

KIC 006359802

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})
006359802-01	OBS	3399.01	14.154020	140.698657	30154.8	4.605	563.9	239.0	0.66	4352	20.73	14.28
006359802-02	OBS	No	14.154039	144.175601	18230.1	4.215	250.1	152.0	0.66	4352	16.46	14.28
006359802-03	OBS	No	343.554795	204.569629	1787.7	3.222	9.7	7.3	0.66	4352	2.92	0.20
006359802-04	OBS	No	250.543175	281.124855	2455.4	5.286	15.0	5.9	0.66	4352	3.12	0.31
006359802-05	OBS	No	181.677236	200.290413	1973.0	2.680	9.0	6.1	0.66	4352	2.80	0.47
006359802-06	OBS	No	1.417006	132.464119	2343.2	1.500	8.1	-1.0	0.66	4352	3.08	307.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006359802-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—SEASONAL_DEPTH_DV—SEASONAL_DEPTH_ALT—CENT_KIC_POS—HALO_GHOST—EPHEM_MATCH
006359802-02	OBS	FP	0.00	1	1	1	1	IS_SEC_TCE—CENT_KIC_POS—HALO_GHOST—EPHEM_MATCH
006359802-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_ALT—CENT_FEW_DIFFS
006359802-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006359802-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006359802-06	OBS	FP	0.00	1	0	0	0	MOD_NONUNIQ_ALT—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 006359802-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
006359802-01	6359802	1121.01	6359798	1:1	4.5	1	-1	12.93	15.05	2.08	Direct-PRF	0	0.01	0.01

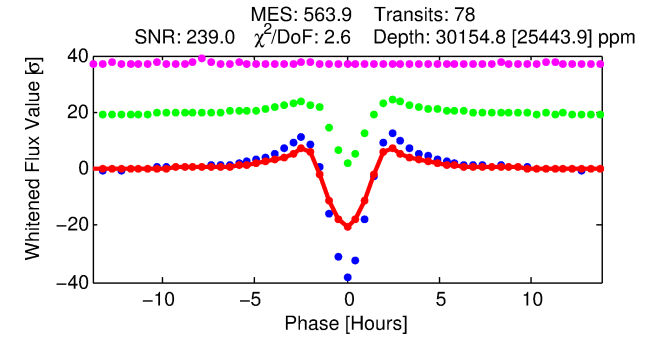
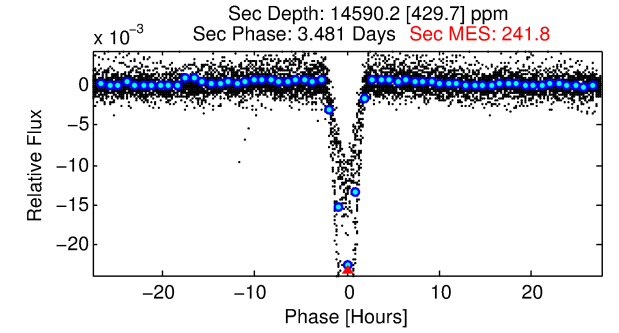
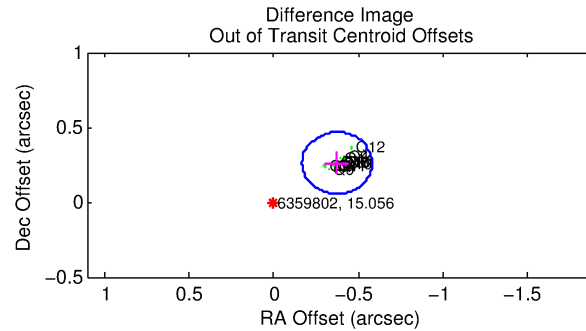
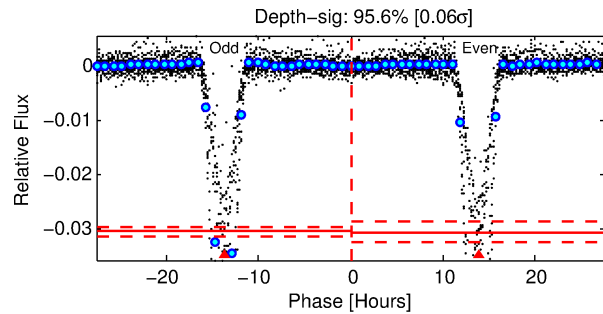
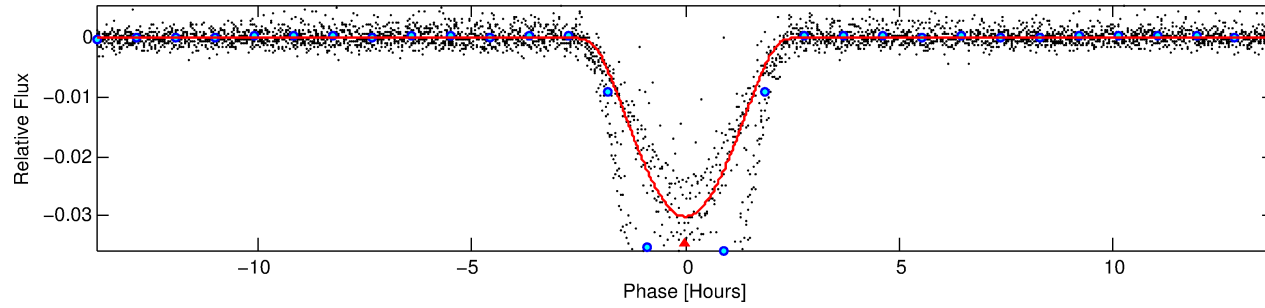
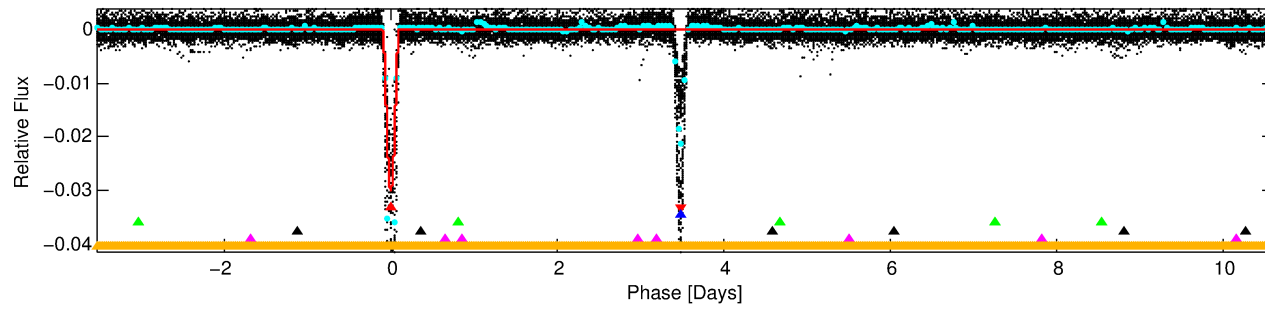
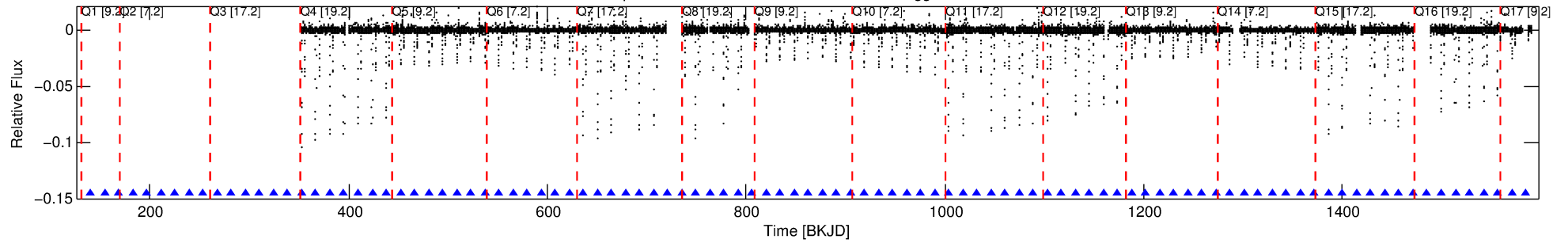
Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 6359802 Candidate: 1 of 6 Period: 14.154 d

KOI: K03399 Corr: No Ephemeris Match

Kp: 15.06 R*: 0.66 Rs Teff: 4352.0 K Logg: 4.61 Fe/H: -0.040



DV Fit Results:

Period = 14.15402 [0.00001] d
Epoch = 140.6987 [0.0005] BKJD
Rp/R* = 0.2874 [0.0945]
a/R* = 19.07 [0.28]
b = 1.00 [0.02]
Seff = 14.28 [2.45]
Teff = 496 [21] K
Rp = 20.73 [7.05] Re
a = 0.0992 [0.0070] AU
Ag = 183.74 [122.26] [1.49σ]
Teffp = 2821 [475] K [4.90σ]

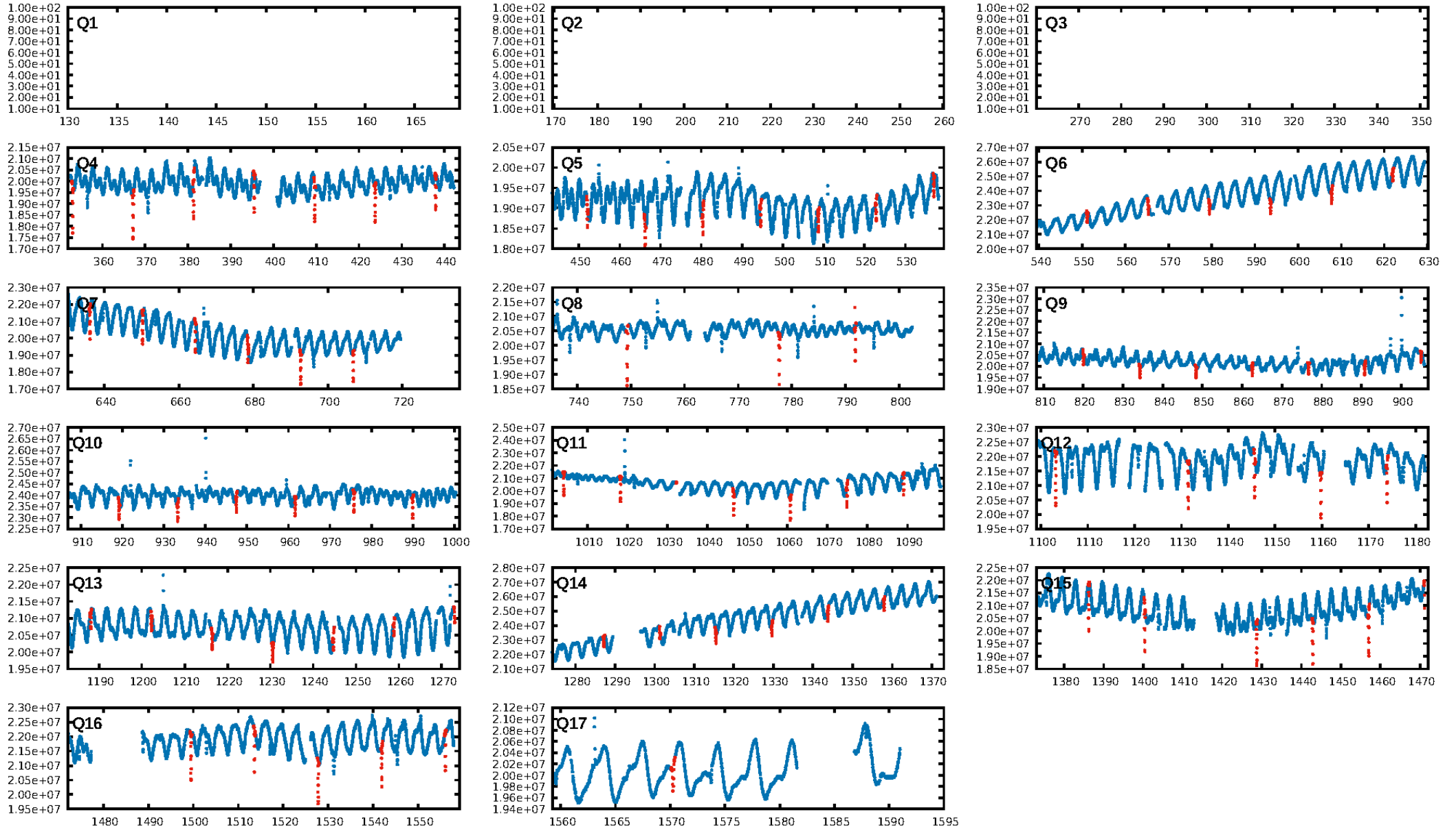
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [63.12σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [77/77]
GhostDiagnostic-chr: -0.1687
Centroid-sig: 0.0%
Centroid-so: 4.221 arcsec [580.43σ]
OotOffset-rm: 0.456 arcsec [6.63σ]
KicOffset-rm: 4.501 arcsec [56.81σ]
OotOffset-st: 3/3/3/2 [11]
KicOffset-st: 3/3/3/2 [11]
DiffImageQuality-fgm: 1.00 [11/11]
DiffImageOverlap-fno: 0.29 [4/14]

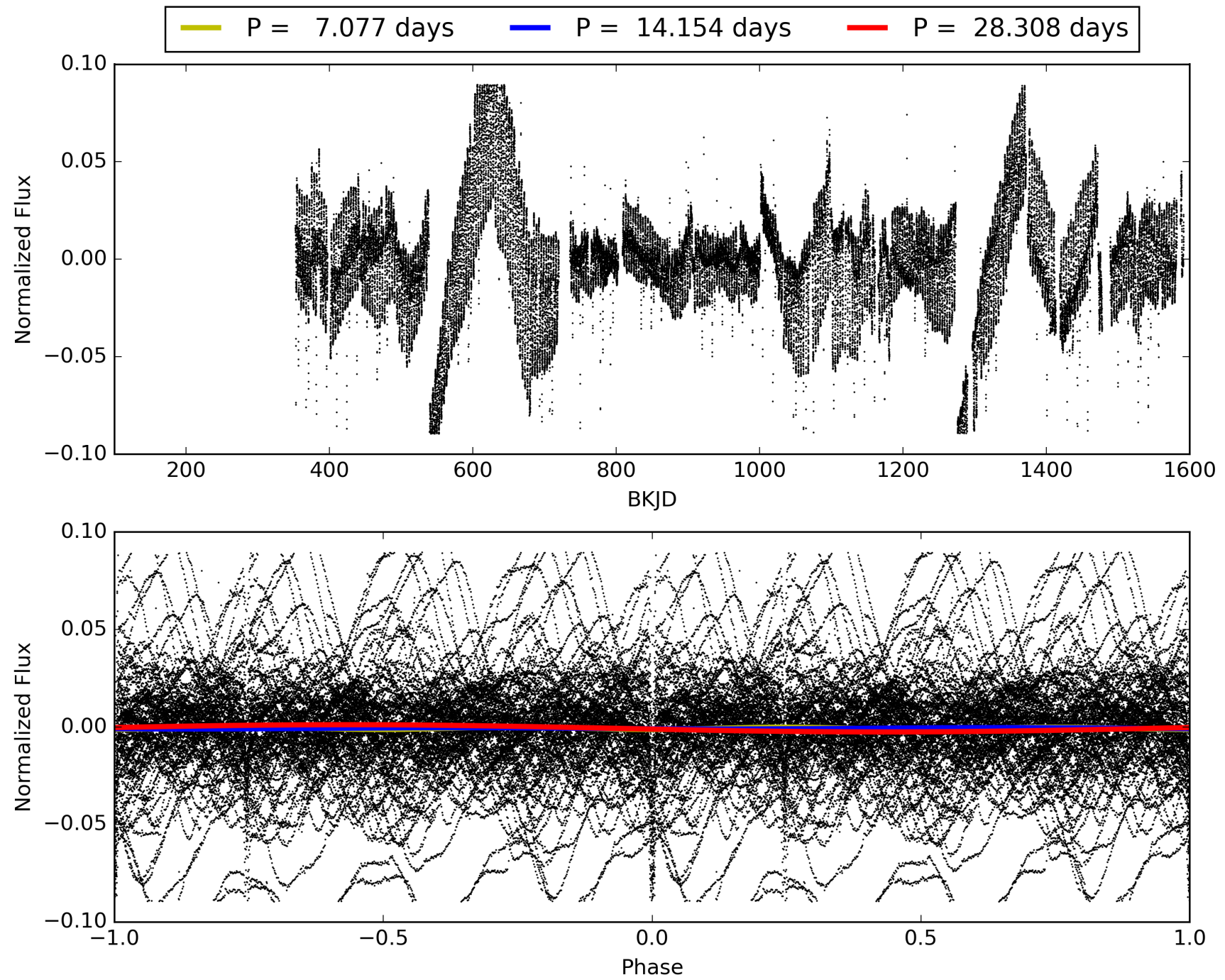
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:12:27 Z

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

TCE 006359802-01, PDC Light Curves

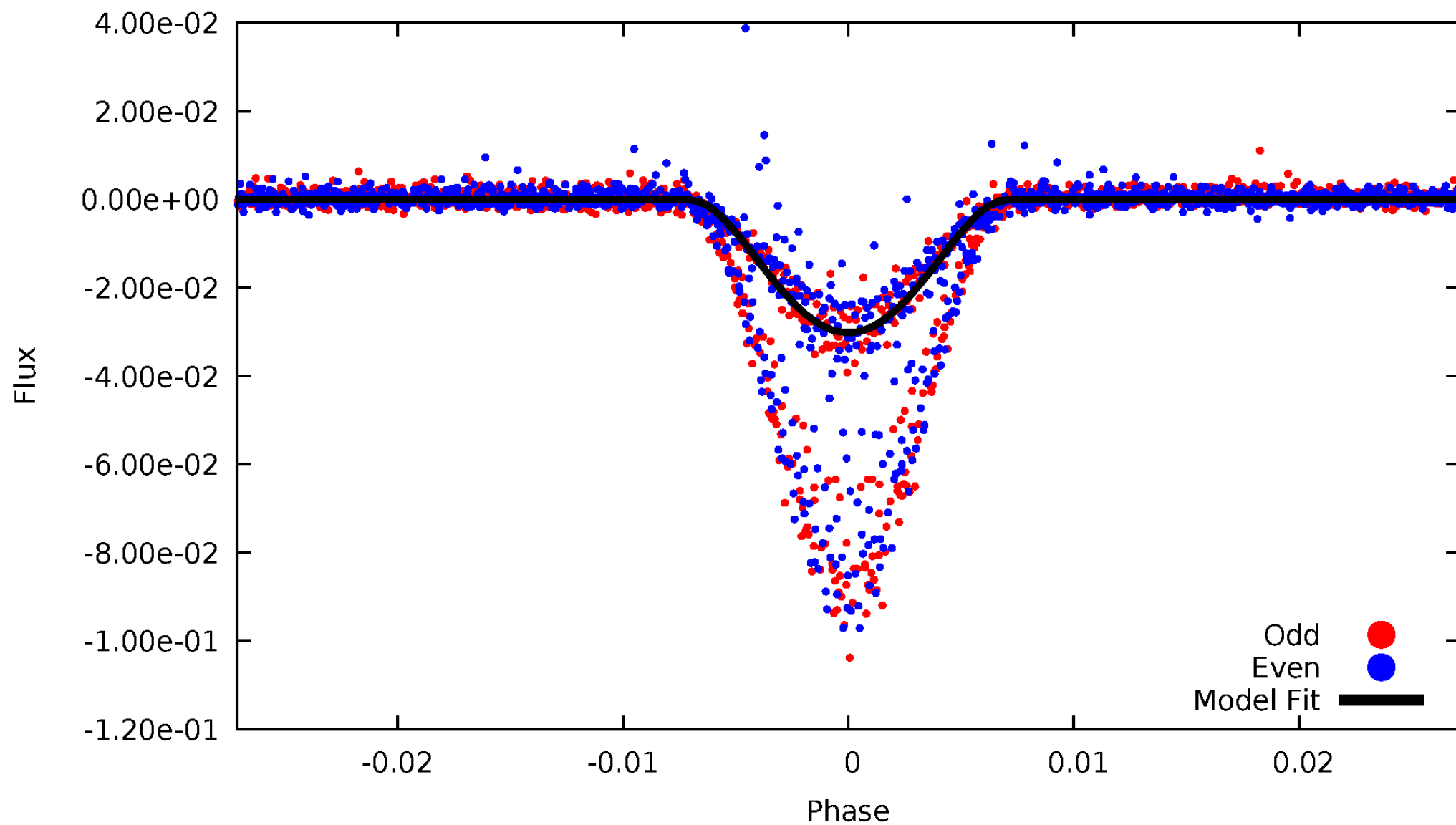


TCE 006359802-01



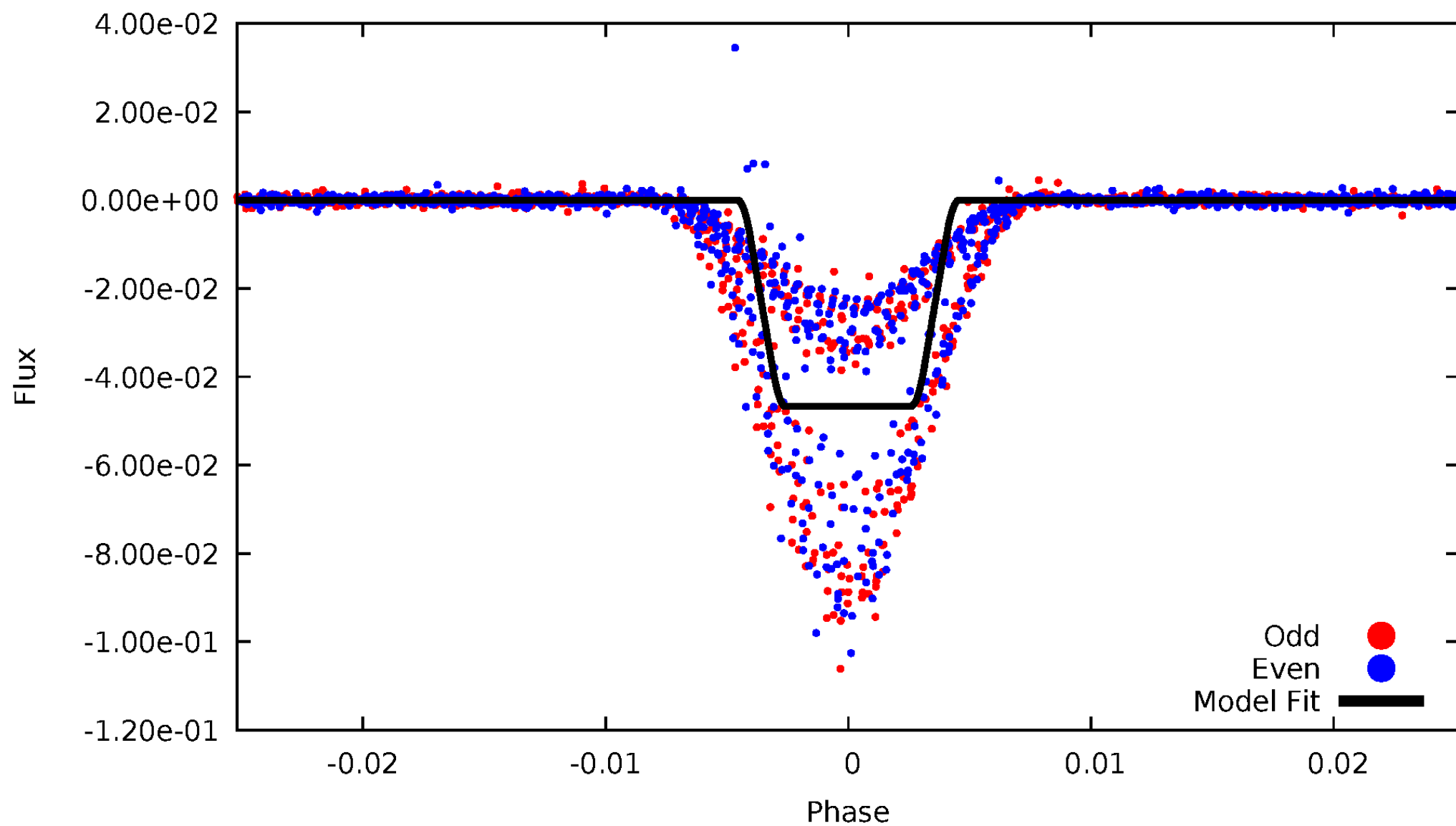
DV Odd/Even

TCE 006359802-01



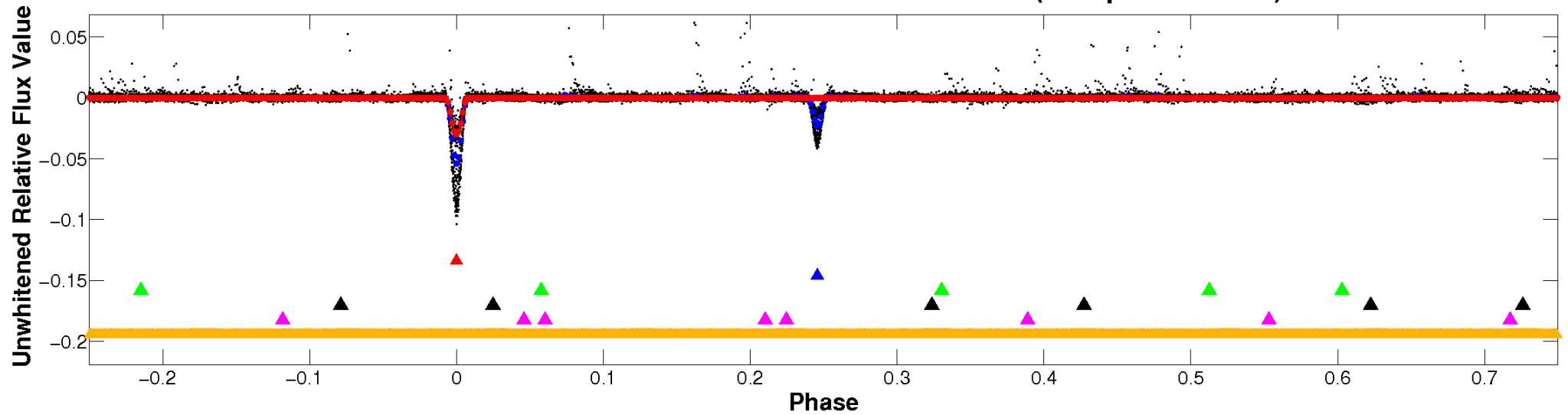
ALT Odd/Even

TCE 006359802-01

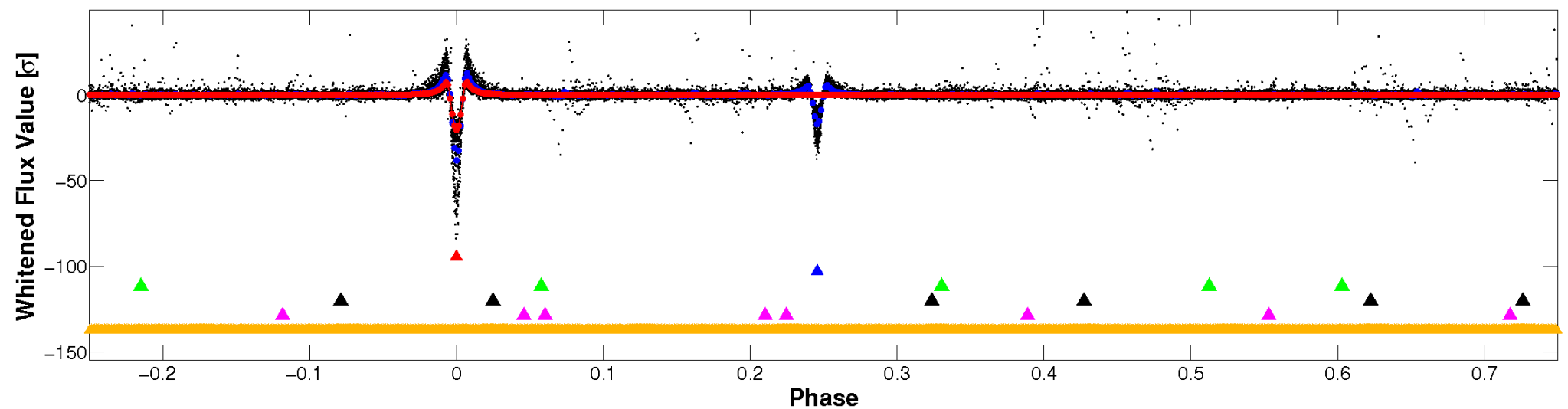


Non-Whitened Vs. Whitened Light Curve

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

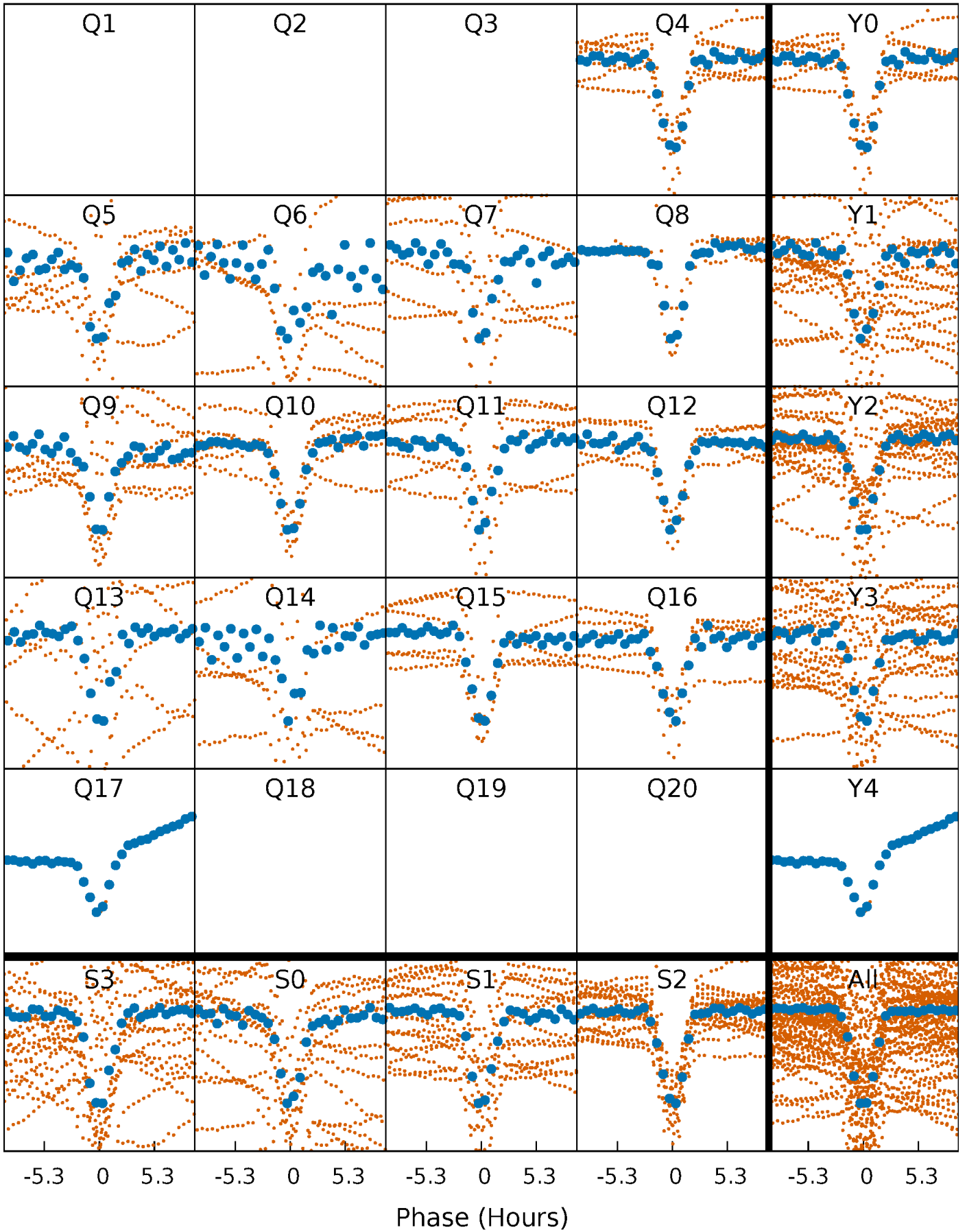


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



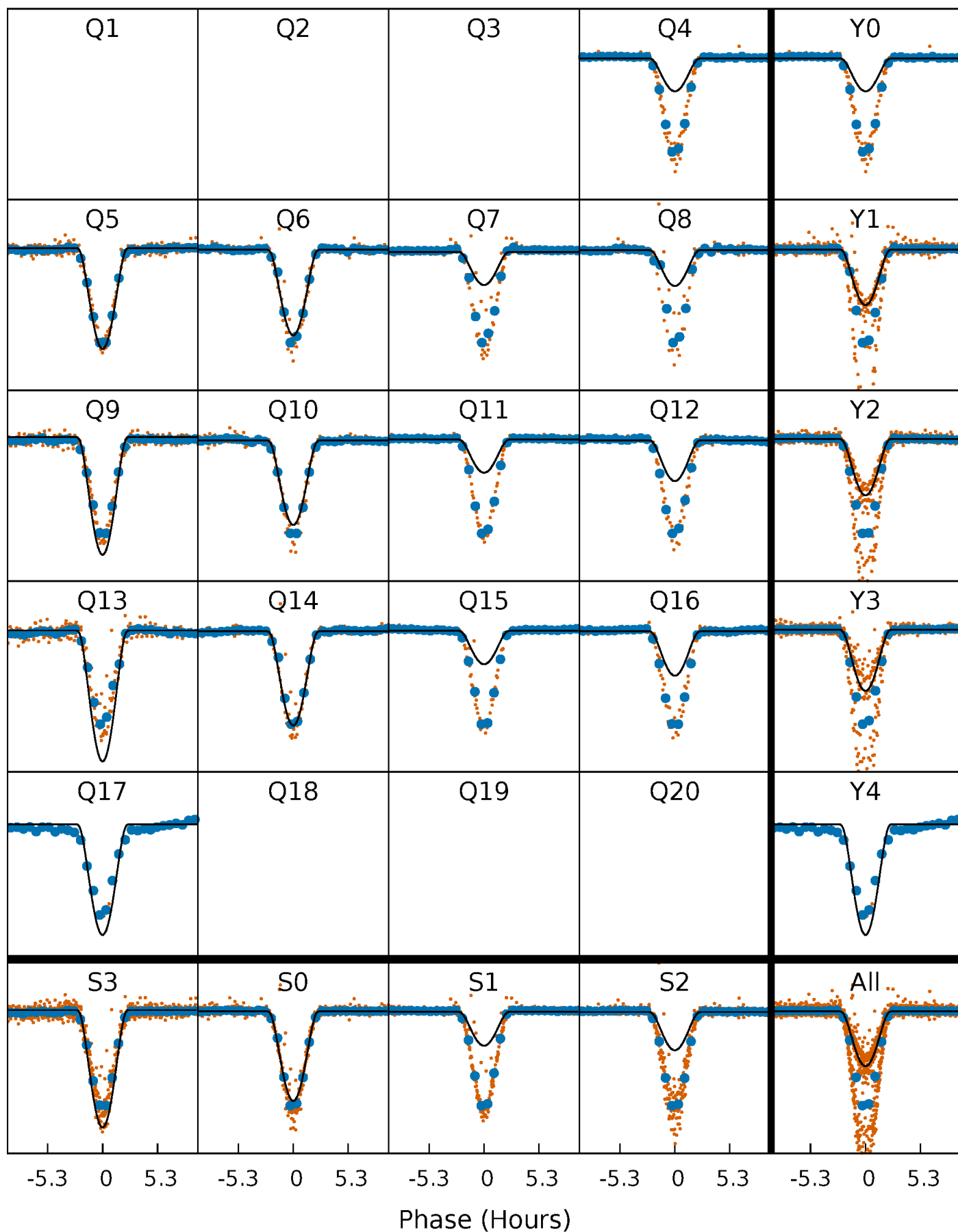
PDC Quarter-Phased Transit Curves

TCE 006359802-01 P= 14.154020 Days $T_0=140.698657$ (BKJD)



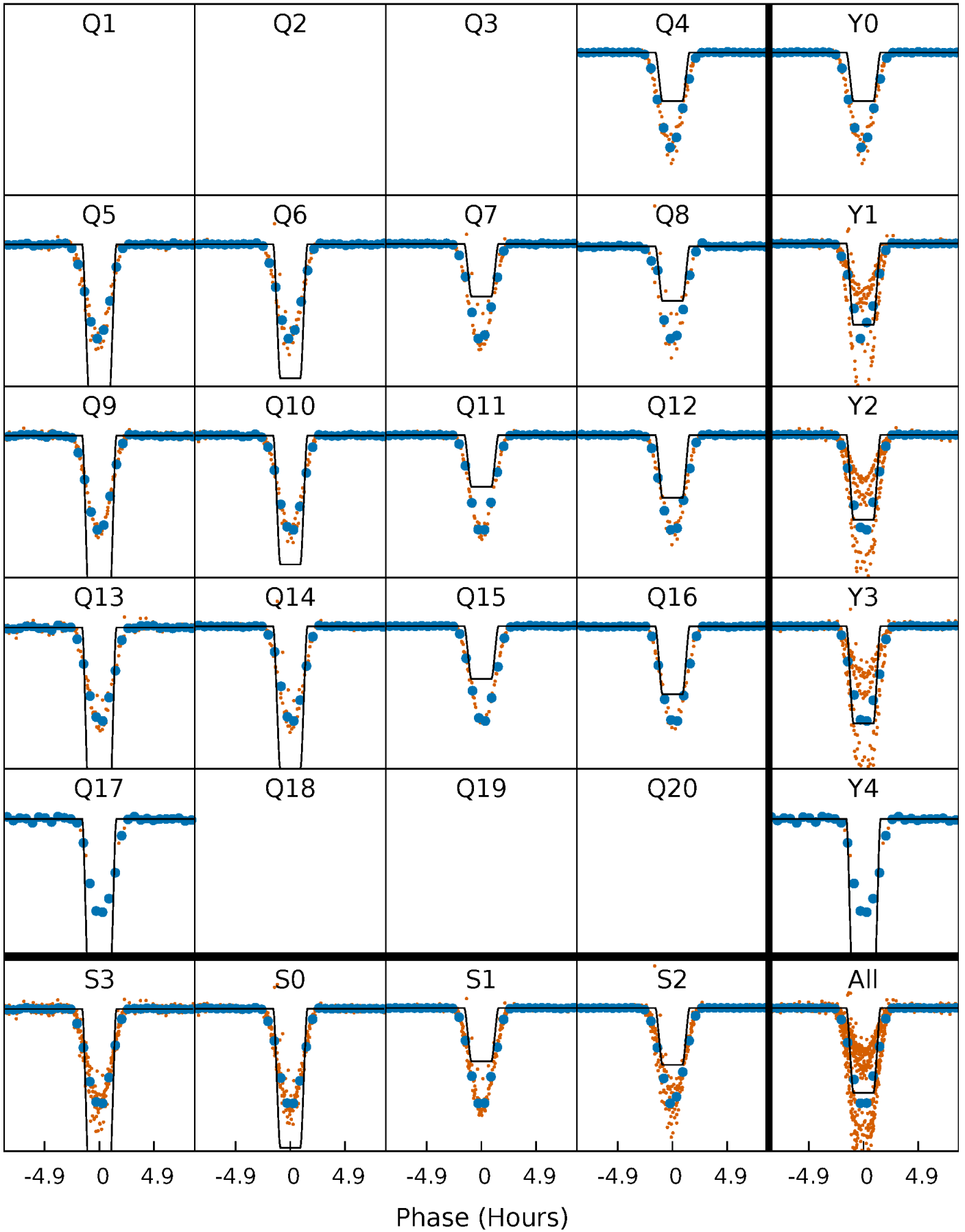
DV Quarter-Phased Transit Curves

TCE 006359802-01 P= 14.154020 Days $T_0=140.698657$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

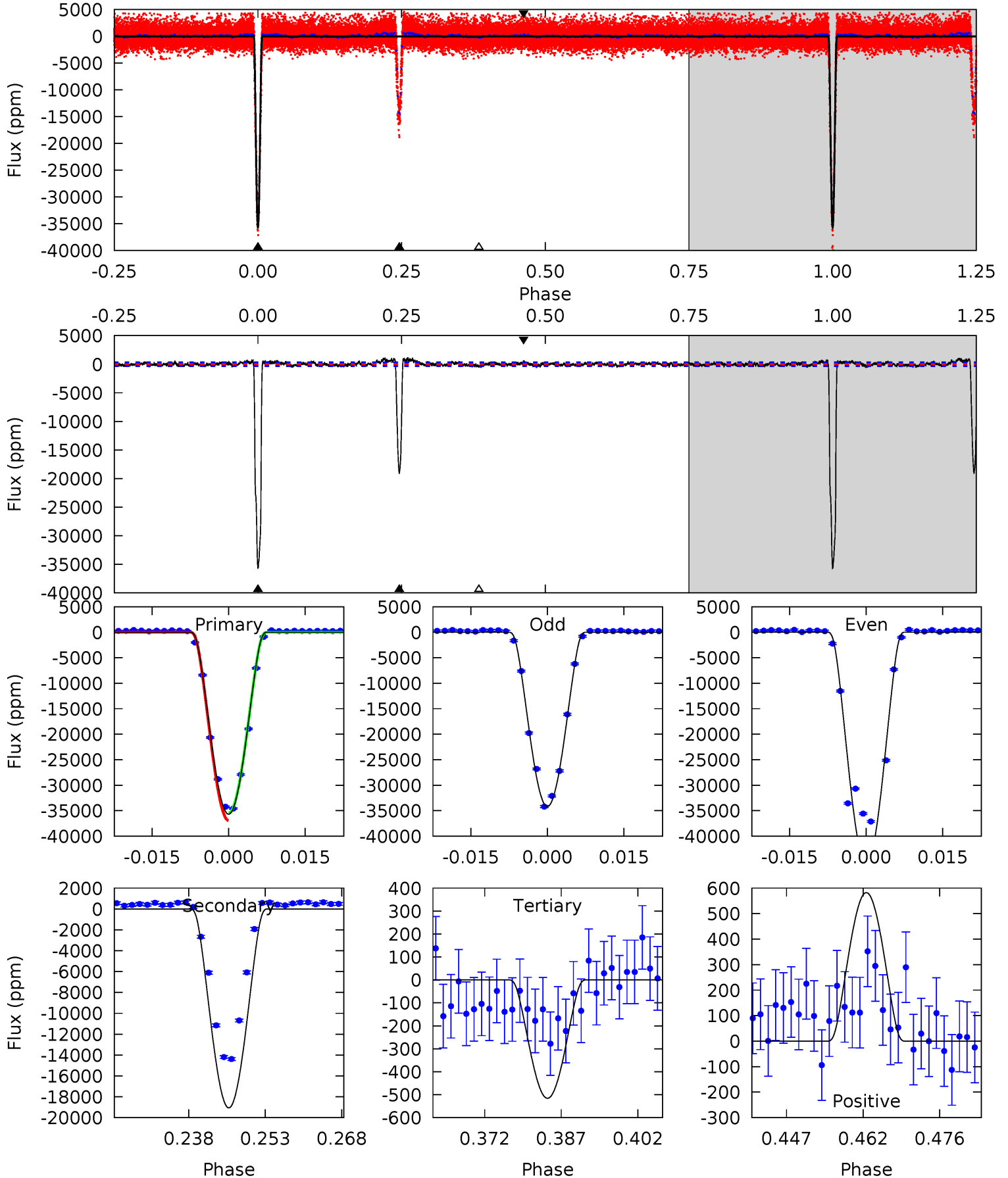
TCE 006359802-01 P= 14.153889 Days $T_0=140.706223$ (BKJD)



DV Model-Shift Uniqueness Test

006359802-01, P = 14.154020 Days, E = 140.698657 Days

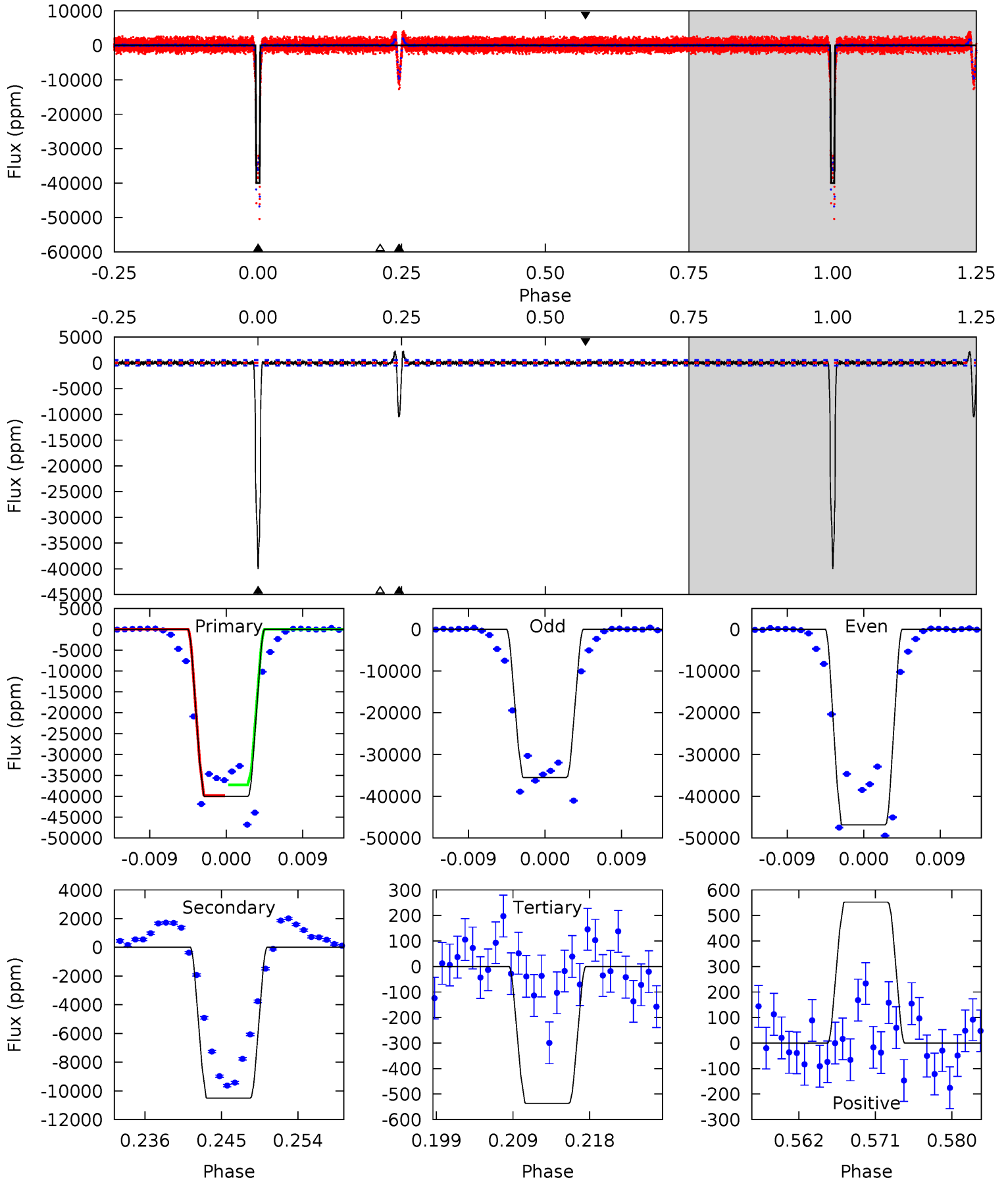
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
540.8	289.0	7.82	8.83	4.95	2.44	3.37	533.0	532.0	281.2	280.2	84.2	1.43	0.03	0



Alt Model-Shift Uniqueness Test

006359802-01, P = 14.153889 Days, E = 140.706223 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
379.8	99.7	5.09	5.24	5.05	2.61	1.47	374.7	374.6	94.6	94.4	58.6	1.40	0.05	0



Stellar Parameters For KIC 006359802

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4352^{+153}_{-153}	$4.610^{+0.052}_{-0.021}$	$-0.040^{+0.300}_{-0.300}$	$0.661^{+0.042}_{-0.058}$	$0.650^{+0.065}_{-0.058}$	$3.165^{+0.740}_{-0.339}$
	+4%/-4%	+1%/-0%	+750%/-750%	+6%/-9%	+10%/-9%	+23%/-11%
Source	KIC0	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 006359802-01 / KOI 3399.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-19068 ± 66	$20.69^{+6.80}_{-6.64}$	688^{+27}_{-26}	3392^{+504}_{-299}	249^{+295}_{-108}
Alt.	-10507 ± 105	$15.47^{+7.44}_{-6.84}$	688^{+28}_{-28}	3372^{+750}_{-367}	243^{+542}_{-131}

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 $A_{obs} \gg 1.0$

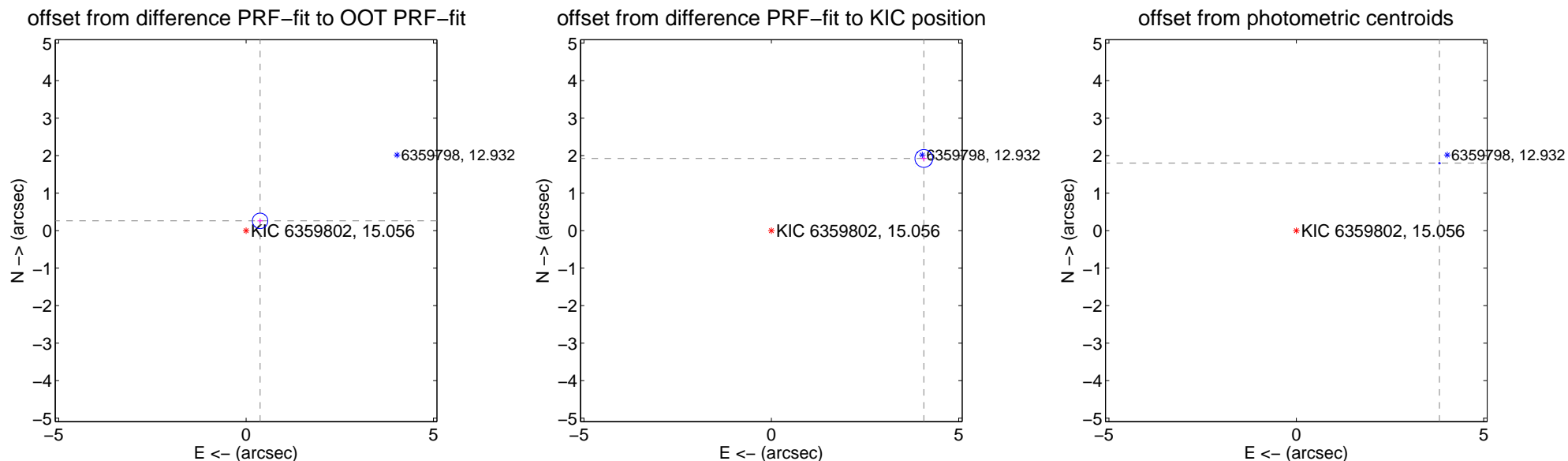
DV Centroid Data

Supplemental centroid analysis for 006359802-01. Kepler magnitude: 15.06. Transit SNR 238.97

There are 11 quarters with good PRF difference image offsets

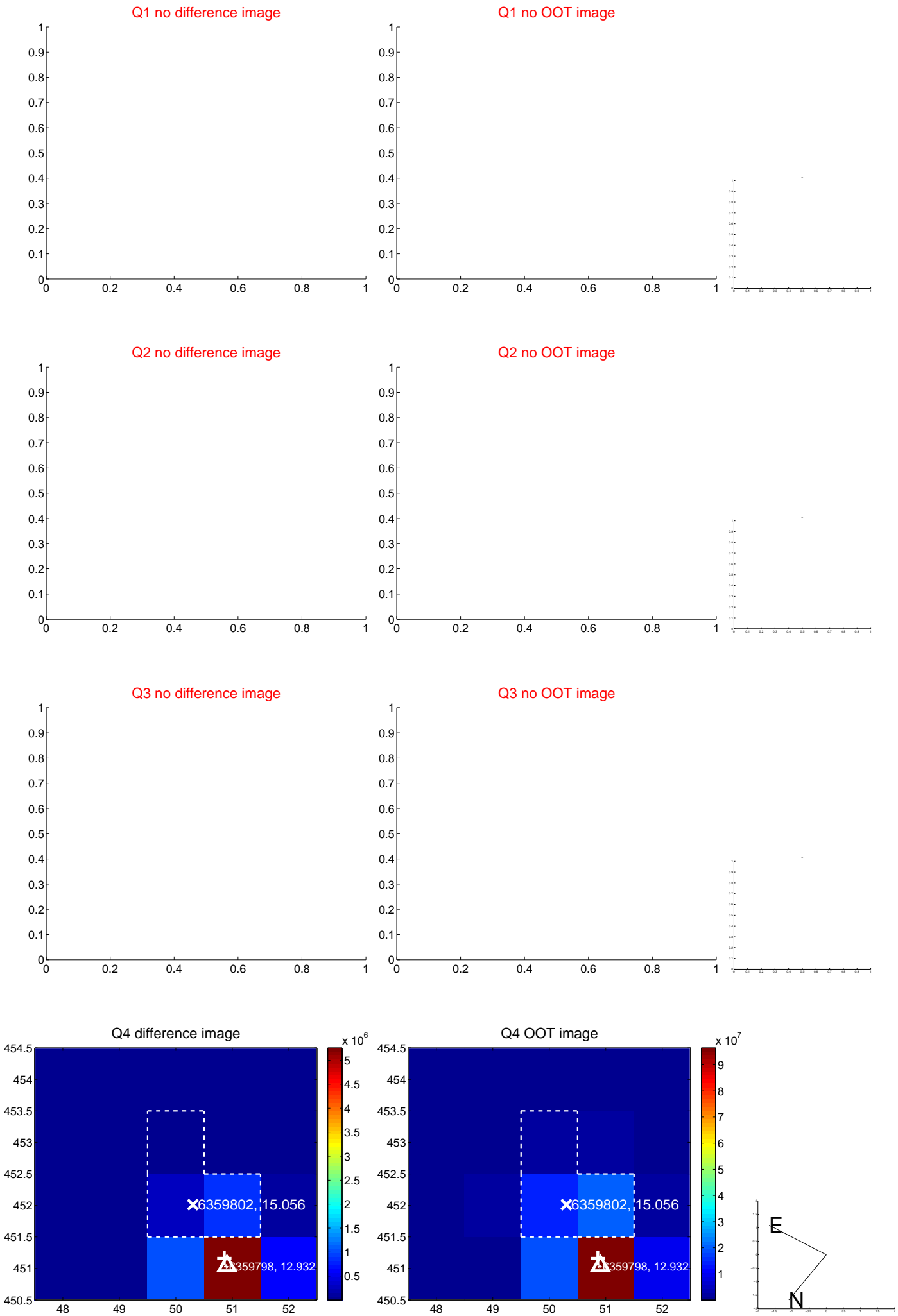
The OOT PRF centroid is offset from the target star catalog position by about 4.07 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.456 ± 0.069	6.63	-0.374 ± 0.068	0.260 ± 0.068
PRF-fit source offset from KIC position	4.501 ± 0.079	56.81	-4.069 ± 0.075	1.924 ± 0.075
photometric centroid source offset	4.22 ± 0.01	580.43	-3.82 ± 0.01	1.80 ± 0.00

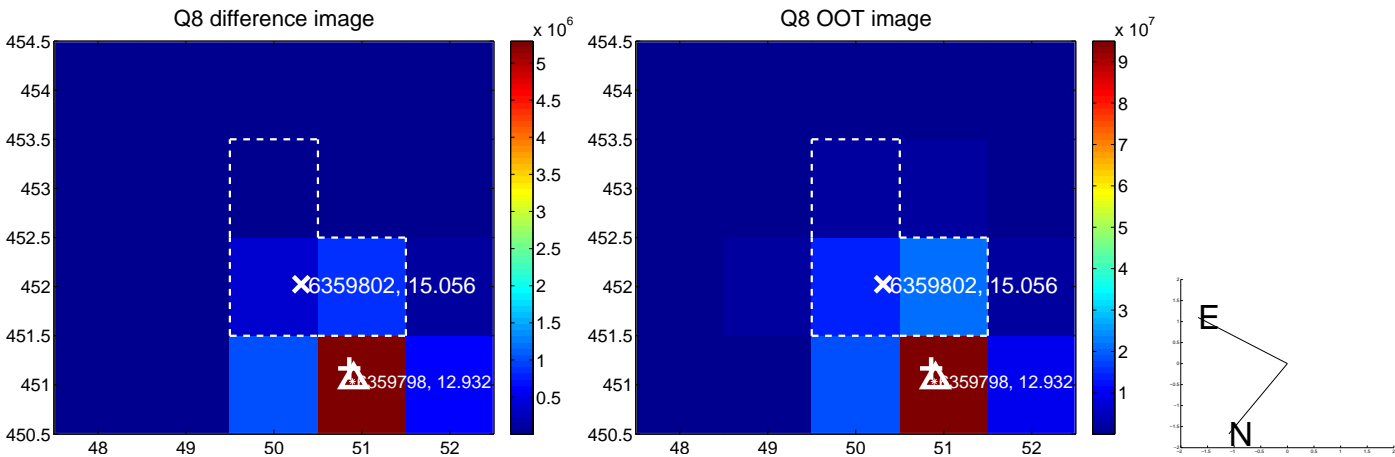
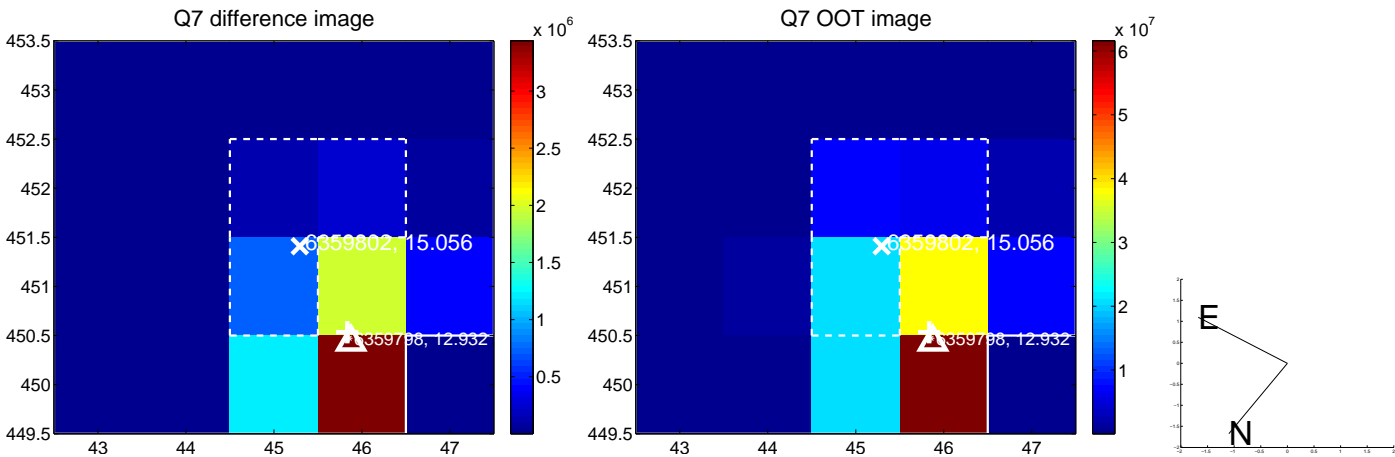
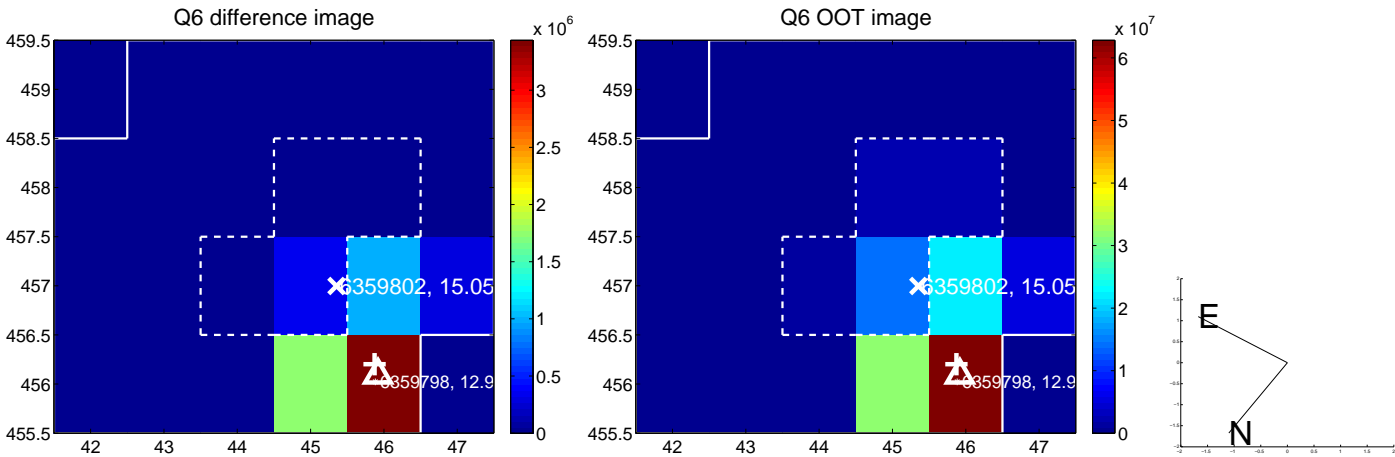
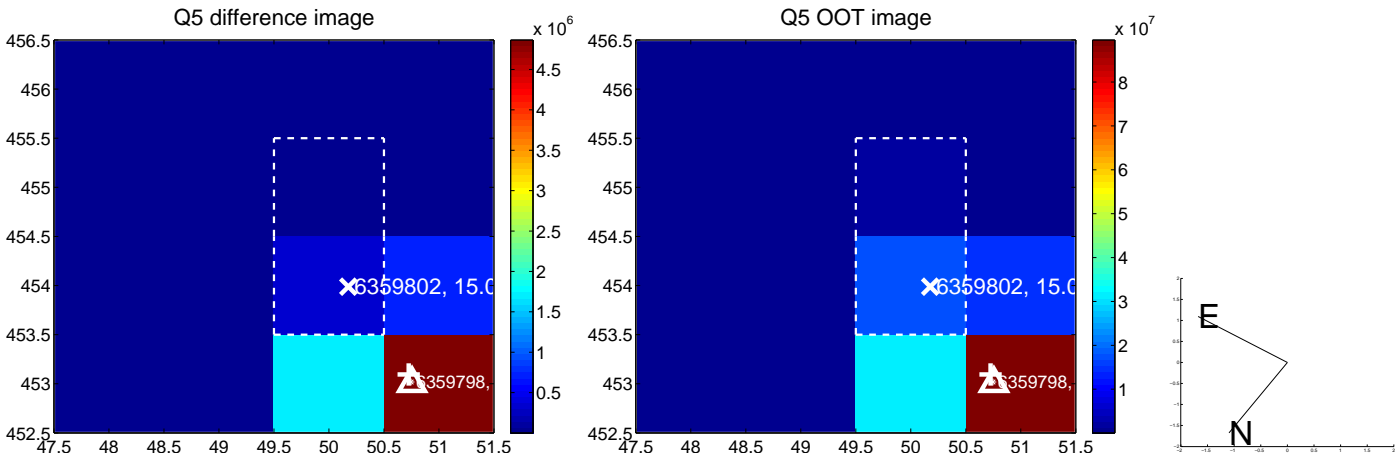


