

KIC 006603756

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})
006603756-01	OBS	1729.01	5.204280	135.886367	34719.1	6.210	985.0	1018.9	0.86	5332	15.89	180.15
006603756-02	OBS	No	5.204268	133.285881	1222.9	6.257	43.3	48.0	0.86	5332	3.49	180.15
006603756-03	OBS	No	223.962003	247.496542	1857.1	21.515	12.5	5.4	0.86	5332	3.99	1.20
006603756-04	OBS	No	465.786729	162.345664	2247.8	4.016	10.9	8.4	0.86	5332	5.00	0.45
006603756-05	OBS	No	500.562859	429.432864	1919.4	2.611	10.5	7.9	0.86	5332	4.17	0.41
006603756-06	OBS	No	167.005236	137.422454	1855.3	2.500	10.4	-1.0	0.86	5332	3.63	1.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006603756-01	OBS	PC	0.92	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—PLANET_OCCULT_ALT—HAS_SEC_TCE
006603756-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
006603756-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
006603756-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006603756-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006603756-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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.

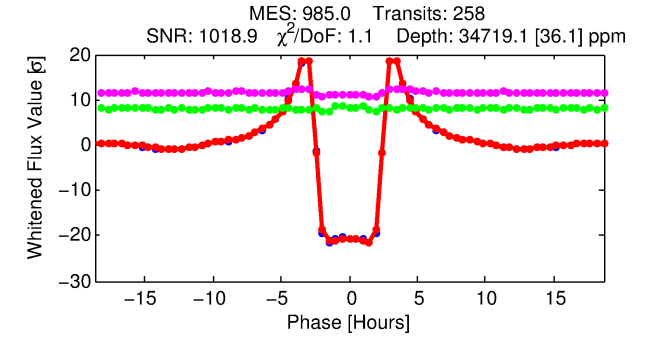
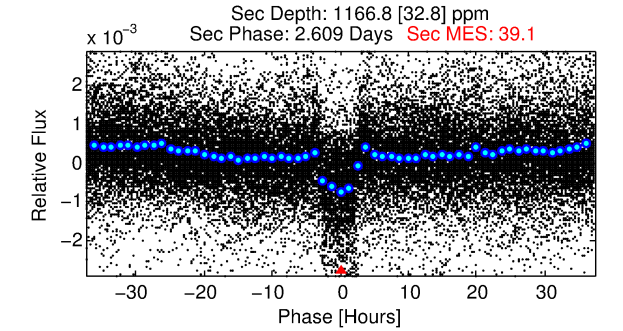
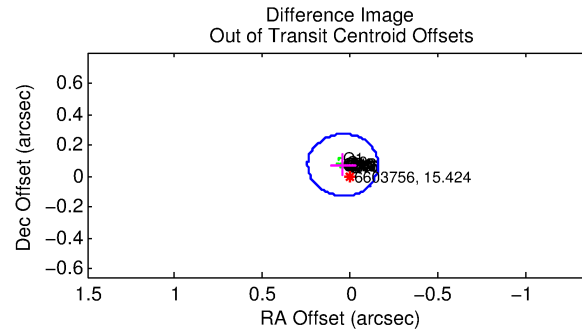
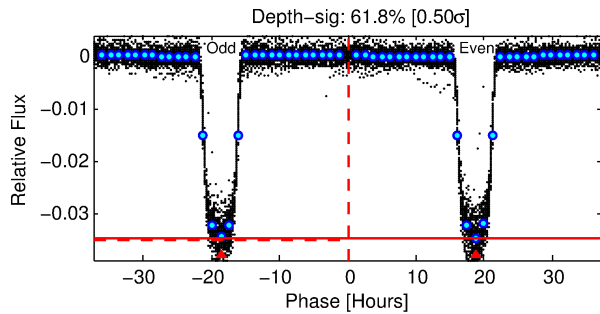
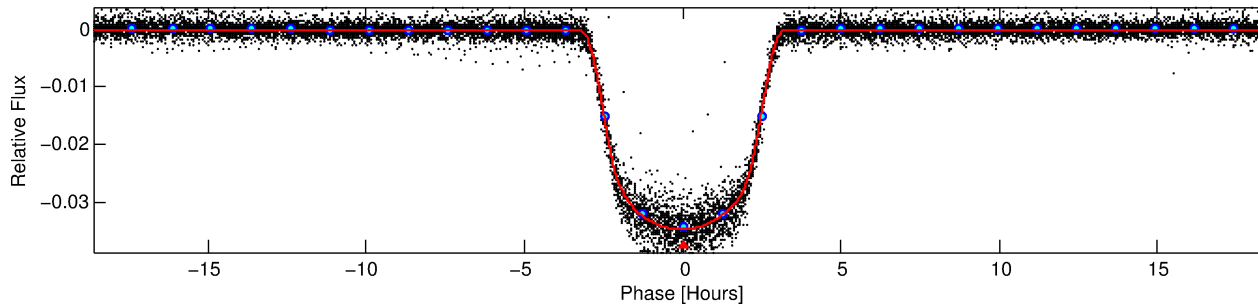
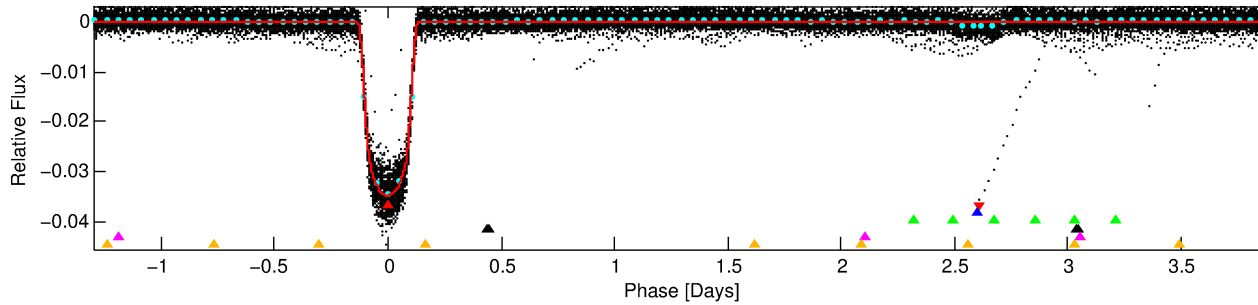
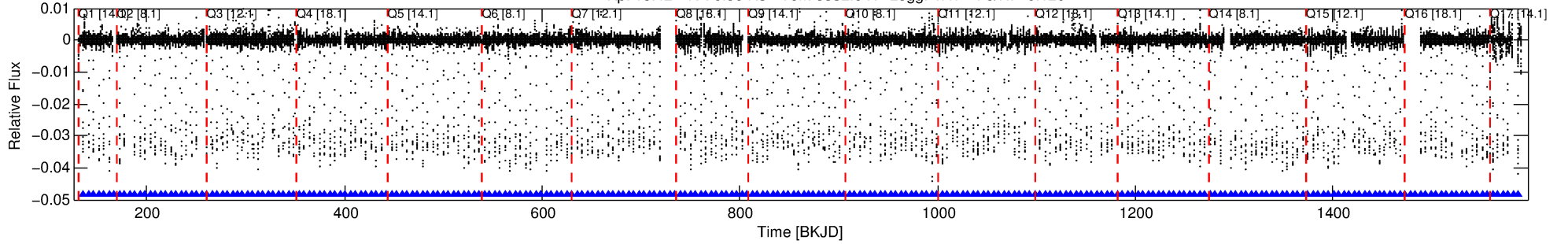
Ephemeris Match Information For 006603756-01

No Significant Match Found

DV One-Page Summary

KIC: 6603756 Candidate: 1 of 6 Period: 5.204 d
KOI: K01729.01 Corr: 0.999

Kp: 15.42 R*: 0.86 Rs Teff: 5332.0 K Logg: 4.47 Fe/H: -0.120



DV Fit Results:

Period = 5.20428 [0.00000] d
Epoch = 135.8864 [0.0001] BKJD
Rp/R* = 0.1693 [0.0002]
a/R* = 7.29 [0.02]
b = 0.29 [0.01]
Seff = 180.15 [44.52]
Teq = 934 [58] K
Rp = 15.89 [2.55] Re
a = 0.0545 [0.0077] AU
Ag = 7.56 [1.62] [4.04σ]
Teffp = 2395 [77] K [15.19σ]

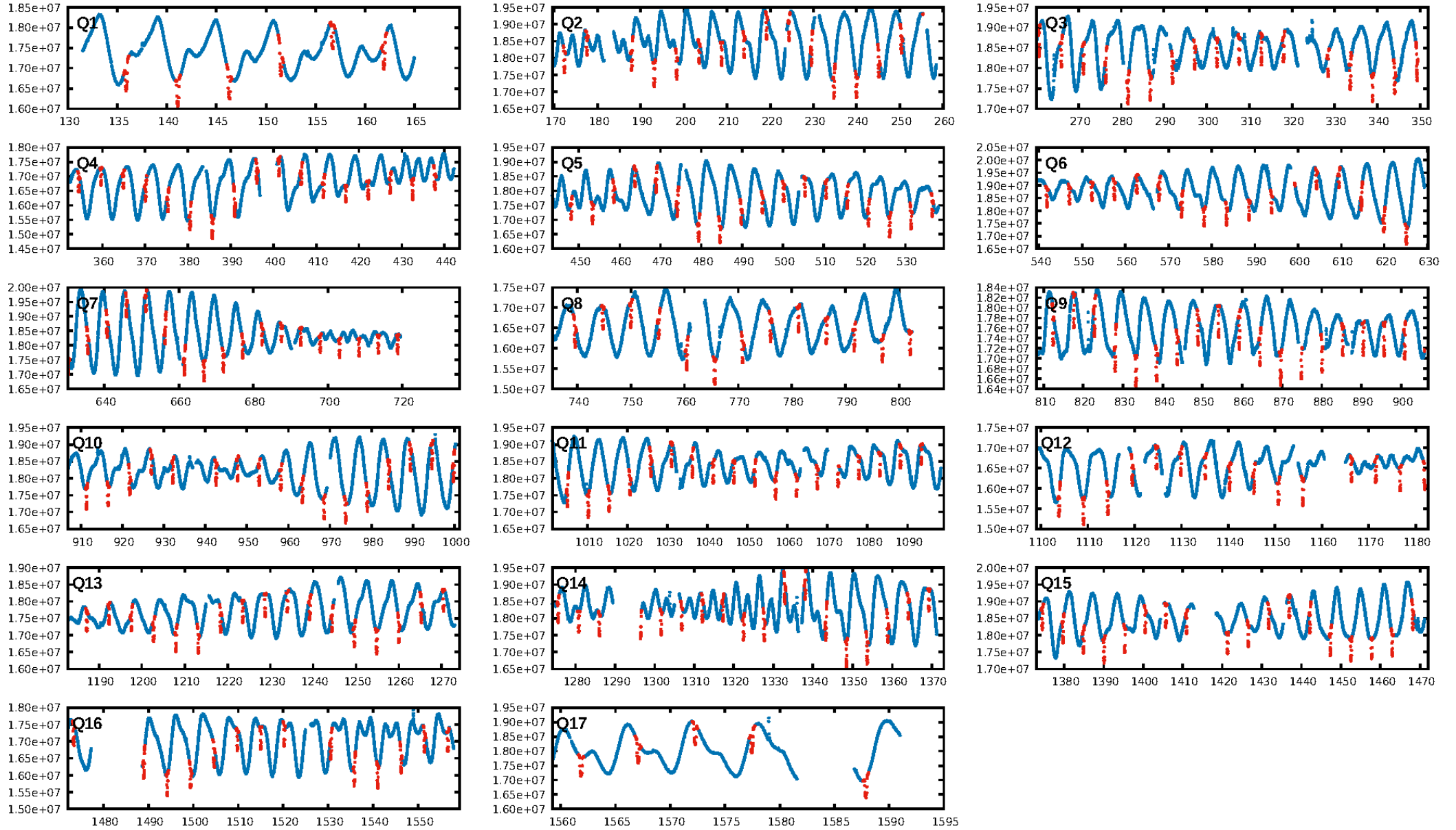
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [580.04σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [247/247]
GhostDiagnostic-chr: 1.233
Centroid-sig: 0.0%
Centroid-so: 0.058 arcsec [12.66σ]
OotOffset-rm: 0.084 arcsec [1.26σ]
KicOffset-rm: 0.058 arcsec [0.85σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

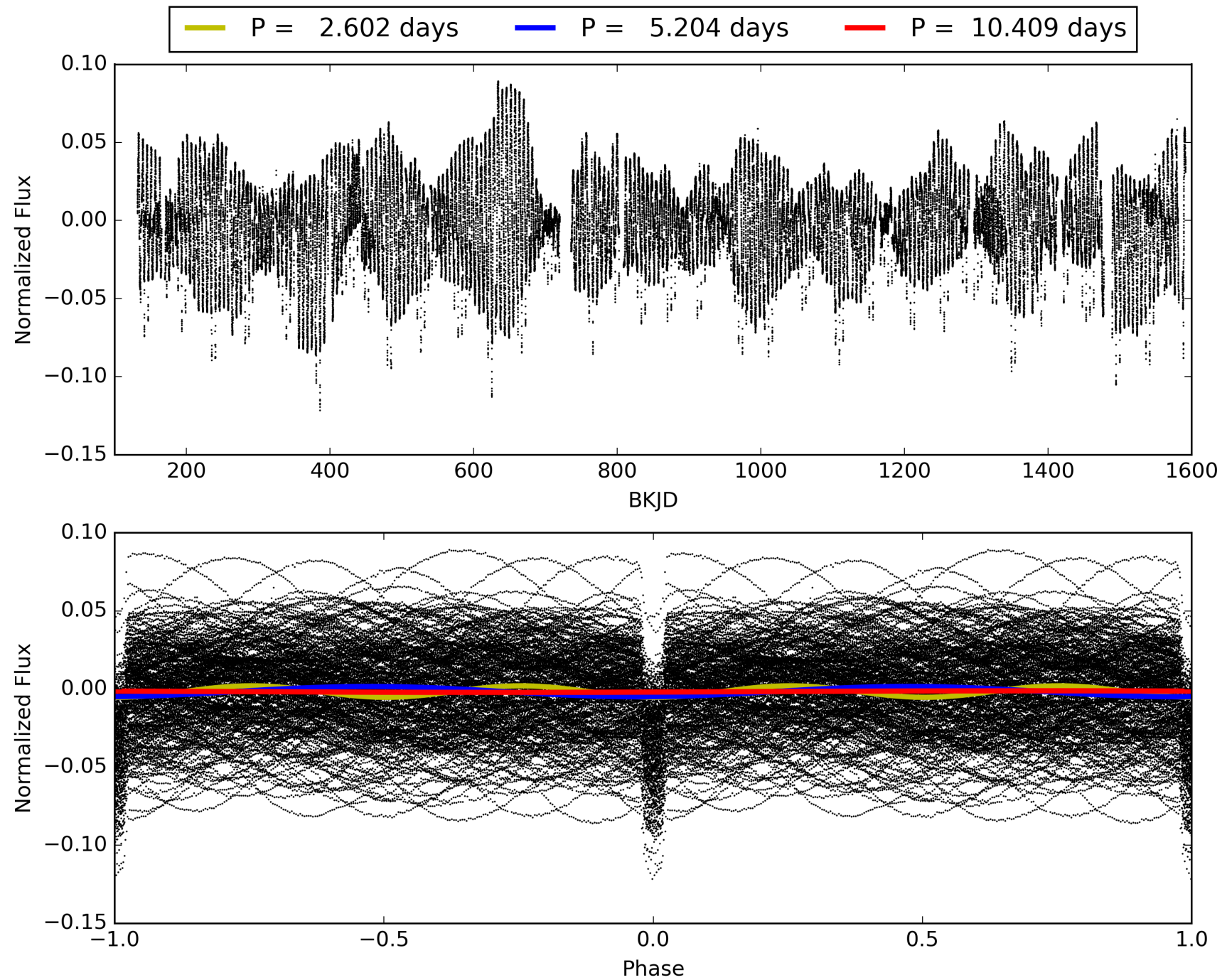
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:17:04 Z

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

TCE 006603756-01, PDC Light Curves

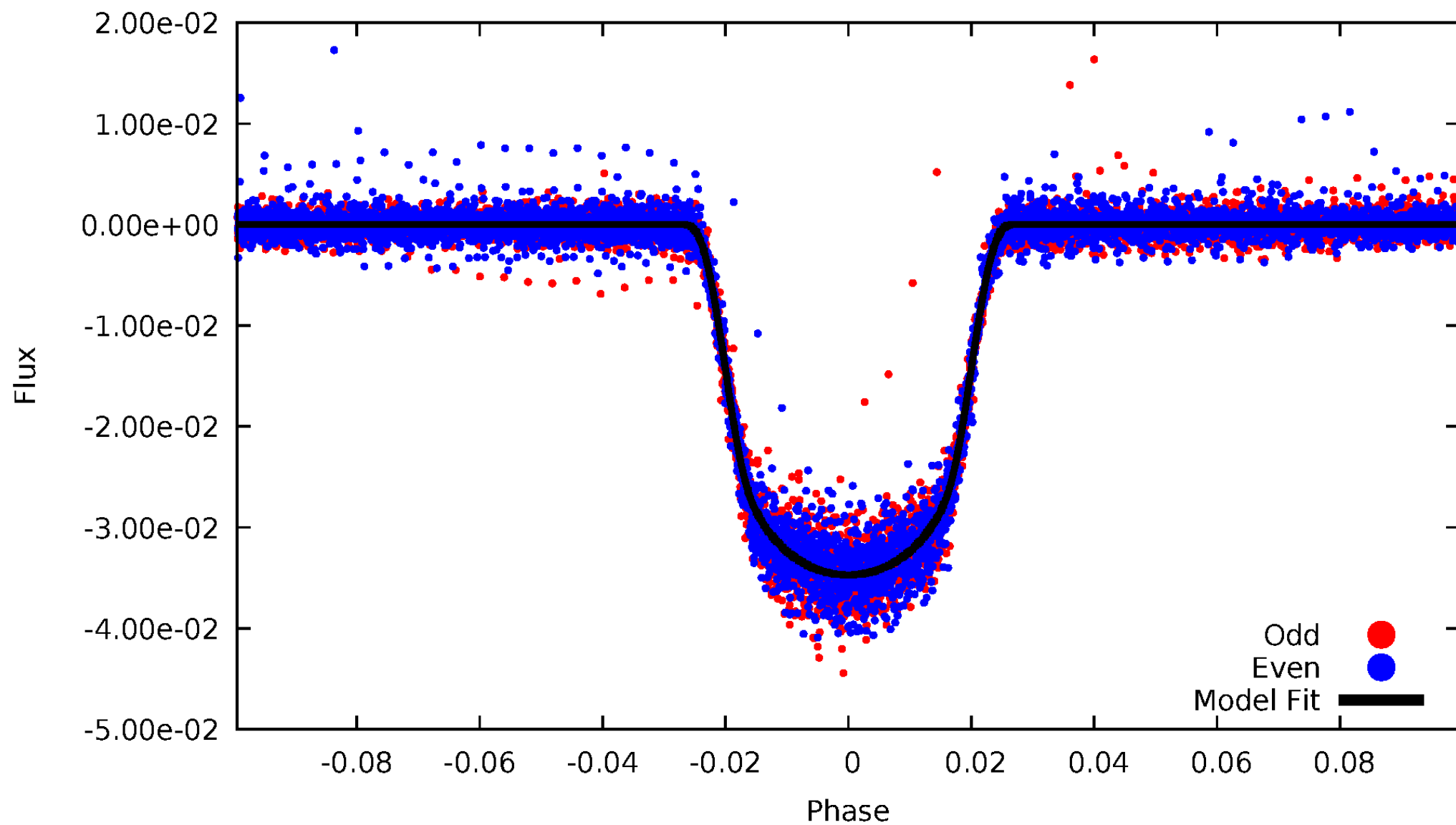


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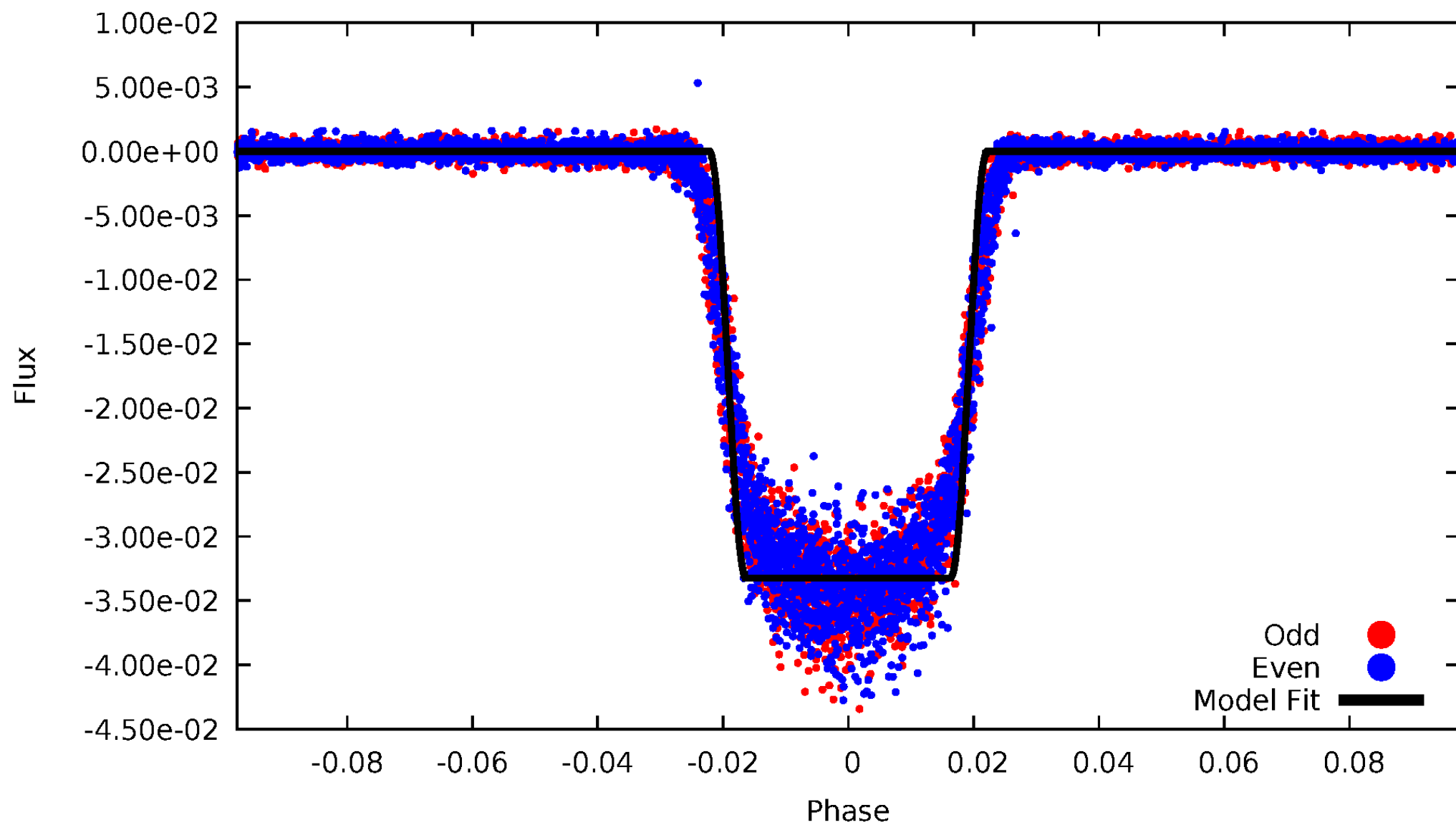
DV Odd/Even

TCE 006603756-01



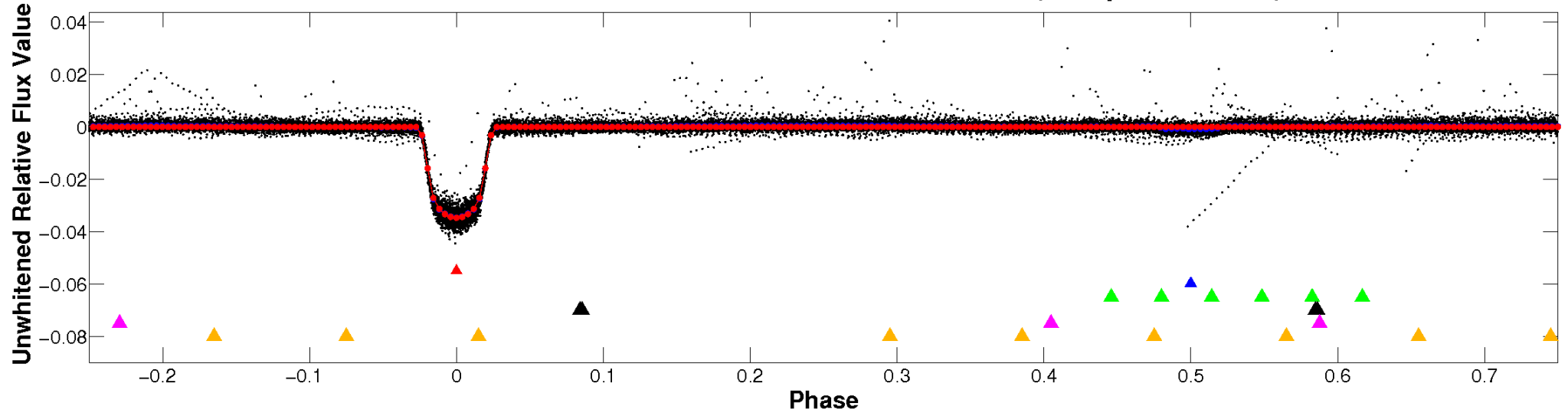
ALT Odd/Even

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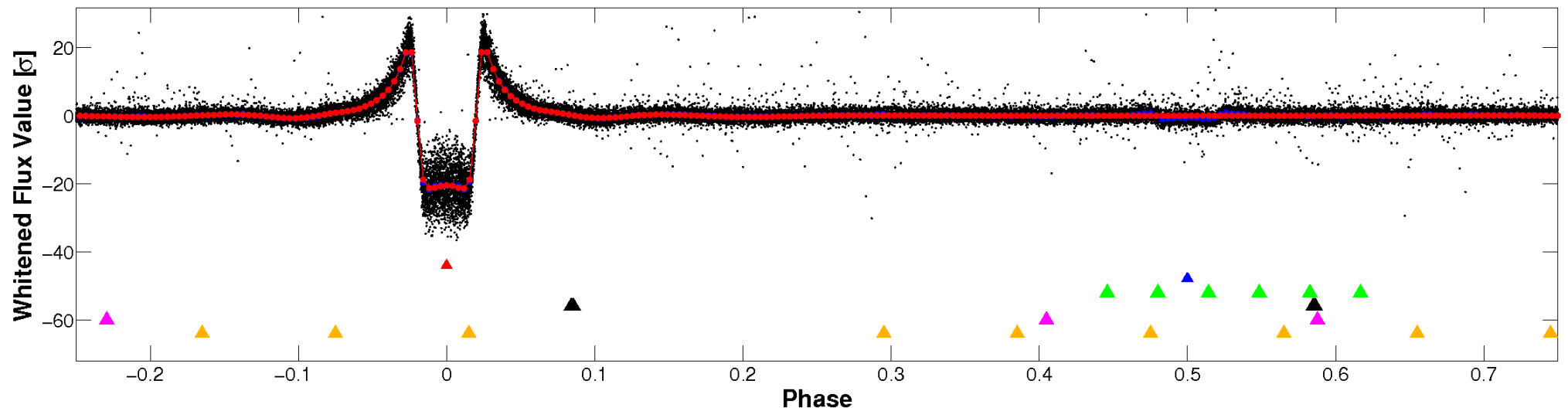


Non-Whitened Vs. Whitened Light Curve

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

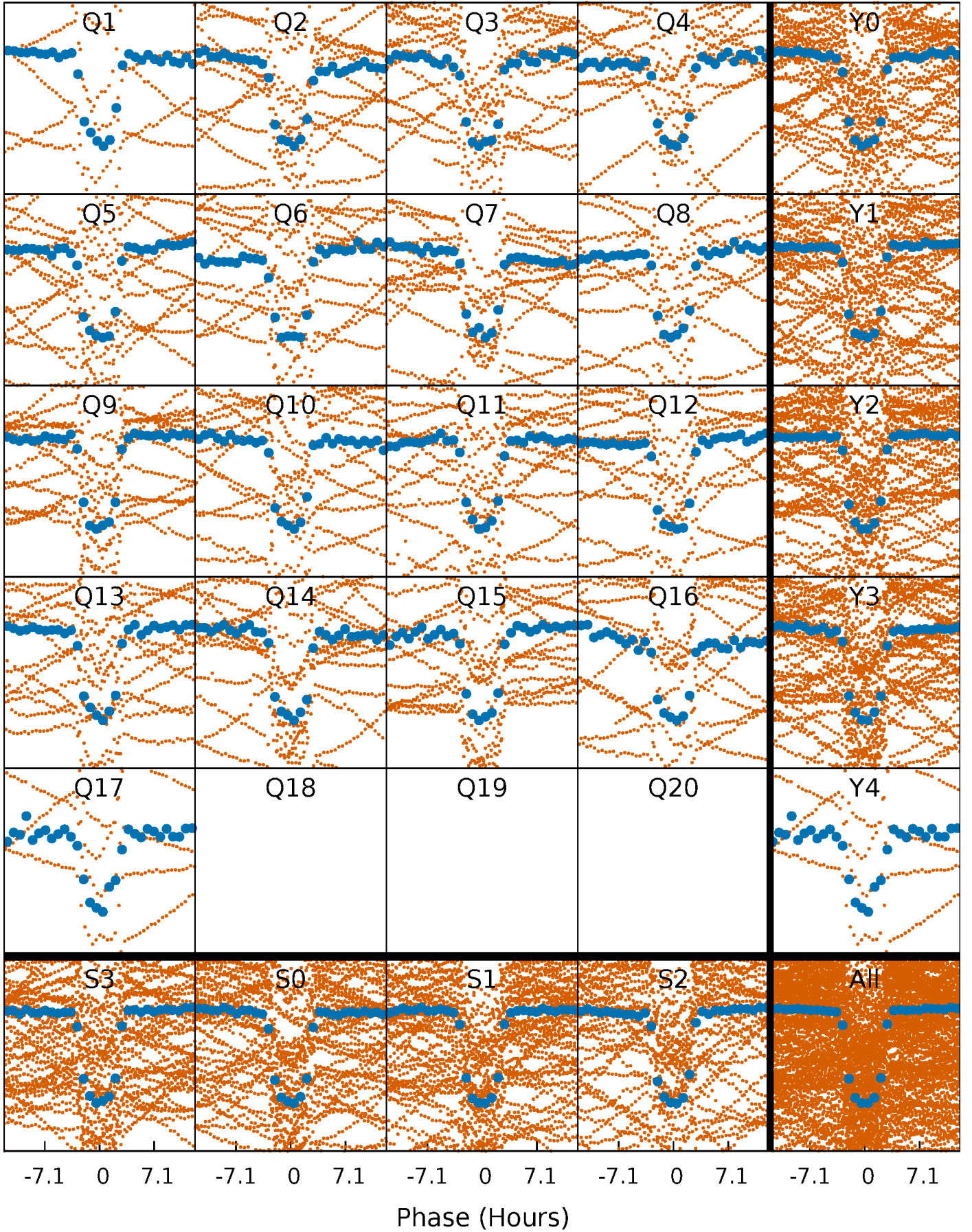


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



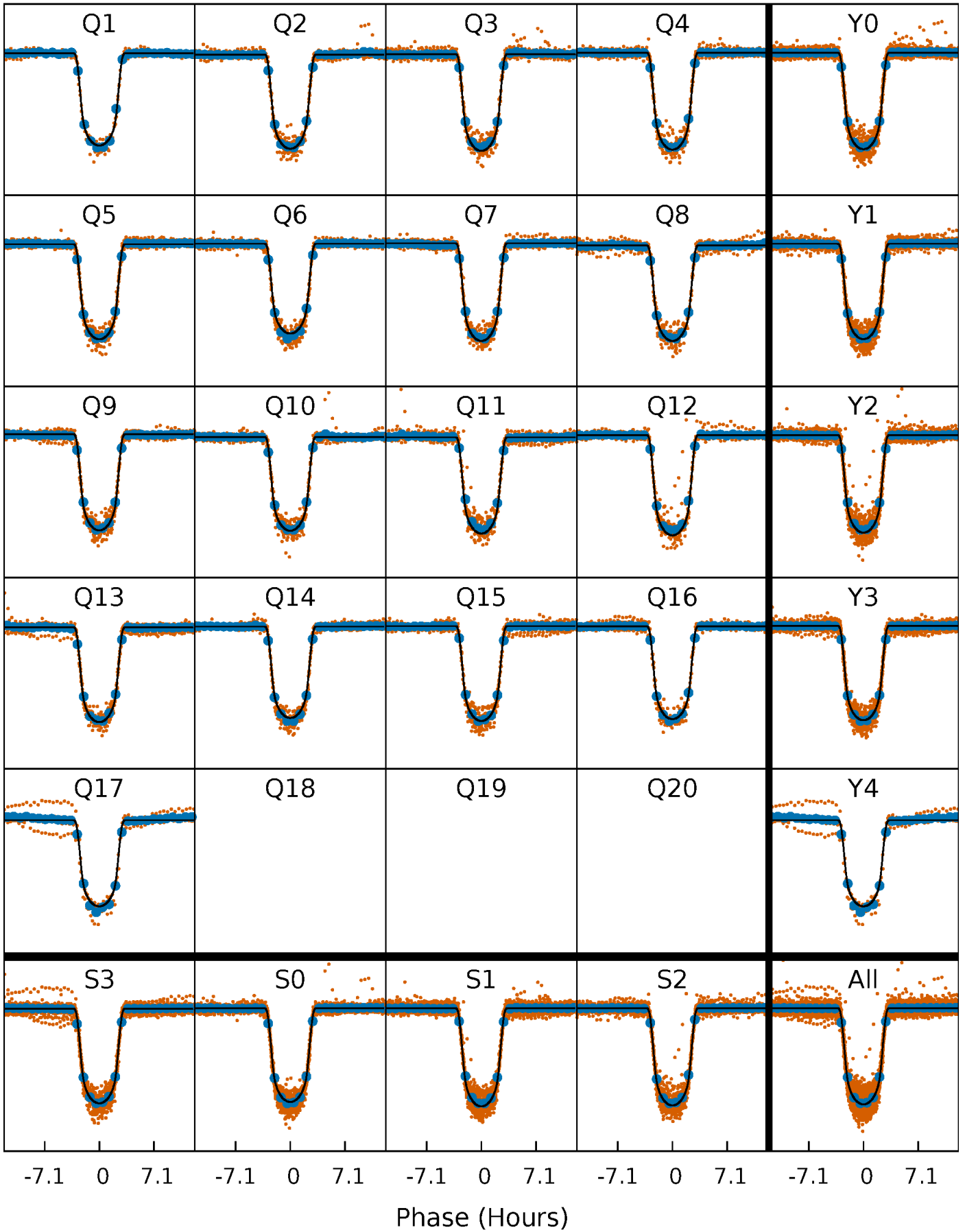
PDC Quarter-Phased Transit Curves

TCE 006603756-01 P= 5.204280 Days $T_0=135.886367$ (BKJD)



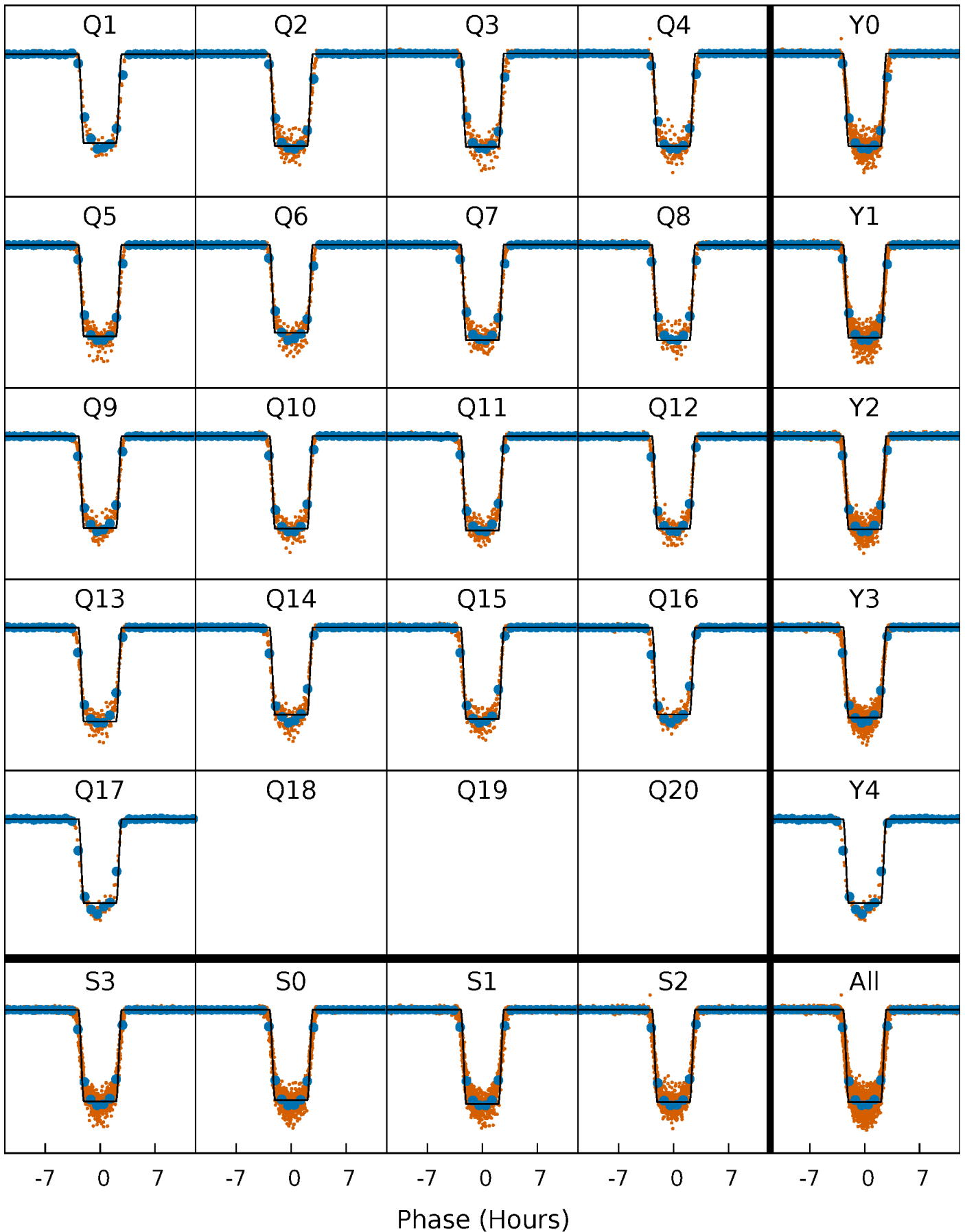
DV Quarter-Phased Transit Curves

TCE 006603756-01 P= 5.204280 Days $T_0=135.886367$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

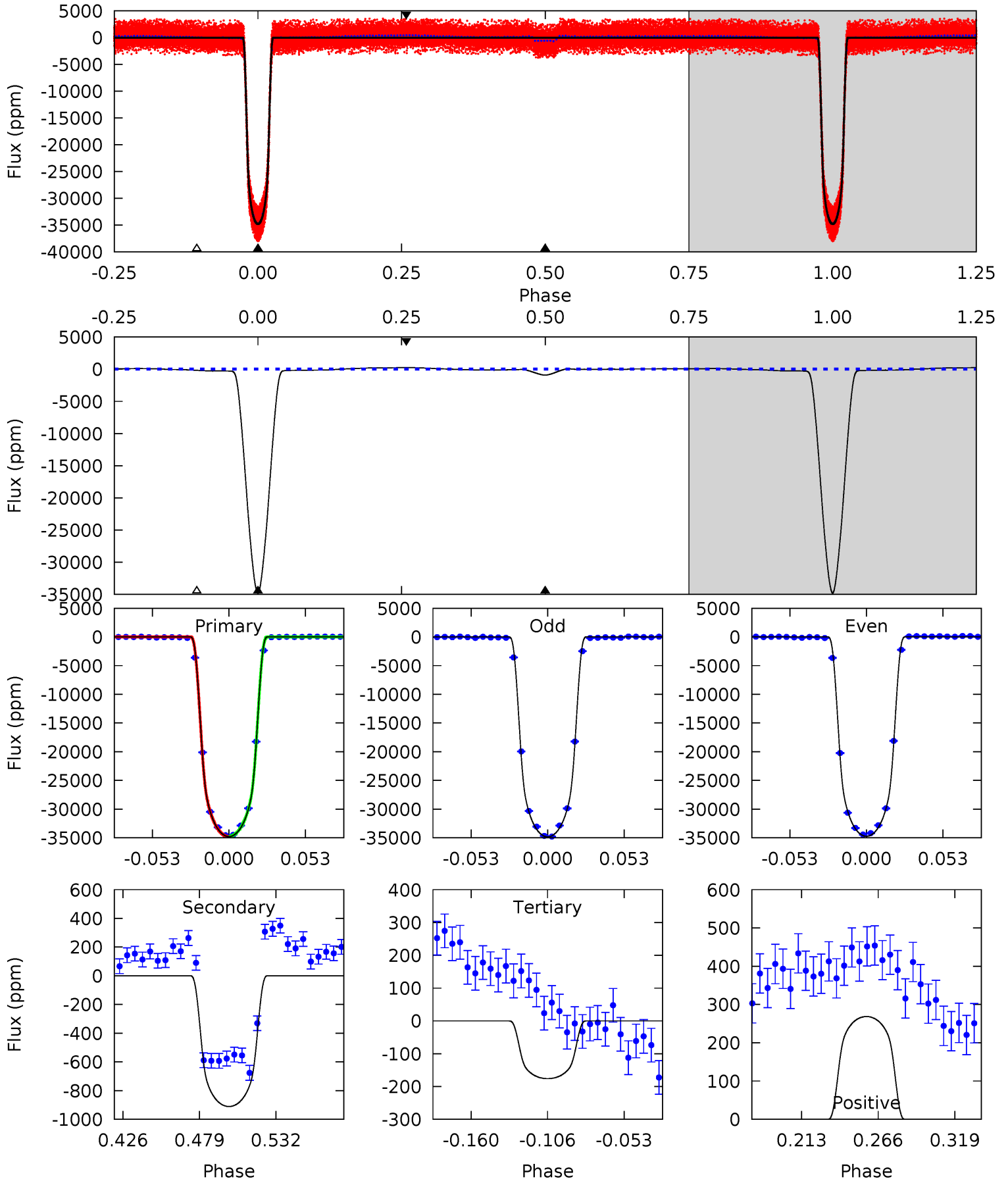
TCE 006603756-01 P= 5.204337 Days $T_0=135.878717$ (BKJD)



DV Model-Shift Uniqueness Test

006603756-01, P = 5.204280 Days, E = 130.682087 Days

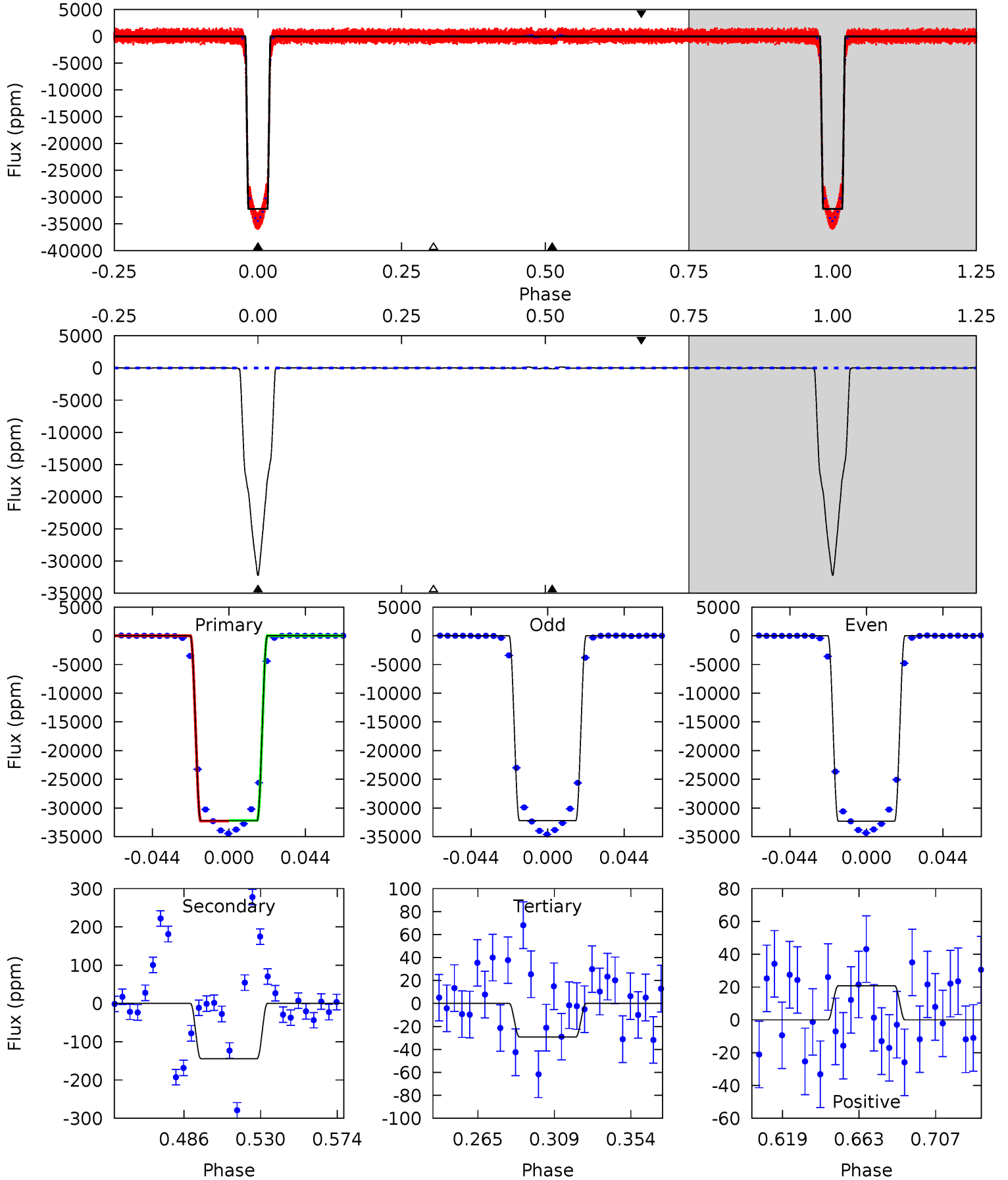
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2080	54.5	10.5	16.1	4.70	1.93	7.90	2069	2064	43.9	38.4	2.85	1.00	0.01	2.14



Alt Model-Shift Uniqueness Test

006603756-01, P = 5.204337 Days, E = 130.674380 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2824	12.6	2.56	1.82	4.73	2.01	1.01	2822	2822	10.1	10.8	5.47	1.00	0.01	4.32



Stellar Parameters For KIC 006603756

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5332^{+167}_{-167}	$4.471^{+0.108}_{-0.120}$	$-0.120^{+0.300}_{-0.300}$	$0.860^{+0.138}_{-0.113}$	$0.798^{+0.113}_{-0.061}$	$1.766^{+0.865}_{-0.624}$
	+3%/-3%	+2%/-3%	+250%/-250%	+16%/-13%	+14%/-8%	+49%/-35%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006603756-01 / KOI 1729.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-911 ± 17	$15.98^{+1.57}_{-1.15}$	1306^{+72}_{-64}	2912^{+54}_{-60}	$5.882^{+0.894}_{-0.871}$
Alt.	-144 ± 11	$17.34^{+1.61}_{-1.31}$	1311^{+66}_{-62}	2164^{+51}_{-56}	$0.789^{+0.149}_{-0.127}$

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 $A_{obs} \gg 1.0$

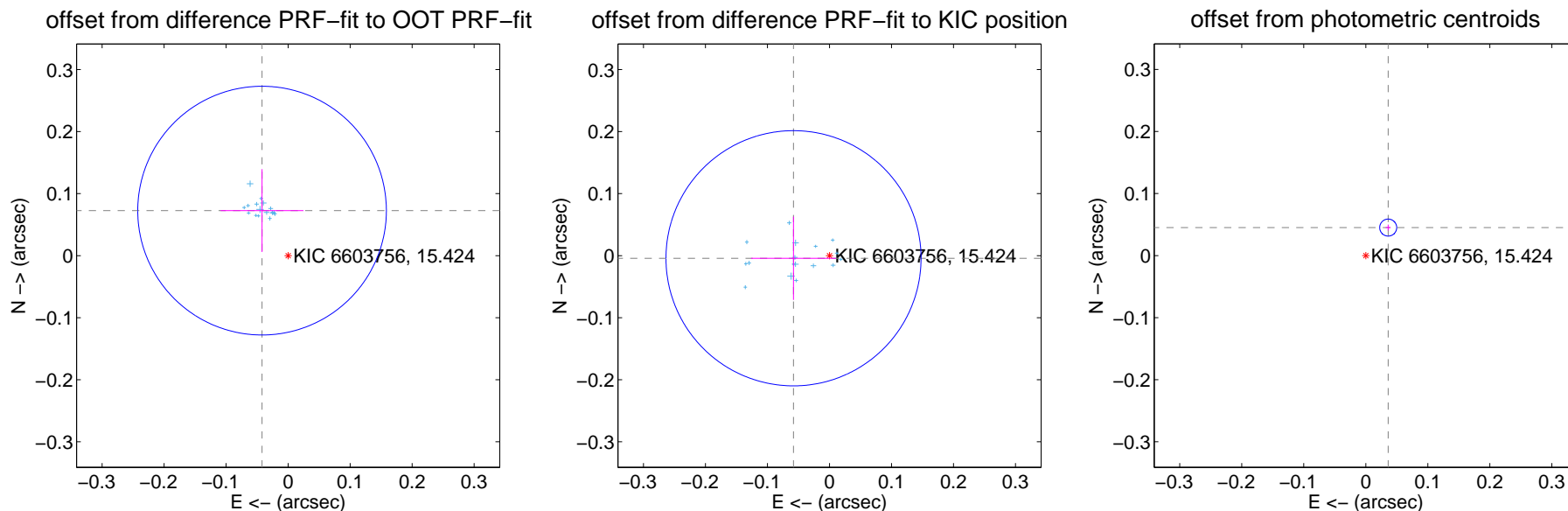
DV Centroid Data

Supplemental centroid analysis for 006603756-01. Kepler magnitude: 15.42. Transit SNR 1018.87

There are 17 quarters with good PRF difference image offsets

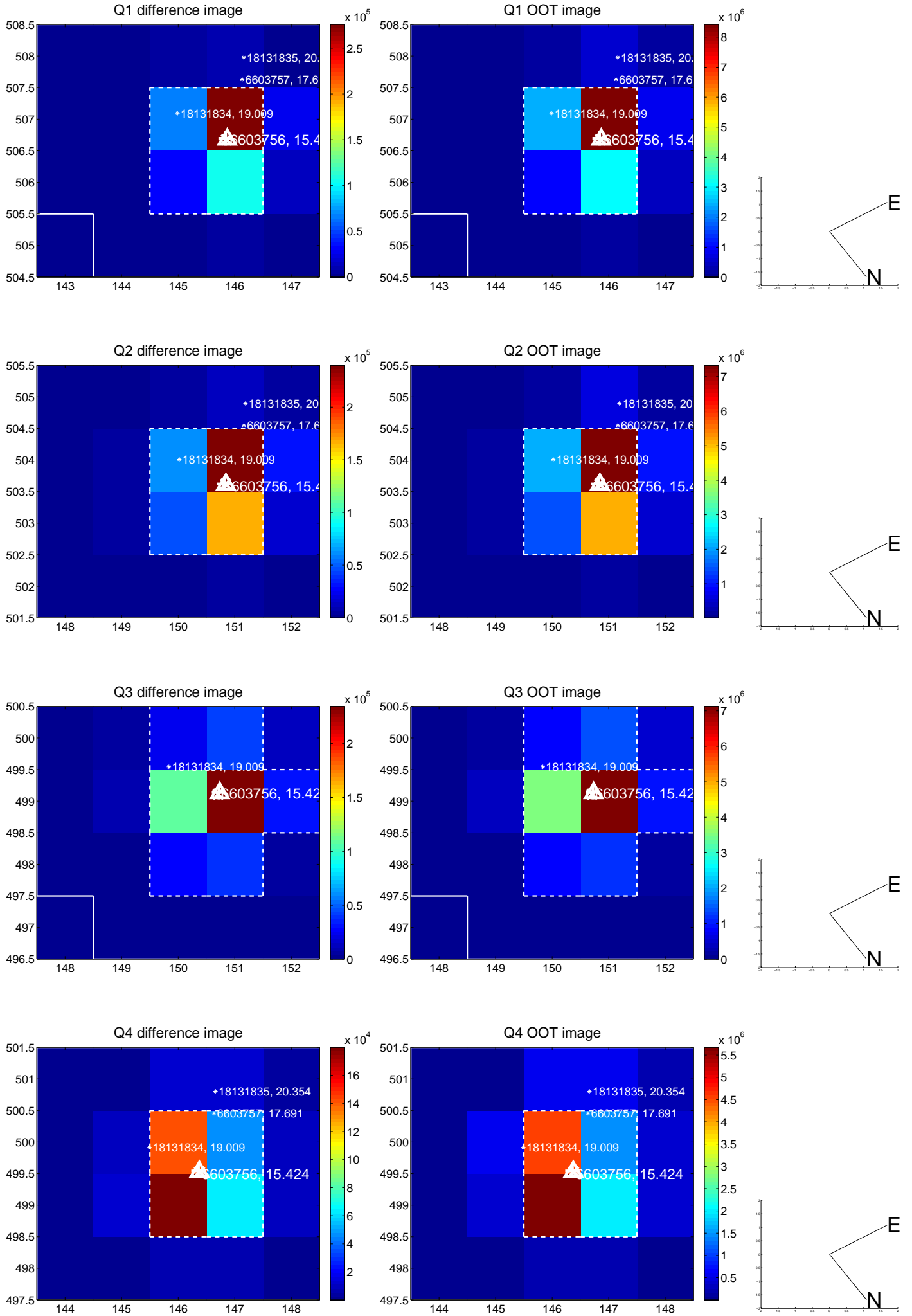
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.084 ± 0.067	1.26	0.042 ± 0.067	0.073 ± 0.067
PRF-fit source offset from KIC position	0.058 ± 0.069	0.85	0.058 ± 0.069	-0.004 ± 0.067
photometric centroid source offset	0.06 ± 0.00	12.66	-0.04 ± 0.00	0.05 ± 0.00

