

KIC 008646460

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})
008646460-01	OBS	No	388.108326	244.773249	0.0	4.112	20.4	0.0	3.98	6084	0.00	11.89
008646460-02	OBS	No	390.502488	243.024899	521.2	7.285	21.4	15.5	3.98	6084	10.11	11.80
008646460-03	OBS	No	387.417251	246.737739	753.9	4.571	16.3	13.5	3.98	6084	21.31	11.92
008646460-04	OBS	No	429.270535	205.154547	345.7	15.637	9.3	9.6	3.98	6084	7.47	10.40
008646460-05	OBS	No	412.512495	187.629367	31.4	3.950	11.4	2.2	3.98	6084	2.37	10.96
008646460-06	OBS	No	208.291881	312.149199	21.7	2.676	11.6	9.5	3.98	6084	1.98	27.27
008646460-07	OBS	No	475.754577	435.419332	65.9	15.000	9.1	-1.0	3.98	6084	3.22	9.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008646460-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008646460-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008646460-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST
008646460-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_ZUMA—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
008646460-05	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—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008646460-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008646460-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED

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

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

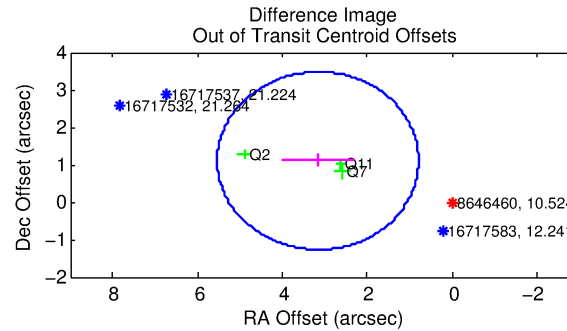
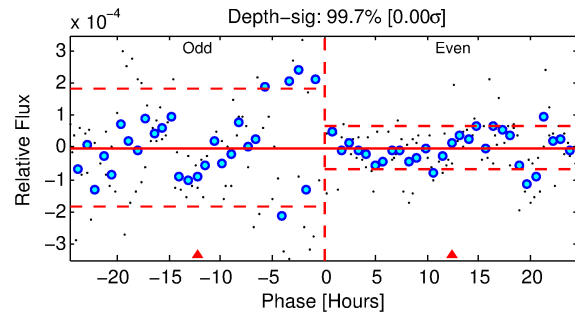
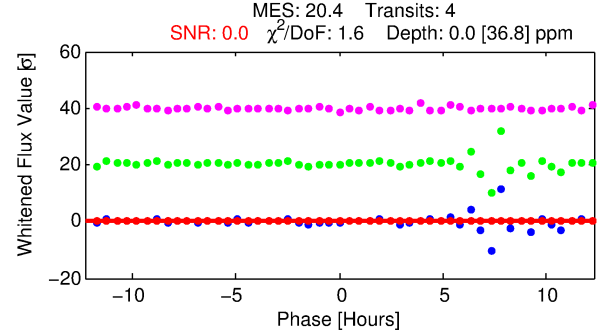
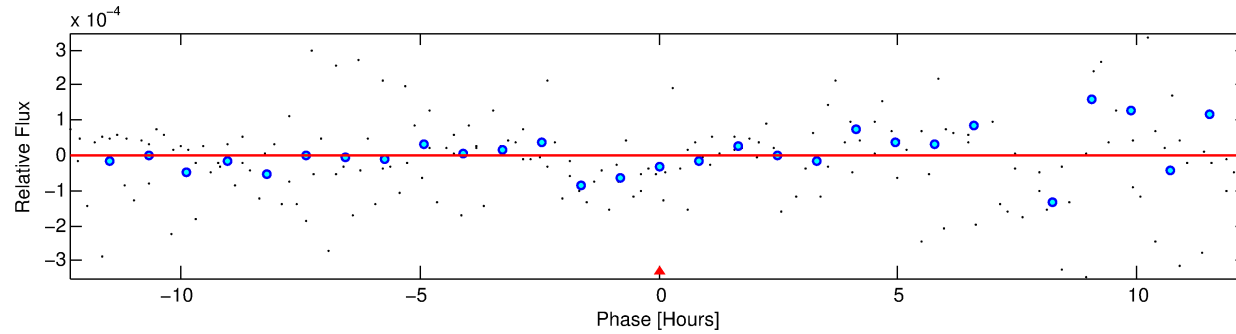
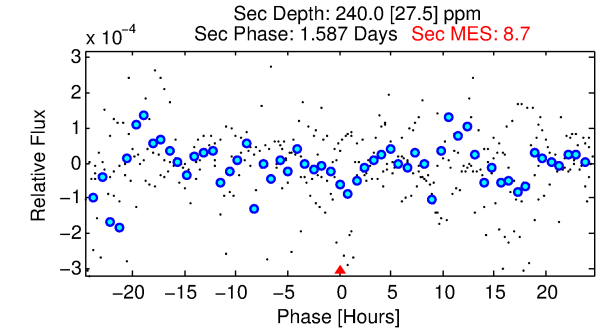
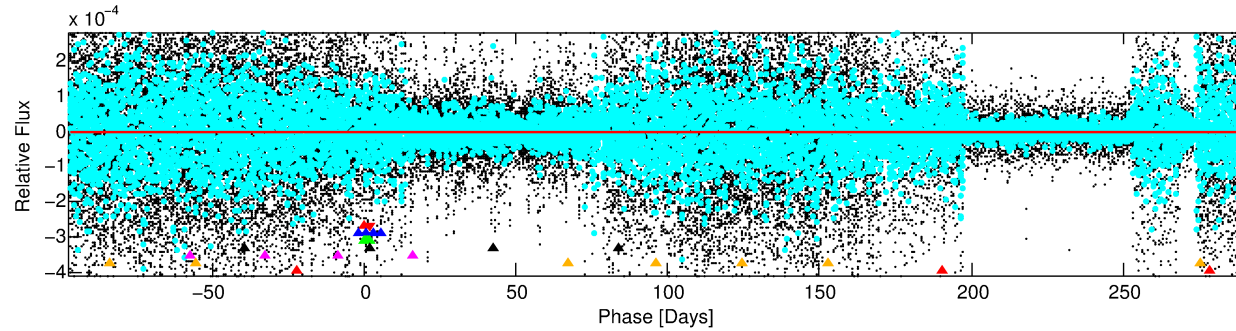
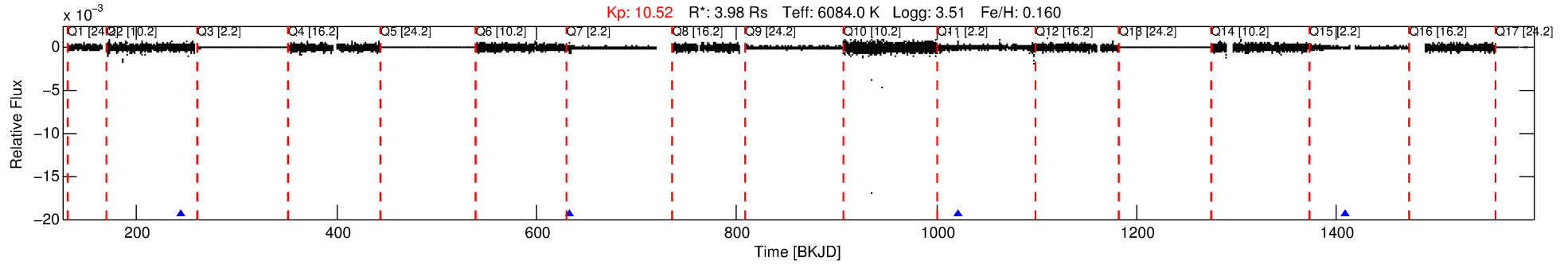
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008646460-01

No Significant Match Found

DV One-Page Summary

KIC: 8646460 Candidate: 1 of 7 Period: 388.108 d



DV Fit Results:

Period = 388.10833 [309432.43857] d
Epoch = 244.7732 [324593.0819] BKJ
Rp/R* = 0.0000 [9.3211]
a/R* = 257.77 [1192978282.80]
b = 0.93 [122824.73]
Seff = 11.89 [12644.00]
Teq = 474 [125849] K
Rp = 0.00 [4053.31] Re
a = 1.2802 [680.4660] AU
Ag = 183097754033.43 [1365481751892827136.00] 10.00d
Teffp = 478928 [892900432305] K [0.00]

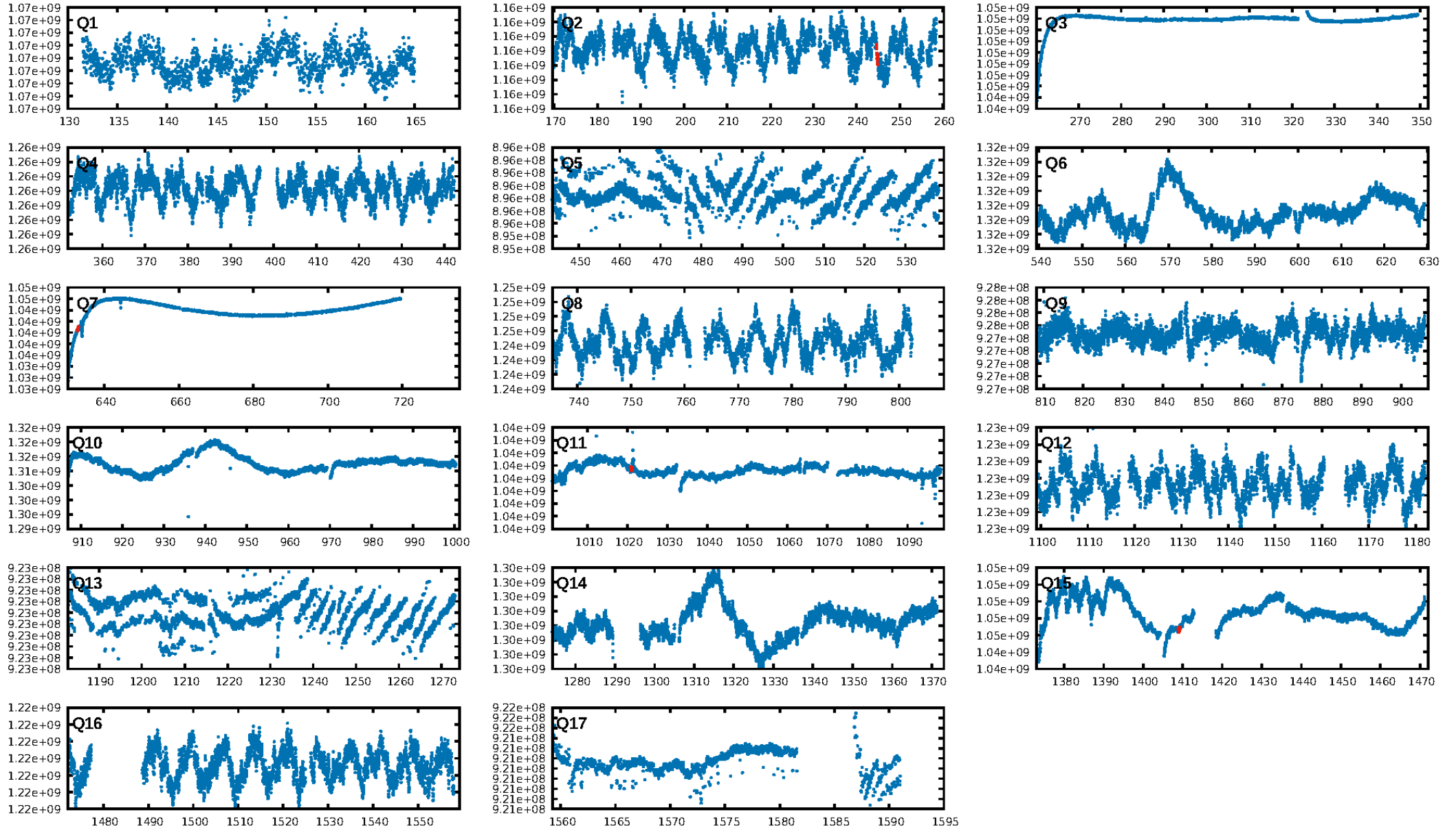
DV Diagnostic Results:

ShortPeriod-sig: 99.3% [2.70sigma]
LongPeriod-sig: 100.0% [6.87sigma]
ModelChiSquare2-sig: 1.6%
ModelChiSquareGof-sig: 51.3%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
QofOffset-rm: 3.344 arcsec [4.23sigma]
QofOffset-rm: 2.953 arcsec [4.00sigma]
QofOffset-st: 1/2/0/0 [3]
KicOffset-st: 1/2/0/0 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 0.75 [3/4]

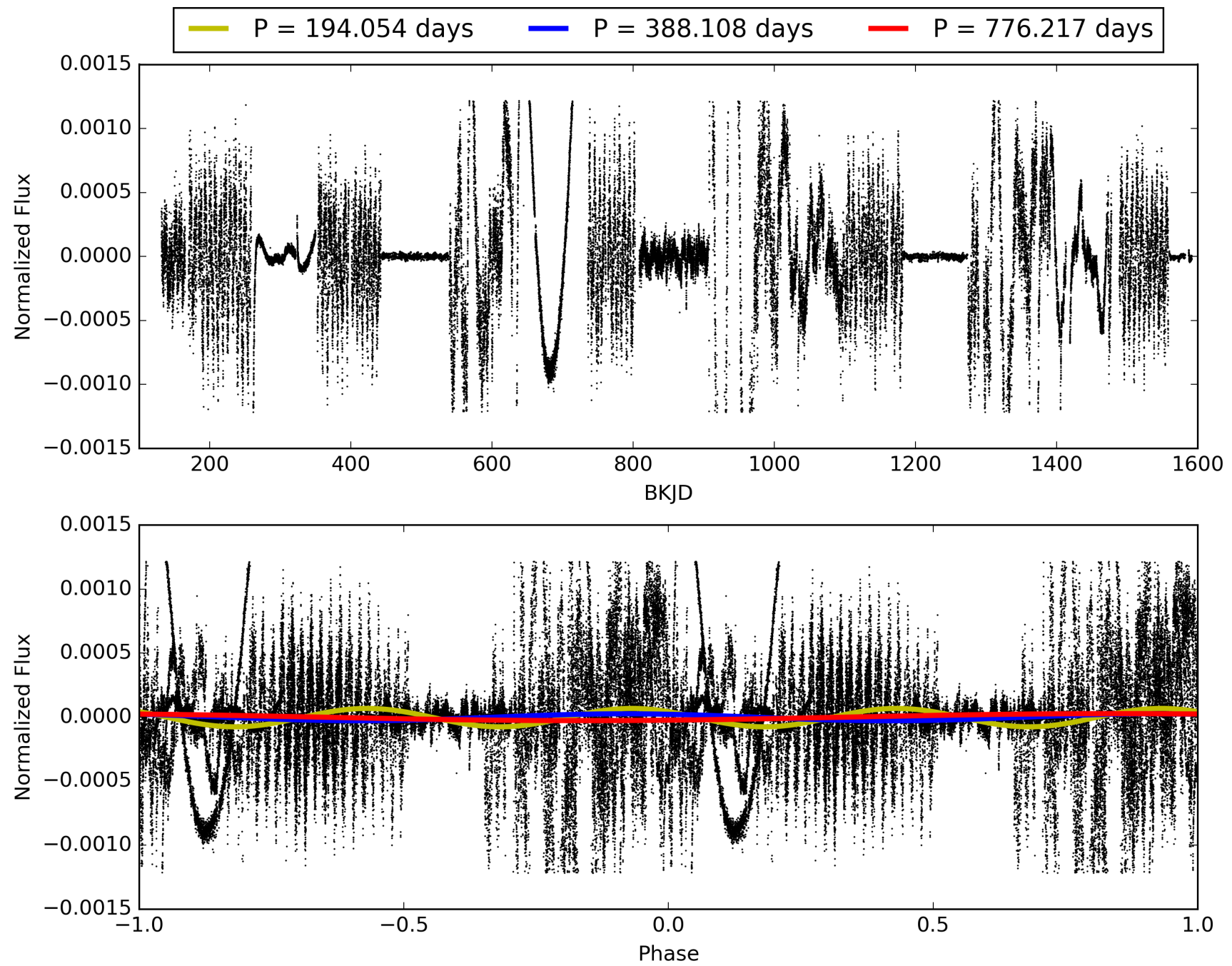
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:52:11 Z

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

TCE 008646460-01, PDC Light Curves

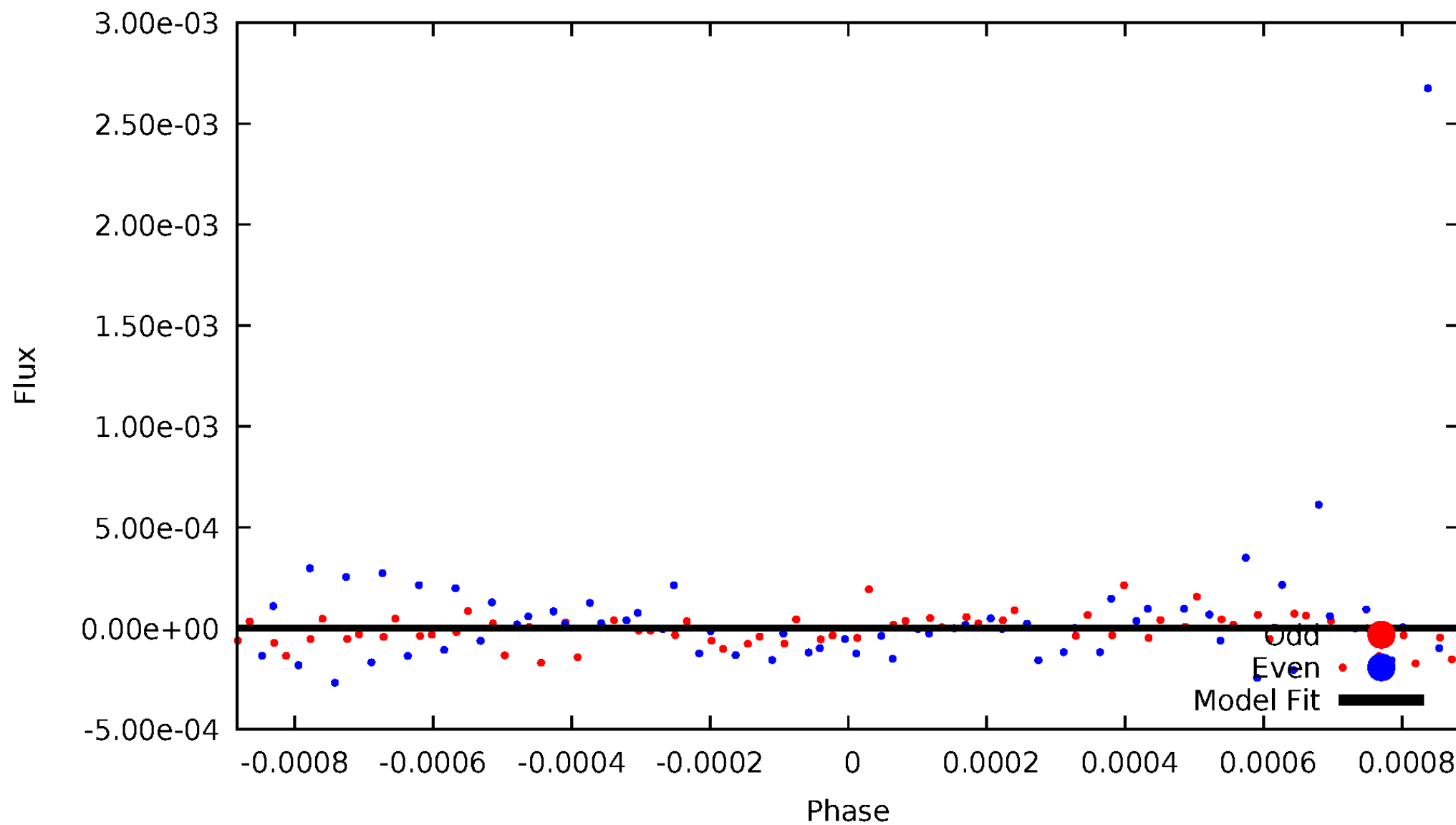


TCE 008646460-01



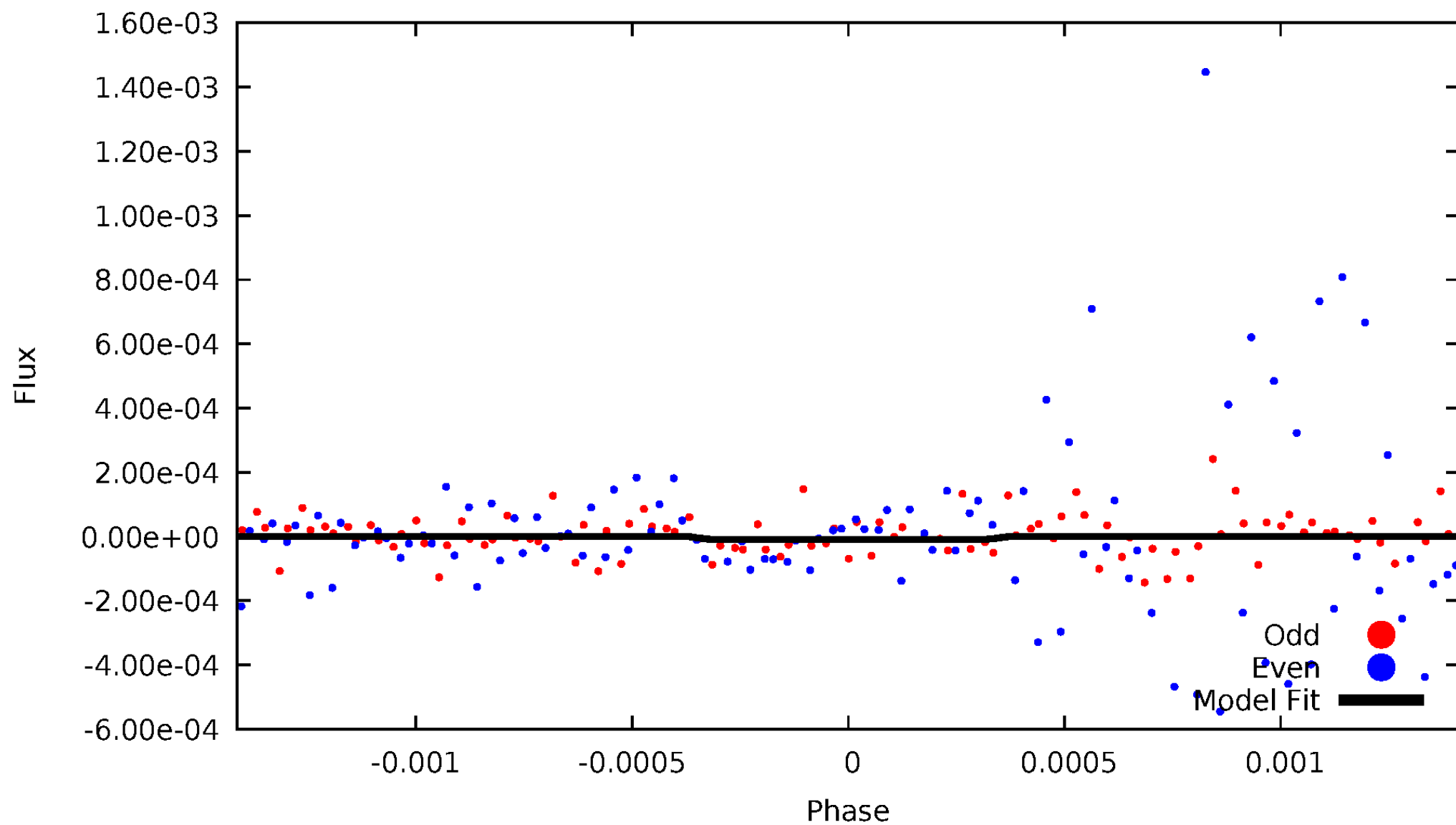
DV Odd/Even

TCE 008646460-01

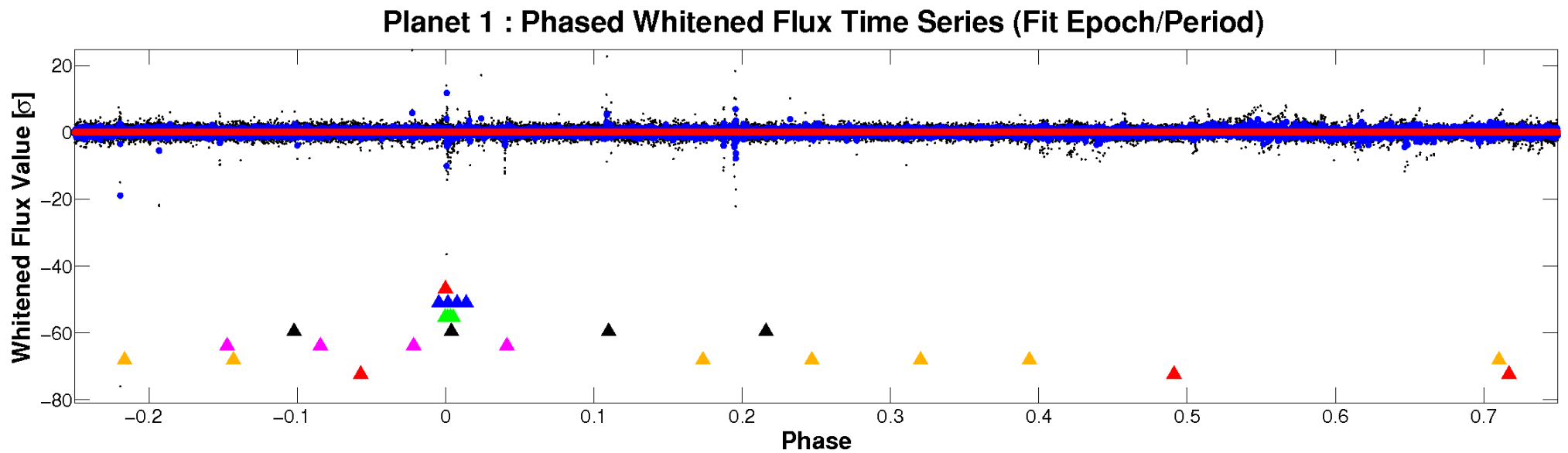
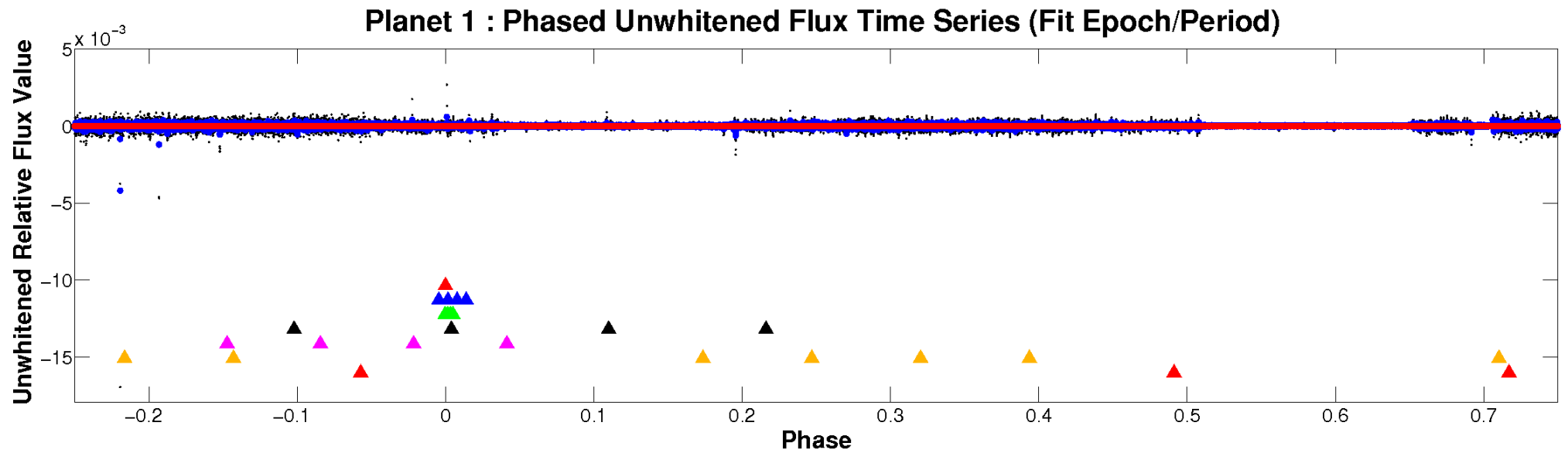


ALT Odd/Even

TCE 008646460-01

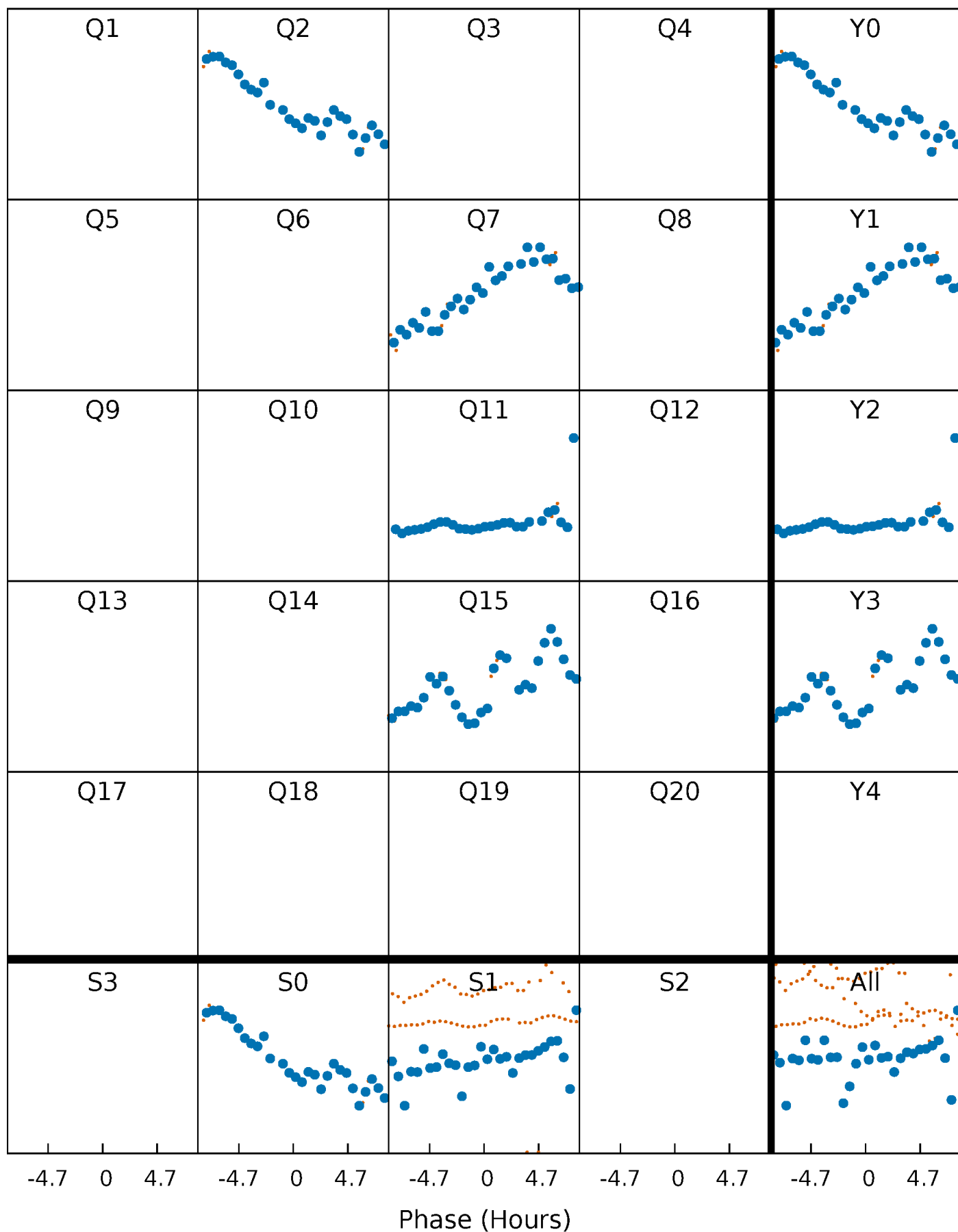


Non-Whitened Vs. Whitened Light Curve



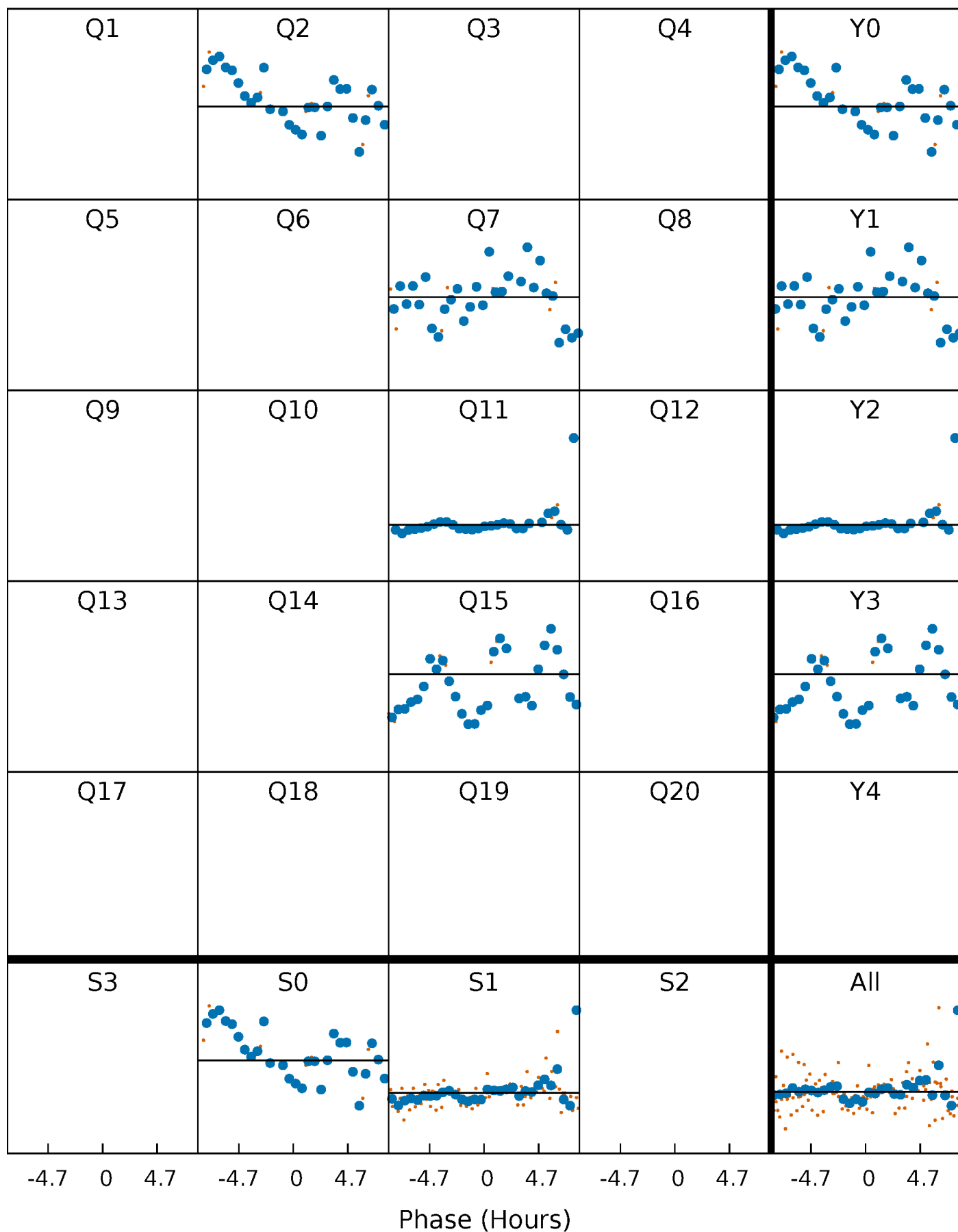
PDC Quarter-Phased Transit Curves

TCE 008646460-01 P=388.108326 Days $T_0=244.773249$ (BKJD)



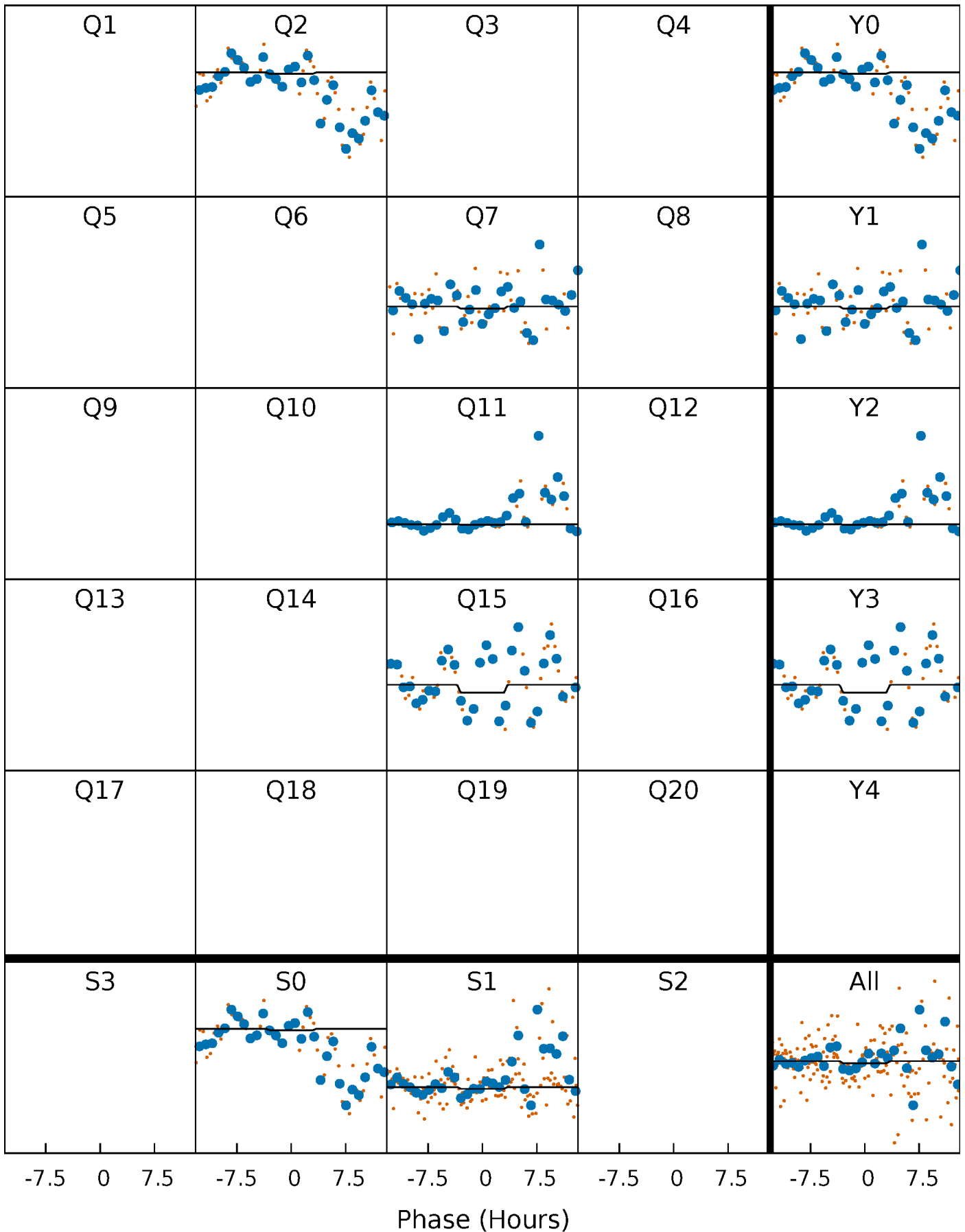
DV Quarter-Phased Transit Curves

TCE 008646460-01 P=388.108326 Days $T_0=244.773249$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

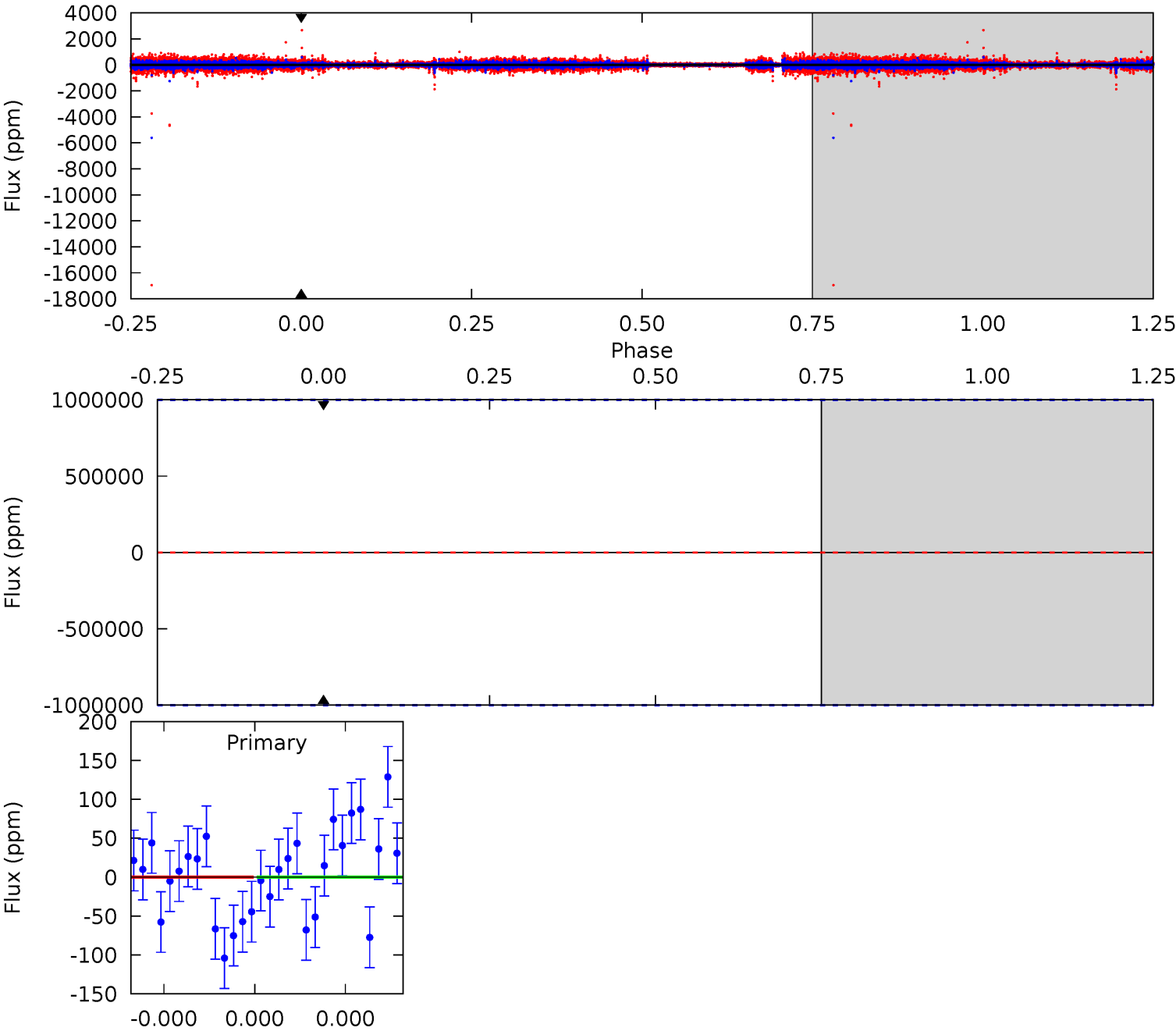
TCE 008646460-01 P=388.101416 Days $T_0=244.832228$ (BKJD)



DV Model-Shift Uniqueness Test

008646460-01, P = 388.108326 Days, E = 244.773249 Days

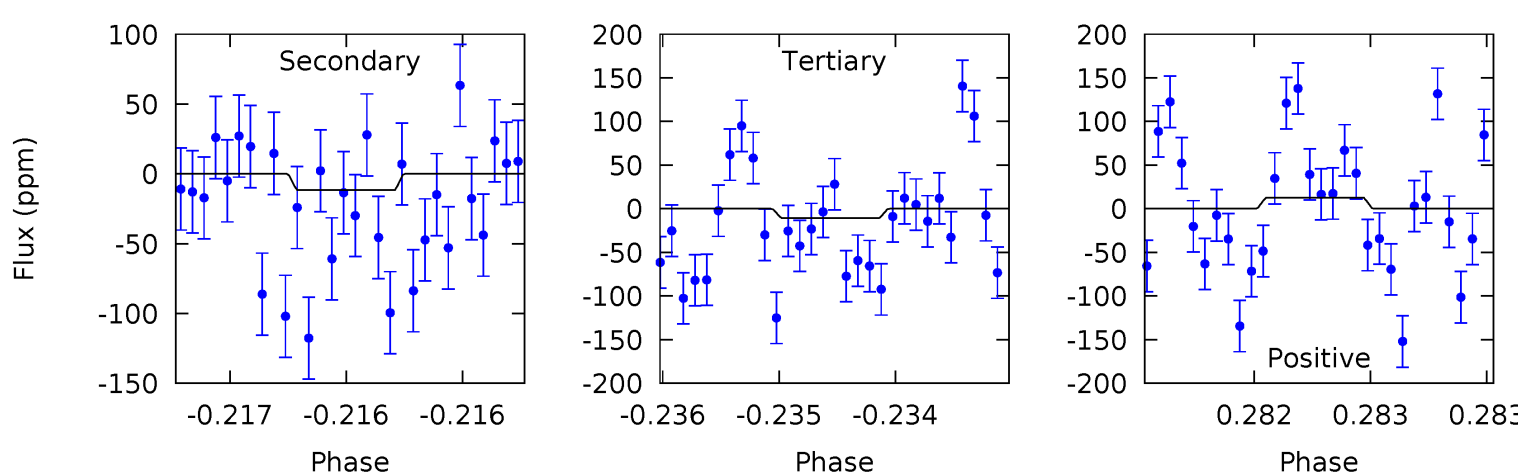
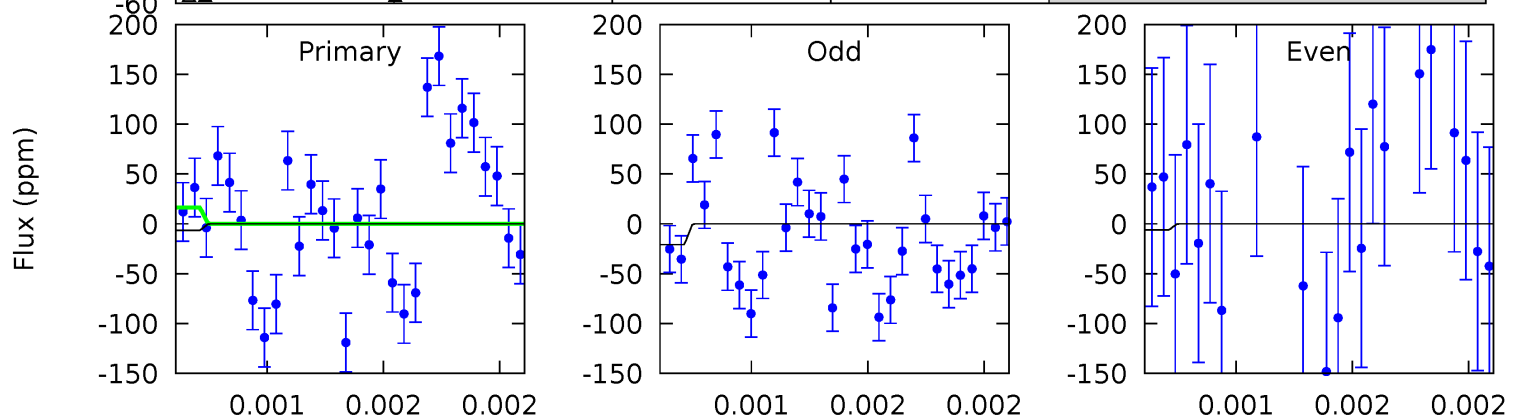
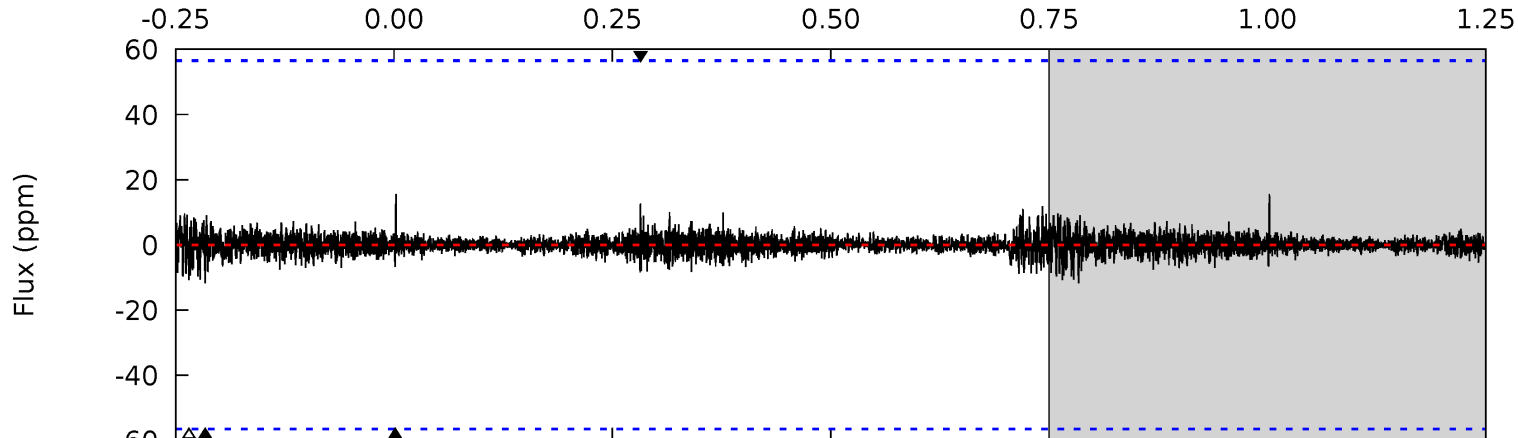
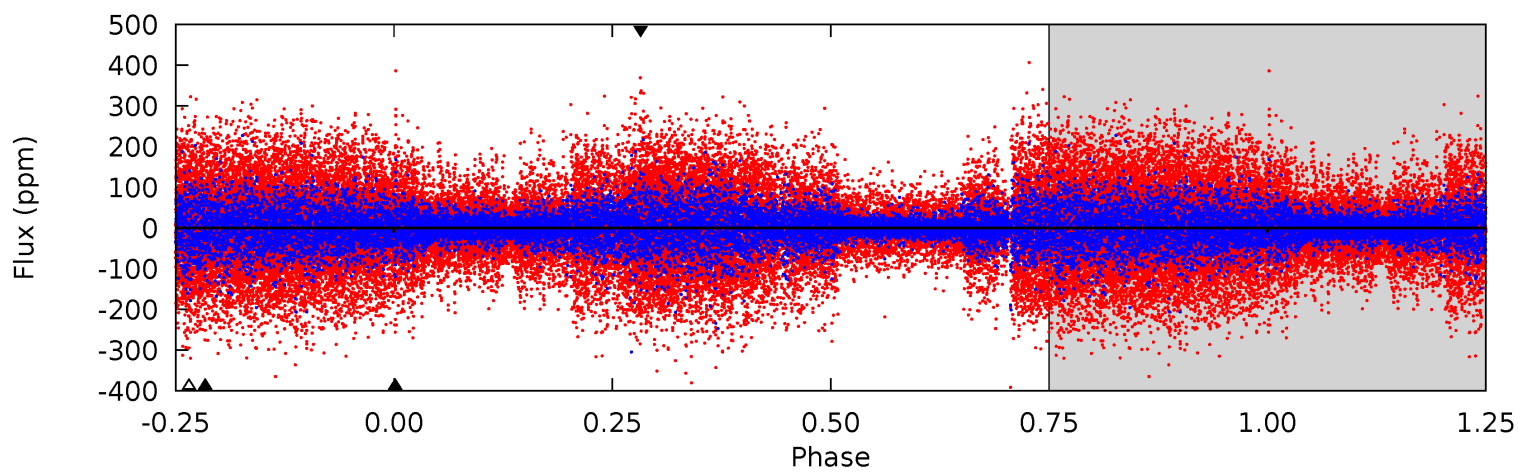
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008646460-01, P = 388.101416 Days, E = 244.832228 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.65	1.14	1.04	1.24	5.50	3.37	0.21	-0.39	-0.59	0.10	-0.10	0.64	1.09	0.57	0.66



Stellar Parameters For KIC 008646460

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6084^{+223}_{-185}	$3.506^{+0.400}_{-0.125}$	$0.160^{+0.250}_{-0.250}$	$3.985^{+0.753}_{-1.756}$	$1.857^{+0.119}_{-0.446}$	$0.041^{+0.133}_{-0.016}$
	+4%/-3%	+11%/-4%	+156%/-156%	+19%/-44%	+6%/-24%	+321%/-38%
Source	PHO1	FLK73	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 008646460-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$2523.14^{+2630.83}_{-1858.20}$	79^{+43}_{-17}	1275^{+1160}_{-3722}	$17^{+123490}_{-87904}$
Alt.	-12 ± 10	$2508.36^{+2701.10}_{-1712.48}$	78^{+36}_{-19}	1050^{+193}_{-2009}	$3.821^{+69.784}_{-3.774}$

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 $A_{obs} \gg 1.0$

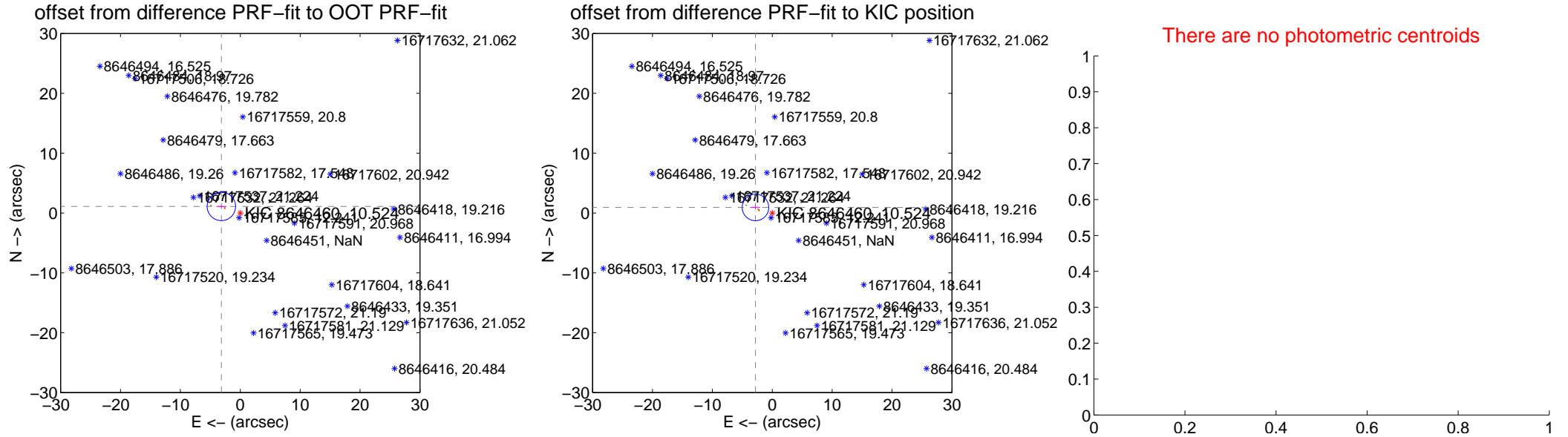
DV Centroid Data

Supplemental centroid analysis for 008646460-01. **Kepler magnitude: 10.52.** Transit SNR 0.00

There are 0 quarters with good PRF difference image offsets

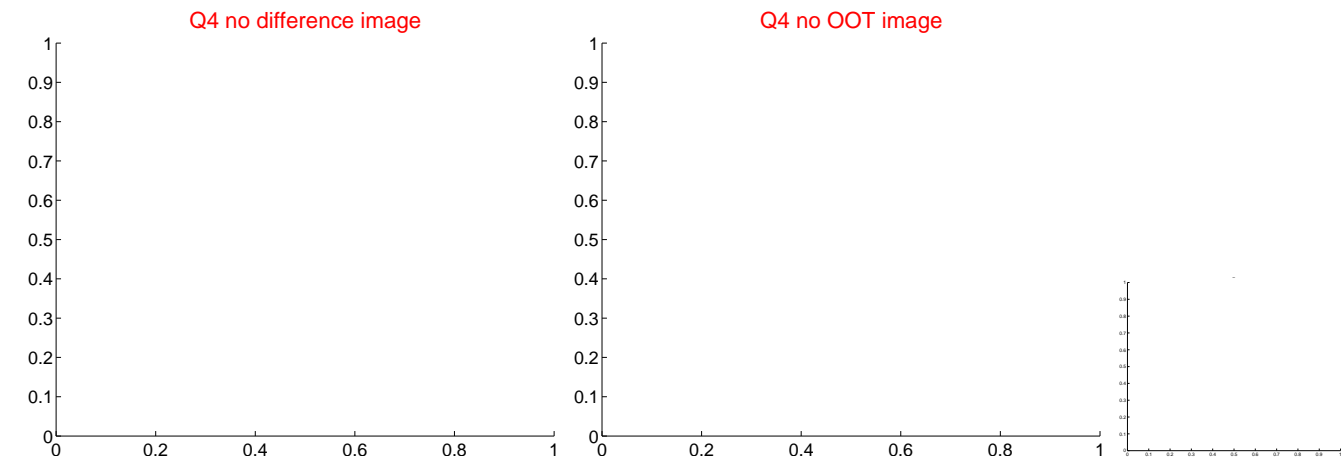
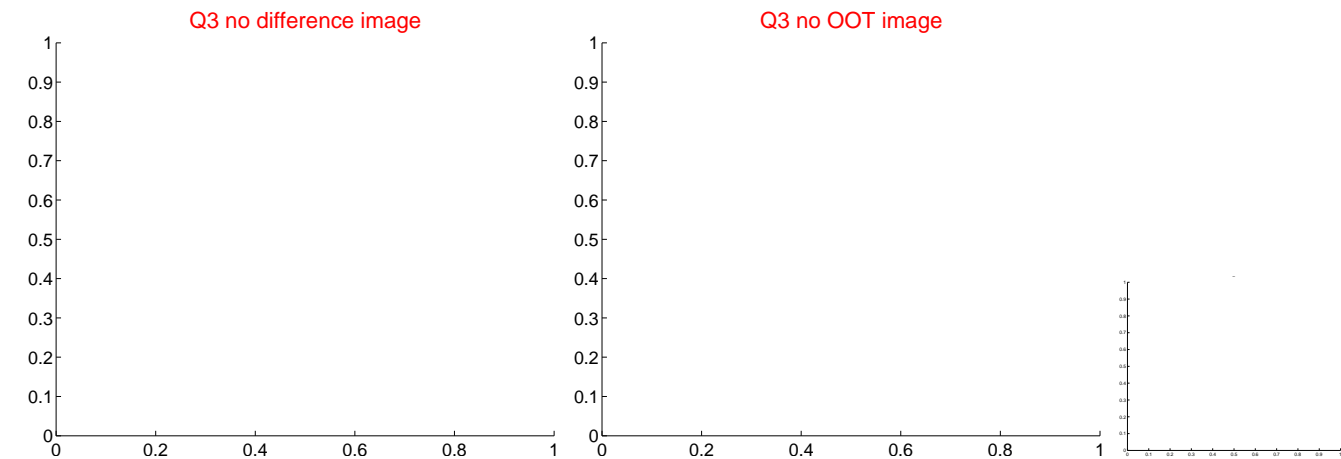
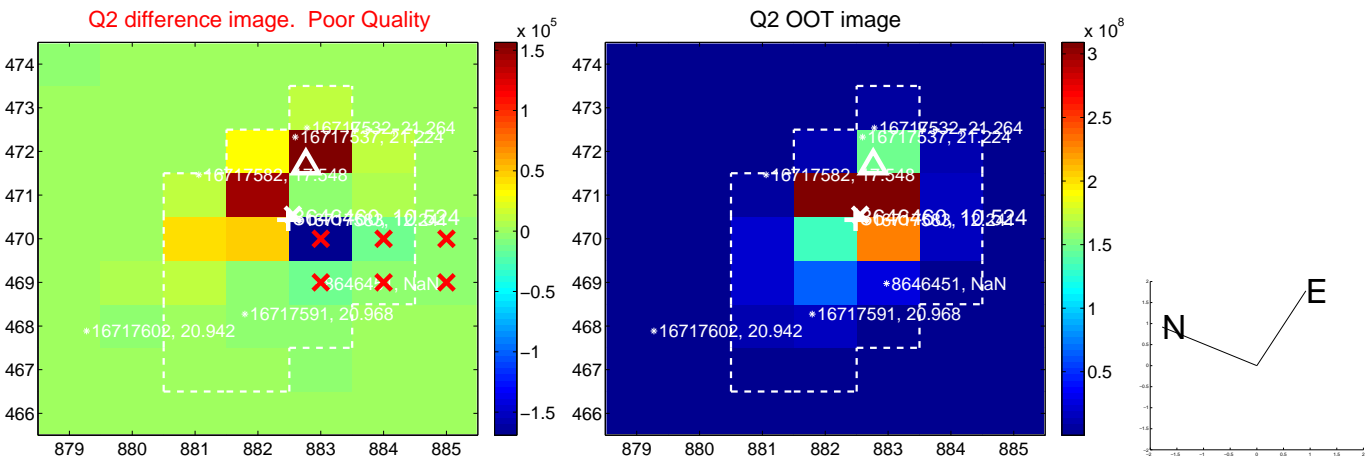
The direct PRF centroid is offset from the target star catalog position by about 0.44 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.344 \pm 0.791	4.23	3.157 \pm 0.837	1.104 \pm 0.149
PRF-fit source offset from KIC position	2.953 \pm 0.739	4.00	2.802 \pm 0.772	0.932 \pm 0.313
photometric centroid source offset	—	—	—	—

