

KIC 005796185

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})
005796185-01	OBS	3369.01	42.559207	161.572074	202851.6	3.482	2233.1	1085.4	0.86	5764	50.73	13.30
005796185-02	OBS	No	42.559068	133.494631	4980.8	7.563	80.3	80.5	0.86	5764	8.73	13.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005796185-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_KIC_POS
005796185-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS

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.

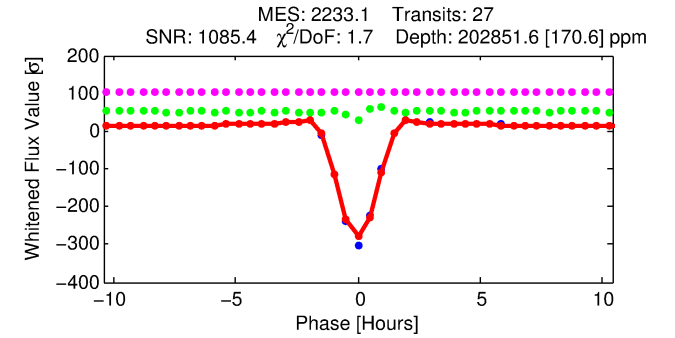
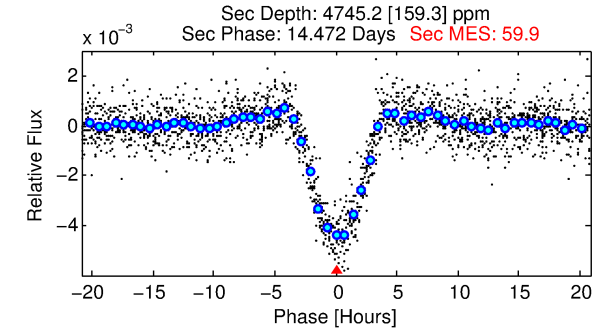
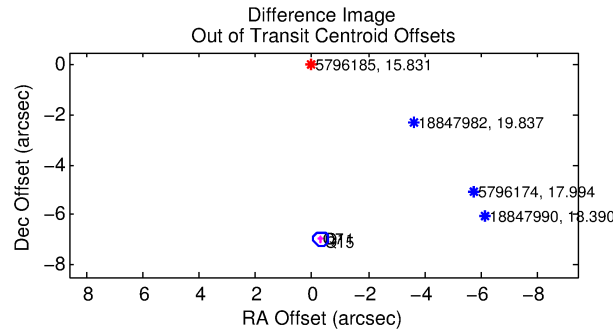
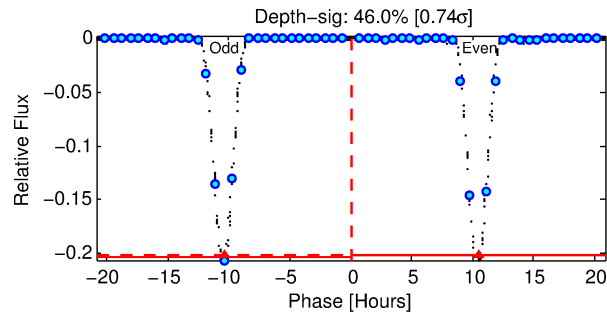
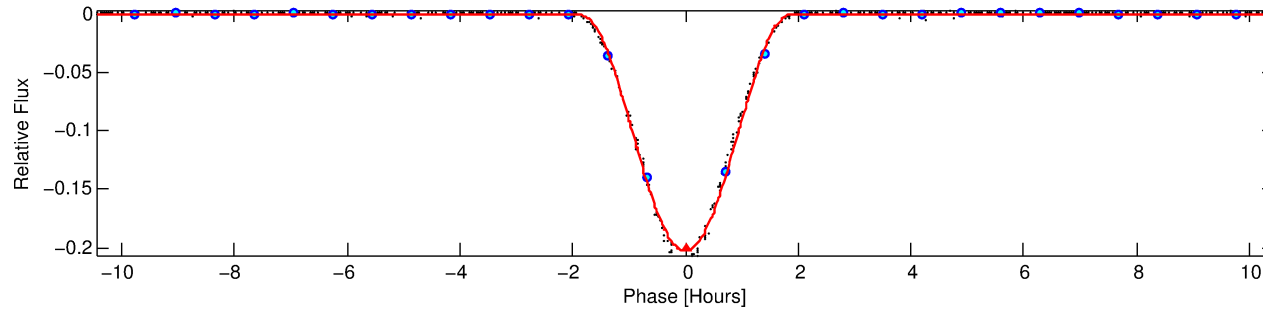
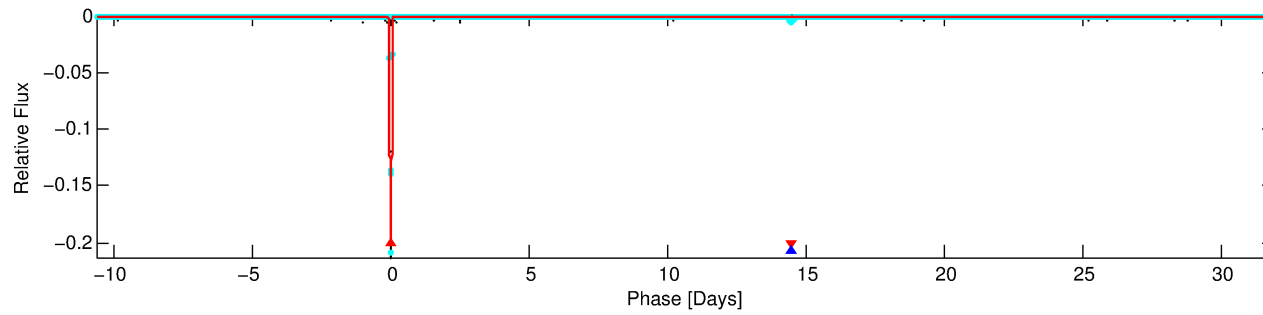
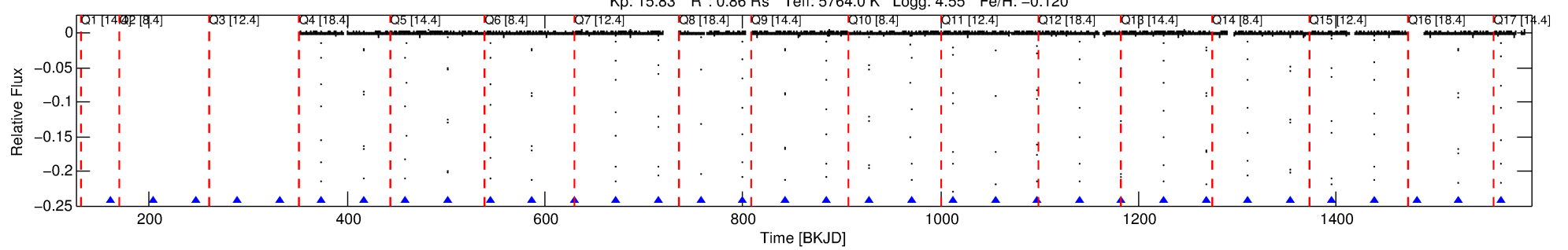
Ephemeris Match Information For 005796185-01

No Significant Match Found

DV One-Page Summary

KIC: 5796185 Candidate: 1 of 2 Period: 42.559 d
KOI: K03369.01 Corr: 0.986

Kp: 15.83 R*: 0.86 Rs Teff: 5764.0 K Logg: 4.55 Fe/H: -0.120



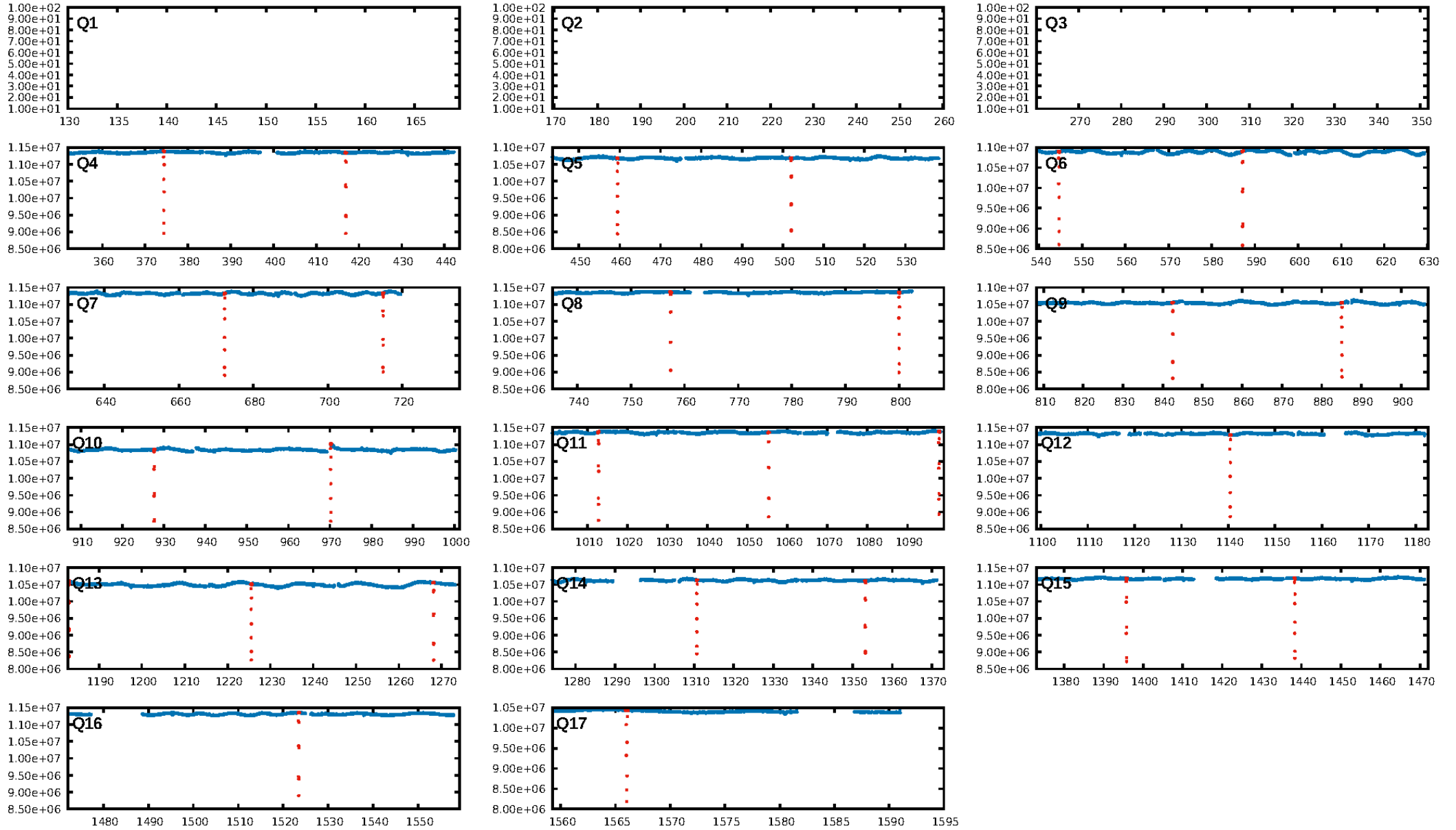
DV Fit Results:

Period = 42.55921 [0.00000] d
Epoch = 161.5721 [0.0001] BKJD
Rp/R* = 0.5387 [0.1047]
a/R* = 124.38 [2.51]
b = 0.77 [0.17]
Seff = 13.30 [4.98]
Teq = 487 [46] K
Rp = 50.73 [17.55] Re
a = 0.2353 [0.0567] AU
Ag = 56.19 [29.50] [1.87σ]
Teffp = 2061 [212] K [7.26σ]

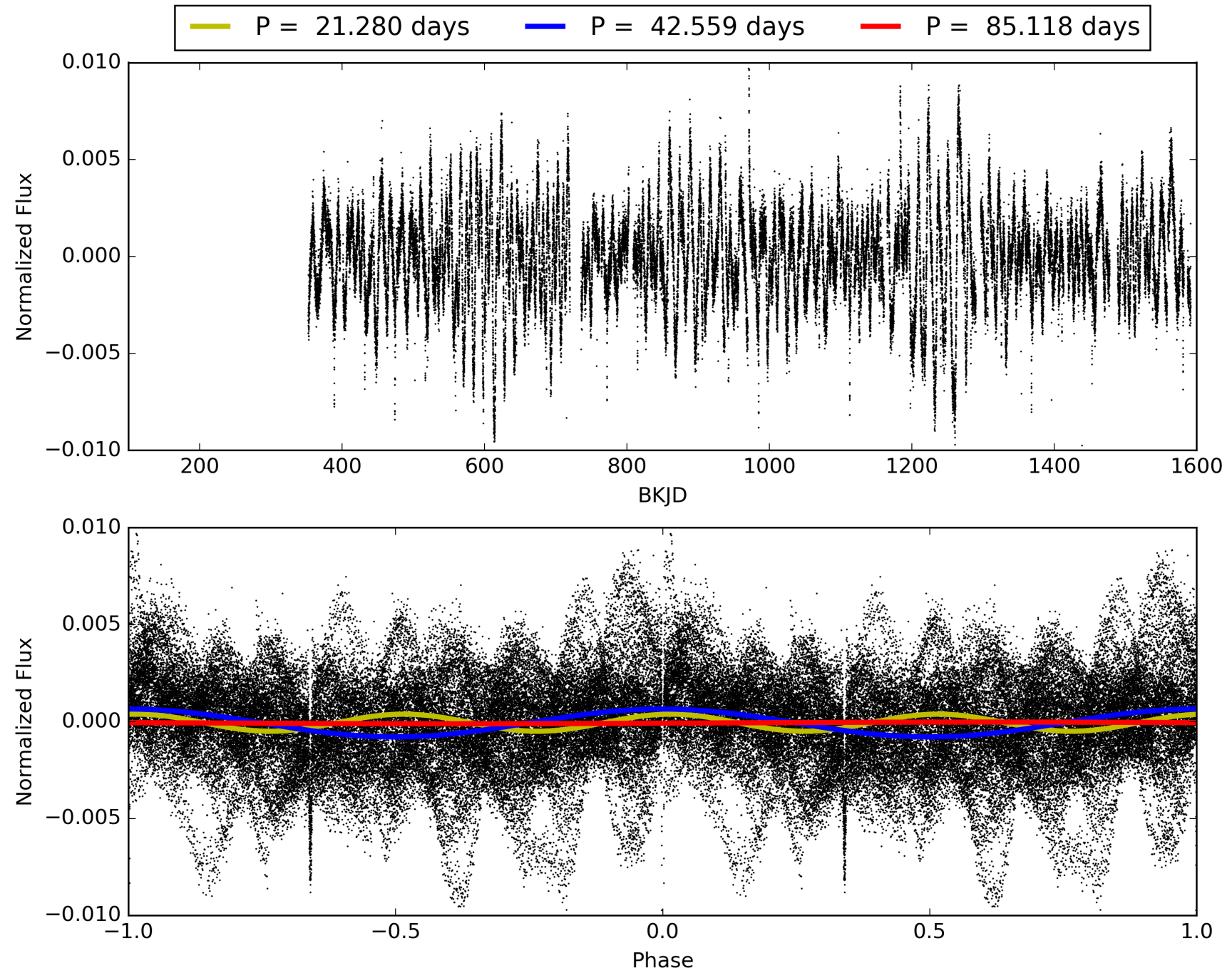
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 29.6%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [26/26]
GhostDiagnostic-chr: 4.592
Centroid-sig: 0.0%
Centroid-so: 2.778 arcsec [885.69σ]
OotOffset-rm: 6.988 arcsec [75.00σ]
KicOffset-rm: 0.368 arcsec [5.13σ]
OotOffset-st: 0/3/0/0 [3]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 005796185-01, PDC Light Curves