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

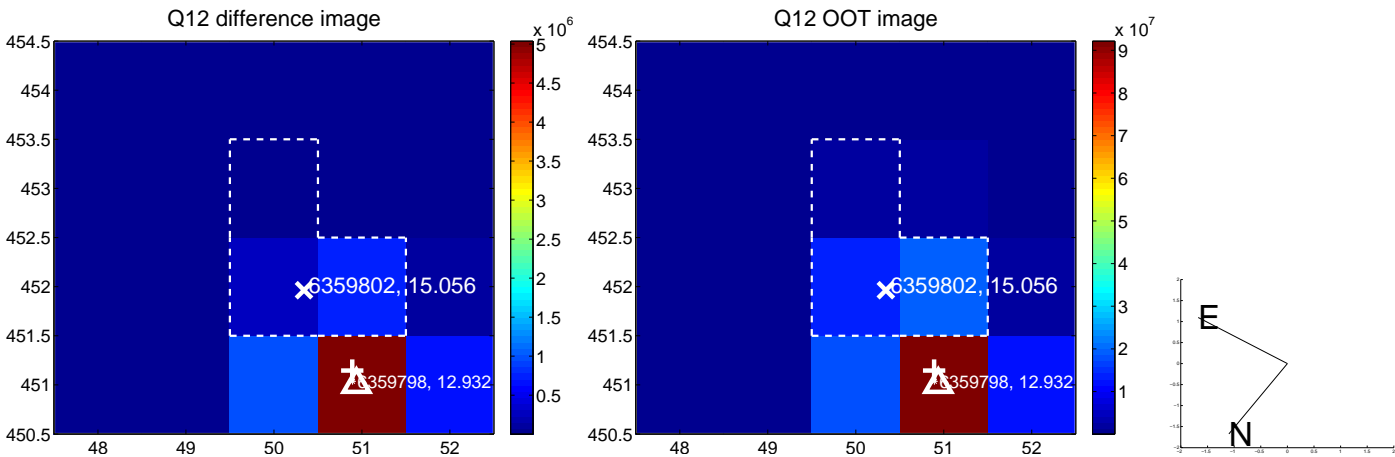
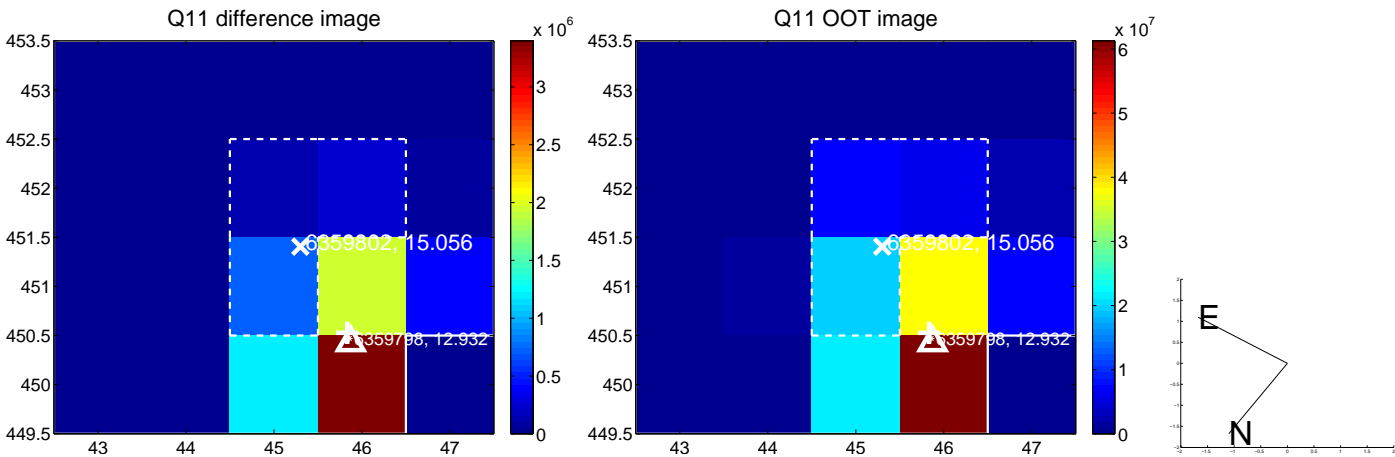
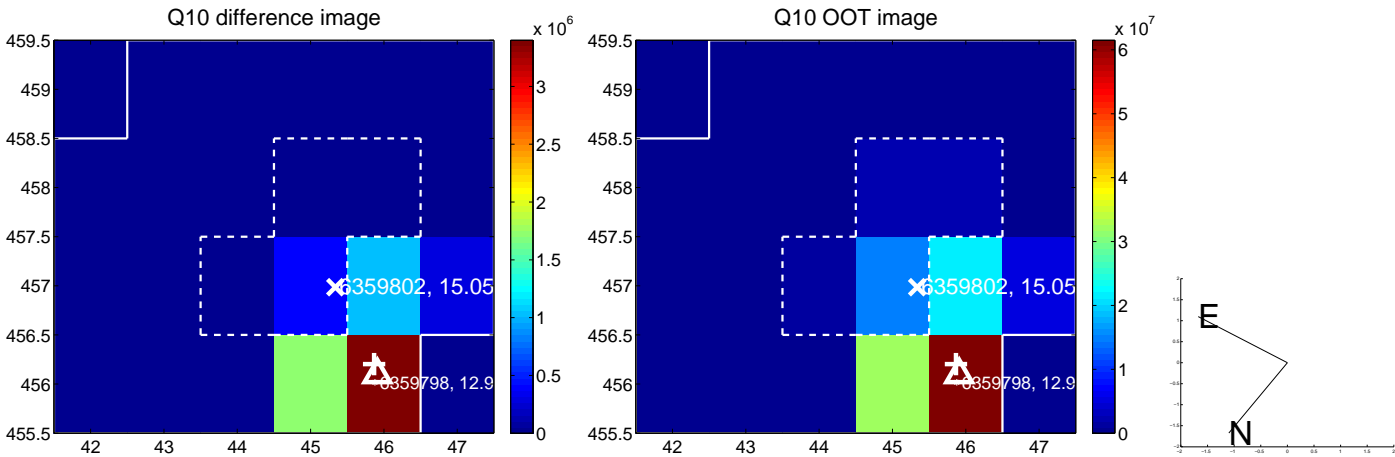
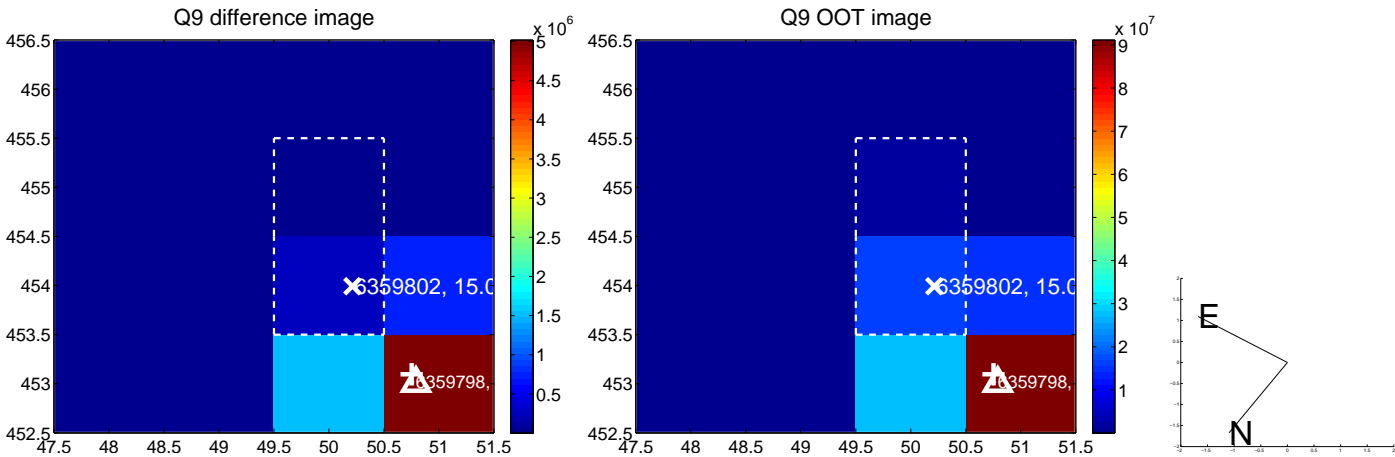
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



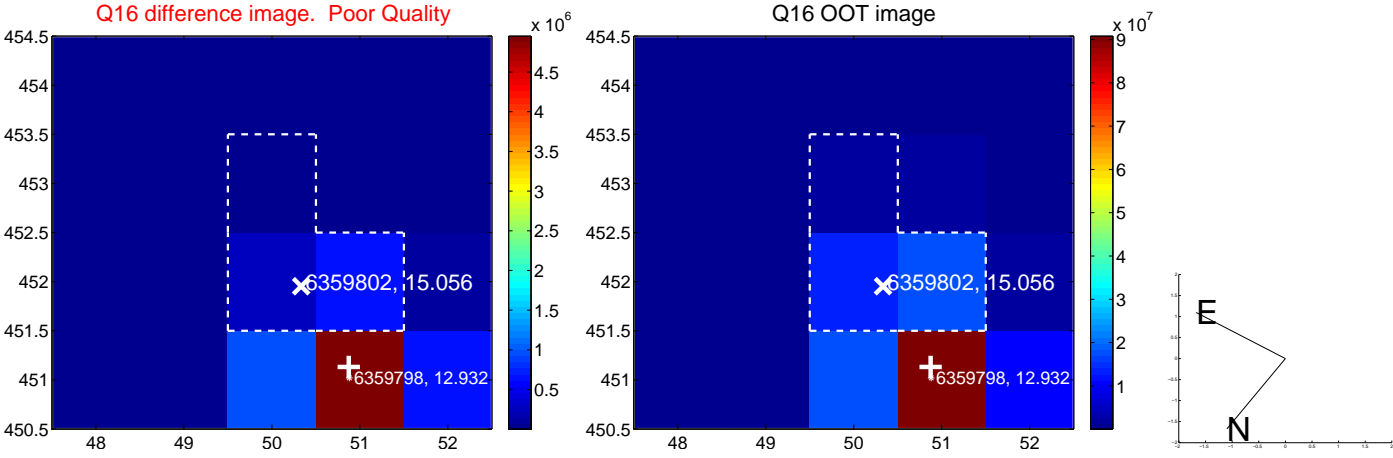
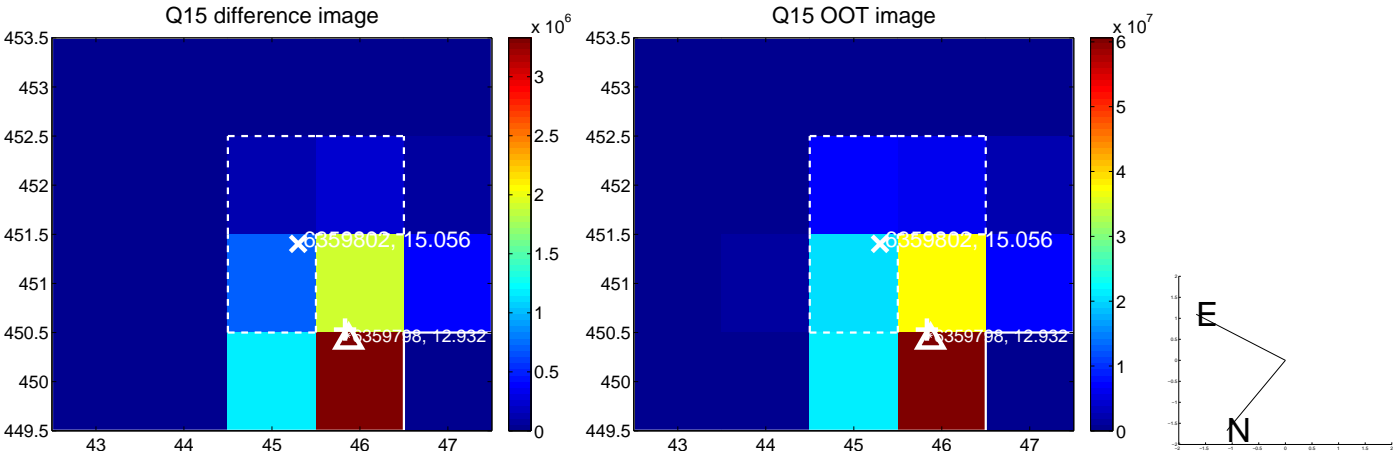
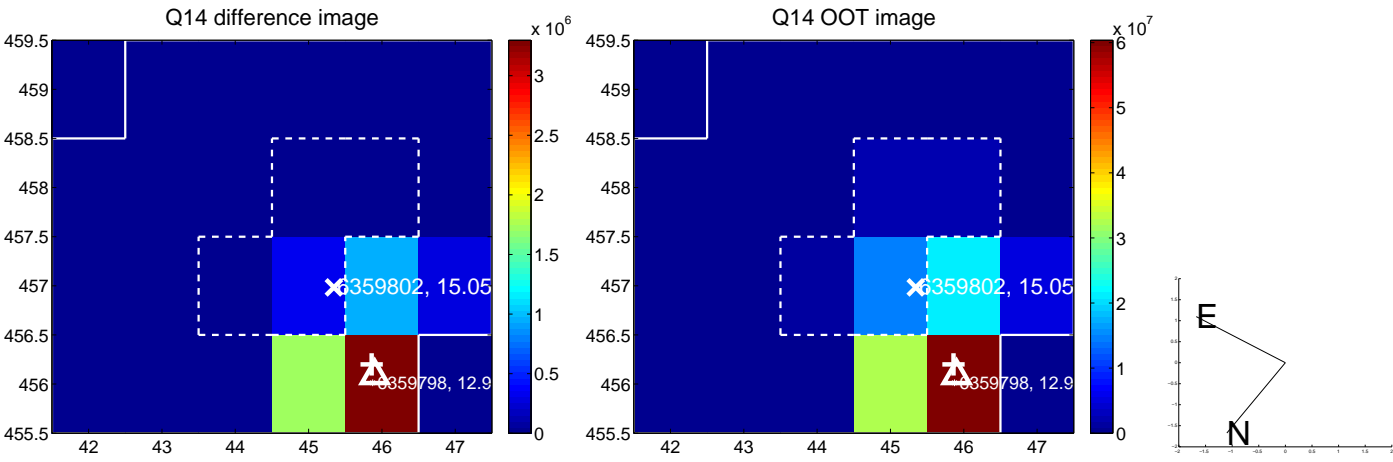
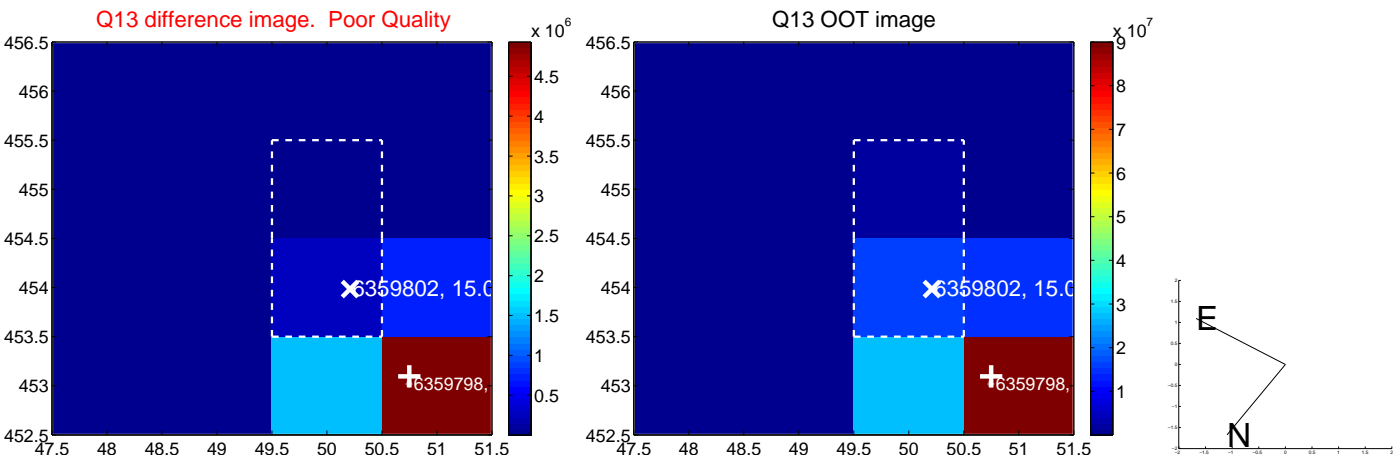
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



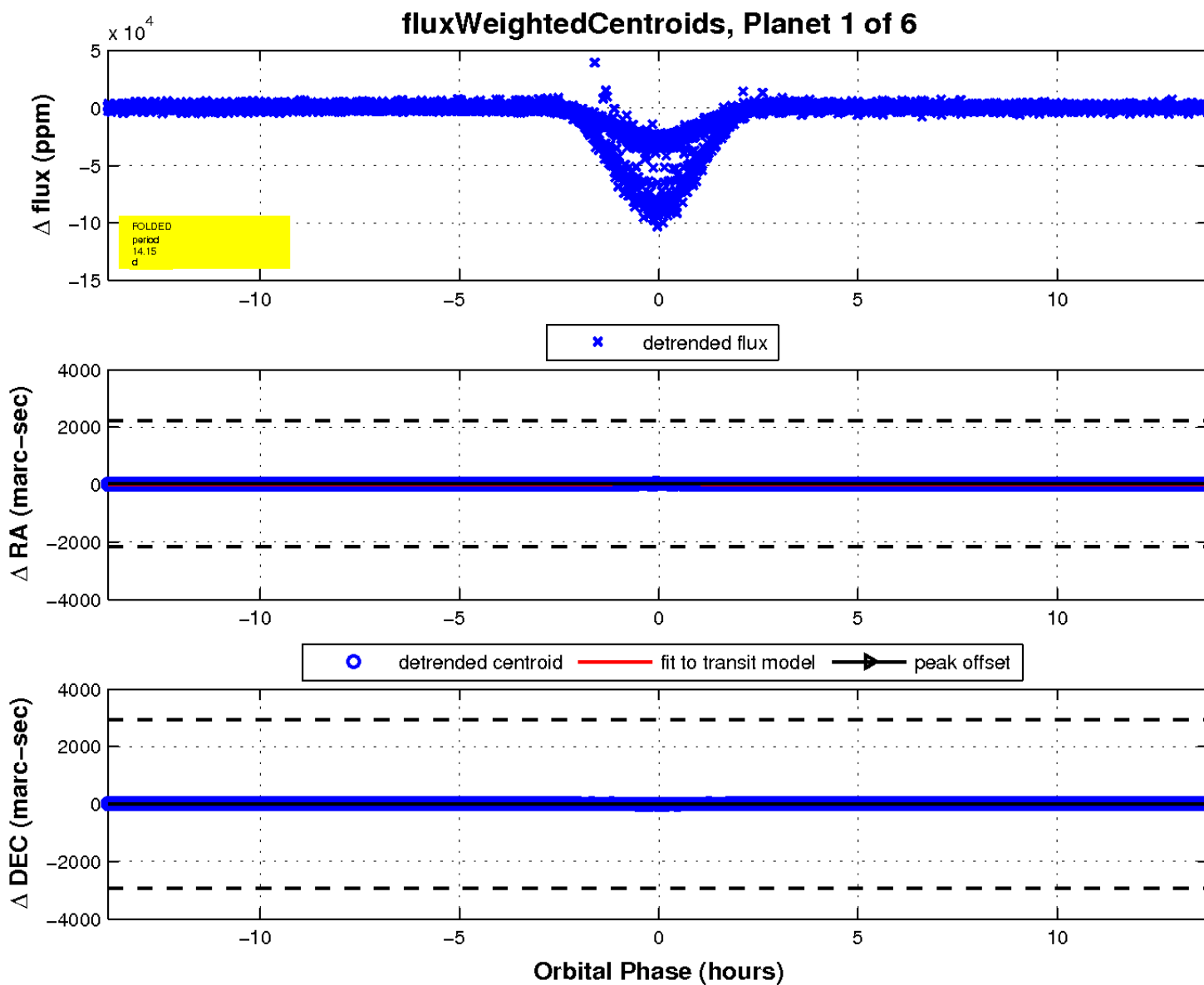
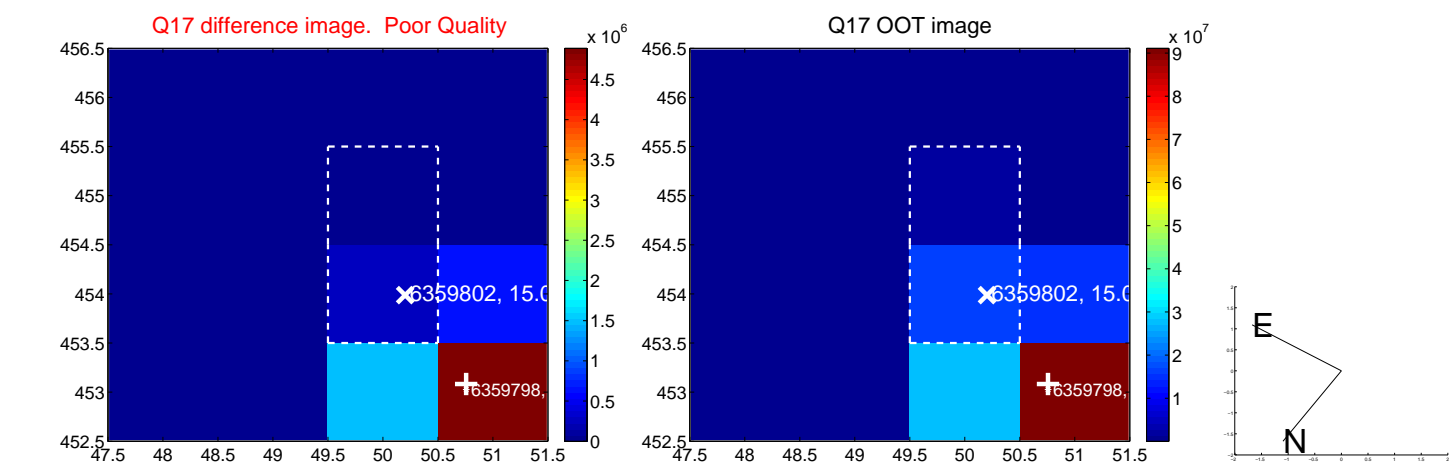
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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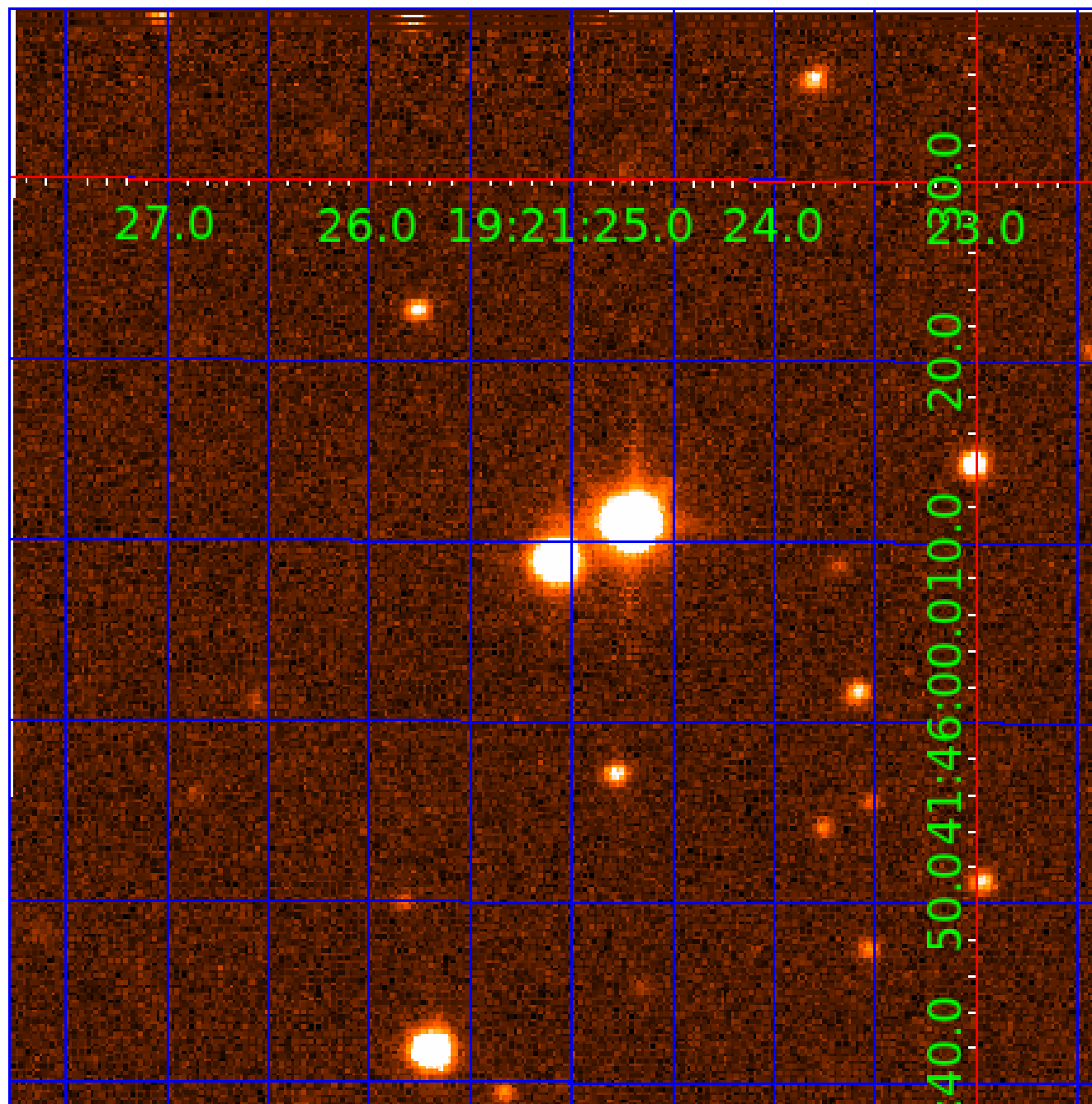


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006359802

Q1-17 DR25 TCE Parameters

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006359802-05	OBS	No	181.677236	200.290413	1973.0	2.680	9.0	6.1	0.66	4352	2.80	0.47
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006359802-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—SEASONAL_DEPTH_DV—SEASONAL_DEPTH_ALT—CENT_KIC_POS—HALO_GHOST—EPHEM_MATCH
006359802-02	OBS	FP	0.00	1	1	1	1	IS_SEC_TCE—CENT_KIC_POS—HALO_GHOST—EPHEM_MATCH
006359802-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_ALT—CENT_FEW_DIFFS
006359802-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006359802-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006359802-06	OBS	FP	0.00	1	0	0	0	MOD_NONUNIQ_ALT—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 006359802-02

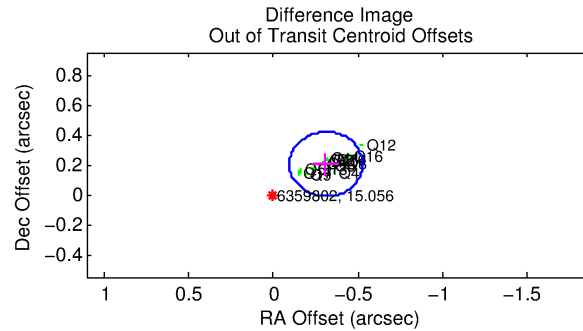
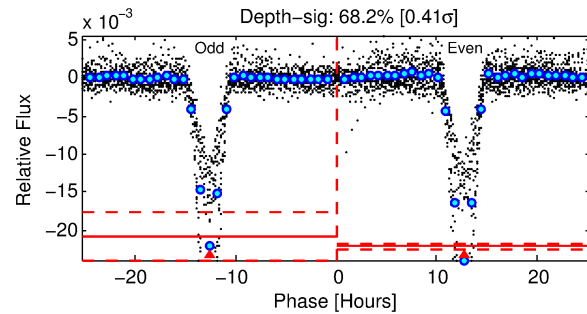
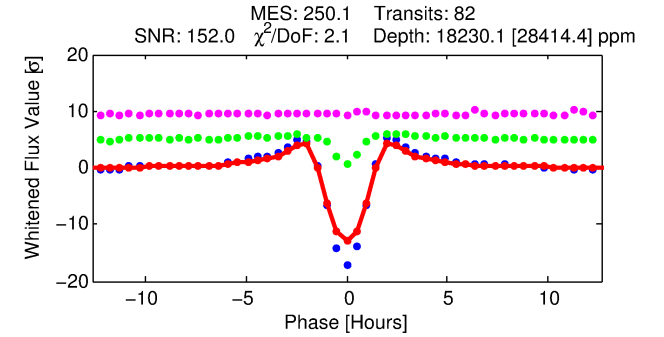
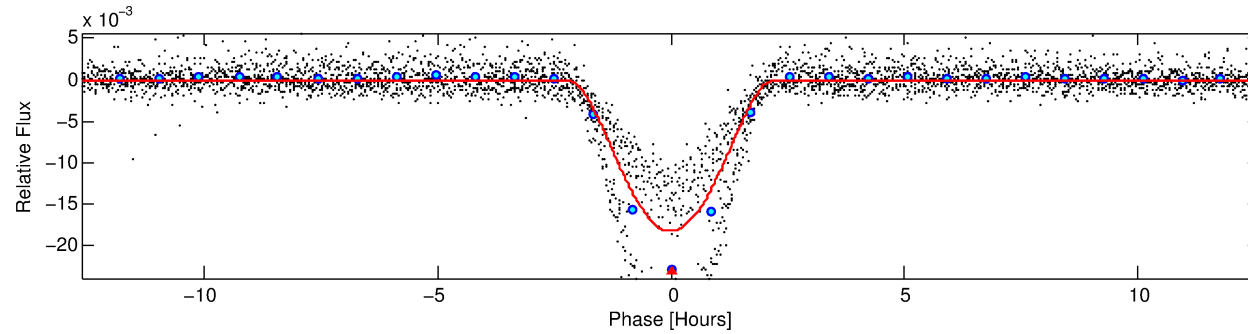
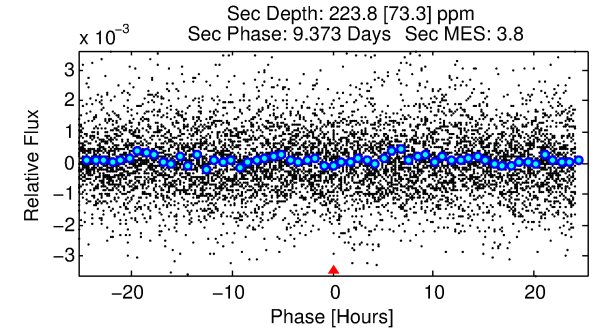
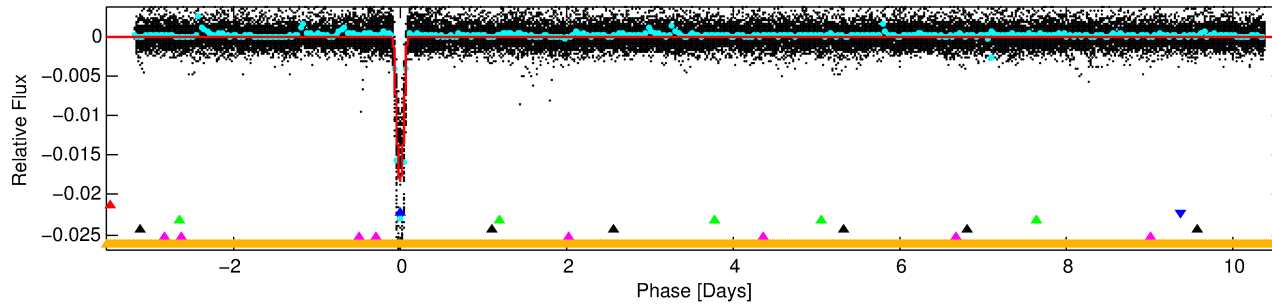
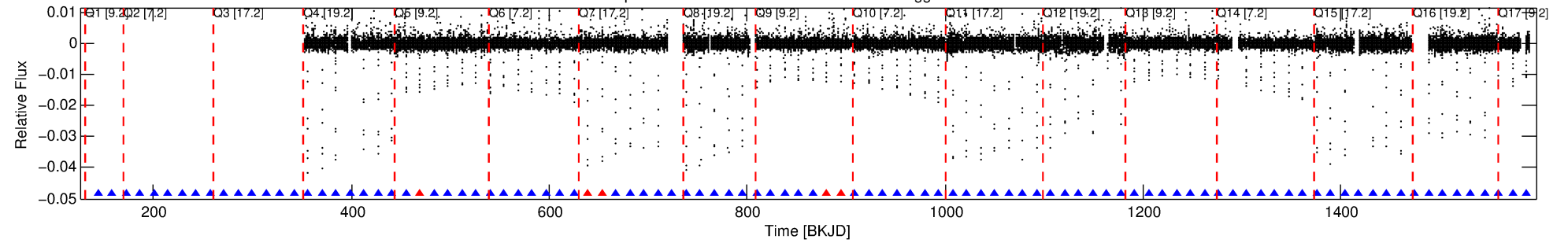
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
006359802-02	6359802	006359798-02	6359798	1:1	4.5	1	-1	12.93	15.05	1.34	Direct-PRF	0	0.03	0.04

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 6359802 Candidate: 2 of 6 Period: 14.154 d
KOI: K03399.01 Corr: 0.990

Kp: 15.06 R*: 0.66 Rs Teff: 4352.0 K Logg: 4.61 Fe/H: -0.040



DV Fit Results:

Period = 14.15404 [0.00001] d
Epoch = 144.1756 [0.0007] BKJD
Rp/R* = 0.2282 [0.0785]
a/R* = 18.33 [0.54]
b = 1.00 [0.11]
Seff = 14.28 [2.45]
Teq = 496 [21] K
Rp = 16.46 [5.84] Re
a = 0.0992 [0.0070] AU
Ag = 4.47 [3.43] [1.01σ]
Teffp = 1114 [216] K [2.85σ]

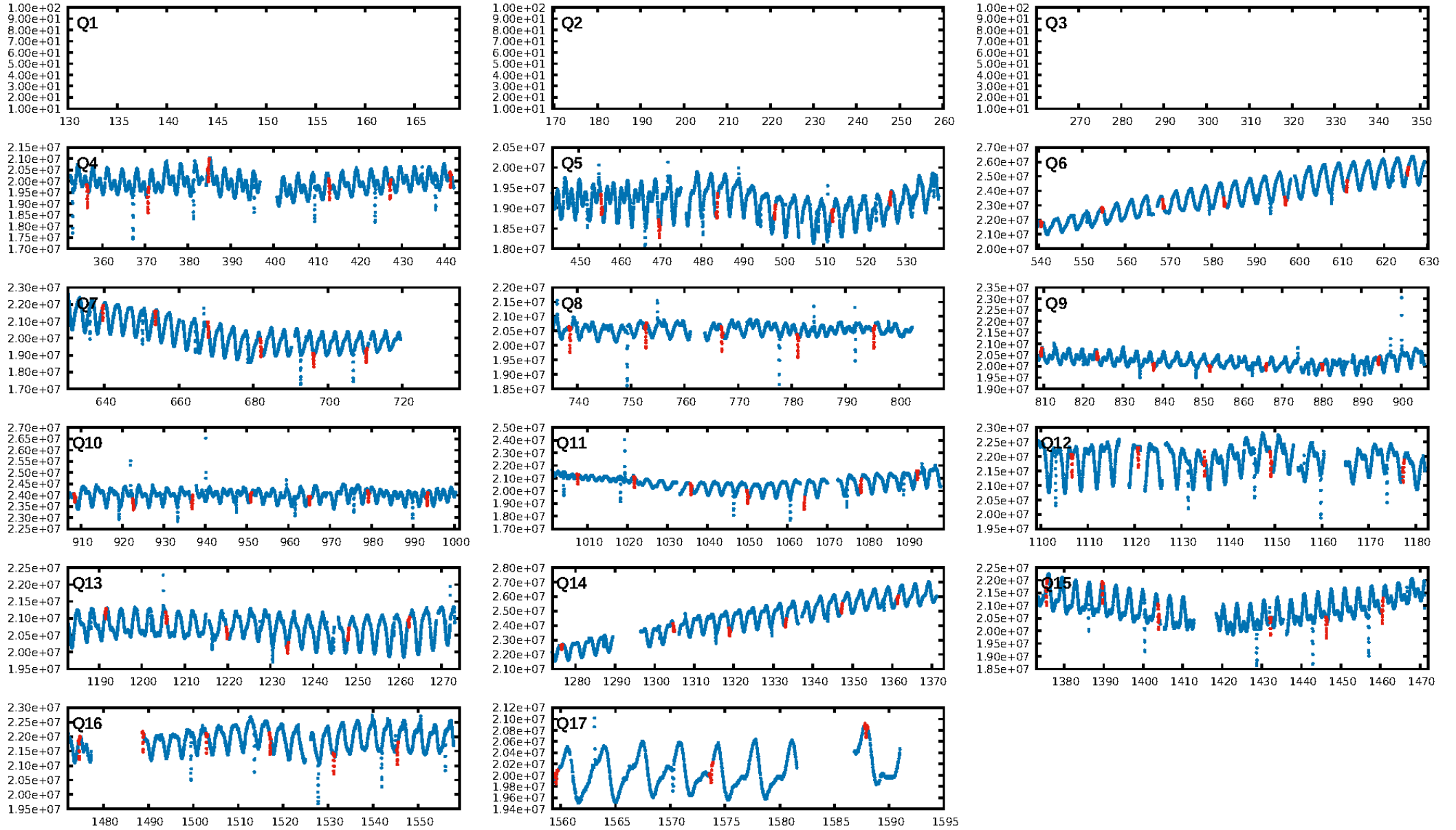
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [804.98σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.94 [74/79]
GhostDiagnostic-chr: -0.1923
Centroid-sig: 0.0%
Centroid-so: 3.830 arcsec [336.31σ]
OotOffset-rm: 0.372 arcsec [5.17σ]
KicOffset-rm: 4.394 arcsec [58.10σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 0.43 [6/14]

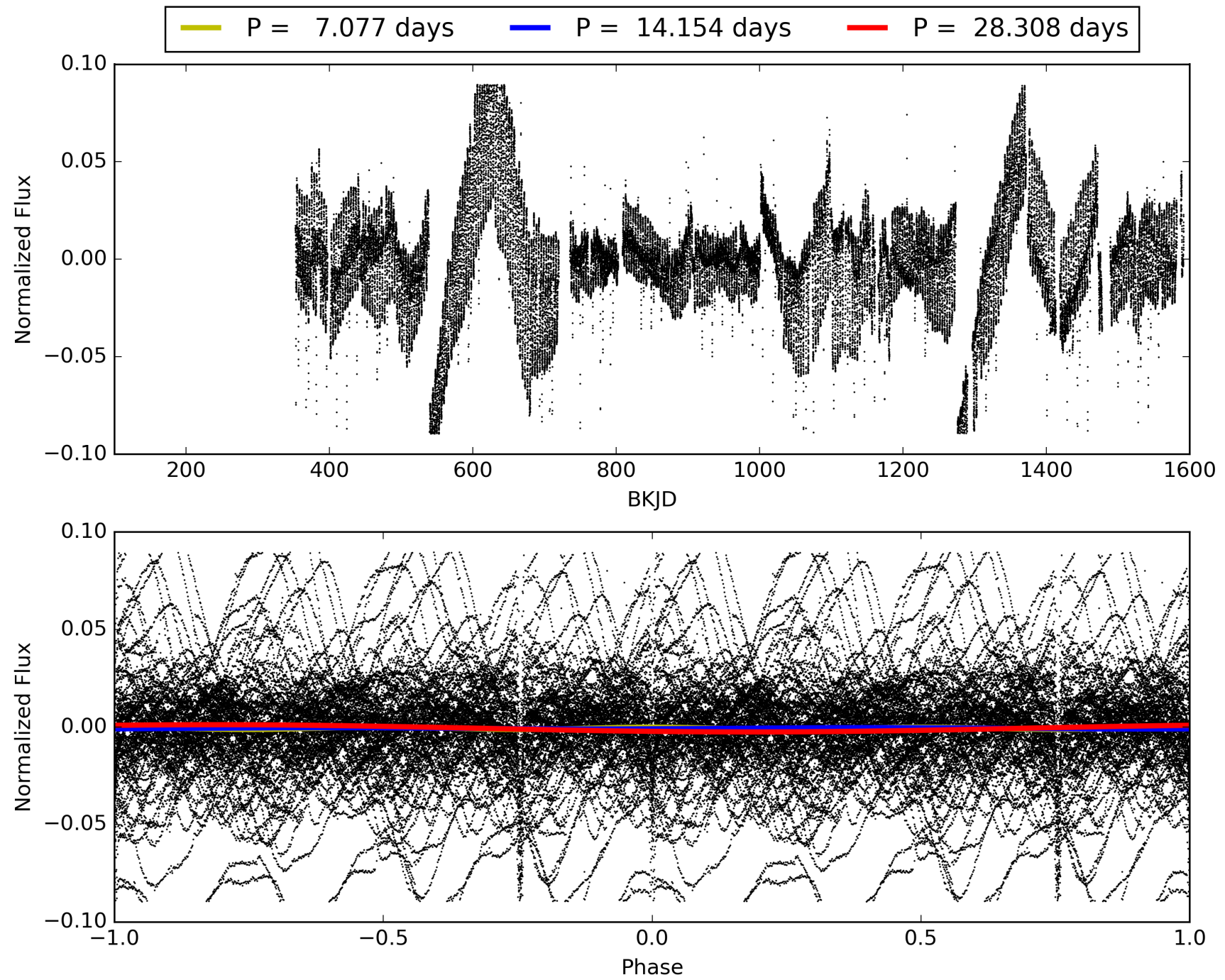
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:12:32 Z

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

TCE 006359802-02, PDC Light Curves

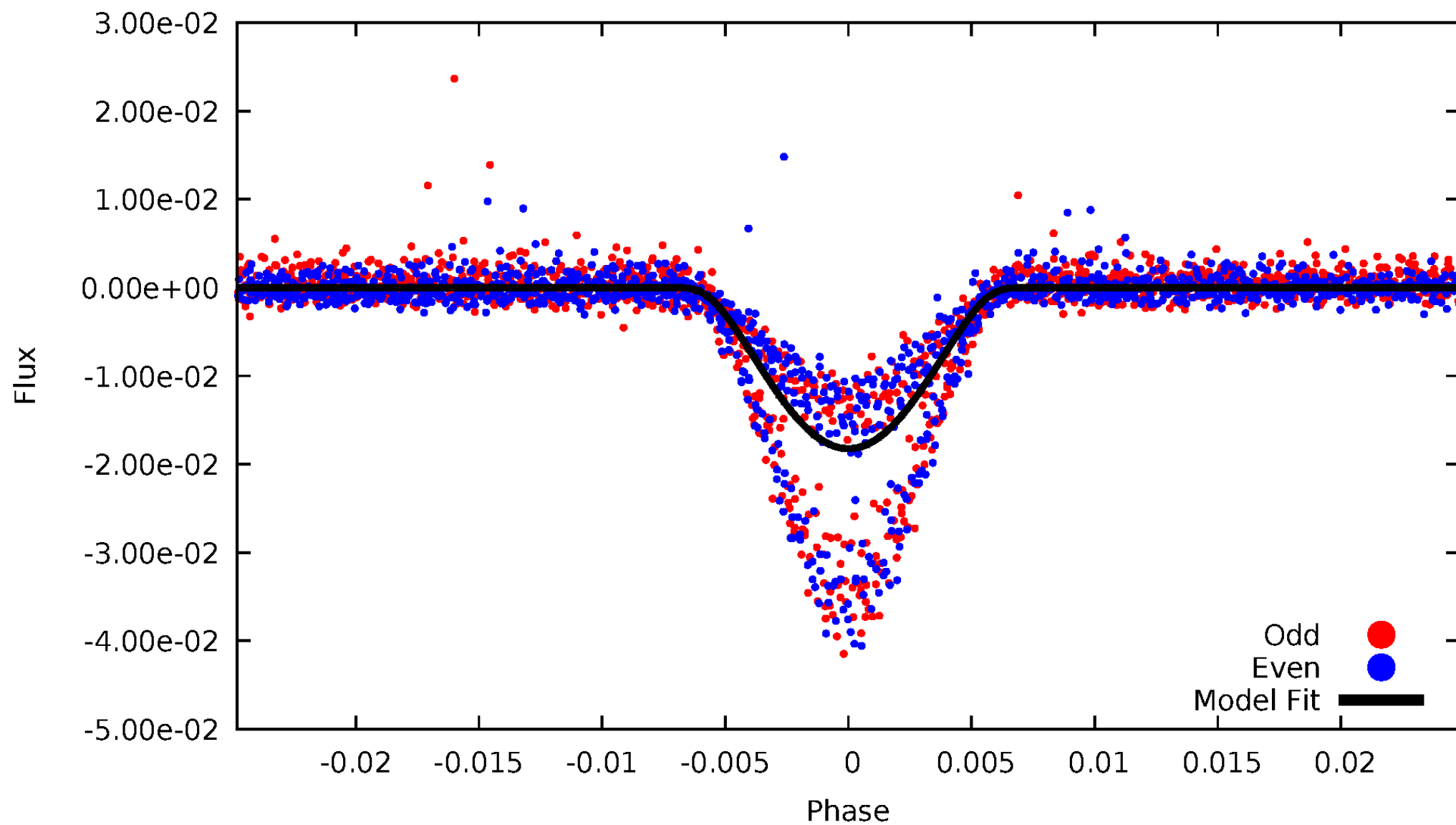


TCE 006359802-02



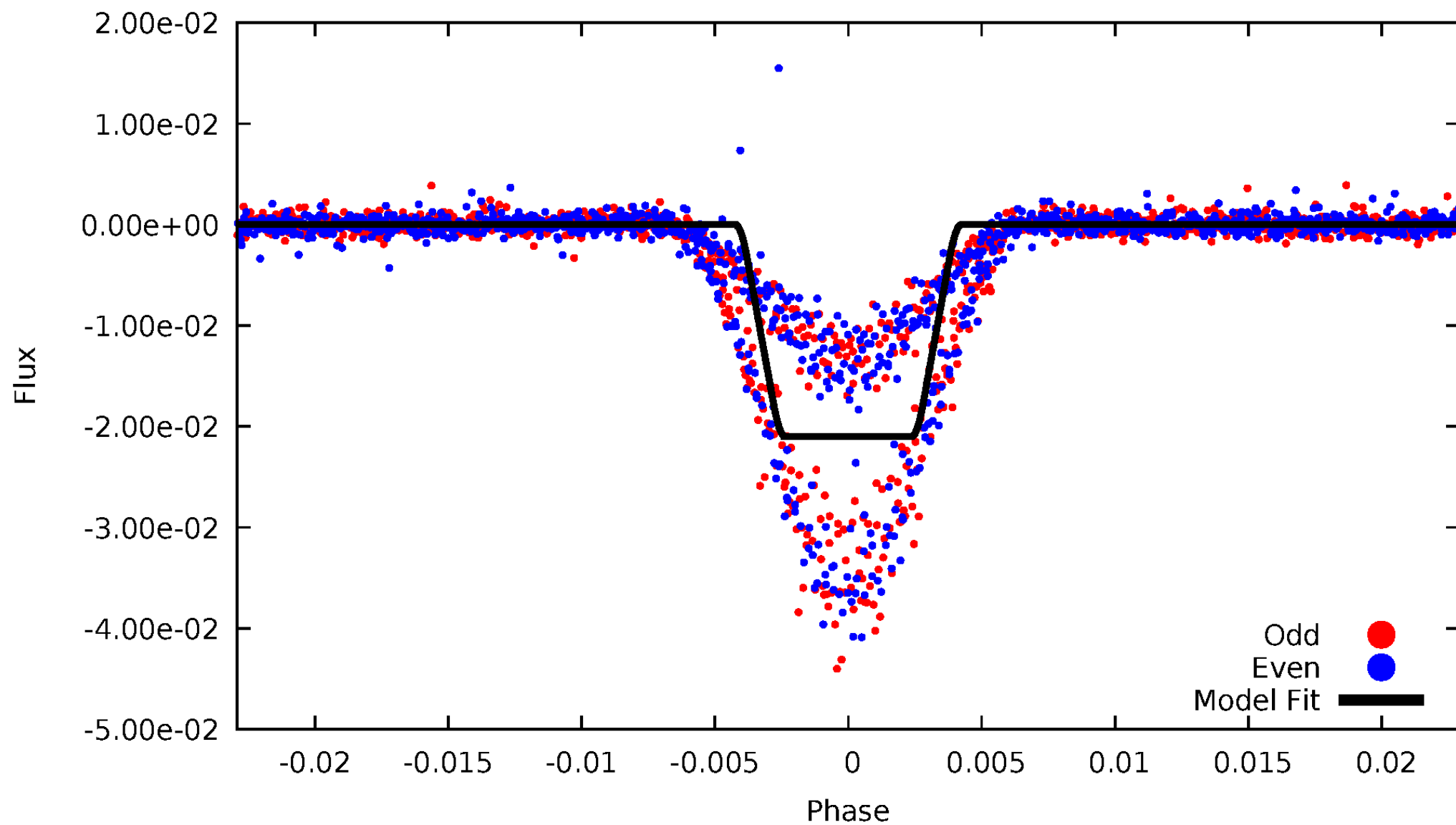
DV Odd/Even

TCE 006359802-02



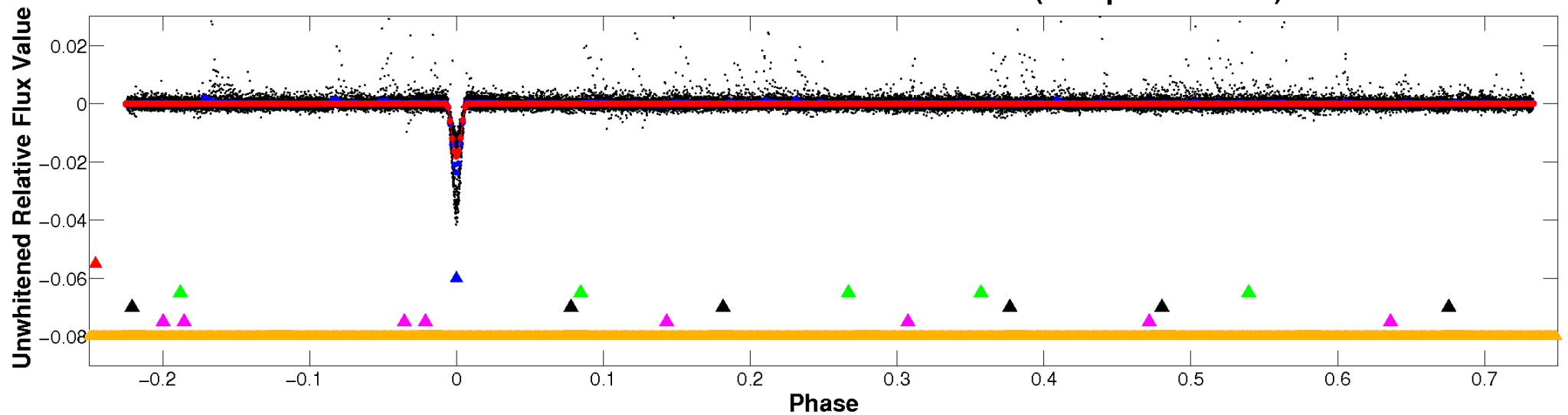
ALT Odd/Even

TCE 006359802-02

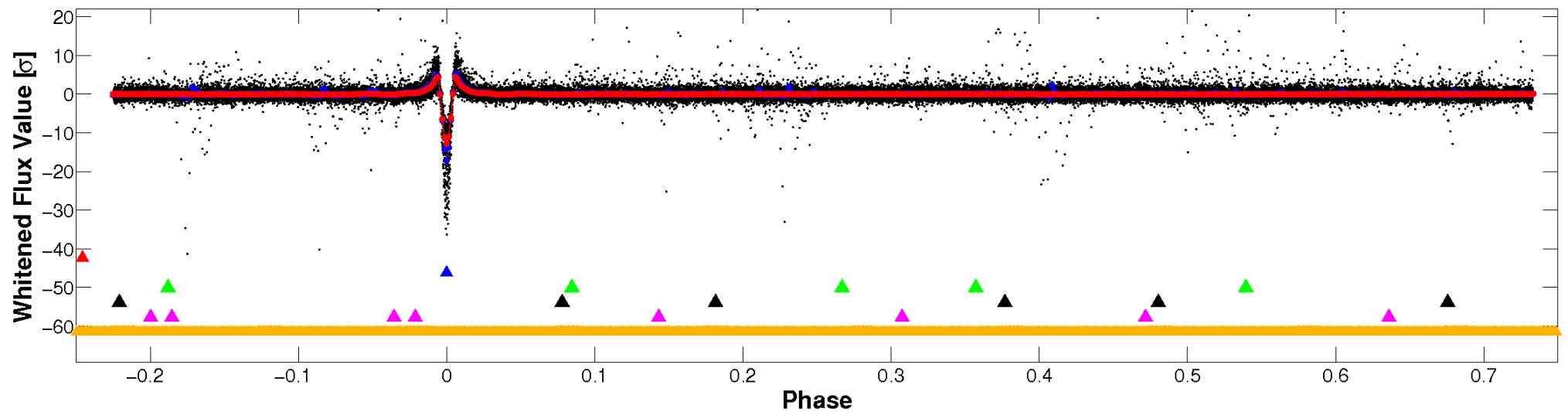


Non-Whitened Vs. Whitened Light Curve

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

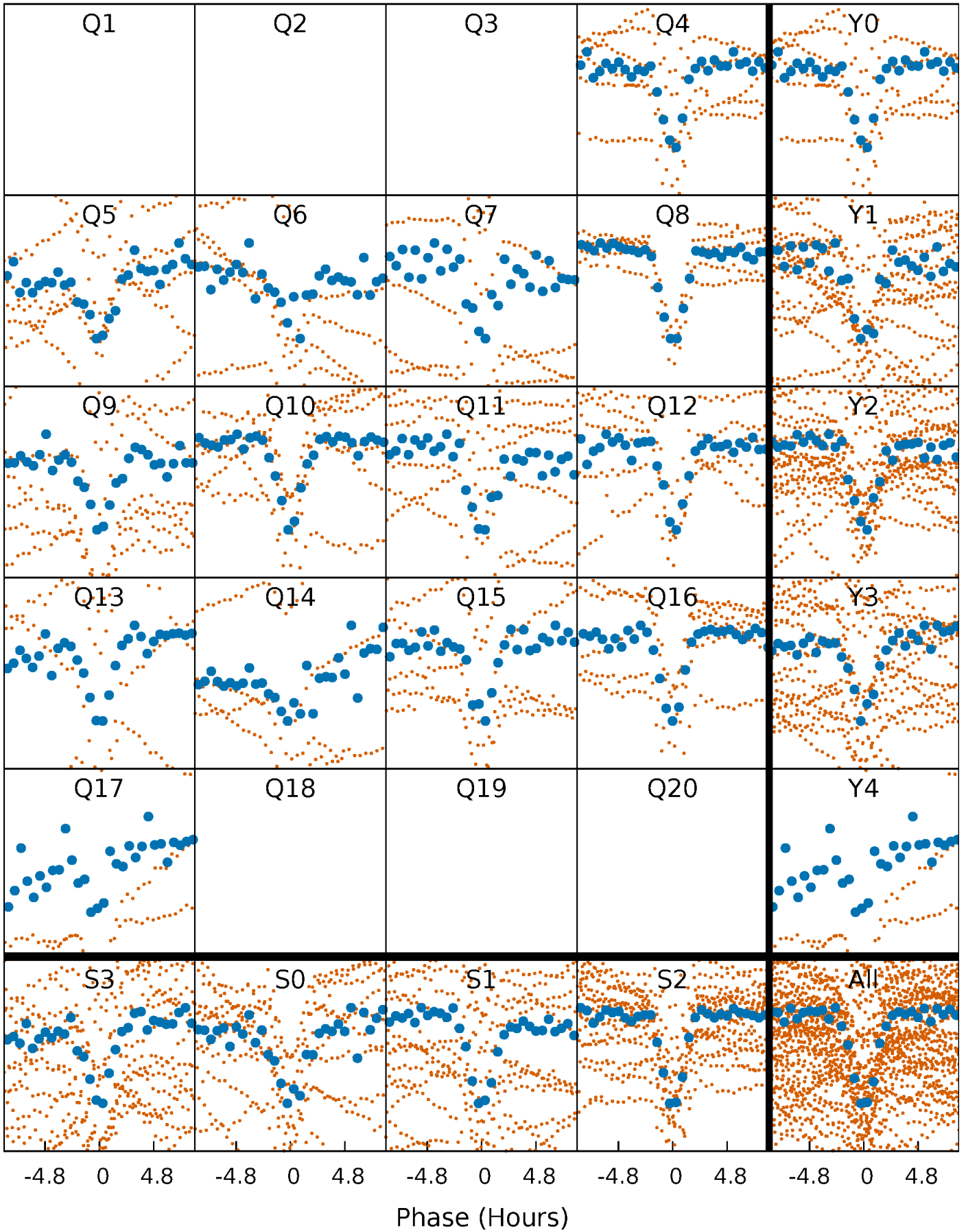


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



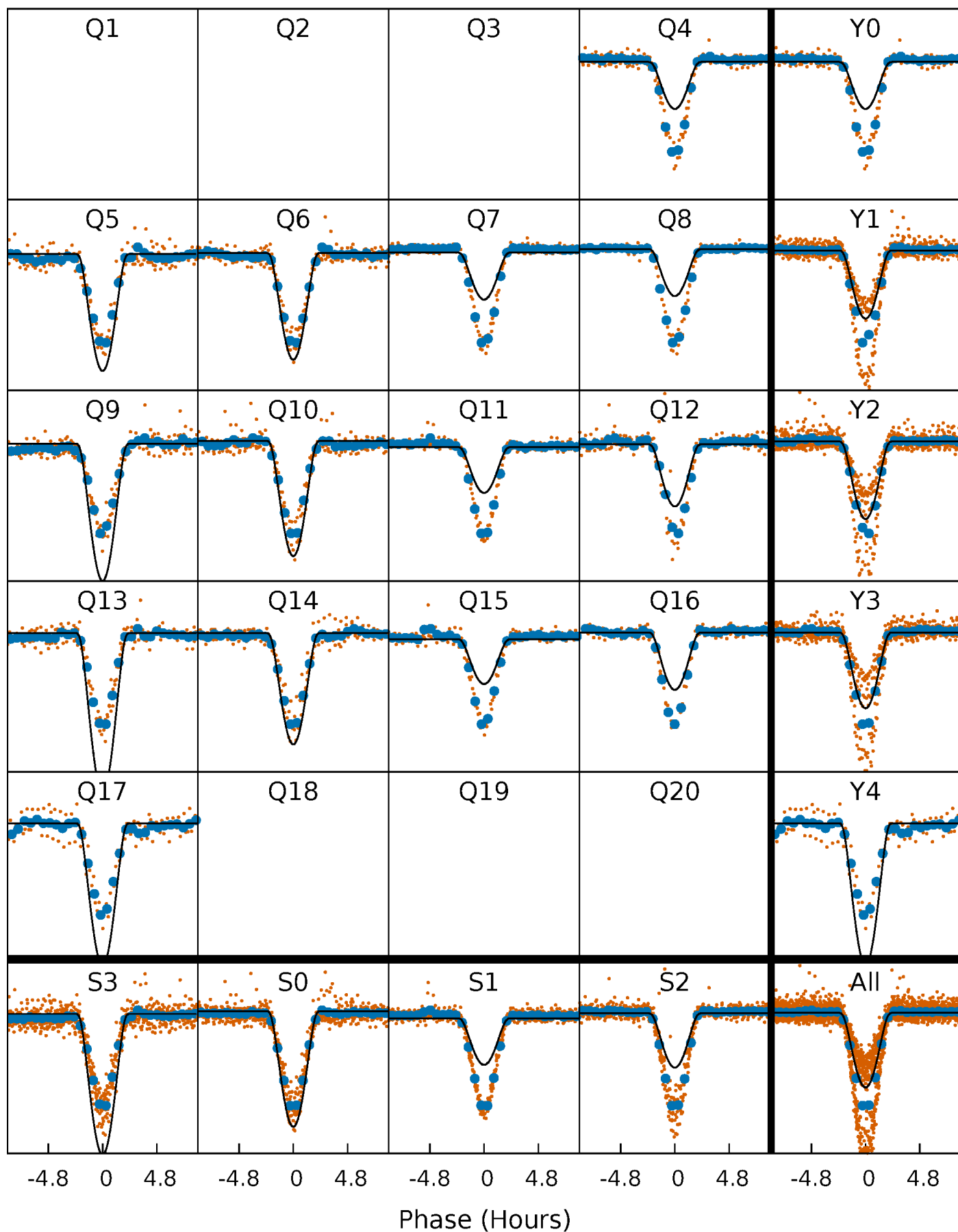
PDC Quarter-Phased Transit Curves

TCE 006359802-02 $P = 14.154039$ Days $T_0 = 144.175601$ (BKJD)