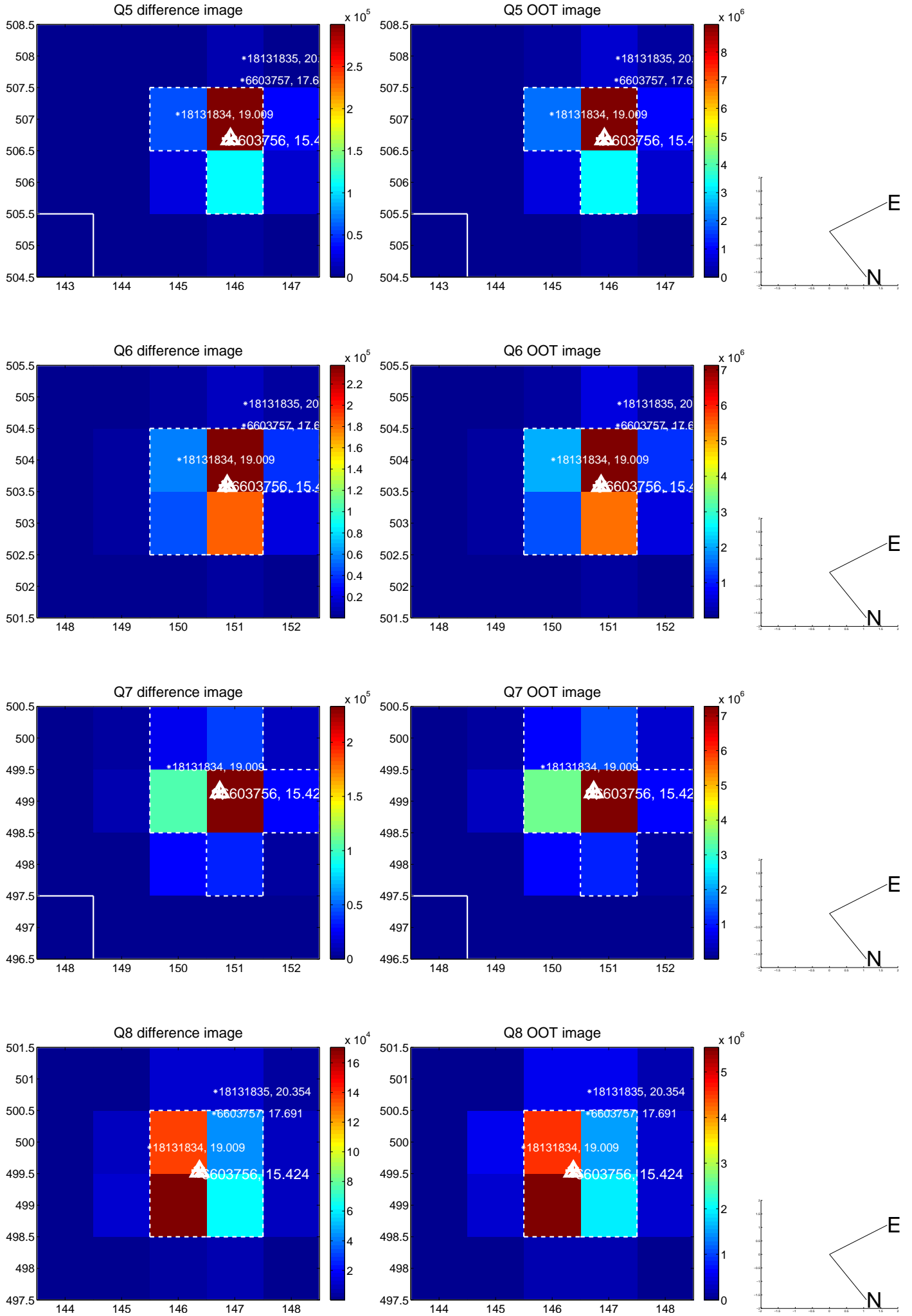


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

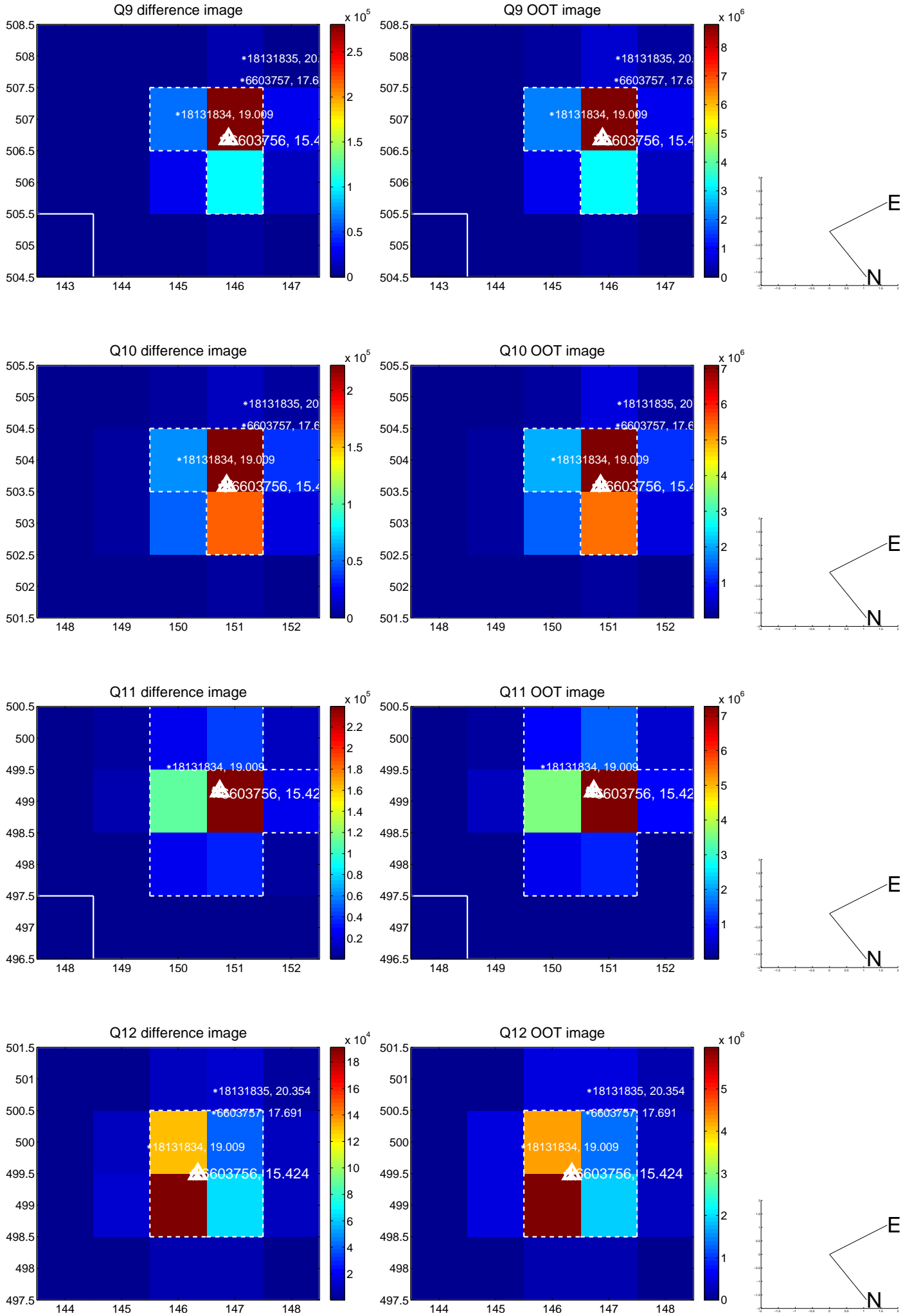
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



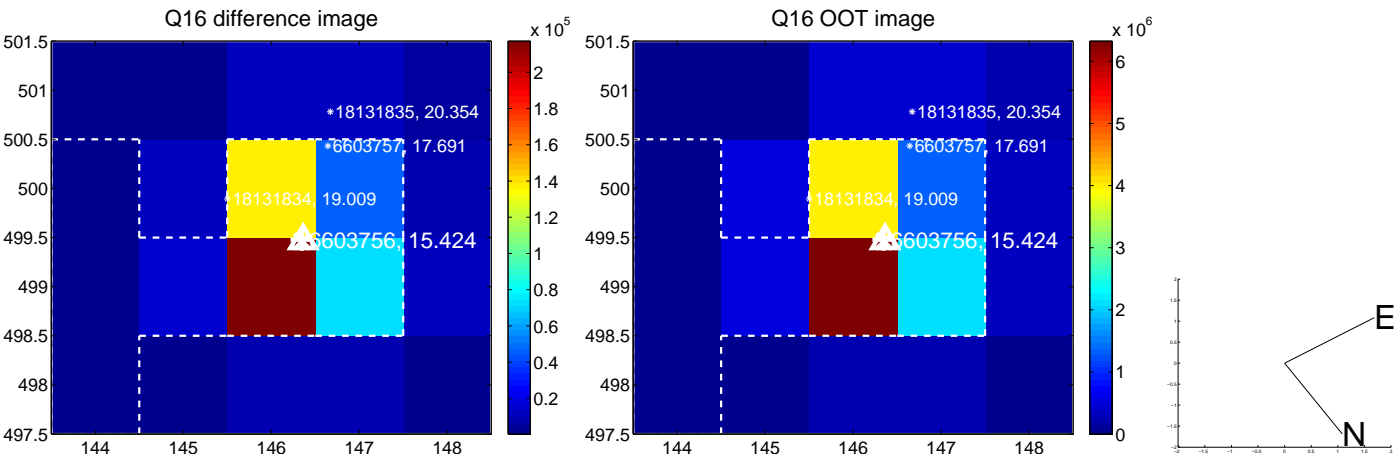
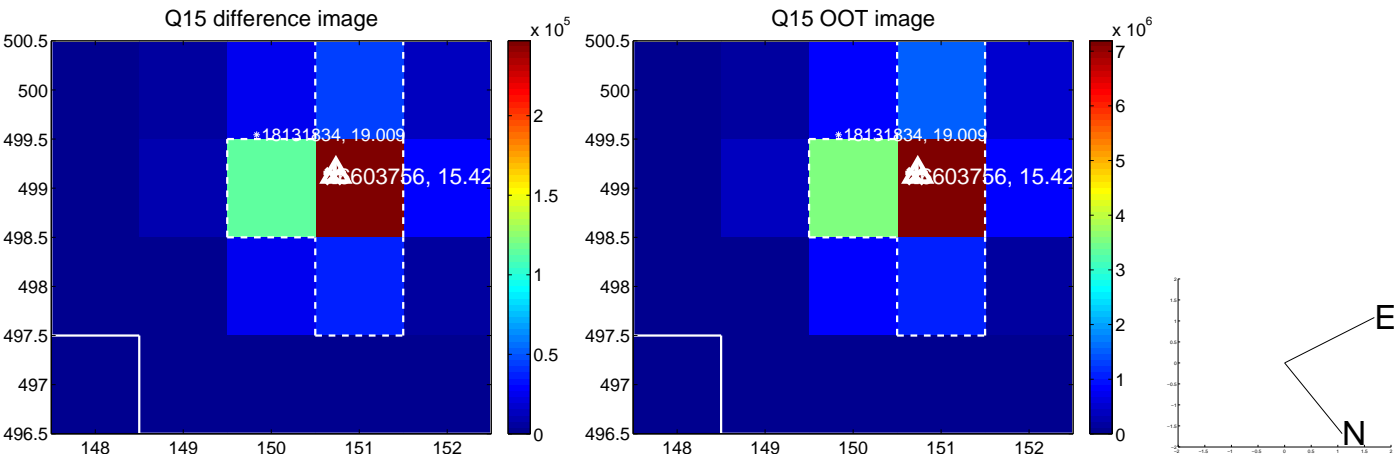
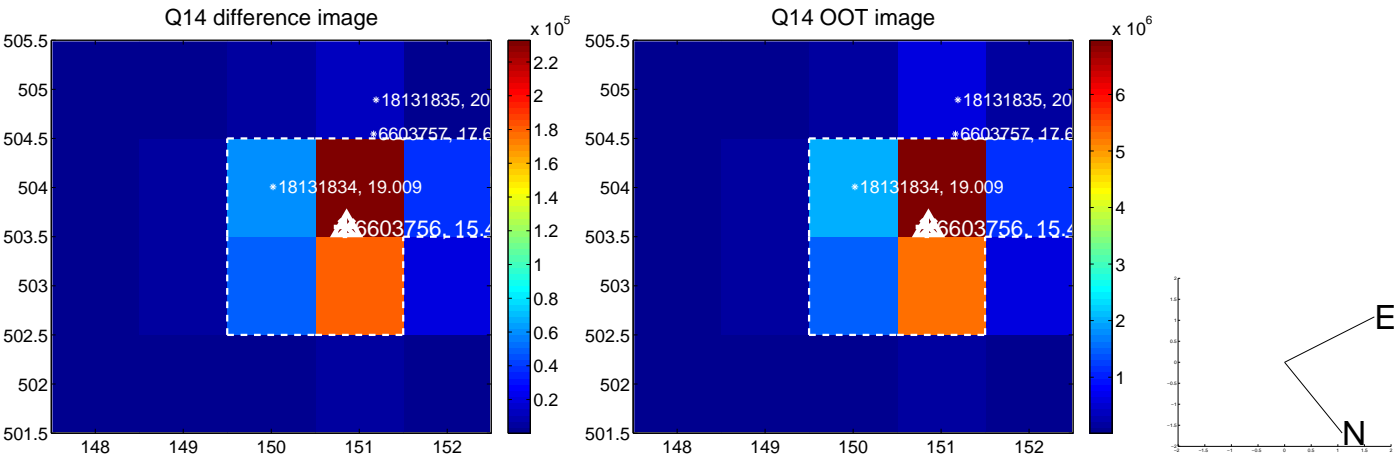
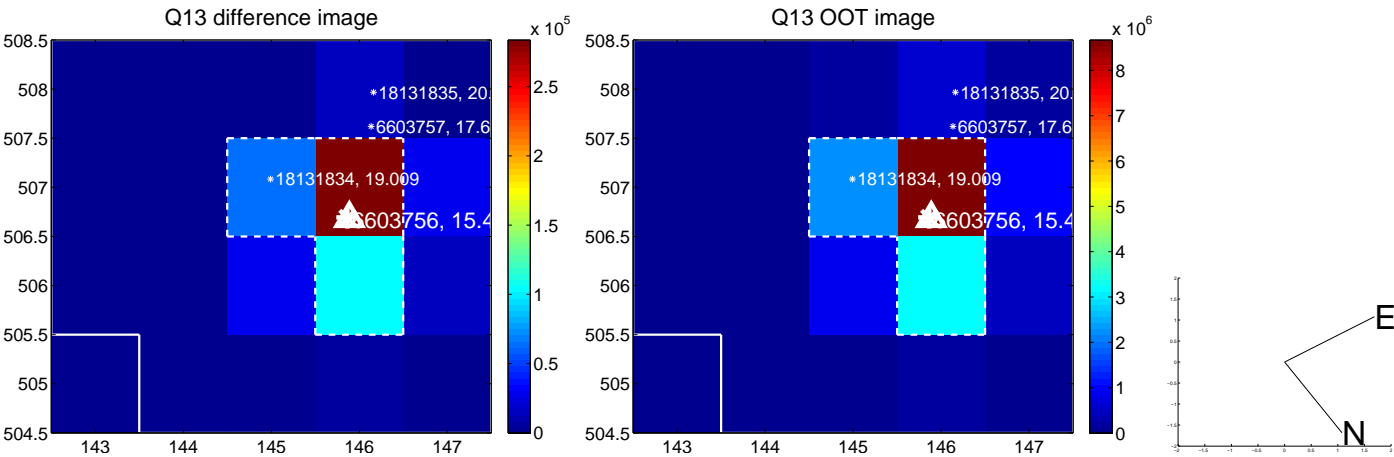
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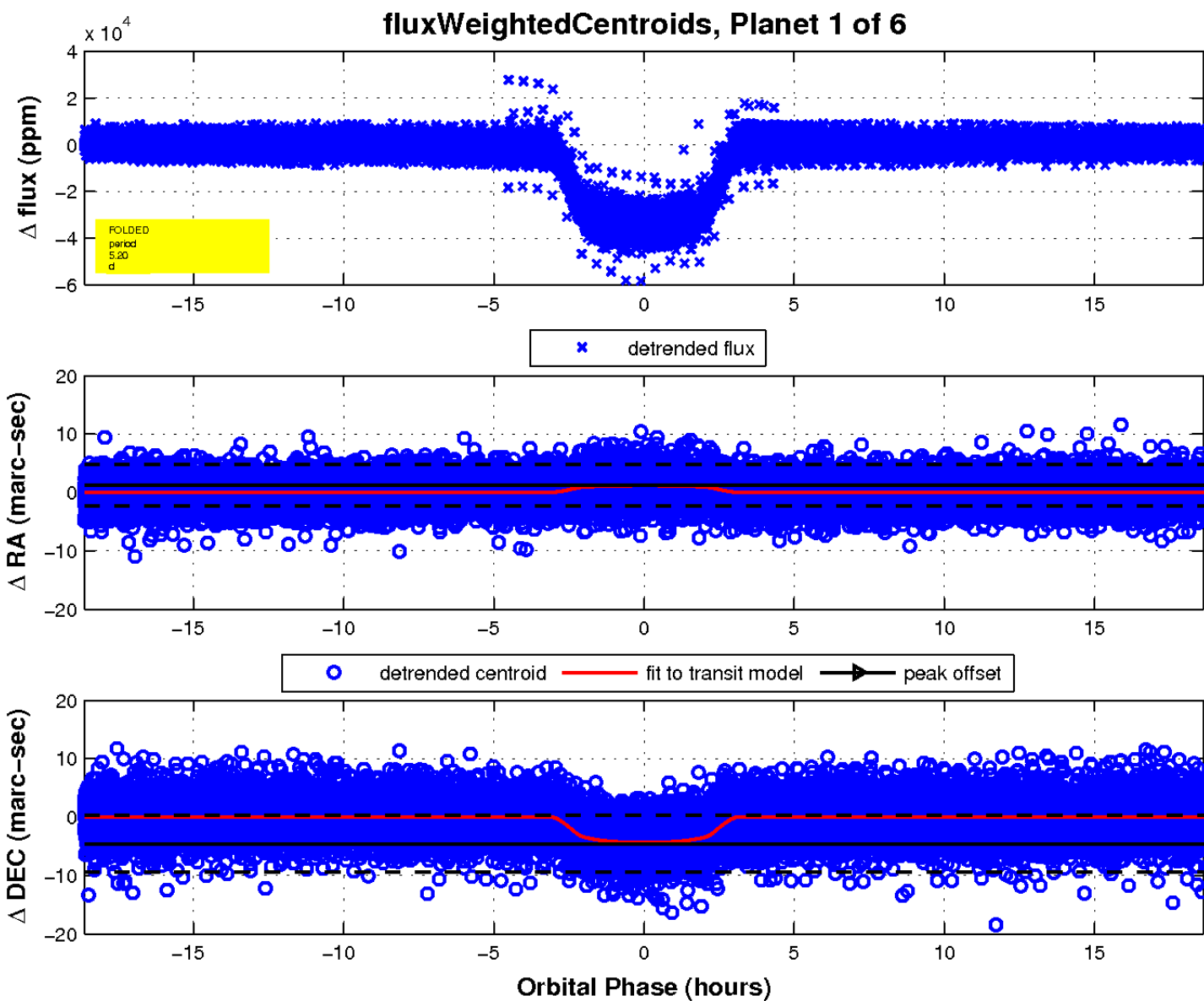
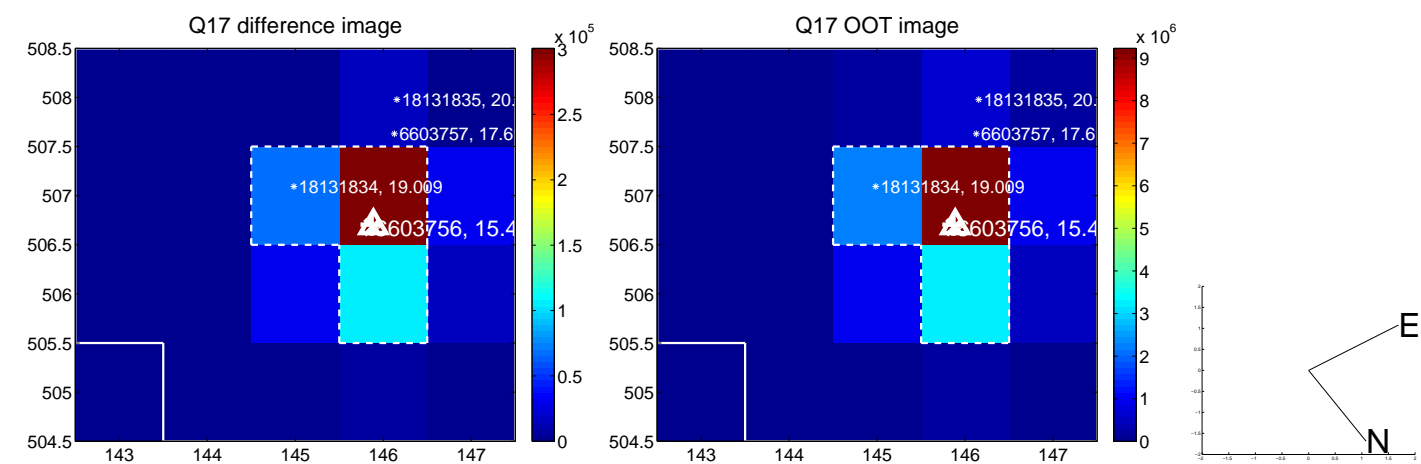
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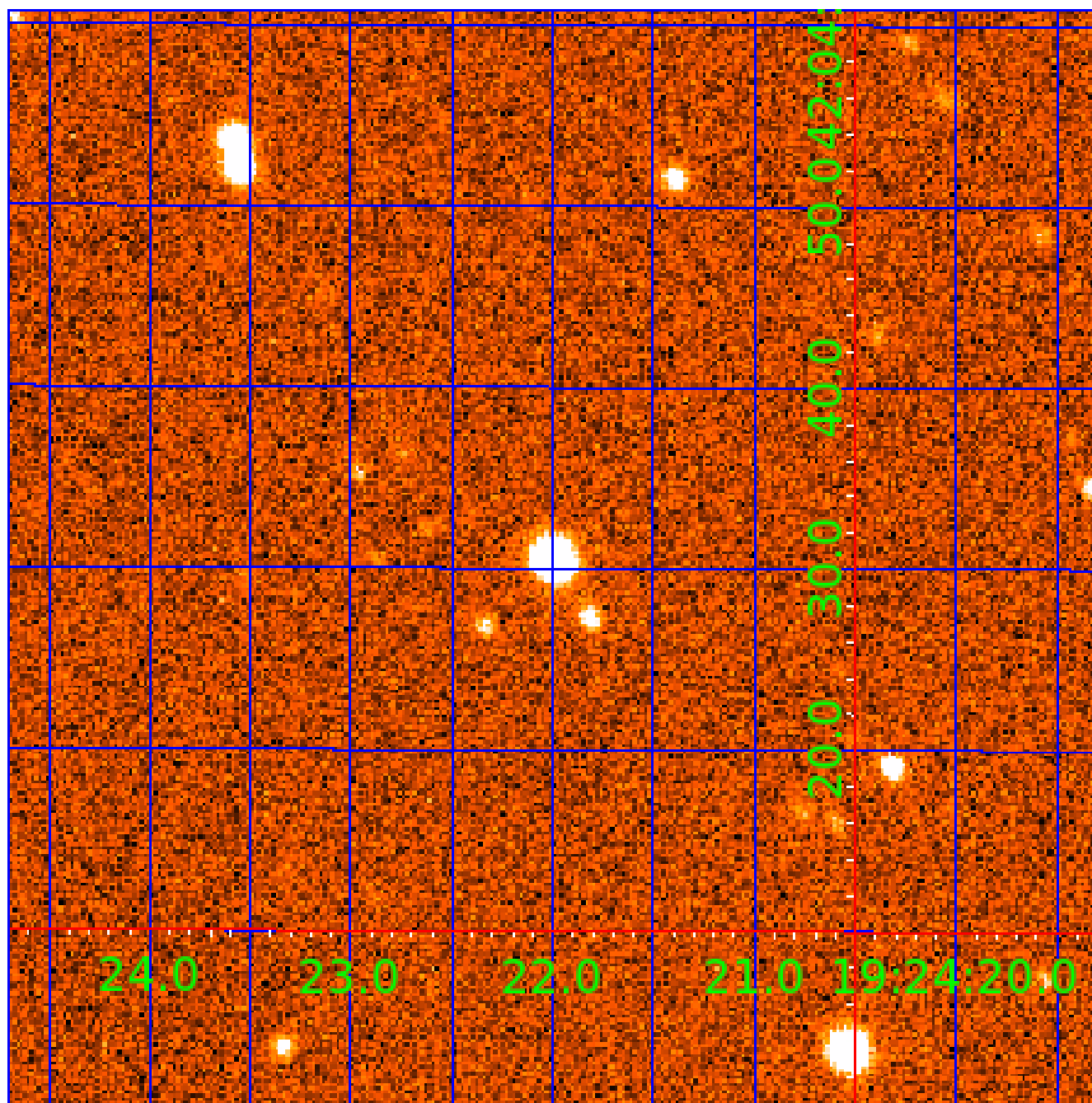


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006603756

Q1-17 DR25 TCE Parameters

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Robovetter Results

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006603756-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
006603756-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
006603756-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006603756-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006603756-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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.

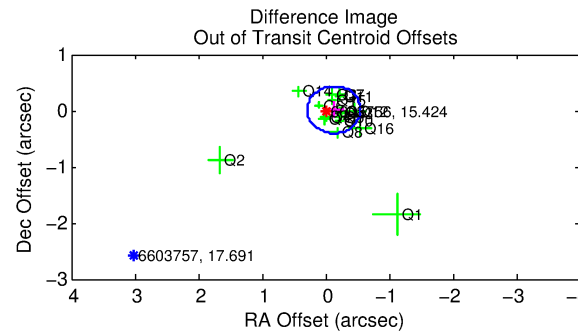
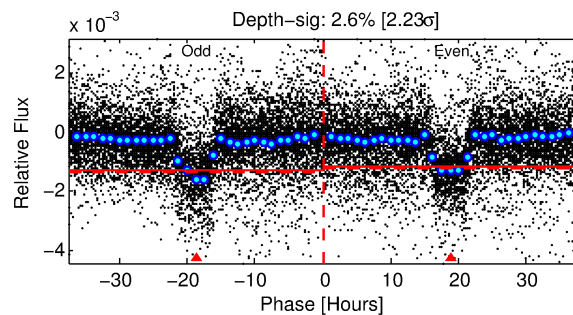
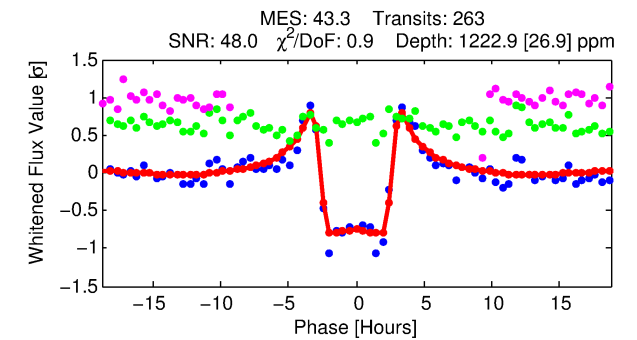
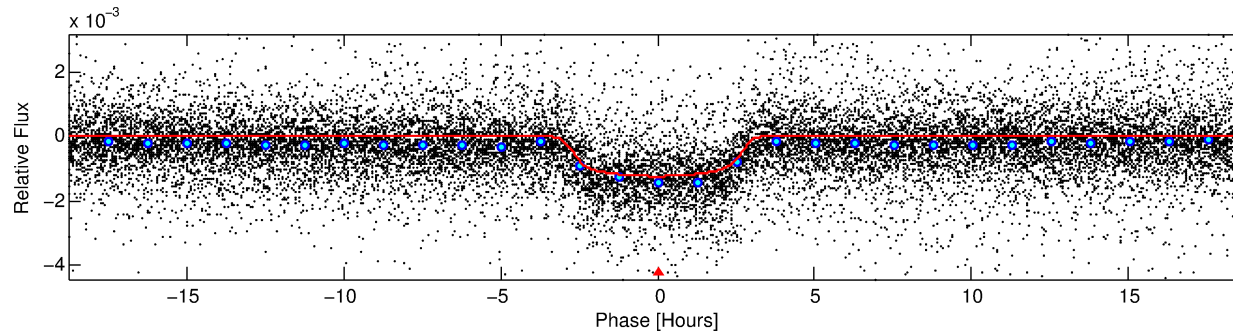
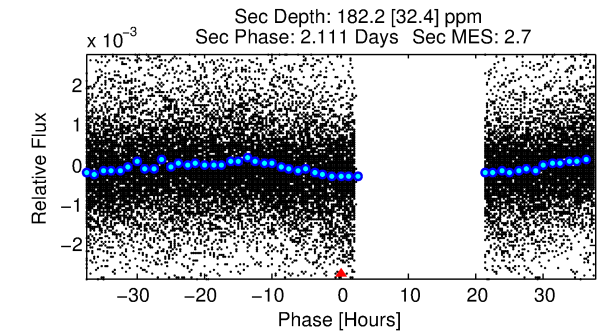
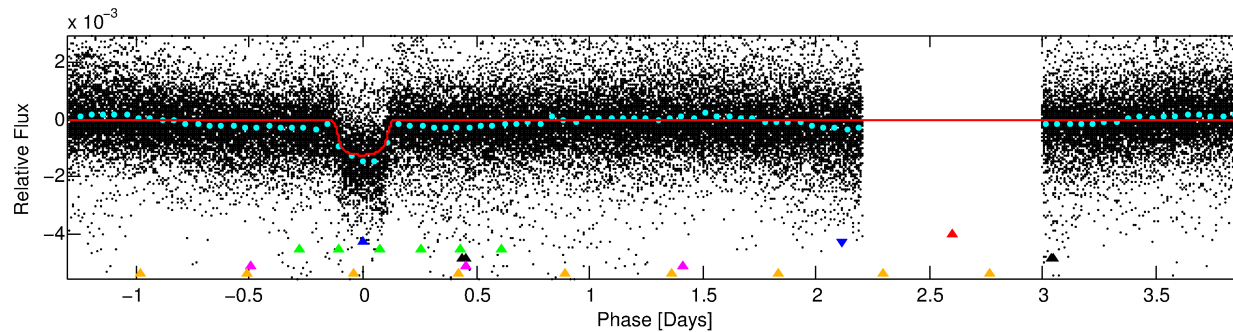
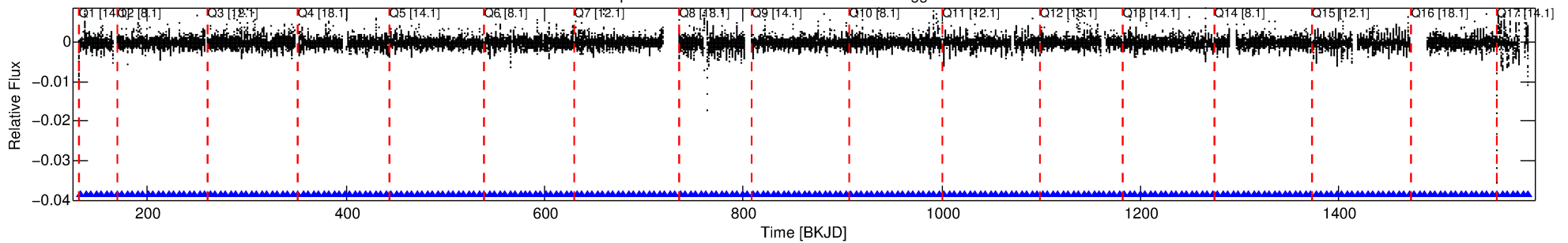
Ephemeris Match Information For 006603756-02

No Significant Match Found

DV One-Page Summary

KIC: 6603756 Candidate: 2 of 6 Period: 5.204 d
KOI: K01729 Corr: No Ephemeris Match

Kp: 15.42 R*: 0.86 Rs Teff: 5332.0 K Logg: 4.47 Fe/H: -0.120



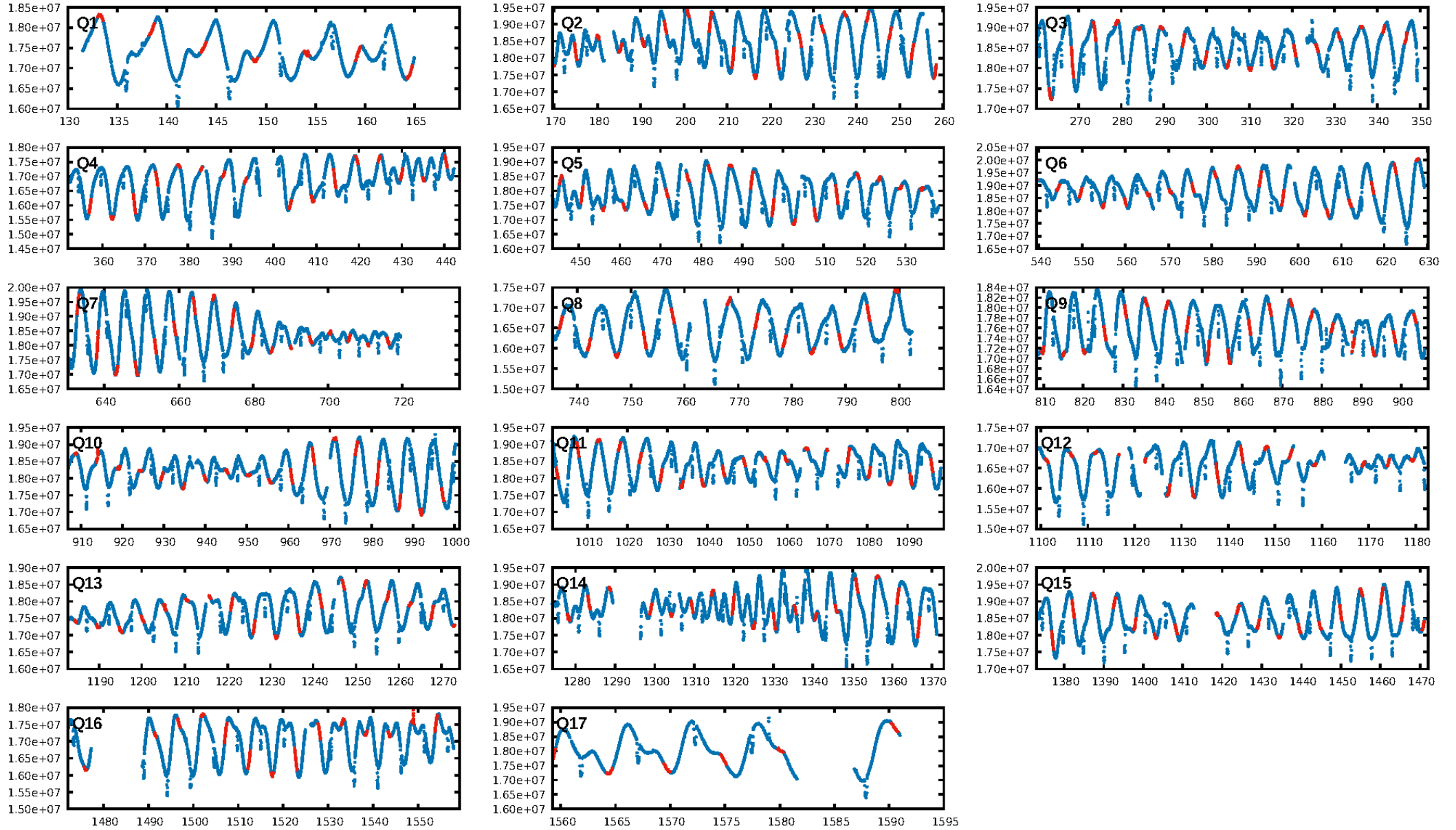
DV Fit Results:

Period = 5.20427 [0.00001] d
Epoch = 133.2859 [0.0012] BKJD
Rp/R* = 0.0372 [0.0008]
a/R* = 3.79 [0.23]
b = 0.86 [0.02]
Seff = 180.15 [44.52]
Teq = 934 [58] K
Rp = 3.49 [0.56] Re
a = 0.0545 [0.0077] AU
Ag = 24.45 [6.86] [3.42σ]
Teffp = 3212 [178] K [12.20σ]

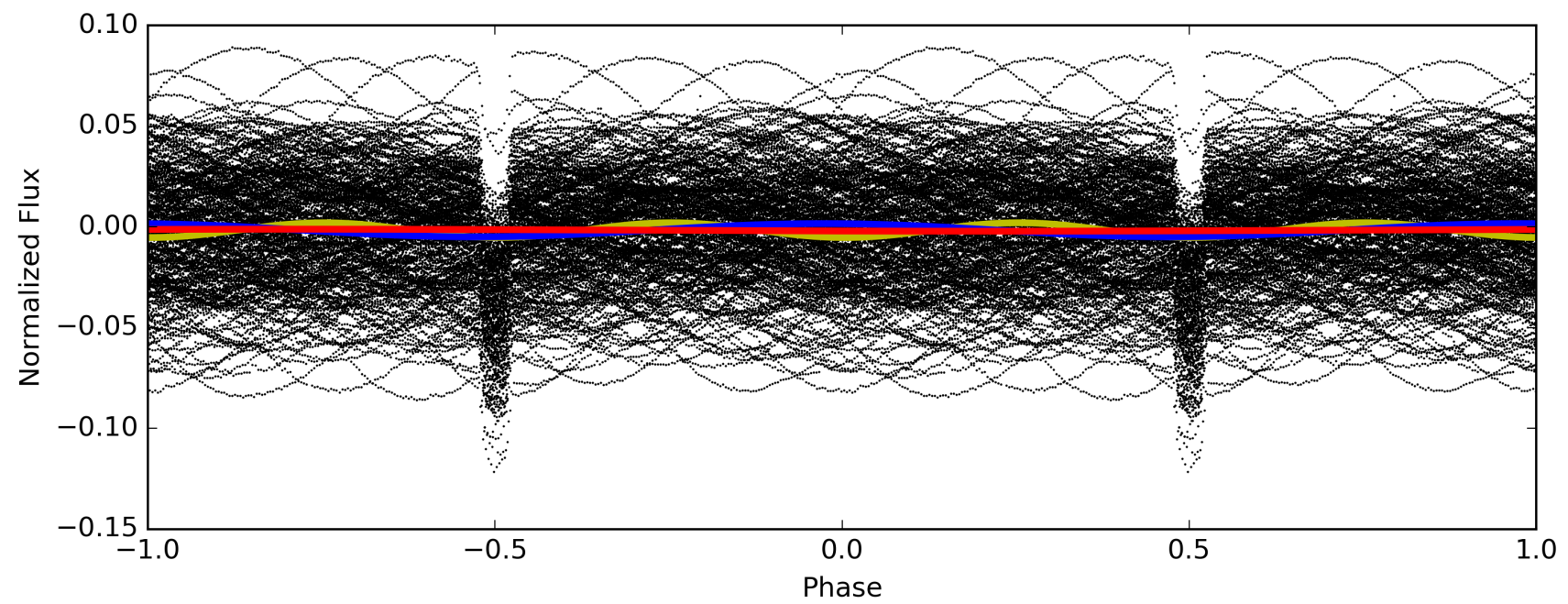
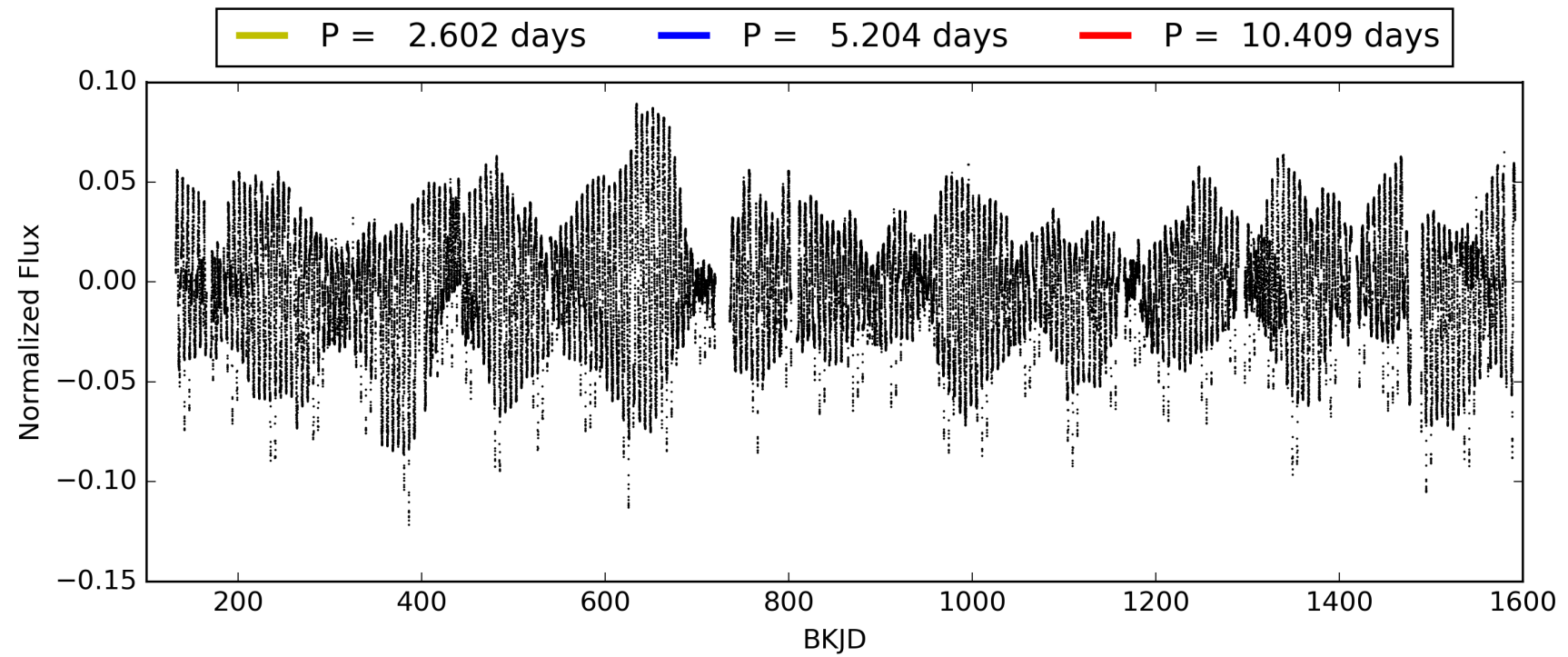
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.27e-277
RollingBand-fgt: 1.00 [250/250]
GhostDiagnostic-chr: 1.18
Centroid-sig: 1.2%
Centroid-so: 0.160 arcsec [1.28σ]
OotOffset-rm: 0.128 arcsec [0.91σ]
KicOffset-rm: 0.110 arcsec [0.67σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
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TCE 006603756-02, PDC Light Curves

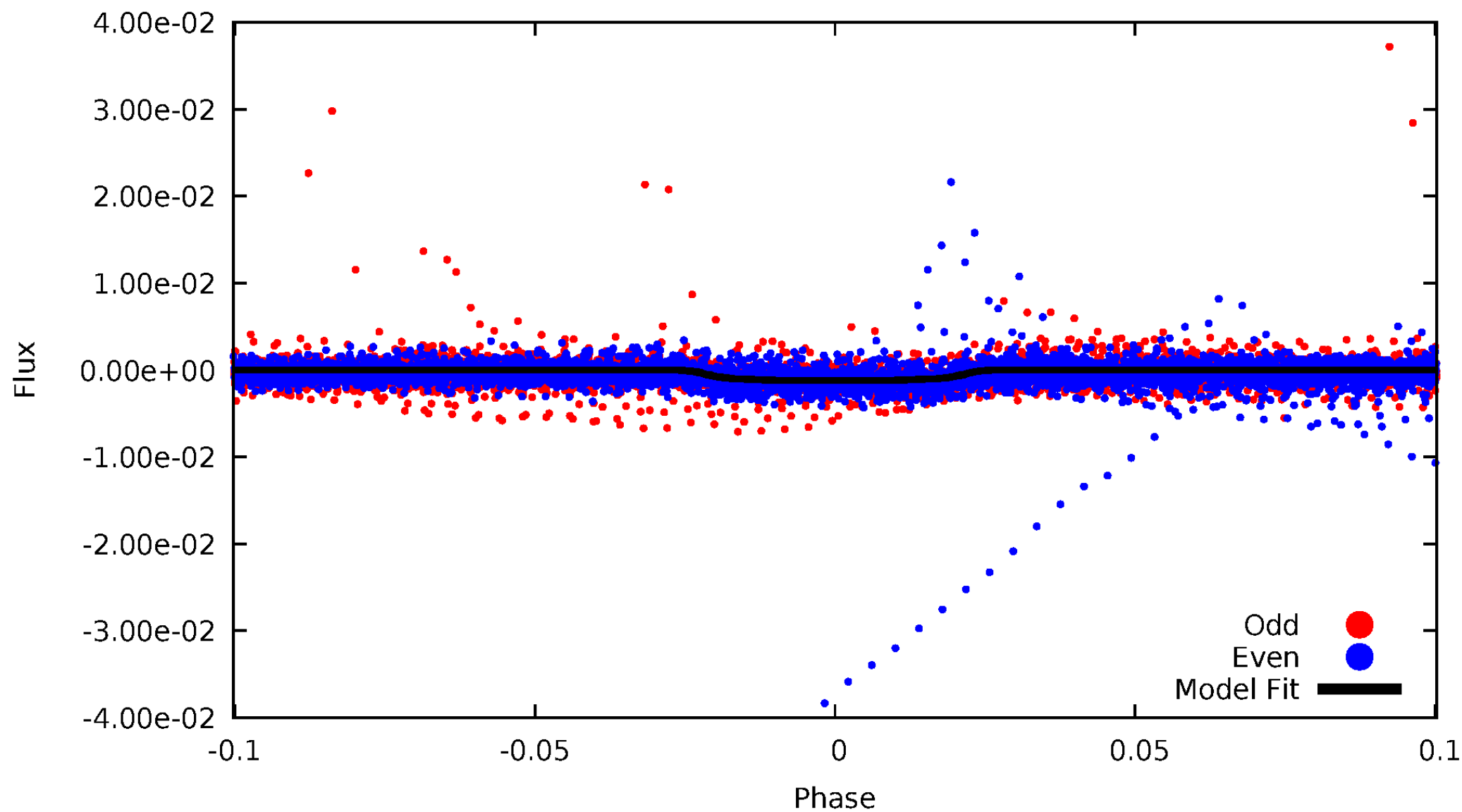


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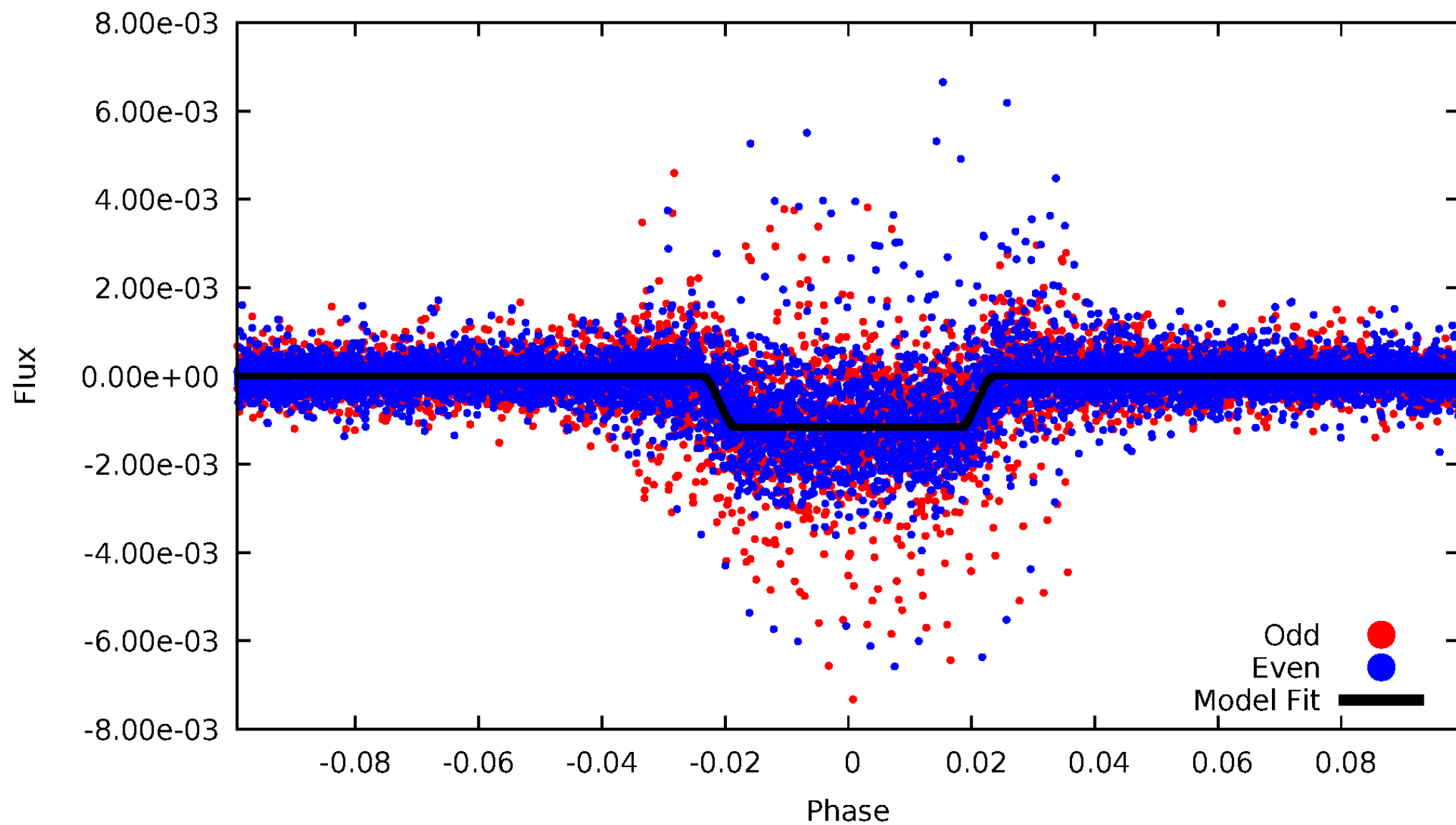
DV Odd/Even

TCE 006603756-02



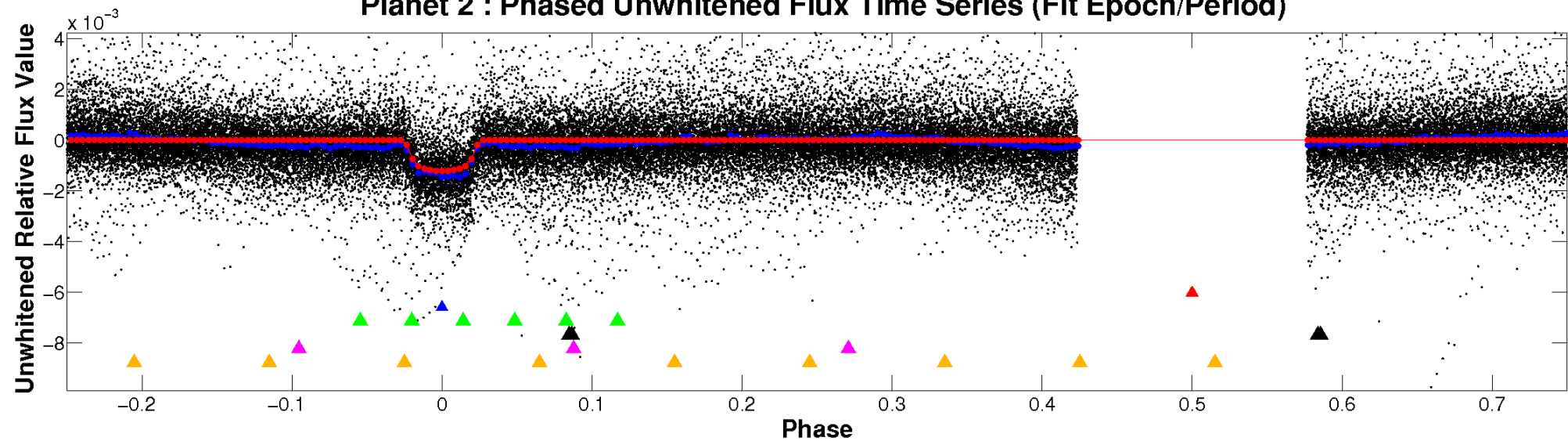
ALT Odd/Even

TCE 006603756-02

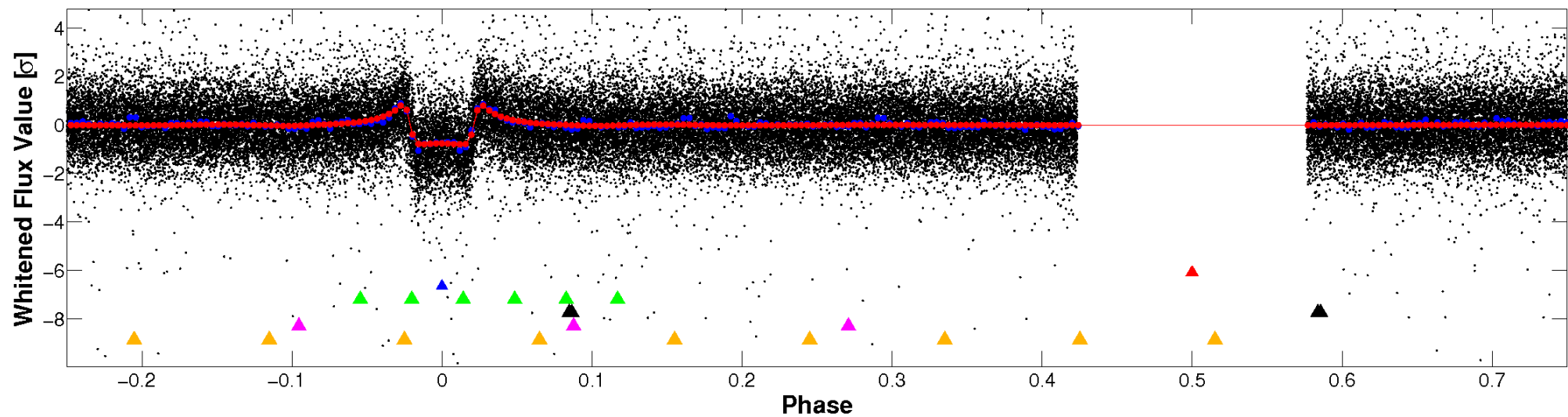


Non-Whitened Vs. Whitened Light Curve

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

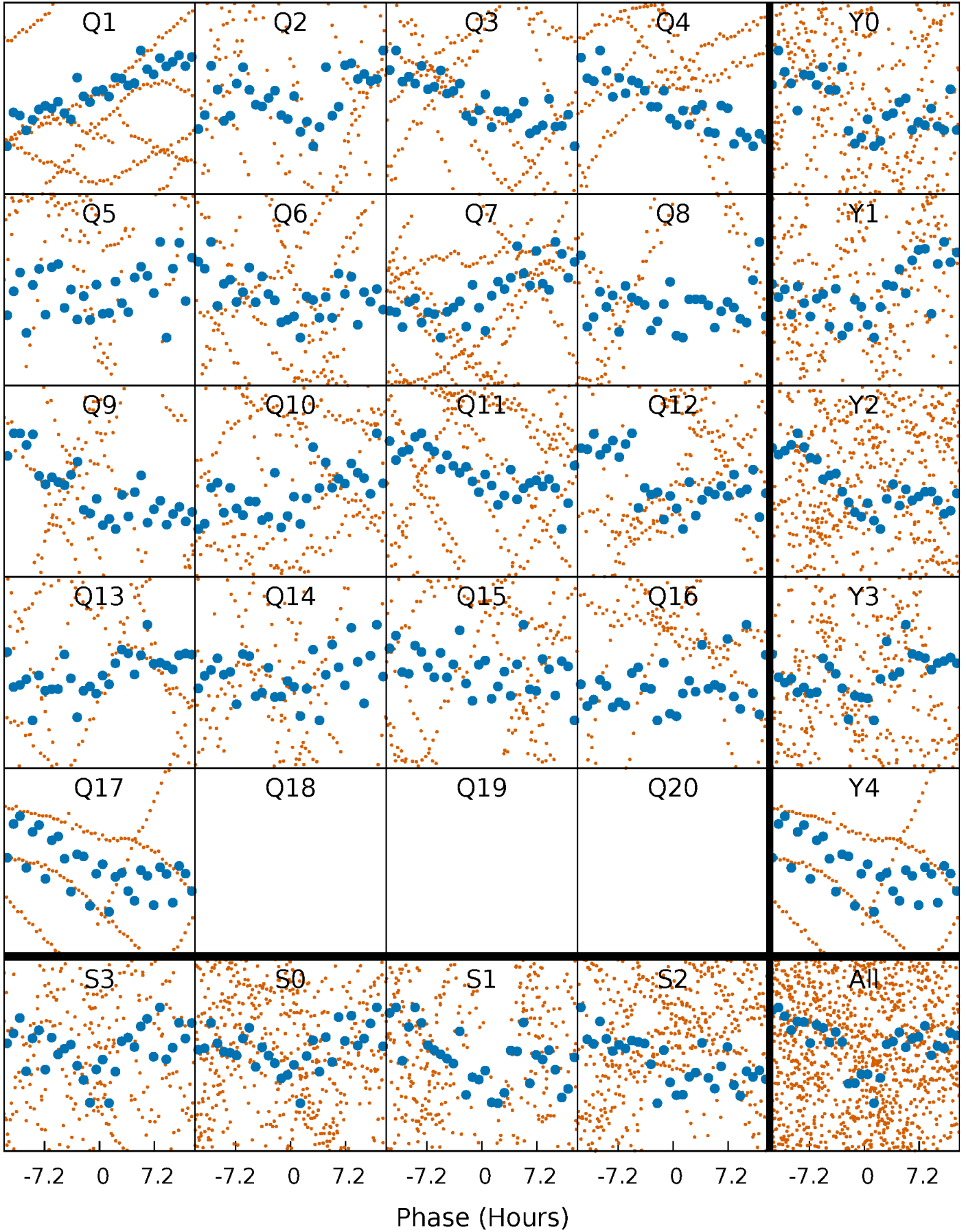


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



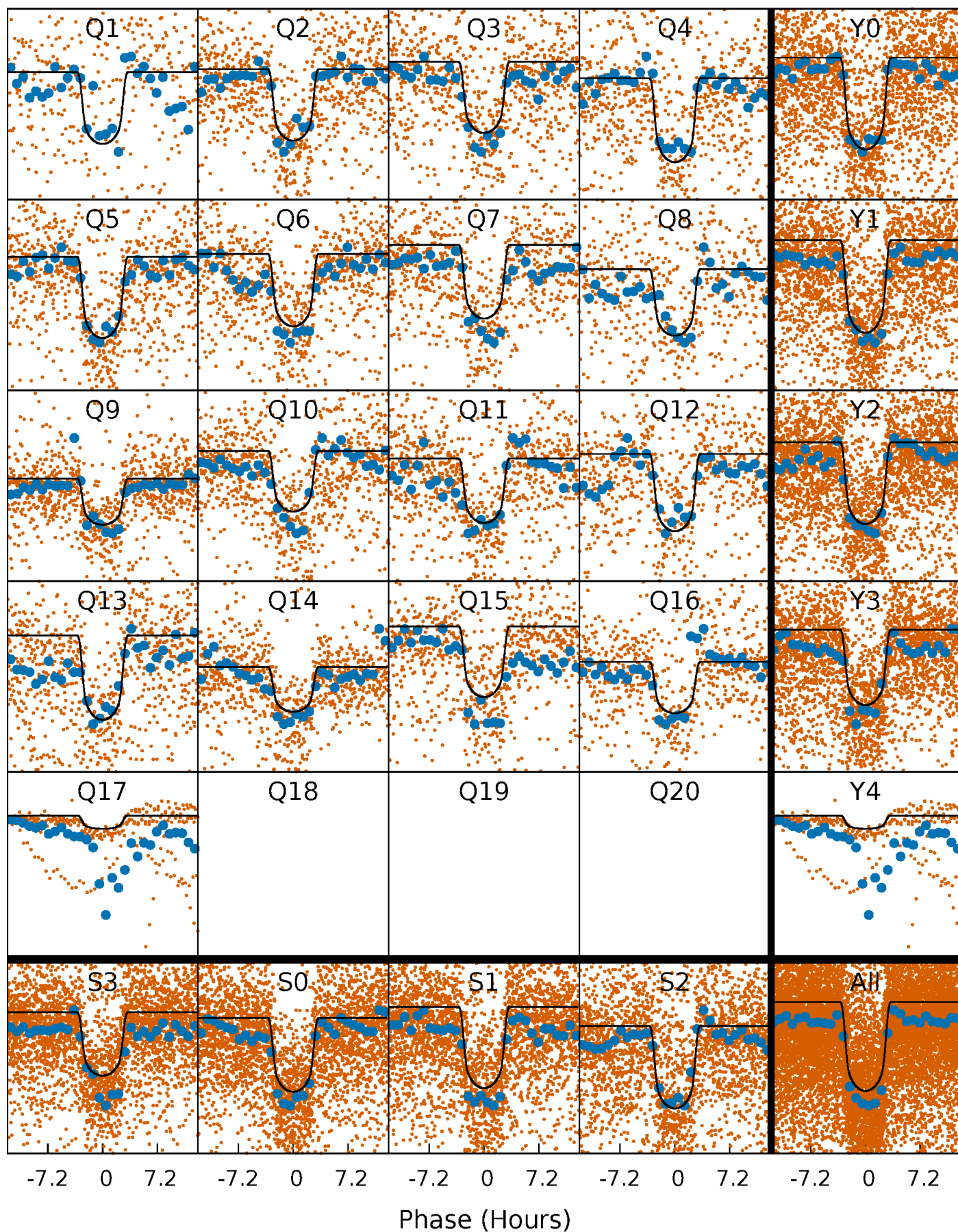
PDC Quarter-Phased Transit Curves

TCE 006603756-02 P= 5.204268 Days $T_0=133.285881$ (BKJD)