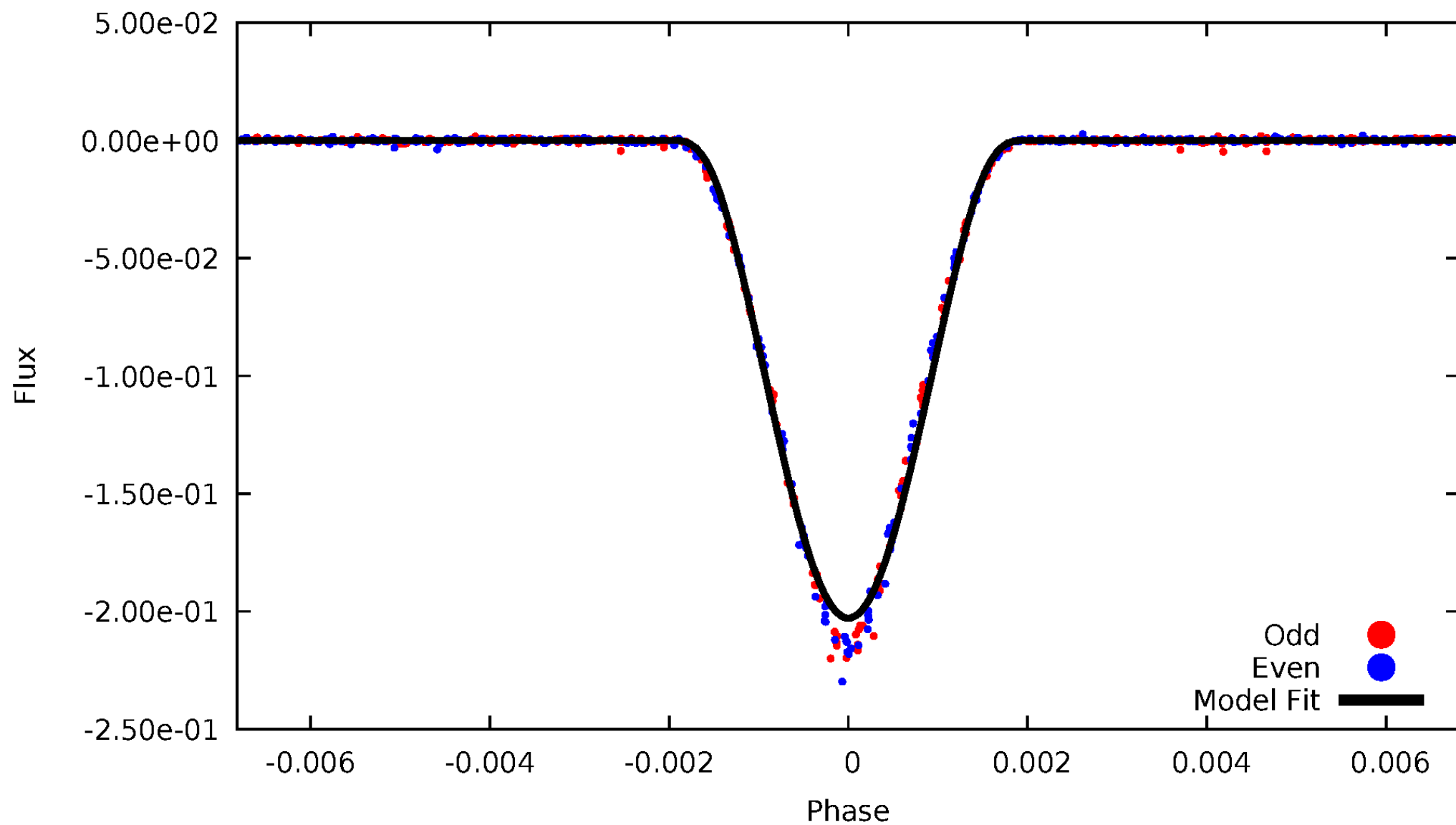


TCE 005796185-01



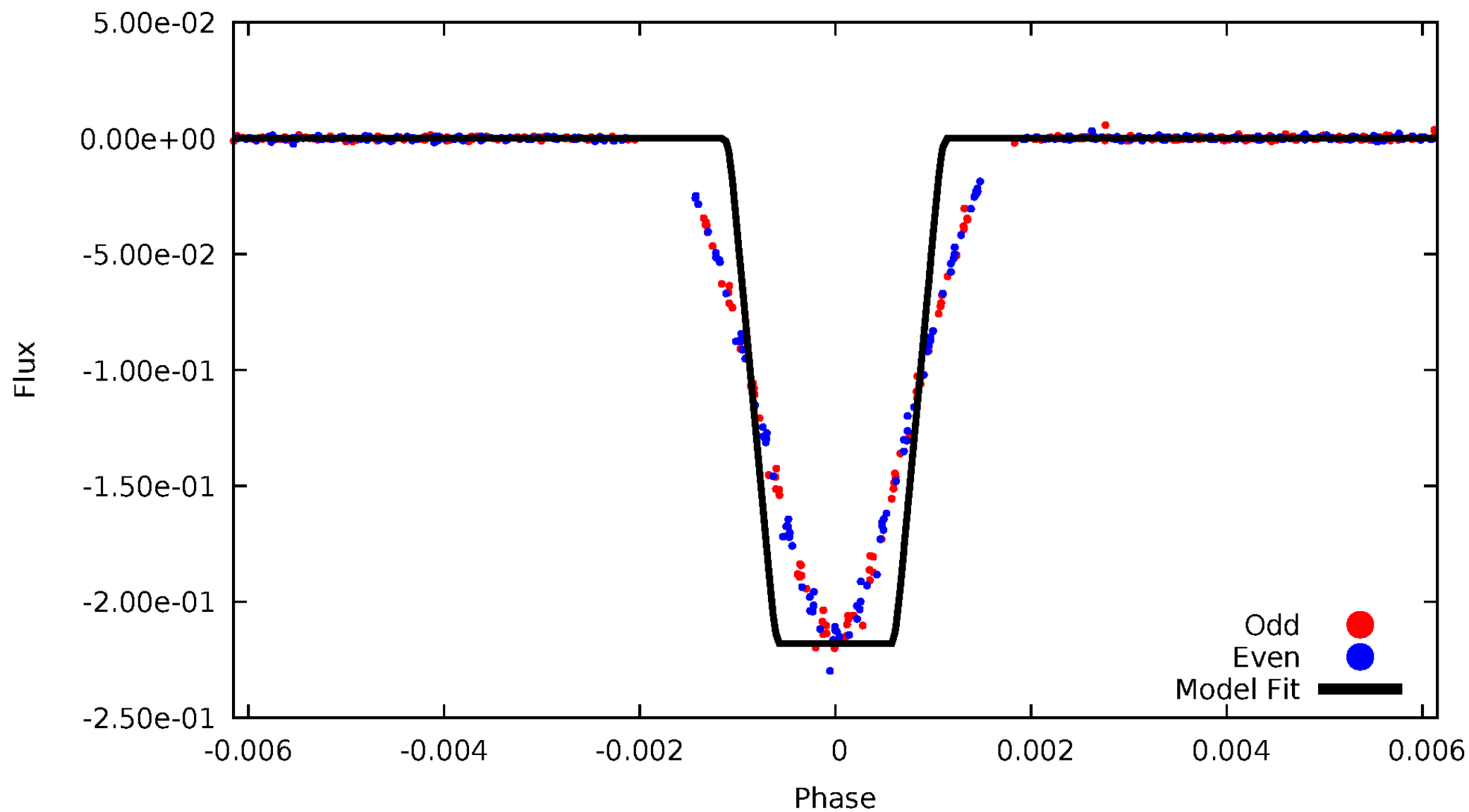
DV Odd/Even

TCE 005796185-01



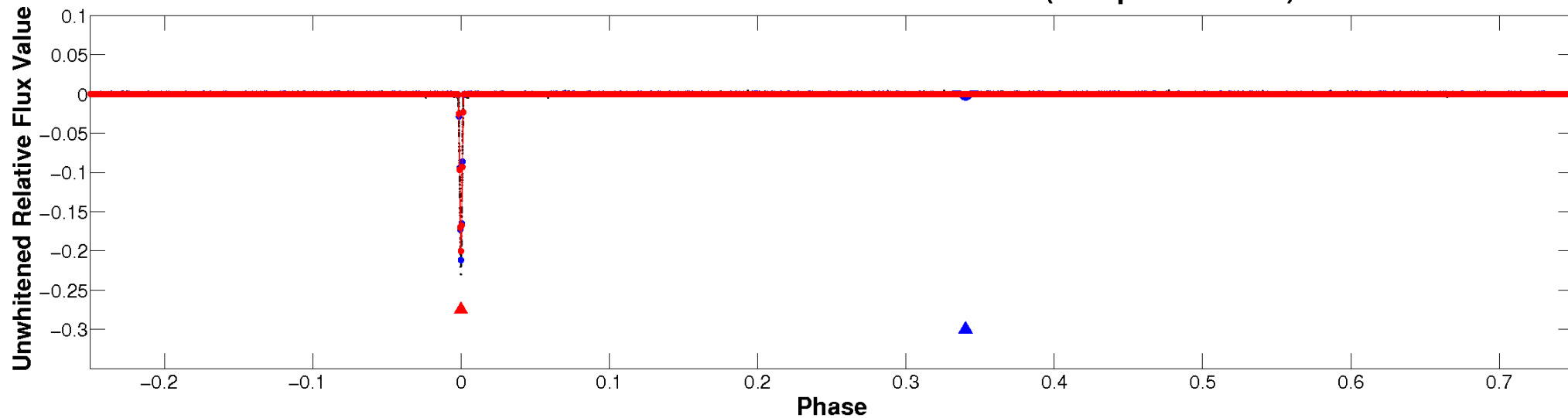
ALT Odd/Even

TCE 005796185-01

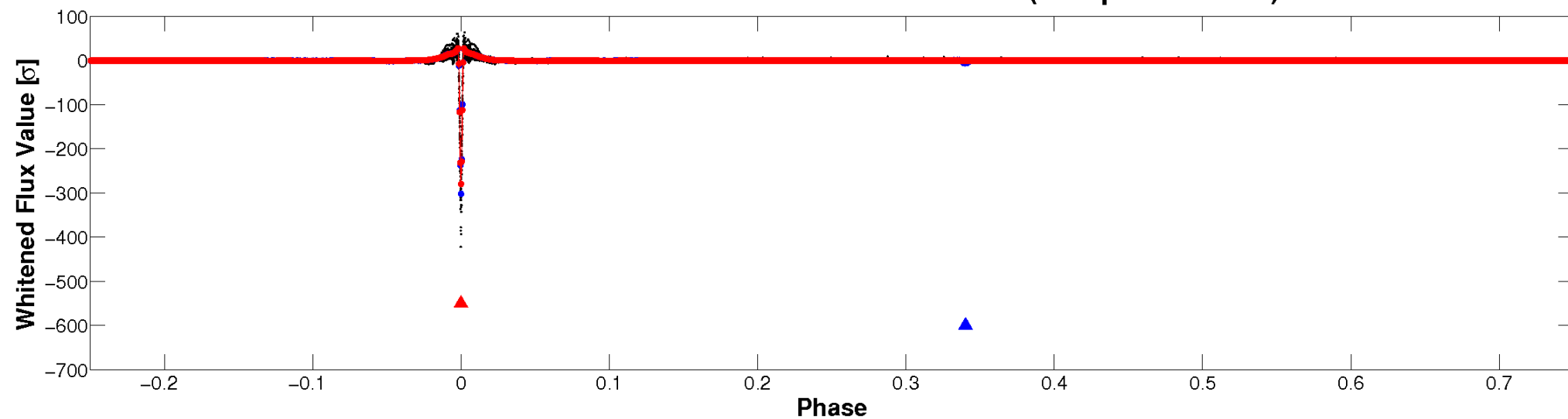


Non-Whitened Vs. Whitened Light Curve

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

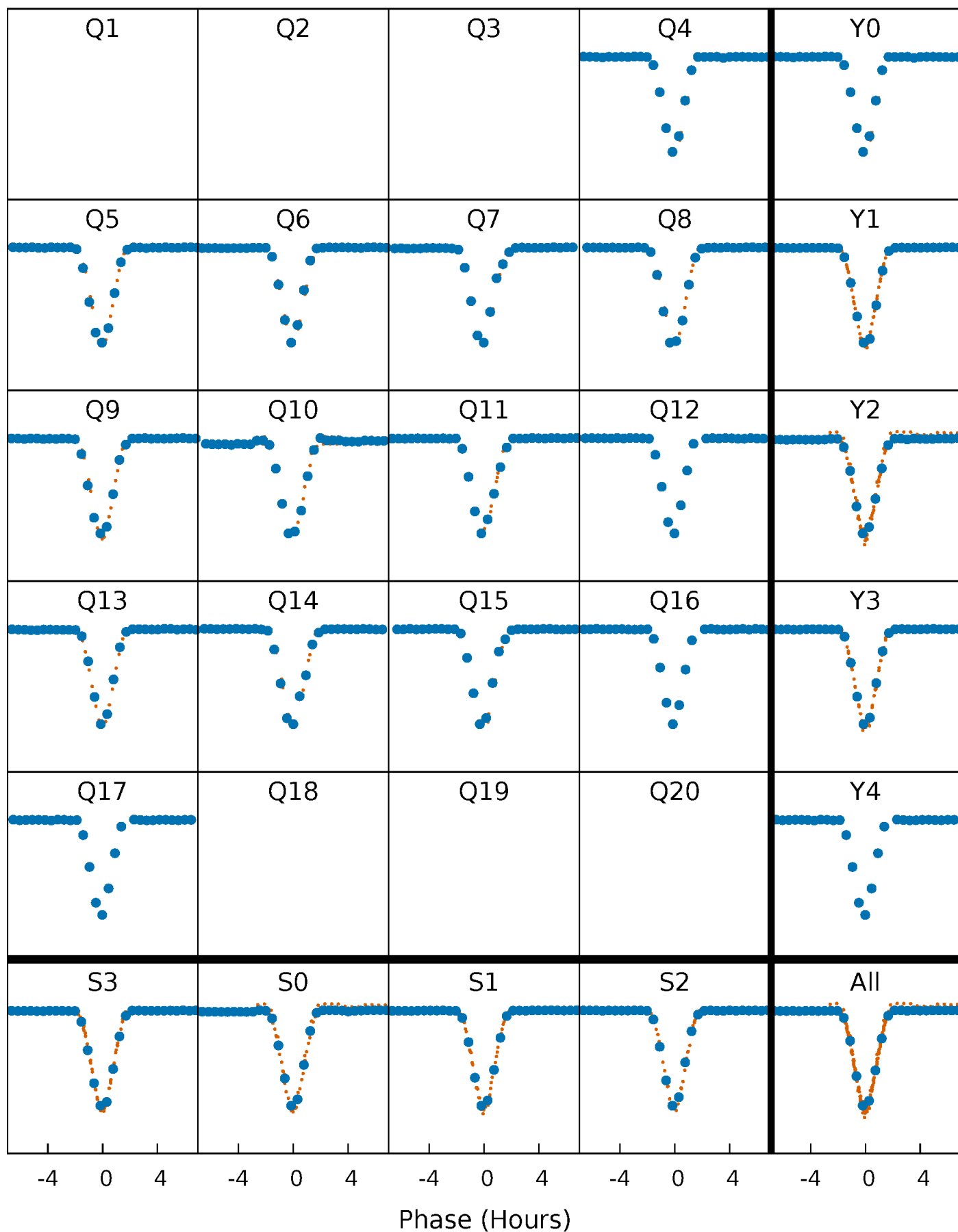


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



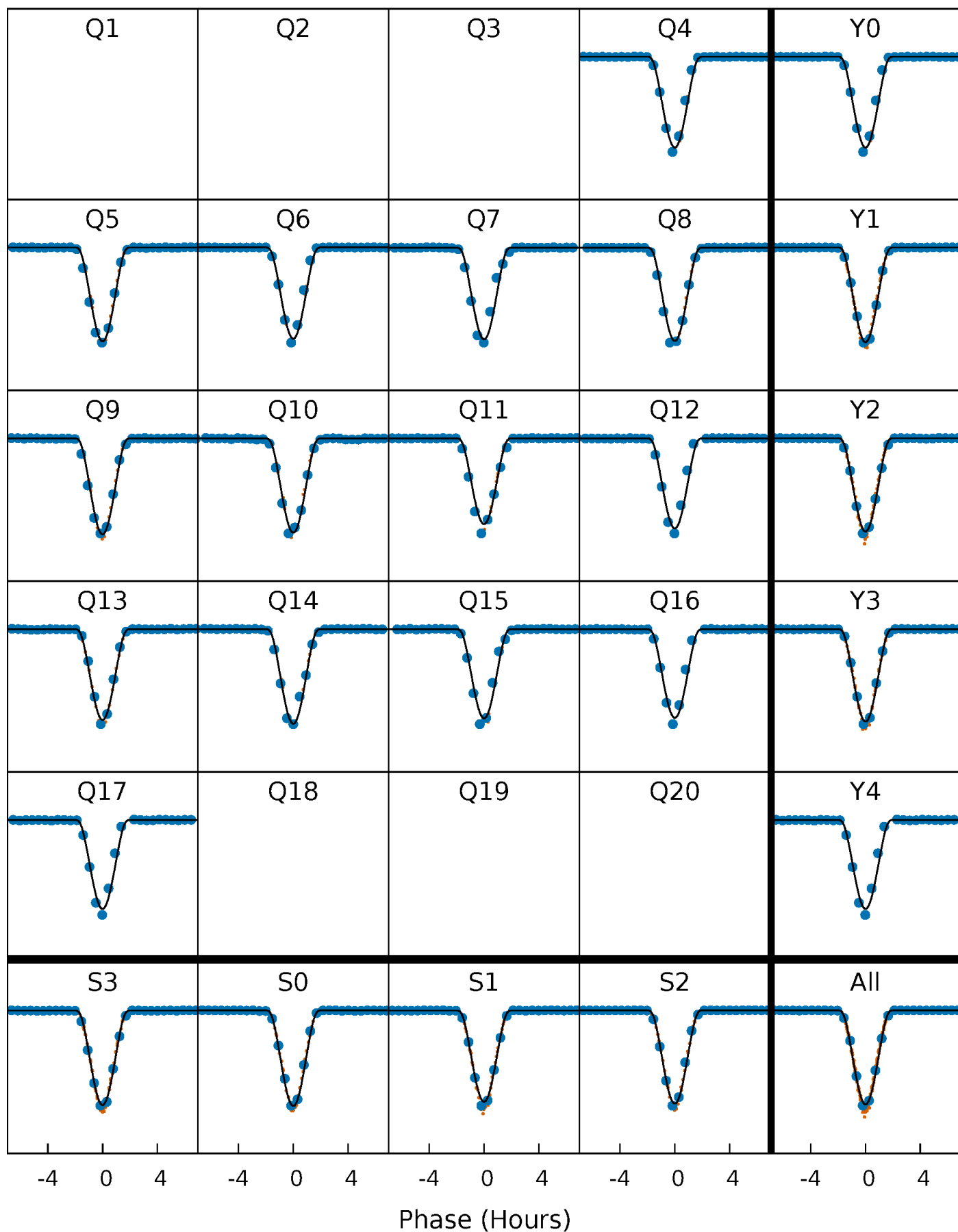
PDC Quarter-Phased Transit Curves

TCE 005796185-01 P= 42.559207 Days $T_0=161.572074$ (BKJD)