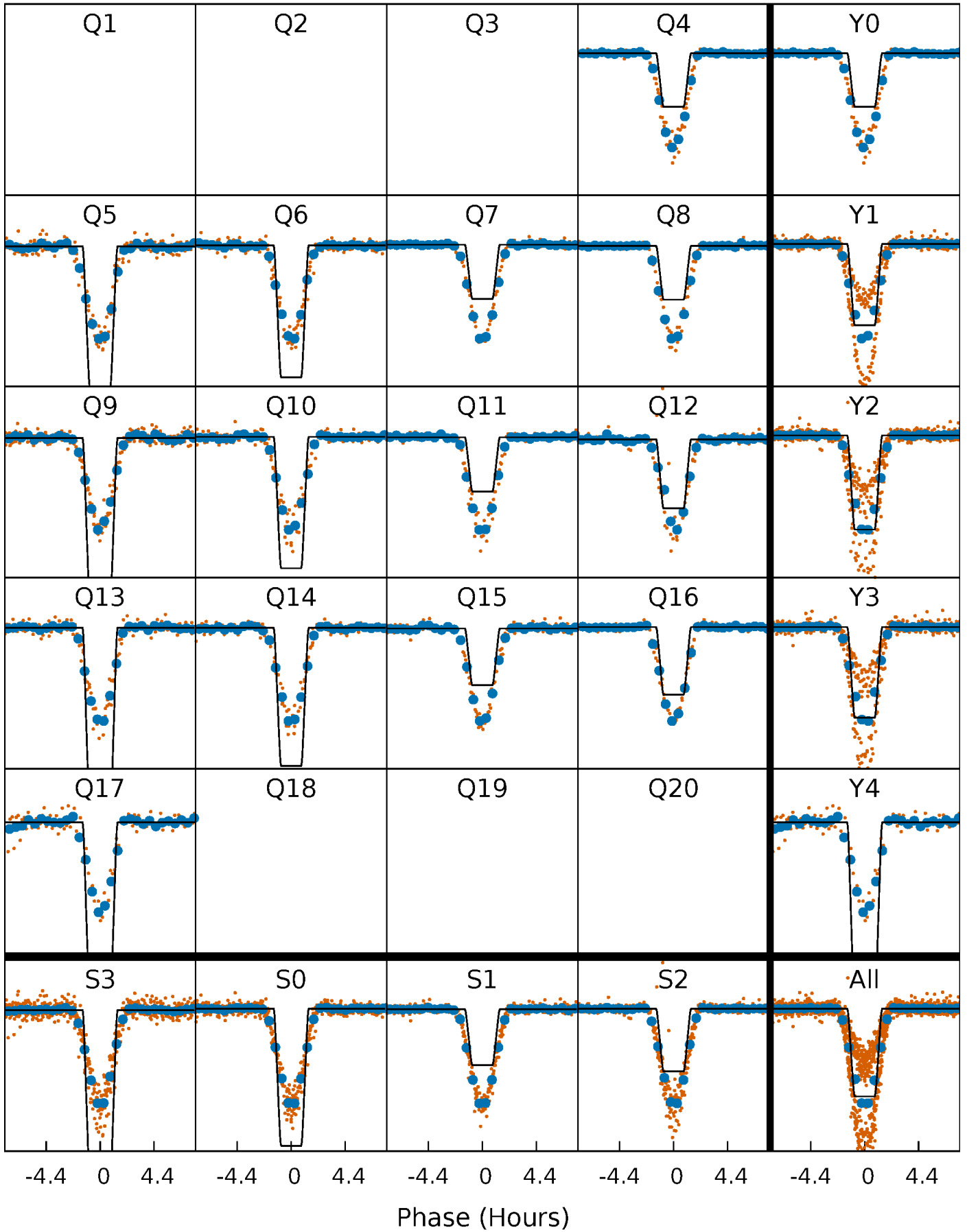
DV Quarter-Phased Transit Curves

TCE 006359802-02 P= 14.154039 Days $T_0=144.175601$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

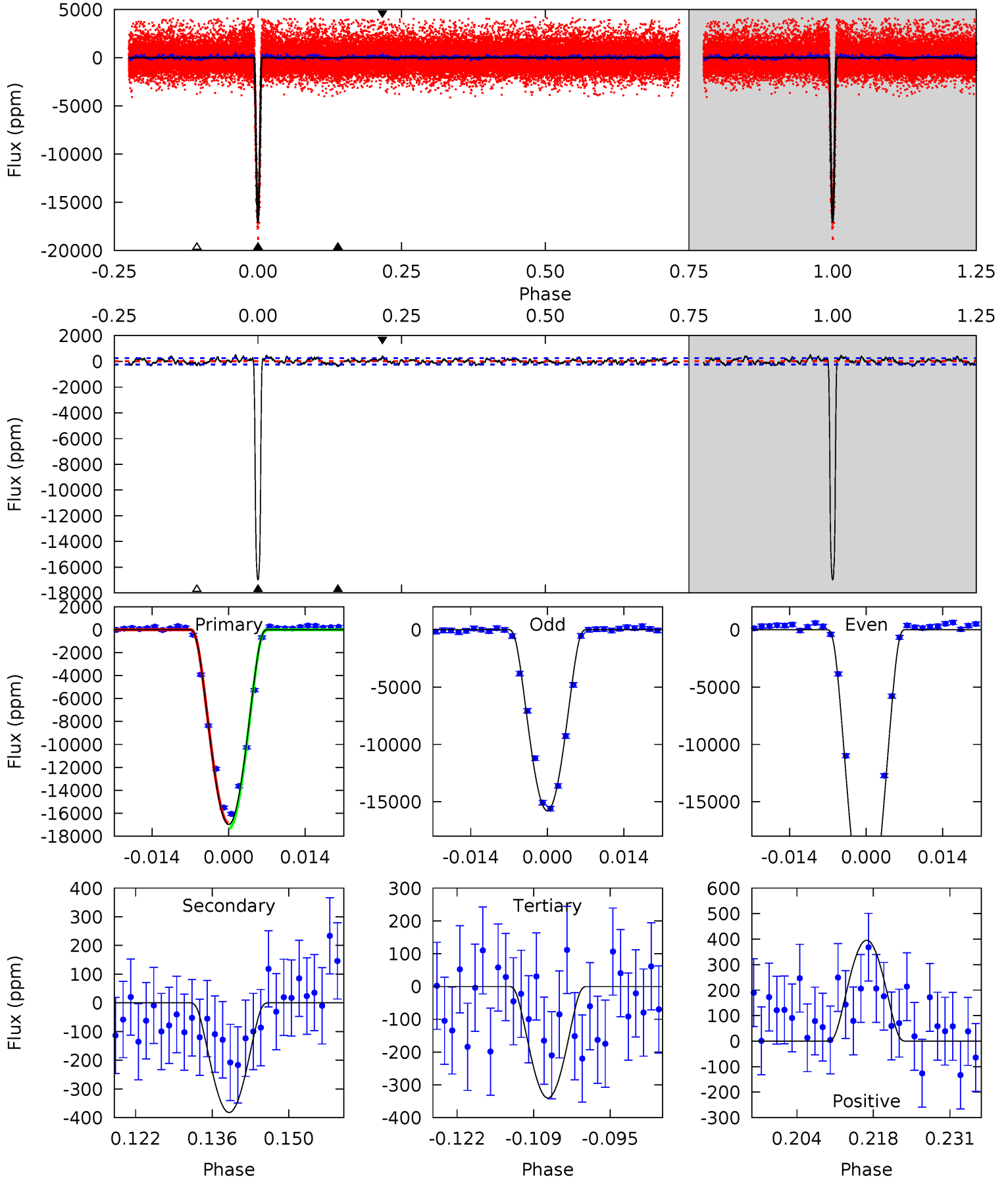
TCE 006359802-02 $P = 14.154023$ Days $T_0 = 144.176735$ (BKJD)



DV Model-Shift Uniqueness Test

006359802-02, P = 14.154039 Days, E = 144.175601 Days

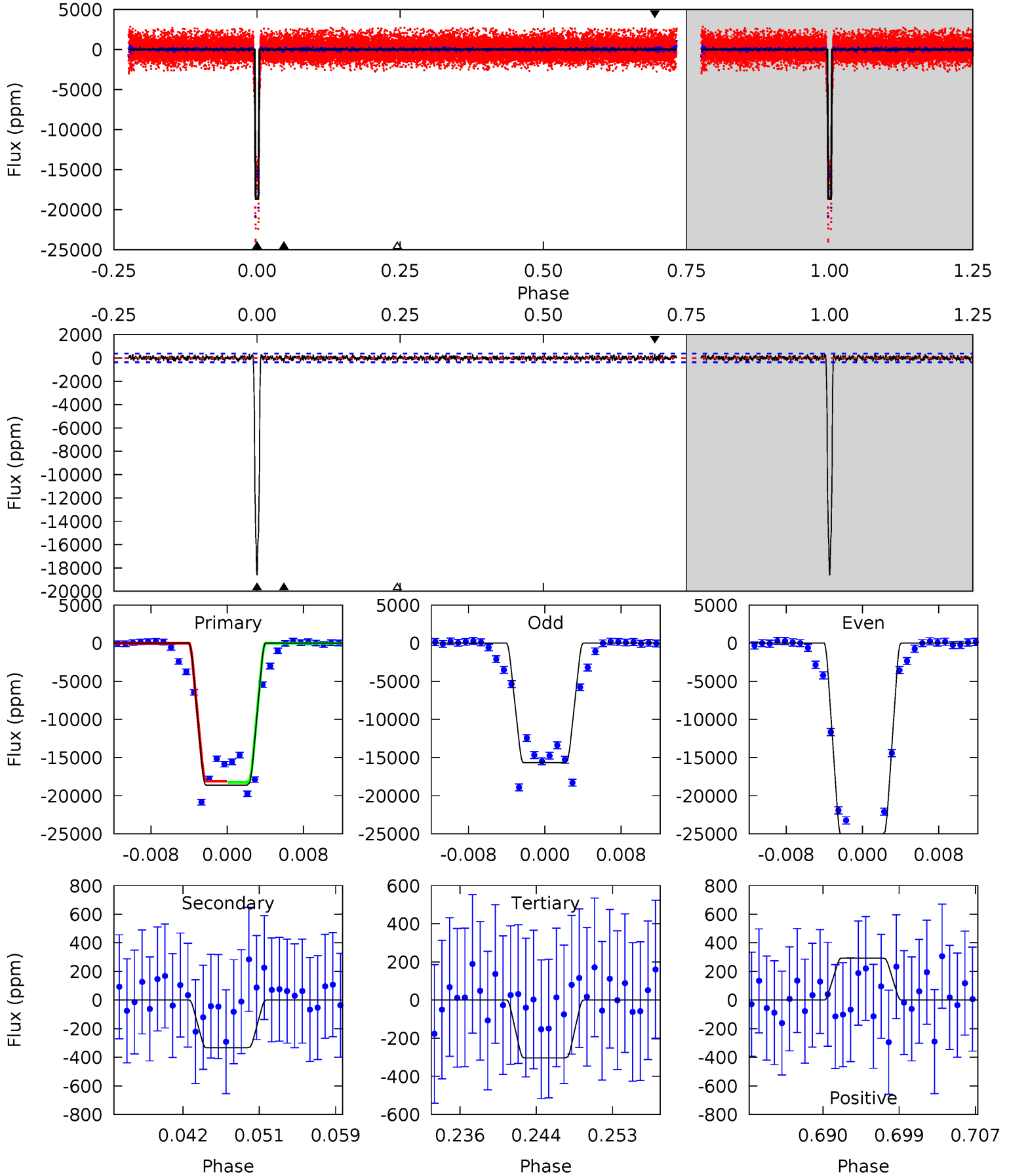
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
337.1	7.59	6.75	7.85	4.97	2.47	2.76	330.4	329.3	0.84	-0.26	98.8	1.28	0.03	0



Alt Model-Shift Uniqueness Test

006359802-02, P = 14.154023 Days, E = 144.176735 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
252.2	4.52	4.10	3.98	5.06	2.63	1.25	248.1	248.3	0.41	0.54	67.7	1.40	0.02	0



Stellar Parameters For KIC 006359802

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4352^{+153}_{-153}	$4.610^{+0.052}_{-0.021}$	$-0.040^{+0.300}_{-0.300}$	$0.661^{+0.042}_{-0.058}$	$0.650^{+0.065}_{-0.058}$	$3.165^{+0.740}_{-0.339}$
	+4%/-4%	+1%/-0%	+750%/-750%	+6%/-9%	+10%/-9%	+23%/-11%
Source	KIC0	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 006359802-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-382 ± 50	$16.62^{+5.65}_{-5.38}$	689^{+26}_{-26}	2156^{+215}_{-143}	$7.625^{+8.835}_{-3.410}$
Alt.	-334 ± 74	$10.45^{+5.83}_{-5.08}$	688^{+25}_{-29}	2358^{+443}_{-237}	17^{+48}_{-10}

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

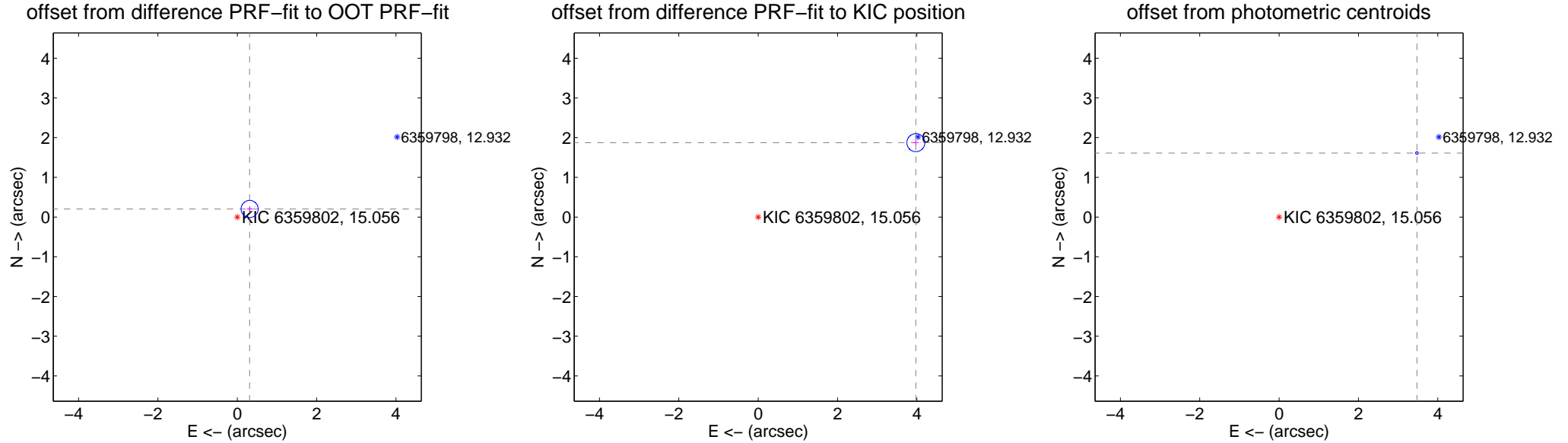
DV Centroid Data

Supplemental centroid analysis for 006359802-02. Kepler magnitude: 15.06. Transit SNR 152.03

There are 14 quarters with good PRF difference image offsets

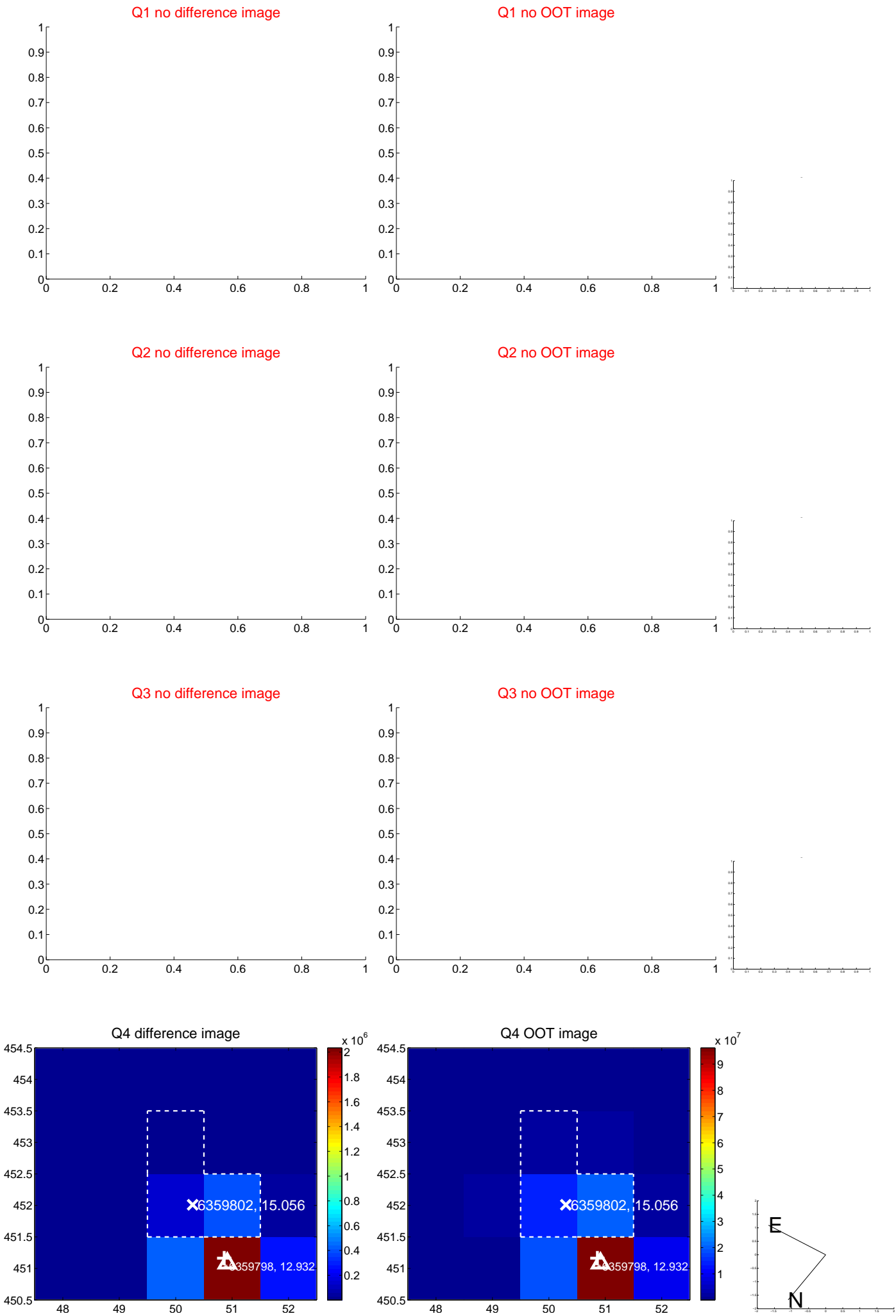
The OOT PRF centroid is offset from the target star catalog position by about 4.21 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.372 ± 0.072	5.17	-0.311 ± 0.071	0.204 ± 0.068
PRF-fit source offset from KIC position	4.394 ± 0.076	58.10	-3.974 ± 0.074	1.873 ± 0.072
photometric centroid source offset	3.83 ± 0.01	336.31	-3.47 ± 0.01	1.61 ± 0.01

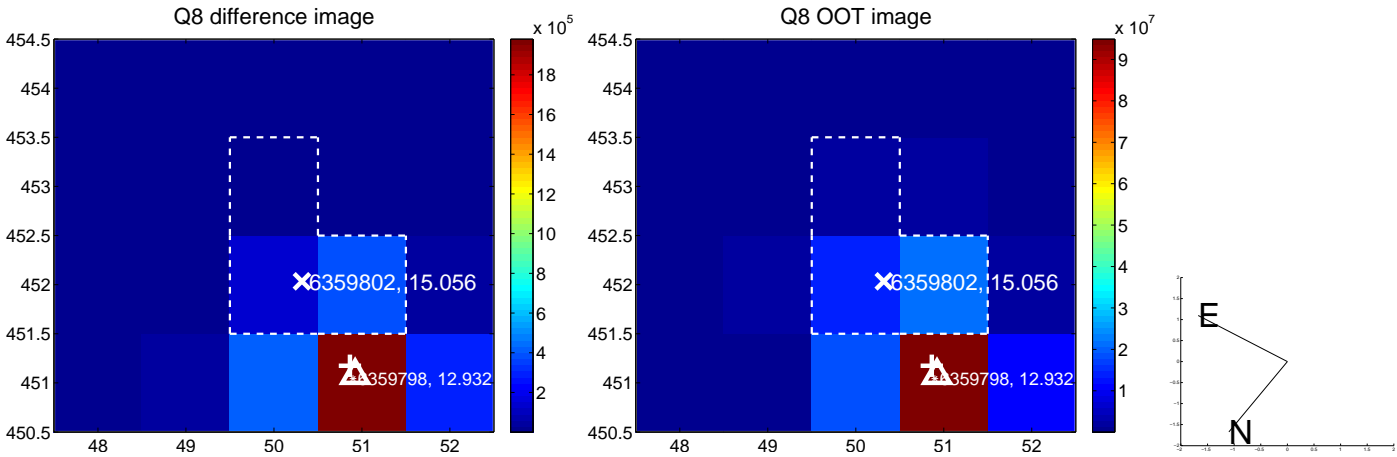
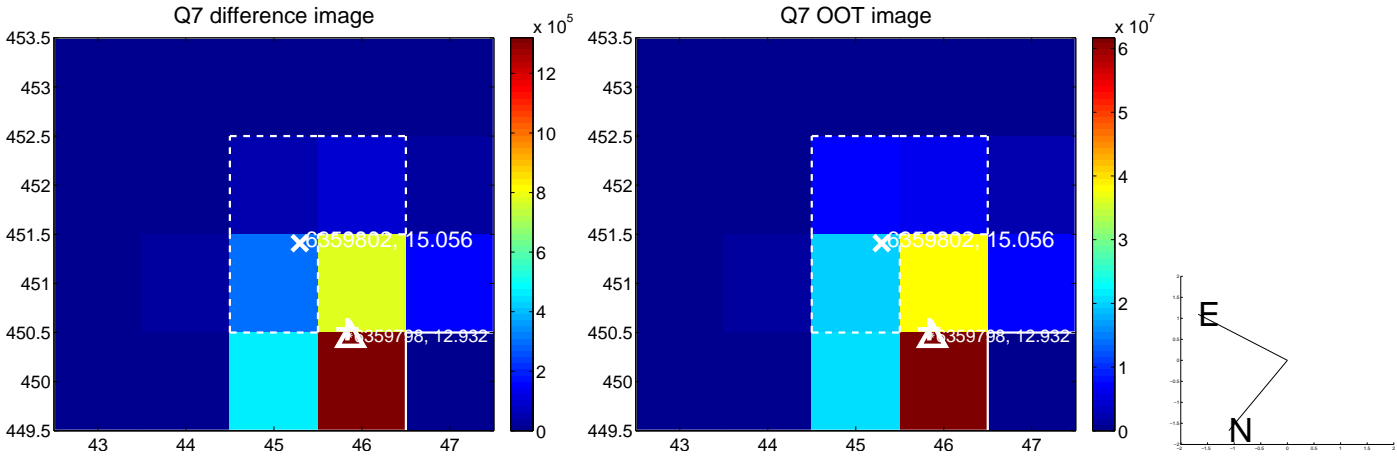
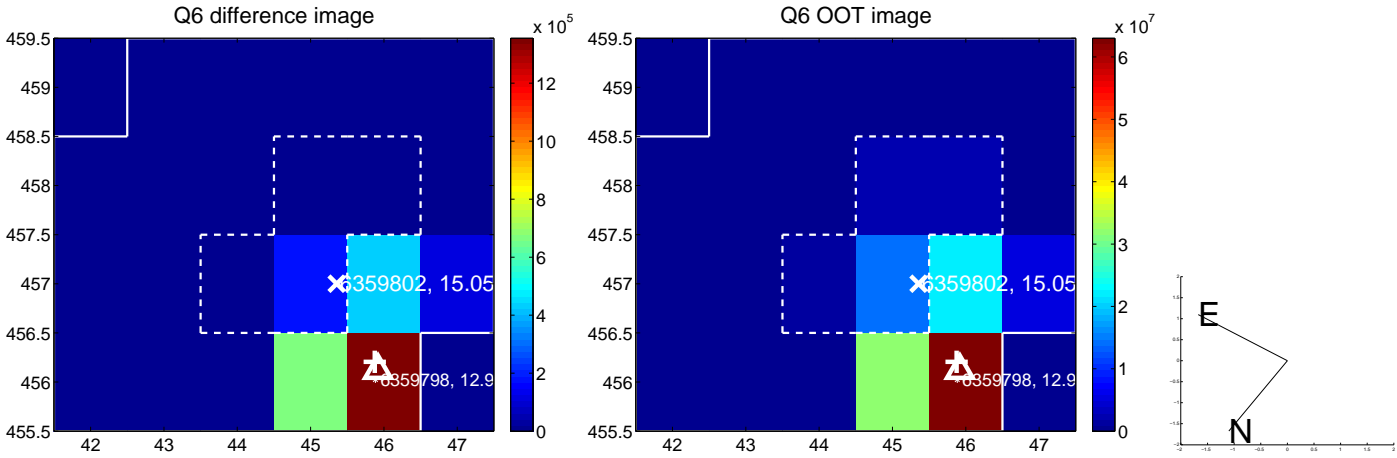
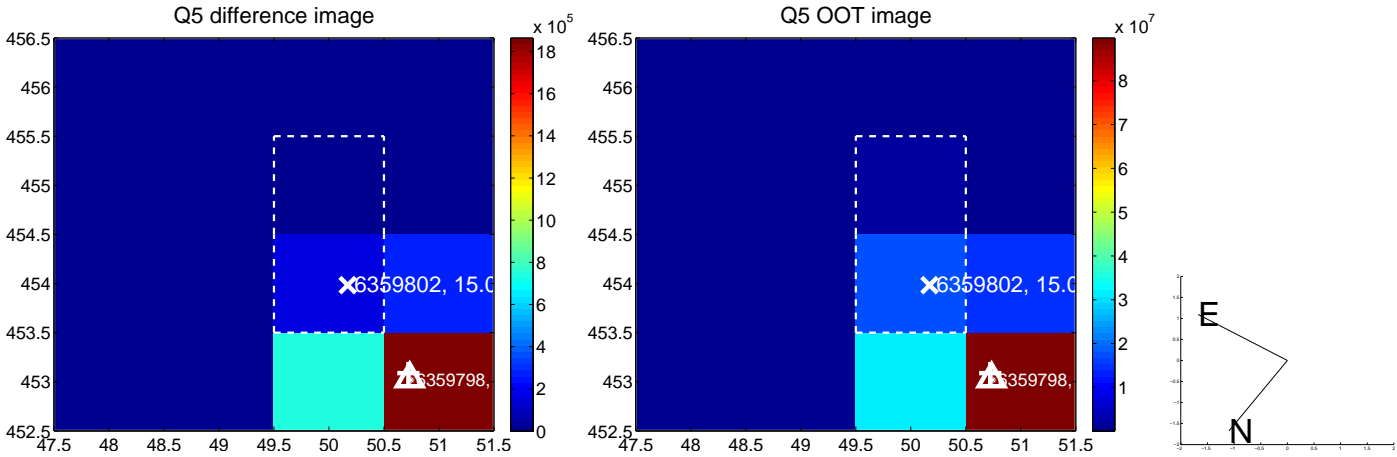


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

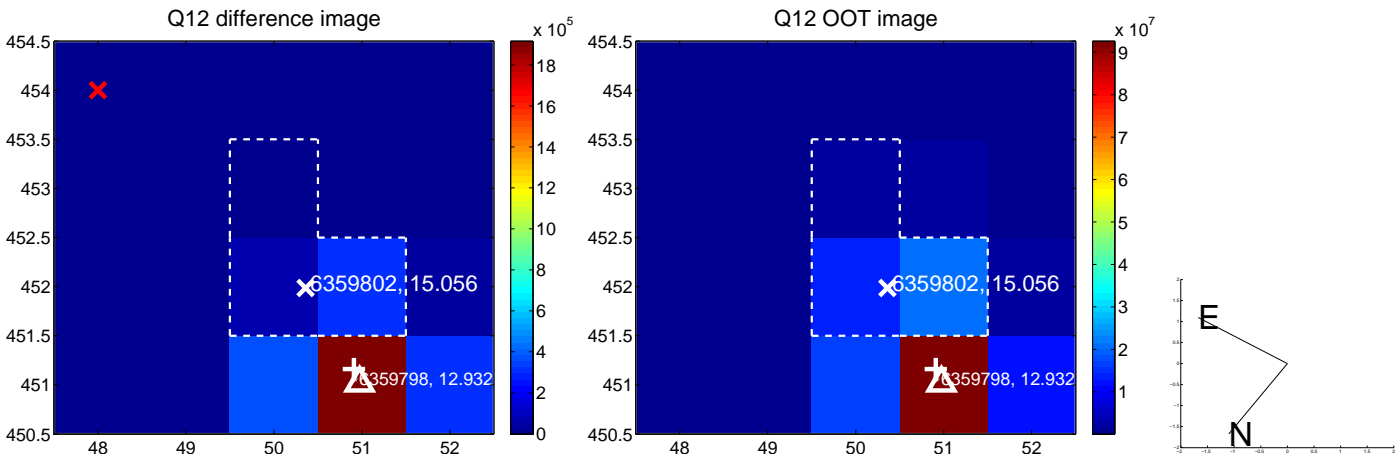
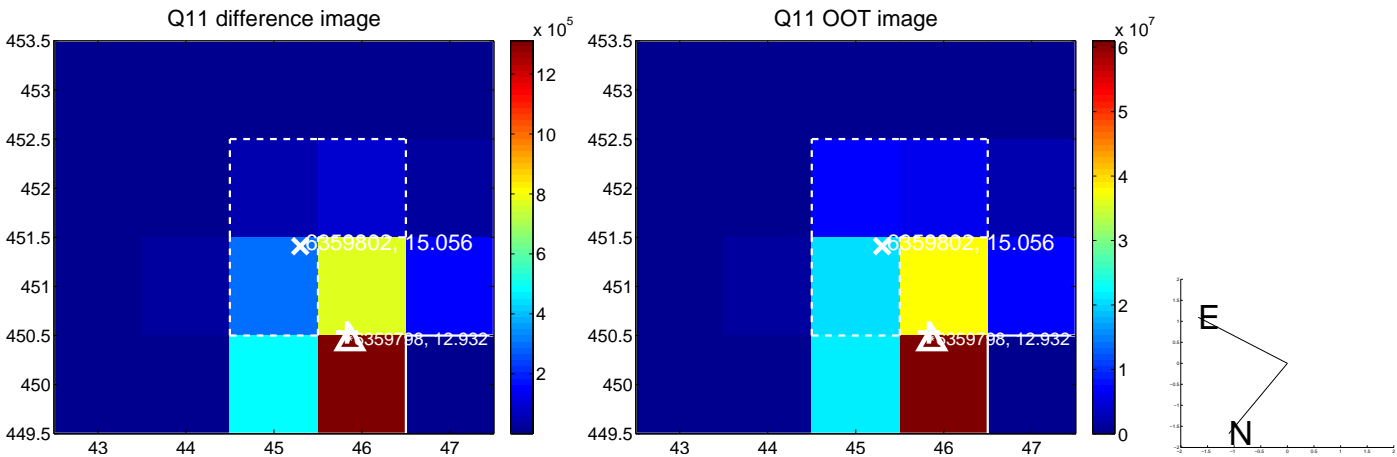
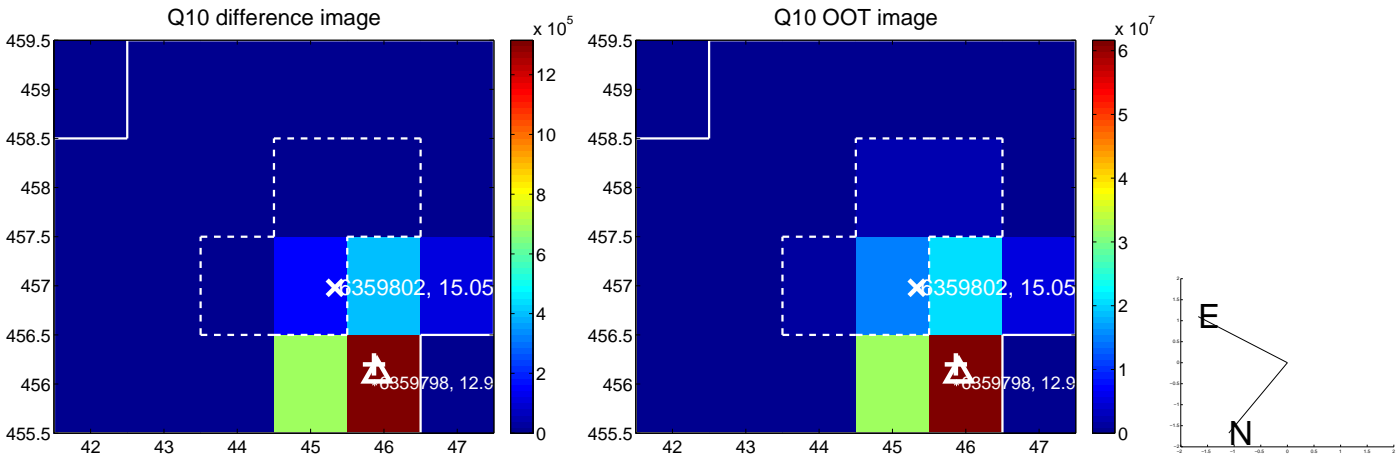
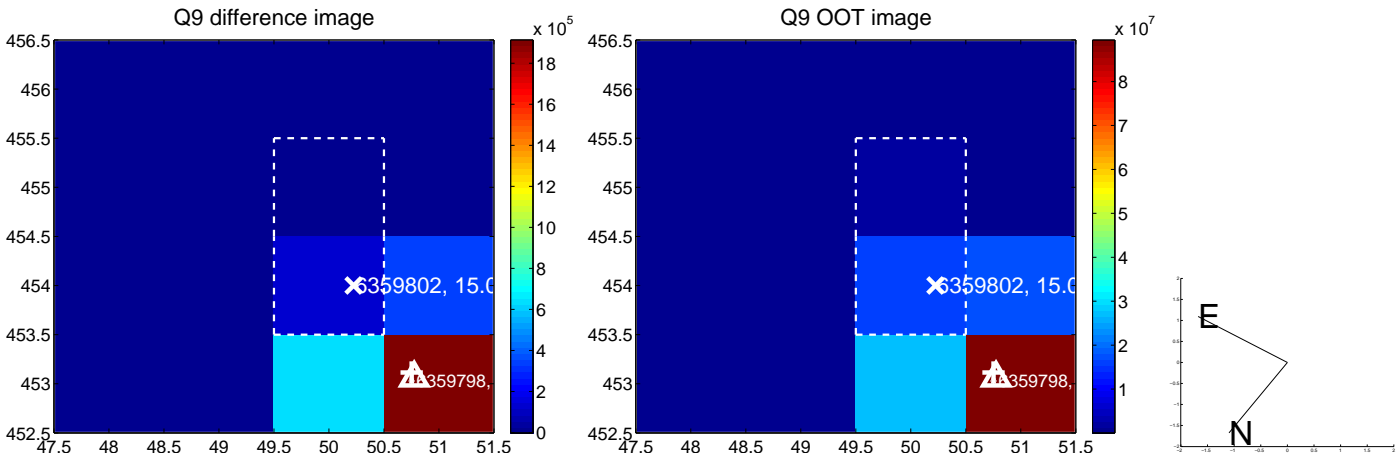
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



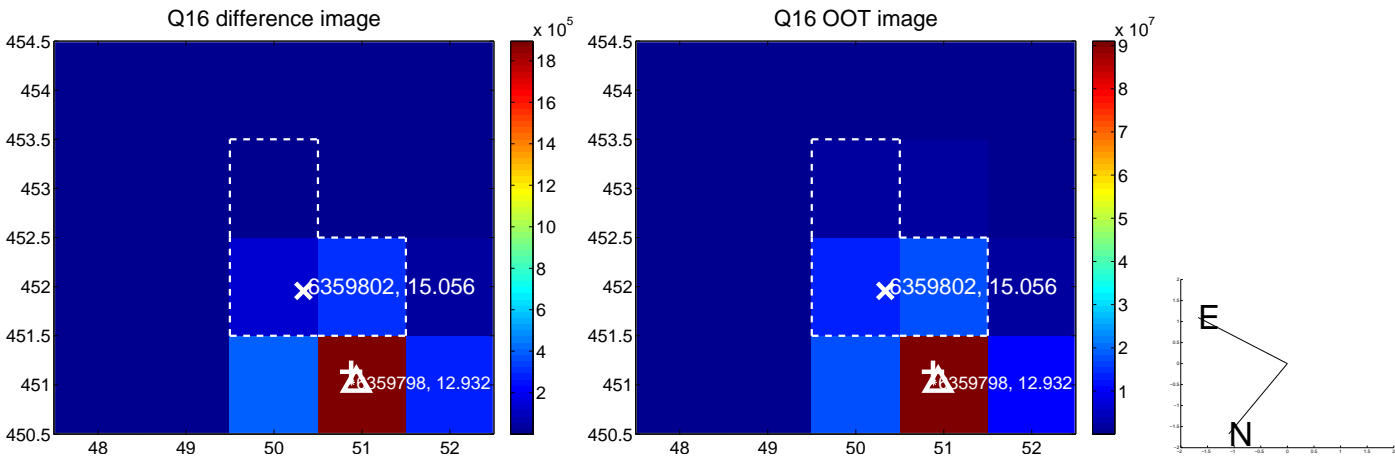
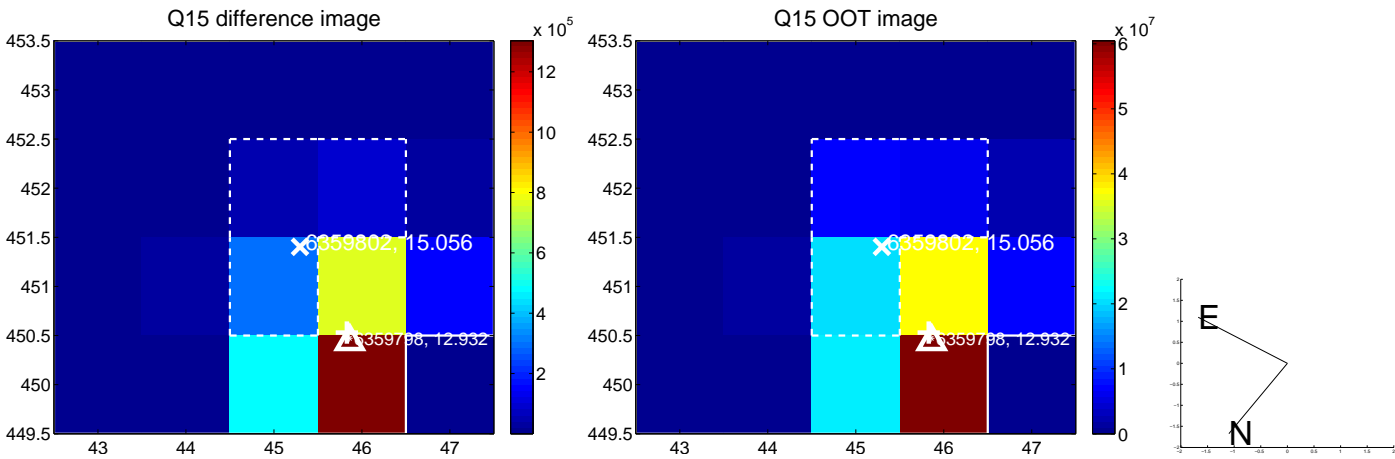
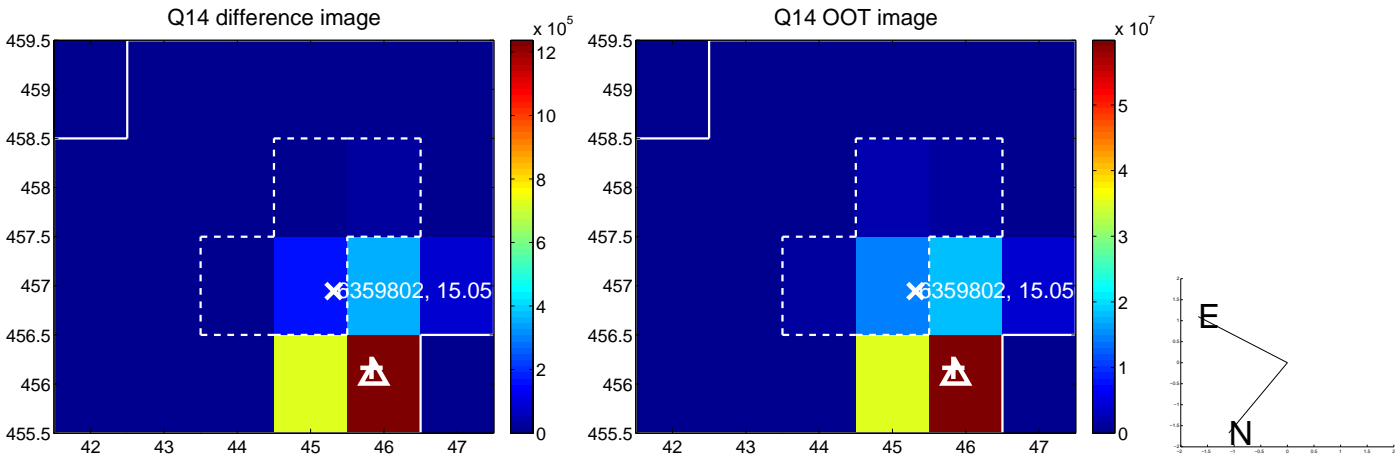
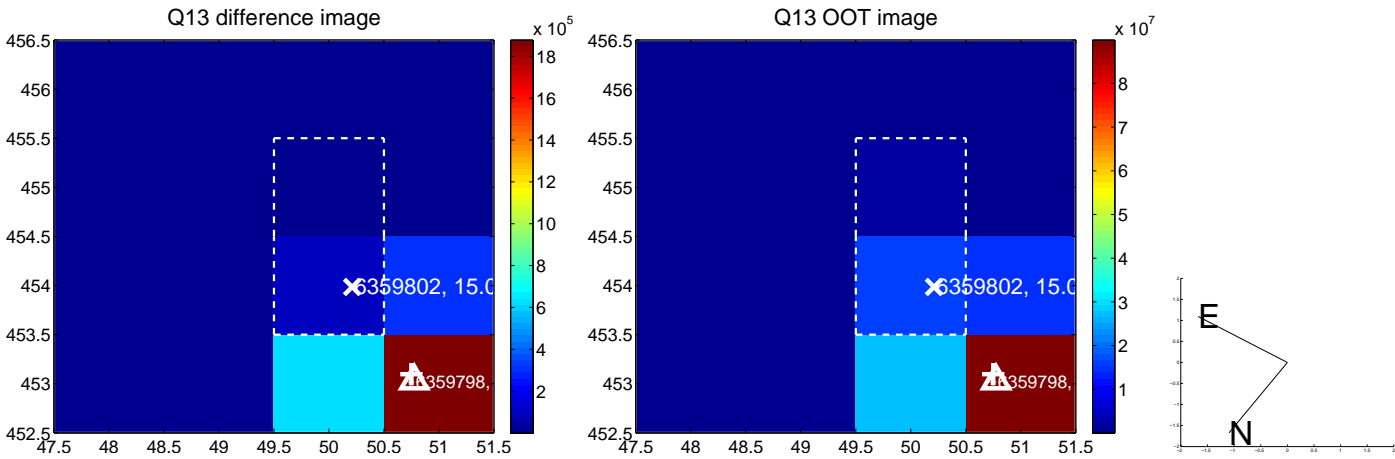
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



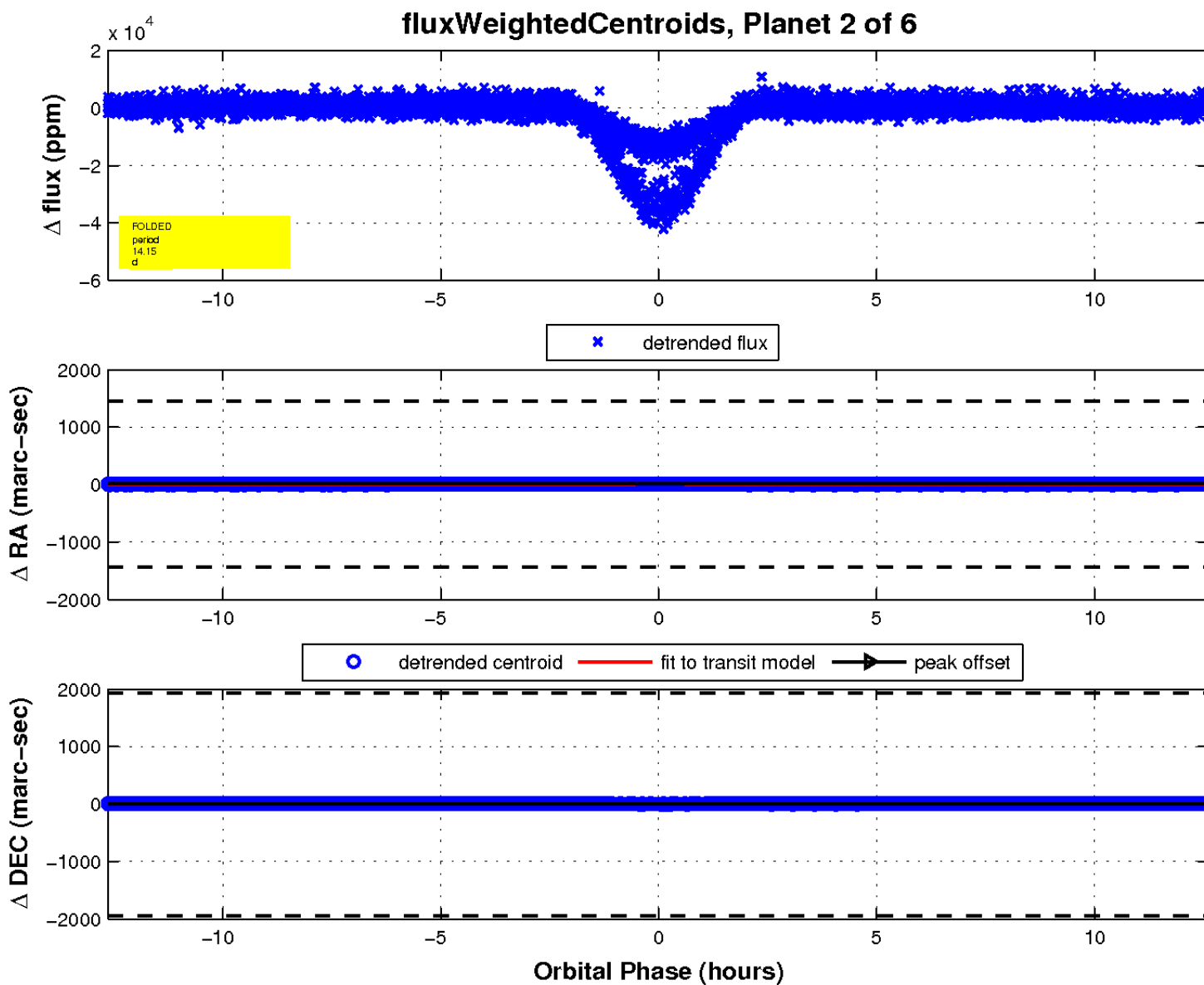
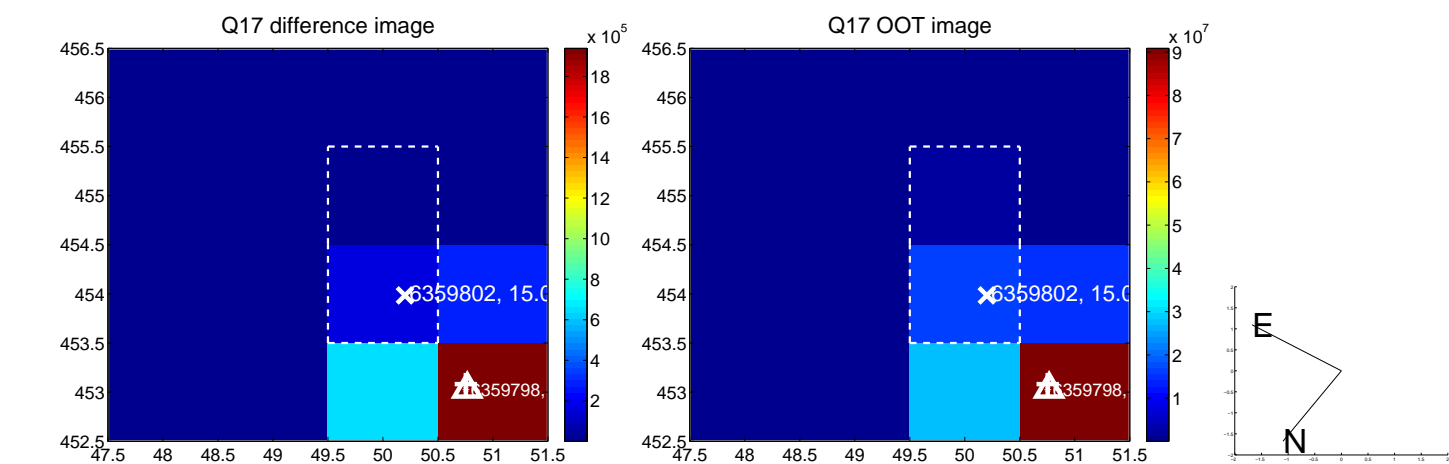
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

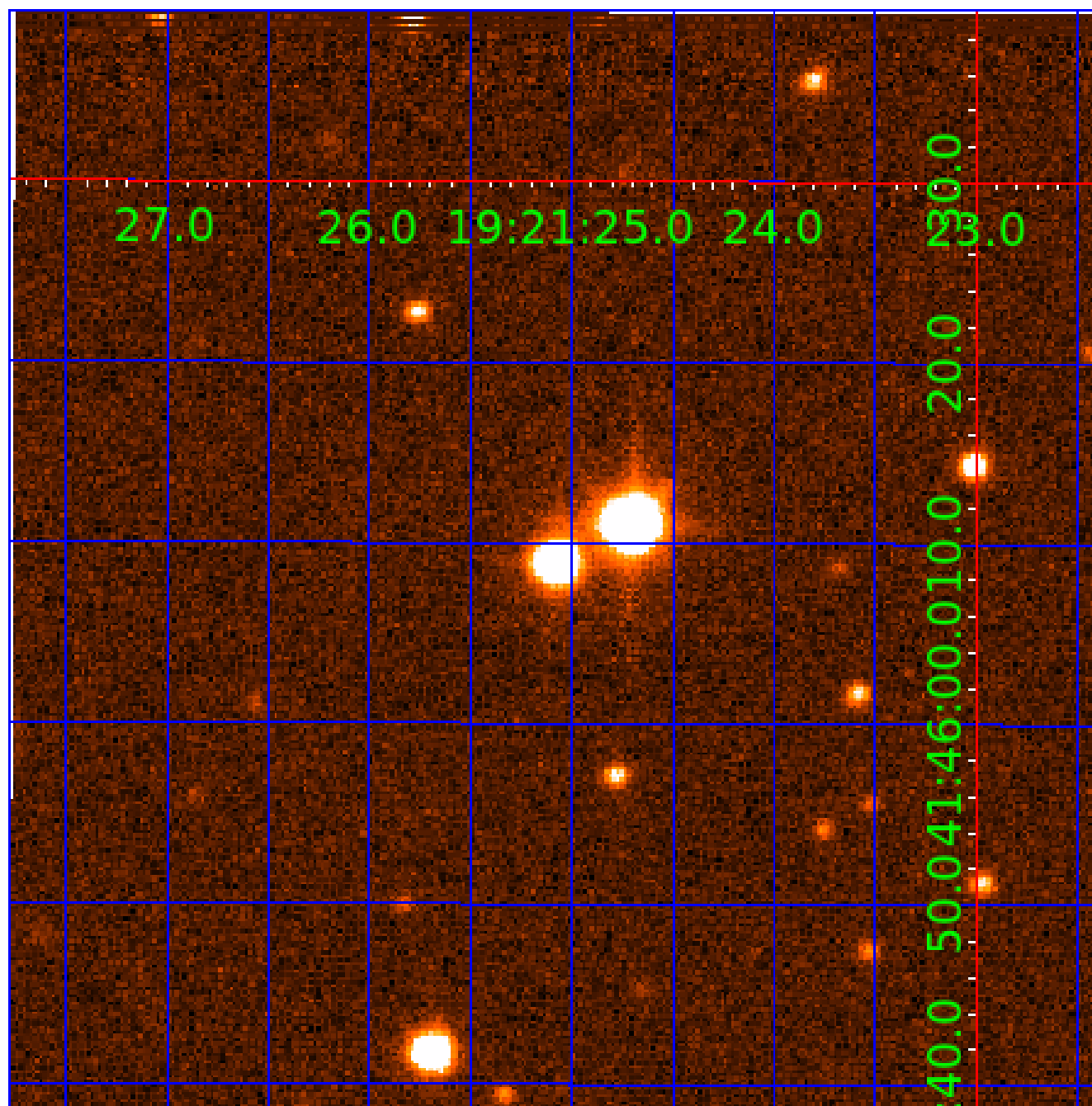


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006359802

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})
006359802-01	OBS	3399.01	14.154020	140.698657	30154.8	4.605	563.9	239.0	0.66	4352	20.73	14.28
006359802-02	OBS	No	14.154039	144.175601	18230.1	4.215	250.1	152.0	0.66	4352	16.46	14.28
006359802-03	OBS	No	343.554795	204.569629	1787.7	3.222	9.7	7.3	0.66	4352	2.92	0.20
006359802-04	OBS	No	250.543175	281.124855	2455.4	5.286	15.0	5.9	0.66	4352	3.12	0.31
006359802-05	OBS	No	181.677236	200.290413	1973.0	2.680	9.0	6.1	0.66	4352	2.80	0.47
006359802-06	OBS	No	1.417006	132.464119	2343.2	1.500	8.1	-1.0	0.66	4352	3.08	307.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006359802-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—SEASONAL_DEPTH_DV—SEASONAL_DEPTH_ALT—CENT_KIC_POS—HALO_GHOST—EPHEM_MATCH
006359802-02	OBS	FP	0.00	1	1	1	1	IS_SEC_TCE—CENT_KIC_POS—HALO_GHOST—EPHEM_MATCH
006359802-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_ALT—CENT_FEW_DIFFS
006359802-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006359802-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006359802-06	OBS	FP	0.00	1	0	0	0	MOD_NONUNIQ_ALT—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.