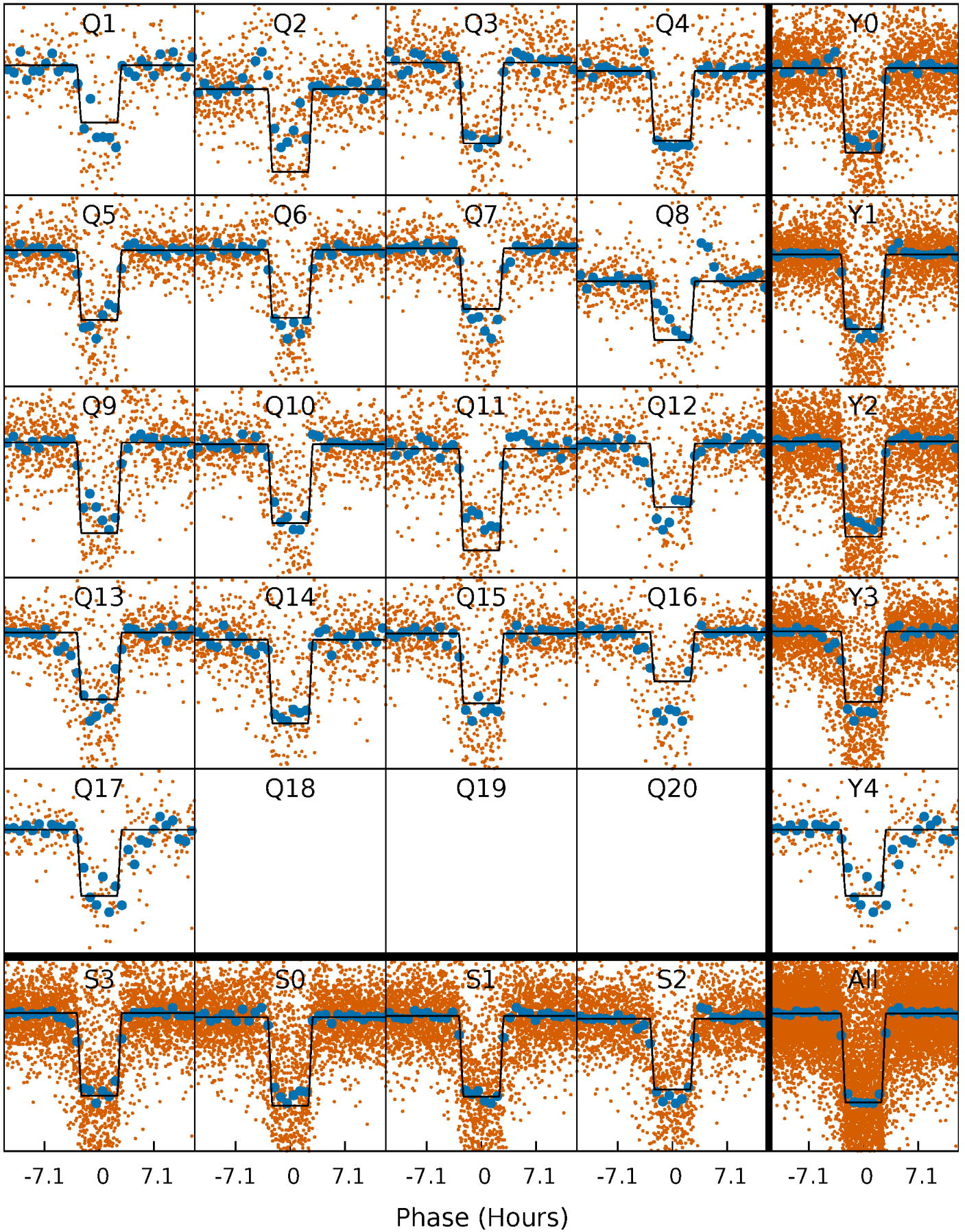
DV Quarter-Phased Transit Curves

TCE 006603756-02 P= 5.204268 Days $T_0=133.285881$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

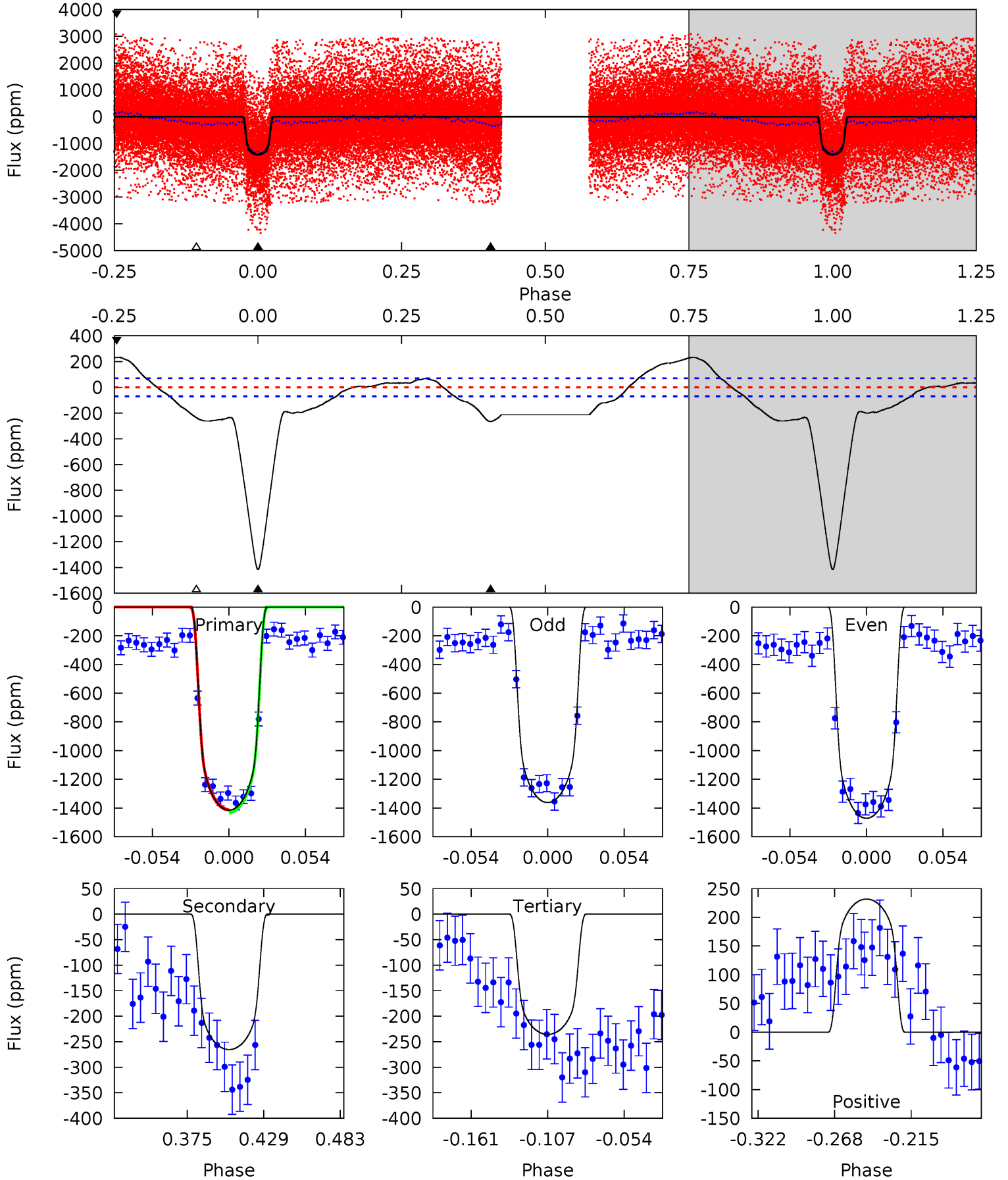
TCE 006603756-02 P= 5.204278 Days $T_0=133.283478$ (BKJD)



DV Model-Shift Uniqueness Test

006603756-02, P = 5.204268 Days, E = 128.081613 Days

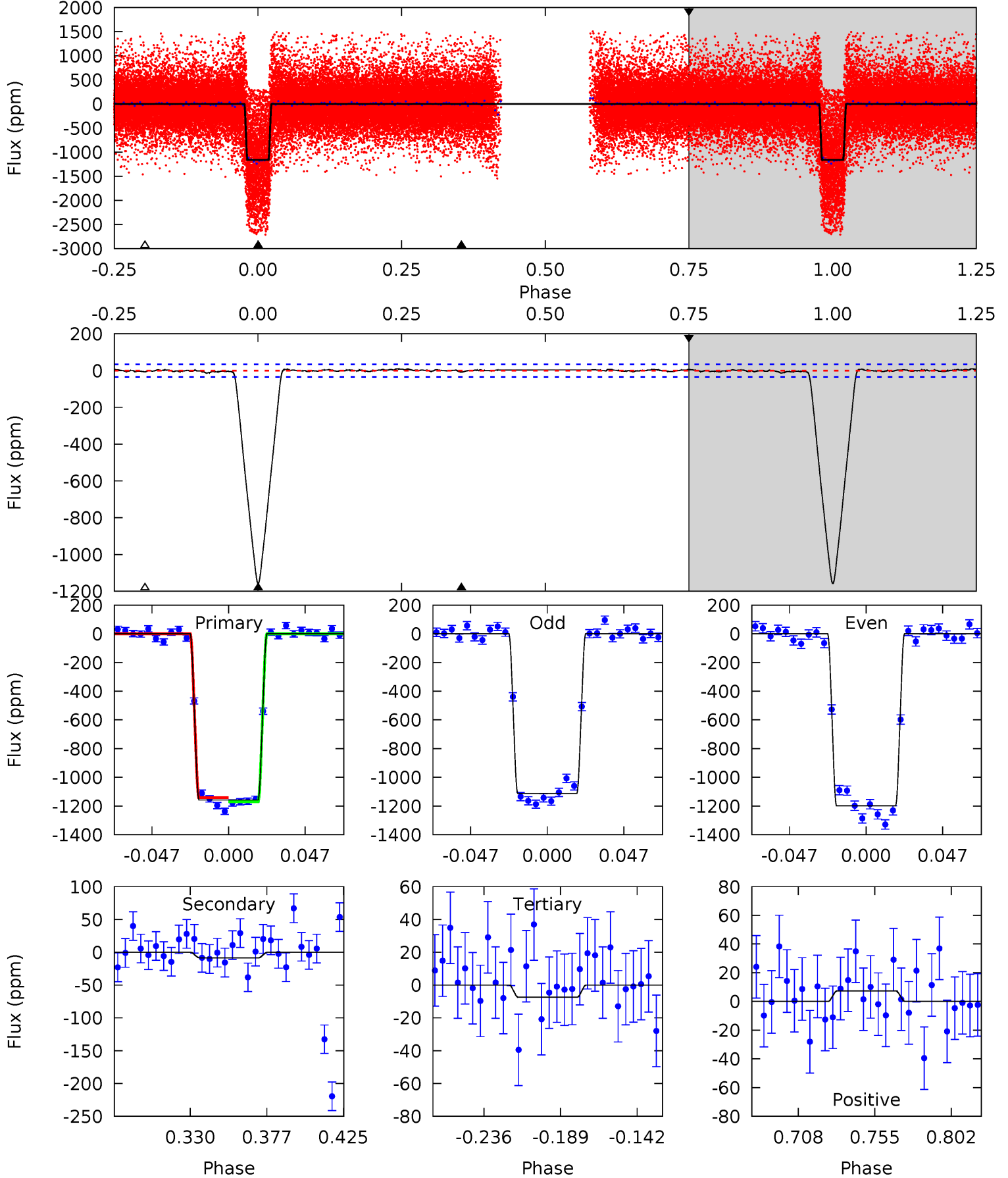
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
94.6	17.8	15.8	15.5	4.69	1.93	9.20	78.9	79.1	1.99	2.25	3.69	1.08	0.14	0.54



Alt Model-Shift Uniqueness Test

006603756-02, P = 5.204278 Days, E = 128.079200 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
159.7	1.18	1.02	1.01	4.72	1.98	0.54	158.7	158.7	0.16	0.17	5.94	0.96	0.01	0



Stellar Parameters For KIC 006603756

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5332^{+167}_{-167}	$4.471^{+0.108}_{-0.120}$	$-0.120^{+0.300}_{-0.300}$	$0.860^{+0.138}_{-0.113}$	$0.798^{+0.113}_{-0.061}$	$1.766^{+0.865}_{-0.624}$
	+3%/-3%	+2%/-3%	+250%/-250%	+16%/-13%	+14%/-8%	+49%/-35%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006603756-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-265 ± 15	$3.52^{+0.35}_{-0.29}$	1312^{+66}_{-68}	3857^{+108}_{-108}	35^{+7}_{-5}
Alt.	-9 ± 7	$3.23^{+0.33}_{-0.26}$	1311^{+67}_{-67}	2351^{+223}_{-4134}	$1.368^{+1.044}_{-1.136}$

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 $A_{obs} \gg 1.0$

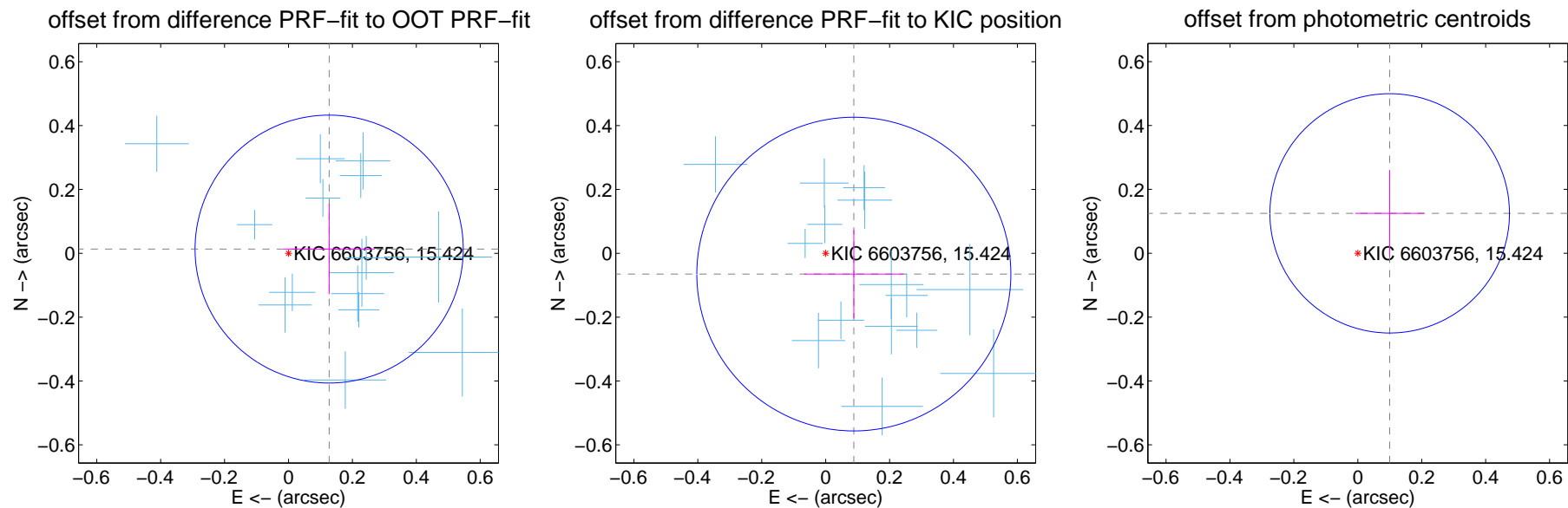
DV Centroid Data

Supplemental centroid analysis for 006603756-02. Kepler magnitude: 15.42. Transit SNR 48.02

There are 17 quarters with good PRF difference image offsets

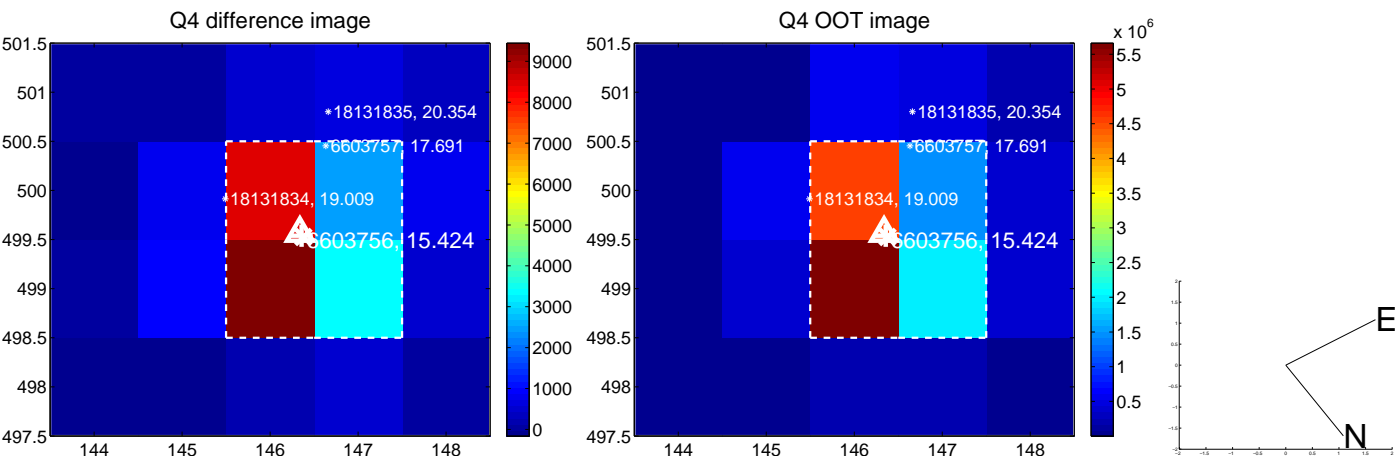
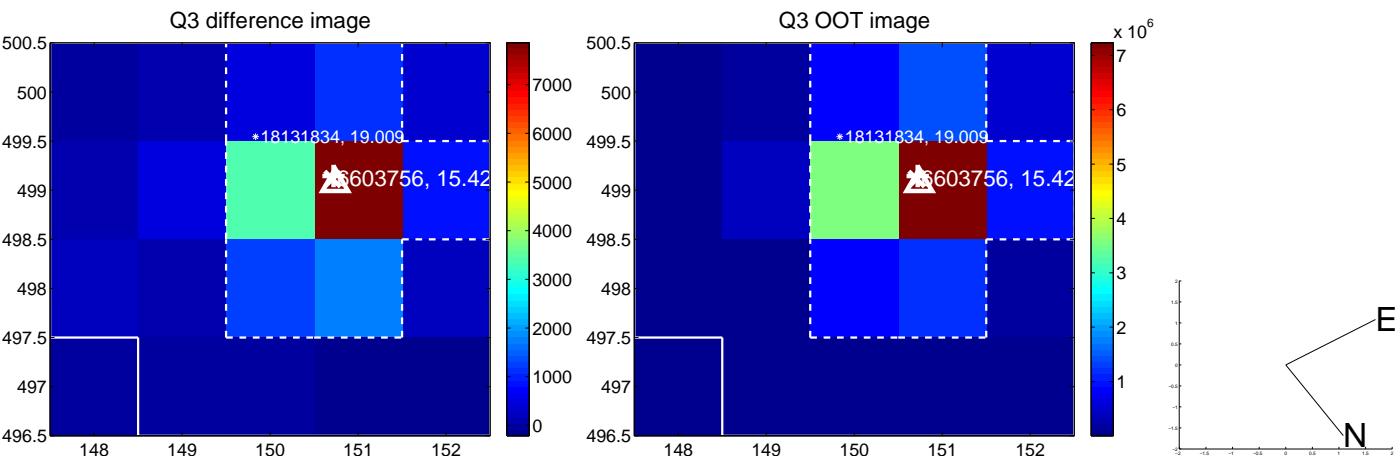
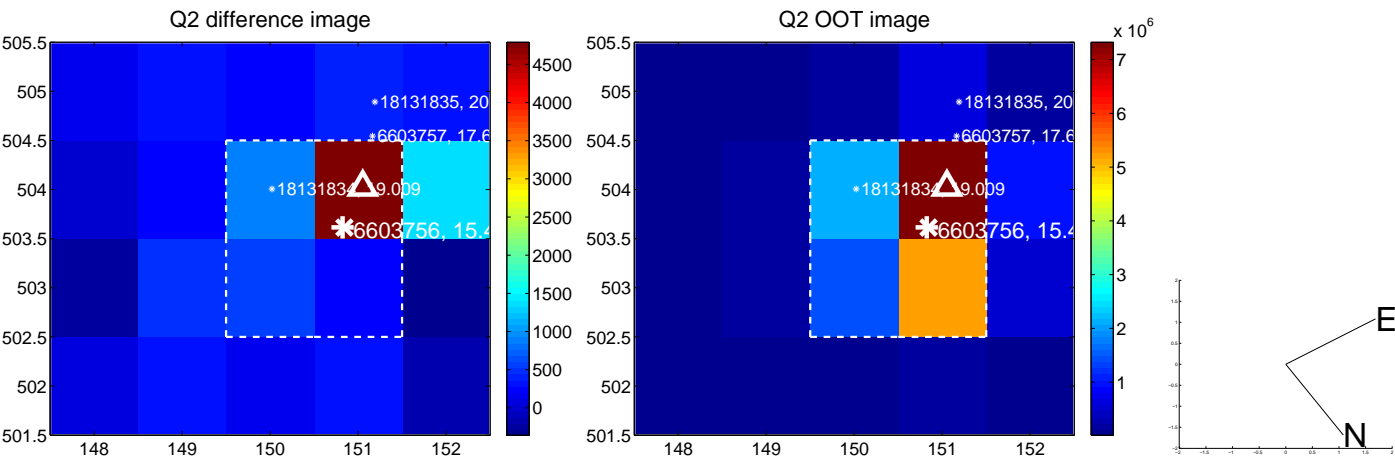
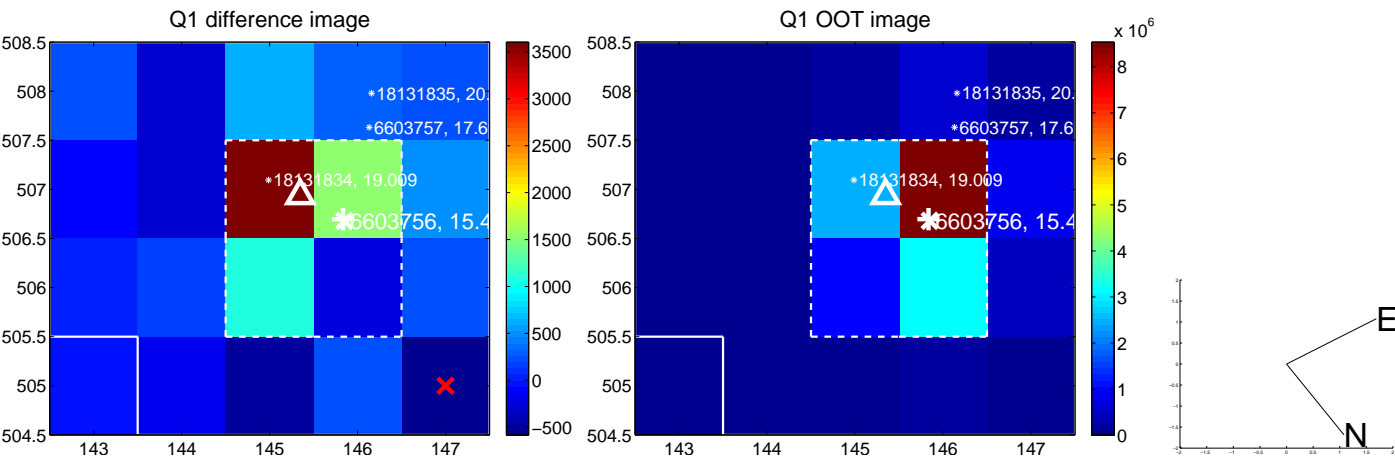
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.128 ± 0.140	0.91	-0.127 ± 0.142	0.013 ± 0.141
PRF-fit source offset from KIC position	0.110 ± 0.164	0.67	-0.088 ± 0.155	-0.065 ± 0.138
photometric centroid source offset	0.16 ± 0.12	1.28	-0.10 ± 0.11	0.12 ± 0.13

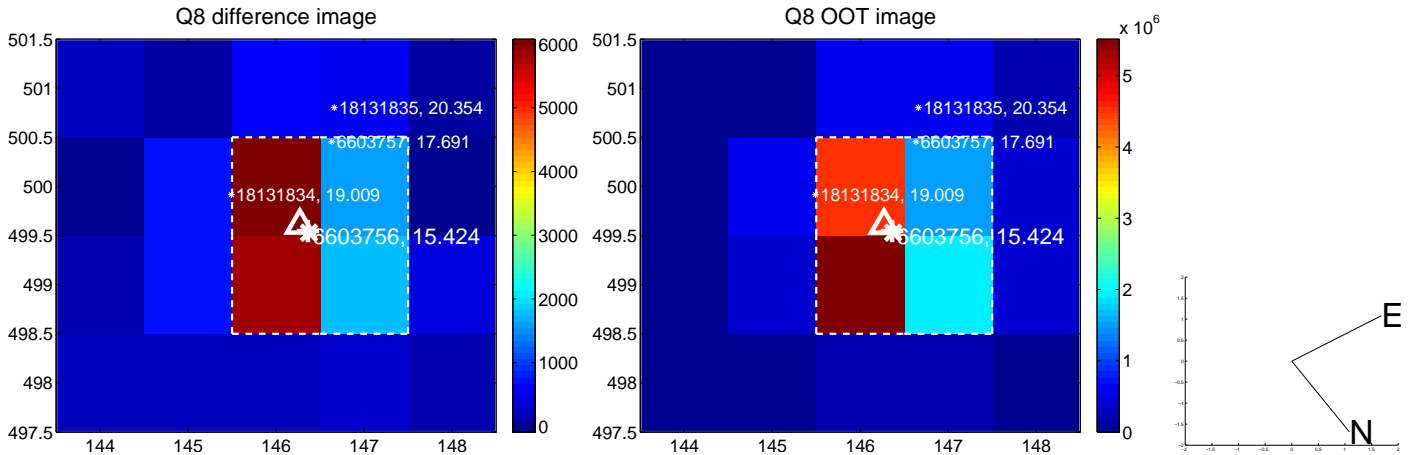
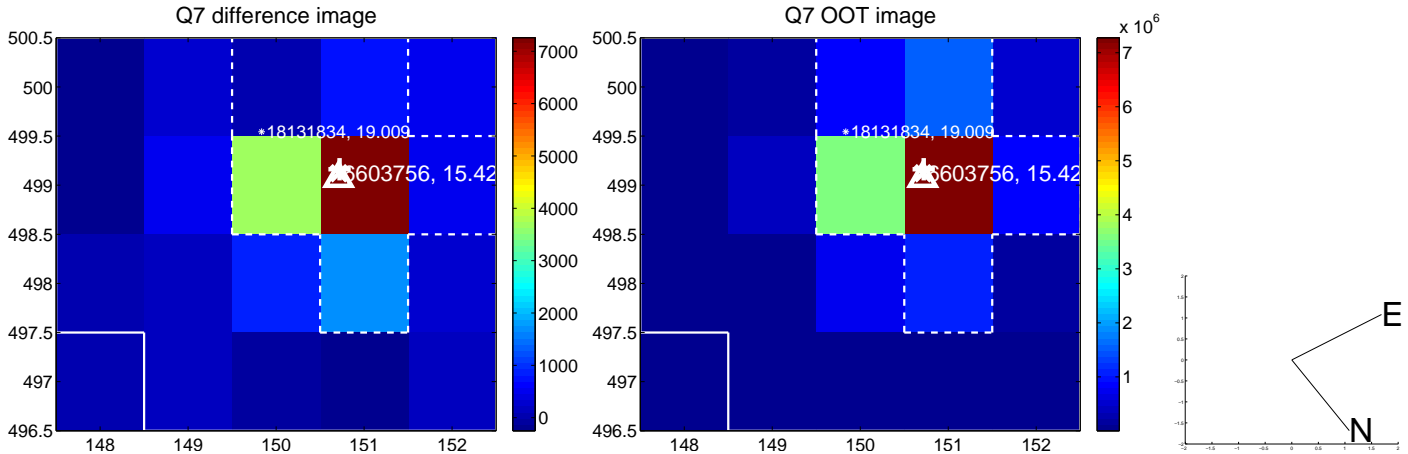
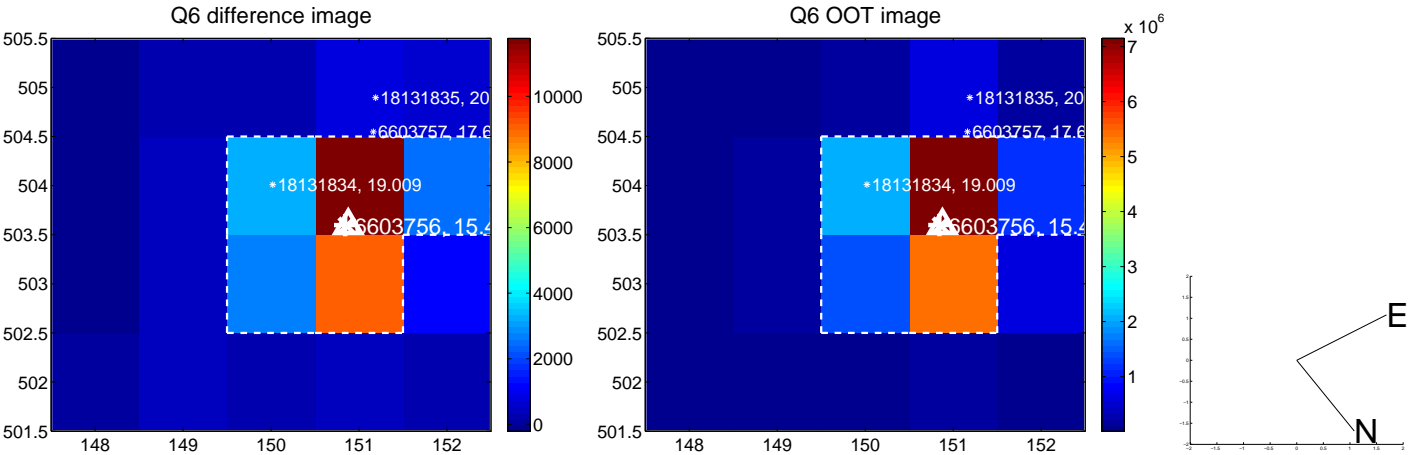
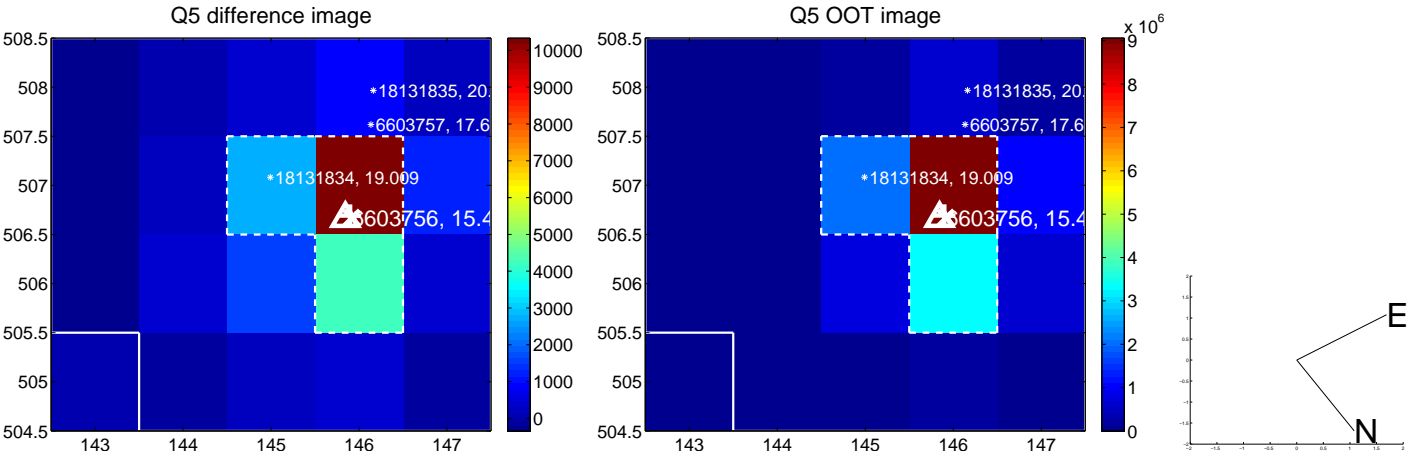


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

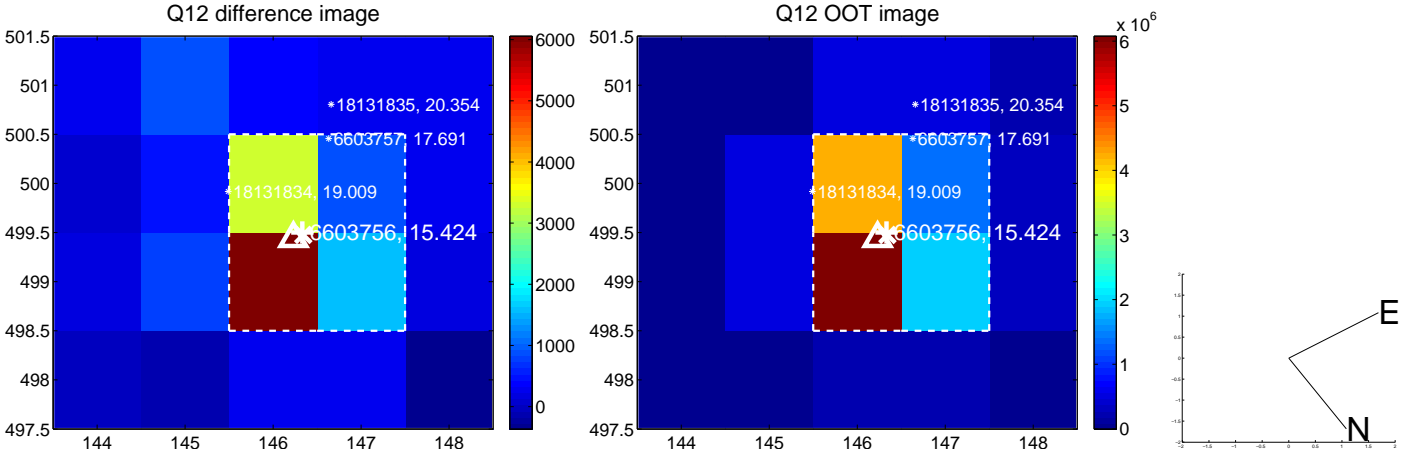
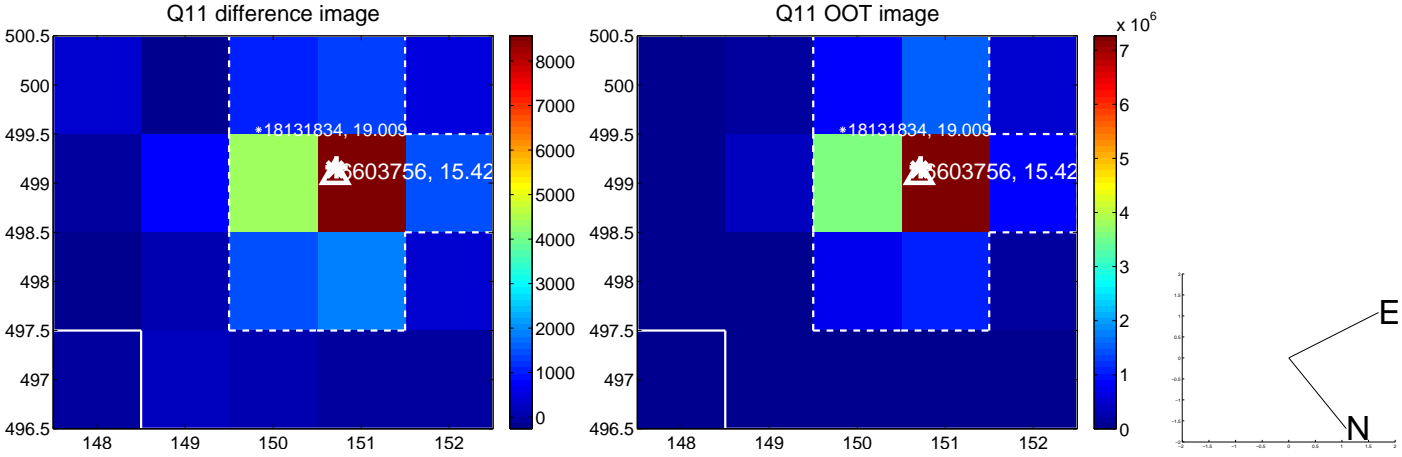
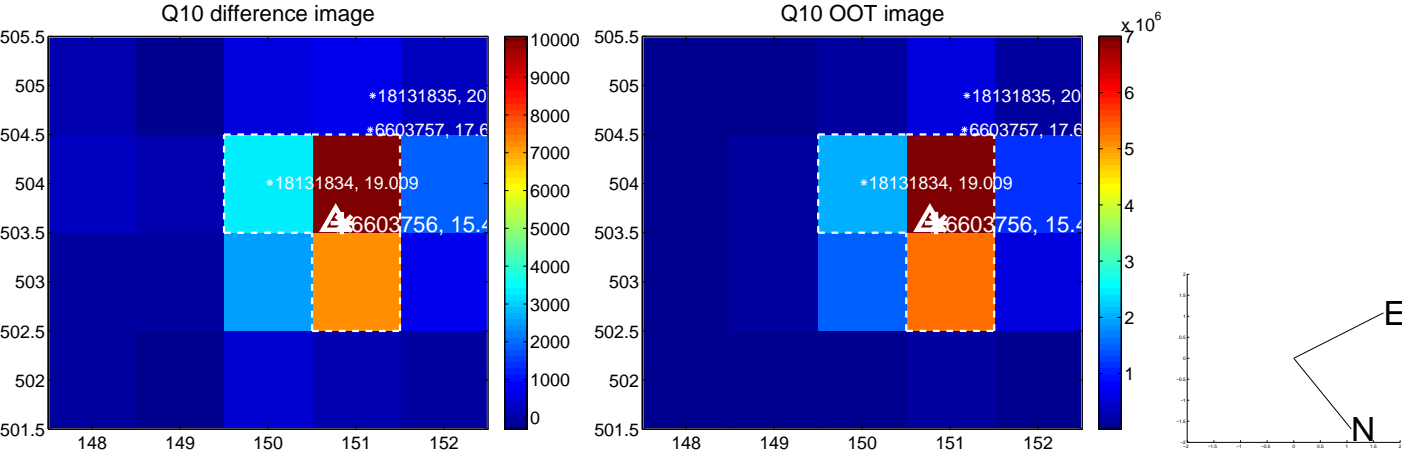
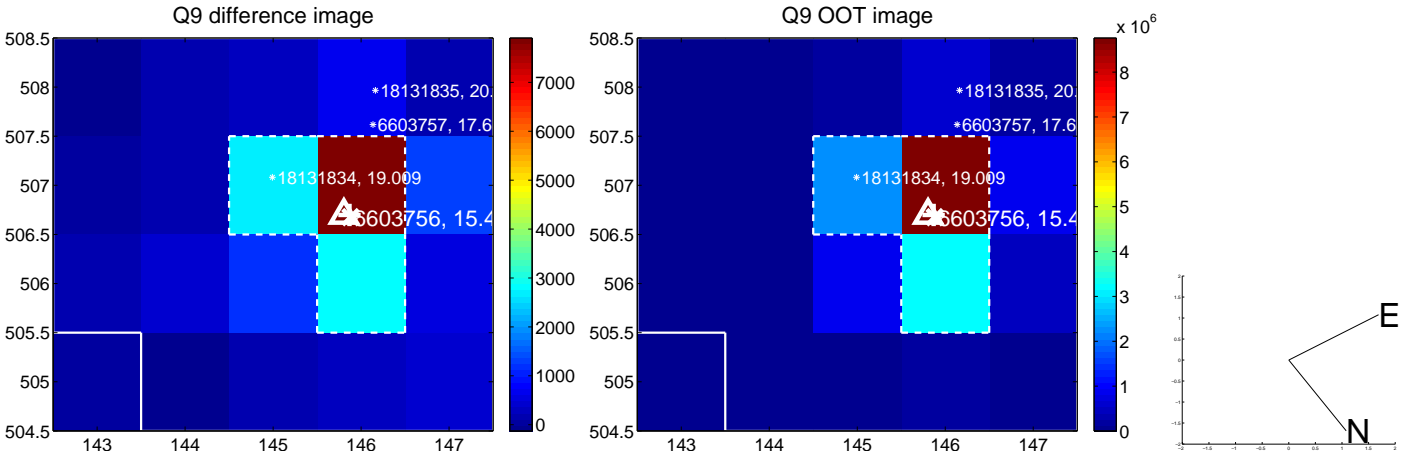
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



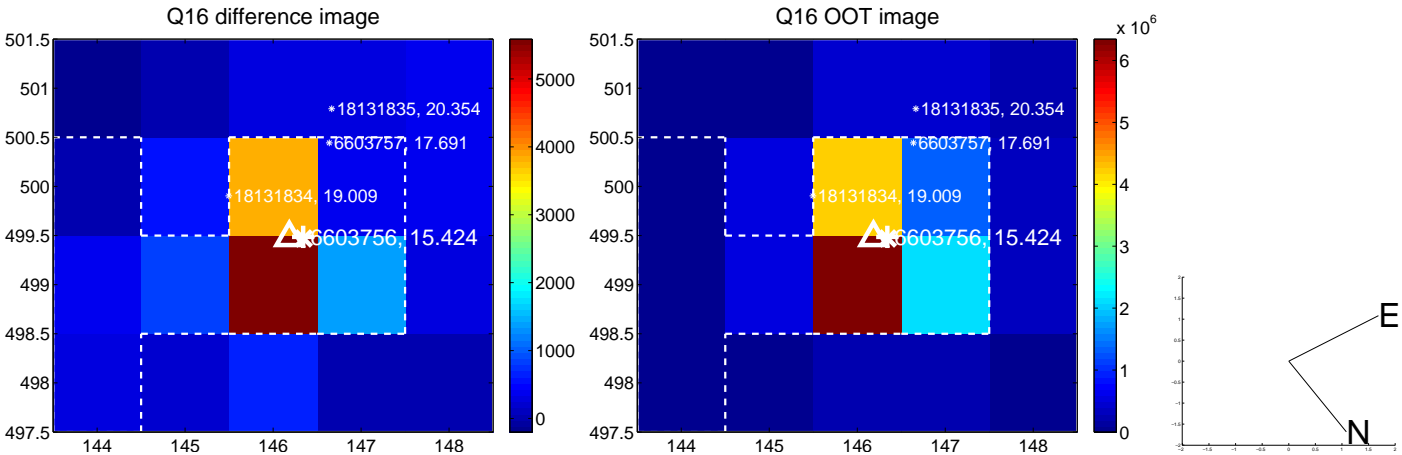
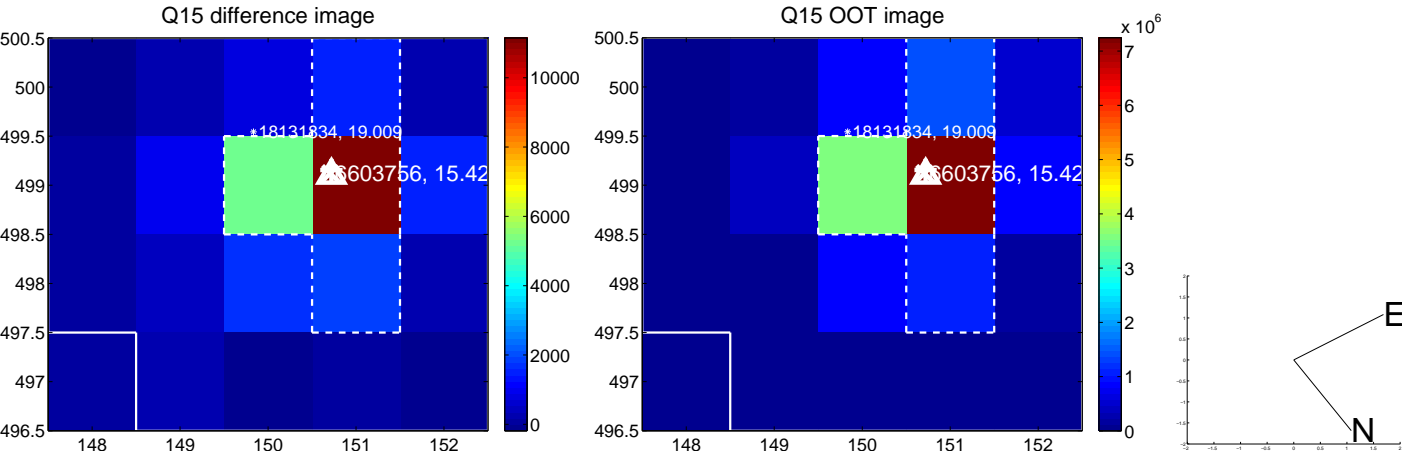
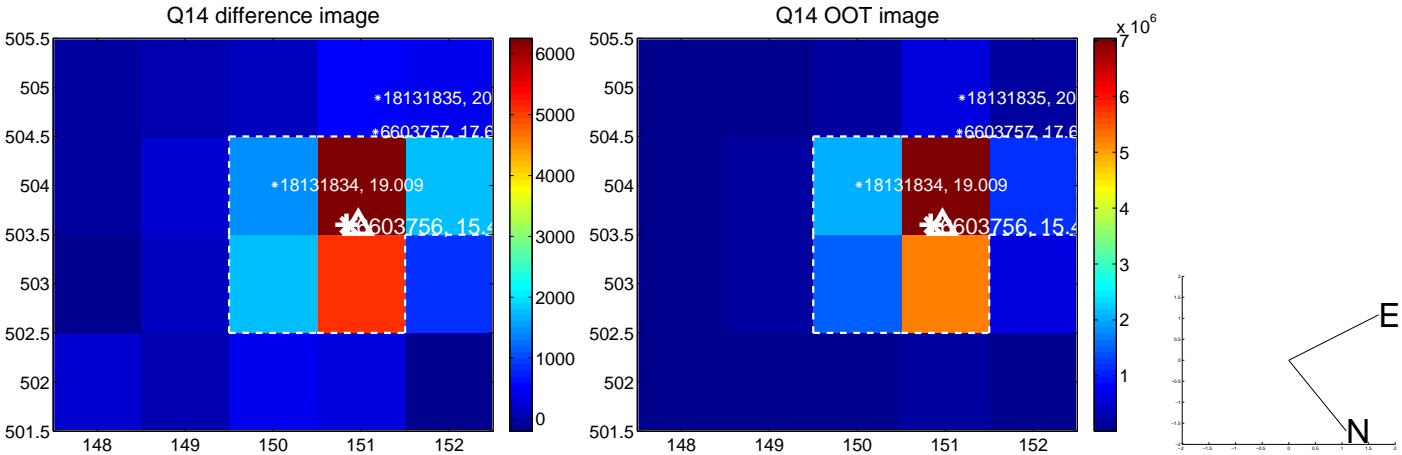
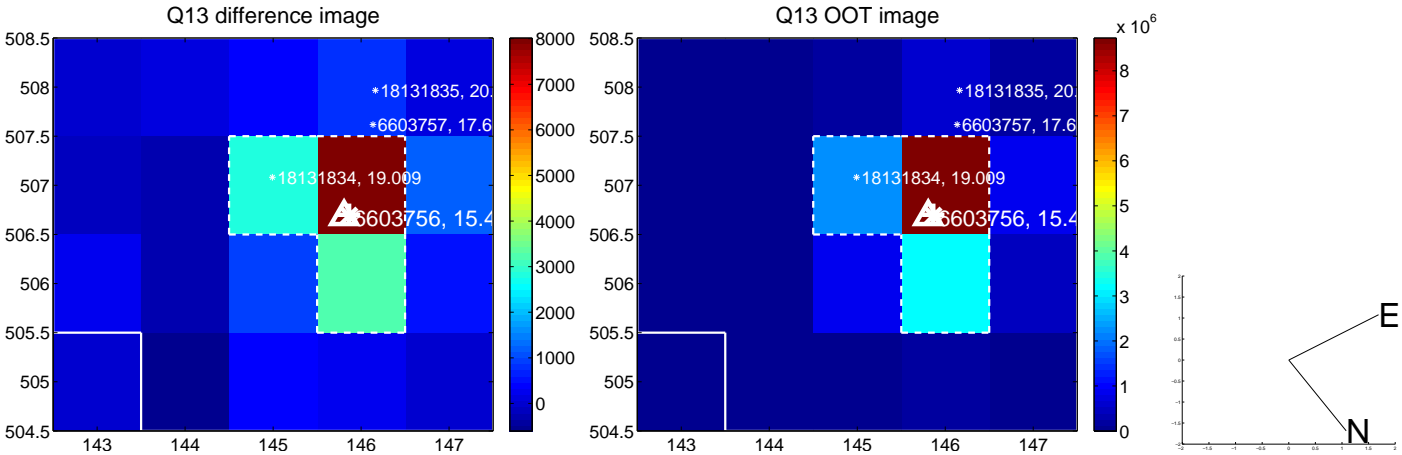
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



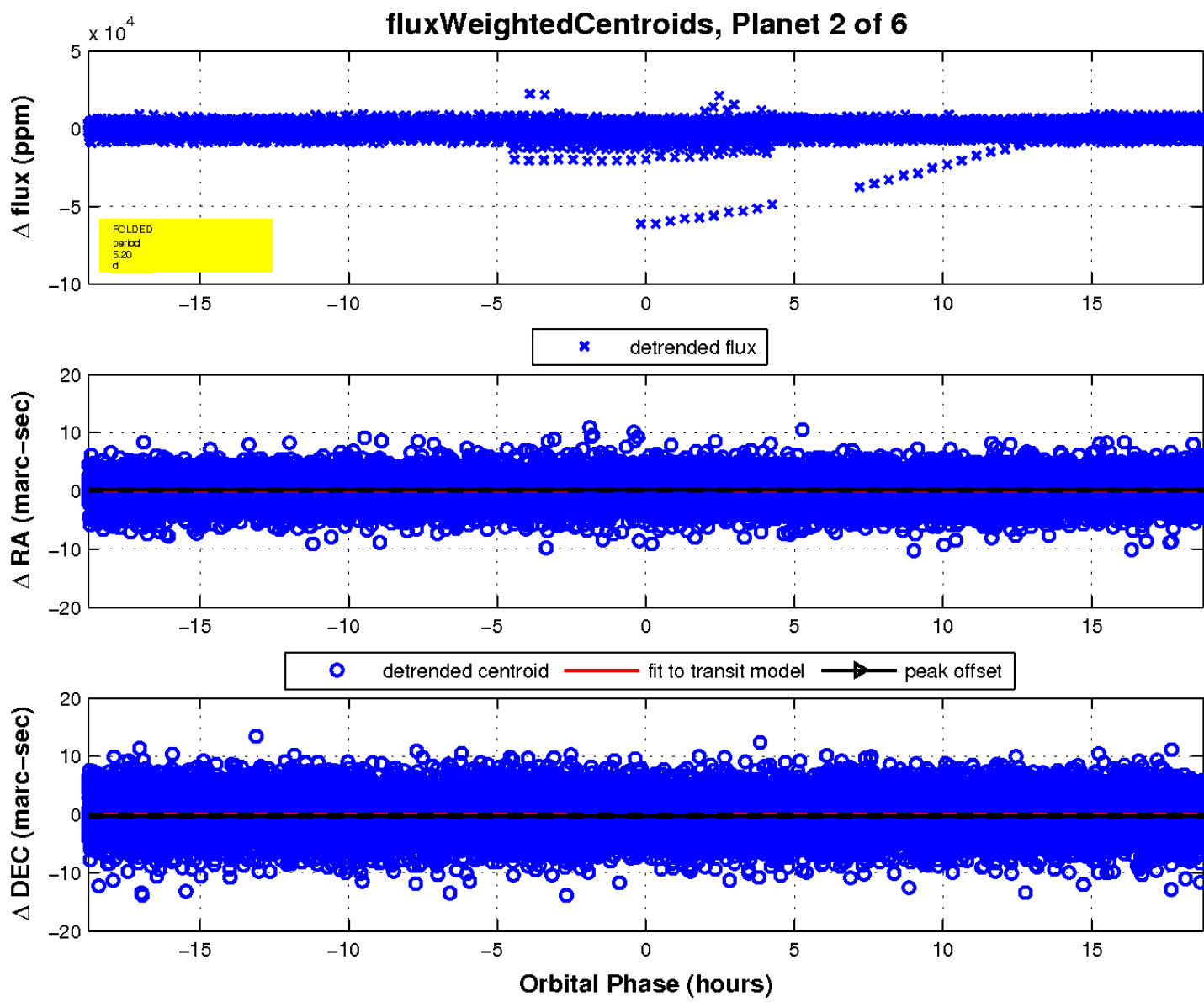
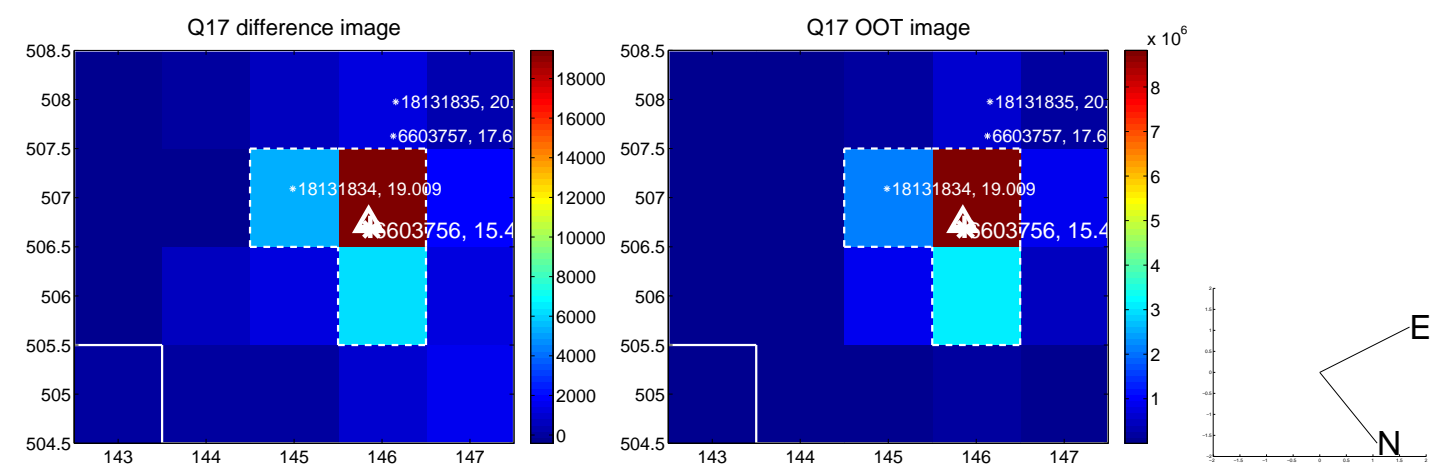
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

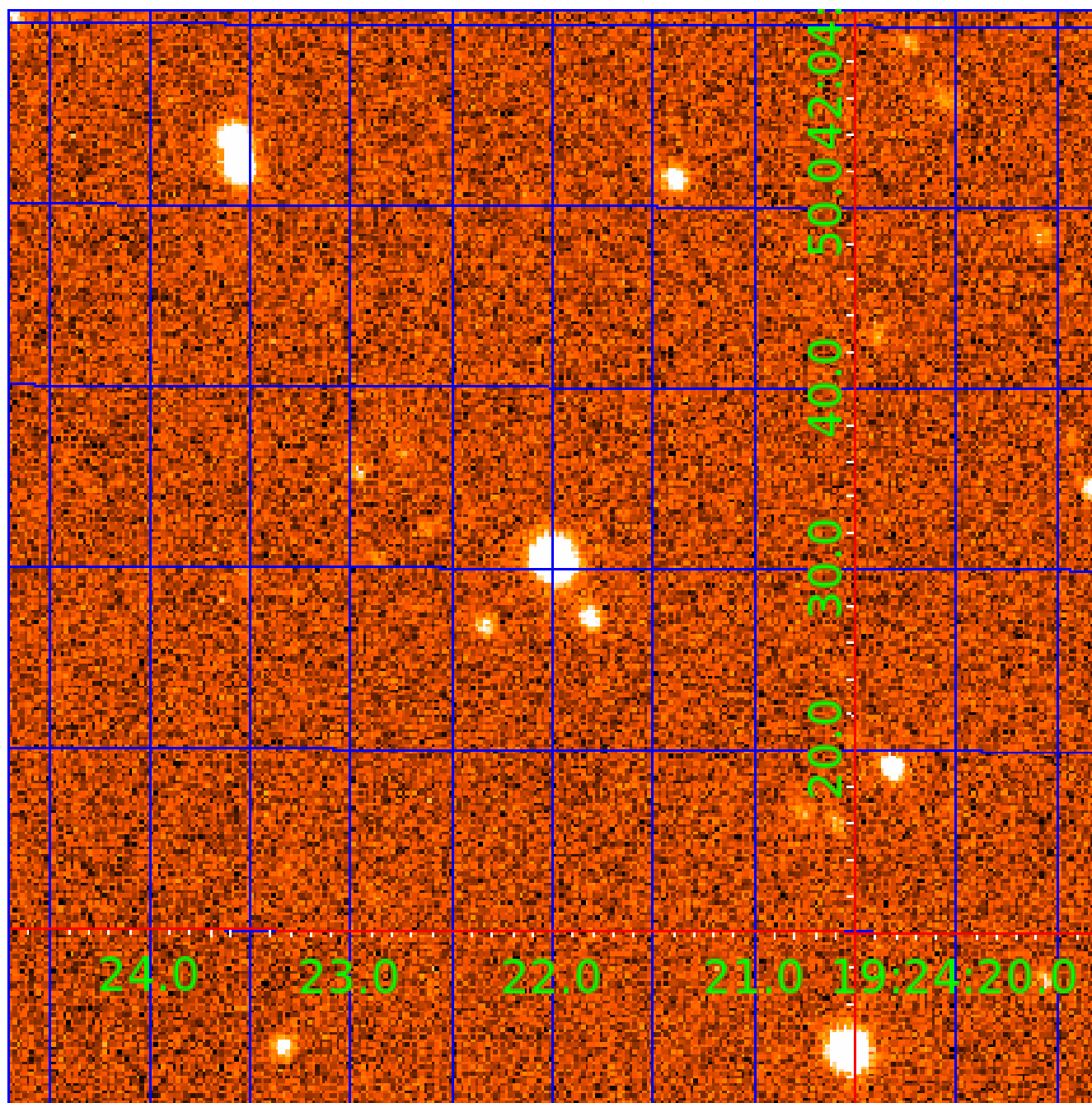


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006603756

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})
006603756-01	OBS	1729.01	5.204280	135.886367	34719.1	6.210	985.0	1018.9	0.86	5332	15.89	180.15
006603756-02	OBS	No	5.204268	133.285881	1222.9	6.257	43.3	48.0	0.86	5332	3.49	180.15
006603756-03	OBS	No	223.962003	247.496542	1857.1	21.515	12.5	5.4	0.86	5332	3.99	1.20
006603756-04	OBS	No	465.786729	162.345664	2247.8	4.016	10.9	8.4	0.86	5332	5.00	0.45
006603756-05	OBS	No	500.562859	429.432864	1919.4	2.611	10.5	7.9	0.86	5332	4.17	0.41
006603756-06	OBS	No	167.005236	137.422454	1855.3	2.500	10.4	-1.0	0.86	5332	3.63	1.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006603756-01	OBS	PC	0.92	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—PLANET_OCCULT_ALT—HAS_SEC_TCE
006603756-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
006603756-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
006603756-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006603756-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006603756-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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.

