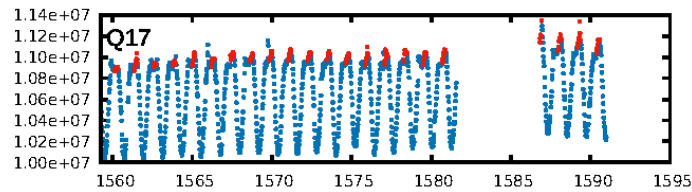
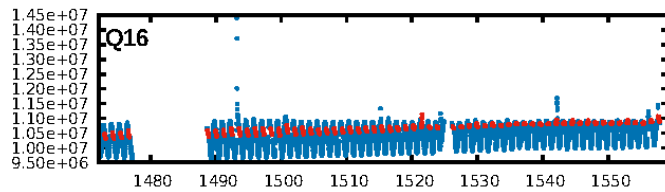
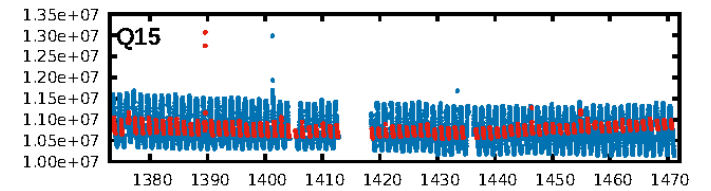
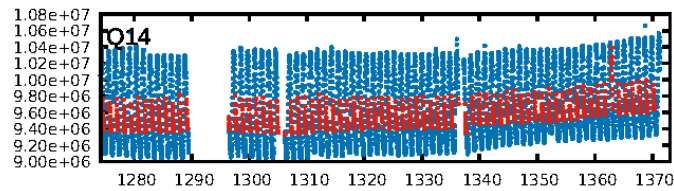
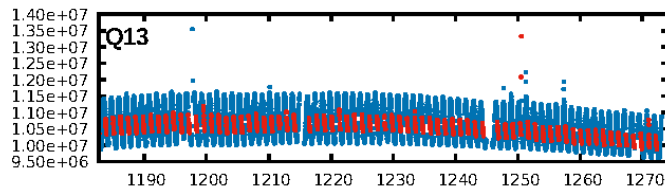
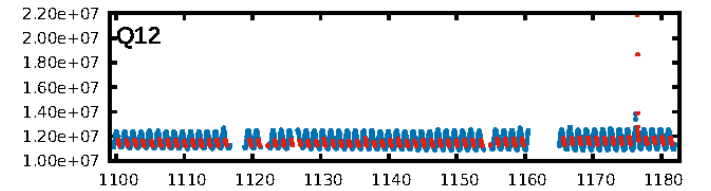
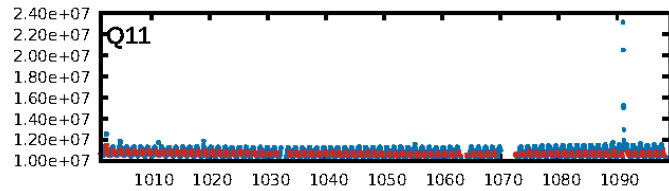
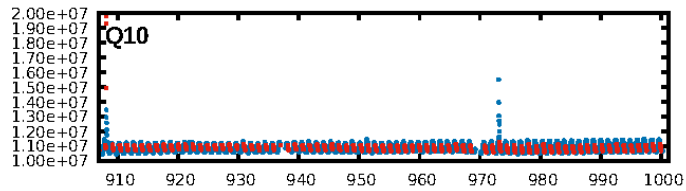
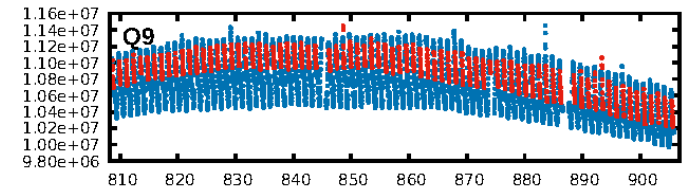
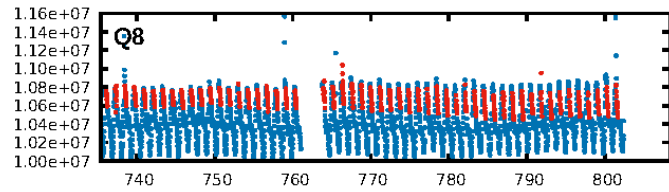
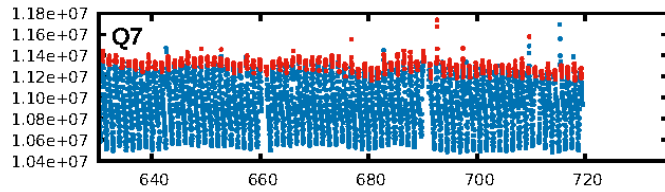
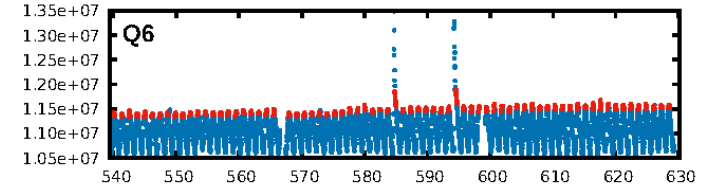
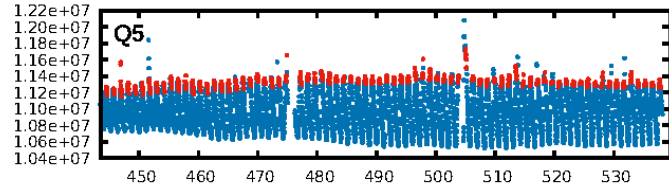
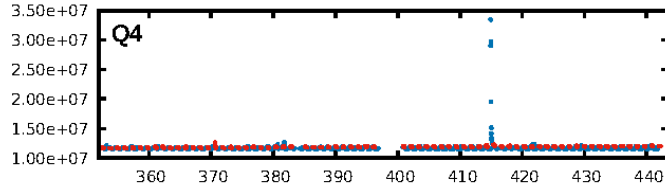
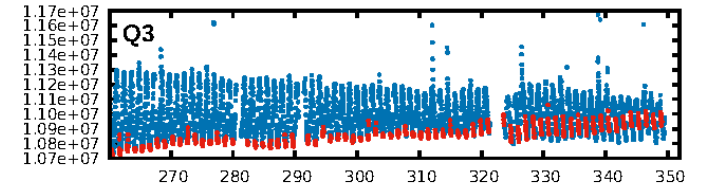
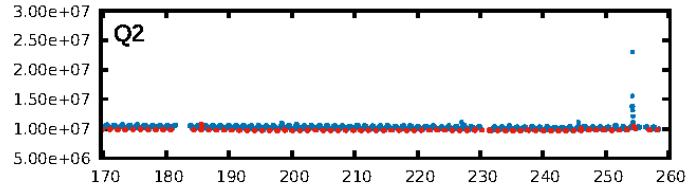
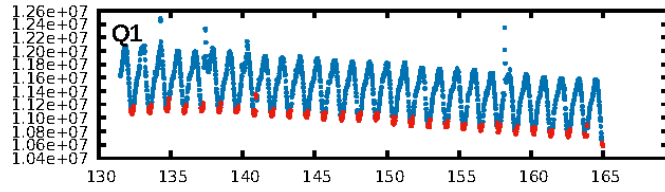
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [235.46σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.61e-24
RollingBand-fgt: 0.98 [1028/1047]
GhostDiagnostic-chr: -0.1232
Centroid-sig: N/A
Centroid-so: 0.875 arcsec [1.17σ]
OotOffset-rm: 0.060 arcsec [0.86σ]
KicOffset-rm: 0.933 arcsec [10.95σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.59 [10/17]
DiffImageOverlap-fno: 1.00 [17/17]

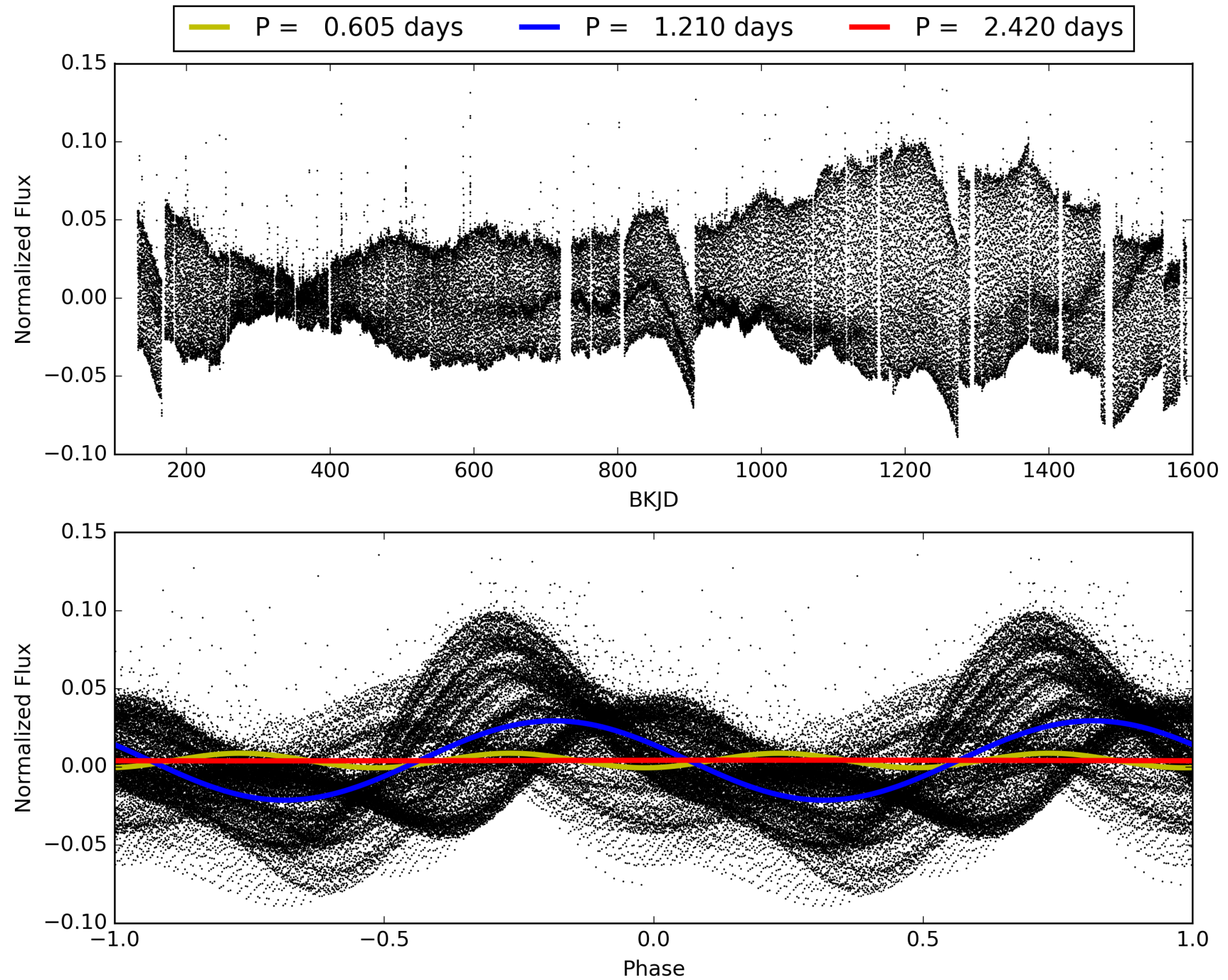
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 18:12:43 Z