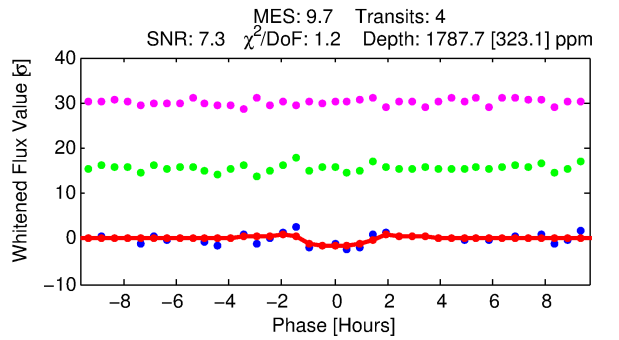
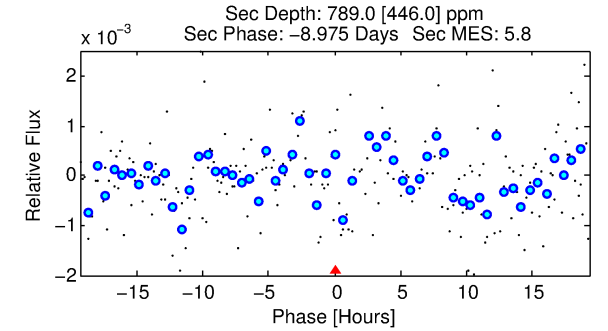
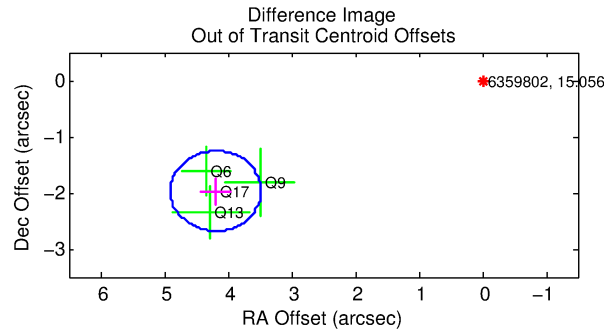
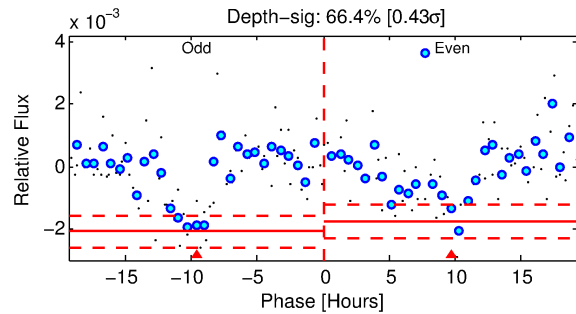
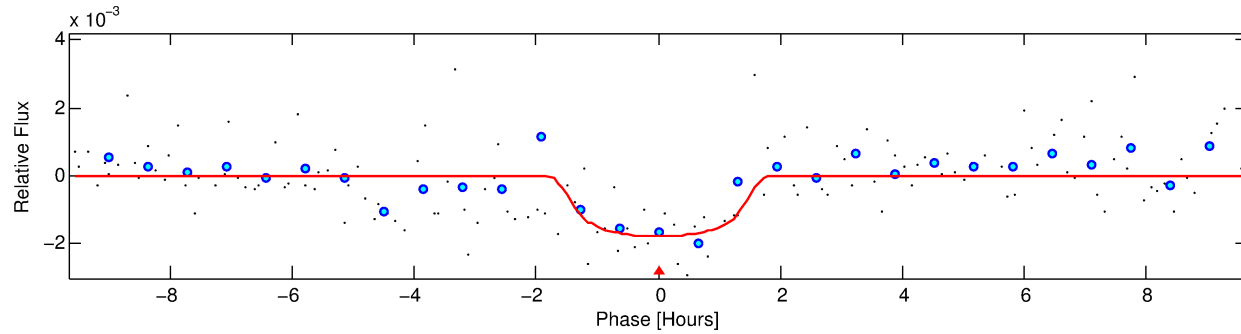
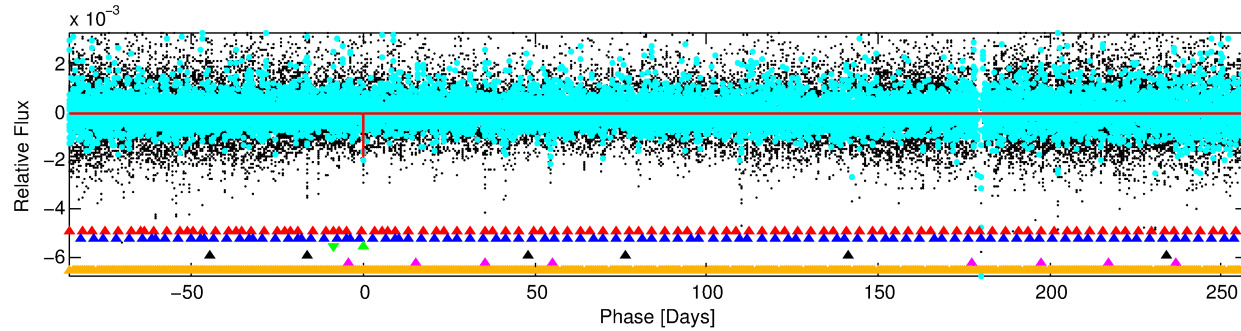
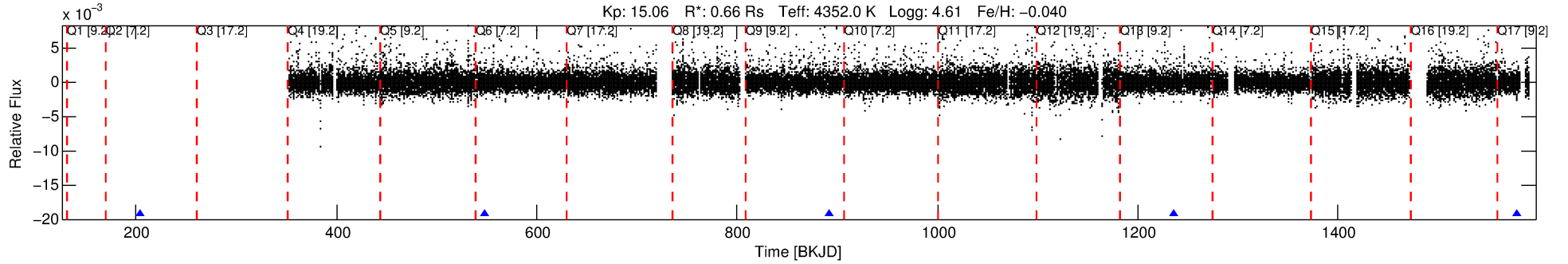
Ephemeris Match Information For 006359802-03

No Significant Match Found

DV One-Page Summary

KIC: 6359802 Candidate: 3 of 6 Period: 343.555 d

KOI: K03399 Corr: No Ephemeris Match



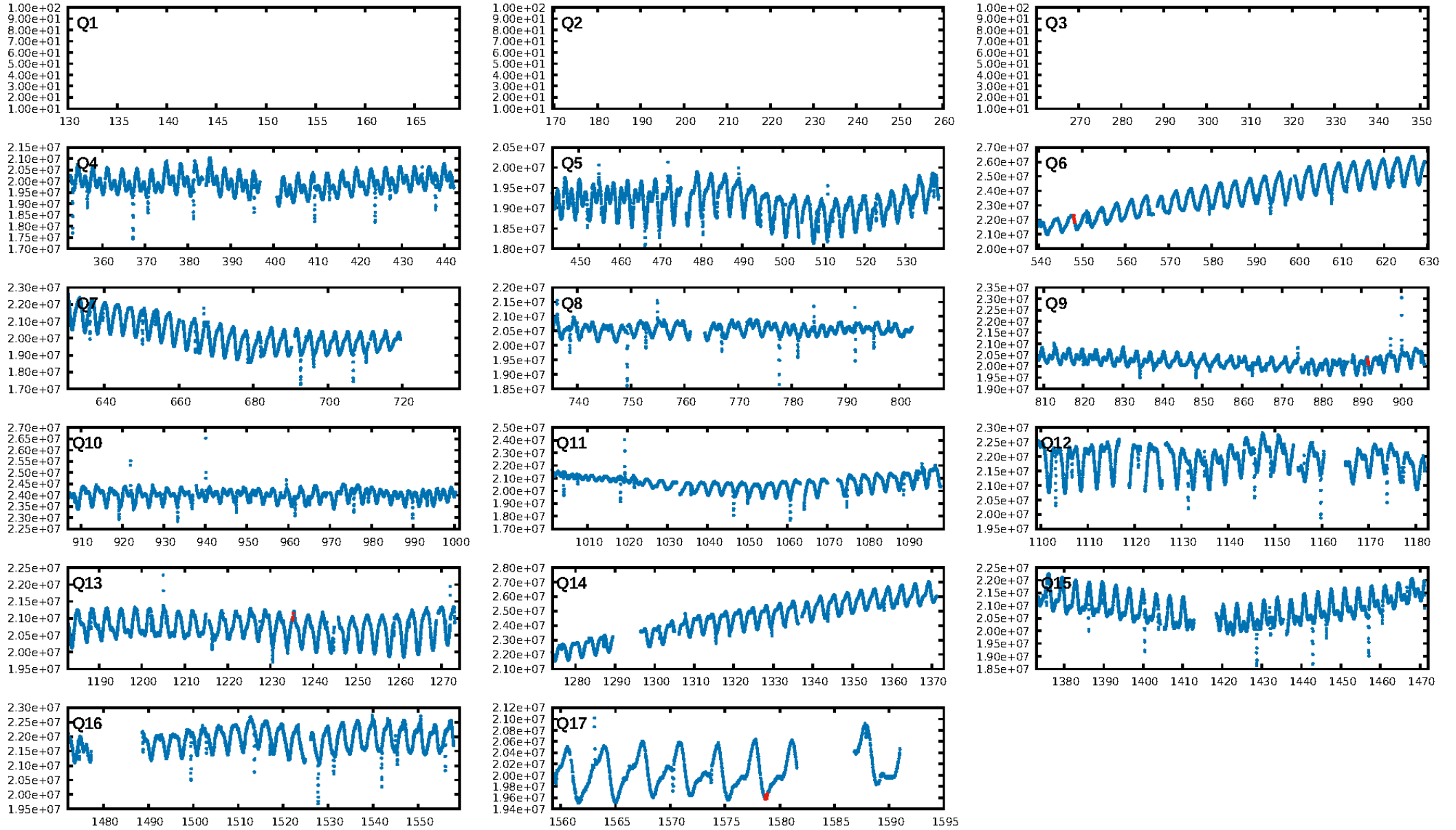
DV Fit Results:

Period = 343.55479 [0.00395] d
Epoch = 204.5696 [0.0114] BKJD
Rp/R* = 0.0406 [0.0606]
a/R* = 662.59 [2964.57]
b = 0.65 [4.11]
Seff = 0.20 [0.03]
Teq = 171 [7] K
Rp = 2.93 [4.38] Re
a = 0.8314 [0.0589] AU
Ag = 35060.19 [106607.05] [0.33σ]
Teffp = 3622 [2755] K [1.25σ]

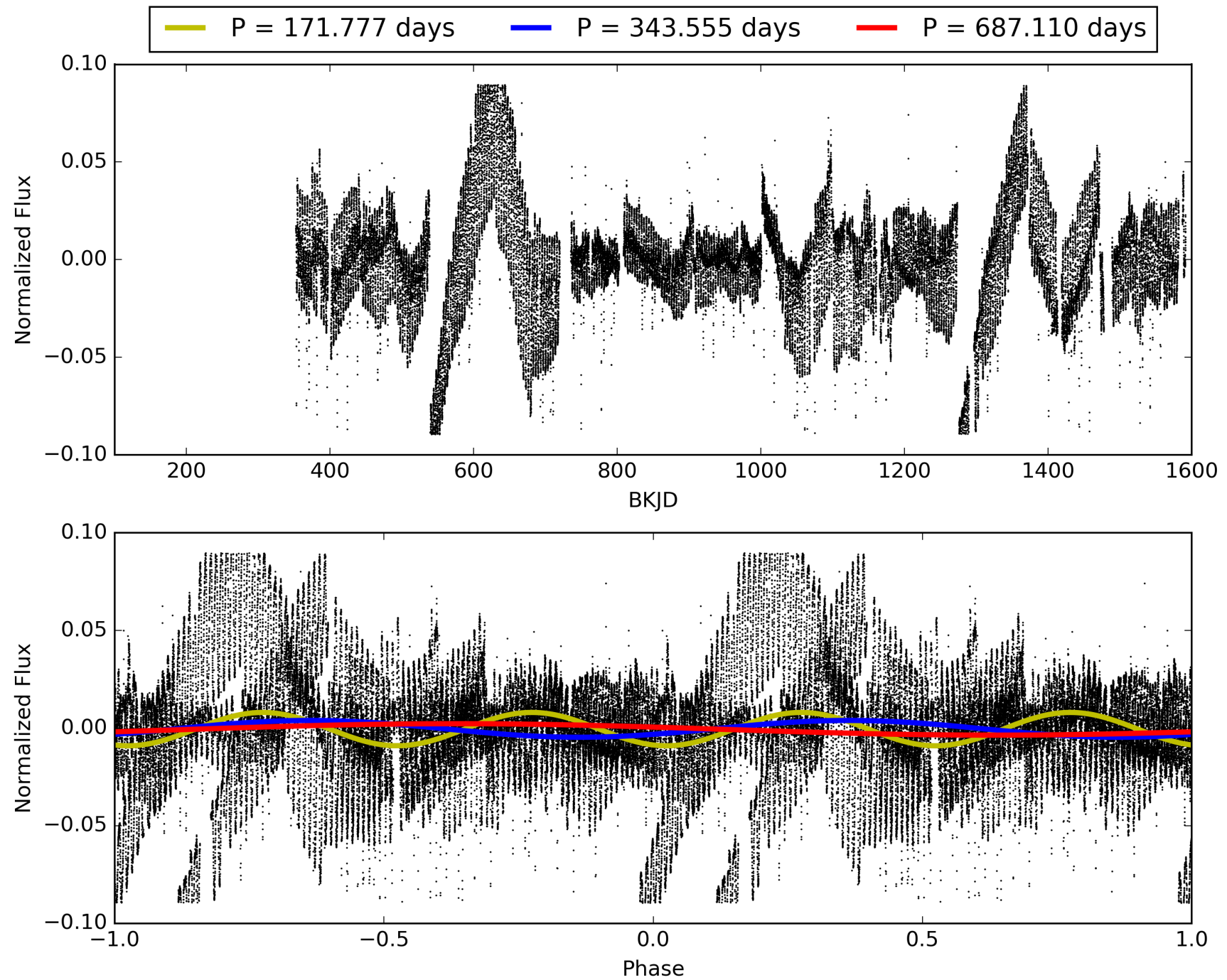
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [360.63σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 96.7%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -2.839
Centroid-sig: 79.9%
Centroid-so: 3.223 arcsec [6.60σ]
OotOffset-rm: 4.632 arcsec [19.47σ]
KicOffset-rm: 0.454 arcsec [1.91σ]
OotOffset-st: 1/0/0/3 [4]
KicOffset-st: 1/0/0/3 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 0.50 [2/4]

TCE 006359802-03, PDC Light Curves

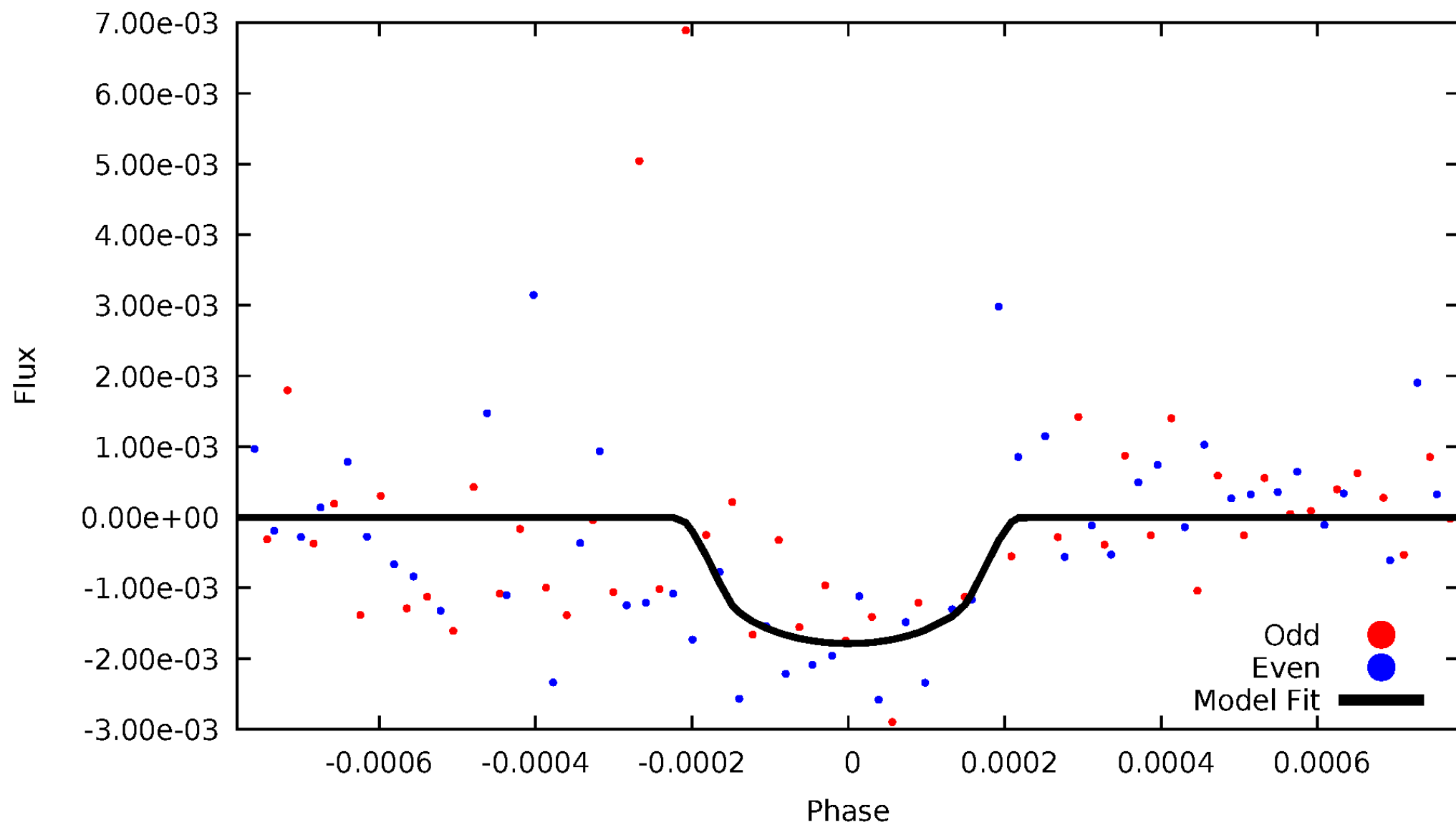


TCE 006359802-03



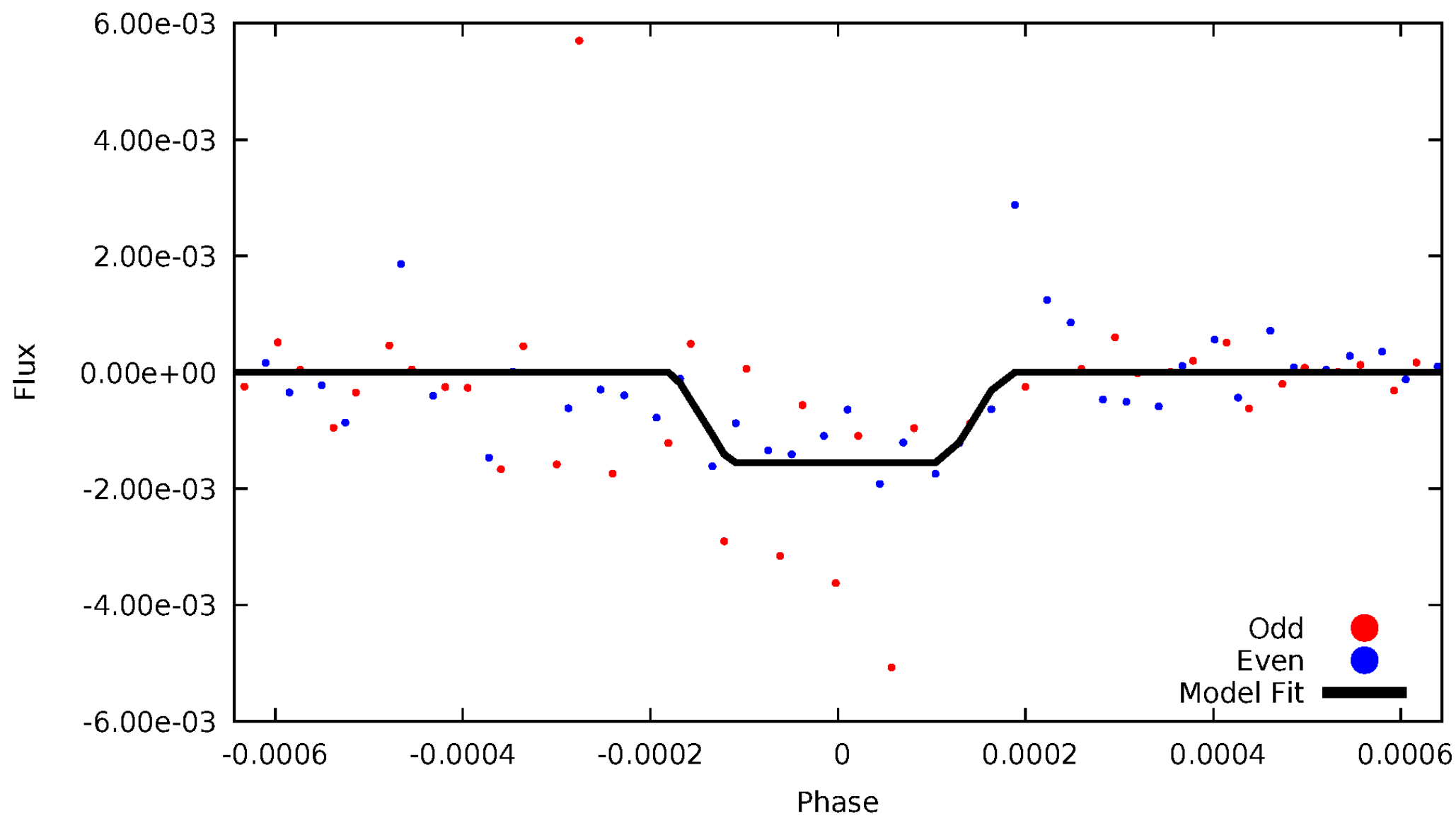
DV Odd/Even

TCE 006359802-03



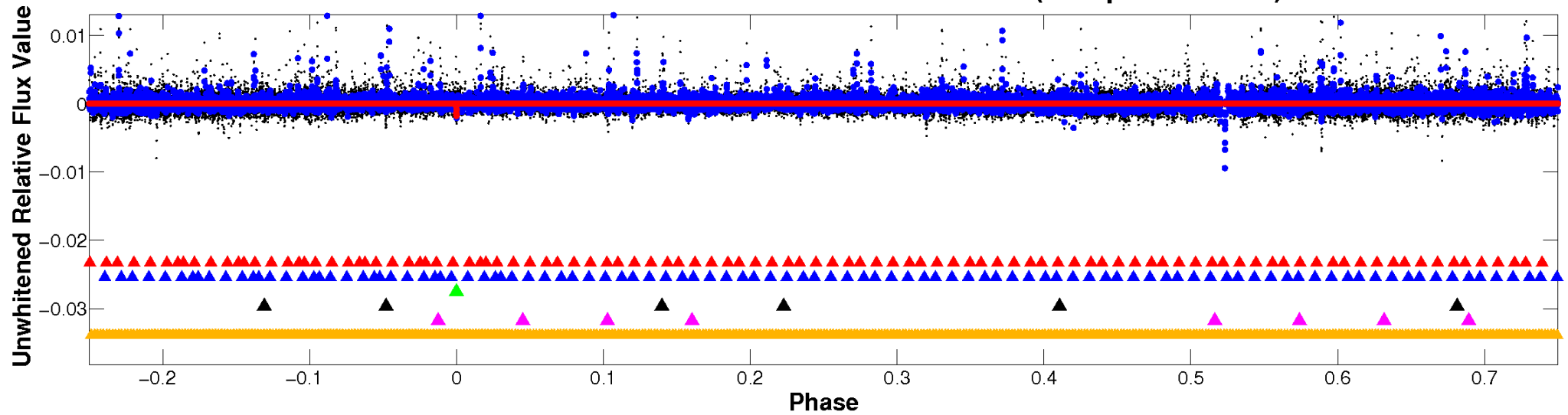
ALT Odd/Even

TCE 006359802-03

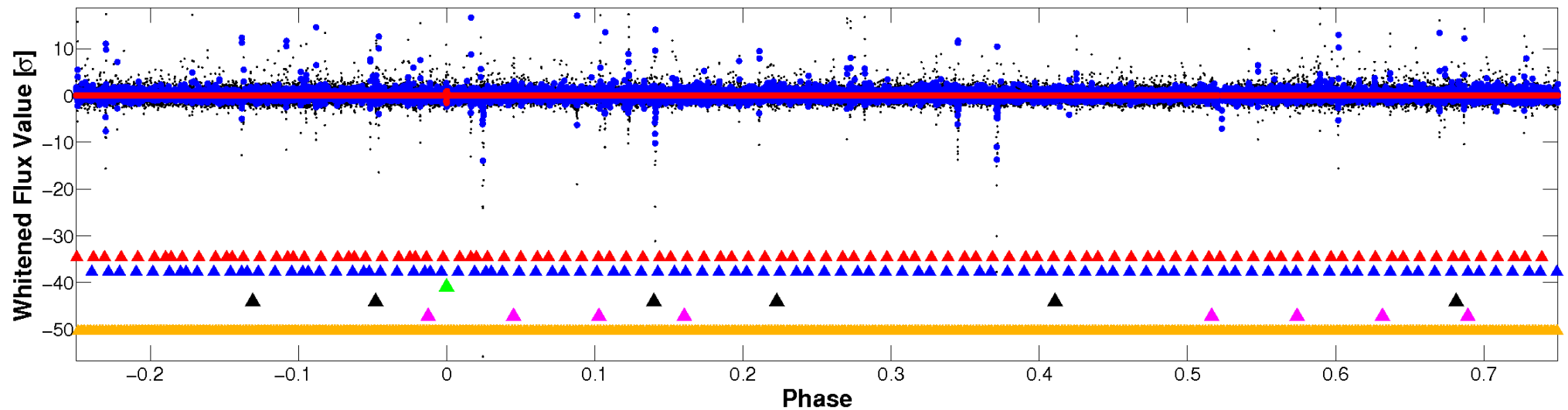


Non-Whitened Vs. Whitened Light Curve

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

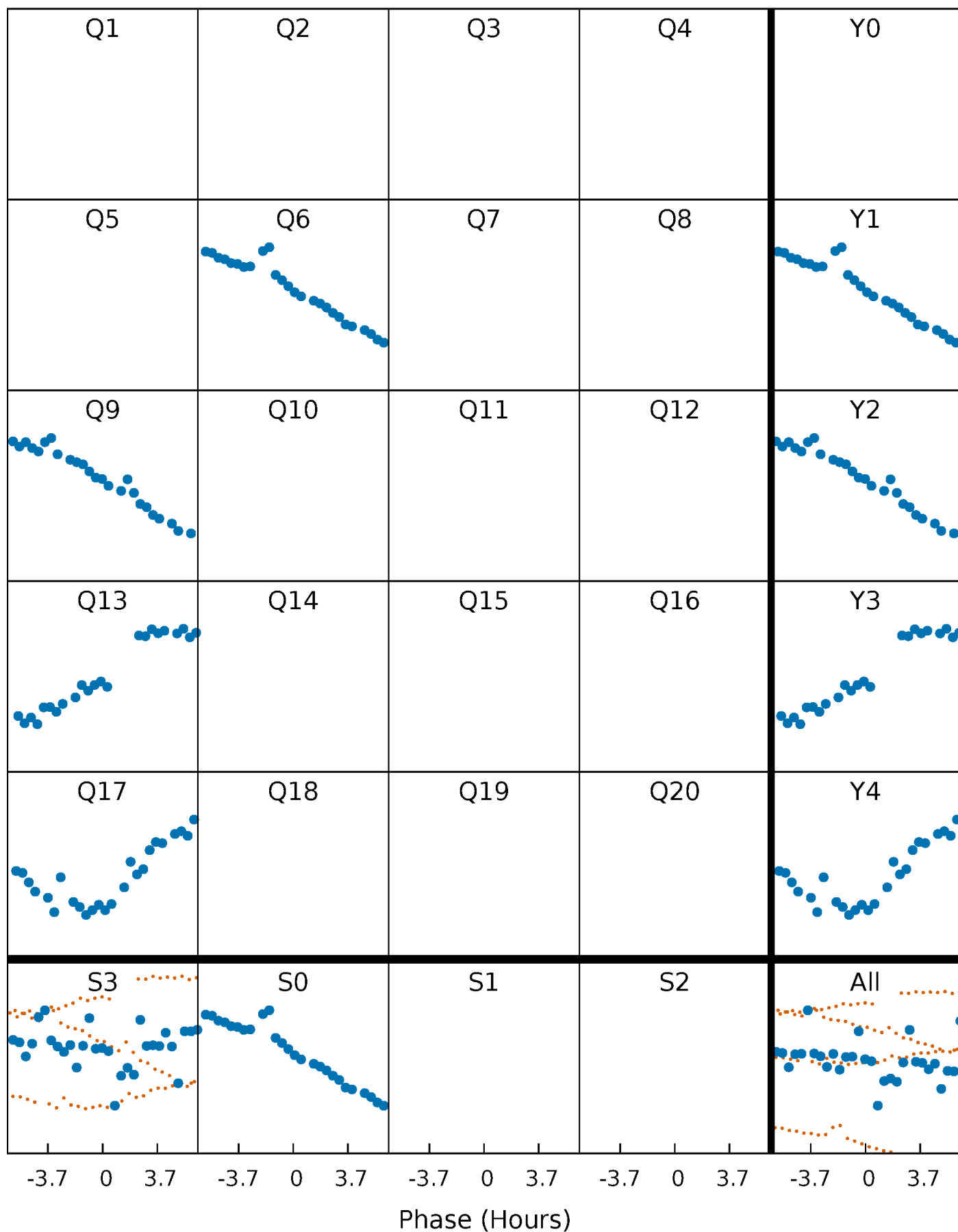


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



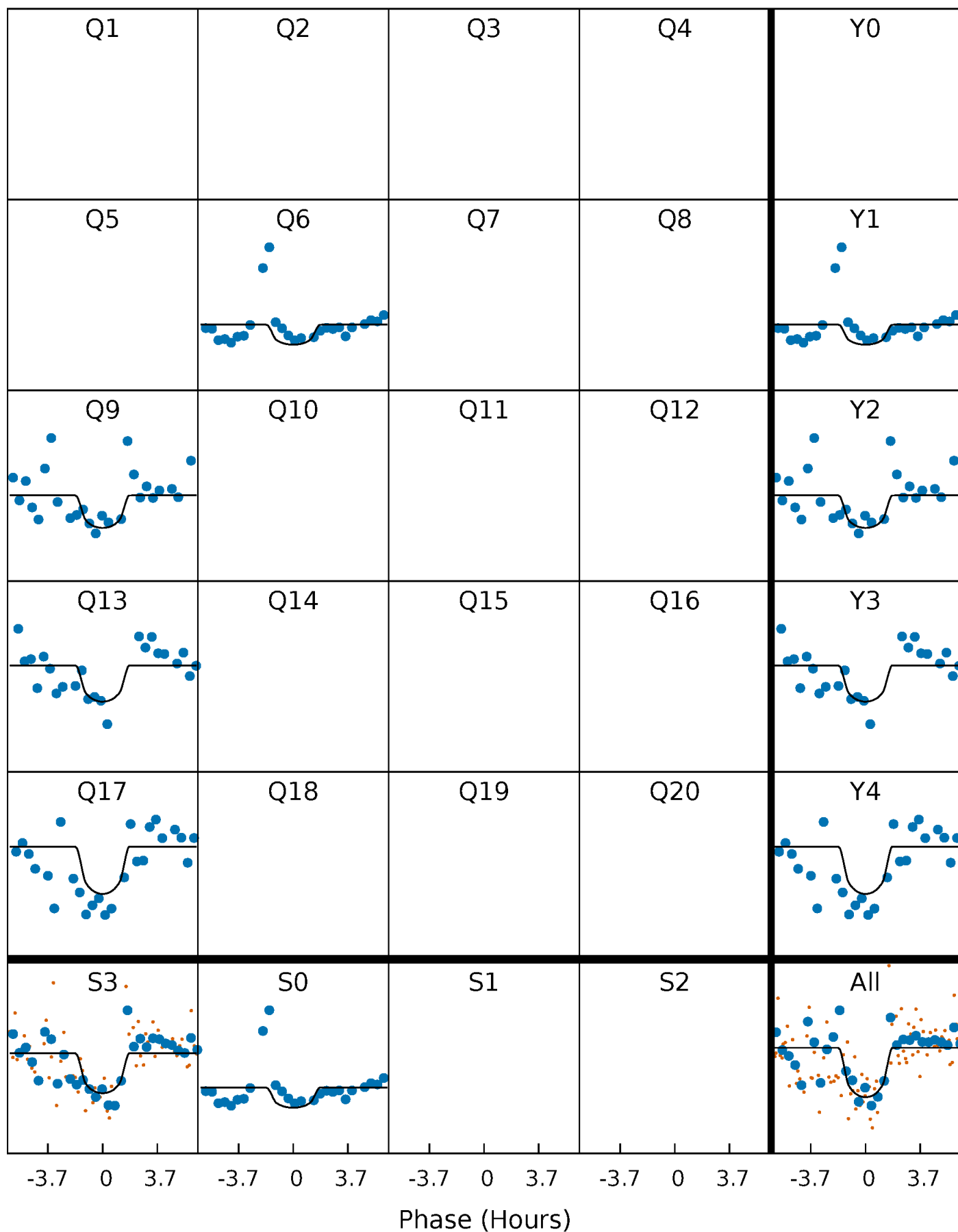
PDC Quarter-Phased Transit Curves

TCE 006359802-03 $P=343.554795$ Days $T_0=204.569629$ (BKJD)



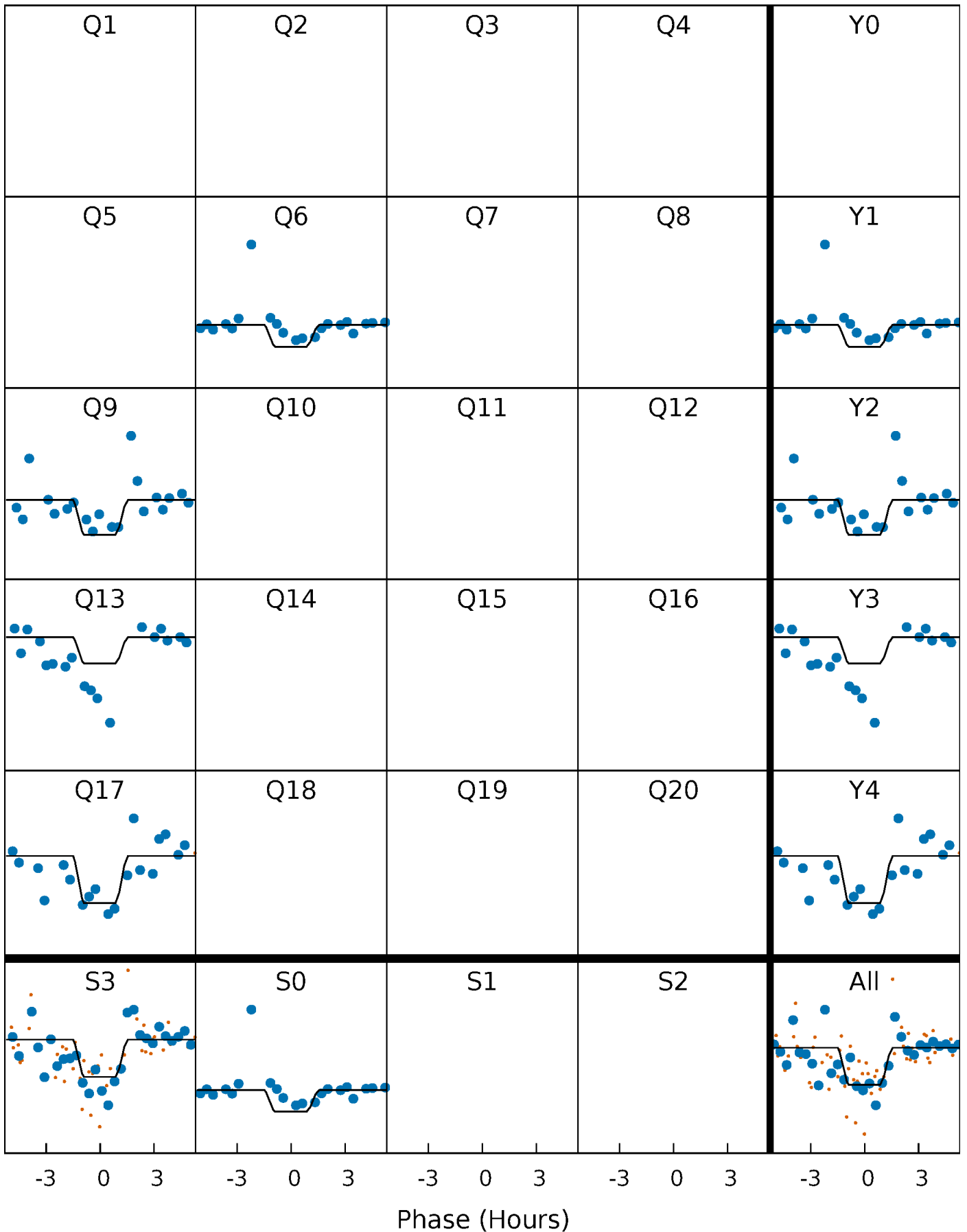
DV Quarter-Phased Transit Curves

TCE 006359802-03 $P=343.554795$ Days $T_0=204.569629$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

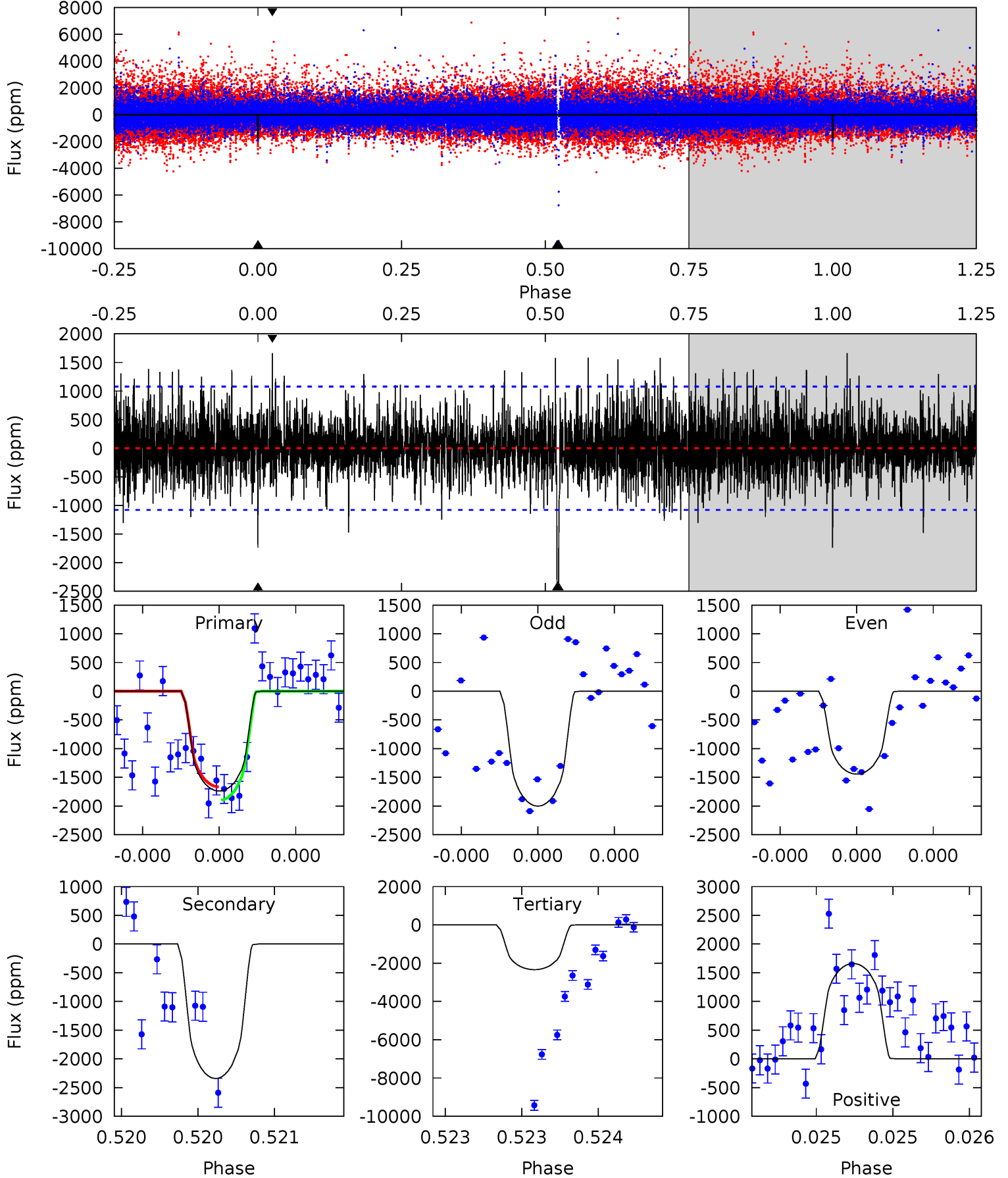
TCE 006359802-03 $P=343.553182$ Days $T_0=204.574148$ (BKJD)



DV Model-Shift Uniqueness Test

006359802-03, P = 343.554795 Days, E = 204.569629 Days

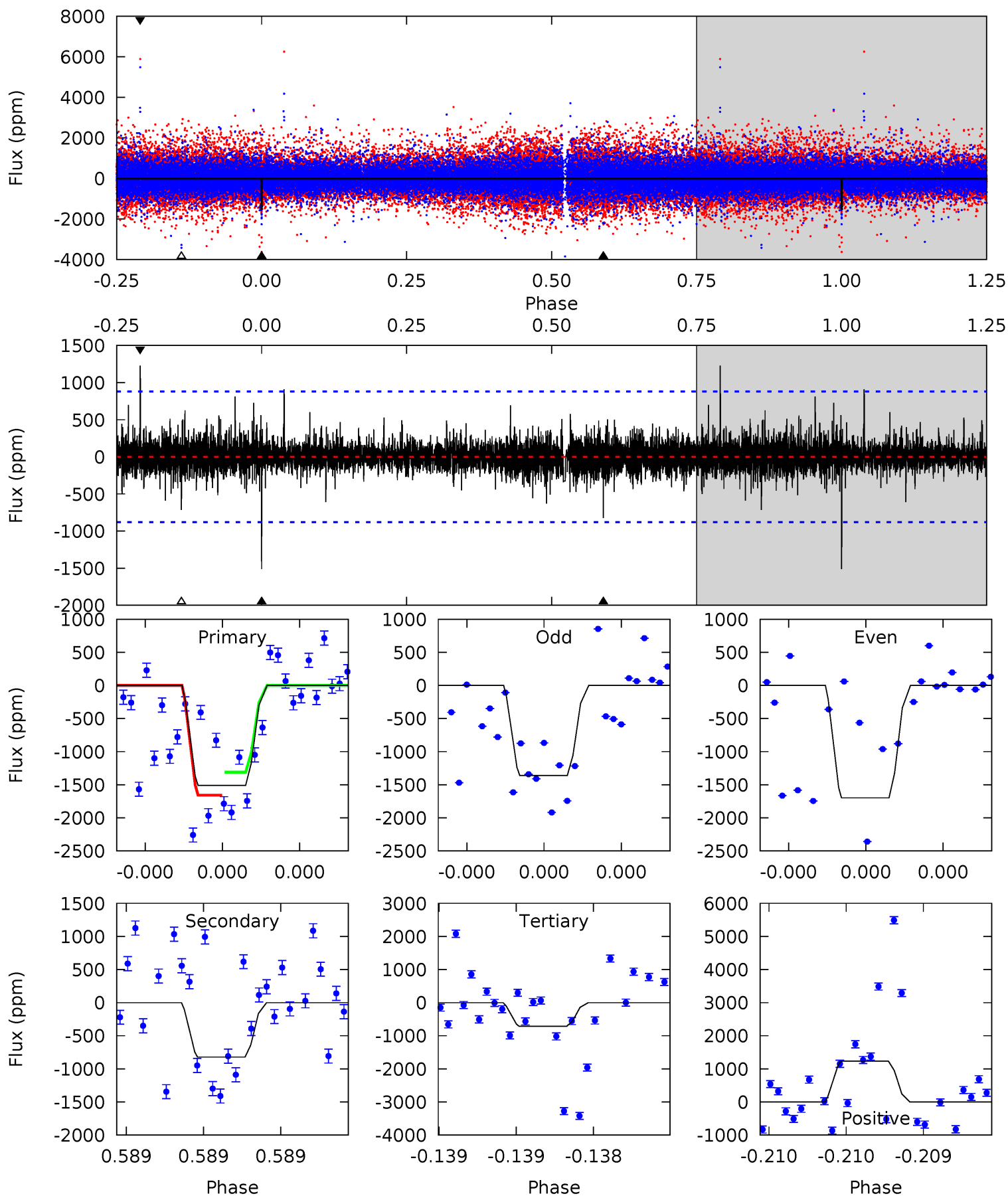
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.02	12.2	12.1	8.62	5.59	3.51	1.97	-3.12	0.40	0.01	3.53	1.06	0.98	0.42	0.60



Alt Model-Shift Uniqueness Test

006359802-03, P = 343.553182 Days, E = 204.574148 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.68	5.27	4.59	7.88	5.64	3.58	0.88	5.10	1.80	0.69	-2.61	1.02	1.32	0.45	1.13



Stellar Parameters For KIC 006359802

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4352^{+153}_{-153}	$4.610^{+0.052}_{-0.021}$	$-0.040^{+0.300}_{-0.300}$	$0.661^{+0.042}_{-0.058}$	$0.650^{+0.065}_{-0.058}$	$3.165^{+0.740}_{-0.339}$
	+4%/-4%	+1%/-0%	+750%/-750%	+6%/-9%	+10%/-9%	+23%/-11%
Source	KIC0	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 006359802-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-2342 ± 193	$4.45^{+3.90}_{-2.91}$	238^{+9}_{-9}	4001^{+2279}_{-756}	$45703^{+334102}_{-32580}$
Alt.	-822 ± 156	$4.27^{+3.70}_{-2.70}$	238^{+9}_{-10}	3346^{+1545}_{-522}	$16564^{+108188}_{-11542}$

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

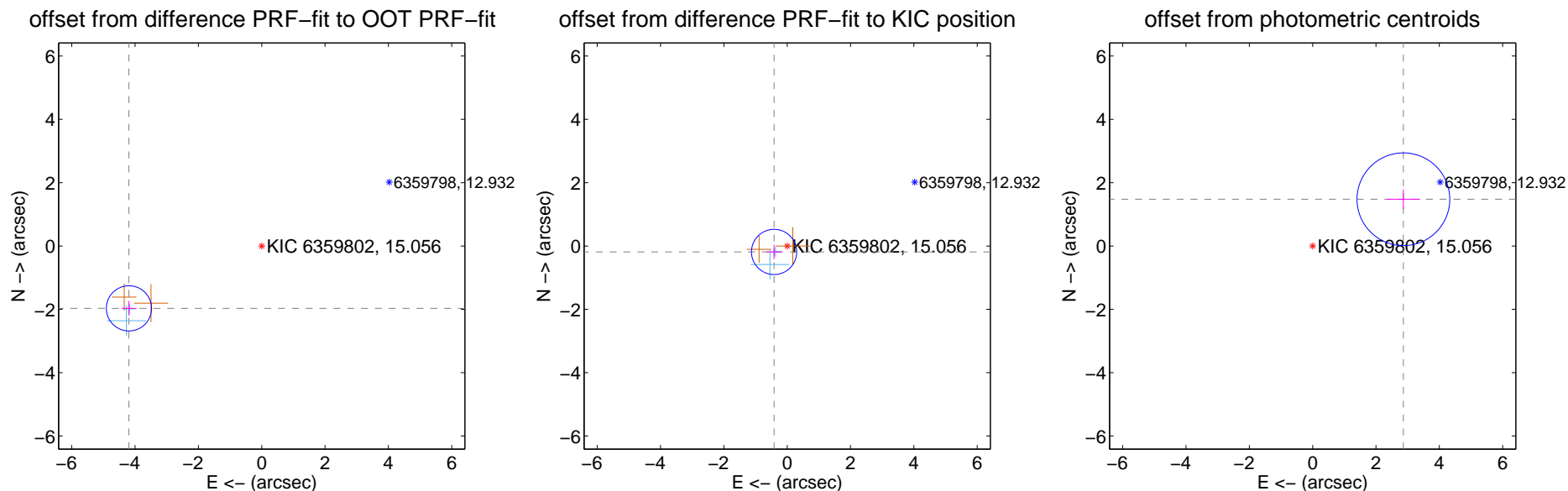
DV Centroid Data

Supplemental centroid analysis for 006359802-03. Kepler magnitude: 15.06. Transit SNR 7.29

There are 2 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 4.21 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.632 ± 0.238	19.47	4.192 ± 0.239	-1.969 ± 0.231
PRF-fit source offset from KIC position	0.454 ± 0.238	1.91	0.414 ± 0.239	-0.187 ± 0.231
photometric centroid source offset	3.22 ± 0.49	6.60	-2.86 ± 0.52	1.48 ± 0.31

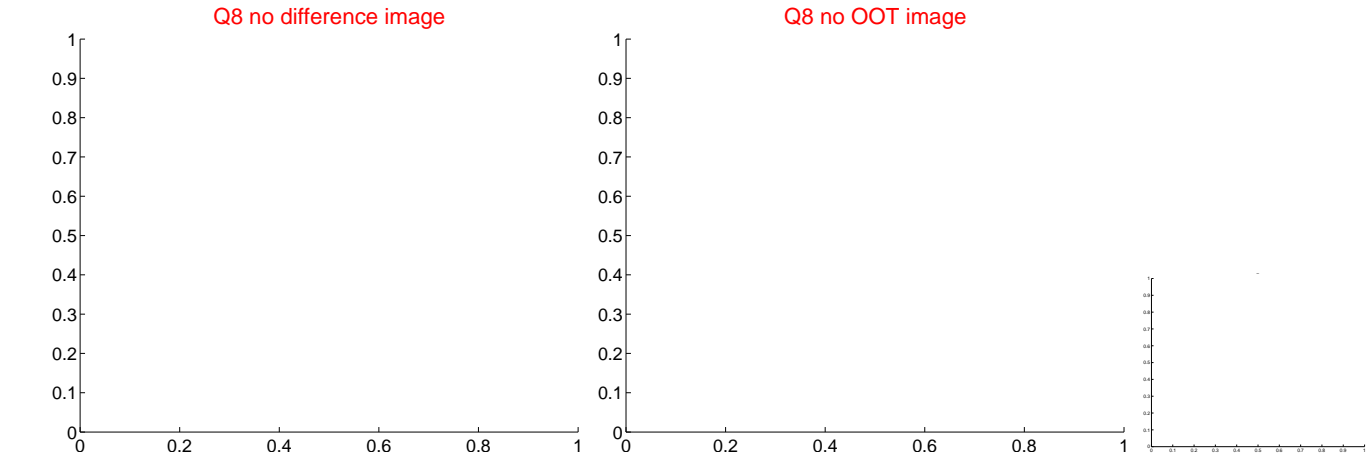
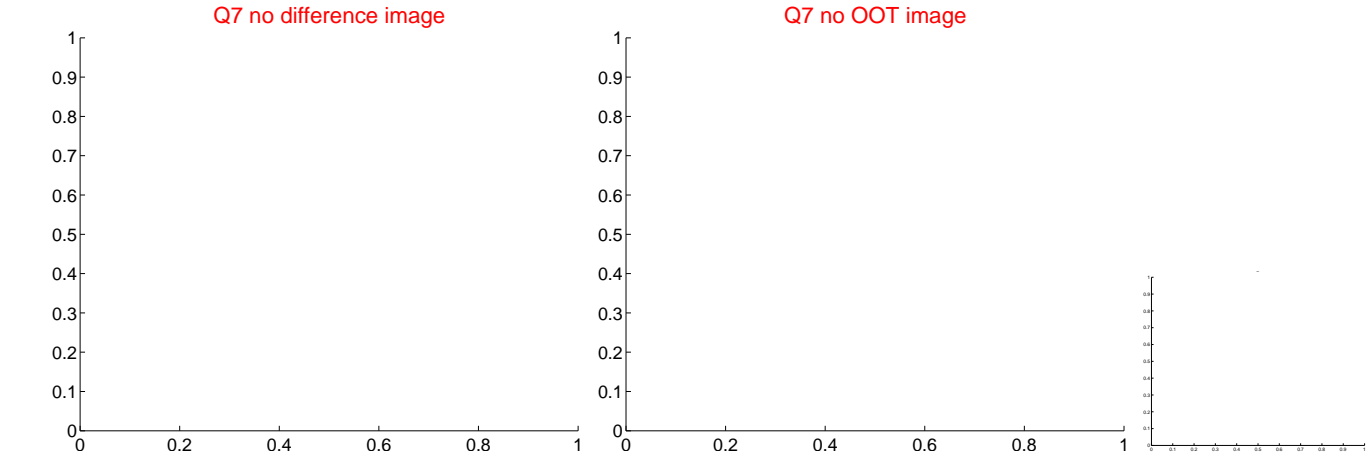
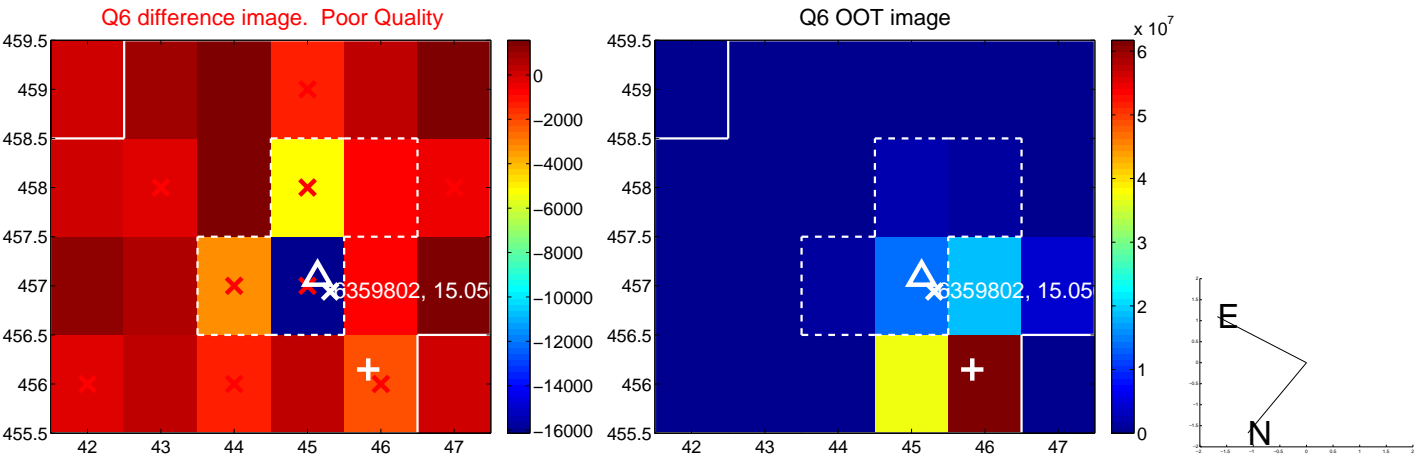
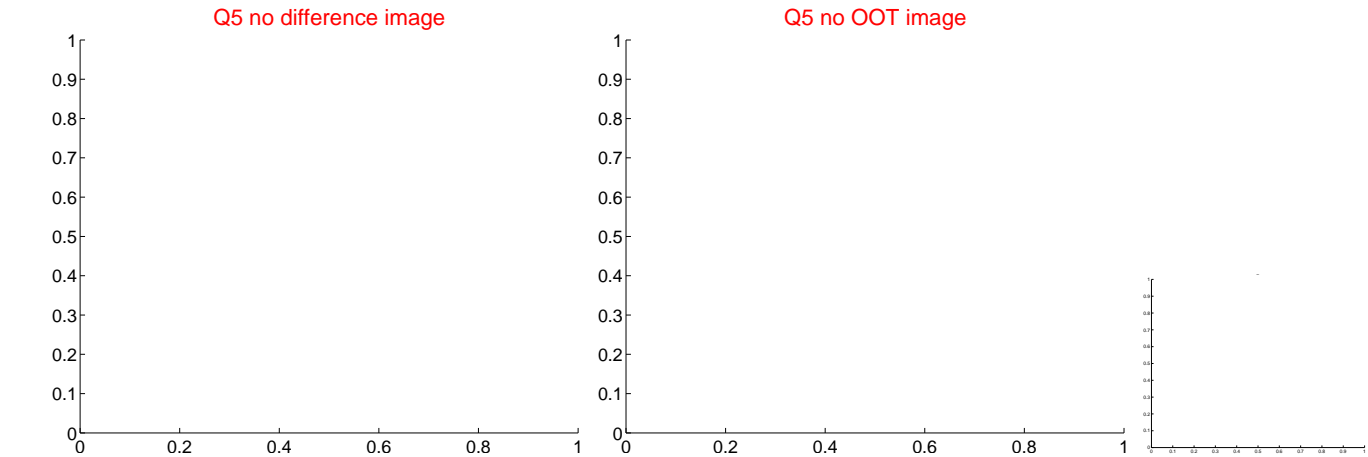


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

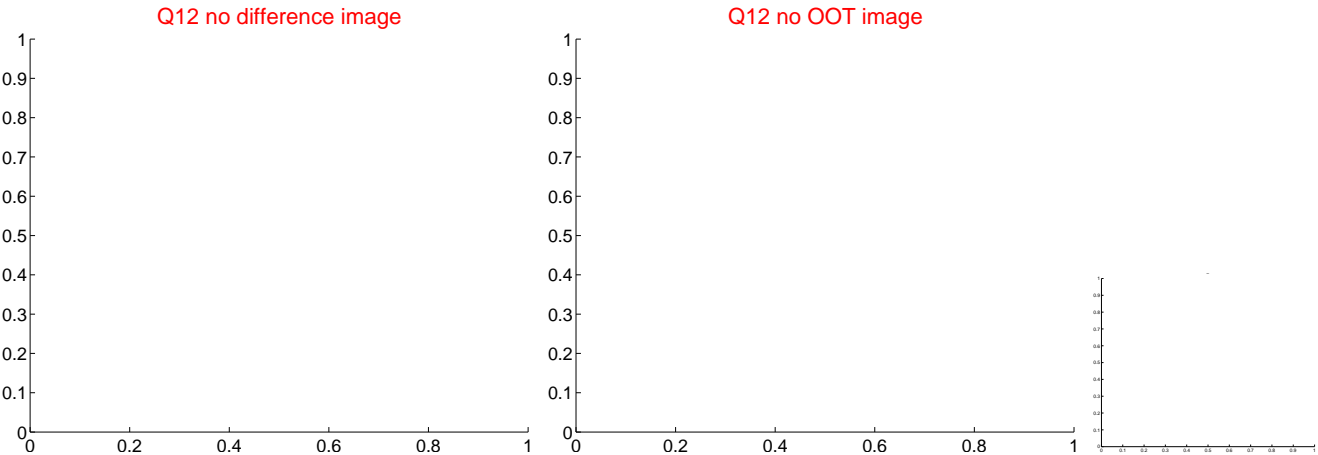
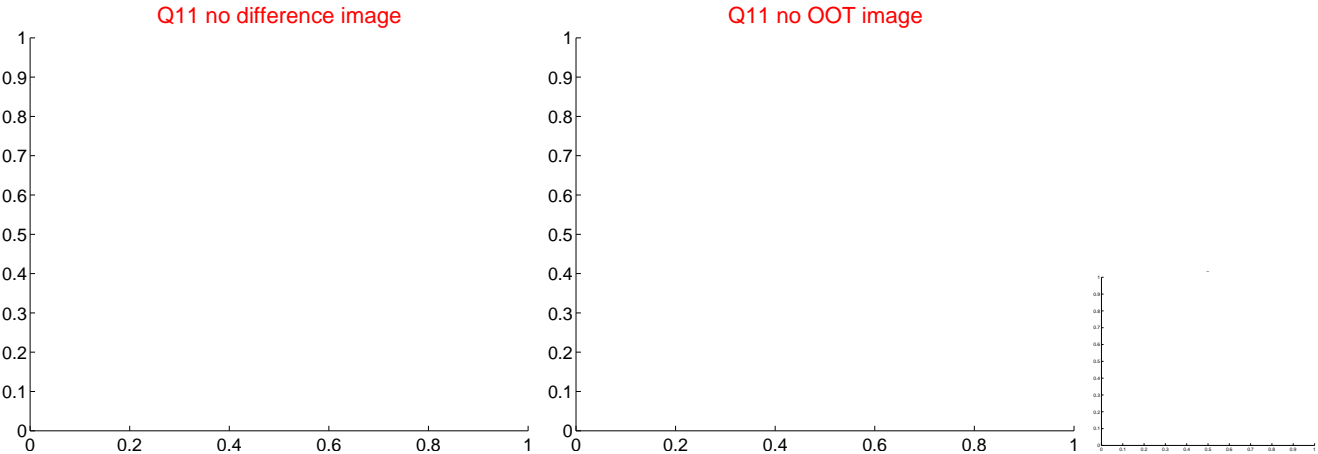
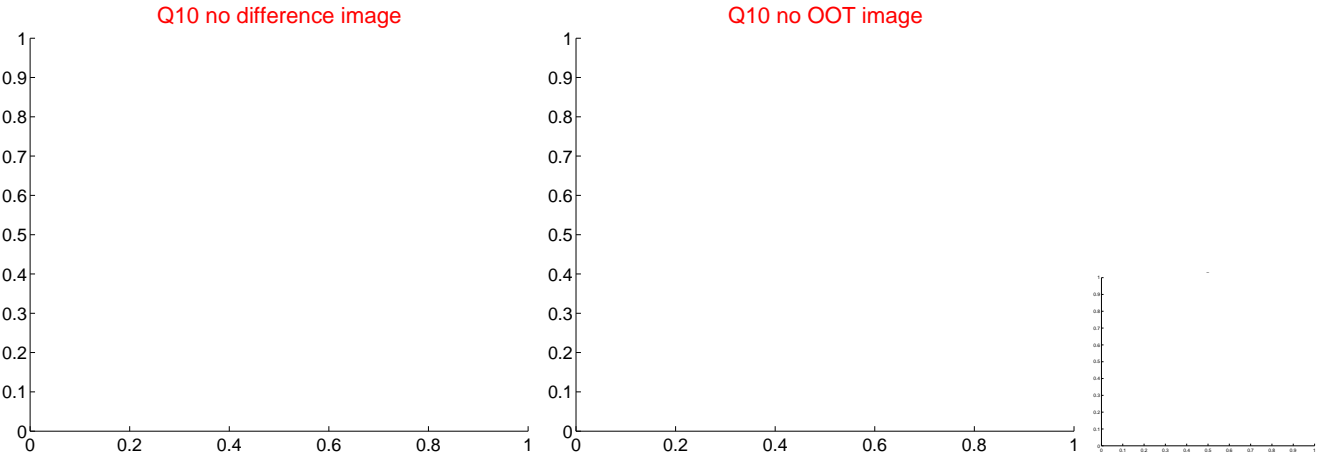
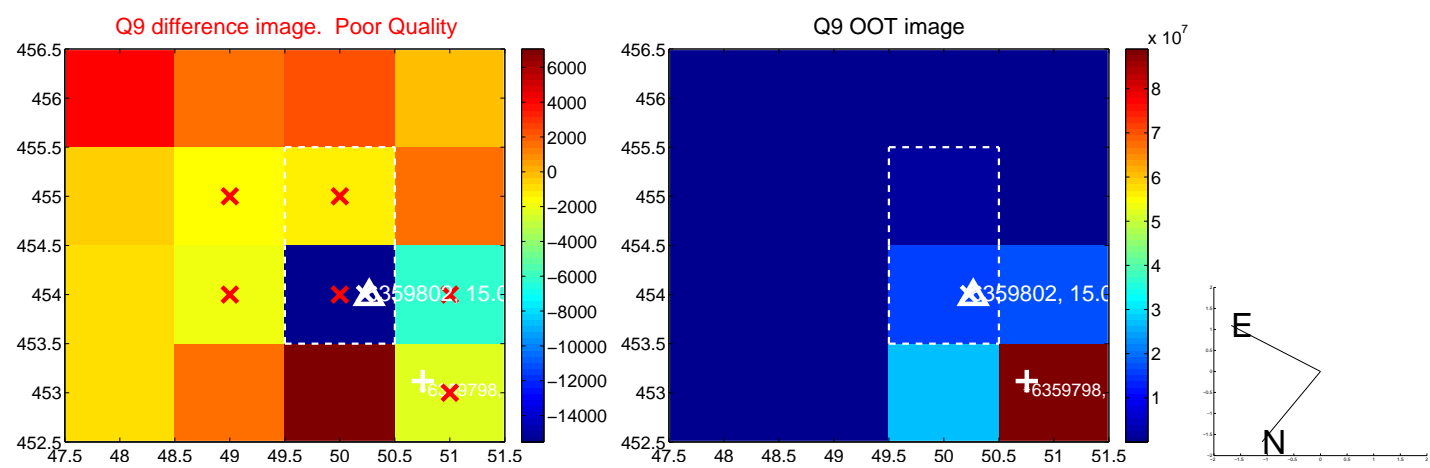
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