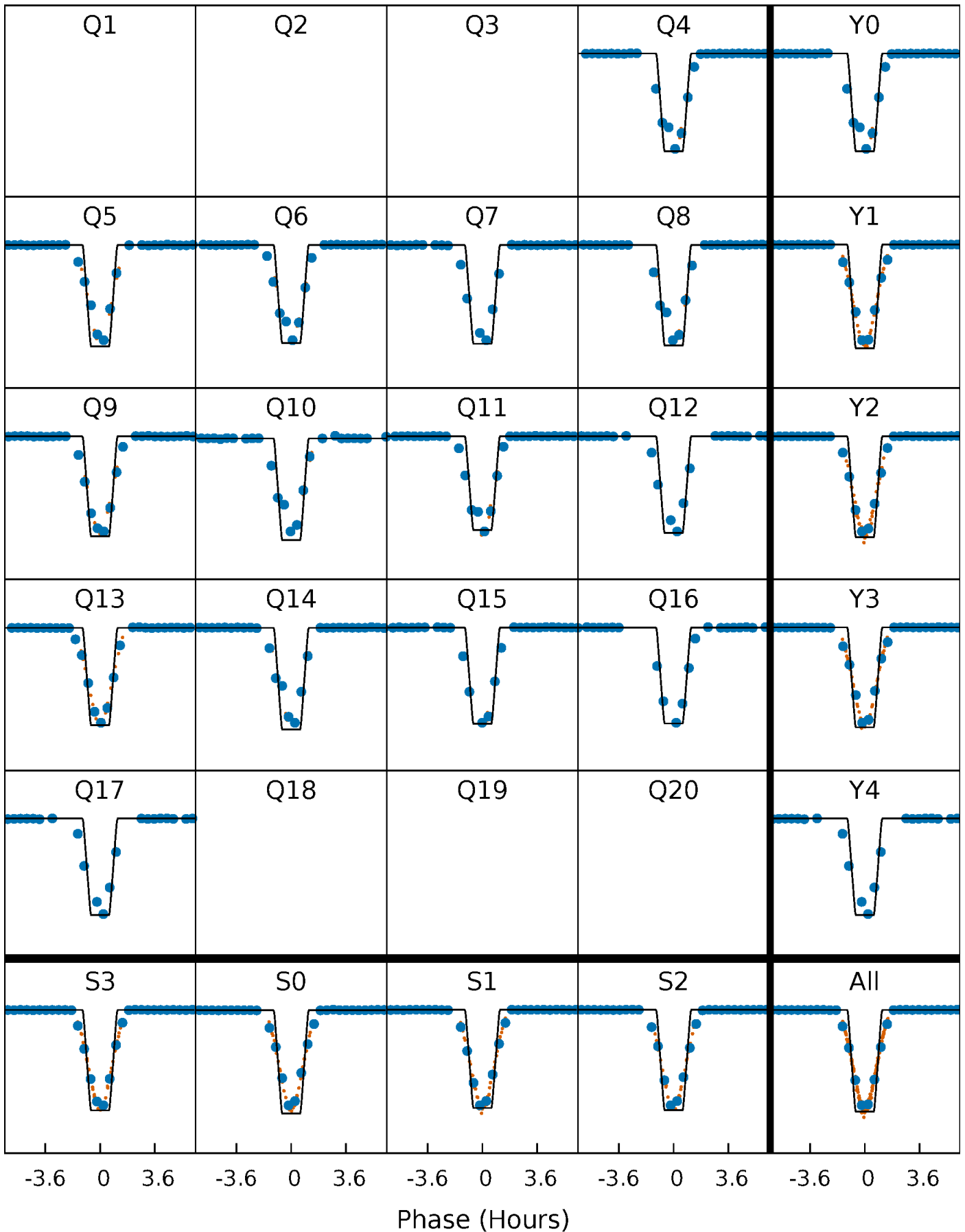
DV Quarter-Phased Transit Curves

TCE 005796185-01 P= 42.559207 Days $T_0=161.572074$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

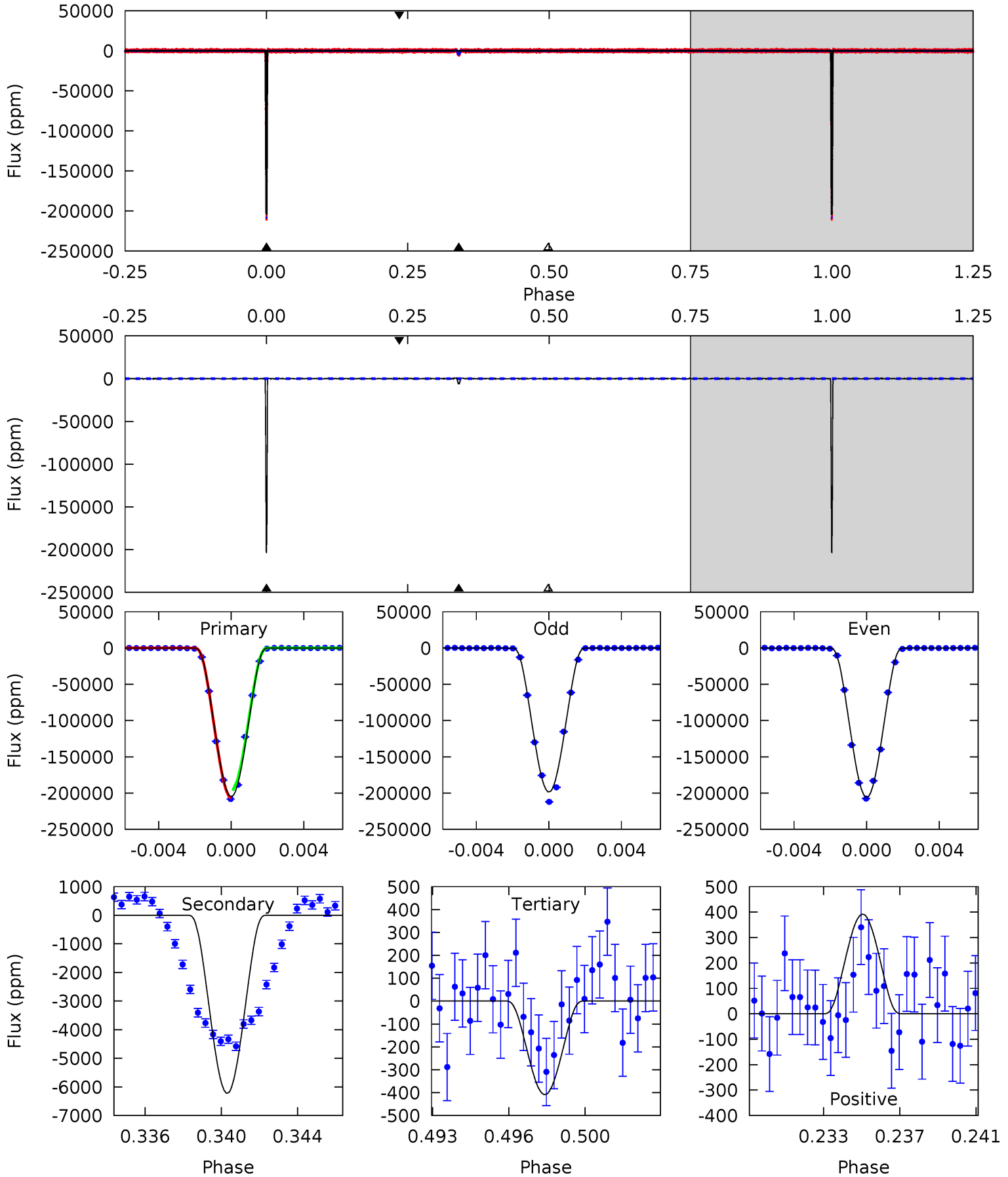
TCE 005796185-01 P= 42.559284 Days $T_0=161.569985$ (BKJD)



DV Model-Shift Uniqueness Test

005796185-01, P = 42.559207 Days, E = 161.572074 Days

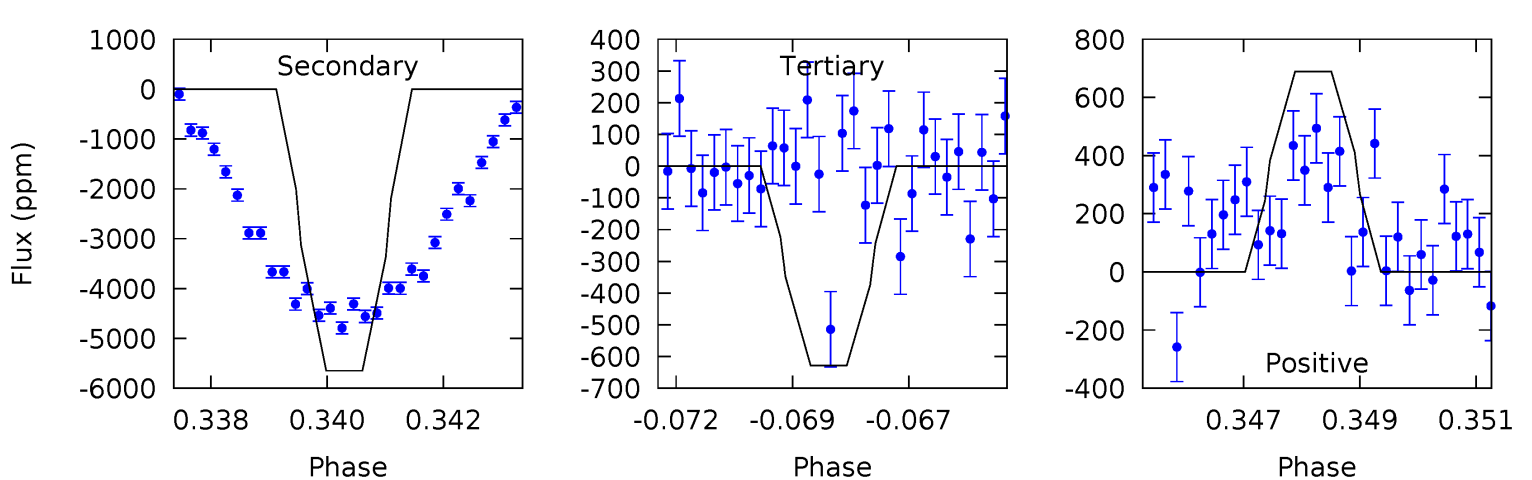
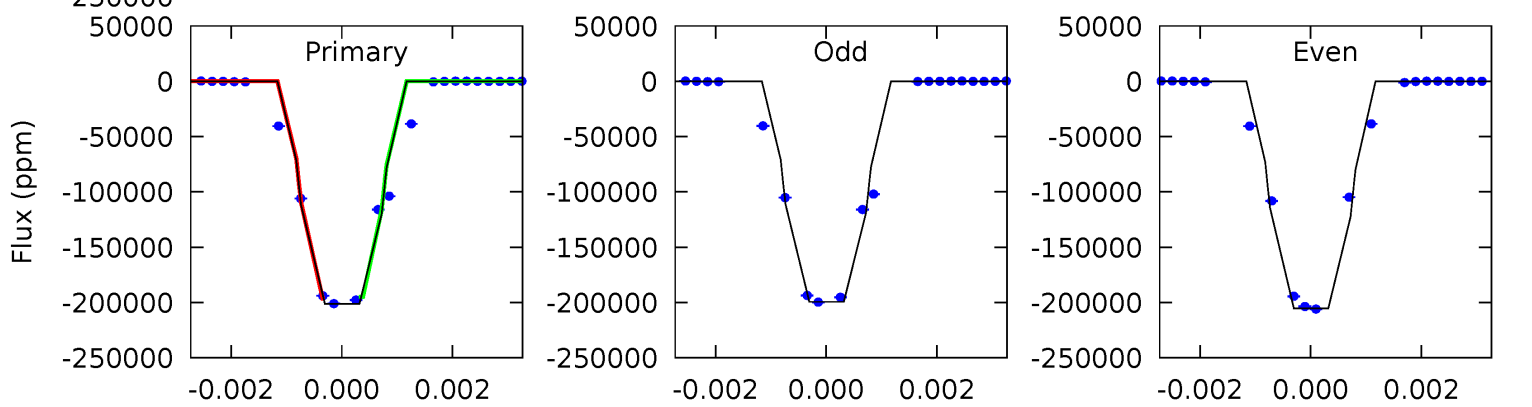
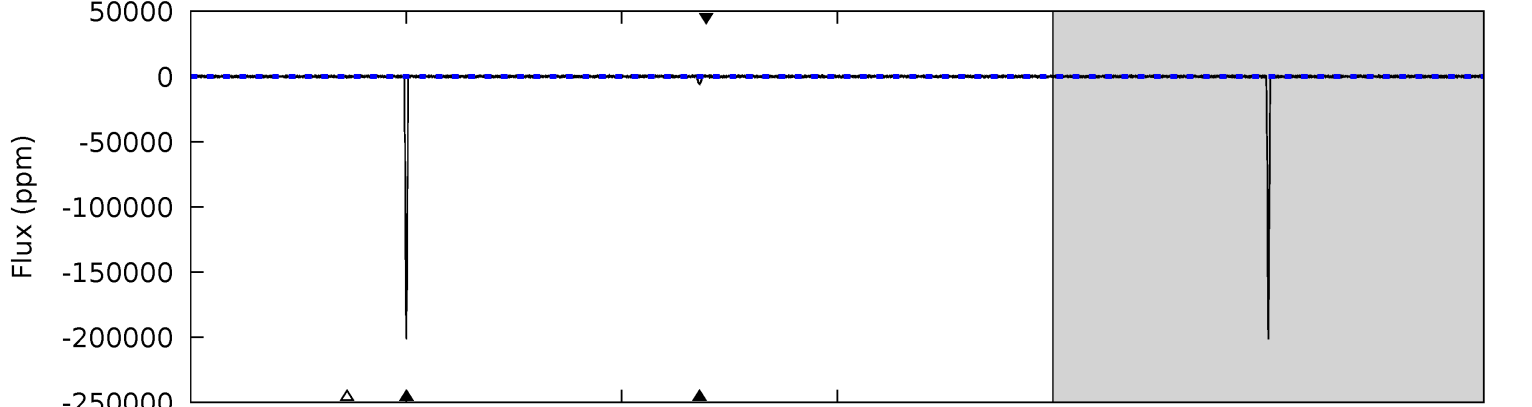
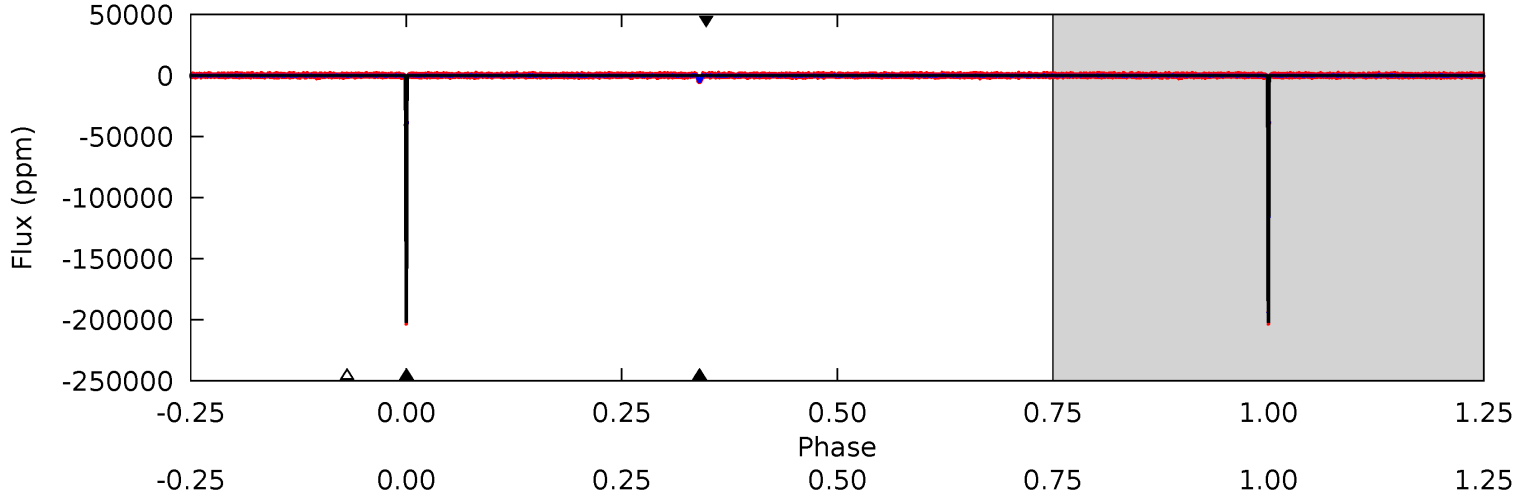
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3568	108.4	7.12	6.83	5.21	2.89	2.14	3560	3561	101.3	101.6	63.7	1.00	0.00	0



Alt Model-Shift Uniqueness Test

005796185-01, P = 42.559284 Days, E = 161.569985 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1432	40.2	4.46	4.90	5.31	3.06	2.27	1428	1427	35.7	35.3	21.4	1.00	0.00	0



Stellar Parameters For KIC 005796185

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5764^{+170}_{-187}	$4.548^{+0.036}_{-0.192}$	$-0.120^{+0.300}_{-0.300}$	$0.863^{+0.247}_{-0.082}$	$0.959^{+0.104}_{-0.127}$	$2.100^{+0.400}_{-1.054}$
	+3%/-3%	+1%/-4%	+250%/-250%	+29%/-10%	+11%/-13%	+19%/-50%
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 005796185-01 / KOI 3369.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-6196 ± 57	$52.89^{+13.41}_{-11.27}$	699^{+46}_{-31}	2917^{+187}_{-152}	66^{+40}_{-23}
Alt.	-5650 ± 141	$46.28^{+11.82}_{-10.62}$	697^{+45}_{-32}	2979^{+233}_{-166}	79^{+55}_{-29}

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

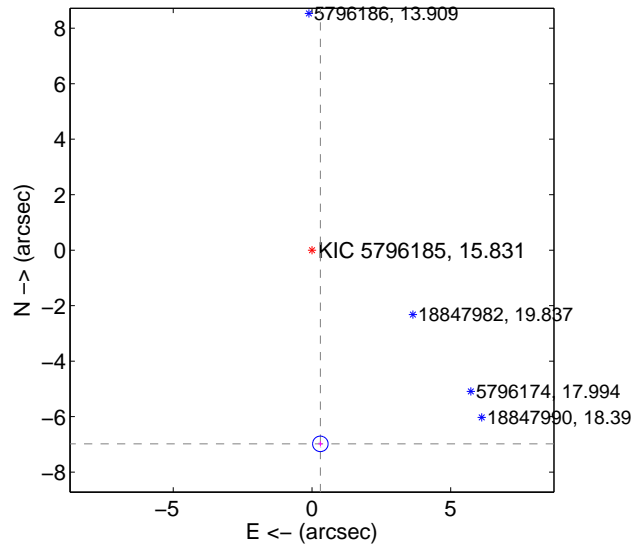
Supplemental centroid analysis for 005796185-01. Kepler magnitude: 15.83. Transit SNR 1085.43