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

TCE 011031746-02, PDC Light Curves

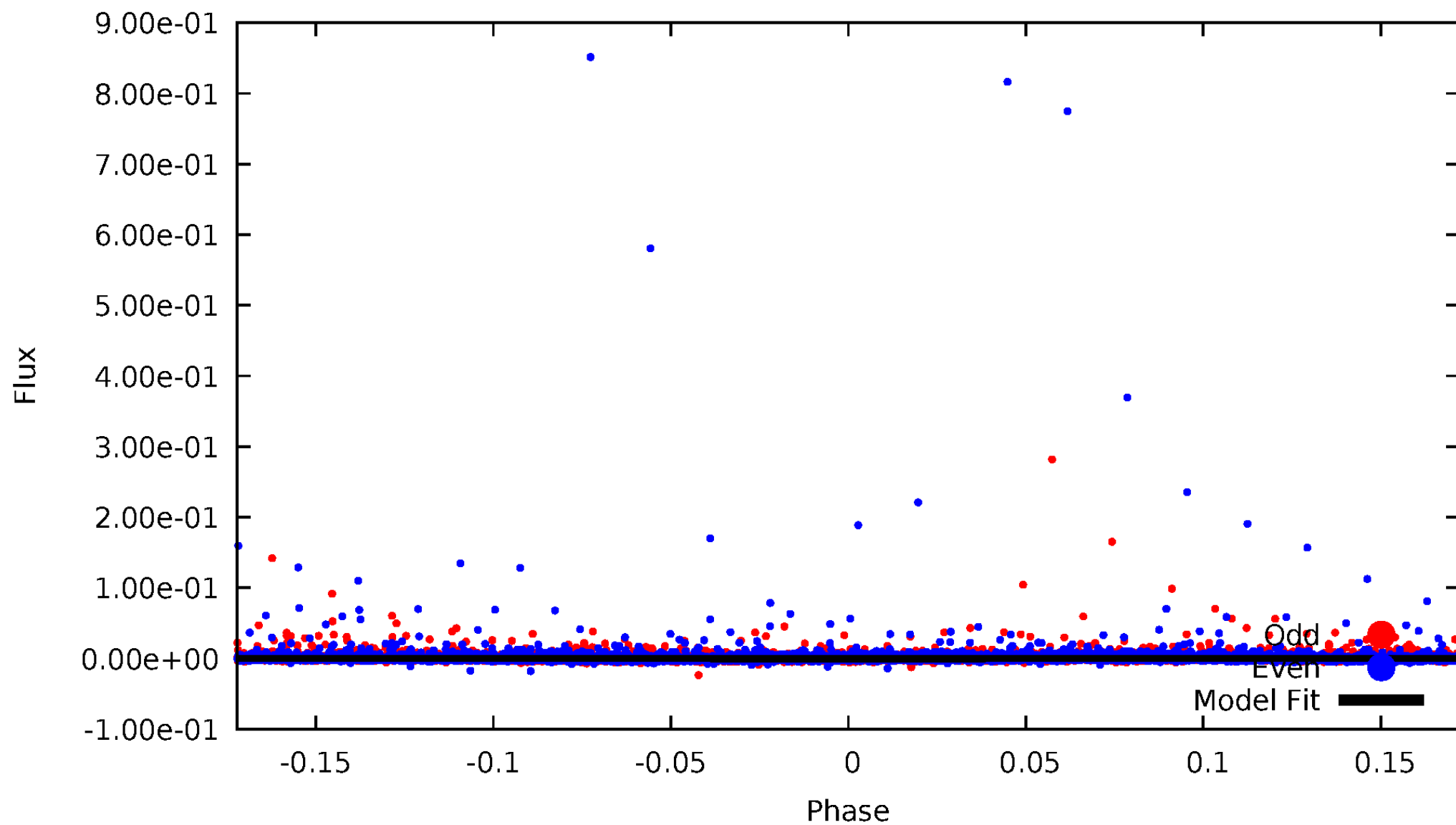


TCE 011031746-02



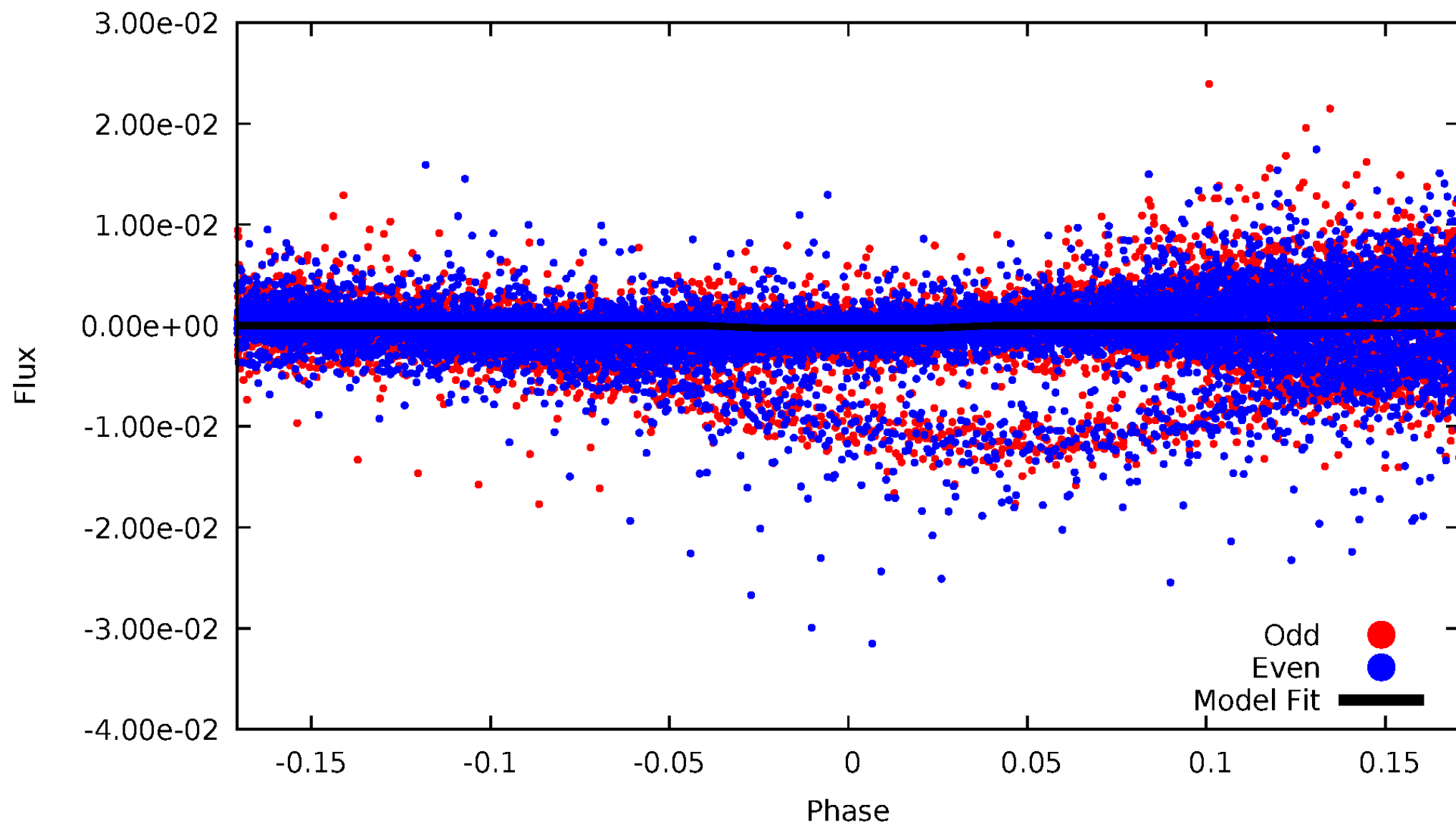
DV Odd/Even

TCE 011031746-02



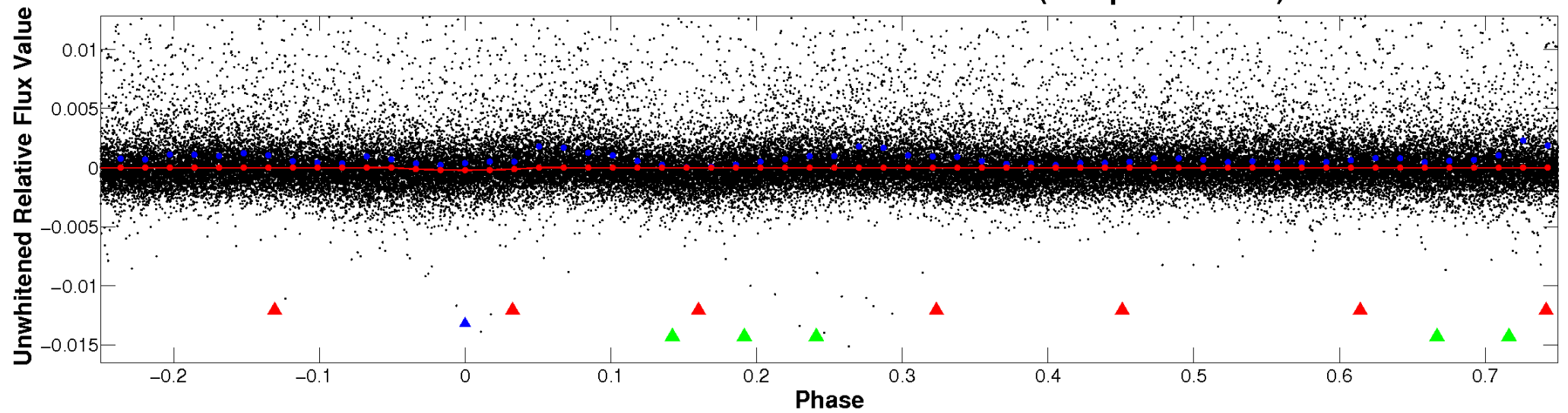
ALT Odd/Even

TCE 011031746-02

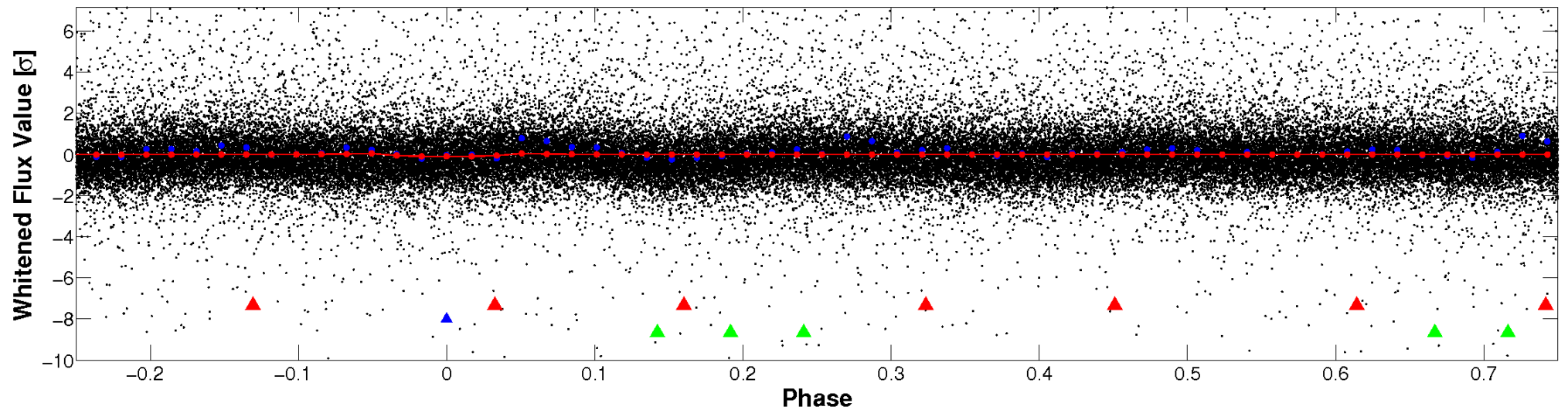


Non-Whitened Vs. Whitened Light Curve

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

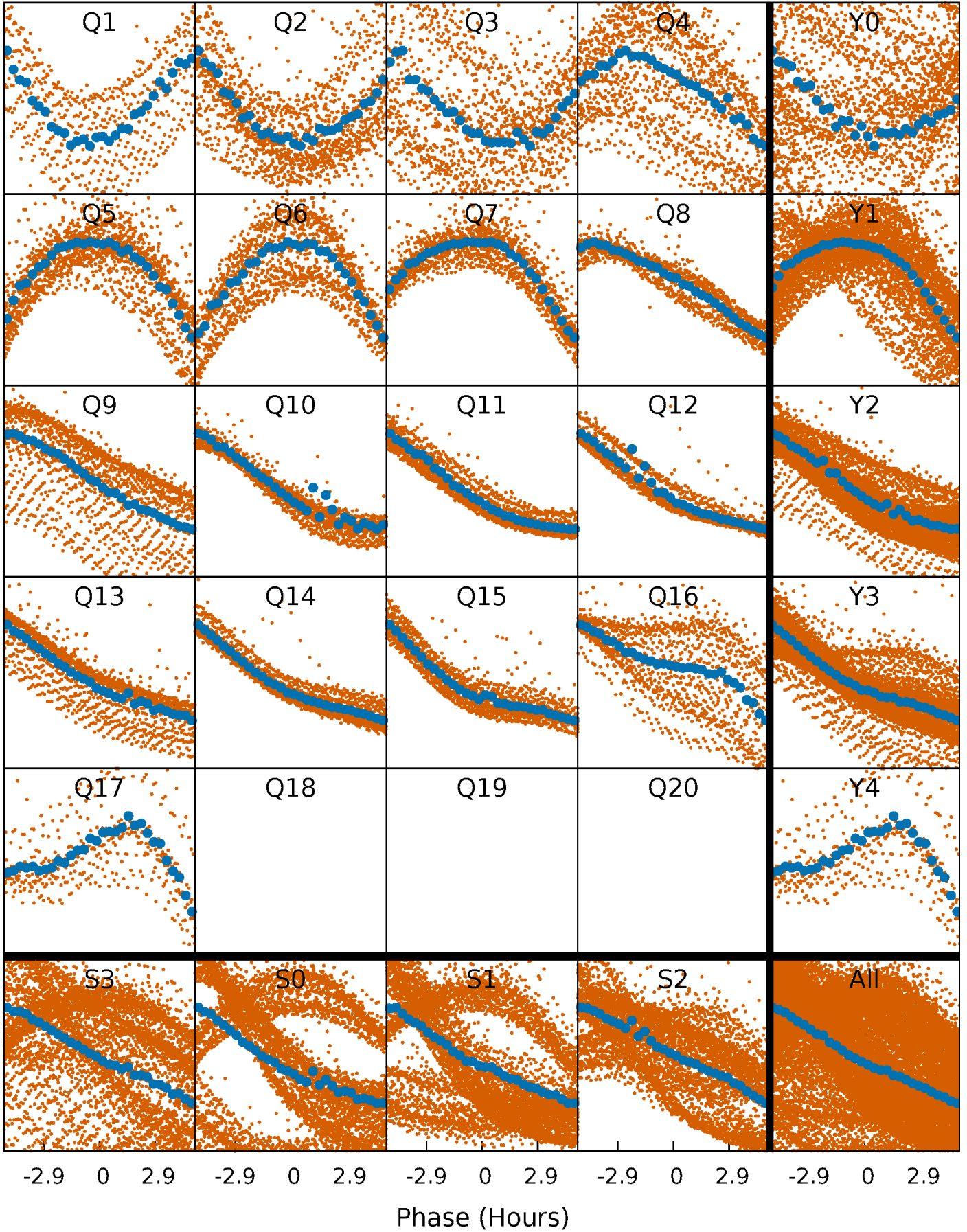


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



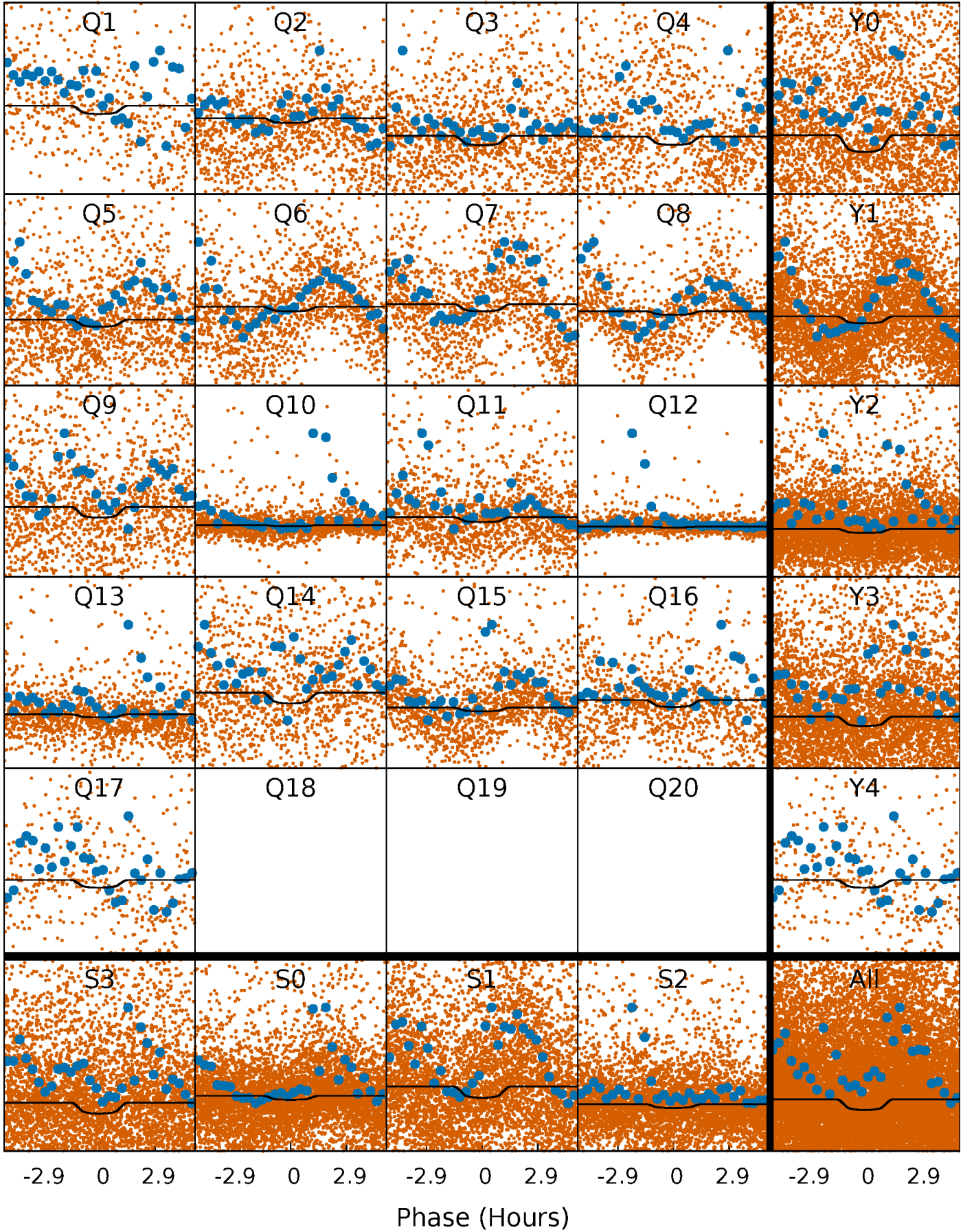
PDC Quarter-Phased Transit Curves

TCE 011031746-02 P= 1.210074 Days $T_0=132.339307$ (BKJD)



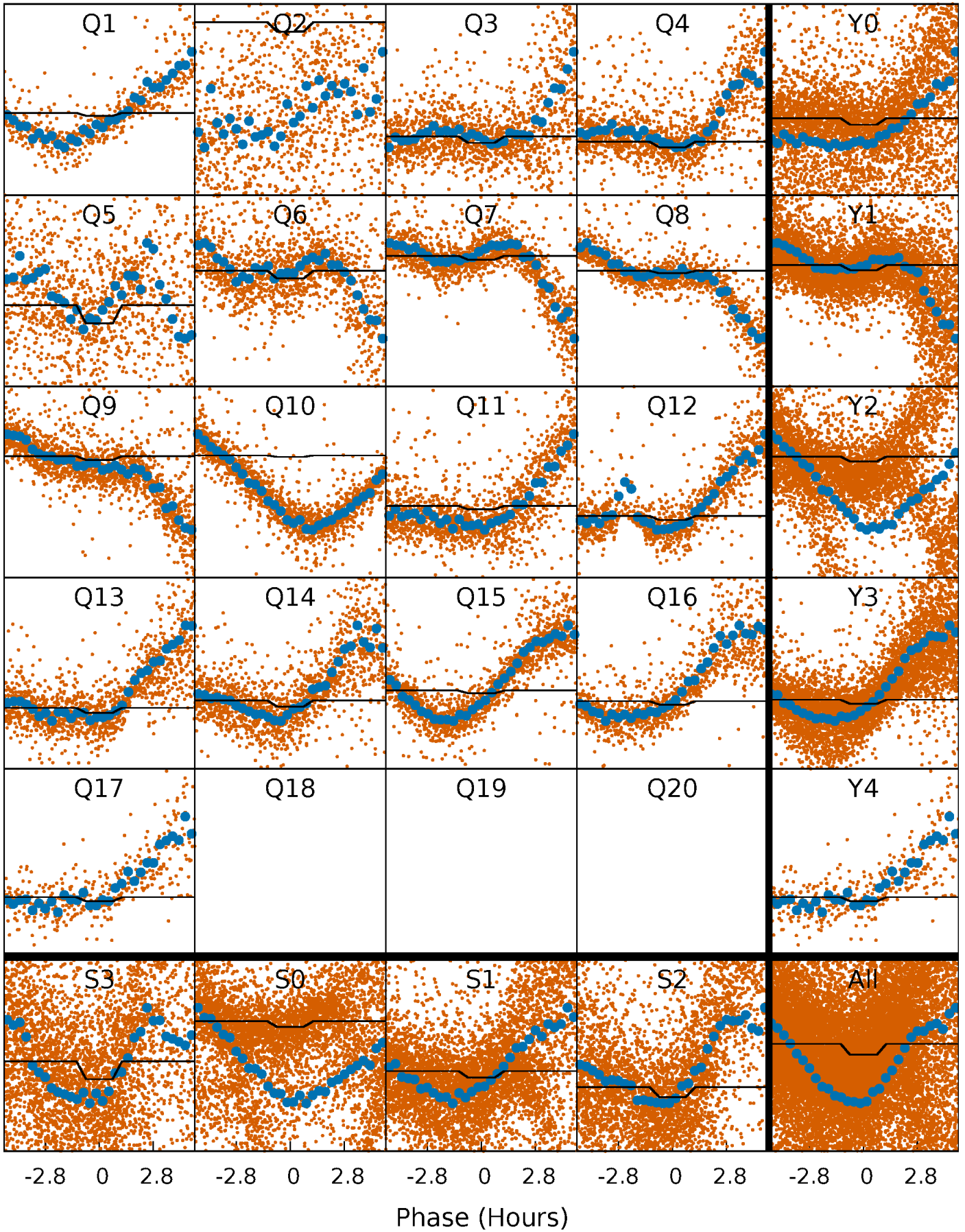
DV Quarter-Phased Transit Curves

TCE 011031746-02 P= 1.210074 Days $T_0=132.339307$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

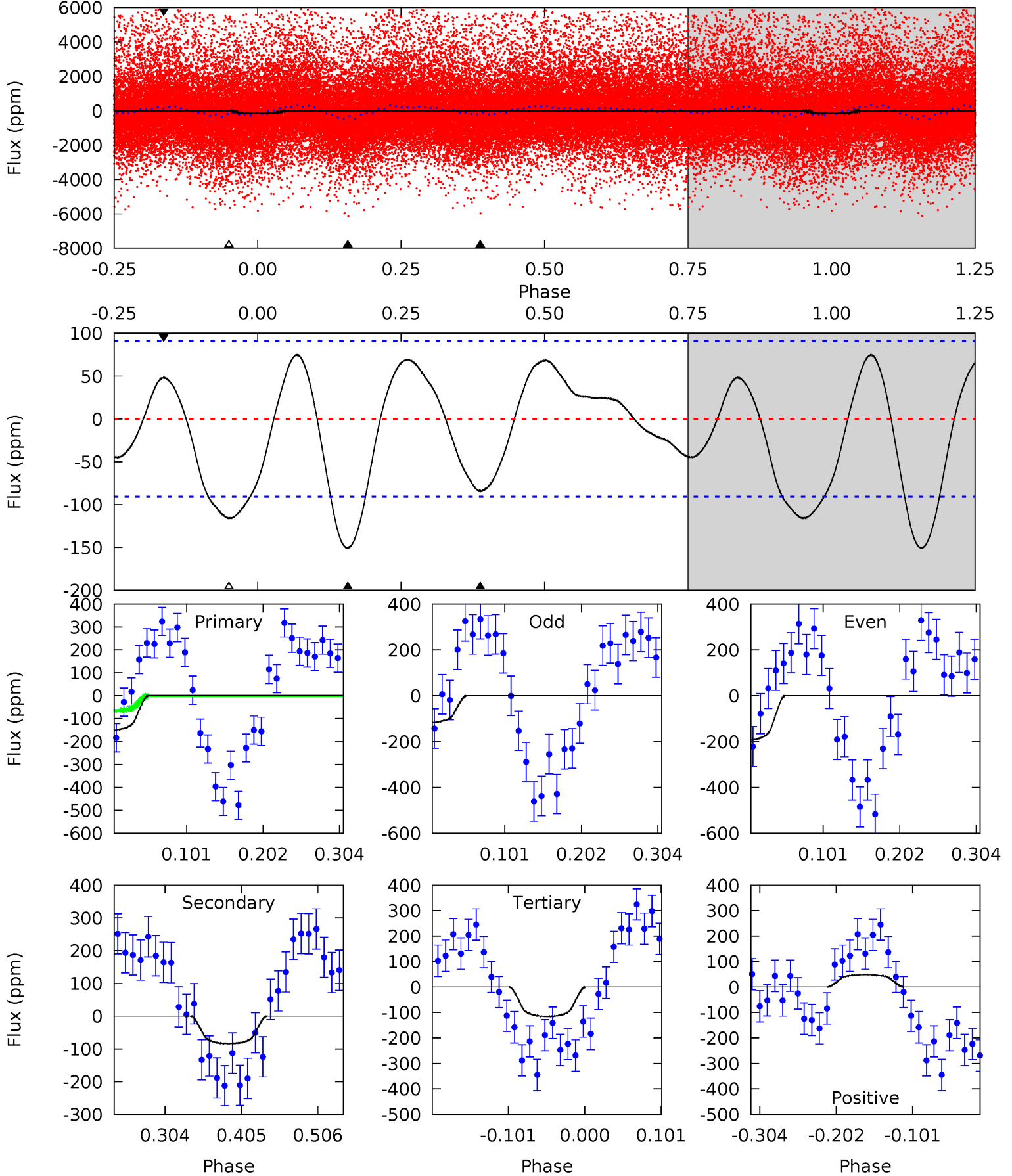
TCE 011031746-02 P= 1.210082 Days $T_0=132.339643$ (BKJD)