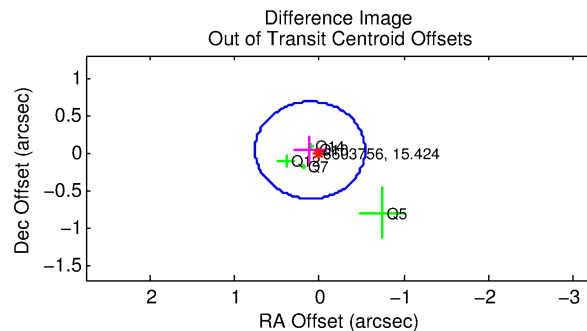
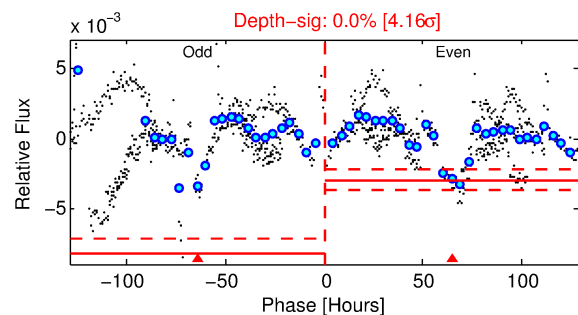
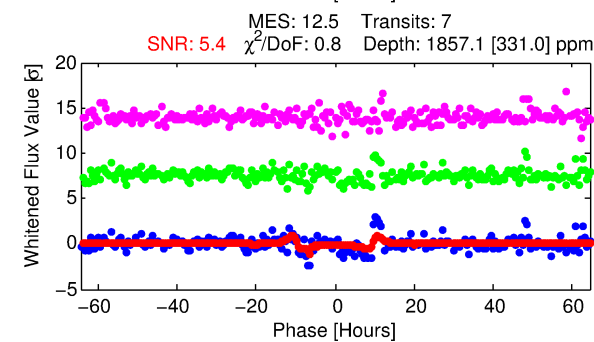
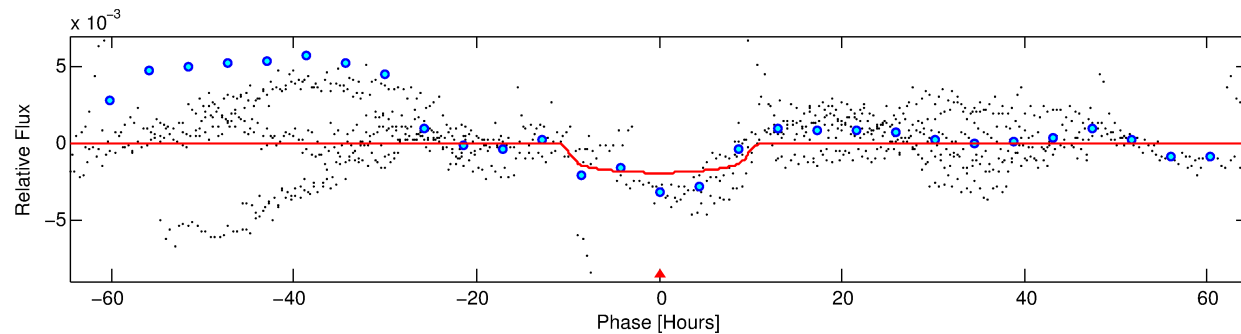
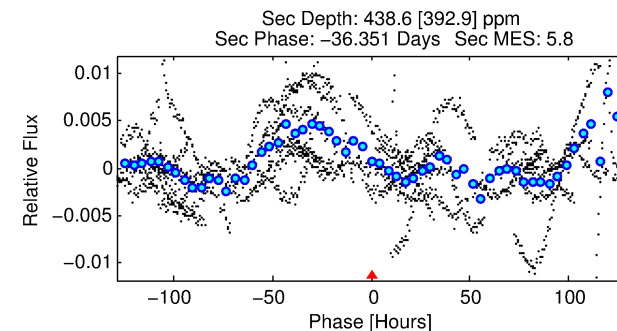
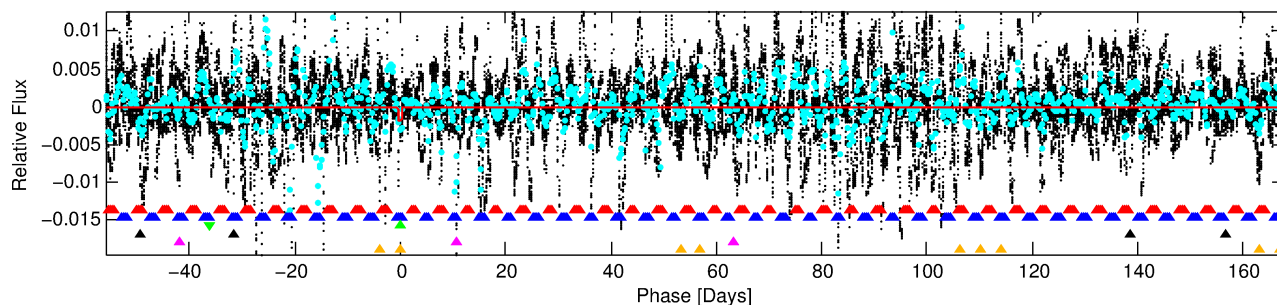
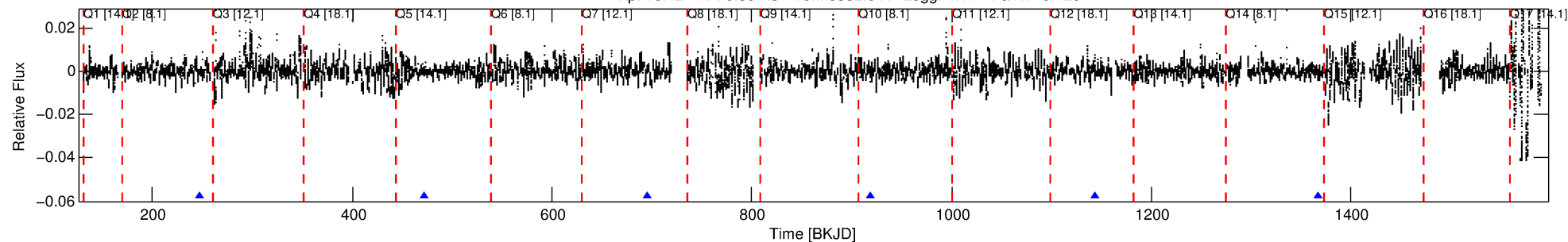
Ephemeris Match Information For 006603756-03

No Significant Match Found

DV One-Page Summary

KIC: 6603756 Candidate: 3 of 6 Period: 223.962 d
KOI: K01729 Corr: No Ephemeris Match

Kp: 15.42 R*: 0.86 Rs Teff: 5332.0 K Logg: 4.47 Fe/H: -0.120



DV Fit Results:

Period = 223.96200 [0.00820] d
Epoch = 247.4965 [0.0183] BKJD
Rp/R* = 0.0425 [0.0048]
a/R* = 59.46 [13.15]
b = 0.73 [0.15]
Seff = 1.19 [0.30]
Teq = 267 [16] K
Rp = 3.99 [0.79] Re
a = 0.6696 [0.0945] AU
Ag = 6787.41 [6438.66] [1.05σ]
Teff = 3741 [872] K [3.98σ]

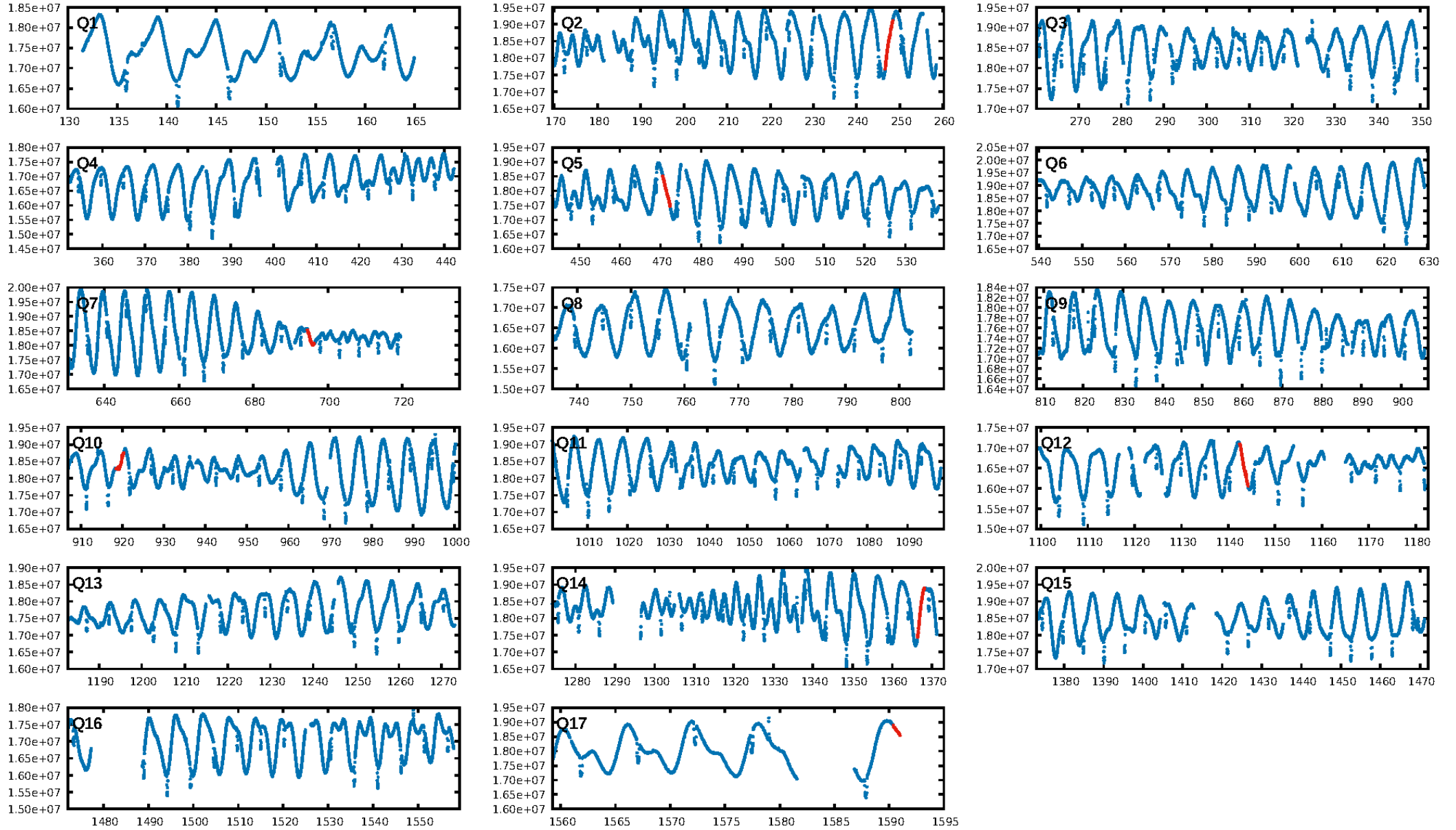
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [63.11σ]
LongPeriod-sig: 100.0% [265.18σ]
ModelChiSquare2-sig: 35.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.26e-13
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -12.8
Centroid-sig: 22.1%
Centroid-so: 0.636 arcsec [1.08σ]
OotOffset-rm: 0.111 arcsec [0.51σ]
KicOffset-rm: 0.054 arcsec [0.51σ]
OotOffset-st: 2/1/1/1 [5]
KicOffset-st: 2/1/1/1 [5]
DiffImageQuality-fgm: 0.80 [4/5]
DiffImageOverlap-fno: 0.00 [0/5]

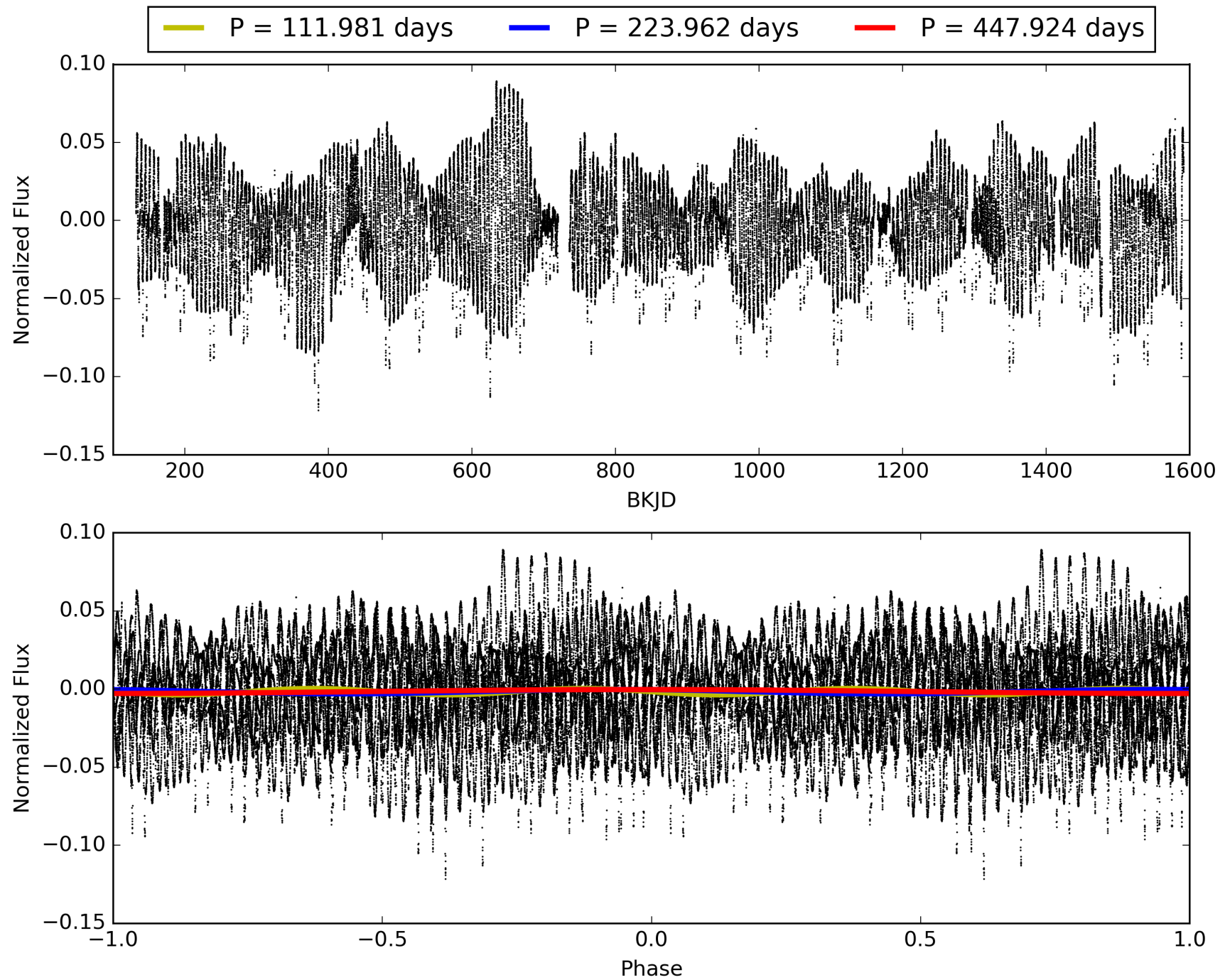
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:17:19 Z

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

TCE 006603756-03, PDC Light Curves

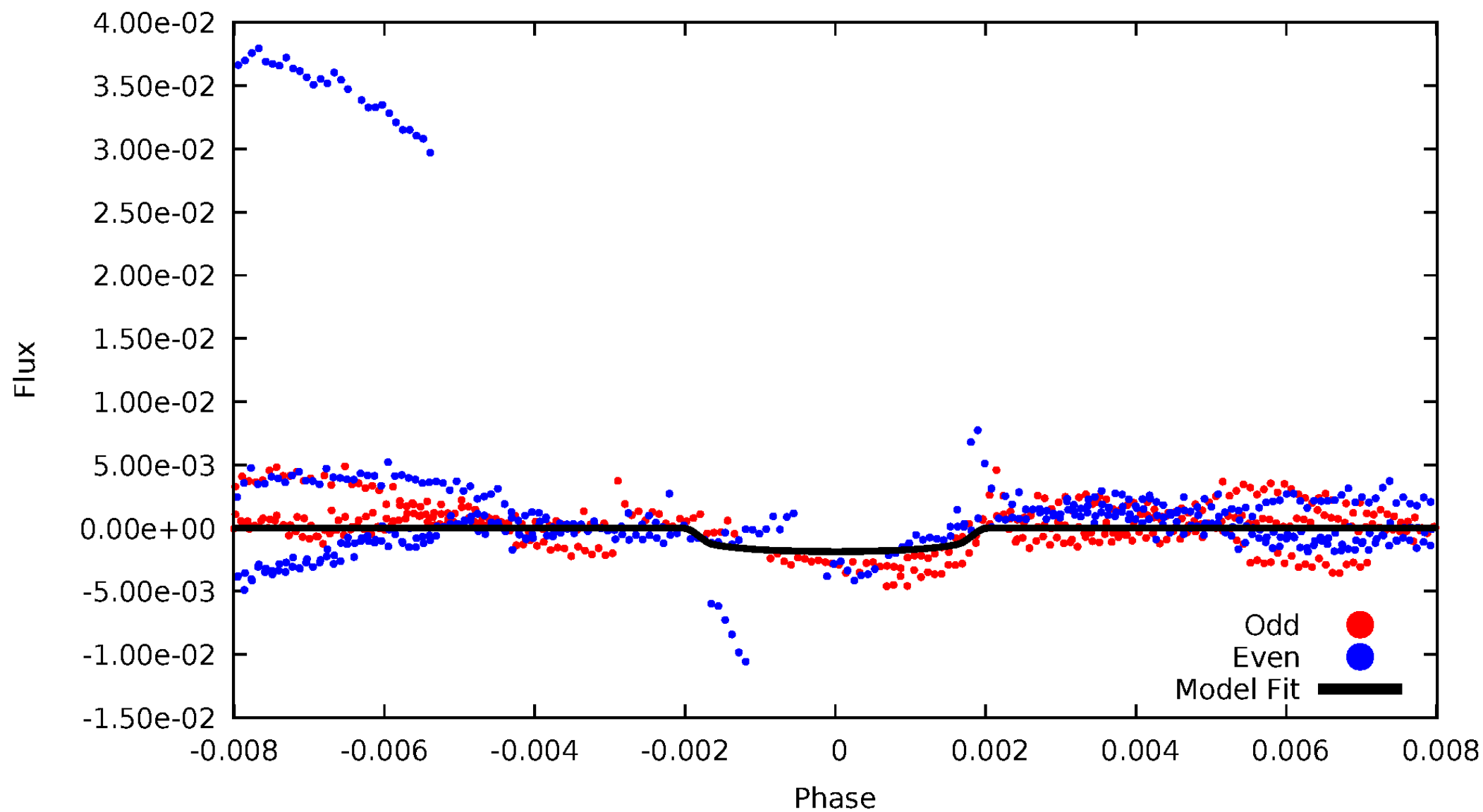


TCE 006603756-03



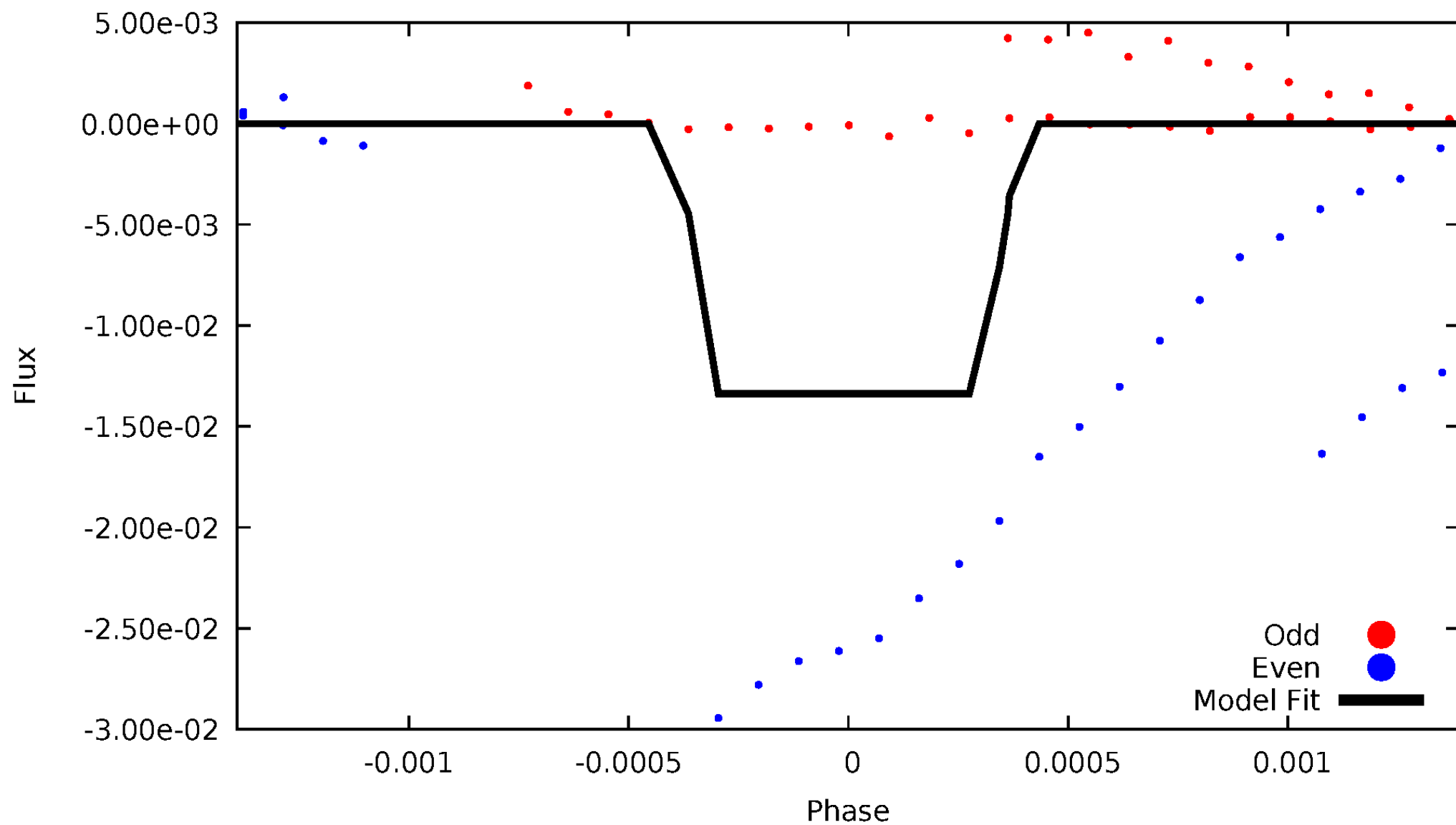
DV Odd/Even

TCE 006603756-03



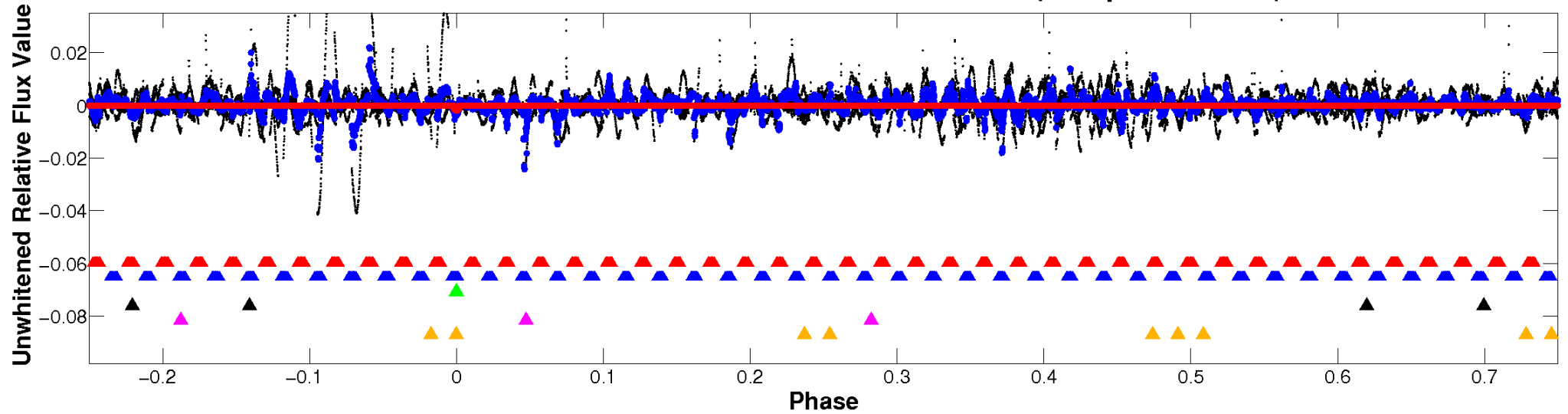
ALT Odd/Even

TCE 006603756-03

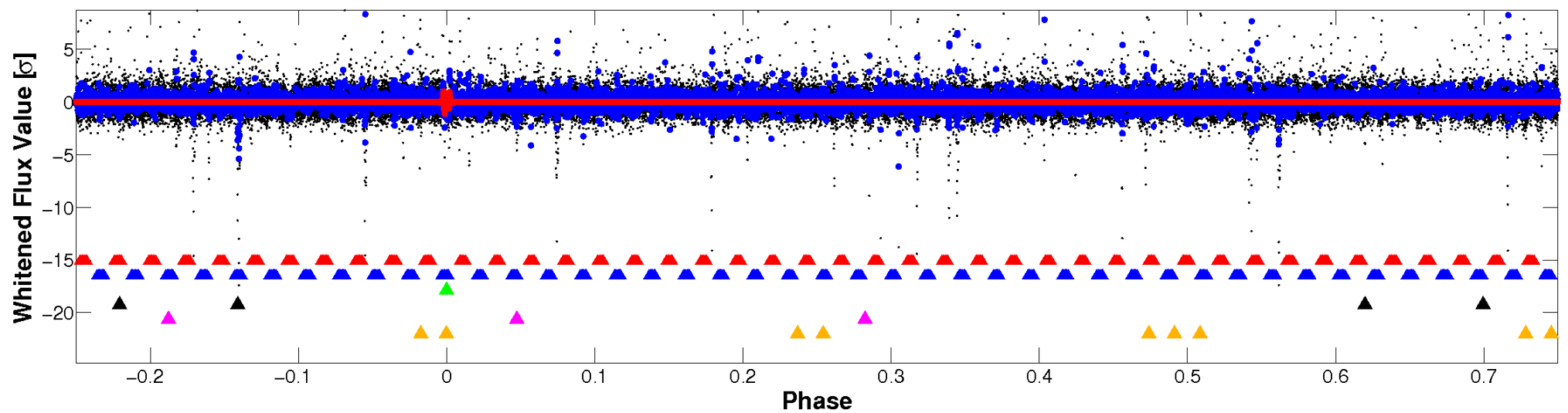


Non-Whitened Vs. Whitened Light Curve

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

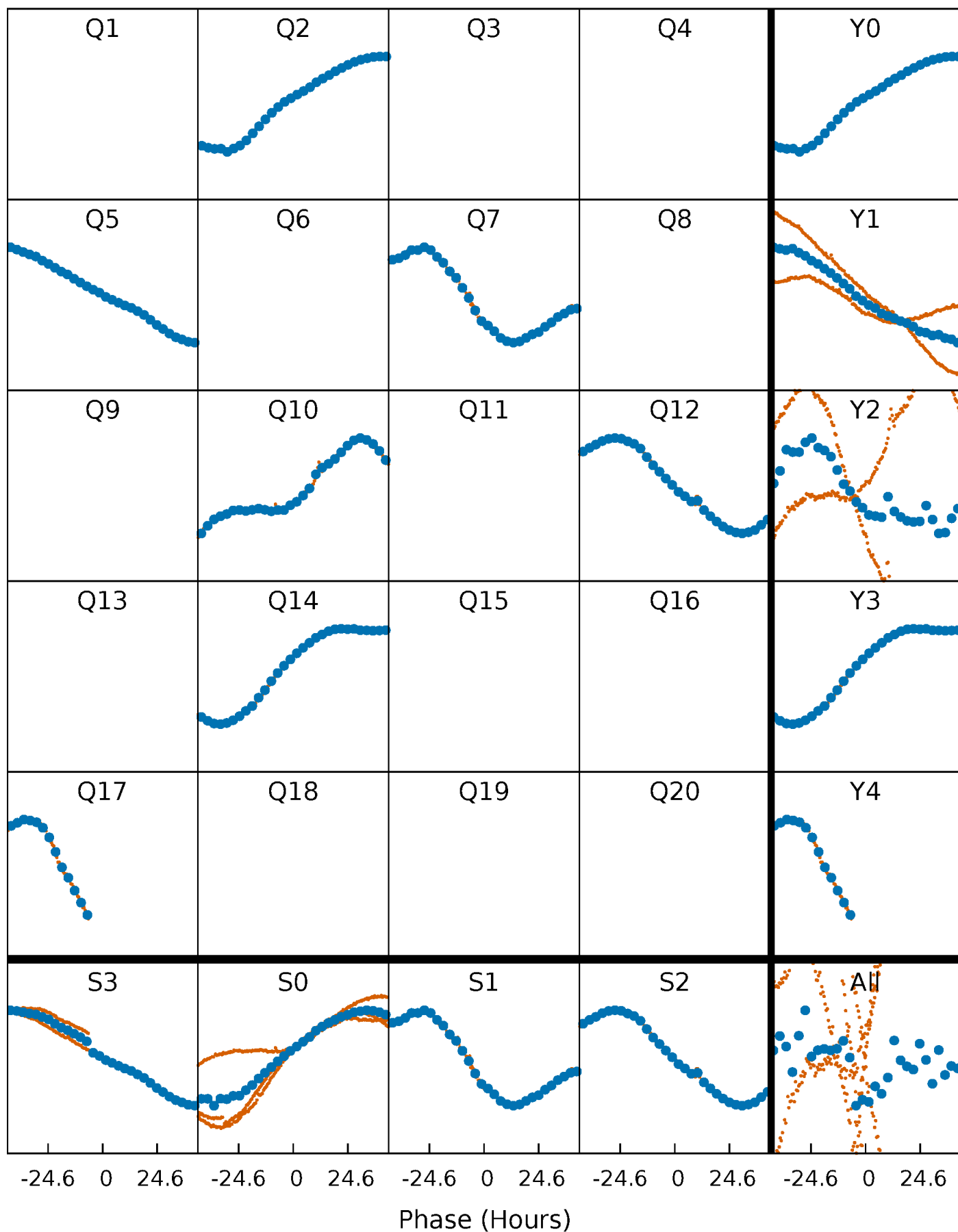


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



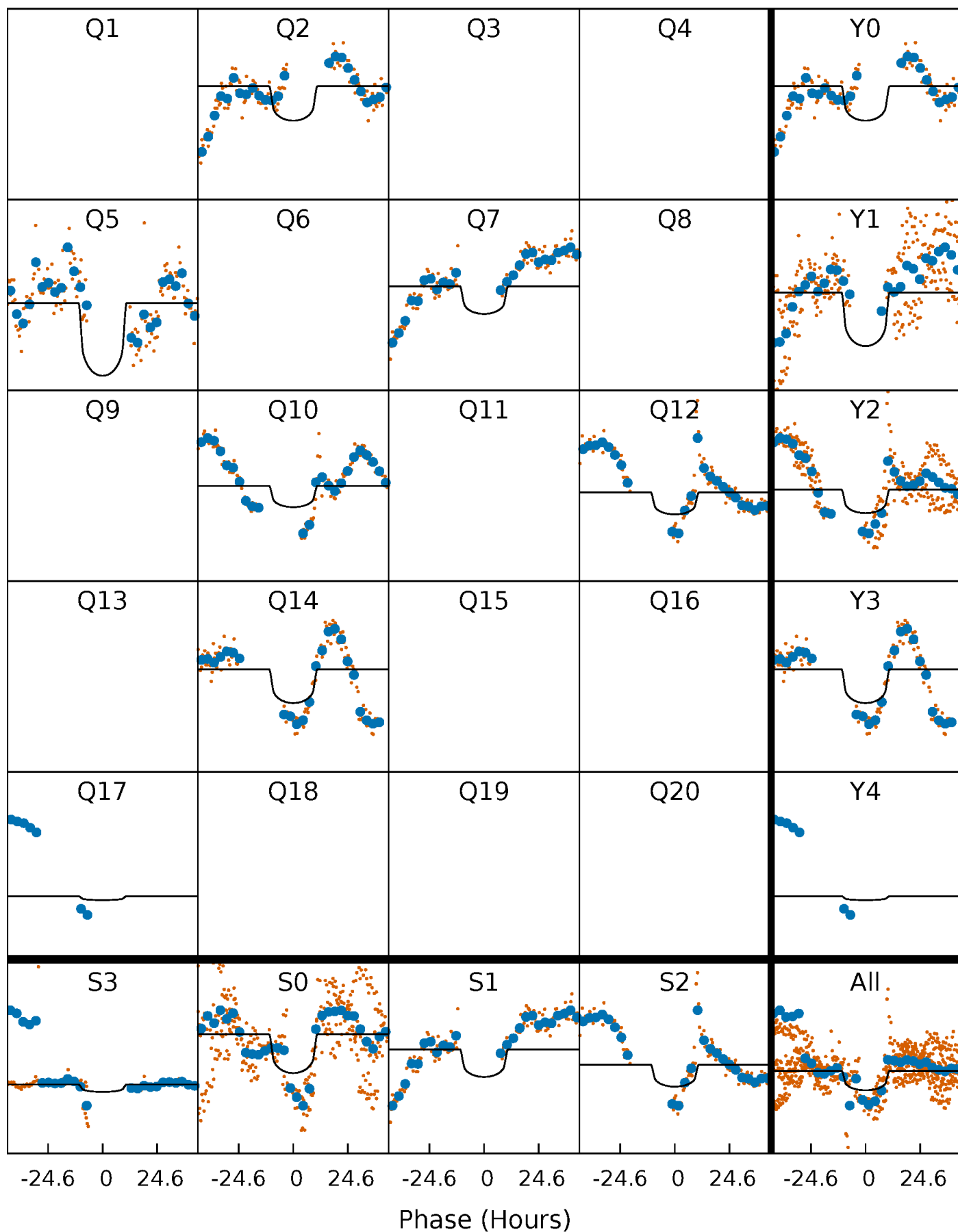
PDC Quarter-Phased Transit Curves

TCE 006603756-03 $P=223.962004$ Days $T_0=247.496542$ (BKJD)



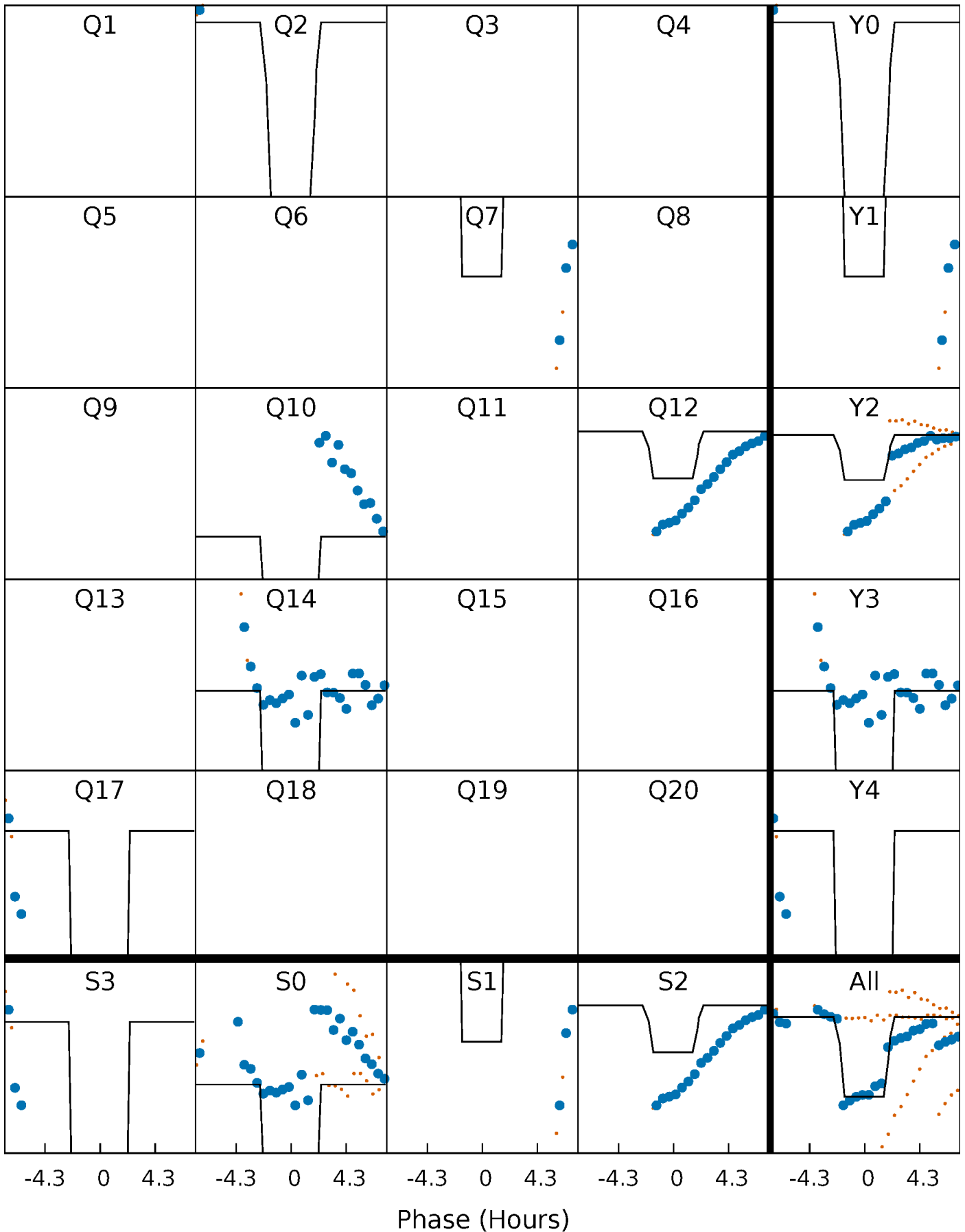
DV Quarter-Phased Transit Curves

TCE 006603756-03 $P=223.962004$ Days $T_0=247.496542$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

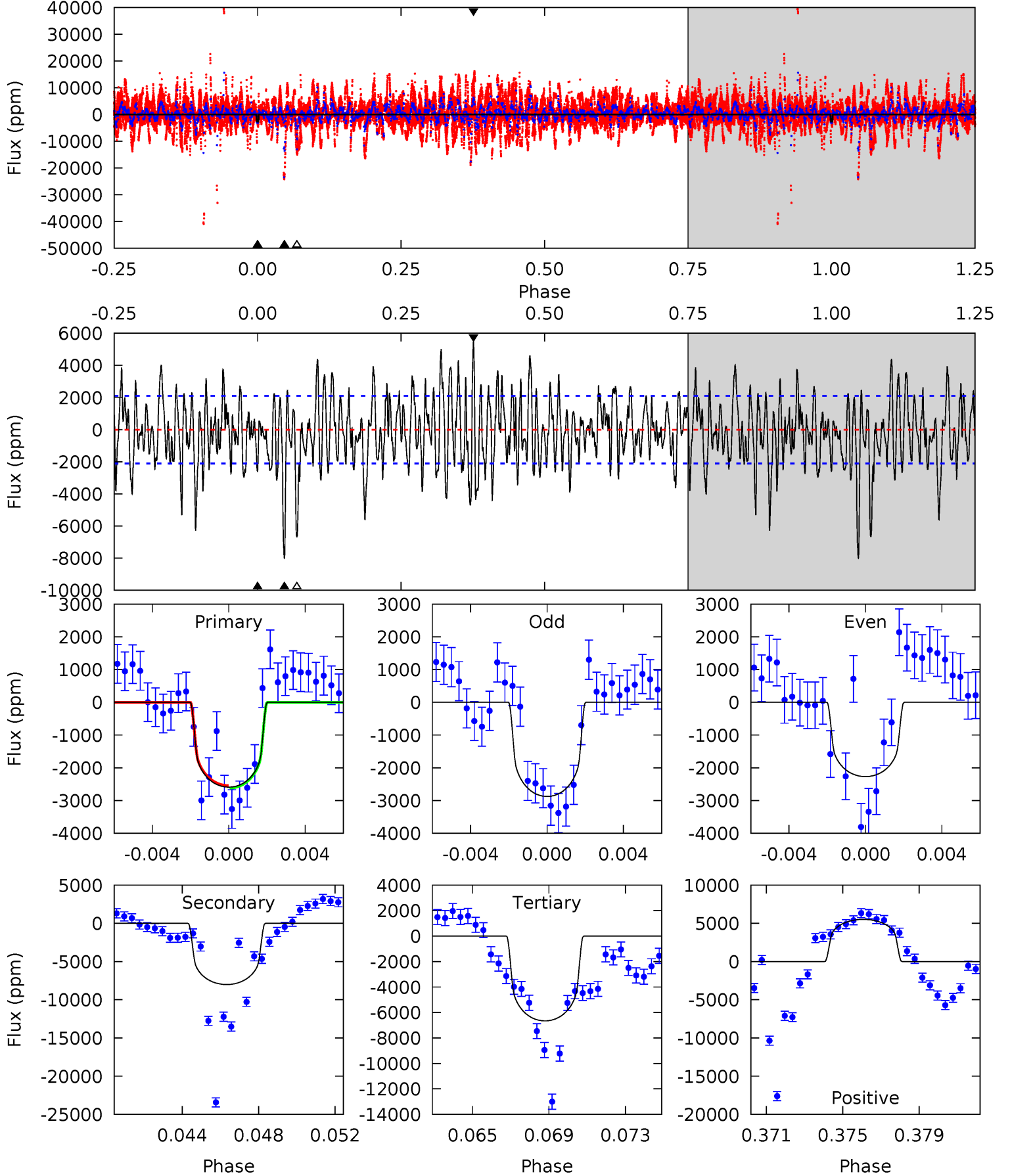
TCE 006603756-03 P=223.931384 Days $T_0=247.660265$ (BKJD)



DV Model-Shift Uniqueness Test

006603756-03, P = 223.962004 Days, E = 23.534538 Days

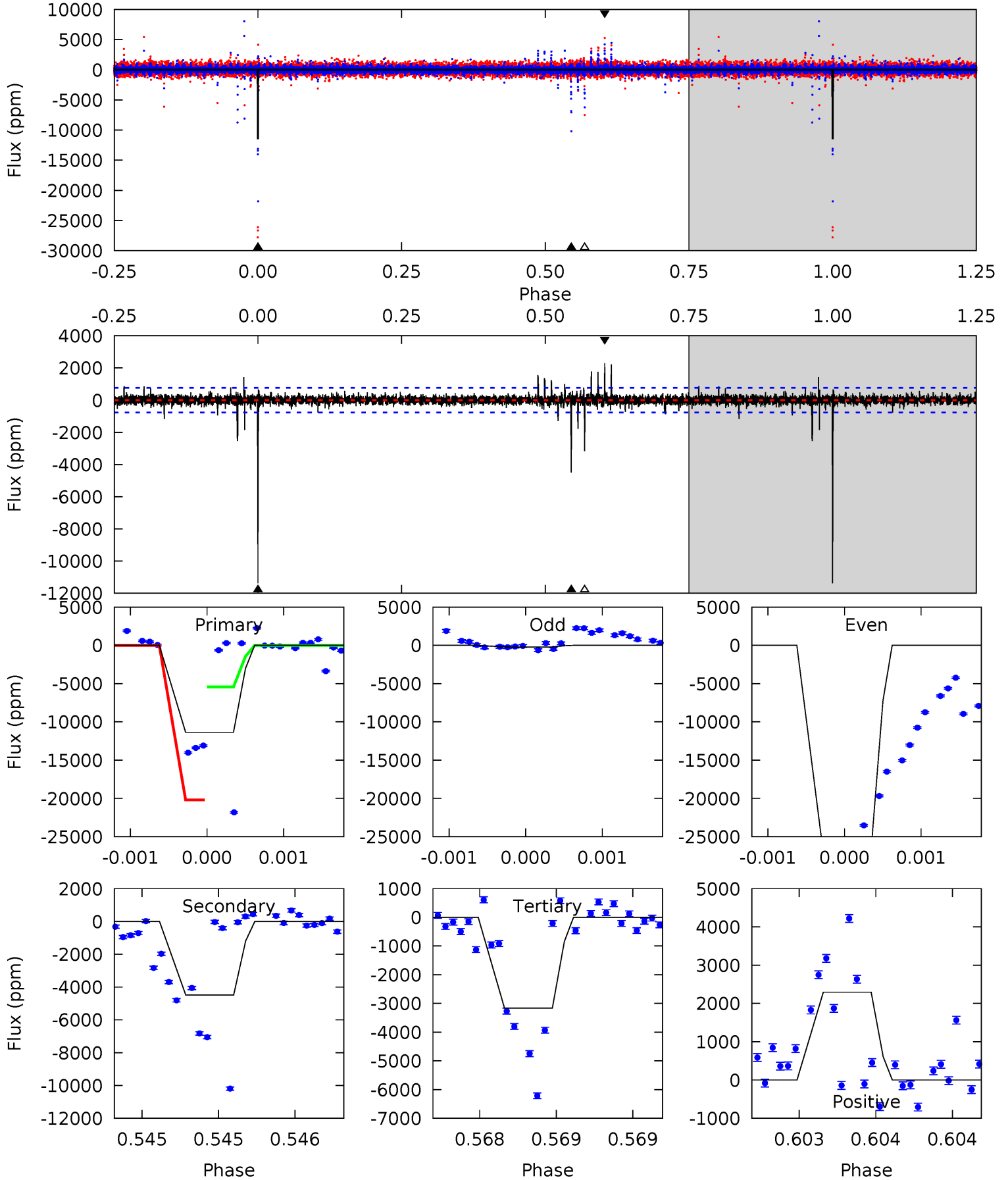
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.41	19.8	16.5	13.6	5.20	2.88	4.45	-10.1	-7.23	3.34	6.18	0.69	1.43	0.41	0.09



Alt Model-Shift Uniqueness Test

006603756-03, P = 223.931384 Days, E = 23.728881 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
81.5	32.2	22.7	16.4	5.51	3.38	1.17	58.8	65.0	9.52	15.7	96.8	1.00	0.17	49.3



Stellar Parameters For KIC 006603756

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5332^{+167}_{-167}	$4.471^{+0.108}_{-0.120}$	$-0.120^{+0.300}_{-0.300}$	$0.860^{+0.138}_{-0.113}$	$0.798^{+0.113}_{-0.061}$	$1.766^{+0.865}_{-0.624}$
	+3%/-3%	+2%/-3%	+250%/-250%	+16%/-13%	+14%/-8%	+49%/-35%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006603756-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-8010 ± 404	$4.06^{+0.64}_{-0.58}$	373^{+20}_{-18}	7848^{+765}_{-602}	123331^{+42675}_{-30311}
Alt.	-4489 ± 139	$10.95^{+1.25}_{-0.91}$	374^{+19}_{-19}	4279^{+122}_{-128}	9329^{+1780}_{-1579}