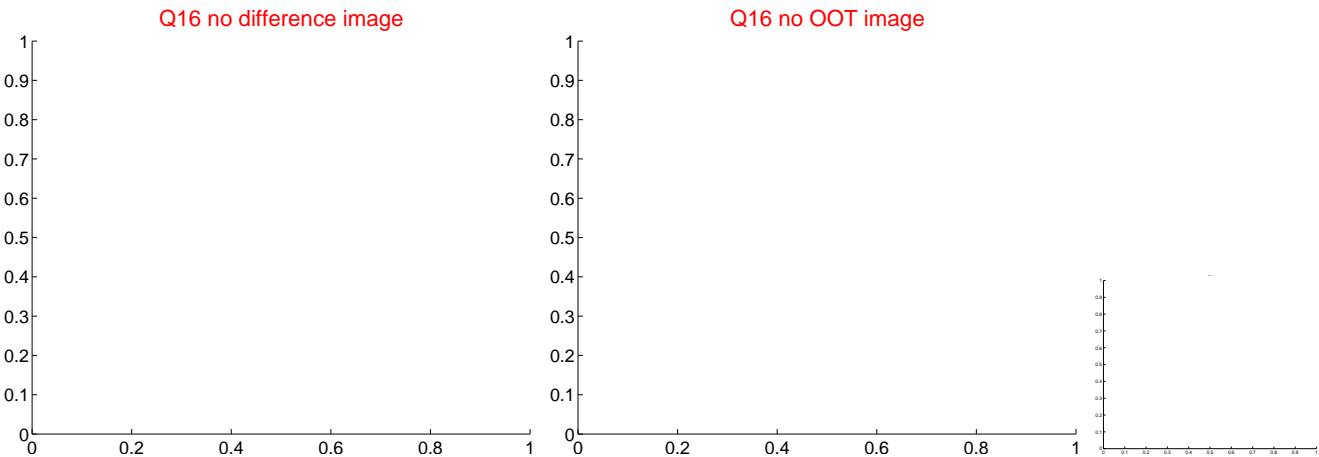
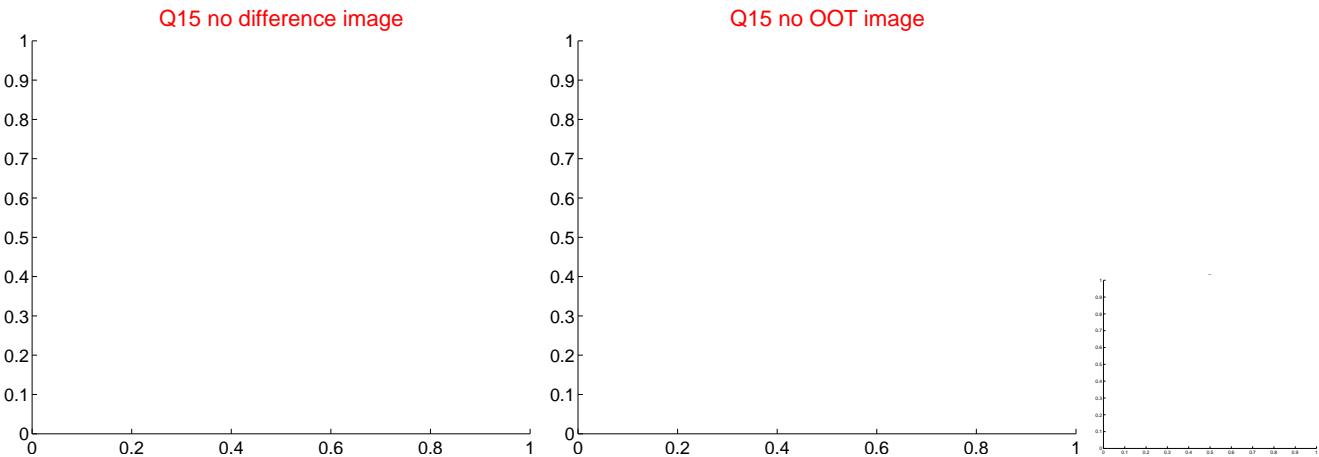
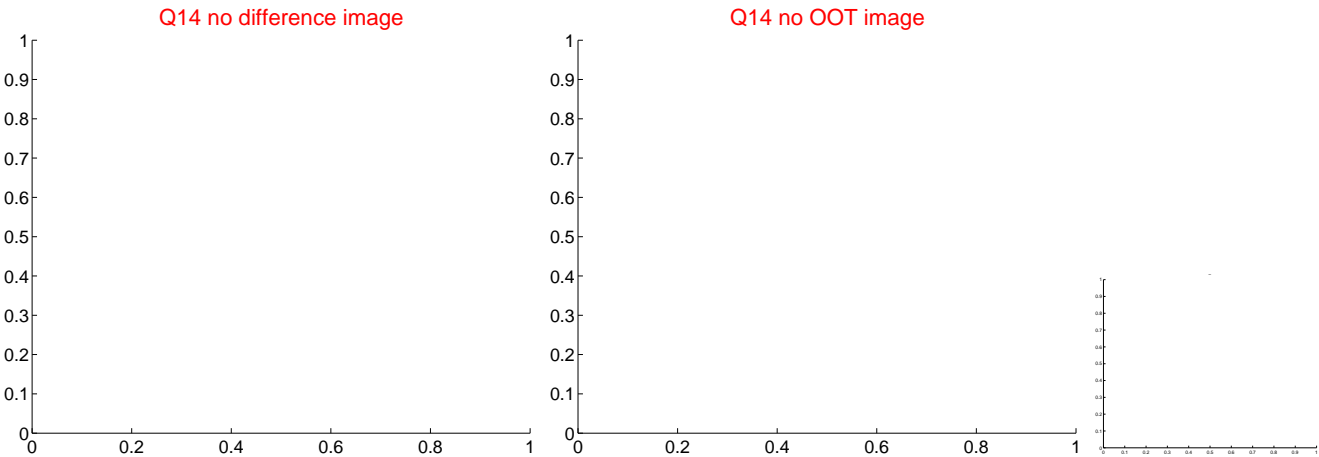
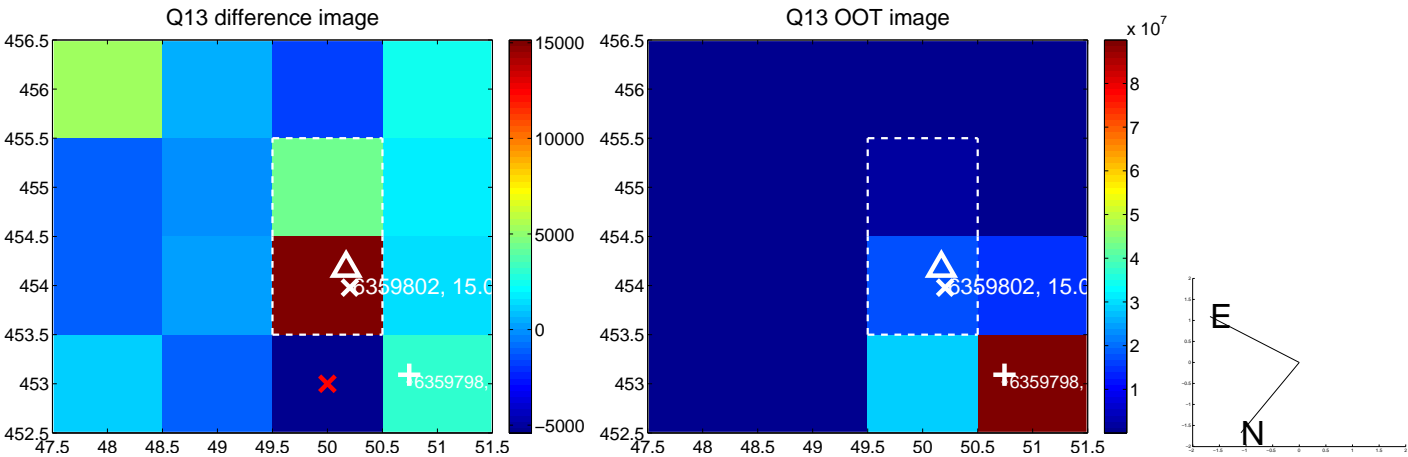
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



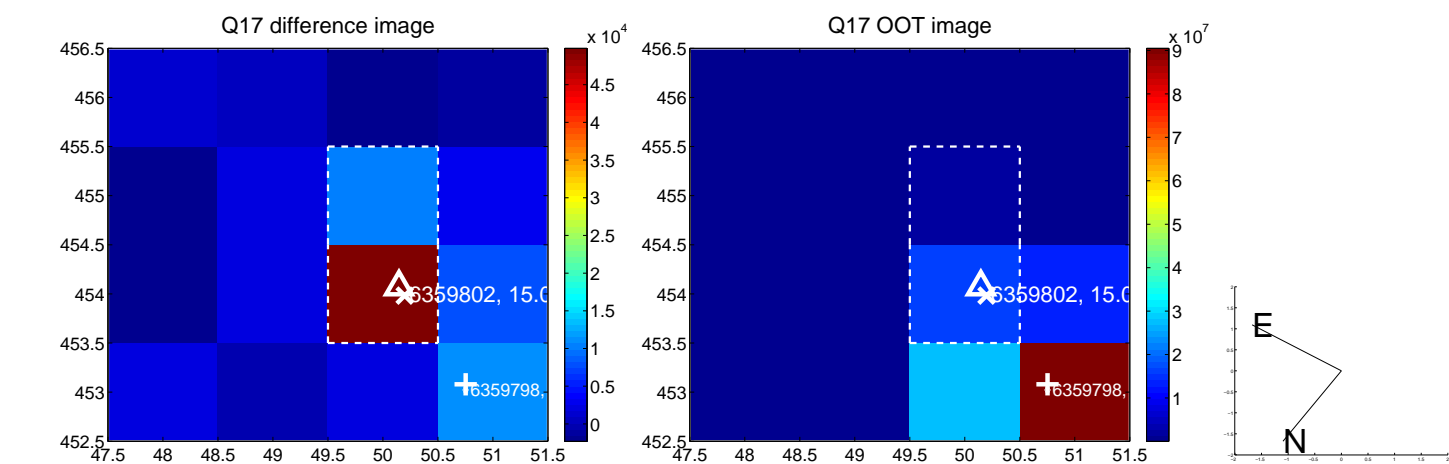
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



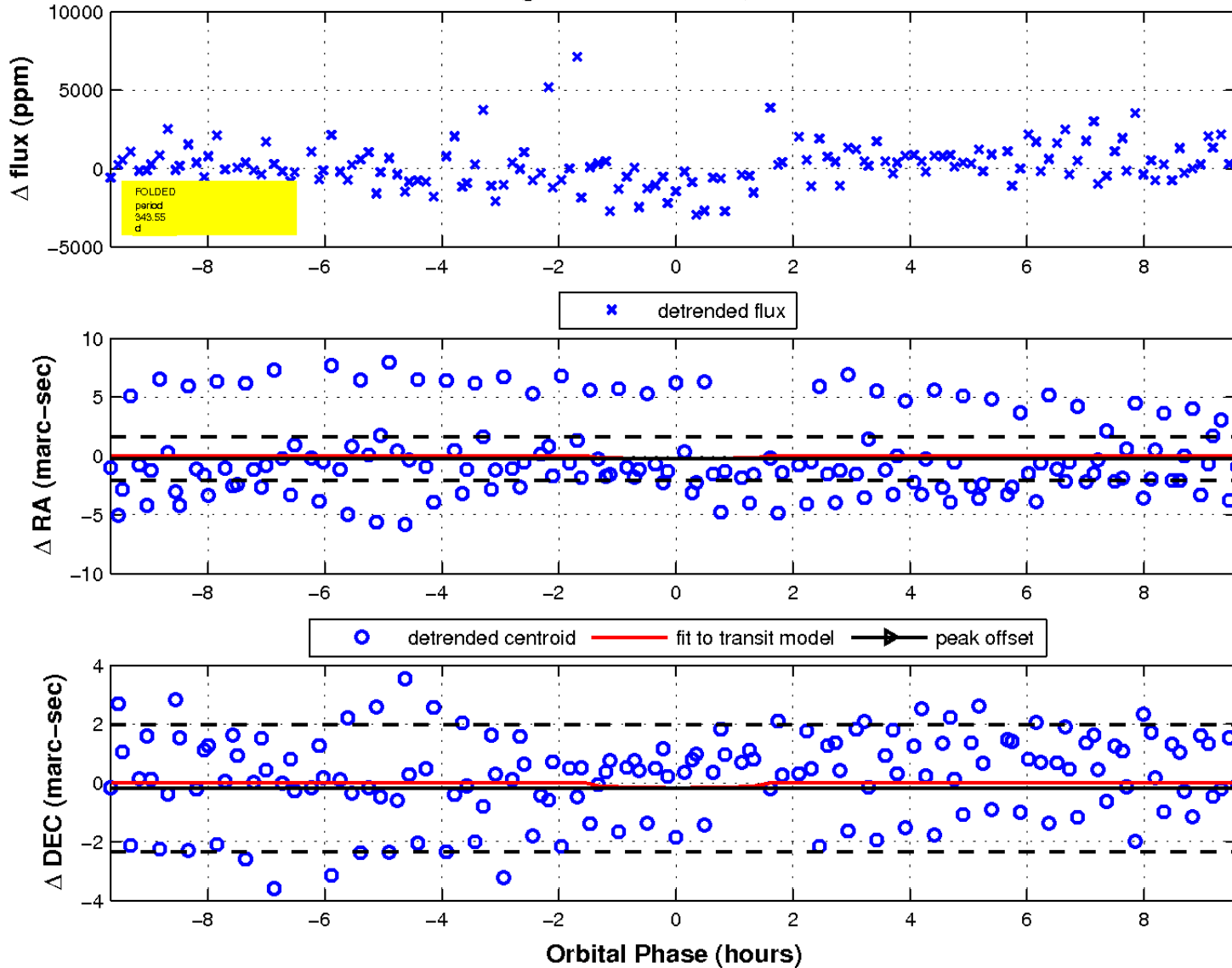
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

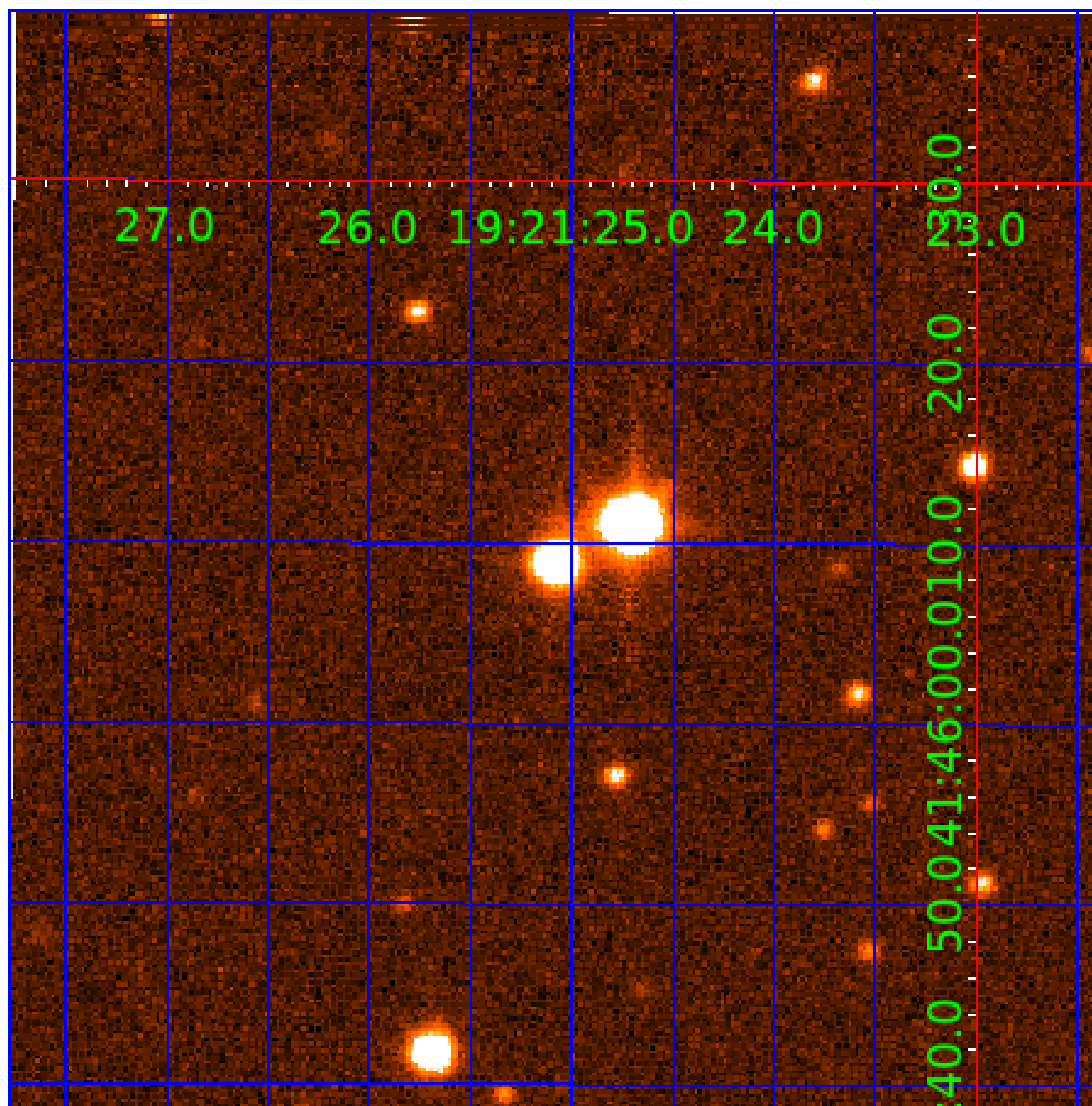


fluxWeightedCentroids, Planet 3 of 6



UKIRT Image

Declination



KIC 006359802

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})
006359802-01	OBS	3399.01	14.154020	140.698657	30154.8	4.605	563.9	239.0	0.66	4352	20.73	14.28
006359802-02	OBS	No	14.154039	144.175601	18230.1	4.215	250.1	152.0	0.66	4352	16.46	14.28
006359802-03	OBS	No	343.554795	204.569629	1787.7	3.222	9.7	7.3	0.66	4352	2.92	0.20
006359802-04	OBS	No	250.543175	281.124855	2455.4	5.286	15.0	5.9	0.66	4352	3.12	0.31
006359802-05	OBS	No	181.677236	200.290413	1973.0	2.680	9.0	6.1	0.66	4352	2.80	0.47
006359802-06	OBS	No	1.417006	132.464119	2343.2	1.500	8.1	-1.0	0.66	4352	3.08	307.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006359802-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—SEASONAL_DEPTH_DV—SEASONAL_DEPTH_ALT—CENT_KIC_POS—HALO_GHOST—EPHEM_MATCH
006359802-02	OBS	FP	0.00	1	1	1	1	IS_SEC_TCE—CENT_KIC_POS—HALO_GHOST—EPHEM_MATCH
006359802-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_ALT—CENT_FEW_DIFFS
006359802-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006359802-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006359802-06	OBS	FP	0.00	1	0	0	0	MOD_NONUNIQ_ALT—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 006359802-04

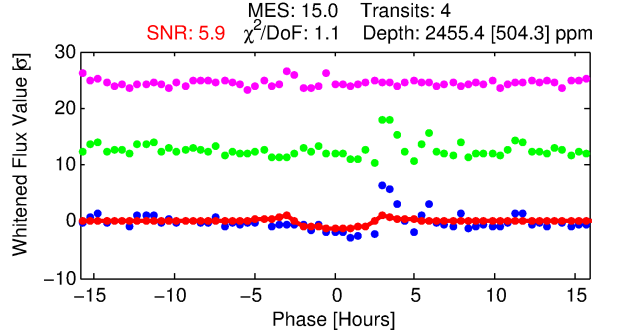
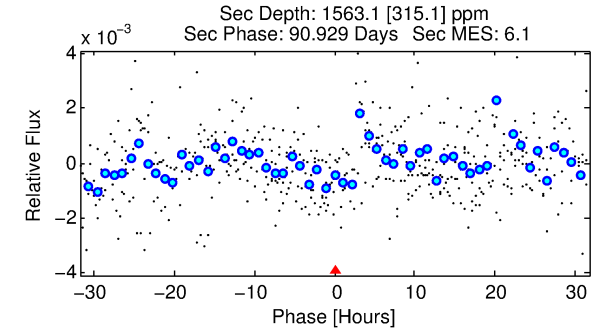
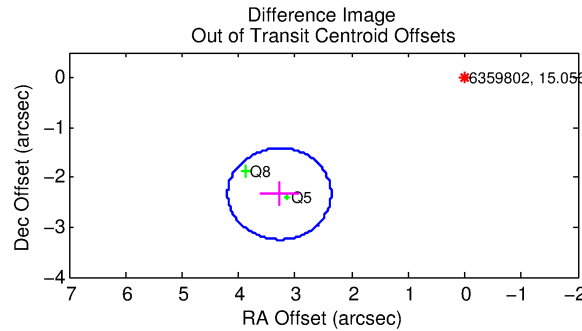
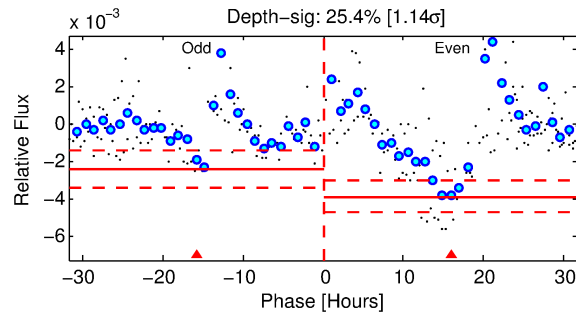
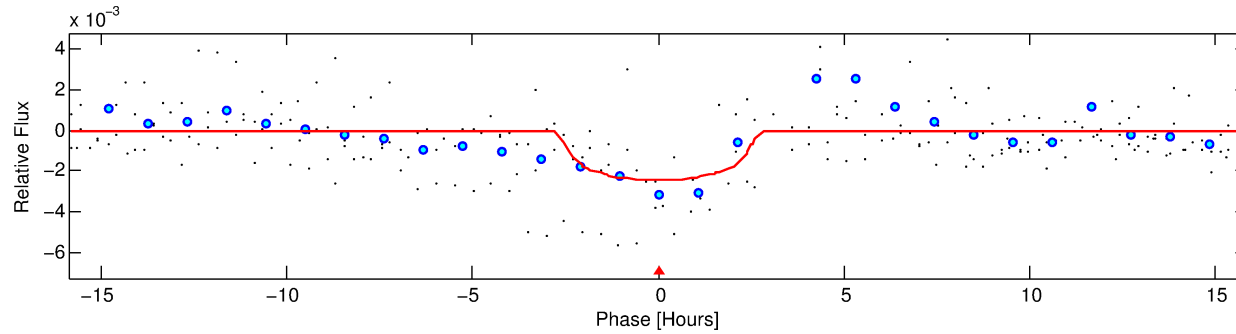
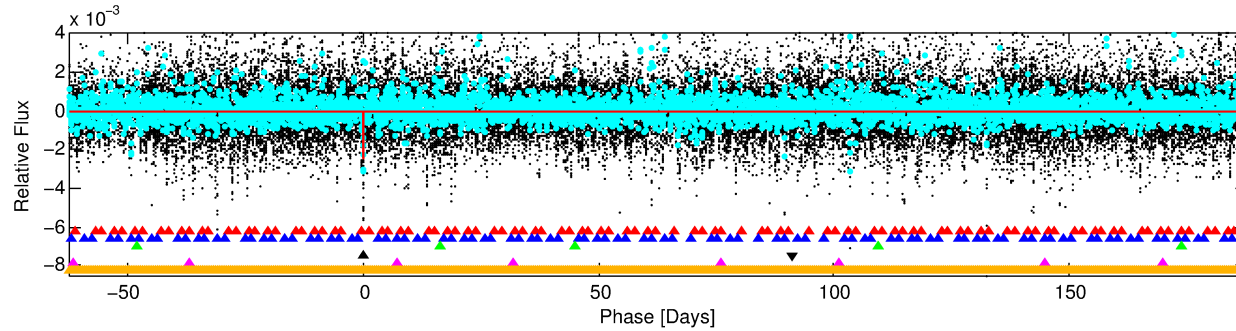
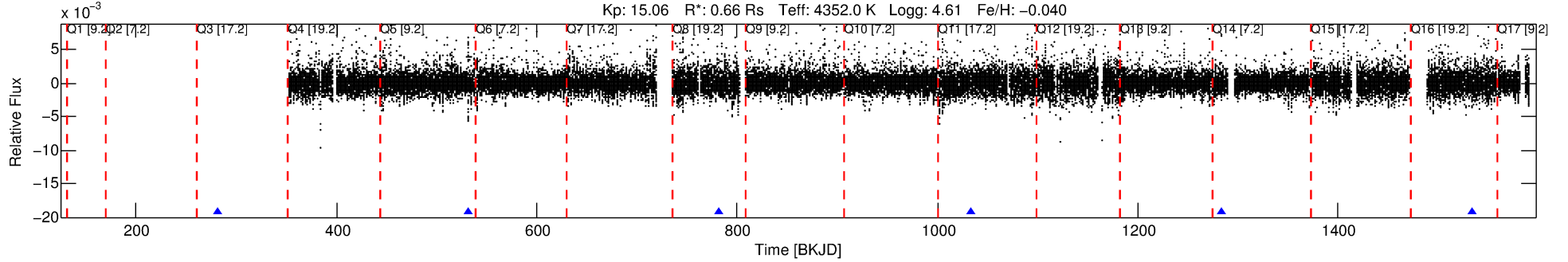
No Significant Match Found

DV One-Page Summary

KIC: 6359802 Candidate: 4 of 6 Period: 250.543 d

KOI: K03399 Corr: No Ephemeris Match

Kp: 15.06 R*: 0.66 Rs Teff: 4352.0 K Logg: 4.61 Fe/H: -0.040



DV Fit Results:

Period = 250.54318 [0.00347] d
Epoch = 281.1249 [0.0120] BKJD
Rp/R* = 0.0433 [0.0602]
a/R* = 377.79 [1506.38]
b = 0.01 [683.63]
Seff = 0.31 [0.05]
Teq = 190 [8] K
Rp = 3.12 [4.35] Re
a = 0.6736 [0.0477] AU
Ag = 40024.11 [111679.43] [0.36σ]
Teffp = 4159 [2903] K [1.37σ]

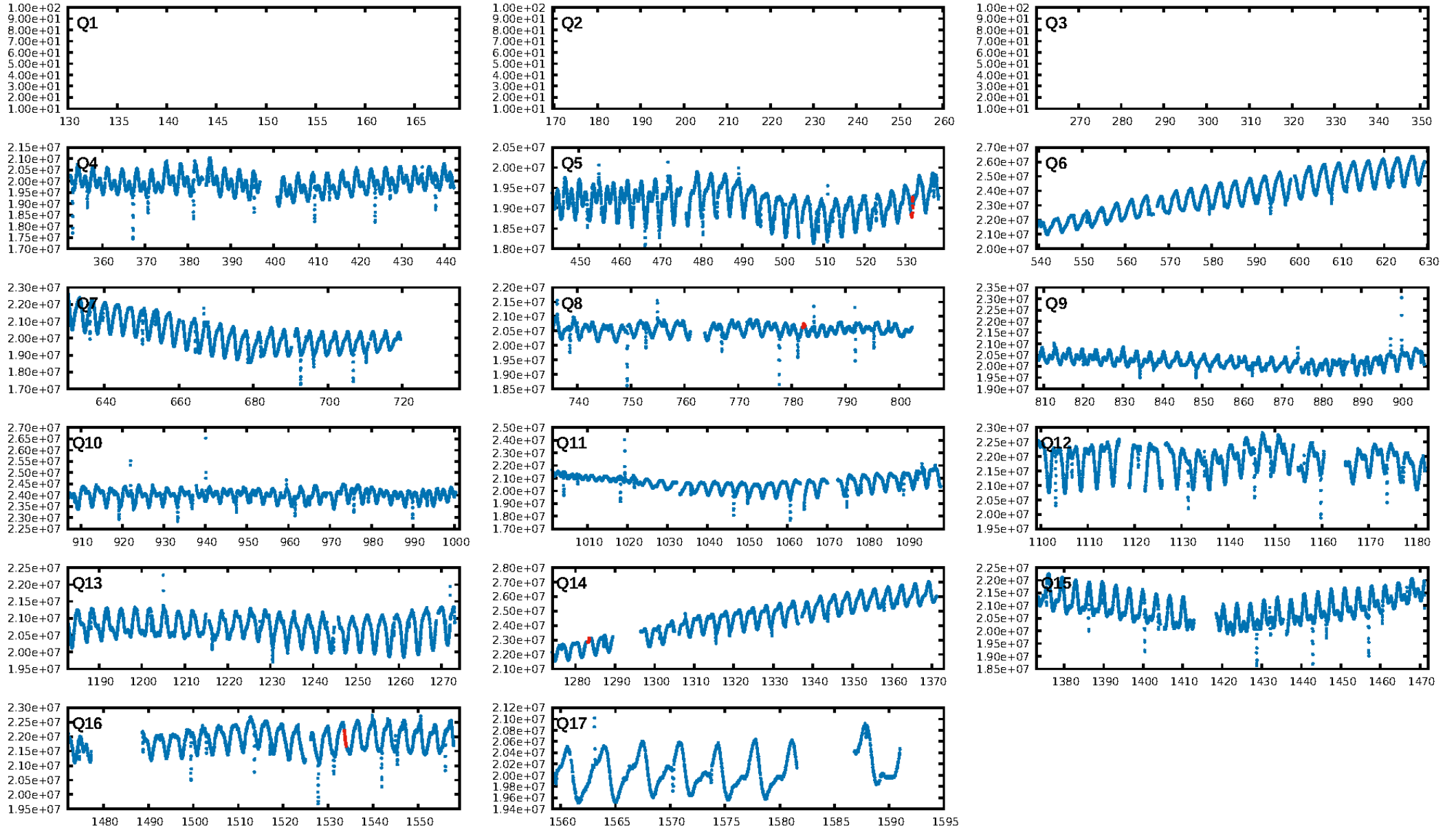
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [278.89σ]
LongPeriod-sig: 100.0% [360.63σ]
ModelChiSquare2-sig: 0.5%
ModelChiSquareGof-sig: 97.5%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 2.553
Centroid-sig: 1.4%
Centroid-so: 3.309 arcsec [8.64σ]
OotOffset-rm: 4.026 arcsec [13.20σ]
KicOffset-rm: 0.691 arcsec [2.21σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 0.50 [1/2]

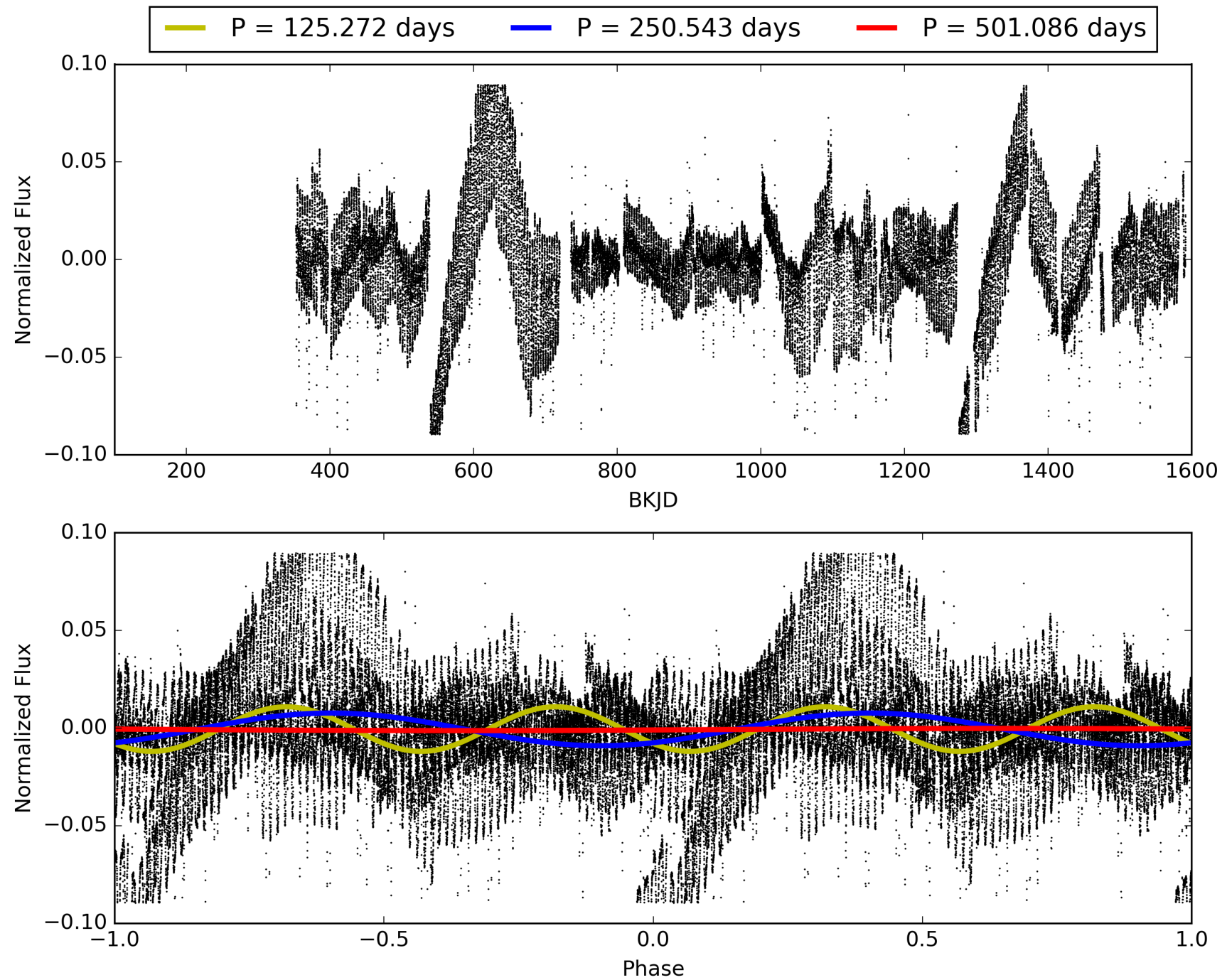
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:12:55 Z

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

TCE 006359802-04, PDC Light Curves

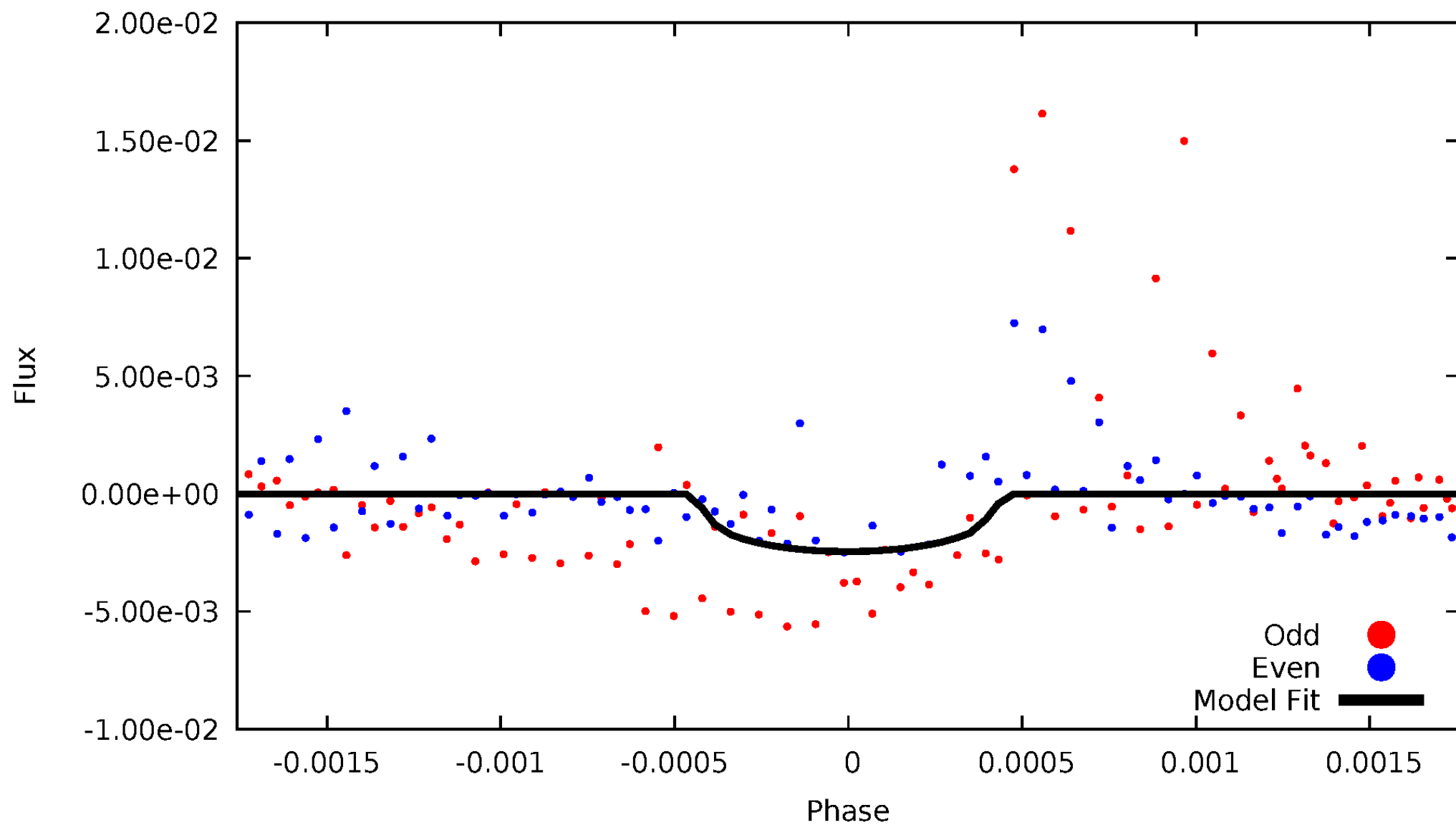


TCE 006359802-04



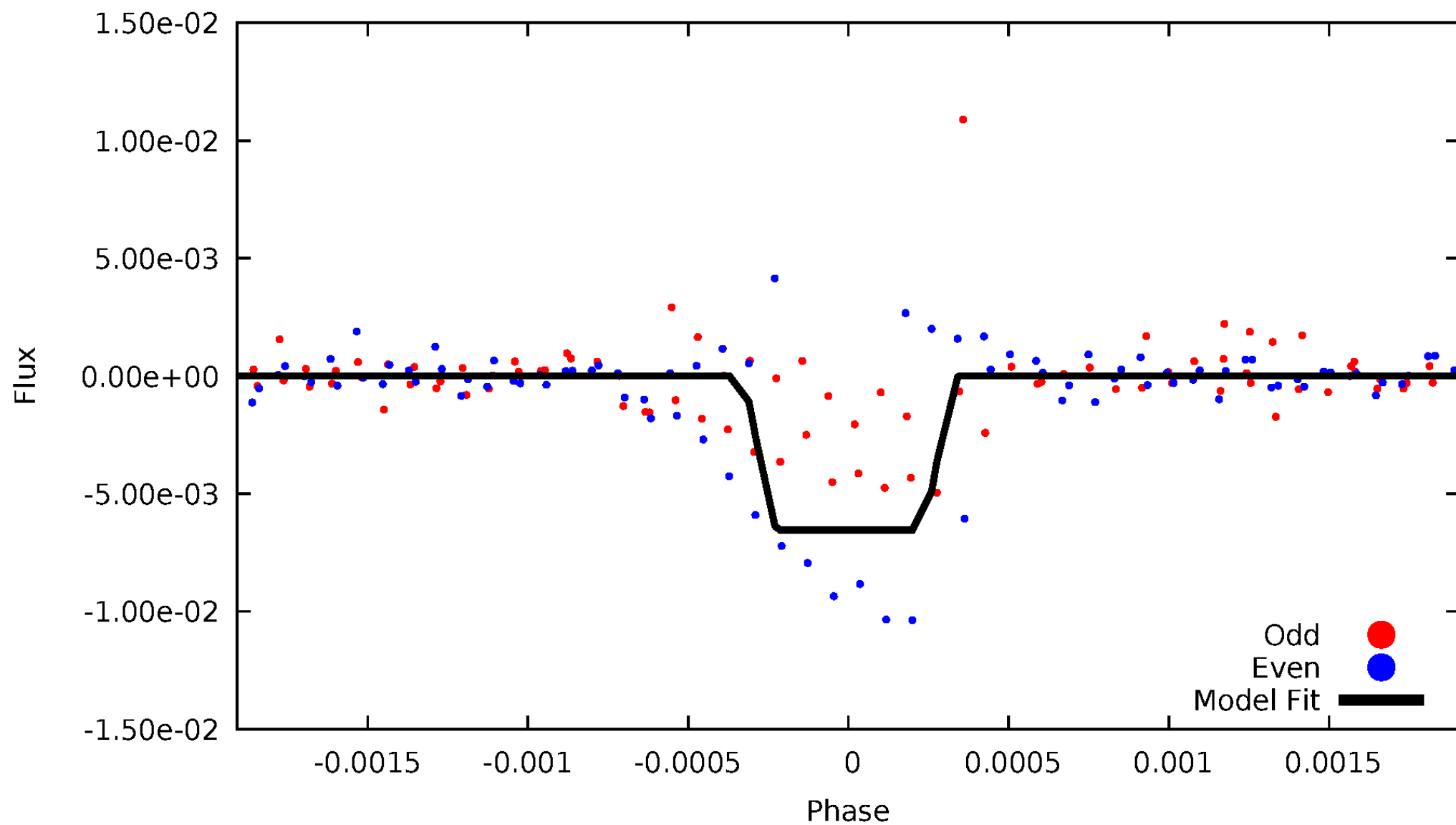
DV Odd/Even

TCE 006359802-04



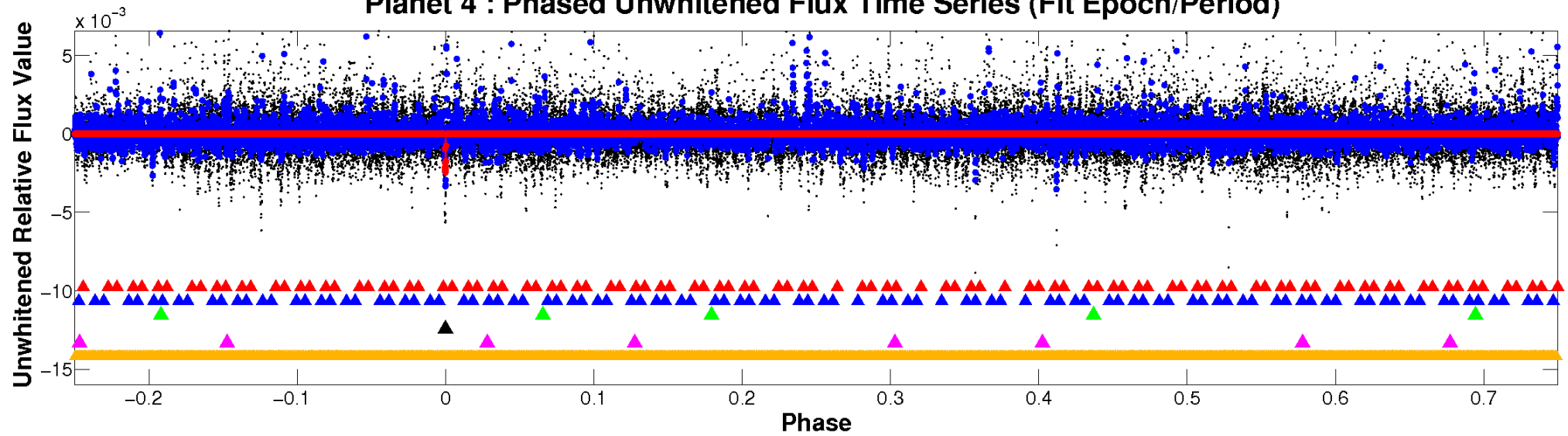
ALT Odd/Even

TCE 006359802-04

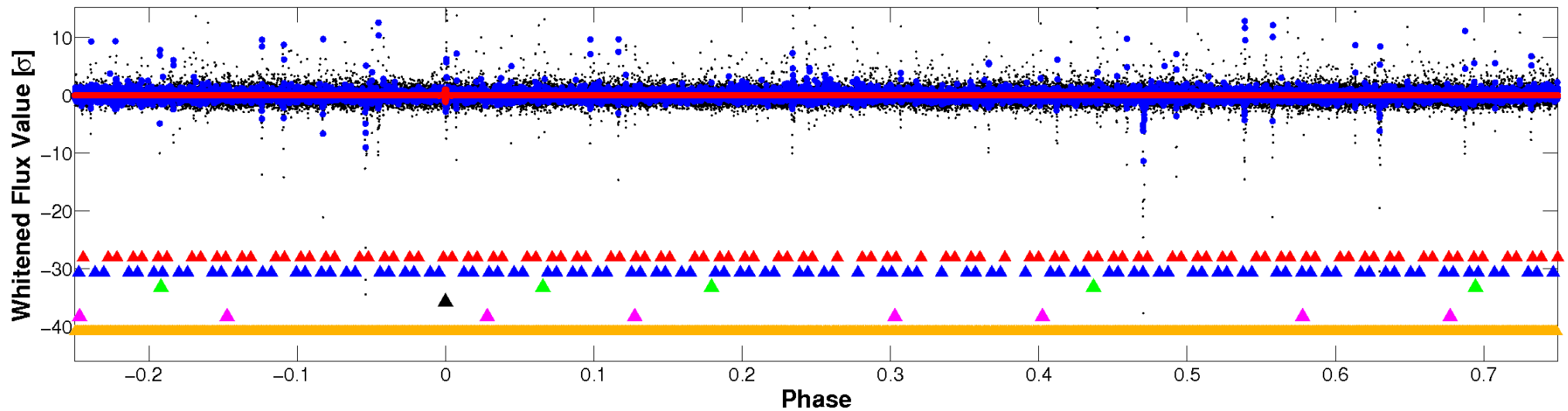


Non-Whitened Vs. Whitened Light Curve

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

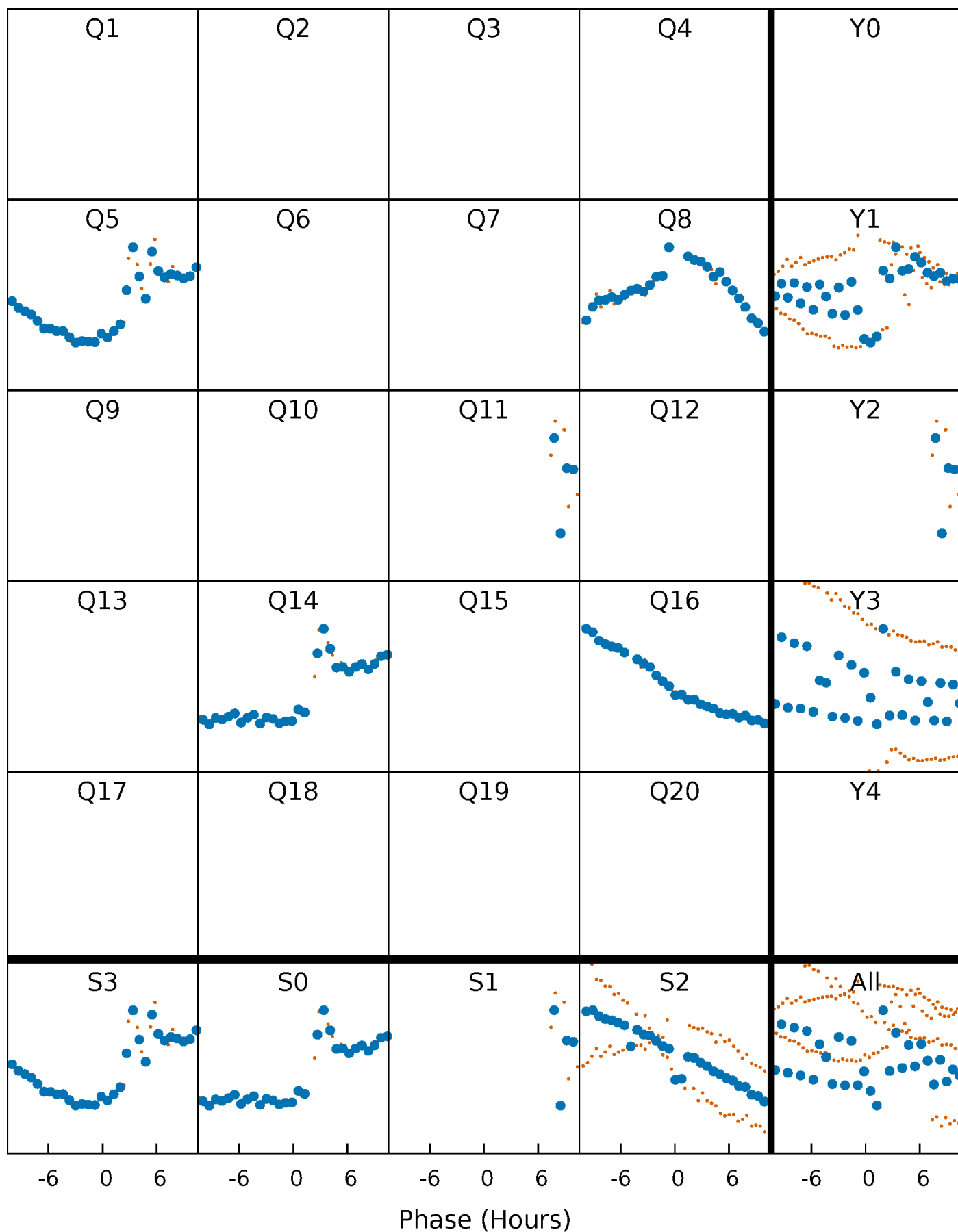


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



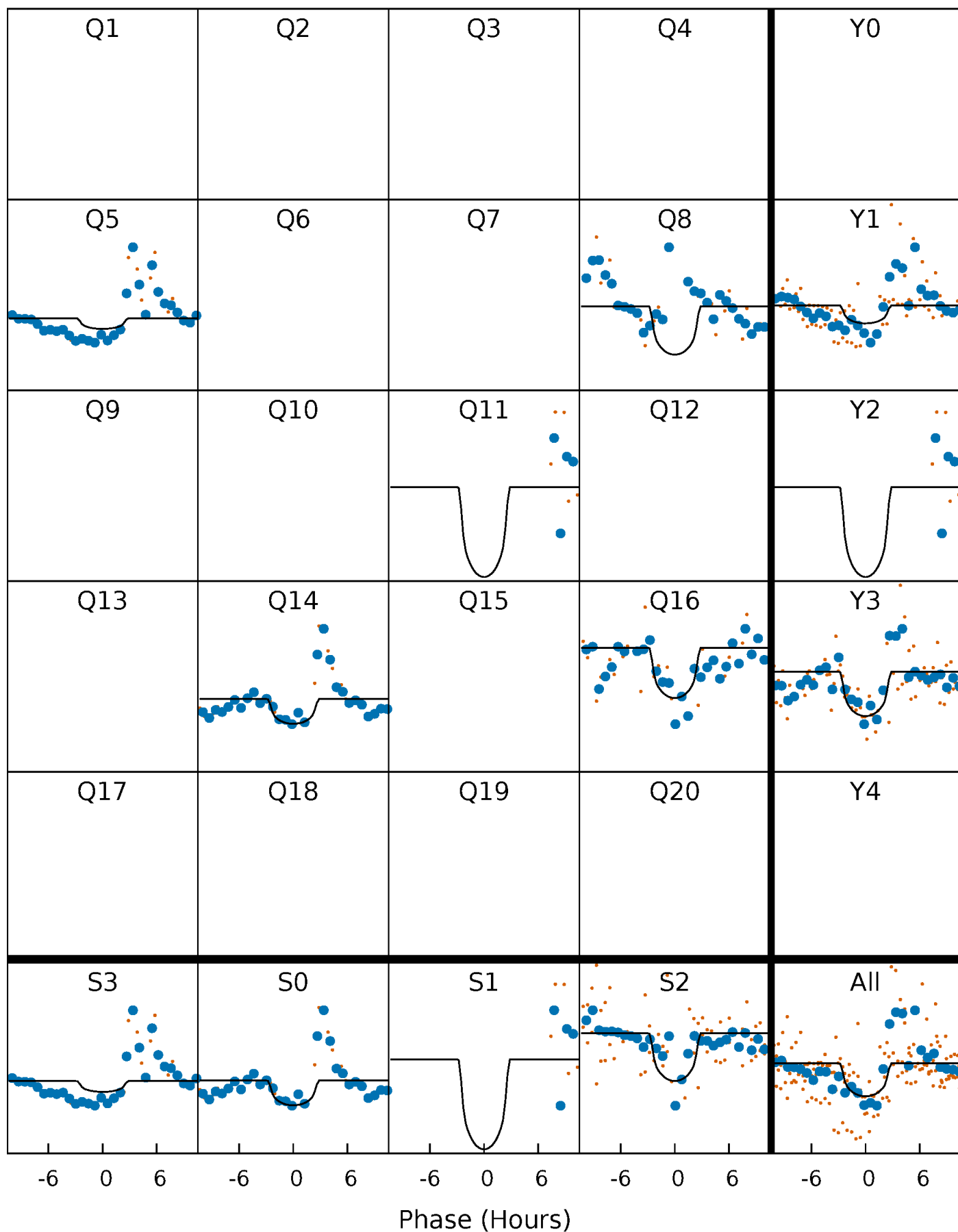
PDC Quarter-Phased Transit Curves

TCE 006359802-04 $P=250.543175$ Days $T_0=281.124855$ (BKJD)



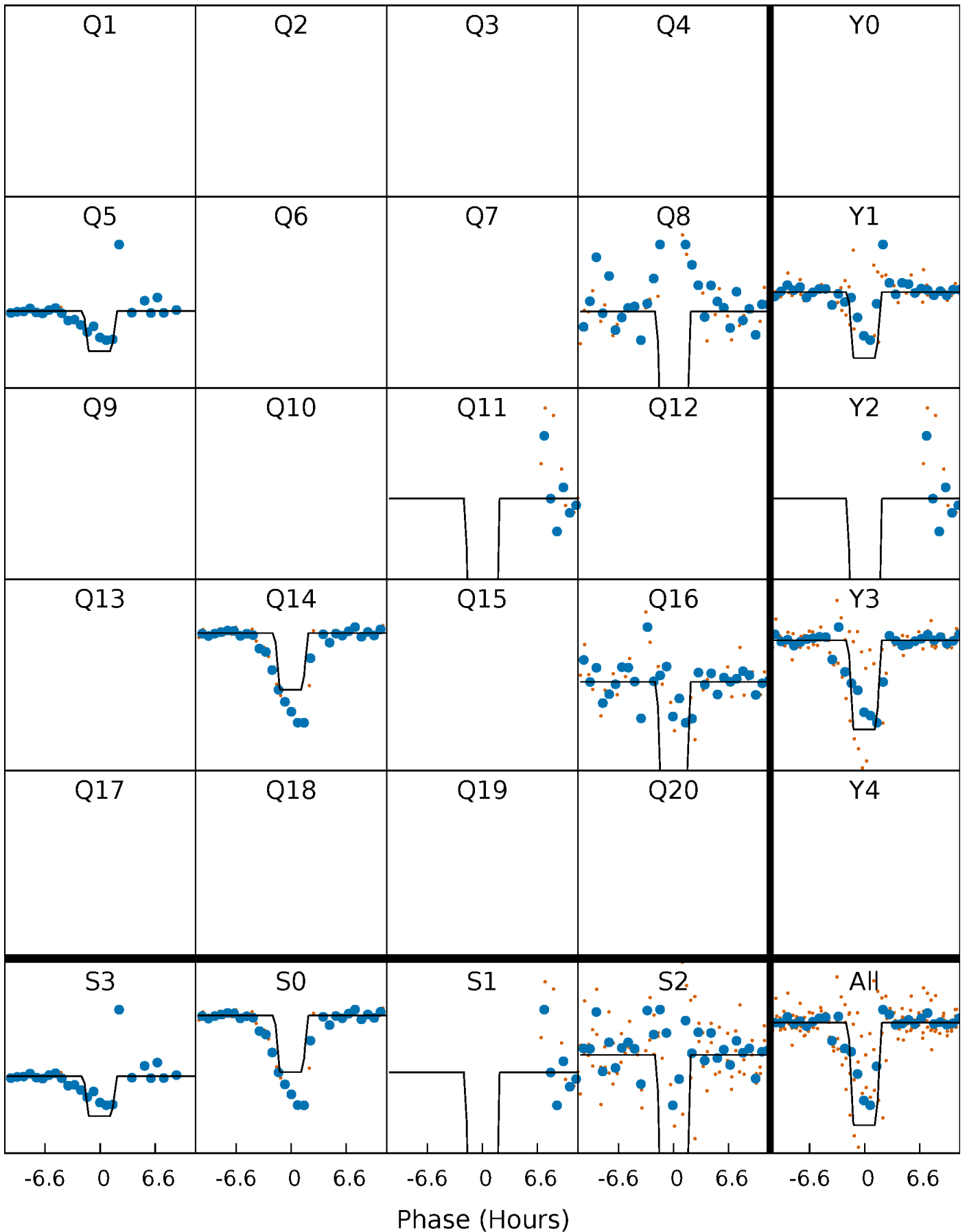
DV Quarter-Phased Transit Curves

TCE 006359802-04 $P=250.543175$ Days $T_0=281.124855$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