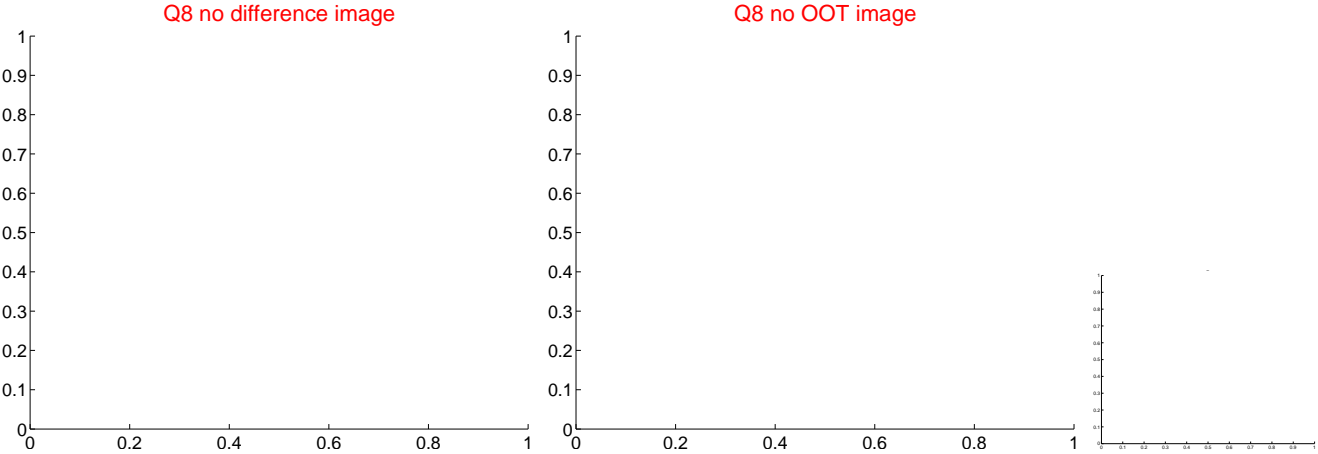
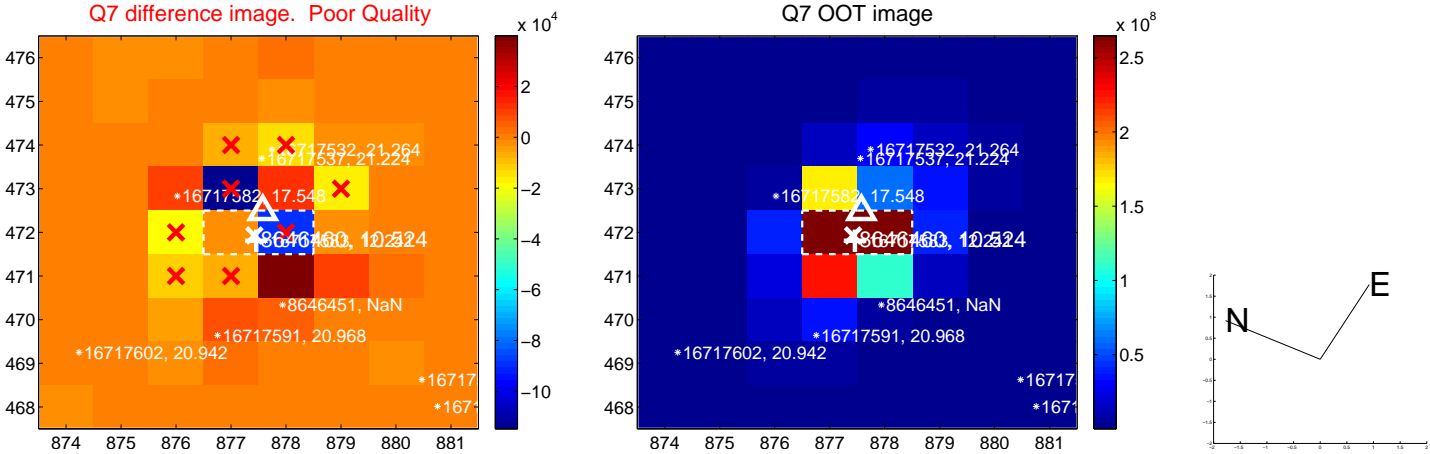
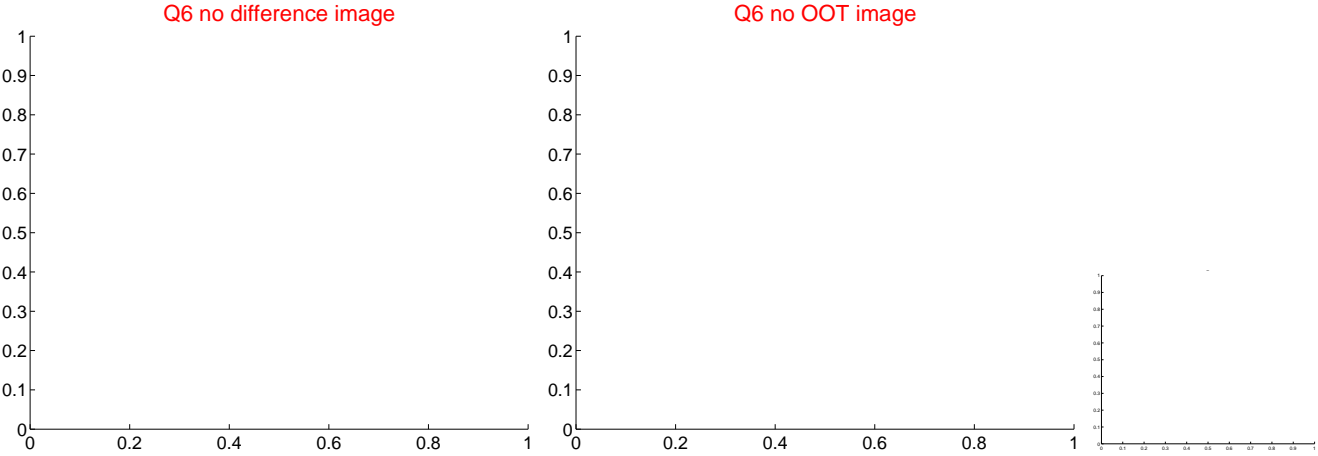


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

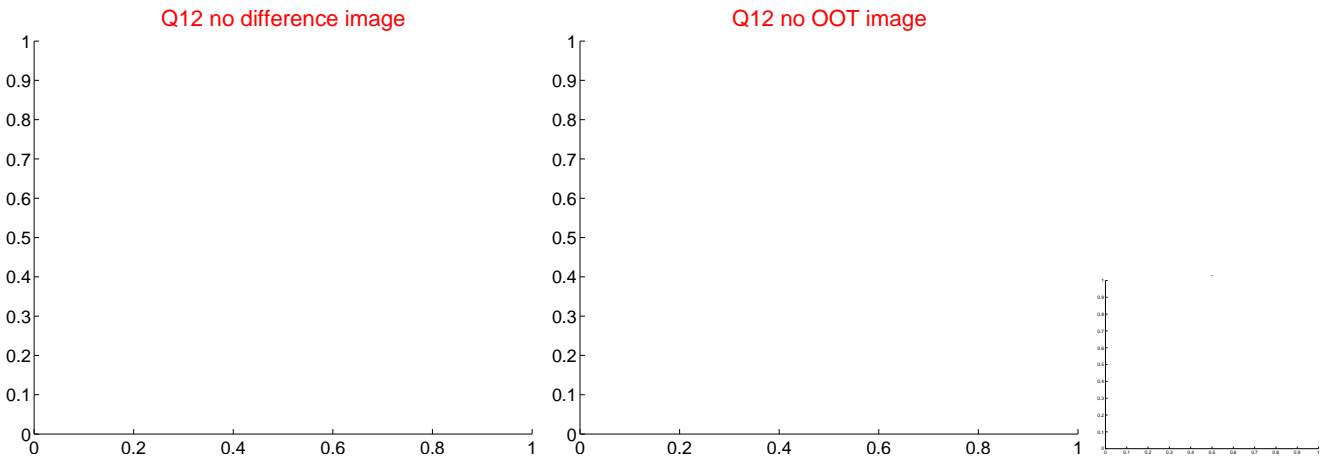
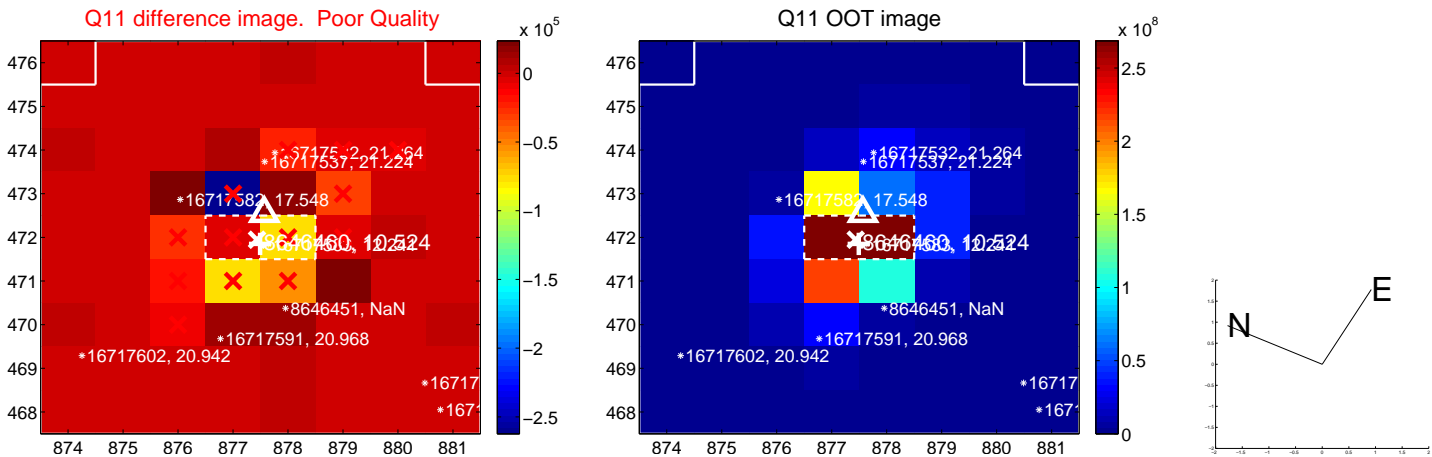
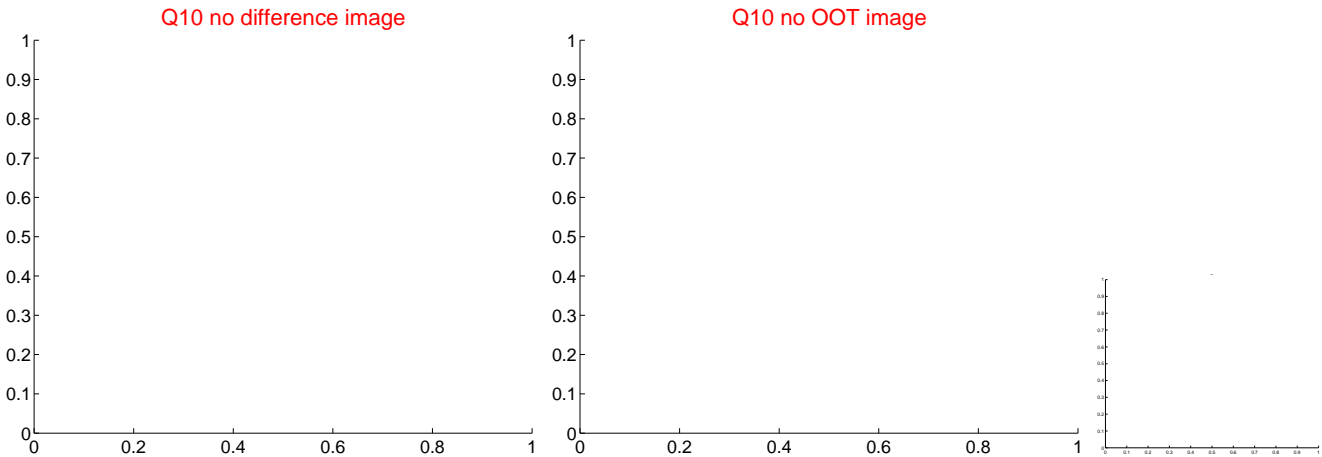
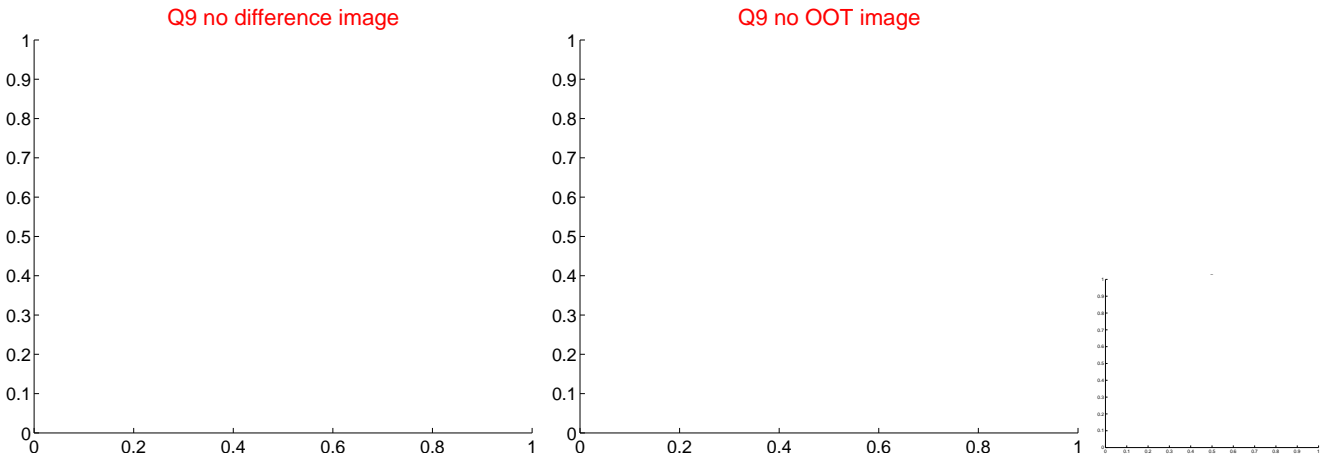
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



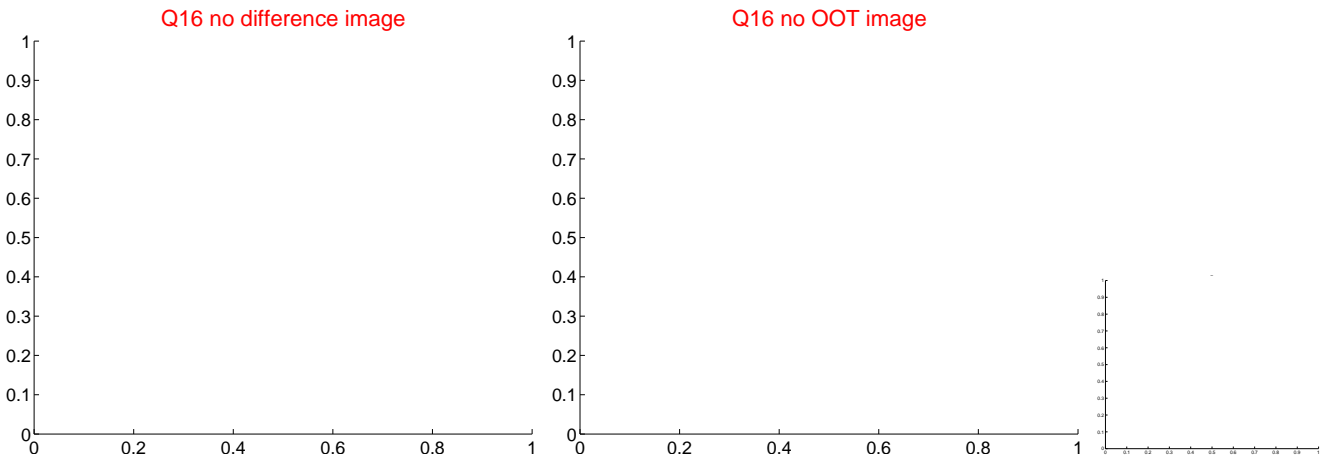
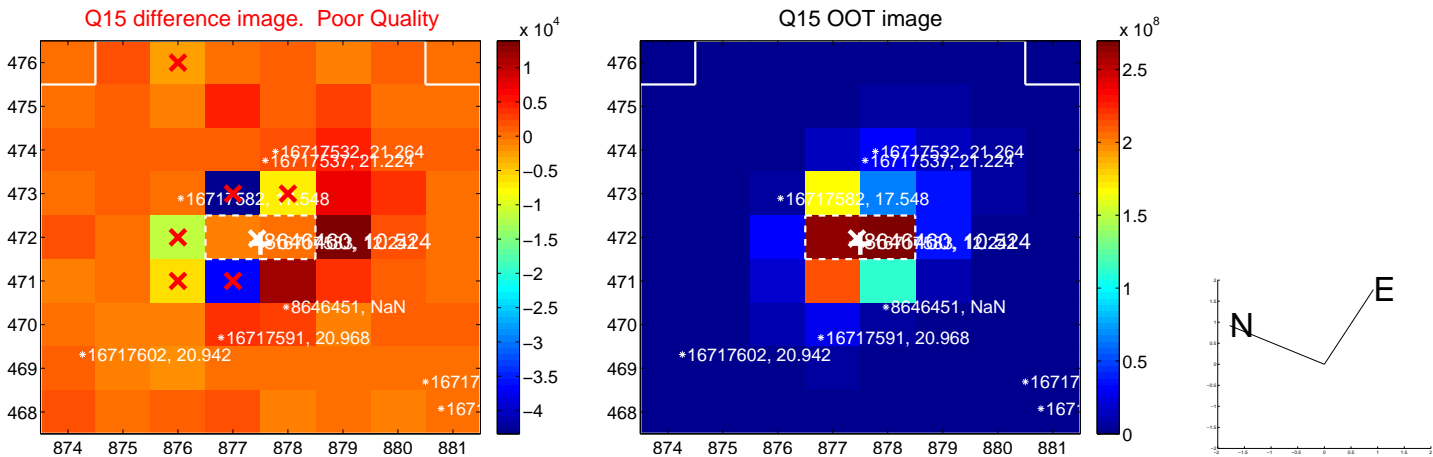
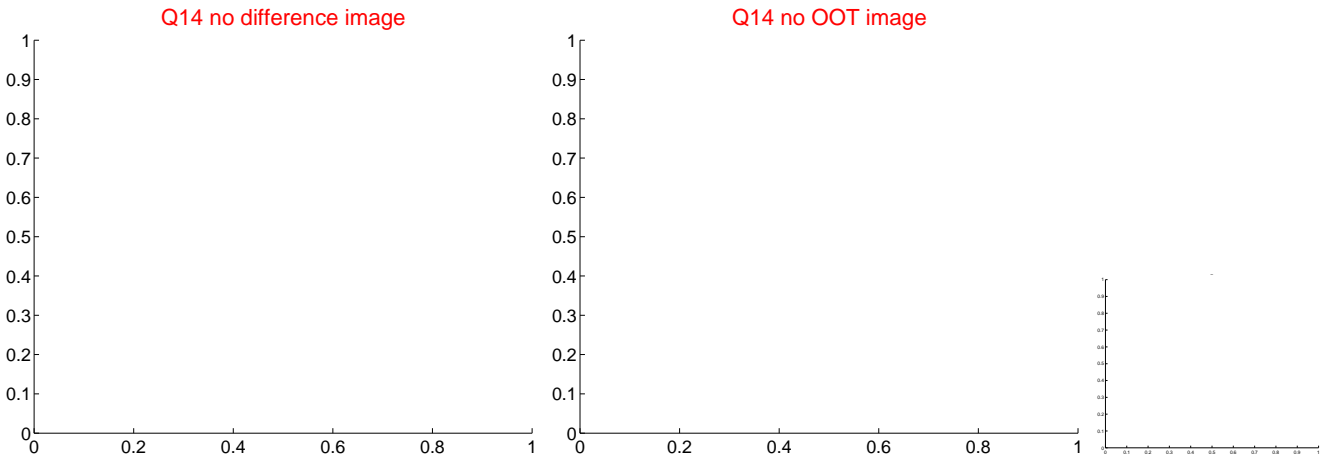
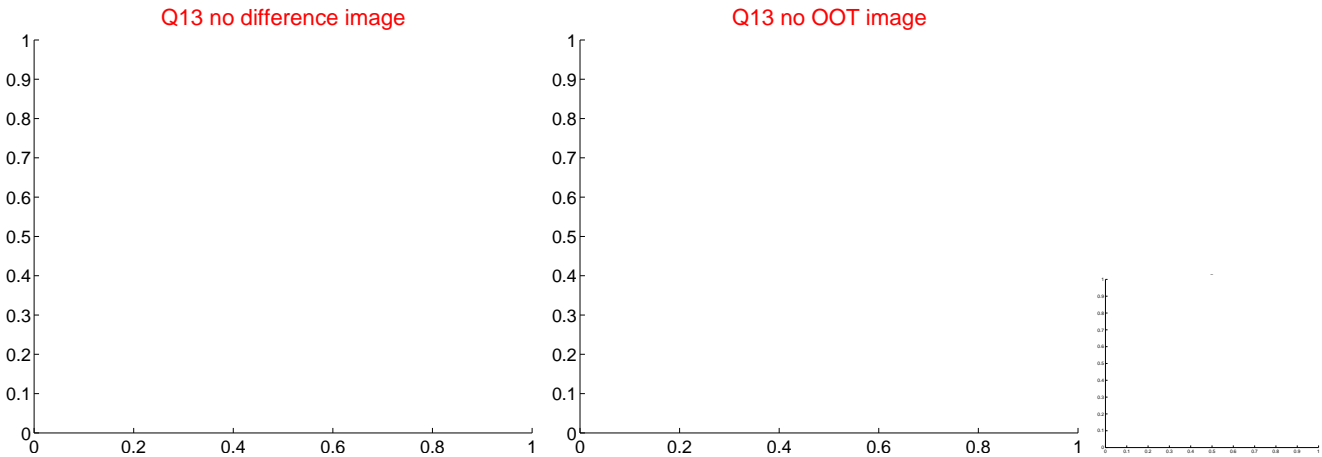
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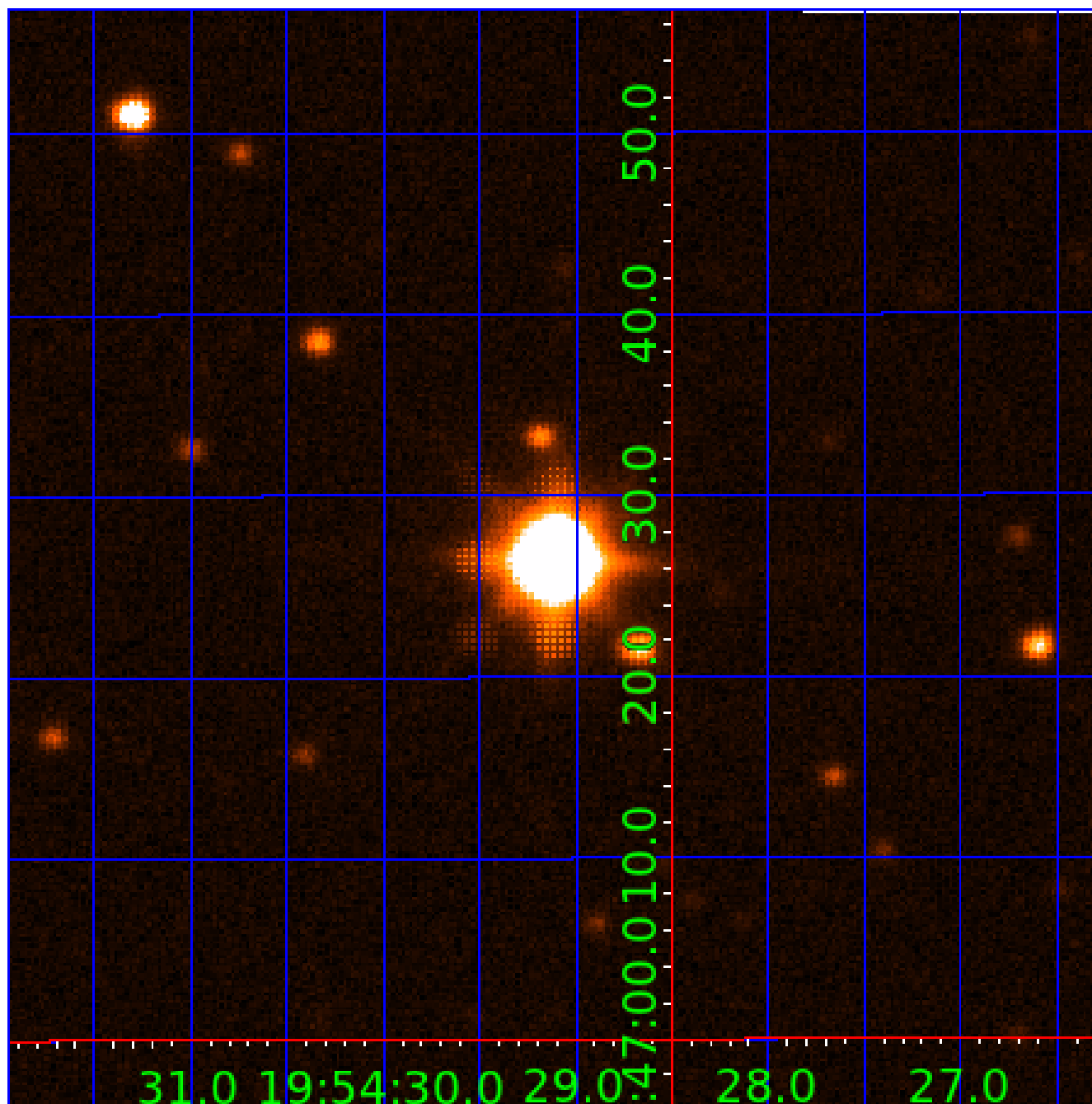
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 008646460

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})
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Robovetter Results

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008646460-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST
008646460-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_ZUMA—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
008646460-05	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—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008646460-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008646460-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED

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

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

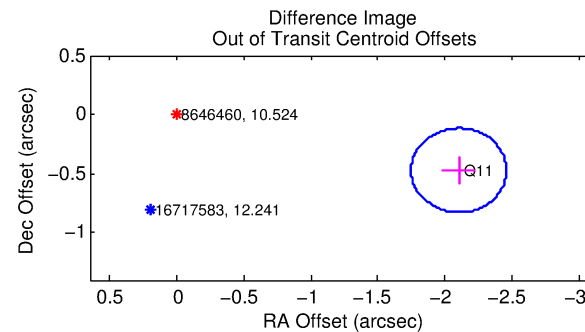
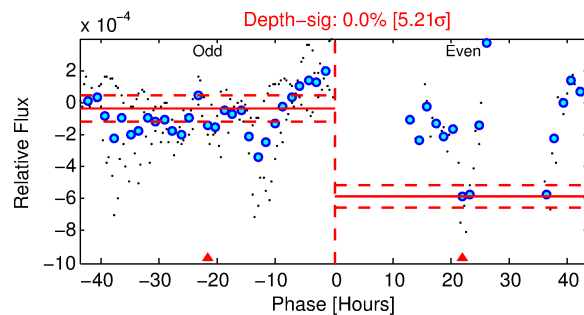
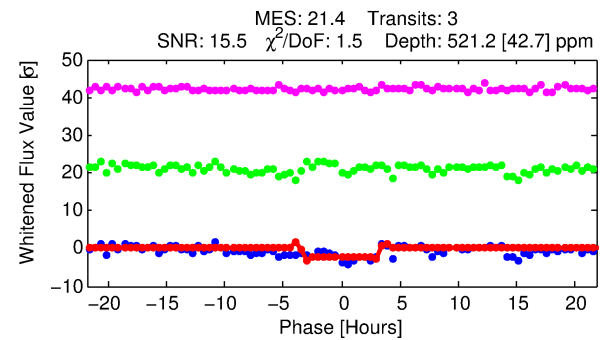
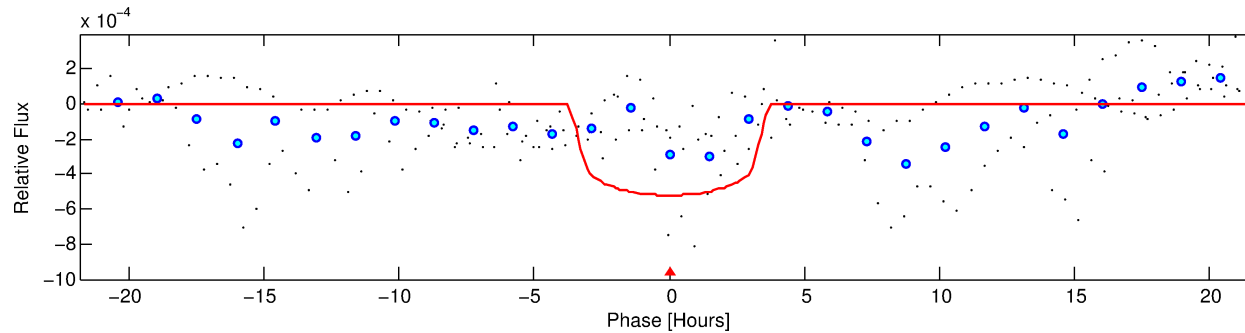
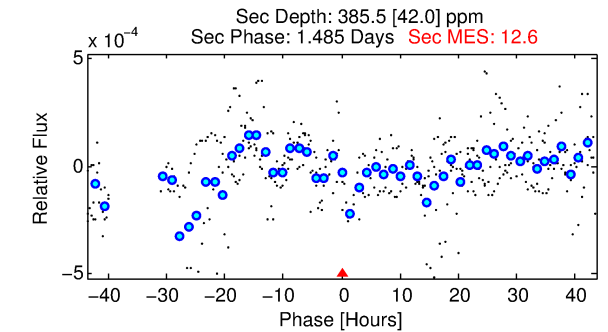
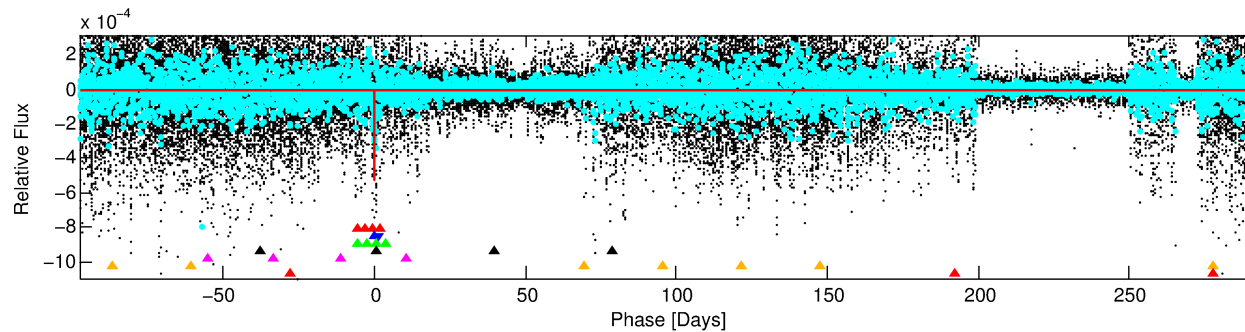
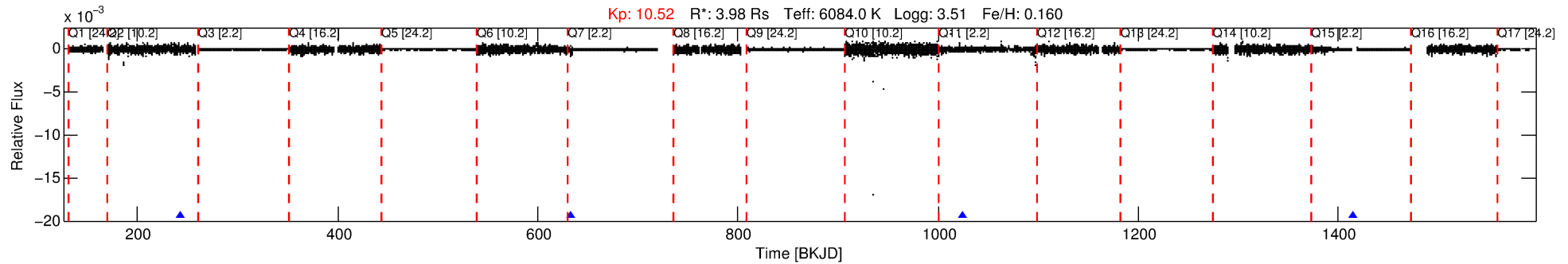
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008646460-02

No Significant Match Found

DV One-Page Summary

KIC: 8646460 Candidate: 2 of 7 Period: 390.502 d



DV Fit Results:

Period = 390.50249 [0.00447] d
Epoch = 243.0249 [0.0076] BKJD
Rp/R* = 0.0232 [0.0044]
a/R* = 257.80 [228.37]
b = 0.81 [0.39]
Seff = 11.80 [8.21]
Teq = 473 [82] K
Rp = 10.10 [4.85] Re
a = 1.2855 [0.5462] AU
Ag = 3432.76 [2702.72] [1.27σ]
Teff = 5593 [590] K [8.60σ]

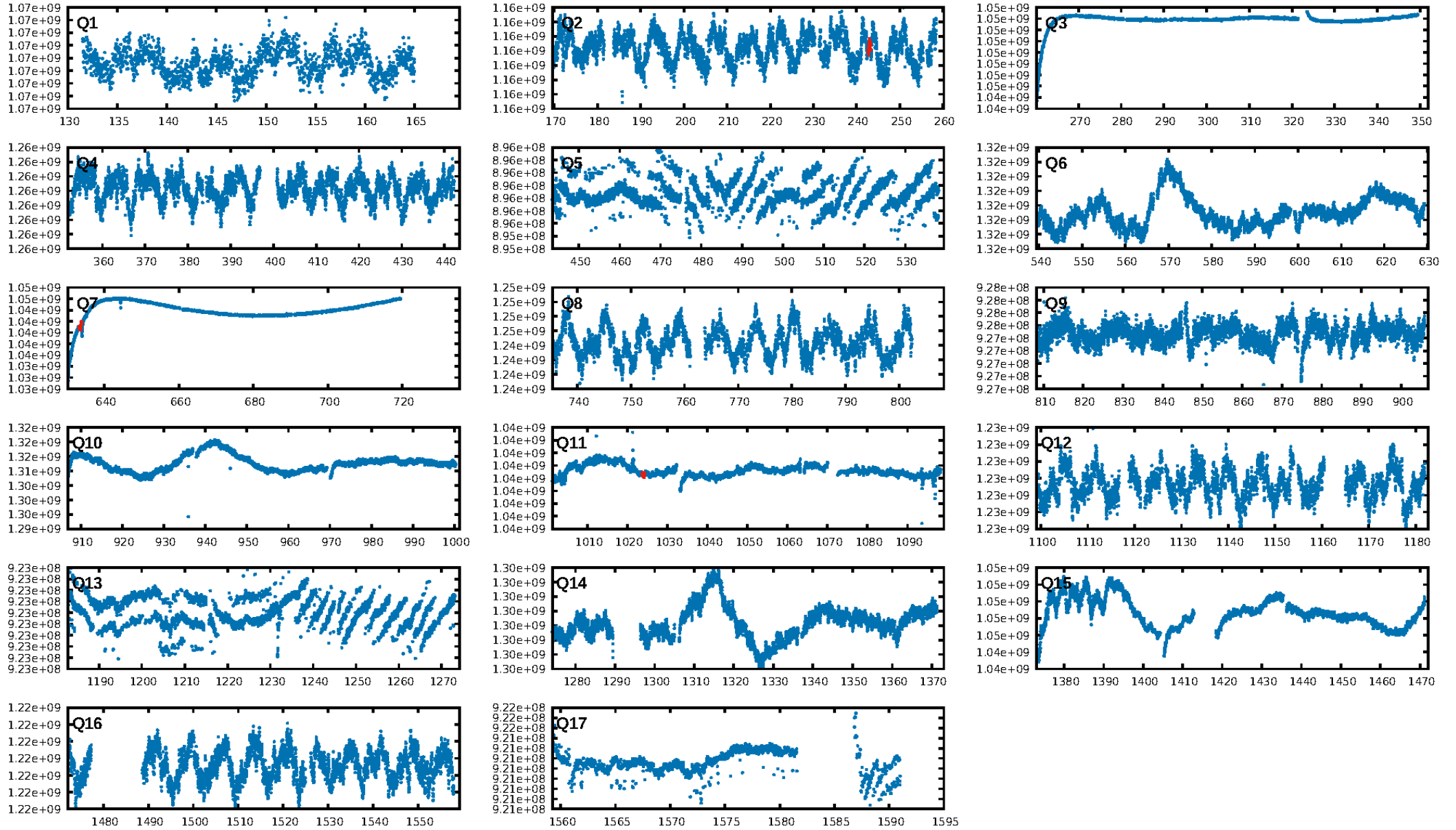
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [6.87σ]
LongPeriod-sig: 100.0% [63.74σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 14.4%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 4.116
Centroid-sig: 80.8%
Centroid-so: 0.398 arcsec [0.87σ]
OotOffset-rm: 2.155 arcsec [18.16σ]
KicOffset-rm: 2.506 arcsec [21.16σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [2/2]

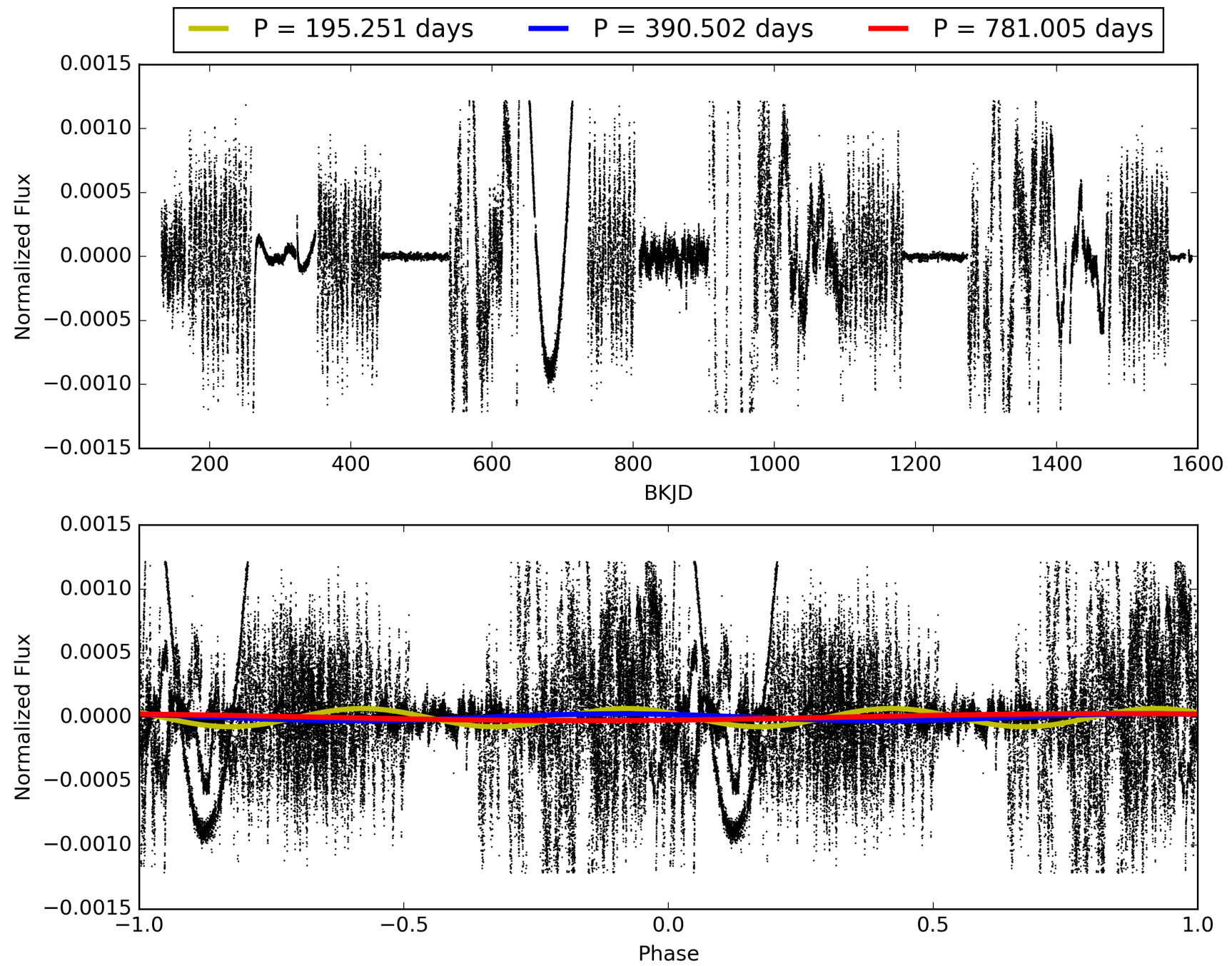
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:52:22 Z

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

TCE 008646460-02, PDC Light Curves

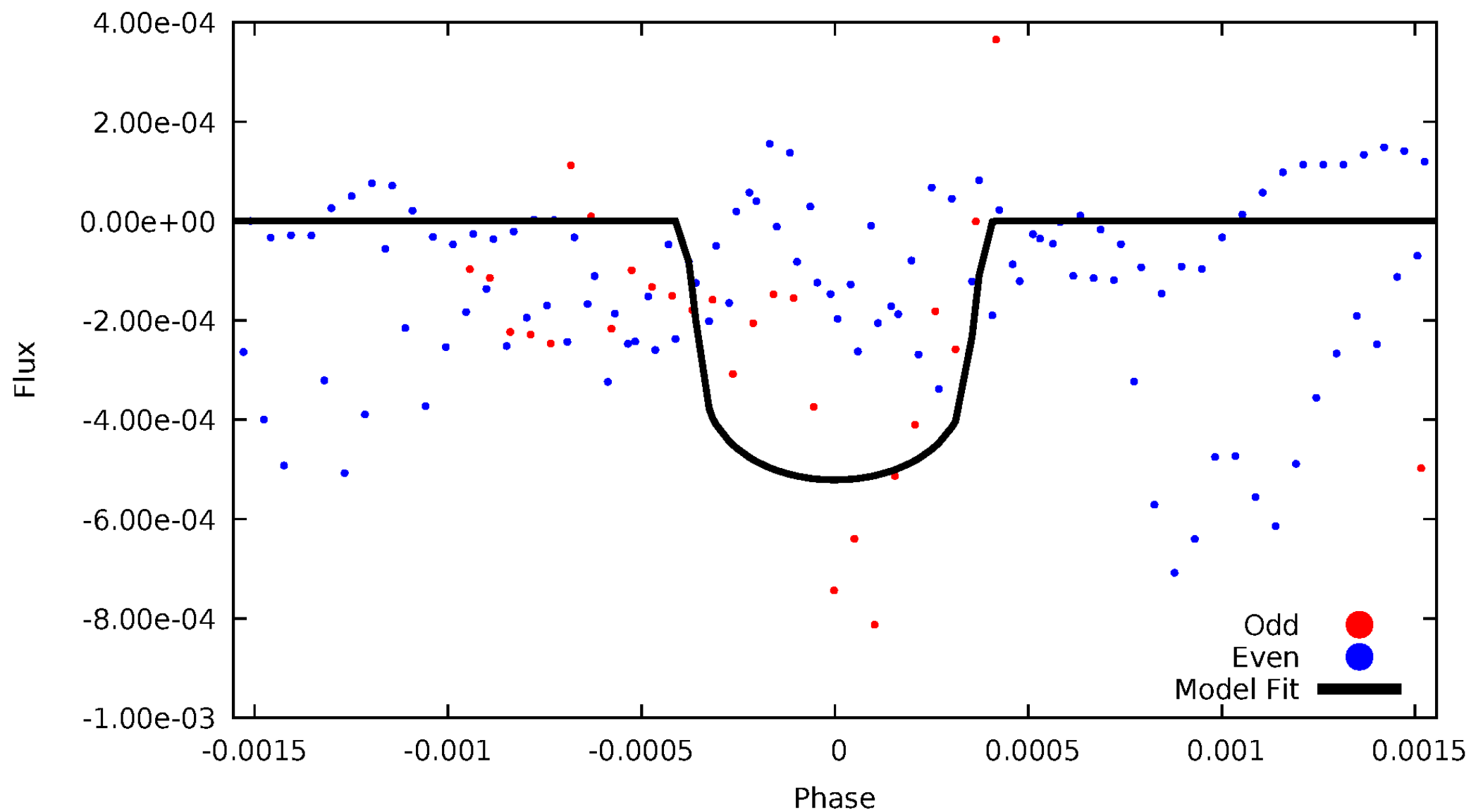


TCE 008646460-02



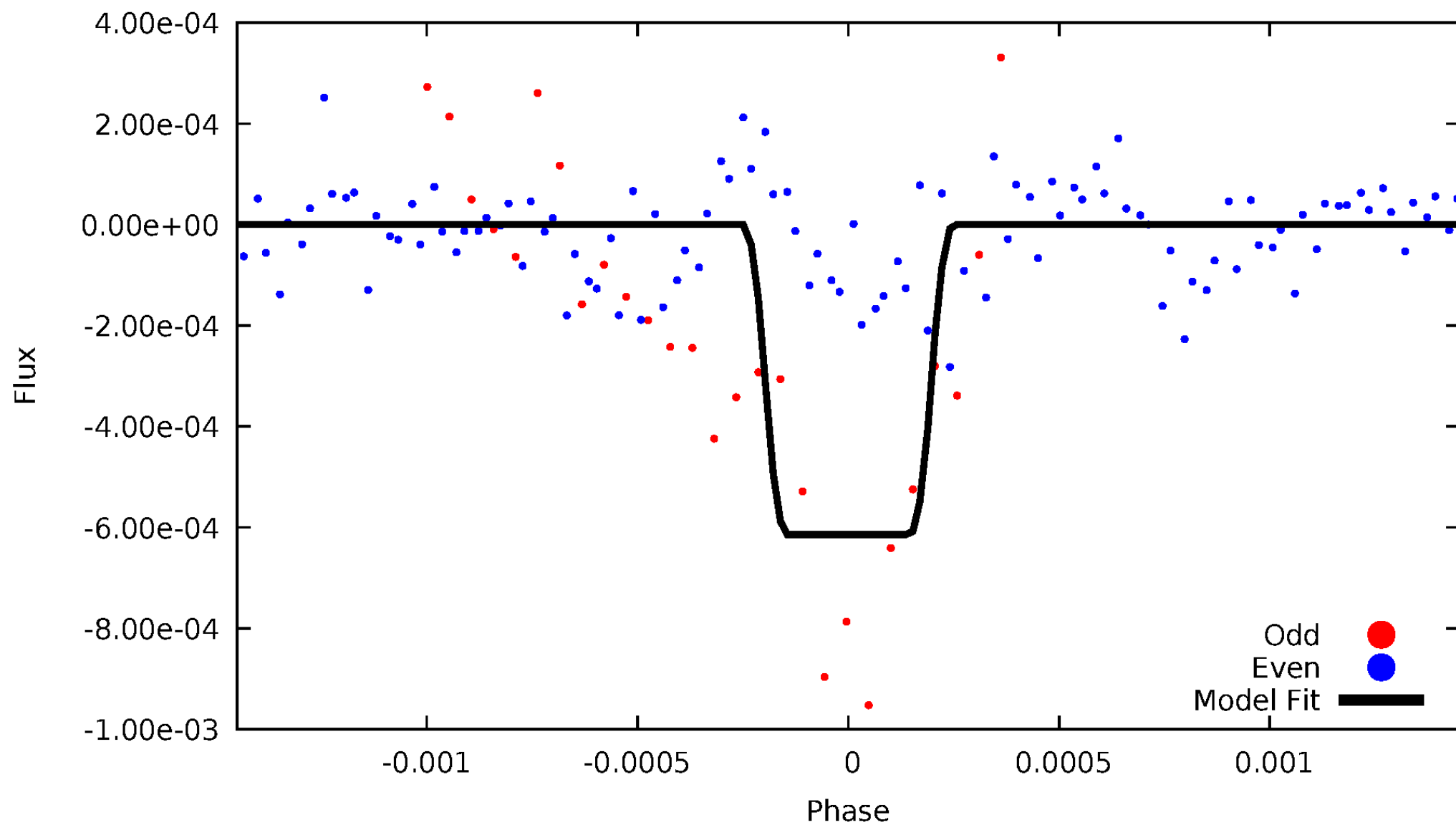
DV Odd/Even

TCE 008646460-02



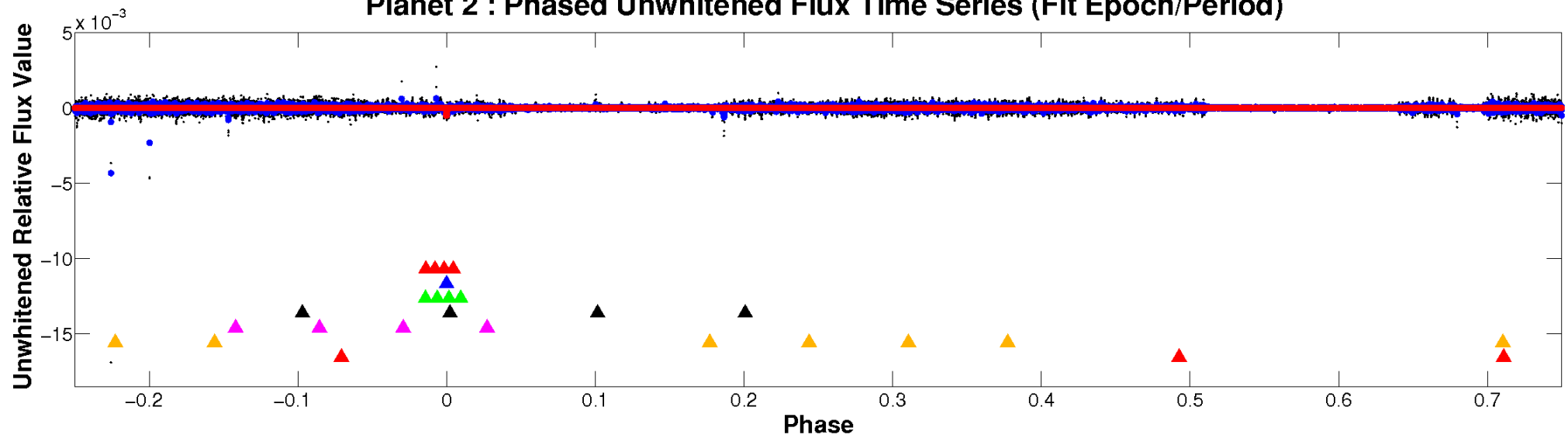
ALT Odd/Even

TCE 008646460-02

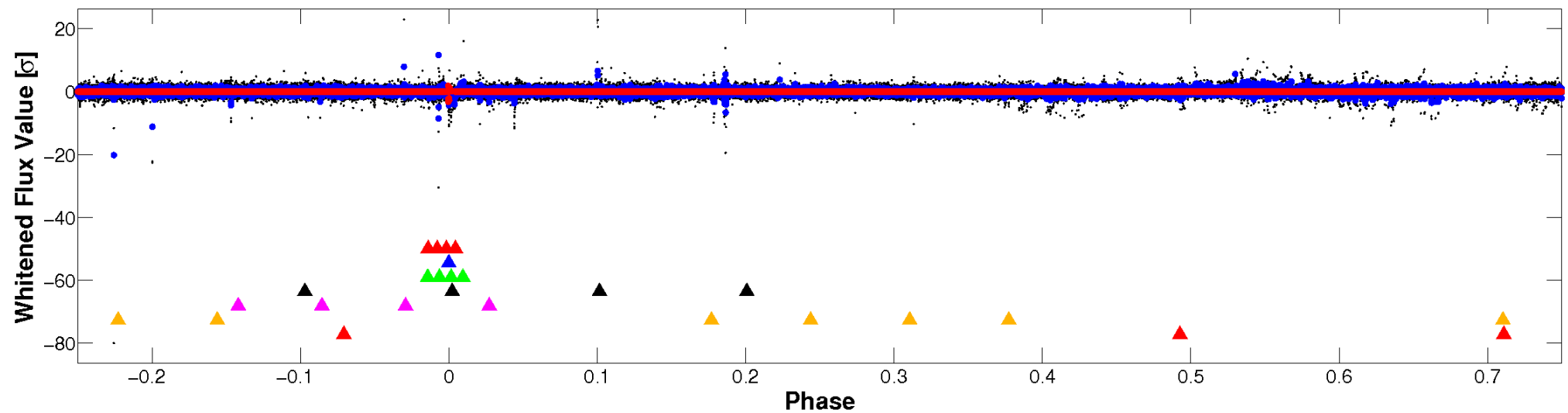


Non-Whitened Vs. Whitened Light Curve

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

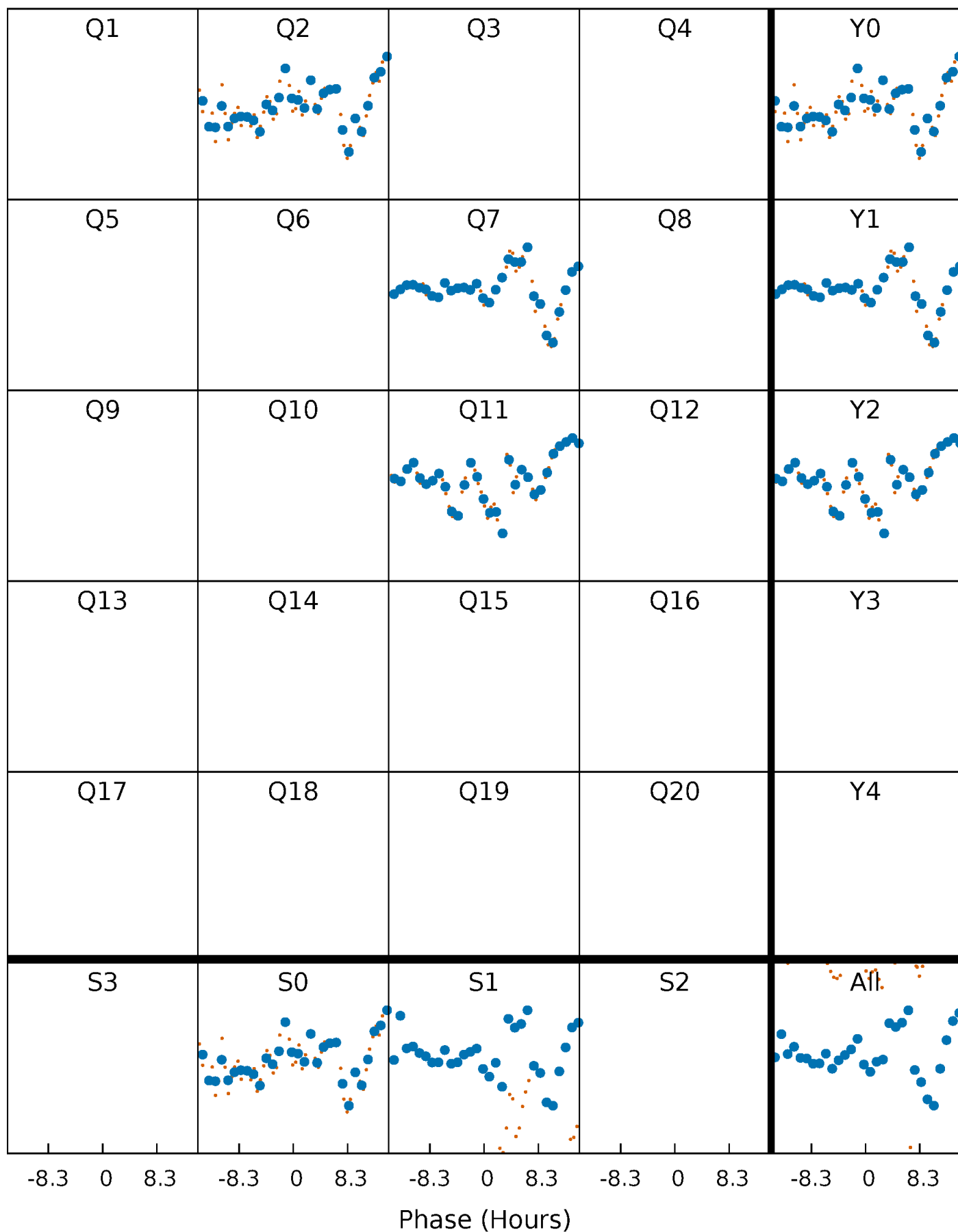


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



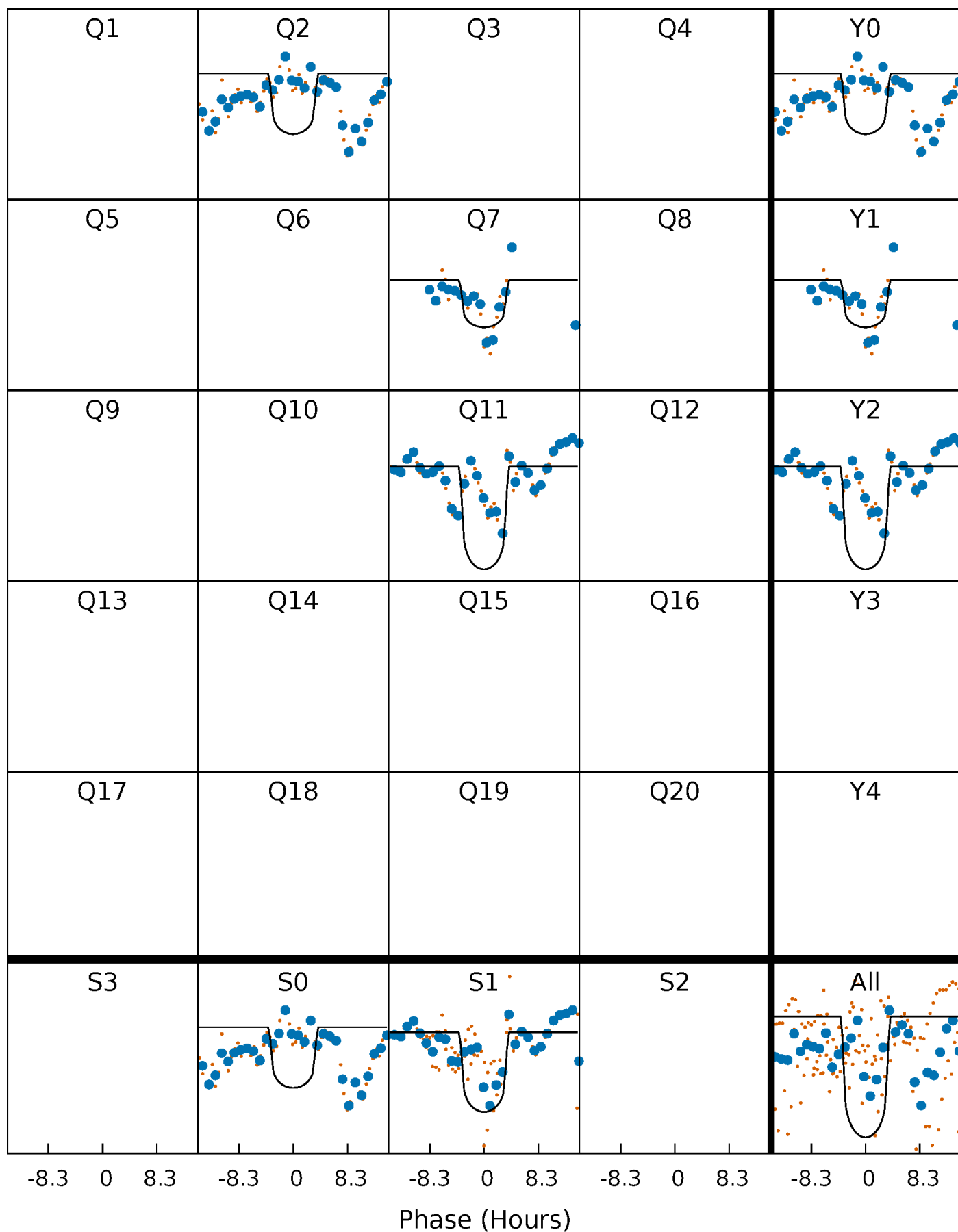
PDC Quarter-Phased Transit Curves

TCE 008646460-02 $P=390.502487$ Days $T_0=243.024899$ (BKJD)