DV Model-Shift Uniqueness Test

011031746-02, P = 1.210074 Days, E = 131.129233 Days

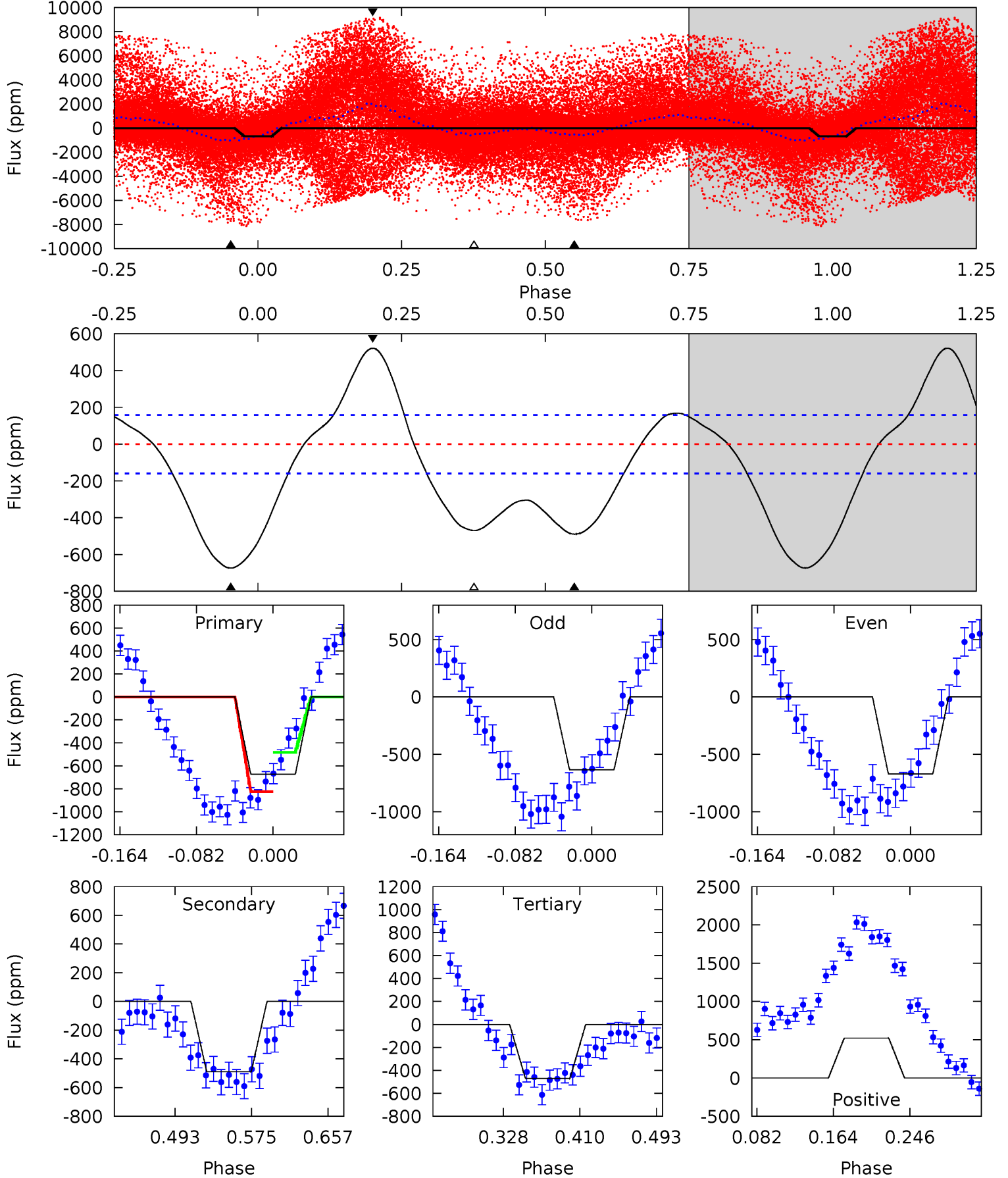
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.57	4.23	5.82	2.42	4.56	1.64	2.66	1.75	5.16	-1.59	1.82	1.95	-7.48	0.33	4.89



Alt Model-Shift Uniqueness Test

011031746-02, P = 1.210082 Days, E = 131.129561 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.6	14.2	13.6	15.1	4.61	1.74	7.81	5.92	4.42	0.57	-0.93	0.51	2.92	0.44	4.39



Stellar Parameters For KIC 011031746

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3498^{+52}_{-57}	$4.896^{+0.044}_{-0.036}$	$-0.100^{+0.100}_{-0.100}$	$0.357^{+0.033}_{-0.041}$	$0.368^{+0.040}_{-0.049}$	$11.410^{+2.487}_{-1.858}$
	+1%/-2%	+1%/-1%	+100%/-100%	+9%/-11%	+11%/-13%	+22%/-16%
Source	PHO2	PHO2	PHO2	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 011031746-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-84 ± 20	$0.64^{+0.34}_{-0.31}$	1020^{+23}_{-26}	2898^{+665}_{-297}	26^{+75}_{-14}
Alt.	-490 ± 34	$0.64^{+0.31}_{-0.35}$	1022^{+23}_{-24}	3855^{+1439}_{-480}	166^{+638}_{-92}

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

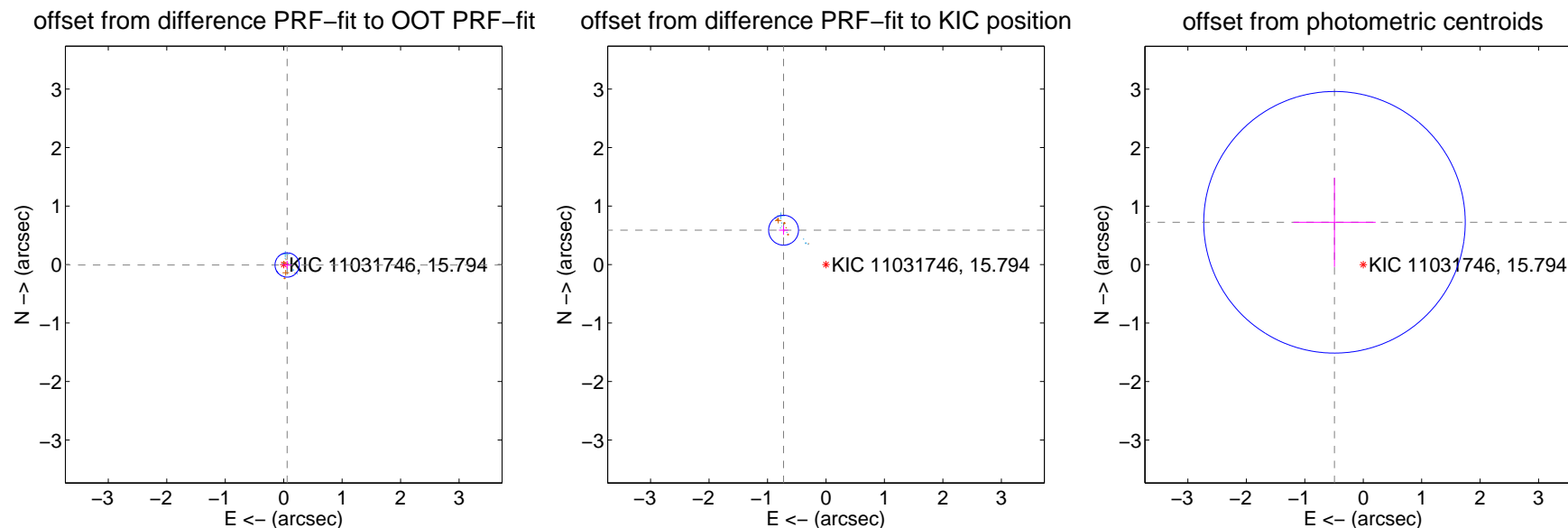
DV Centroid Data

Supplemental centroid analysis for 011031746-02. Kepler magnitude: 15.79. Transit SNR 6.31

There are 10 quarters with good PRF difference image offsets

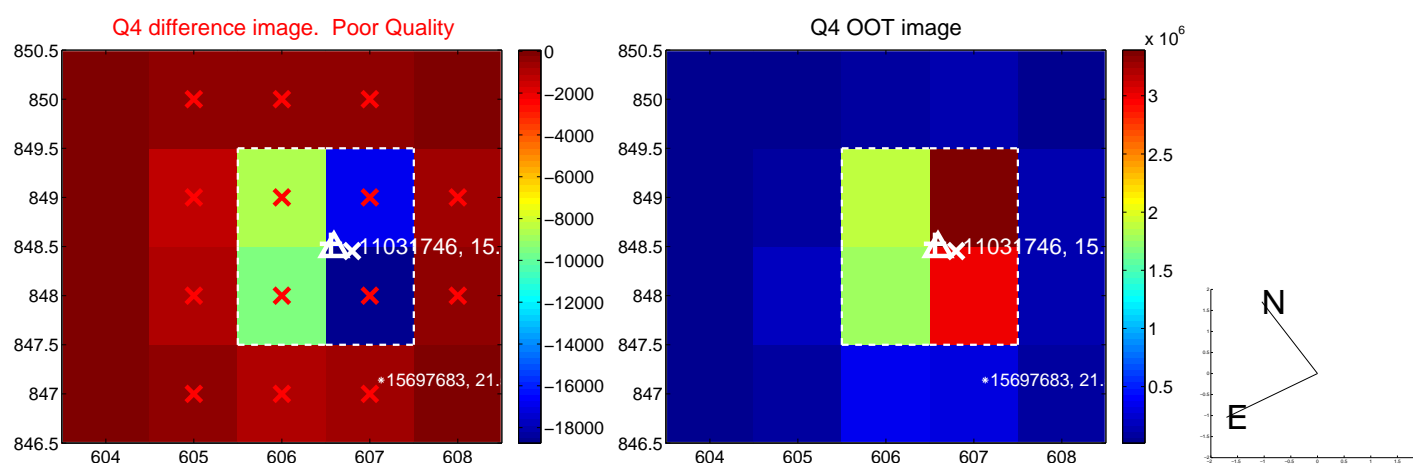
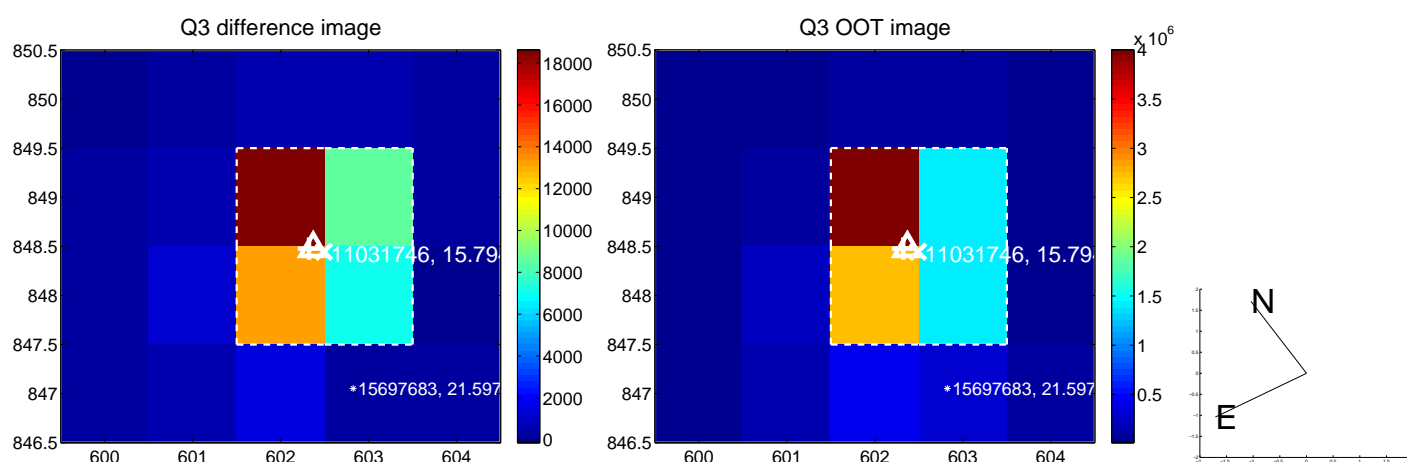
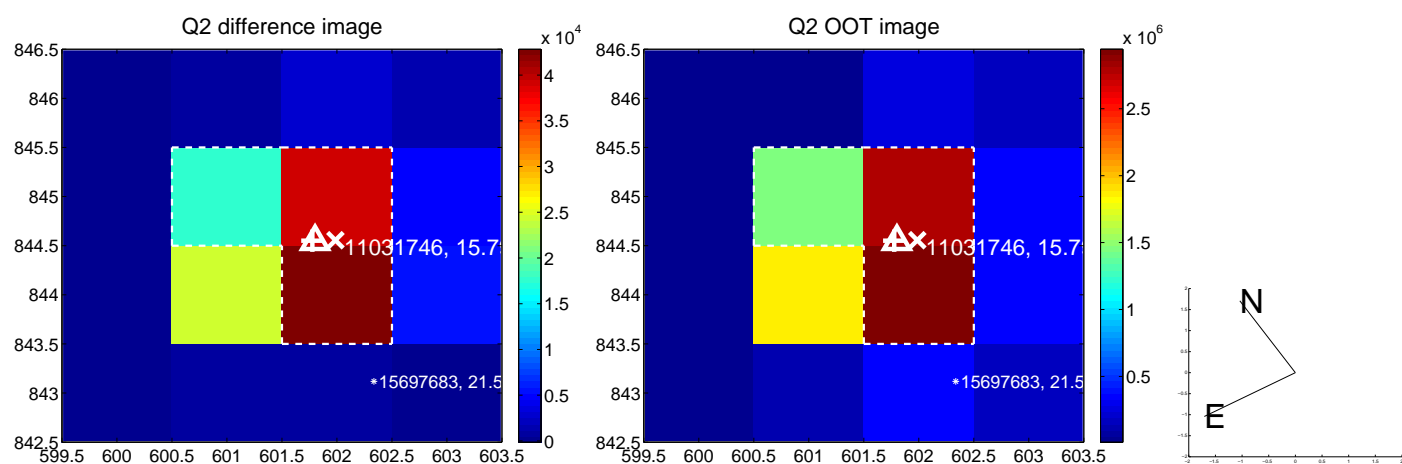
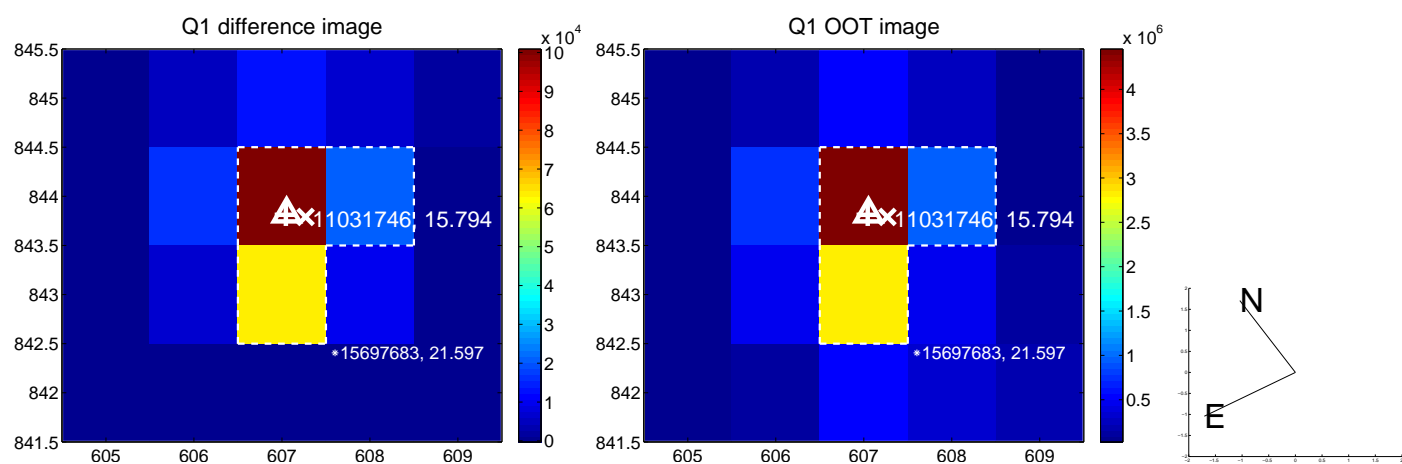
The direct PRF centroid is offset from the target star catalog position by about 1.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.060 ± 0.069	0.86	-0.059 ± 0.069	-0.008 ± 0.071
PRF-fit source offset from KIC position	0.933 ± 0.085	10.95	0.726 ± 0.078	0.587 ± 0.076
photometric centroid source offset	0.88 ± 0.75	1.17	0.49 ± 0.70	0.72 ± 0.76