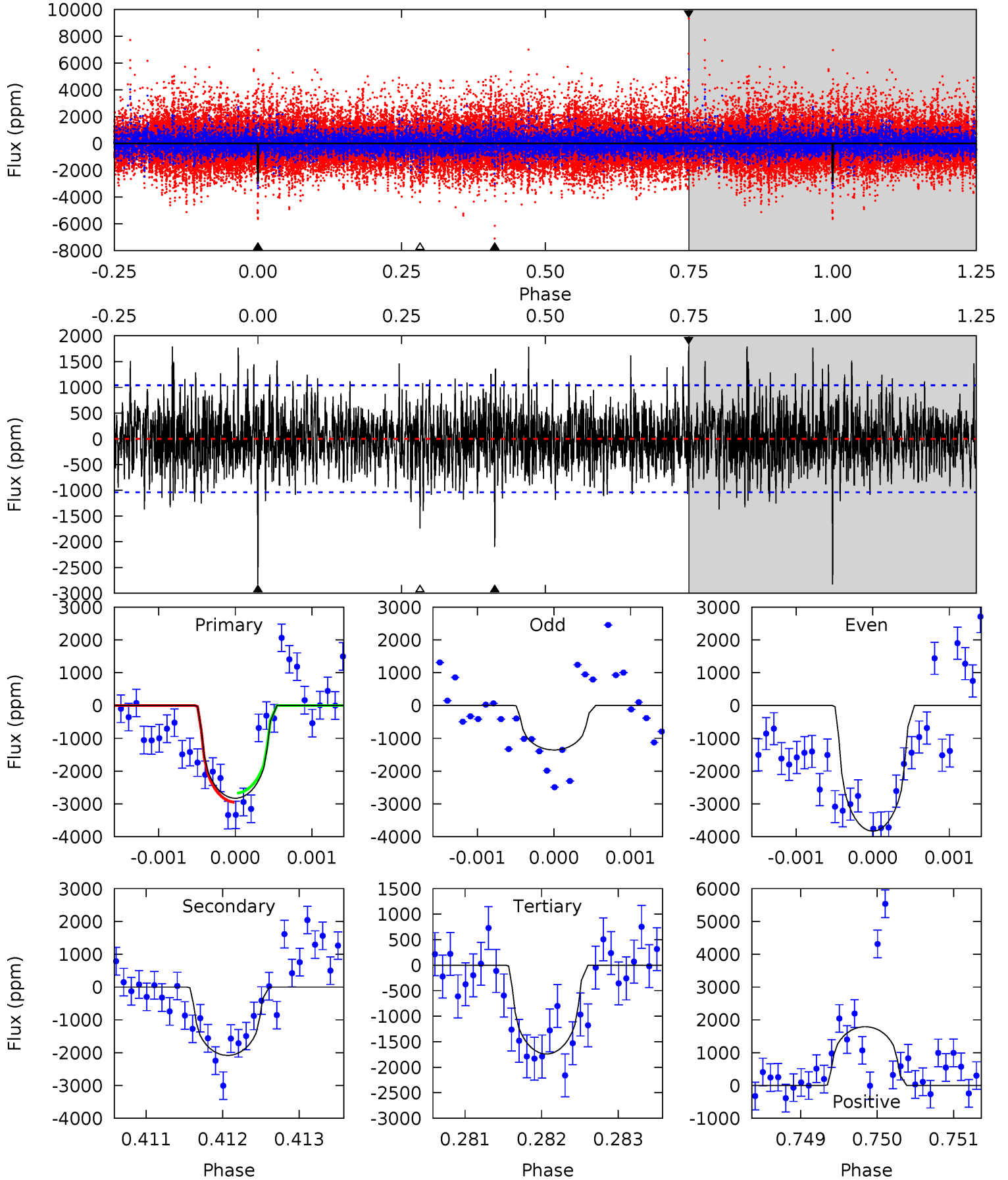
TCE 006359802-04 $P=250.536046$ Days $T_0=281.161676$ (BKJD)



DV Model-Shift Uniqueness Test

006359802-04, P = 250.543175 Days, E = 281.124855 Days

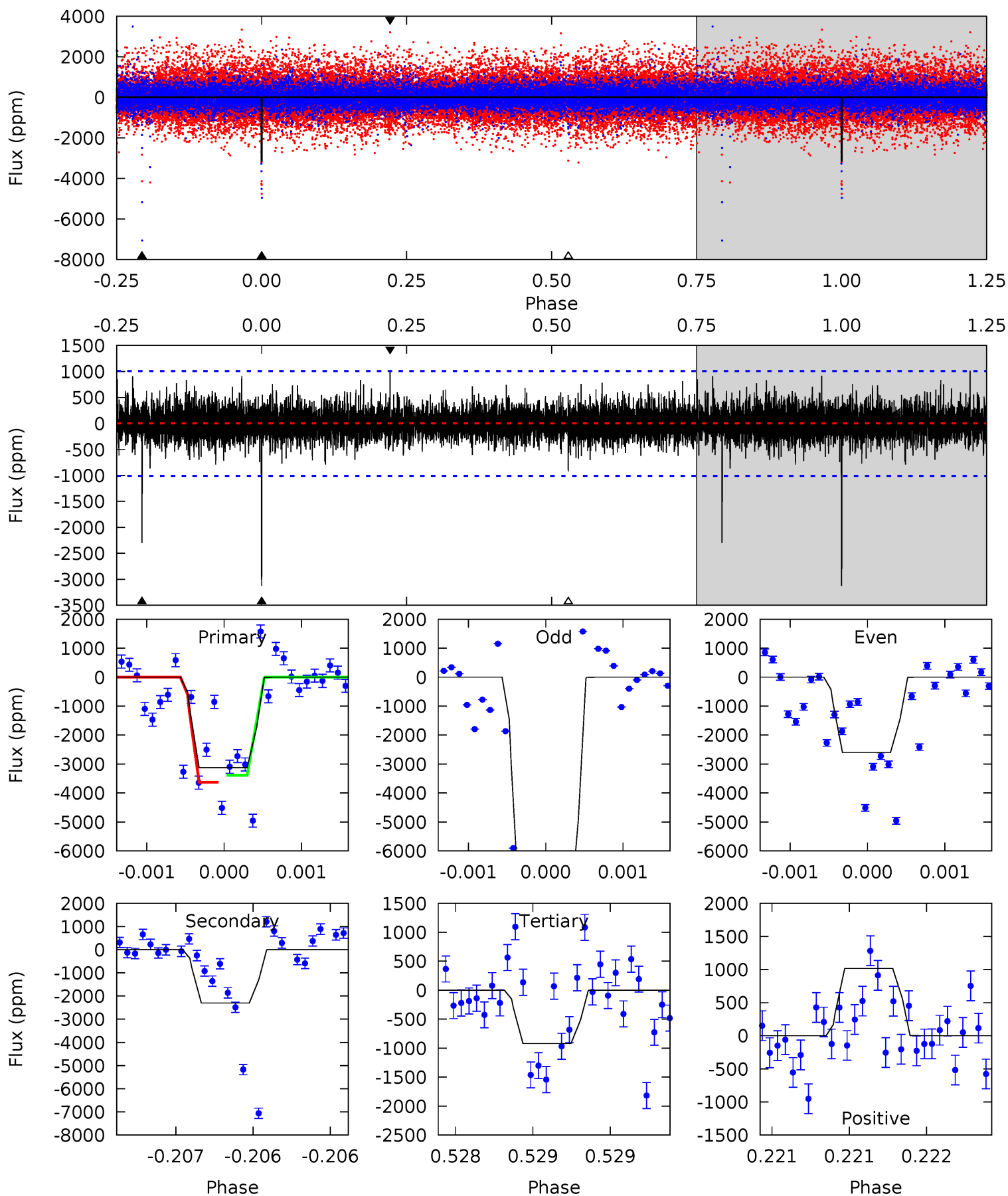
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.9	11.0	9.16	9.42	5.46	3.31	2.32	5.72	5.45	1.80	1.54	6.02	0.98	0.39	0.72



Alt Model-Shift Uniqueness Test

006359802-04, P = 250.536046 Days, E = 281.161676 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.1	12.6	5.05	5.57	5.53	3.41	1.08	12.1	11.6	7.56	7.04	20.8	1.08	0.25	0



Stellar Parameters For KIC 006359802

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4352^{+153}_{-153}	$4.610^{+0.052}_{-0.021}$	$-0.040^{+0.300}_{-0.300}$	$0.661^{+0.042}_{-0.058}$	$0.650^{+0.065}_{-0.058}$	$3.165^{+0.740}_{-0.339}$
	+4%/-4%	+1%/-0%	+750%/-750%	+6%/-9%	+10%/-9%	+23%/-11%
Source	KIC0	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 006359802-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2084 ± 190	$4.64^{+3.46}_{-3.04}$	264^{+11}_{-10}	3846^{+2069}_{-649}	$25028^{+178210}_{-17006}$
Alt.	-2300 ± 182	$6.23^{+4.13}_{-3.29}$	264^{+10}_{-11}	3526^{+1173}_{-504}	14864^{+53610}_{-9404}

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

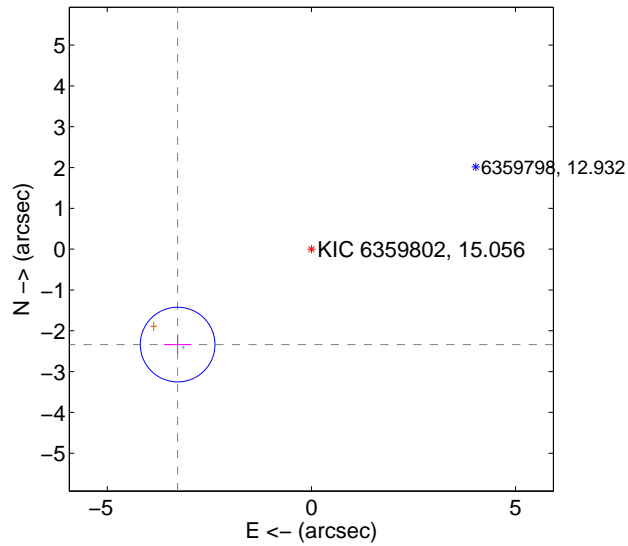
Supplemental centroid analysis for 006359802-04. Kepler magnitude: 15.06. Transit SNR 5.93

There are 1 quarters with good PRF difference image offsets

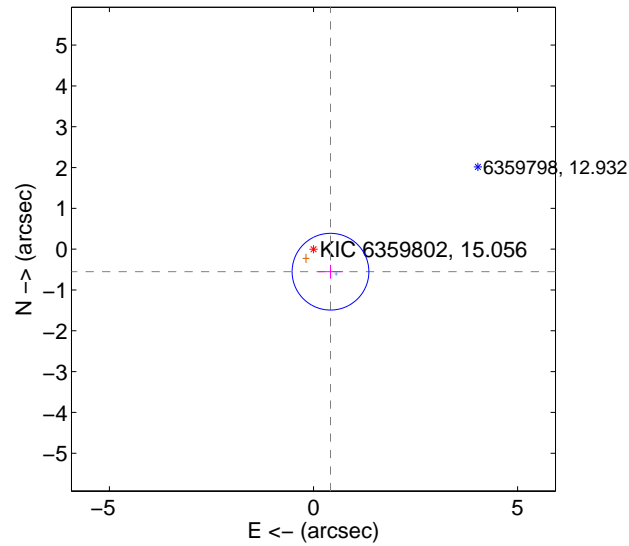
The OOT PRF centroid is offset from the target star catalog position by about 4.04 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.026 ± 0.305	13.20	3.278 ± 0.338	-2.337 ± 0.227
PRF-fit source offset from KIC position	0.691 ± 0.313	2.21	-0.416 ± 0.309	-0.552 ± 0.169
photometric centroid source offset	3.31 ± 0.38	8.64	-3.15 ± 0.39	1.01 ± 0.25

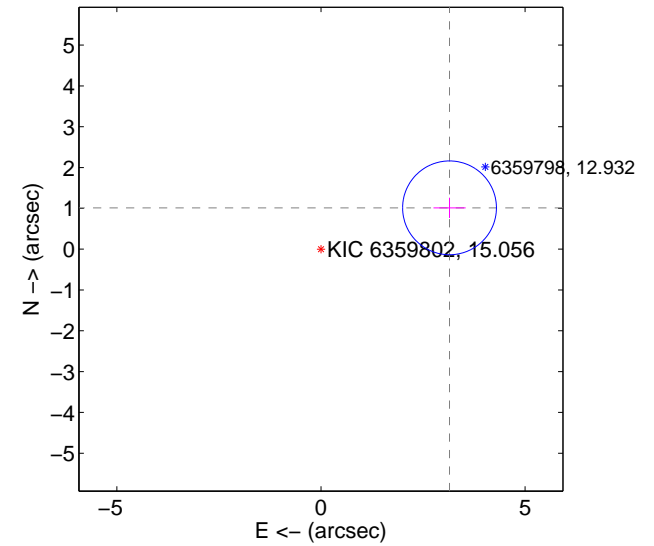
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

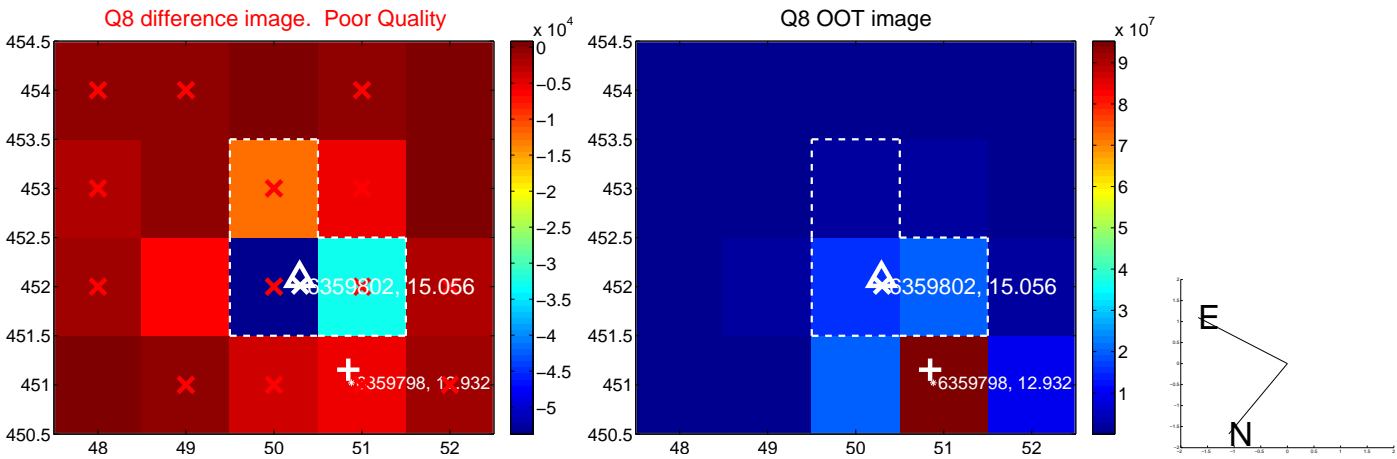
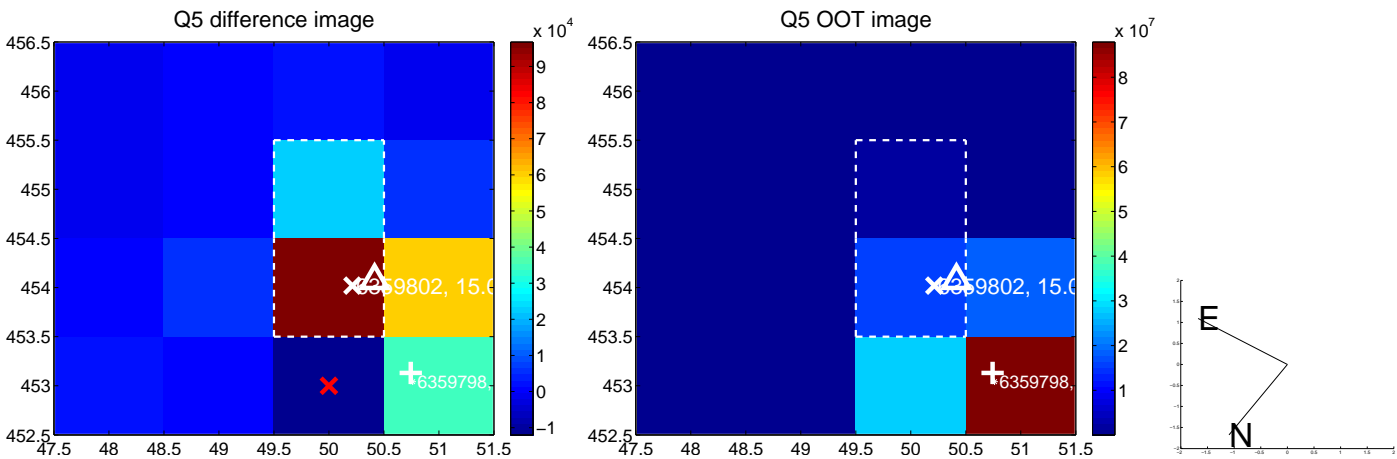


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



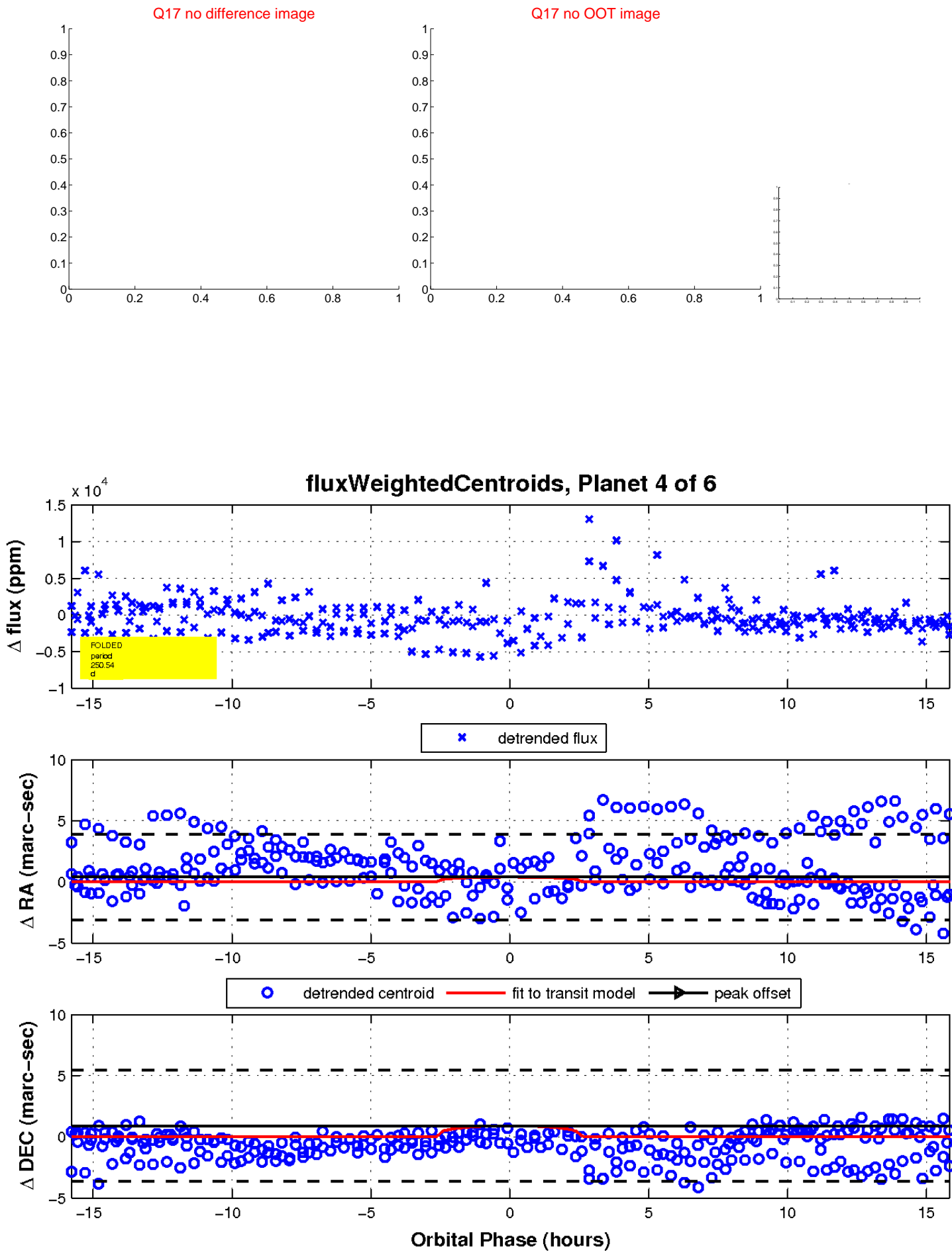
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

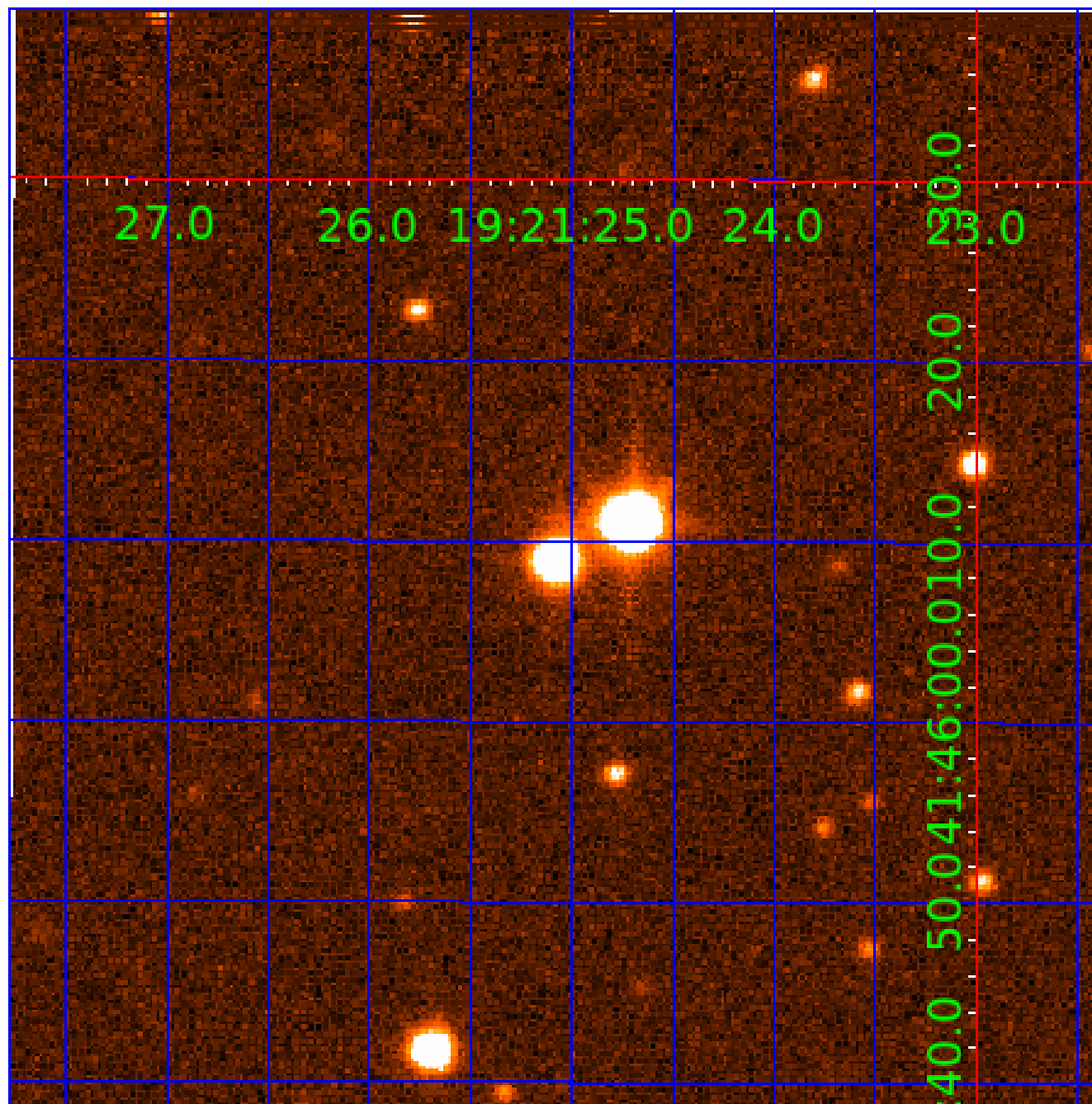


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006359802

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})
006359802-01	OBS	3399.01	14.154020	140.698657	30154.8	4.605	563.9	239.0	0.66	4352	20.73	14.28
006359802-02	OBS	No	14.154039	144.175601	18230.1	4.215	250.1	152.0	0.66	4352	16.46	14.28
006359802-03	OBS	No	343.554795	204.569629	1787.7	3.222	9.7	7.3	0.66	4352	2.92	0.20
006359802-04	OBS	No	250.543175	281.124855	2455.4	5.286	15.0	5.9	0.66	4352	3.12	0.31
006359802-05	OBS	No	181.677236	200.290413	1973.0	2.680	9.0	6.1	0.66	4352	2.80	0.47
006359802-06	OBS	No	1.417006	132.464119	2343.2	1.500	8.1	-1.0	0.66	4352	3.08	307.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006359802-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—SEASONAL_DEPTH_DV—SEASONAL_DEPTH_ALT—CENT_KIC_POS—HALO_GHOST—EPHEM_MATCH
006359802-02	OBS	FP	0.00	1	1	1	1	IS_SEC_TCE—CENT_KIC_POS—HALO_GHOST—EPHEM_MATCH
006359802-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_ALT—CENT_FEW_DIFFS
006359802-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006359802-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006359802-06	OBS	FP	0.00	1	0	0	0	MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

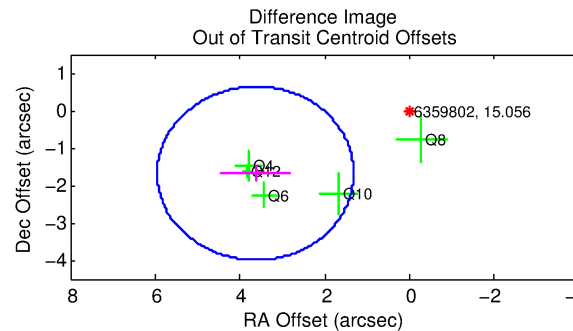
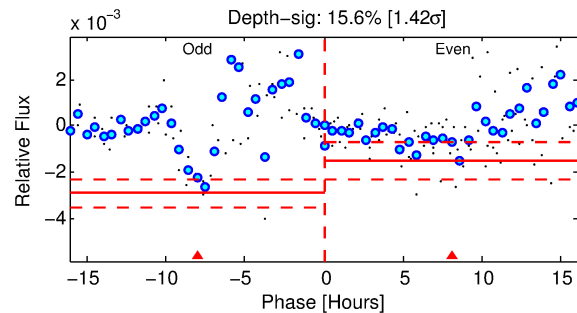
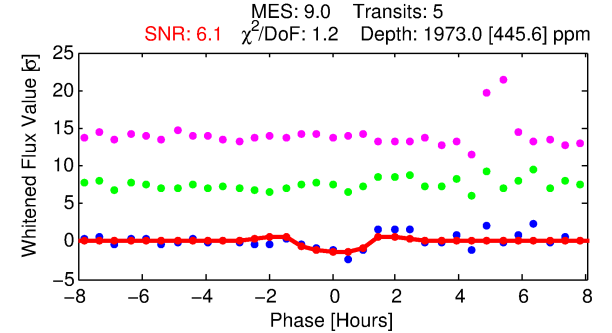
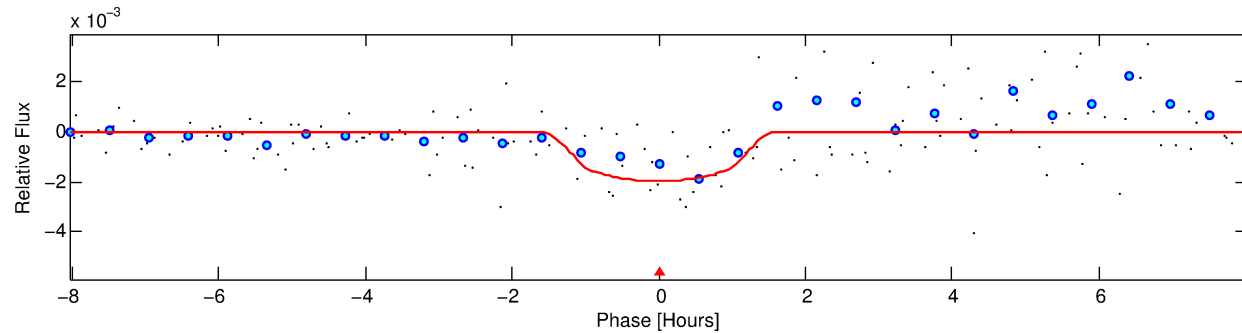
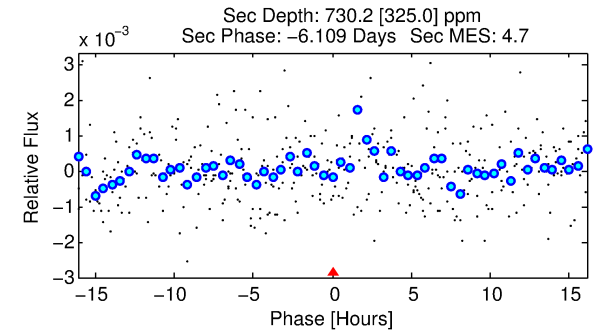
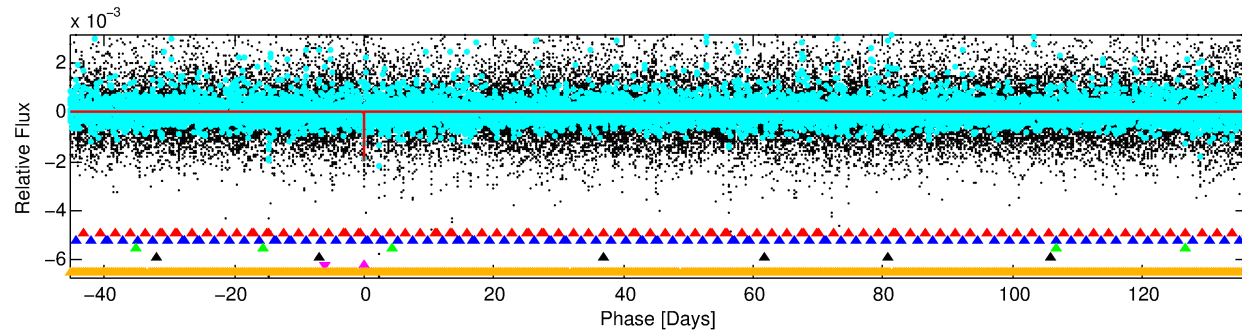
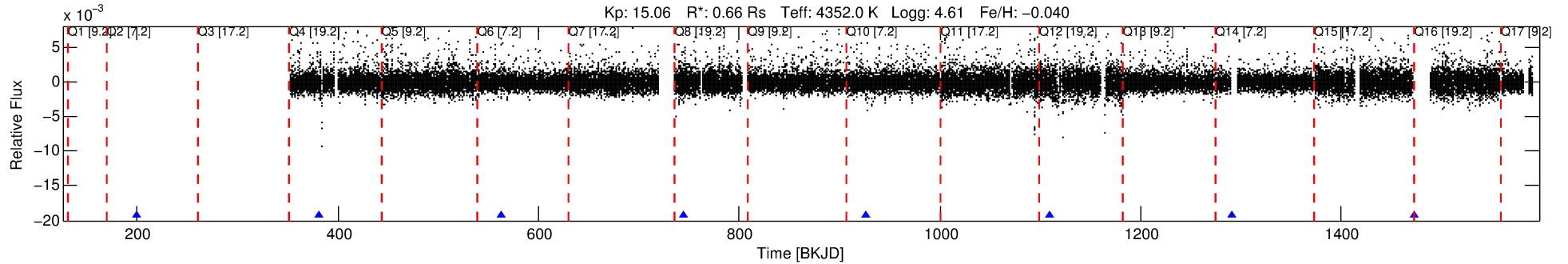
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006359802-05

No Significant Match Found

DV One-Page Summary

KIC: 6359802 Candidate: 5 of 6 Period: 181.677 d
KOI: K03399 Corr: No Ephemeris Match



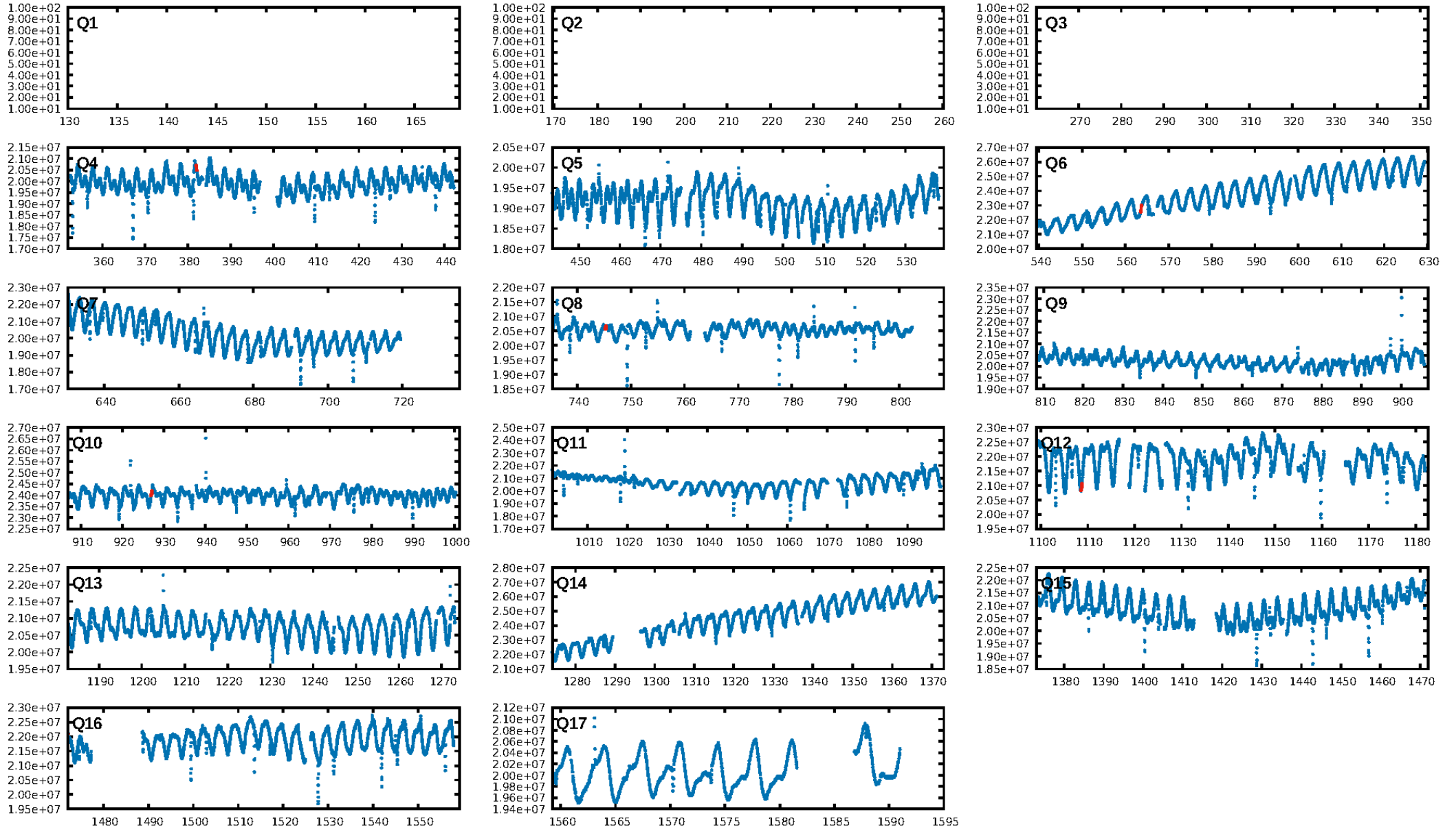
DV Fit Results:

Period = 181.67724 [0.00308] d
Epoch = 200.2904 [0.0108] BKJD
Rp/R* = 0.0389 [0.0942]
a/R* = 537.89 [3690.84]
b = 0.02 [448.80]
Seff = 0.48 [0.08]
Teq = 212 [9] K
Rp = 2.80 [6.80] Re
a = 0.5437 [0.0385] AU
Ag = 15113.20 [73599.15] [0.21σ]
Teffp = 3629 [4419] K [0.77σ]

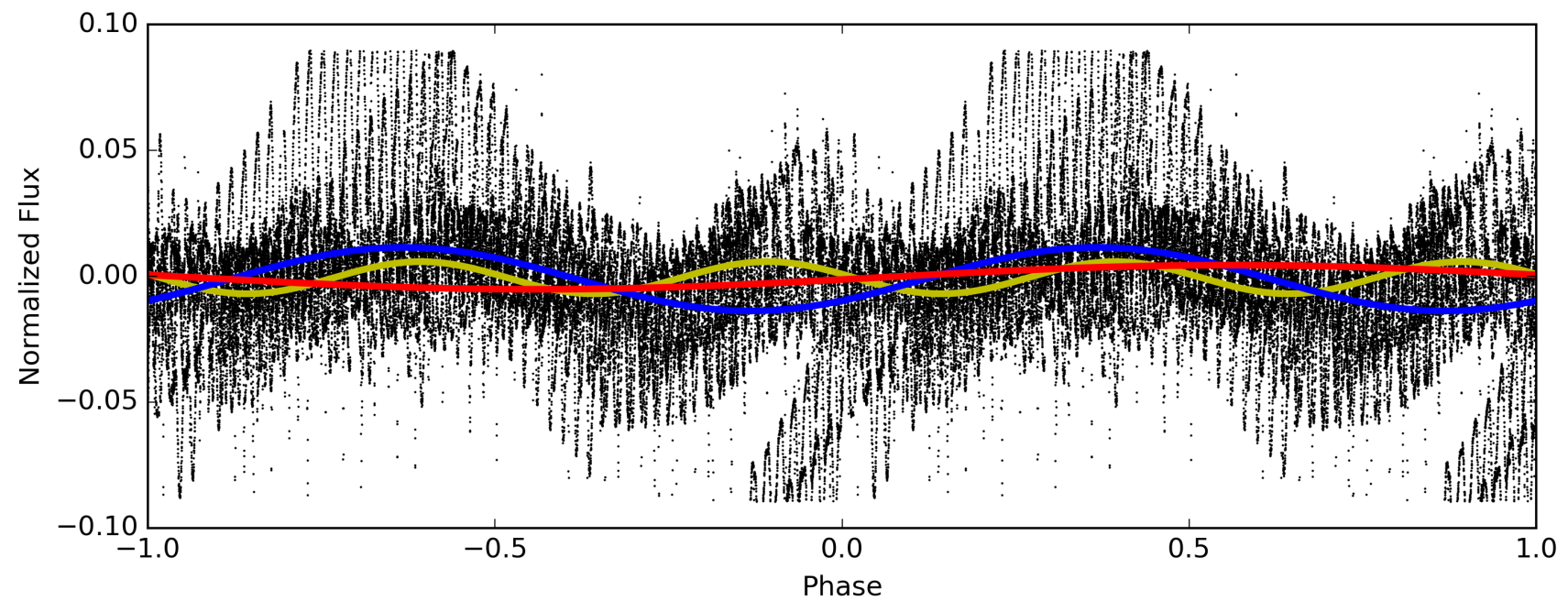
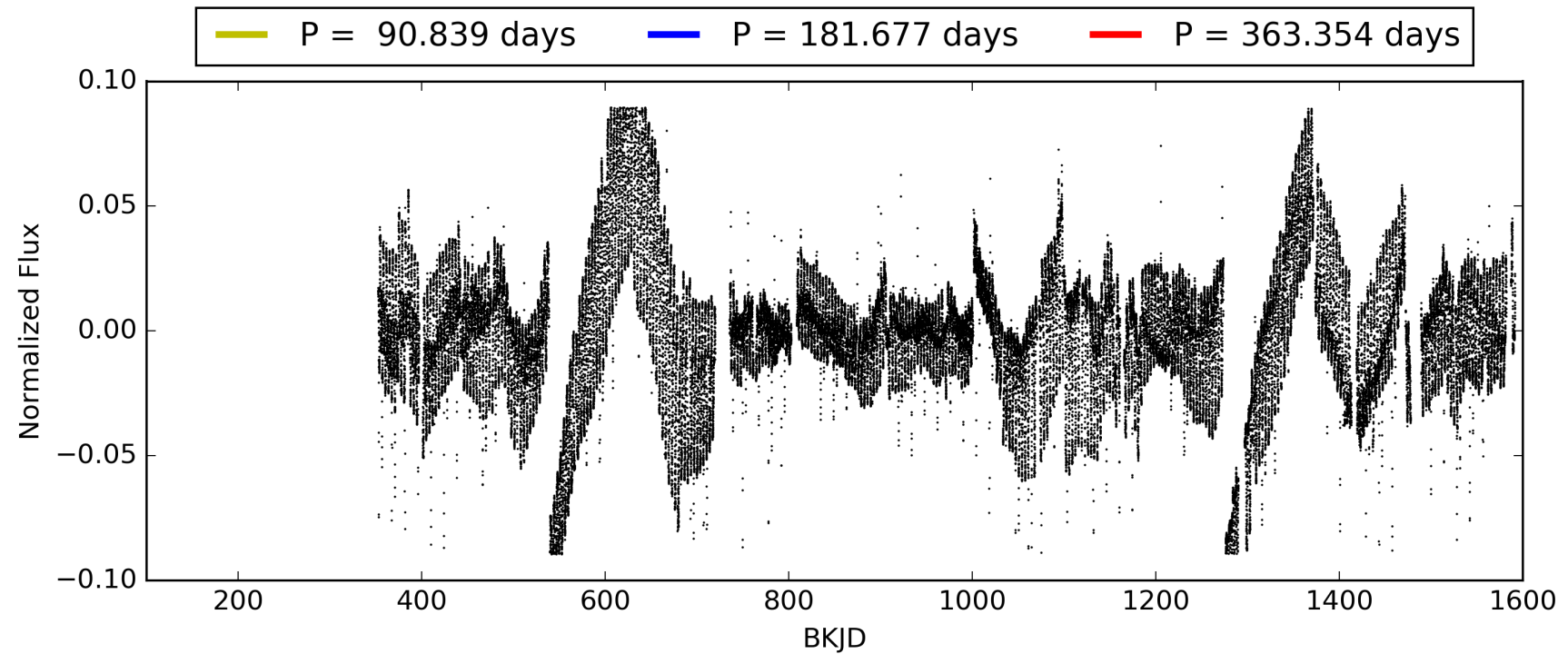
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [804.98σ]
LongPeriod-sig: 100.0% [278.89σ]
ModelChiSquare2-sig: 12.6%
ModelChiSquareGof-sig: 72.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -0.3007
Centroid-sig: 22.4%
Centroid-so: 3.134 arcsec [9.49σ]
OotOffset-rm: 3.999 arcsec [5.18σ]
KicOffset-rm: 0.107 arcsec [0.47σ]
OotOffset-st: 2/0/3/0 [5]
KicOffset-st: 2/0/3/0 [5]
DiffImageQuality-fgm: 0.60 [3/5]
DiffImageOverlap-fno: 0.60 [3/5]

TCE 006359802-05, PDC Light Curves

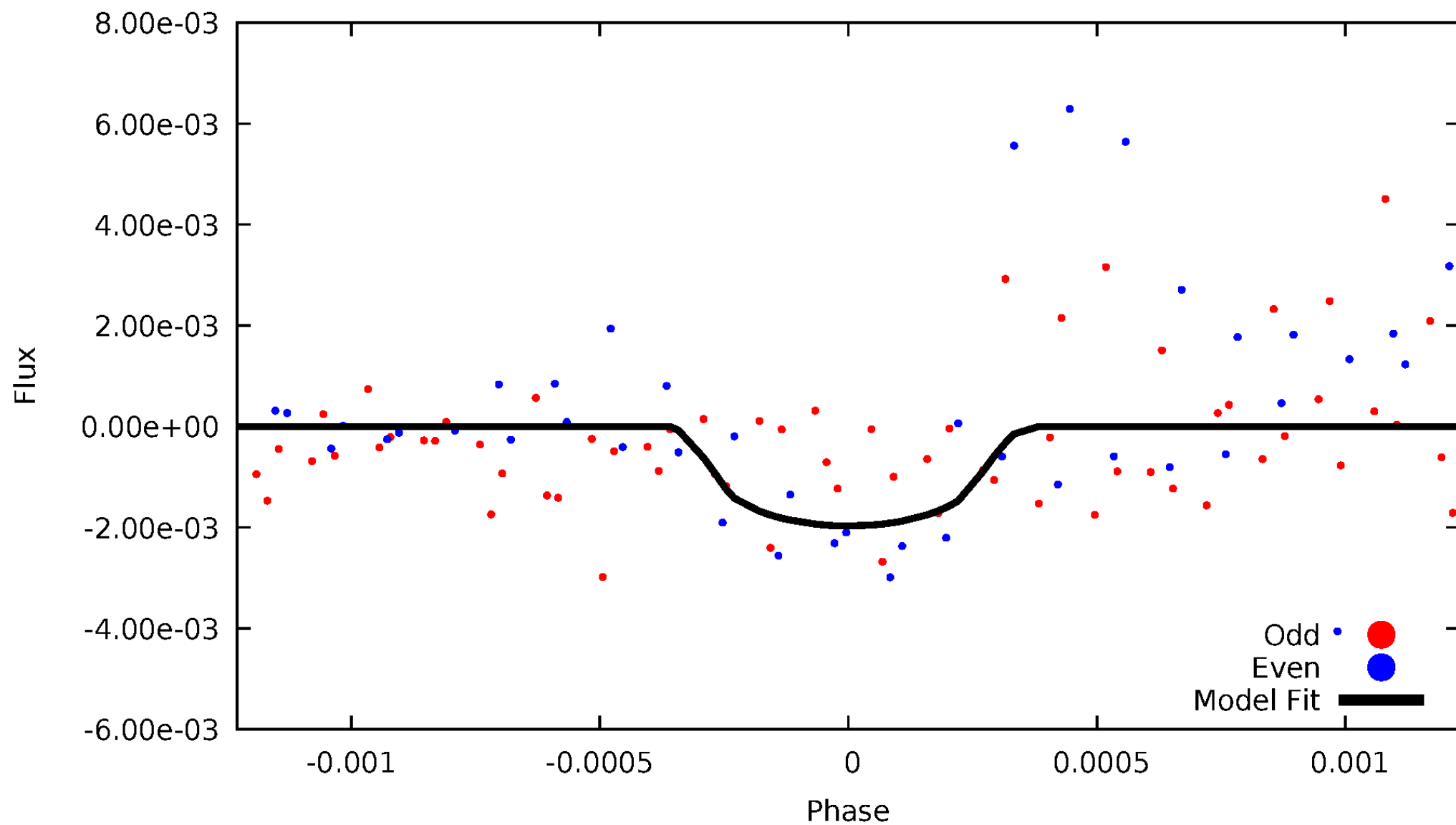


TCE 006359802-05



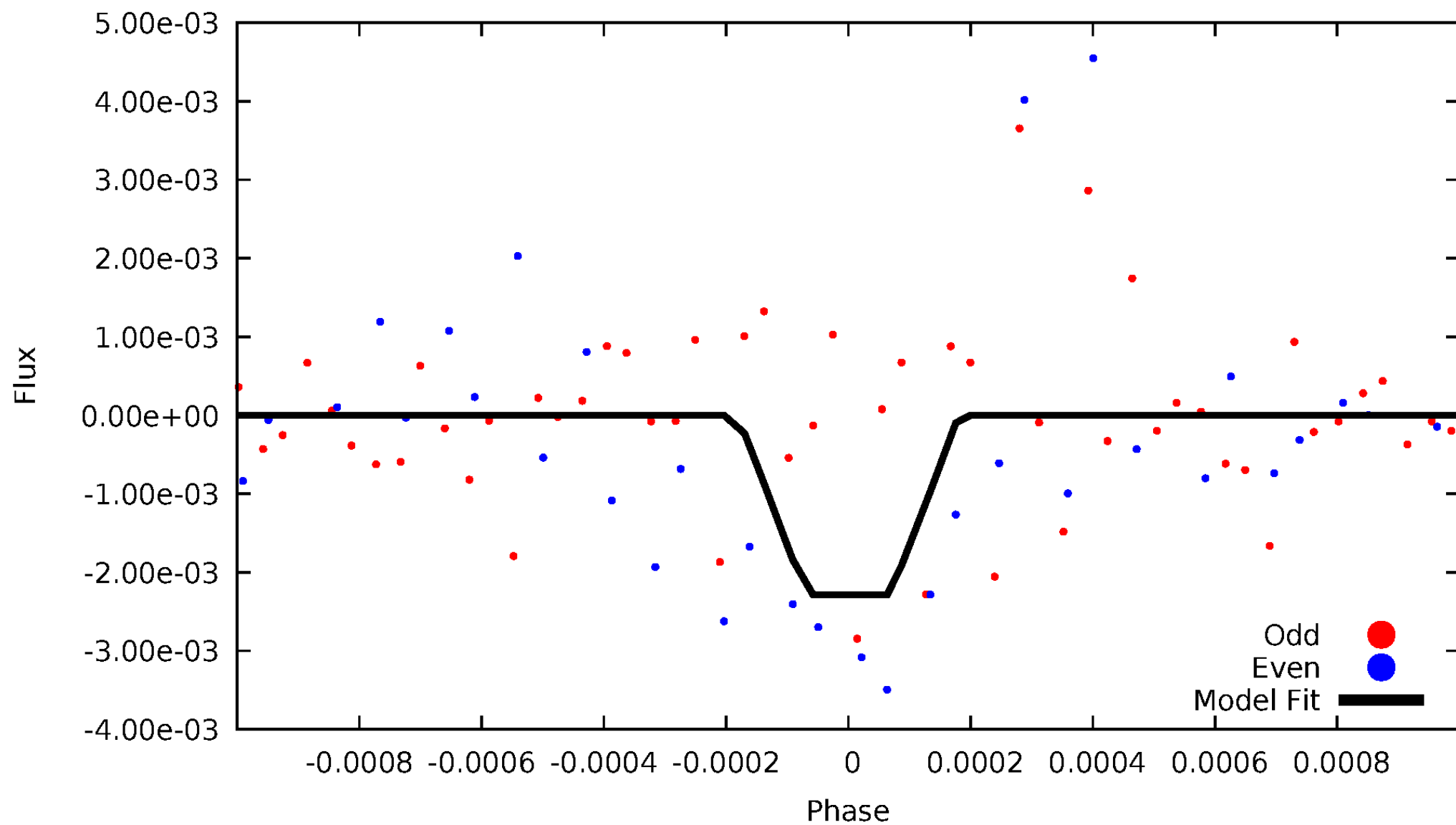
DV Odd/Even

TCE 006359802-05



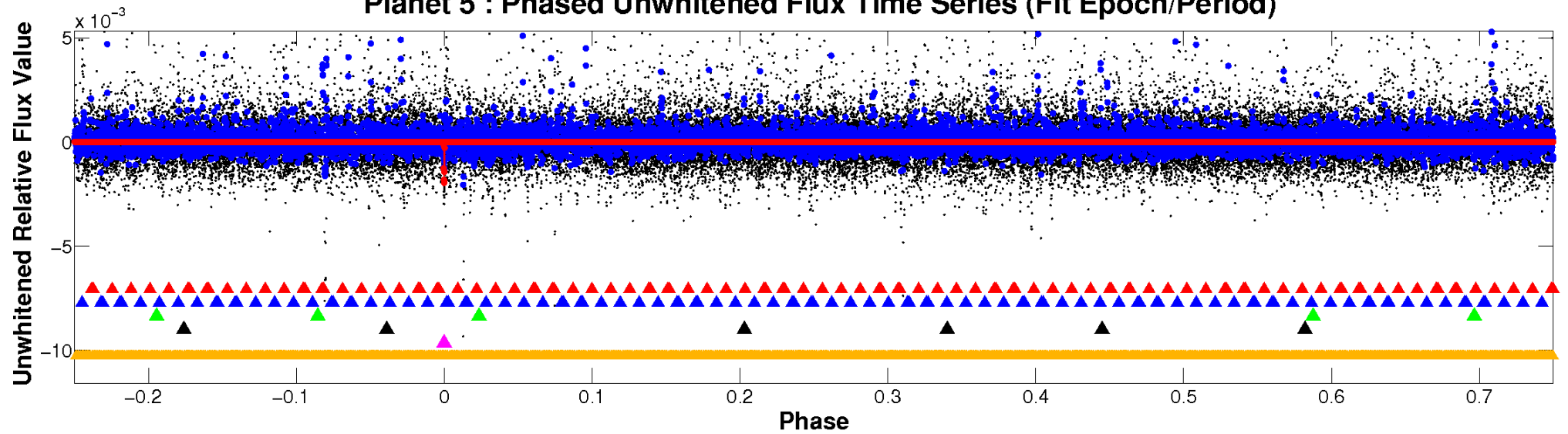
ALT Odd/Even

TCE 006359802-05

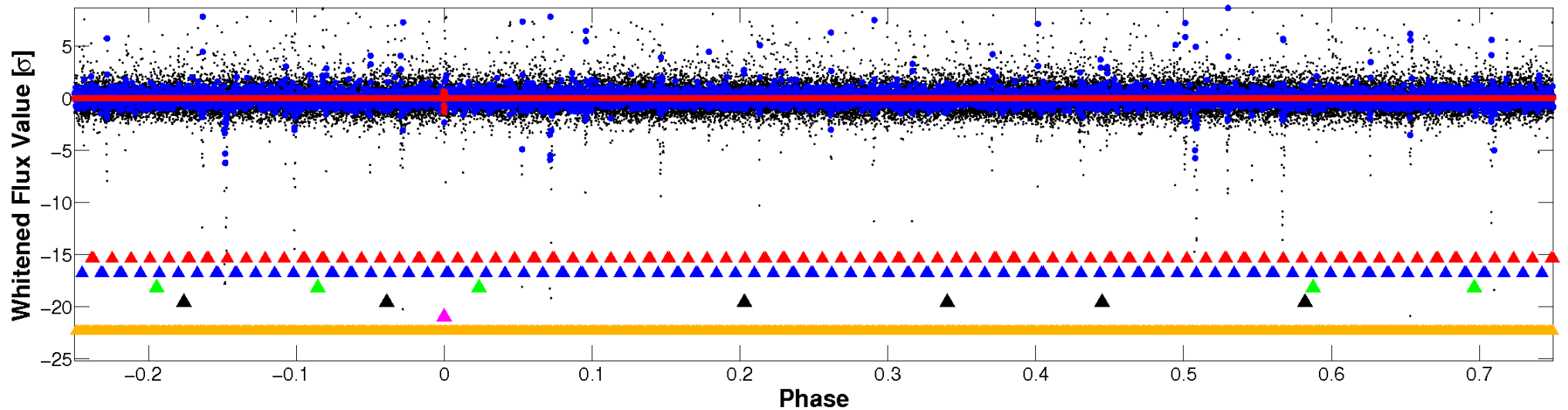


Non-Whitened Vs. Whitened Light Curve

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

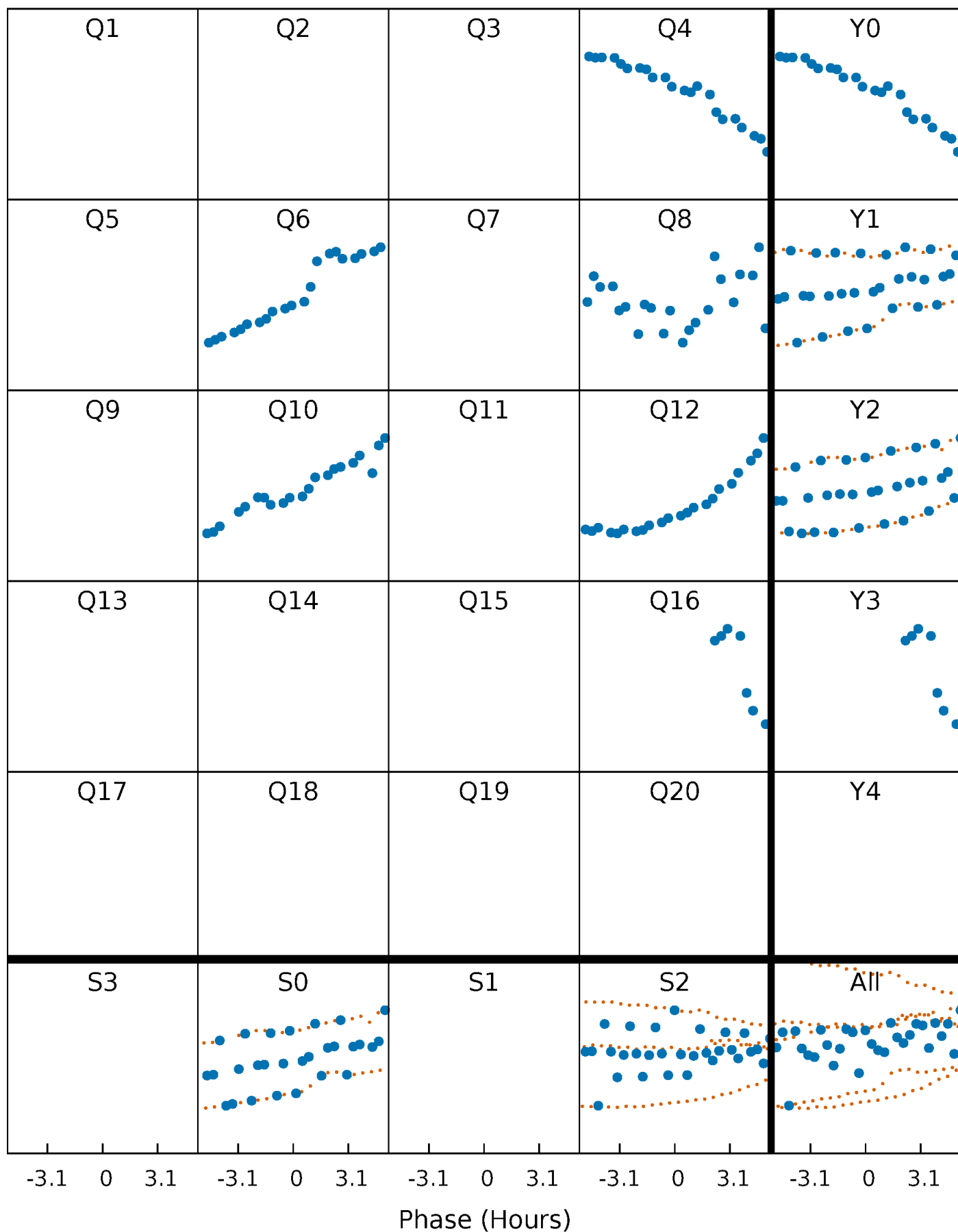


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



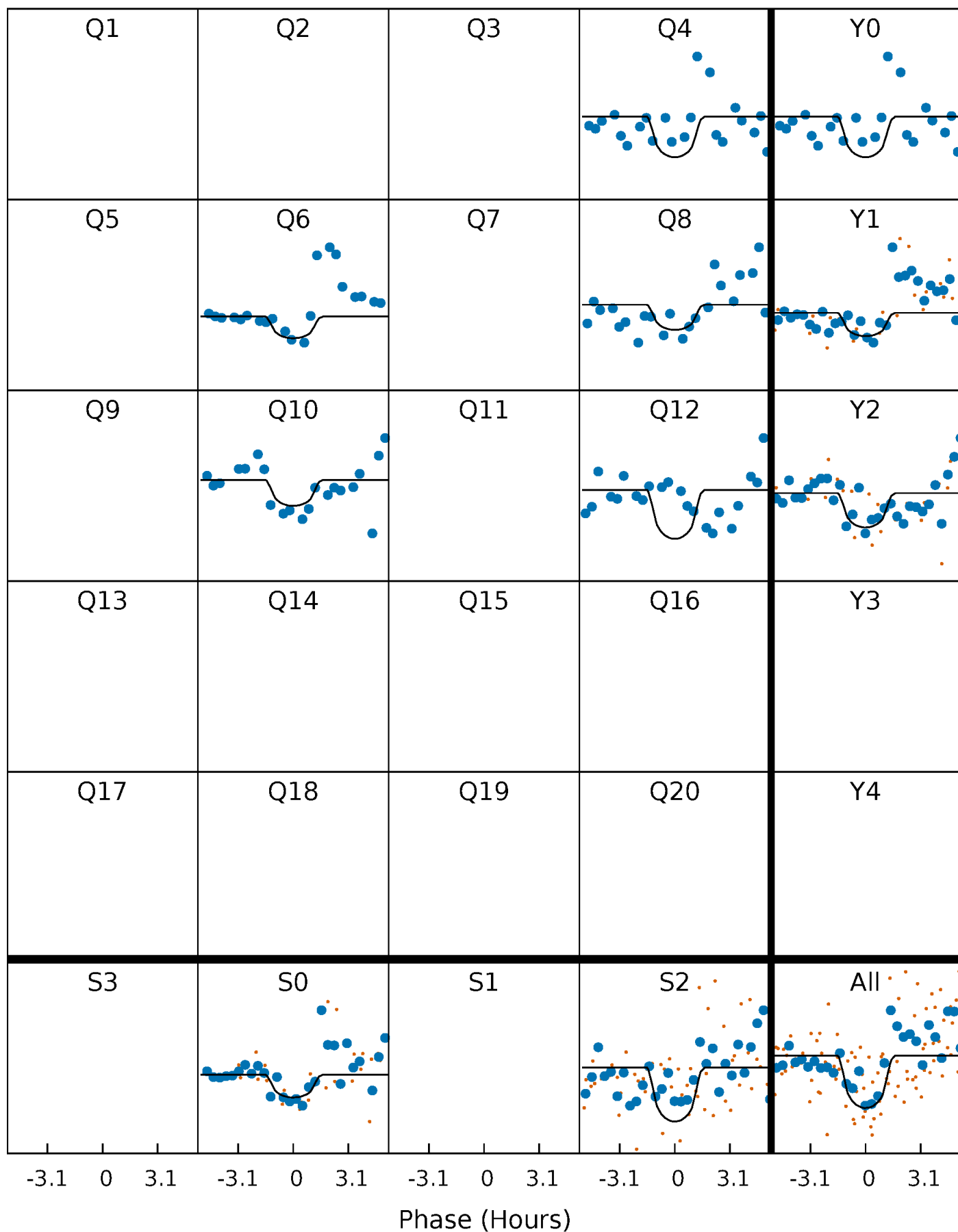
PDC Quarter-Phased Transit Curves

TCE 006359802-05 P=181.677236 Days $T_0=200.290413$ (BKJD)