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 $A_{obs} \gg 1.0$

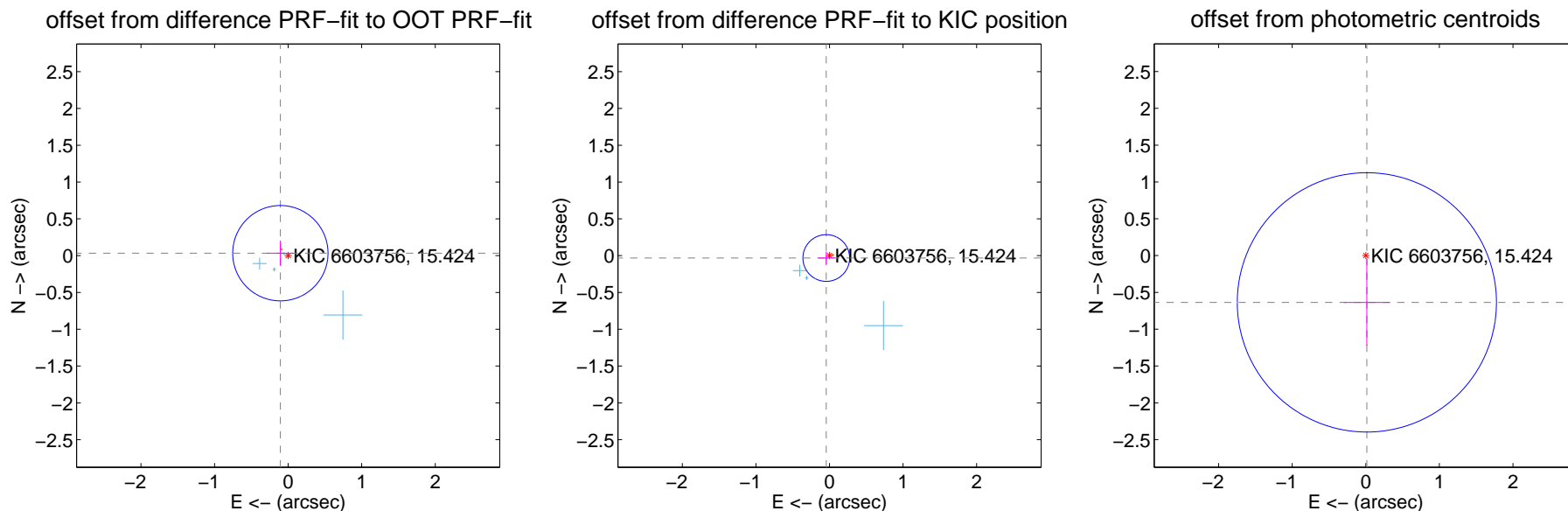
DV Centroid Data

Supplemental centroid analysis for 006603756-03. Kepler magnitude: 15.42. Transit SNR 5.36

There are 4 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.111 ± 0.216	0.51	0.105 ± 0.183	0.033 ± 0.171
PRF-fit source offset from KIC position	0.054 ± 0.106	0.51	0.044 ± 0.114	-0.032 ± 0.088
photometric centroid source offset	0.64 ± 0.59	1.08	-0.01 ± 0.31	-0.64 ± 0.59

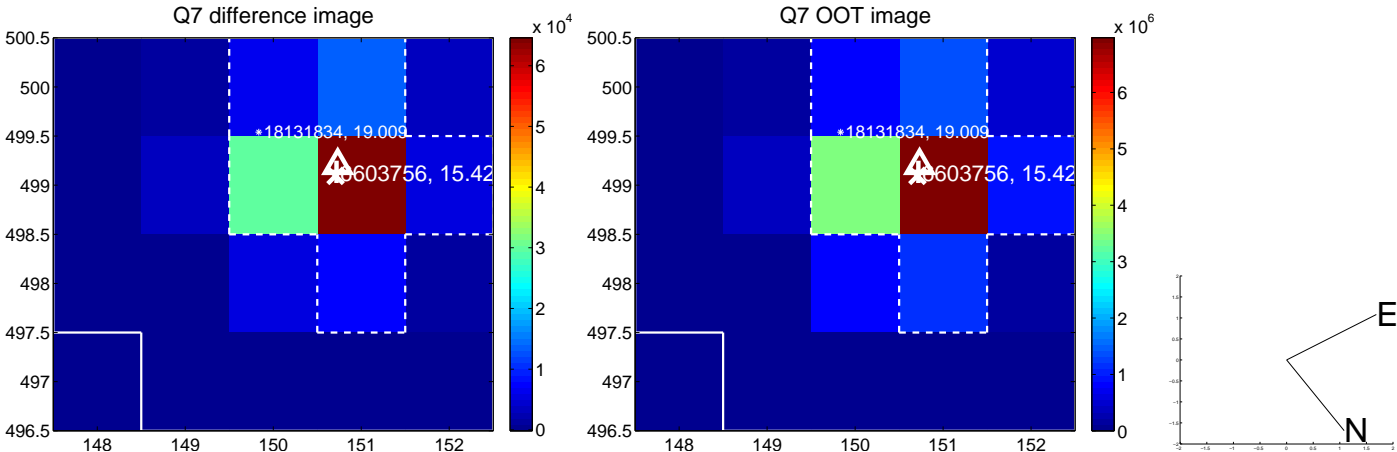
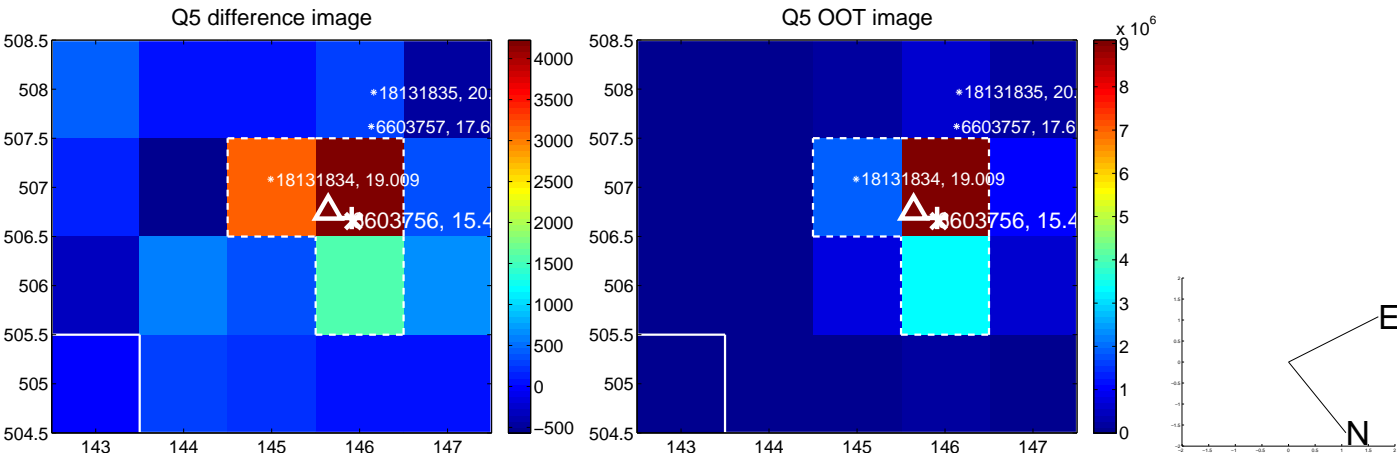


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

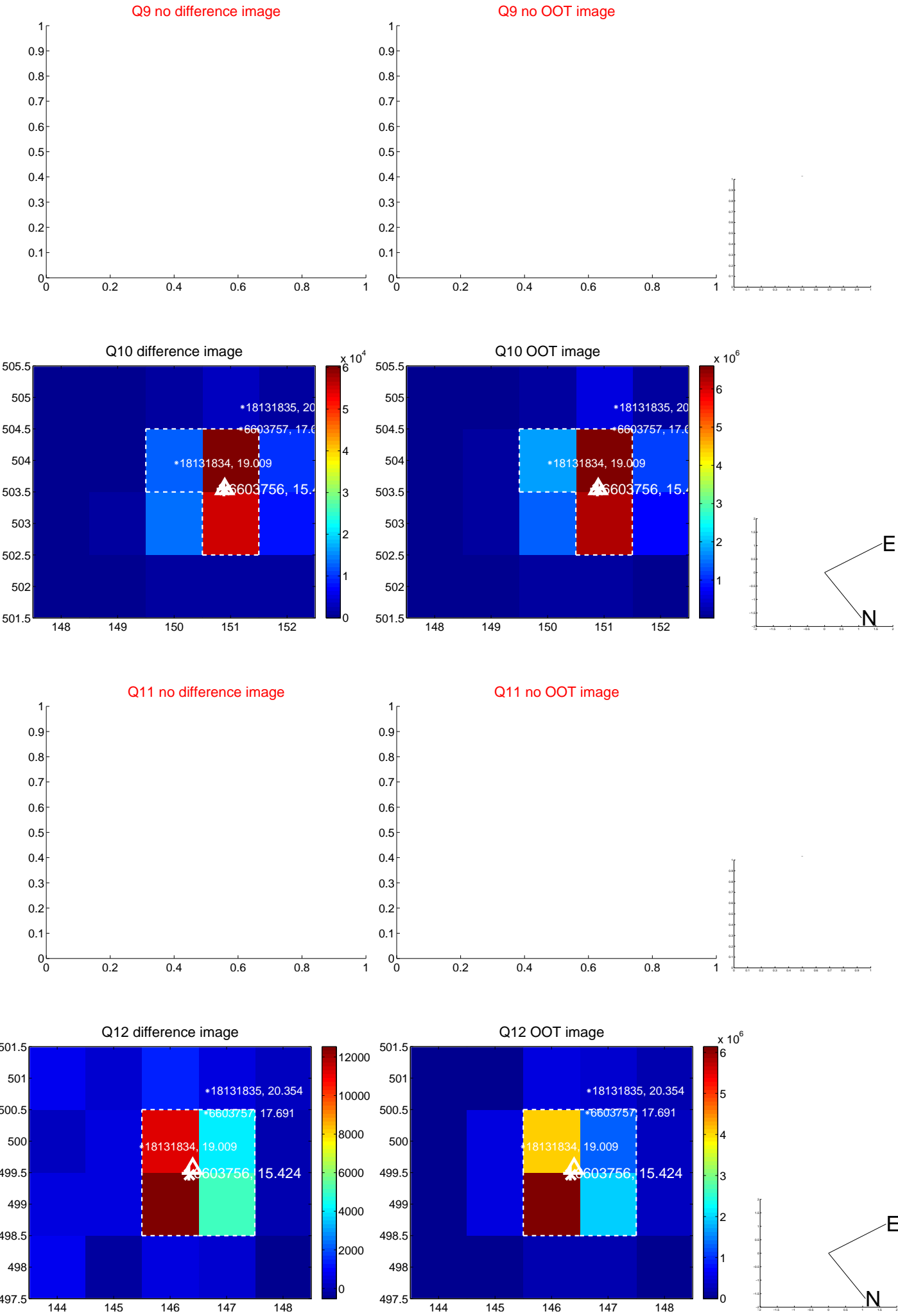
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



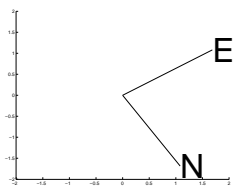
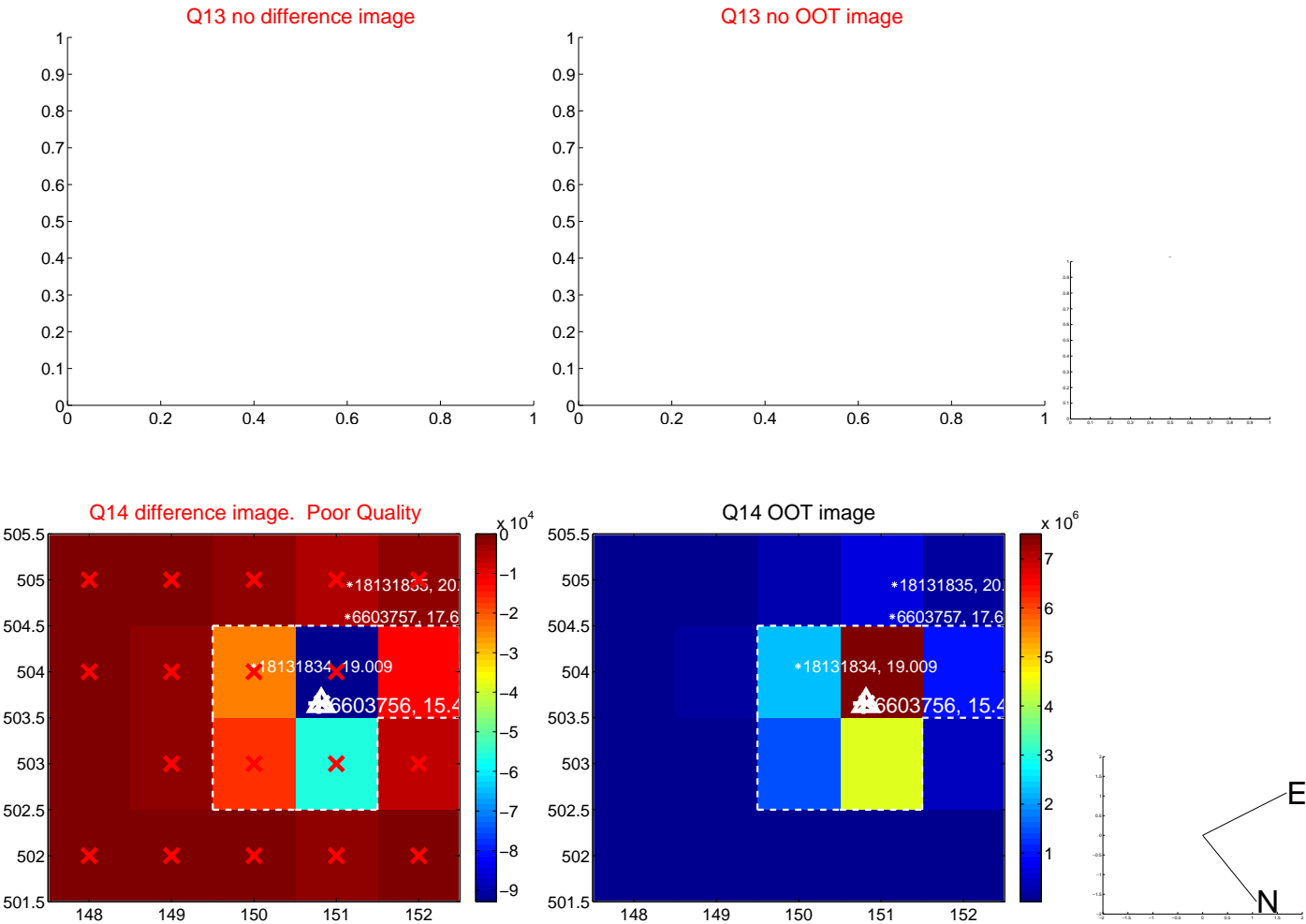
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



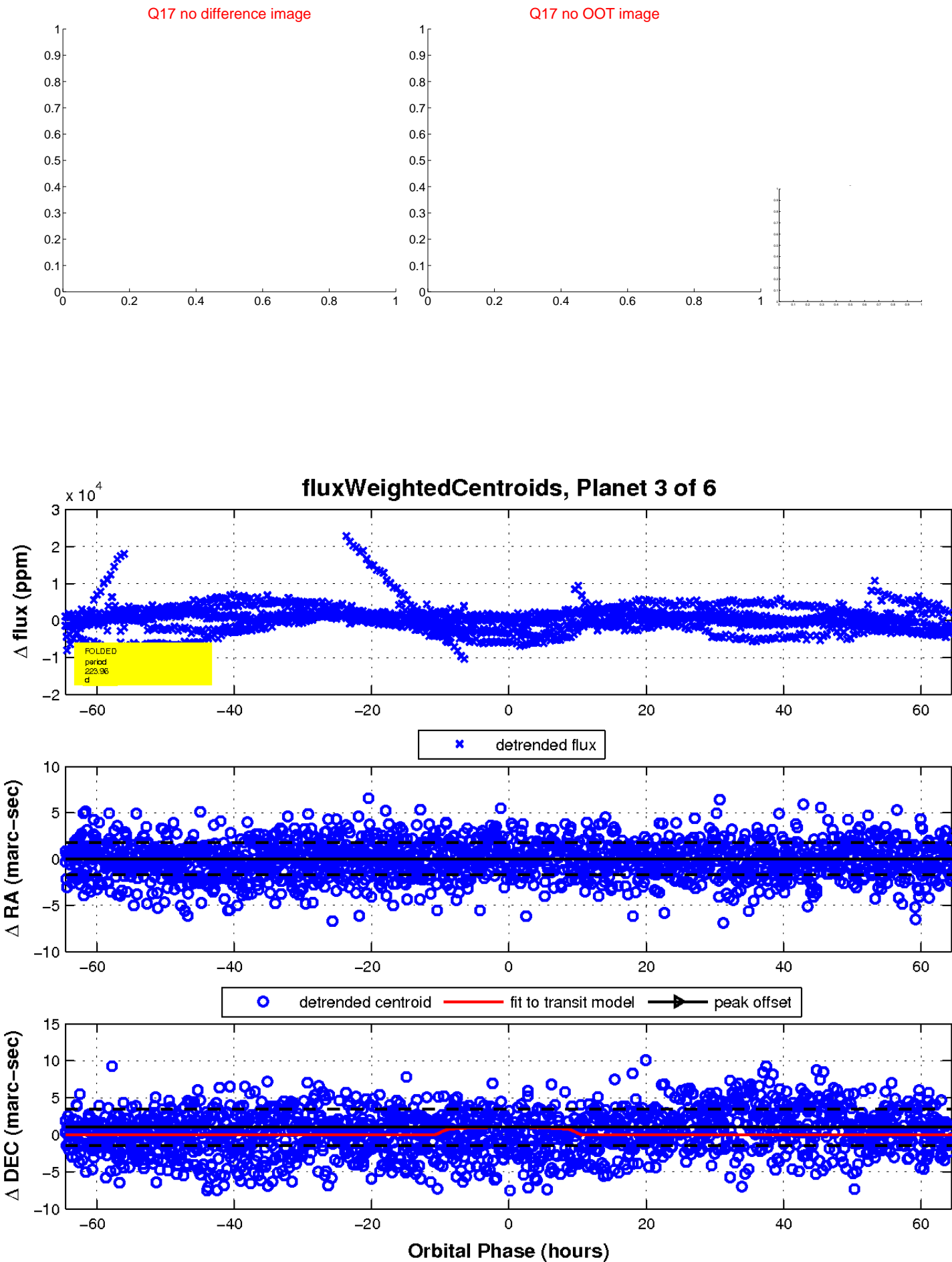
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

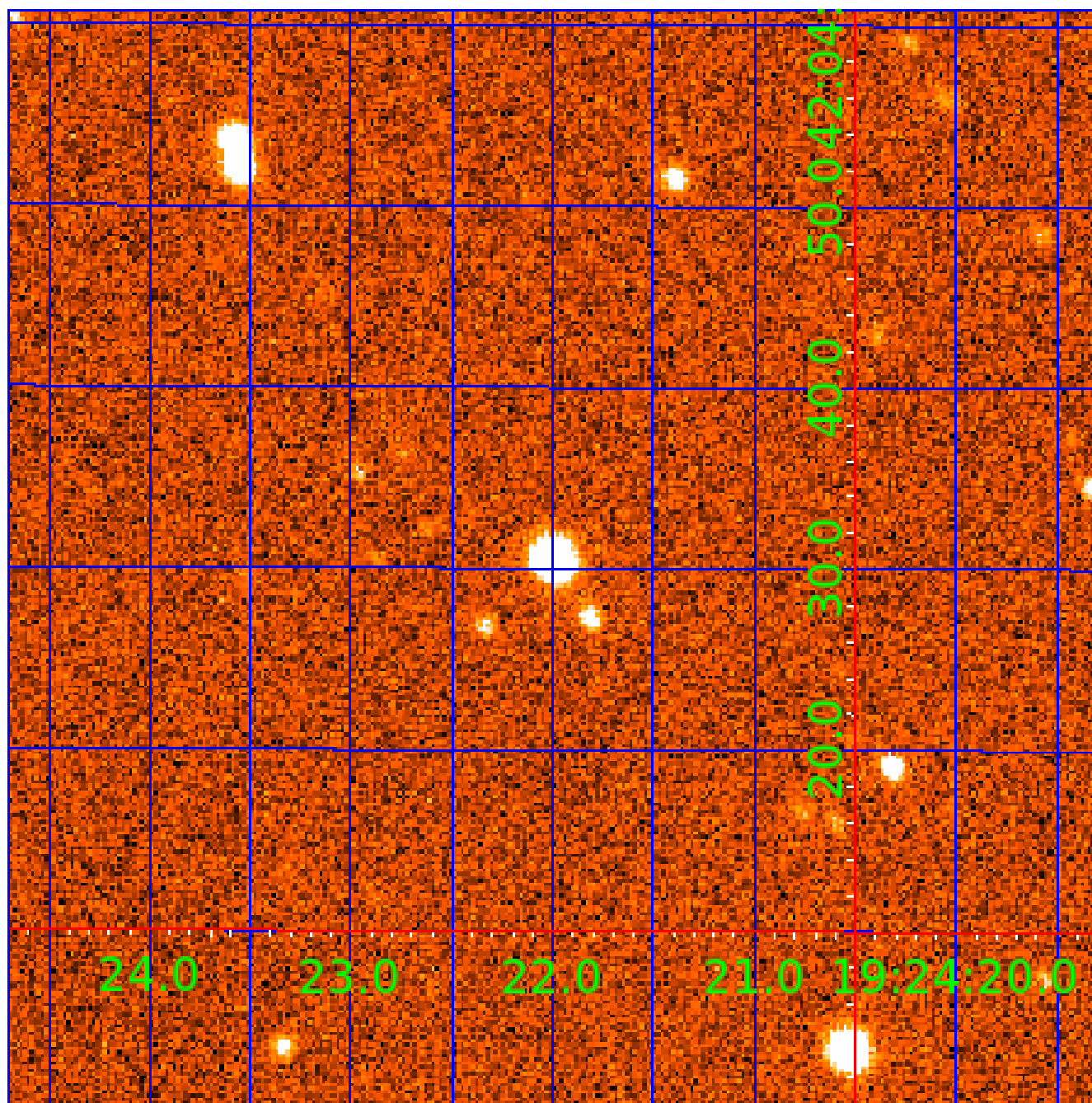


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006603756

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})
006603756-01	OBS	1729.01	5.204280	135.886367	34719.1	6.210	985.0	1018.9	0.86	5332	15.89	180.15
006603756-02	OBS	No	5.204268	133.285881	1222.9	6.257	43.3	48.0	0.86	5332	3.49	180.15
006603756-03	OBS	No	223.962003	247.496542	1857.1	21.515	12.5	5.4	0.86	5332	3.99	1.20
006603756-04	OBS	No	465.786729	162.345664	2247.8	4.016	10.9	8.4	0.86	5332	5.00	0.45
006603756-05	OBS	No	500.562859	429.432864	1919.4	2.611	10.5	7.9	0.86	5332	4.17	0.41
006603756-06	OBS	No	167.005236	137.422454	1855.3	2.500	10.4	-1.0	0.86	5332	3.63	1.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006603756-01	OBS	PC	0.92	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—PLANET_OCCULT_ALT—HAS_SEC_TCE
006603756-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
006603756-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
006603756-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006603756-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006603756-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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 006603756-04

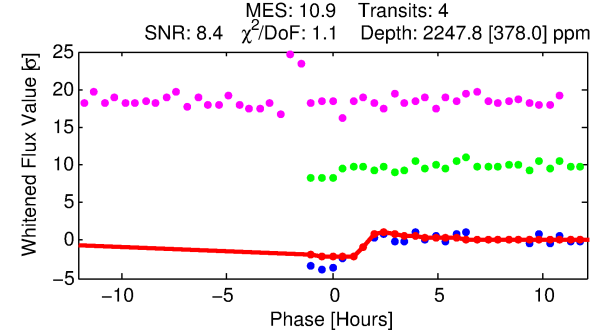
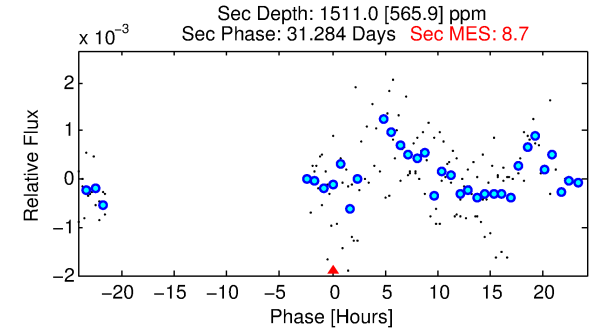
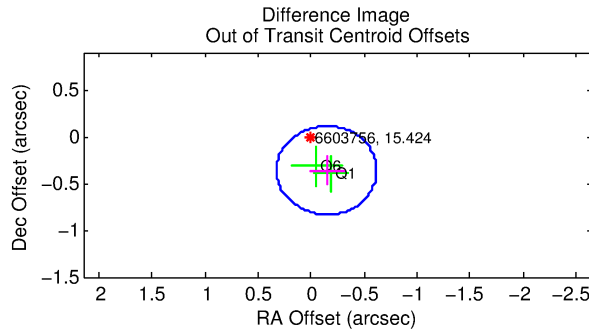
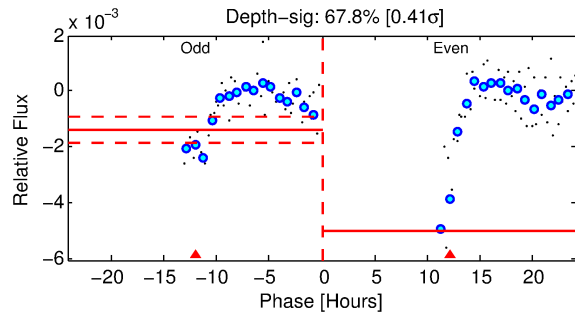
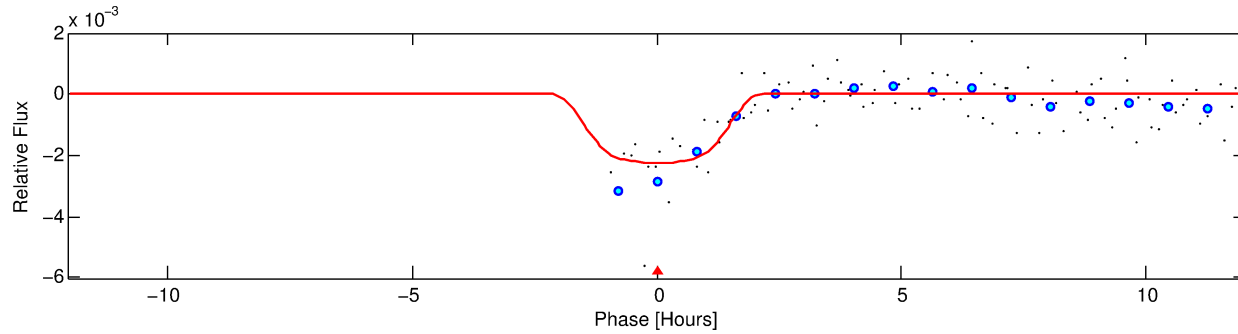
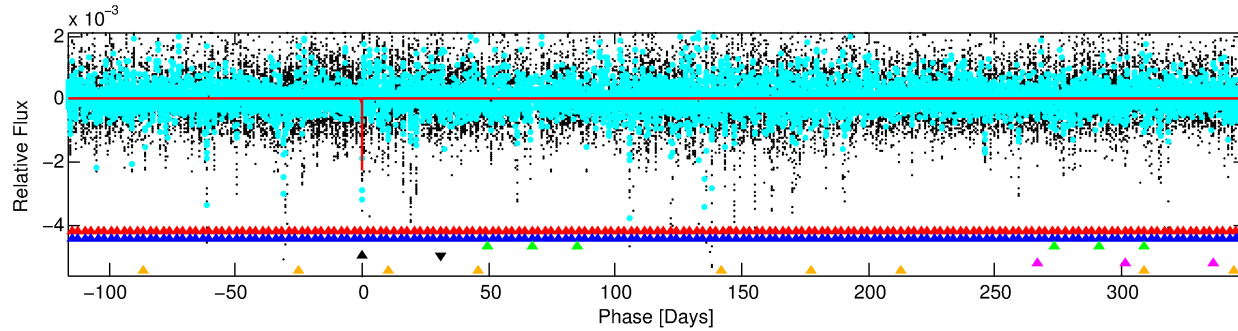
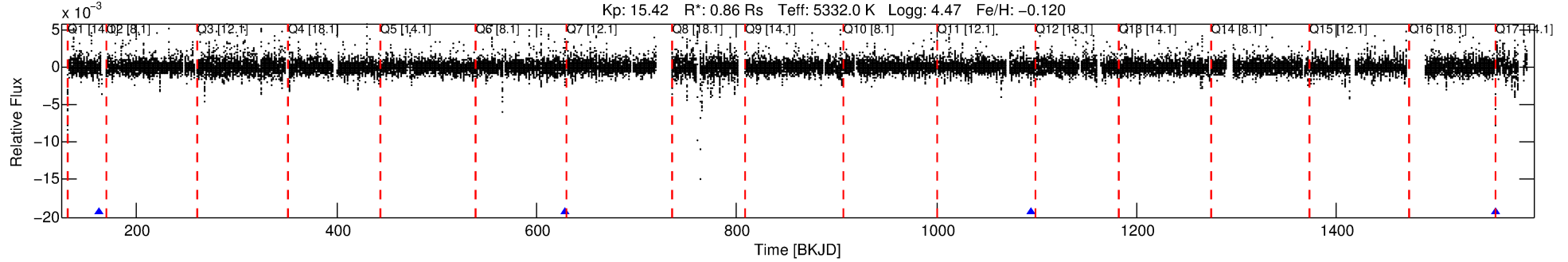
No Significant Match Found

DV One-Page Summary

KIC: 6603756 Candidate: 4 of 6 Period: 465.787 d

KOI: K01729 Corr: No Ephemeris Match

Kp: 15.42 R*: 0.86 Rs Teff: 5332.0 K Logg: 4.47 Fe/H: -0.120



DV Fit Results:

Period = 465.78673 [0.00488] d
Epoch = 162.3457 [0.0167] BKJD
Rp/R* = 0.0533 [0.0072]
a/R* = 464.19 [202.25]
b = 0.91 [0.06]
Seff = 0.45 [0.11]
Teq = 209 [13] K
Rp = 5.00 [1.05] Re
a = 1.0910 [0.1540] AU
Ag = 39526.85 [20121.51] [1.96σ]
Teffp = 4553 [545] K [7.97σ]

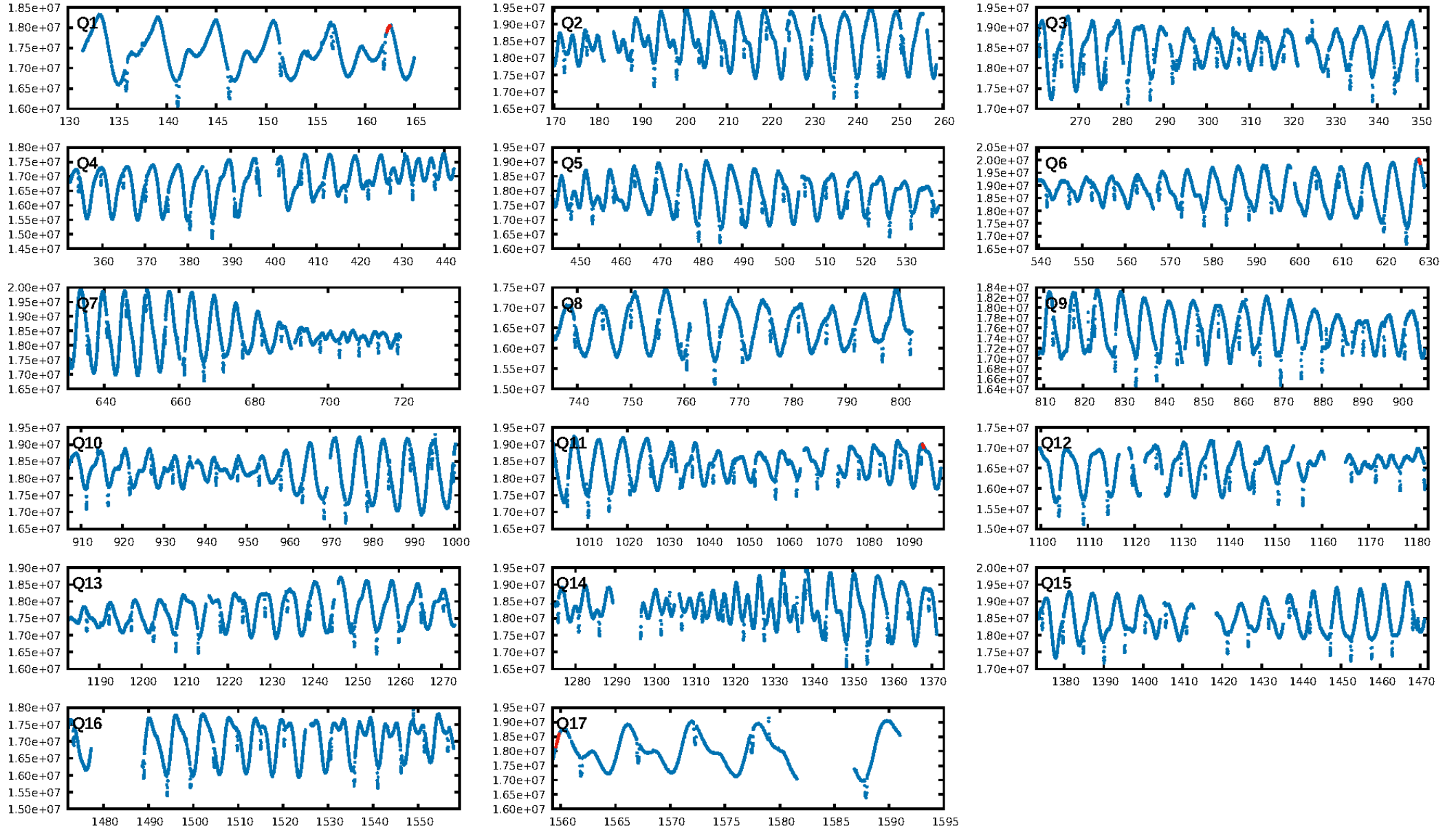
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [265.18σ]
LongPeriod-sig: 100.0% [174.23σ]
ModelChiSquare2-sig: 6.5%
ModelChiSquareGof-sig: 99.0%
Bootstrap-pfa: 1.11e-10
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 1.286
Centroid-sig: 65.8%
Centroid-so: 0.333 arcsec [0.53σ]
OotOffset-rm: 0.390 arcsec [2.48σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-rm: 0.467 arcsec [2.96σ]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 0.00 [0/2]

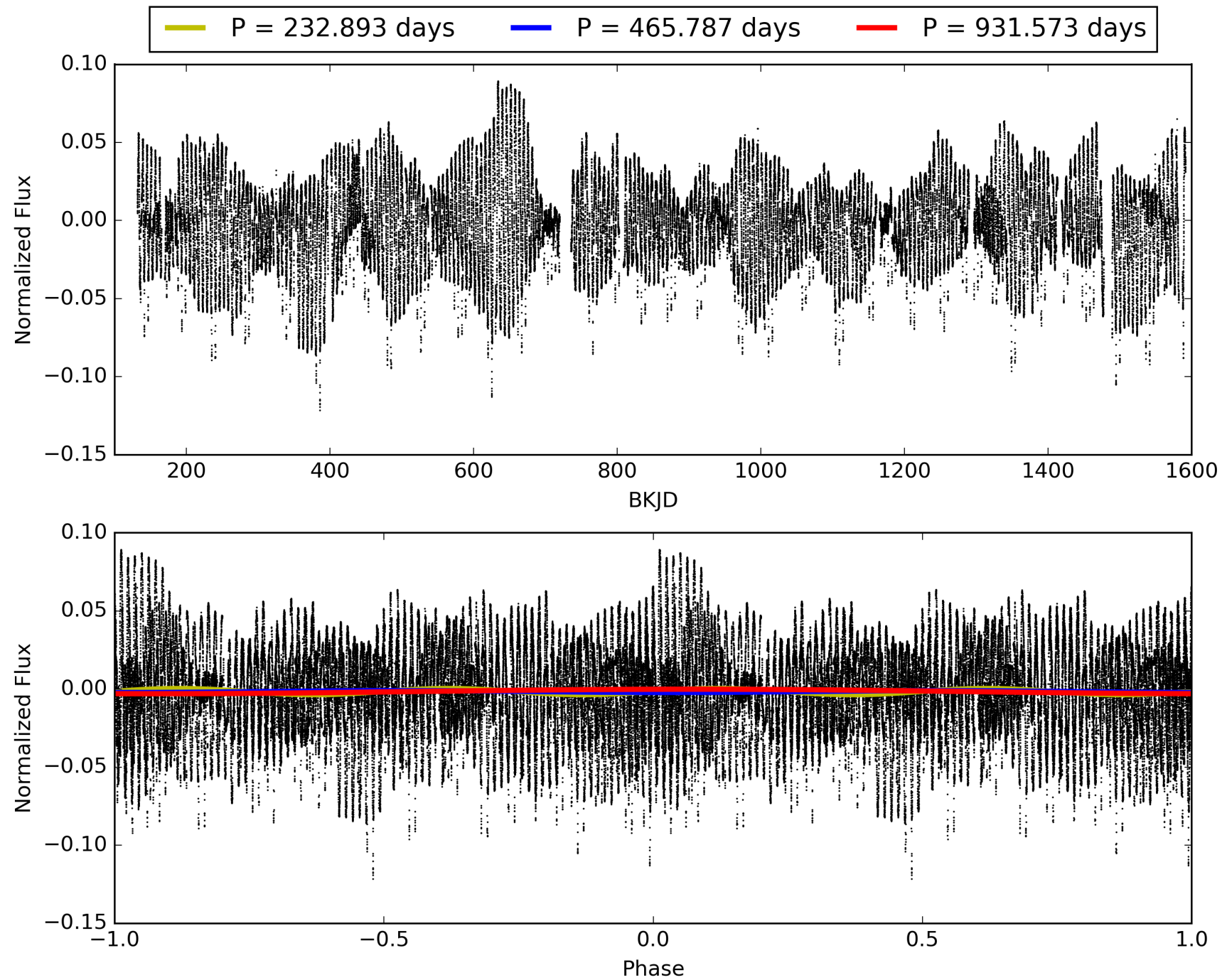
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:17:32 Z

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

TCE 006603756-04, PDC Light Curves

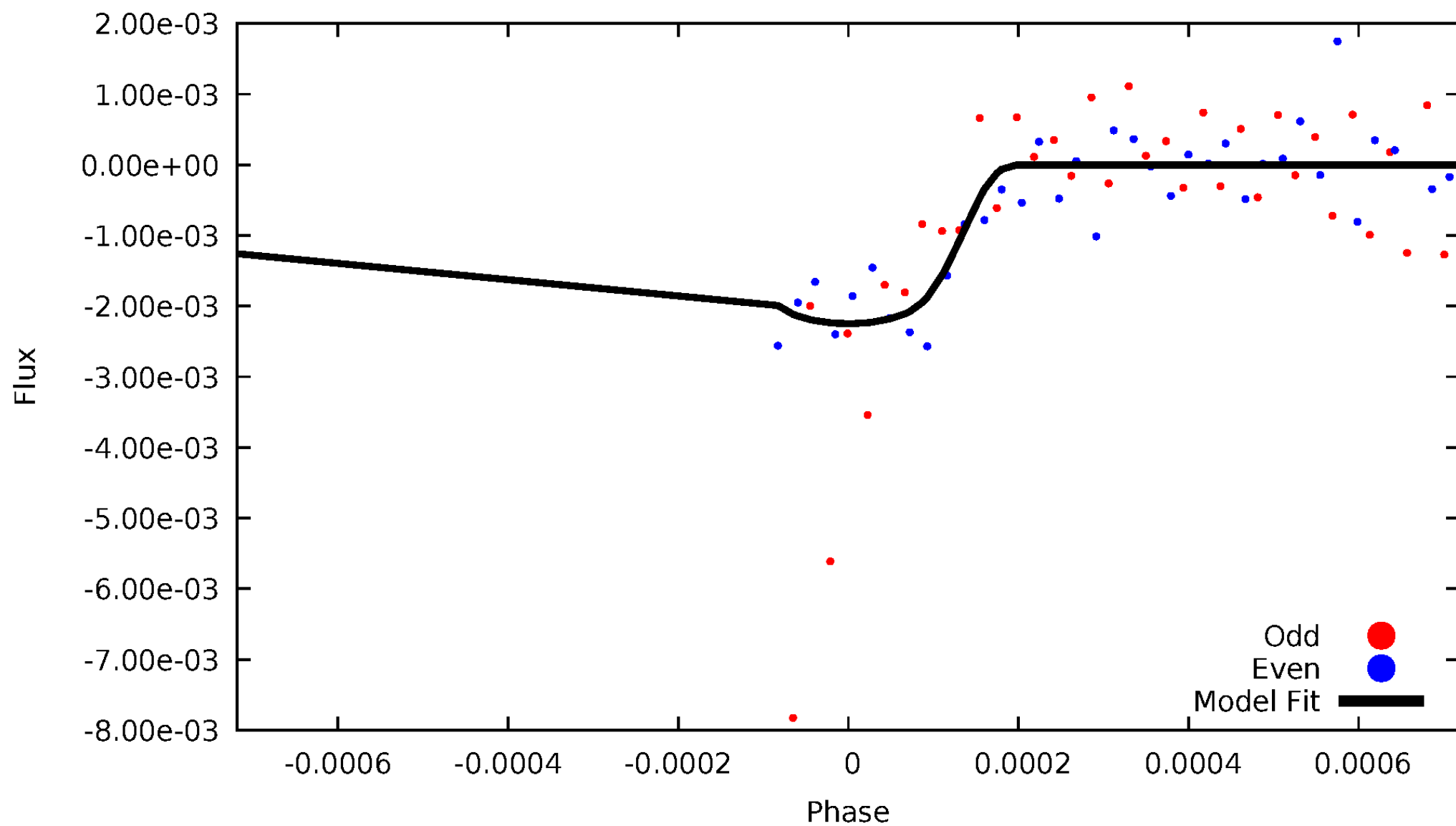


TCE 006603756-04



DV Odd/Even

TCE 006603756-04

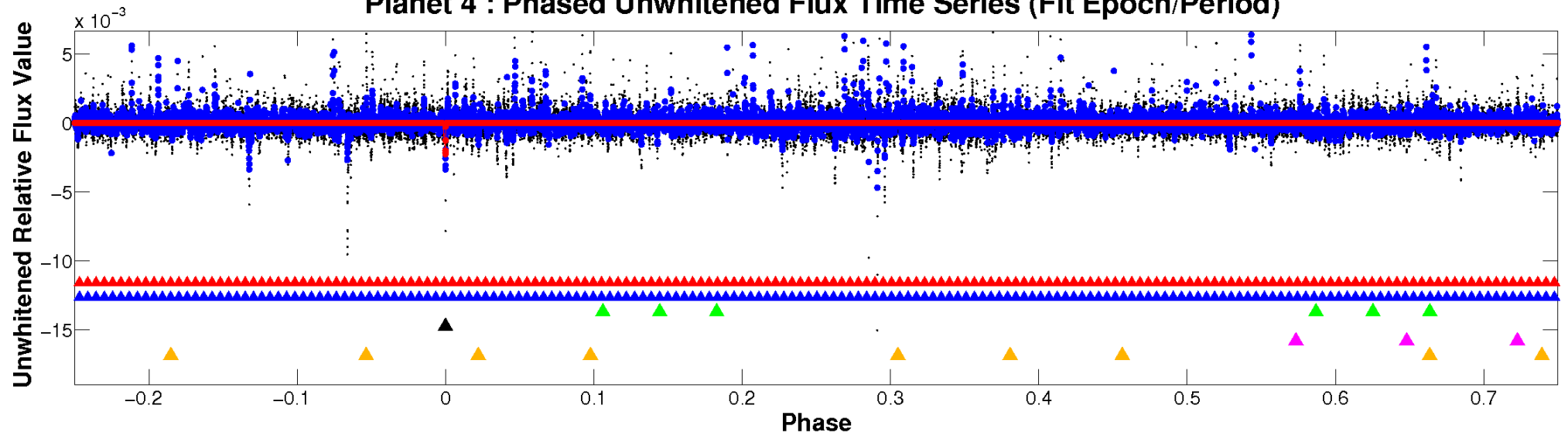


ALT Odd/Even

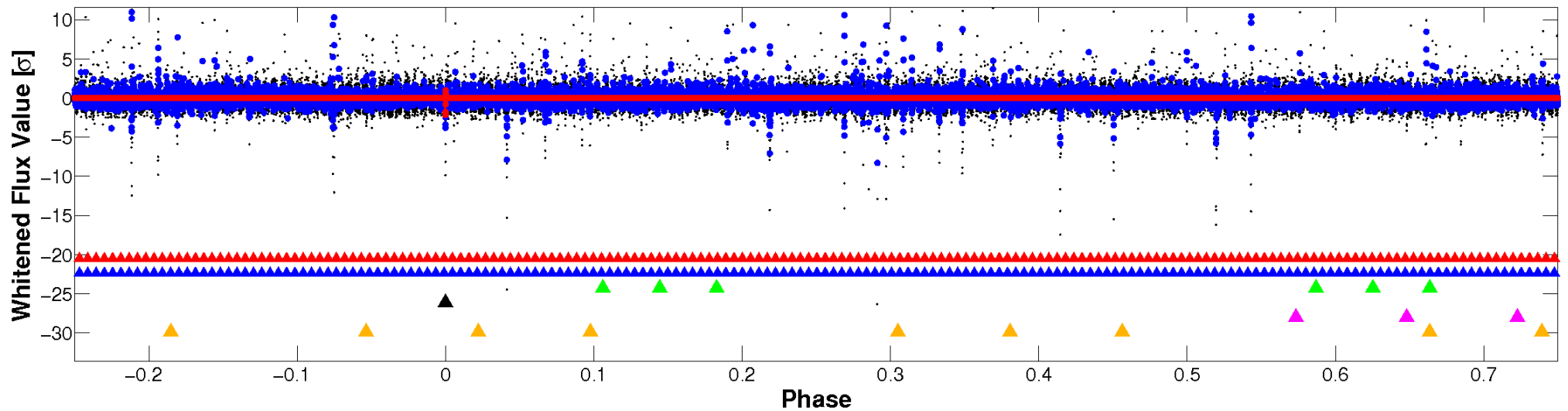
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

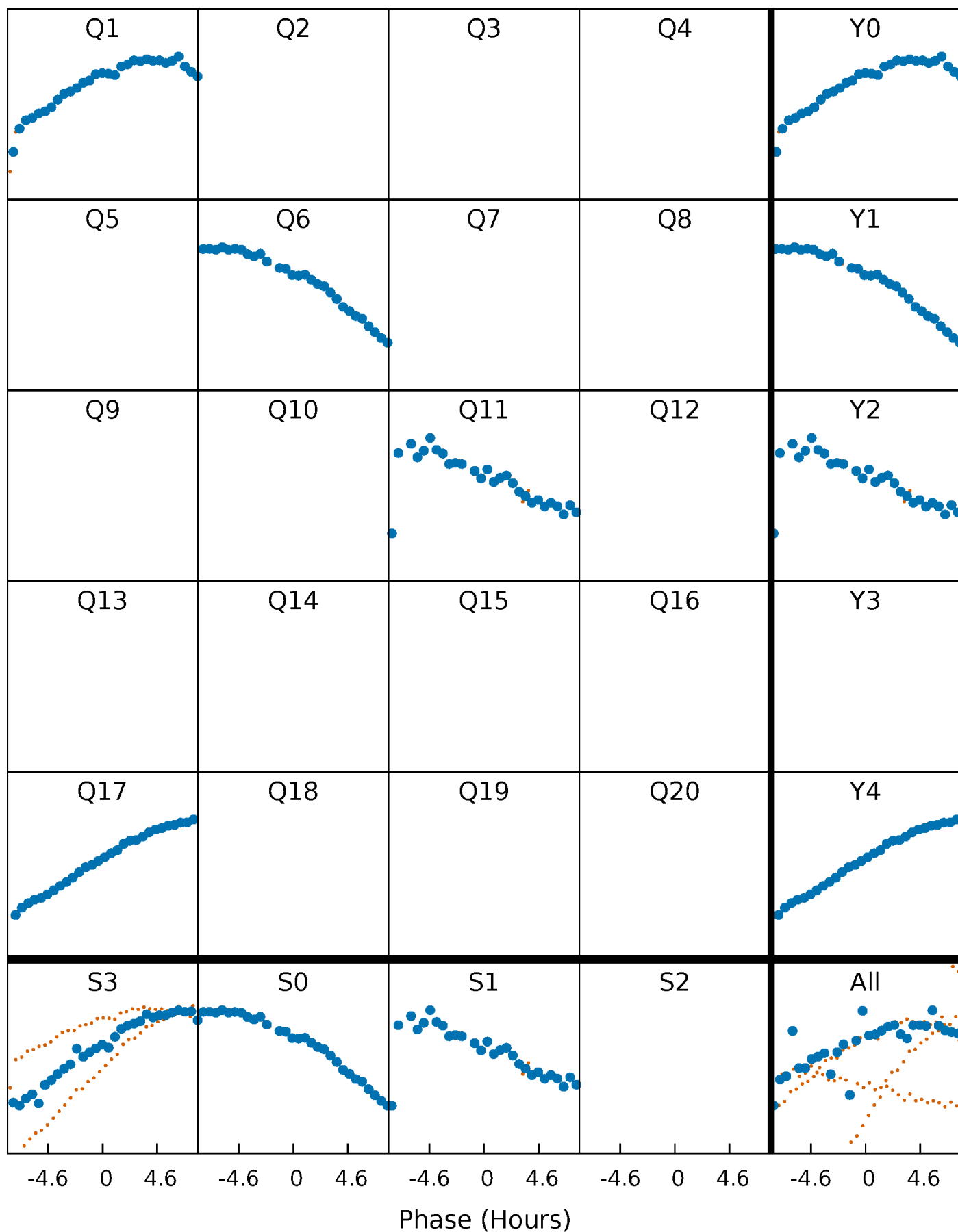


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



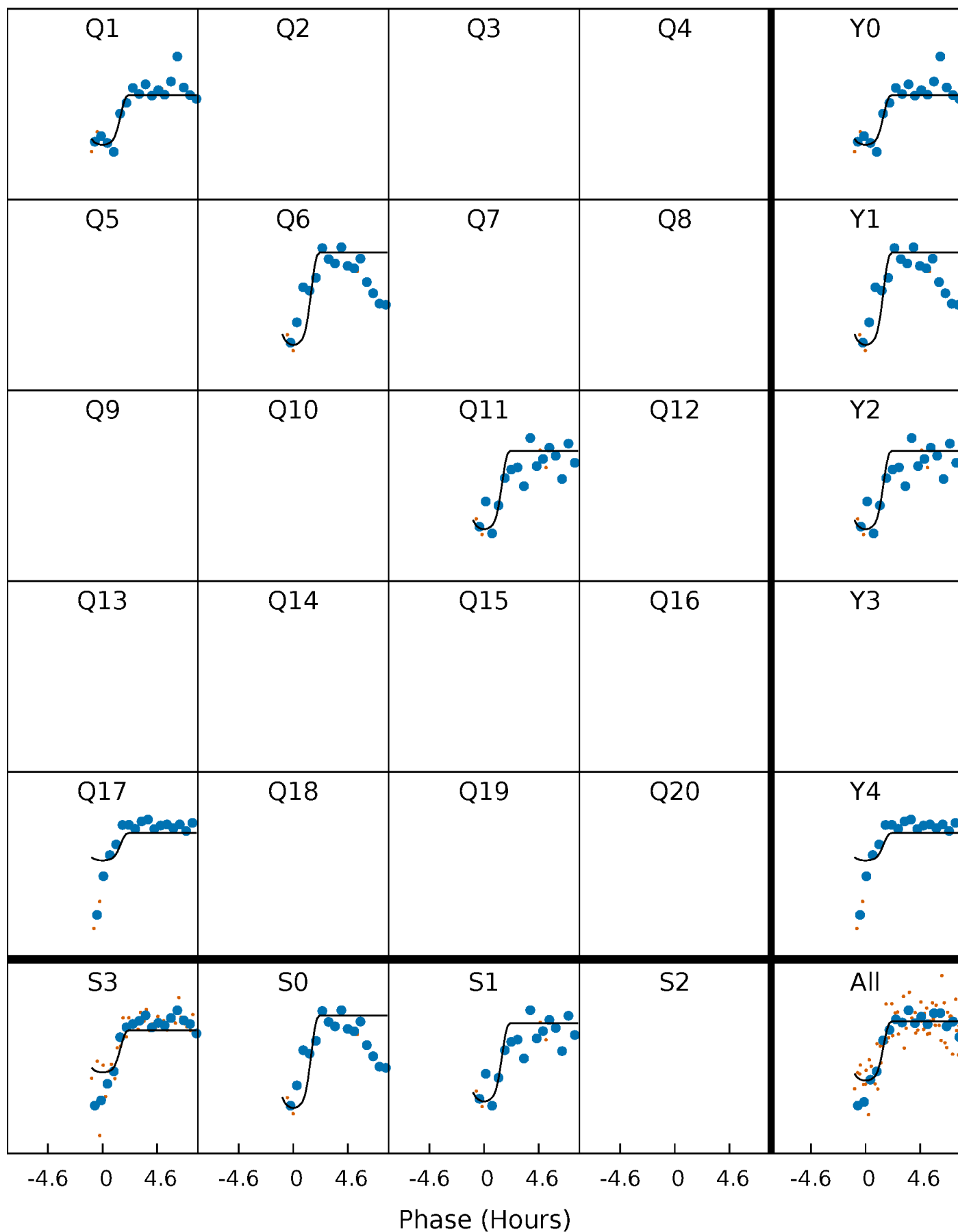
PDC Quarter-Phased Transit Curves

TCE 006603756-04 $P=465.786729$ Days $T_0=162.345664$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 006603756-04 P=465.786729 Days $T_0=162.345664$ (BKJD)

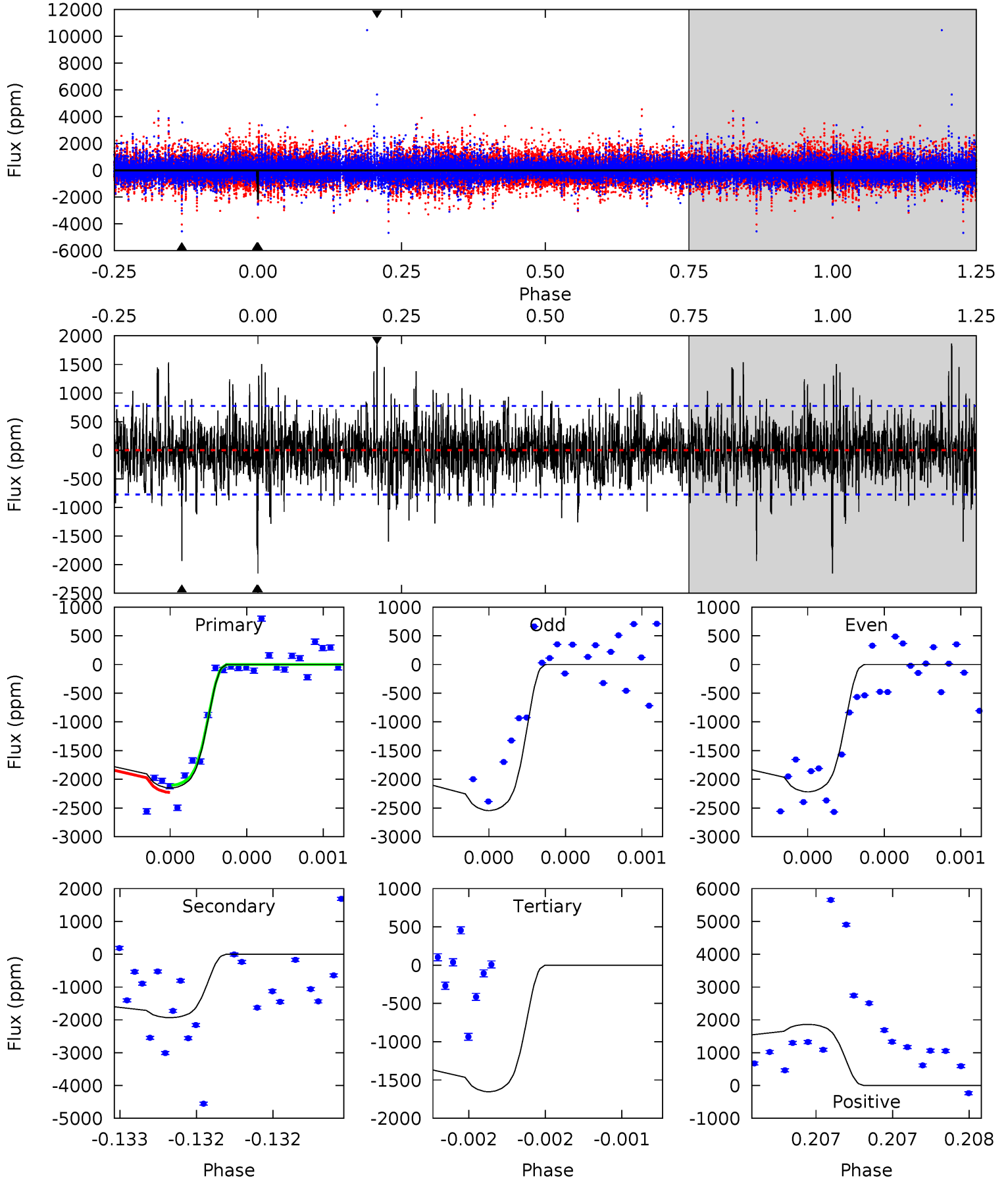


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

006603756-04, P = 465.786729 Days, E = 162.345664 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.8	14.2	12.1	13.7	5.68	3.64	2.28	3.65	2.11	2.05	0.52	1.02	1.20	0.46	0.38