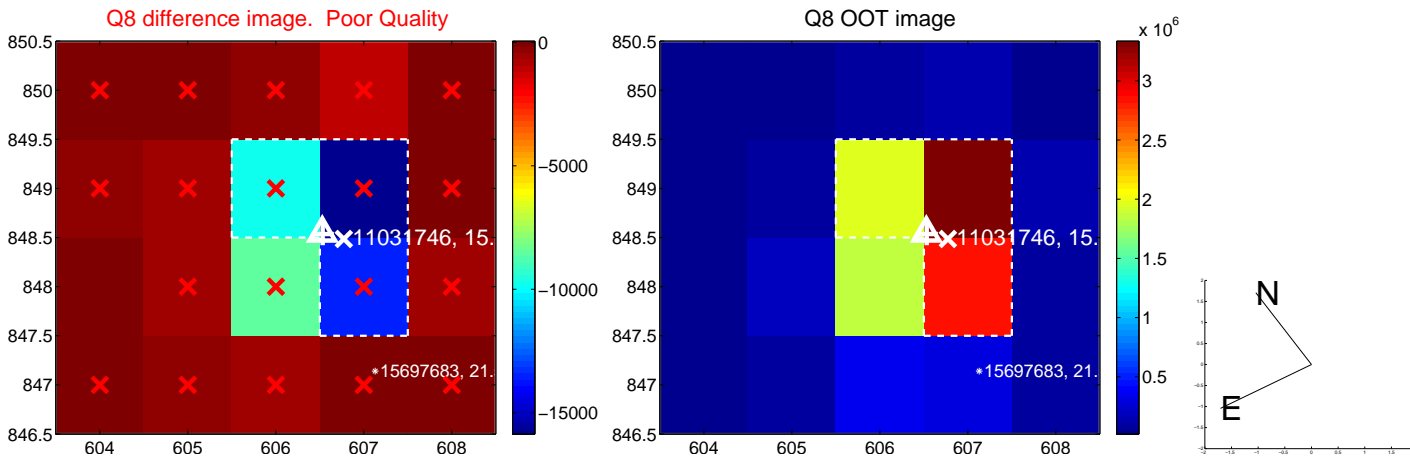
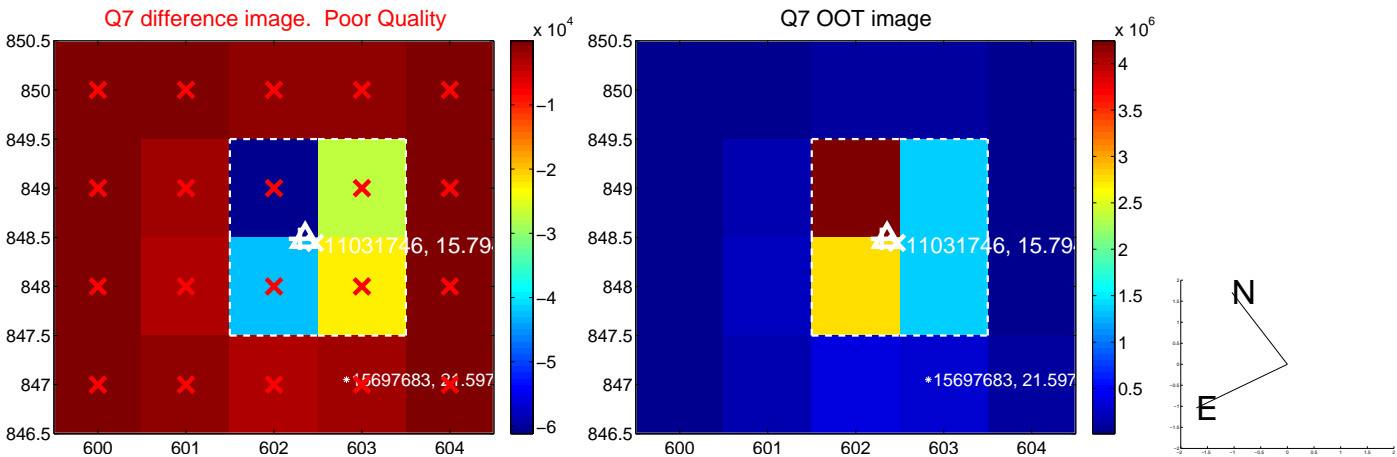
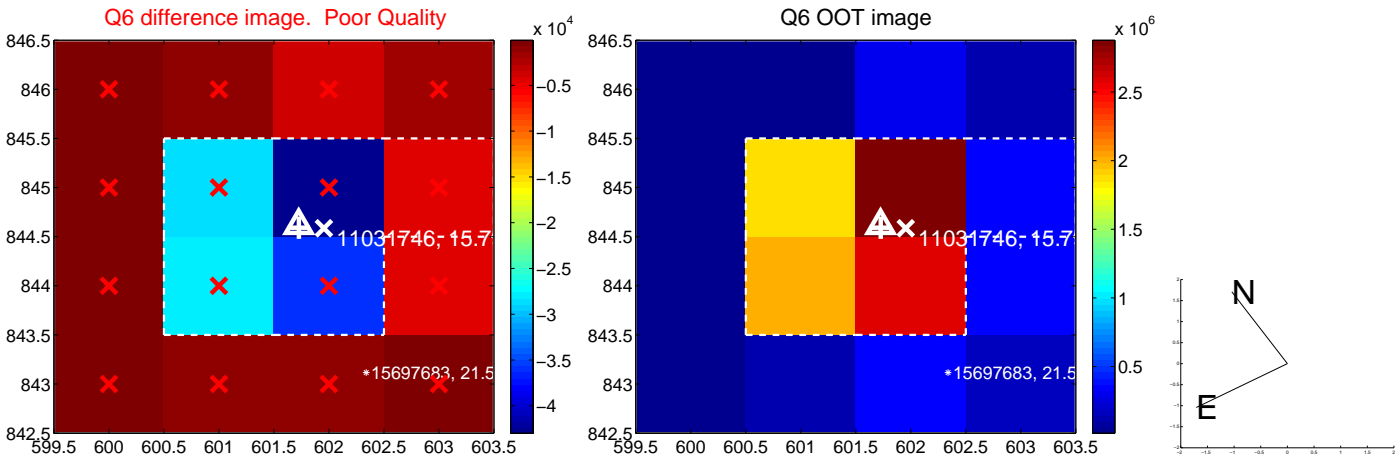
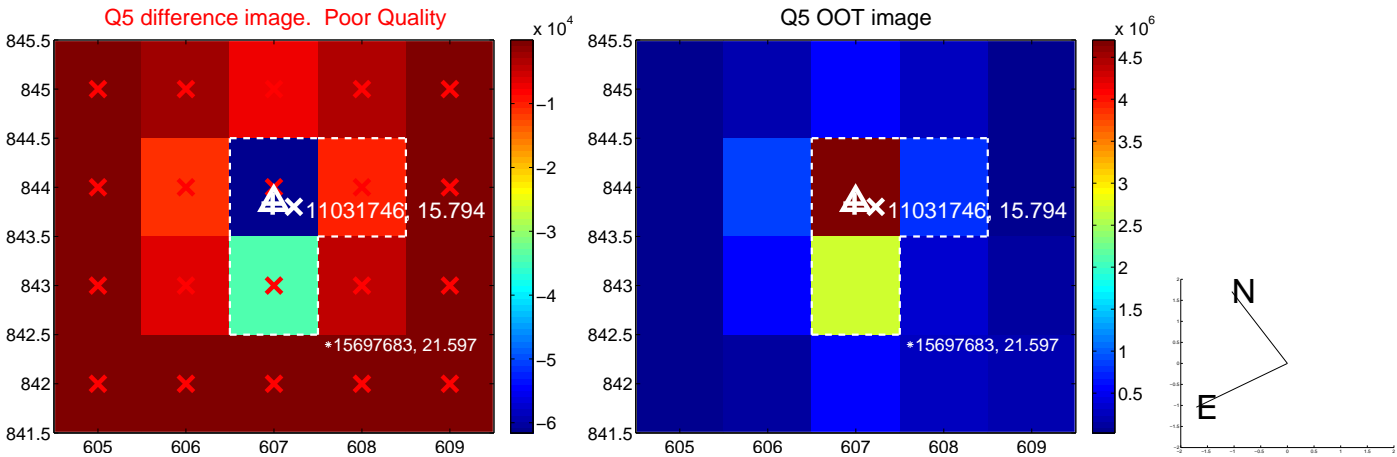


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

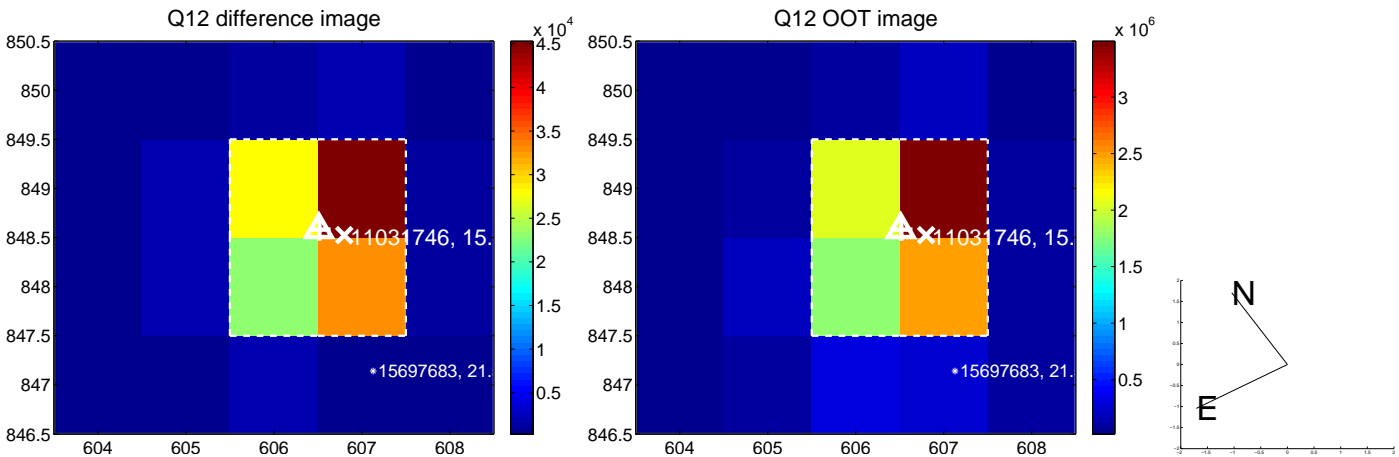
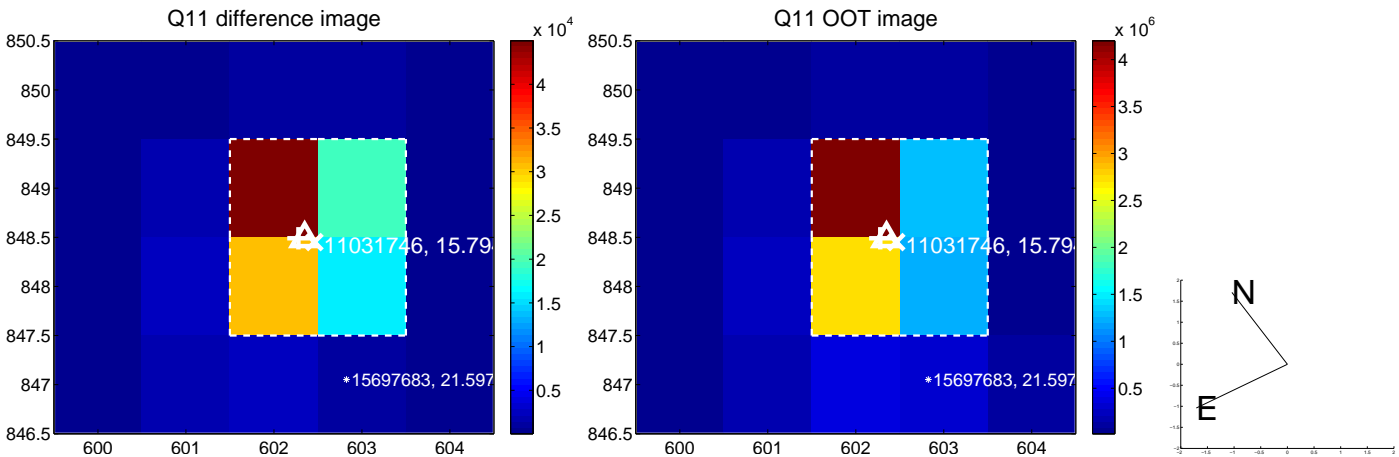
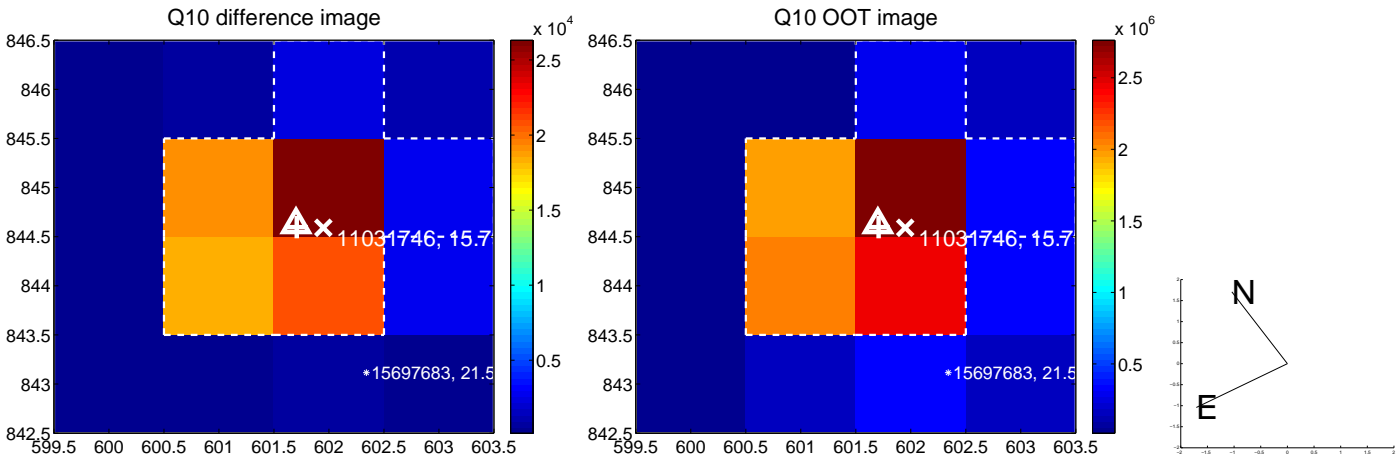
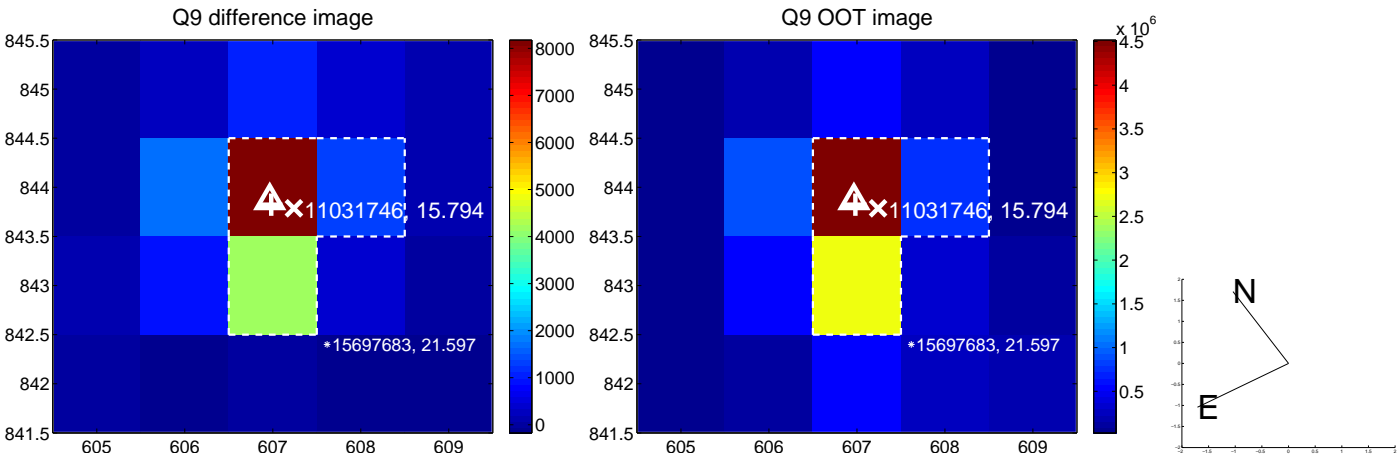
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