There are 14 quarters with good PRF difference image offsets

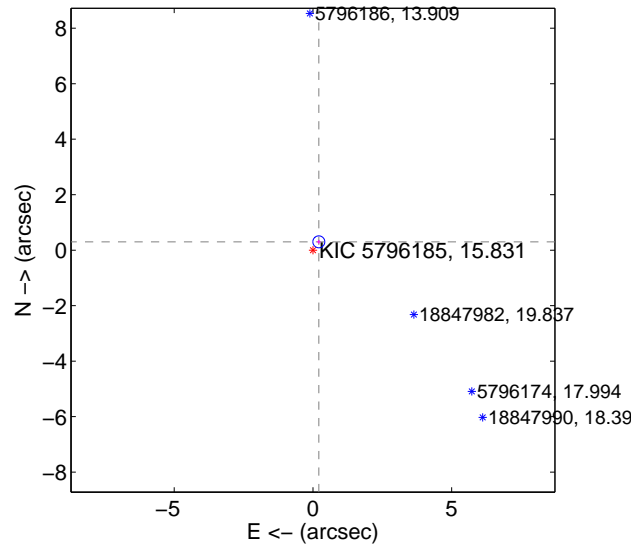
The OOT PRF centroid is offset from the target star catalog position by about 7.45 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.988 ± 0.093	75.00	-0.302 ± 0.071	-6.982 ± 0.093
PRF-fit source offset from KIC position	0.368 ± 0.072	5.13	-0.212 ± 0.068	0.301 ± 0.074
photometric centroid source offset	2.78 ± 0.00	885.69	0.06 ± 0.00	2.78 ± 0.00

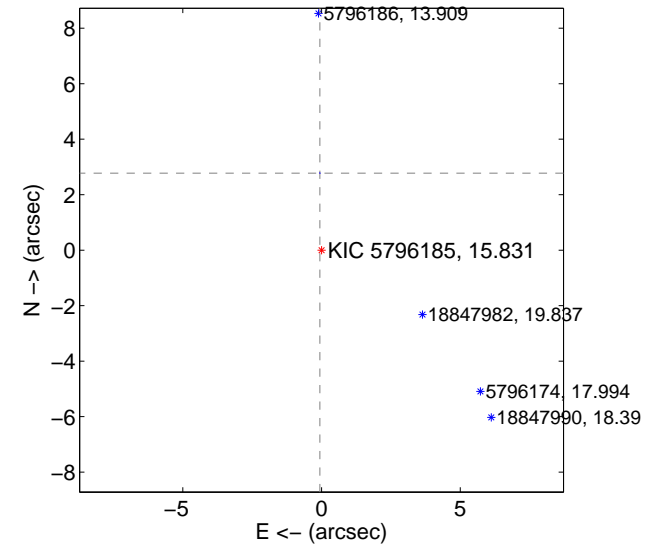
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

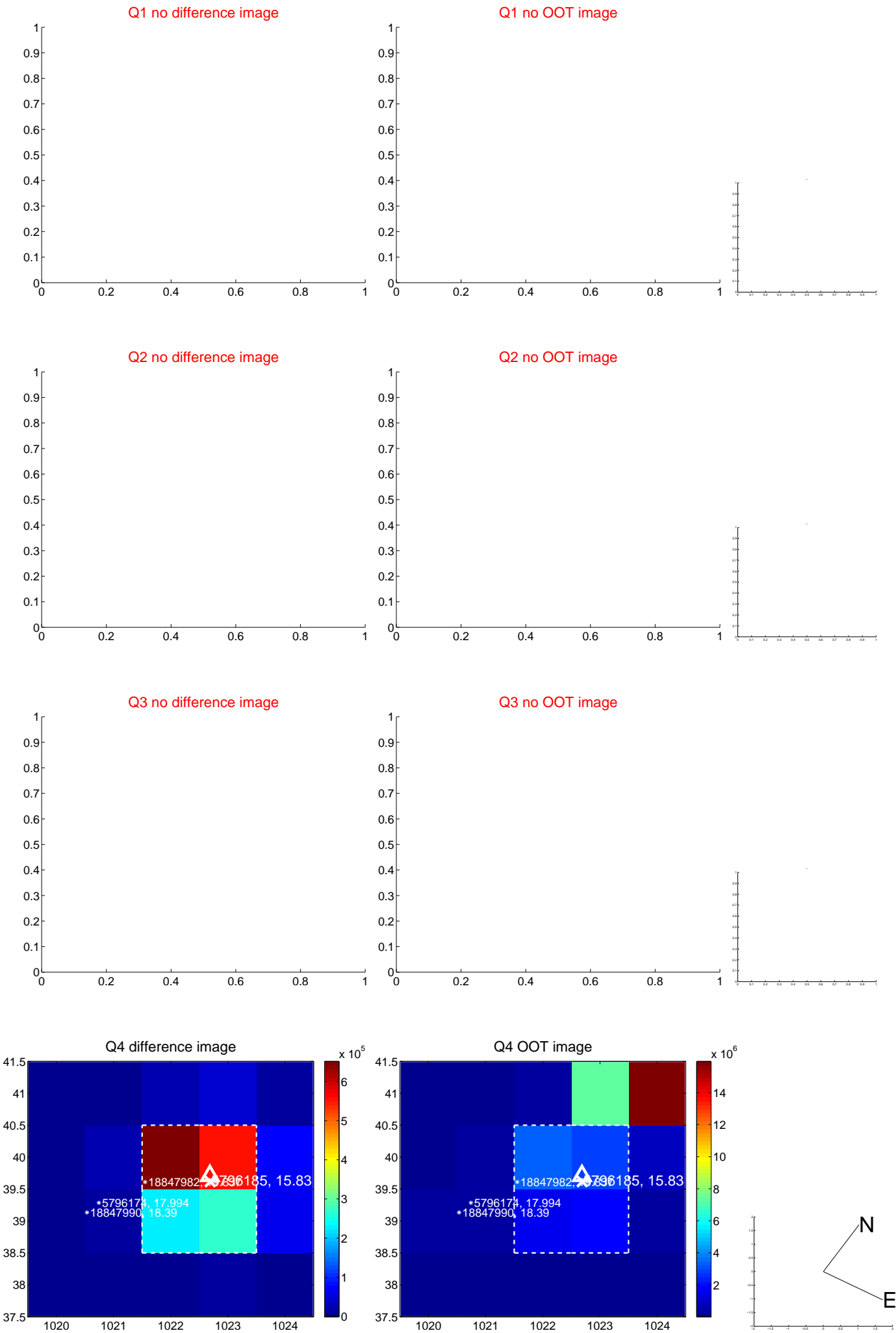


offset from photometric centroids

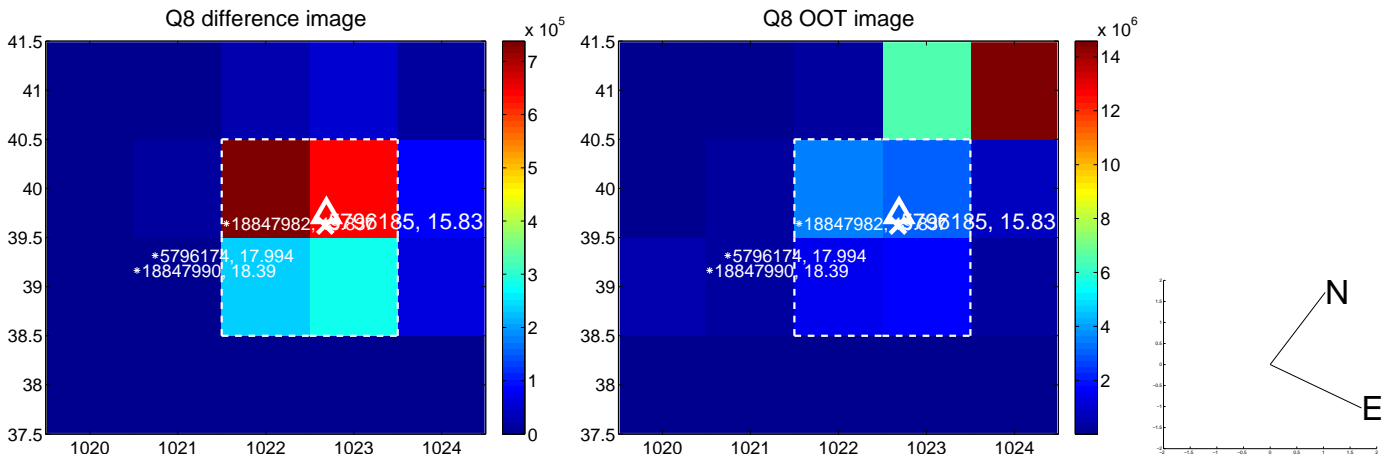
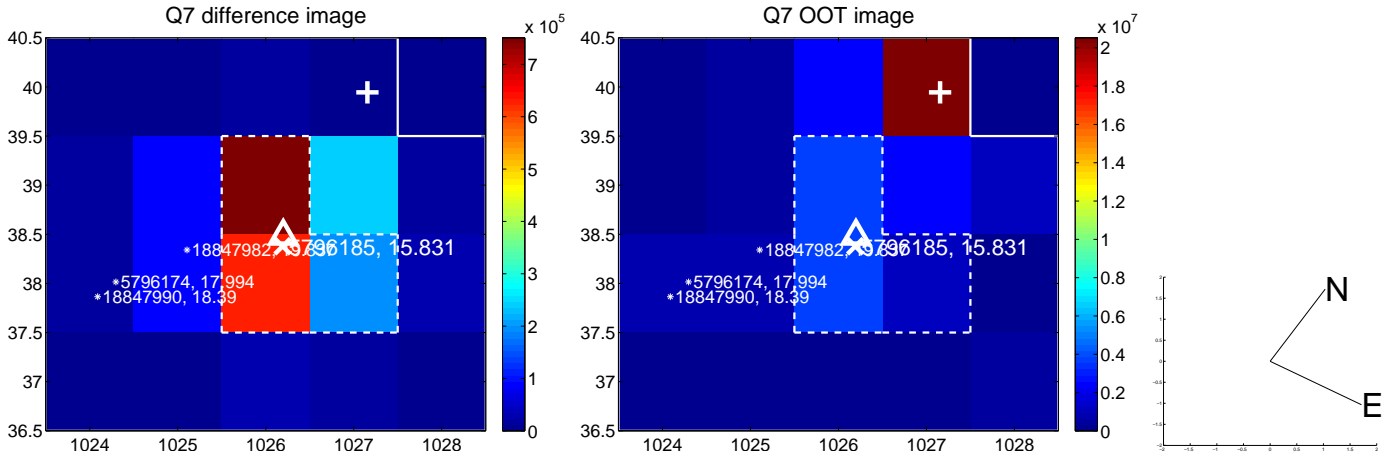
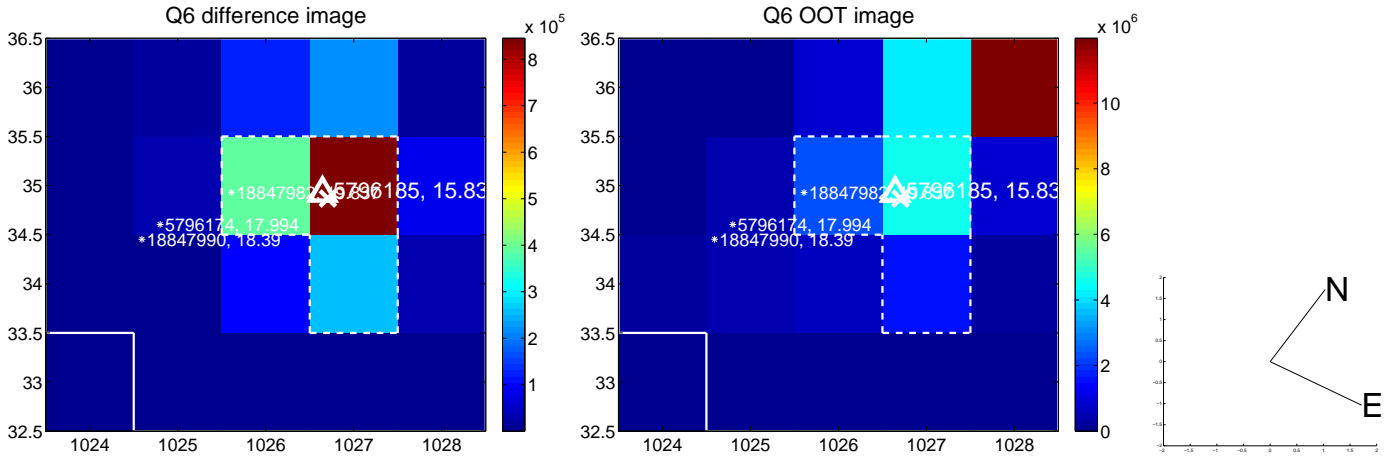
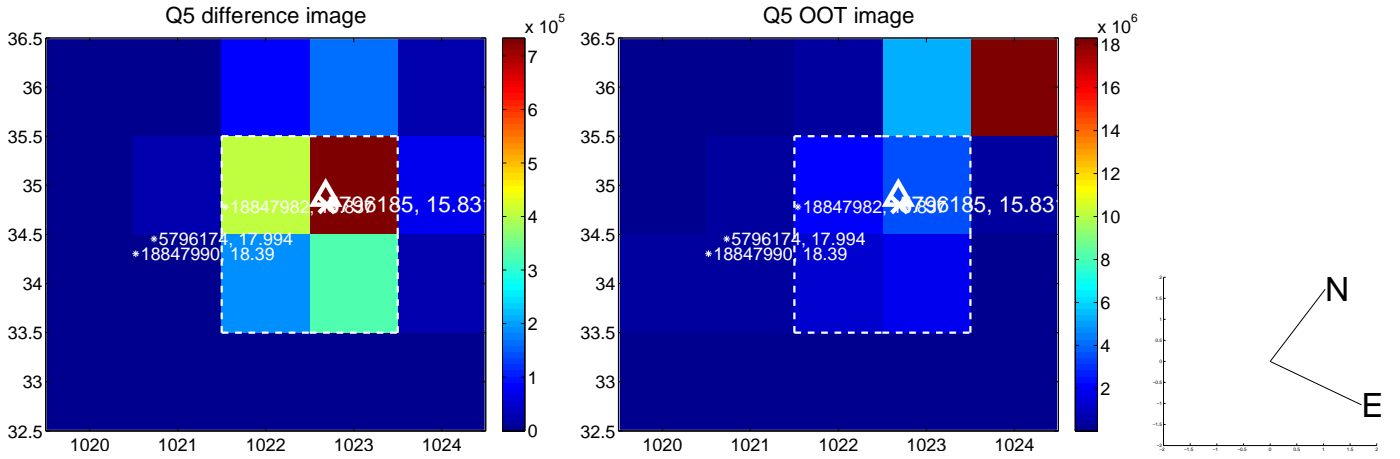


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

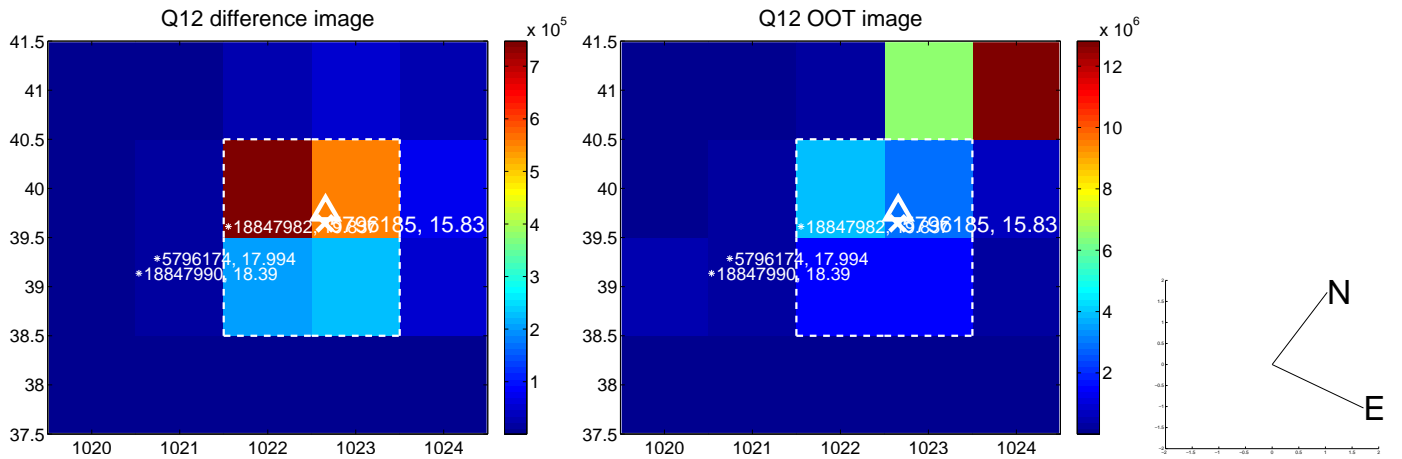
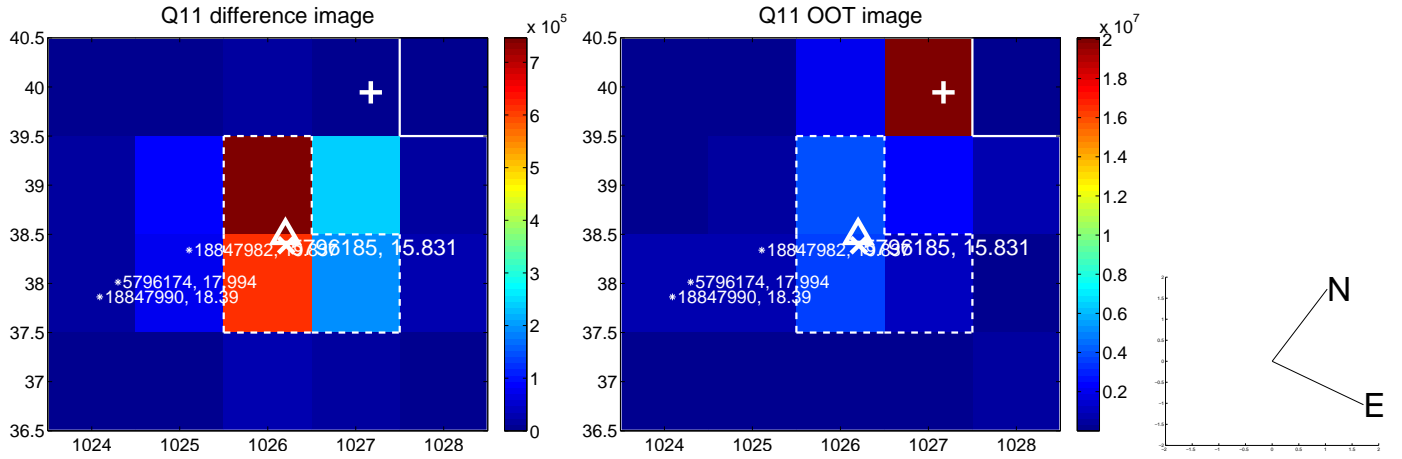
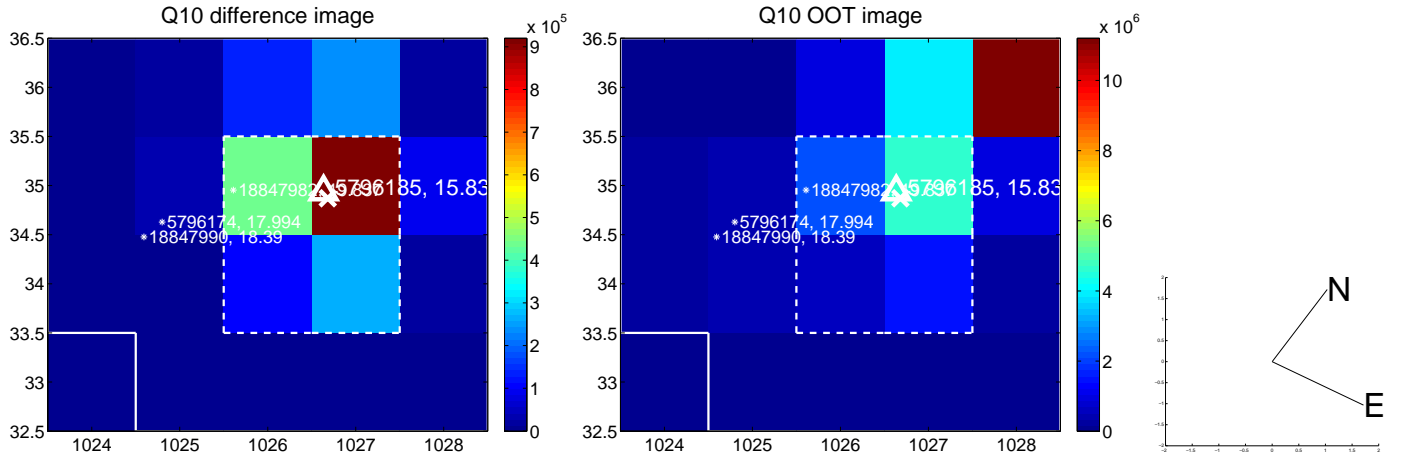
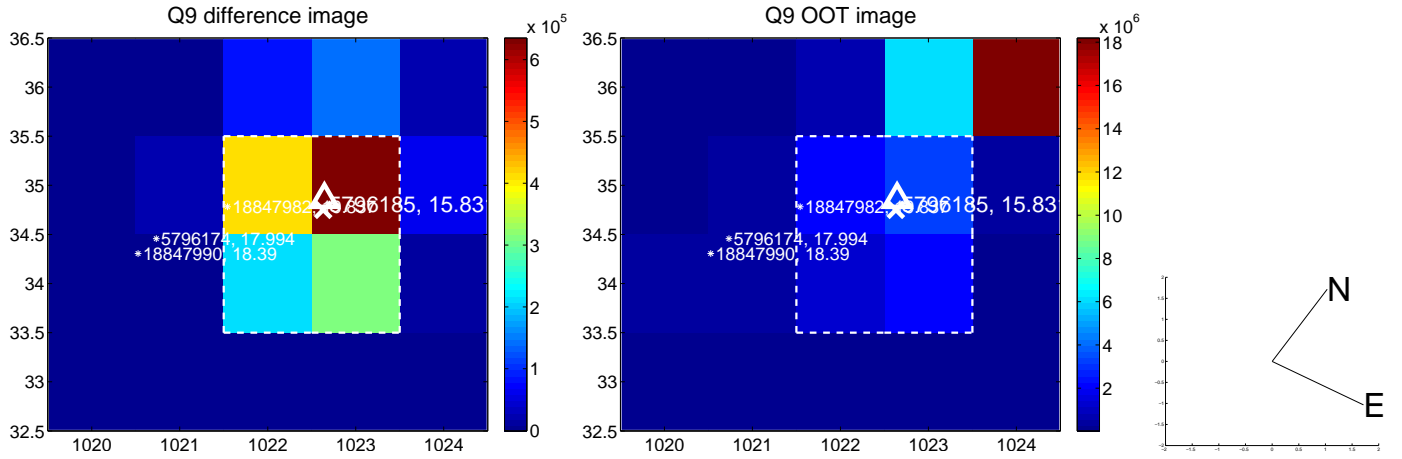
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