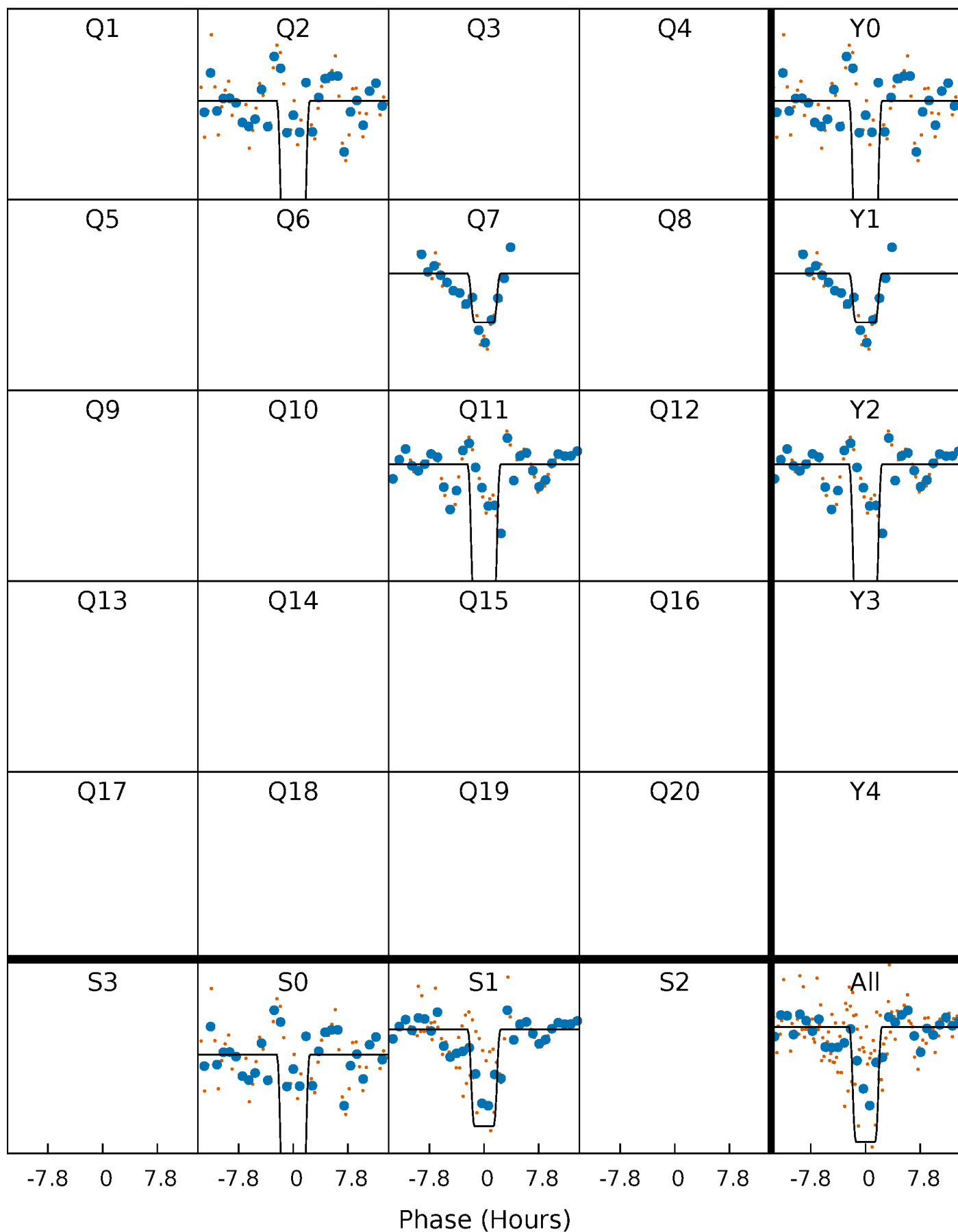
DV Quarter-Phased Transit Curves

TCE 008646460-02 P=390.502487 Days $T_0=243.024899$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

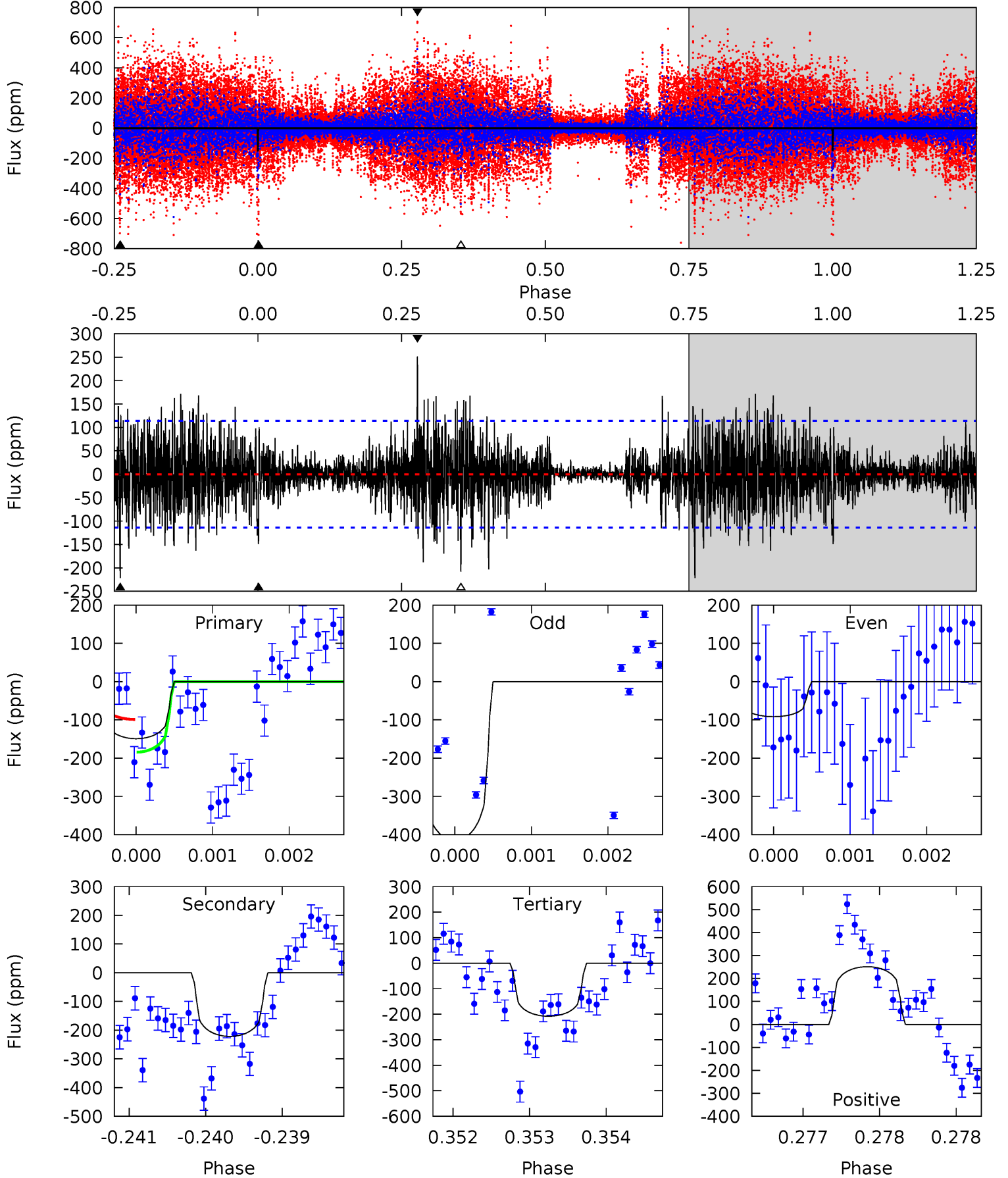
TCE 008646460-02 $P=390.492143$ Days $T_0=243.056427$ (BKJD)



DV Model-Shift Uniqueness Test

008646460-02, P = 390.502487 Days, E = 243.024899 Days

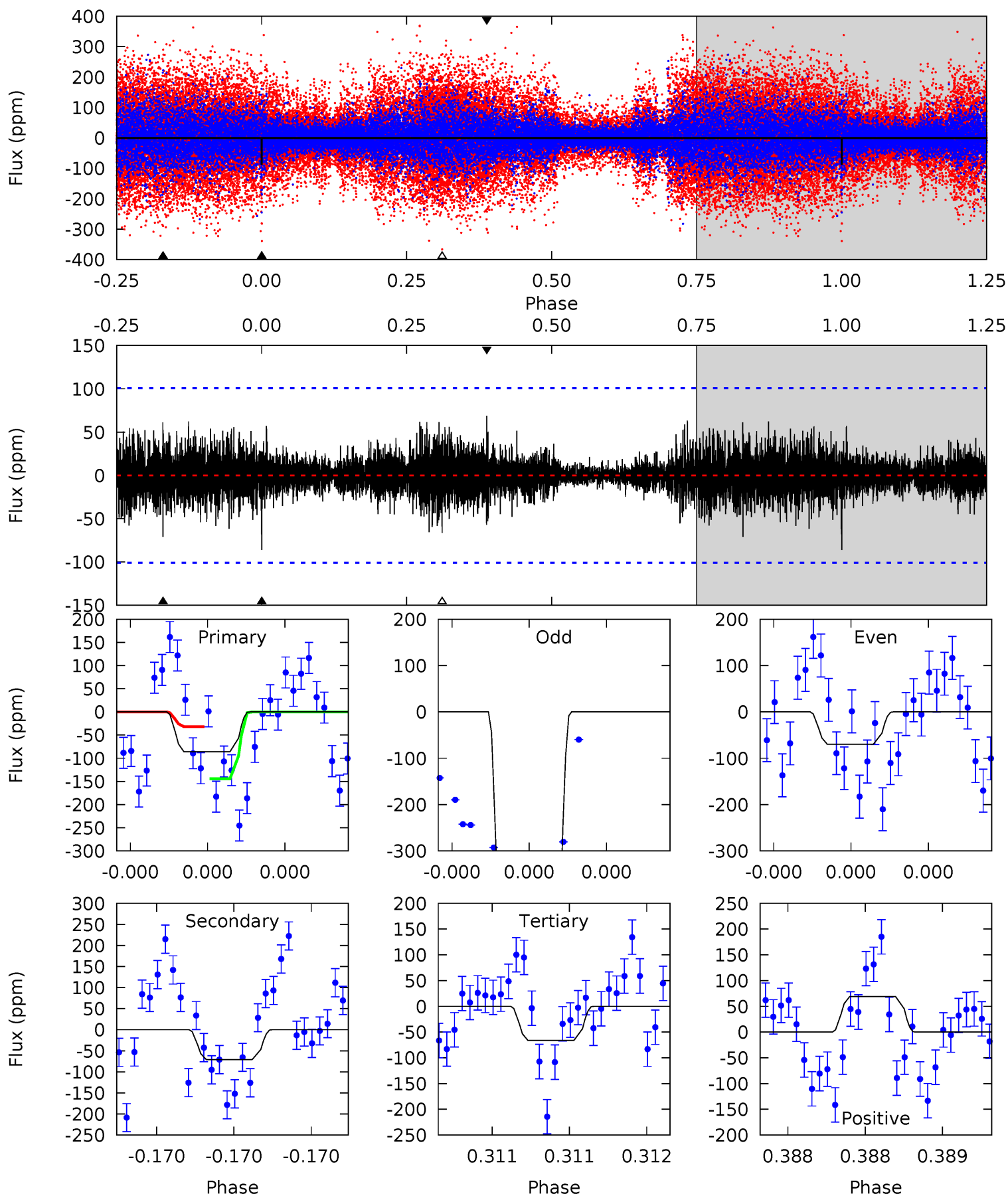
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.17	10.7	9.99	12.1	5.49	3.35	2.09	-2.82	-4.91	0.67	-1.42	6.74	1.34	0.53	0



Alt Model-Shift Uniqueness Test

008646460-02, P = 390.492143 Days, E = 243.056427 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.76	3.92	3.68	3.81	5.58	3.50	0.81	1.08	0.95	0.25	0.12	9.03	2.55	0.44	0



Stellar Parameters For KIC 008646460

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6084^{+223}_{-185}	$3.506^{+0.400}_{-0.125}$	$0.160^{+0.250}_{-0.250}$	$3.985^{+0.753}_{-1.756}$	$1.857^{+0.119}_{-0.446}$	$0.041^{+0.133}_{-0.016}$
	+4%/-3%	+11%/-4%	+156%/-156%	+19%/-44%	+6%/-24%	+321%/-38%
Source	PHO1	FLK73	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 008646460-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-222±21	$9.31^{+2.63}_{-2.43}$	652^{+47}_{-69}	5004^{+519}_{-376}	2255^{+1901}_{-867}
Alt.	-71±18	$9.83^{+2.72}_{-2.47}$	646^{+50}_{-72}	3921^{+312}_{-310}	646^{+540}_{-276}

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

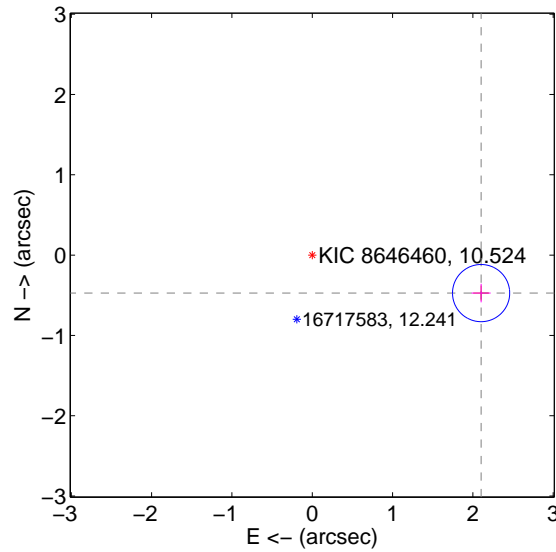
Supplemental centroid analysis for 008646460-02. **Kepler magnitude: 10.52.** Transit SNR 15.51

There are 0 quarters with good PRF difference image offsets

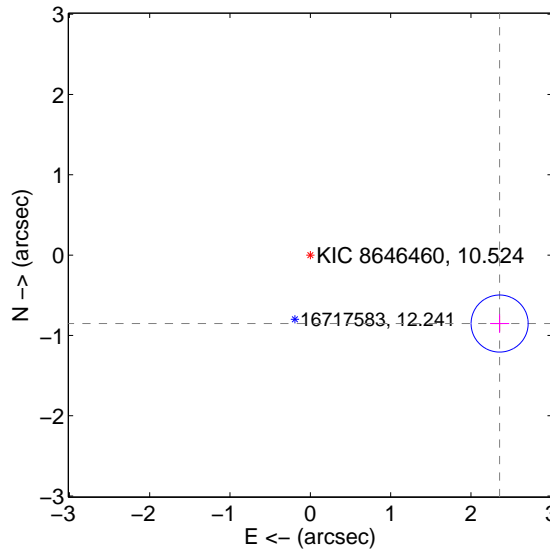
The direct PRF centroid is offset from the target star catalog position by about 0.46 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.155 ± 0.119	18.16	-2.102 ± 0.119	-0.473 ± 0.115
PRF-fit source offset from KIC position	2.506 ± 0.118	21.16	-2.357 ± 0.119	-0.852 ± 0.115
photometric centroid source offset	0.40 ± 0.46	0.87	-0.38 ± 0.47	-0.13 ± 0.34

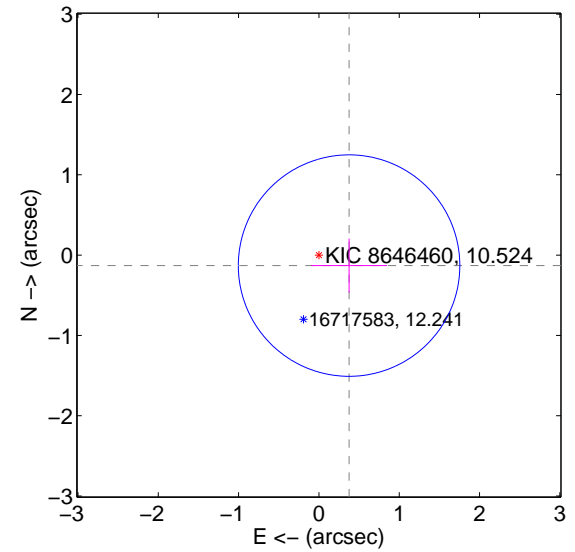
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

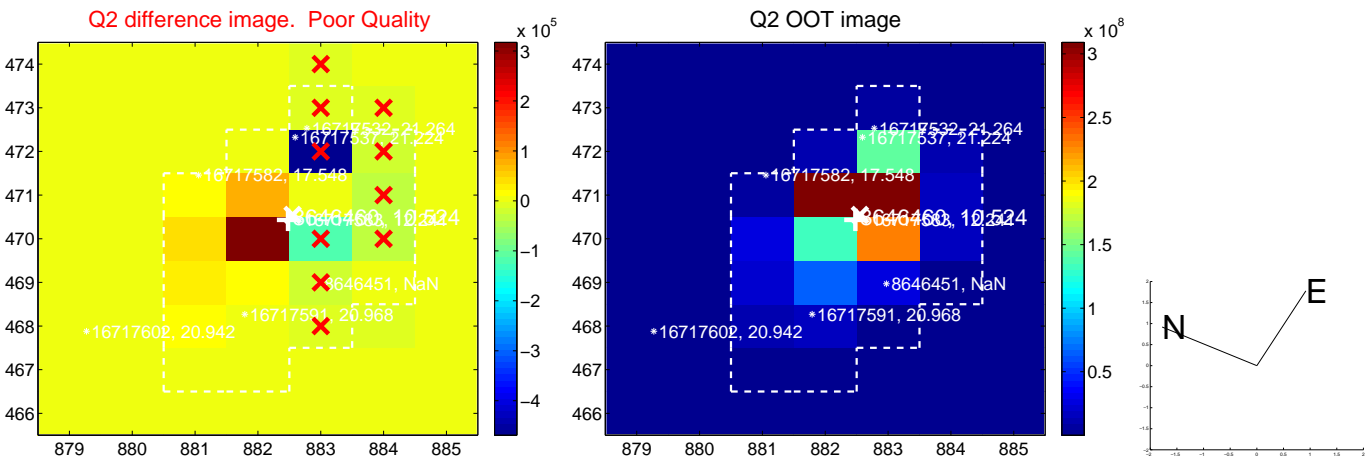


offset from photometric centroids



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.

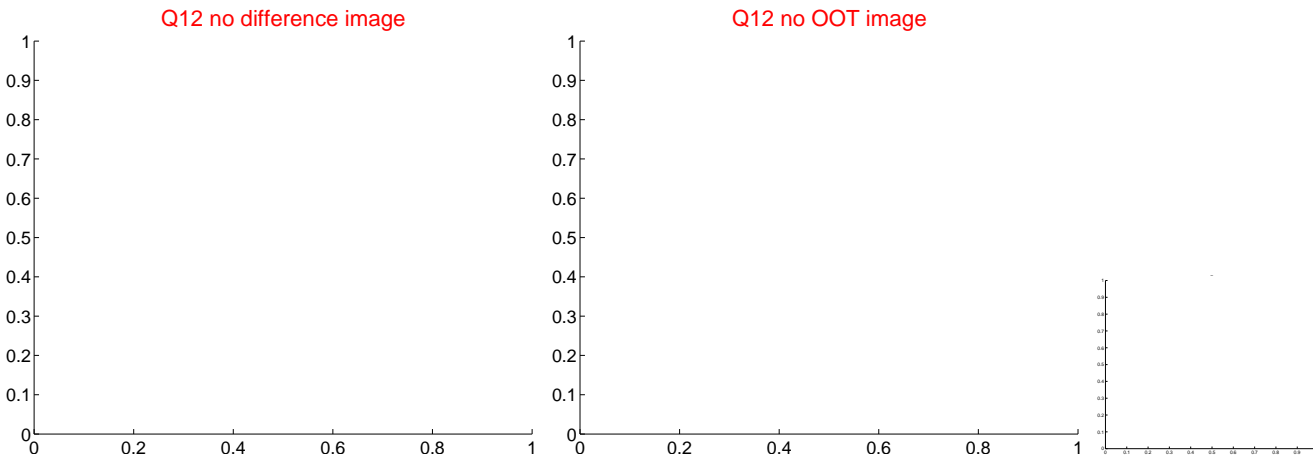
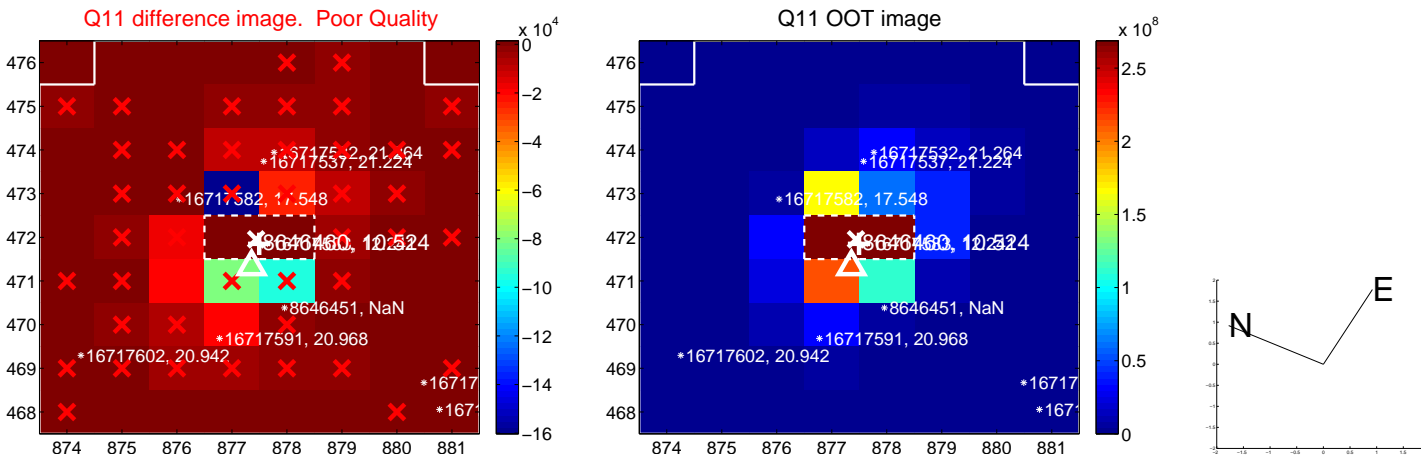
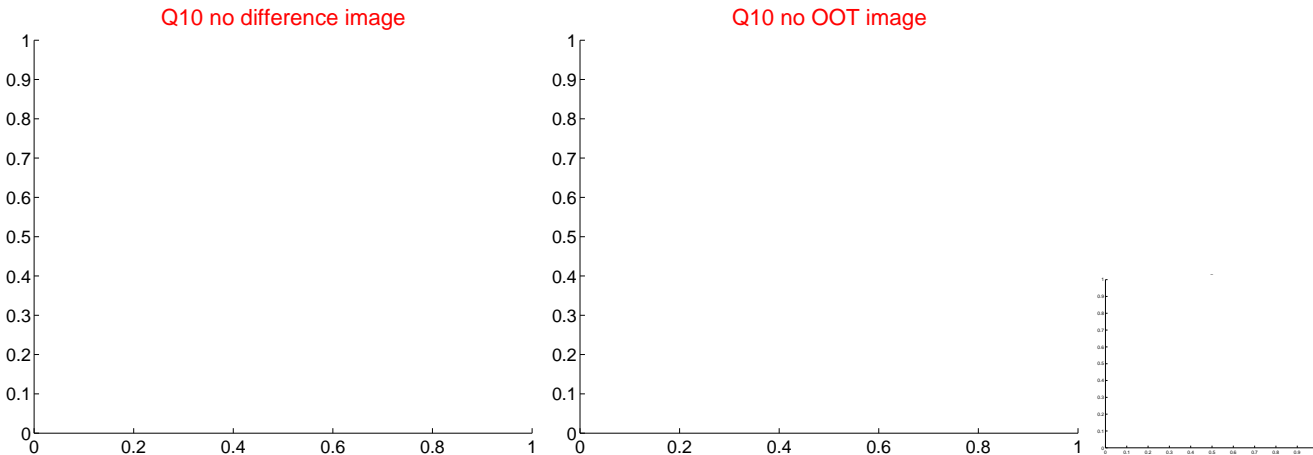
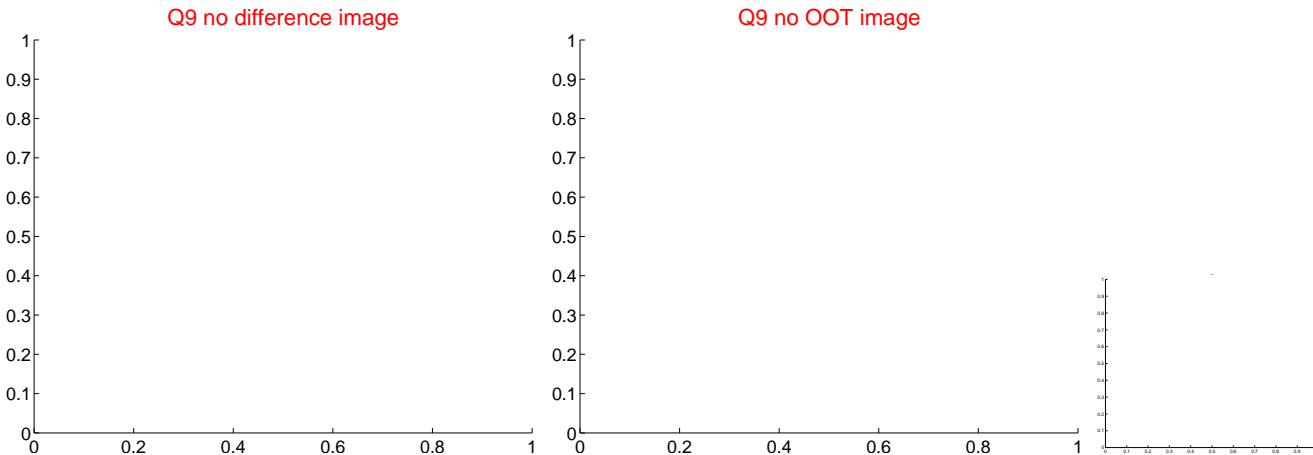
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



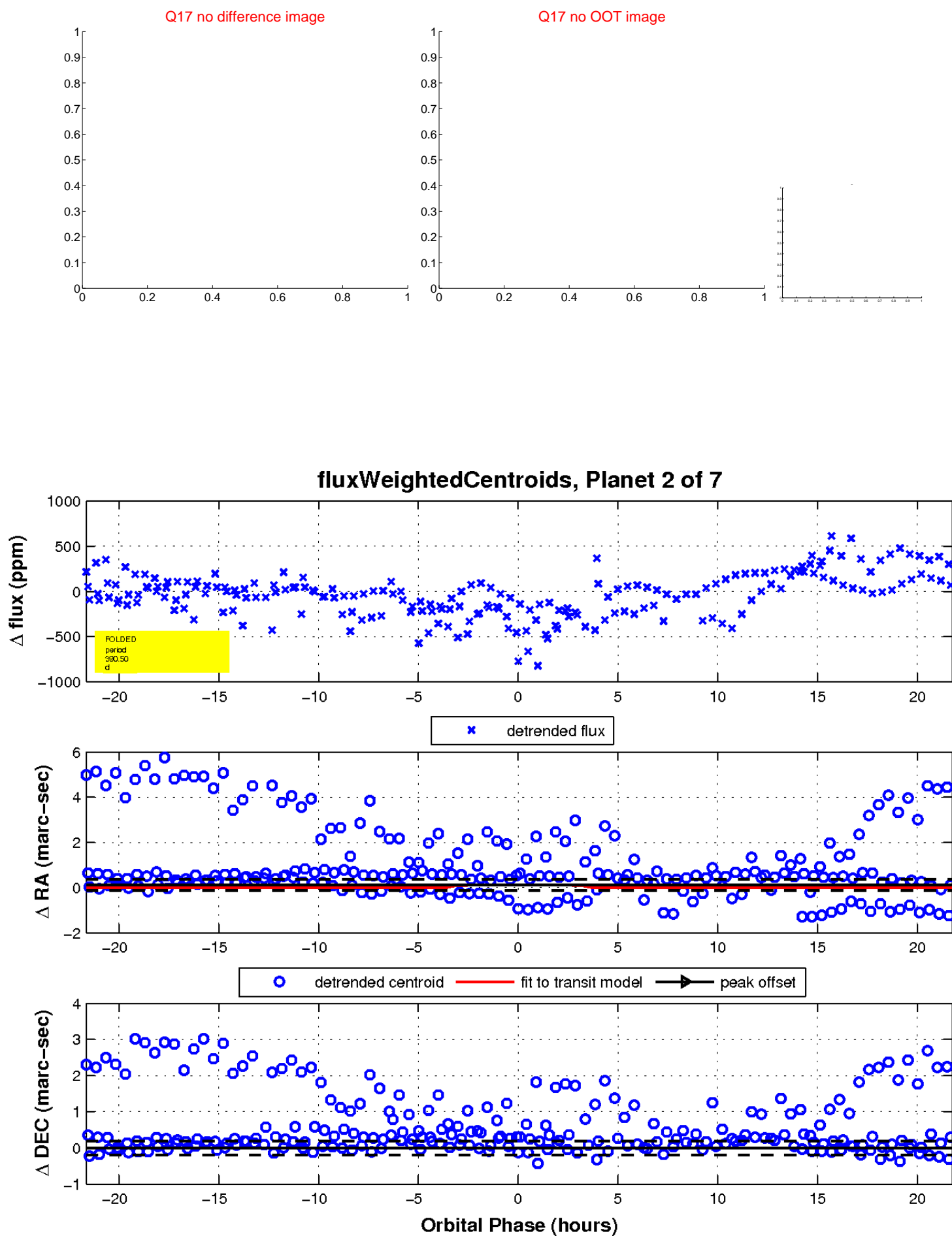
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

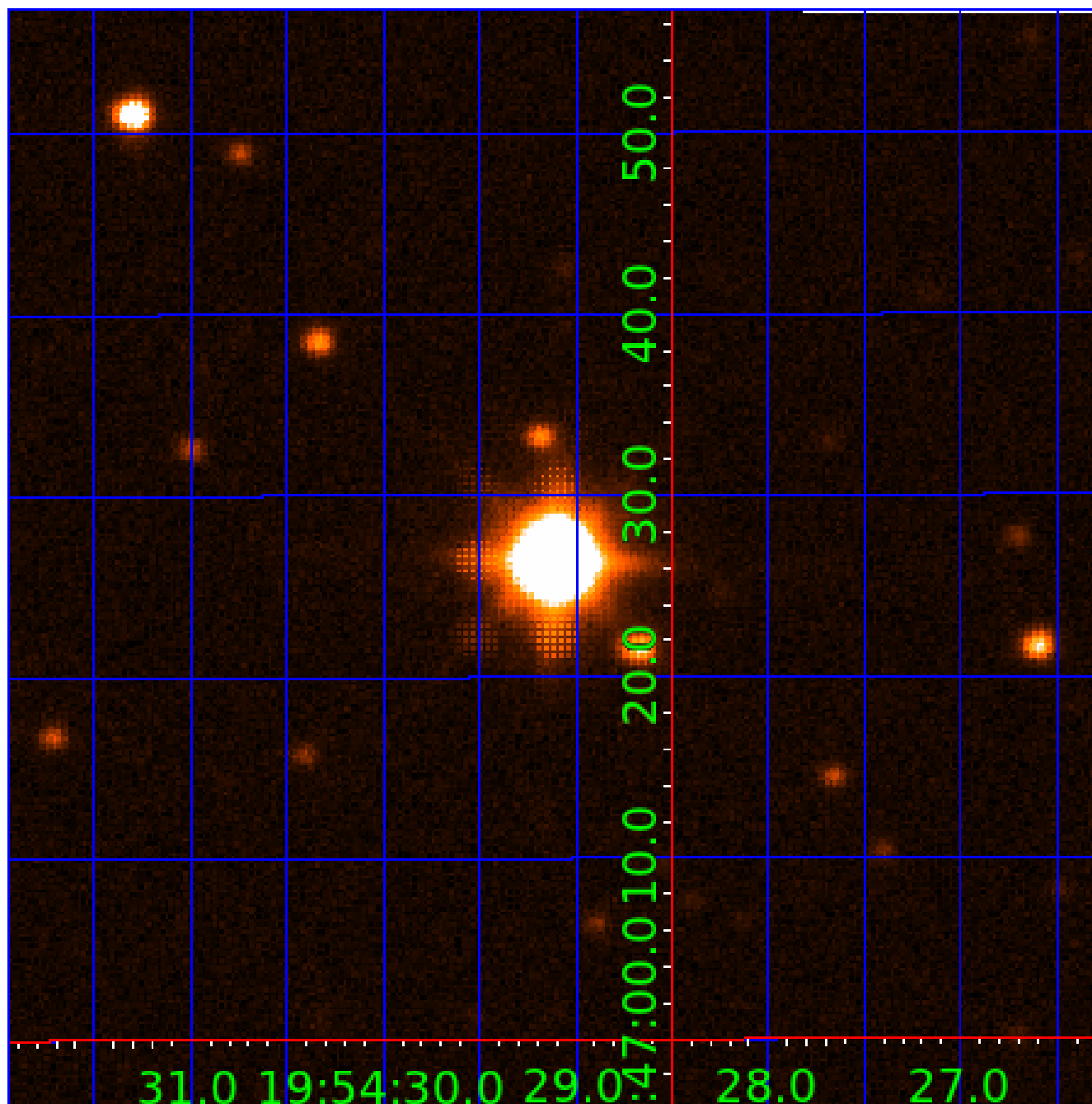


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008646460

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})
008646460-01	OBS	No	388.108326	244.773249	0.0	4.112	20.4	0.0	3.98	6084	0.00	11.89
008646460-02	OBS	No	390.502488	243.024899	521.2	7.285	21.4	15.5	3.98	6084	10.11	11.80
008646460-03	OBS	No	387.417251	246.737739	753.9	4.571	16.3	13.5	3.98	6084	21.31	11.92
008646460-04	OBS	No	429.270535	205.154547	345.7	15.637	9.3	9.6	3.98	6084	7.47	10.40
008646460-05	OBS	No	412.512495	187.629367	31.4	3.950	11.4	2.2	3.98	6084	2.37	10.96
008646460-06	OBS	No	208.291881	312.149199	21.7	2.676	11.6	9.5	3.98	6084	1.98	27.27
008646460-07	OBS	No	475.754577	435.419332	65.9	15.000	9.1	-1.0	3.98	6084	3.22	9.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008646460-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008646460-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008646460-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST
008646460-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_ZUMA—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
008646460-05	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—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008646460-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008646460-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED

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

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

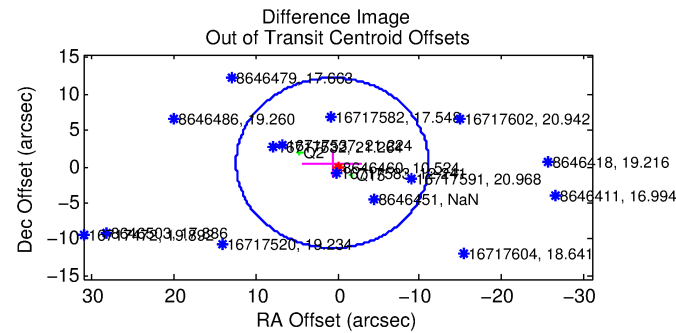
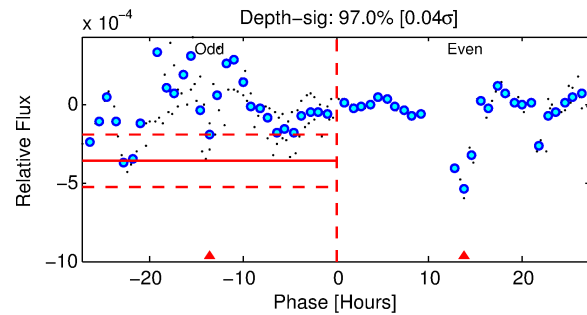
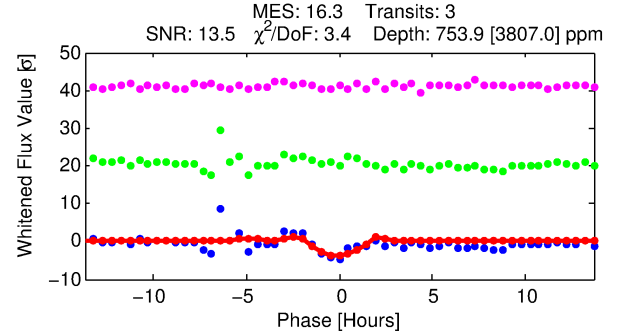
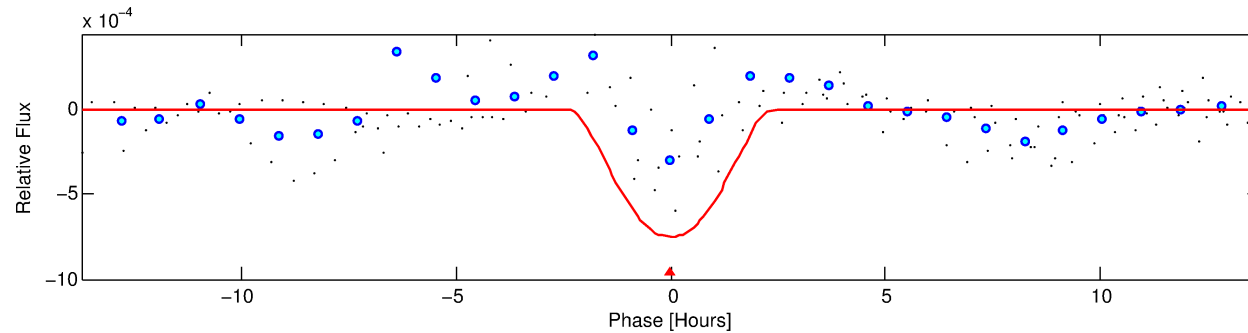
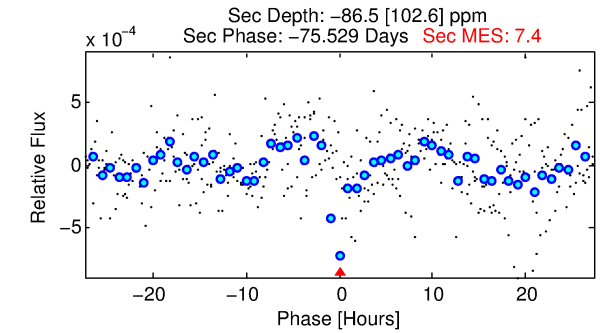
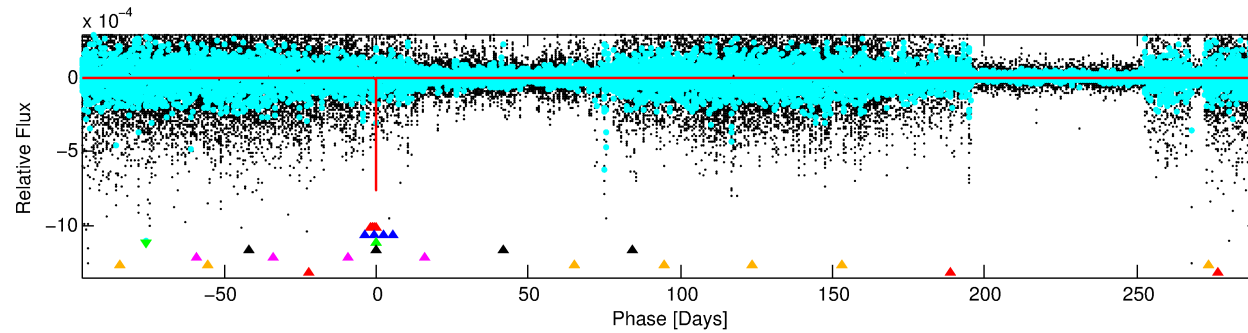
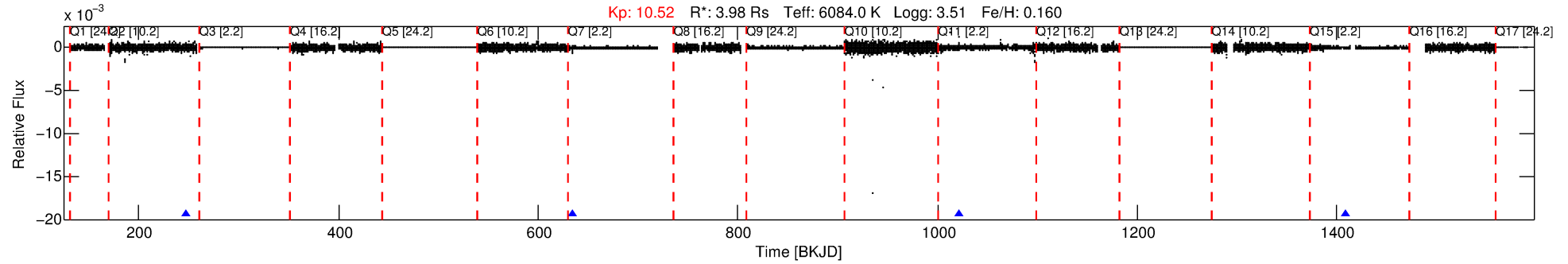
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008646460-03

No Significant Match Found

DV One-Page Summary

KIC: 8646460 Candidate: 3 of 7 Period: 387.417 d



DV Fit Results:

Period = $387.41725 [0.00899] \text{ d}$
Epoch = $246.7377 [0.0140] \text{ BKJD}$
 $R_p/R^* = 0.0490 [0.1485]$
 $a/R^* = 205.15 [151.46]$
 $b = 1.00 [0.38]$
 $\text{Seff} = 11.92 [8.30]$
 $T_{\text{eq}} = 474 [82] \text{ K}$
 $R_p = 21.31 [65.28] R_e$
 $a = 1.2787 [0.5433] \text{ AU}$
 $\text{Ag} = \text{N/A}$
 $\text{Teffp} = \text{N/A}$

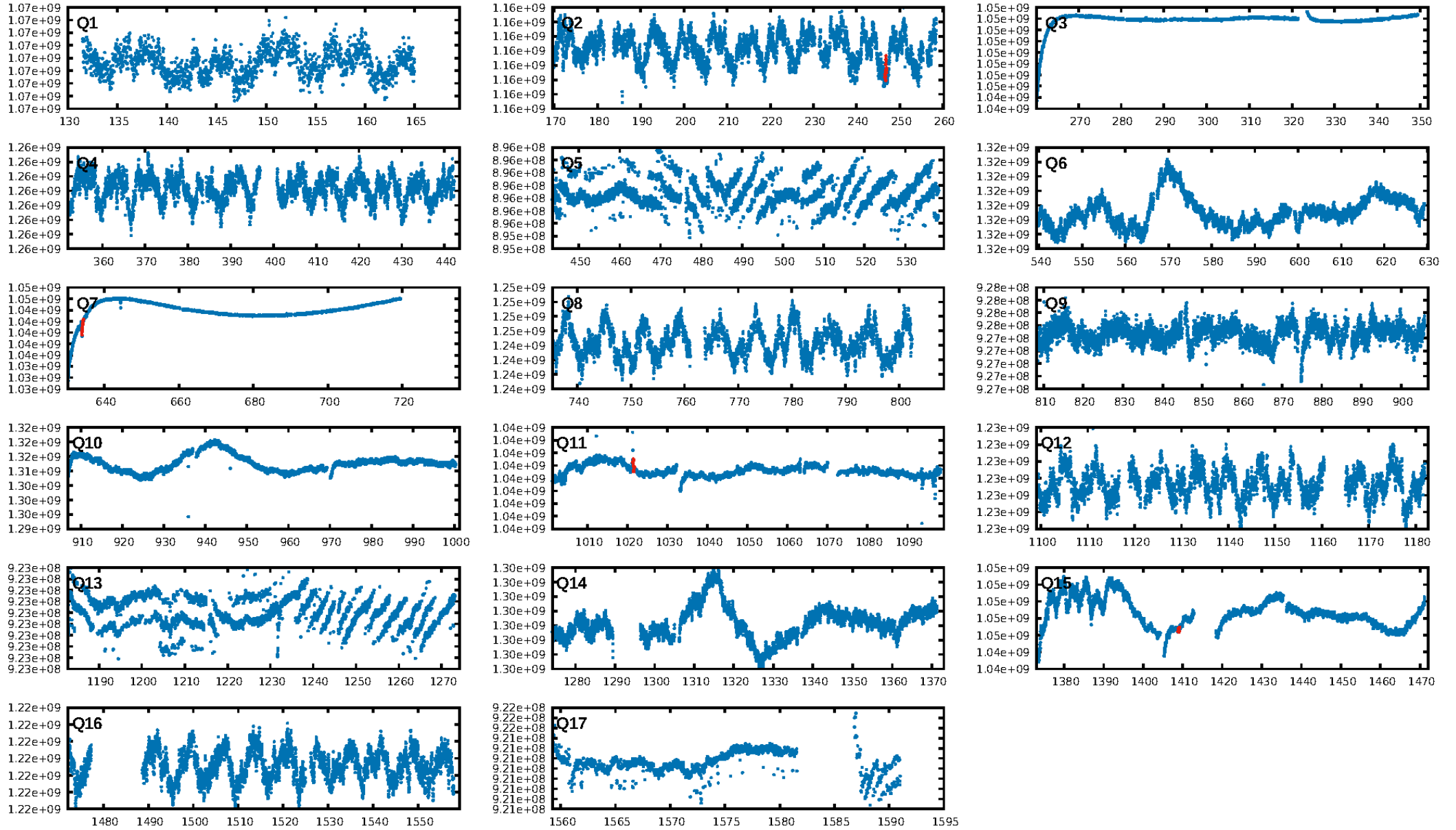
DV Diagnostic Results:

ShortPeriod-sig: 100.0% $[811.58\sigma]$
LongPeriod-sig: 99.3% $[2.70\sigma]$
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 $[3/3]$
GhostDiagnostic-chr: -0.1759
Centroid-sig: 12.1%
Centroid-so: $0.202 \text{ arcsec} [0.64\sigma]$
OotOffset-rm: $0.807 \text{ arcsec} [0.21\sigma]$
KicOffset-rm: $0.355 \text{ arcsec} [0.14\sigma]$
OotOffset-st: $1/1/0/0 [2]$
KicOffset-st: $1/1/0/0 [2]$
DiffImageQuality-fgm: 0.00 $[0/2]$
DiffImageOverlap-fno: 0.50 $[1/2]$

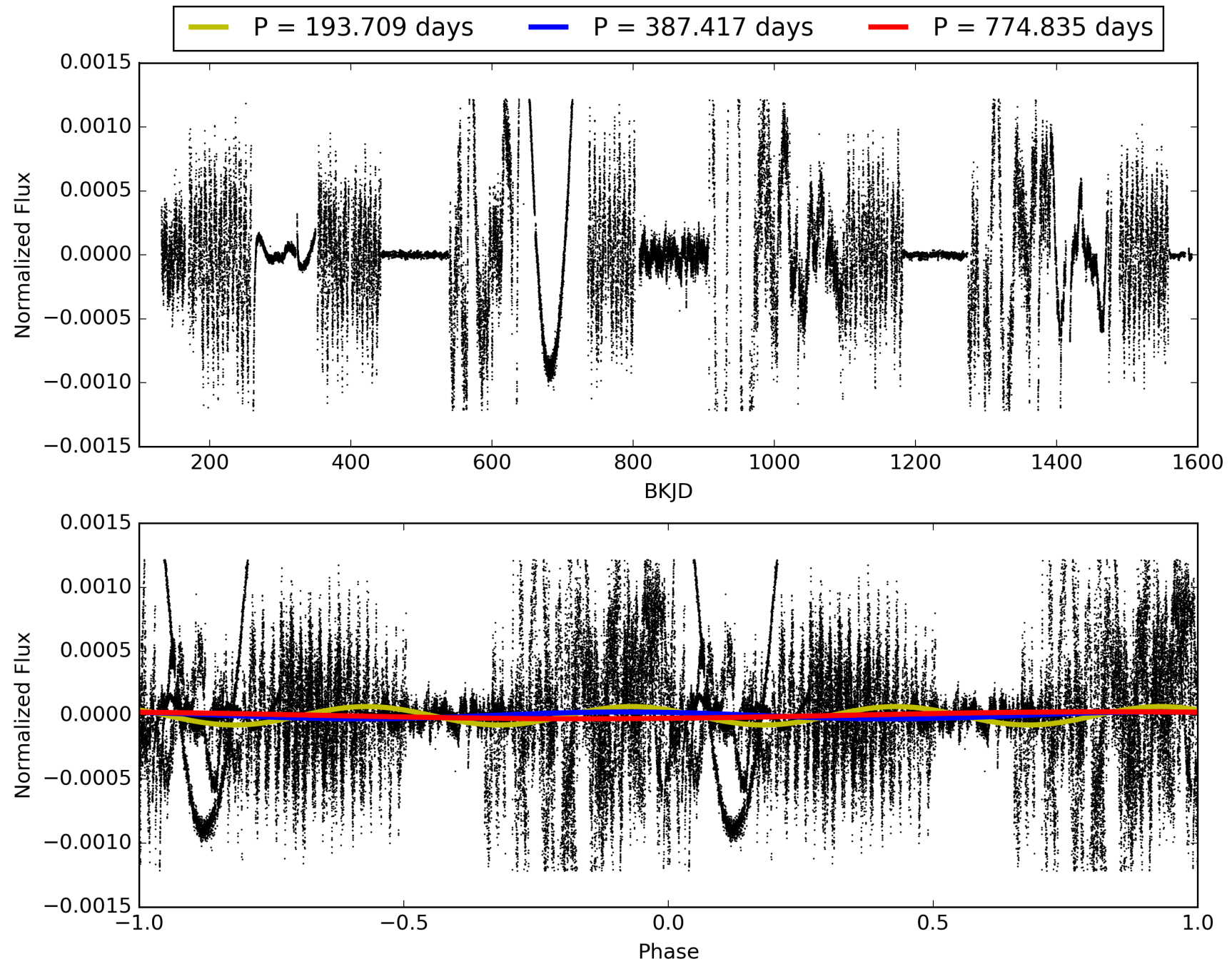
Software Revision: [svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958](https://murzim/repo/soc/tags/release/9.3.42@60958) -- Date Generated: 01-Feb-2016 23:52:36 Z

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

TCE 008646460-03, PDC Light Curves

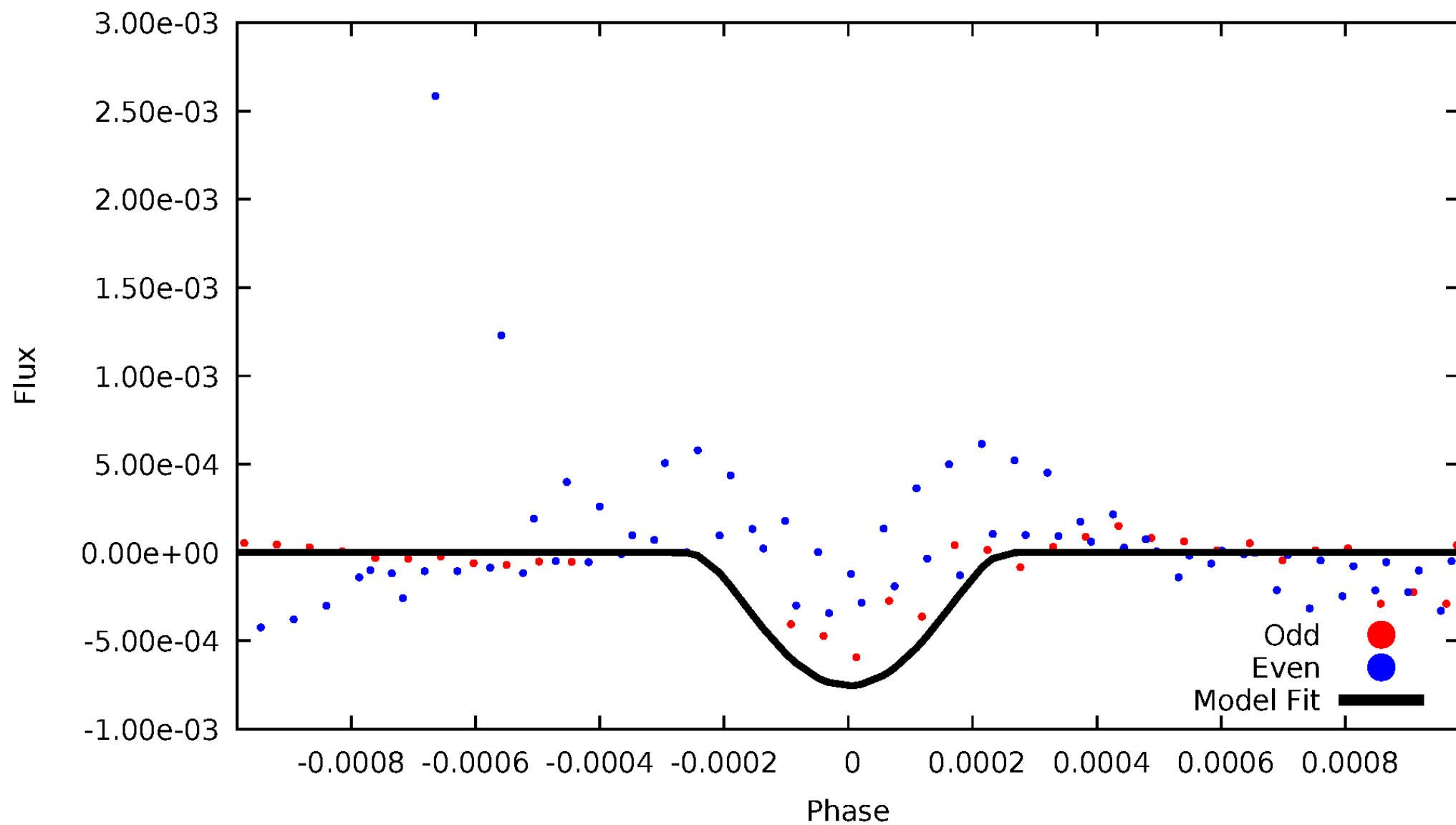


TCE 008646460-03



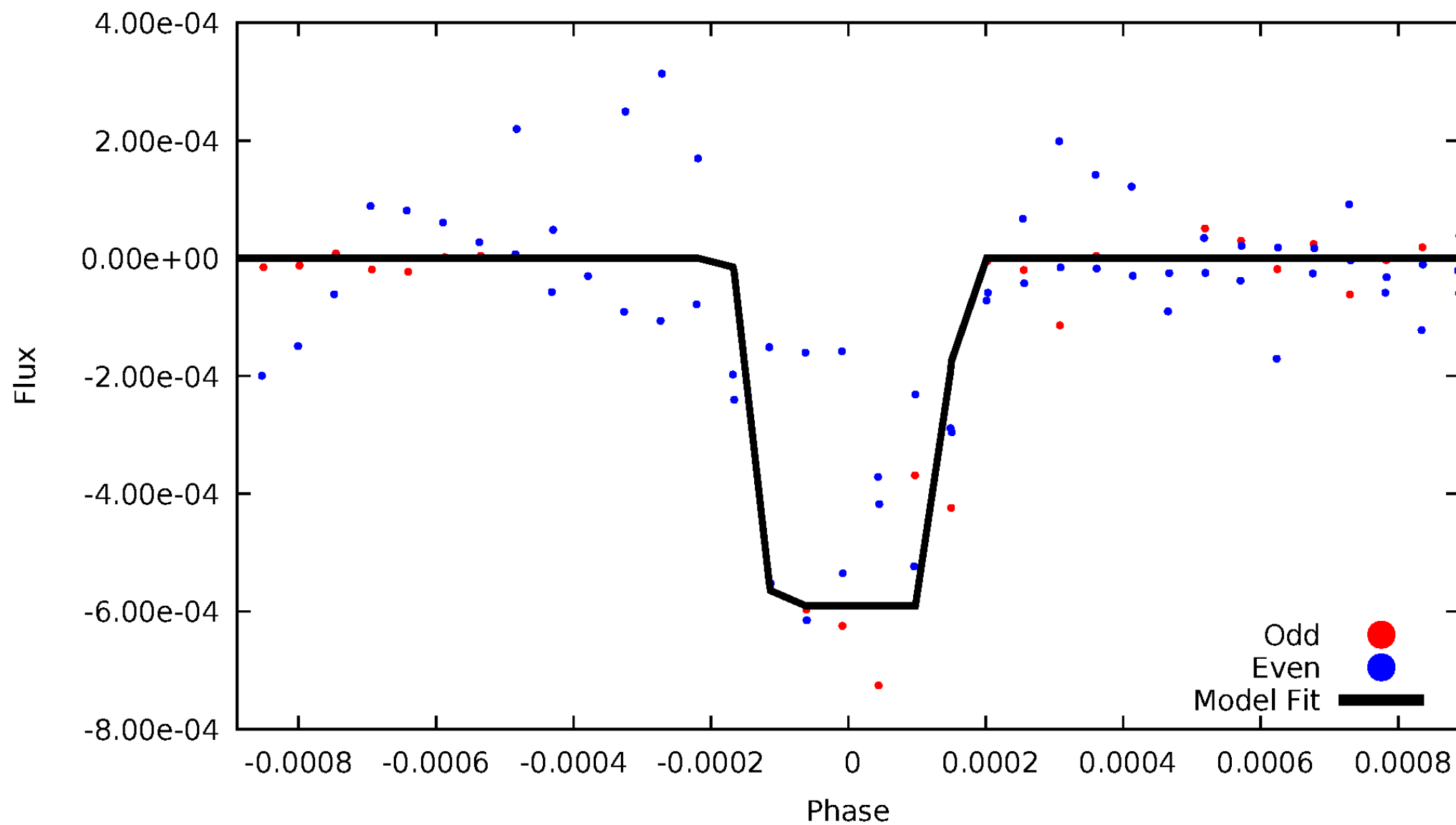
DV Odd/Even

TCE 008646460-03

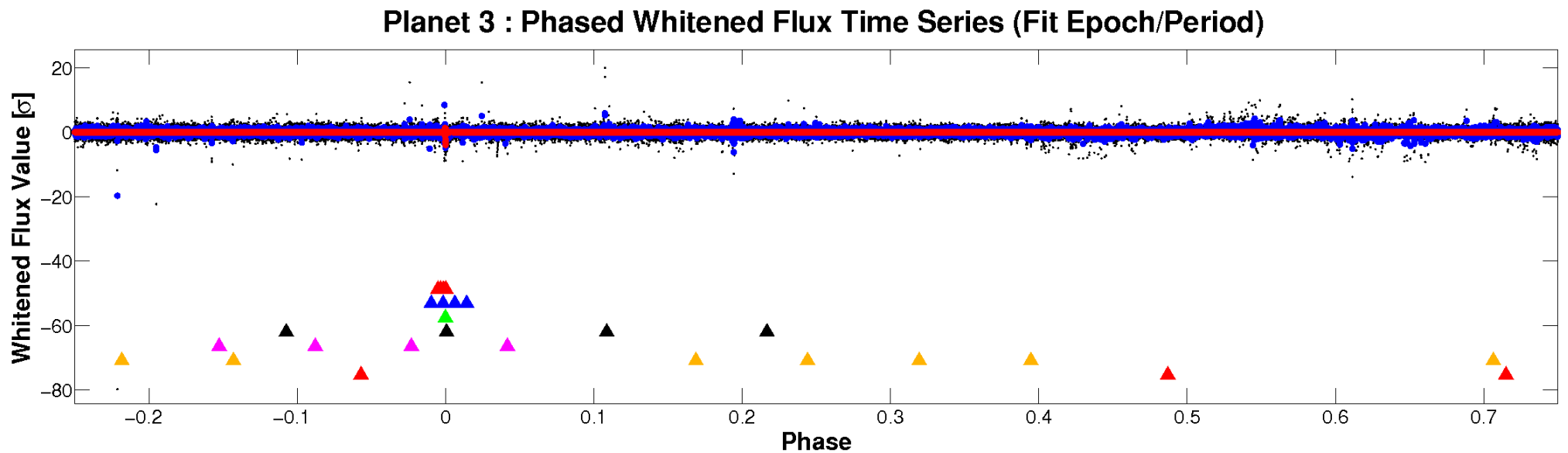
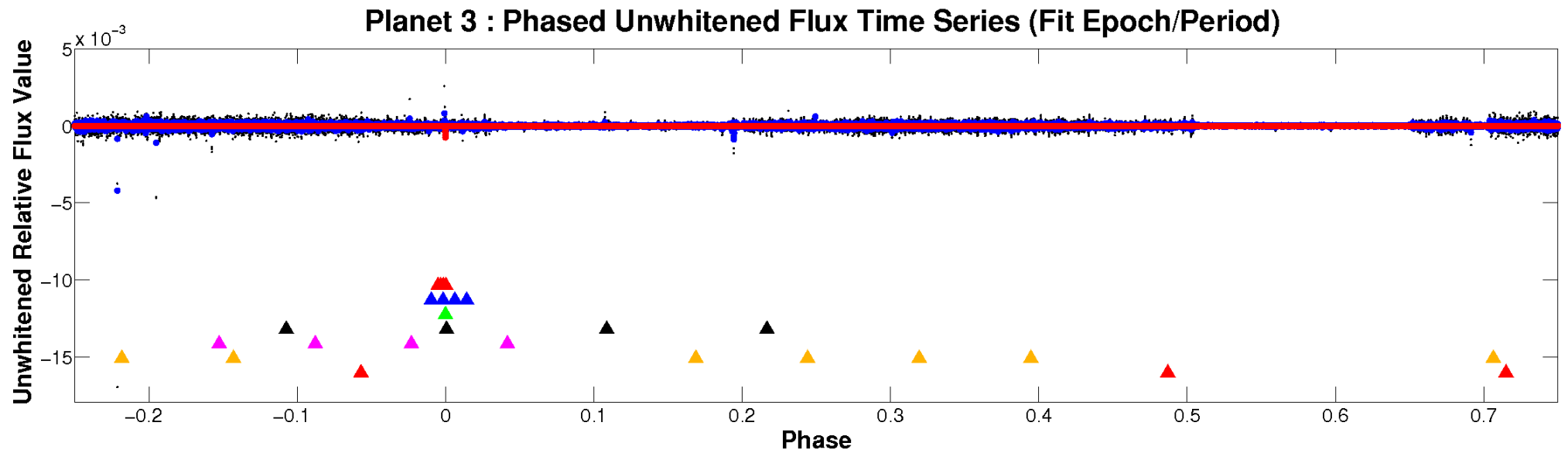