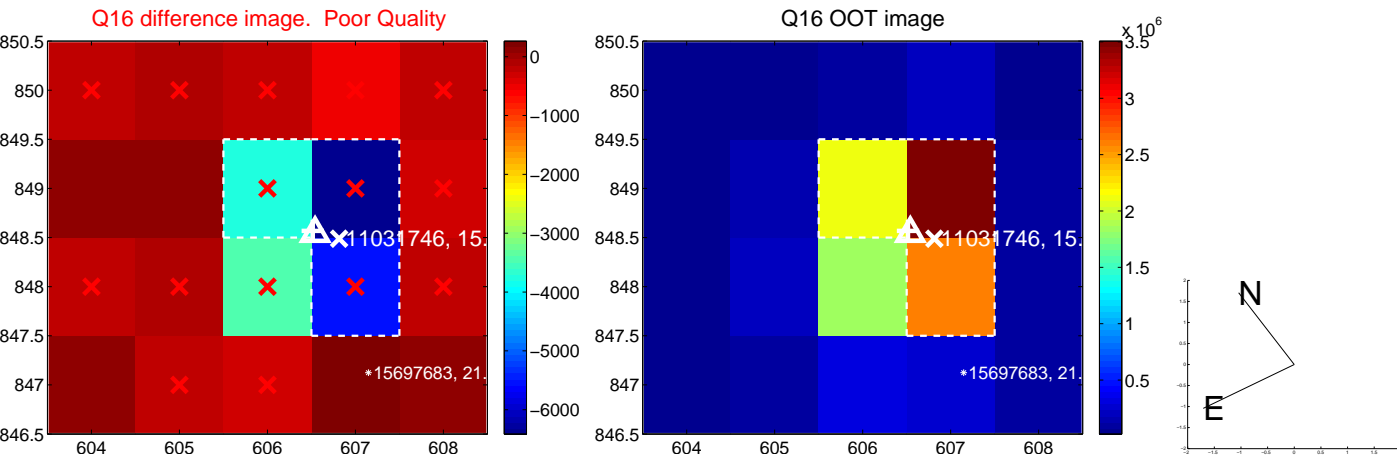
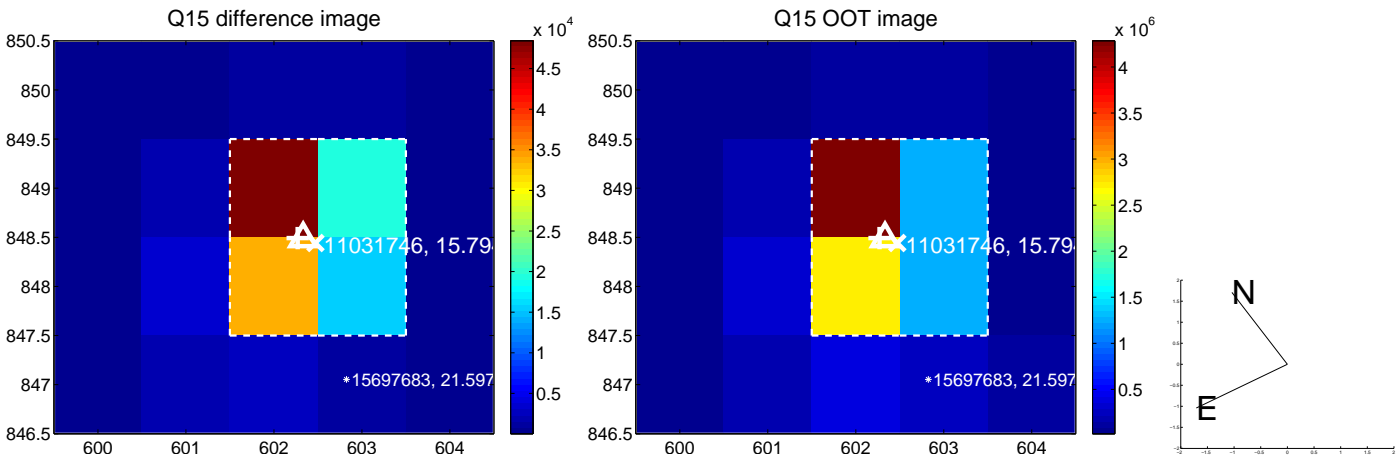
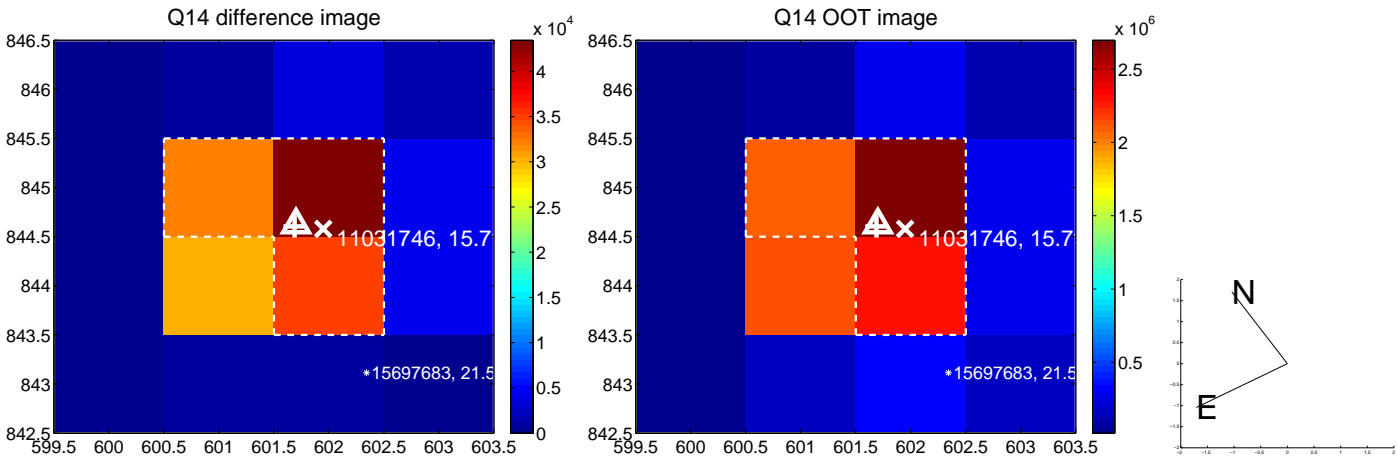
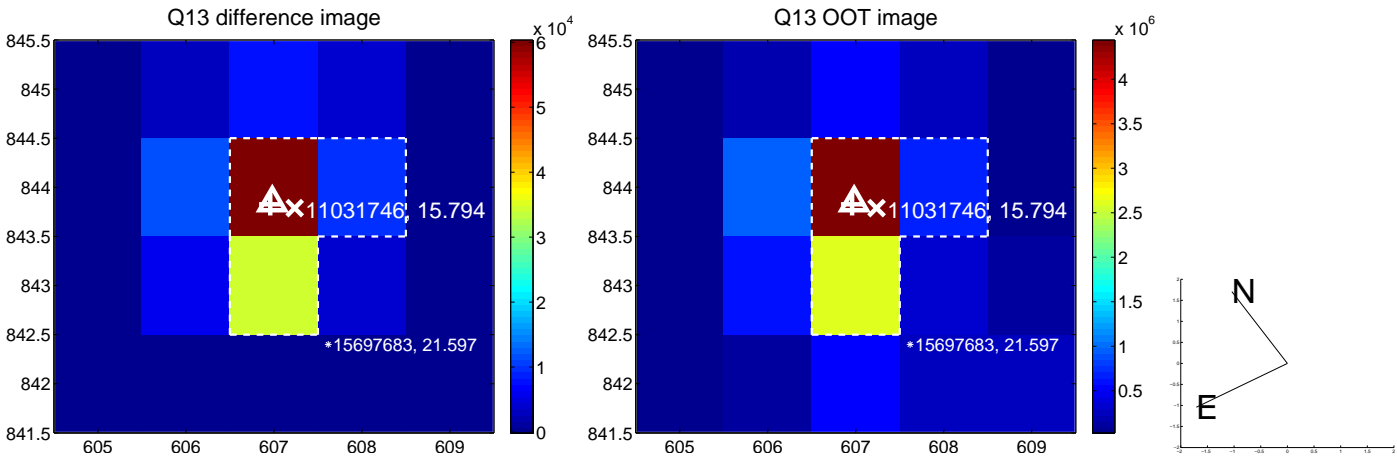
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



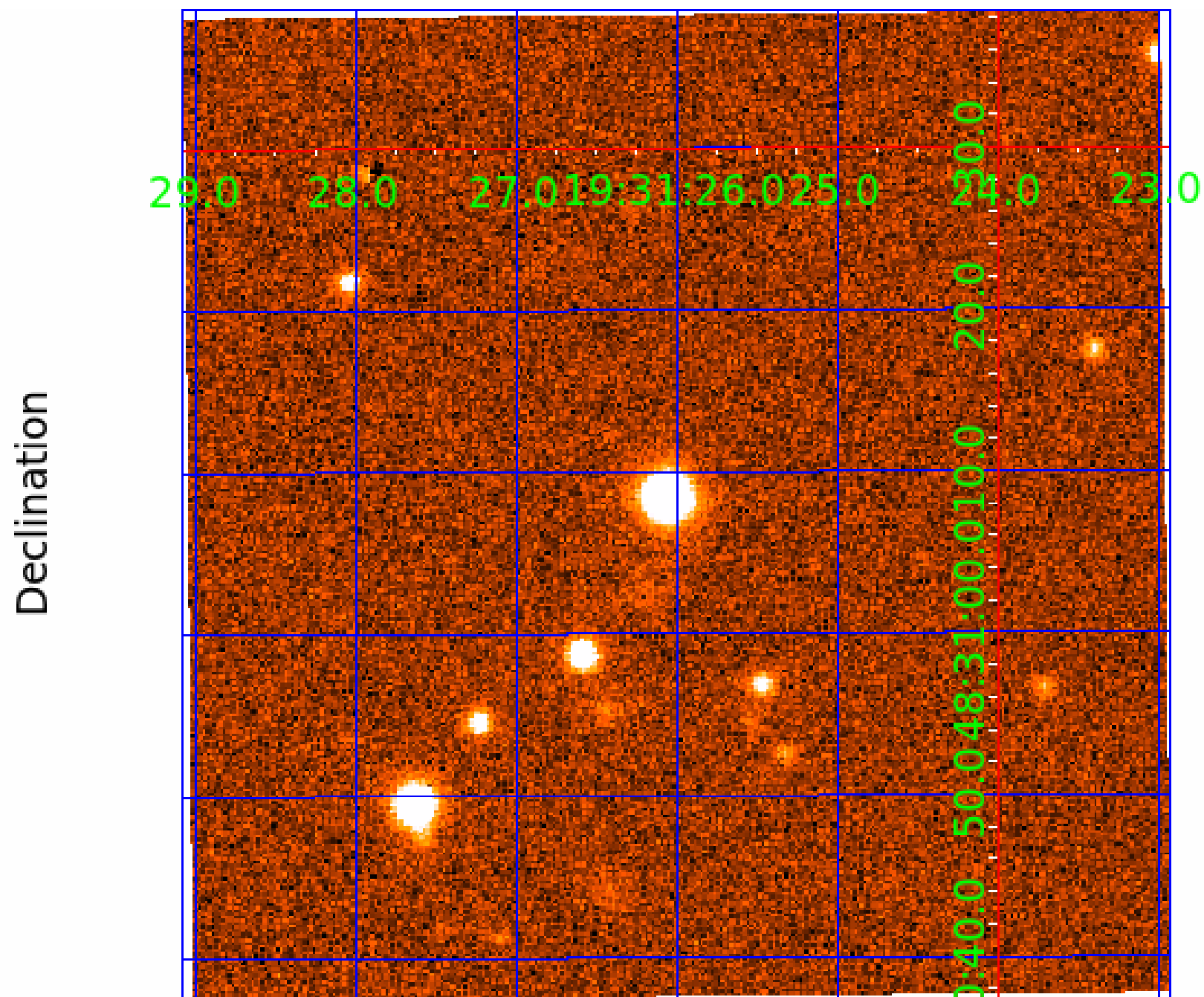
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 011031746

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})
011031746-01	OBS	No	196.383930	218.096479	1538.3	19.736	17.6	3.1	0.36	3498	1.41	0.08
011031746-02	OBS	No	1.210074	132.339307	217.9	2.499	13.7	6.3	0.36	3498	0.63	67.64
011031746-03	OBS	No	312.774313	167.723087	5815.9	4.158	11.7	7.1	0.36	3498	2.70	0.04

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011031746-01	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_KIC_POS
011031746-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS—HALO_GHOST
011031746-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

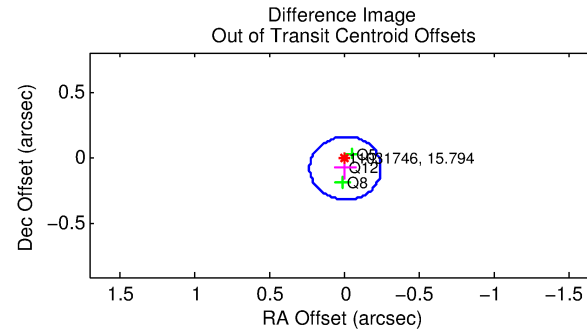
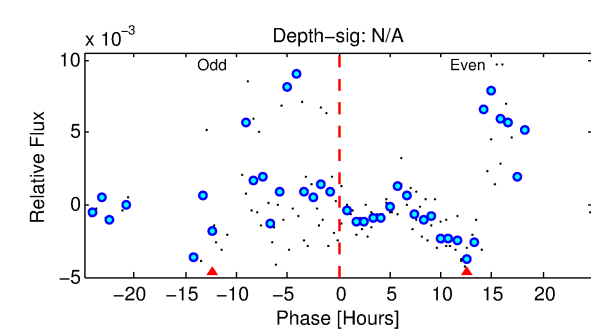
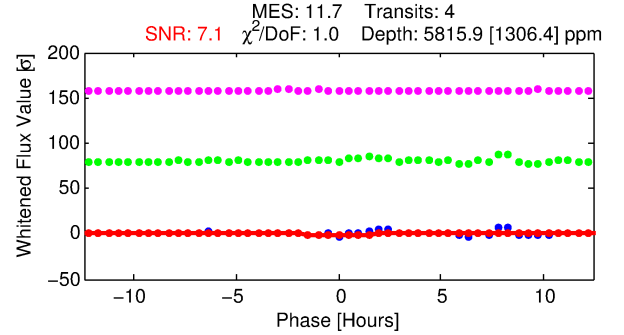
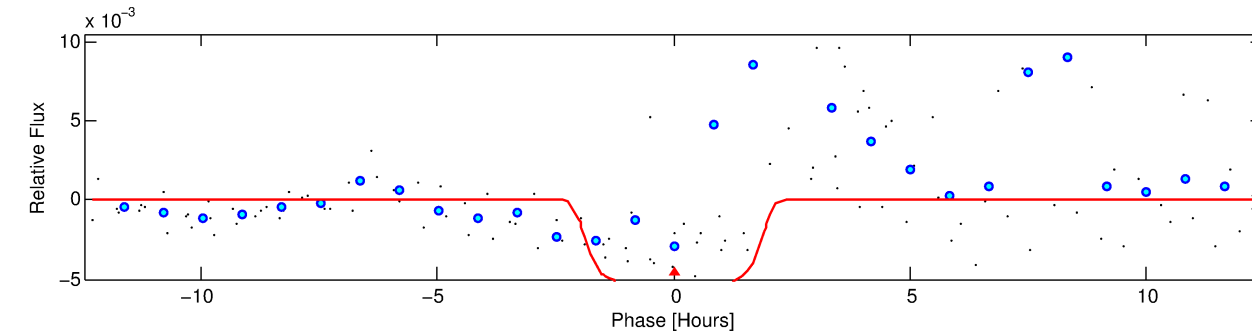
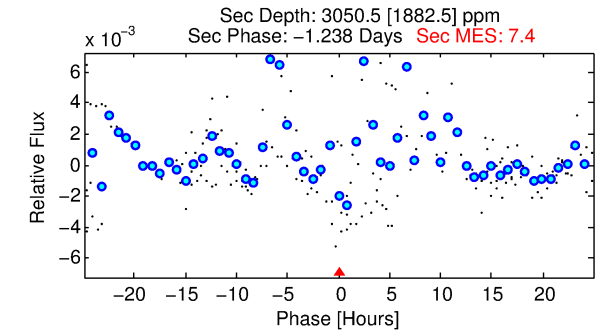
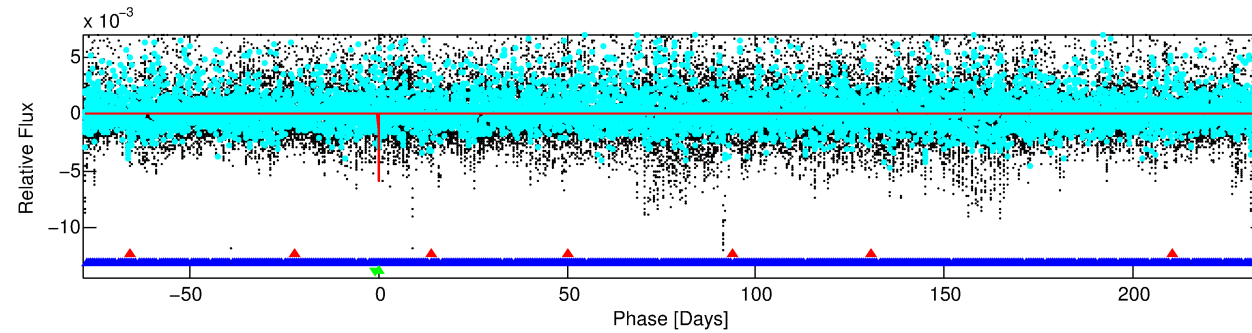
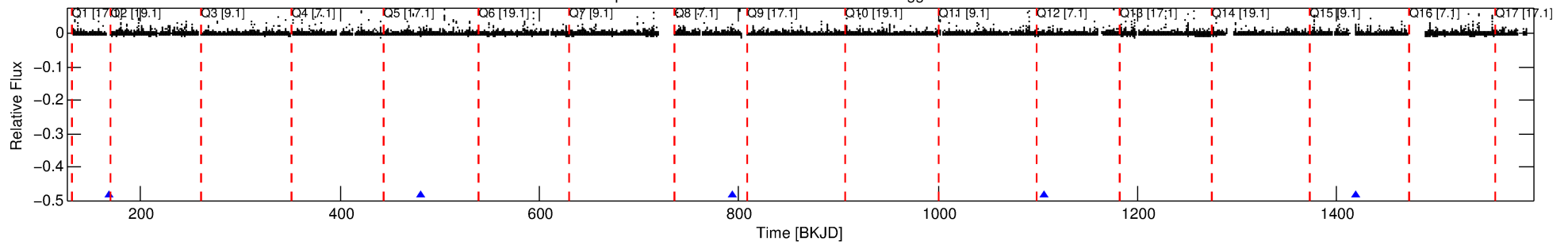
Ephemeris Match Information For 011031746-03

No Significant Match Found

DV One-Page Summary

KIC: 11031746 Candidate: 3 of 3 Period: 312.774 d

Kp: 15.79 R*: 0.36 Rs Teff: 3498.0 K Logg: 4.90 Fe/H: -0.100



DV Fit Results:

Period = 312.77431 [0.00506] d
Epoch = 167.7231 [0.0122] BKJD
Rp/R* = 0.0692 [0.0708]
a/R* = 607.80 [2631.68]
b = 0.16 [27.11]
Seff = 0.04 [0.00]
Teq = 115 [3] K
Rp = 2.70 [2.78] Re
a = 0.6451 [0.0540] AU
Ag = 96021.49 [205388.67] [0.47σ]
Teffp = 3124 [1670] K [1.80σ]