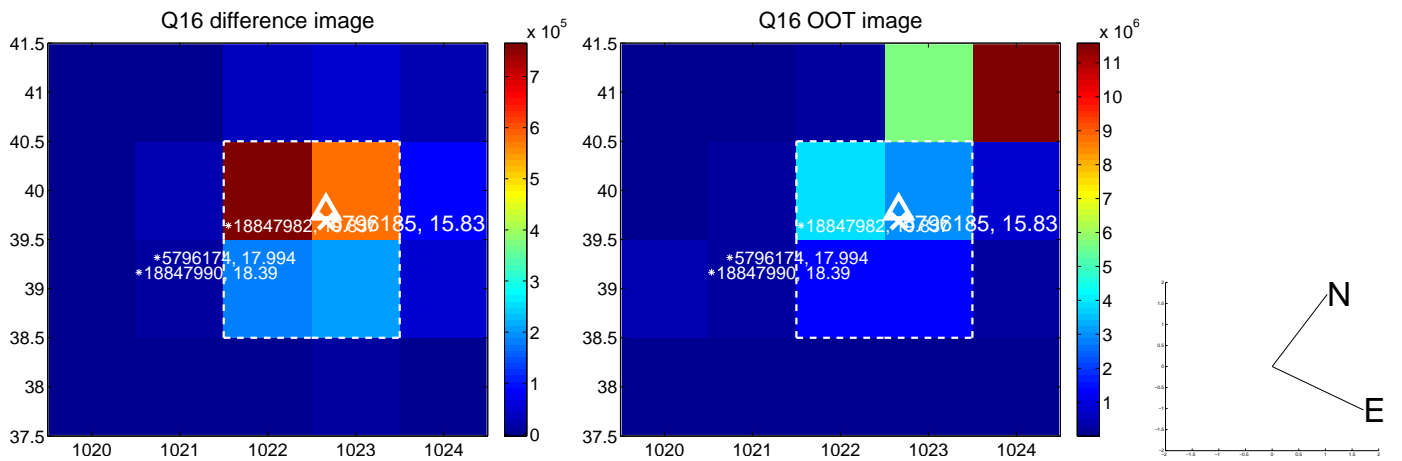
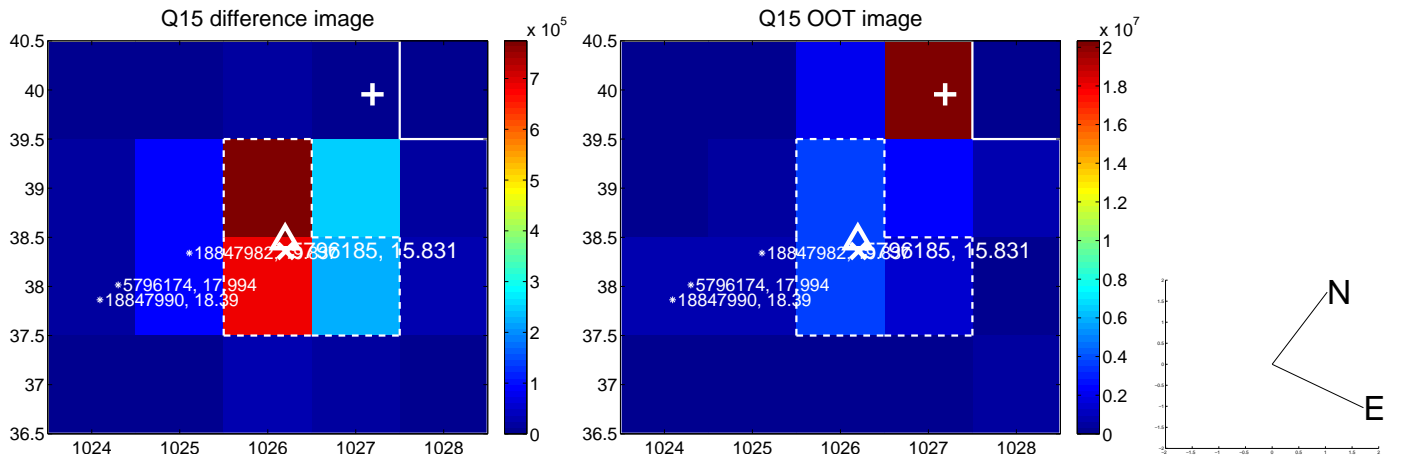
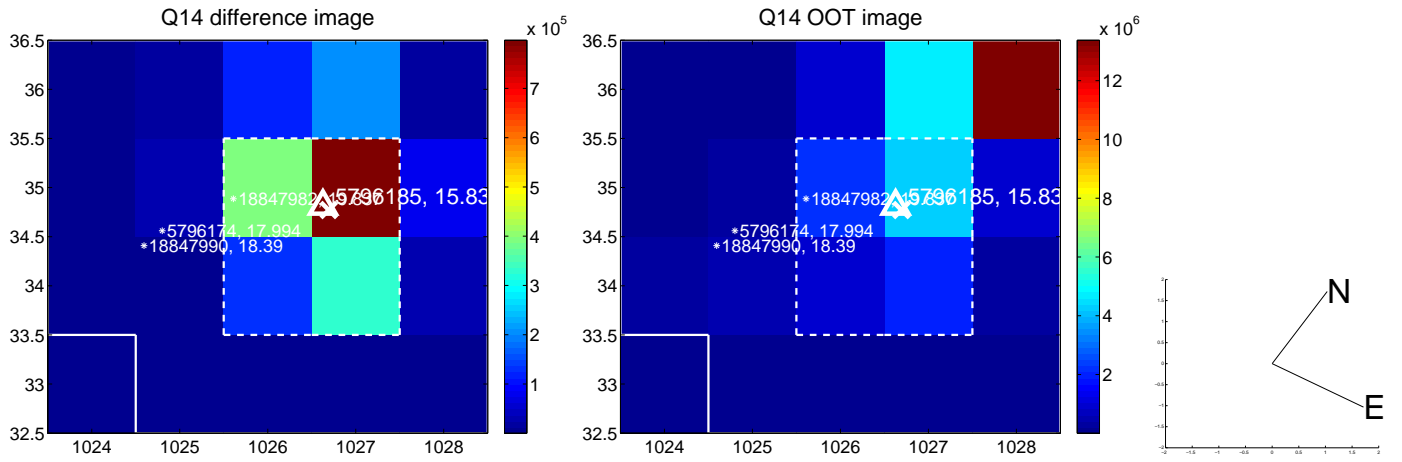
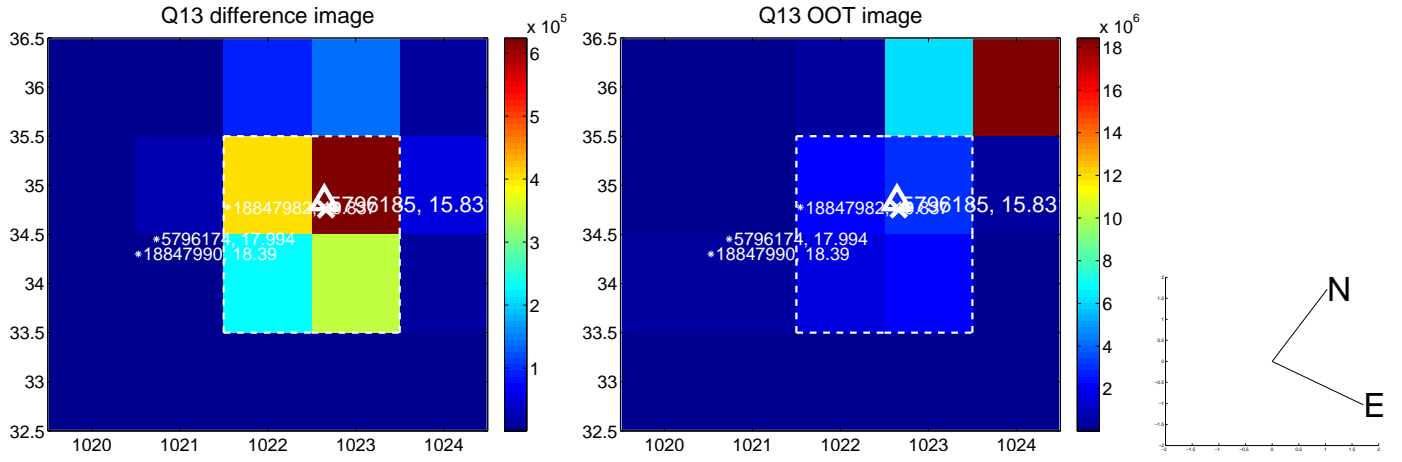
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

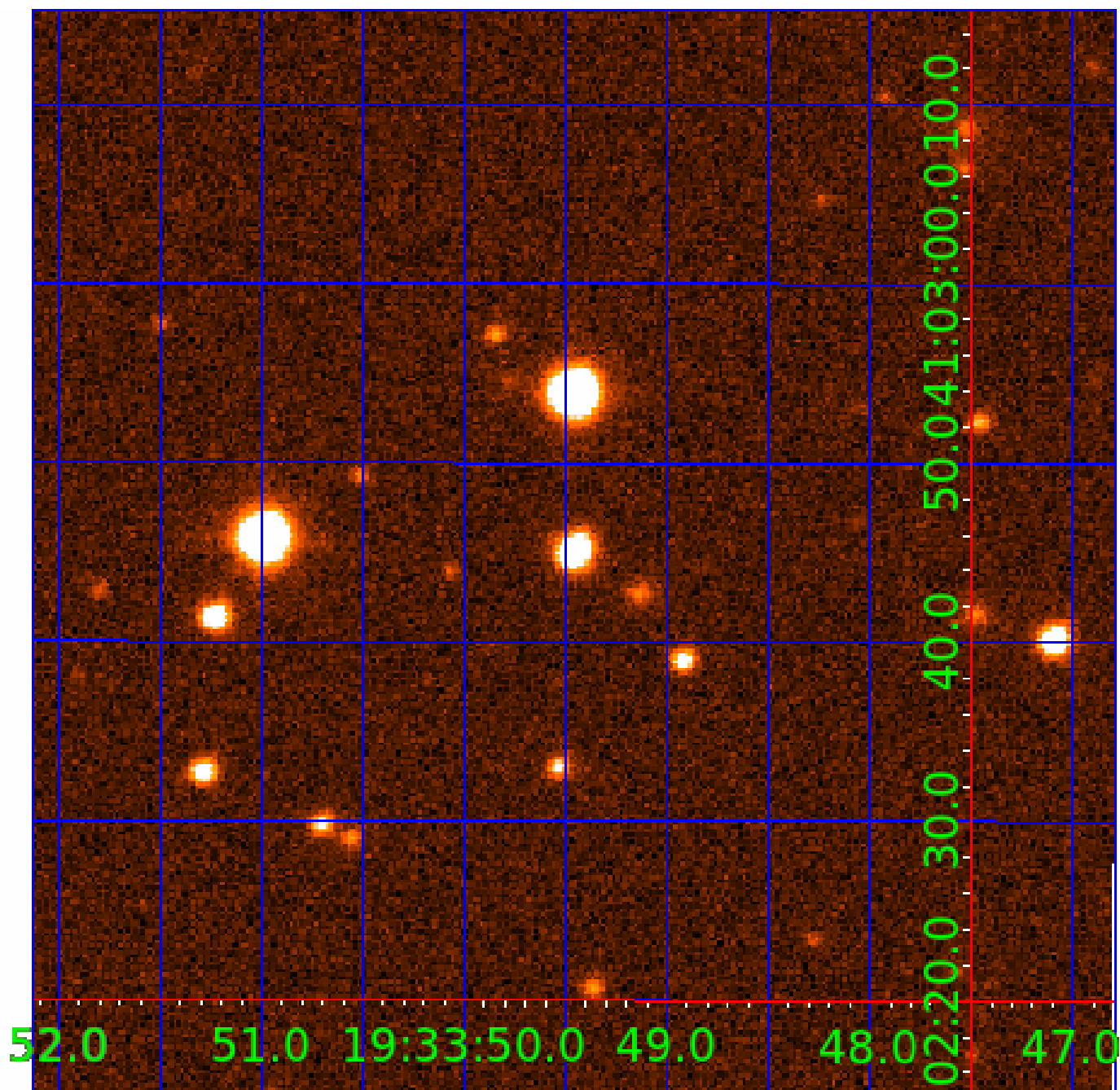


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005796185

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})
005796185-01	OBS	3369.01	42.559207	161.572074	202851.6	3.482	2233.1	1085.4	0.86	5764	50.73	13.30
005796185-02	OBS	No	42.559068	133.494631	4980.8	7.563	80.3	80.5	0.86	5764	8.73	13.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005796185-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_KIC_POS
005796185-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS

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.