ALT Odd/Even

TCE 008646460-03

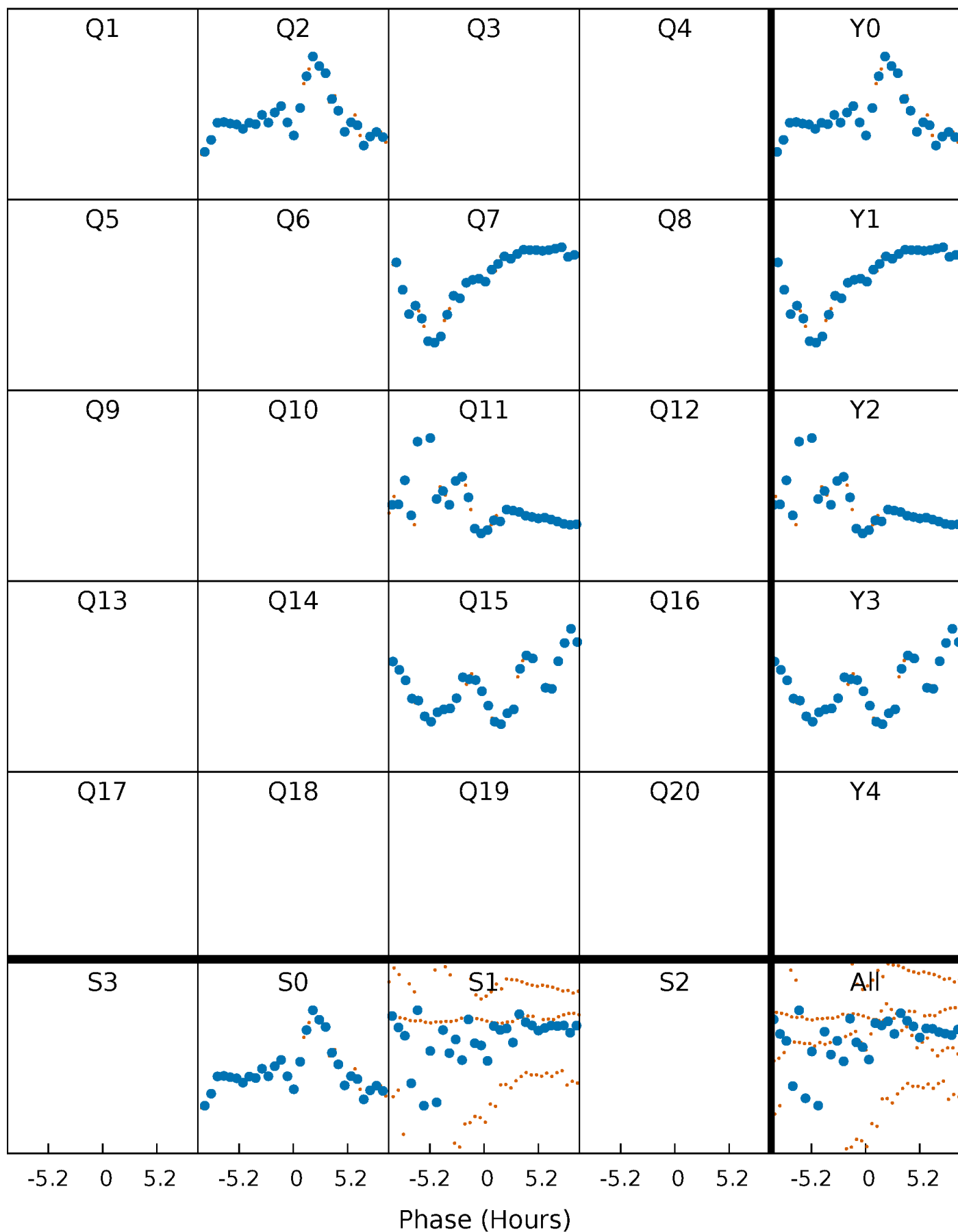


Non-Whitened Vs. Whitened Light Curve



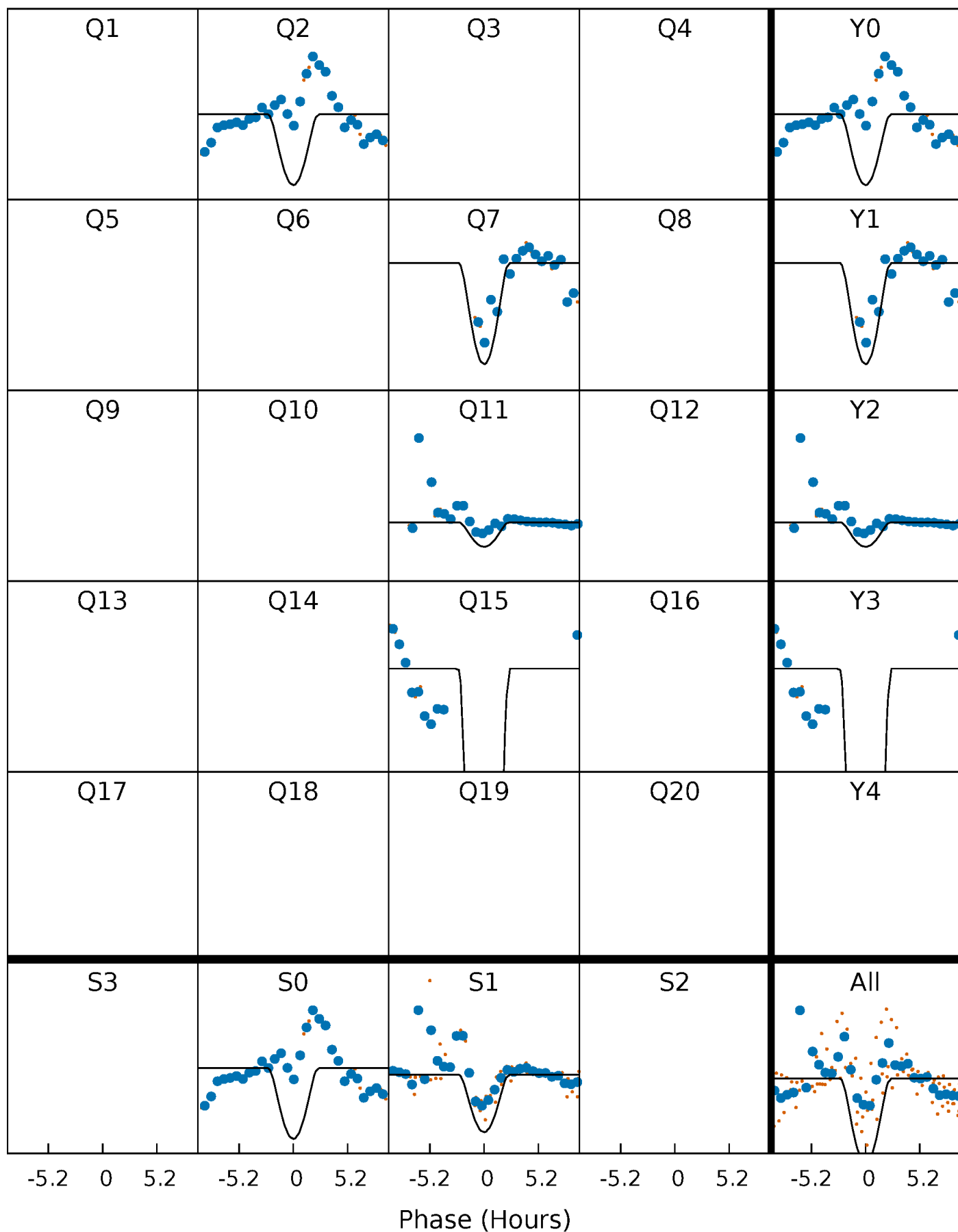
PDC Quarter-Phased Transit Curves

TCE 008646460-03 $P=387.417251$ Days $T_0=246.737739$ (BKJD)



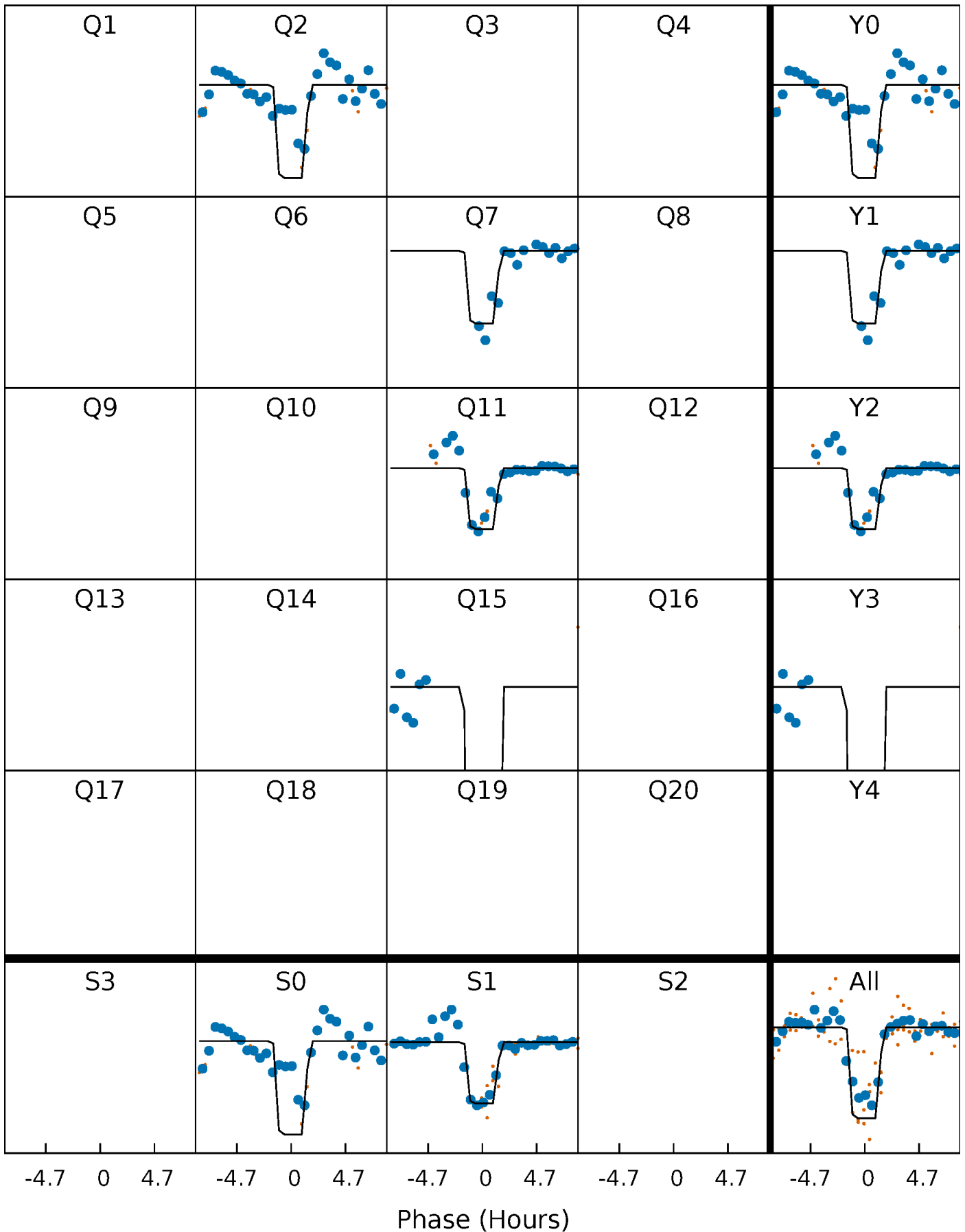
DV Quarter-Phased Transit Curves

TCE 008646460-03 $P=387.417251$ Days $T_0=246.737739$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

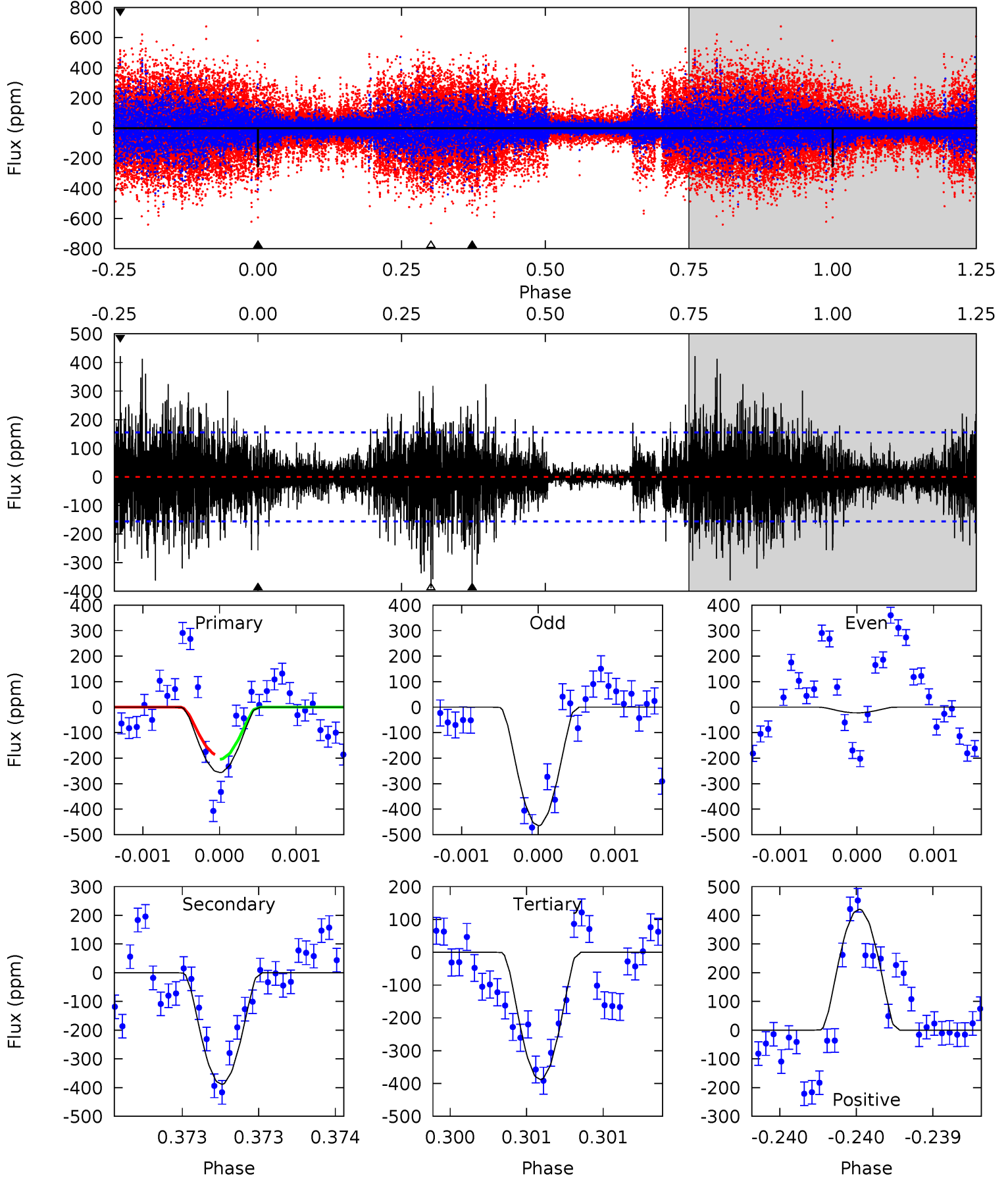
TCE 008646460-03 P=387.440731 Days $T_0=246.702149$ (BKJD)



DV Model-Shift Uniqueness Test

008646460-03, P = 387.417251 Days, E = 246.737739 Days

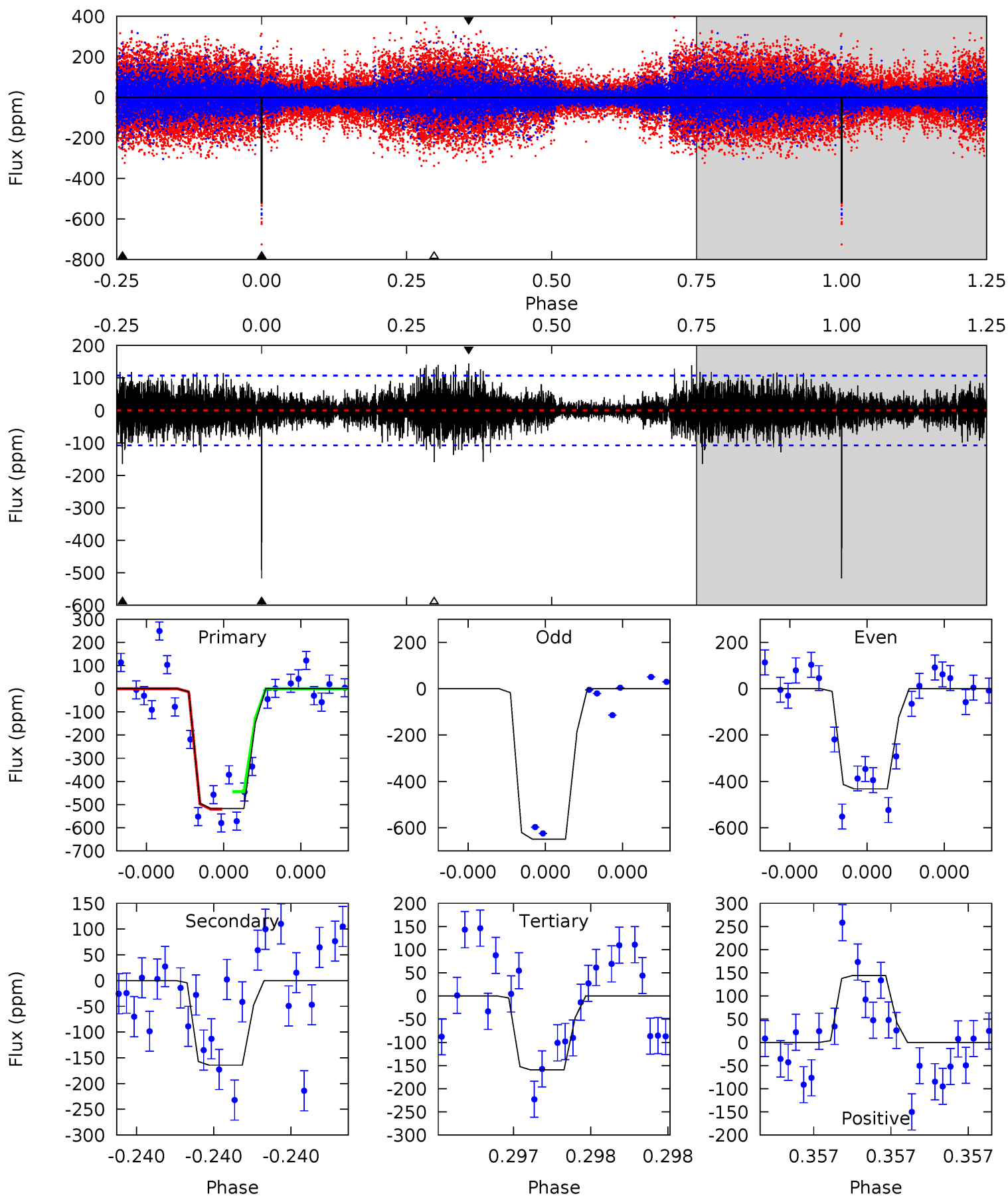
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.19	13.9	13.9	15.1	5.57	3.47	2.57	-4.72	-5.89	0.01	-1.16	7.50	0.76	0.52	0.34



Alt Model-Shift Uniqueness Test

008646460-03, P = 387.440731 Days, E = 246.702149 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.0	8.59	8.33	7.54	5.63	3.56	1.53	18.7	19.5	0.26	1.05	2.06	0.95	0.22	1.84



Stellar Parameters For KIC 008646460

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6084^{+223}_{-185}	$3.506^{+0.400}_{-0.125}$	$0.160^{+0.250}_{-0.250}$	$3.985^{+0.753}_{-1.756}$	$1.857^{+0.119}_{-0.446}$	$0.041^{+0.133}_{-0.016}$
	+4%/-3%	+11%/-4%	+156%/-156%	+19%/-44%	+6%/-24%	+321%/-38%
Source	PHO1	FLK73	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 008646460-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-389 ± 28	$50.88^{+47.80}_{-35.39}$	651^{+49}_{-67}	3054^{+1370}_{-496}	131^{+1238}_{-97}
Alt.	-164 ± 19	$42.46^{+49.65}_{-28.39}$	651^{+50}_{-70}	2838^{+1091}_{-496}	78^{+672}_{-61}

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 $A_{obs} \gg 1.0$

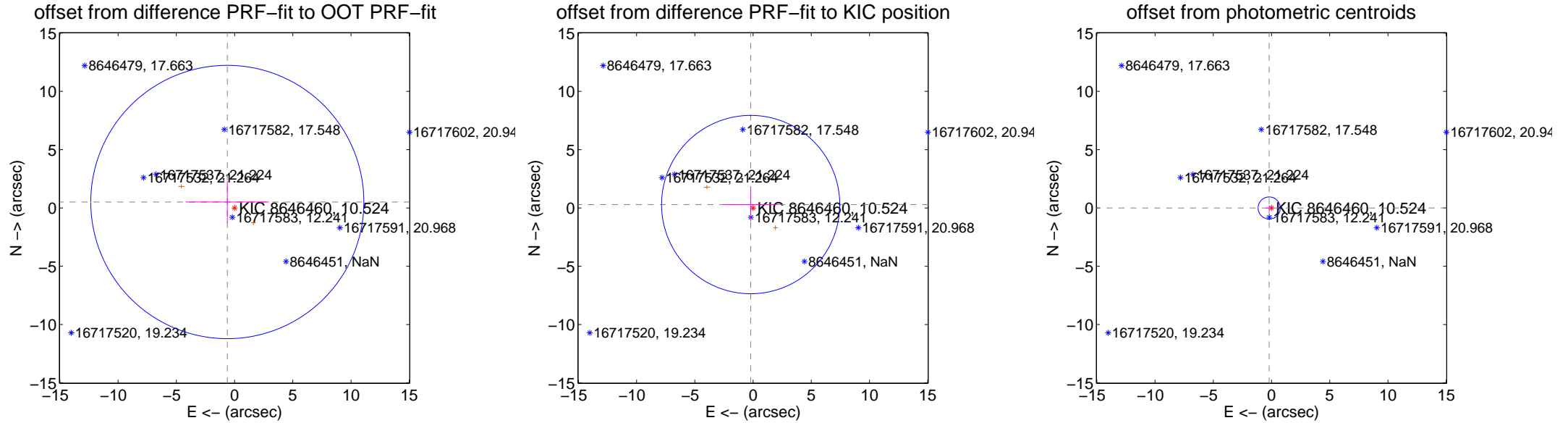
DV Centroid Data

Supplemental centroid analysis for 008646460-03. **Kepler magnitude: 10.52.** Transit SNR 13.47

There are 0 quarters with good PRF difference image offsets

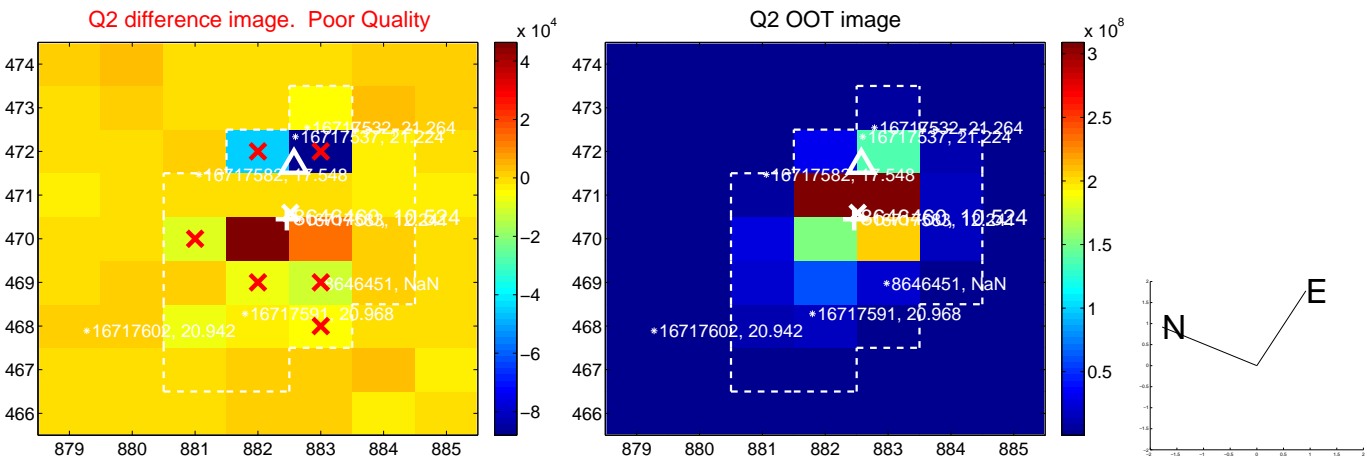
The direct PRF centroid is offset from the target star catalog position by about 0.53 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.807 ± 3.908	0.21	0.624 ± 3.576	0.511 ± 1.803
PRF-fit source offset from KIC position	0.355 ± 2.550	0.14	0.205 ± 2.404	0.290 ± 1.424
photometric centroid source offset	0.20 ± 0.32	0.64	0.20 ± 0.32	-0.00 ± 0.23



Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

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



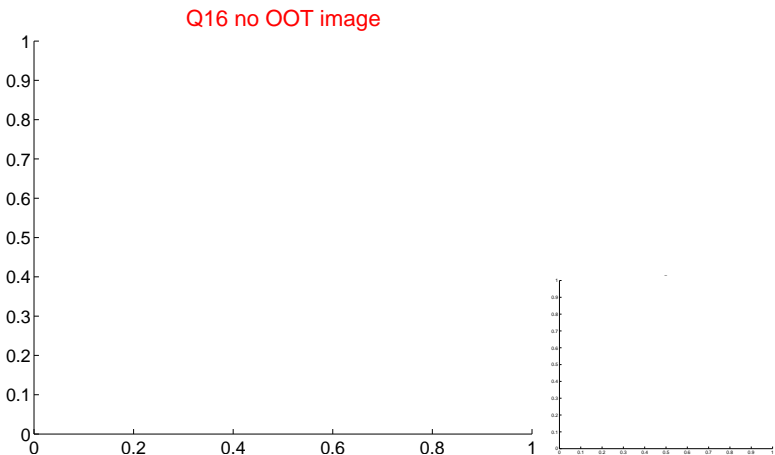
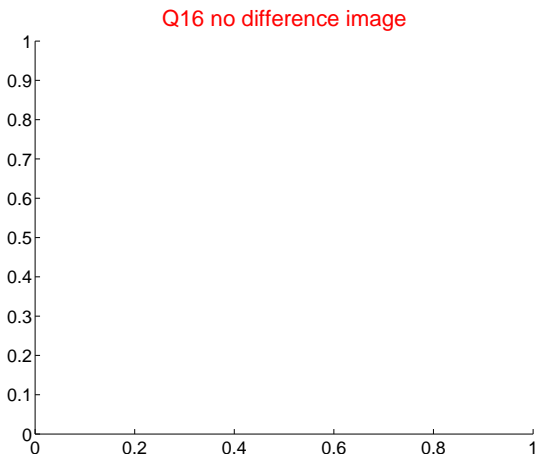
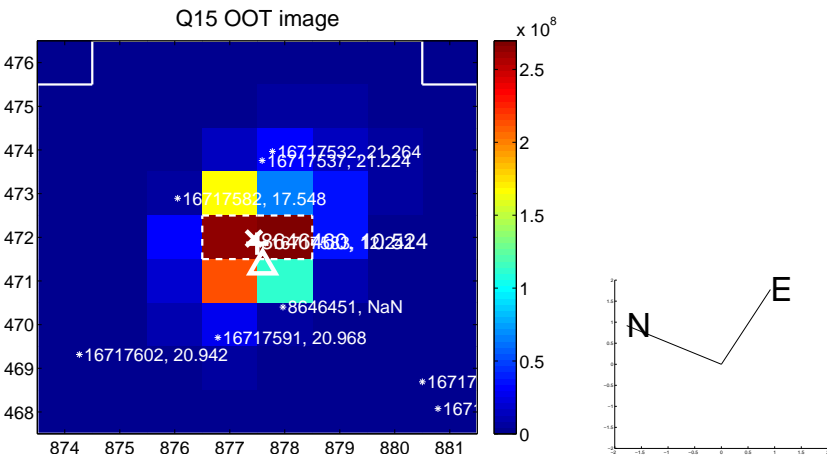
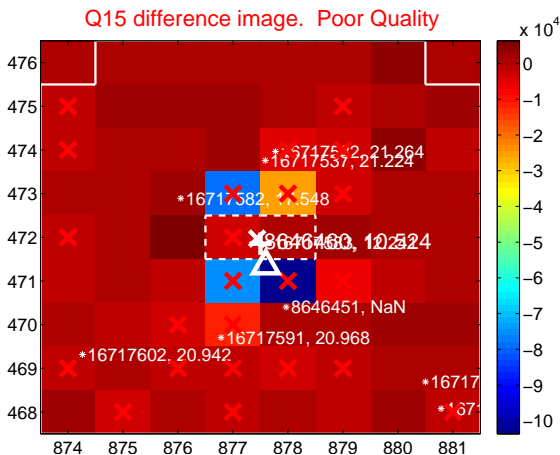
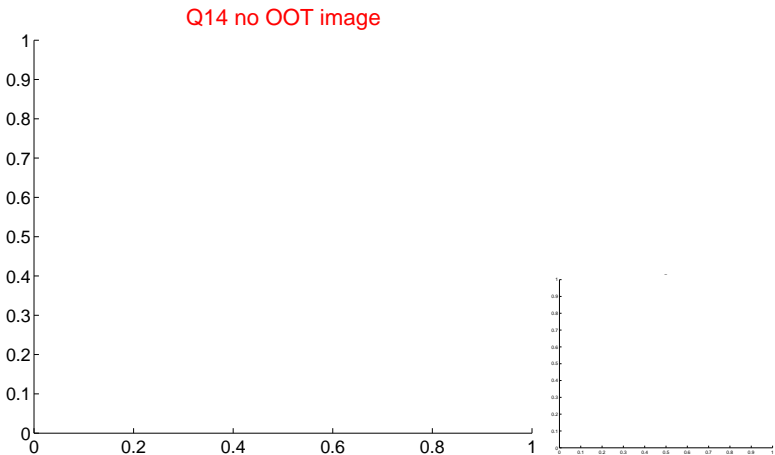
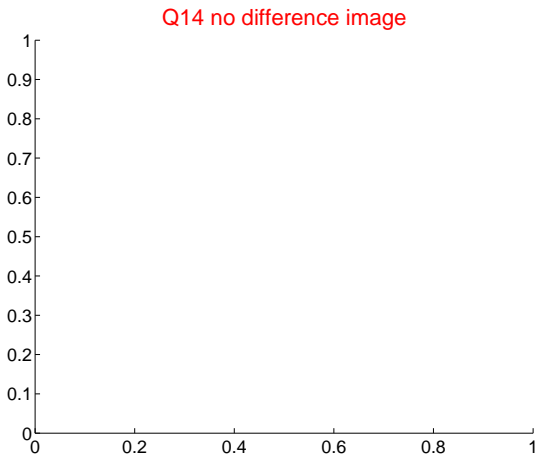
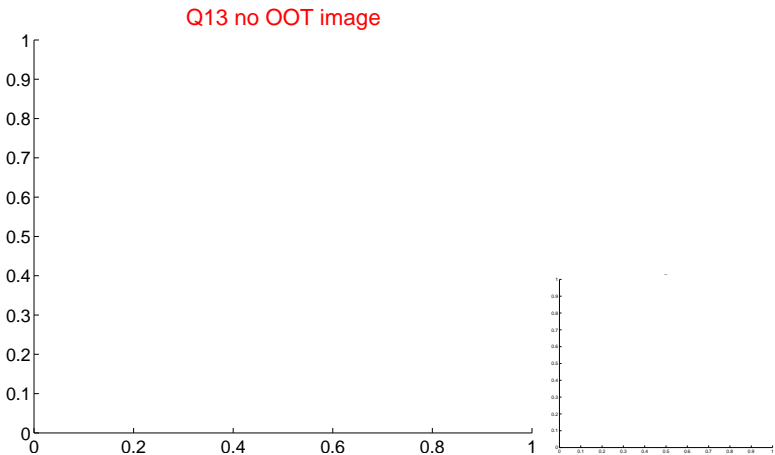
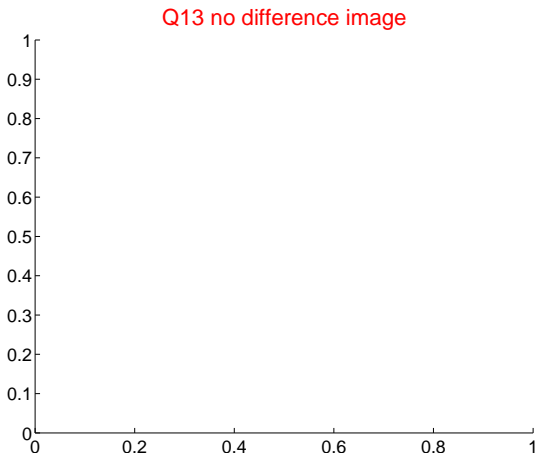
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



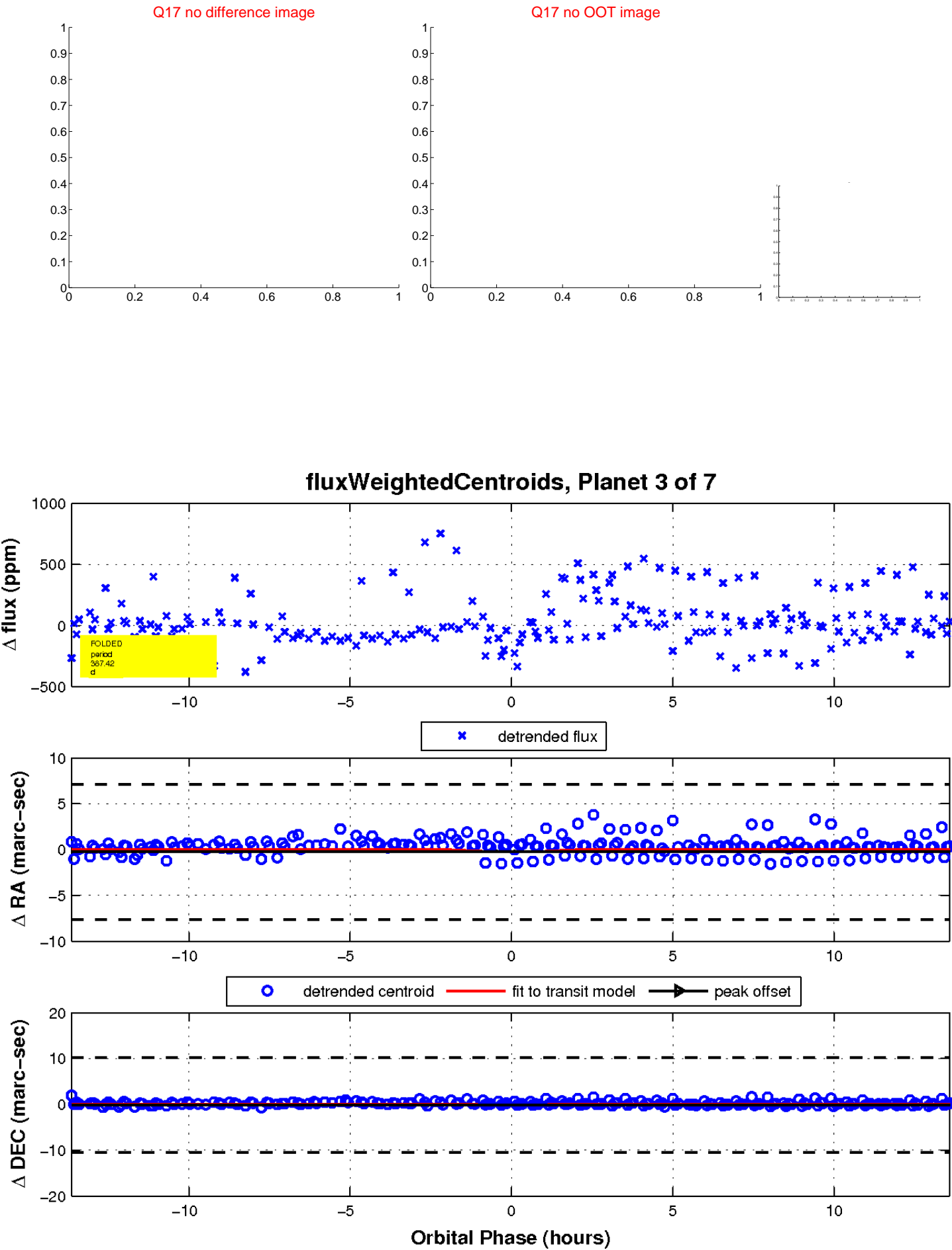
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

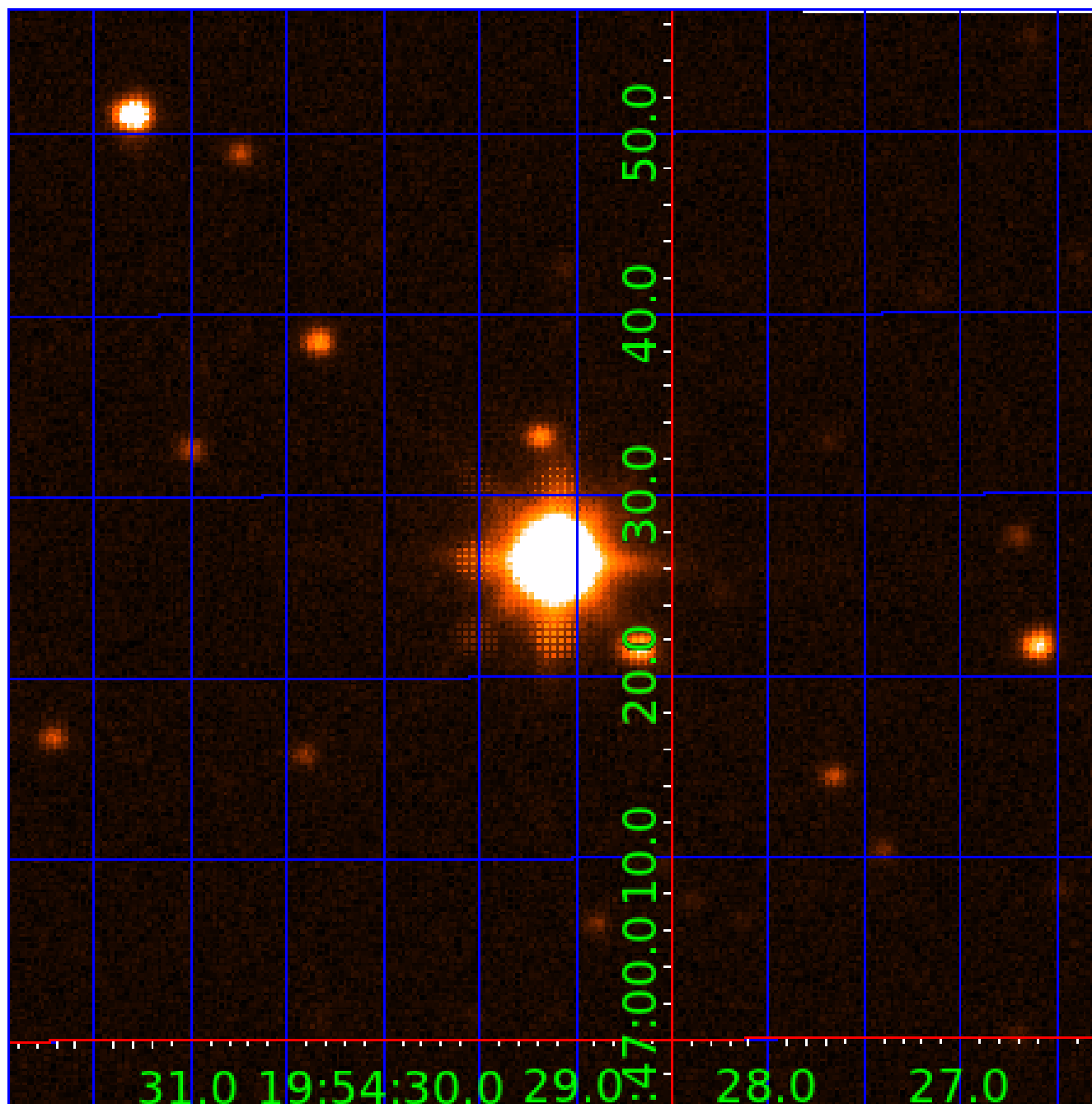


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008646460

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})
008646460-01	OBS	No	388.108326	244.773249	0.0	4.112	20.4	0.0	3.98	6084	0.00	11.89
008646460-02	OBS	No	390.502488	243.024899	521.2	7.285	21.4	15.5	3.98	6084	10.11	11.80
008646460-03	OBS	No	387.417251	246.737739	753.9	4.571	16.3	13.5	3.98	6084	21.31	11.92
008646460-04	OBS	No	429.270535	205.154547	345.7	15.637	9.3	9.6	3.98	6084	7.47	10.40
008646460-05	OBS	No	412.512495	187.629367	31.4	3.950	11.4	2.2	3.98	6084	2.37	10.96
008646460-06	OBS	No	208.291881	312.149199	21.7	2.676	11.6	9.5	3.98	6084	1.98	27.27
008646460-07	OBS	No	475.754577	435.419332	65.9	15.000	9.1	-1.0	3.98	6084	3.22	9.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008646460-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008646460-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008646460-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST
008646460-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_ZUMA—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
008646460-05	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—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008646460-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008646460-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED

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

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

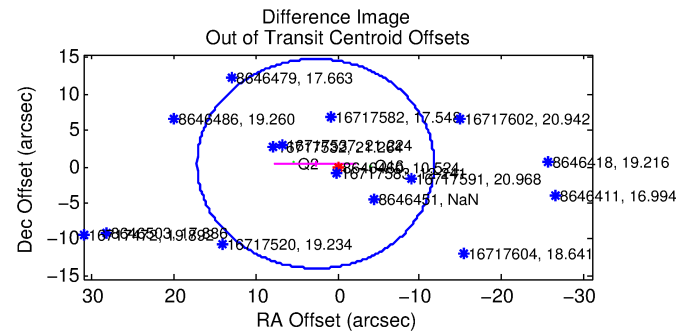
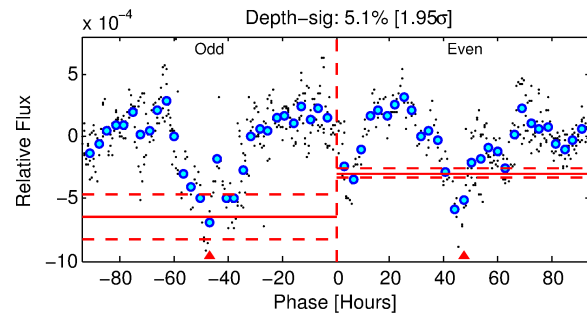
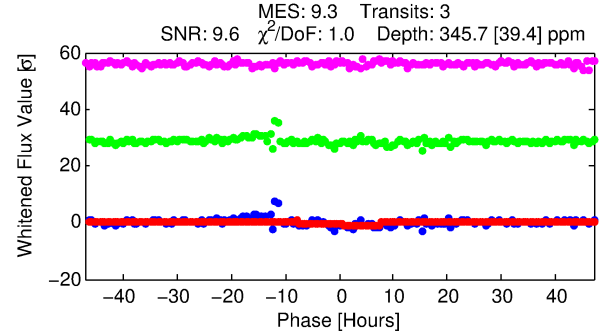
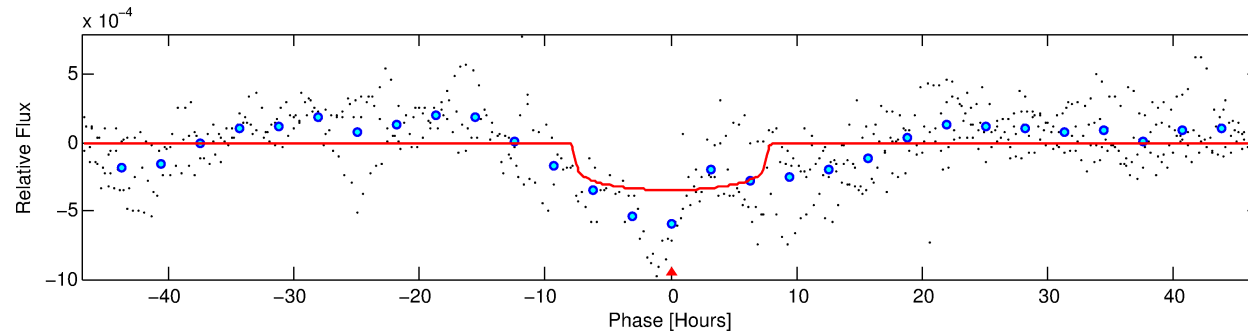
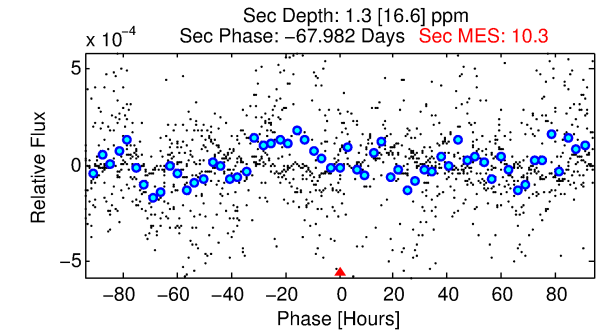
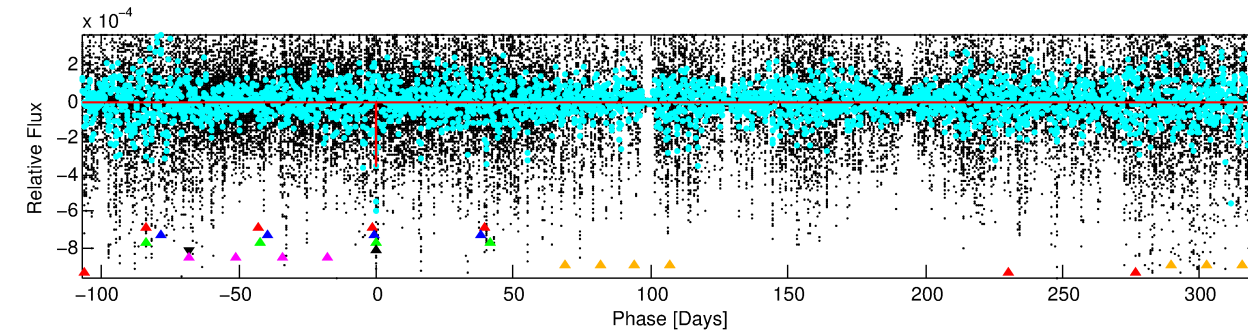
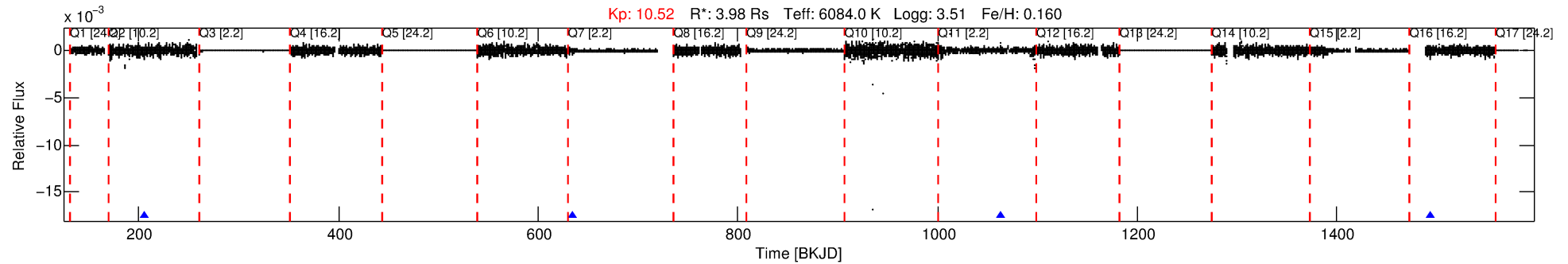
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008646460-04

No Significant Match Found

DV One-Page Summary

KIC: 8646460 Candidate: 4 of 7 Period: 429.271 d



DV Fit Results:

Period = 429.27054 [0.00510] d
Epoch = 205.1545 [0.0110] BKJD
 $R_p/R^* = 0.0172$ [0.0074]
 $a/R^* = 201.00$ [401.83]
 $b = 0.34$ [5.20]
Seff = 10.40 [7.24]
Teq = 458 [80] K
 $R_p = 7.47$ [4.60] R_e
 $a = 1.3692$ [0.5818] AU
 $Ag = 24.55$ [307.98] [0.08] σ
Teffp = 1576 [4936] K [0.23] σ

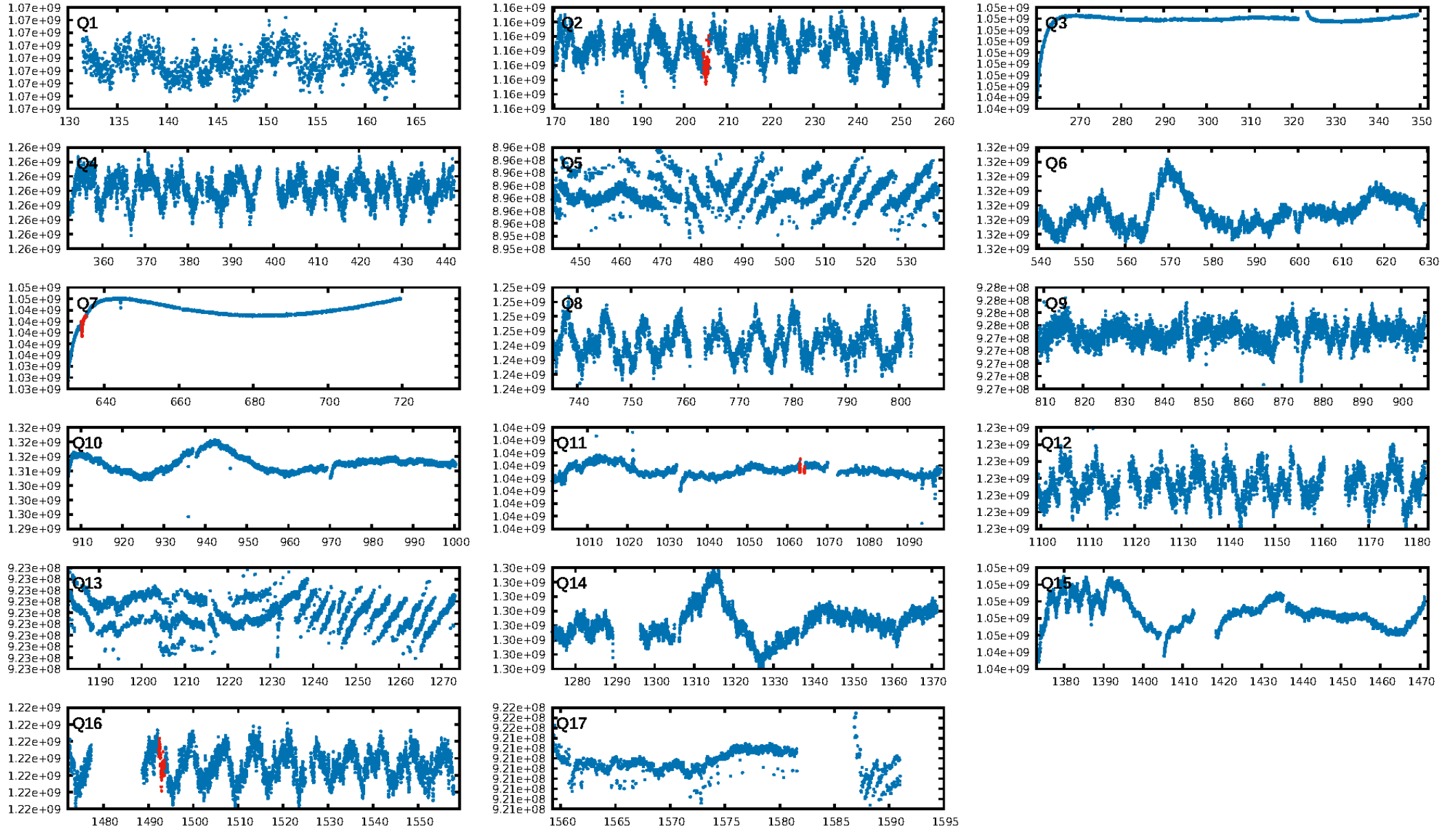
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [24.94] σ
LongPeriod-sig: 100.0% [51.49] σ
ModelChiSquare2-sig: 33.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.526
Centroid-sig: 1.4%
Centroid-so: 2.325 arcsec [2.44] σ
OotOffset-rm: 2.709 arcsec [0.56] σ
KicOffset-rm: 2.603 arcsec [0.57] σ
OotOffset-st: 1/0/1/0 [2]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

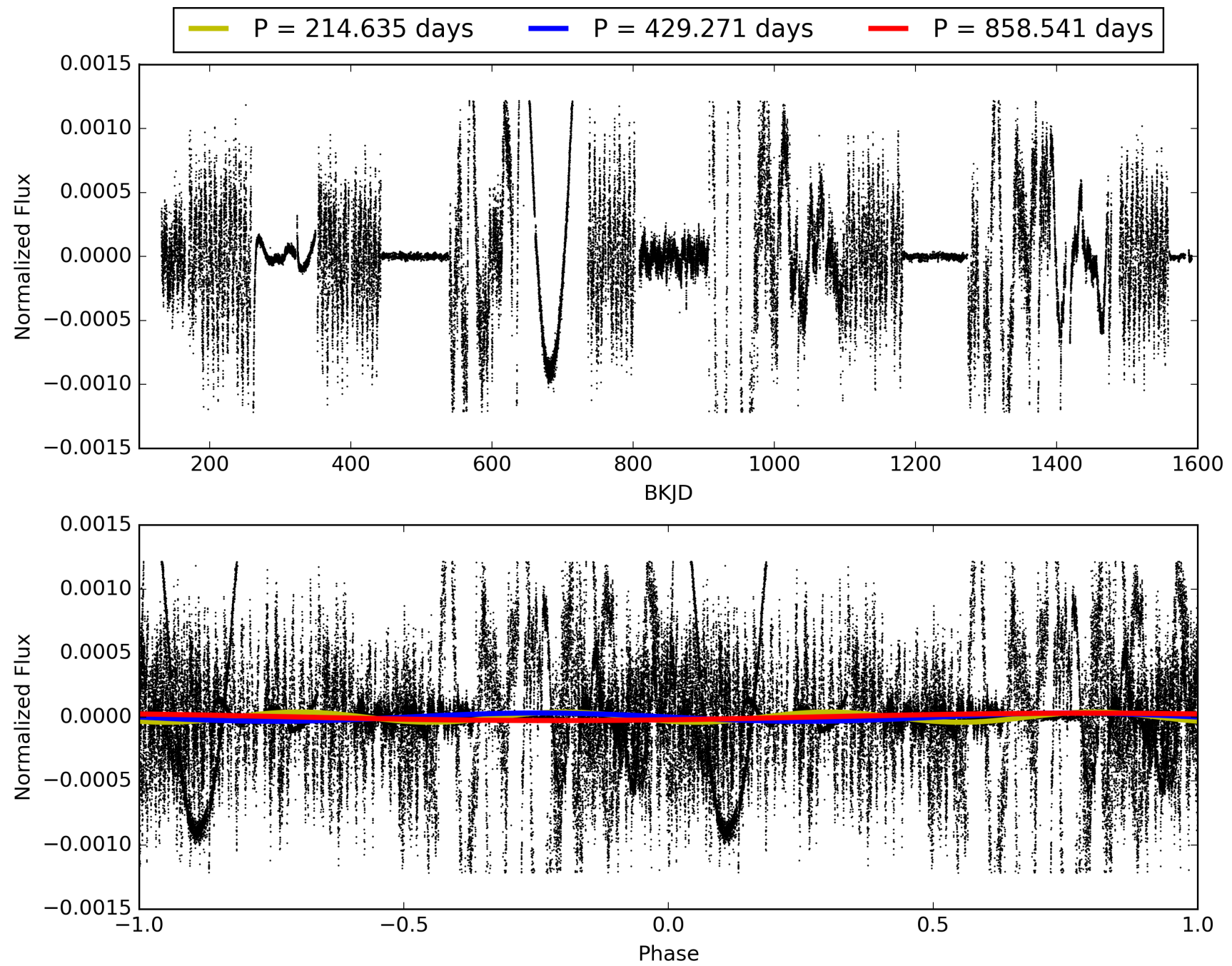
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:52:44 Z