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 006603756

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5332^{+167}_{-167}	$4.471^{+0.108}_{-0.120}$	$-0.120^{+0.300}_{-0.300}$	$0.860^{+0.138}_{-0.113}$	$0.798^{+0.113}_{-0.061}$	$1.766^{+0.865}_{-0.624}$
	+3%/-3%	+2%/-3%	+250%/-250%	+16%/-13%	+14%/-8%	+49%/-35%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006603756-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1934 ± 136	$5.01^{+0.98}_{-0.76}$	293^{+17}_{-16}	4930^{+353}_{-300}	50815^{+19583}_{-14789}
Alt.	N/A	N/A	N/A	N/A	N/A

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 $A_{obs} \gg 1.0$

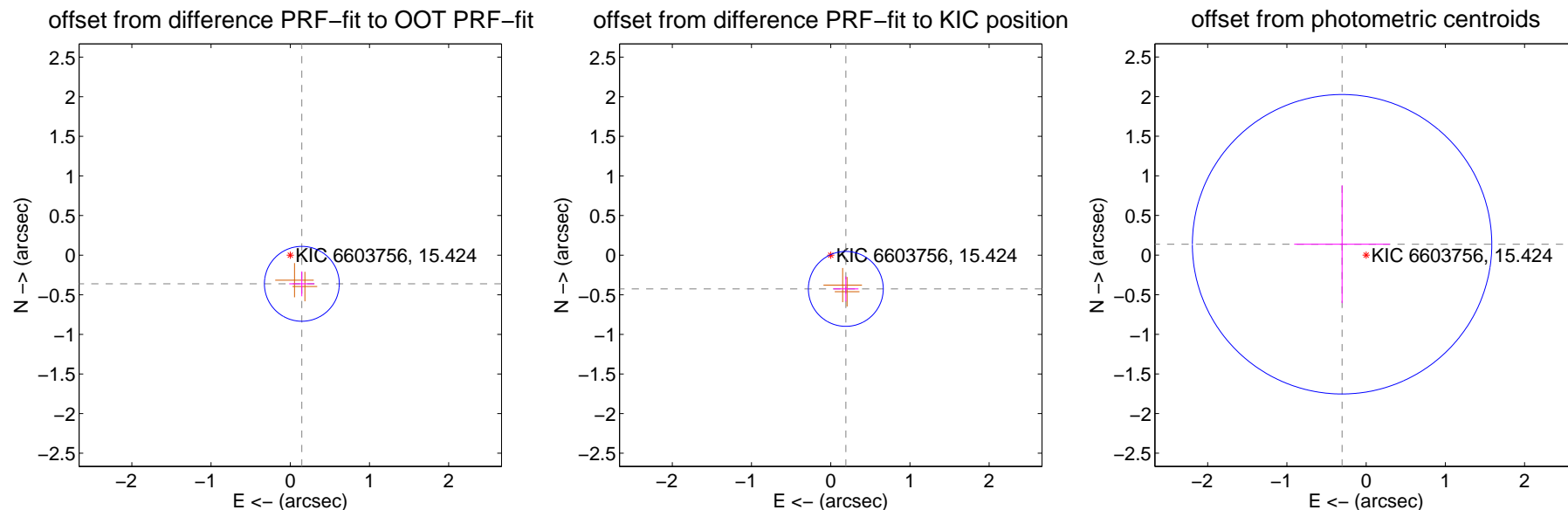
DV Centroid Data

Supplemental centroid analysis for 006603756-04. Kepler magnitude: 15.42. Transit SNR 8.38

There are 0 quarters with good PRF difference image offsets

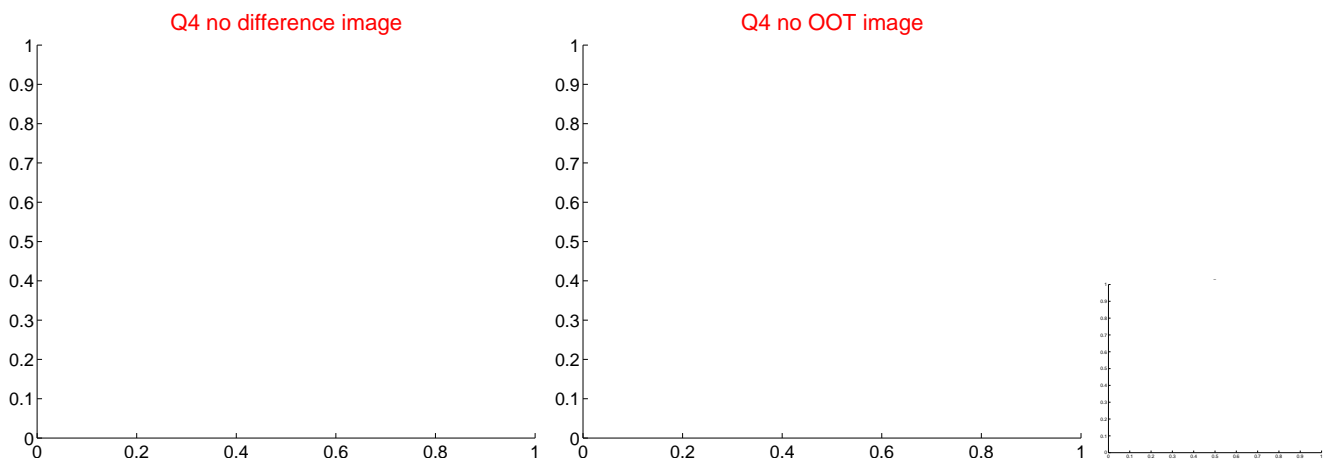
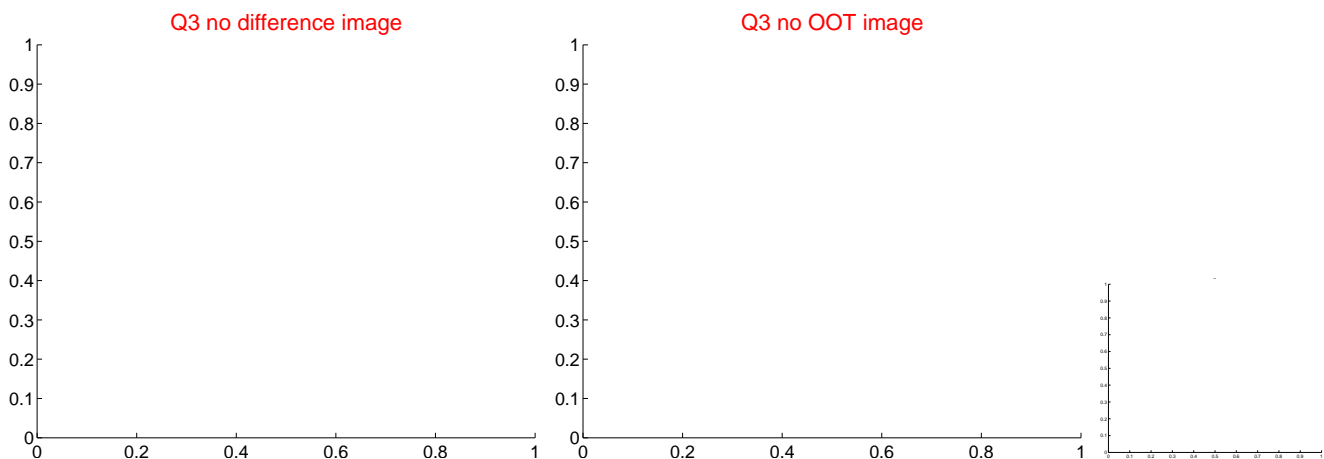
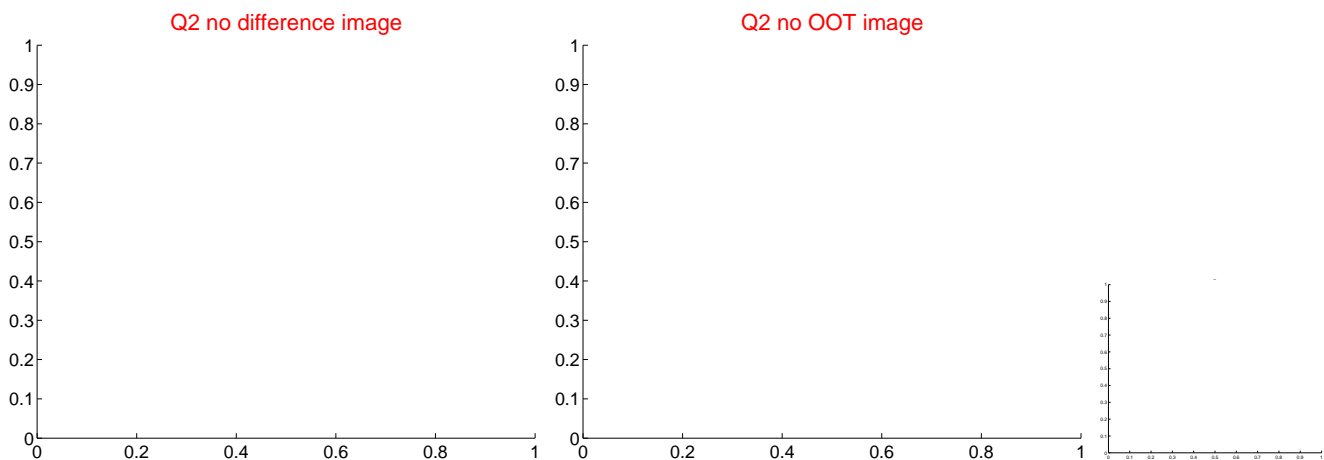
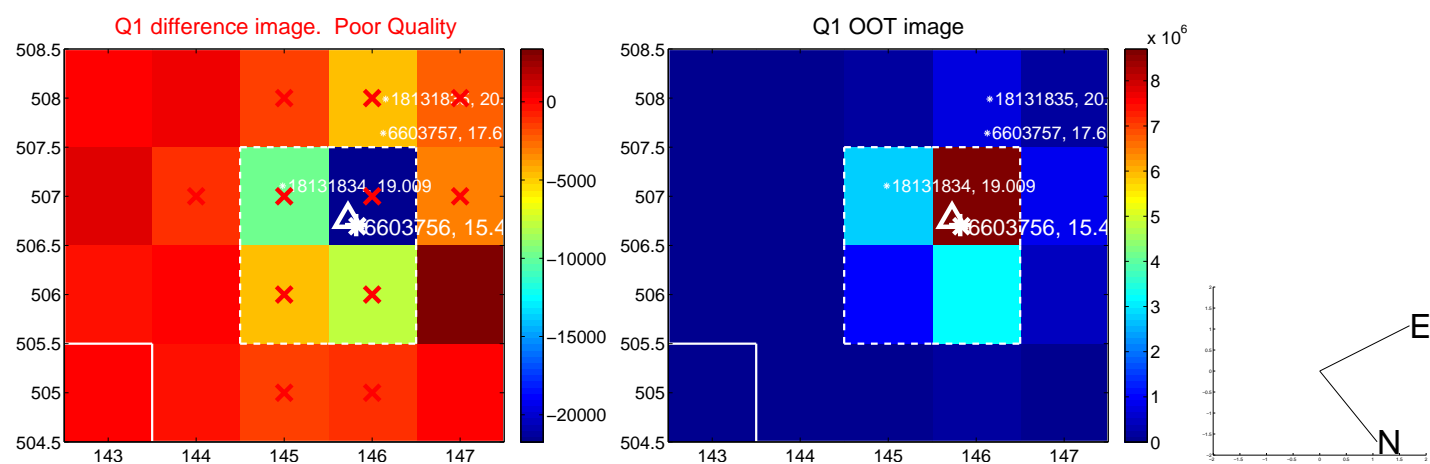
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.390 ± 0.158	2.48	-0.146 ± 0.159	-0.362 ± 0.157
PRF-fit source offset from KIC position	0.467 ± 0.158	2.96	-0.191 ± 0.159	-0.426 ± 0.157
photometric centroid source offset	0.33 ± 0.63	0.53	0.30 ± 0.60	0.14 ± 0.74



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

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



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

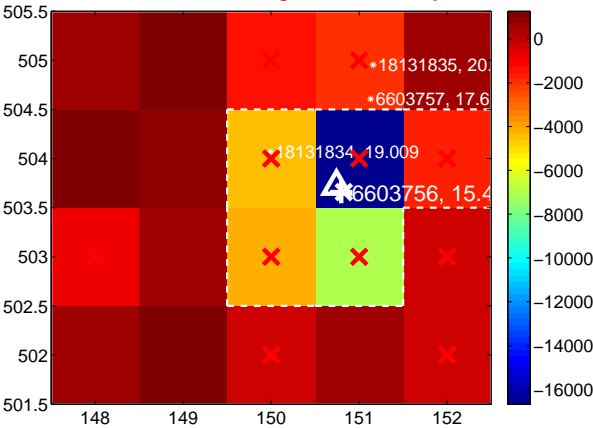
Q5 no difference image



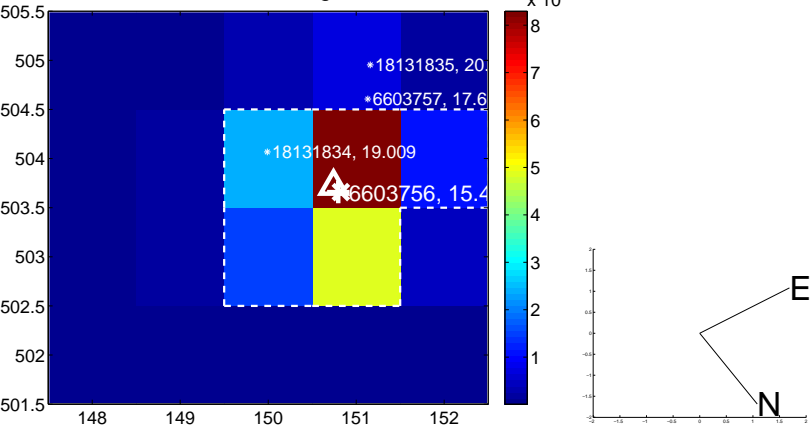
Q5 no OOT image



Q6 difference image. Poor Quality



Q6 OOT image



Q7 no difference image



Q7 no OOT image



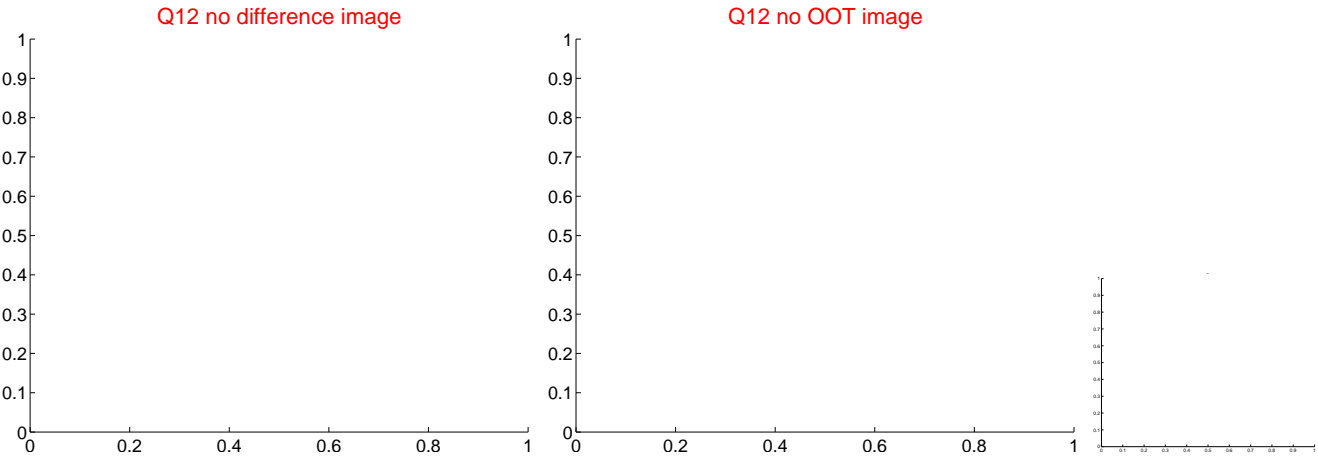
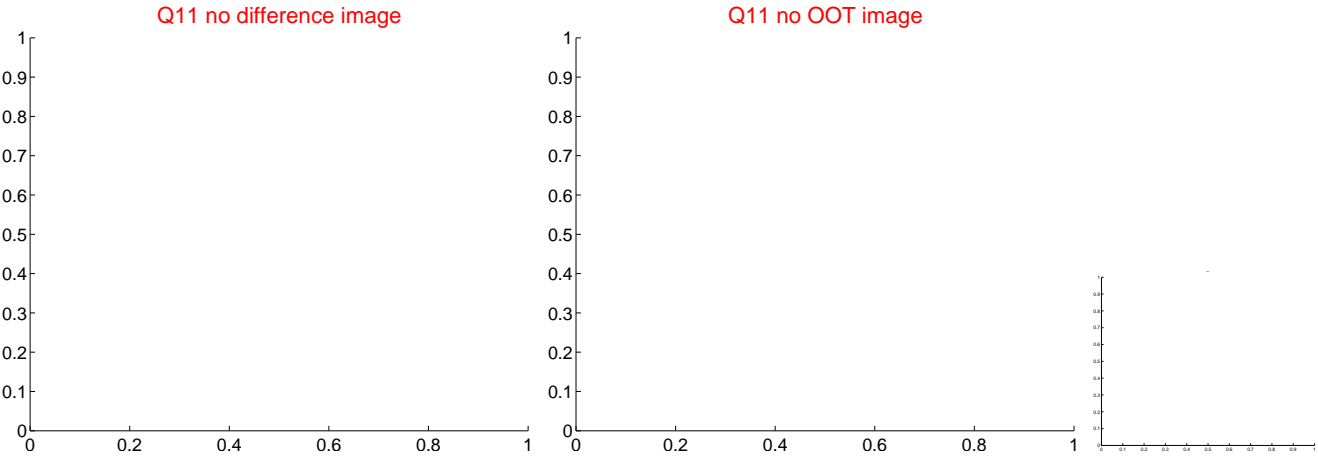
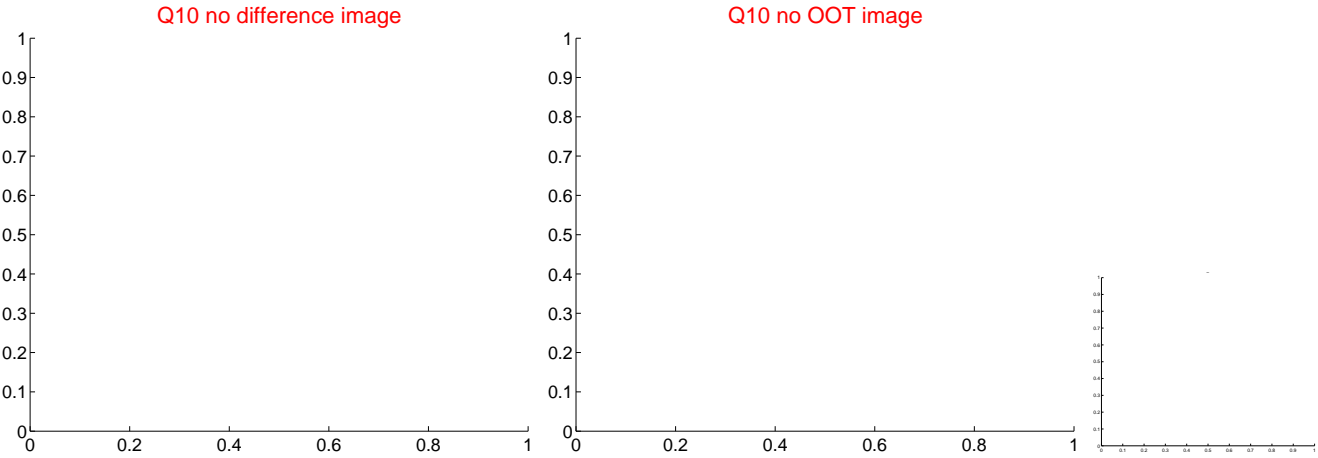
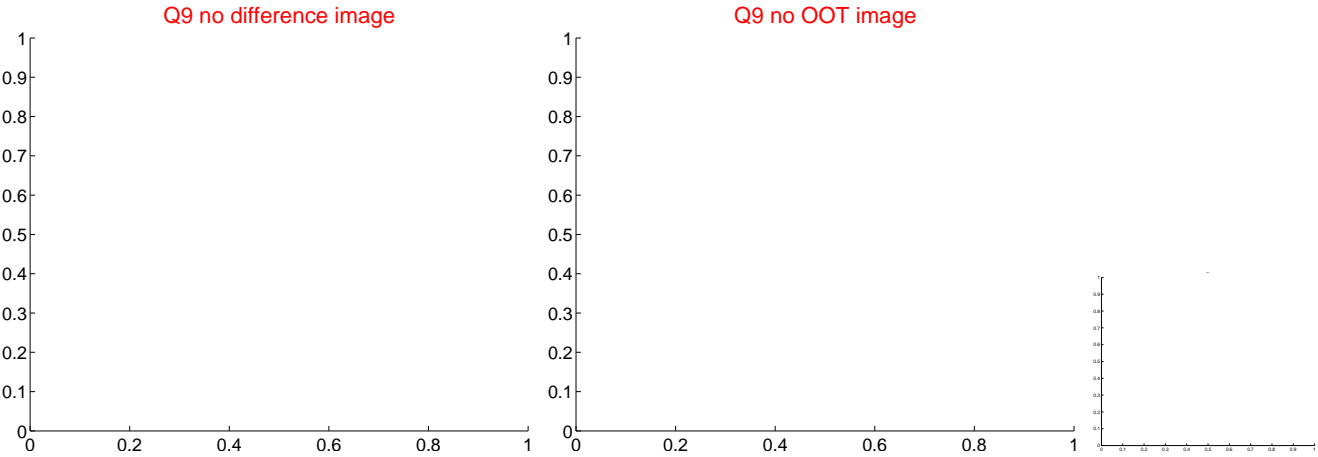
Q8 no difference image



Q8 no OOT image



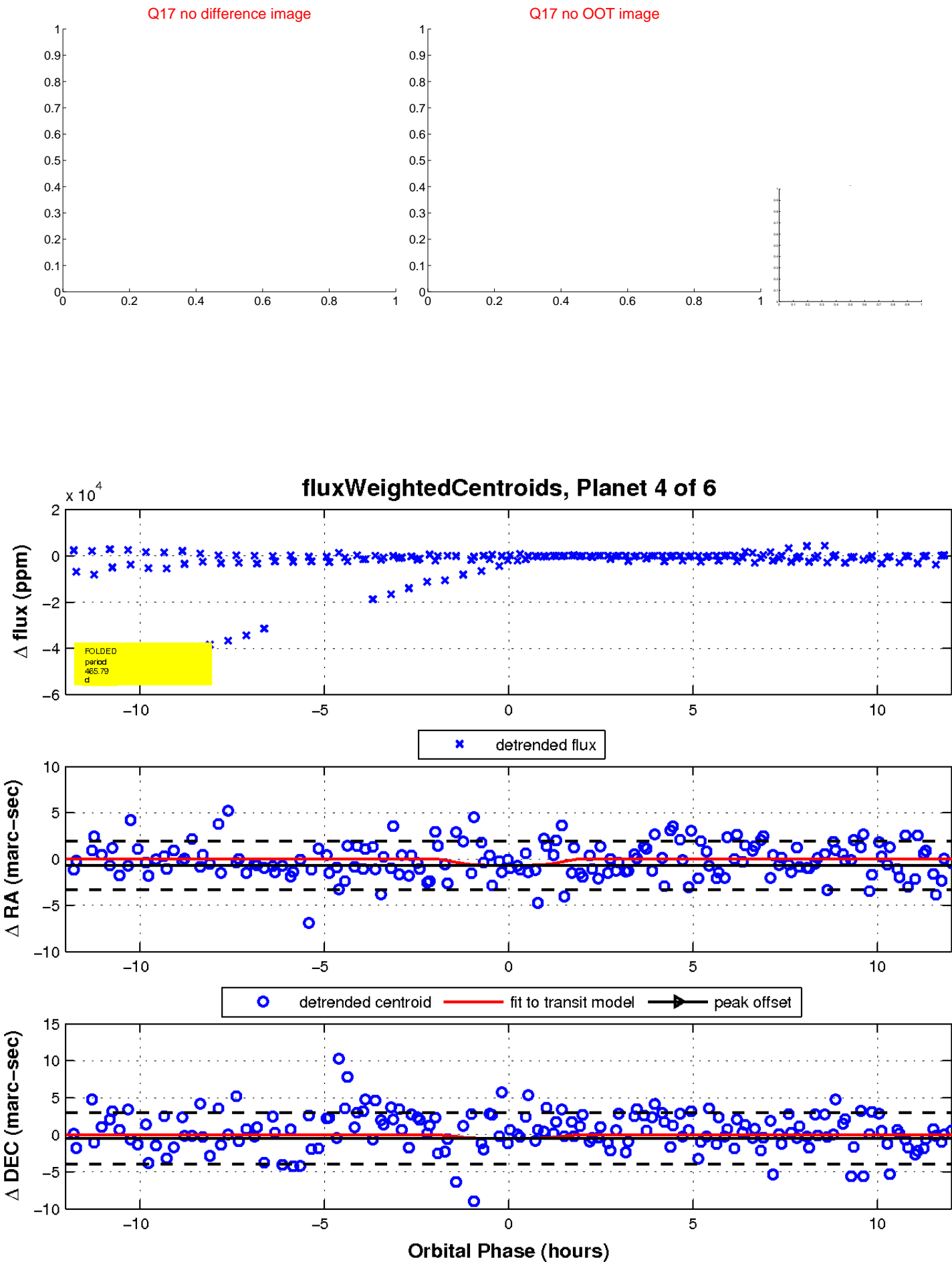
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

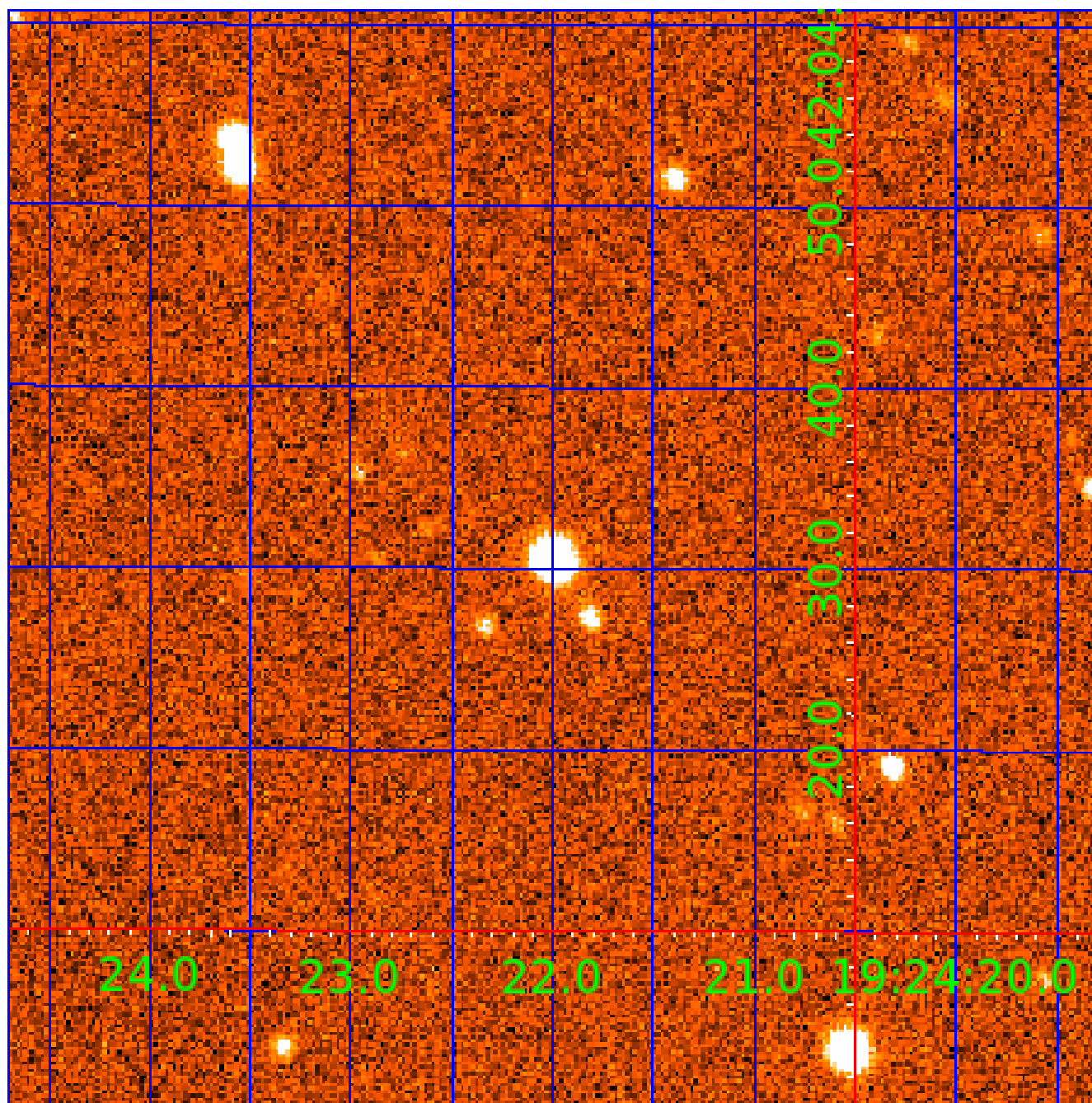


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006603756

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})
006603756-01	OBS	1729.01	5.204280	135.886367	34719.1	6.210	985.0	1018.9	0.86	5332	15.89	180.15
006603756-02	OBS	No	5.204268	133.285881	1222.9	6.257	43.3	48.0	0.86	5332	3.49	180.15
006603756-03	OBS	No	223.962003	247.496542	1857.1	21.515	12.5	5.4	0.86	5332	3.99	1.20
006603756-04	OBS	No	465.786729	162.345664	2247.8	4.016	10.9	8.4	0.86	5332	5.00	0.45
006603756-05	OBS	No	500.562859	429.432864	1919.4	2.611	10.5	7.9	0.86	5332	4.17	0.41
006603756-06	OBS	No	167.005236	137.422454	1855.3	2.500	10.4	-1.0	0.86	5332	3.63	1.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006603756-01	OBS	PC	0.92	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—PLANET_OCCULT_ALT—HAS_SEC_TCE
006603756-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
006603756-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
006603756-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006603756-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006603756-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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 006603756-05

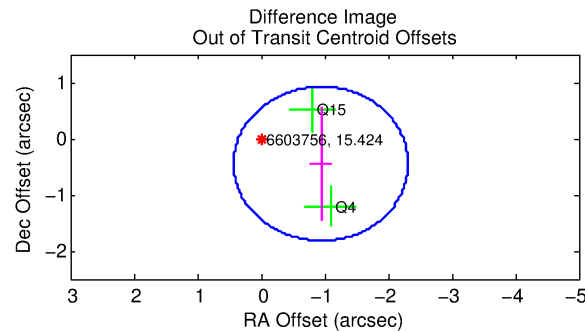
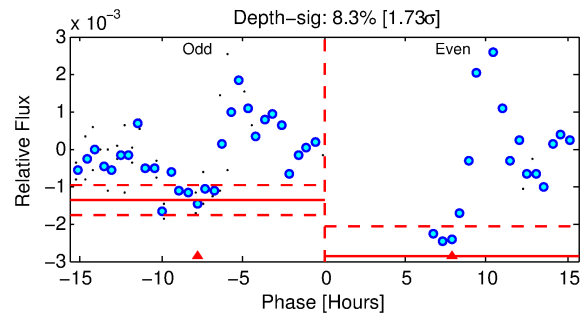
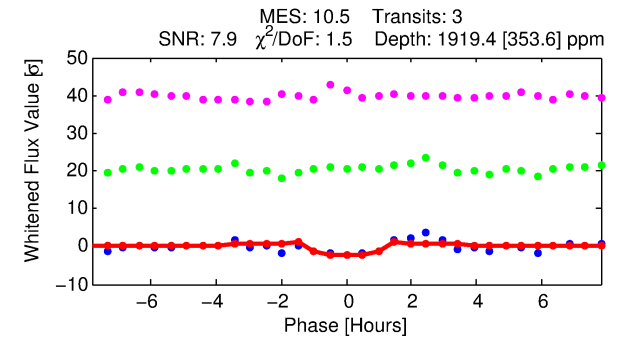
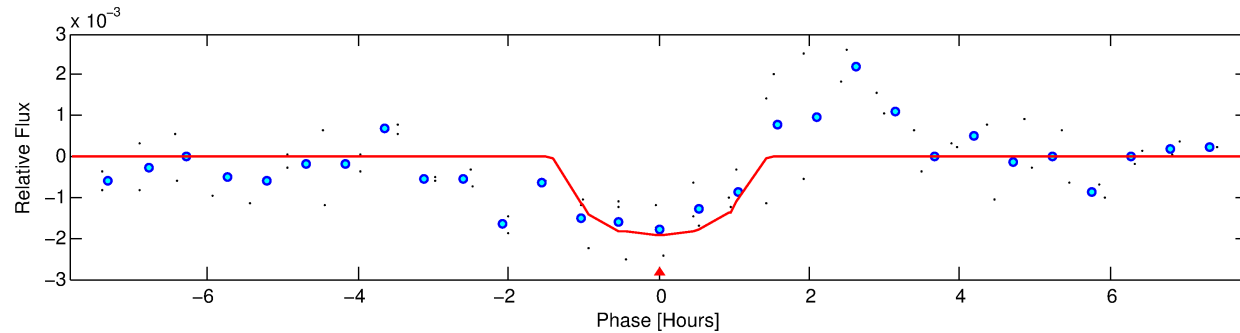
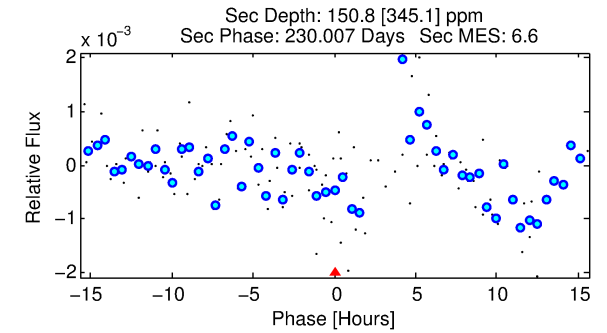
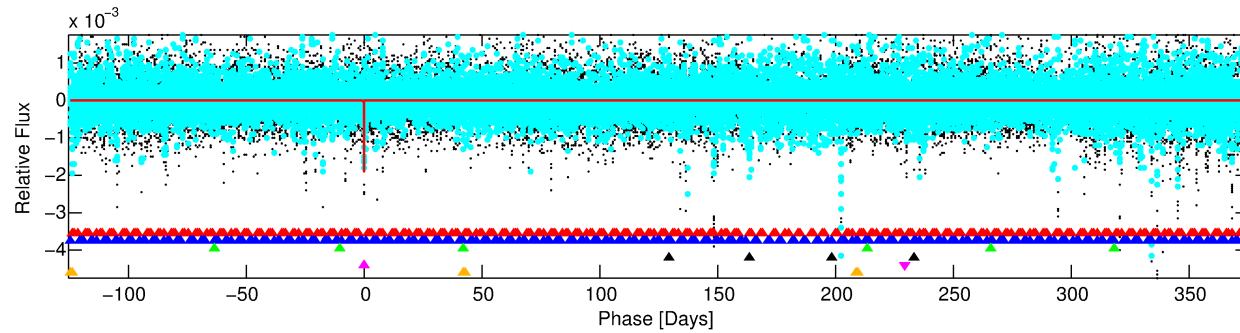
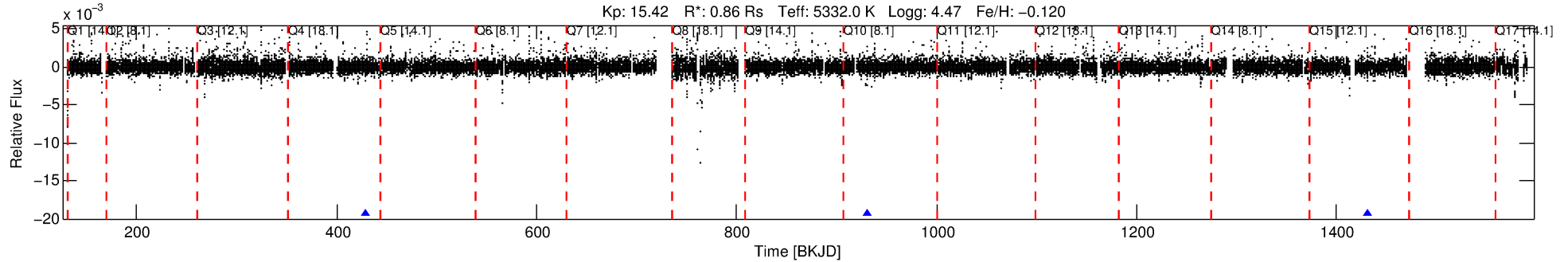
No Significant Match Found

DV One-Page Summary

KIC: 6603756 Candidate: 5 of 6 Period: 500.563 d

KOI: K01729 Corr: No Ephemeris Match

Kp: 15.42 R*: 0.86 Rs Teff: 5332.0 K Logg: 4.47 Fe/H: -0.120



DV Fit Results:

Period = 500.56286 [0.00549] d
Epoch = 429.4329 [0.0074] BKJD
Rp/R* = 0.0444 [0.0320]
a/R* = 1013.62 [2774.55]
b = 0.78 [1.37]
Seff = 0.41 [0.10]
Teq = 204 [13] K
Rp = 4.17 [3.08] Re
a = 1.1446 [0.1616] AU
Ag = 6254.11 [16965.29] [0.37] σ
Teffp = 2803 [1897] K [1.37] σ

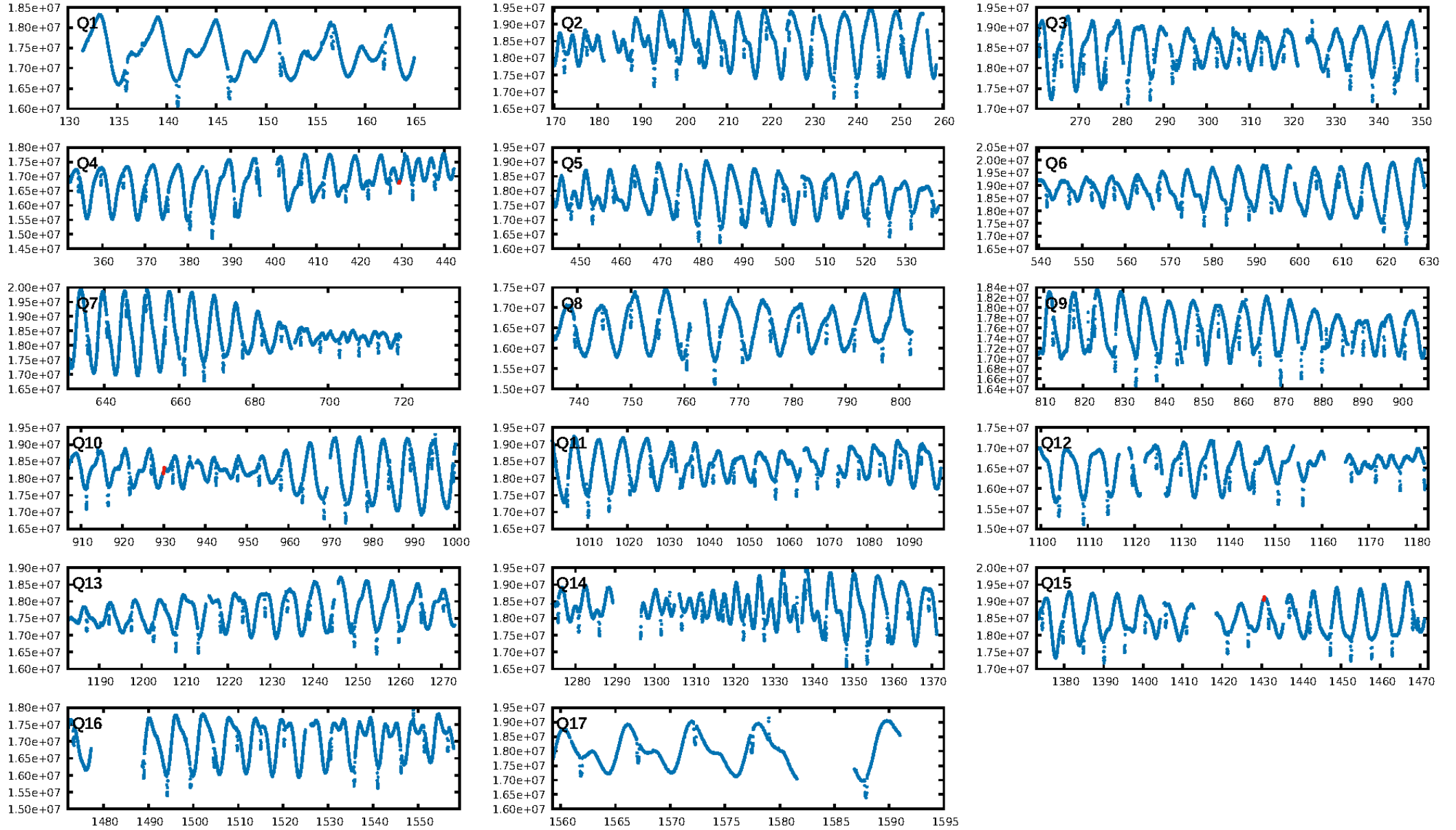
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [174.23 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 54.0%
Bootstrap-pfa: 1.43e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.148
Centroid-sig: 21.6%
Centroid-so: 1.115 arcsec [1.27 σ]
OotOffset-rm: 1.043 arcsec [2.28 σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-rm: 1.034 arcsec [1.73 σ]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

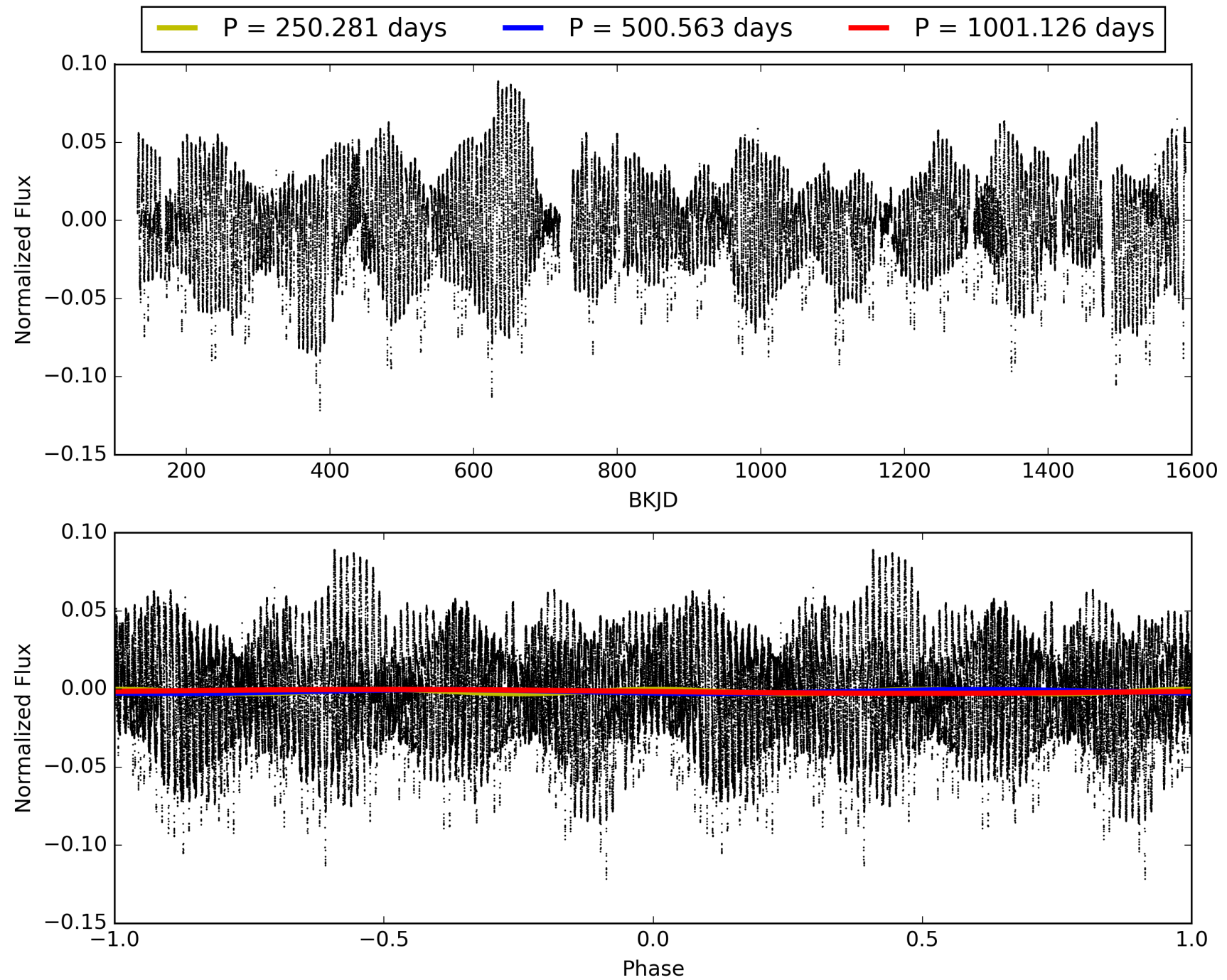
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:17:50 Z