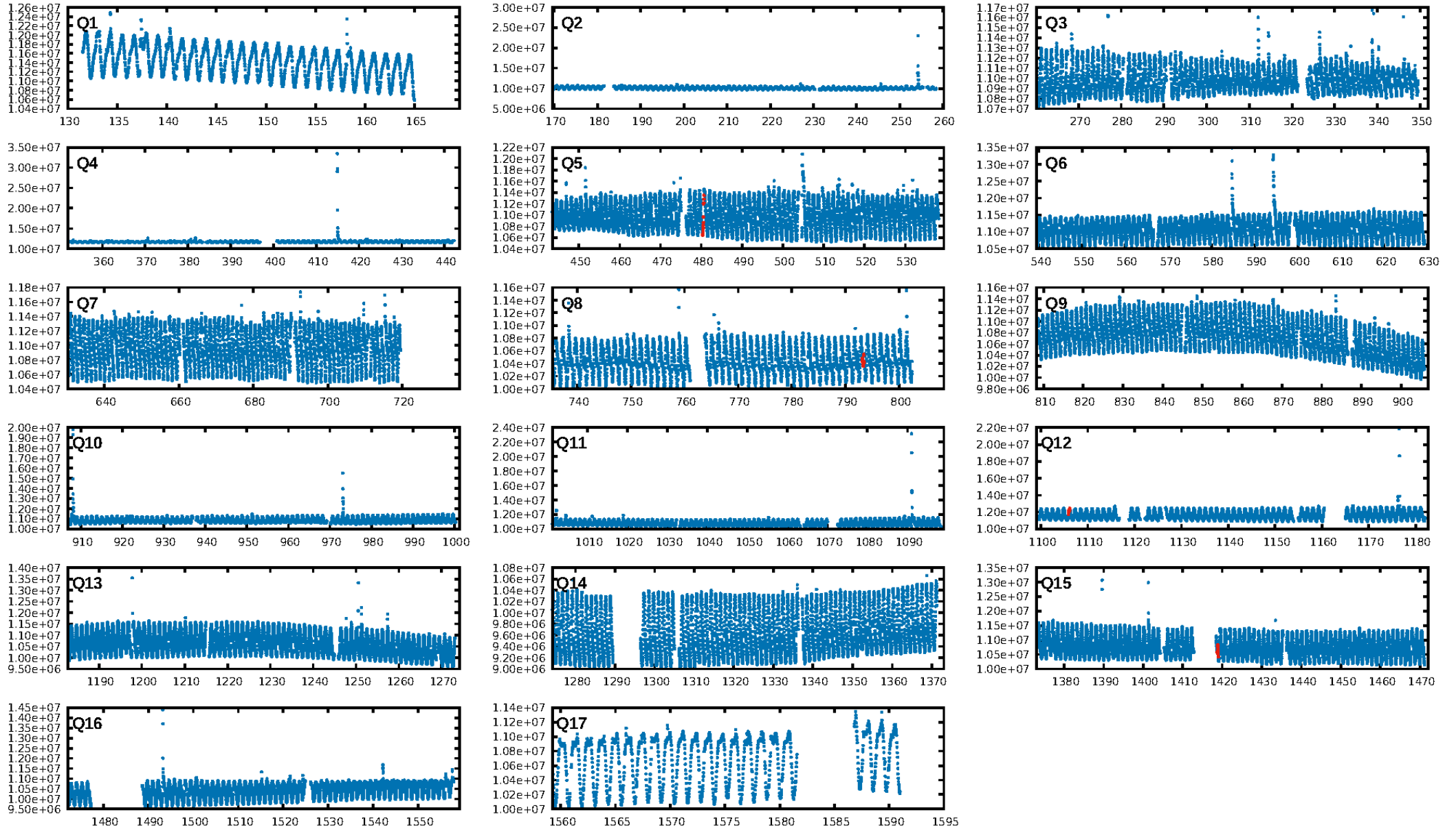
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [138.49σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.8%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 1.21e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -19.17
Centroid-sig: N/A
Centroid-so: 0.812 arcsec [2.33σ]
OotOffset-rm: 0.078 arcsec [0.98σ]
KicOffset-rm: 1.027 arcsec [12.15σ]
OotOffset-st: 0/0/2/1 [3]
KicOffset-st: 0/0/2/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.00 [0/3]

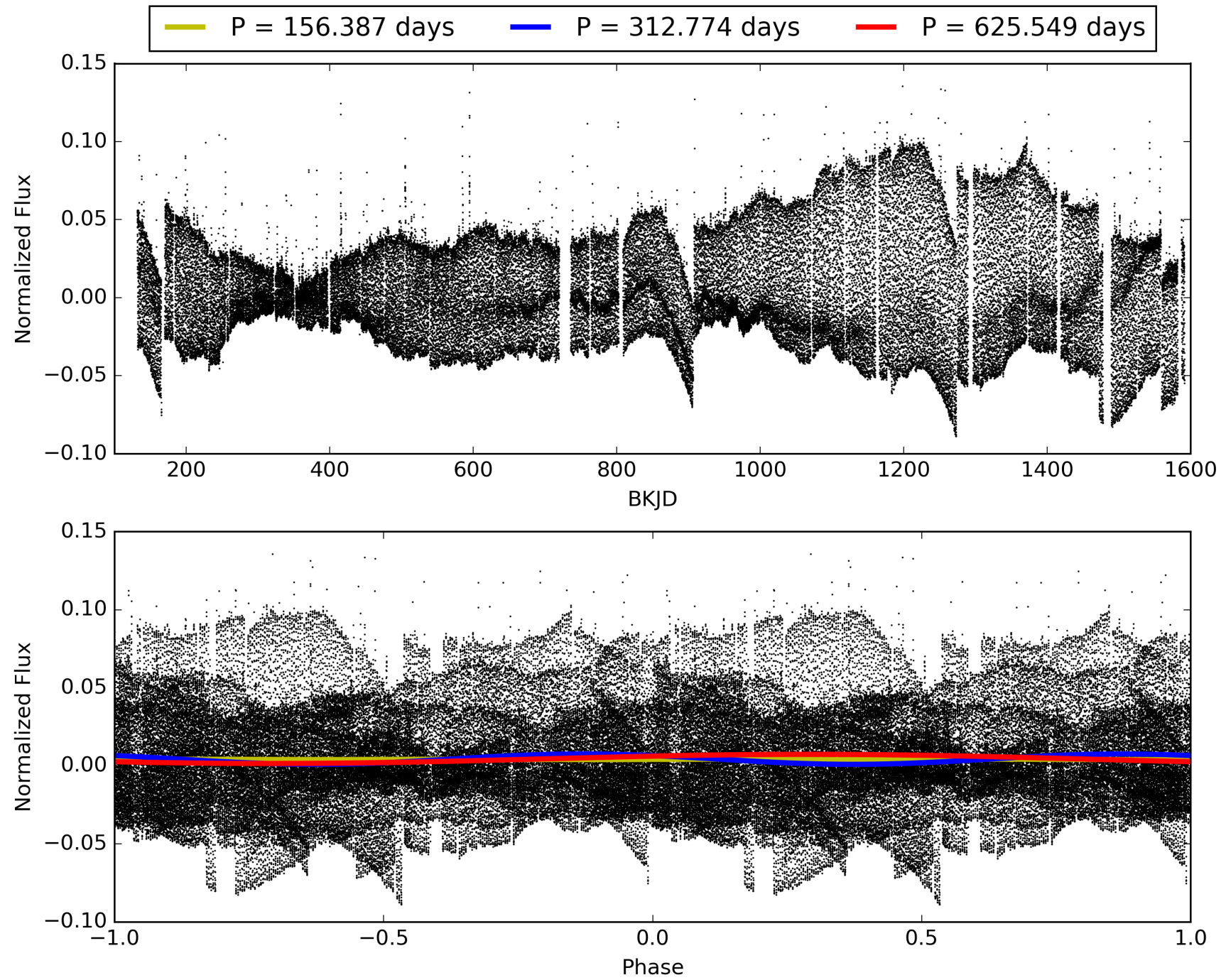
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 18:12:56 Z