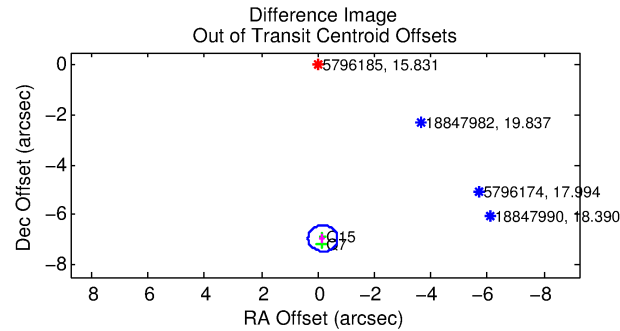
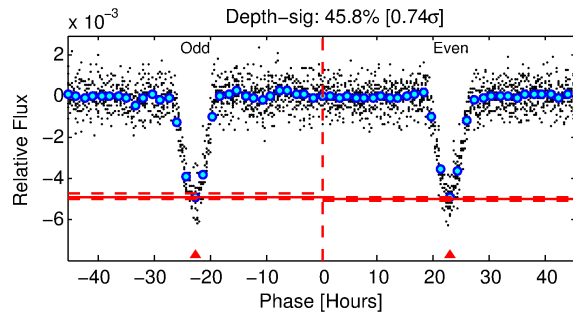
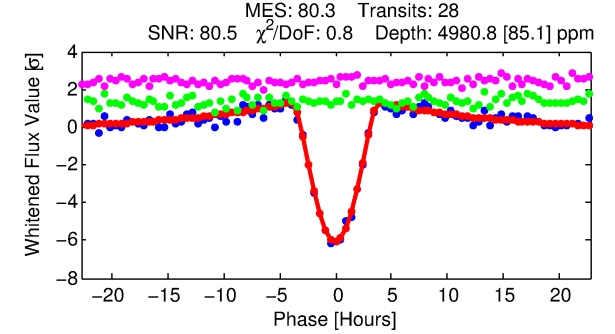
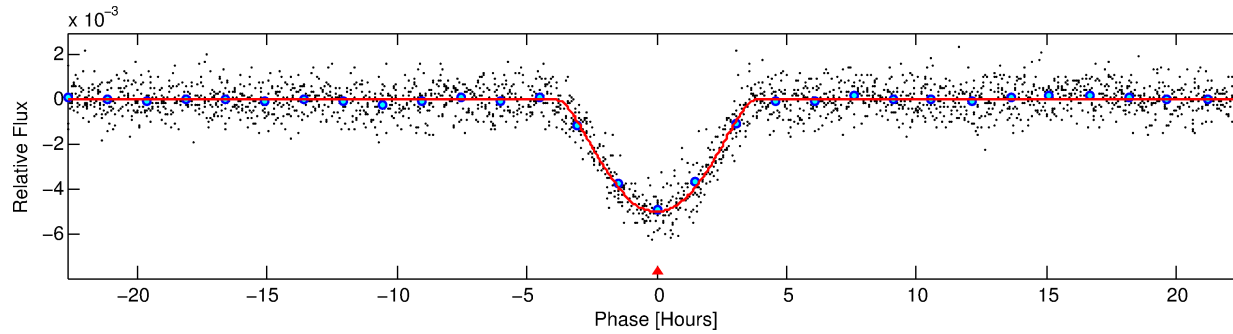
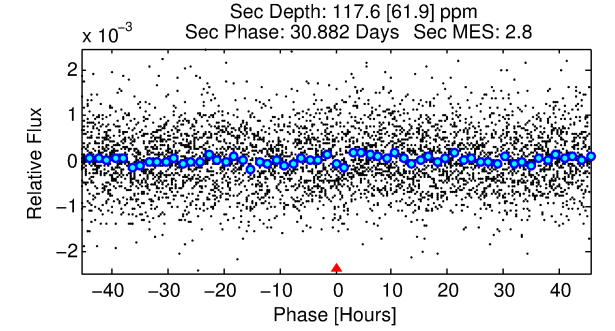
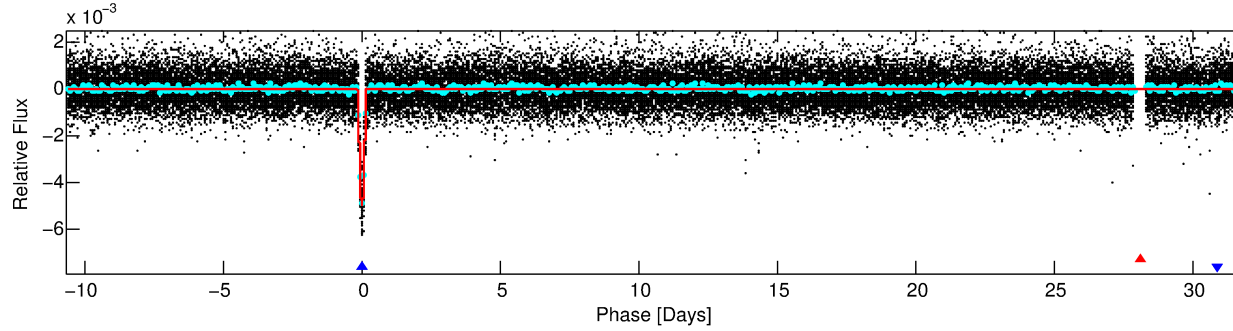
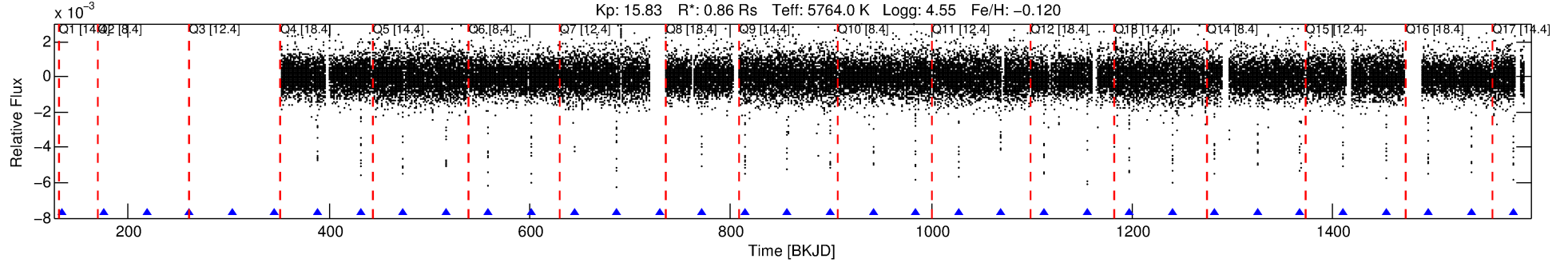
Ephemeris Match Information For 005796185-02

No Significant Match Found

DV One-Page Summary

KIC: 5796185 Candidate: 2 of 2 Period: 42.559 d
KOI: K03369 Corr: No Ephemeris Match

Kp: 15.83 R*: 0.86 Rs Teff: 5764.0 K Logg: 4.55 Fe/H: -0.120



DV Fit Results:

Period = 42.55907 [0.00011] d
Epoch = 133.4946 [0.0024] BKJD
Rp/R* = 0.0927 [0.0142]
a/R* = 22.74 [1.19]
b = 0.96 [0.03]
Seff = 13.30 [4.98]
Teq = 487 [46] K
Rp = 8.73 [2.83] Re
a = 0.2353 [0.0567] AU
Ag = 47.04 [33.11] [1.39σ]
Teff = 1972 [307] K [4.78σ]

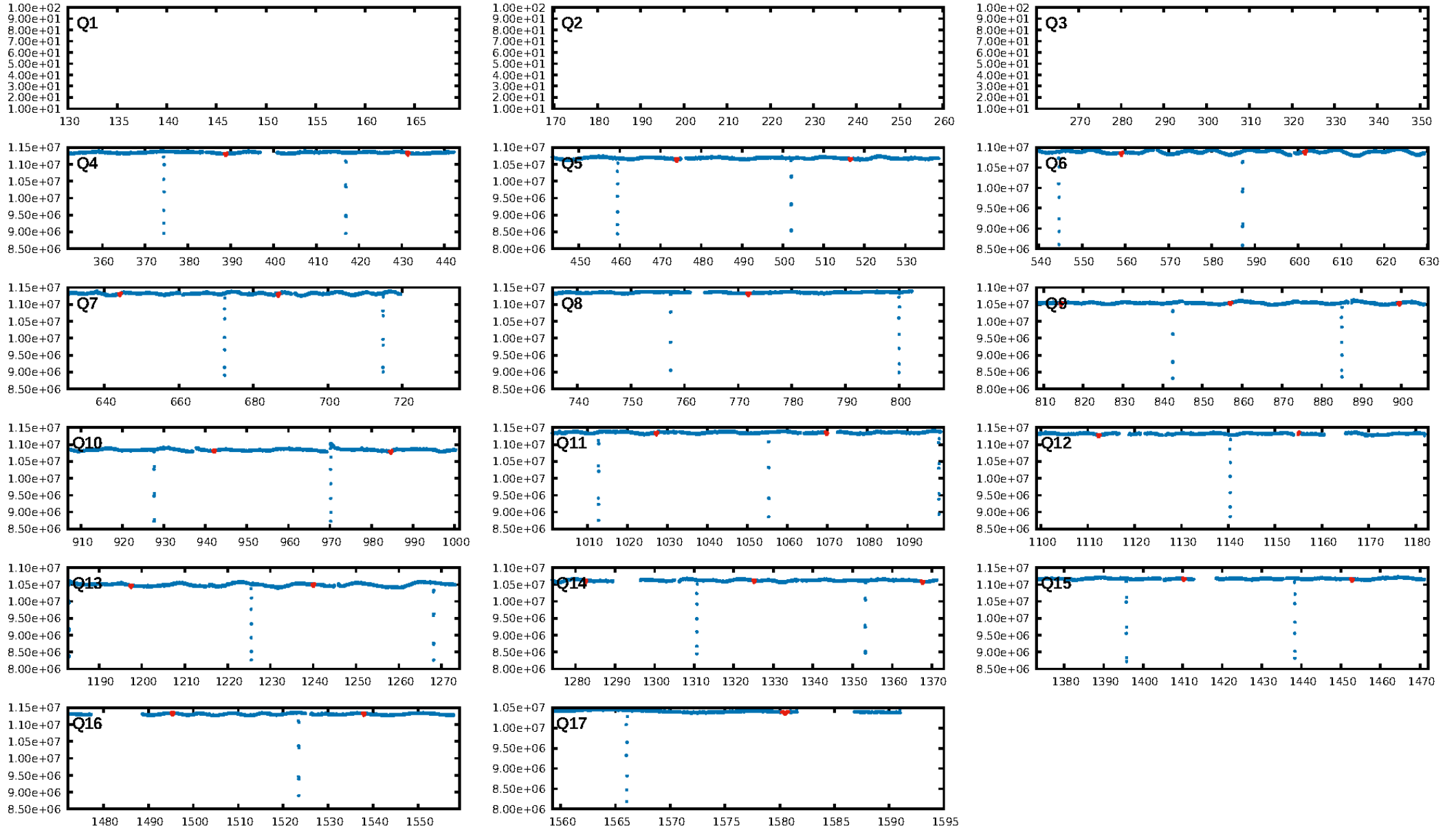
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 64.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [27/27]
GhostDiagnostic-chr: 3.574
Centroid-sig: 0.0%
Centroid-so: 2.942 arcsec [30.80σ]
OotOffset-rm: 6.954 arcsec [40.05σ]
KicOffset-rm: 0.314 arcsec [3.91σ]
OotOffset-st: 0/2/0/0 [2]
KicOffset-st: 3/2/4/4 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [13/13]

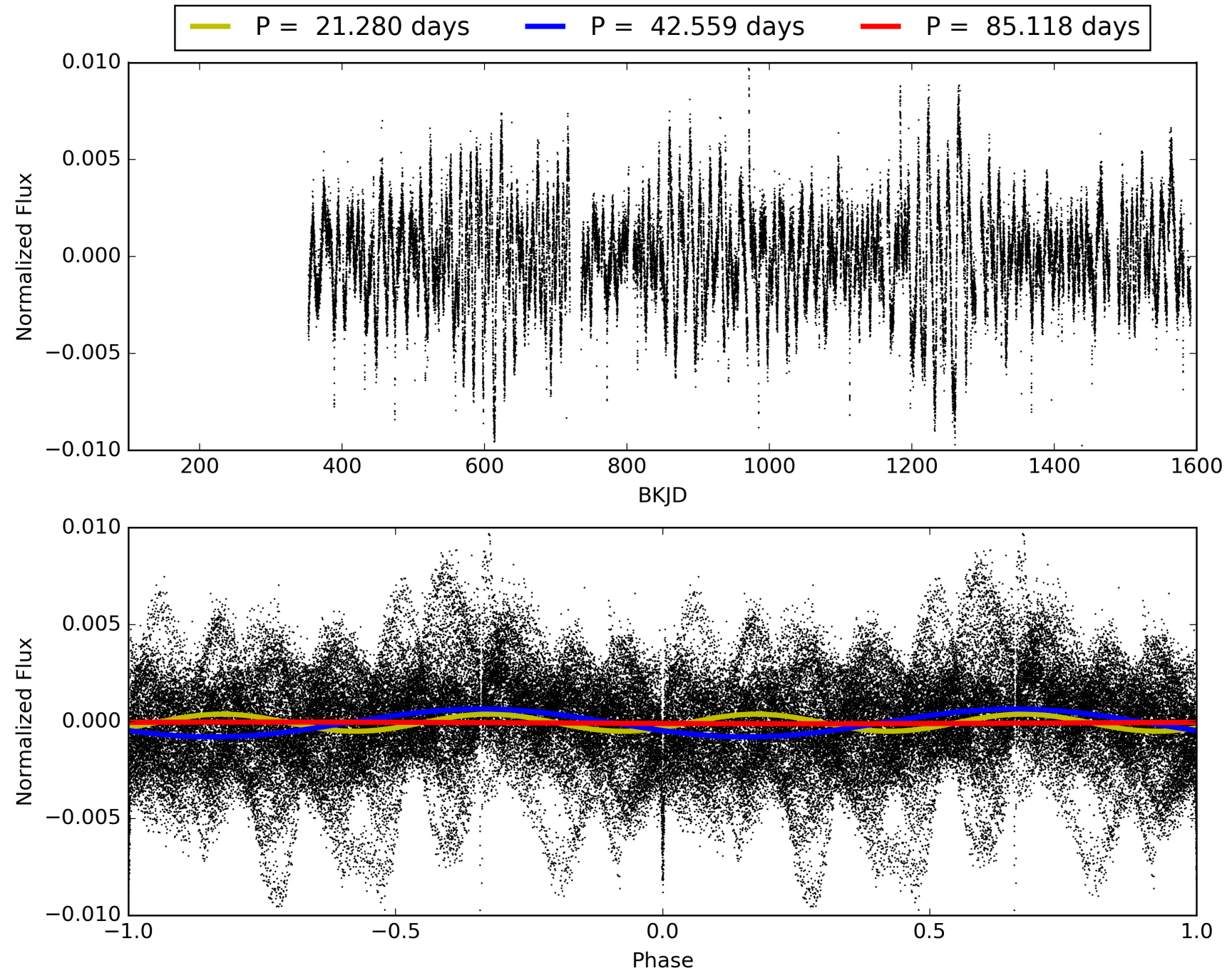
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:19:45 Z