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

TCE 006603756-05, PDC Light Curves

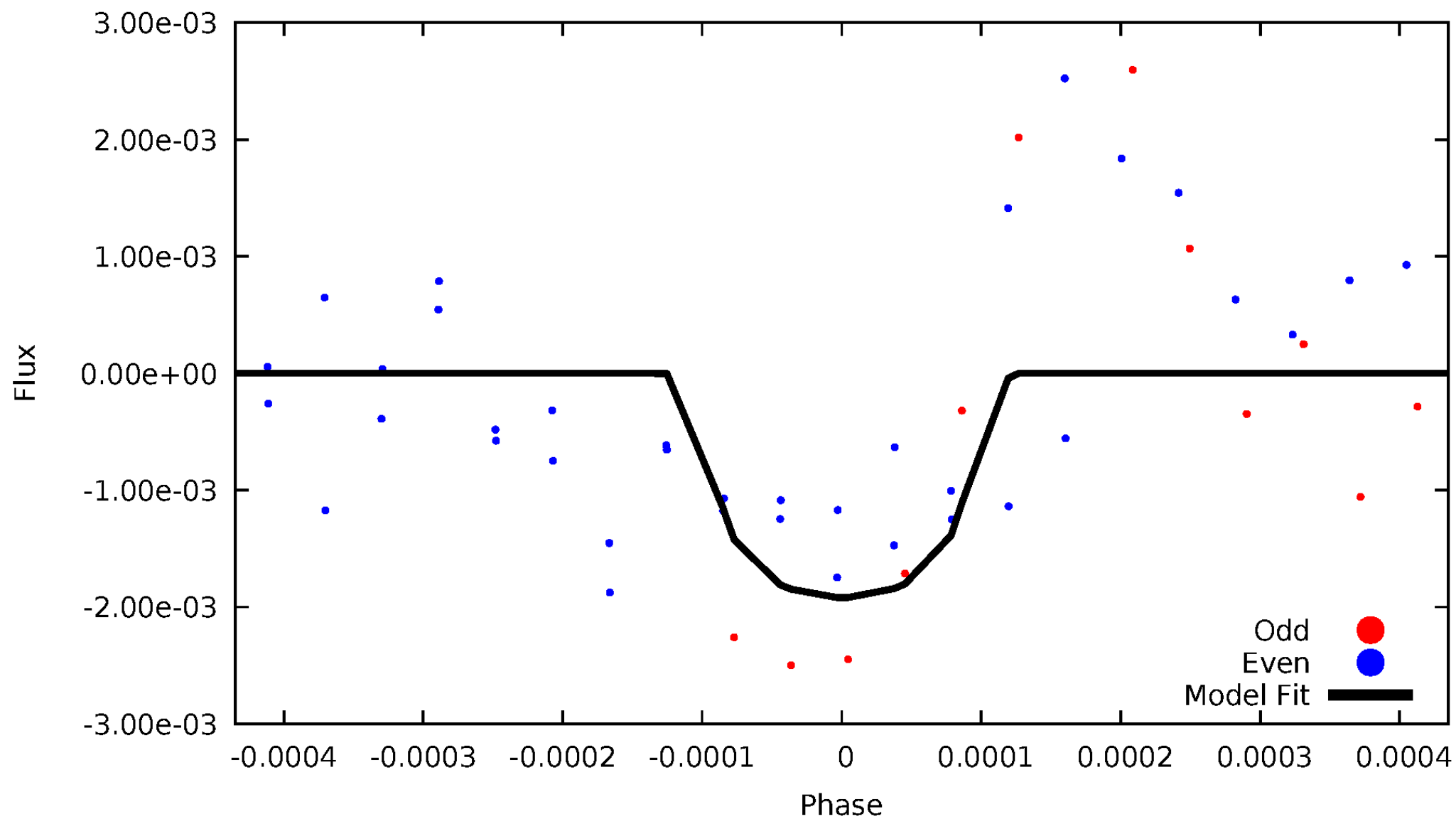


TCE 006603756-05



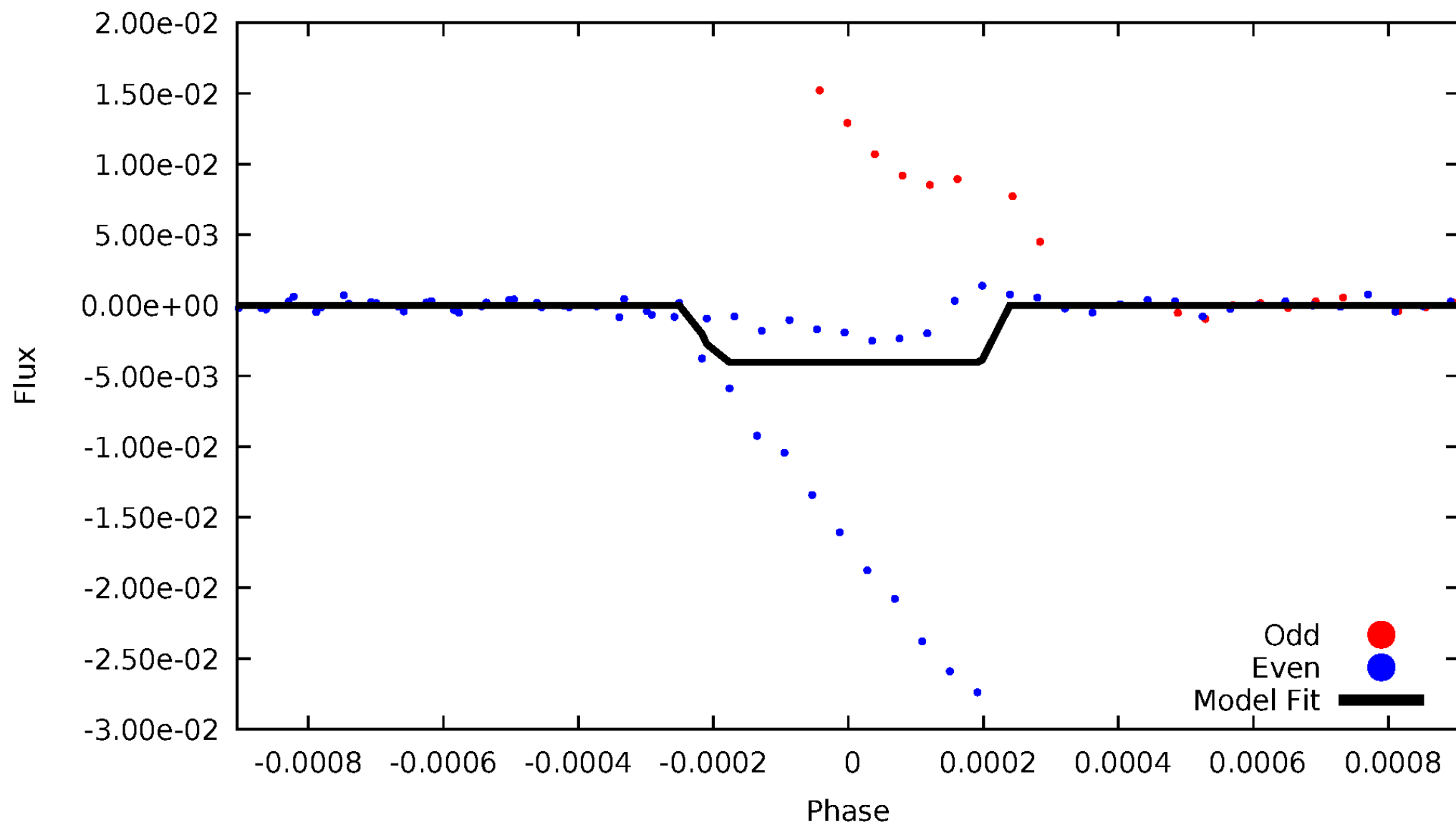
DV Odd/Even

TCE 006603756-05



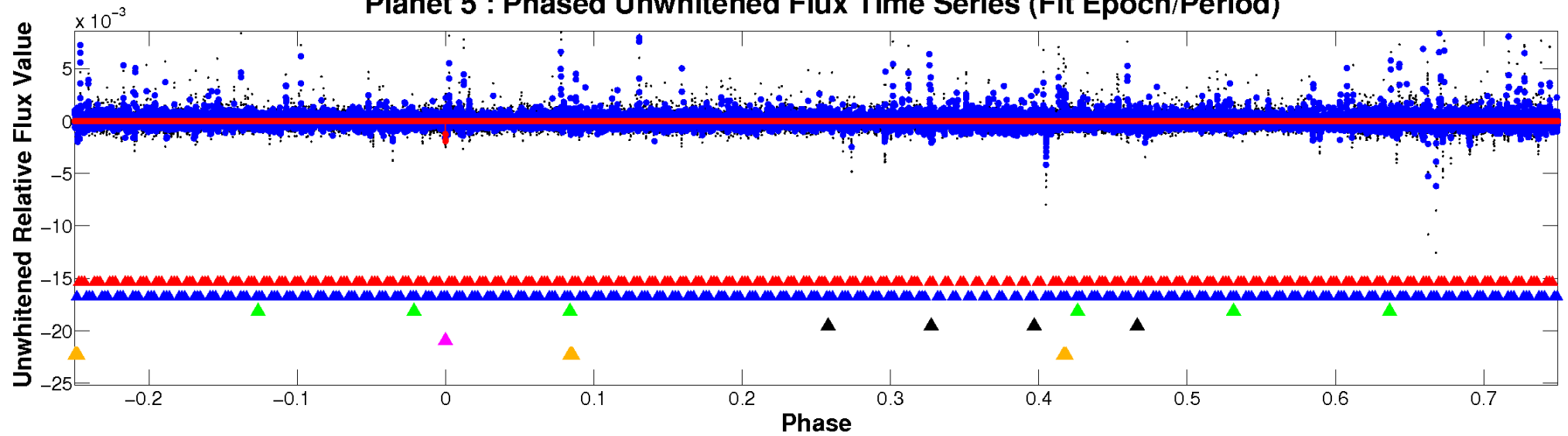
ALT Odd/Even

TCE 006603756-05

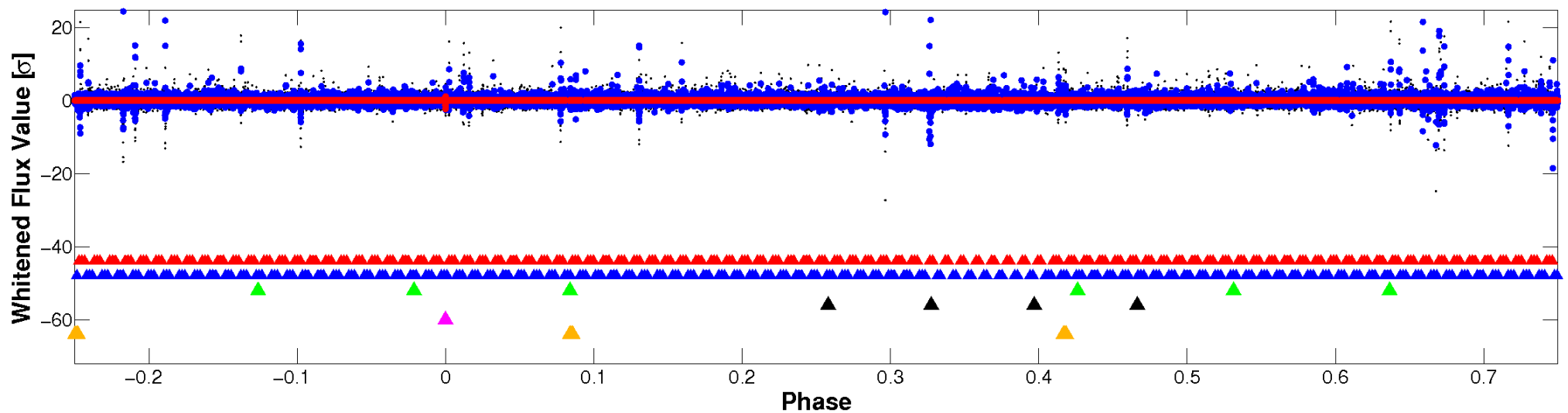


Non-Whitened Vs. Whitened Light Curve

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

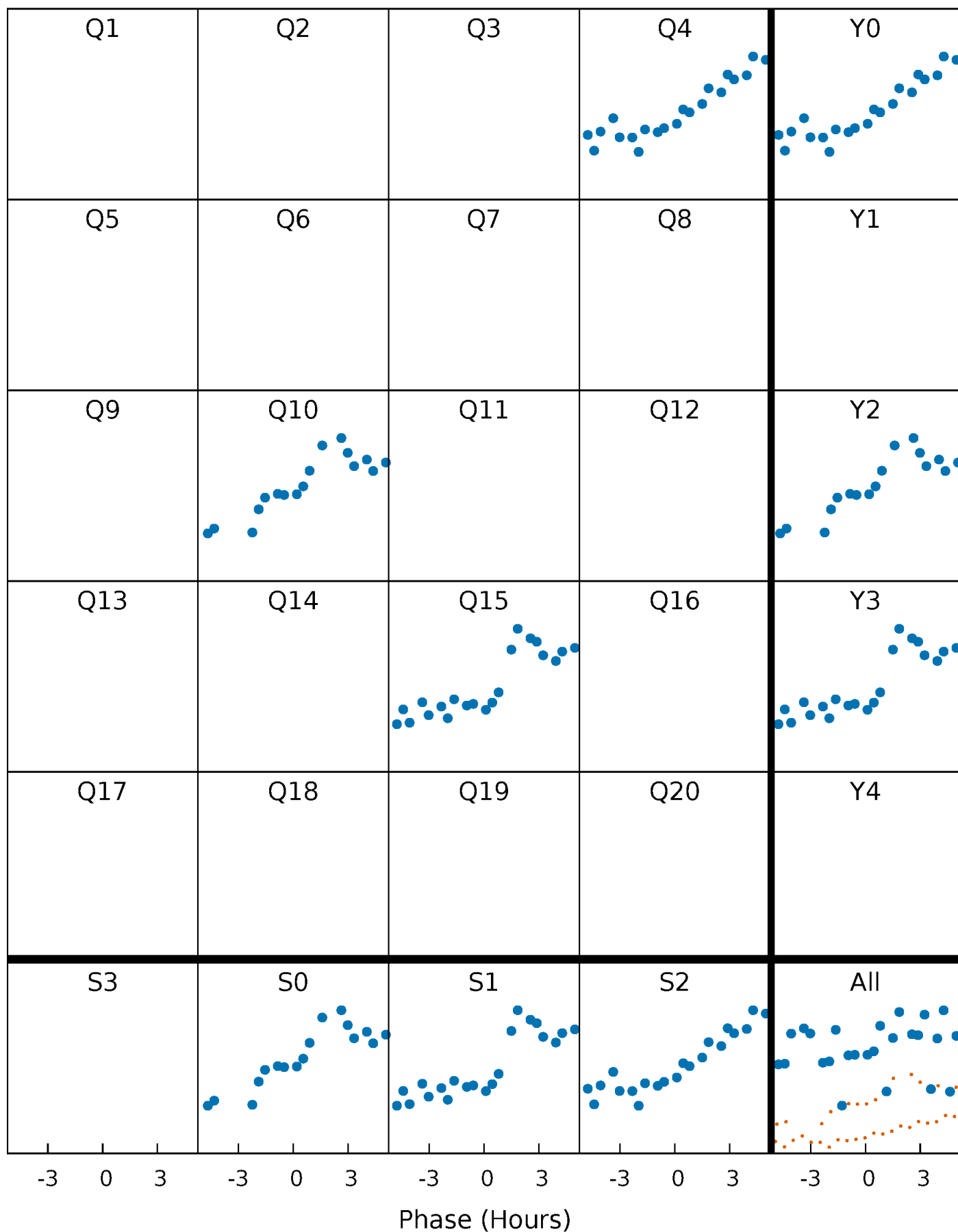


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



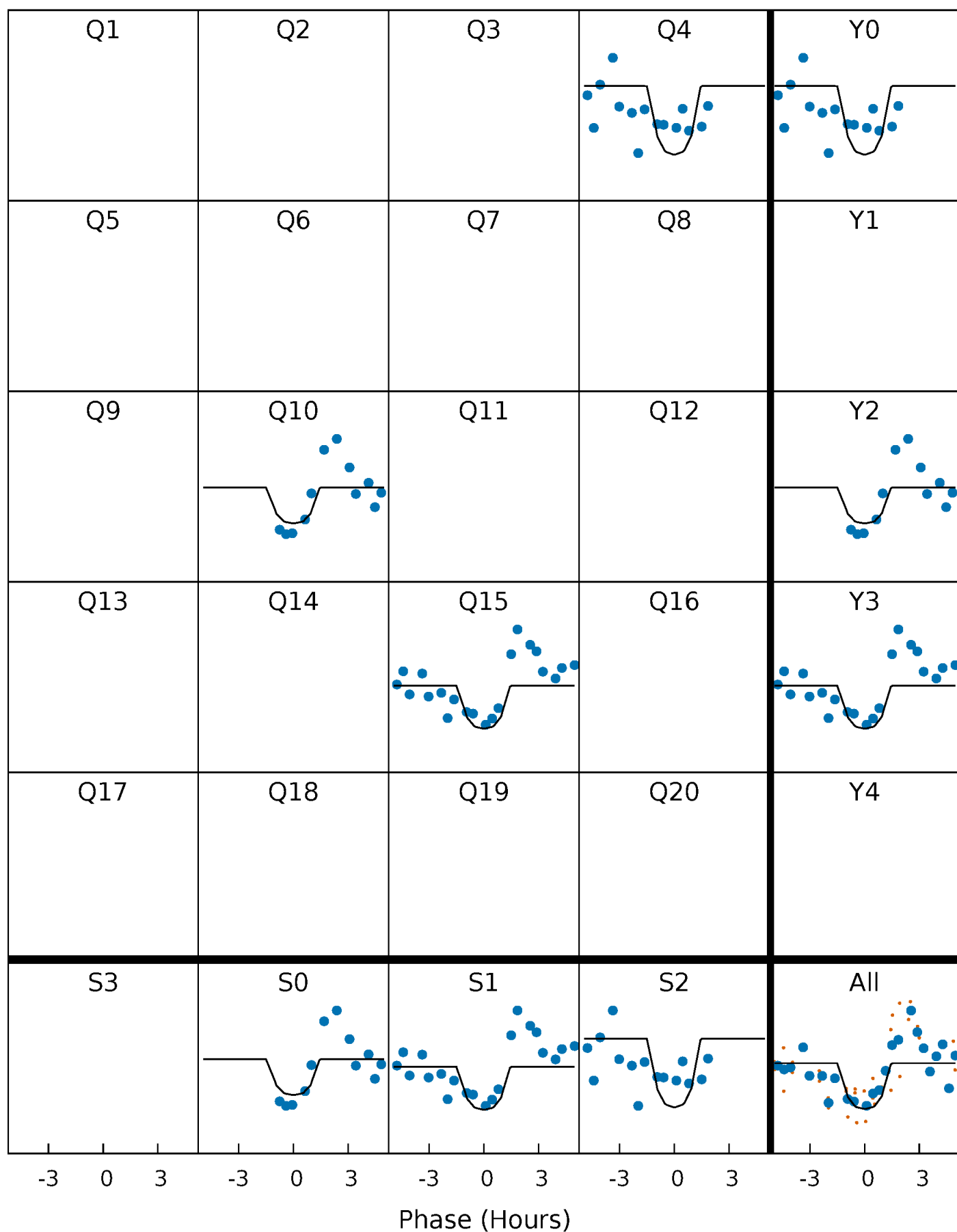
PDC Quarter-Phased Transit Curves

TCE 006603756-05 $P=500.562859$ Days $T_0=429.432864$ (BKJD)



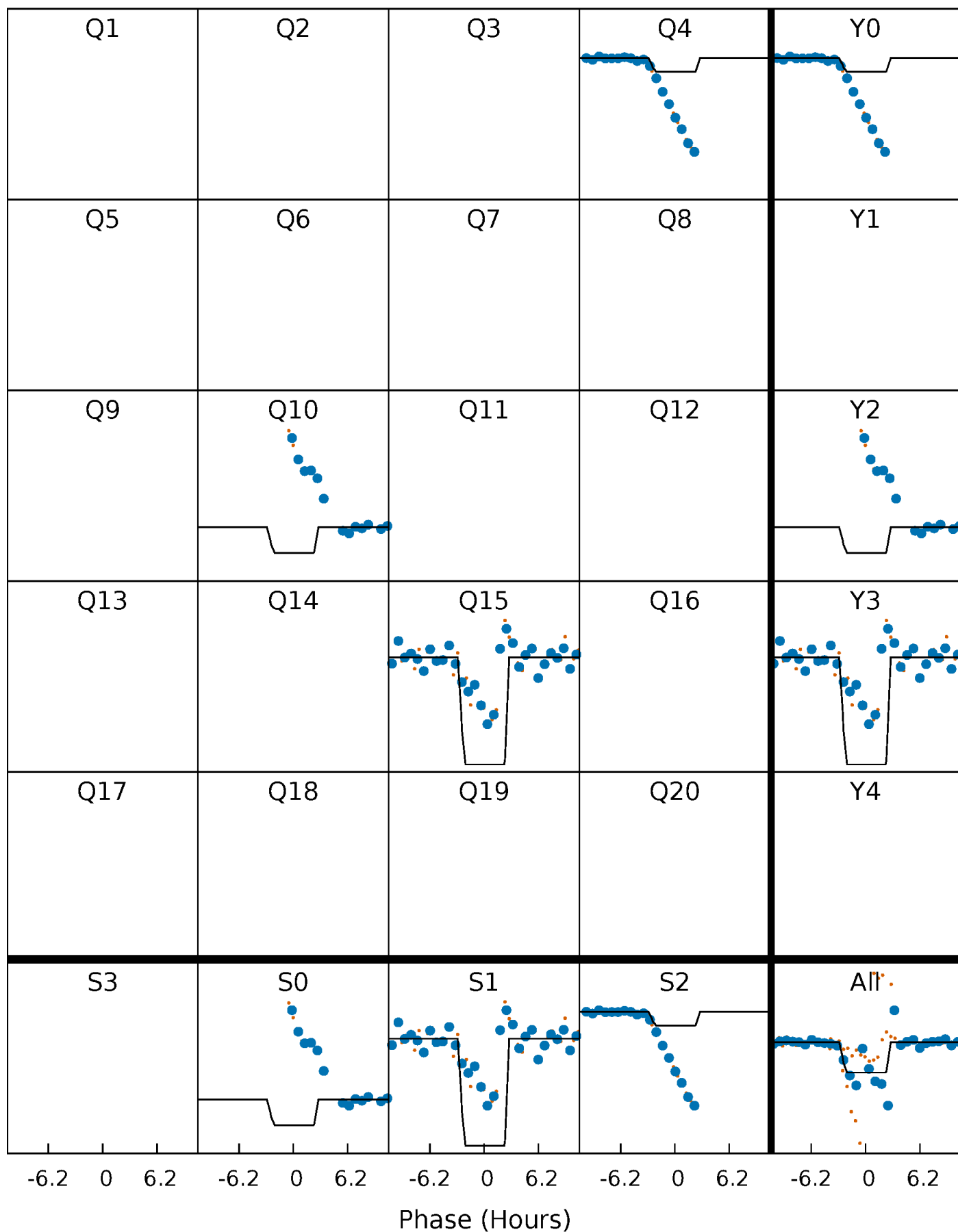
DV Quarter-Phased Transit Curves

TCE 006603756-05 $P=500.562859$ Days $T_0=429.432864$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

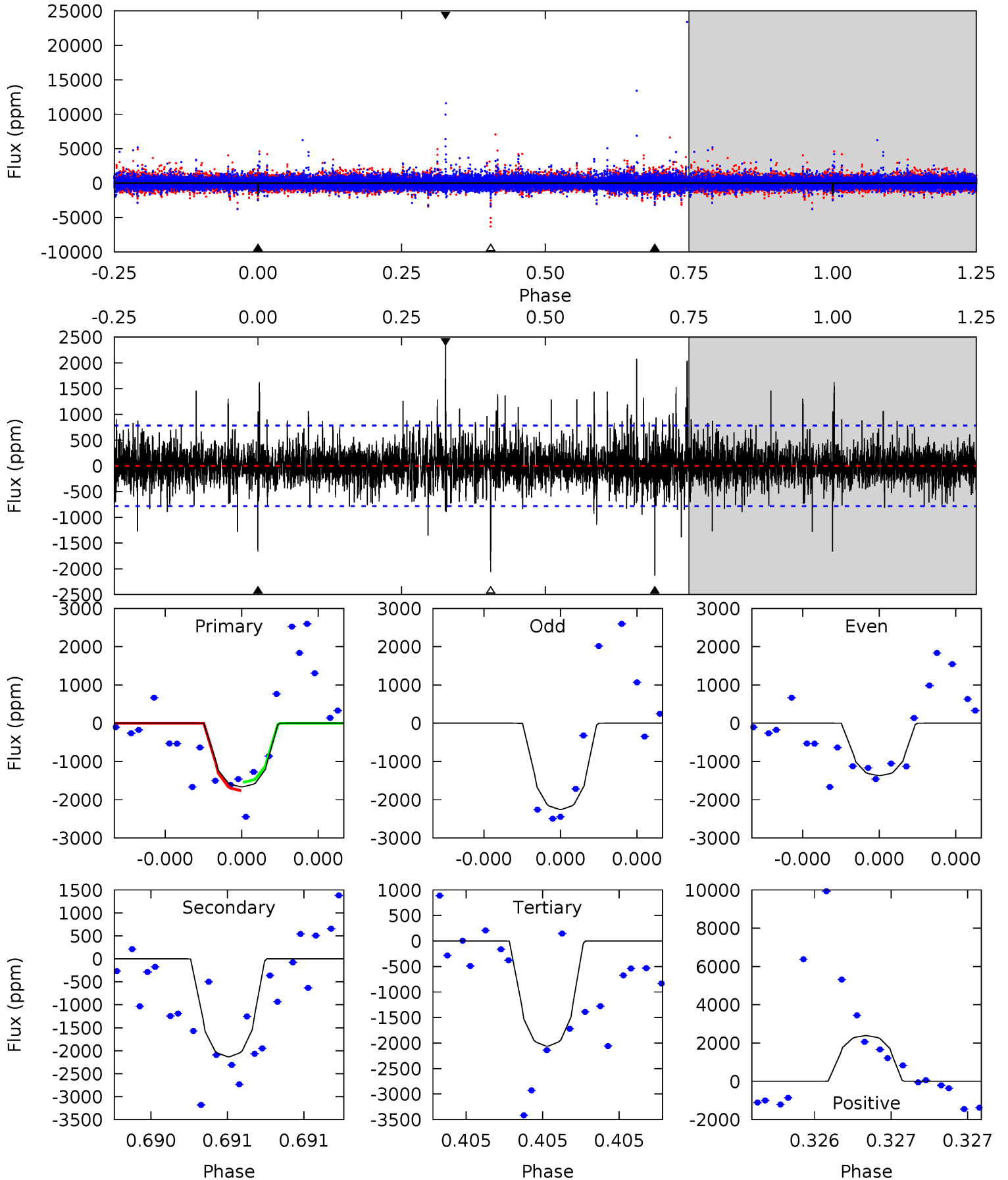
TCE 006603756-05 $P=500.560919$ Days $T_0=429.417448$ (BKJD)



DV Model-Shift Uniqueness Test

006603756-05, P = 500.562859 Days, E = 429.432864 Days

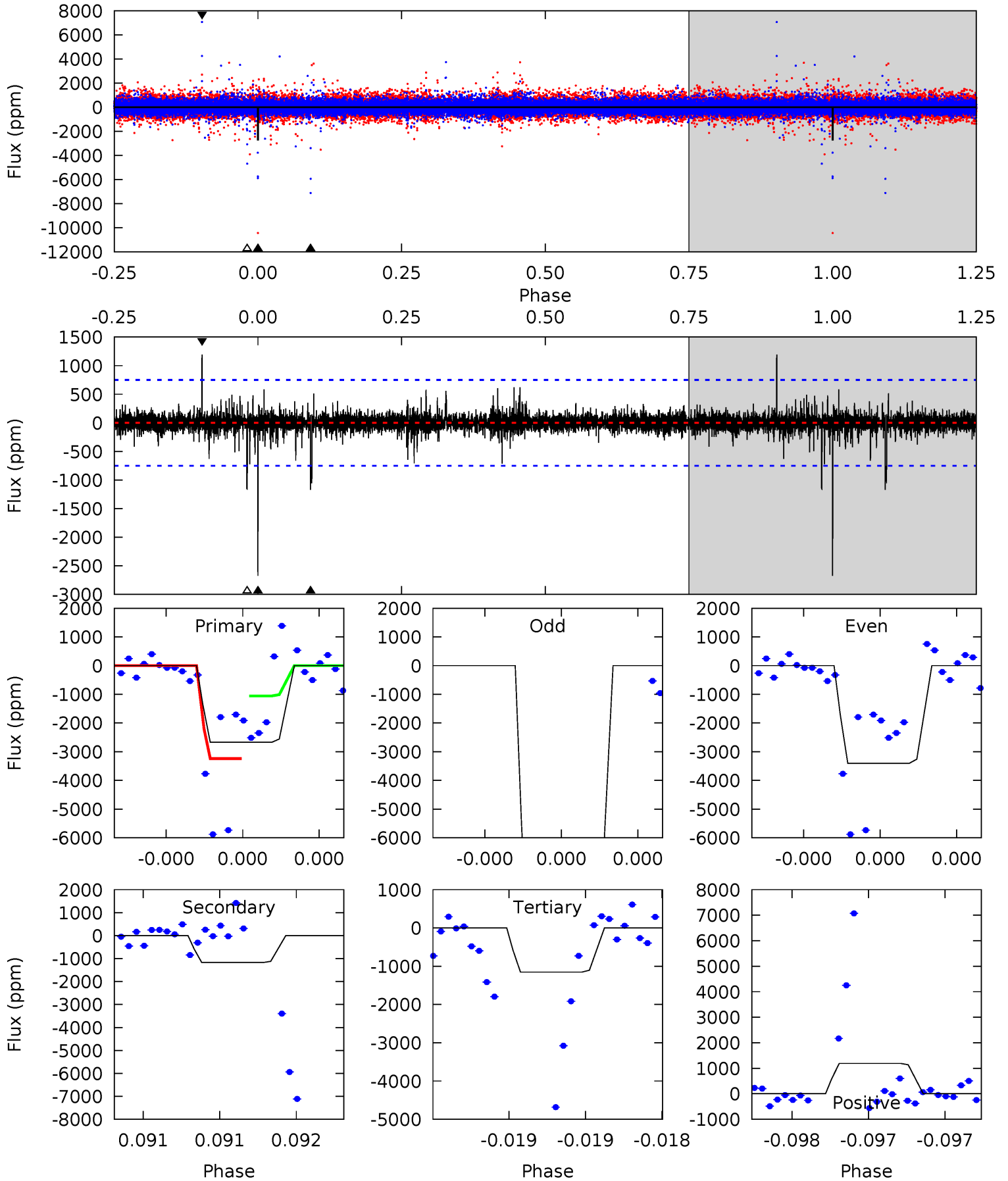
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	15.5	15.0	17.4	5.69	3.66	1.92	-2.89	-5.26	0.51	-1.86	2.27	1.07	0.53	0.79



Alt Model-Shift Uniqueness Test

006603756-05, P = 500.560919 Days, E = 429.417448 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.9	8.75	8.61	8.89	5.61	3.53	0.71	11.3	11.1	0.14	-0.13	28.1	1.93	0.31	0



Stellar Parameters For KIC 006603756

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5332^{+167}_{-167}	$4.471^{+0.108}_{-0.120}$	$-0.120^{+0.300}_{-0.300}$	$0.860^{+0.138}_{-0.113}$	$0.798^{+0.113}_{-0.061}$	$1.766^{+0.865}_{-0.624}$
	+3%/-3%	+2%/-3%	+250%/-250%	+16%/-13%	+14%/-8%	+49%/-35%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006603756-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2131 ± 137	$4.56^{+3.10}_{-2.50}$	285^{+17}_{-14}	5209^{+2697}_{-953}	$75245^{+295637}_{-48382}$
Alt.	-1173 ± 134	$6.21^{+3.21}_{-3.00}$	285^{+14}_{-14}	4120^{+1233}_{-542}	22472^{+60521}_{-12797}

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

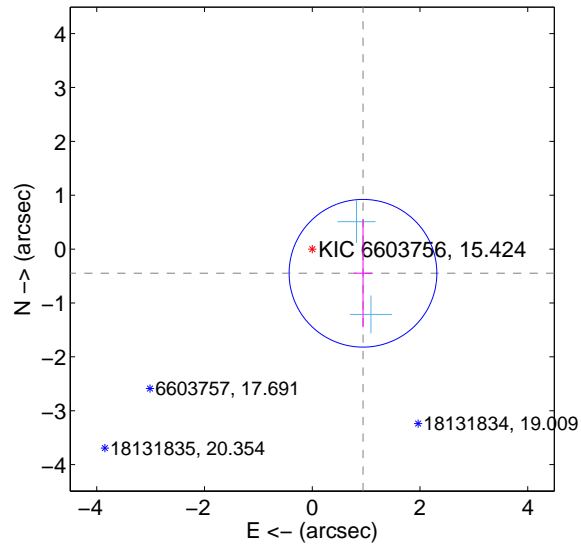
Supplemental centroid analysis for 006603756-05. Kepler magnitude: 15.42. Transit SNR 7.94

There are 2 quarters with good PRF difference image offsets

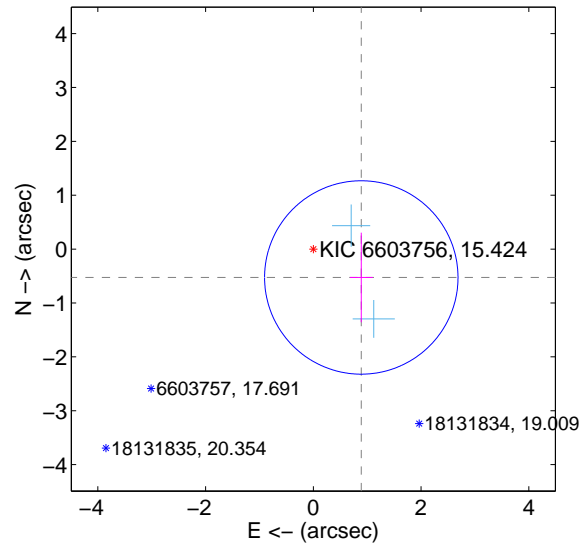
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.043 ± 0.457	2.28	-0.942 ± 0.169	-0.449 ± 1.002
PRF-fit source offset from KIC position	1.034 ± 0.598	1.73	-0.890 ± 0.211	-0.527 ± 0.831
photometric centroid source offset	1.11 ± 0.88	1.27	-1.02 ± 0.86	-0.44 ± 0.97

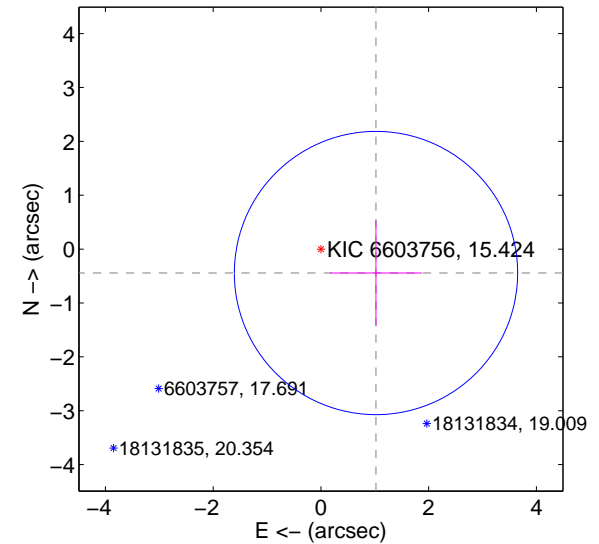
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

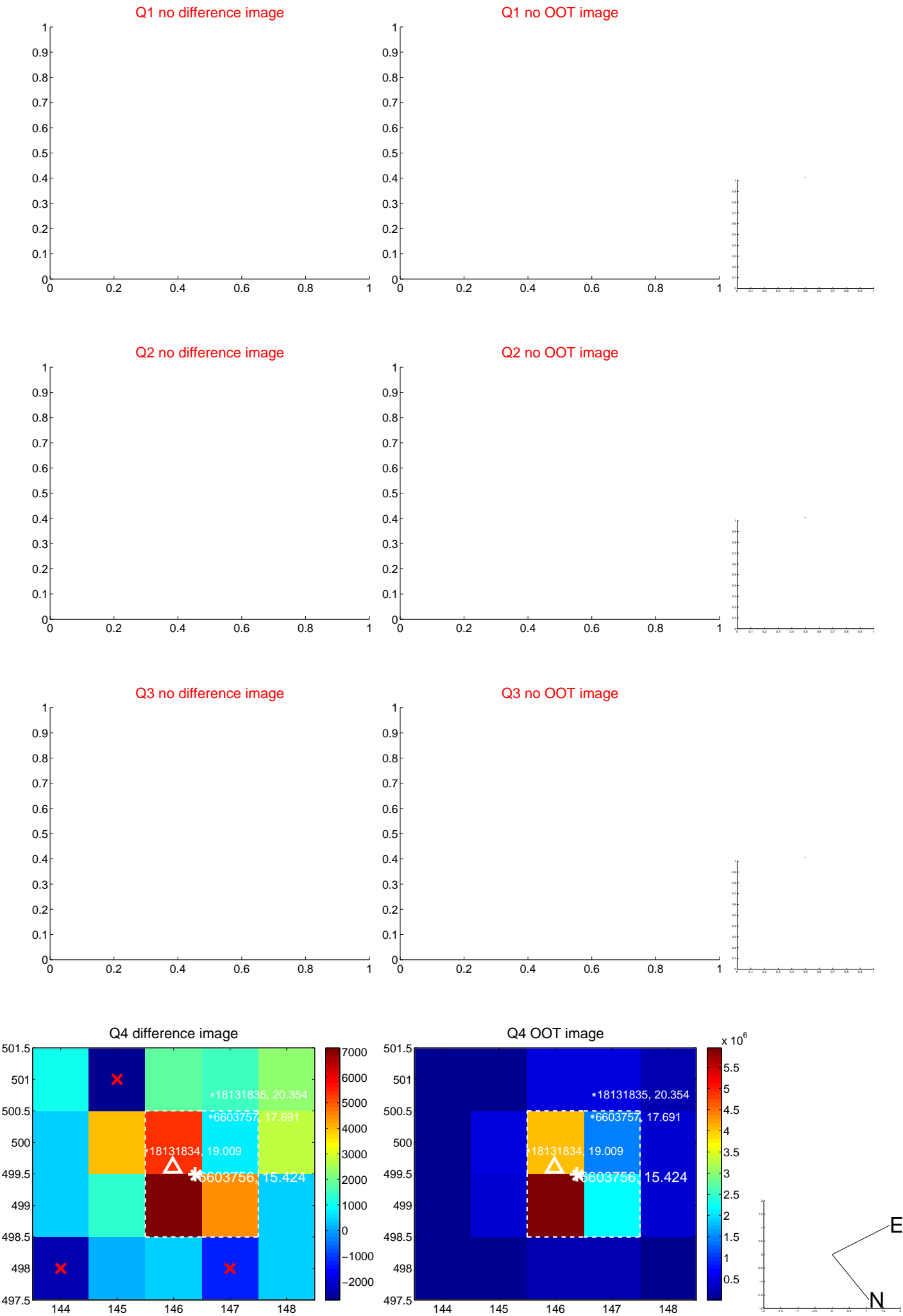


offset from photometric centroids



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.



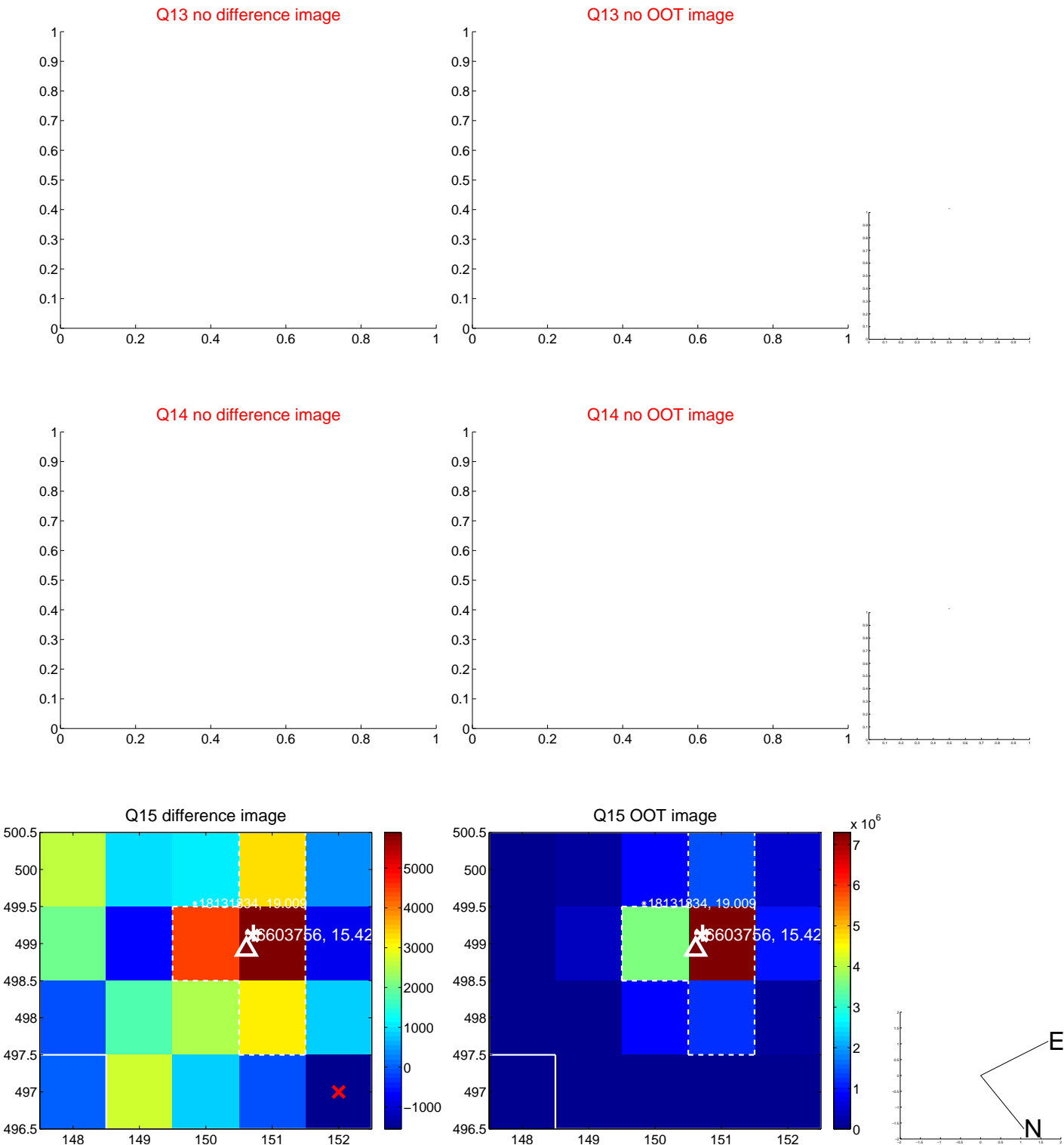
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



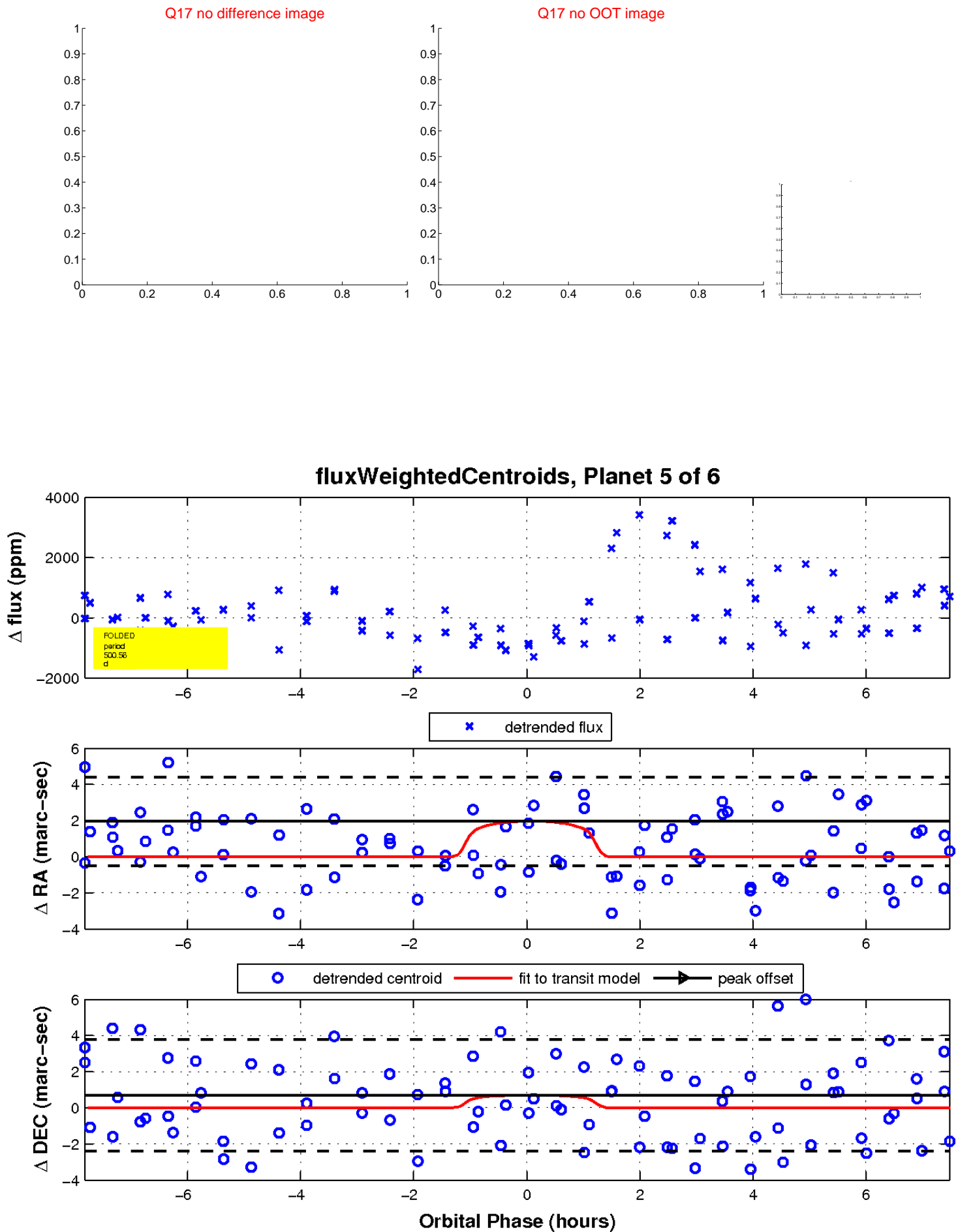
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

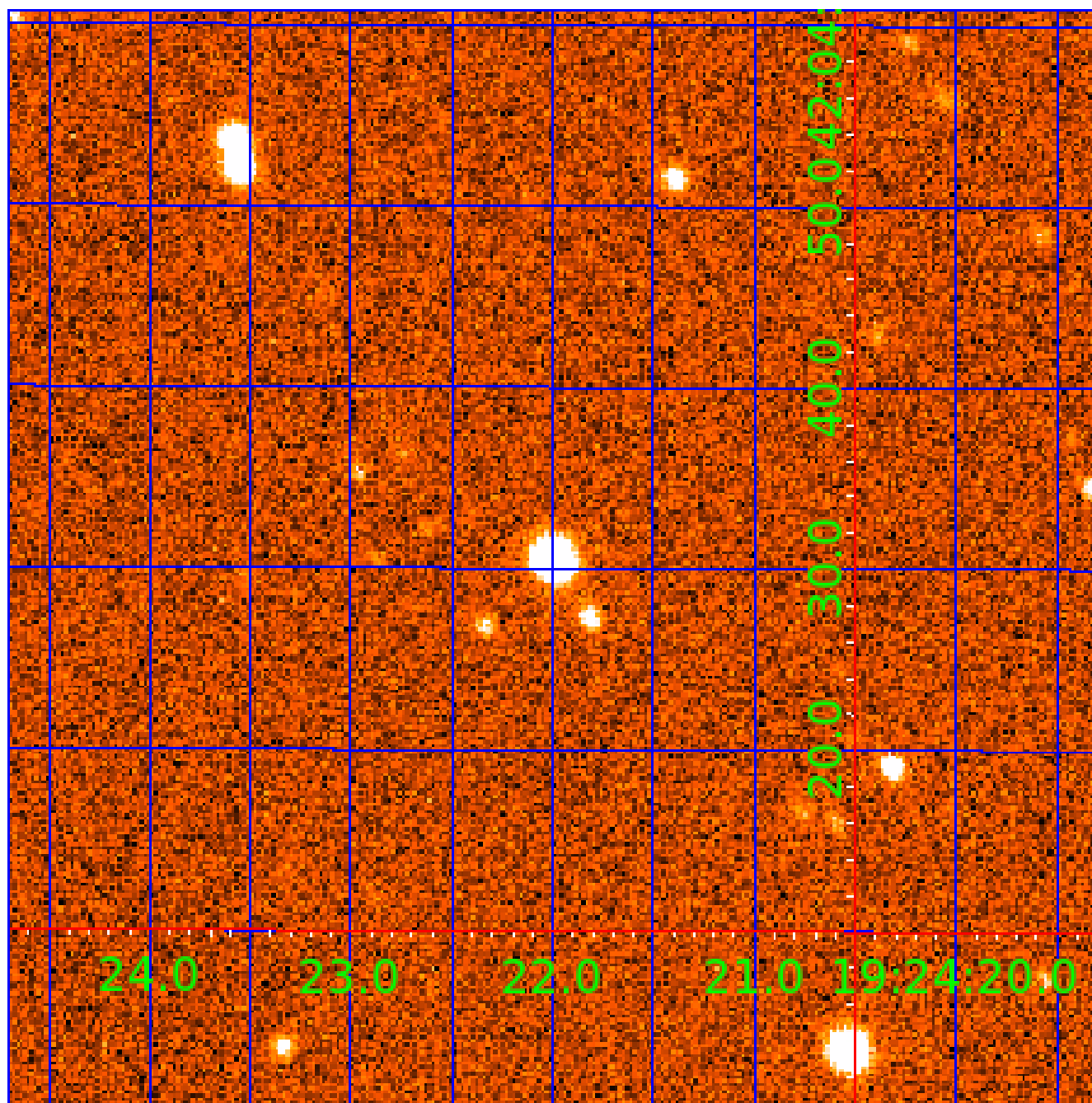


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006603756

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})
006603756-01	OBS	1729.01	5.204280	135.886367	34719.1	6.210	985.0	1018.9	0.86	5332	15.89	180.15
006603756-02	OBS	No	5.204268	133.285881	1222.9	6.257	43.3	48.0	0.86	5332	3.49	180.15
006603756-03	OBS	No	223.962003	247.496542	1857.1	21.515	12.5	5.4	0.86	5332	3.99	1.20
006603756-04	OBS	No	465.786729	162.345664	2247.8	4.016	10.9	8.4	0.86	5332	5.00	0.45
006603756-05	OBS	No	500.562859	429.432864	1919.4	2.611	10.5	7.9	0.86	5332	4.17	0.41
006603756-06	OBS	No	167.005236	137.422454	1855.3	2.500	10.4	-1.0	0.86	5332	3.63	1.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006603756-01	OBS	PC	0.92	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—PLANET_OCCULT_ALT—HAS_SEC_TCE
006603756-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
006603756-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
006603756-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006603756-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006603756-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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.

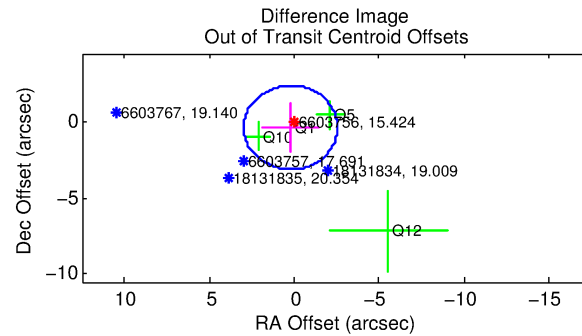
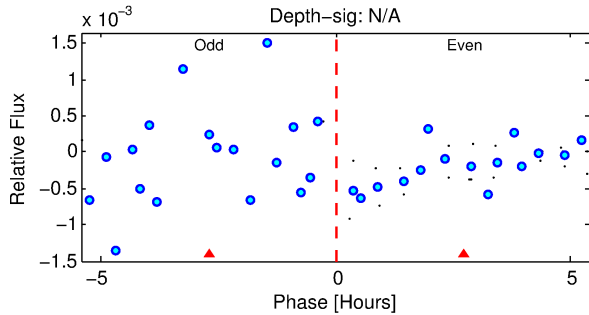
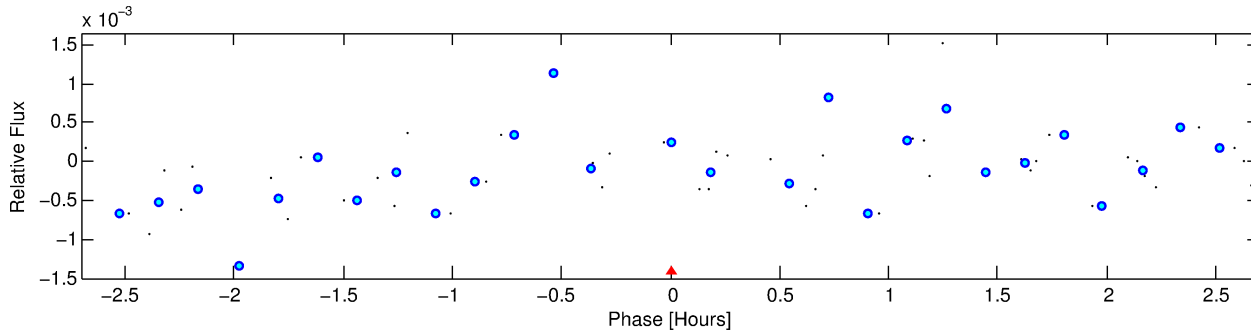
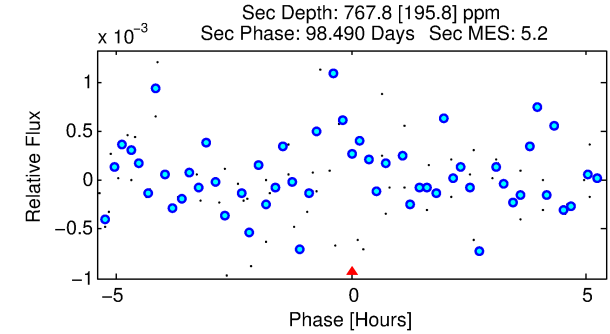
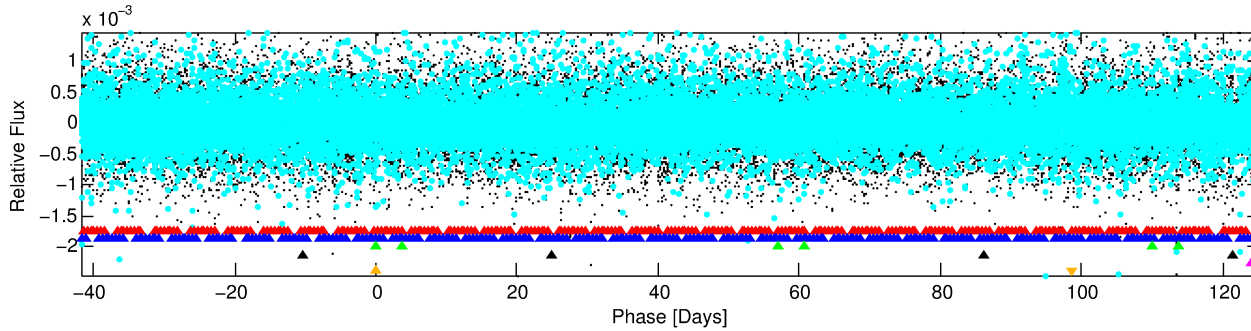
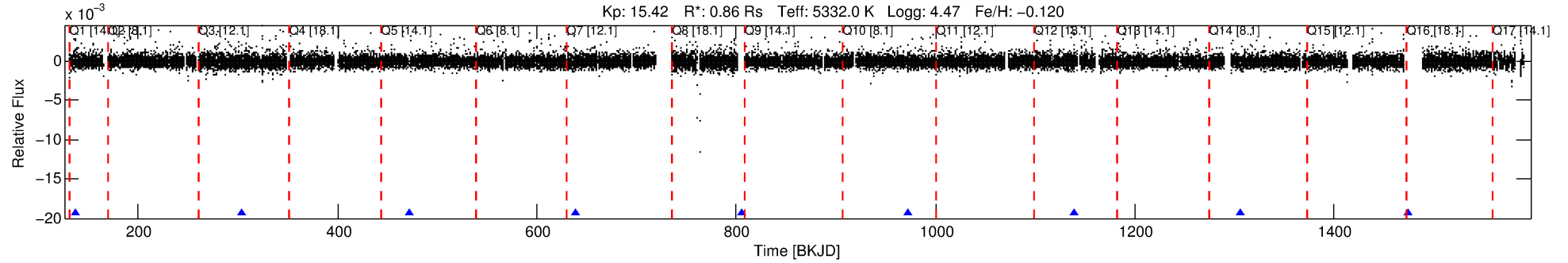
Ephemeris Match Information For 006603756-06

No Significant Match Found

DV One-Page Summary

KIC: 6603756 Candidate: 6 of 6 Period: 167.005 d

KOI: K01729 Corr: No Ephemeris Match



TPS TCE Results:

Period = 167.00524 d
Epoch = 137.4225 BKJD

DV fit results are unavailable

DV Diagnostic Results:

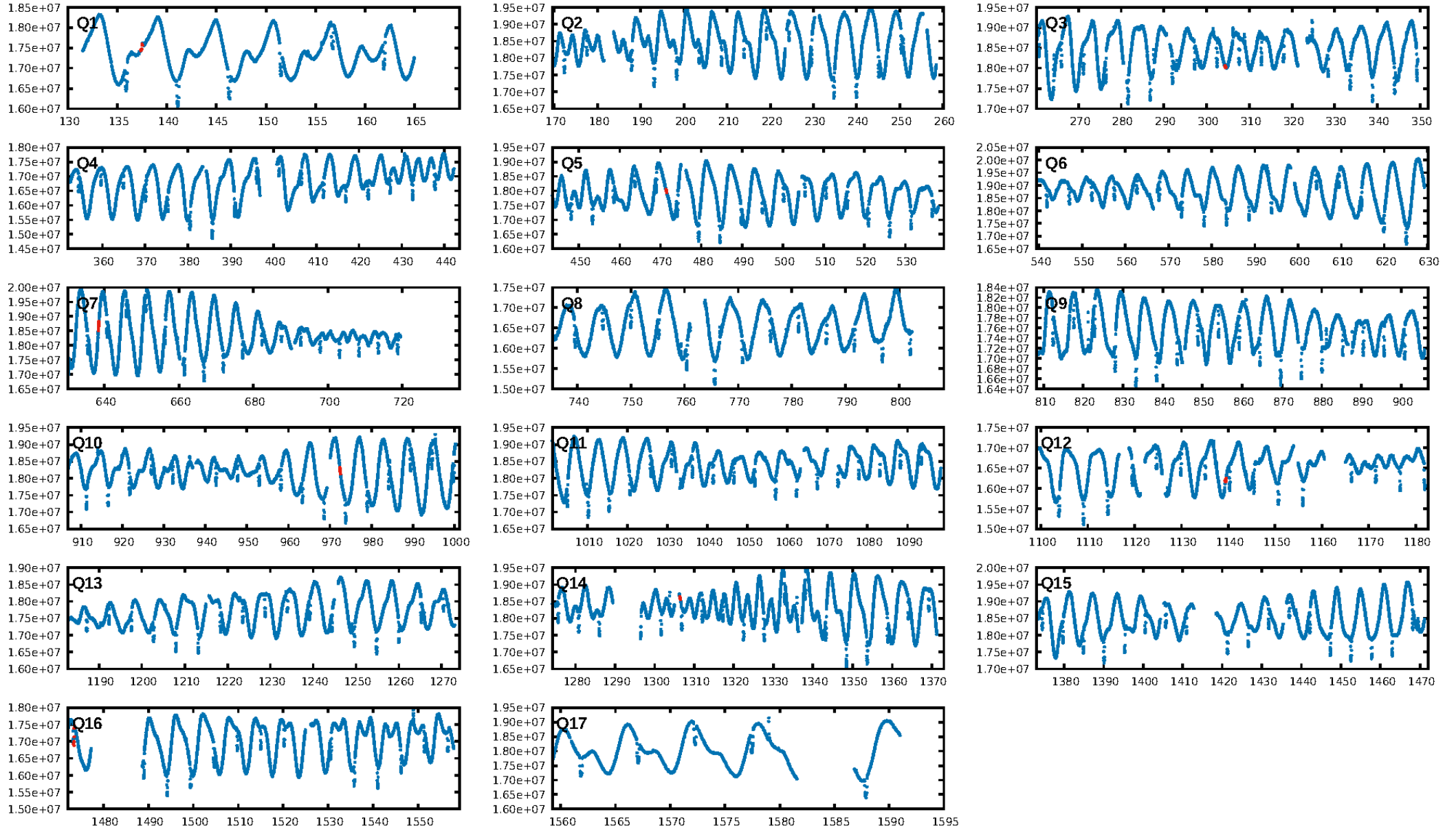
ShortPeriod-sig: 100.0% [580.04σ]
LongPeriod-sig: 100.0% [63.11σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.49e-12
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 16.86

Centroid-sig: 65.9%
Centroid-so: 3.125 arcsec [0.66σ]
OotOffset-rm: 0.413 arcsec [0.45σ]
KicOffset-rm: 0.506 arcsec [0.42σ]
OotOffset-st: 1/0/1/2 [4]
KicOffset-st: 1/0/1/2 [4]
DiffImageQuality-fgm: 0.25 [1/4]
DiffImageOverlap-fno: 0.83 [5/6]

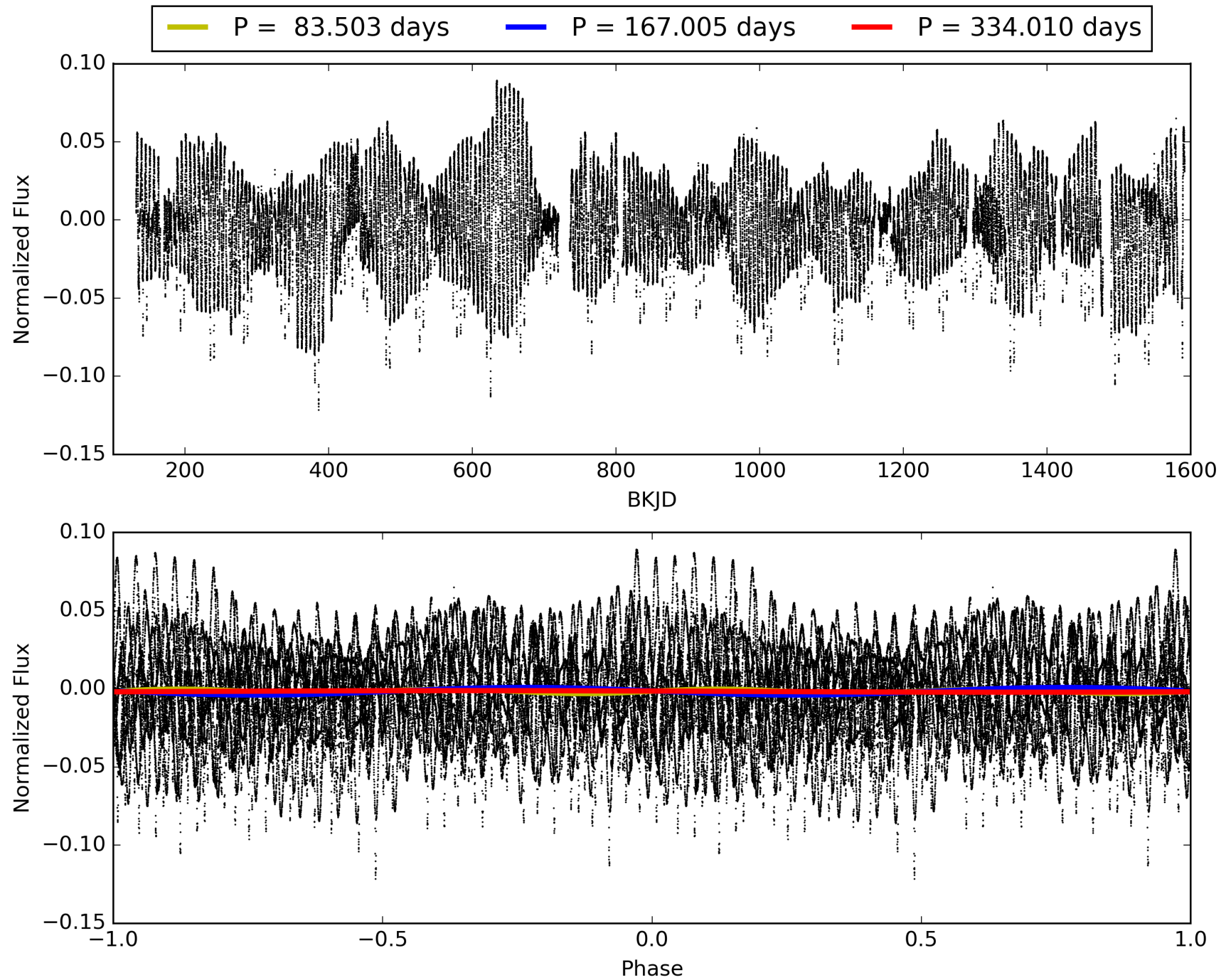
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:18:08 Z