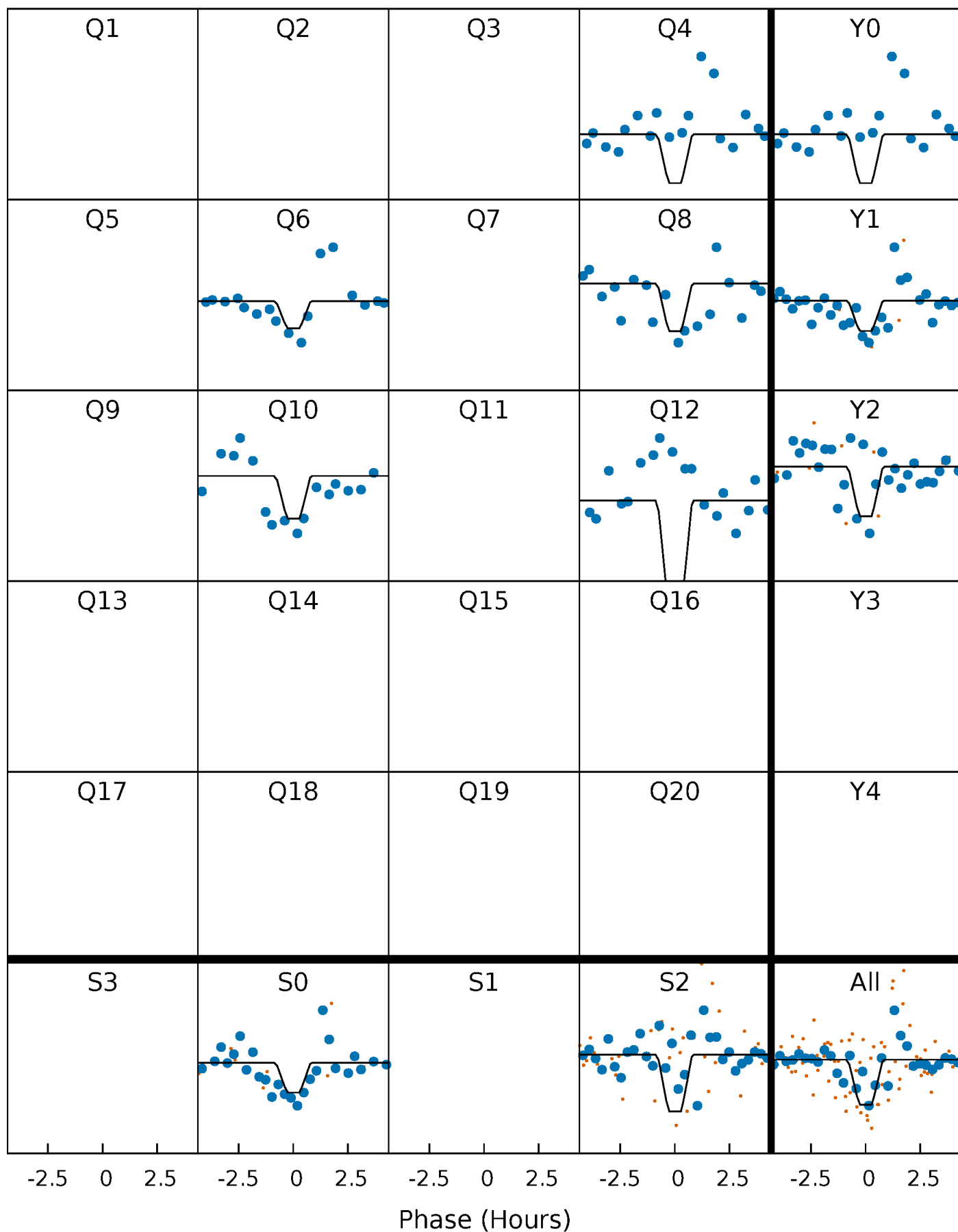
DV Quarter-Phased Transit Curves

TCE 006359802-05 $P=181.677236$ Days $T_0=200.290413$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

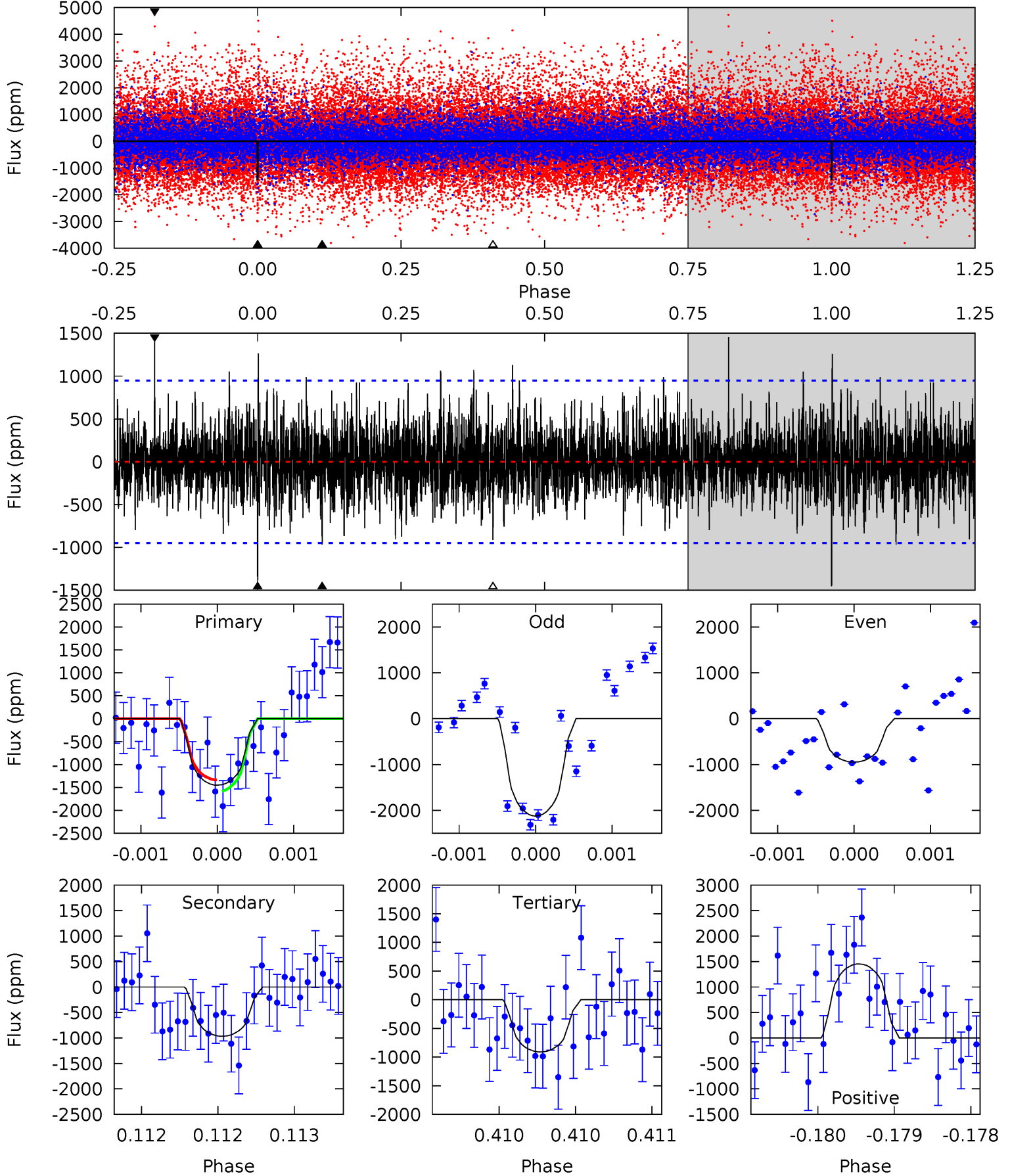
TCE 006359802-05 $P=181.678851$ Days $T_0=200.295345$ (BKJD)



DV Model-Shift Uniqueness Test

006359802-05, P = 181.677236 Days, E = 200.290413 Days

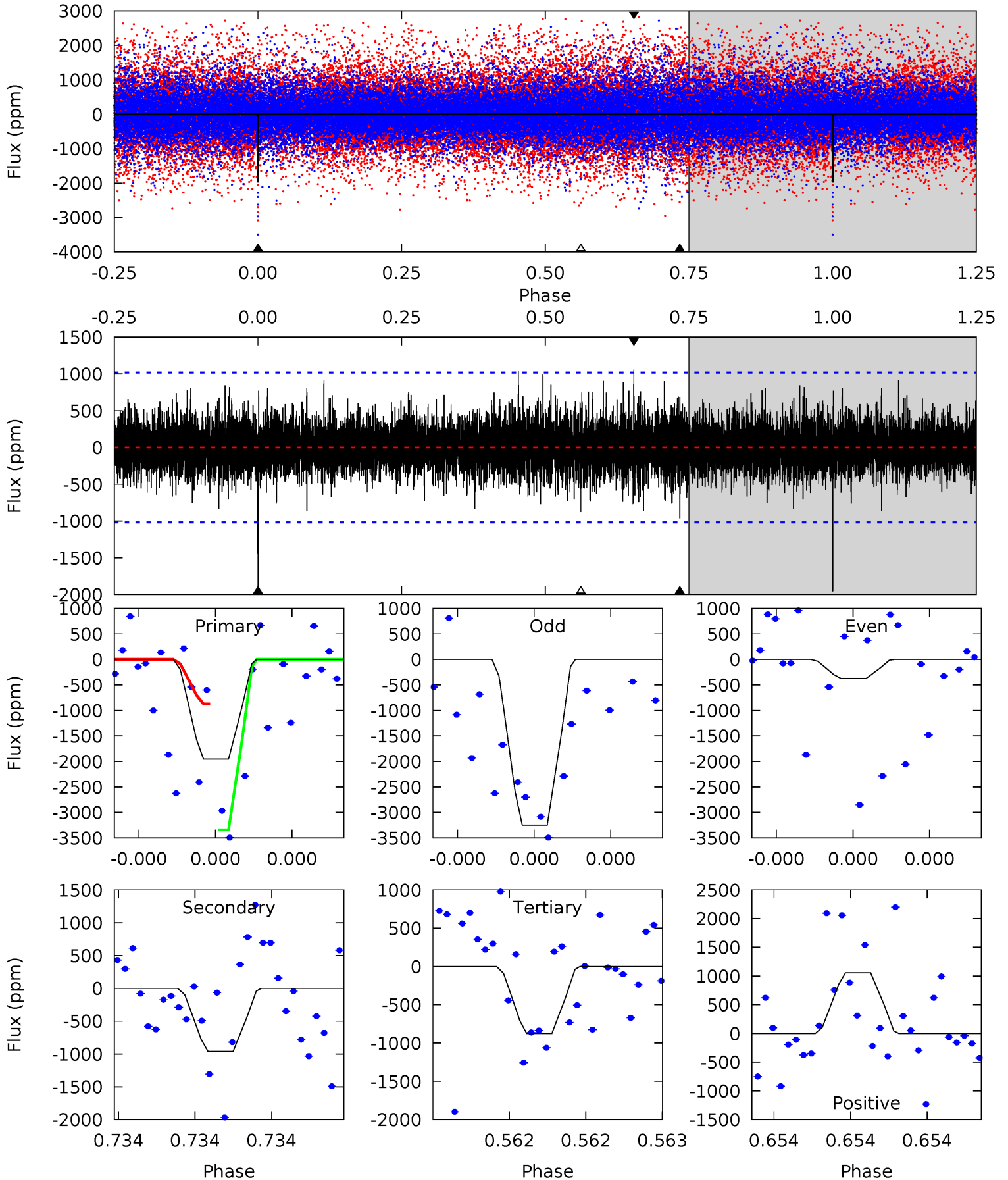
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.43	5.62	5.29	8.45	5.51	3.38	1.63	3.14	-0.02	0.33	-2.83	3.39	1.02	0.50	0.72



Alt Model-Shift Uniqueness Test

006359802-05, P = 181.678851 Days, E = 200.295345 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.8	5.32	4.85	5.86	5.63	3.56	1.21	5.96	4.96	0.47	-0.54	8.71	0.63	0.35	6.85



Stellar Parameters For KIC 006359802

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4352^{+153}_{-153}	$4.610^{+0.052}_{-0.021}$	$-0.040^{+0.300}_{-0.300}$	$0.661^{+0.042}_{-0.058}$	$0.650^{+0.065}_{-0.058}$	$3.165^{+0.740}_{-0.339}$
	+4%/-4%	+1%/-0%	+750%/-750%	+6%/-9%	+10%/-9%	+23%/-11%
Source	KIC0	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 006359802-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-967 ± 172	$5.74^{+5.39}_{-3.77}$	293^{+12}_{-10}	3149^{+1352}_{-528}	4677^{+35999}_{-3433}
Alt.	-962 ± 181	$6.13^{+5.34}_{-3.74}$	294^{+11}_{-12}	3098^{+1134}_{-495}	4143^{+24722}_{-2993}

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 $A_{obs} \gg 1.0$

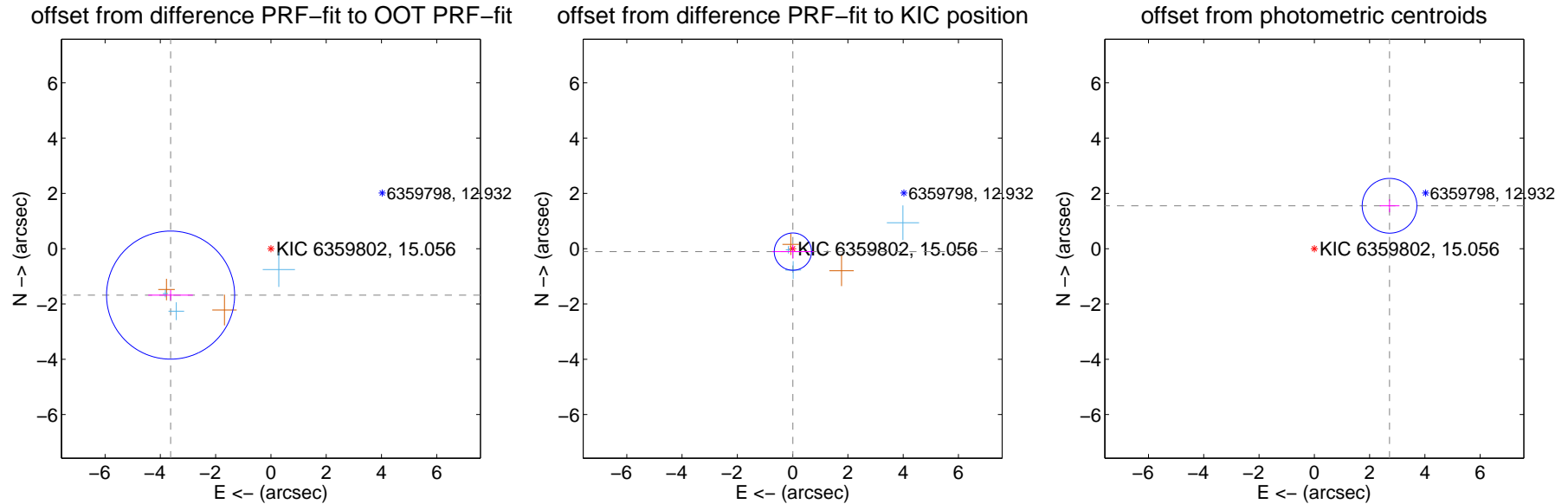
DV Centroid Data

Supplemental centroid analysis for 006359802-05. Kepler magnitude: 15.06. Transit SNR 6.11

There are 3 quarters with good PRF difference image offsets

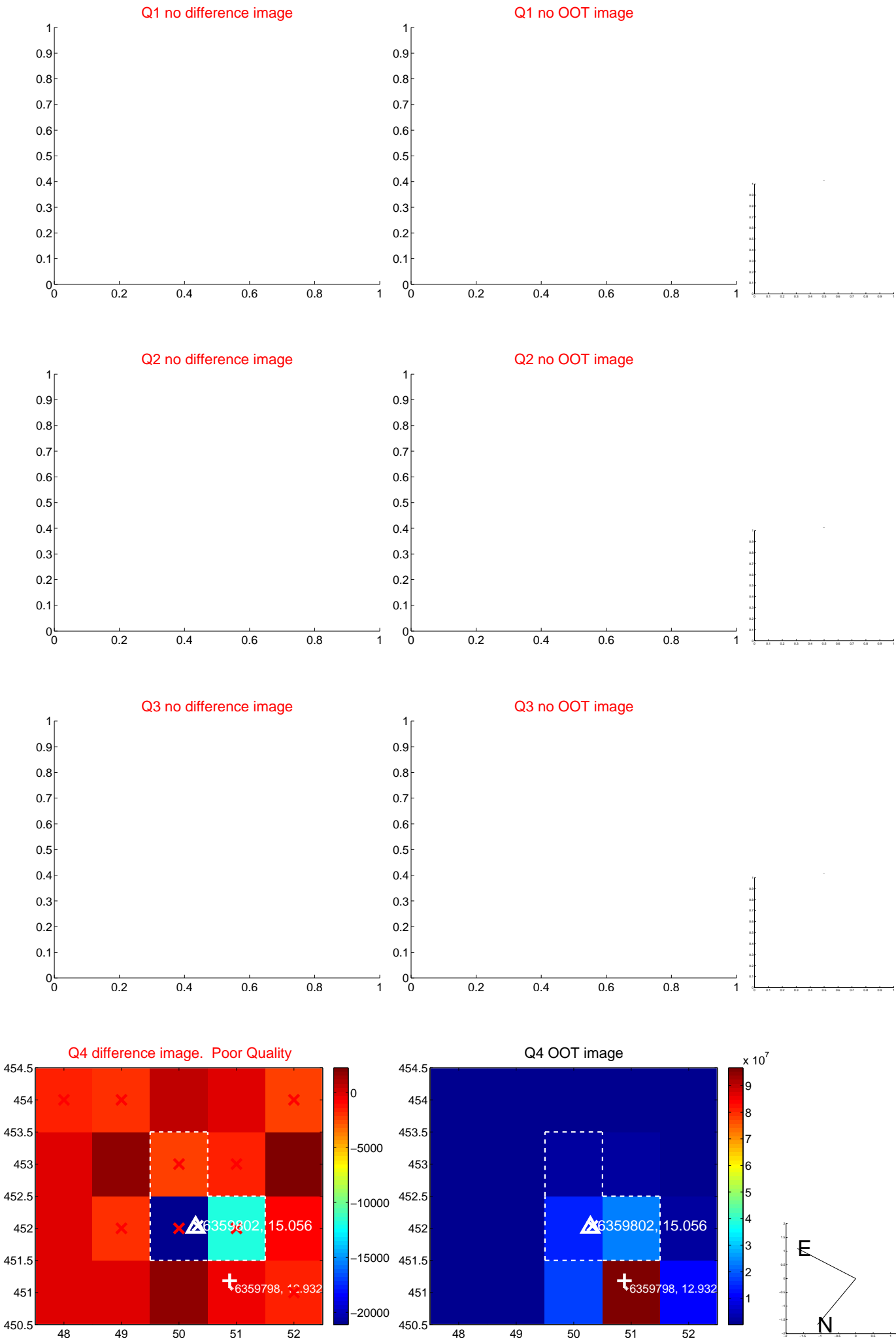
The OOT PRF centroid is offset from the target star catalog position by about 3.99 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.999 ± 0.772	5.18	3.630 ± 0.808	-1.679 ± 0.188
PRF-fit source offset from KIC position	0.107 ± 0.225	0.47	-0.010 ± 0.755	-0.106 ± 0.246
photometric centroid source offset	3.13 ± 0.33	9.49	-2.72 ± 0.36	1.55 ± 0.23

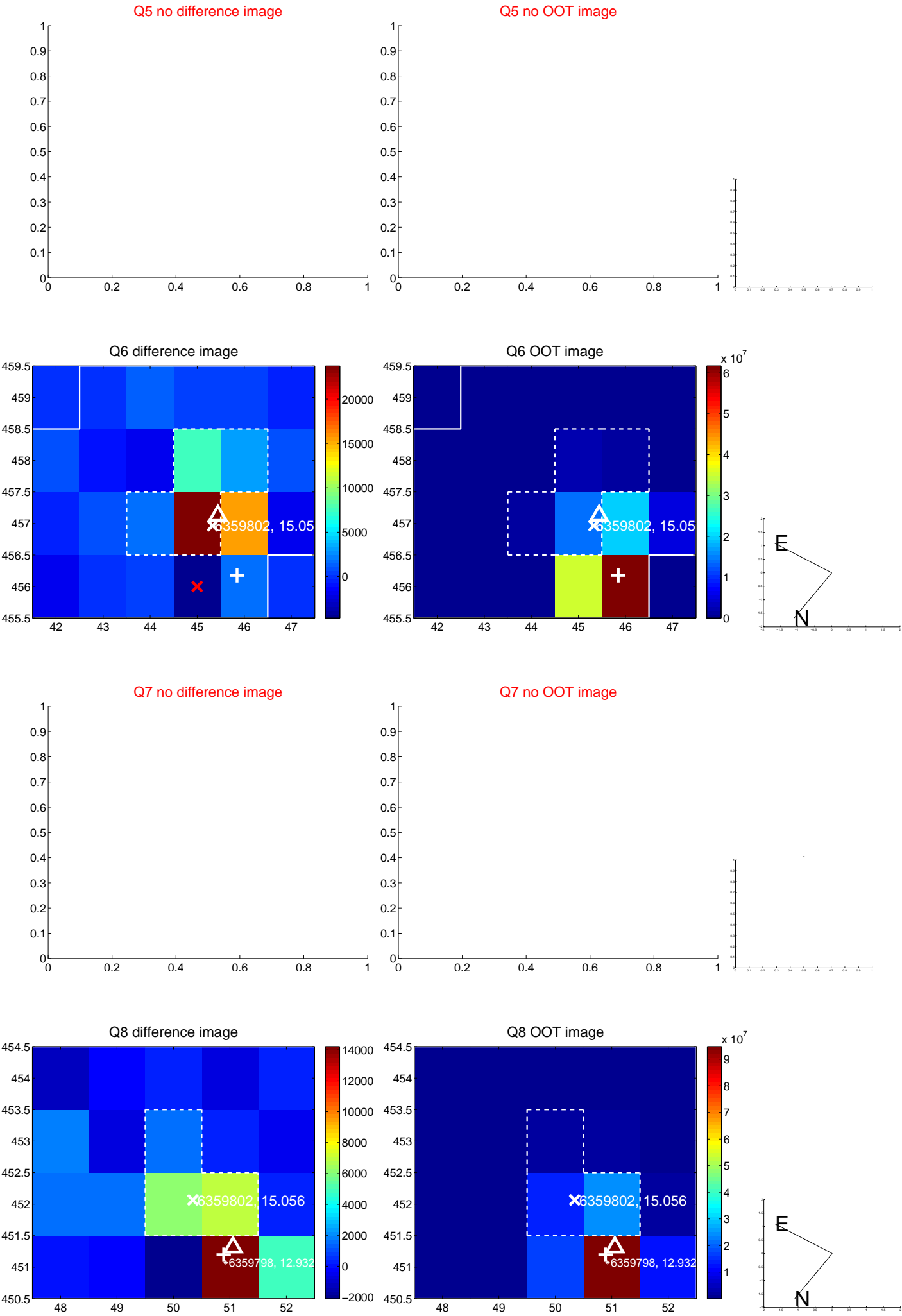


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

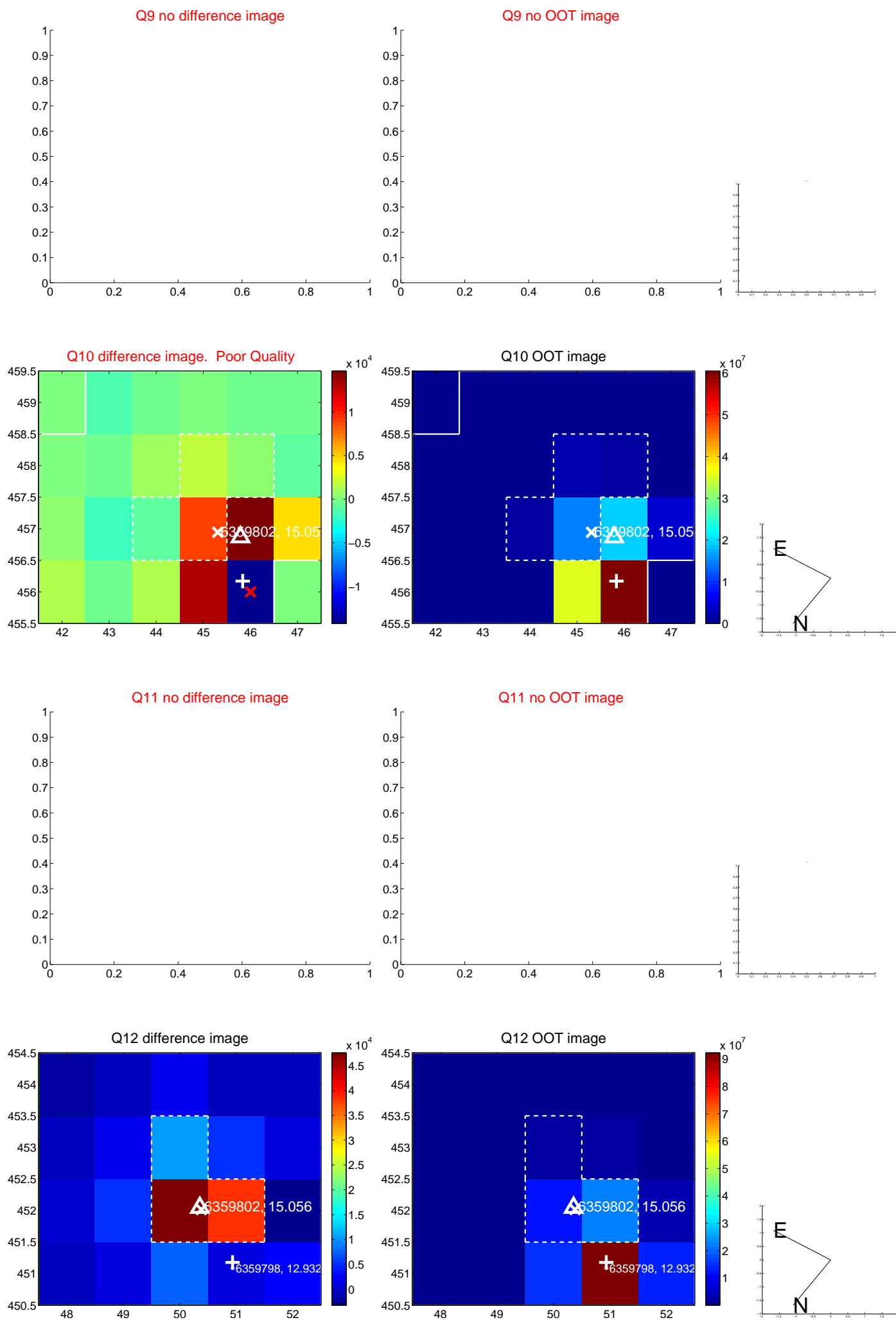
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



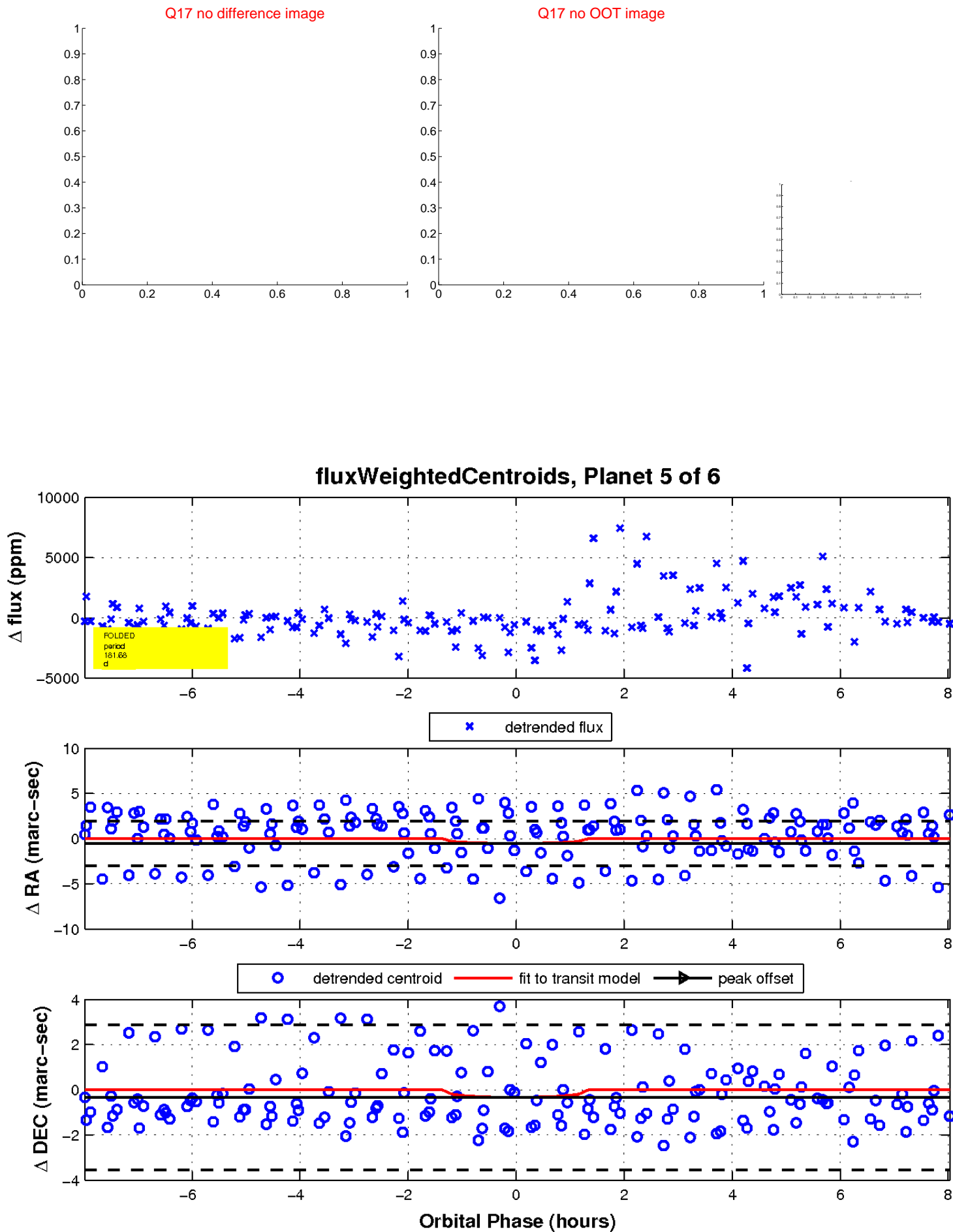
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

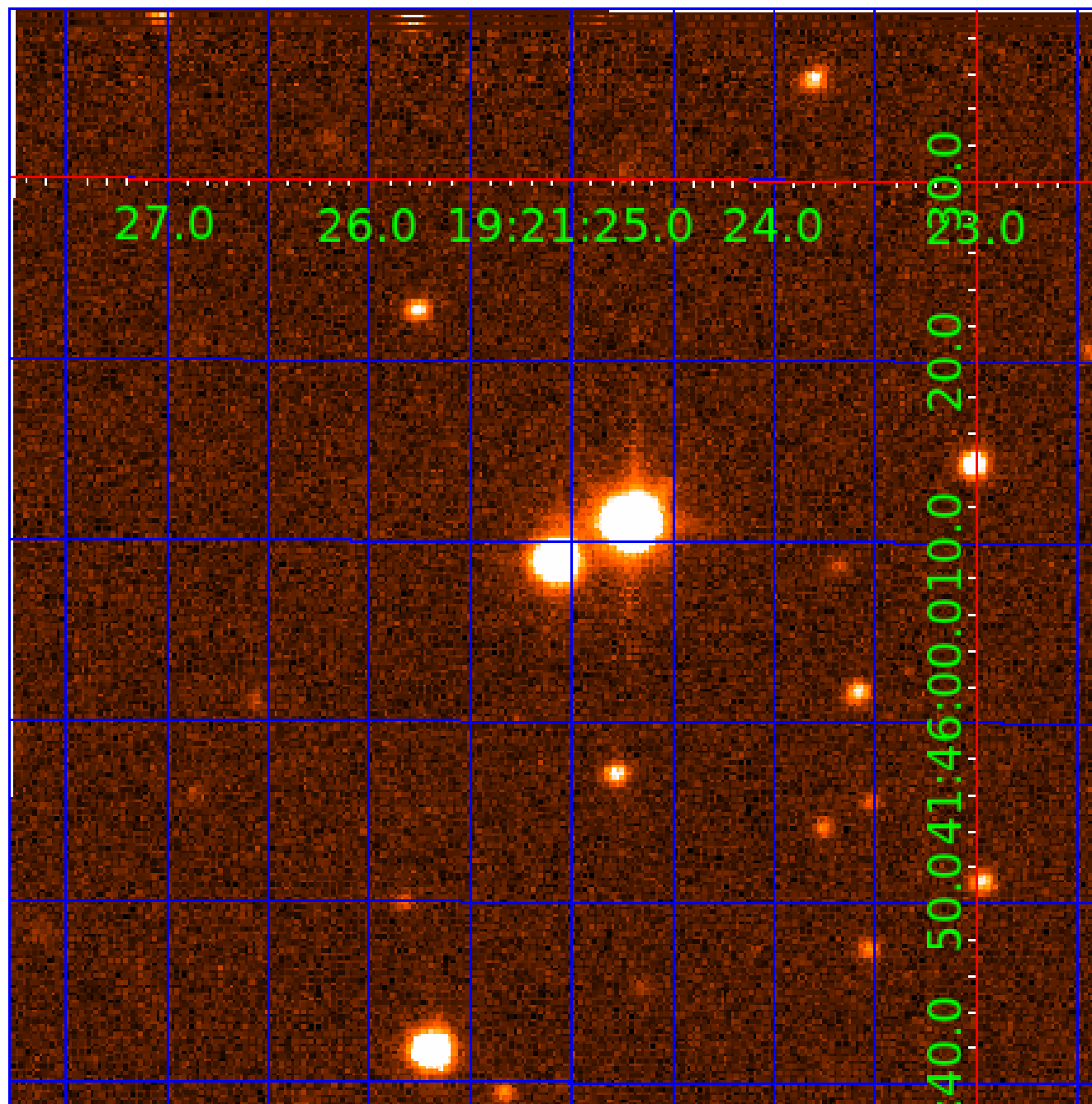


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006359802

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})
006359802-01	OBS	3399.01	14.154020	140.698657	30154.8	4.605	563.9	239.0	0.66	4352	20.73	14.28
006359802-02	OBS	No	14.154039	144.175601	18230.1	4.215	250.1	152.0	0.66	4352	16.46	14.28
006359802-03	OBS	No	343.554795	204.569629	1787.7	3.222	9.7	7.3	0.66	4352	2.92	0.20
006359802-04	OBS	No	250.543175	281.124855	2455.4	5.286	15.0	5.9	0.66	4352	3.12	0.31
006359802-05	OBS	No	181.677236	200.290413	1973.0	2.680	9.0	6.1	0.66	4352	2.80	0.47
006359802-06	OBS	No	1.417006	132.464119	2343.2	1.500	8.1	-1.0	0.66	4352	3.08	307.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006359802-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—SEASONAL_DEPTH_DV—SEASONAL_DEPTH_ALT—CENT_KIC_POS—HALO_GHOST—EPHEM_MATCH
006359802-02	OBS	FP	0.00	1	1	1	1	IS_SEC_TCE—CENT_KIC_POS—HALO_GHOST—EPHEM_MATCH
006359802-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_ALT—CENT_FEW_DIFFS
006359802-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006359802-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006359802-06	OBS	FP	0.00	1	0	0	0	MOD_NONUNIQ_ALT—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.

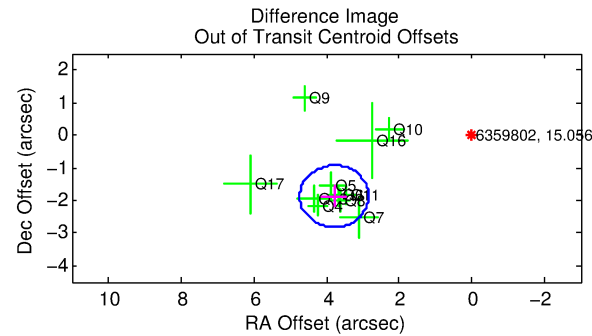
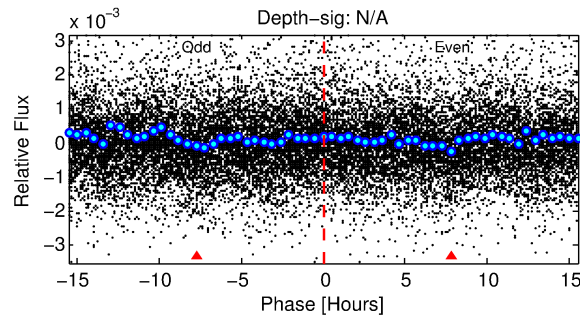
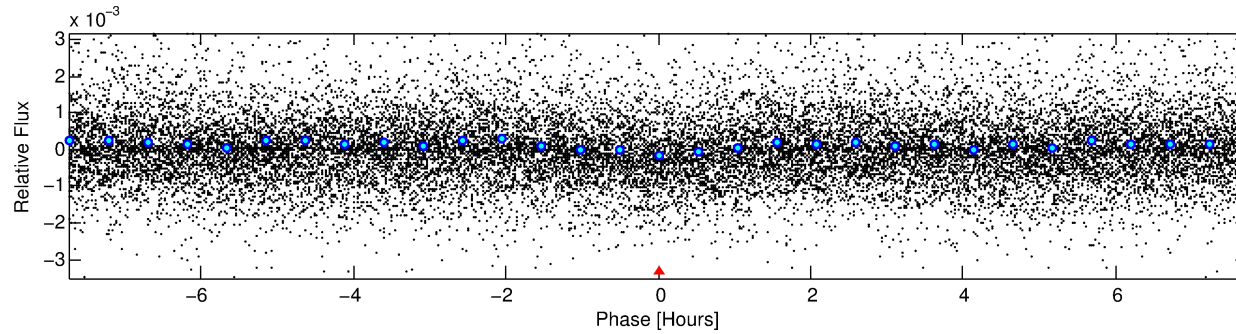
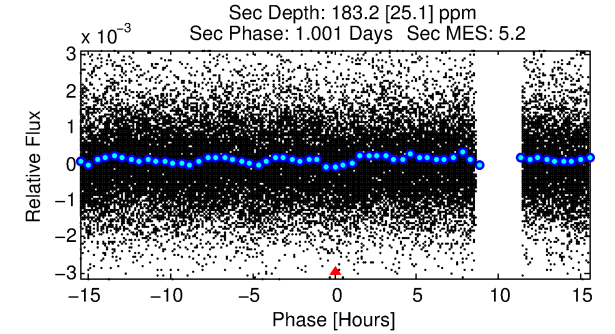
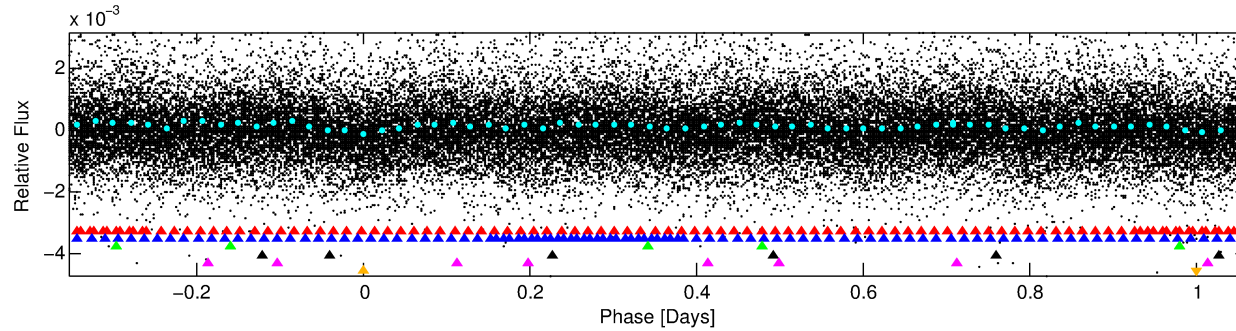
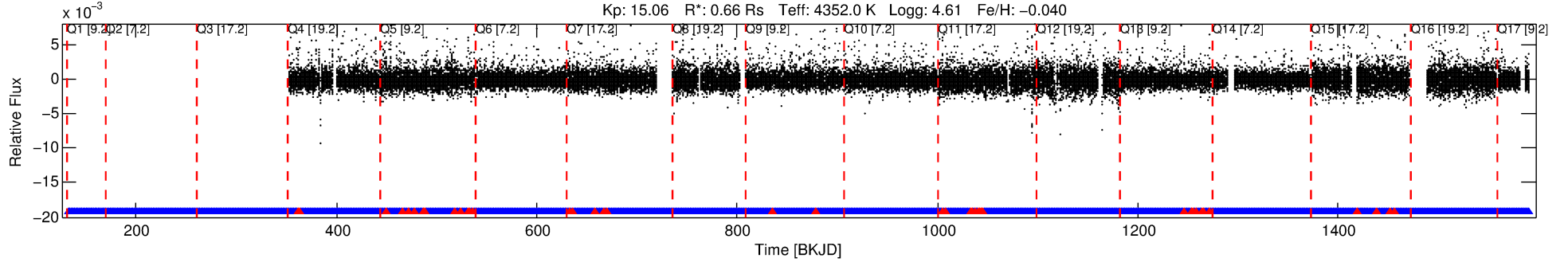
Ephemeris Match Information For 006359802-06

No Significant Match Found

DV One-Page Summary

KIC: 6359802 Candidate: 6 of 6 Period: 1.417 d
KOI: K03399 Corr: No Ephemeris Match

Kp: 15.06 R*: 0.66 Rs Teff: 4352.0 K Logg: 4.61 Fe/H: -0.040



TPS TCE Results:

Period = 1.41701 d
Epoch = 132.4641 BKJD

DV fit results are unavailable

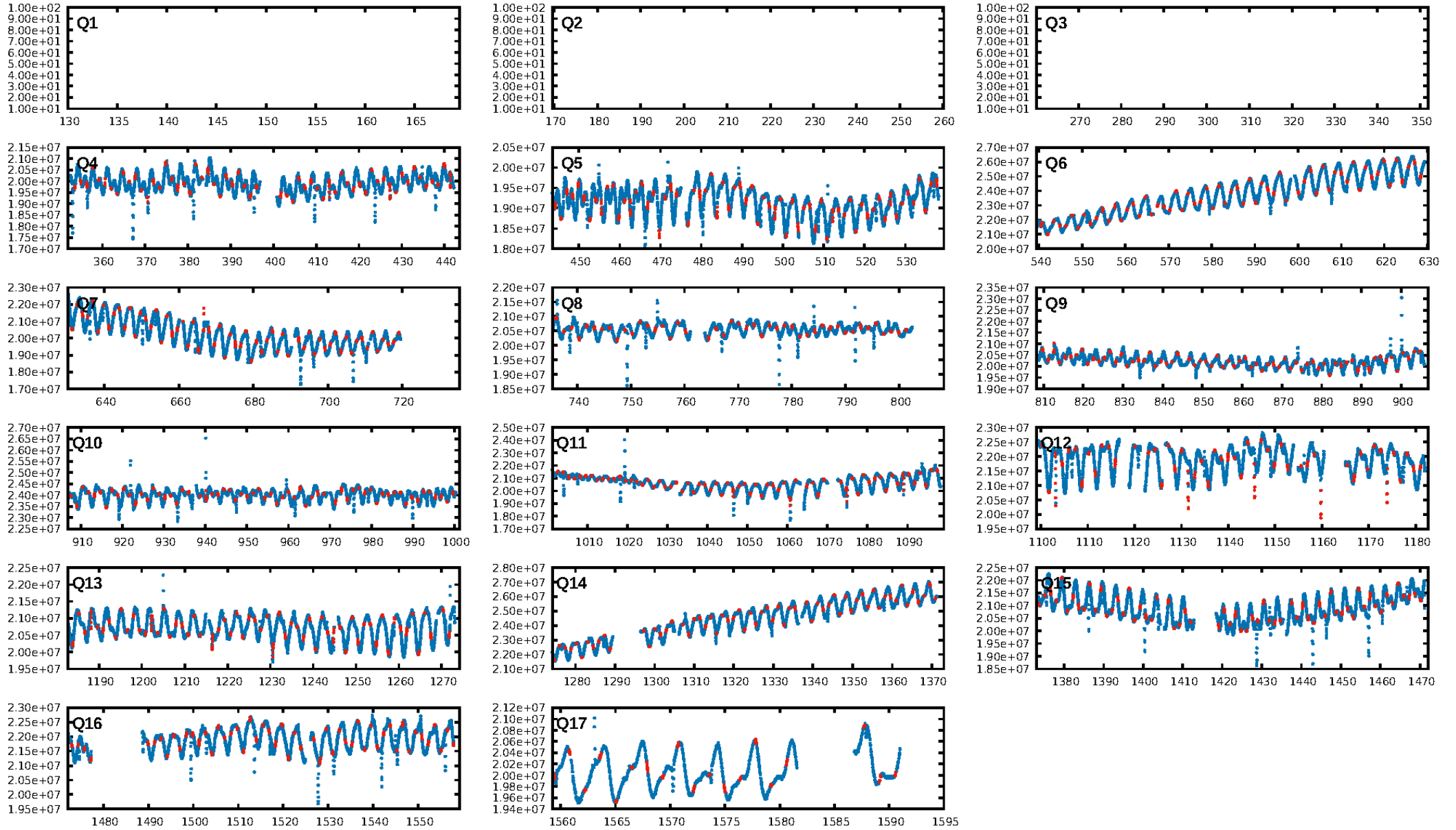
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [63.12σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.94 [680/720]
GhostDiagnostic-chr: -61.22
Centroid-sig: 36.4%
Centroid-so: 3.202 arcsec [17.69σ]
OotOffset-rm: 4.229 arcsec [13.40σ]
KicOffset-rm: 0.192 arcsec [0.62σ]
OotOffset-st: 2/2/3/4 [11]
KicOffset-st: 2/2/3/4 [11]
DiffImageQuality-fgm: 0.64 [7/11]
DiffImageOverlap-fno: 1.00 [14/14]

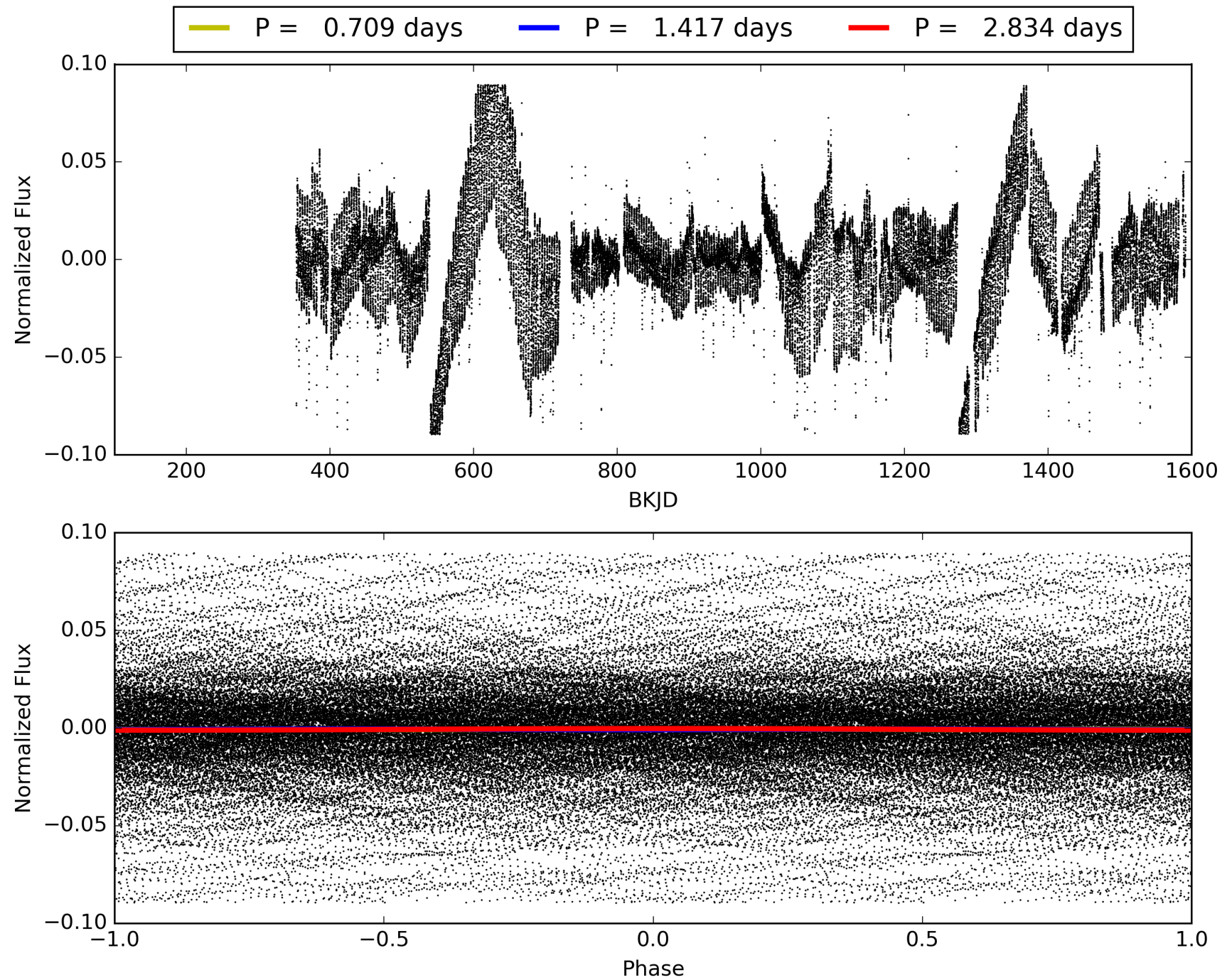
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:13:12 Z

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

TCE 006359802-06, PDC Light Curves

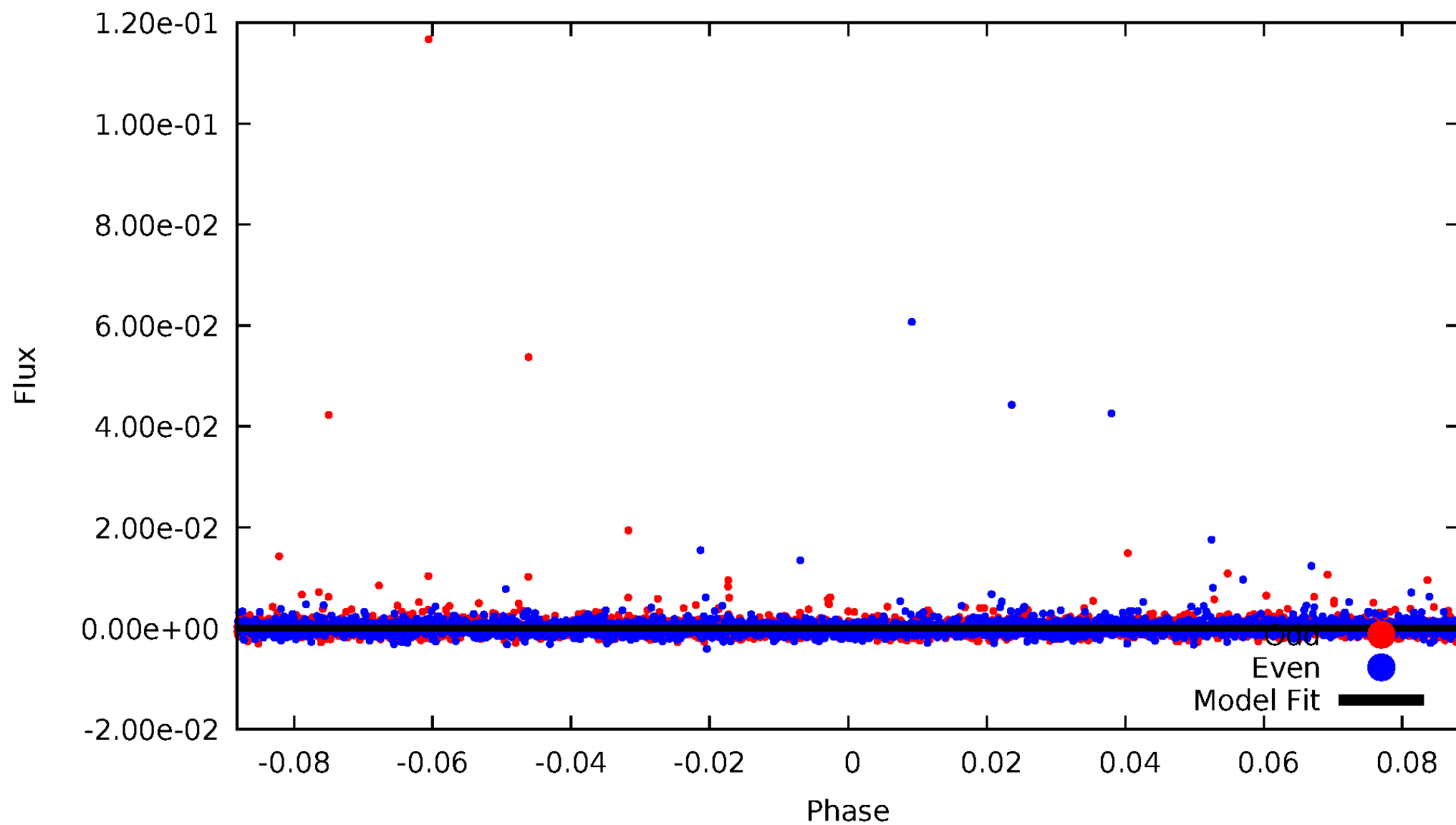


TCE 006359802-06



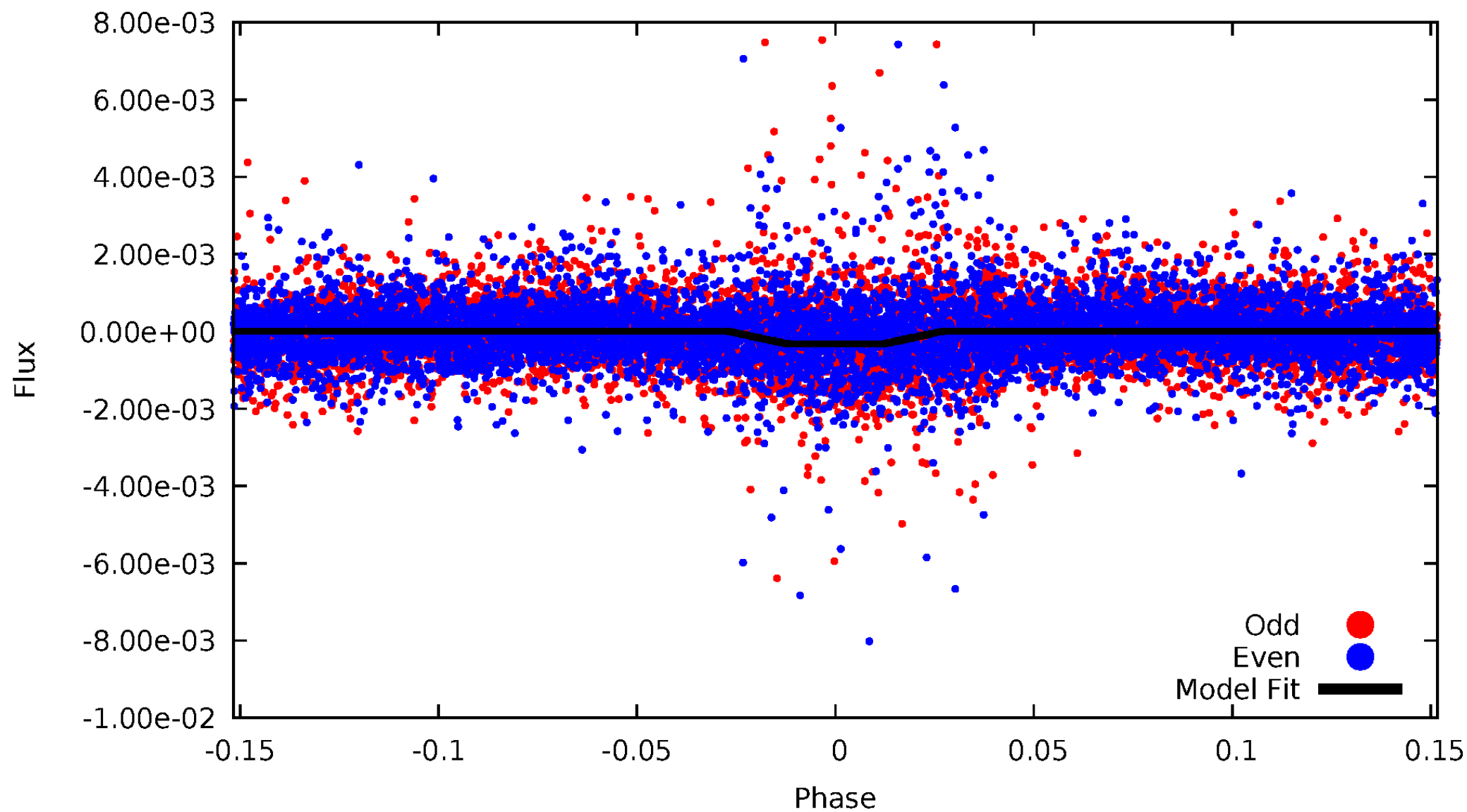
DV Odd/Even

TCE 006359802-06



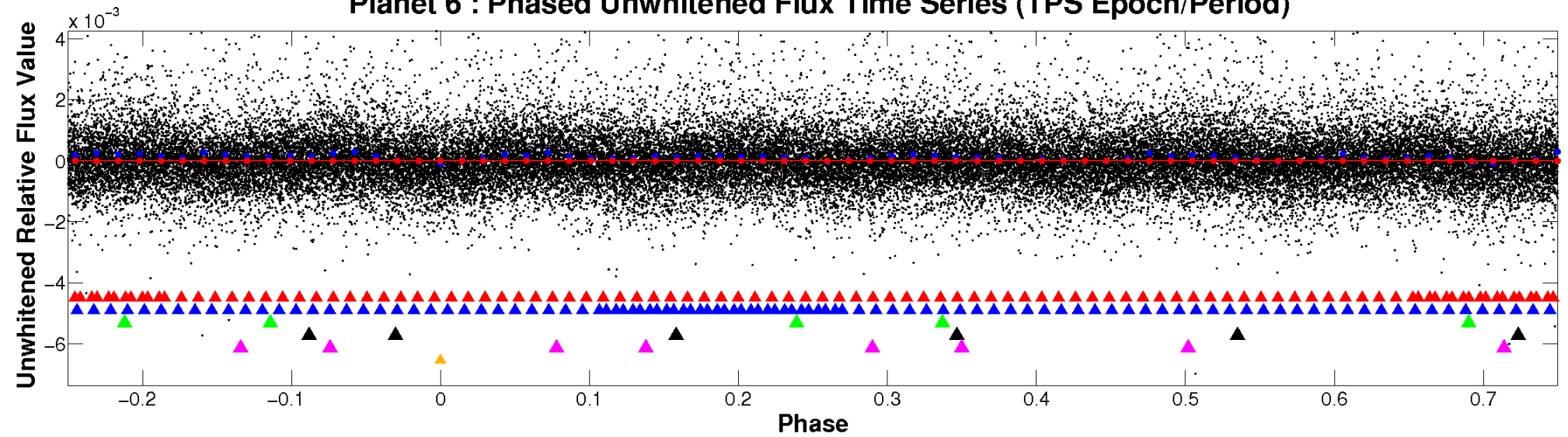
ALT Odd/Even

TCE 006359802-06



Non-Whitened Vs. Whitened Light Curve

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

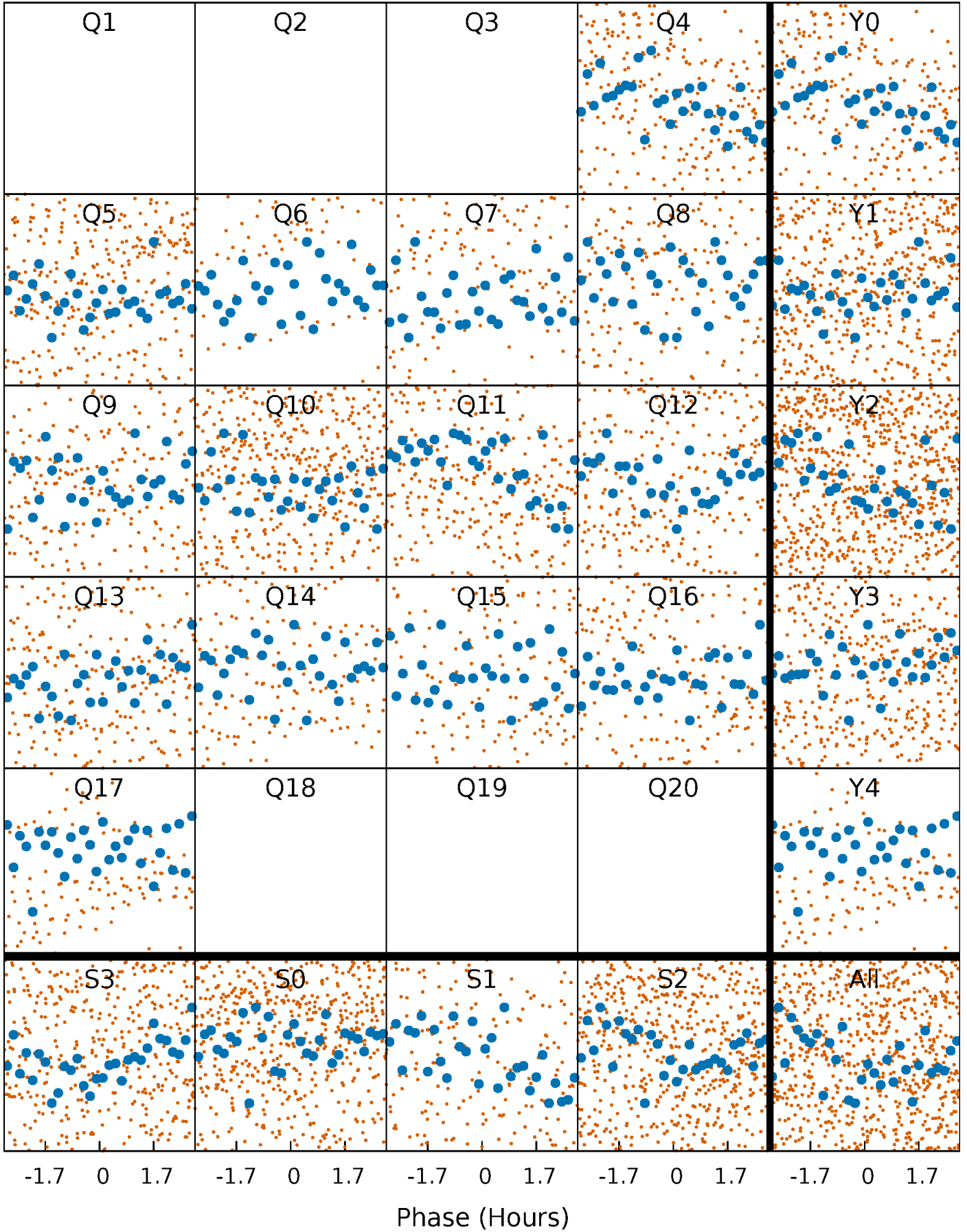


Planet 6 : Phased Whitened Flux Time Series (TPS Epoch/Period)