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

TCE 008646460-04, PDC Light Curves

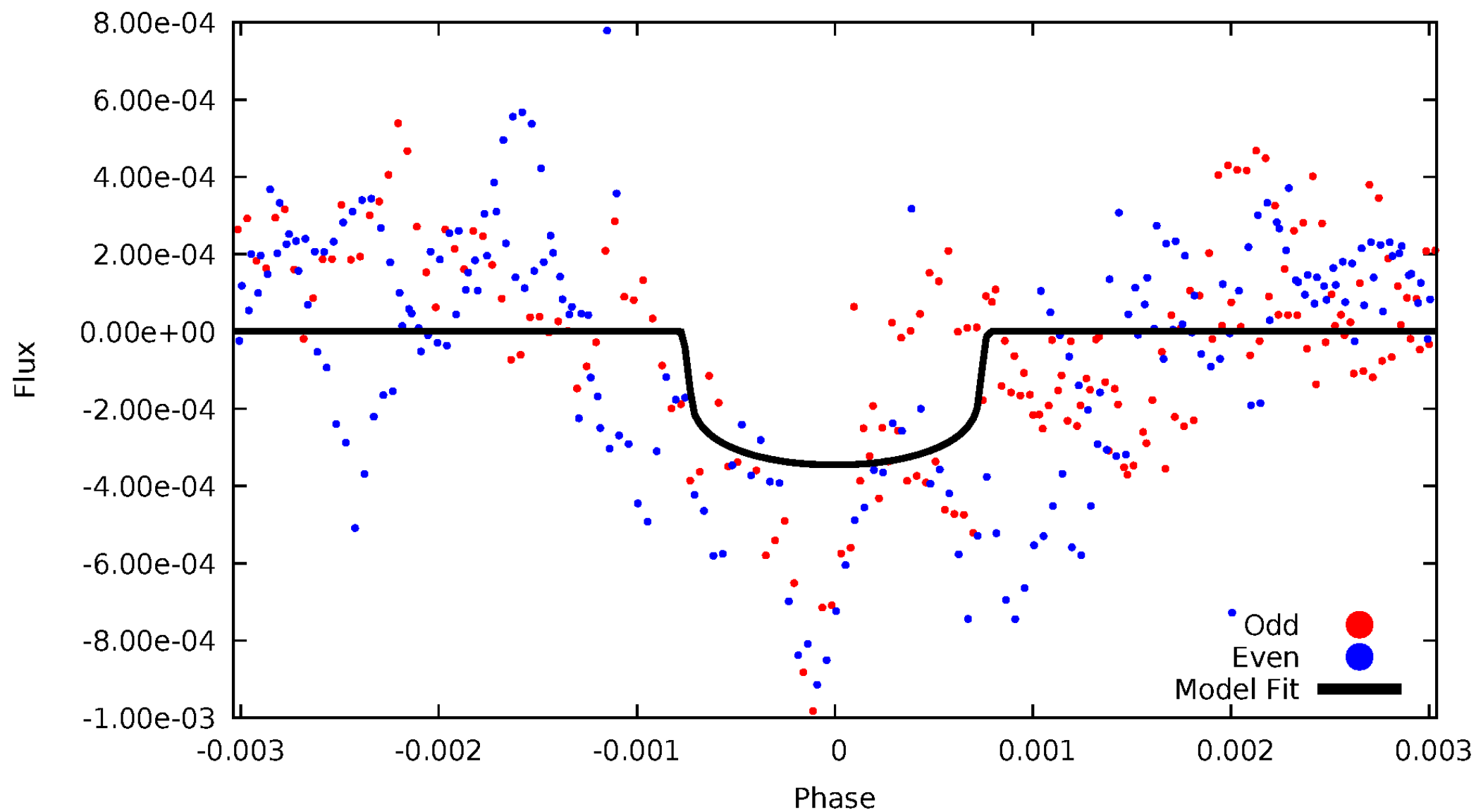


TCE 008646460-04



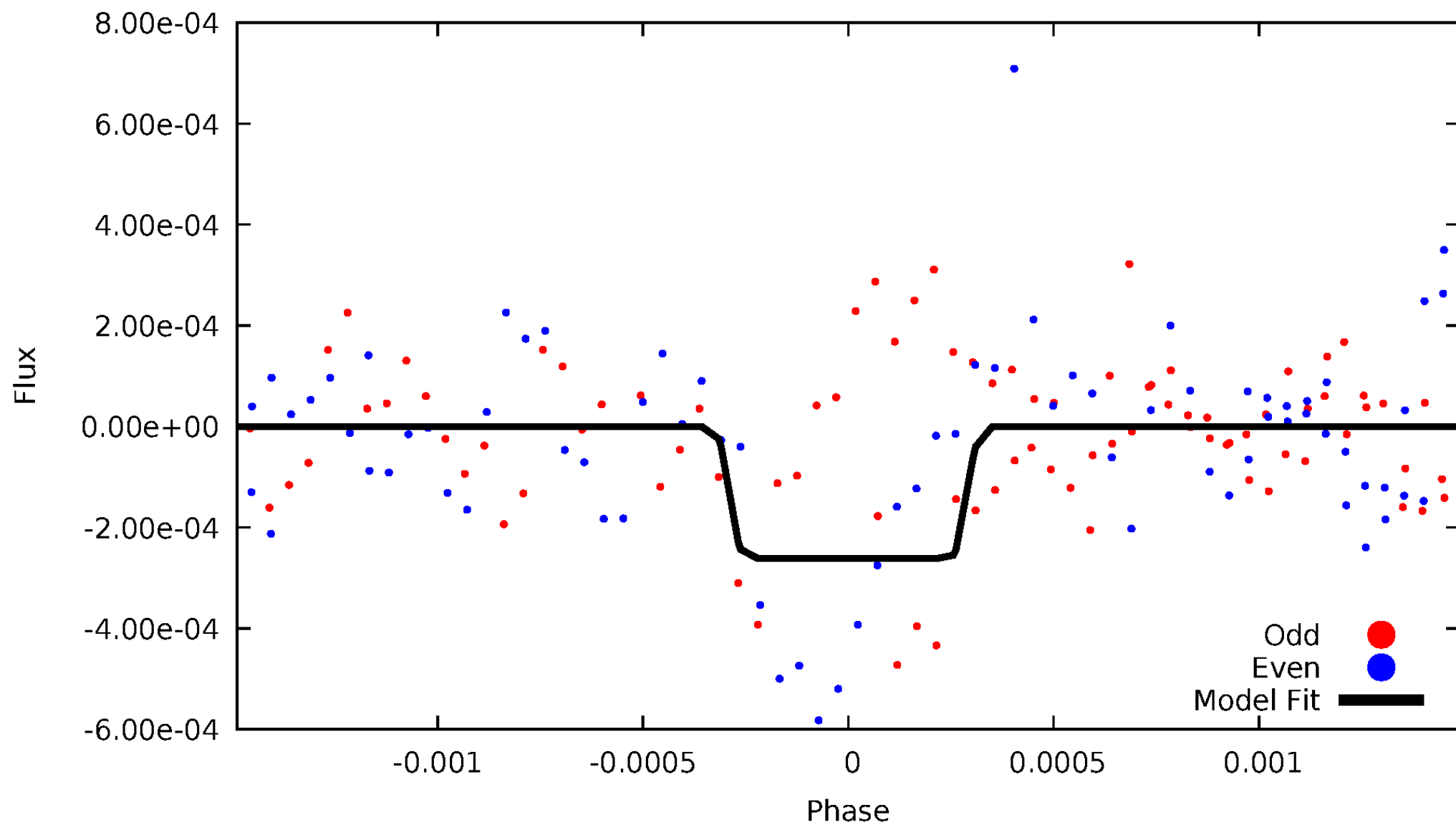
DV Odd/Even

TCE 008646460-04



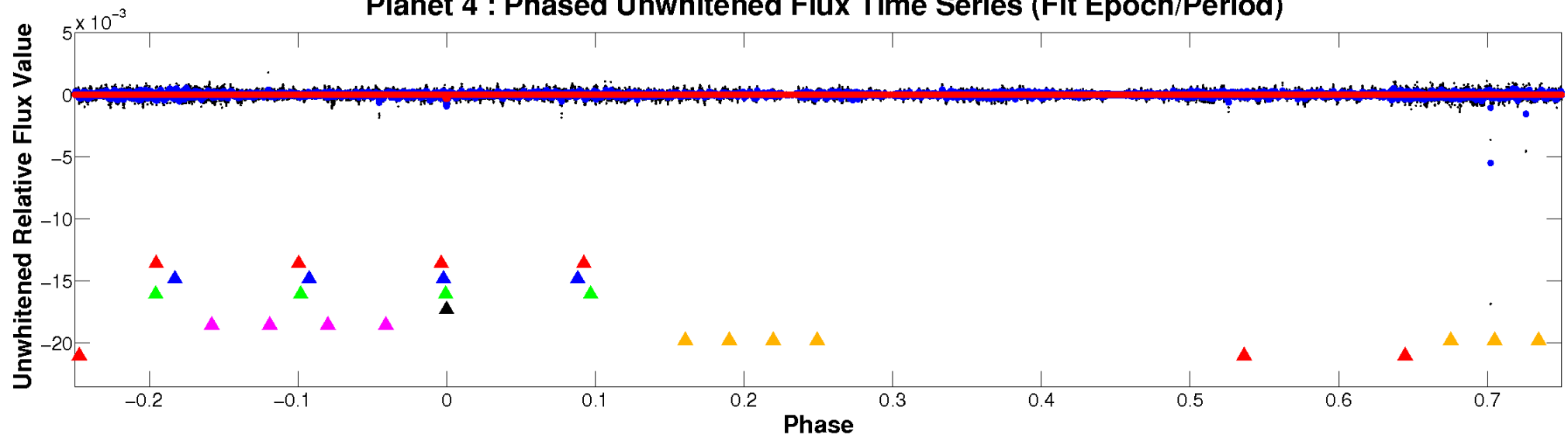
ALT Odd/Even

TCE 008646460-04

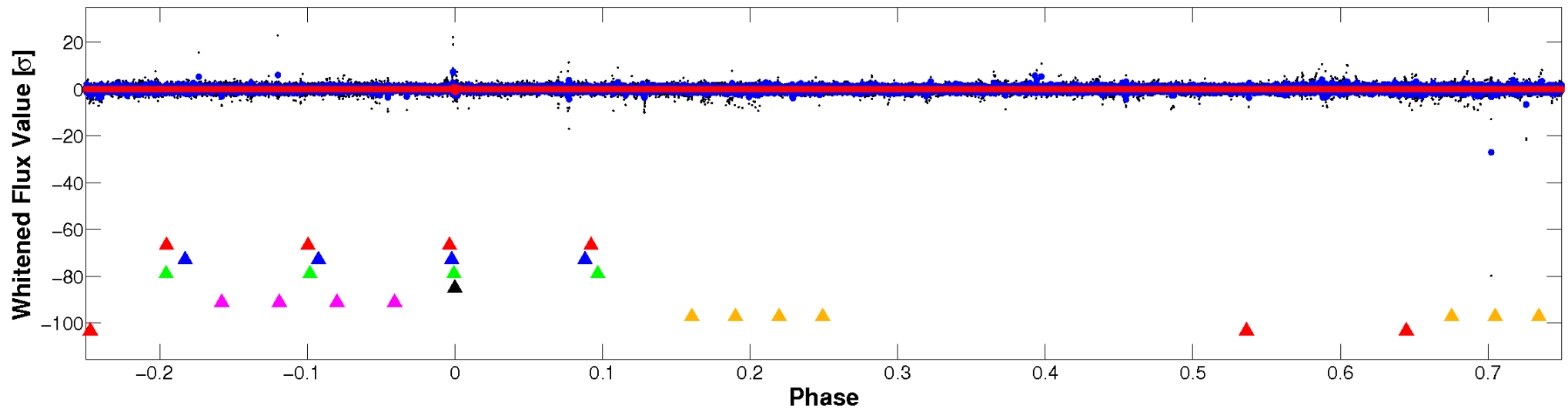


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

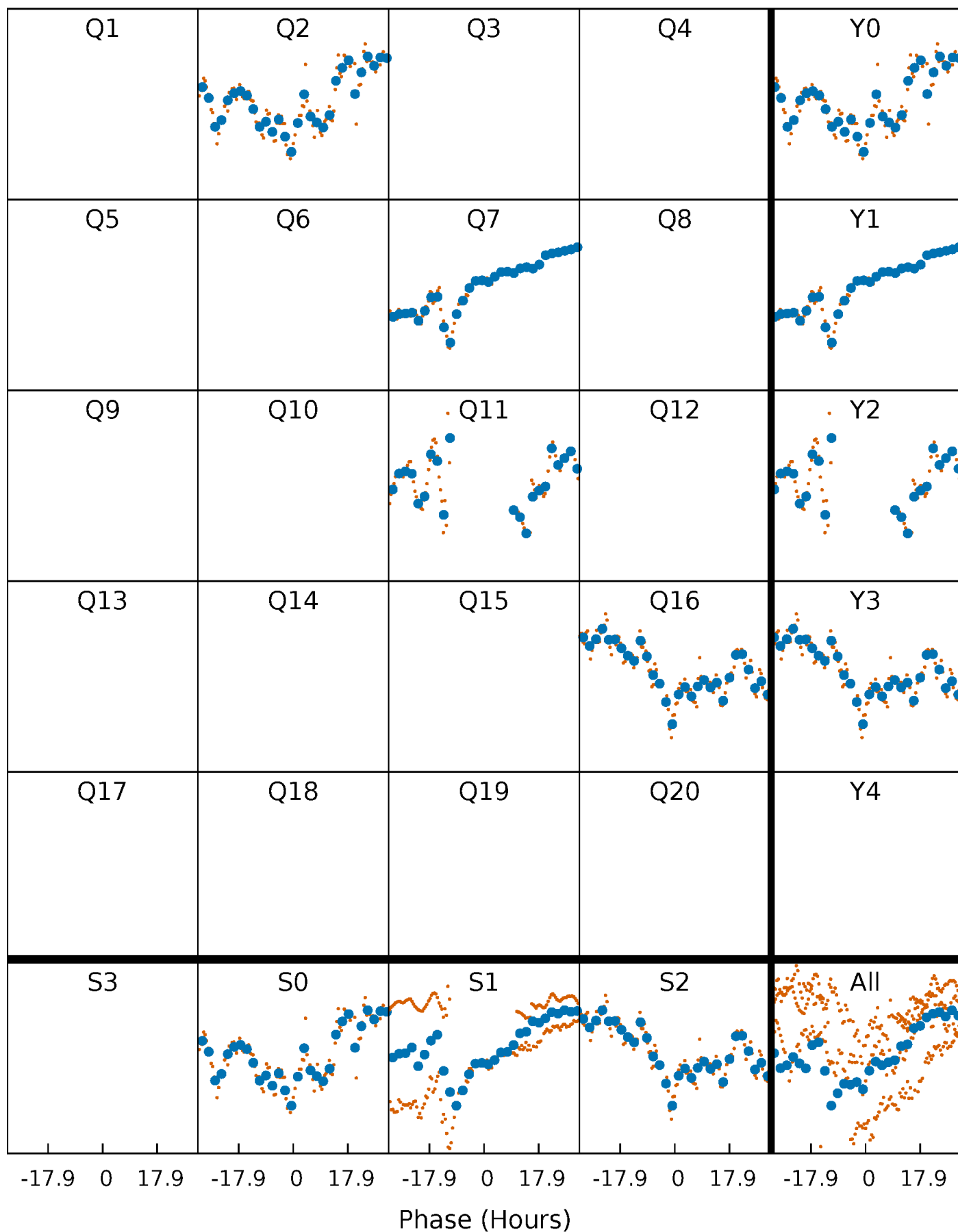


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



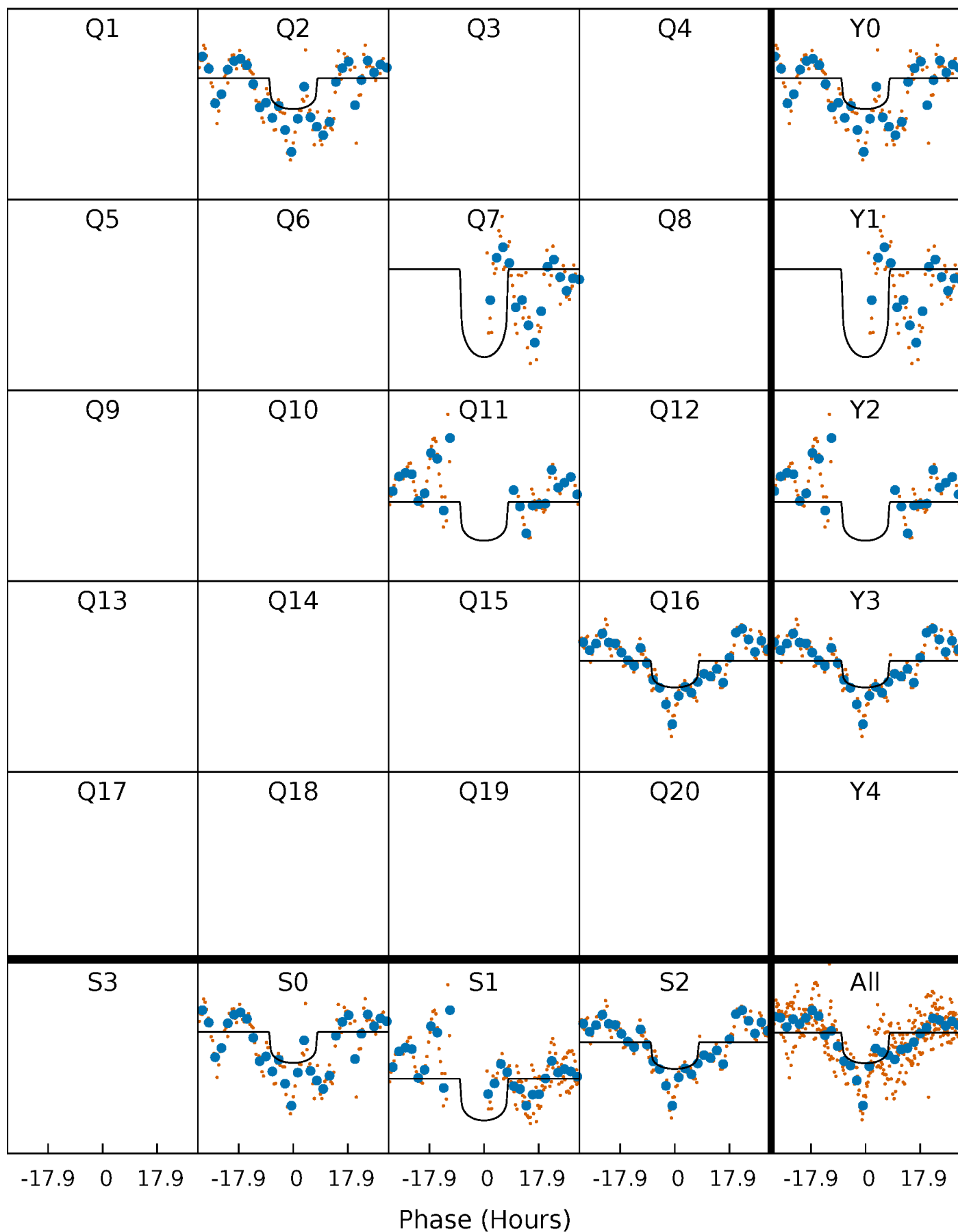
PDC Quarter-Phased Transit Curves

TCE 008646460-04 $P=429.270535$ Days $T_0=205.154547$ (BKJD)



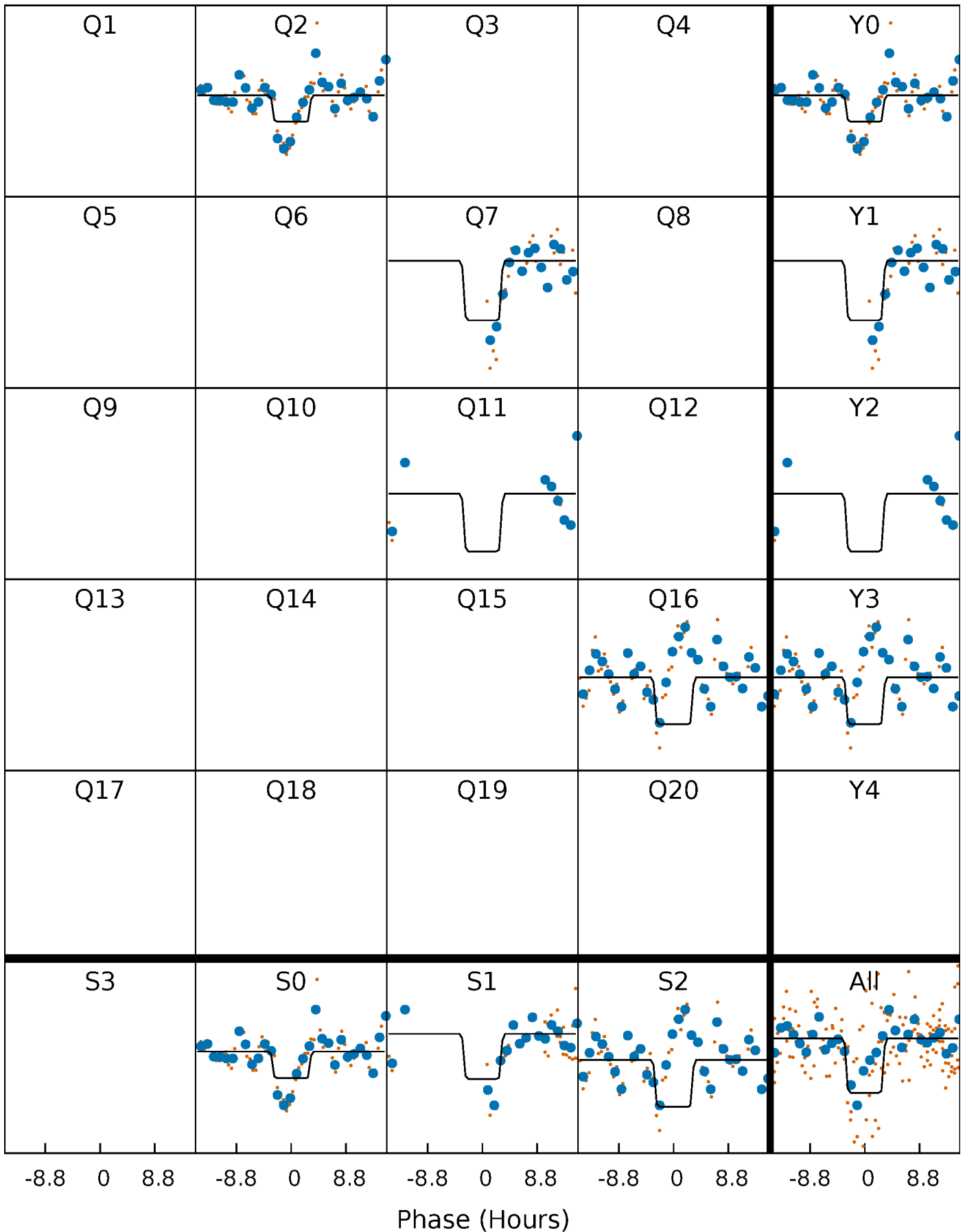
DV Quarter-Phased Transit Curves

TCE 008646460-04 P=429.270535 Days $T_0=205.154547$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

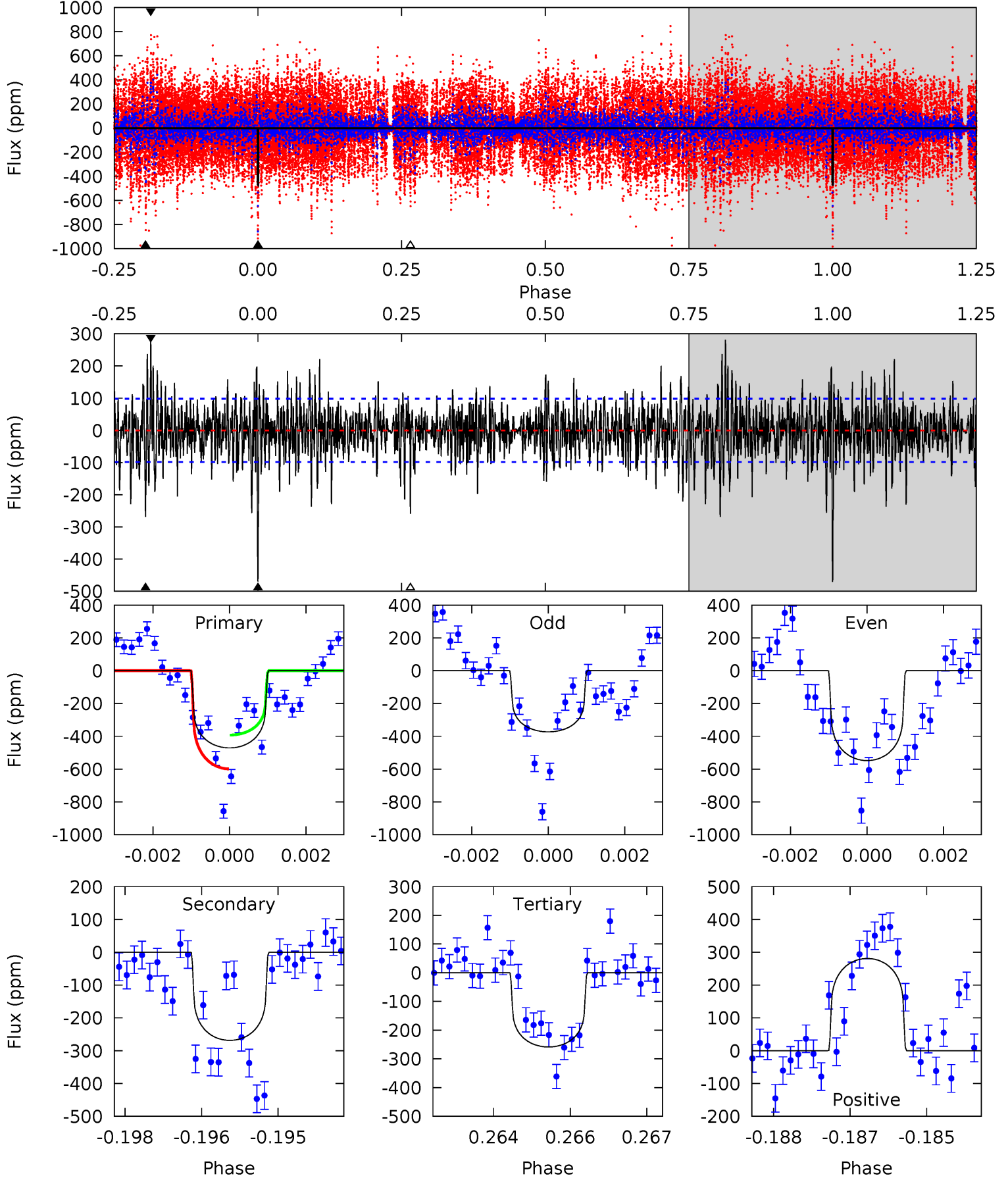
TCE 008646460-04 $P=429.288662$ Days $T_0=205.146982$ (BKJD)



DV Model-Shift Uniqueness Test

008646460-04, P = 429.270535 Days, E = 205.154547 Days

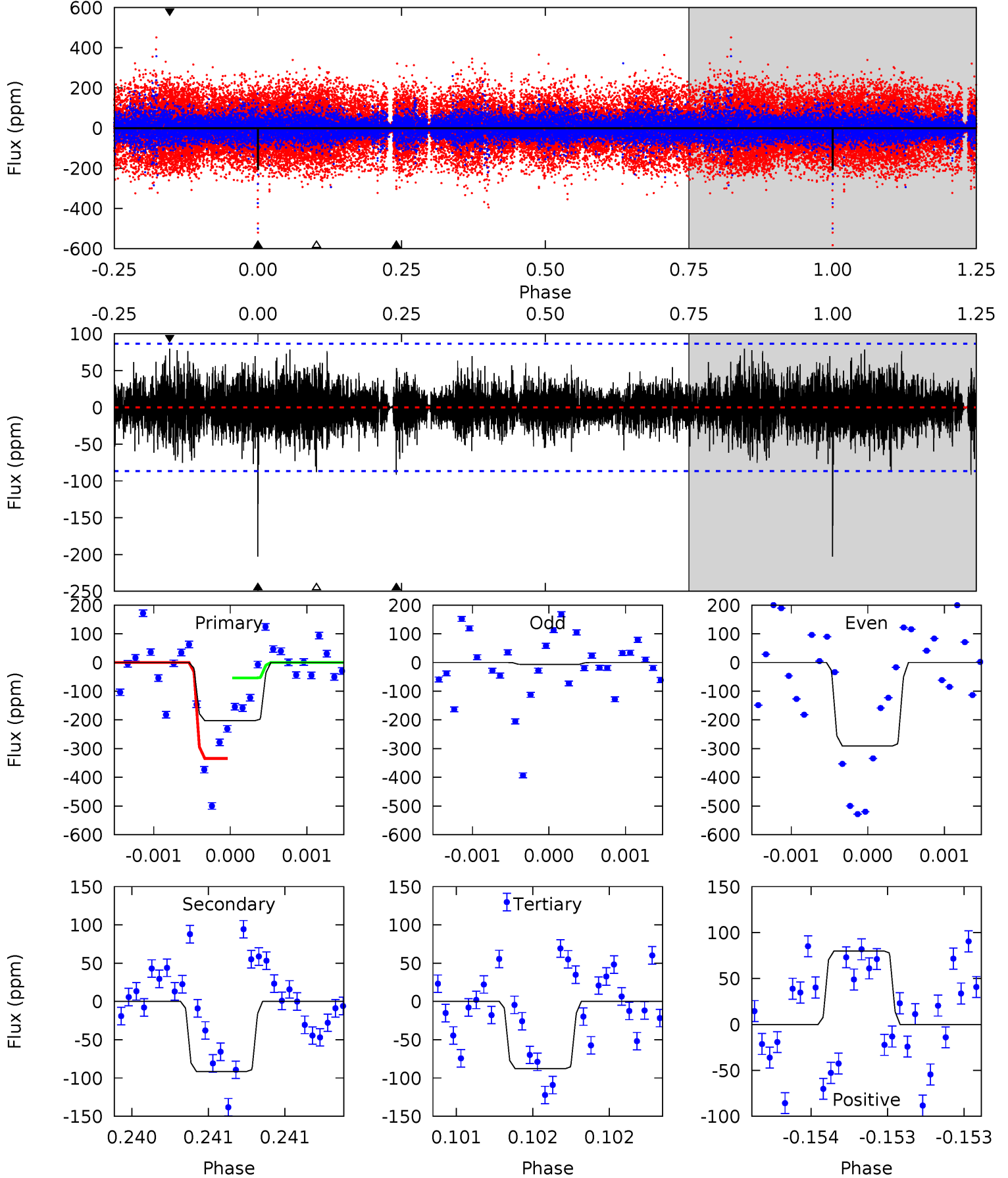
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.8	14.7	14.1	15.4	5.37	3.17	3.44	11.6	10.4	0.55	-0.68	4.06	0.68	0.37	5.45



Alt Model-Shift Uniqueness Test

008646460-04, P = 429.288662 Days, E = 205.146982 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	5.83	5.60	5.10	5.52	3.41	1.16	7.34	7.85	0.23	0.74	8.44	0.66	0.28	8.74



Stellar Parameters For KIC 008646460

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6084^{+223}_{-185}	$3.506^{+0.400}_{-0.125}$	$0.160^{+0.250}_{-0.250}$	$3.985^{+0.753}_{-1.756}$	$1.857^{+0.119}_{-0.446}$	$0.041^{+0.133}_{-0.016}$
	+4%/-3%	+11%/-4%	+156%/-156%	+19%/-44%	+6%/-24%	+321%/-38%
Source	PHO1	FLK73	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 008646460-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-269 ± 18	$6.80^{+3.58}_{-3.03}$	633^{+44}_{-64}	5988^{+1940}_{-893}	5656^{+12734}_{-3121}
Alt.	-91 ± 16	$6.58^{+3.40}_{-3.18}$	630^{+48}_{-66}	4761^{+1578}_{-667}	2068^{+5629}_{-1130}

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

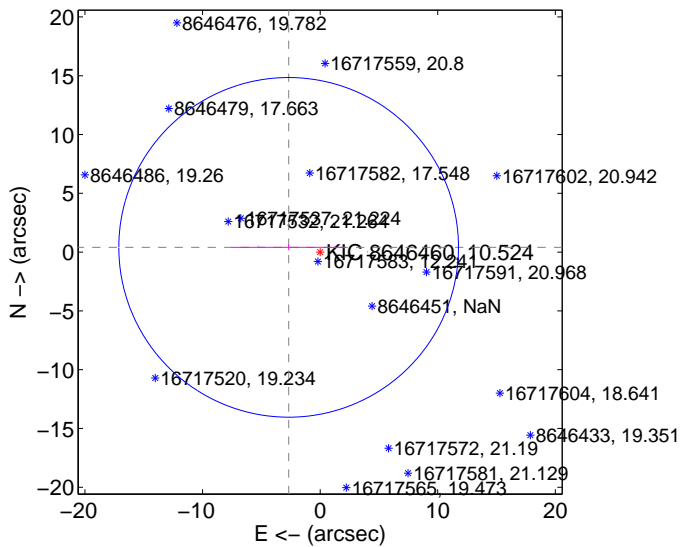
Supplemental centroid analysis for 008646460-04. **Kepler magnitude: 10.52.** Transit SNR 9.57

There are 2 quarters with good PRF difference image offsets

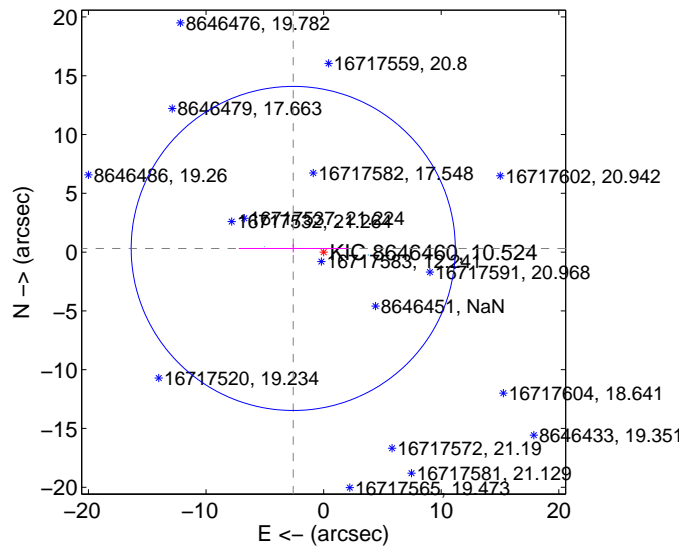
The direct PRF centroid is offset from the target star catalog position by about 0.35 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.709 ± 4.815	0.56	2.678 ± 4.869	0.403 ± 0.244
PRF-fit source offset from KIC position	2.603 ± 4.594	0.57	2.584 ± 4.627	0.311 ± 0.344
photometric centroid source offset	2.32 ± 0.95	2.44	-2.30 ± 0.96	-0.36 ± 0.40

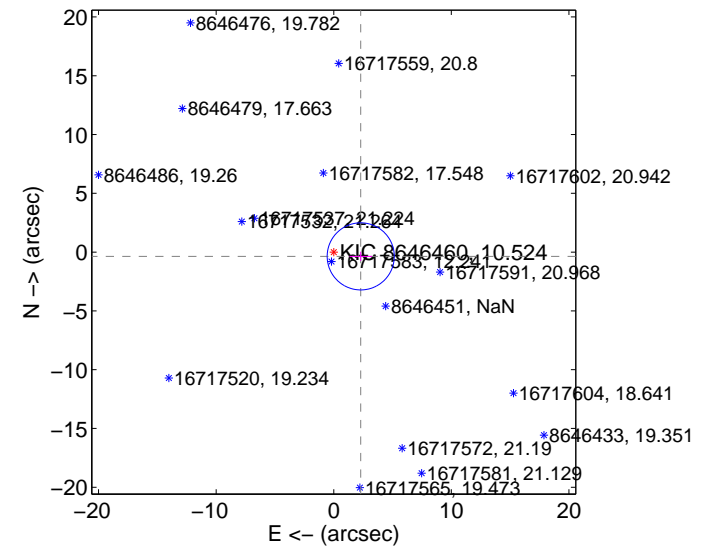
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

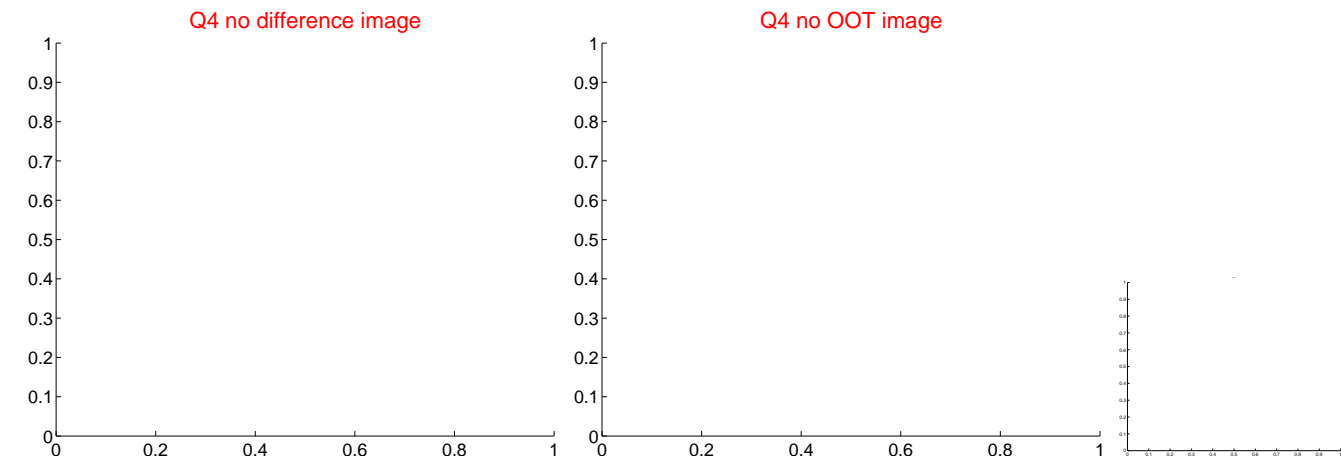
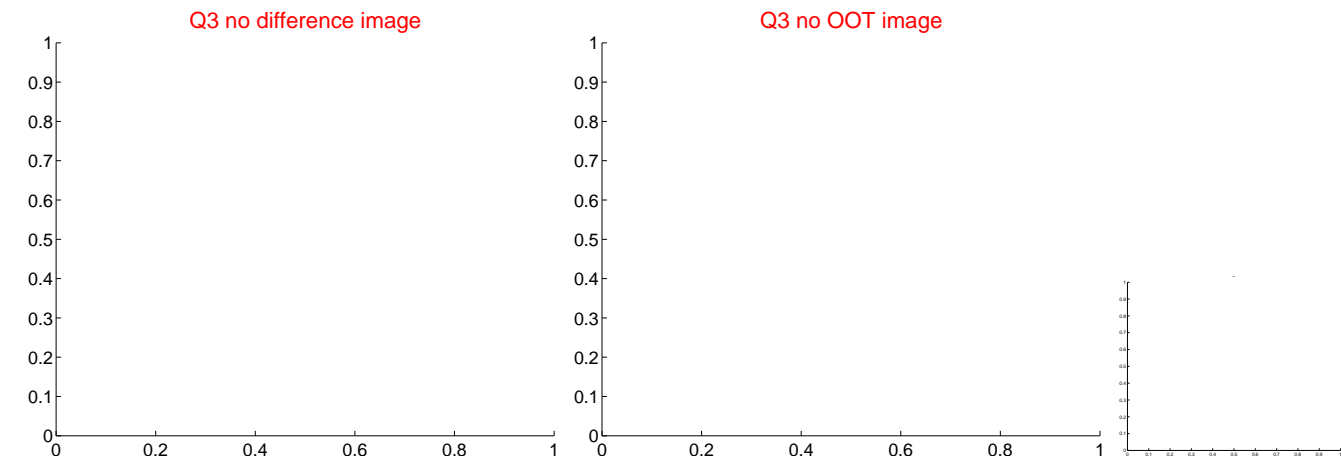
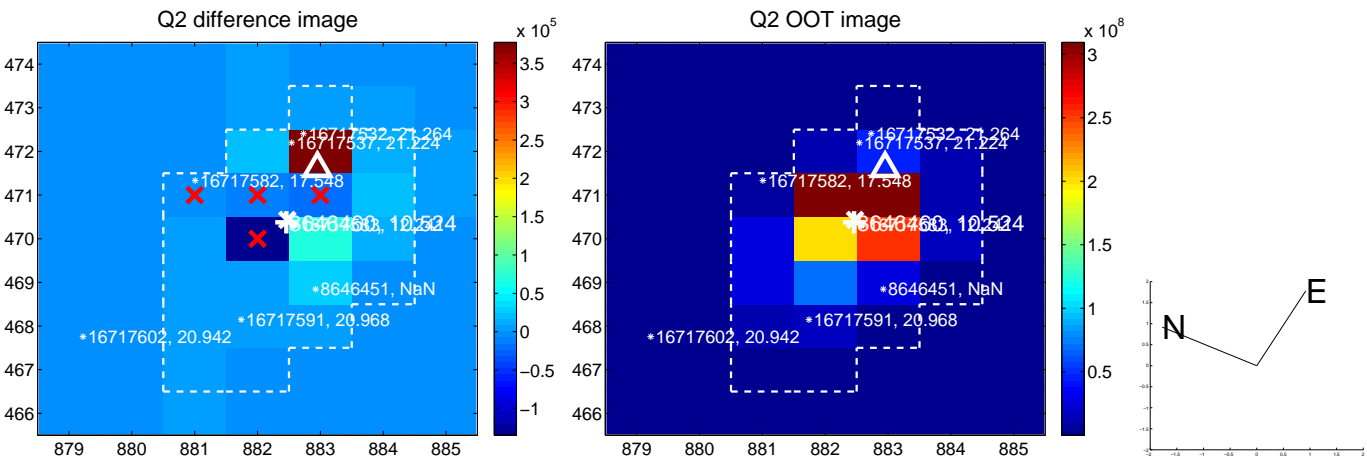


offset from photometric centroids



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



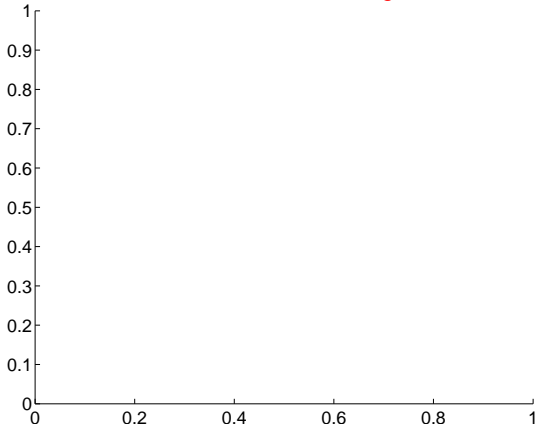
Q14 no difference image



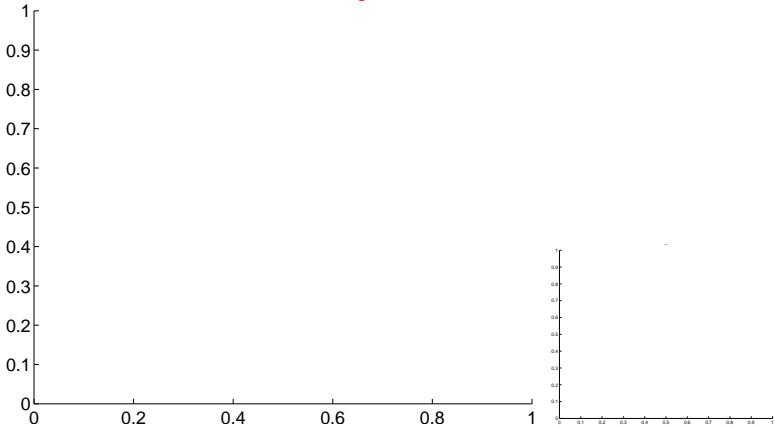
Q14 no OOT image



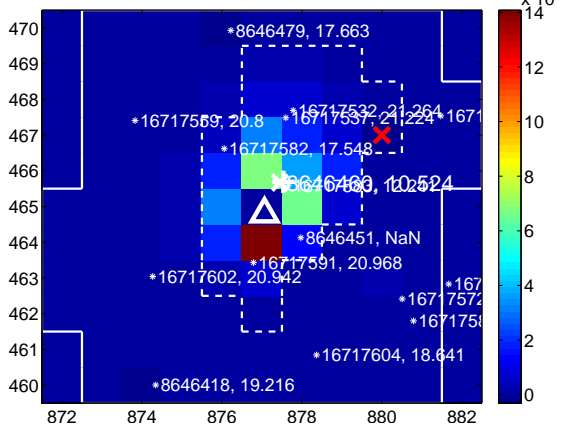
Q15 no difference image



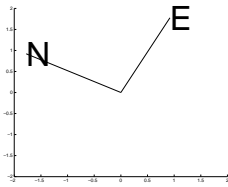
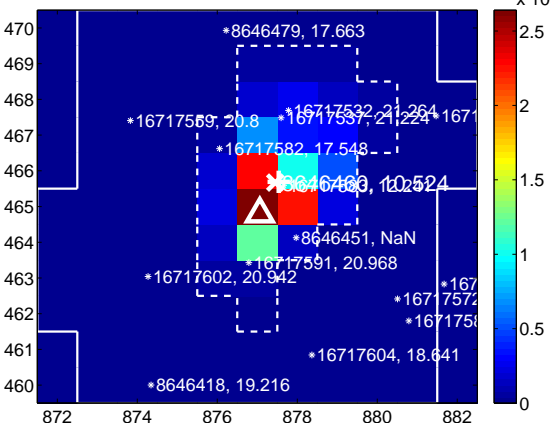
Q15 no OOT image



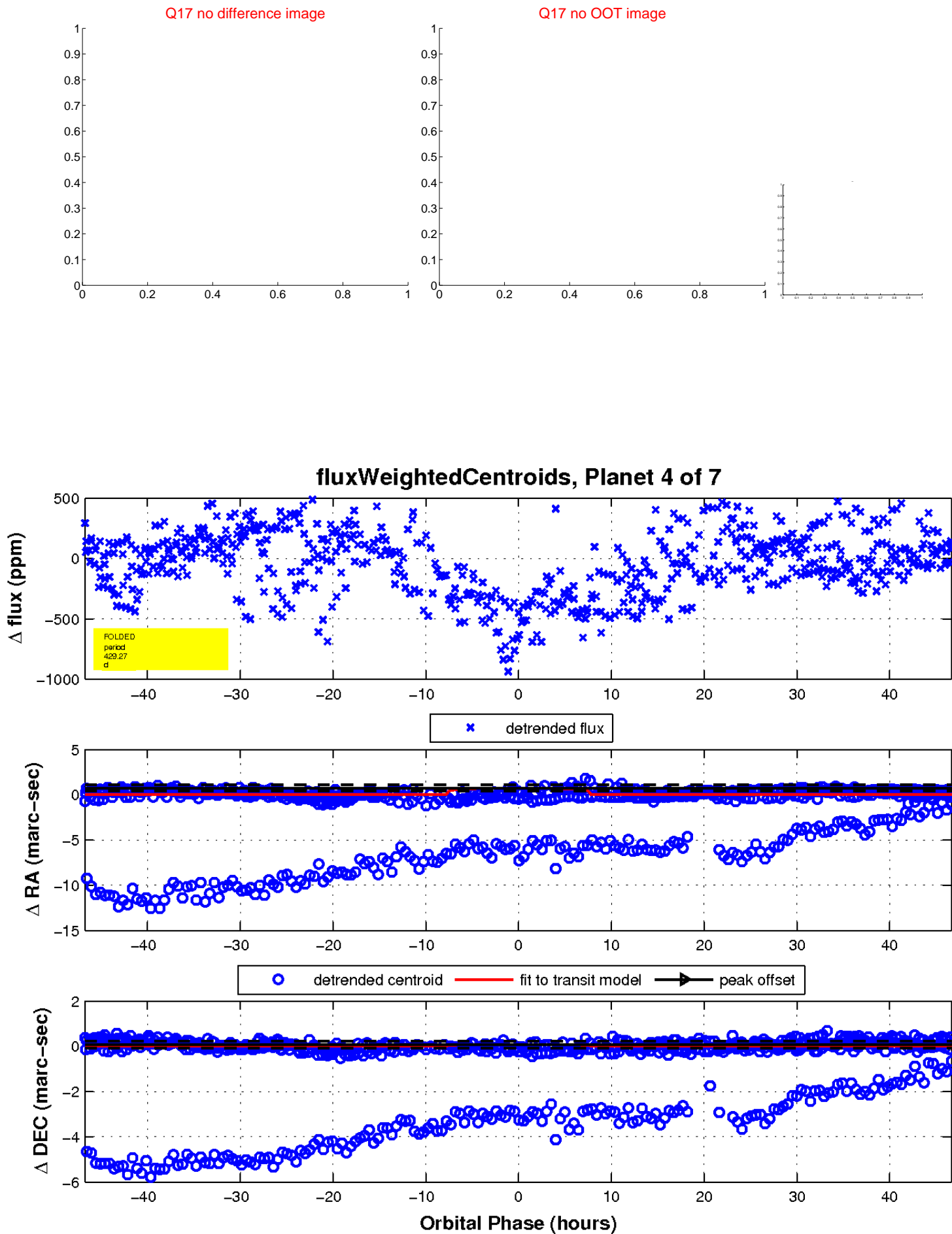
Q16 difference image



Q16 OOT image

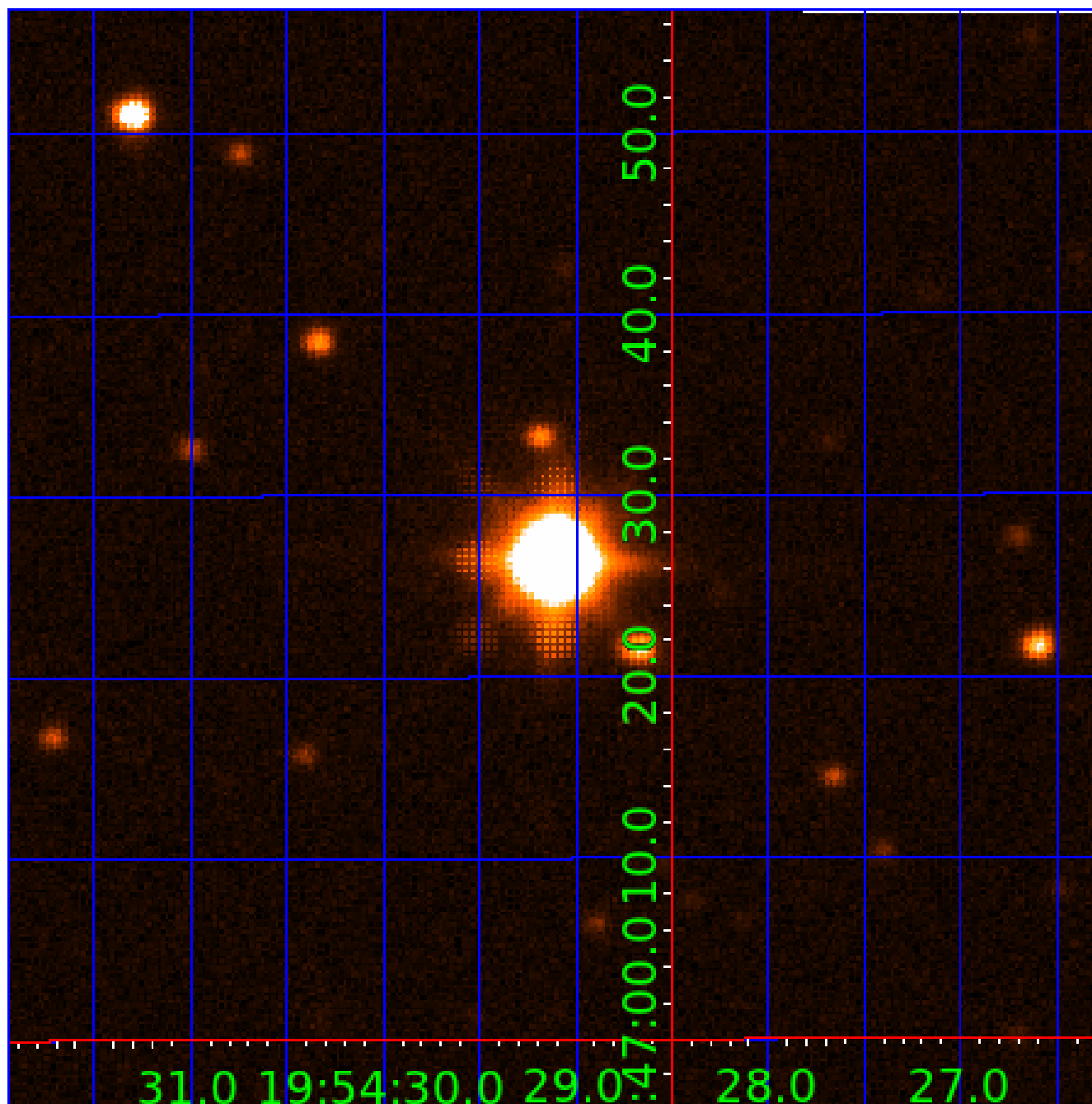


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008646460

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})
008646460-01	OBS	No	388.108326	244.773249	0.0	4.112	20.4	0.0	3.98	6084	0.00	11.89
008646460-02	OBS	No	390.502488	243.024899	521.2	7.285	21.4	15.5	3.98	6084	10.11	11.80
008646460-03	OBS	No	387.417251	246.737739	753.9	4.571	16.3	13.5	3.98	6084	21.31	11.92
008646460-04	OBS	No	429.270535	205.154547	345.7	15.637	9.3	9.6	3.98	6084	7.47	10.40
008646460-05	OBS	No	412.512495	187.629367	31.4	3.950	11.4	2.2	3.98	6084	2.37	10.96
008646460-06	OBS	No	208.291881	312.149199	21.7	2.676	11.6	9.5	3.98	6084	1.98	27.27
008646460-07	OBS	No	475.754577	435.419332	65.9	15.000	9.1	-1.0	3.98	6084	3.22	9.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008646460-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008646460-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008646460-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST
008646460-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_ZUMA—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
008646460-05	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—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008646460-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008646460-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED

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

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

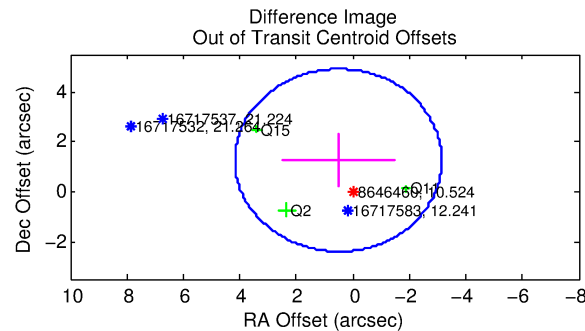
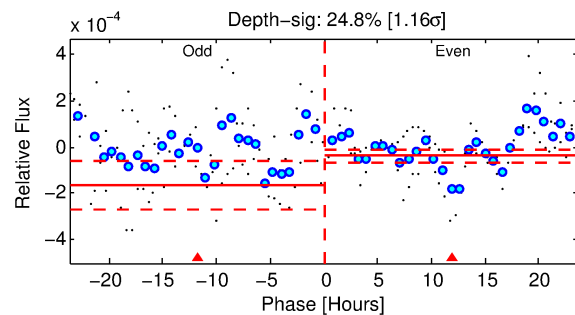
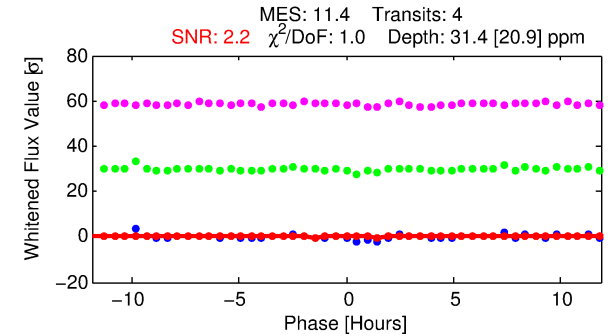
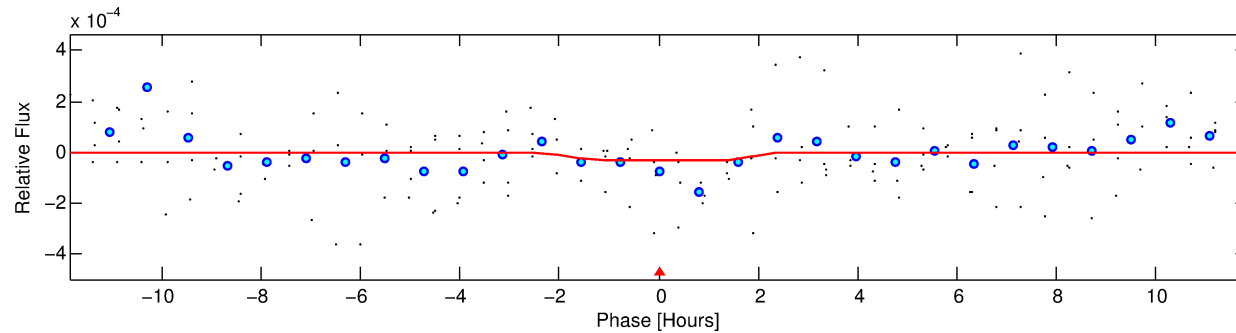
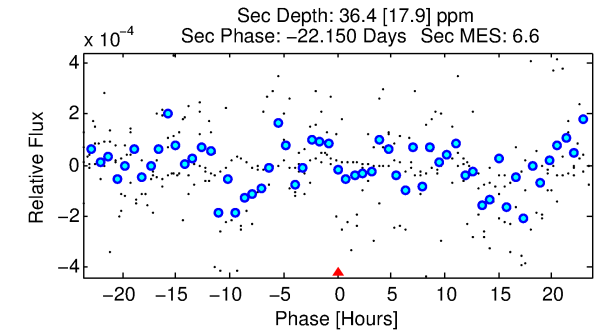
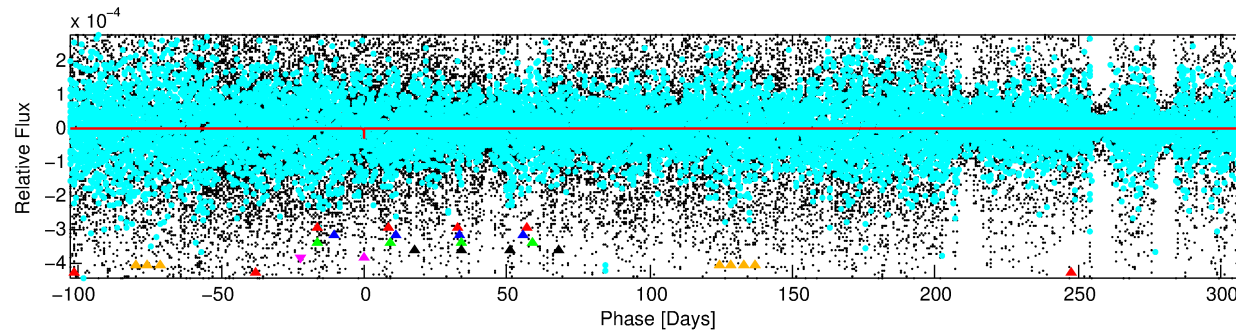
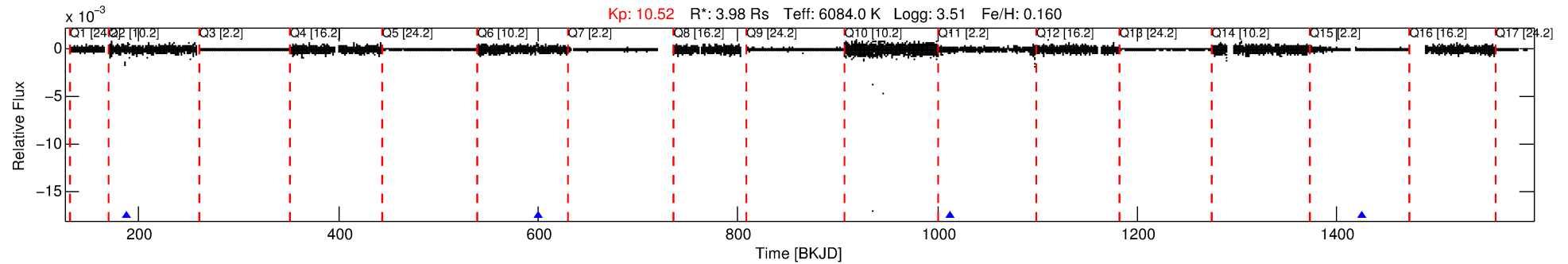
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008646460-05

No Significant Match Found

DV One-Page Summary

KIC: 8646460 Candidate: 5 of 7 Period: 412.512 d



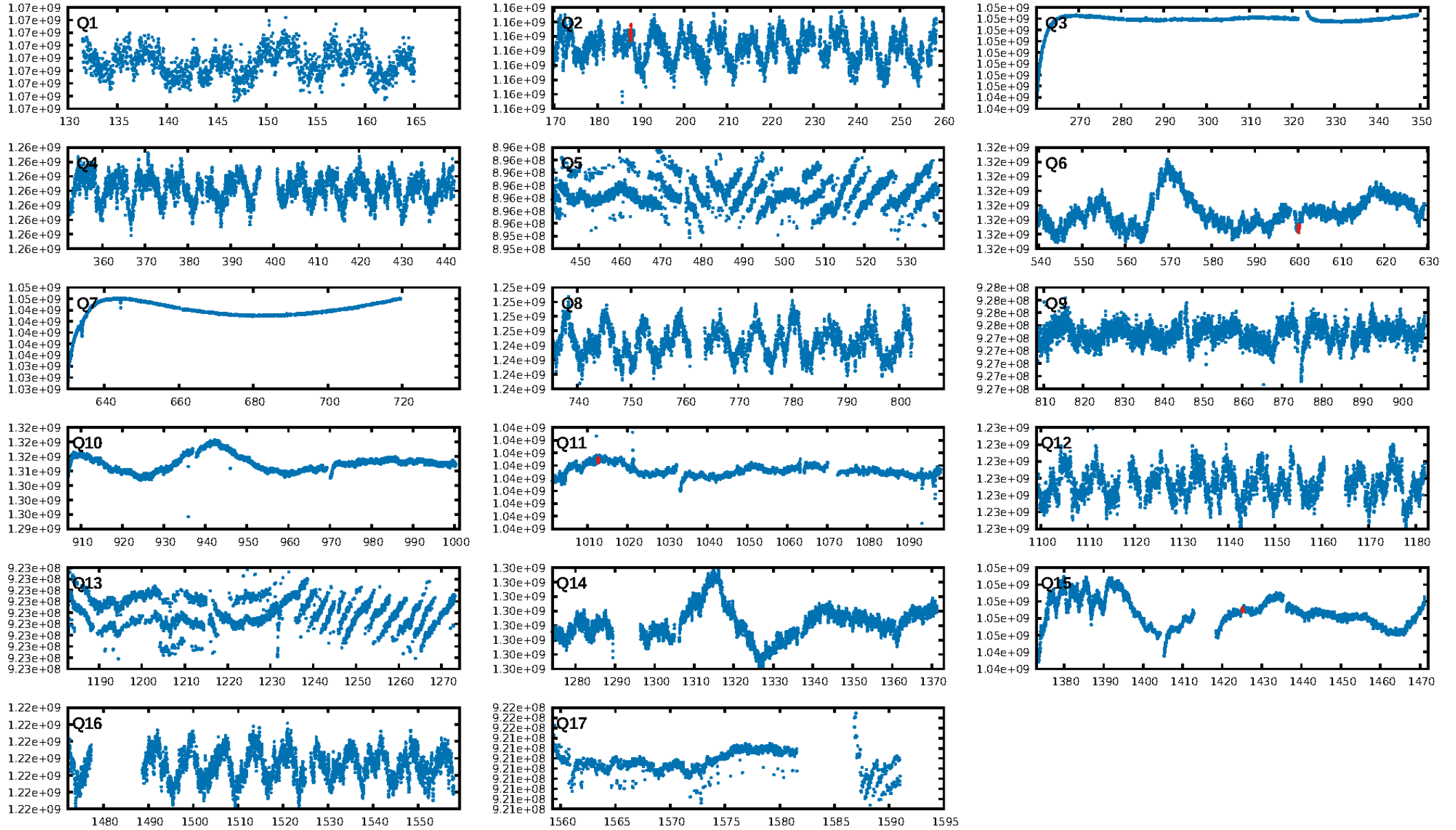
DV Fit Results:

Period = 412.51250 [0.01144] d
Epoch = 187.6294 [0.0421] BKJD
Rp/R* = 0.0055 [0.0130]
a/R* = 593.83 [7117.20]
b = 0.68 [9.85]
Seff = 10.97 [7.64]
Teq = 464 [81] K
Rp = 2.37 [5.75] Re
a = 1.3333 [0.5666] AU
Ag = 6332.70 [30668.66] [0.21 sigma]
Teffp = 6400 [7675] K [0.77 sigma]