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

TCE 011031746-03, PDC Light Curves

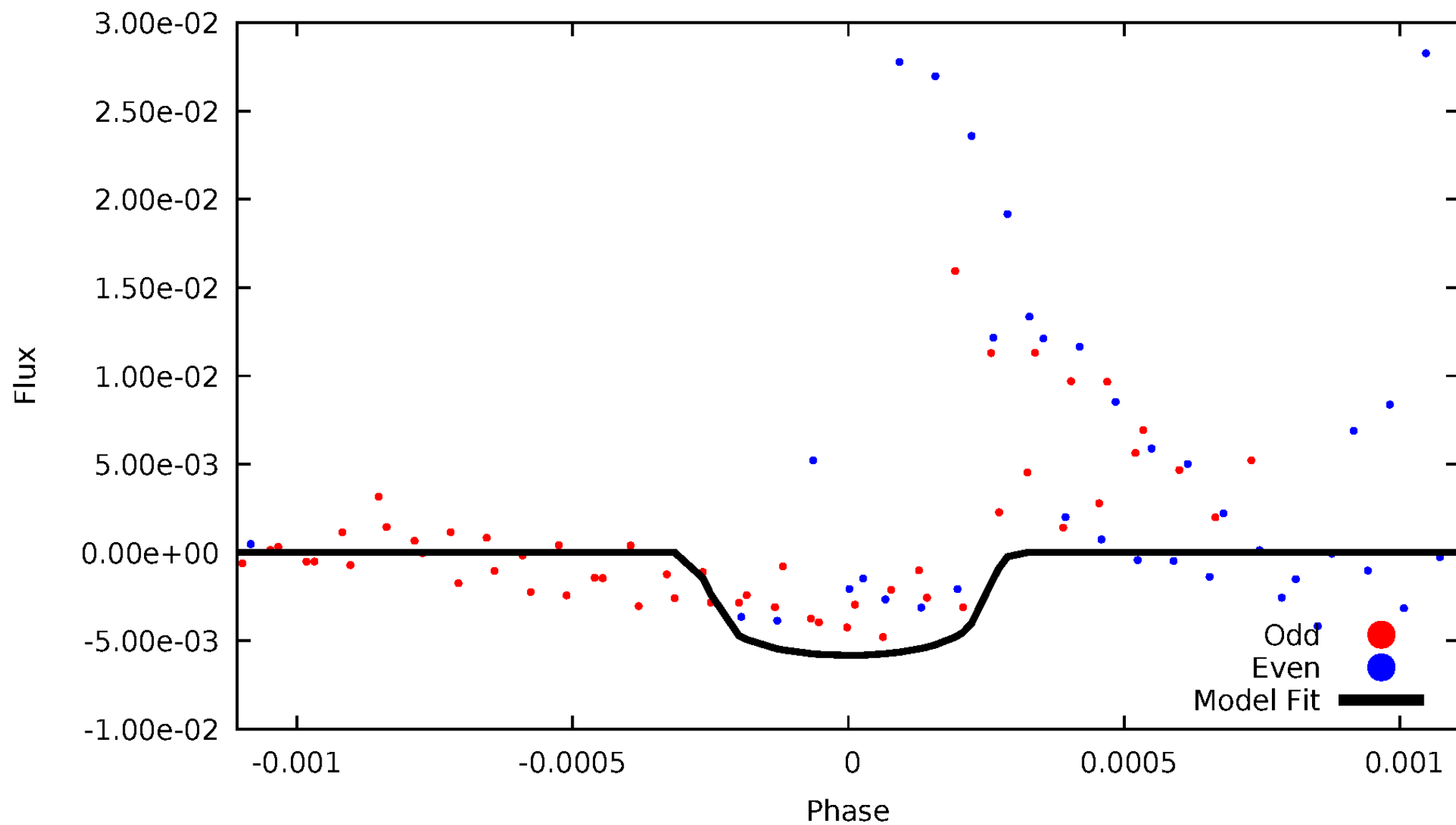


TCE 011031746-03



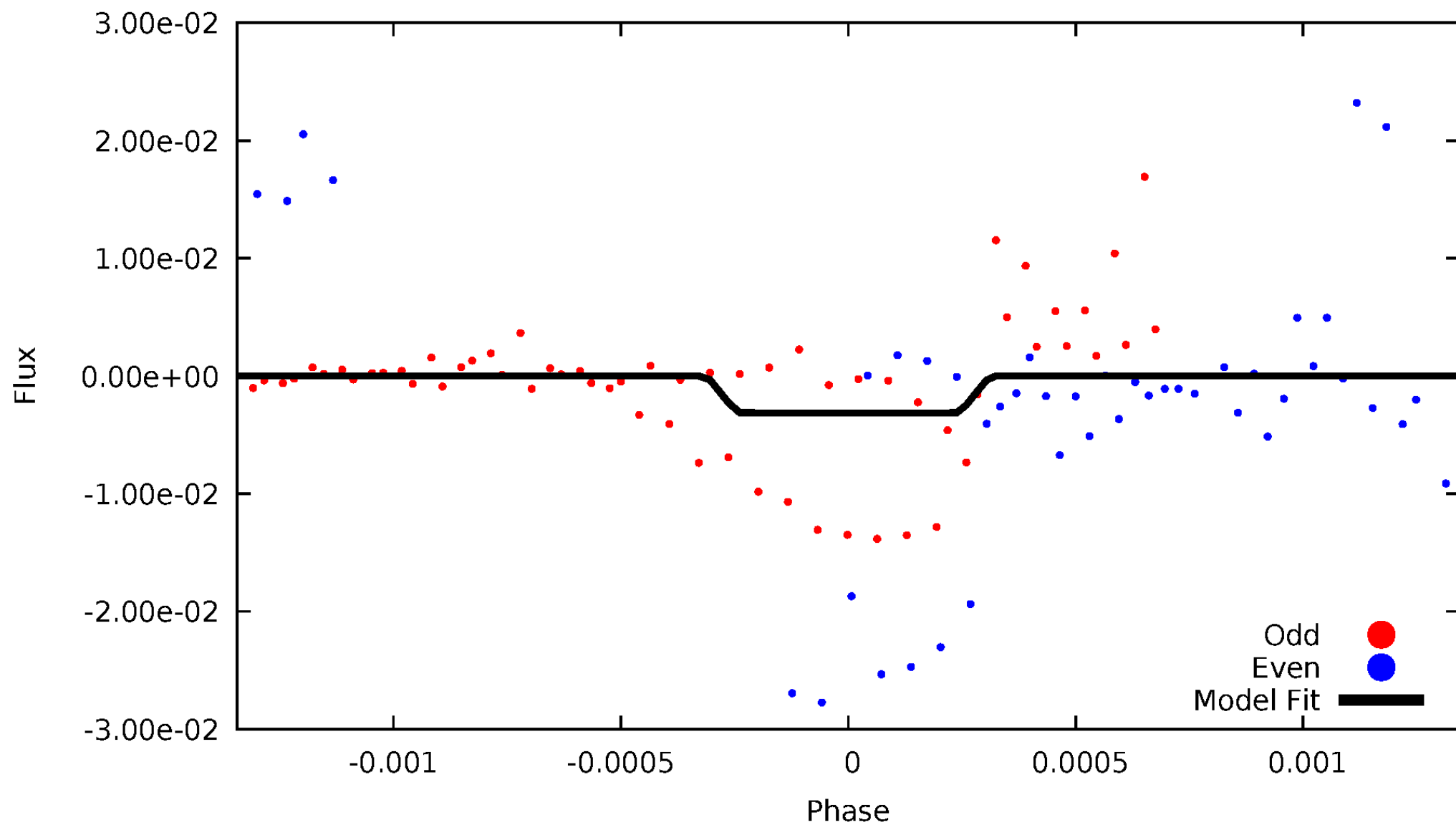
DV Odd/Even

TCE 011031746-03



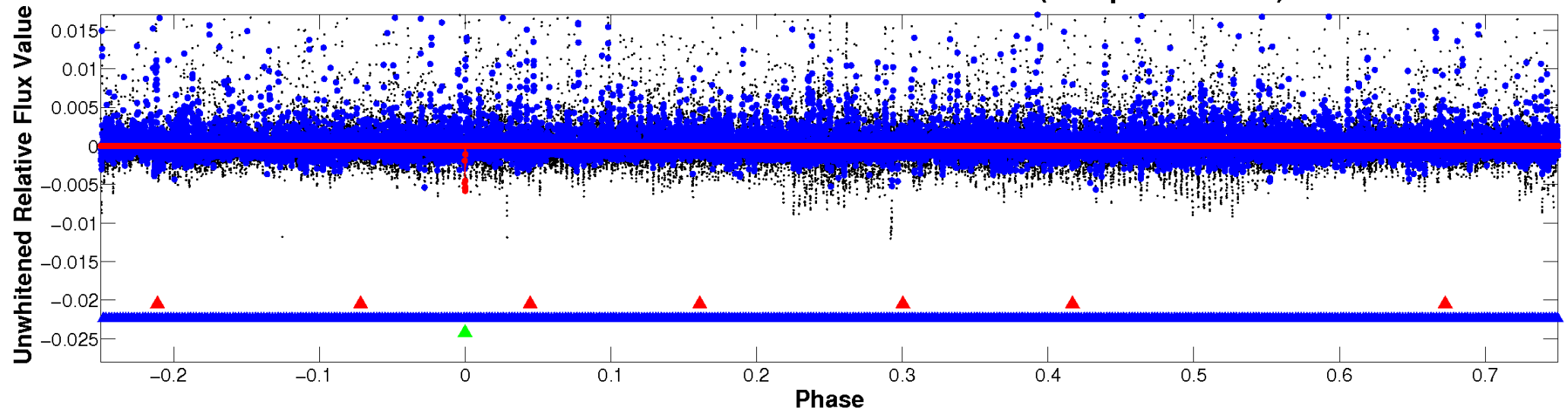
ALT Odd/Even

TCE 011031746-03

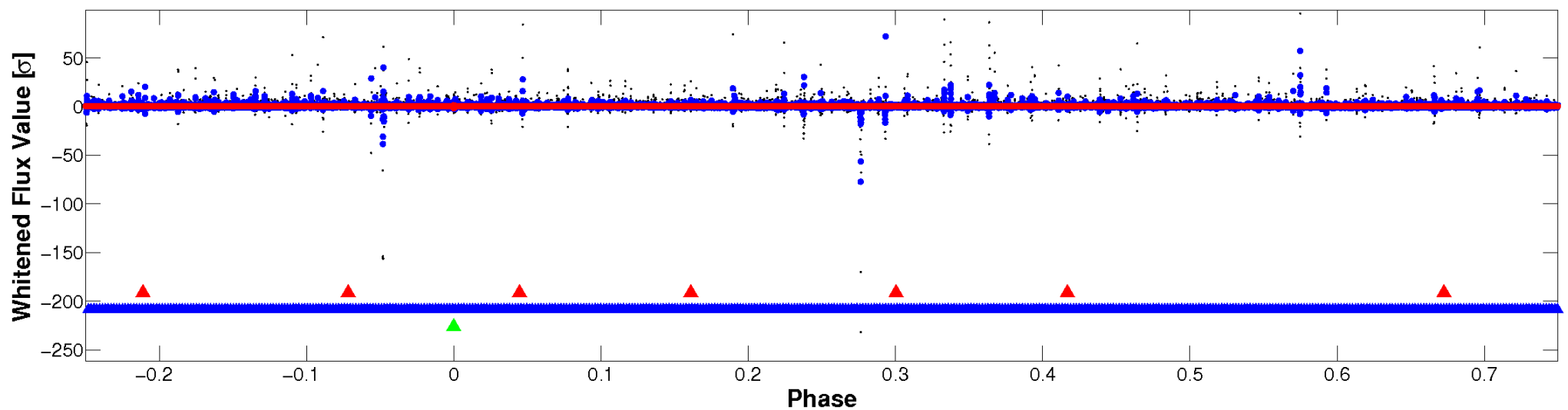


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

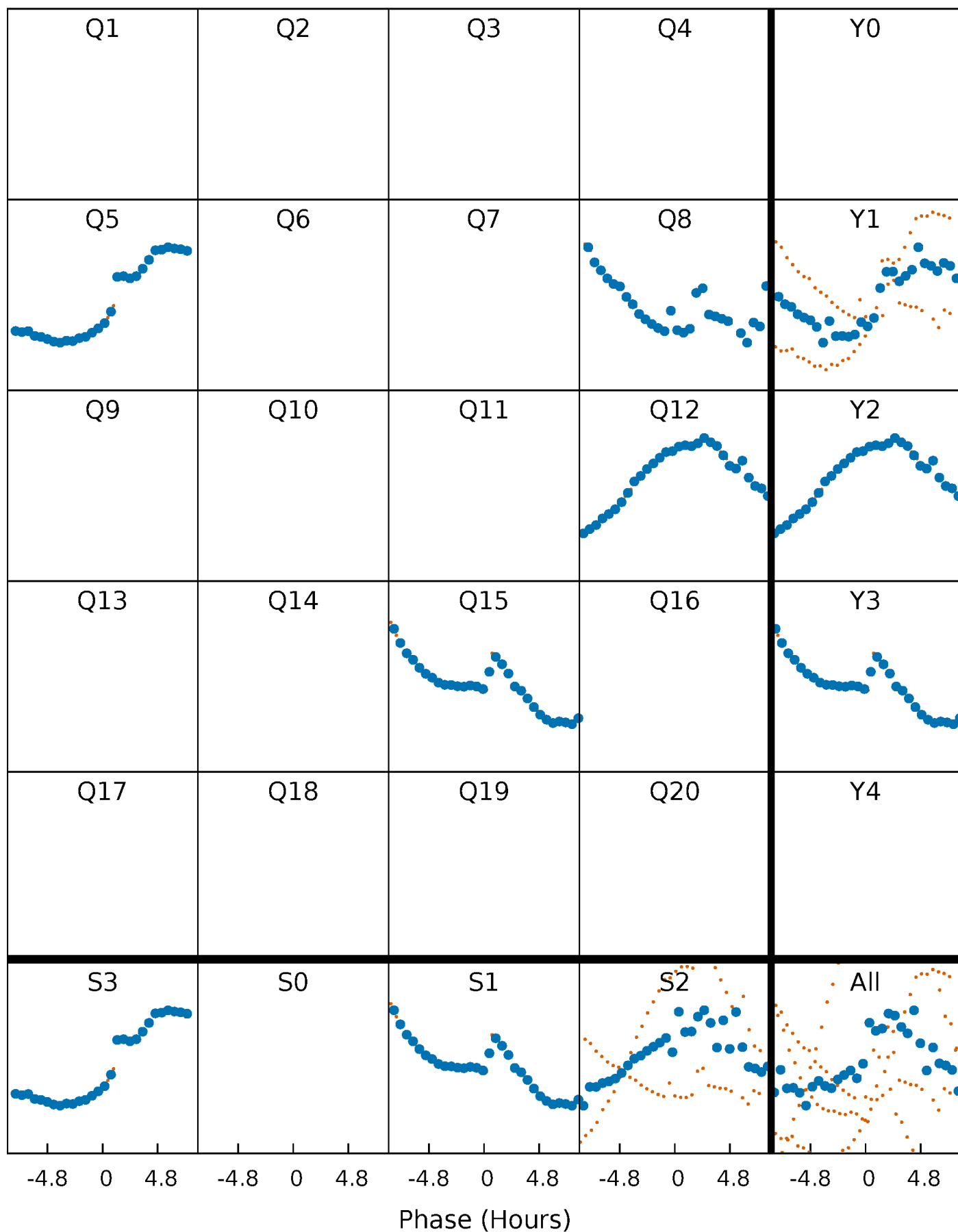


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



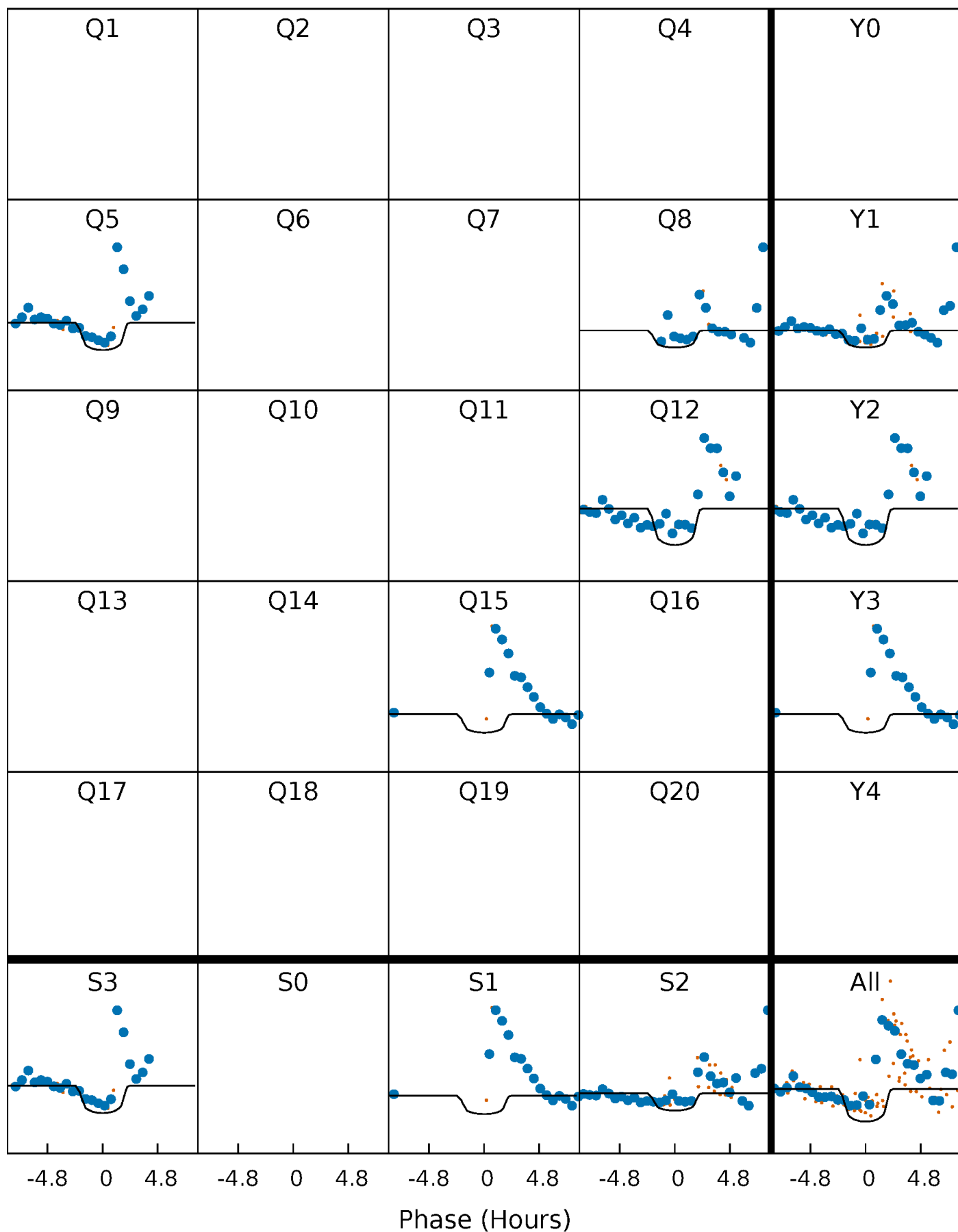
PDC Quarter-Phased Transit Curves

TCE 011031746-03 $P=312.774313$ Days $T_0=167.723087$ (BKJD)



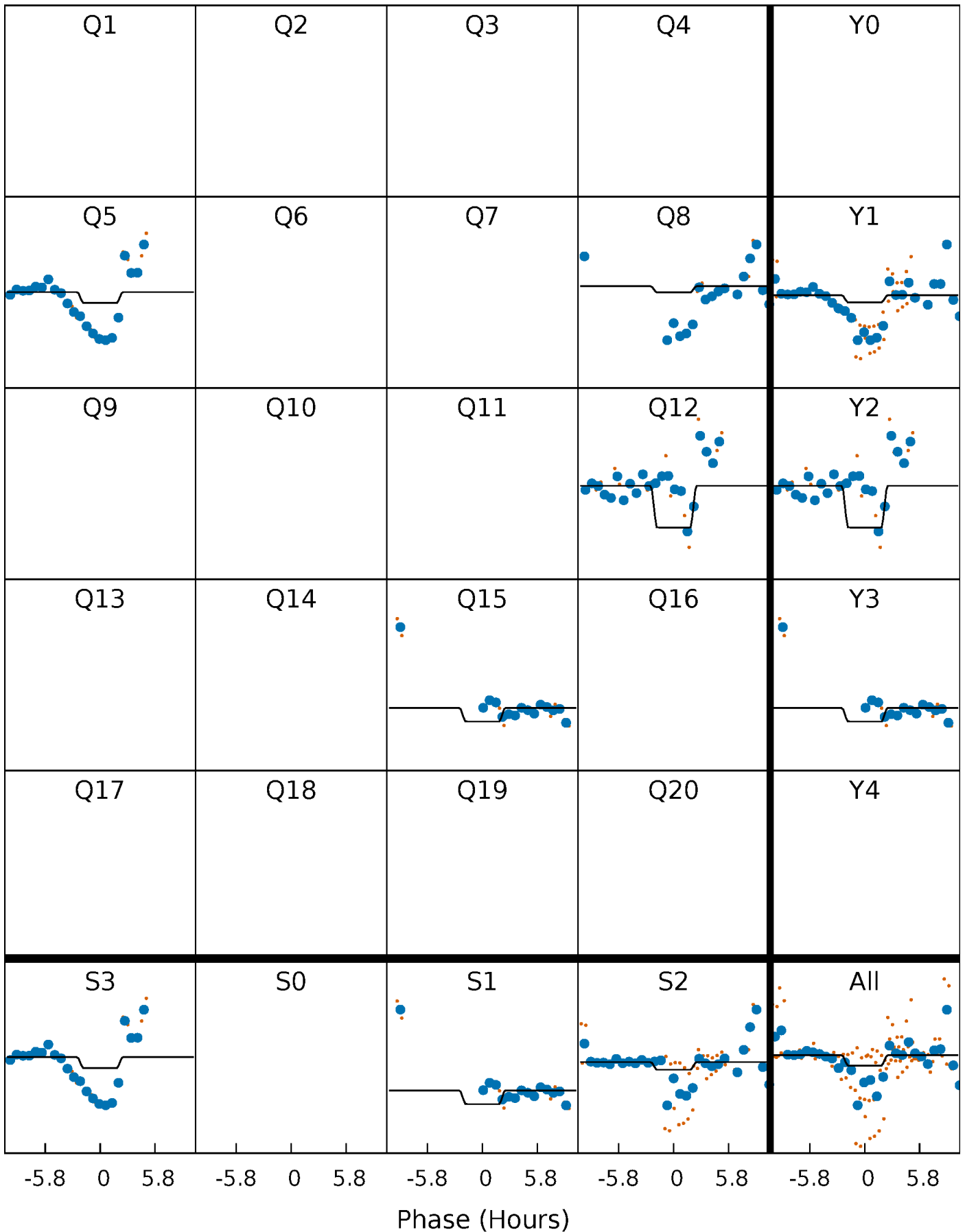
DV Quarter-Phased Transit Curves

TCE 011031746-03 $P=312.774313$ Days $T_0=167.723087$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

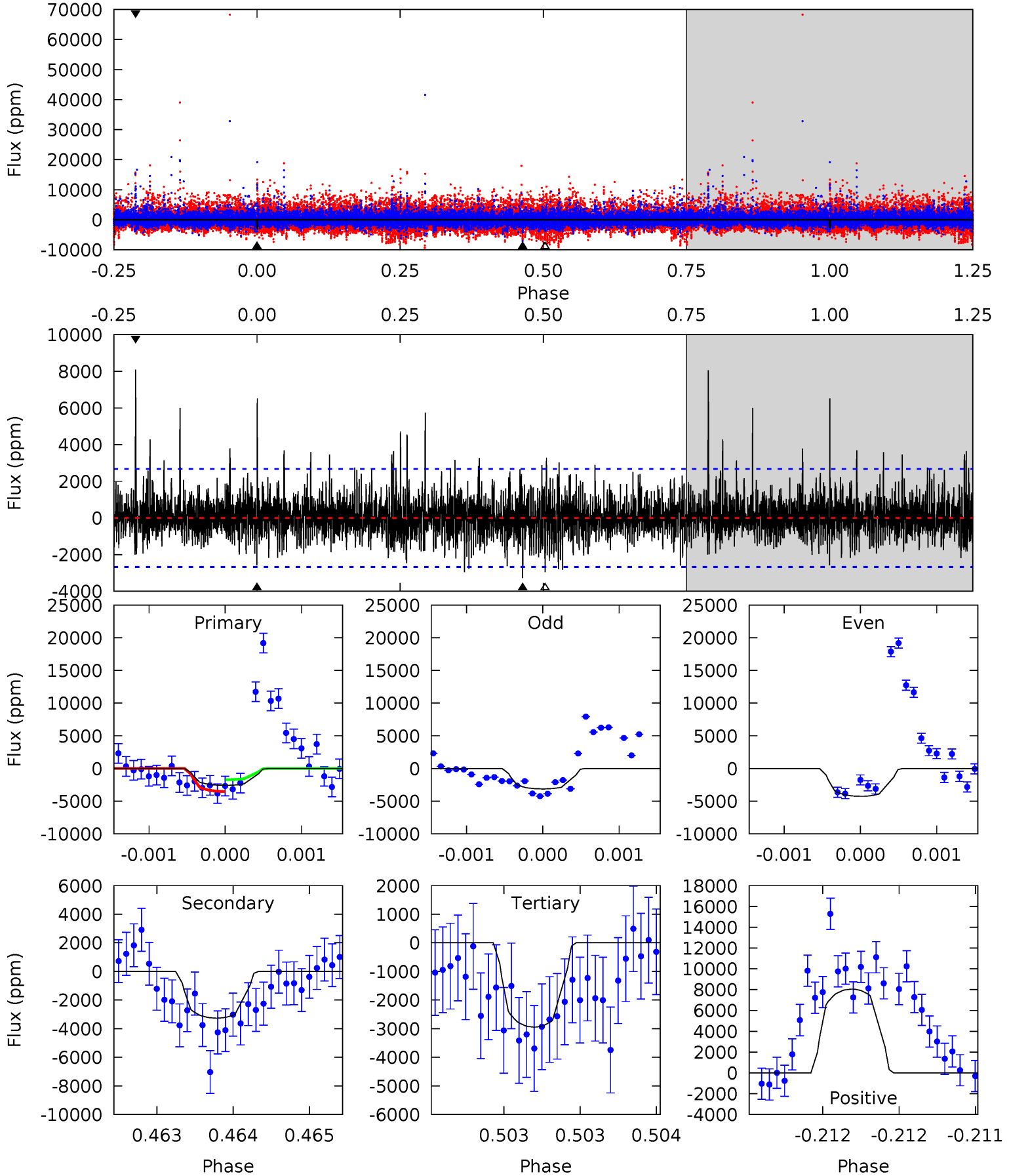
TCE 011031746-03 $P=312.793174$ Days $T_0=167.663241$ (BKJD)



DV Model-Shift Uniqueness Test

011031746-03, P = 312.774313 Days, E = 167.723087 Days

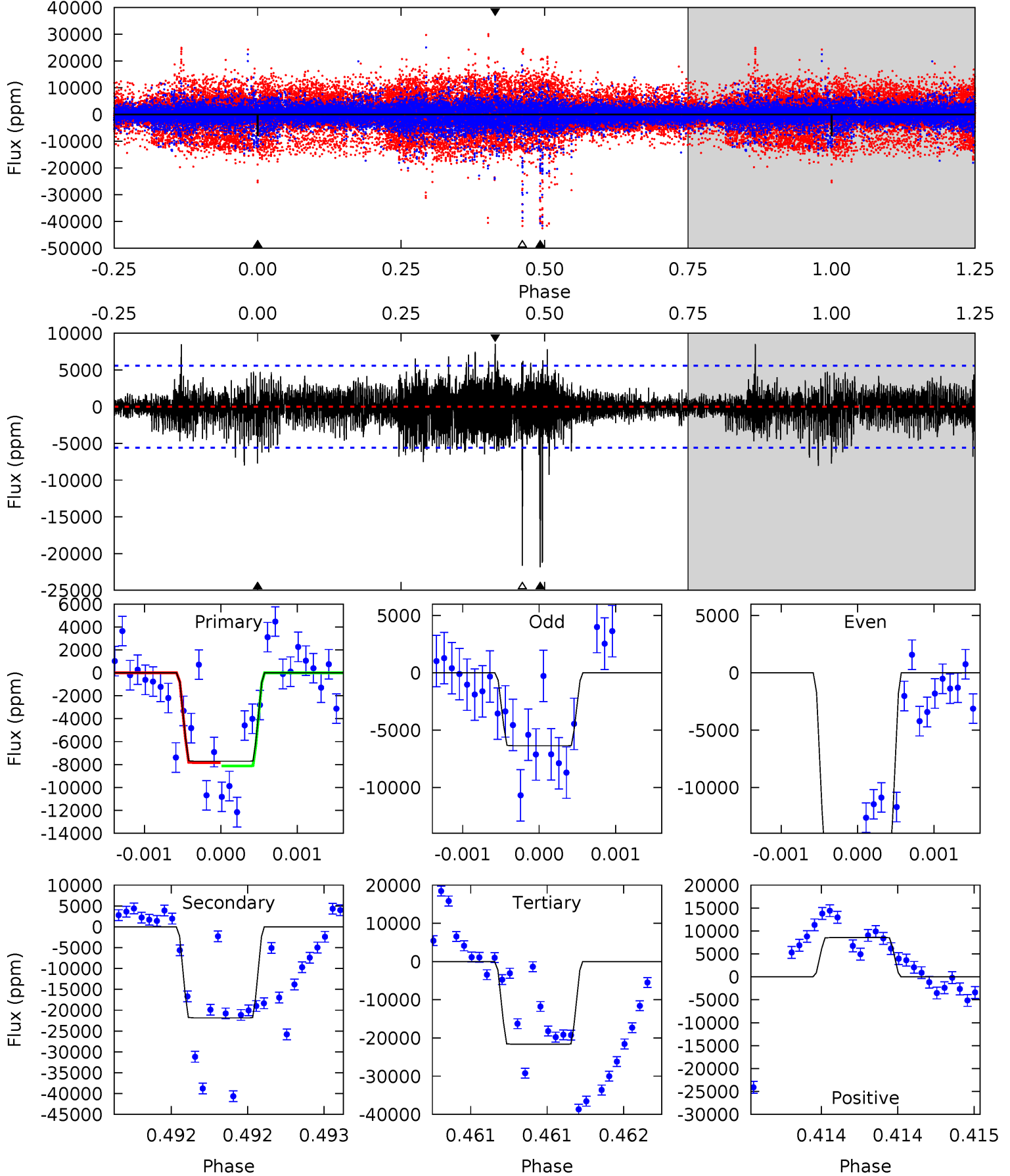
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.36	6.77	6.11	16.7	5.54	3.44	1.80	-0.76	-11.4	0.66	-9.94	0.80	-4.92	0.71	1.91