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

TCE 005796185-02, PDC Light Curves

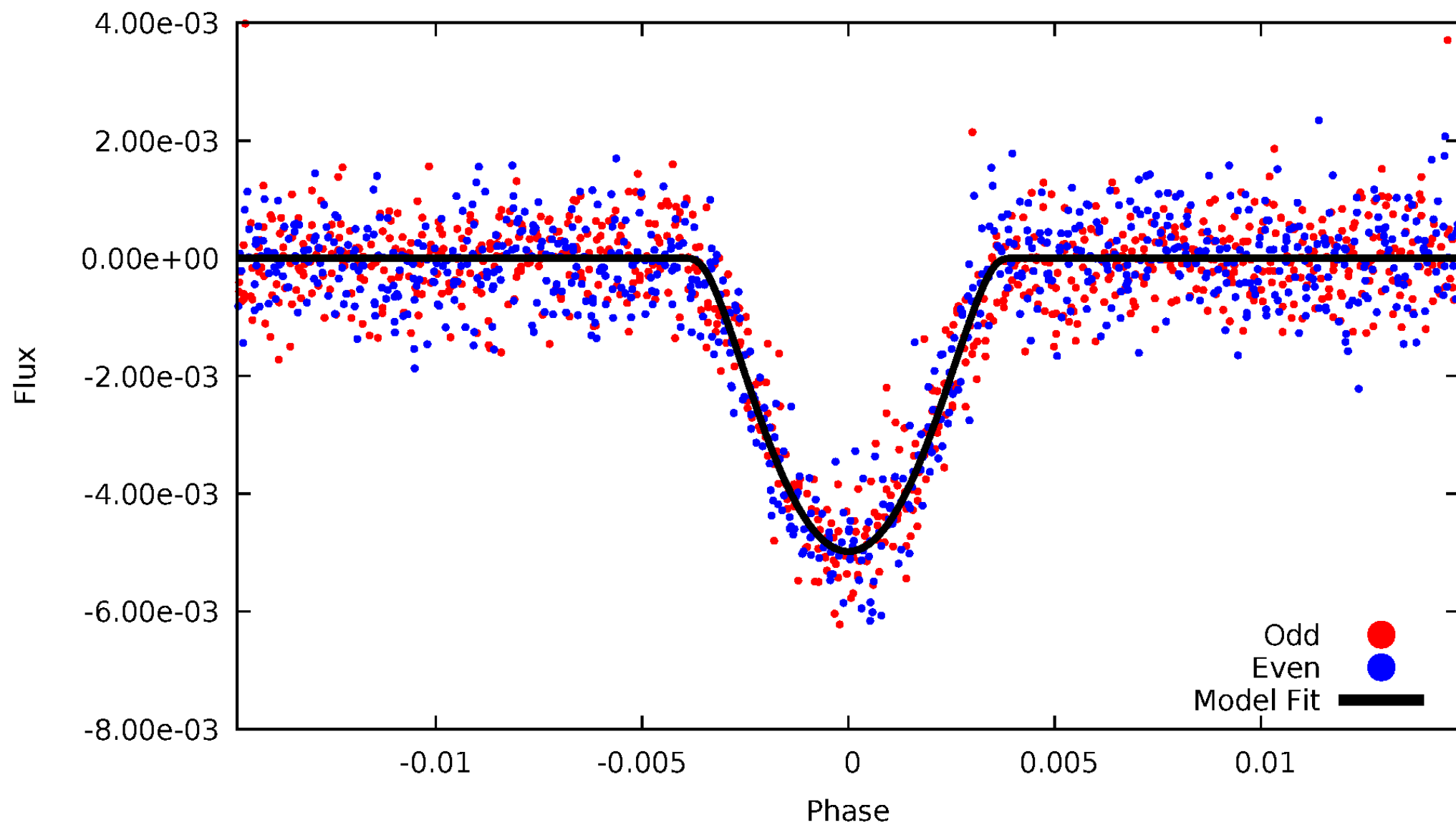


TCE 005796185-02



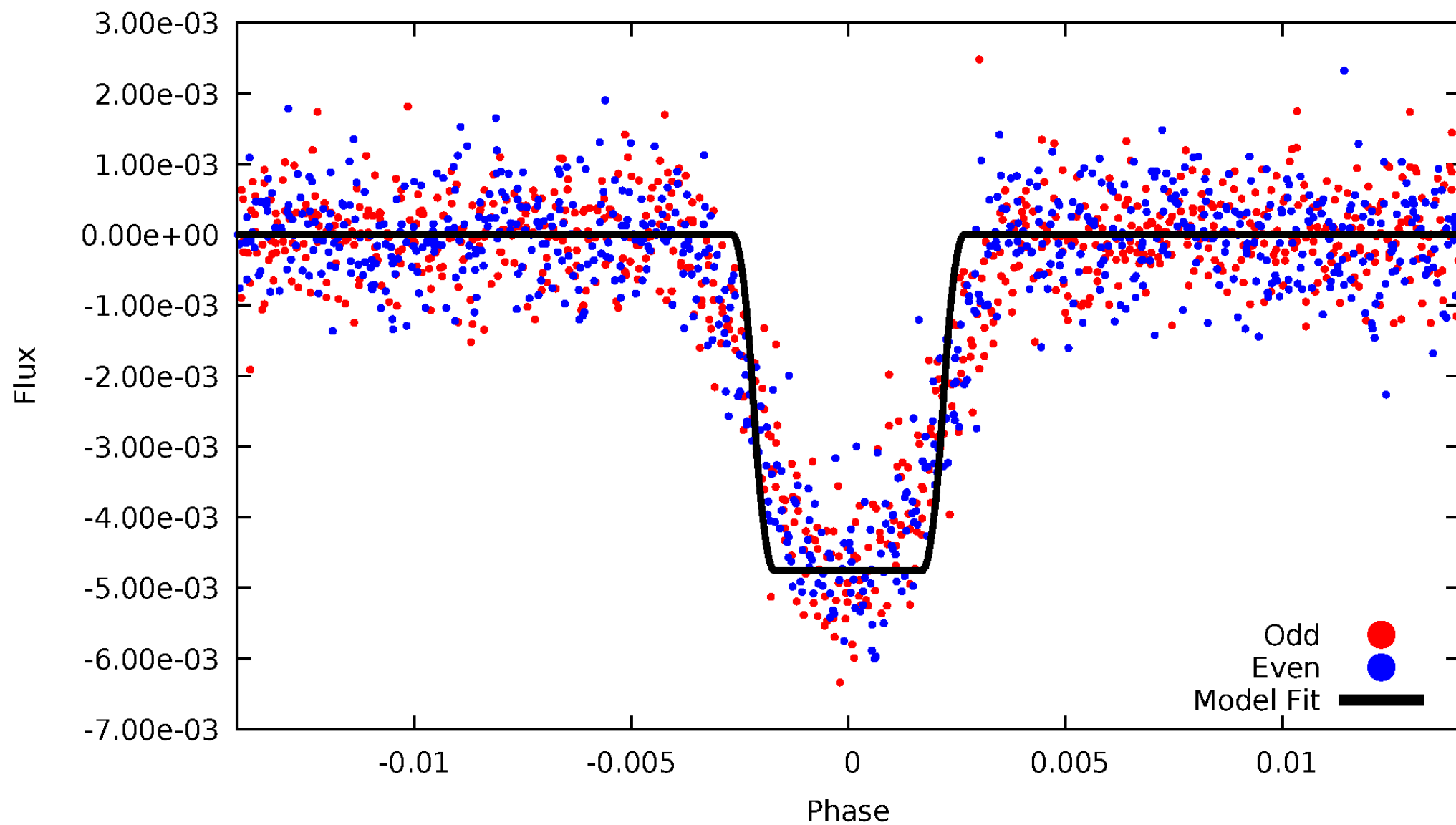
DV Odd/Even

TCE 005796185-02



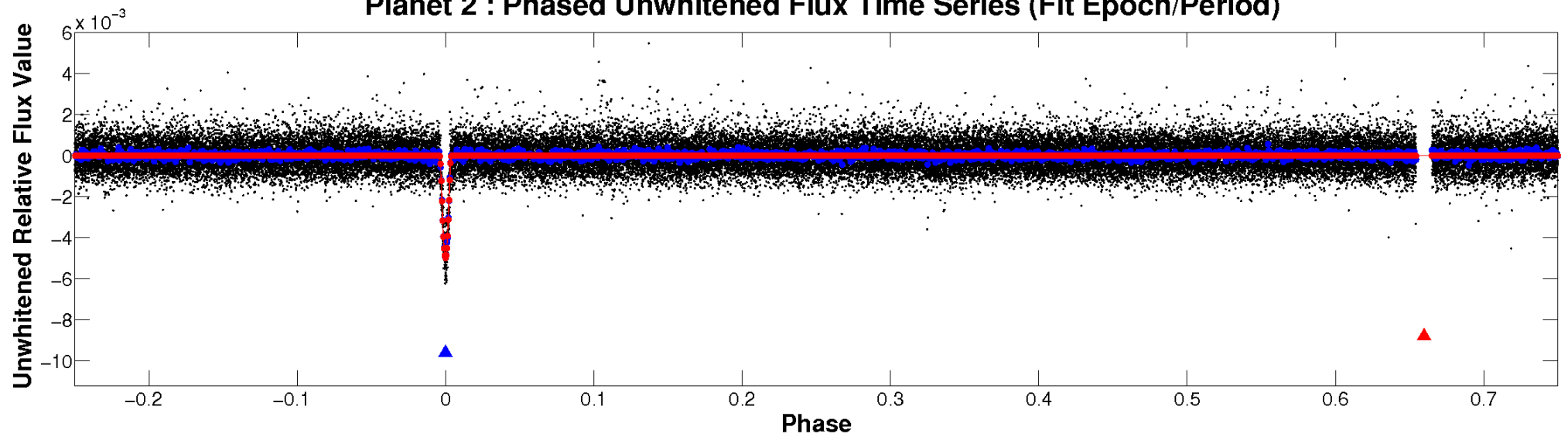
ALT Odd/Even

TCE 005796185-02

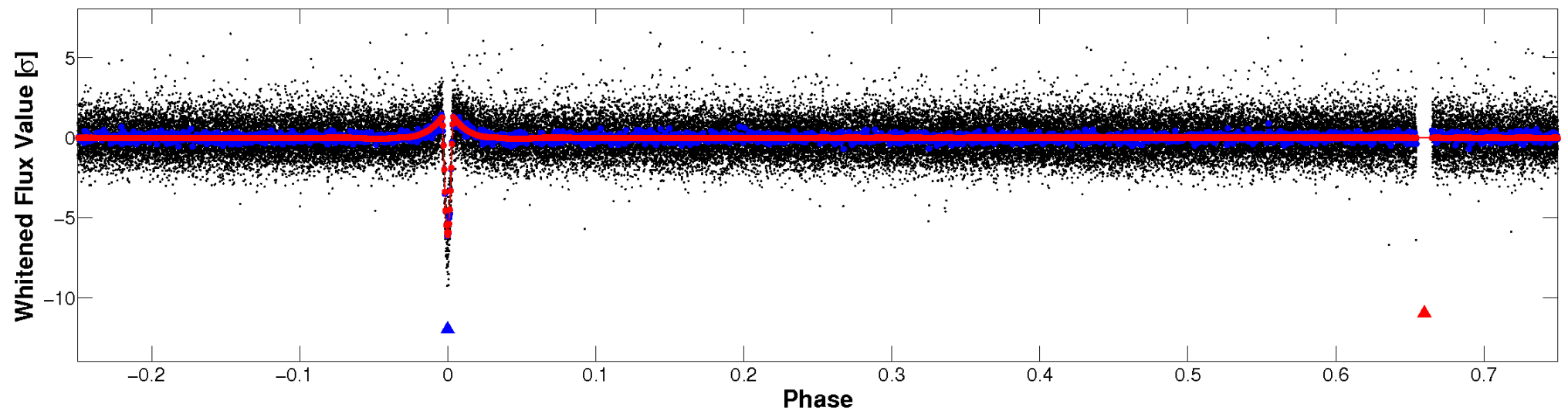


Non-Whitened Vs. Whitened Light Curve

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

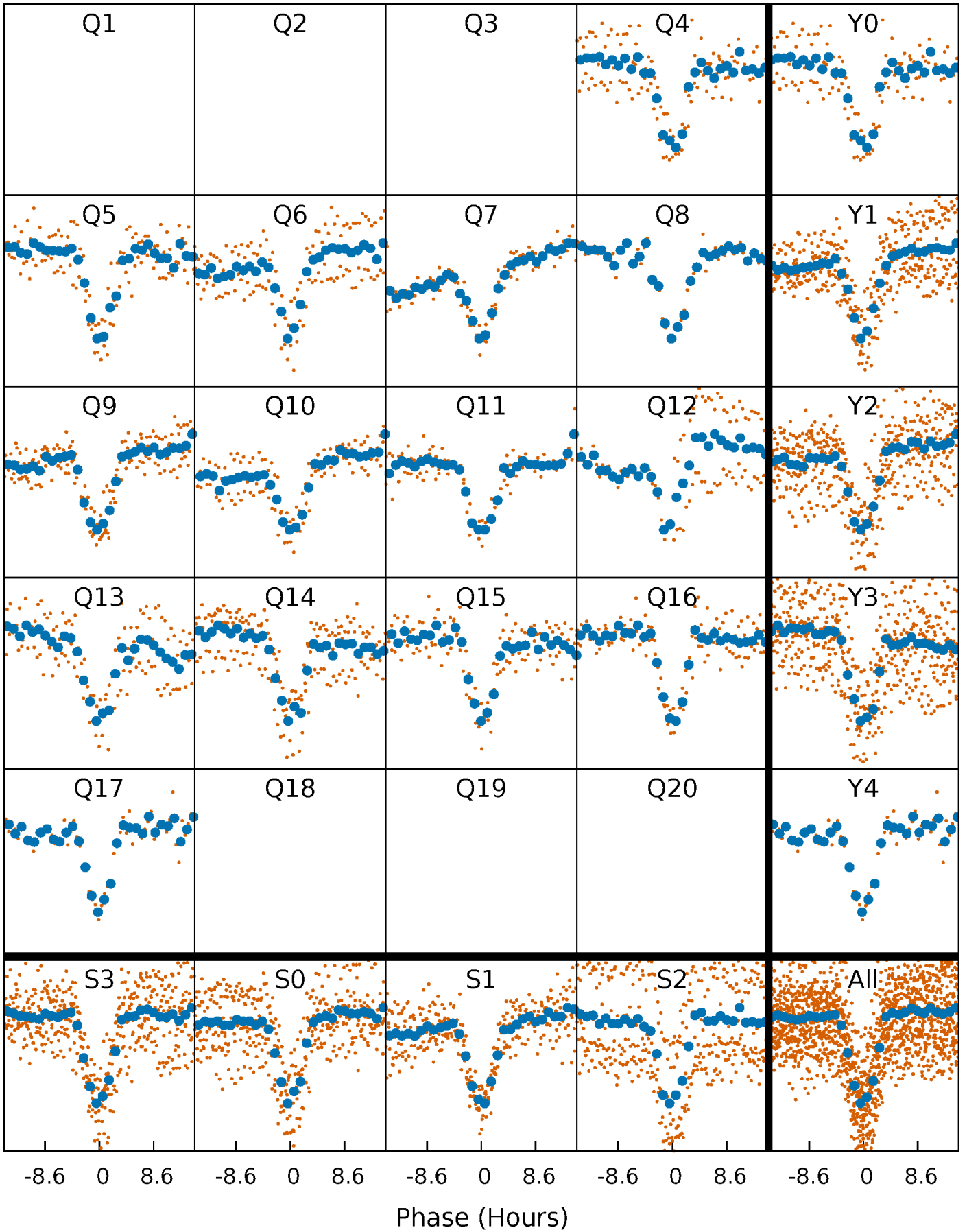


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



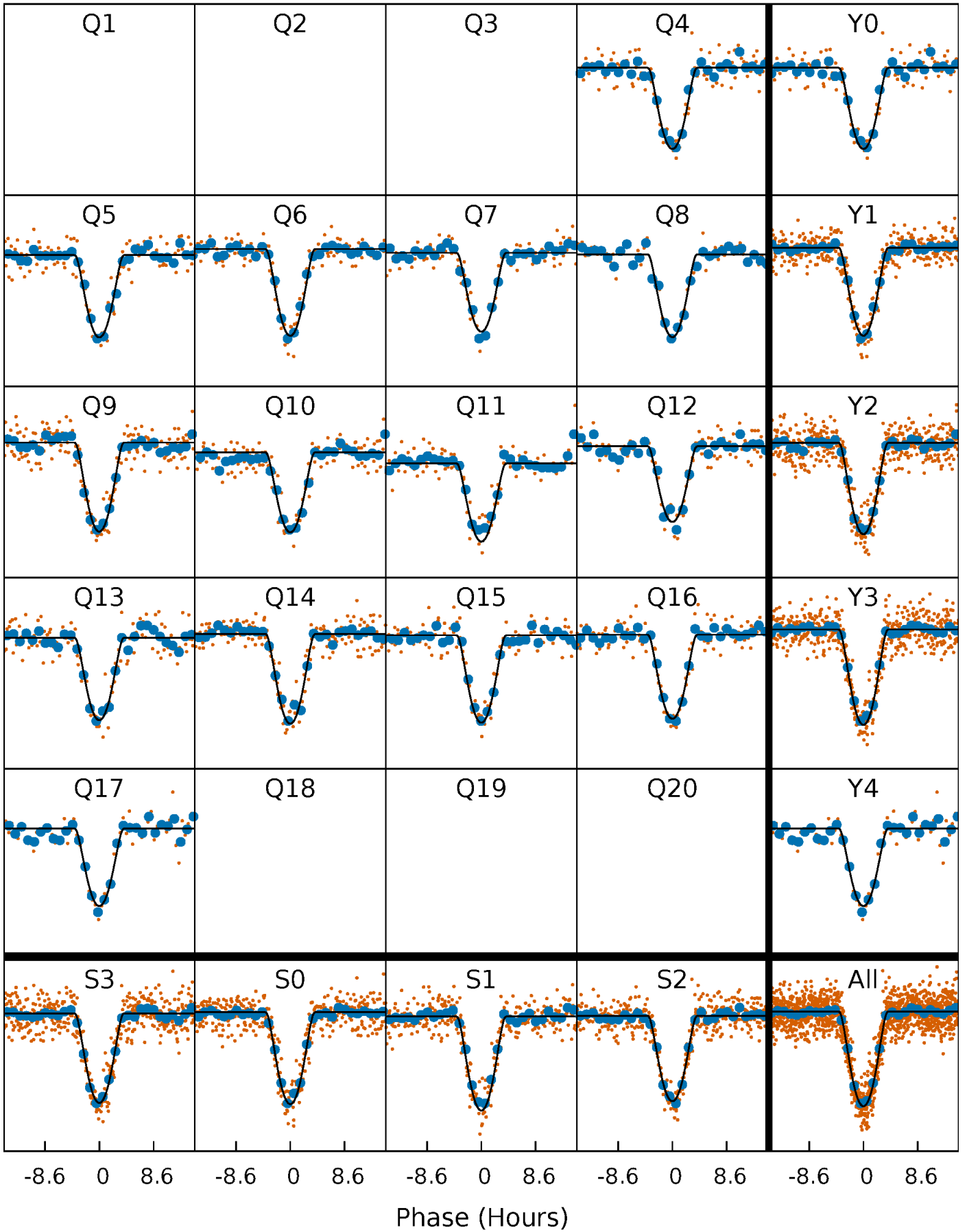
PDC Quarter-Phased Transit Curves

TCE 005796185-02 P= 42.559068 Days $T_0=133.494631$ (BKJD)



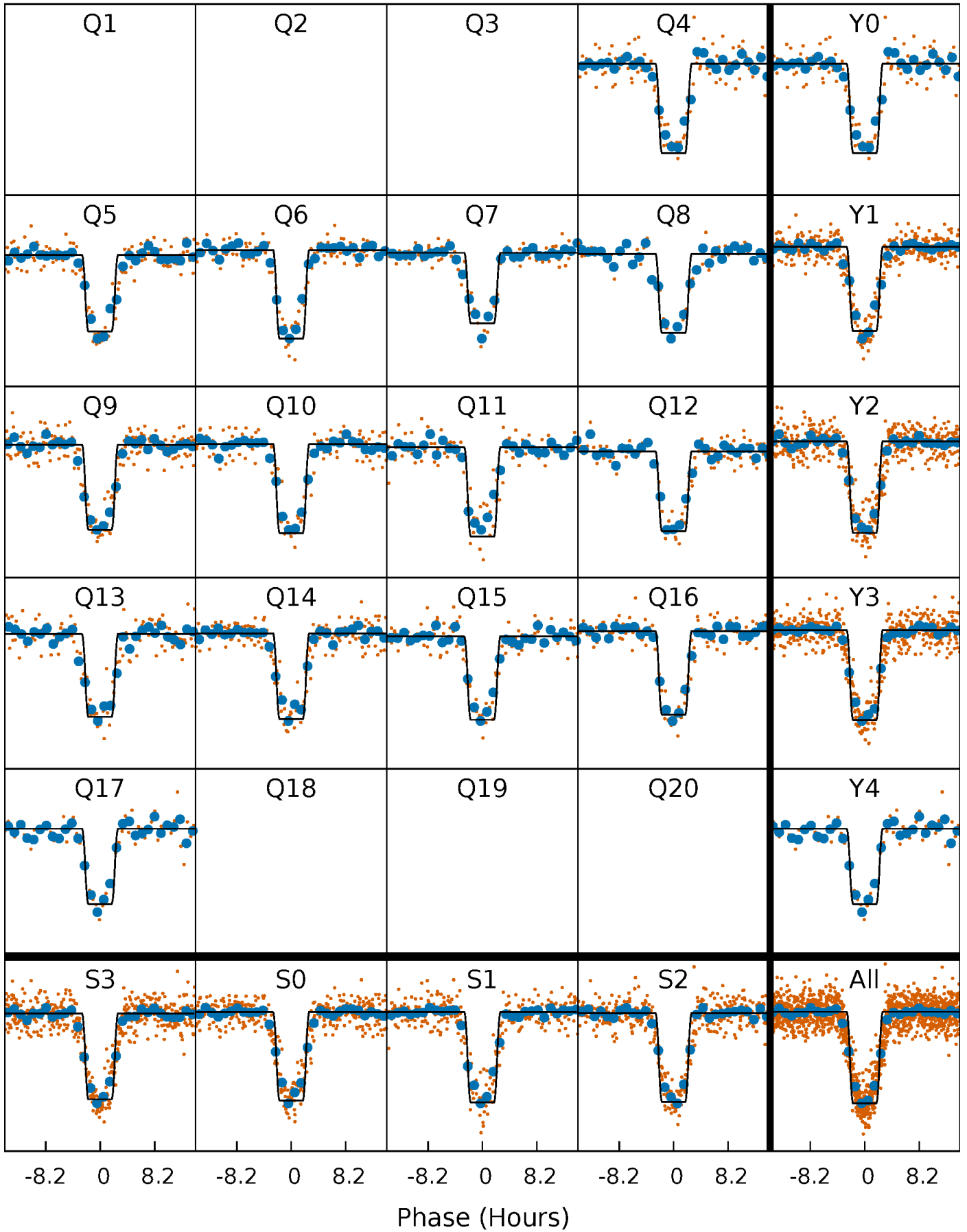
DV Quarter-Phased Transit Curves

TCE 005796185-02 P= 42.559068 Days $T_0=133.494631$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