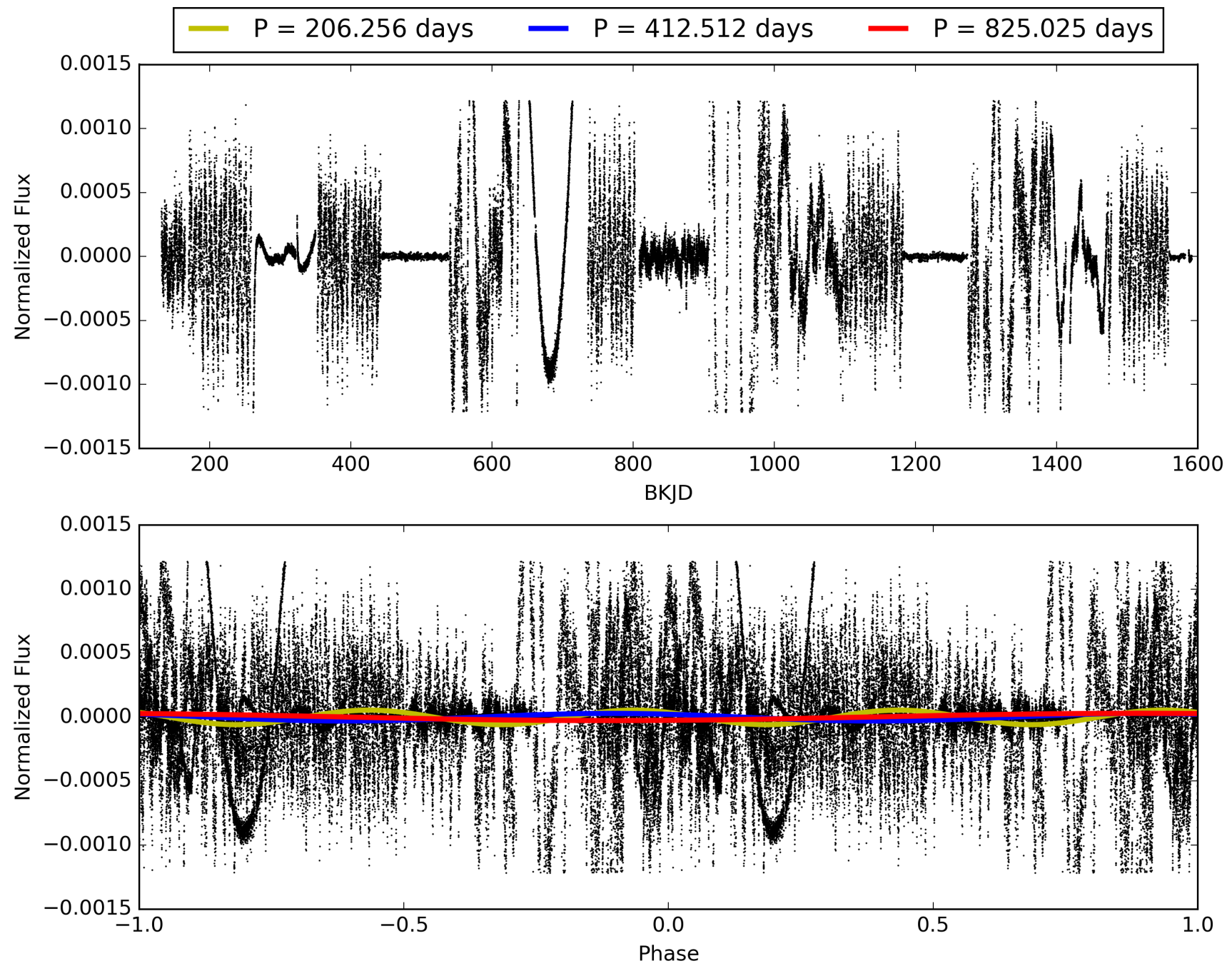
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [63.74 sigma]
LongPeriod-sig: 100.0% [24.94 sigma]
ModelChiSquare2-sig: 8.5%
ModelChiSquareGof-sig: 96.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.458
Centroid-sig: 0.0%
Centroid-so: 21.838 arcsec [3.12 sigma]
OotOffset-rm: 1.356 arcsec [1.11 sigma]
KicOffset-rm: 0.939 arcsec [0.89 sigma]
OotOffset-st: 1/2/0/0 [3]
KicOffset-st: 1/2/0/0 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 008646460-05, PDC Light Curves

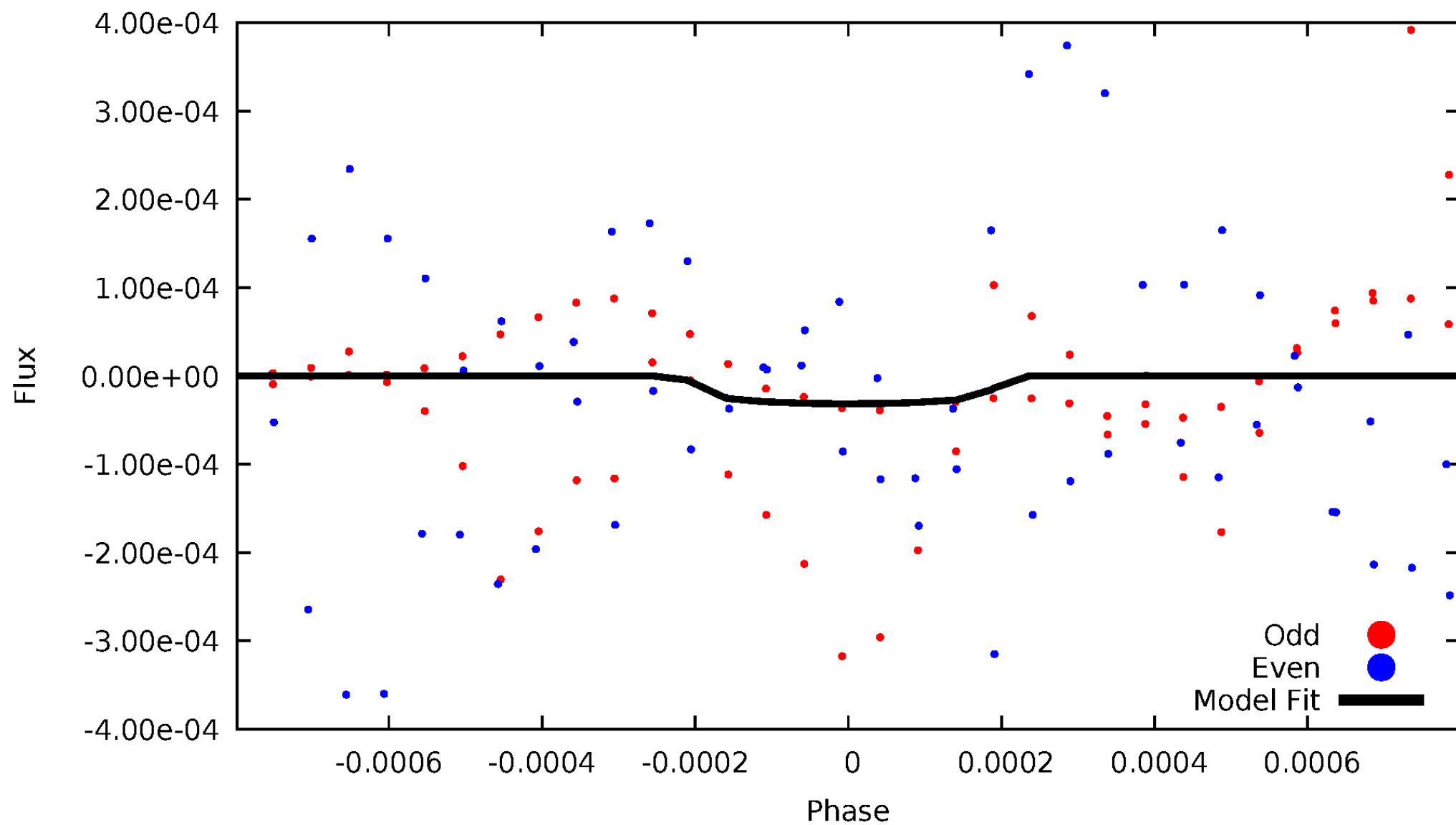


TCE 008646460-05



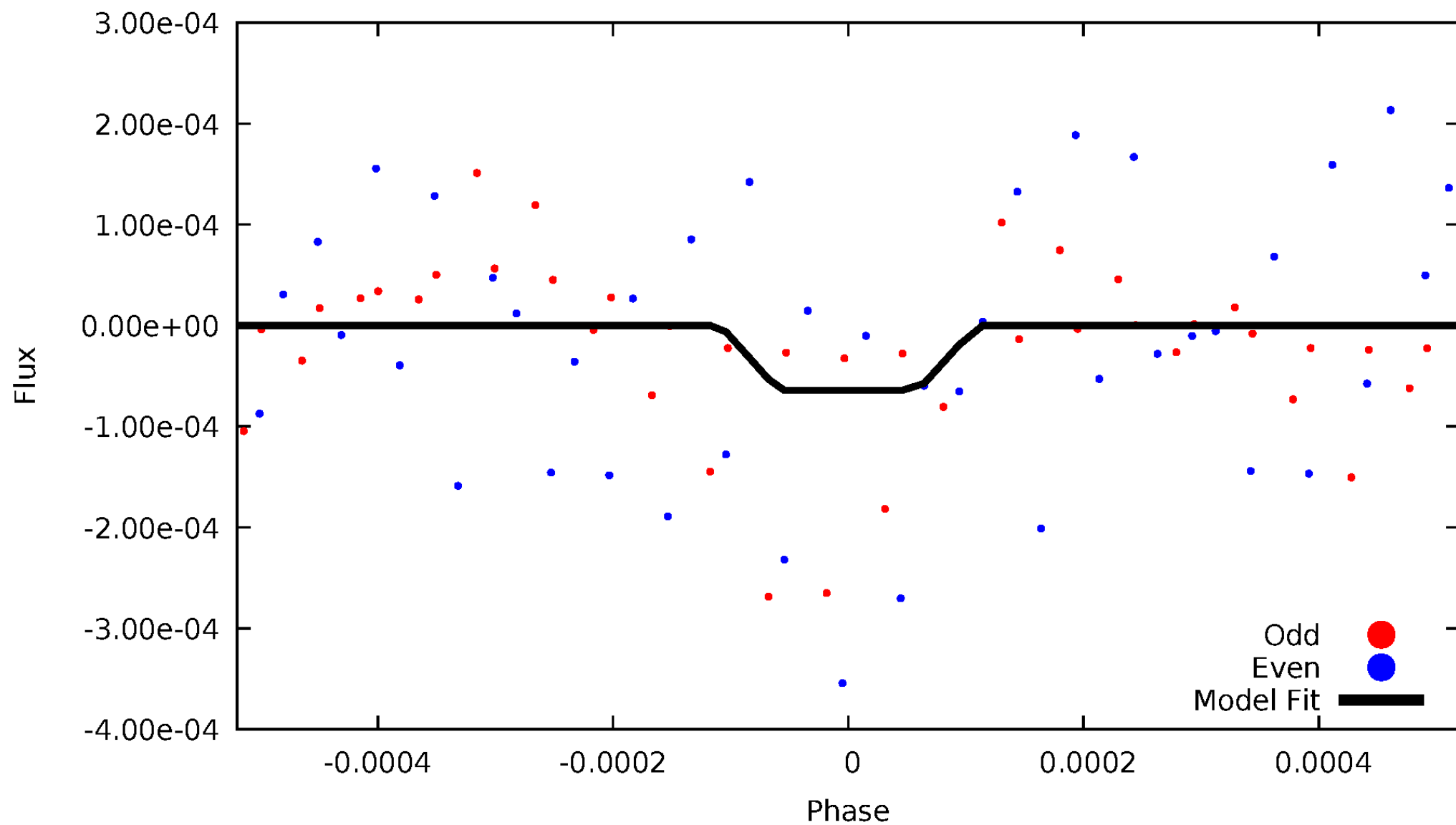
DV Odd/Even

TCE 008646460-05



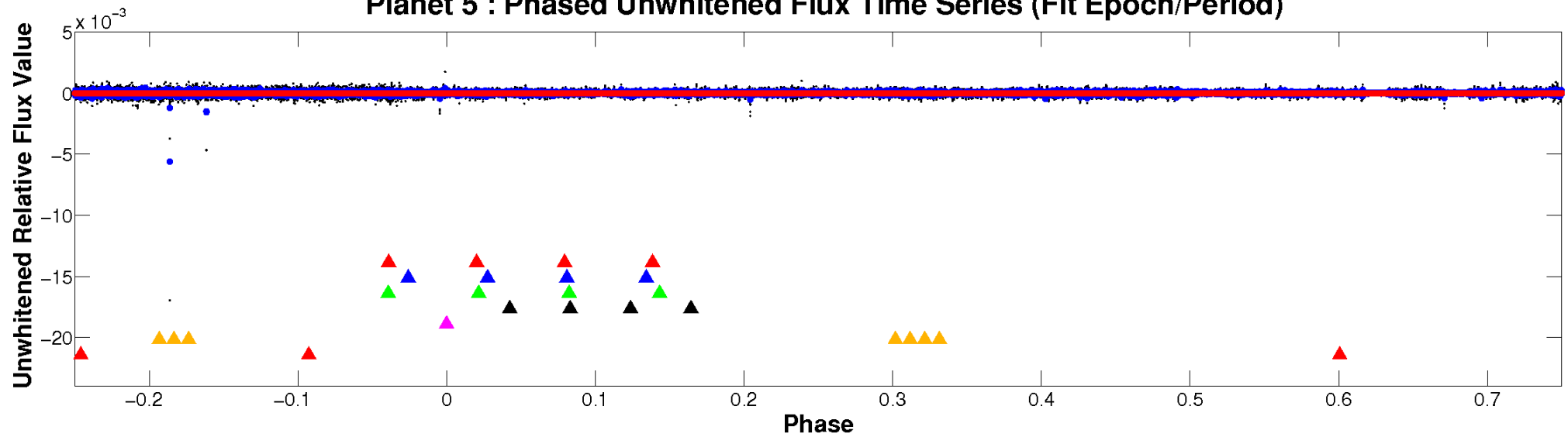
ALT Odd/Even

TCE 008646460-05

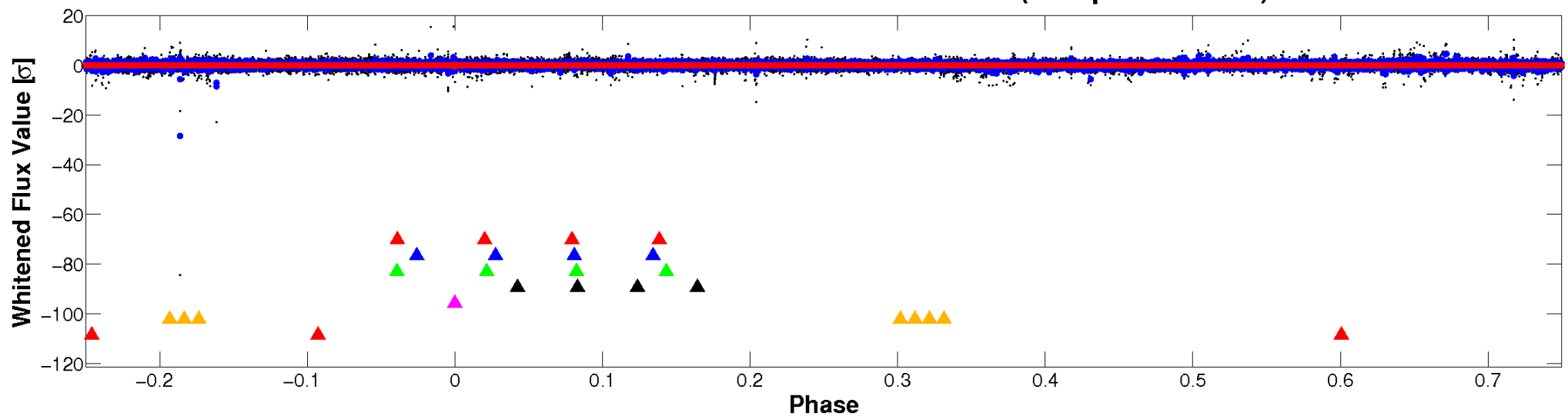


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

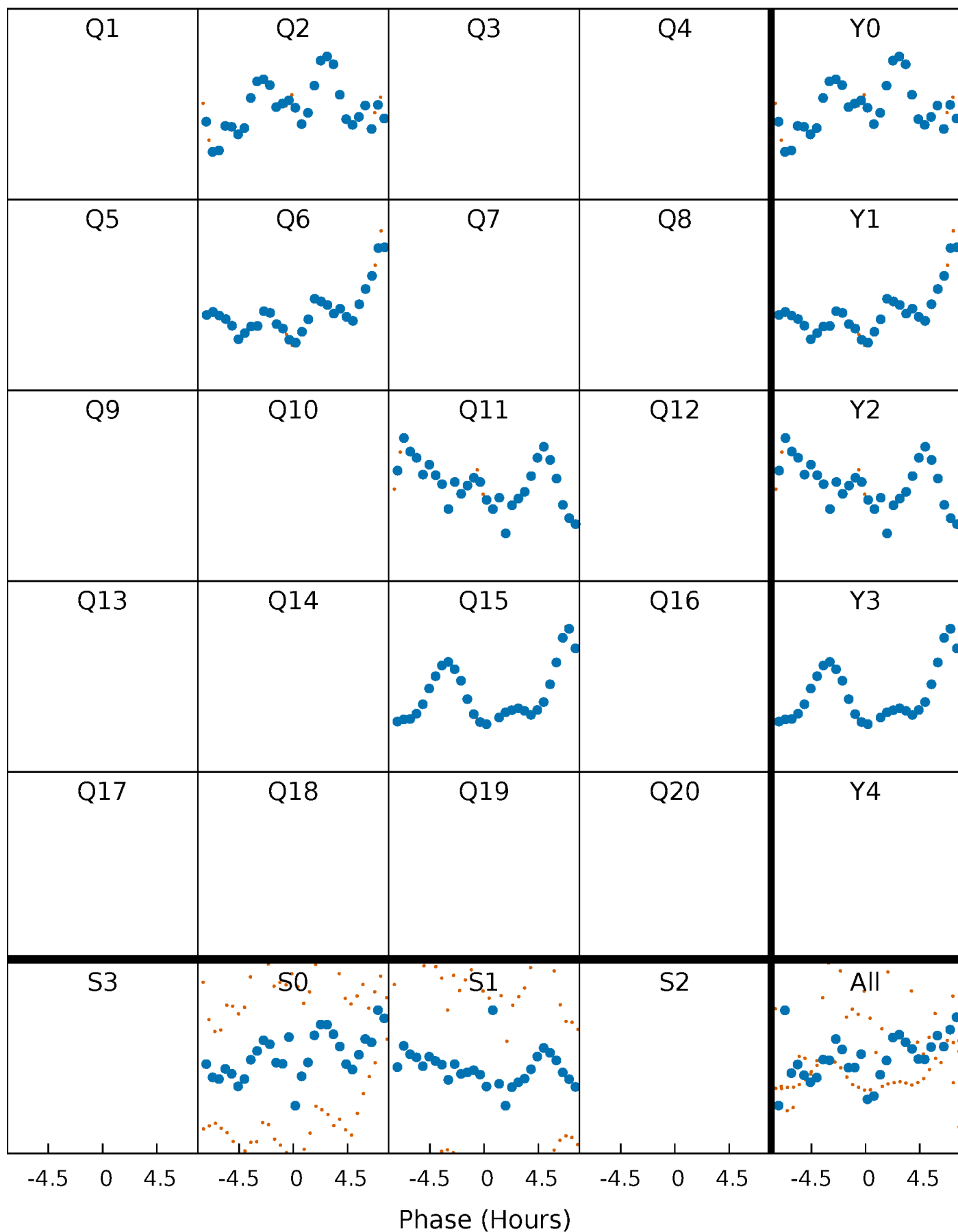


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



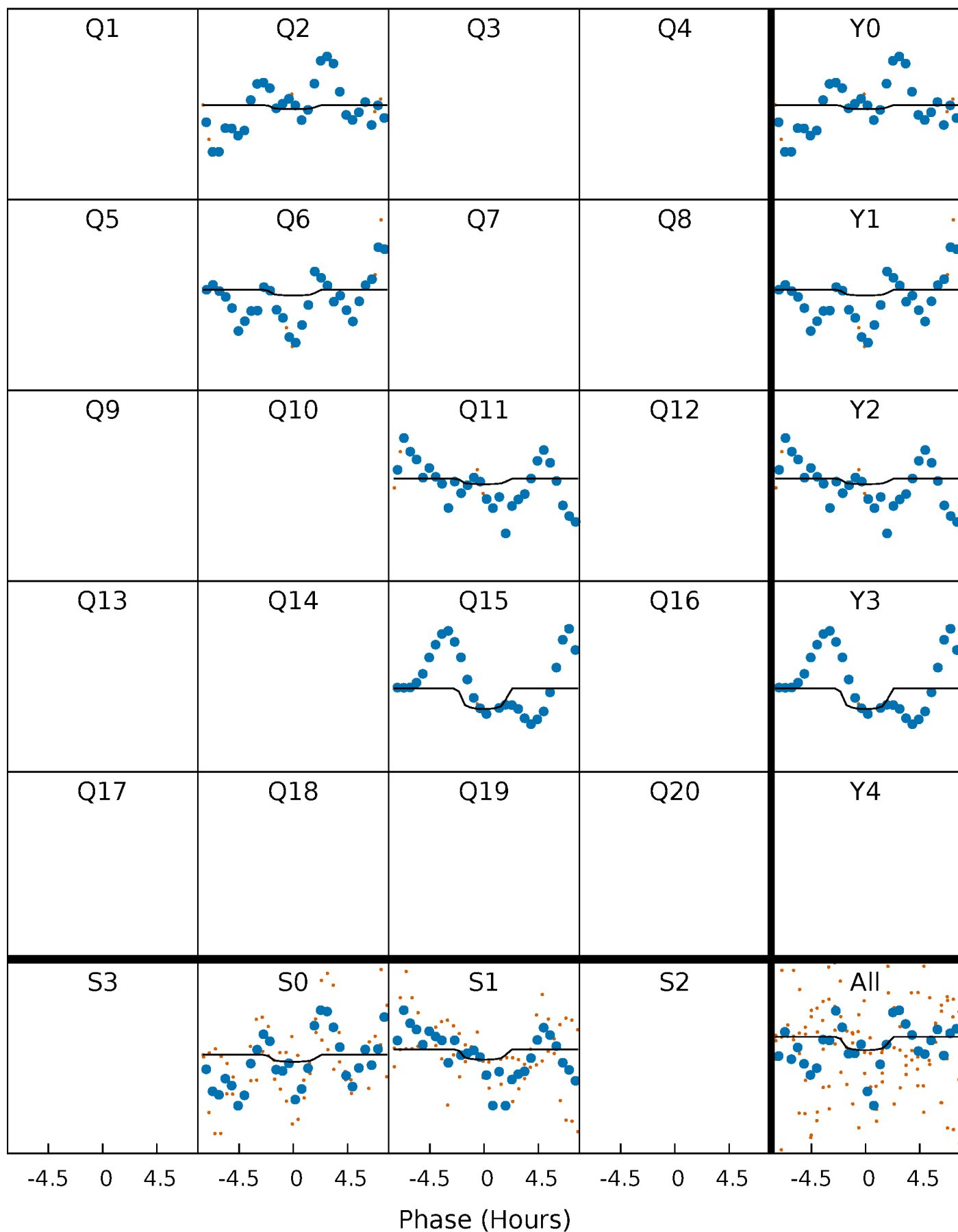
PDC Quarter-Phased Transit Curves

TCE 008646460-05 $P=412.512495$ Days $T_0=187.629367$ (BKJD)



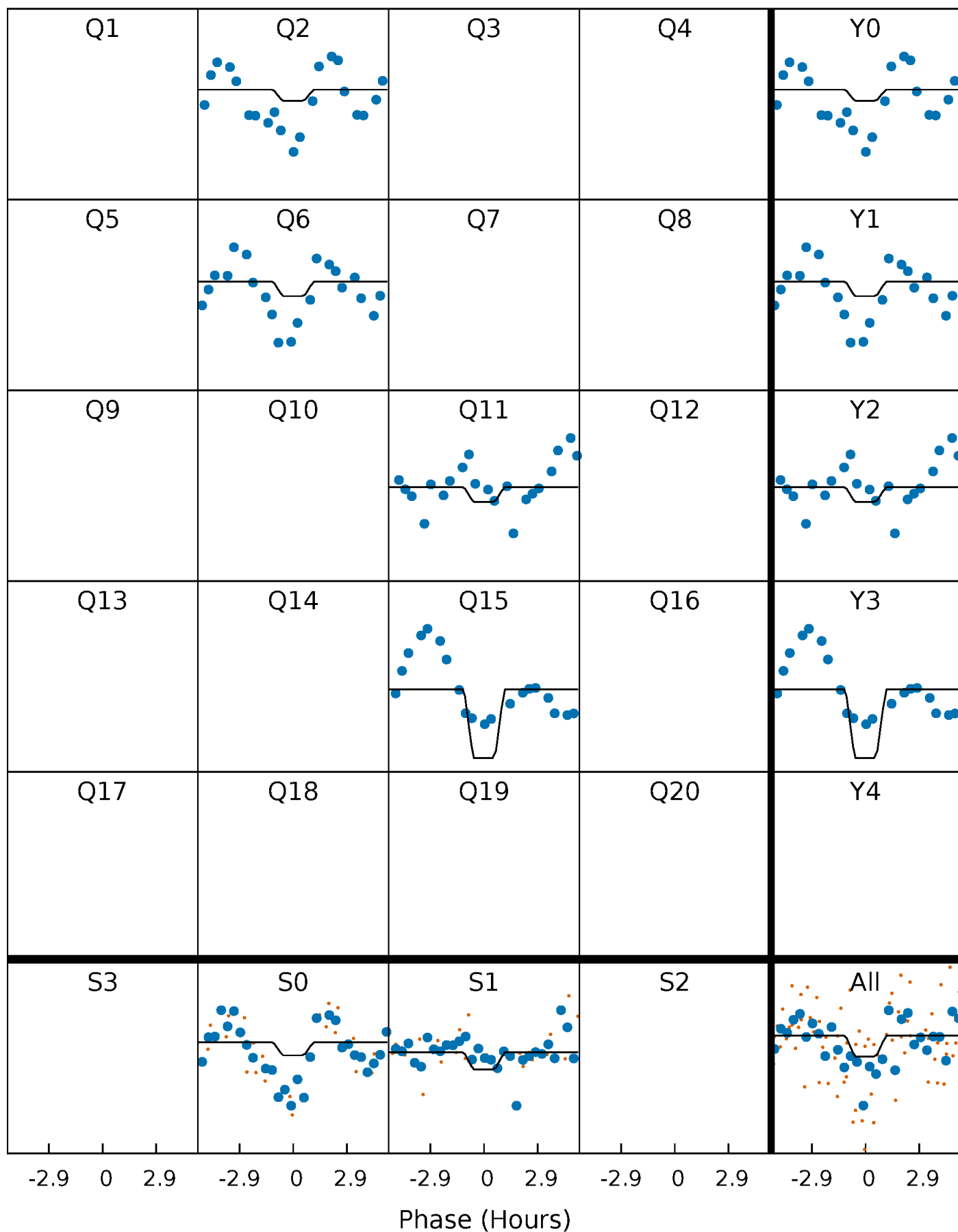
DV Quarter-Phased Transit Curves

TCE 008646460-05 P=412.512495 Days $T_0=187.629367$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

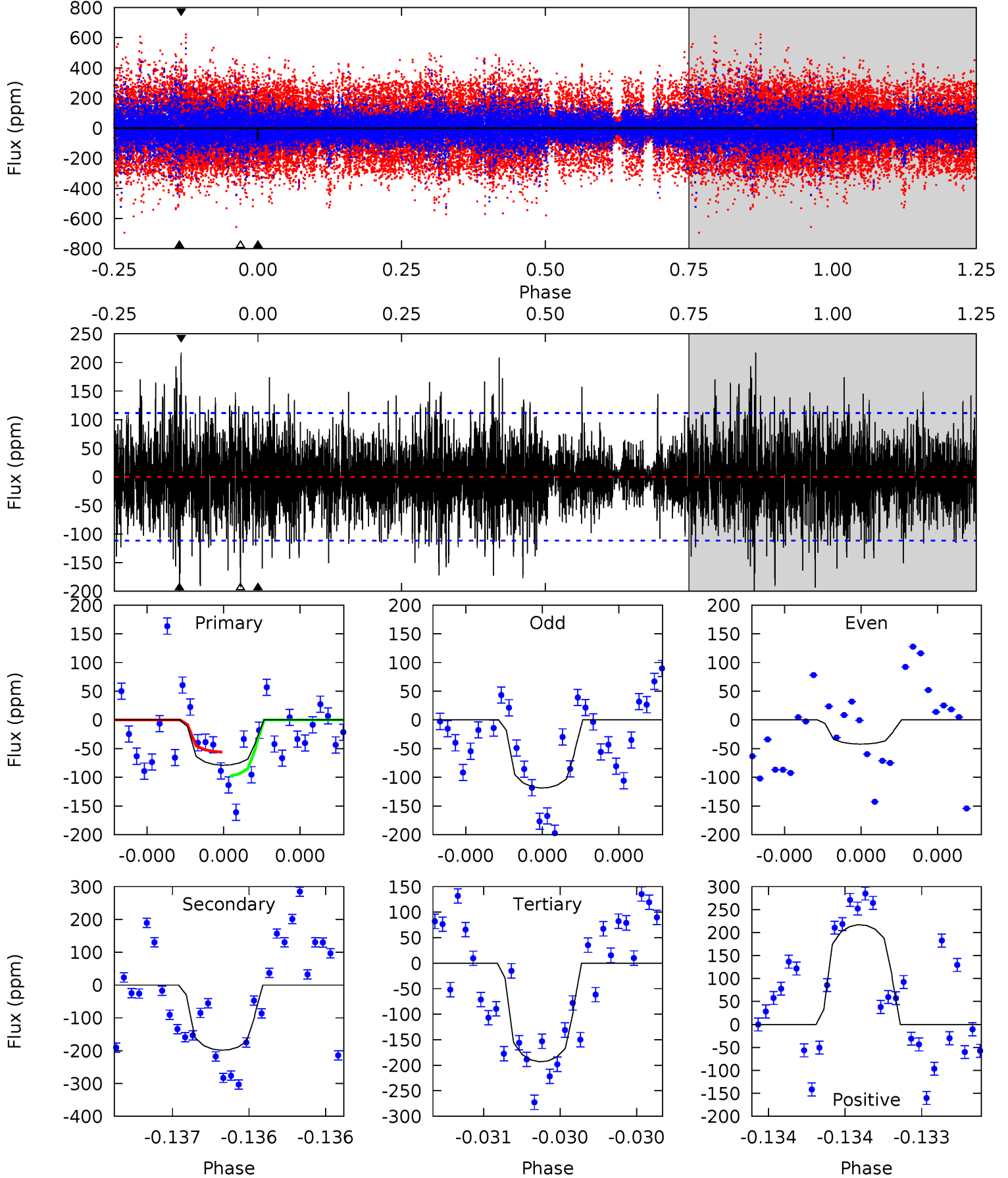
TCE 008646460-05 $P=412.499087$ Days $T_0=187.667439$ (BKJD)



DV Model-Shift Uniqueness Test

008646460-05, P = 412.512495 Days, E = 187.629367 Days

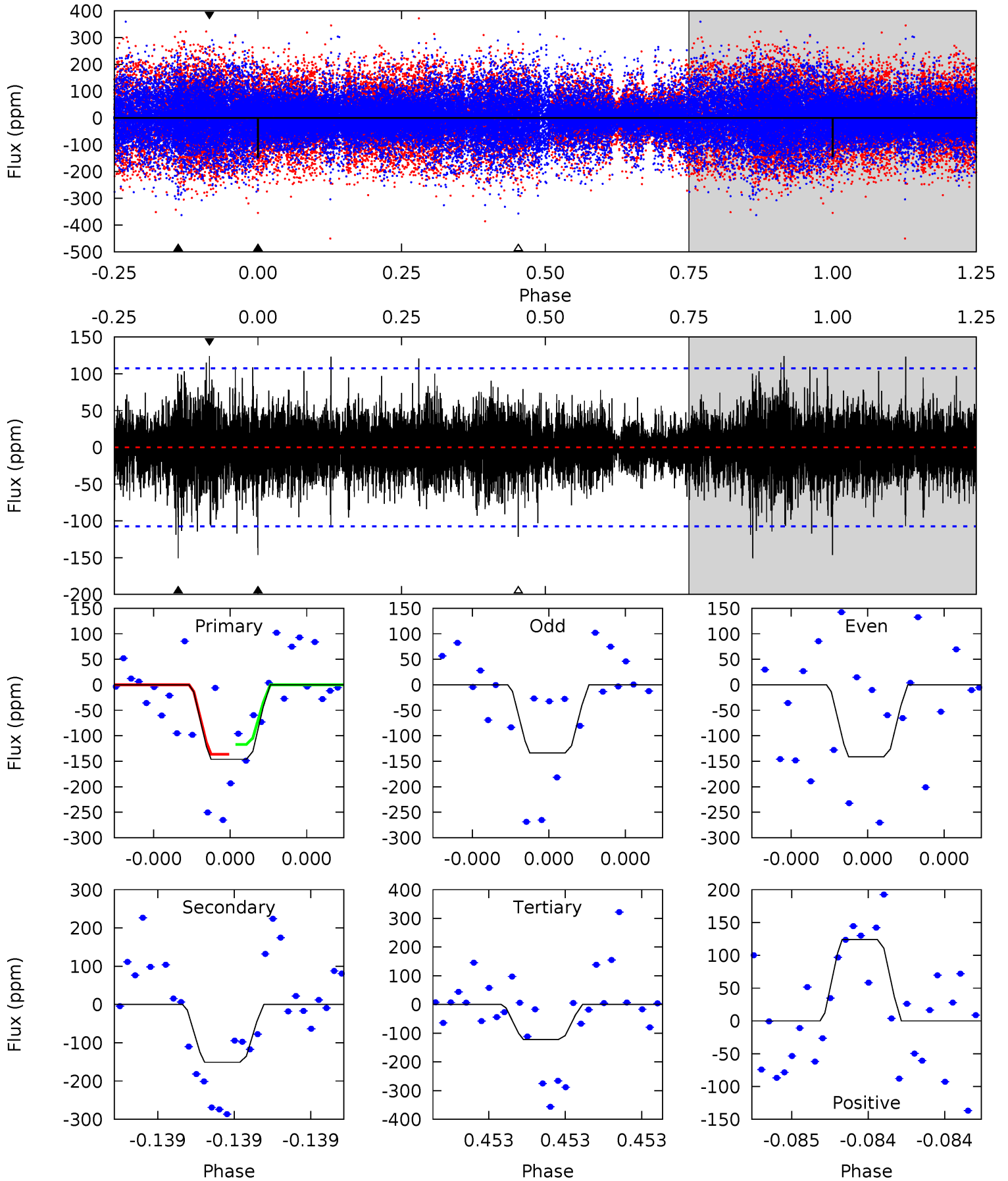
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.96	9.97	9.69	10.9	5.59	3.51	2.30	-5.73	-6.94	0.28	-0.93	1.60	1.34	0.52	1.04



Alt Model-Shift Uniqueness Test

008646460-05, P = 412.499087 Days, E = 187.667439 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.77	8.02	6.46	6.59	5.72	3.70	1.37	1.31	1.19	1.56	1.44	0.19	1.02	0.45	0.51



Stellar Parameters For KIC 008646460

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6084^{+223}_{-185}	$3.506^{+0.400}_{-0.125}$	$0.160^{+0.250}_{-0.250}$	$3.985^{+0.753}_{-1.756}$	$1.857^{+0.119}_{-0.446}$	$0.041^{+0.133}_{-0.016}$
	+4%/-3%	+11%/-4%	+156%/-156%	+19%/-44%	+6%/-24%	+321%/-38%
Source	PHO1	FLK73	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 008646460-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-199 ± 20	$4.19^{+4.57}_{-2.83}$	638^{+47}_{-69}	7005^{+9615}_{-1958}	10968^{+85639}_{-8528}
Alt.	-151 ± 19	$4.91^{+4.60}_{-3.40}$	638^{+48}_{-69}	5996^{+6062}_{-1357}	5736^{+52734}_{-4095}

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

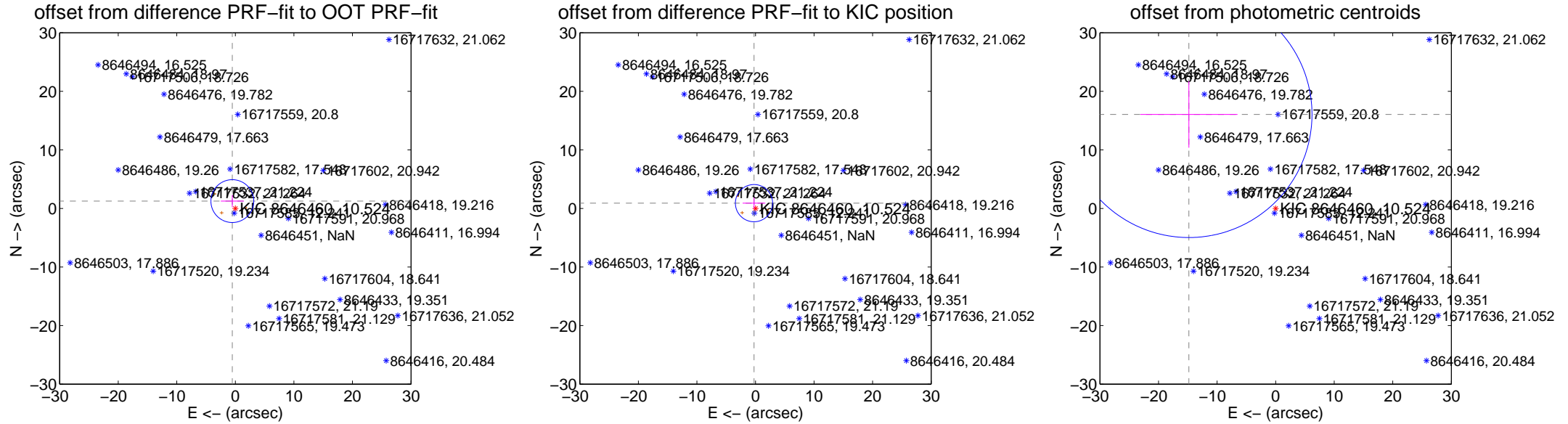
DV Centroid Data

Supplemental centroid analysis for 008646460-05. **Kepler magnitude: 10.52.** Transit SNR 2.16

There are 0 quarters with good PRF difference image offsets

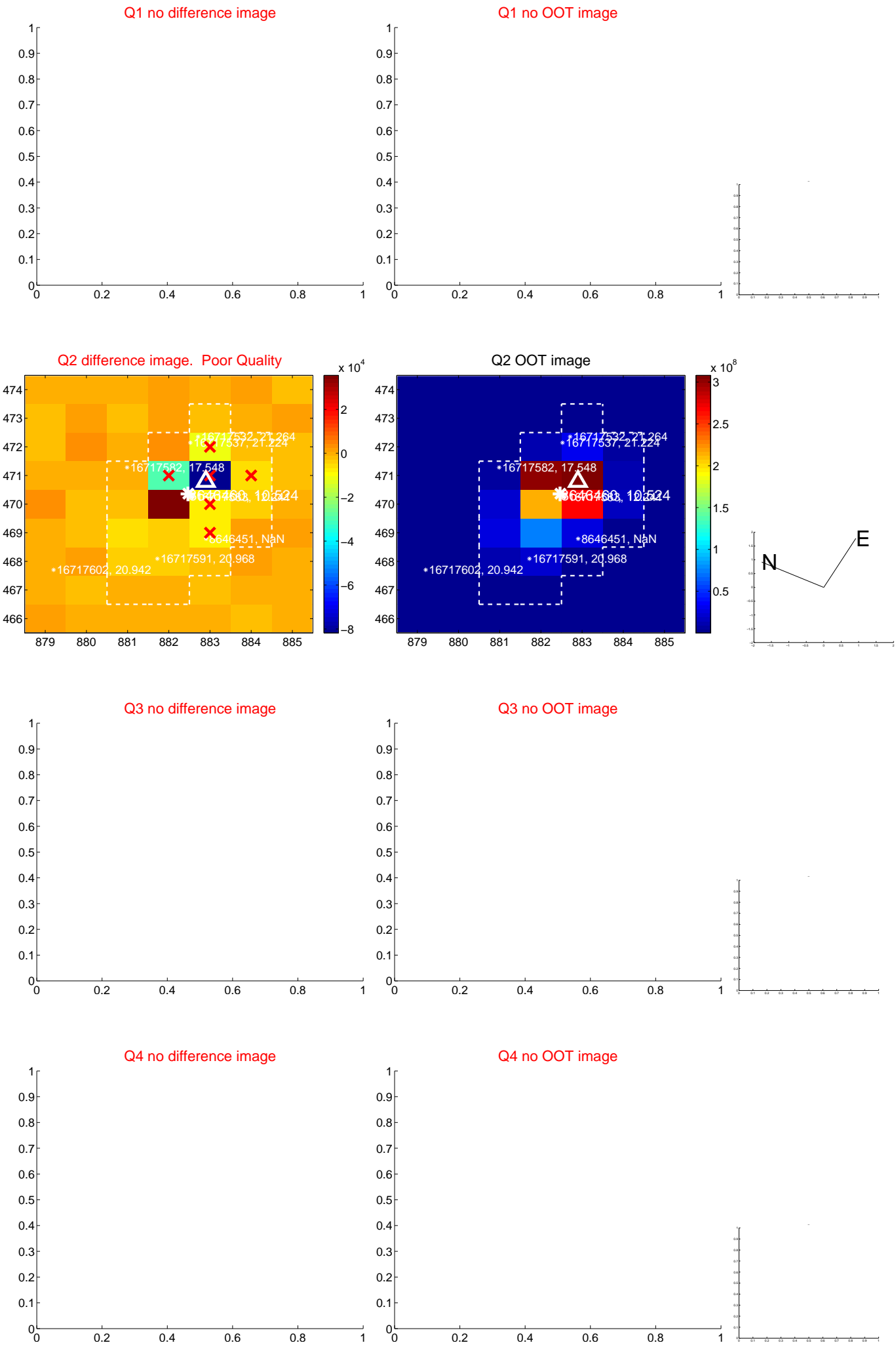
The direct PRF centroid is offset from the target star catalog position by about 0.56 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.356 ± 1.219	1.11	0.515 ± 1.969	1.255 ± 1.042
PRF-fit source offset from KIC position	0.939 ± 1.059	0.89	0.255 ± 1.942	0.904 ± 0.954
photometric centroid source offset	21.84 ± 7.01	3.12	14.81 ± 8.29	16.05 ± 5.68



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.

Q9 no difference image



Q9 no OOT image



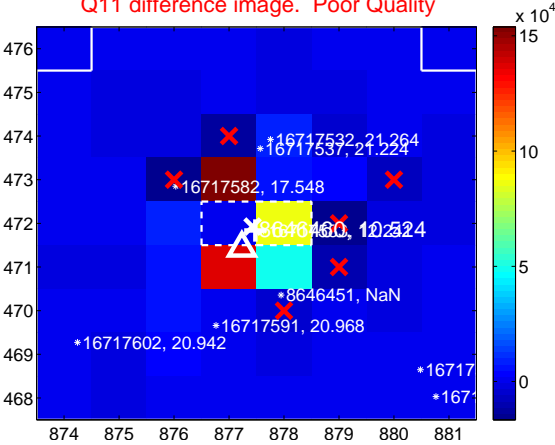
Q10 no difference image



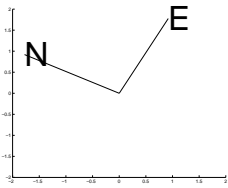
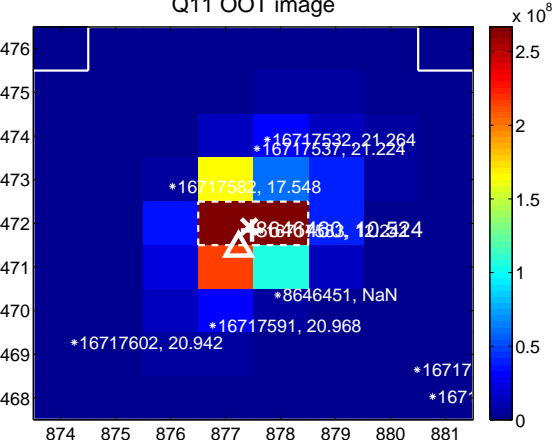
Q10 no OOT image



Q11 difference image. Poor Quality



Q11 OOT image



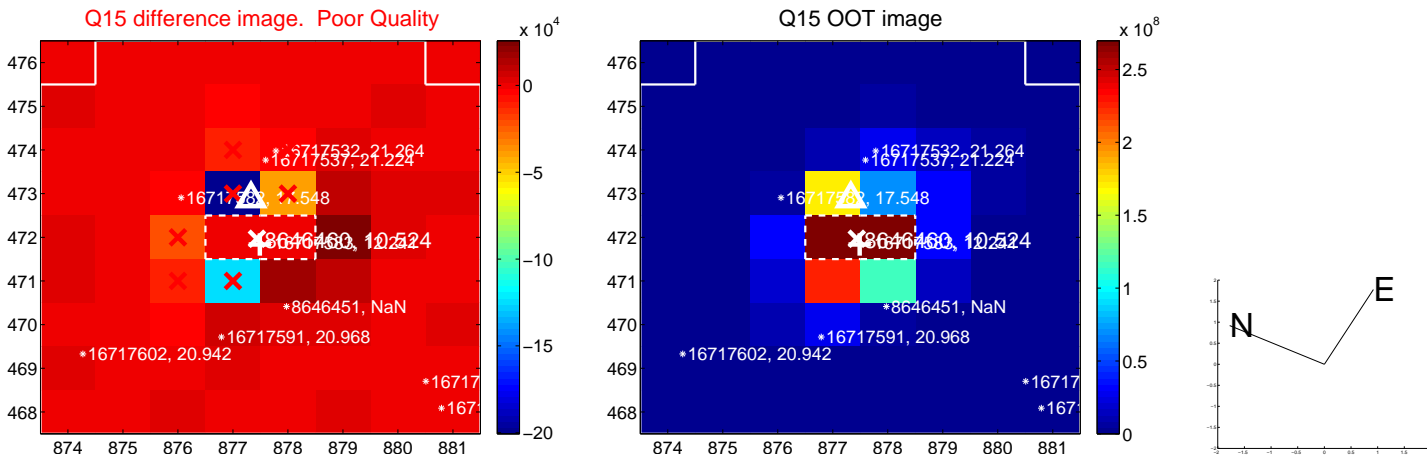
Q12 no difference image



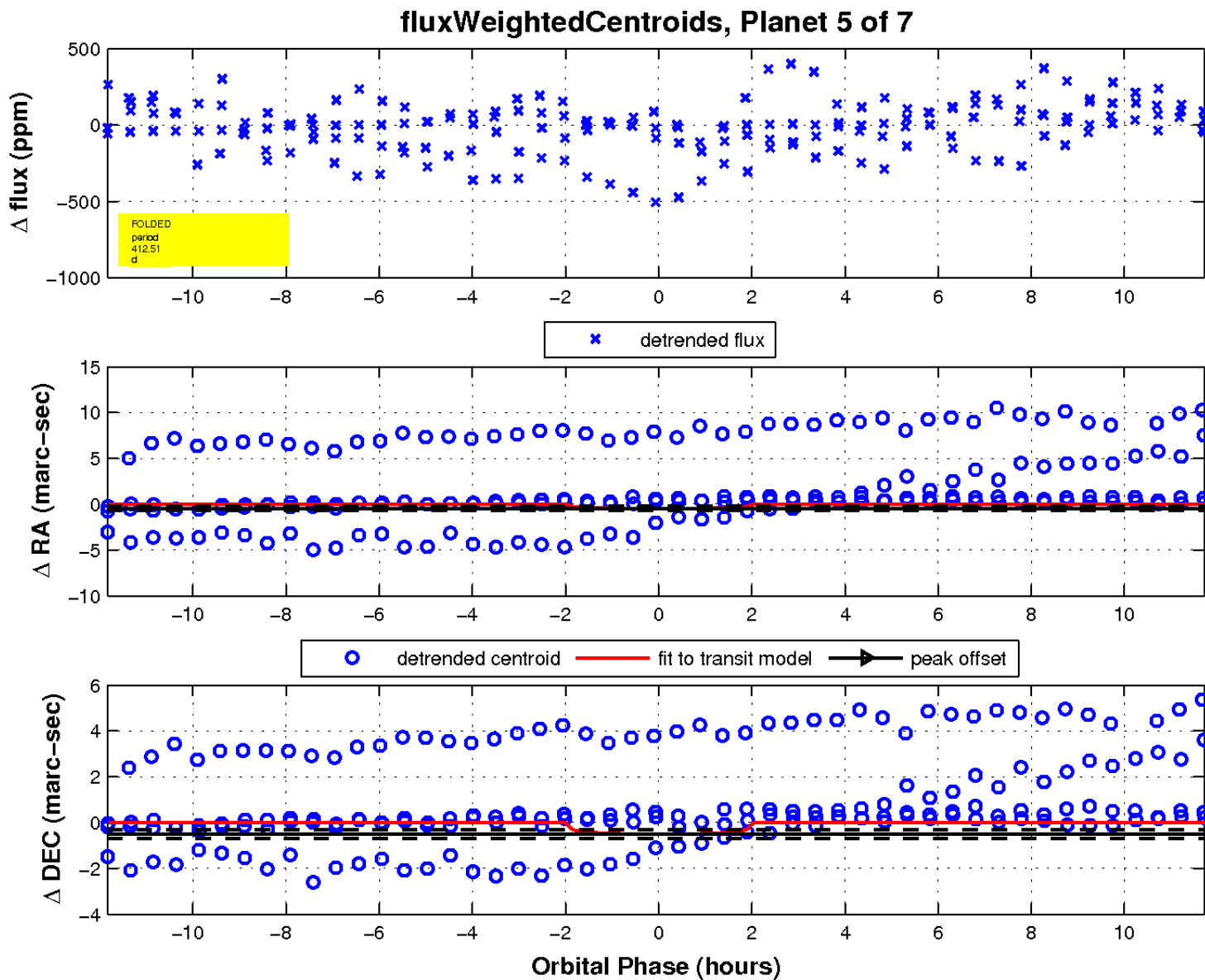
Q12 no OOT image



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

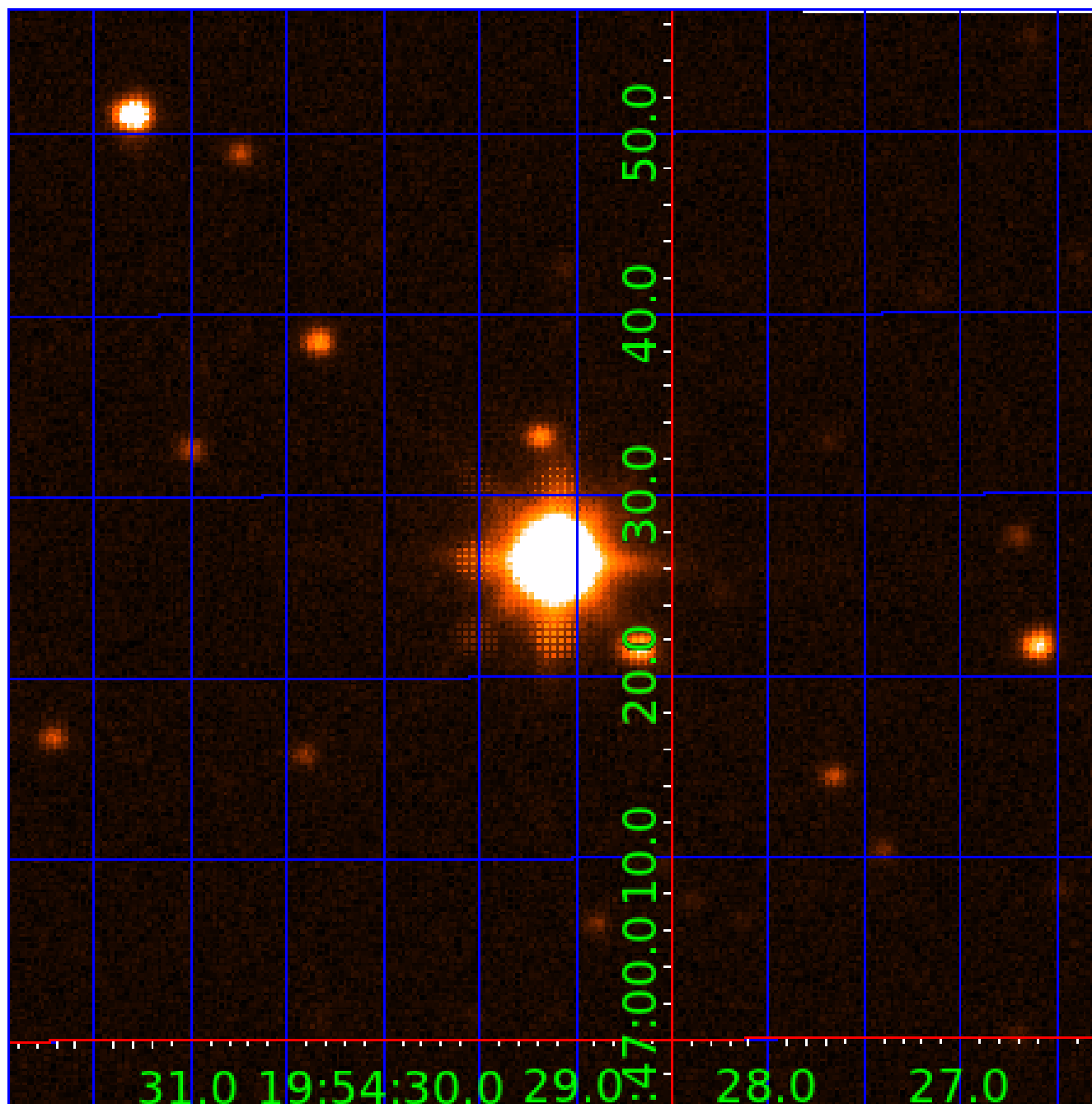


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008646460

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})
008646460-01	OBS	No	388.108326	244.773249	0.0	4.112	20.4	0.0	3.98	6084	0.00	11.89
008646460-02	OBS	No	390.502488	243.024899	521.2	7.285	21.4	15.5	3.98	6084	10.11	11.80
008646460-03	OBS	No	387.417251	246.737739	753.9	4.571	16.3	13.5	3.98	6084	21.31	11.92
008646460-04	OBS	No	429.270535	205.154547	345.7	15.637	9.3	9.6	3.98	6084	7.47	10.40
008646460-05	OBS	No	412.512495	187.629367	31.4	3.950	11.4	2.2	3.98	6084	2.37	10.96
008646460-06	OBS	No	208.291881	312.149199	21.7	2.676	11.6	9.5	3.98	6084	1.98	27.27
008646460-07	OBS	No	475.754577	435.419332	65.9	15.000	9.1	-1.0	3.98	6084	3.22	9.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008646460-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008646460-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008646460-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST
008646460-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_ZUMA—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
008646460-05	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—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008646460-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008646460-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED

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

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

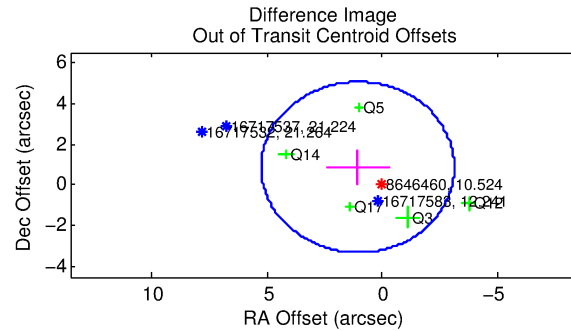
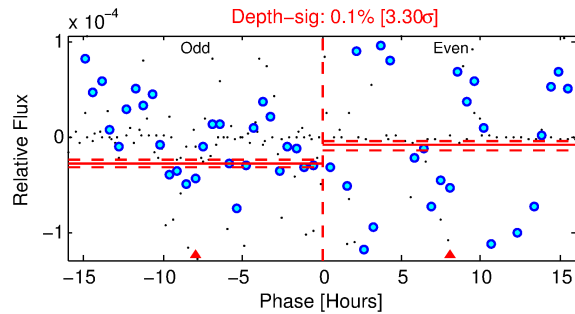
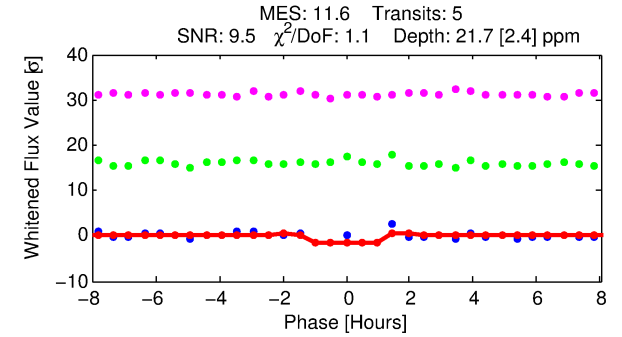
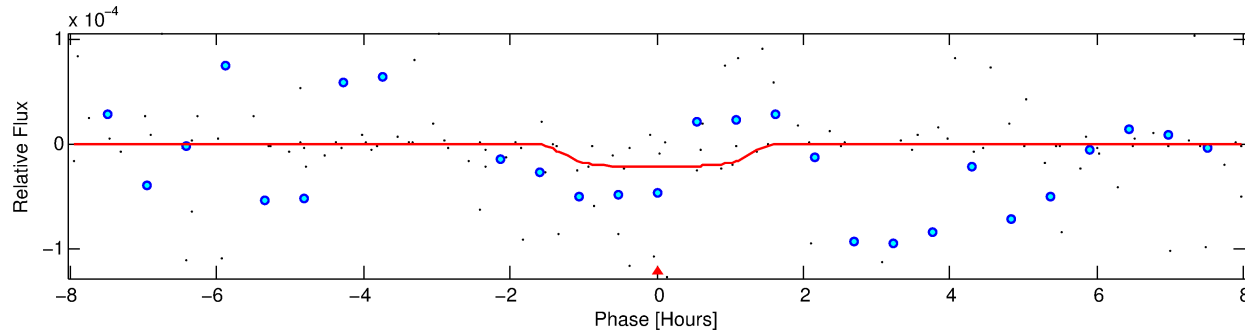
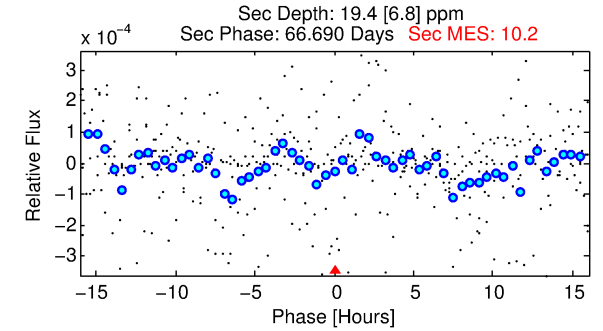
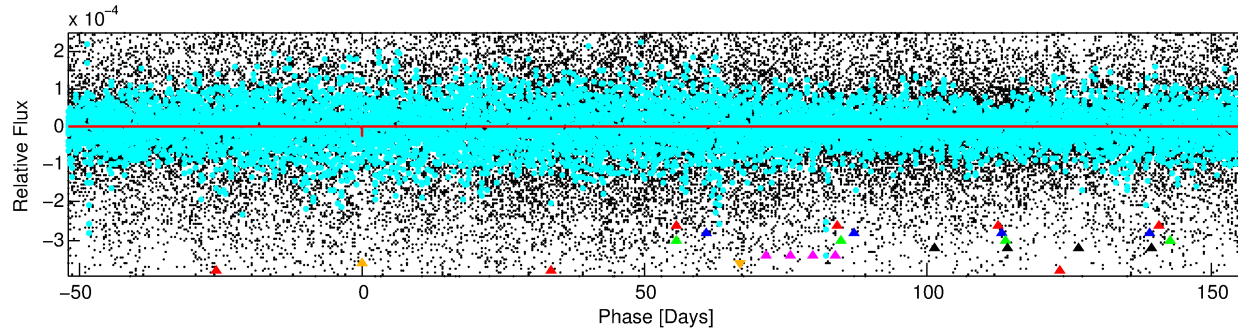
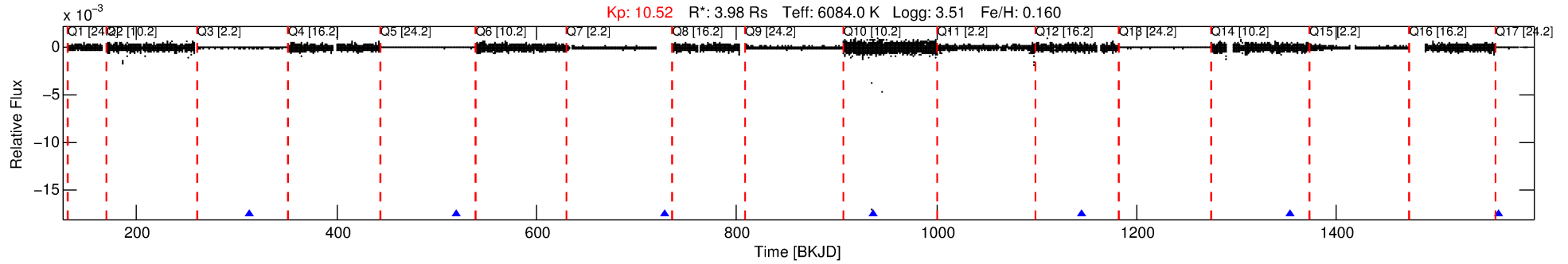
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008646460-06

No Significant Match Found

DV One-Page Summary

KIC: 8646460 Candidate: 6 of 7 Period: 208.292 d



DV Fit Results:

Period = 208.29188 [0.00094] d
Epoch = 312.1492 [0.0051] BKJD
Rp/R* = 0.0046 [0.0007]
a/R* = 432.75 [264.03]
b = 0.69 [0.46]
Seff = 27.27 [18.99]
Teq = 583 [101] K
Rp = 1.98 [0.92] Re
a = 0.8455 [0.3593] AU
Ag = 1939.38 [1586.93] [1.22σ]
Teffp = 5979 [713] K [7.49σ]

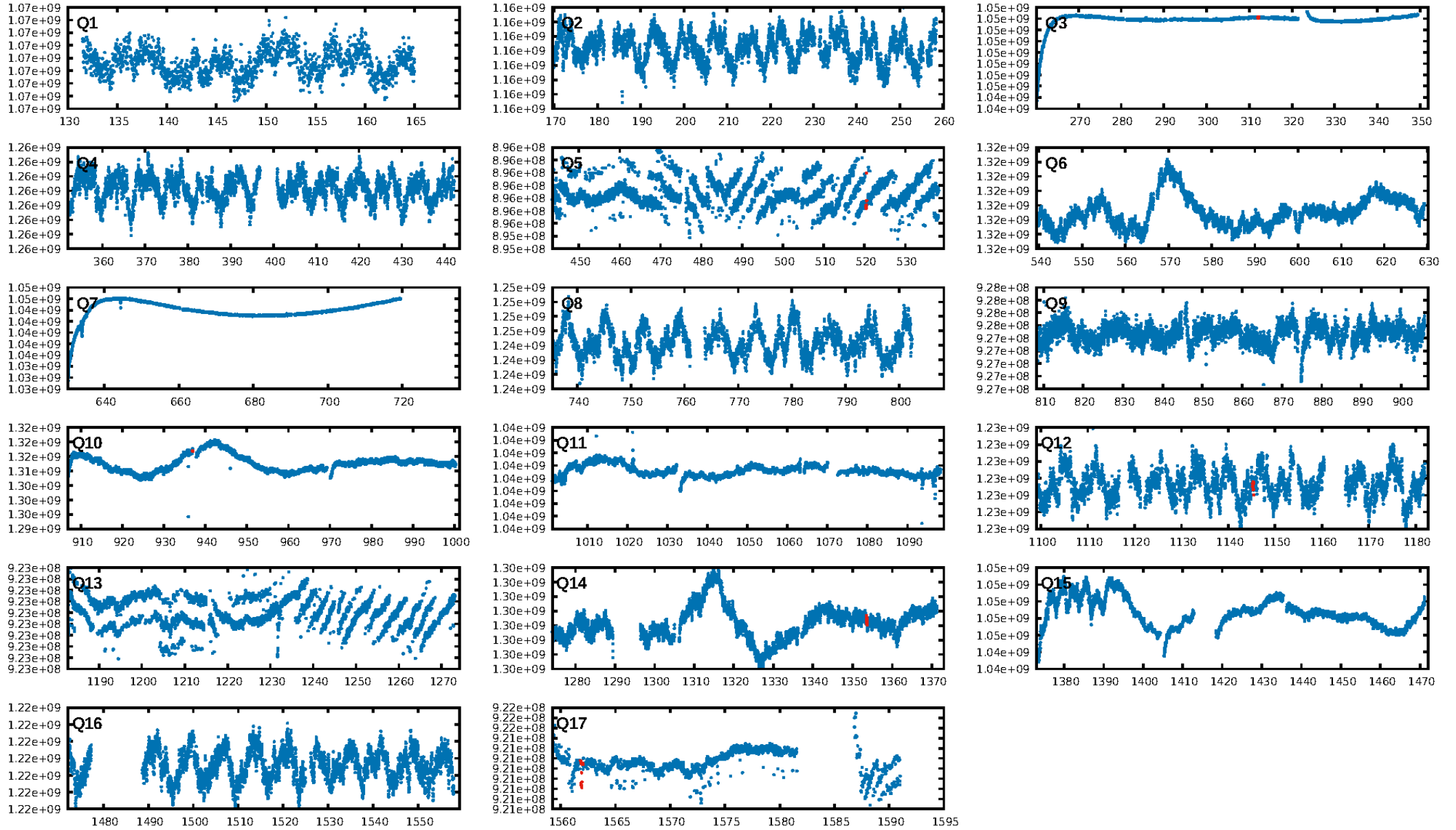
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [811.58σ]
ModelChiSquare2-sig: 29.5%
ModelChiSquareGof-sig: 96.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.412
Centroid-sig: 92.7%
Centroid-so: 1.136 arcsec [0.19σ]
OotOffset-rm: 1.376 arcsec [0.99σ]
KicOffset-rm: 0.938 arcsec [0.76σ]
OotOffset-st: 1/1/1/2 [5]
KicOffset-st: 1/1/1/2 [5]
DiffImageQuality-fgm: 0.40 [2/5]
DiffImageOverlap-fno: 1.00 [5/5]

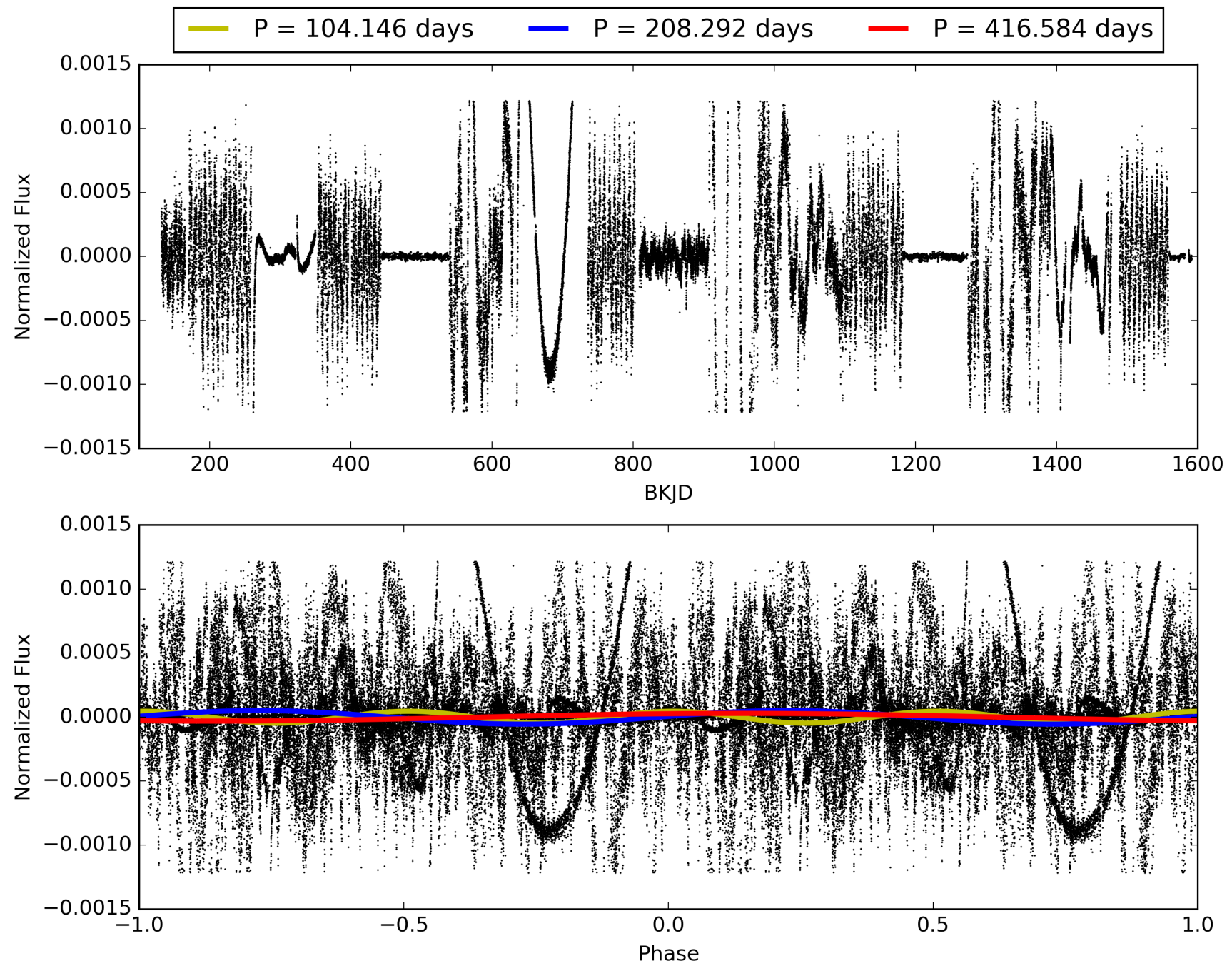
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:53:12 Z

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

TCE 008646460-06, PDC Light Curves

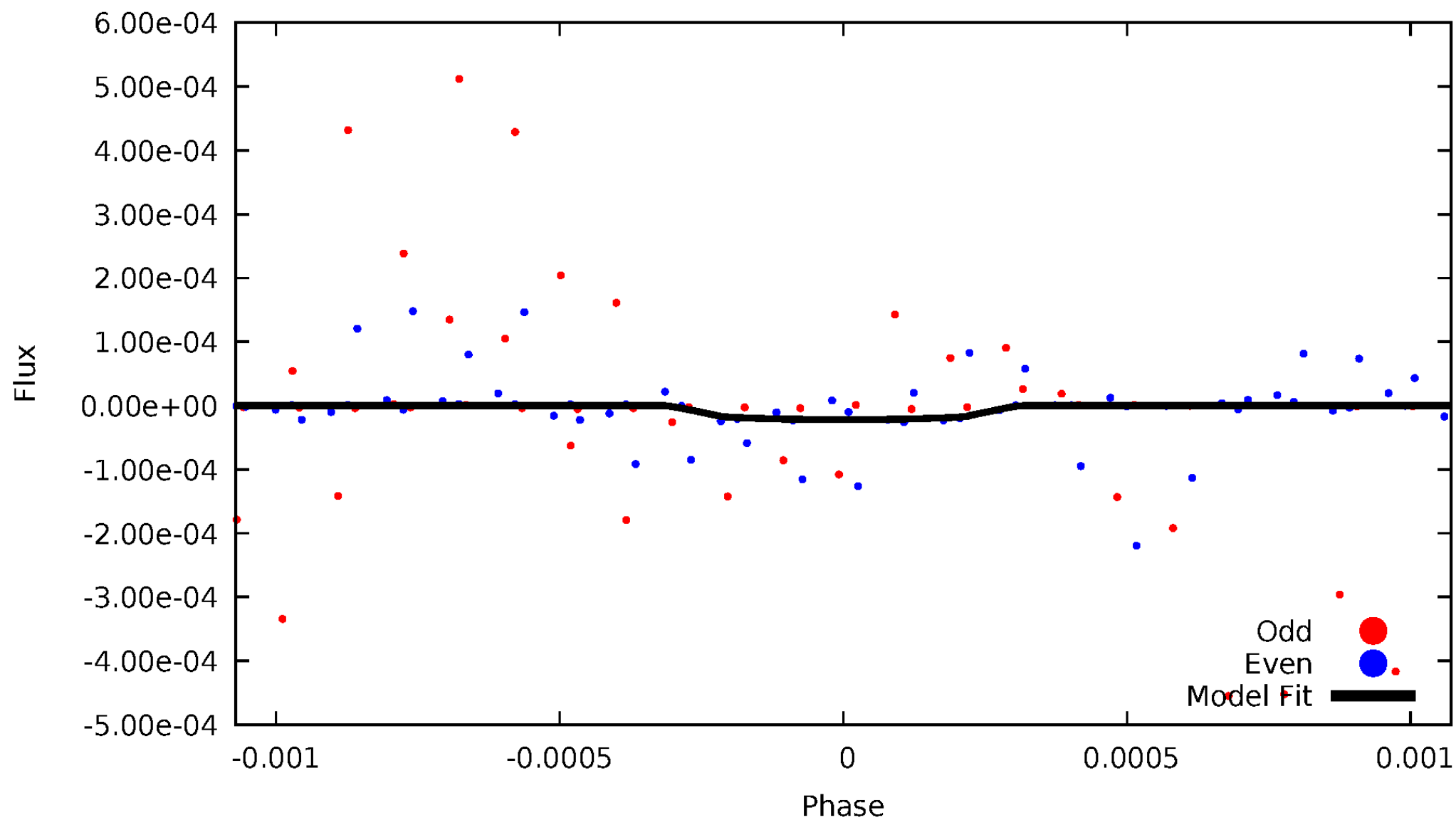


TCE 008646460-06



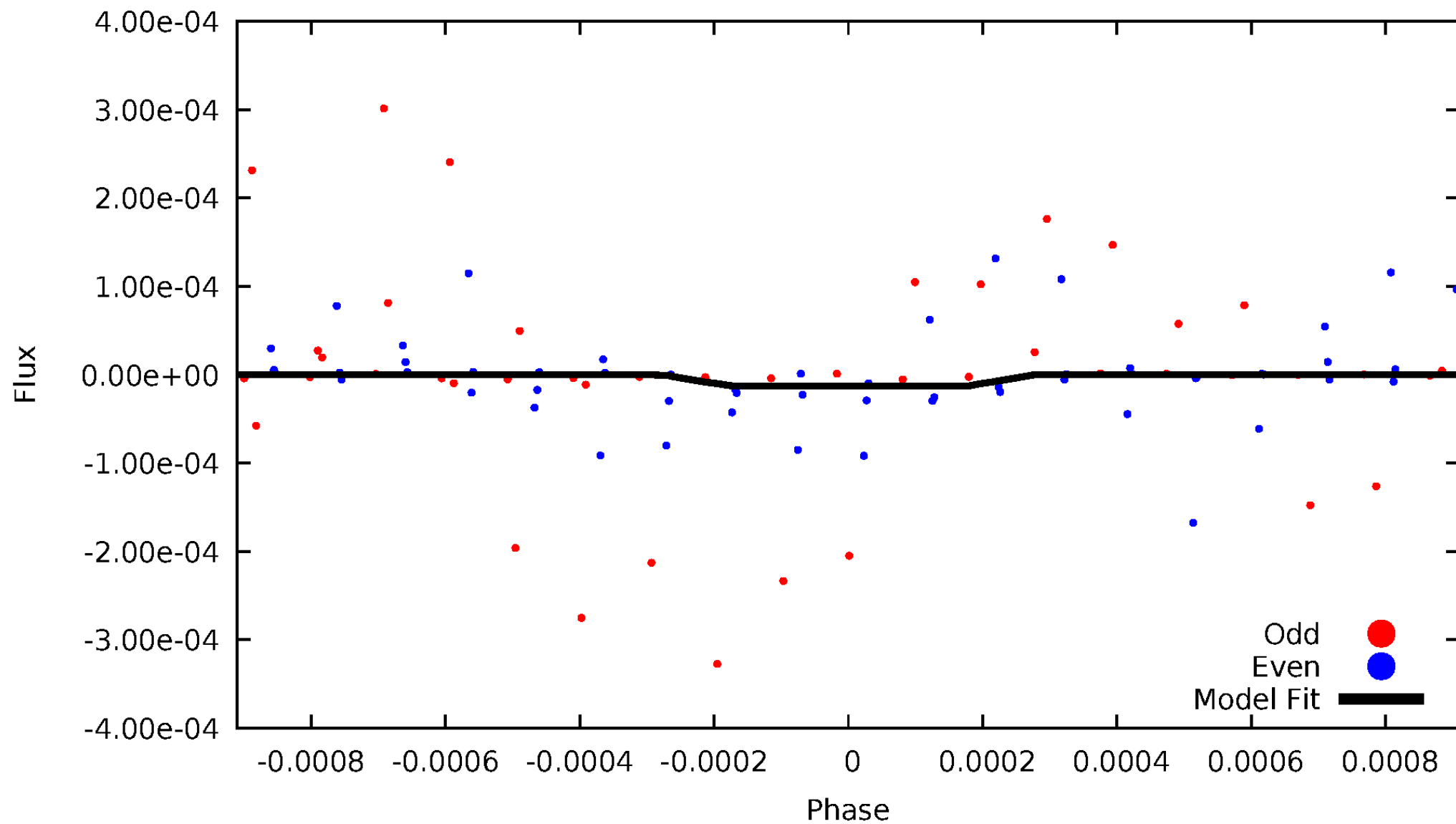
DV Odd/Even

TCE 008646460-06



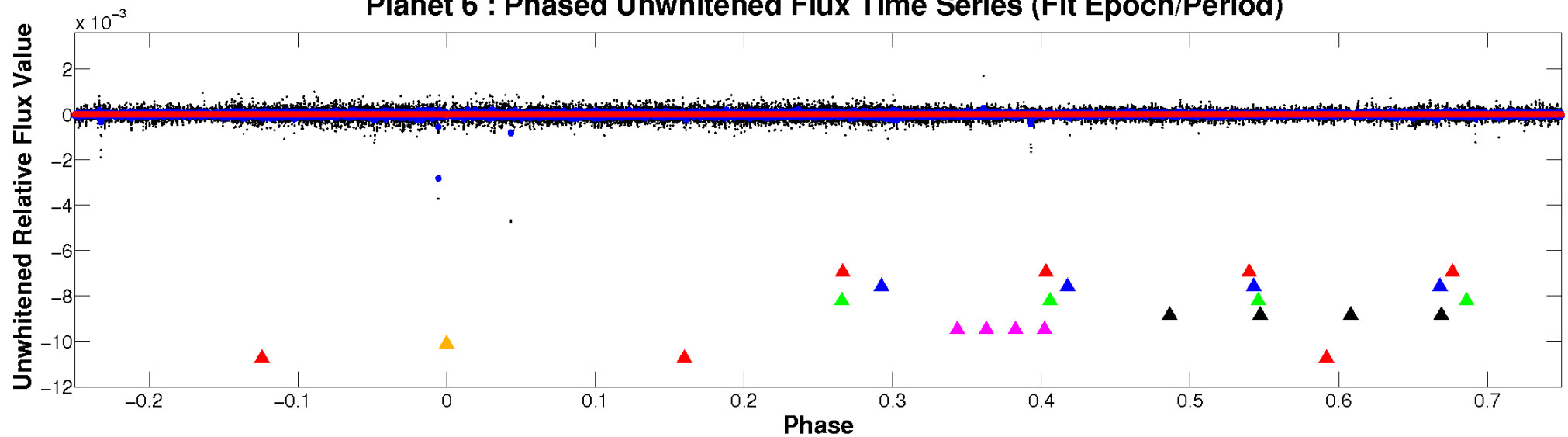
ALT Odd/Even

TCE 008646460-06

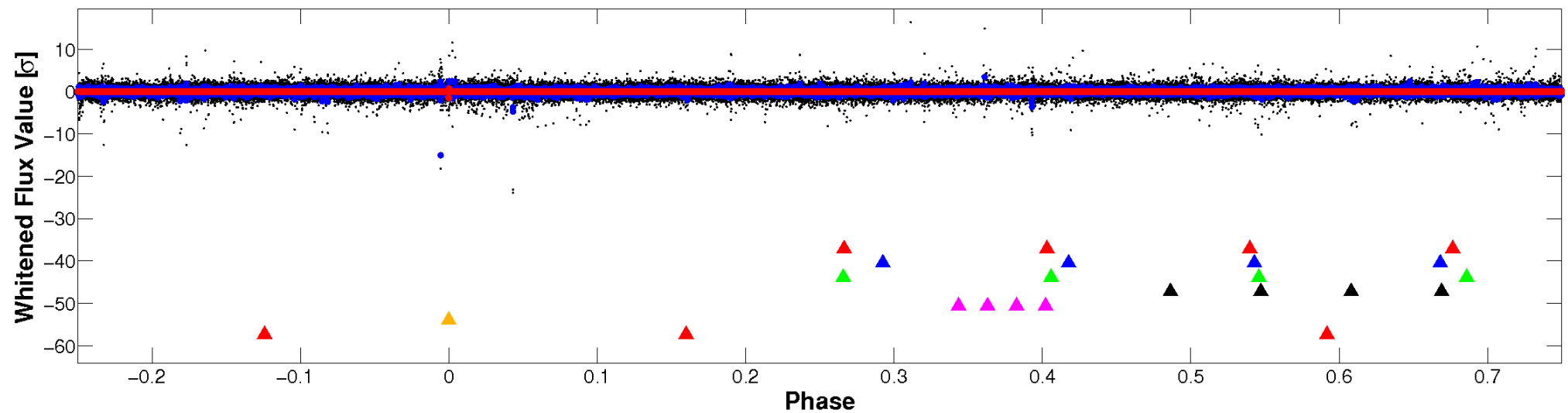


Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

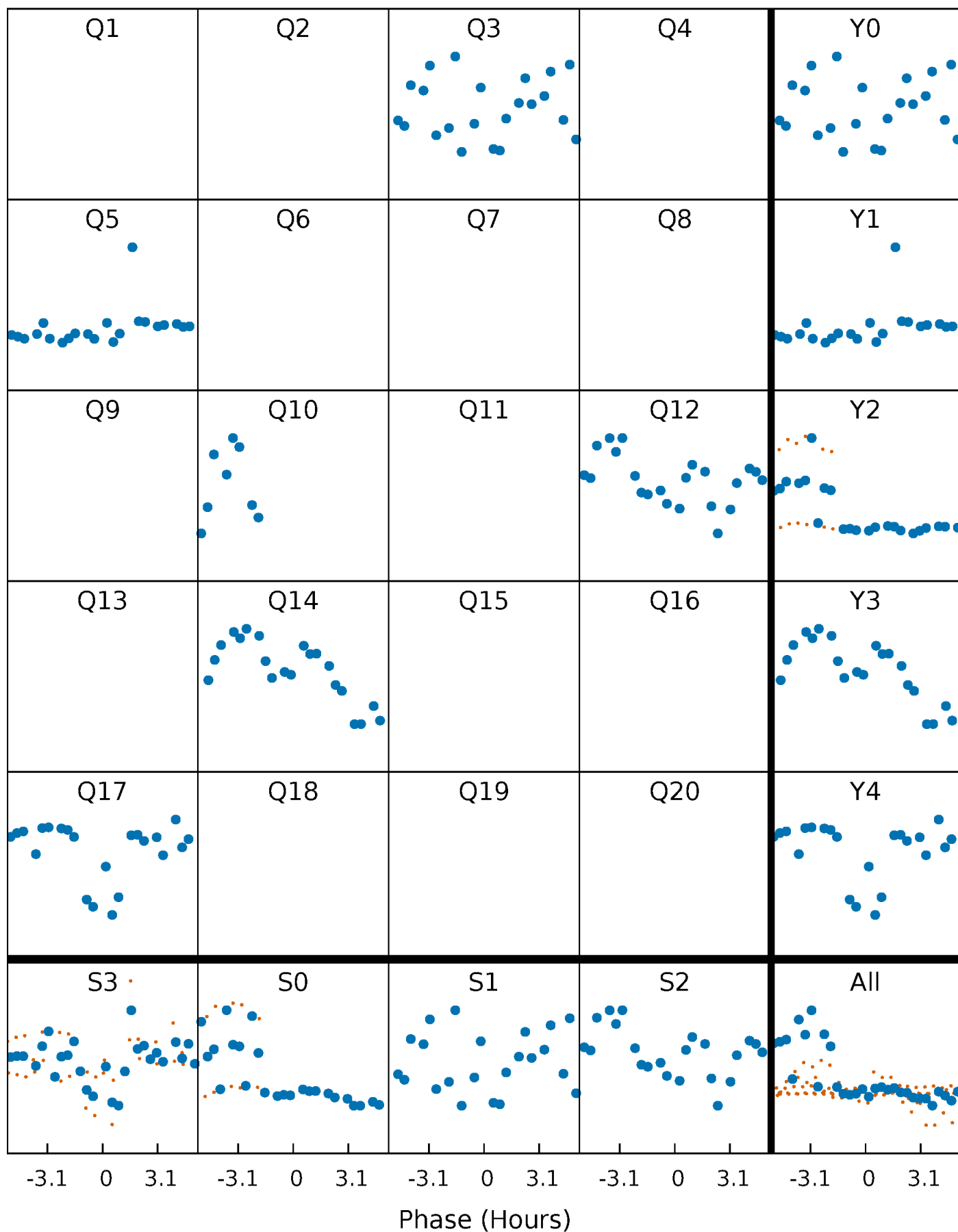


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



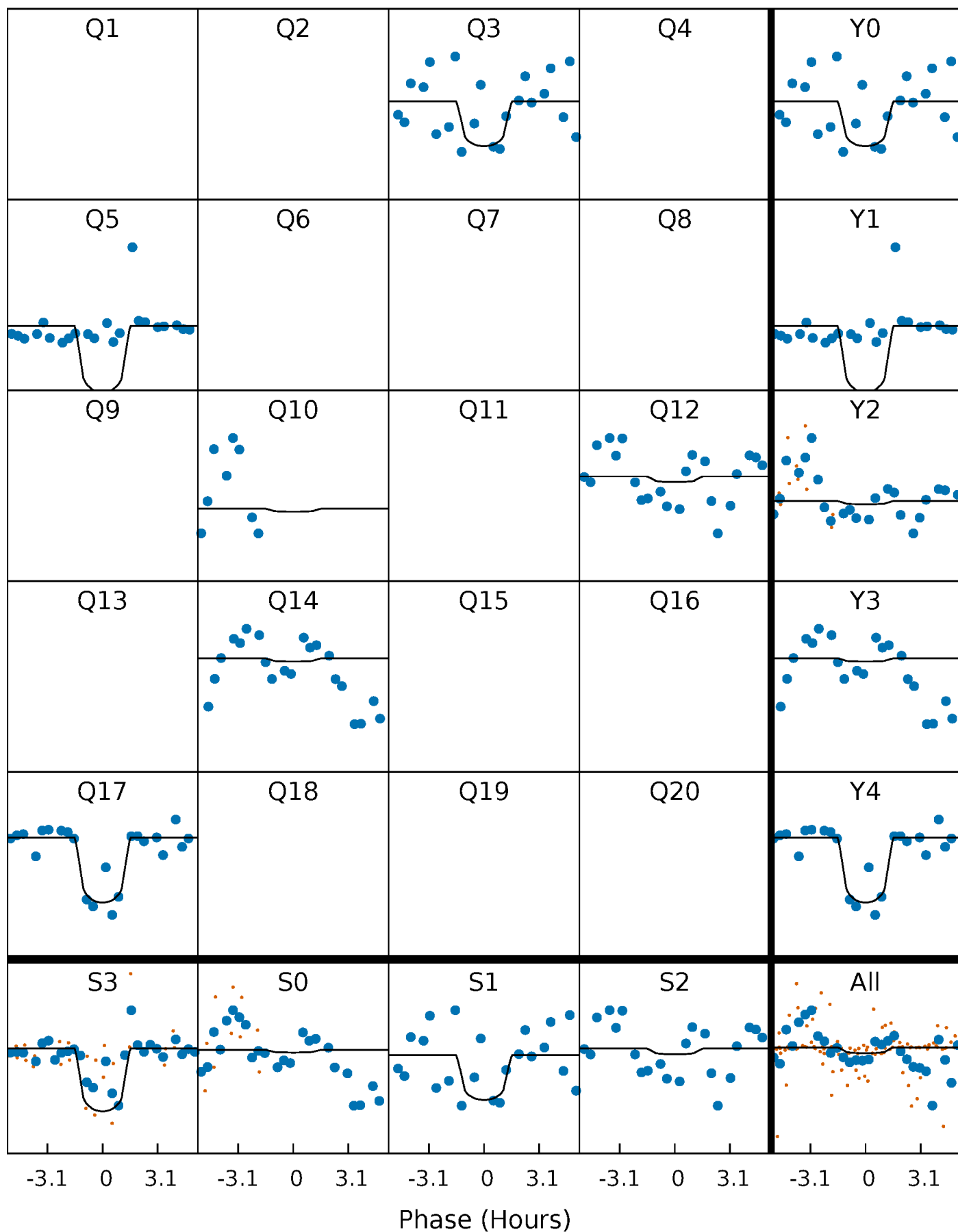
PDC Quarter-Phased Transit Curves

TCE 008646460-06 P=208.291881 Days $T_0=312.149199$ (BKJD)



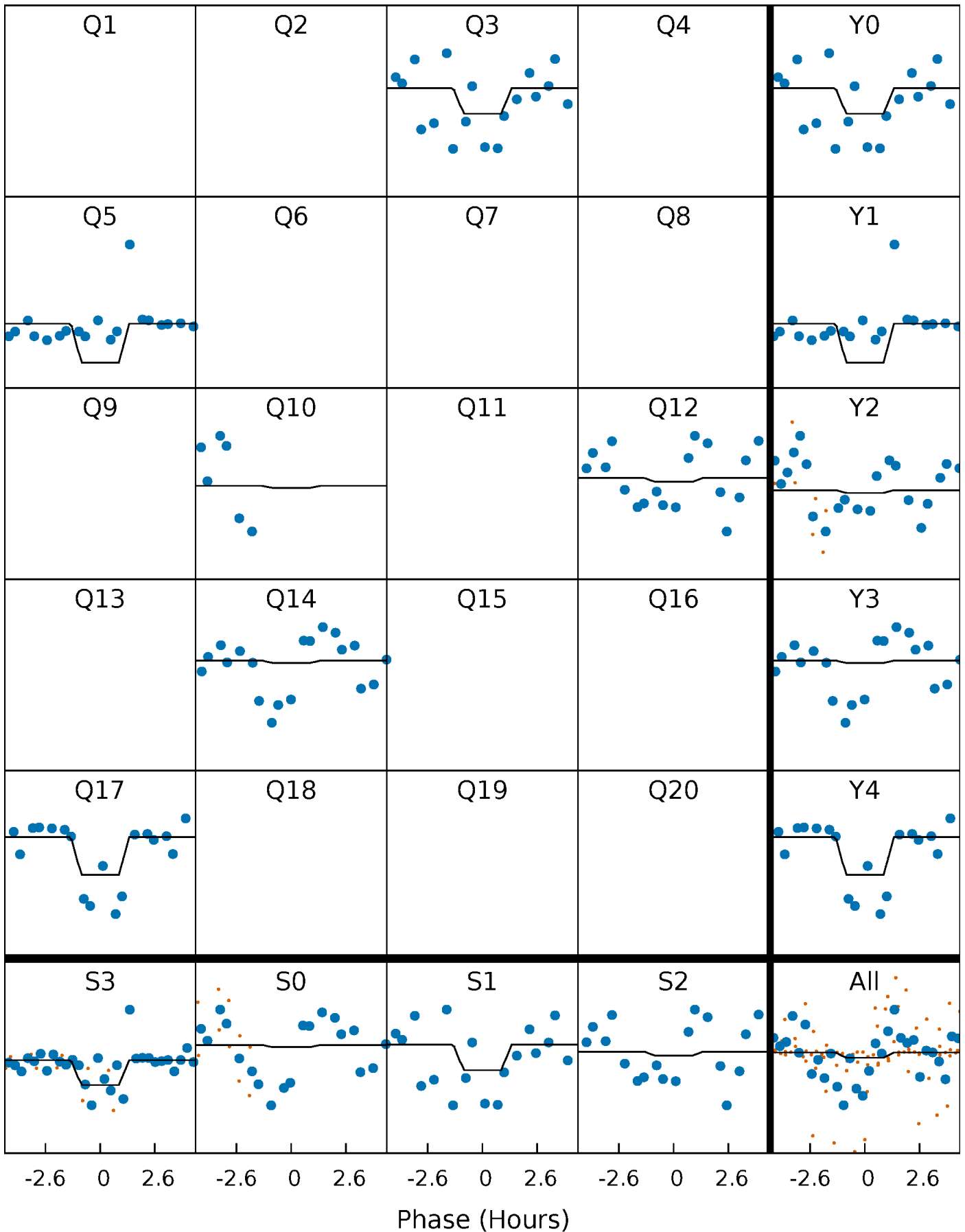
DV Quarter-Phased Transit Curves

TCE 008646460-06 P=208.291881 Days $T_0=312.149199$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

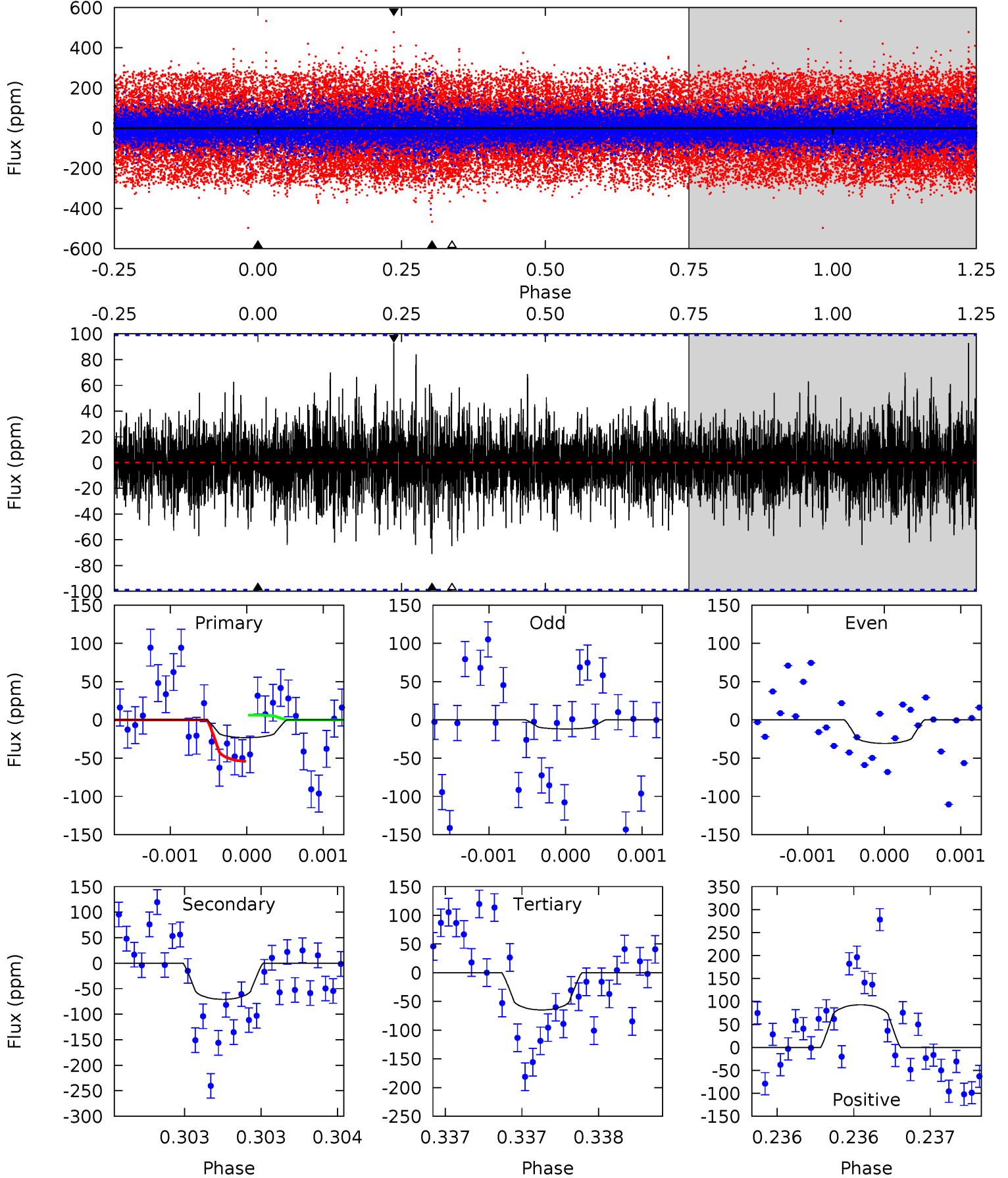
TCE 008646460-06 P=208.289389 Days $T_0=312.159823$ (BKJD)



DV Model-Shift Uniqueness Test

008646460-06, P = 208.291881 Days, E = 103.857318 Days

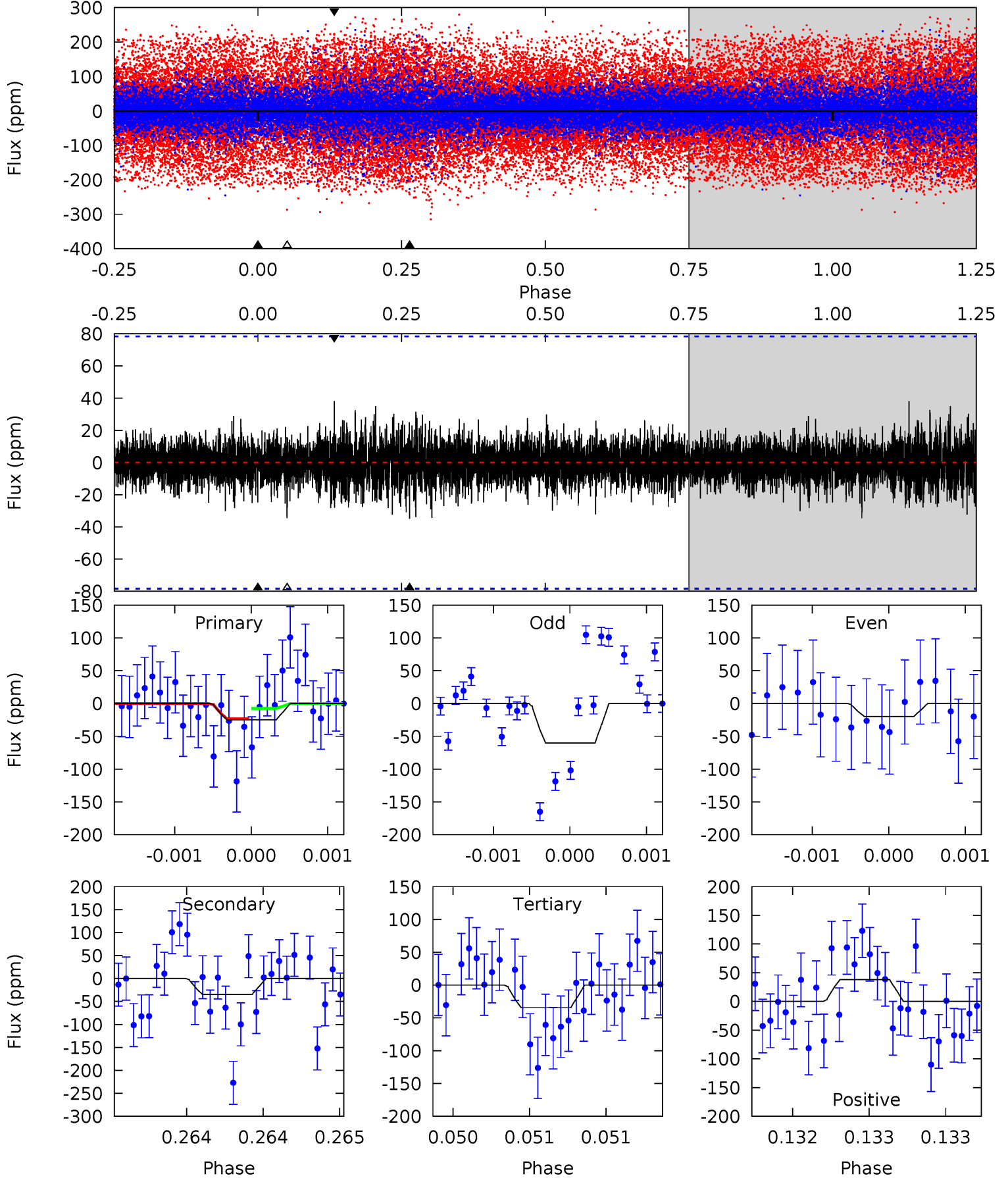
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.30	3.97	3.63	5.20	5.54	3.43	1.00	-2.33	-3.90	0.34	-1.23	0.48	1.12	0.57	1.35



Alt Model-Shift Uniqueness Test

008646460-06, P = 208.289389 Days, E = 103.870434 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.75	2.47	2.45	2.70	5.56	3.46	0.62	-0.70	-0.95	0.02	-0.23	1.37	1.87	0.52	0.56



Stellar Parameters For KIC 008646460

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6084^{+223}_{-185}	$3.506^{+0.400}_{-0.125}$	$0.160^{+0.250}_{-0.250}$	$3.985^{+0.753}_{-1.756}$	$1.857^{+0.119}_{-0.446}$	$0.041^{+0.133}_{-0.016}$
	+4%/-3%	+11%/-4%	+156%/-156%	+19%/-44%	+6%/-24%	+321%/-38%
Source	PHO1	FLK73	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 008646460-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-71±18	$1.86^{+0.42}_{-0.46}$	799^{+60}_{-82}	8582^{+1329}_{-1107}	7837^{+5780}_{-3119}
Alt.	-35±14	$1.42^{+0.40}_{-0.41}$	801^{+60}_{-91}	8133^{+1616}_{-1383}	6534^{+6810}_{-3284}

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

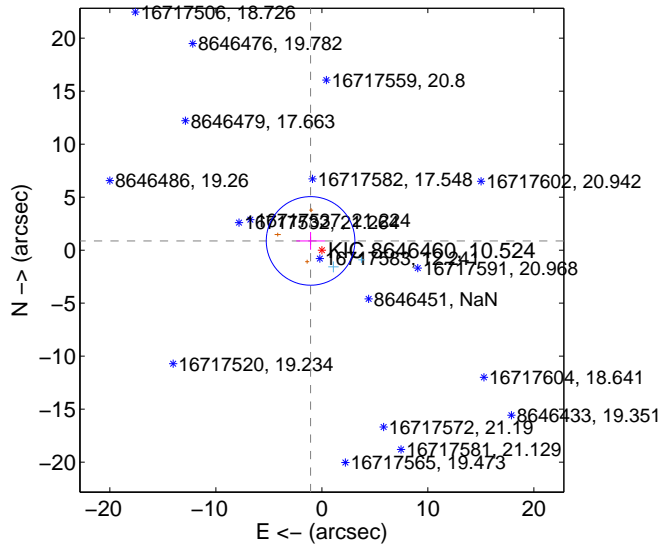
Supplemental centroid analysis for 008646460-06. **Kepler magnitude: 10.52.** Transit SNR 9.48

There are 2 quarters with good PRF difference image offsets

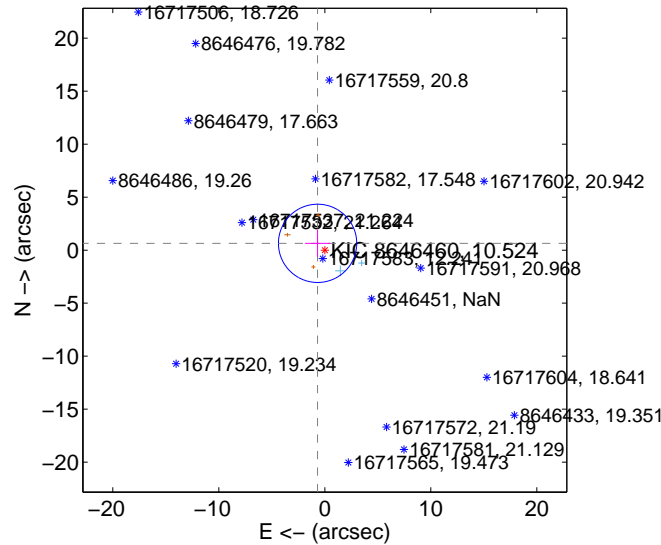
The direct PRF centroid is offset from the target star catalog position by about 0.58 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.376 ± 1.393	0.99	1.065 ± 1.352	0.872 ± 0.837
PRF-fit source offset from KIC position	0.938 ± 1.231	0.76	0.682 ± 1.185	0.644 ± 1.280
photometric centroid source offset	1.14 ± 5.96	0.19	-0.46 ± 6.71	1.04 ± 5.80

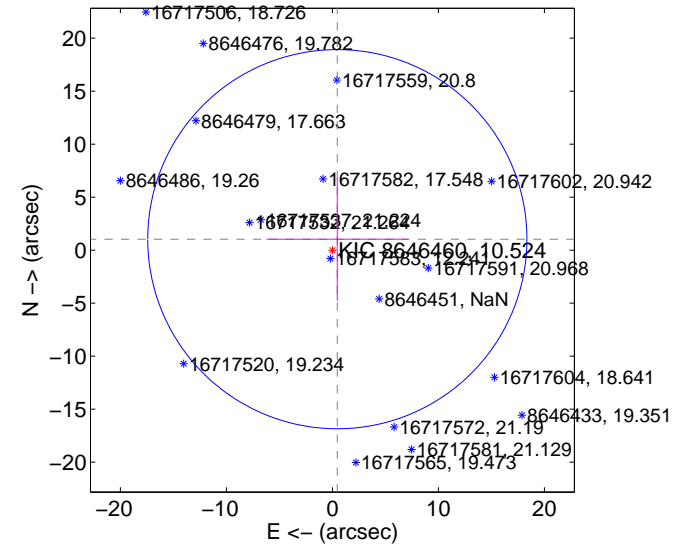
offset from difference PRF-fit to OOT PRF-fit



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.

Q1 no difference image



Q1 no OOT image



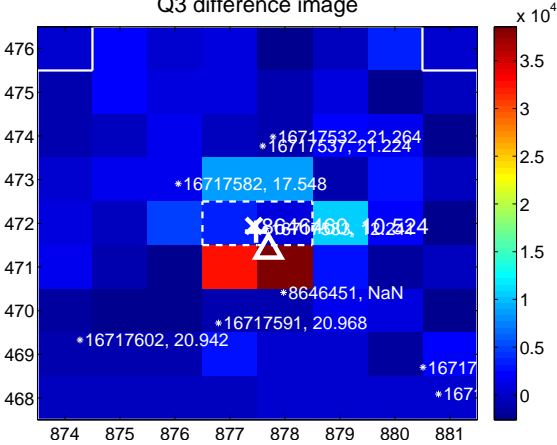
Q2 no difference image



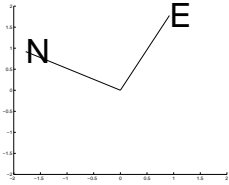
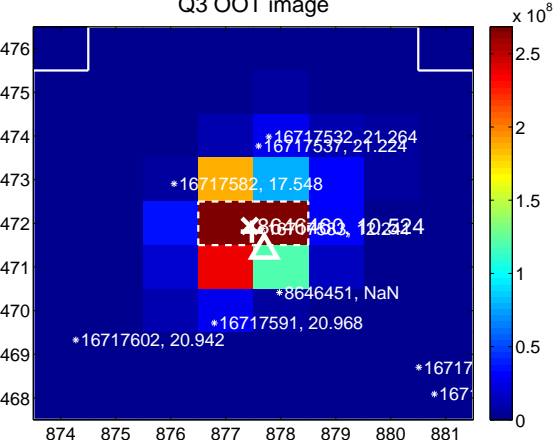
Q2 no OOT image



Q3 difference image



Q3 OOT image



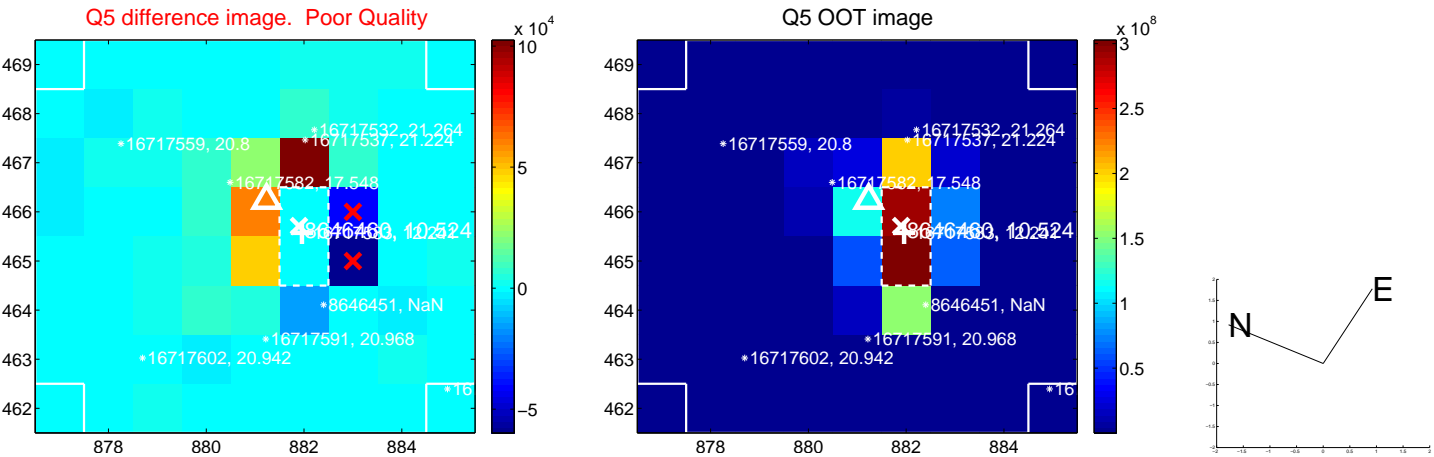
Q4 no difference image



Q4 no OOT image



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.

Q9 no difference image



Q9 no OOT image



Q10 no difference image



Q10 no OOT image



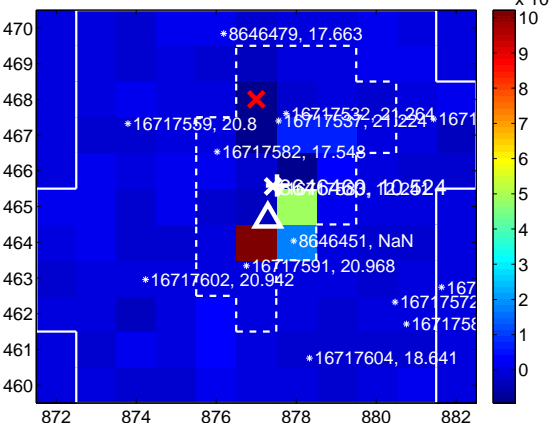
Q11 no difference image



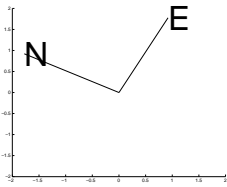
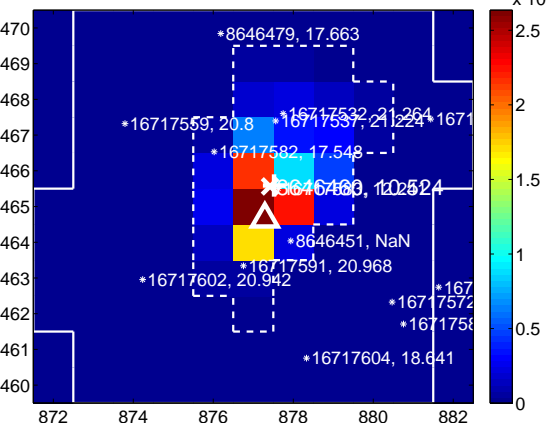
Q11 no OOT image



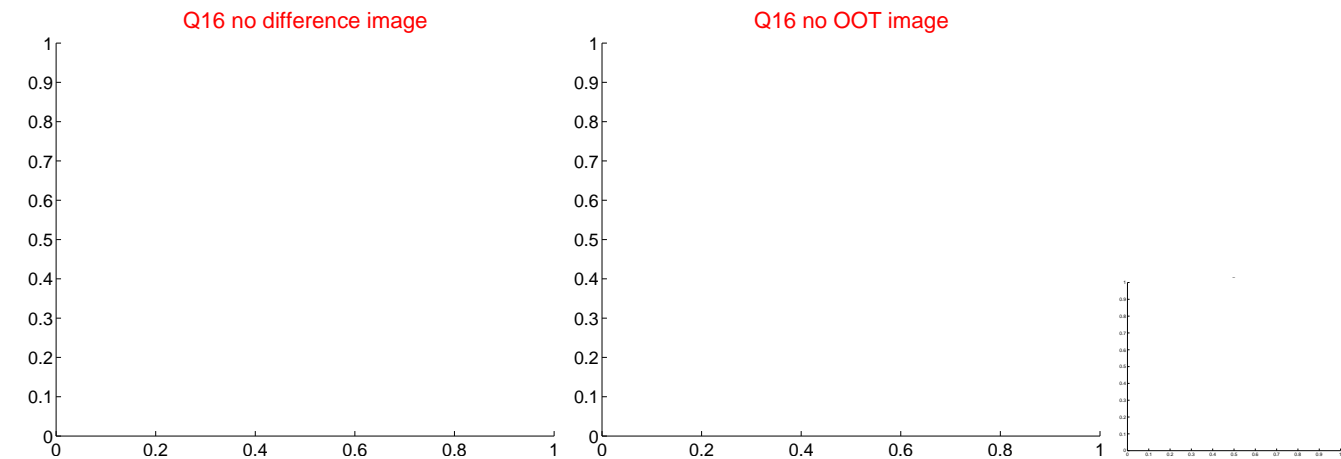
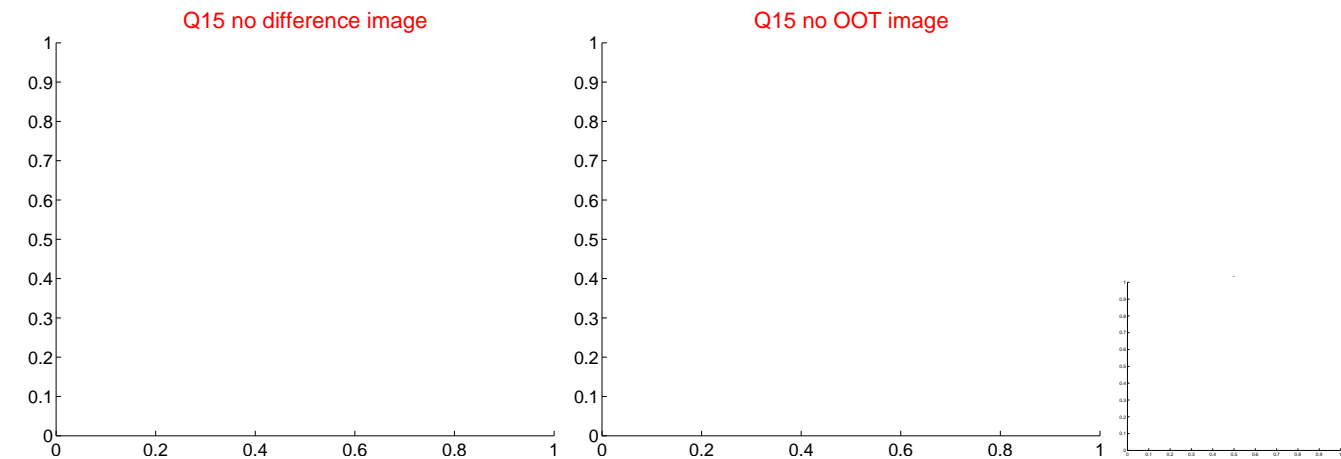
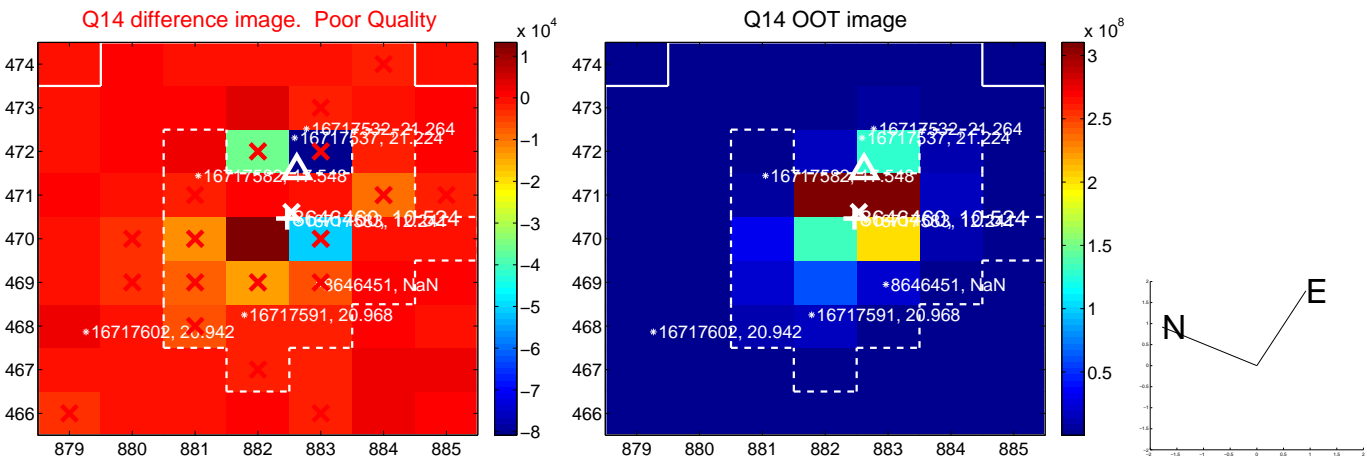
Q12 difference image



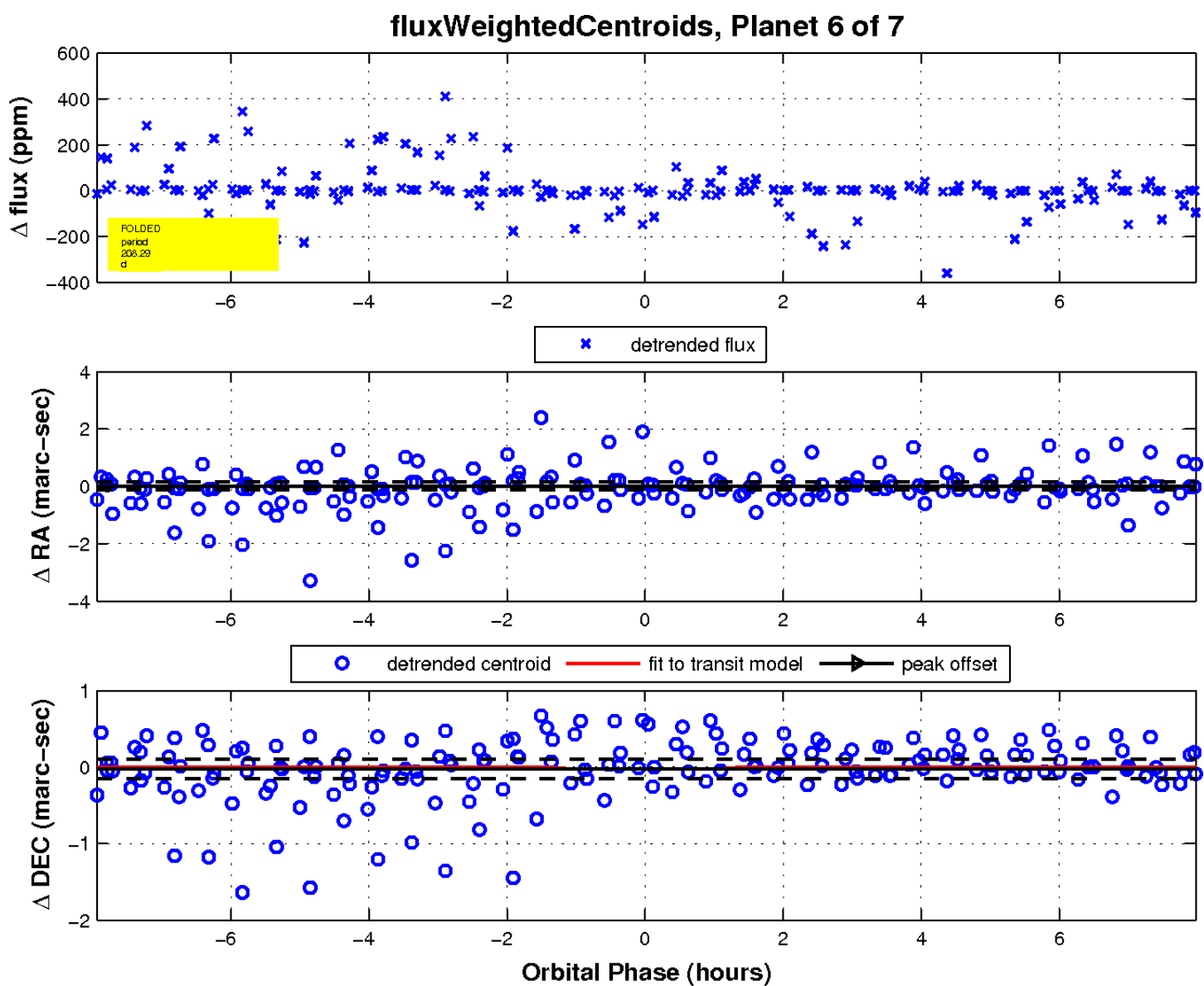
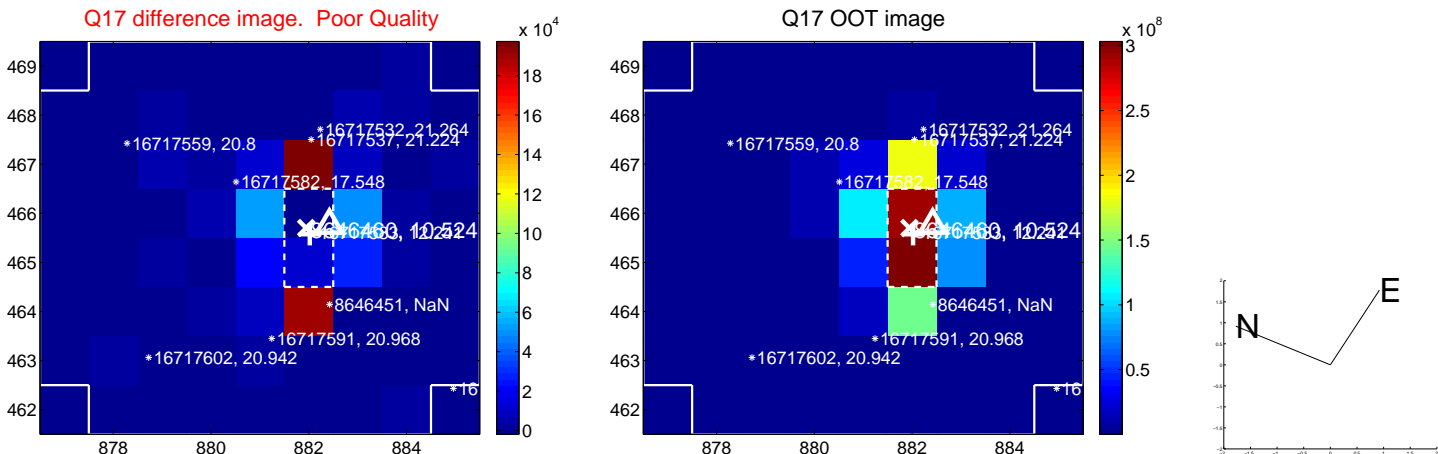
Q12 OOT image