Alt Model-Shift Uniqueness Test

011031746-03, P = 312.793174 Days, E = 167.663241 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	21.7	21.5	8.49	5.55	3.45	2.04	-13.8	-0.83	0.22	13.2	4.40	1.45	0.28	0.14



Stellar Parameters For KIC 011031746

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3498^{+52}_{-57}	$4.896^{+0.044}_{-0.036}$	$-0.100^{+0.100}_{-0.100}$	$0.357^{+0.033}_{-0.041}$	$0.368^{+0.040}_{-0.049}$	$11.410^{+2.487}_{-1.858}$
	+1%/-2%	+1%/-1%	+100%/-100%	+9%/-11%	+11%/-13%	+22%/-16%
Source	PHO2	PHO2	PHO2	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 011031746-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-3265 ± 482	$3.38^{+2.61}_{-2.11}$	160^{+4}_{-4}	3064^{+1105}_{-423}	$64508^{+383300}_{-44039}$
Alt.	-21856 ± 1006	$2.95^{+2.47}_{-1.99}$	160^{+4}_{-4}	4404^{+3005}_{-812}	$578425^{+4644968}_{-403730}$

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

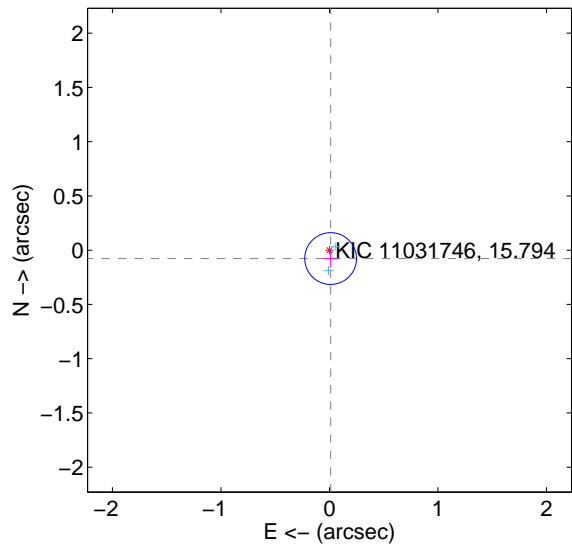
Supplemental centroid analysis for 011031746-03. Kepler magnitude: 15.79. Transit SNR 7.08

There are 2 quarters with good PRF difference image offsets

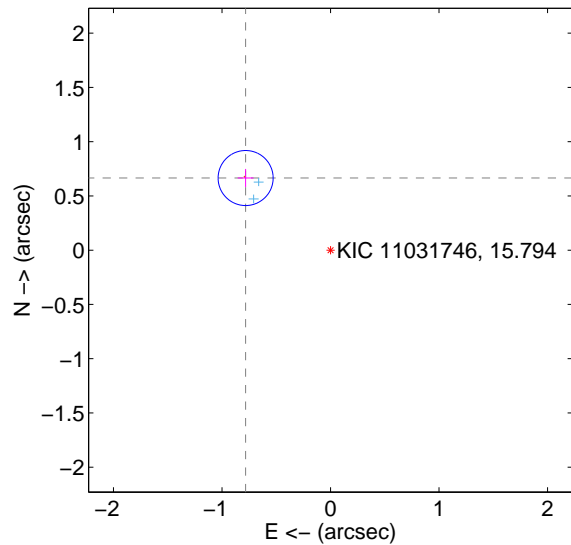
The direct PRF centroid is offset from the target star catalog position by about 1.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.078 ± 0.079	0.98	-0.011 ± 0.068	-0.077 ± 0.081
PRF-fit source offset from KIC position	1.027 ± 0.085	12.15	0.782 ± 0.073	0.665 ± 0.083
photometric centroid source offset	0.81 ± 0.35	2.33	0.68 ± 0.33	-0.44 ± 0.38

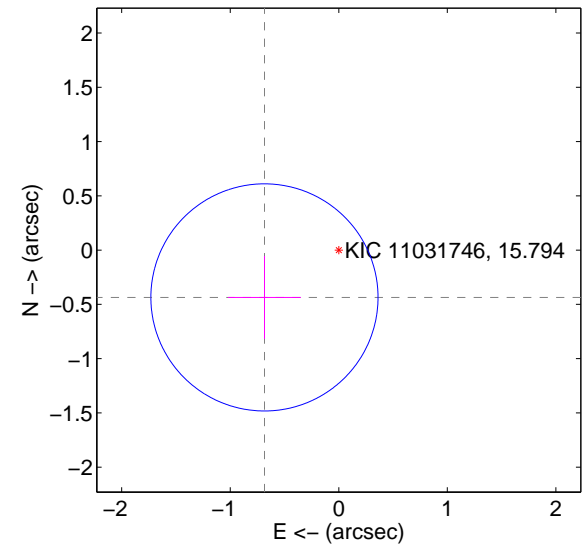
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

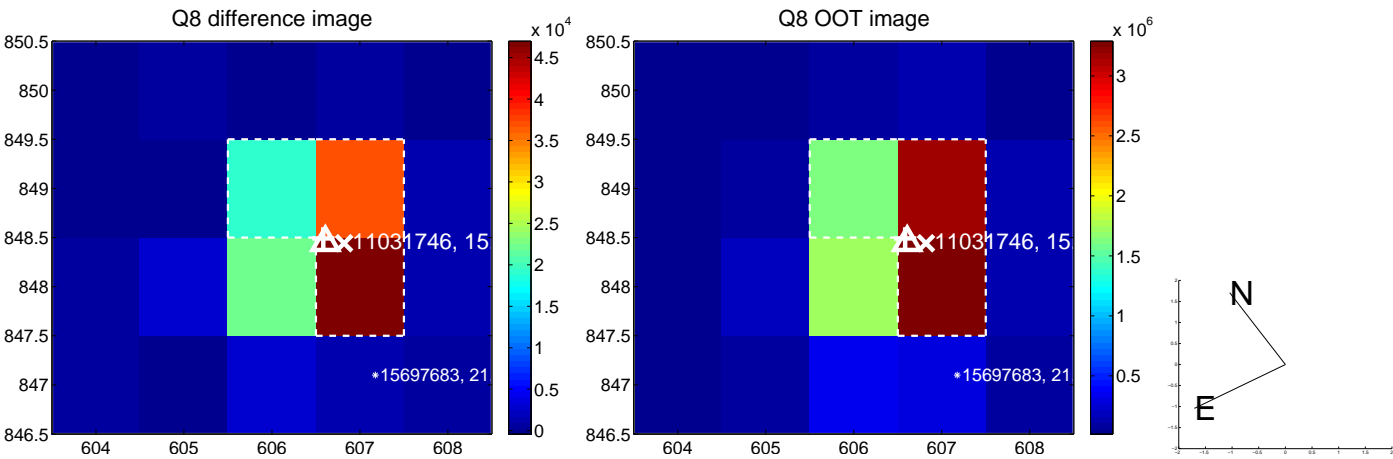
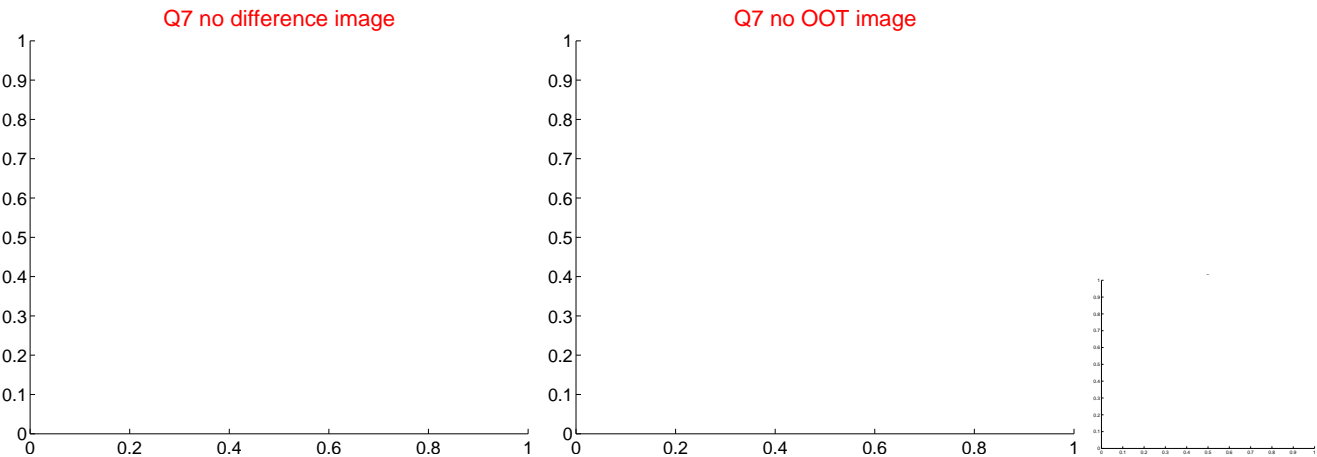
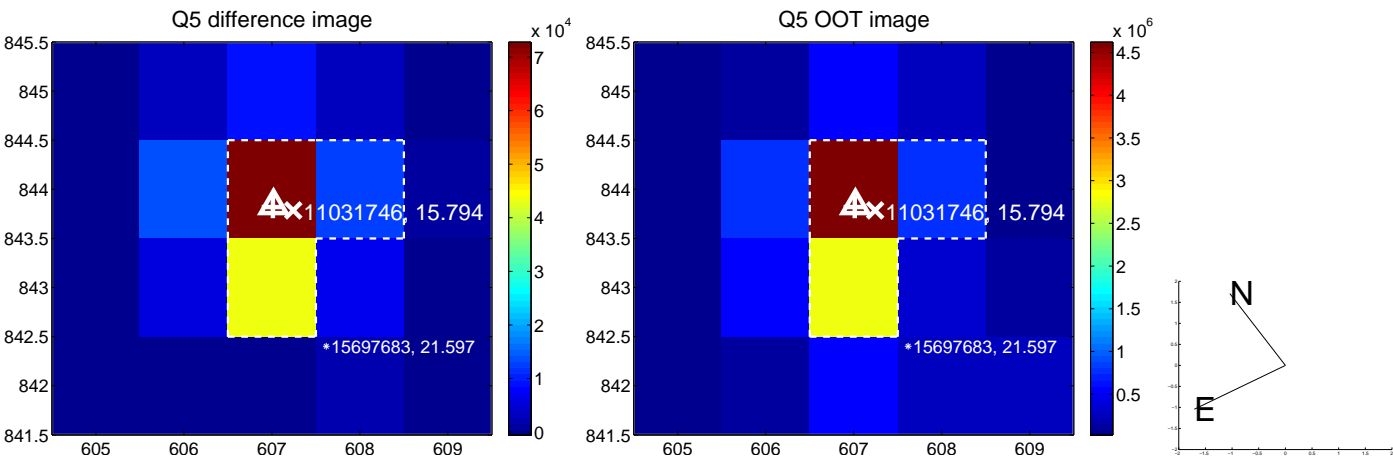


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

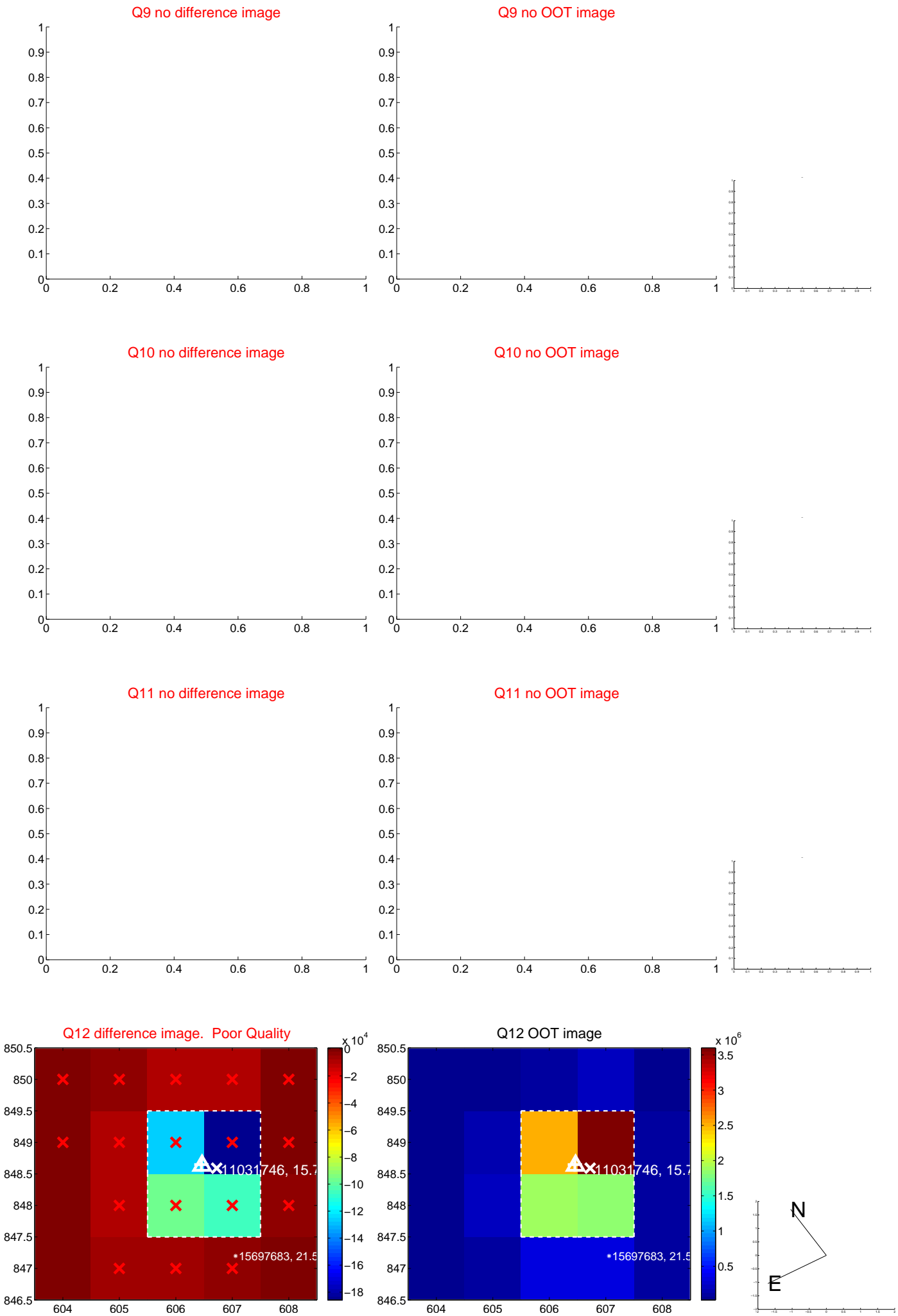
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



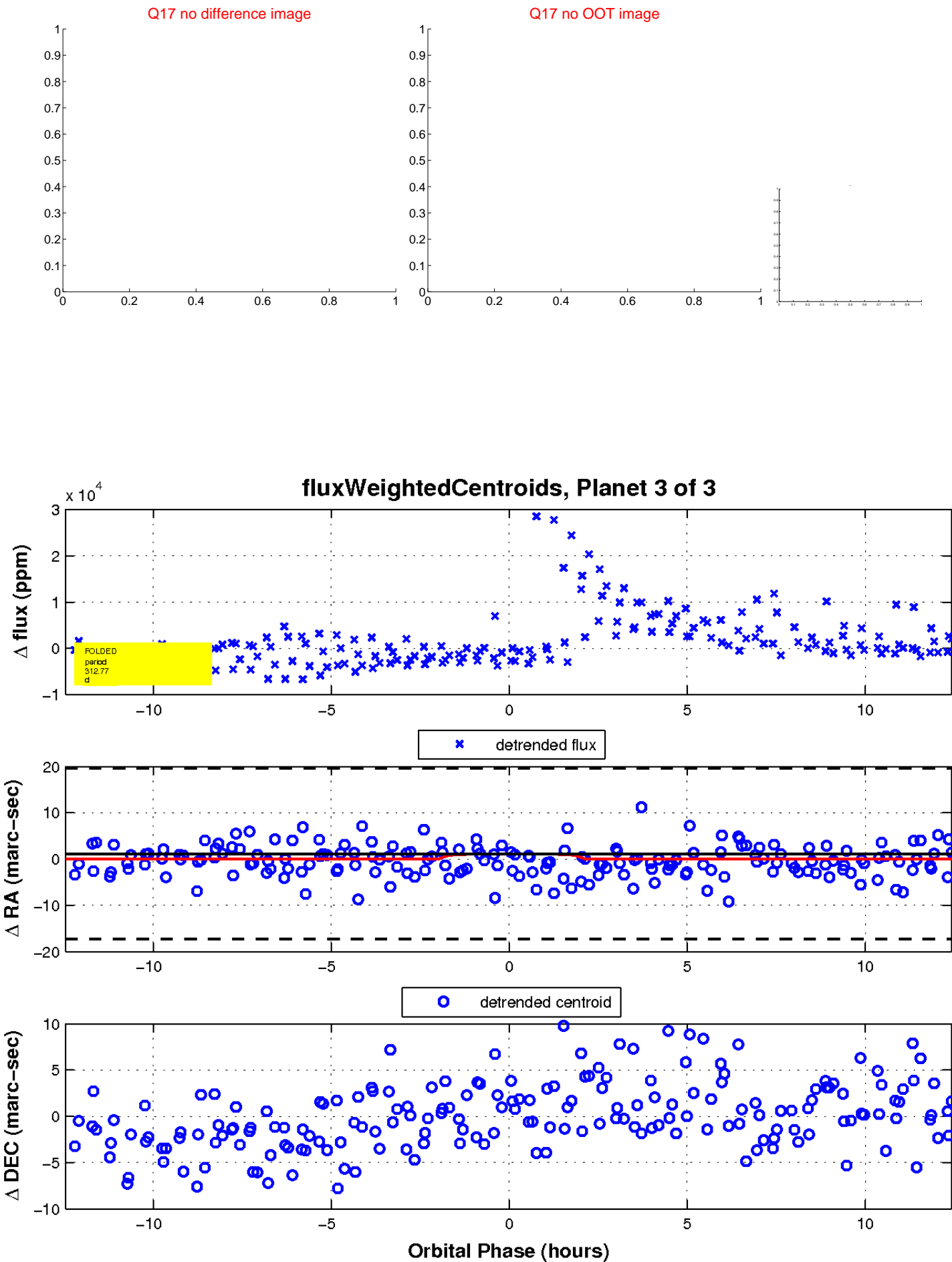
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