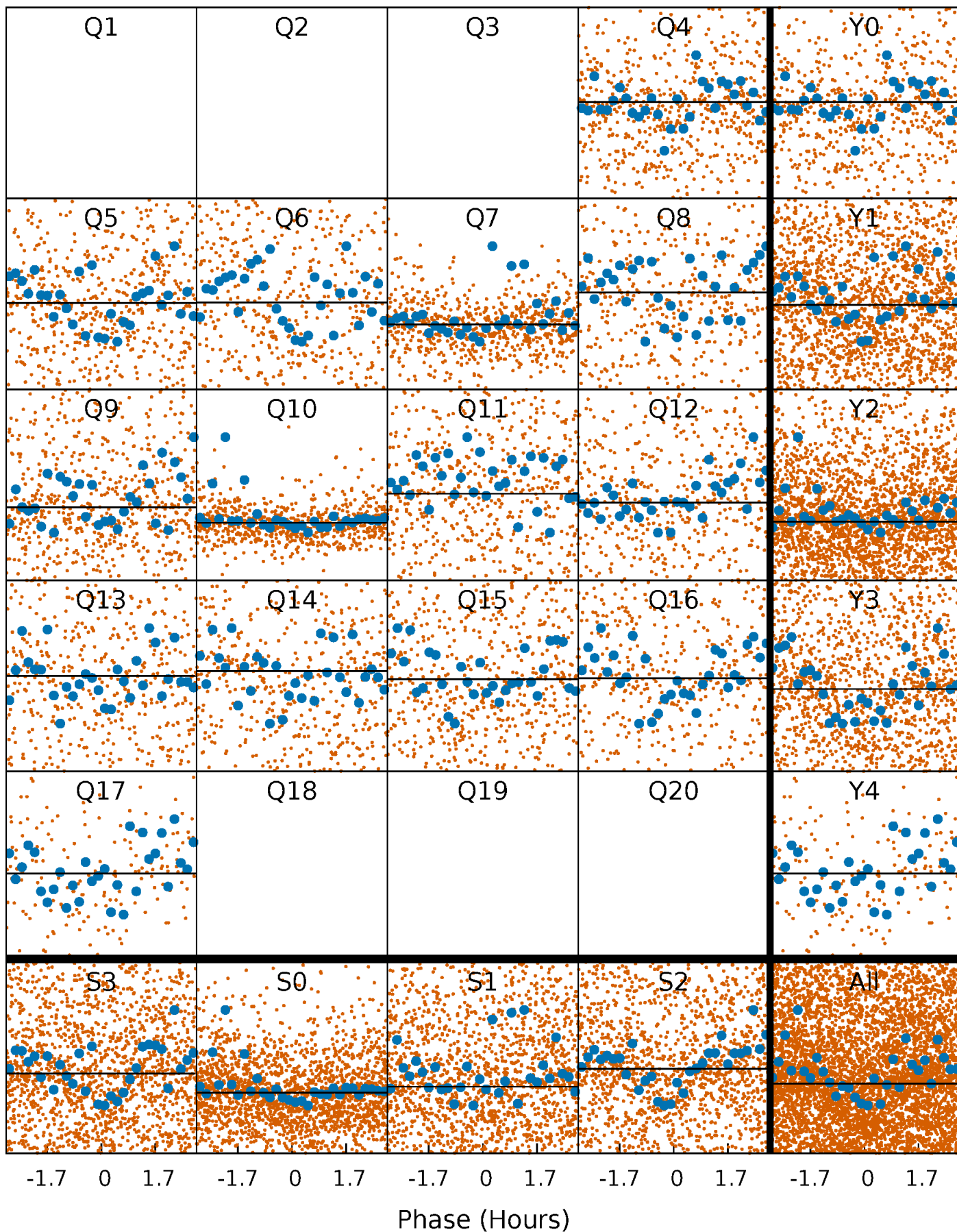
PDC Quarter-Phased Transit Curves

TCE 006359802-06 P= 1.417006 Days $T_0=132.464119$ (BKJD)



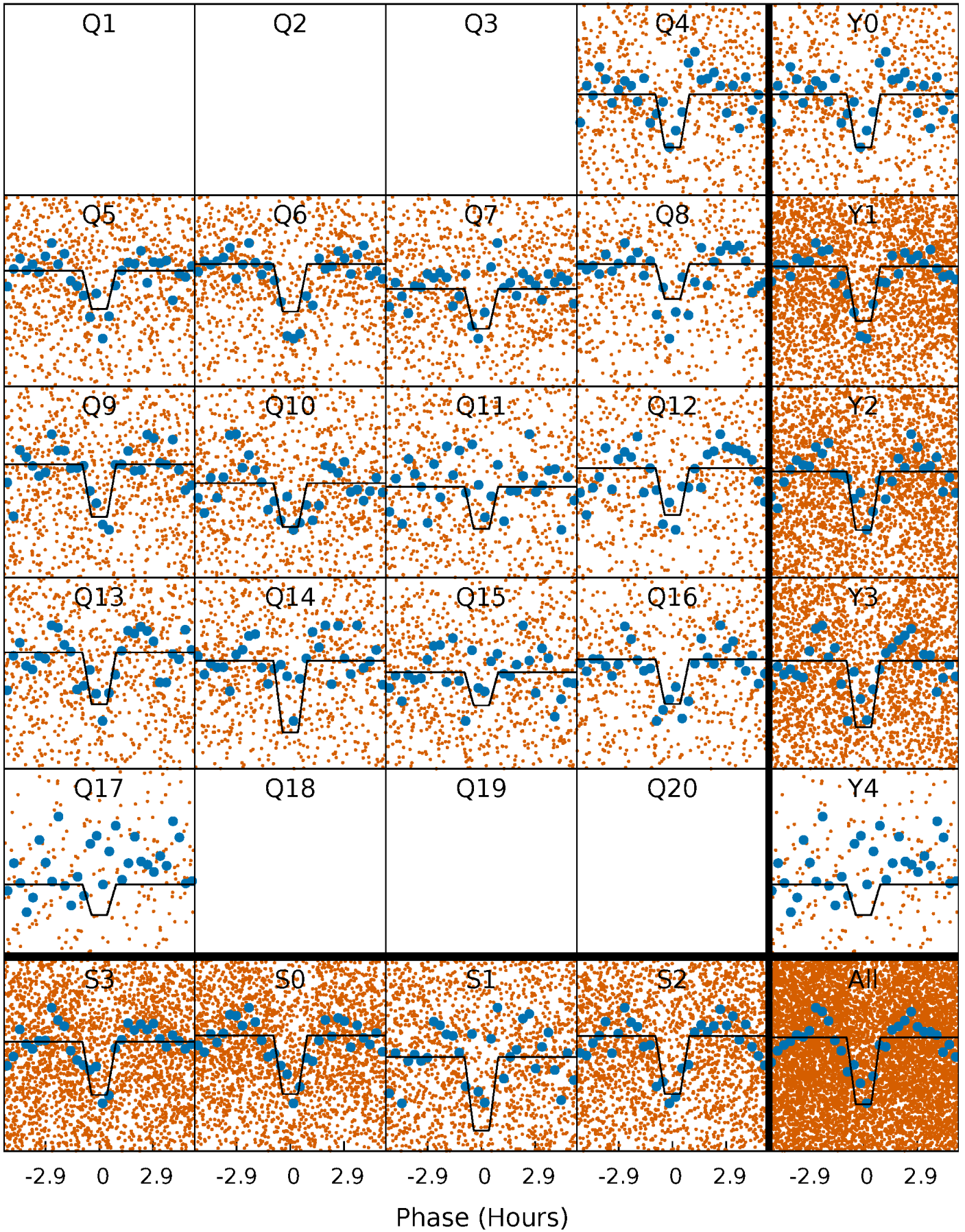
DV Quarter-Phased Transit Curves

TCE 006359802-06 P= 1.417006 Days $T_0=132.464119$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

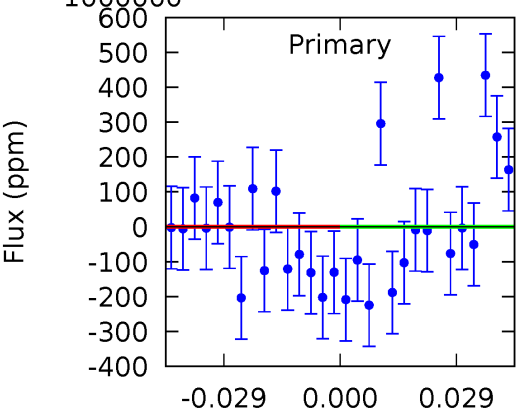
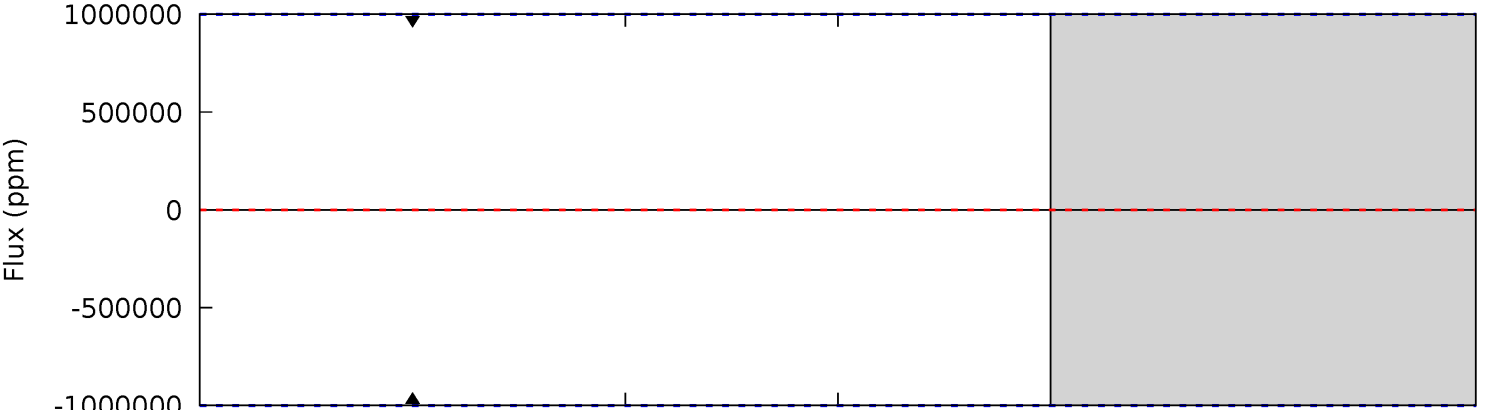
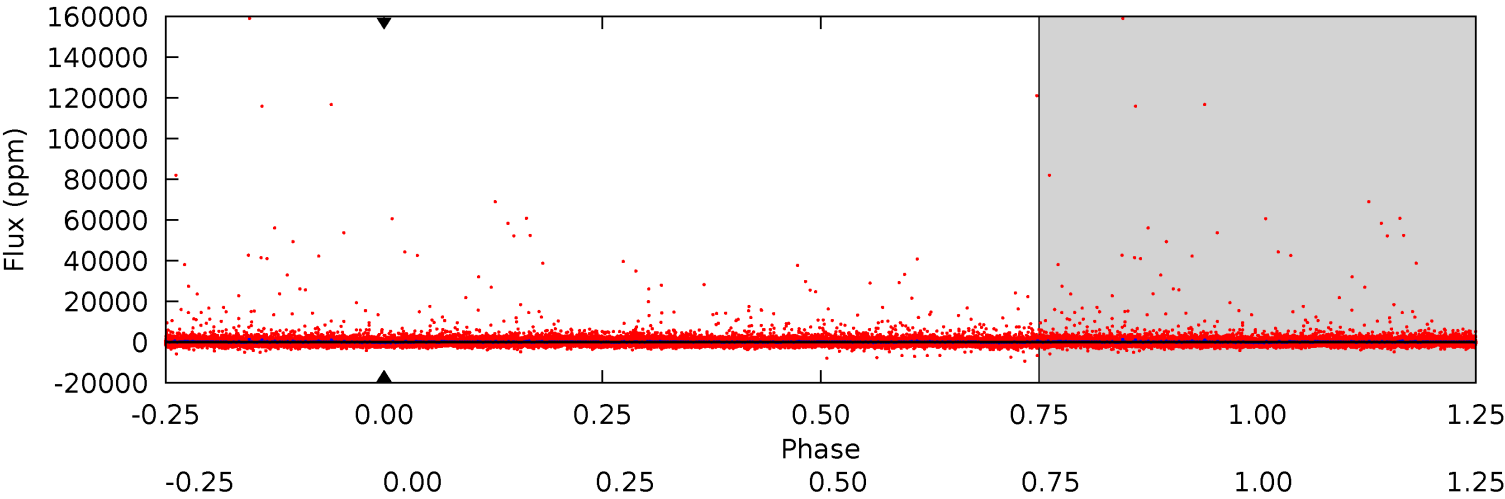
TCE 006359802-06 P= 1.417006 Days $T_0=132.461604$ (BKJD)



DV Model-Shift Uniqueness Test

006359802-06, P = 1.417006 Days, E = 132.464119 Days

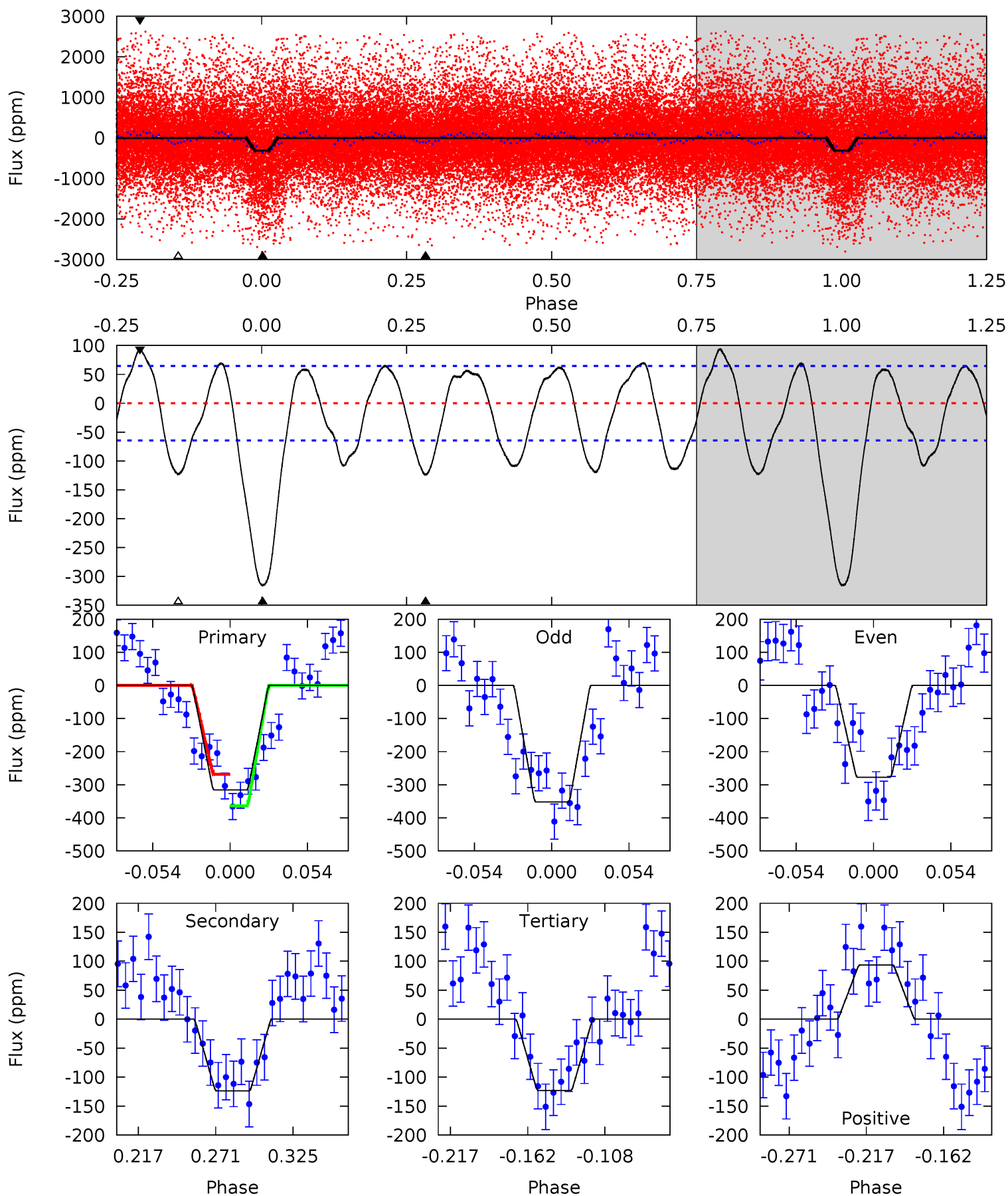
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

006359802-06, P = 1.417006 Days, E = 132.461604 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.0	9.02	8.97	6.82	4.69	1.93	4.67	14.0	16.2	0.06	2.20	2.73	0.98	0.23	3.50



Stellar Parameters For KIC 006359802

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4352^{+153}_{-153}	$4.610^{+0.052}_{-0.021}$	$-0.040^{+0.300}_{-0.300}$	$0.661^{+0.042}_{-0.058}$	$0.650^{+0.065}_{-0.058}$	$3.165^{+0.740}_{-0.339}$
	+4%/-4%	+1%/-0%	+750%/-750%	+6%/-9%	+10%/-9%	+23%/-11%
Source	KIC0	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 006359802-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$6.08^{+5.60}_{-4.04}$	1481^{+58}_{-56}	3084^{+7687}_{-12277}	$6.451^{+1497.570}_{-965.969}$
Alt.	-124 ± 14	$5.52^{+5.23}_{-3.77}$	1481^{+54}_{-55}	2343^{+970}_{-3962}	$1.044^{+9.433}_{-0.762}$

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 $A_{obs} \gg 1.0$

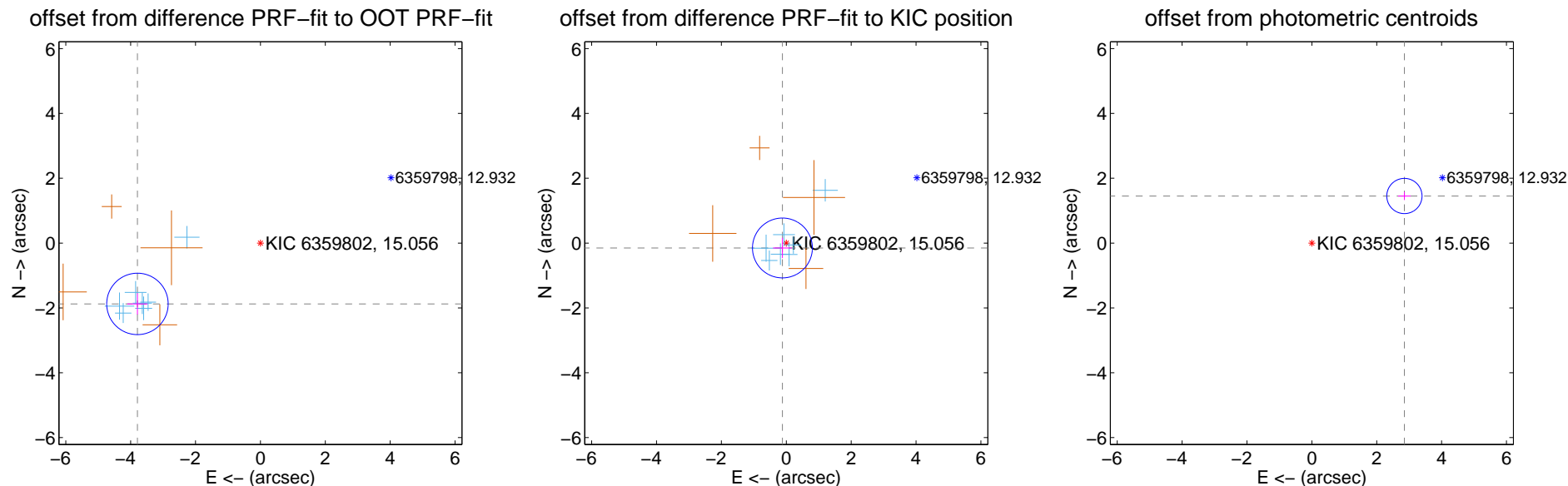
DV Centroid Data

Supplemental centroid analysis for 006359802-06. Kepler magnitude: 15.06. Transit SNR -1.00

There are 7 quarters with good PRF difference image offsets

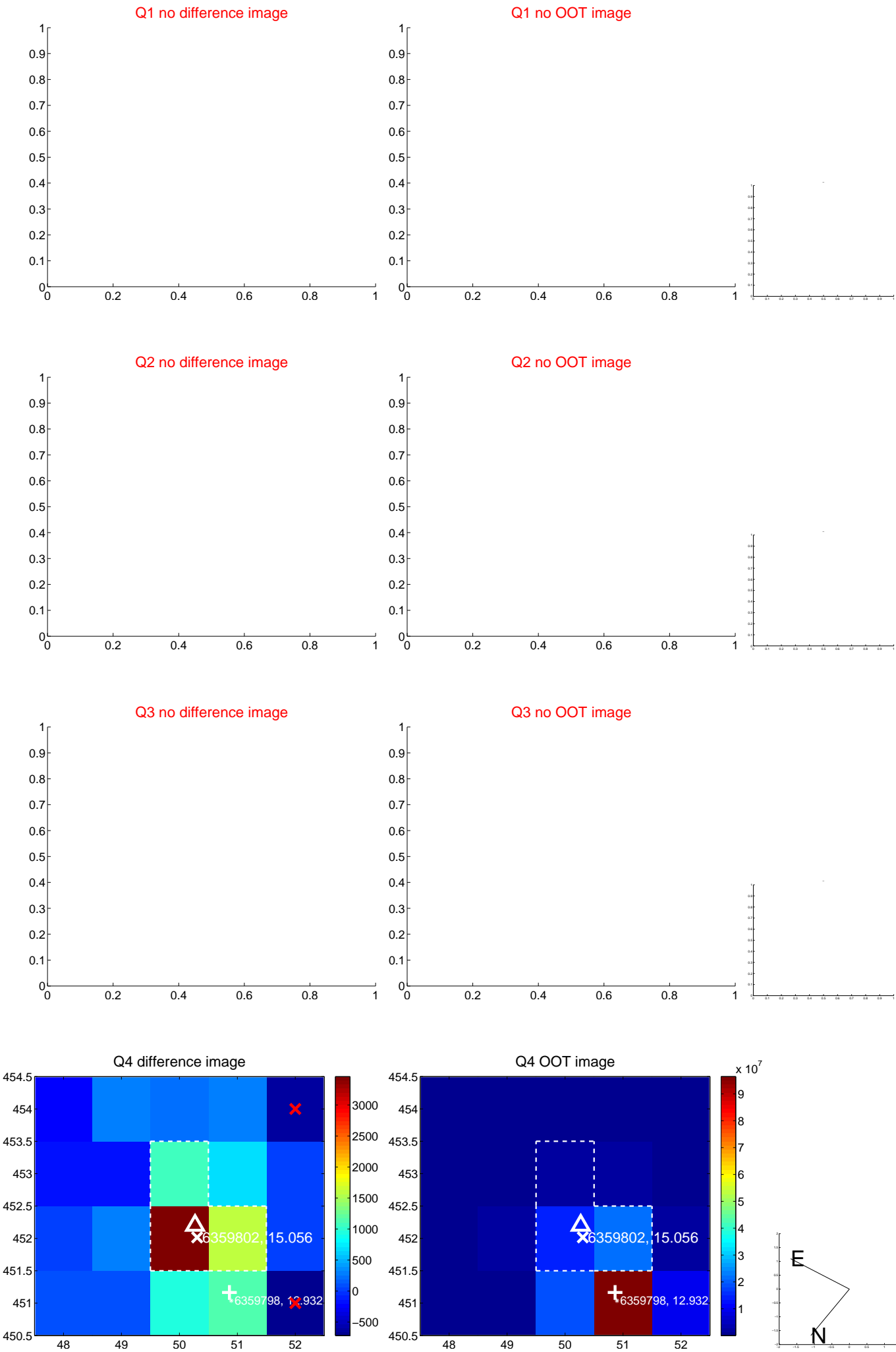
The OOT PRF centroid is offset from the target star catalog position by about 4.22 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.229 ± 0.316	13.40	3.791 ± 0.313	-1.876 ± 0.328
PRF-fit source offset from KIC position	0.192 ± 0.308	0.62	0.119 ± 0.287	-0.151 ± 0.314
photometric centroid source offset	3.20 ± 0.18	17.69	-2.85 ± 0.19	1.45 ± 0.12

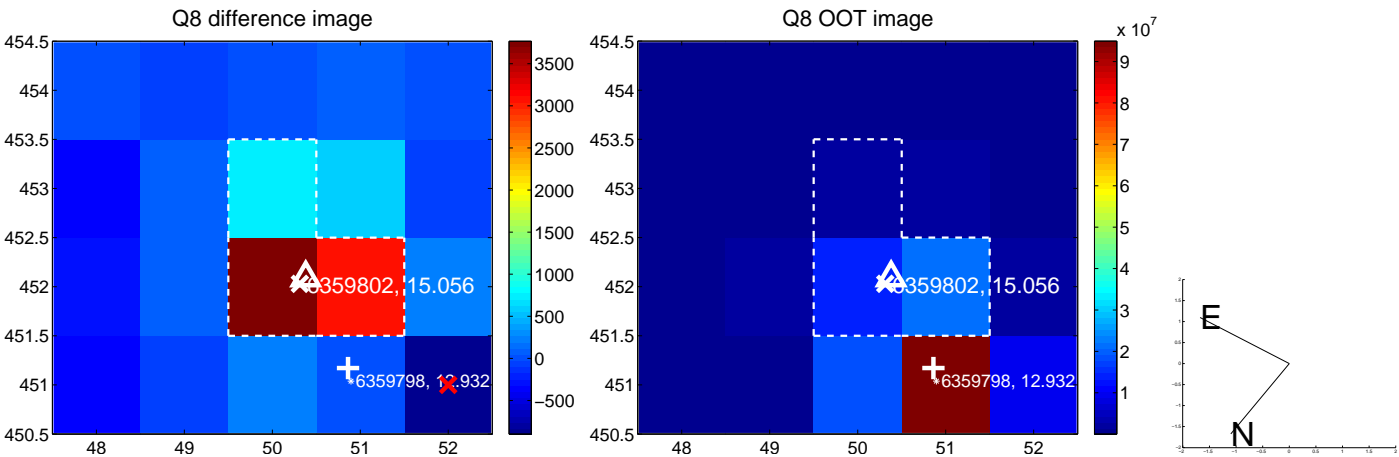
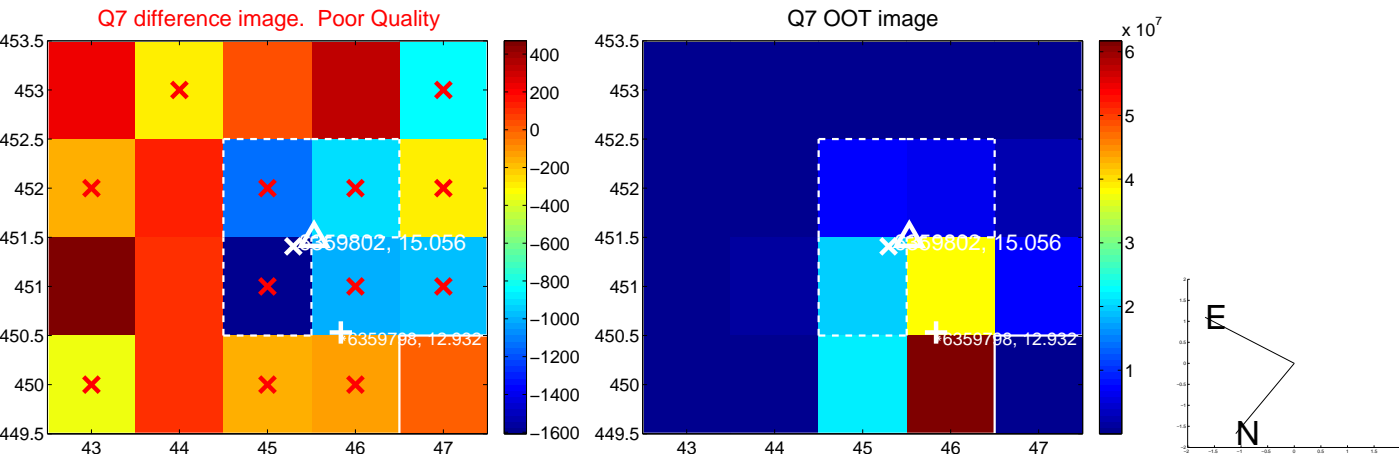
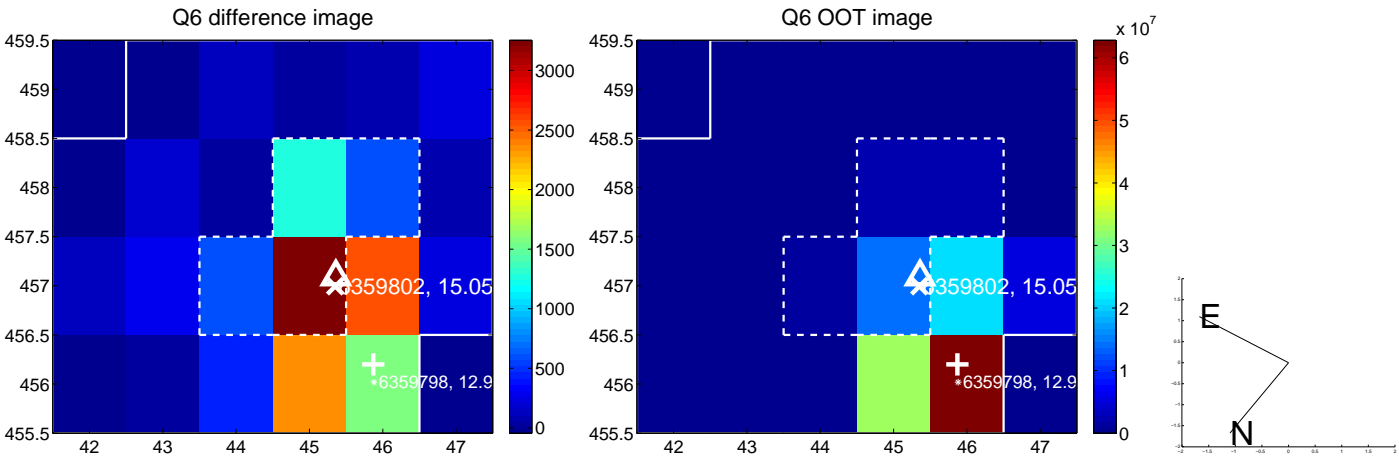
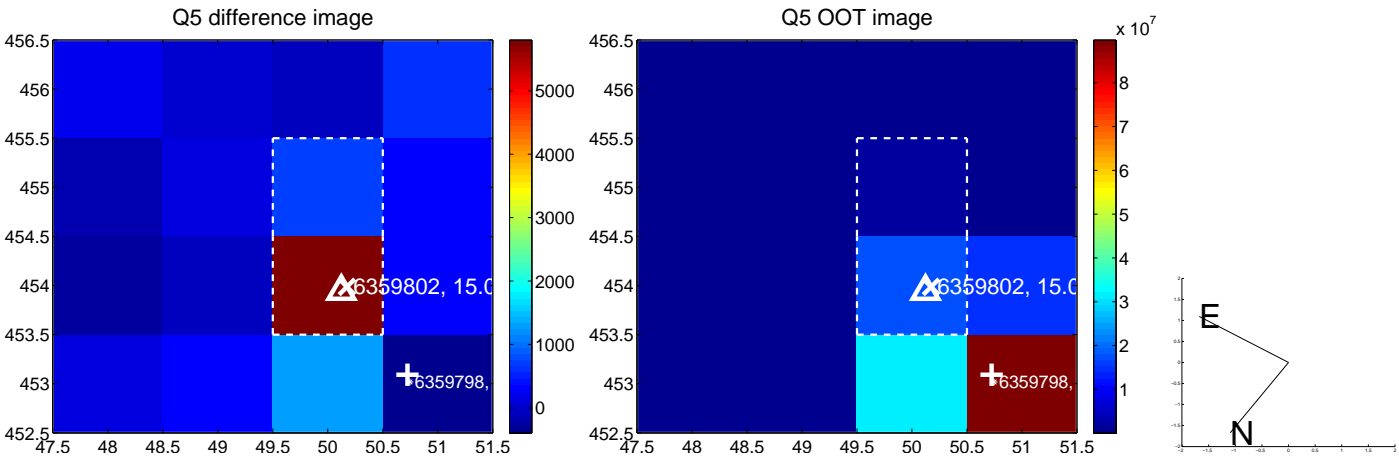


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

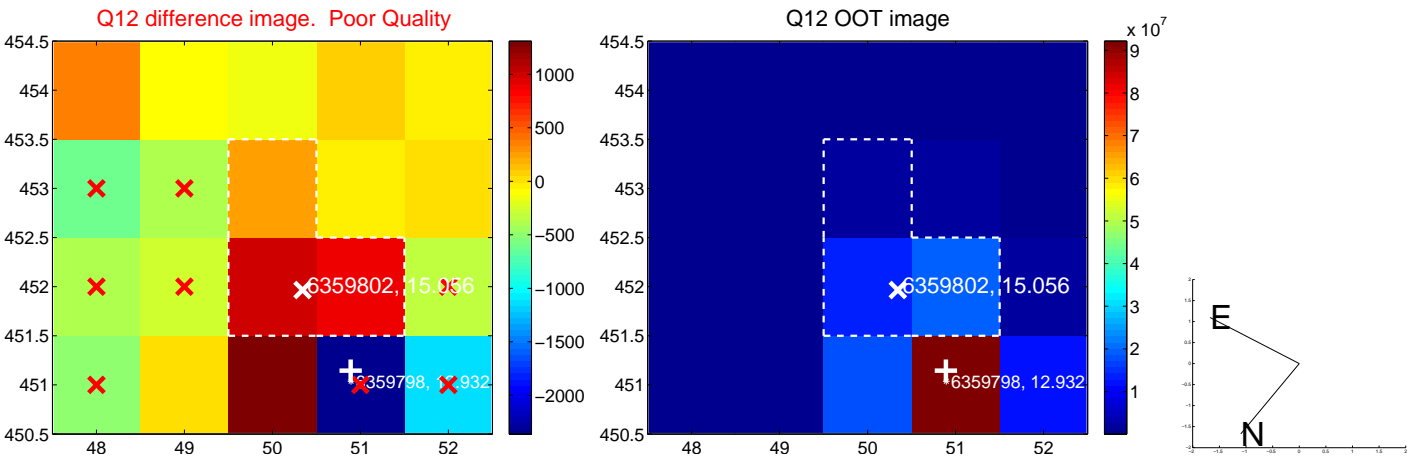
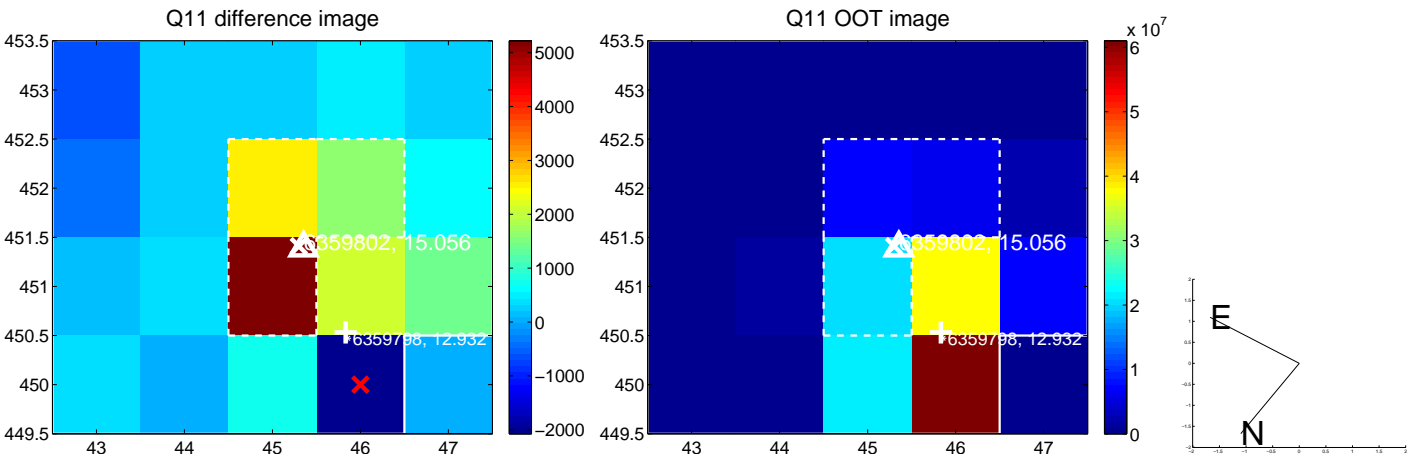
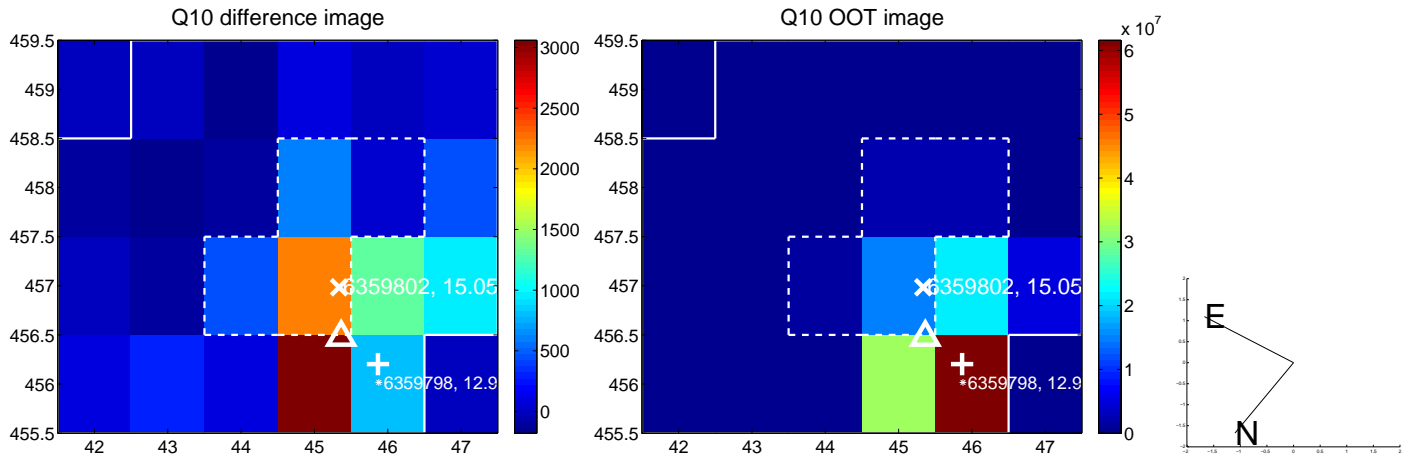
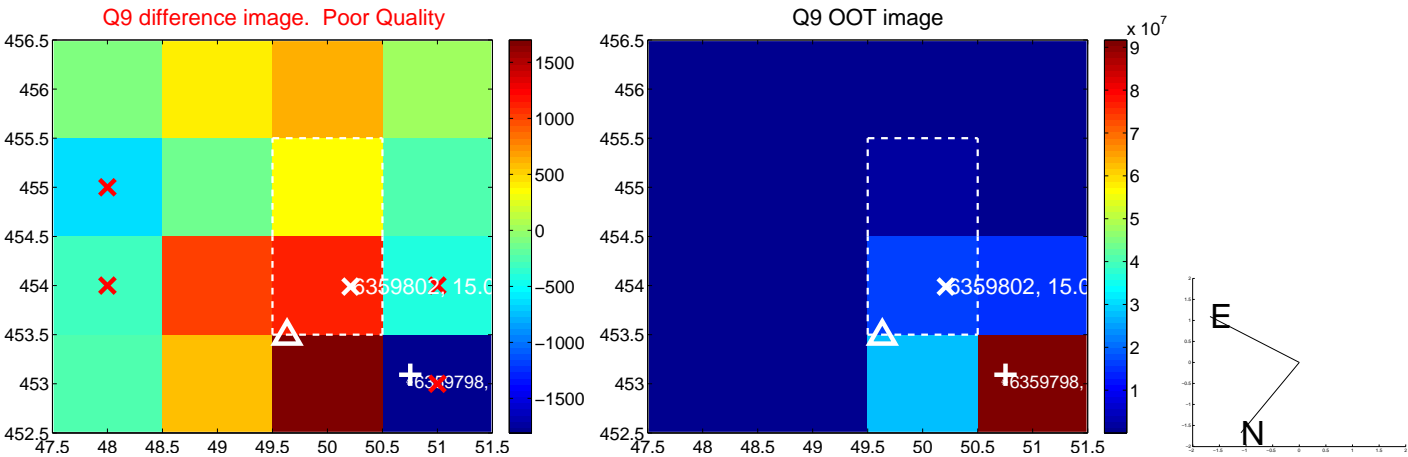
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



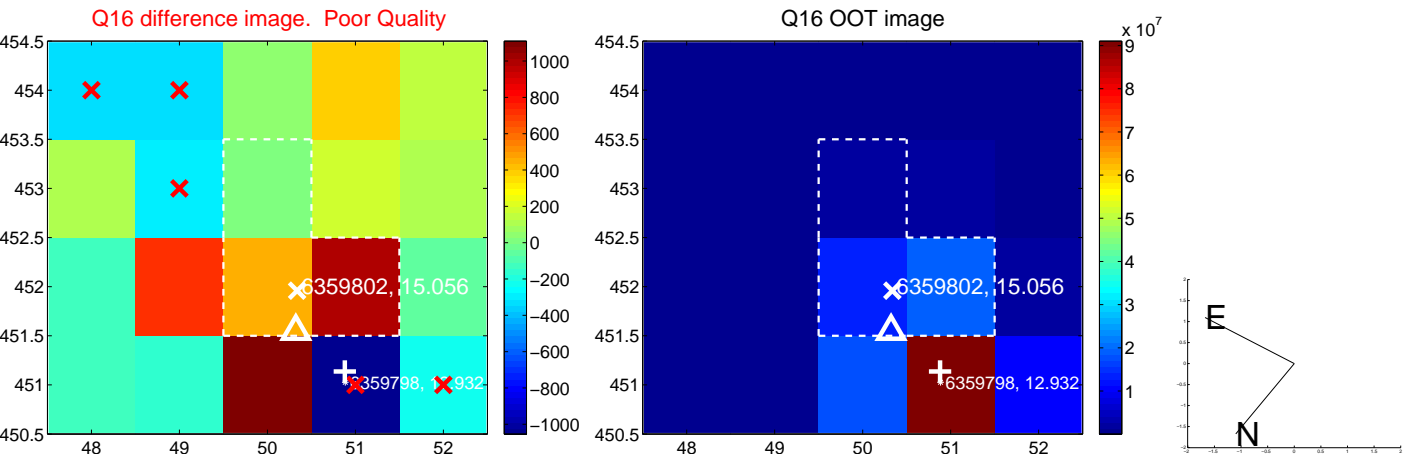
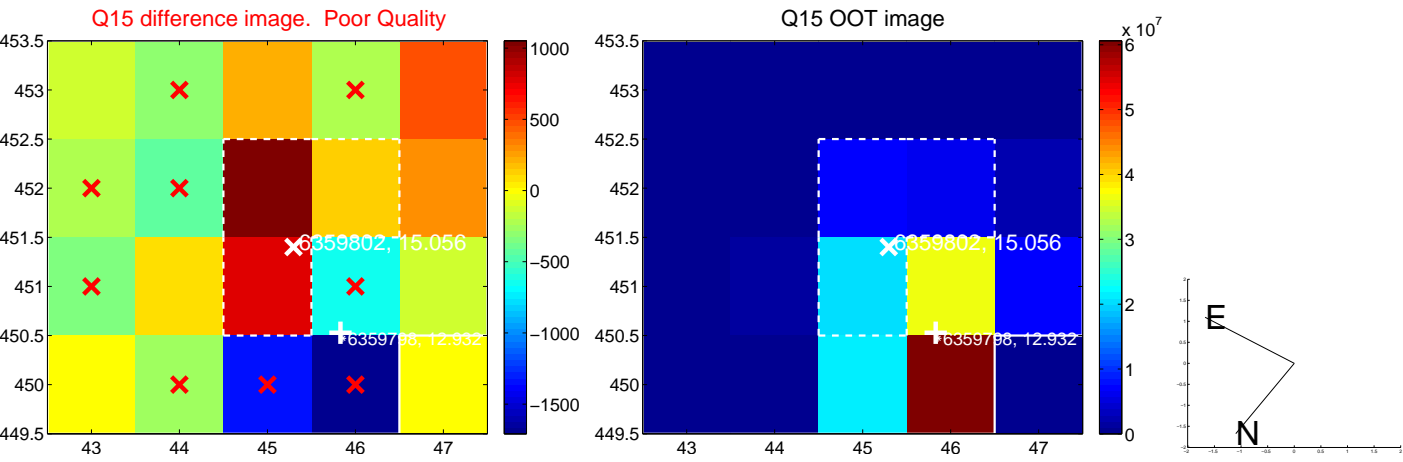
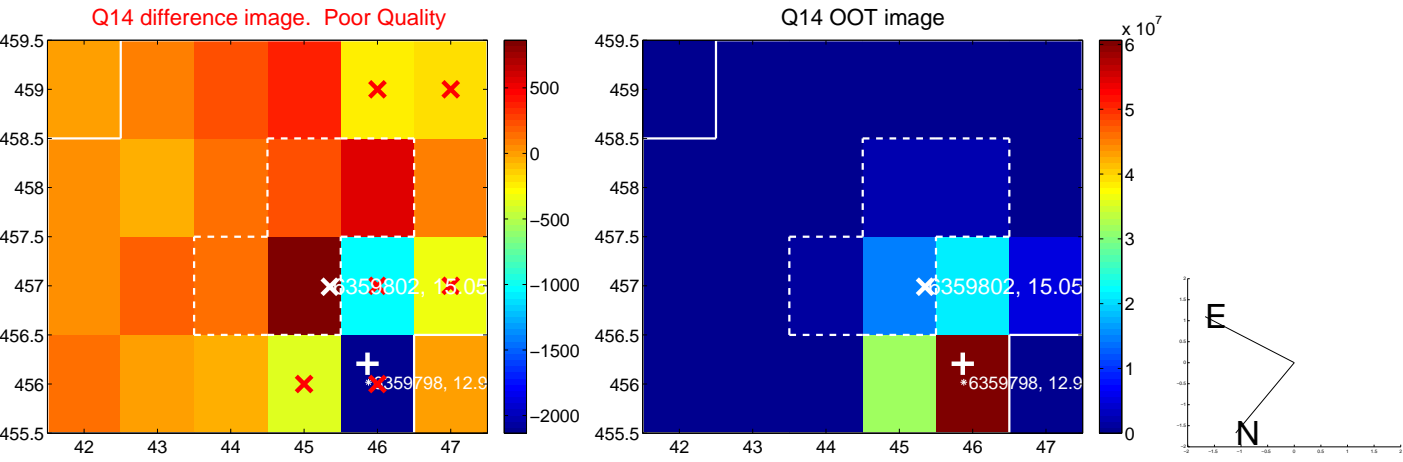
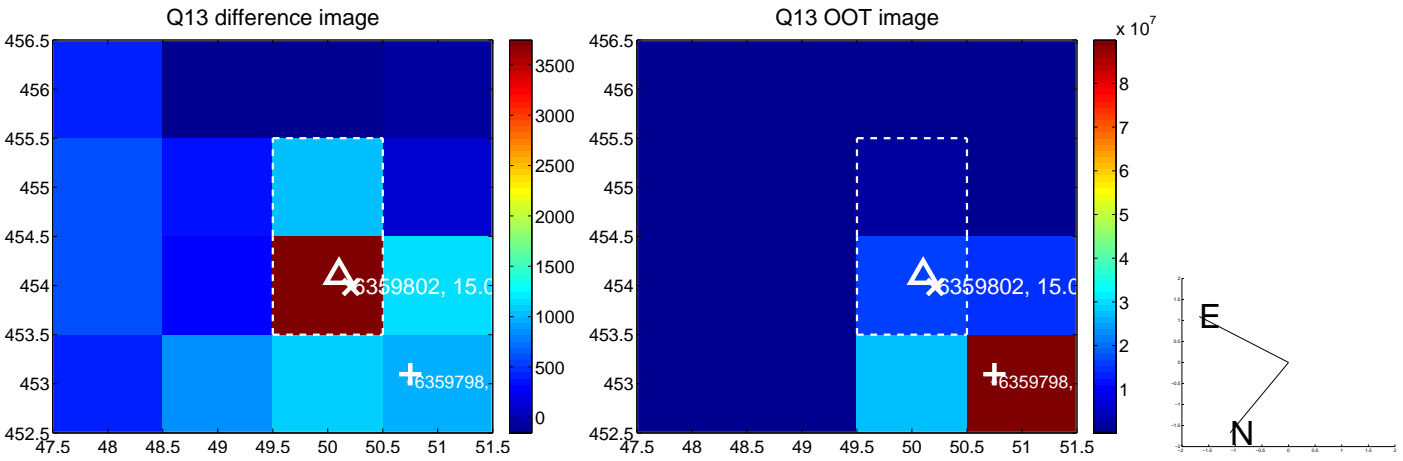
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



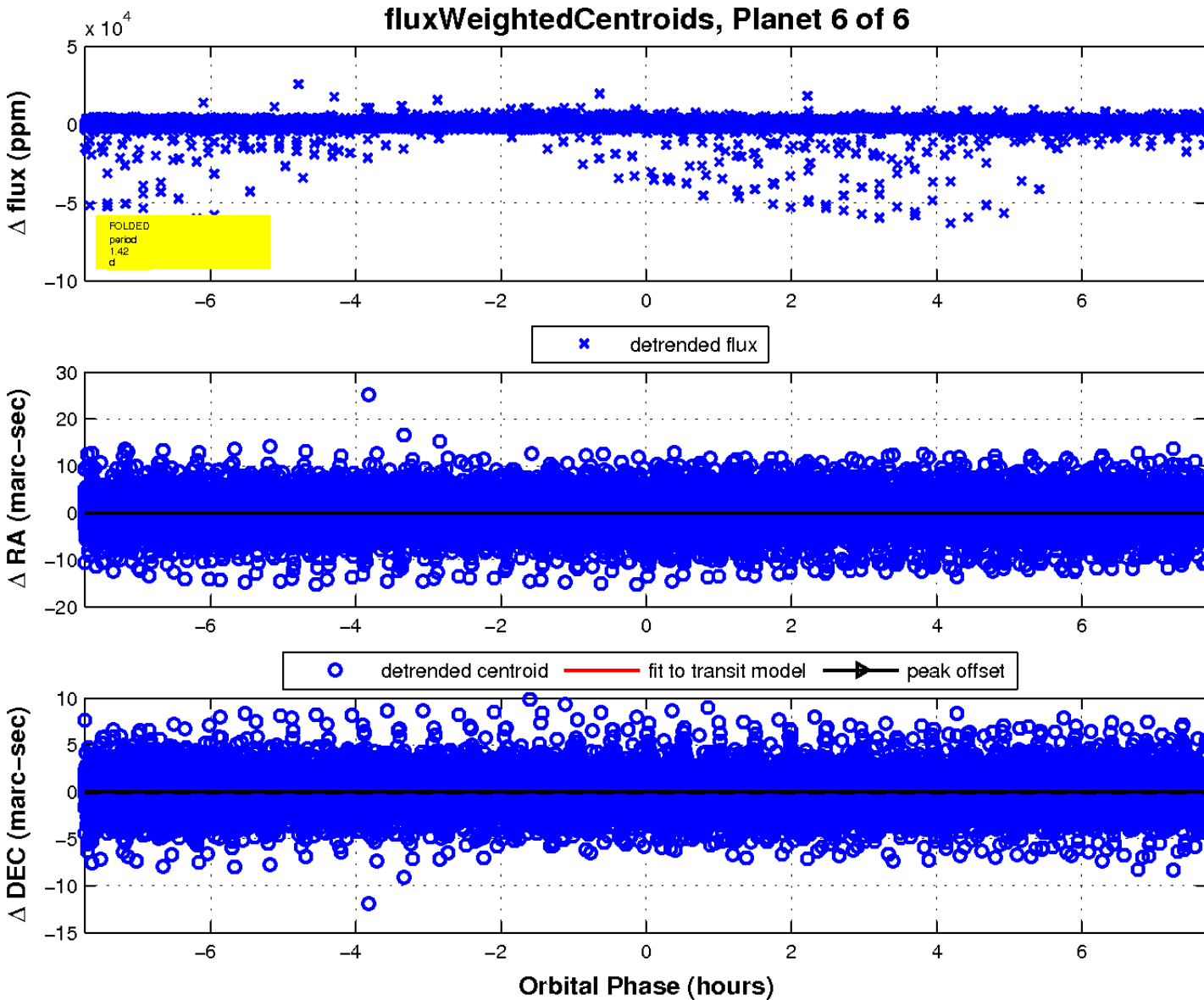
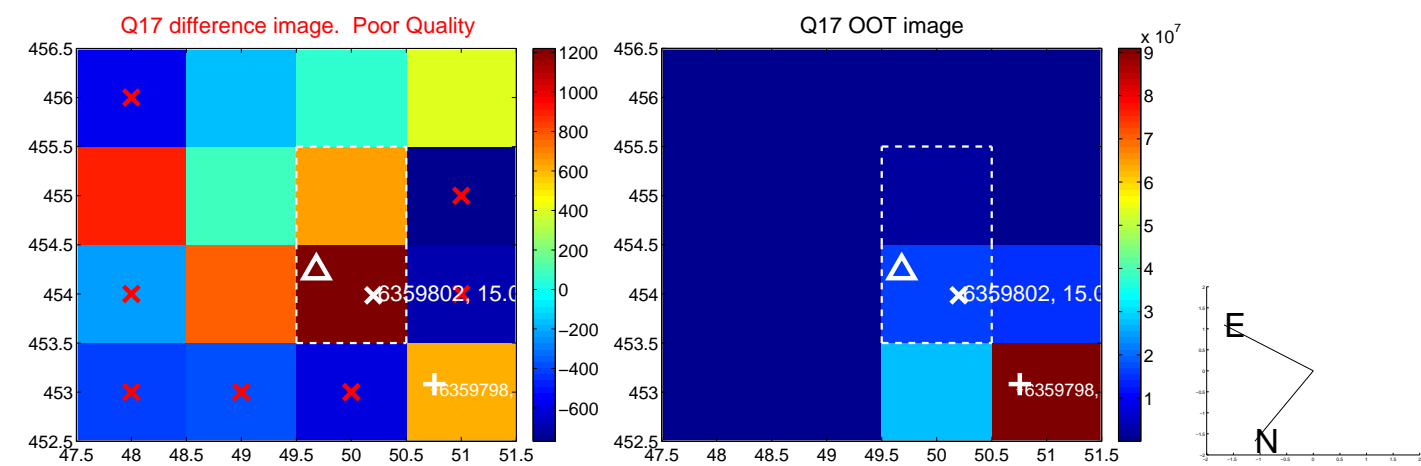
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