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

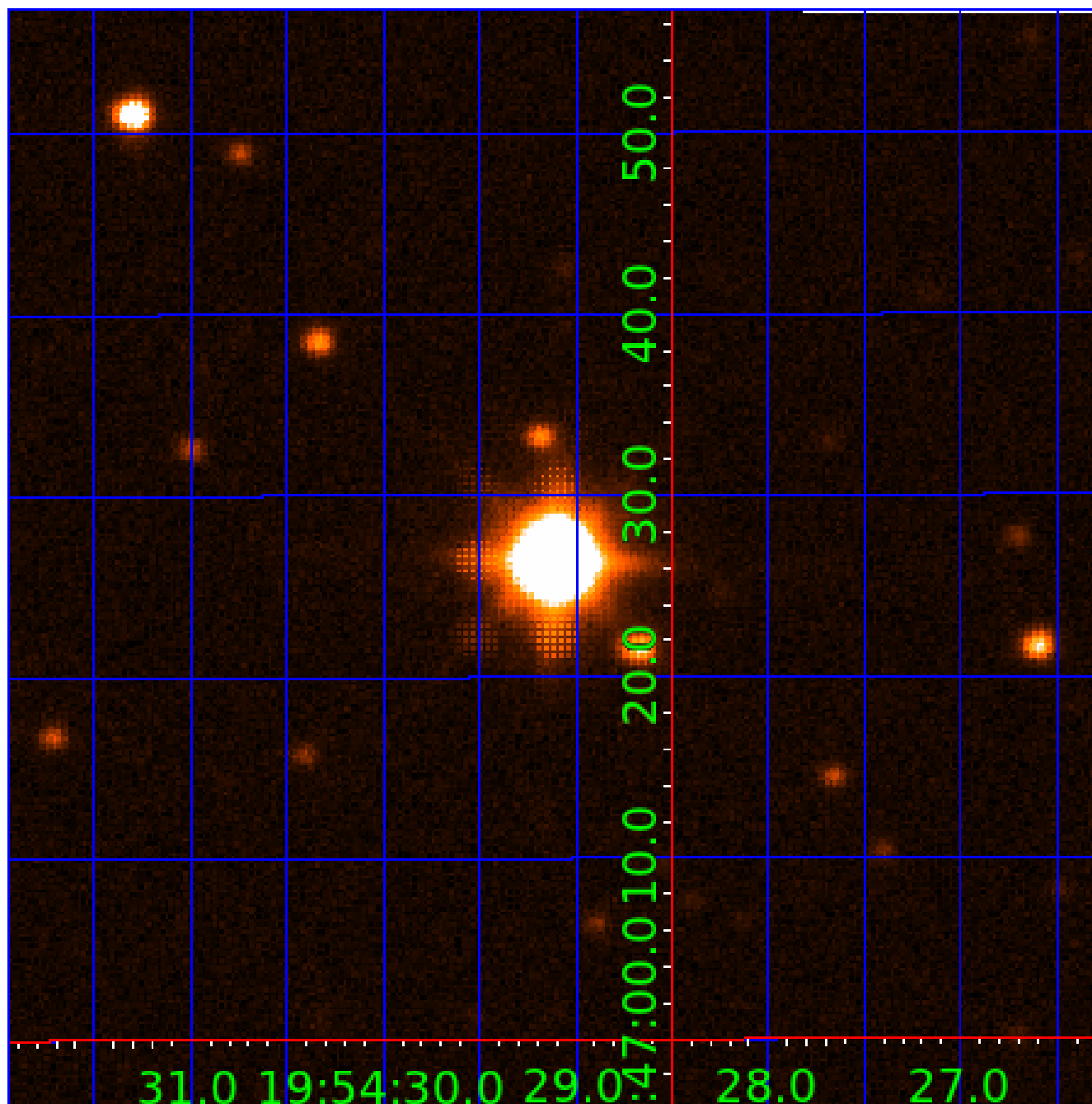


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008646460

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})
008646460-01	OBS	No	388.108326	244.773249	0.0	4.112	20.4	0.0	3.98	6084	0.00	11.89
008646460-02	OBS	No	390.502488	243.024899	521.2	7.285	21.4	15.5	3.98	6084	10.11	11.80
008646460-03	OBS	No	387.417251	246.737739	753.9	4.571	16.3	13.5	3.98	6084	21.31	11.92
008646460-04	OBS	No	429.270535	205.154547	345.7	15.637	9.3	9.6	3.98	6084	7.47	10.40
008646460-05	OBS	No	412.512495	187.629367	31.4	3.950	11.4	2.2	3.98	6084	2.37	10.96
008646460-06	OBS	No	208.291881	312.149199	21.7	2.676	11.6	9.5	3.98	6084	1.98	27.27
008646460-07	OBS	No	475.754577	435.419332	65.9	15.000	9.1	-1.0	3.98	6084	3.22	9.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008646460-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008646460-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008646460-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST
008646460-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_ZUMA—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
008646460-05	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—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008646460-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008646460-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED

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

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

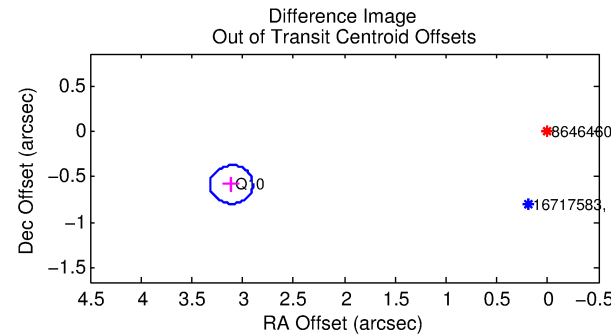
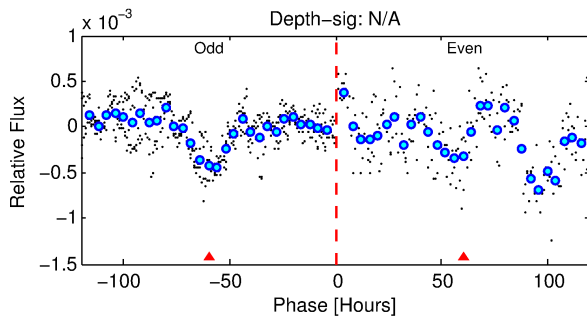
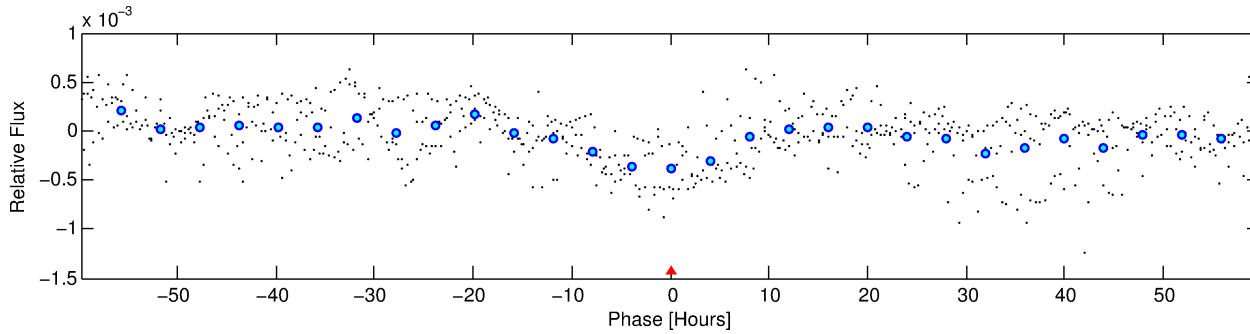
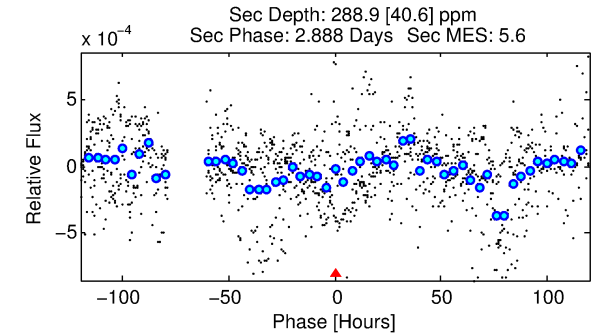
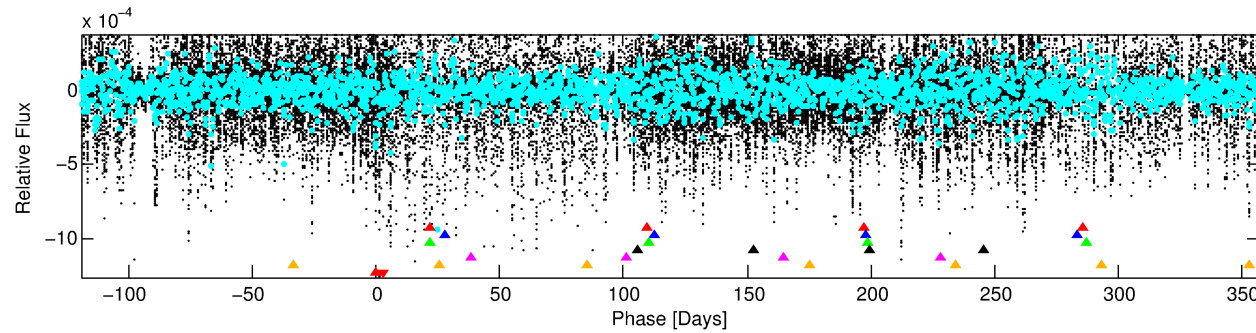
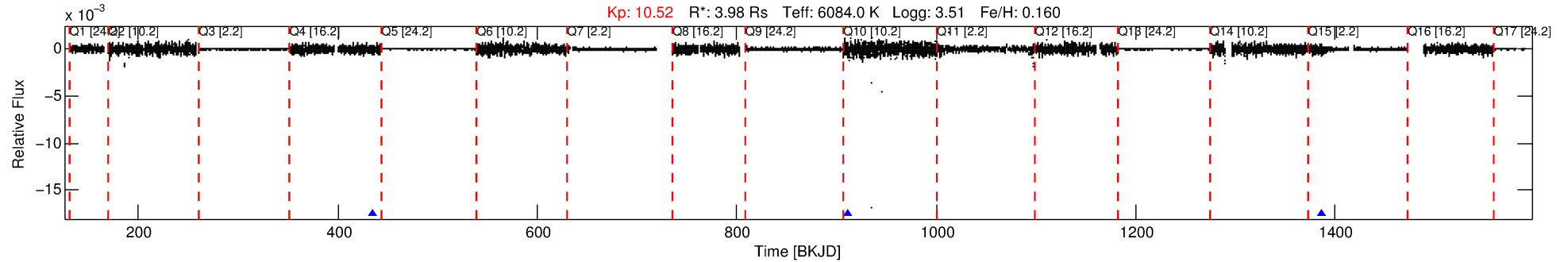
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008646460-07

No Significant Match Found

DV One-Page Summary

KIC: 8646460 Candidate: 7 of 7 Period: 475.755 d



TPS TCE Results:

Period = 475.75458 d
Epoch = 435.4193 BKJD

DV fit results are unavailable

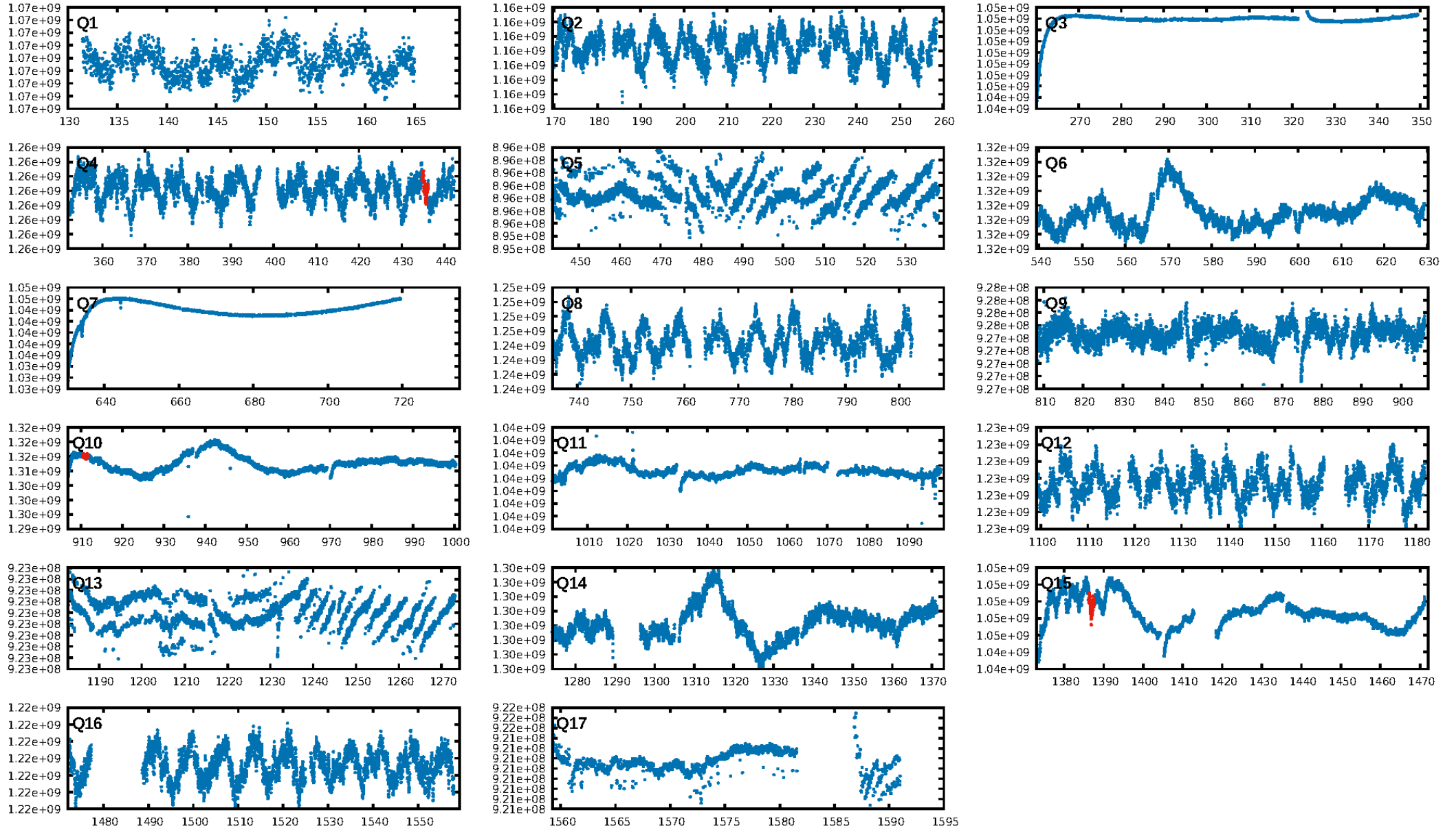
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [51.49σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 34.45
Centroid-sig: 44.6%
Centroid-so: 0.415 arcsec [0.64σ]
OotOffset-rm: 3.162 arcsec [45.33σ]
KicOffset-rm: 3.087 arcsec [44.26σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [1/1]

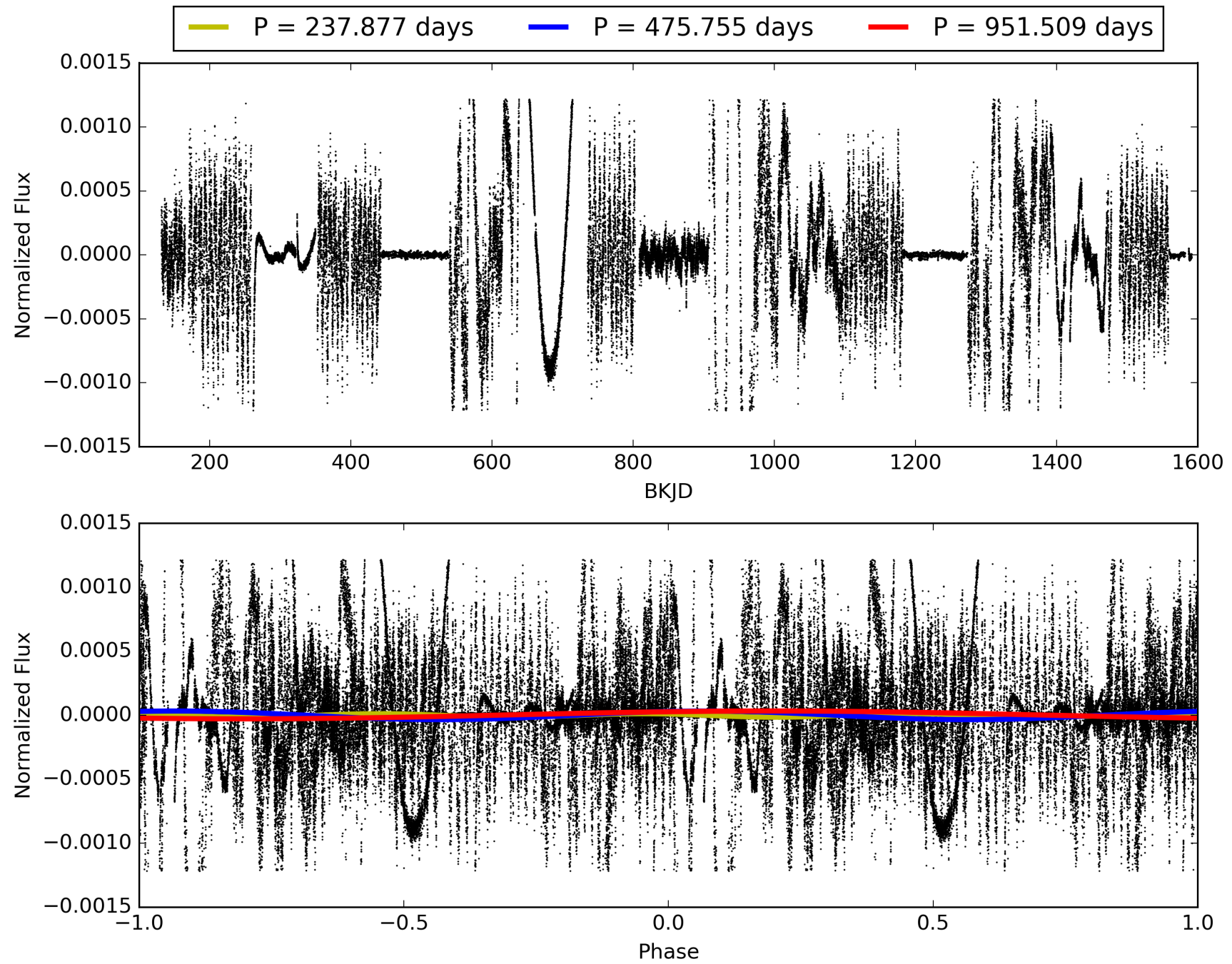
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:53:21 Z

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

TCE 008646460-07, PDC Light Curves

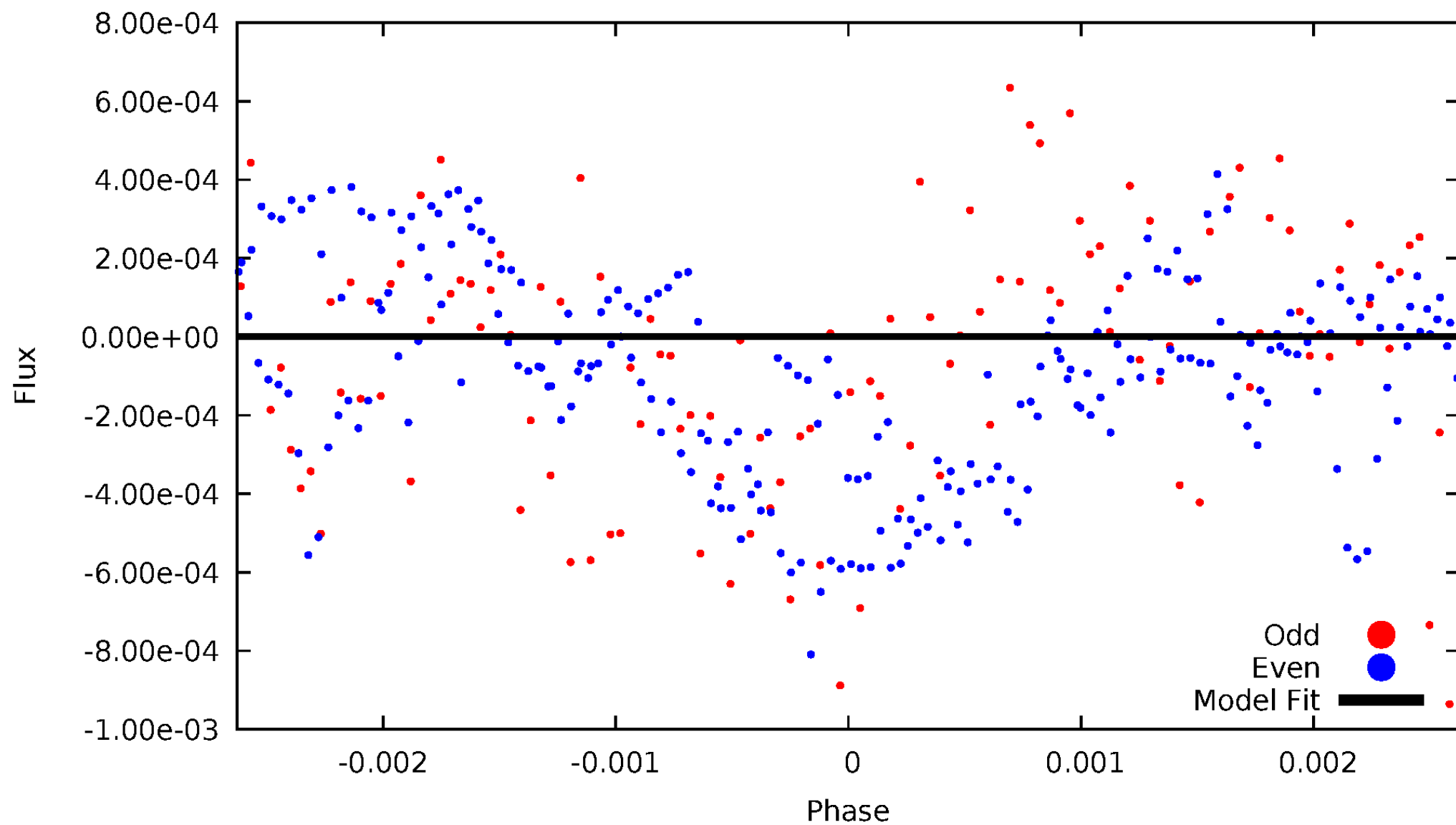


TCE 008646460-07



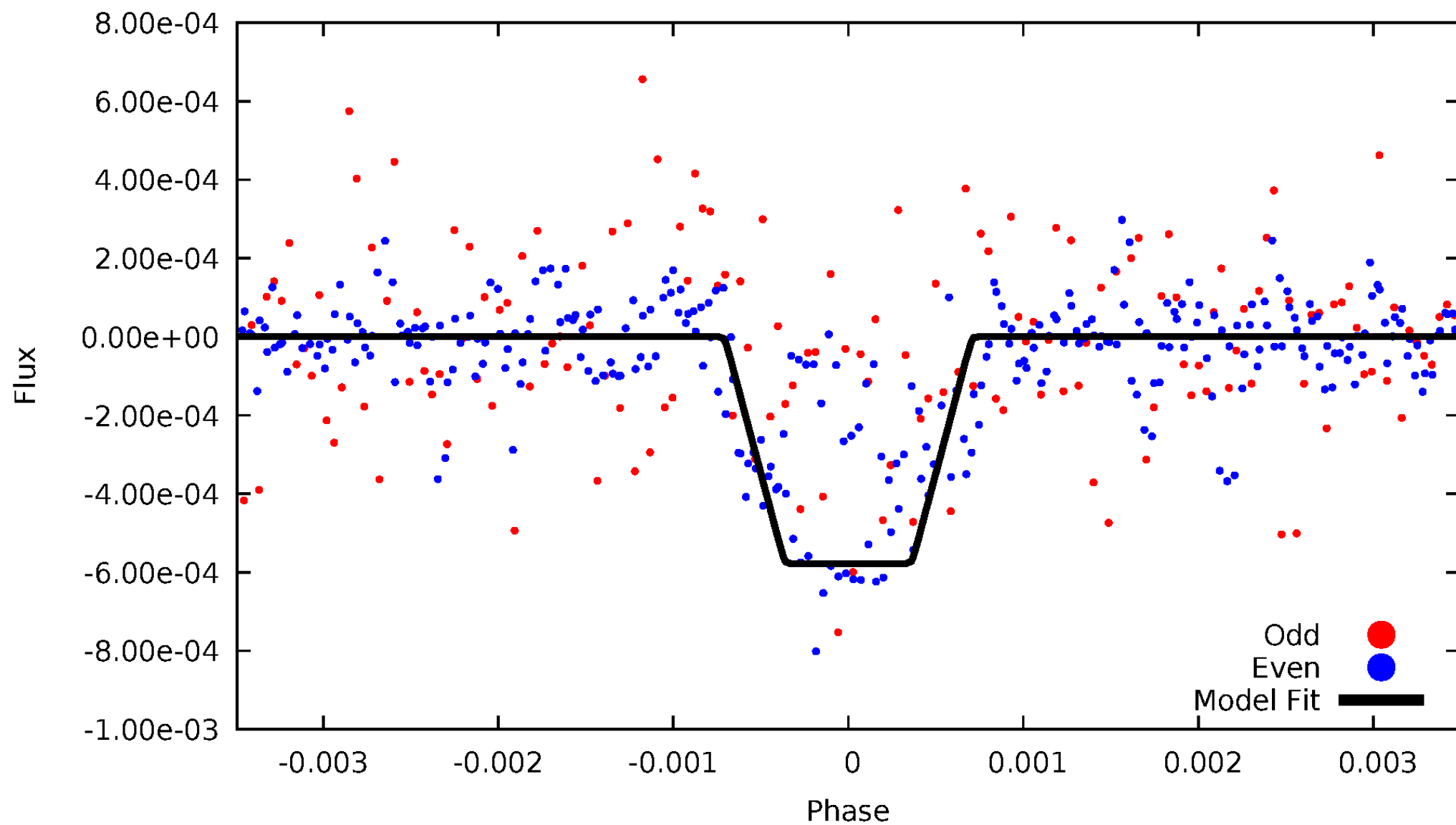
DV Odd/Even

TCE 008646460-07

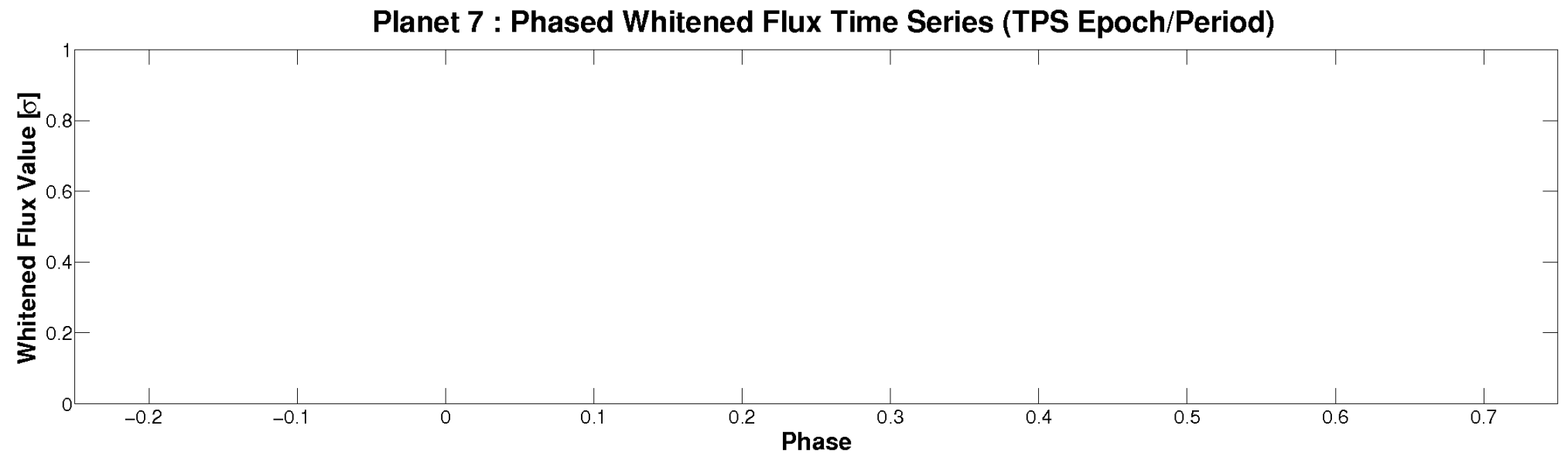
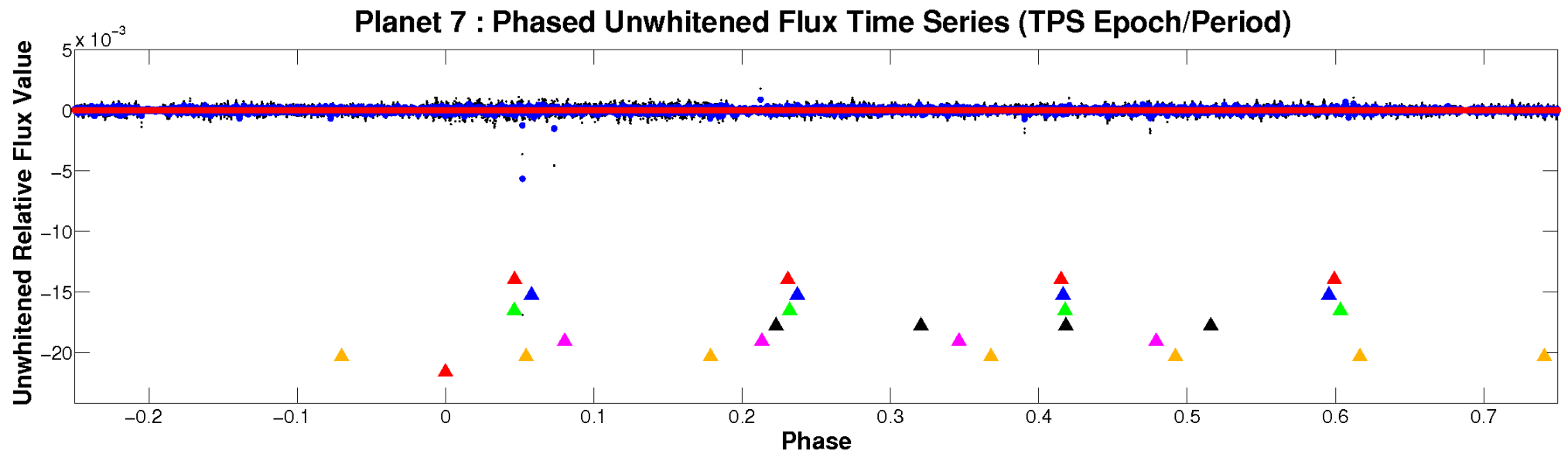


ALT Odd/Even

TCE 008646460-07

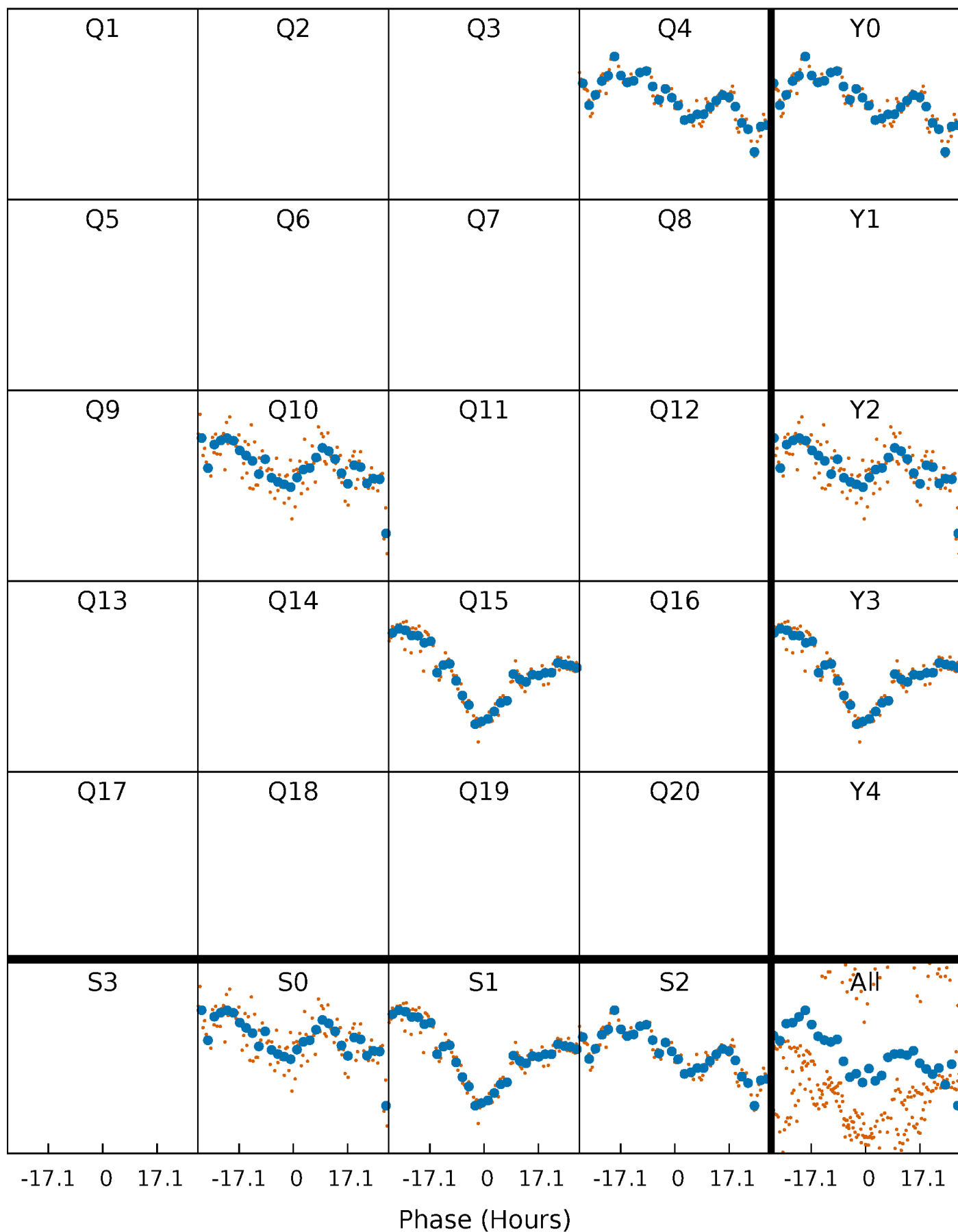


Non-Whitened Vs. Whitened Light Curve



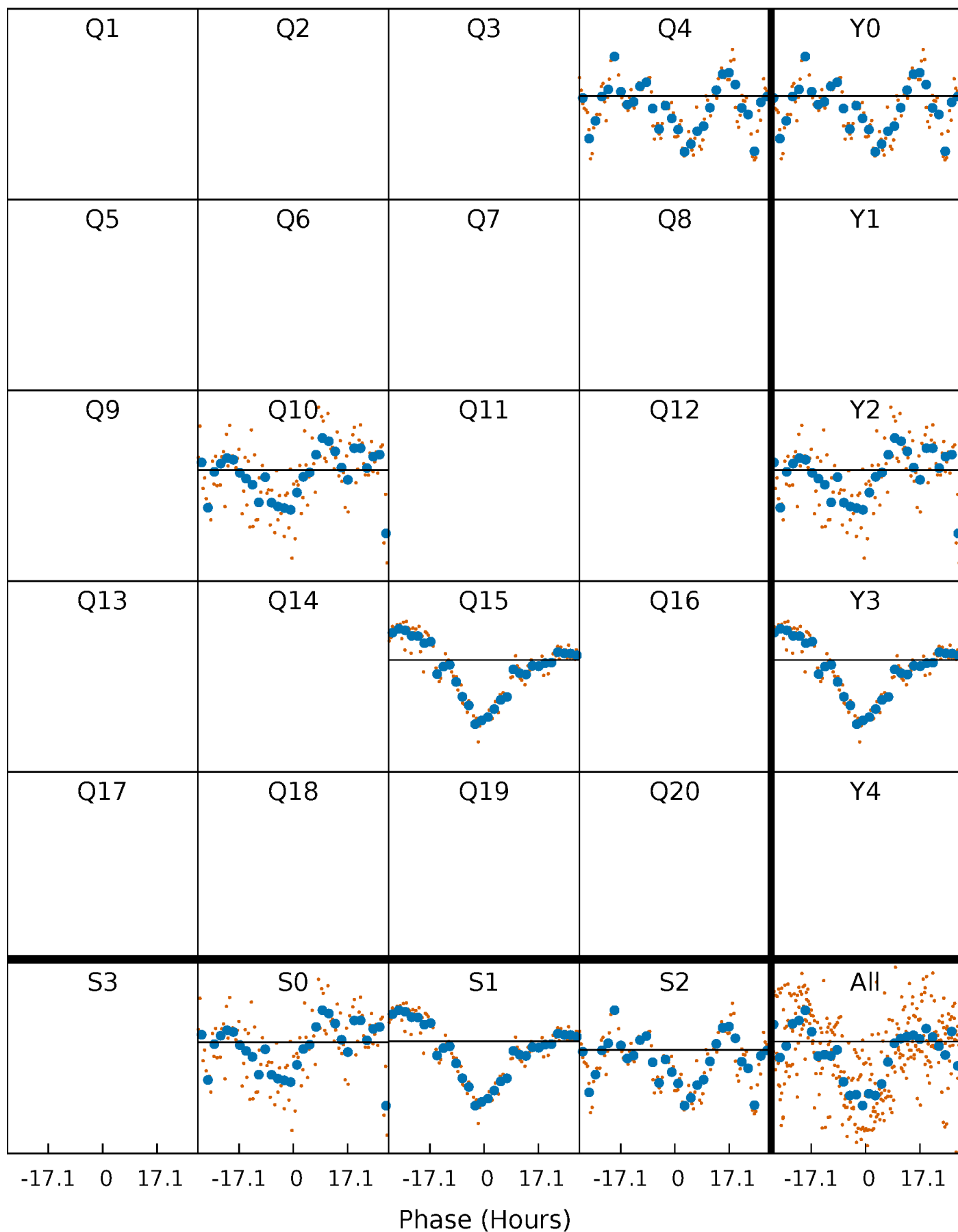
PDC Quarter-Phased Transit Curves

TCE 008646460-07 P=475.754577 Days $T_0=435.419332$ (BKJD)



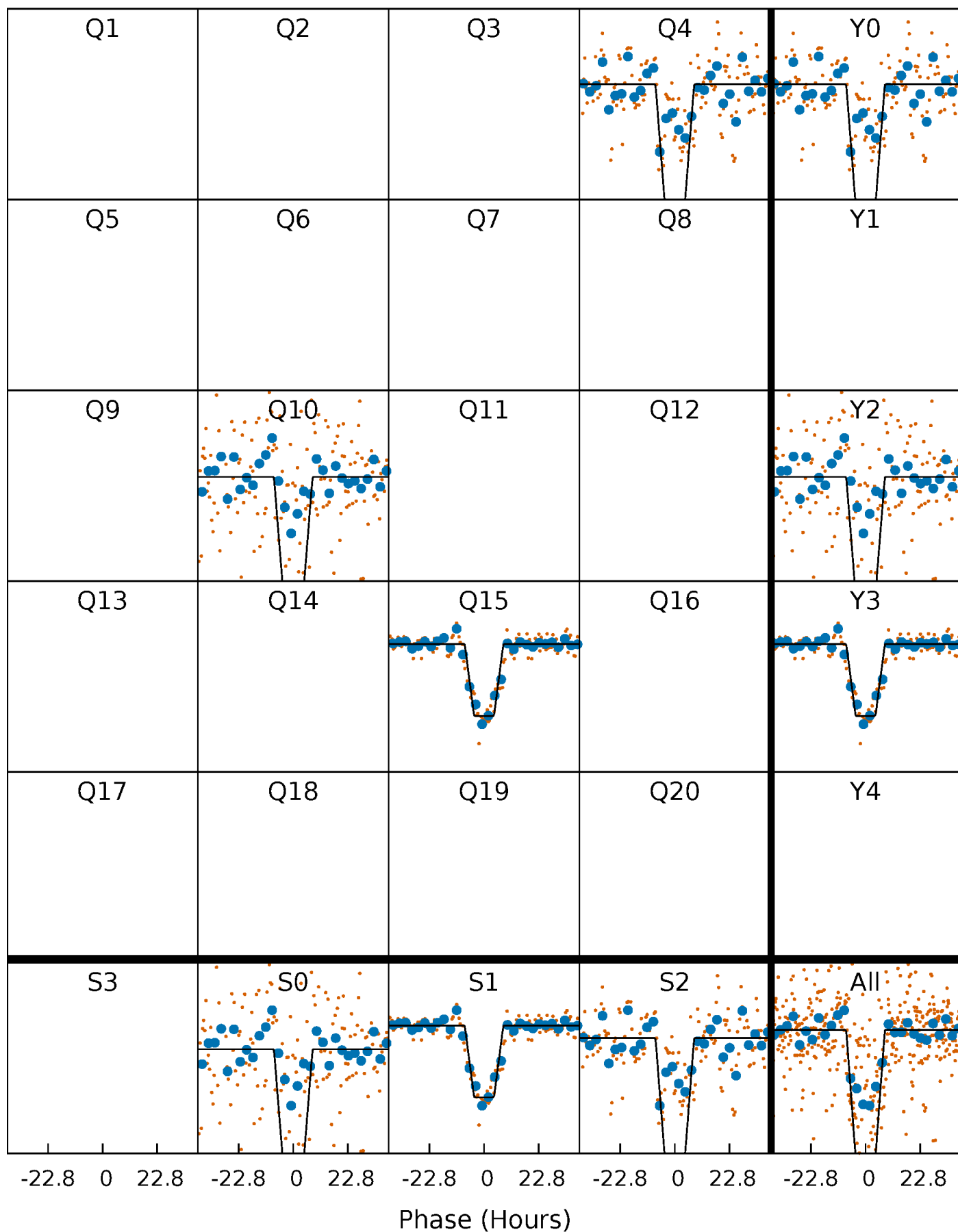
DV Quarter-Phased Transit Curves

TCE 008646460-07 $P=475.754577$ Days $T_0=435.419332$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

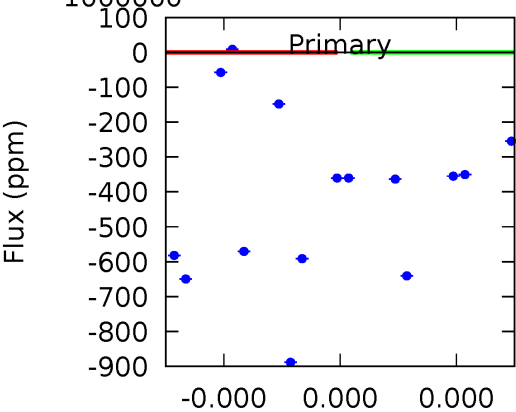
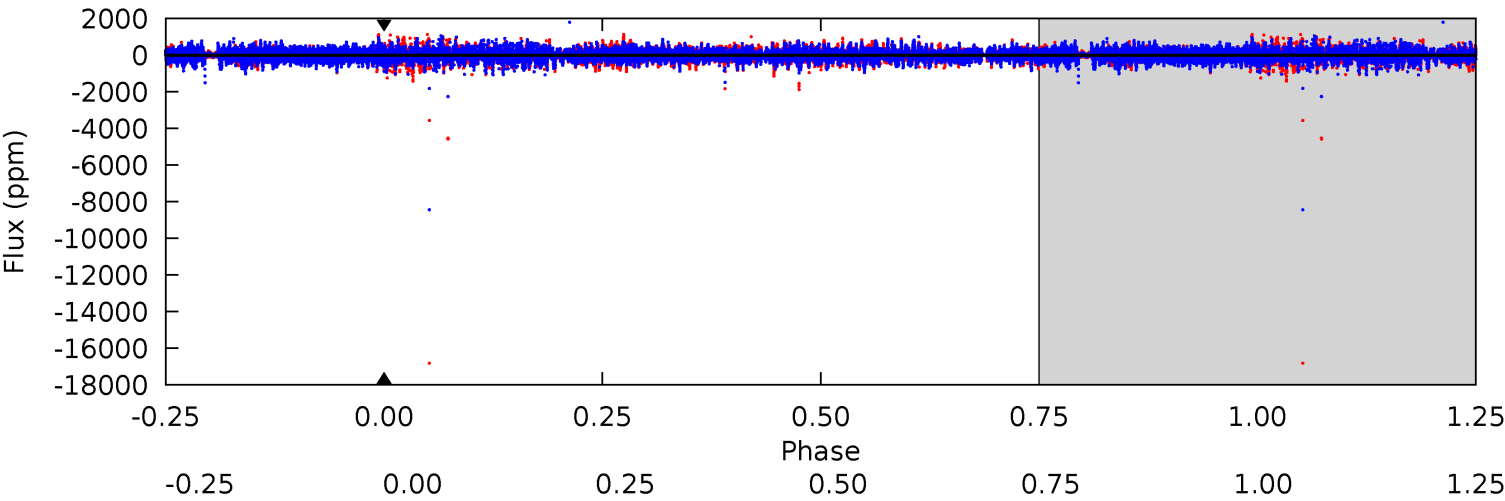
TCE 008646460-07 $P=475.754577$ Days $T_0=435.430845$ (BKJD)



DV Model-Shift Uniqueness Test

008646460-07, P = 475.754577 Days, E = 435.419332 Days

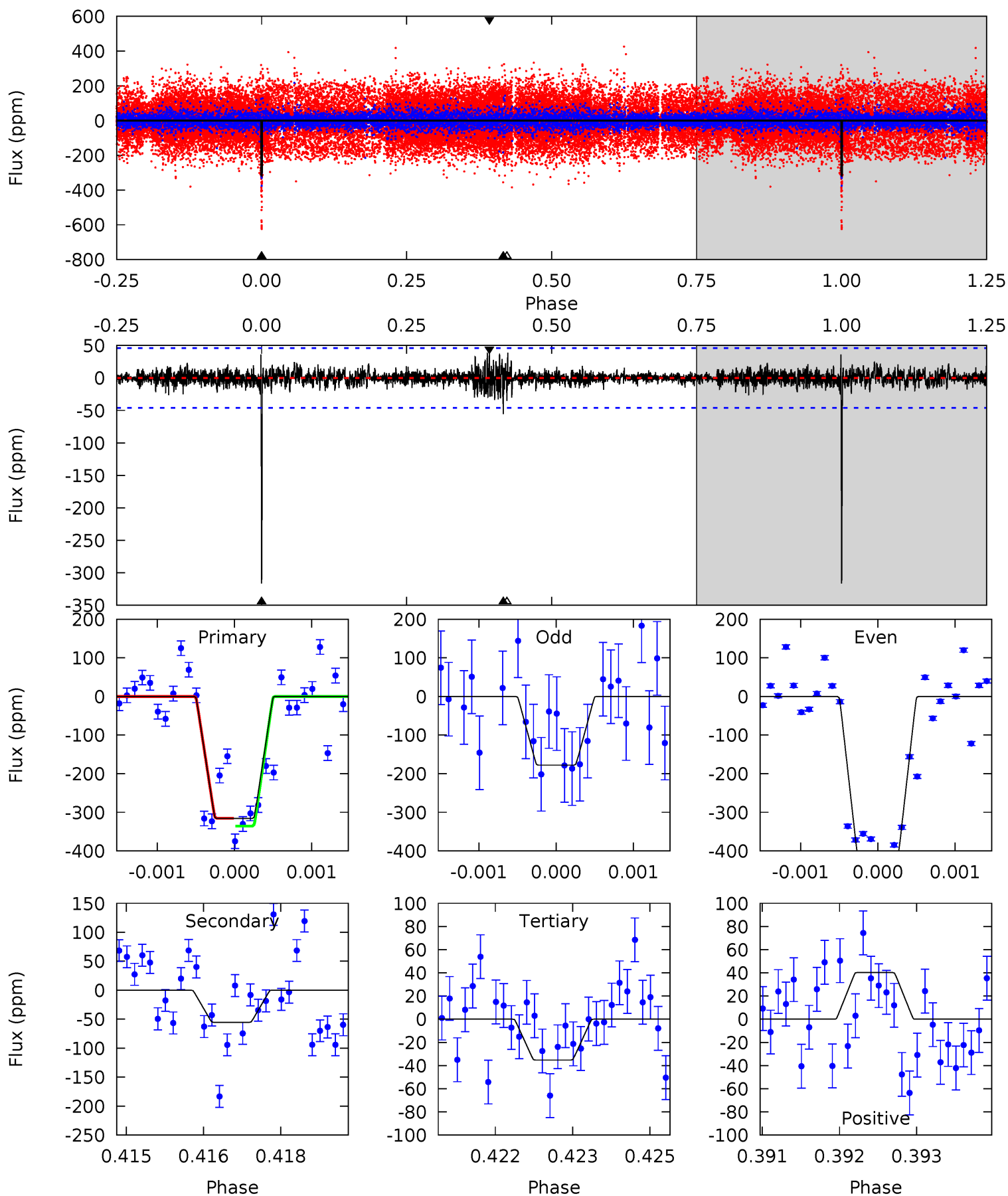
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008646460-07, P = 475.754577 Days, E = 435.430845 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.0	6.48	4.13	4.71	5.39	3.19	0.87	32.9	32.3	2.36	1.77	10.6	1.47	0.11	1.20



Stellar Parameters For KIC 008646460

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6084^{+223}_{-185}	$3.506^{+0.400}_{-0.125}$	$0.160^{+0.250}_{-0.250}$	$3.985^{+0.753}_{-1.756}$	$1.857^{+0.119}_{-0.446}$	$0.041^{+0.133}_{-0.016}$
	+4%/-3%	+11%/-4%	+156%/-156%	+19%/-44%	+6%/-24%	+321%/-38%
Source	PHO1	FLK73	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 008646460-07 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$27.89^{+31.61}_{-18.23}$	609^{+45}_{-67}	-5686^{+28141}_{-20594}	$-5504.930^{+213310.644}_{-280800.087}$
Alt.	-55 ± 9	$28.47^{+37.81}_{-20.04}$	607^{+46}_{-68}	2735^{+1164}_{-486}	80^{+842}_{-65}

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 $A_{obs} \gg 1.0$

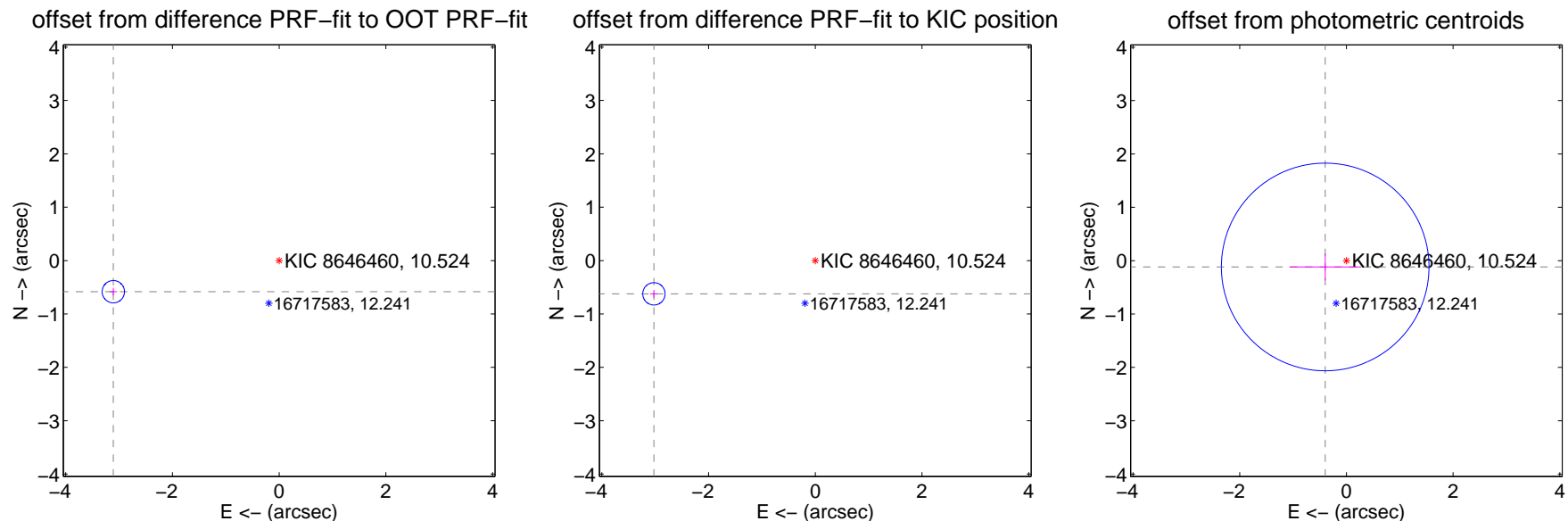
DV Centroid Data

Supplemental centroid analysis for 008646460-07. **Kepler magnitude: 10.52.** Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.162 ± 0.070	45.33	3.108 ± 0.070	-0.583 ± 0.072
PRF-fit source offset from KIC position	3.087 ± 0.070	44.26	3.024 ± 0.070	-0.623 ± 0.072
photometric centroid source offset	0.41 ± 0.65	0.64	0.40 ± 0.67	-0.12 ± 0.25



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.

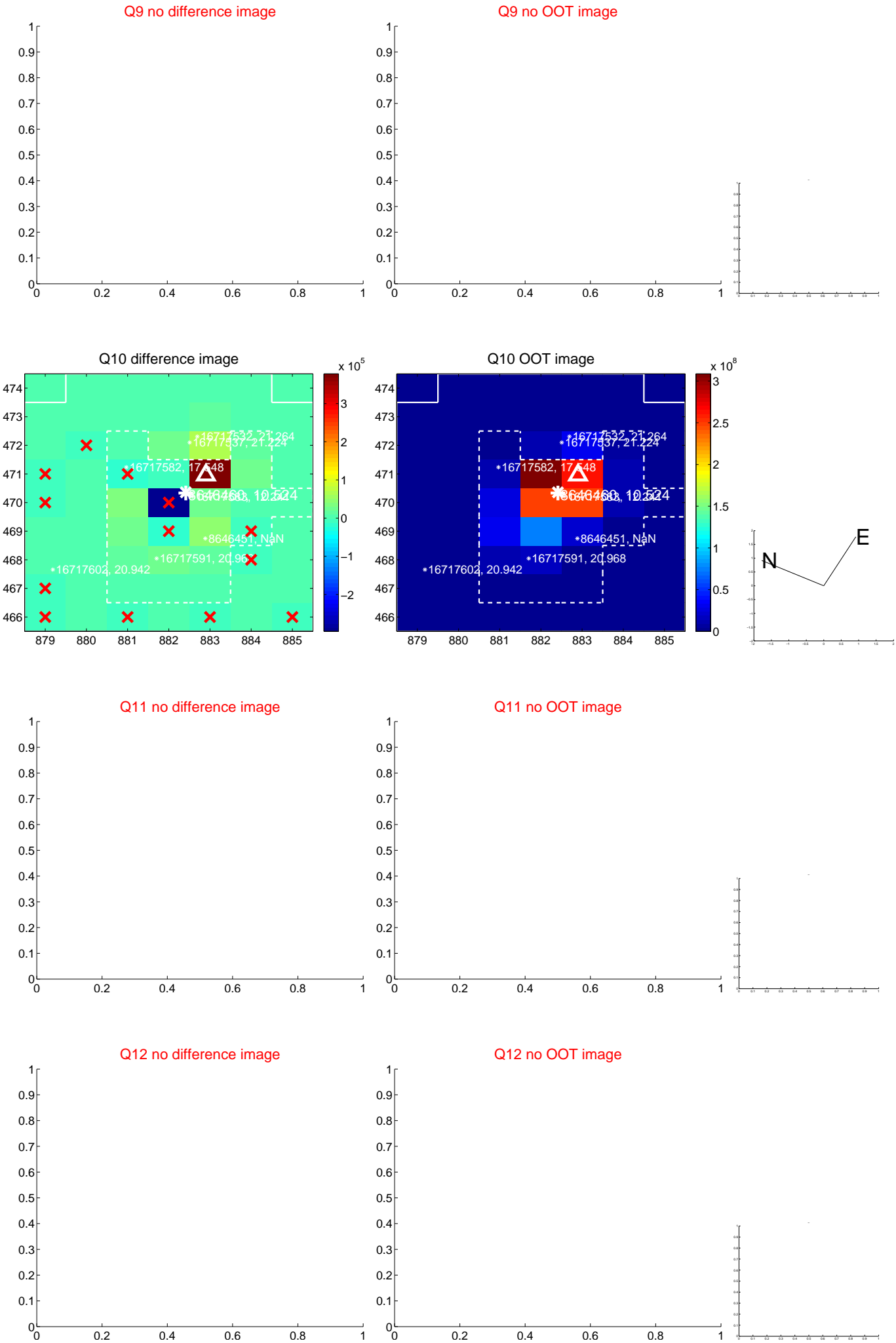
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



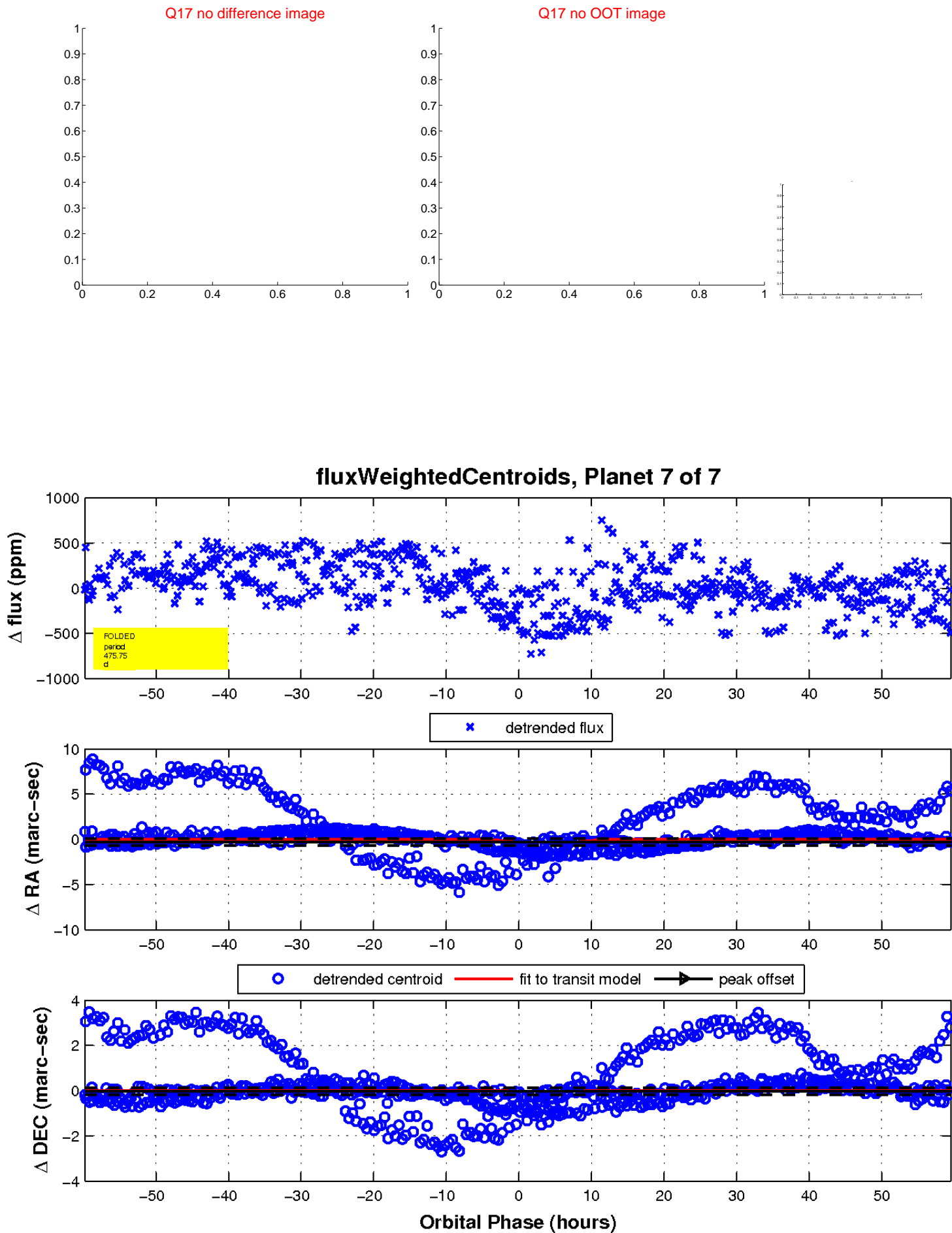
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