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

TCE 006603756-06, PDC Light Curves

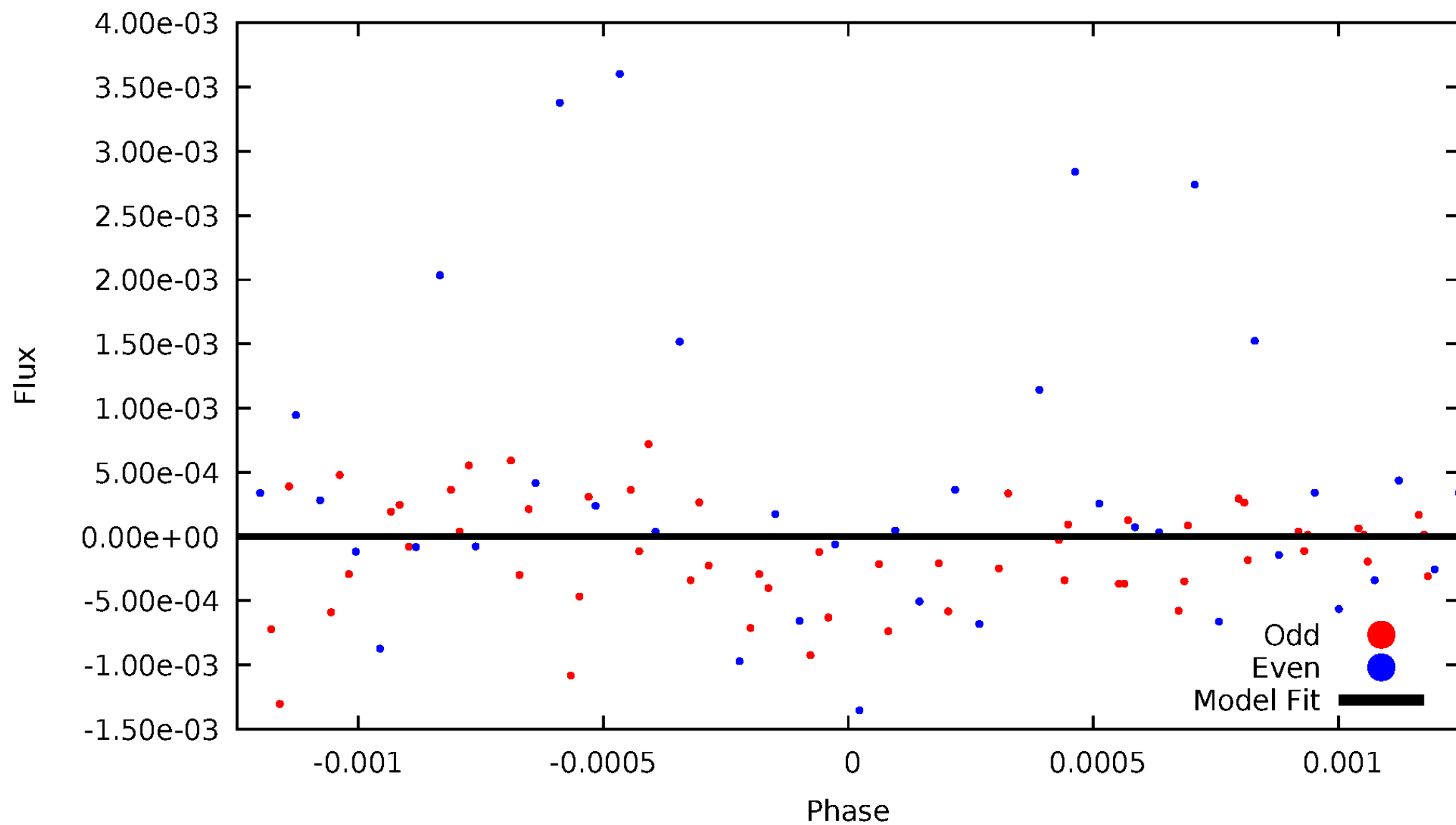


TCE 006603756-06



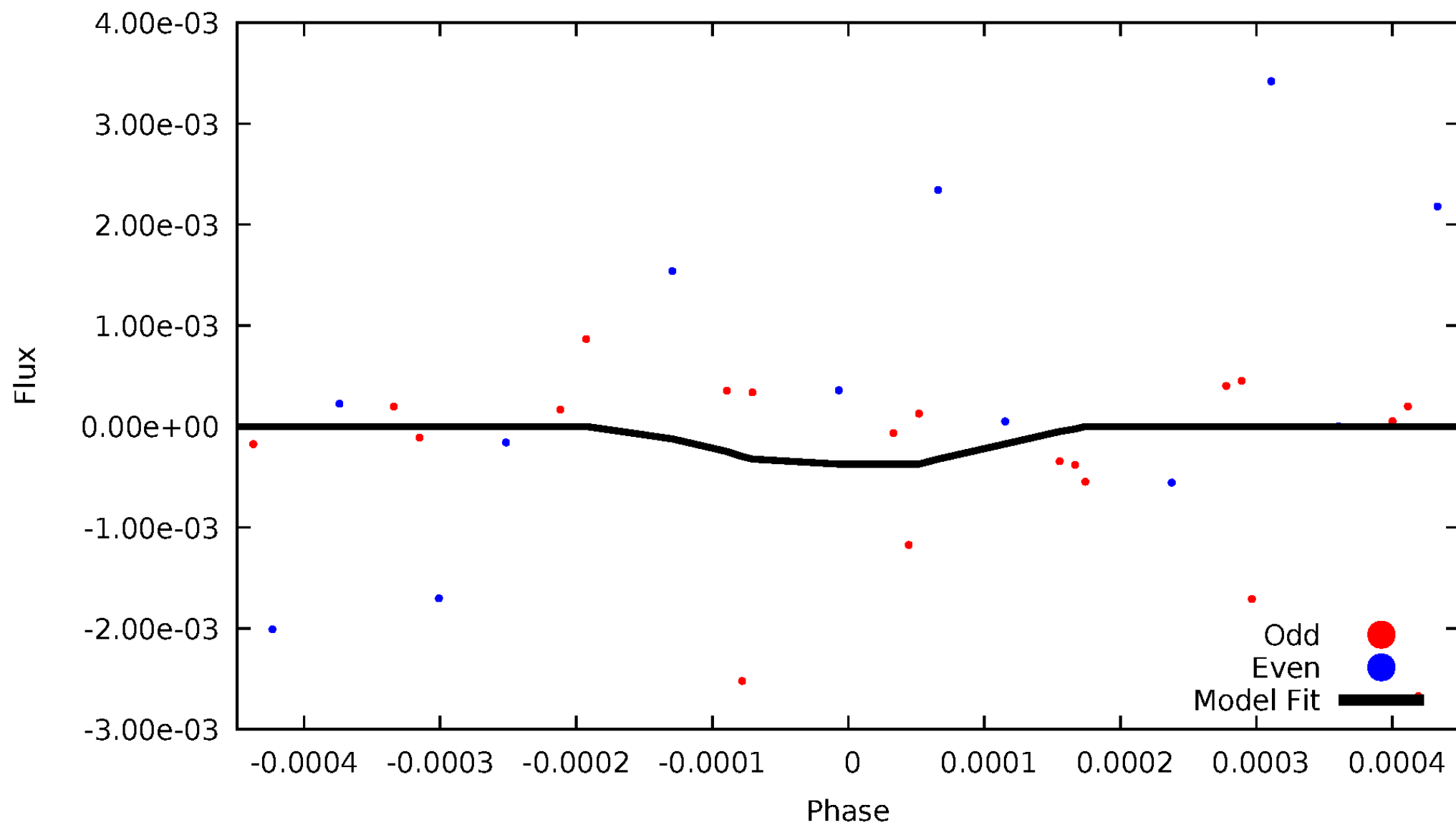
DV Odd/Even

TCE 006603756-06



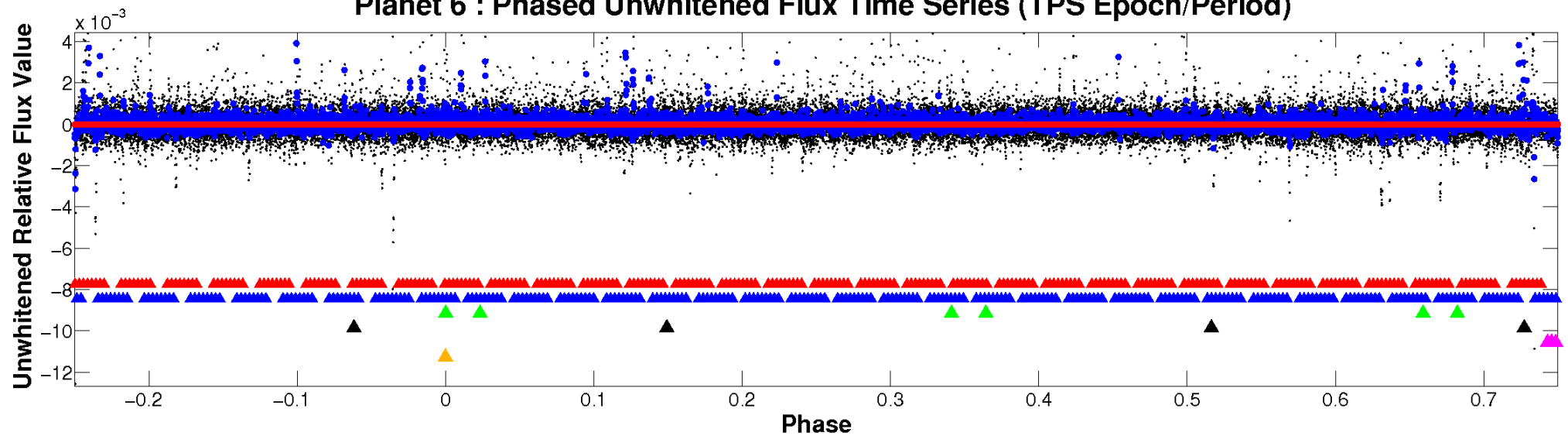
ALT Odd/Even

TCE 006603756-06

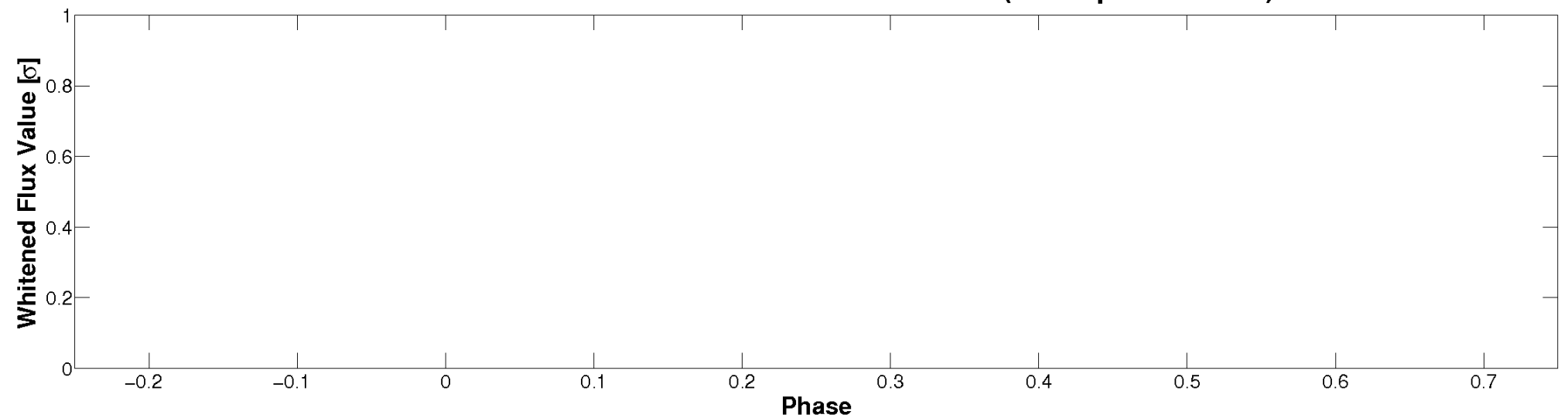


Non-Whitened Vs. Whitened Light Curve

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

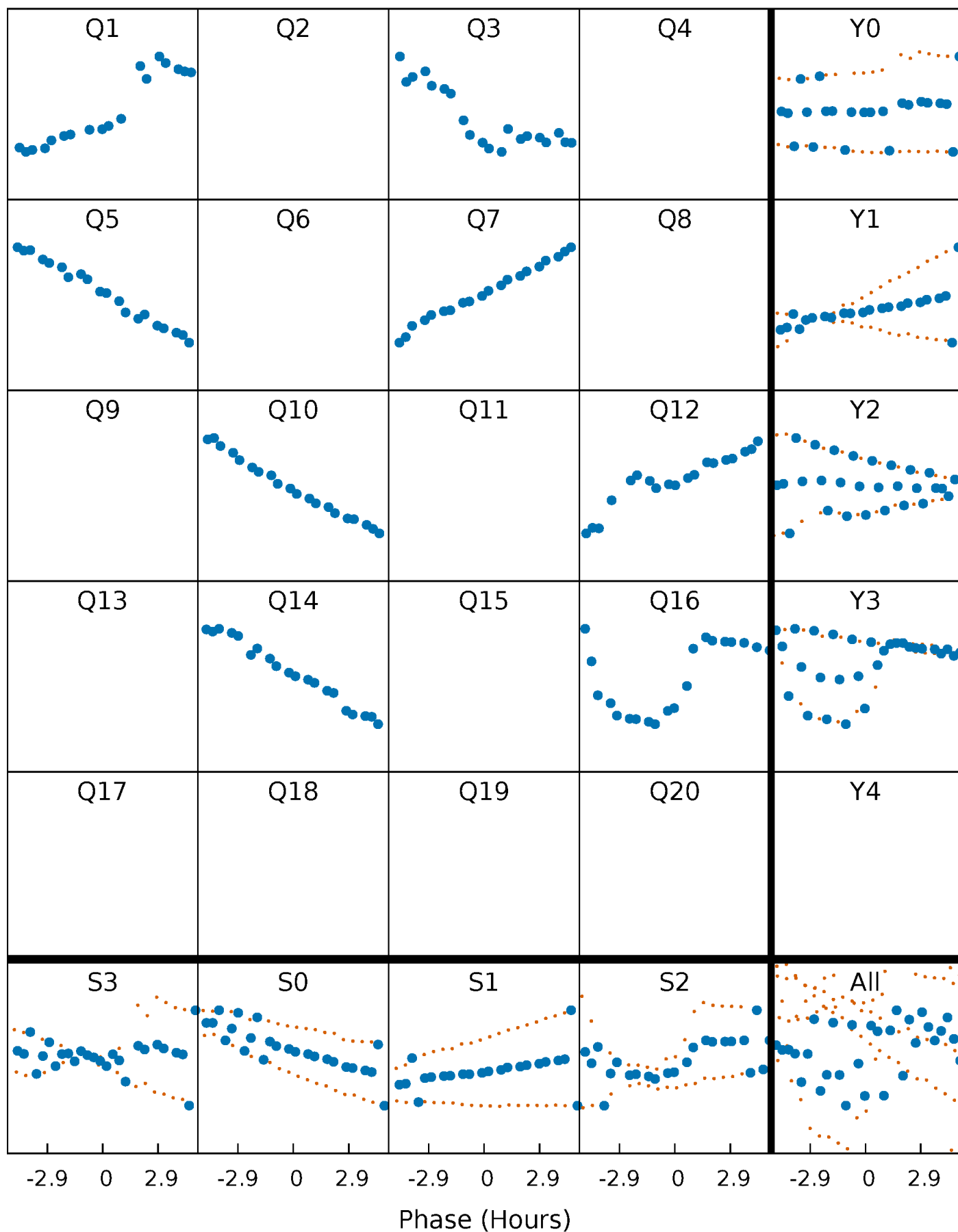


Planet 6 : Phased Whitened Flux Time Series (TPS Epoch/Period)



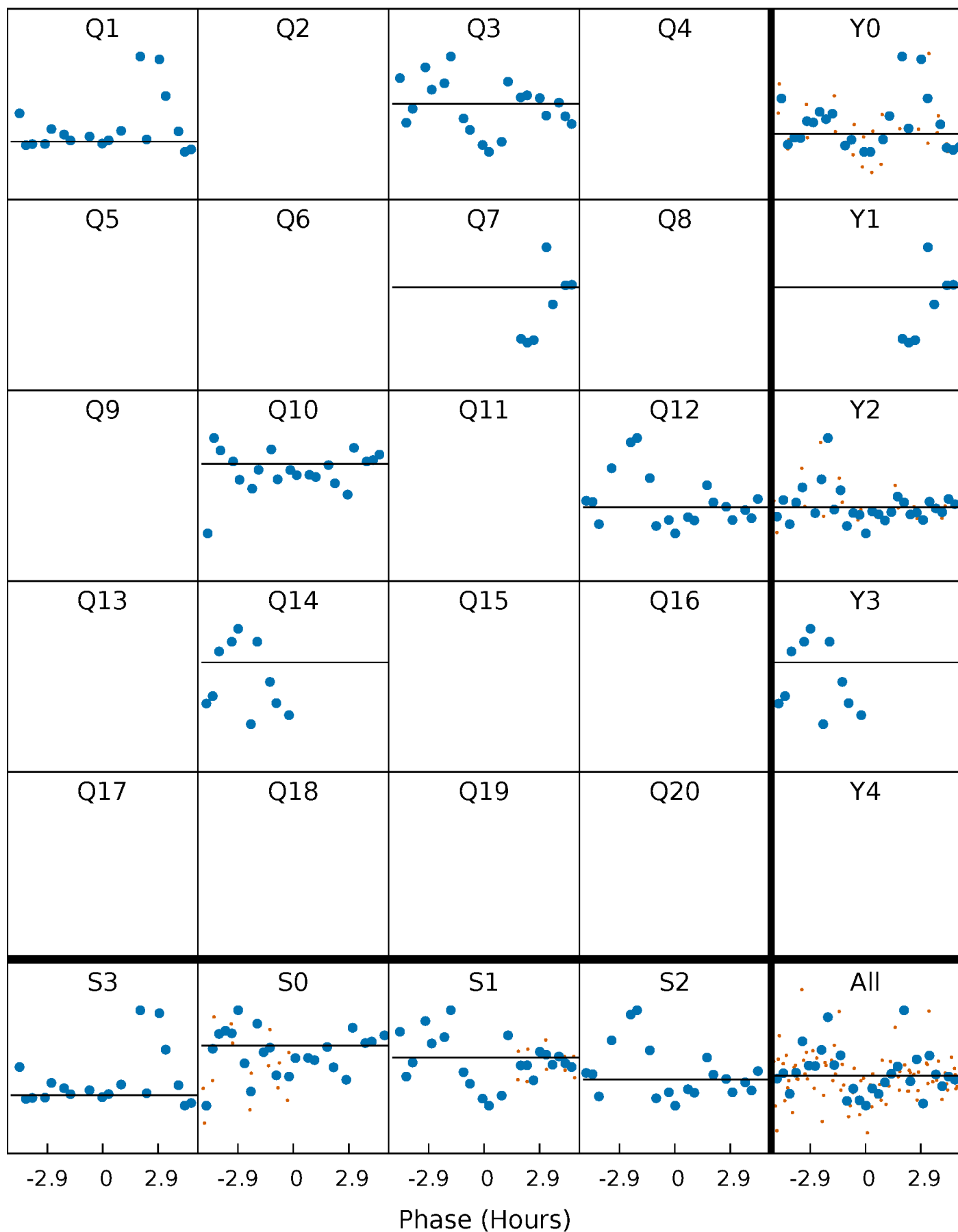
PDC Quarter-Phased Transit Curves

TCE 006603756-06 P=167.005236 Days $T_0=137.422454$ (BKJD)



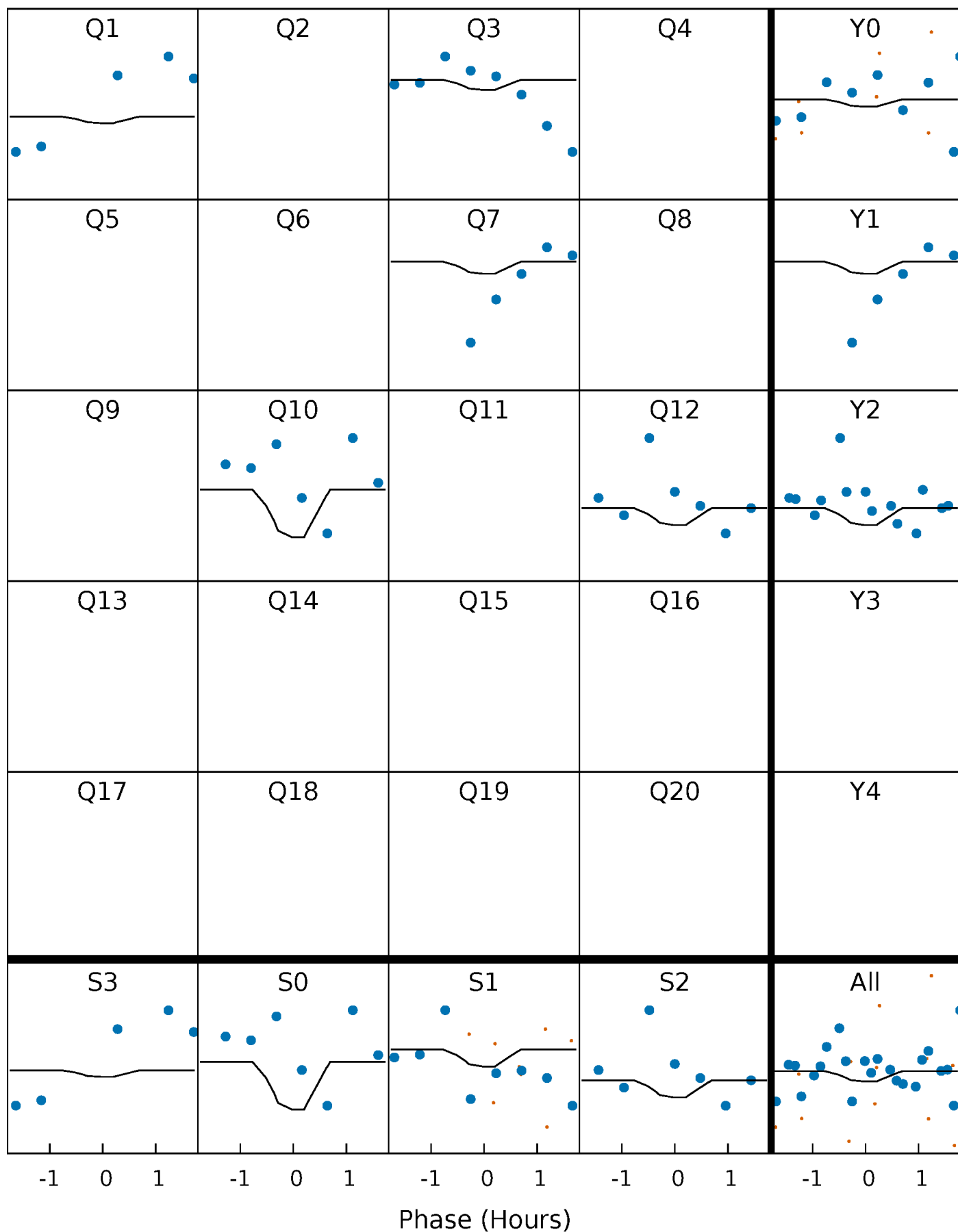
DV Quarter-Phased Transit Curves

TCE 006603756-06 P=167.005236 Days $T_0=137.422454$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

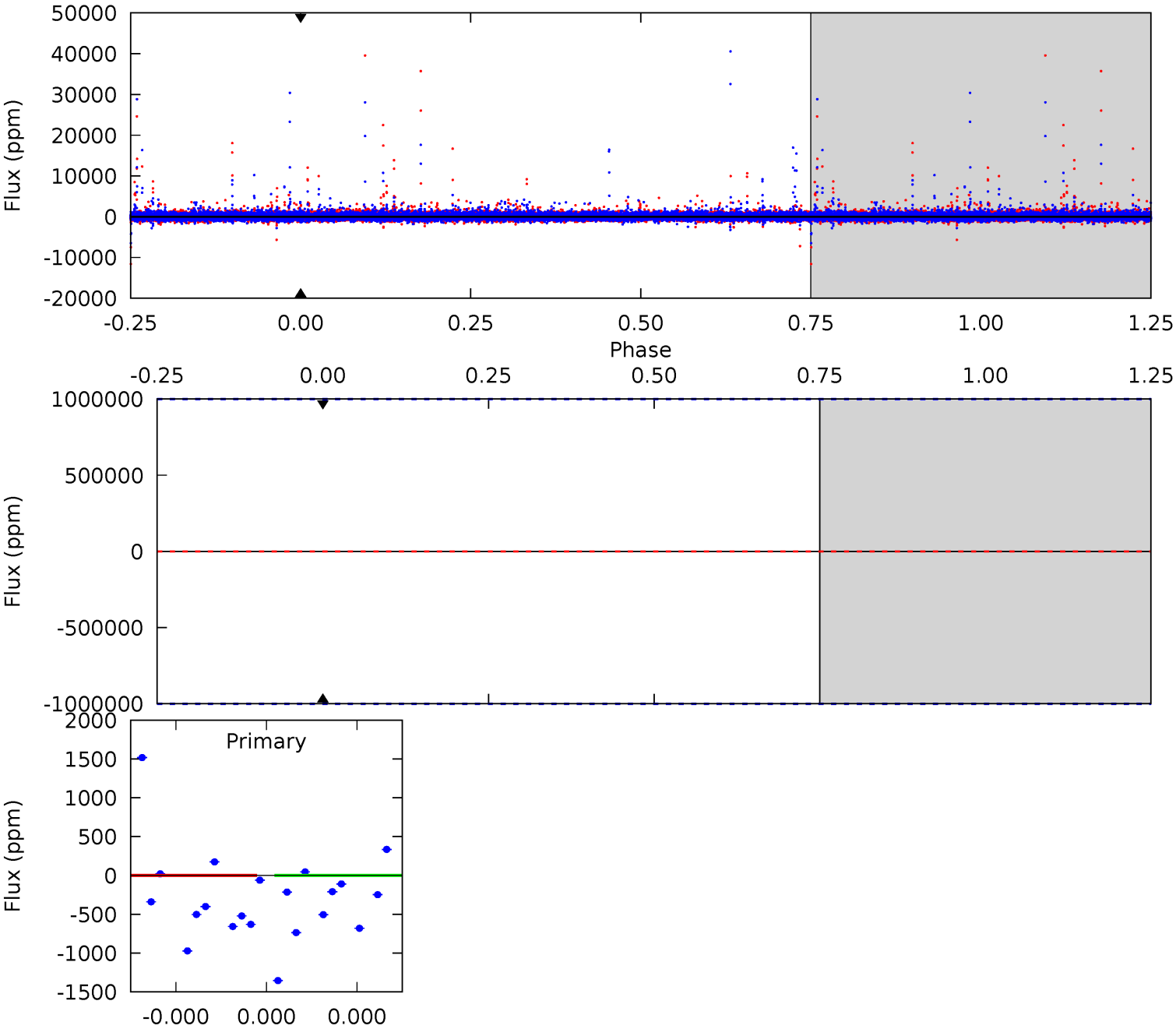
TCE 006603756-06 P=167.005236 Days $T_0=137.509159$ (BKJD)



DV Model-Shift Uniqueness Test

006603756-06, P = 167.005236 Days, E = 137.422454 Days

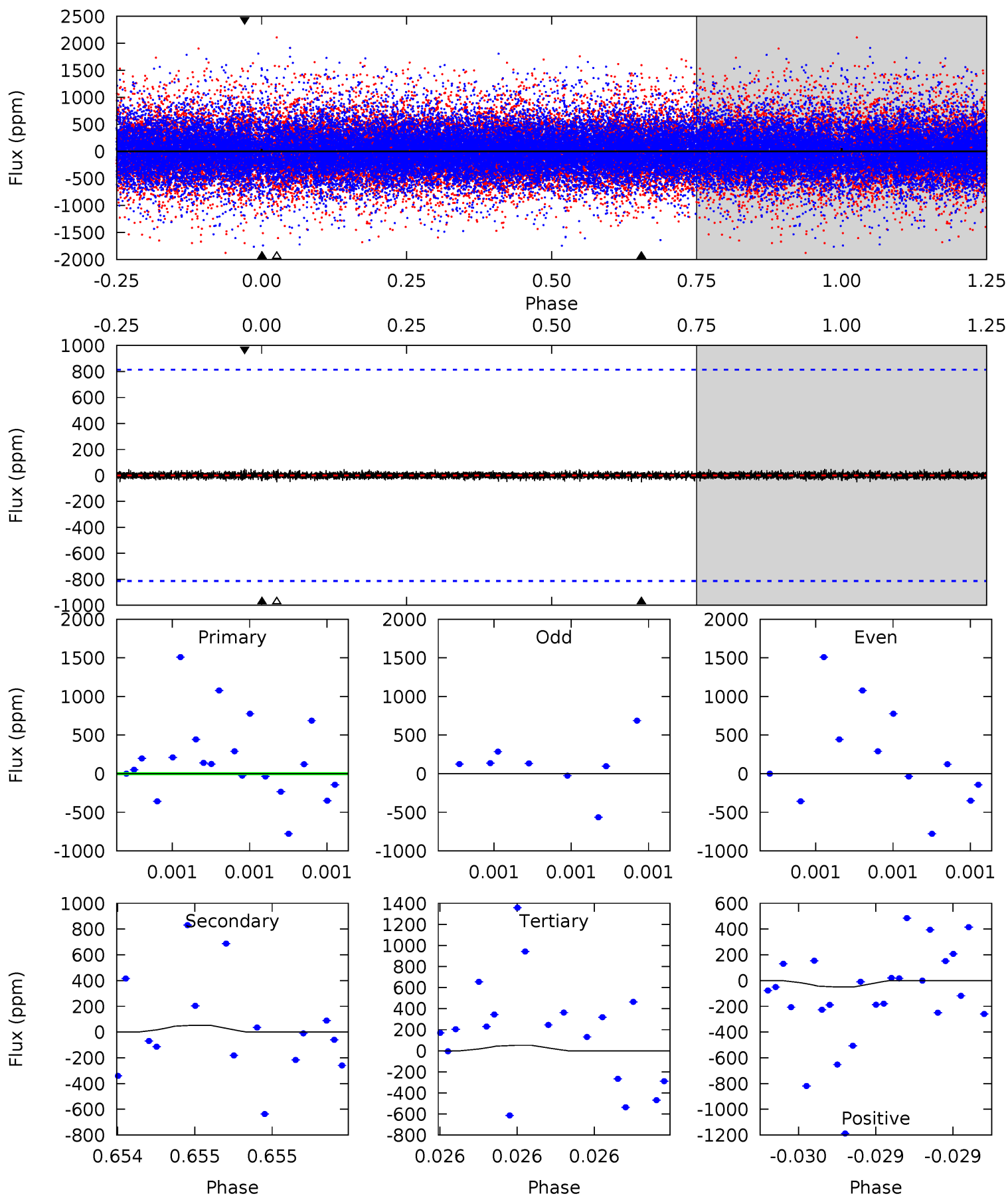
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

006603756-06, P = 167.005236 Days, E = 137.509159 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.30	0.37	0.36	0.35	5.68	3.65	0.08	-0.06	-0.05	0.01	0.02	1.42	-1.48	0.49	0.76



Stellar Parameters For KIC 006603756

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5332^{+167}_{-167}	$4.471^{+0.108}_{-0.120}$	$-0.120^{+0.300}_{-0.300}$	$0.860^{+0.138}_{-0.113}$	$0.798^{+0.113}_{-0.061}$	$1.766^{+0.865}_{-0.624}$
	+3%/-3%	+2%/-3%	+250%/-250%	+16%/-13%	+14%/-8%	+49%/-35%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006603756-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$7.38^{+8.01}_{-5.22}$	412^{+22}_{-20}	4730^{+14234}_{-18968}	$10584^{+739649}_{-426878}$
Alt.	-53 ± 143	$7.36^{+7.34}_{-5.20}$	411^{+22}_{-20}	2380^{+989}_{-4986}	116^{+1448}_{-351}

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

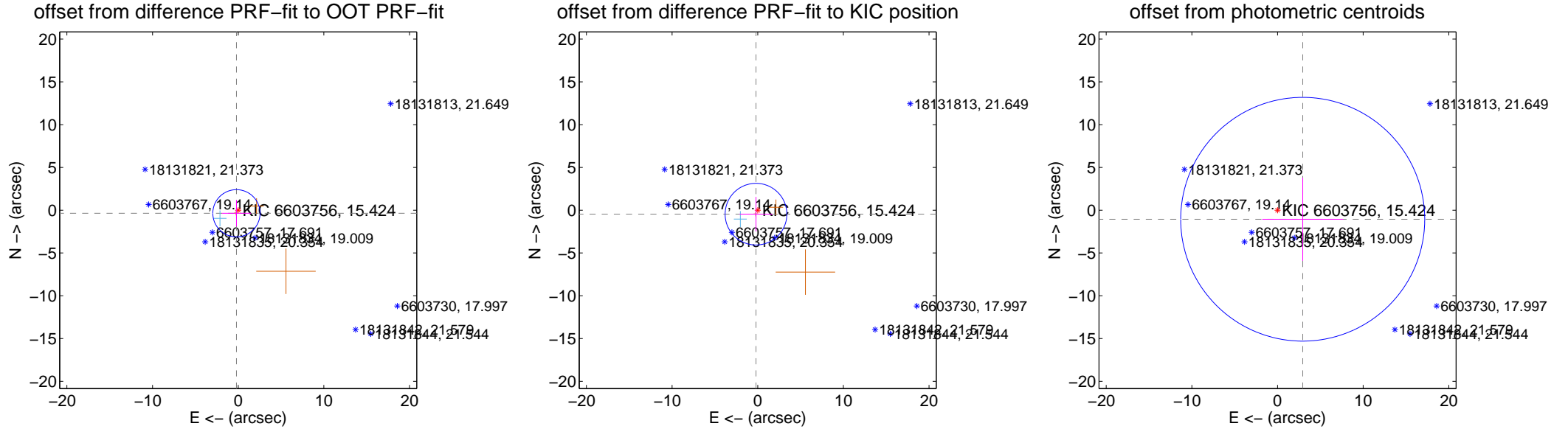
DV Centroid Data

Supplemental centroid analysis for 006603756-06. Kepler magnitude: 15.42. Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

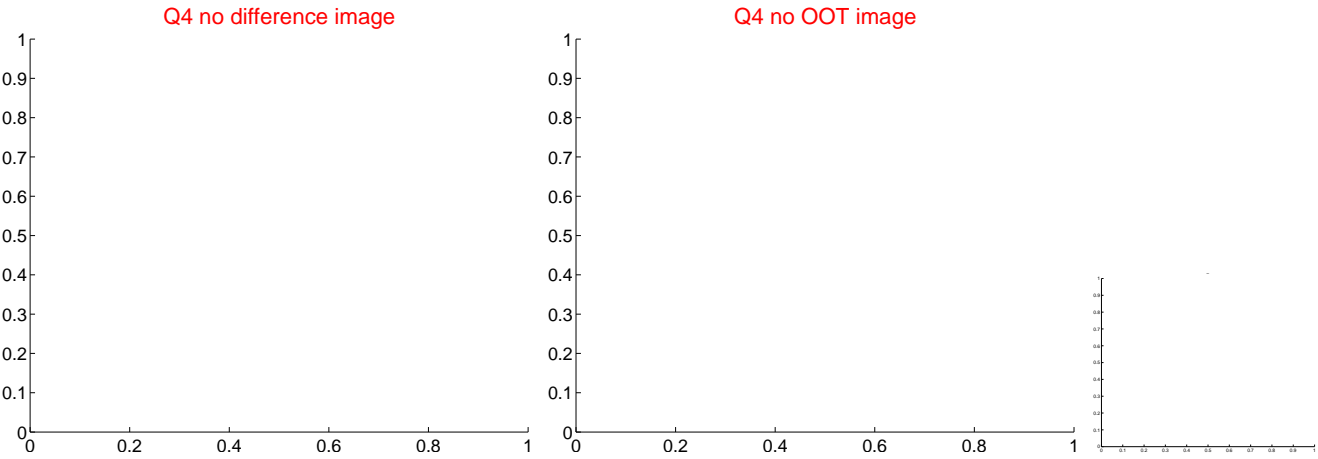
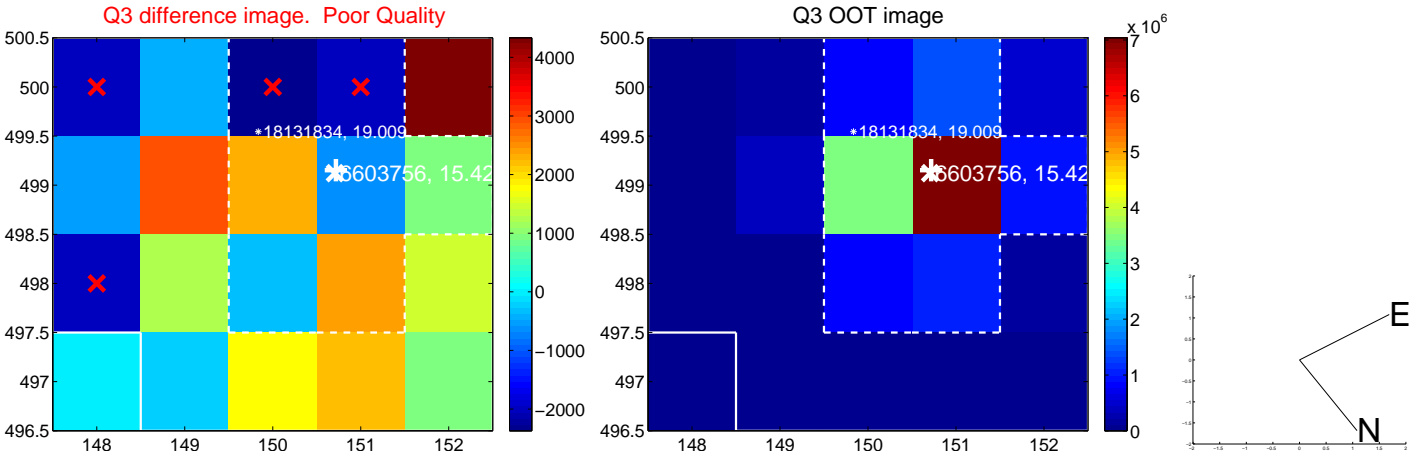
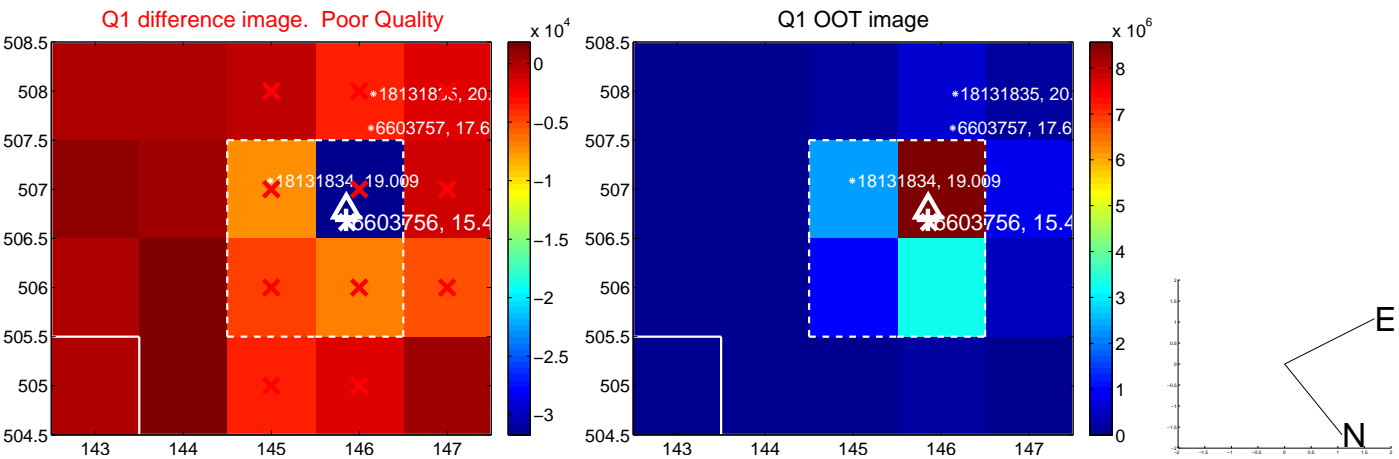
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.413 ± 0.919	0.45	0.205 ± 1.689	-0.358 ± 1.543
PRF-fit source offset from KIC position	0.506 ± 1.201	0.42	0.203 ± 1.926	-0.463 ± 2.017
photometric centroid source offset	3.13 ± 4.75	0.66	-2.94 ± 4.73	-1.06 ± 4.87

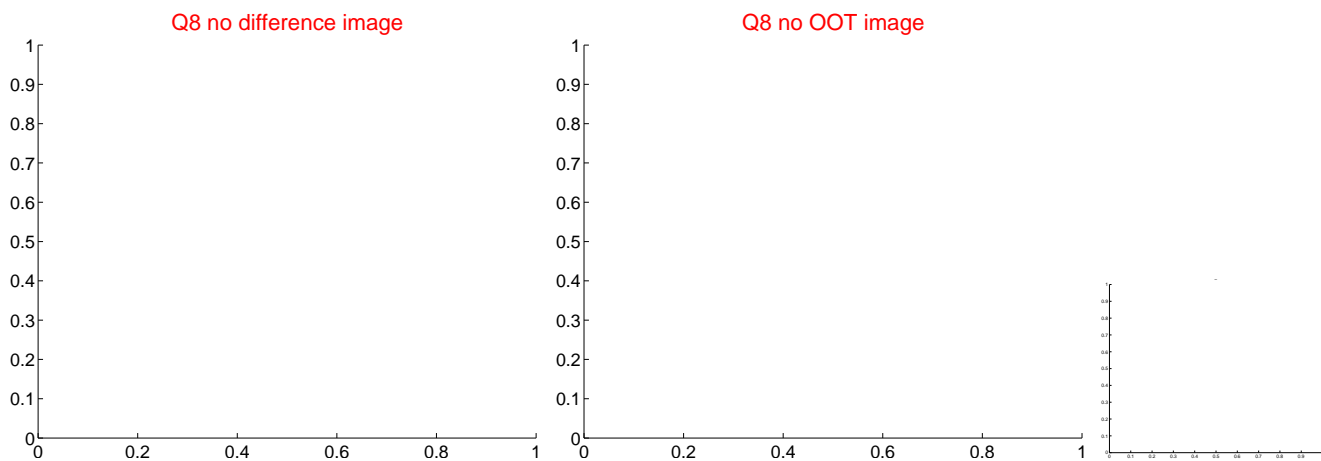
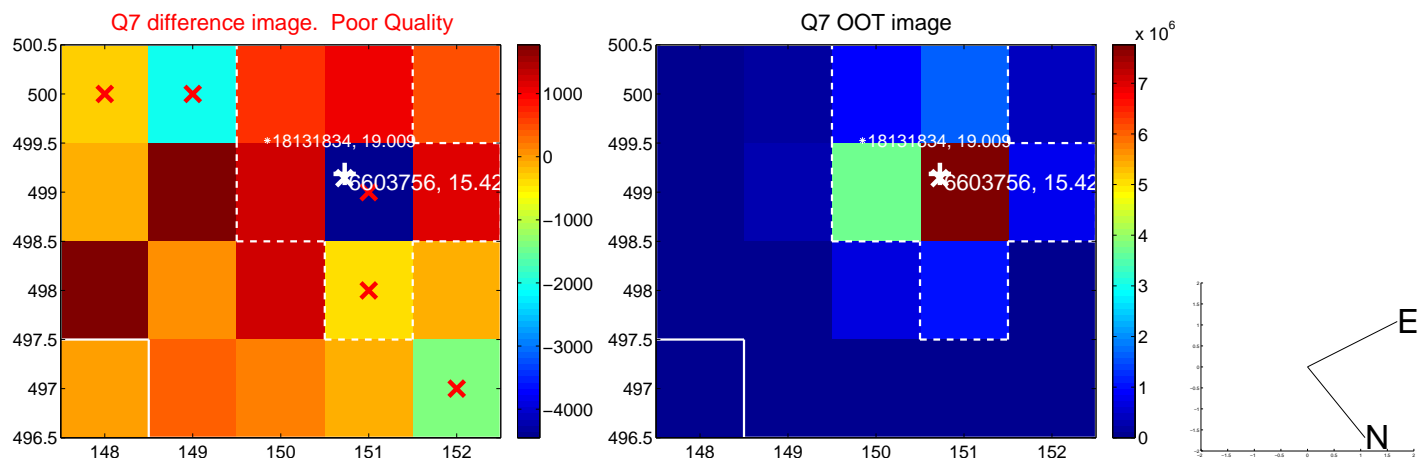
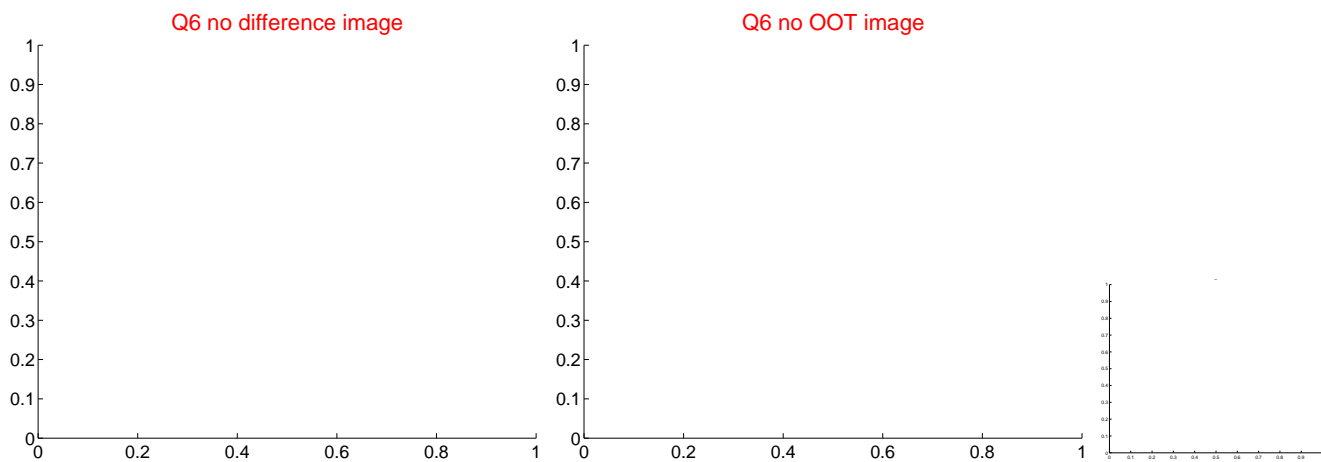
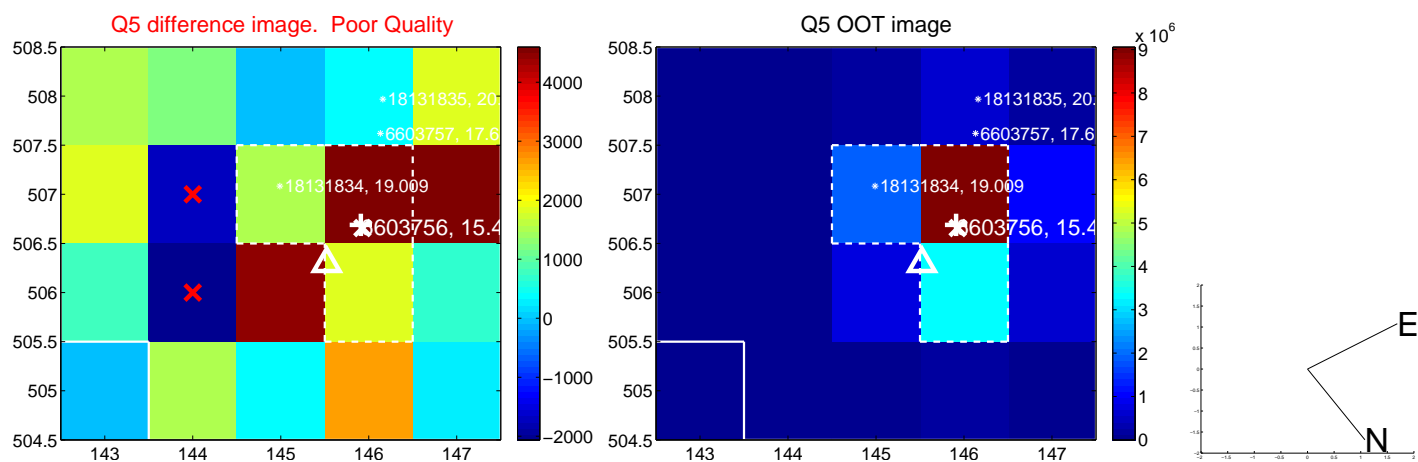


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

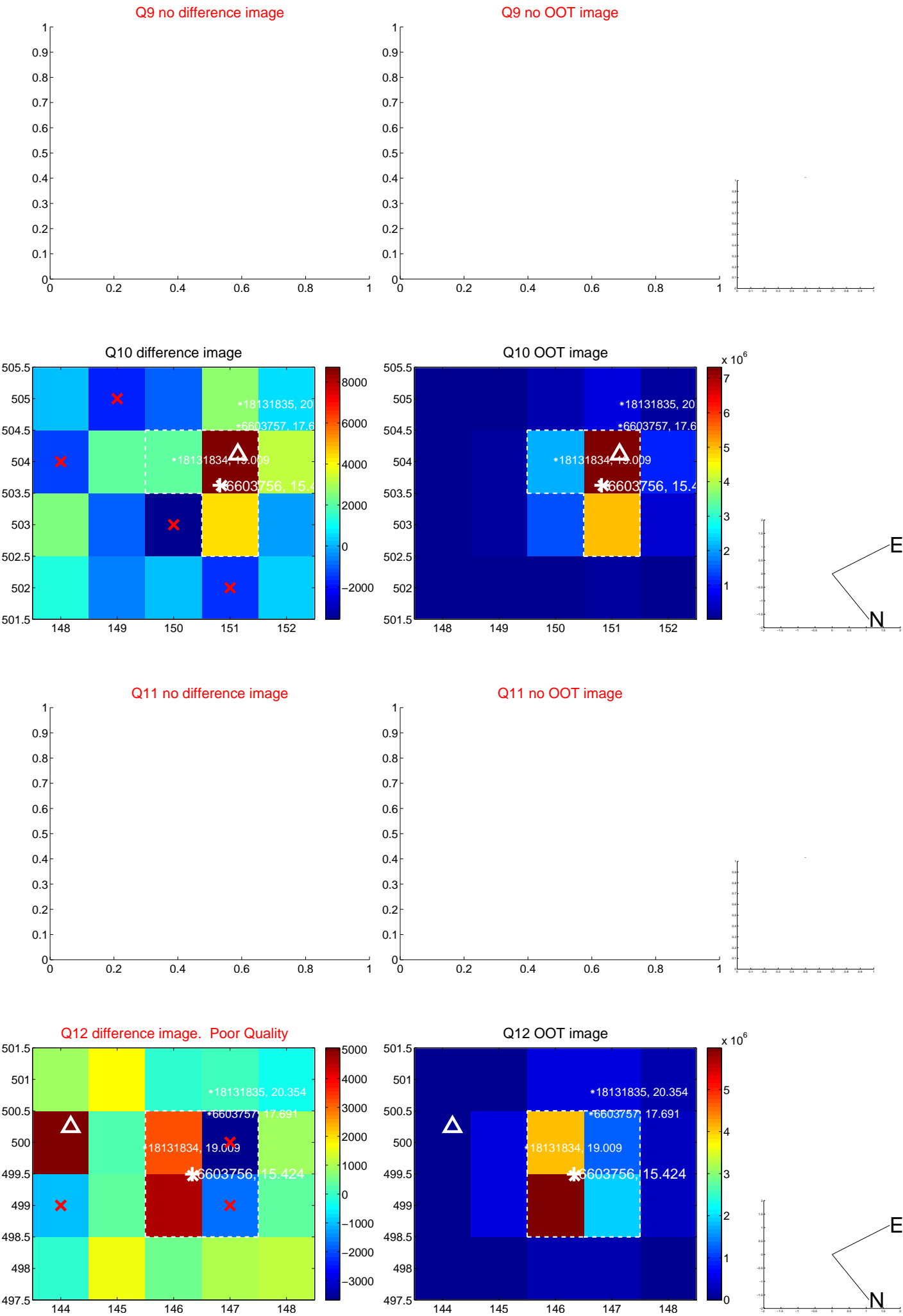
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



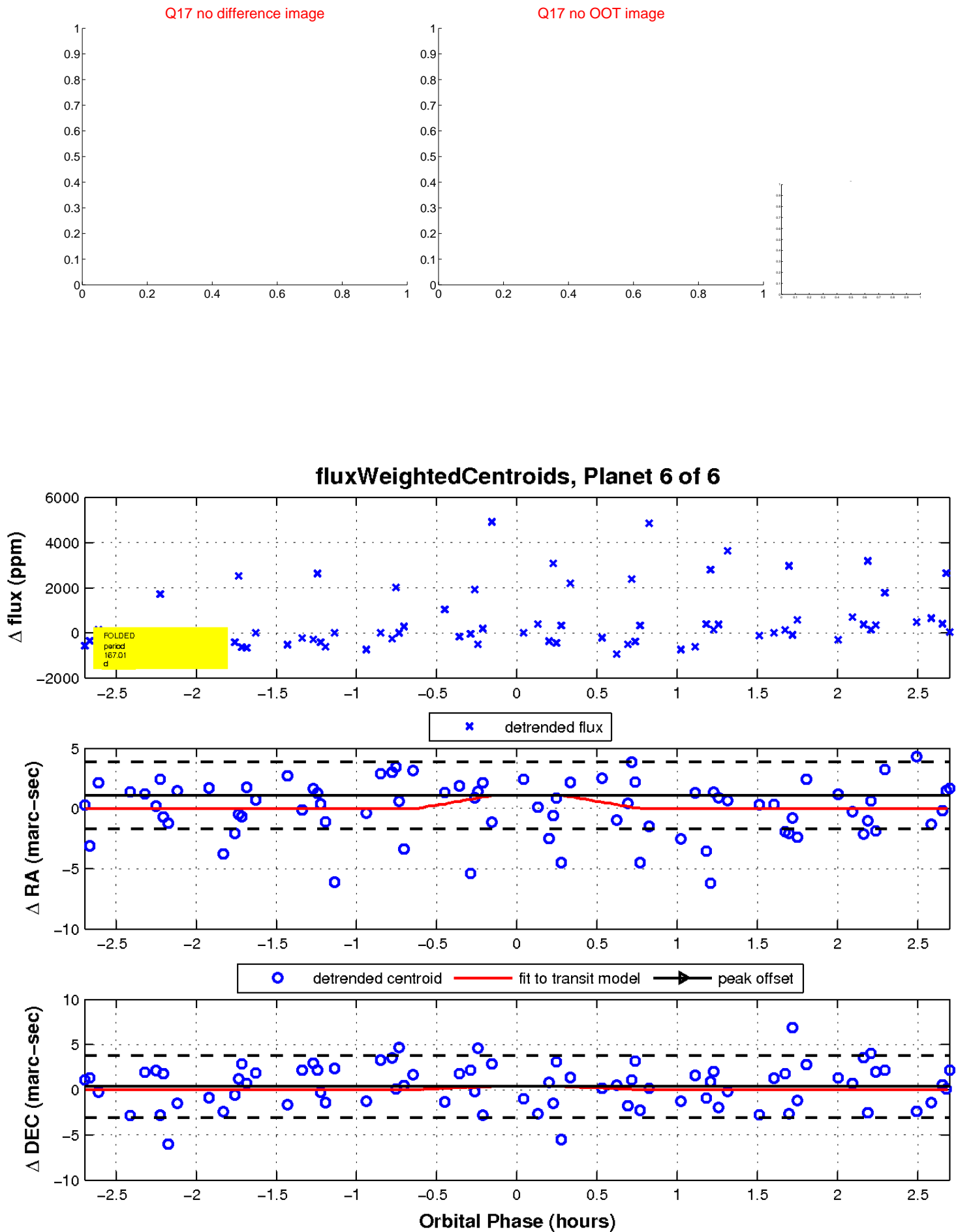
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