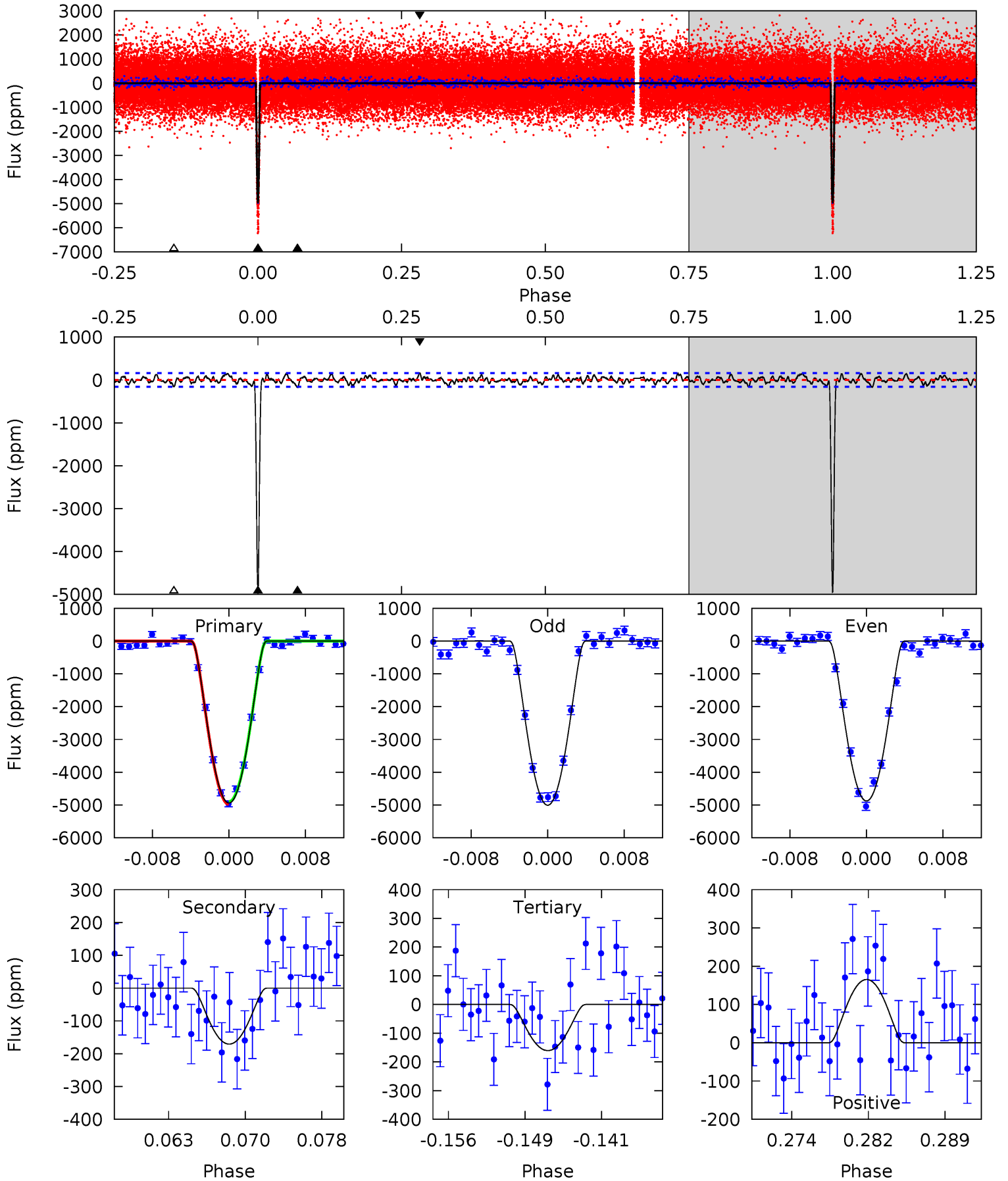
TCE 005796185-02 P= 42.559053 Days $T_0=133.494210$ (BKJD)



DV Model-Shift Uniqueness Test

005796185-02, $P = 42.559068$ Days, $E = 133.494631$ Days

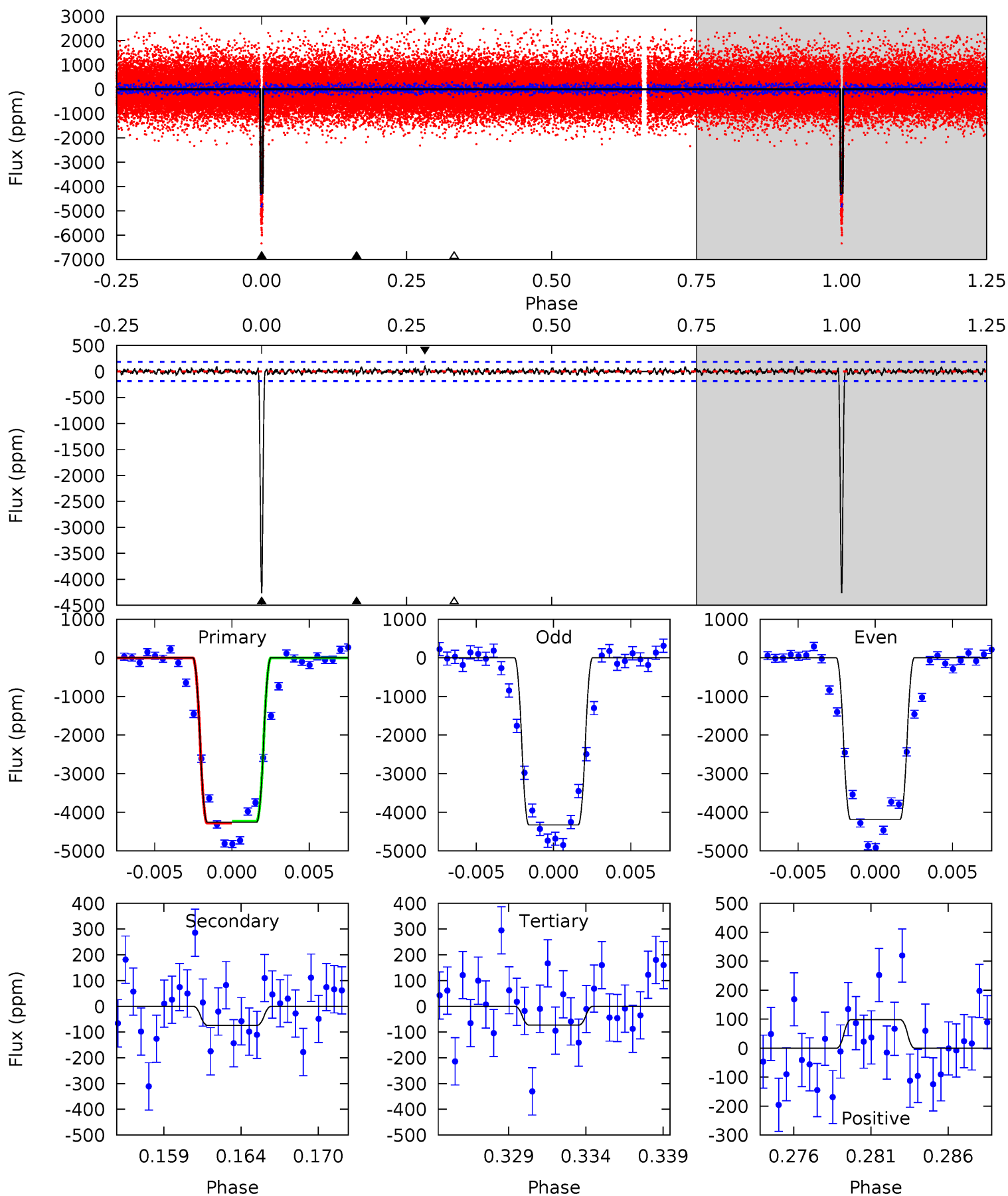
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
157.8	5.45	5.13	5.28	5.07	2.66	1.74	152.7	152.5	0.32	0.17	2.08	0.99	0.03	1.23



Alt Model-Shift Uniqueness Test

005796185-02, $P = 42.559053$ Days, $E = 133.494210$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
119.8	2.09	2.06	2.77	5.15	2.79	0.76	117.7	117.0	0.03	-0.68	1.96	1.00	0.02	0.68



Stellar Parameters For KIC 005796185

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5764^{+170}_{-187}	$4.548^{+0.036}_{-0.192}$	$-0.120^{+0.300}_{-0.300}$	$0.863^{+0.247}_{-0.082}$	$0.959^{+0.104}_{-0.127}$	$2.100^{+0.400}_{-1.054}$
	+3%/-3%	+1%/-4%	+250%/-250%	+29%/-10%	+11%/-13%	+19%/-50%
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 005796185-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-171 ± 31	$9.16^{+1.85}_{-1.56}$	699^{+45}_{-33}	2867^{+168}_{-139}	58^{+33}_{-19}
Alt.	-74 ± 36	$6.80^{+1.76}_{-1.45}$	700^{+49}_{-34}	2767^{+278}_{-267}	45^{+44}_{-26}

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 $A_{obs} \gg 1.0$

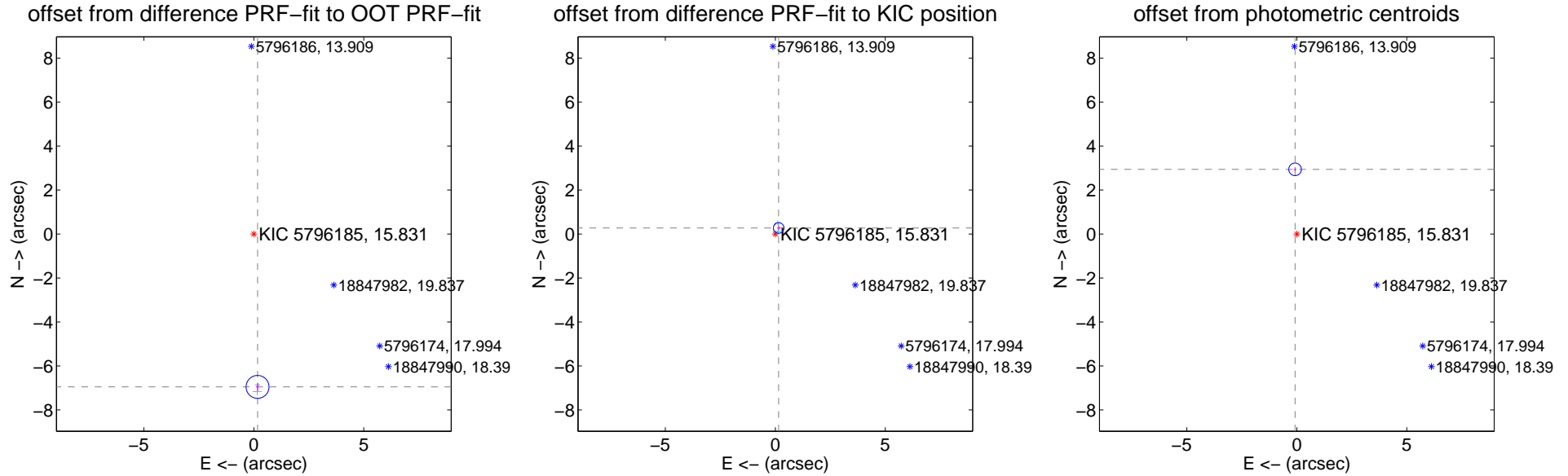
DV Centroid Data

Supplemental centroid analysis for 005796185-02. Kepler magnitude: 15.83. Transit SNR 80.48

There are 13 quarters with good PRF difference image offsets

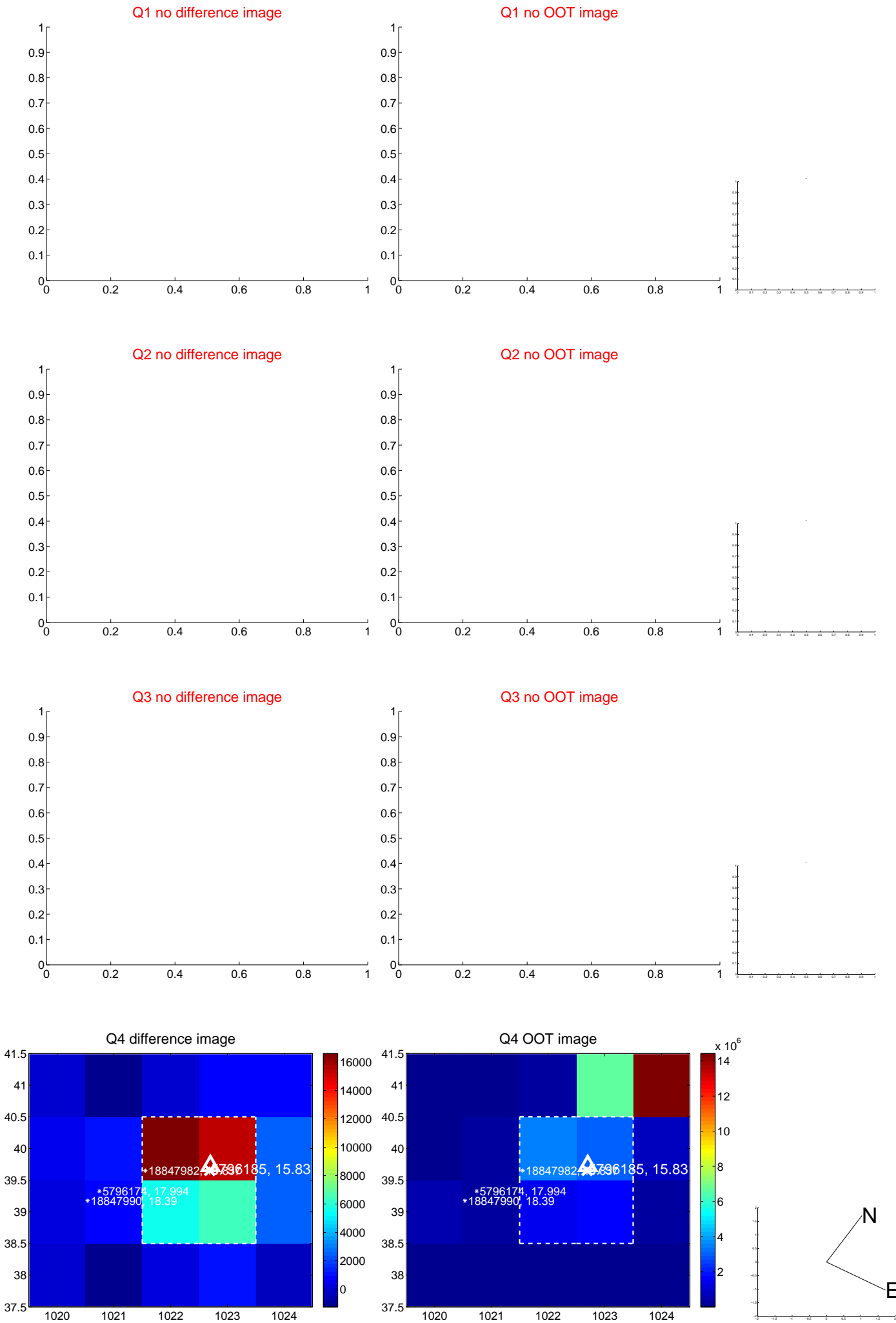
The OOT PRF centroid is offset from the target star catalog position by about 7.37 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.954 ± 0.174	40.05	-0.170 ± 0.067	-6.952 ± 0.174
PRF-fit source offset from KIC position	0.314 ± 0.080	3.91	-0.153 ± 0.071	0.275 ± 0.083
photometric centroid source offset	2.94 ± 0.10	30.80	0.08 ± 0.06	2.94 ± 0.10

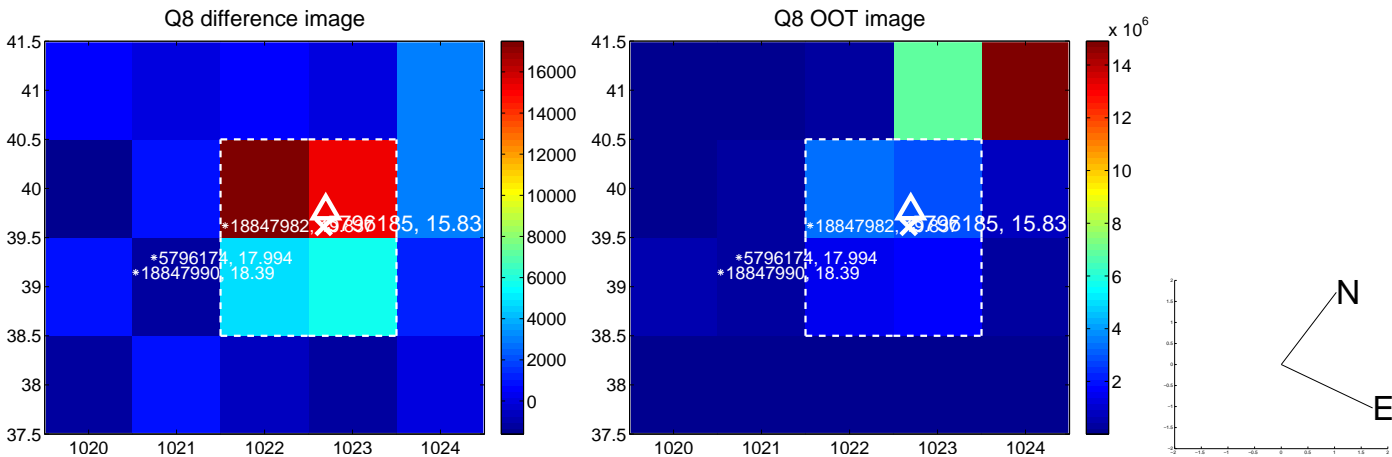
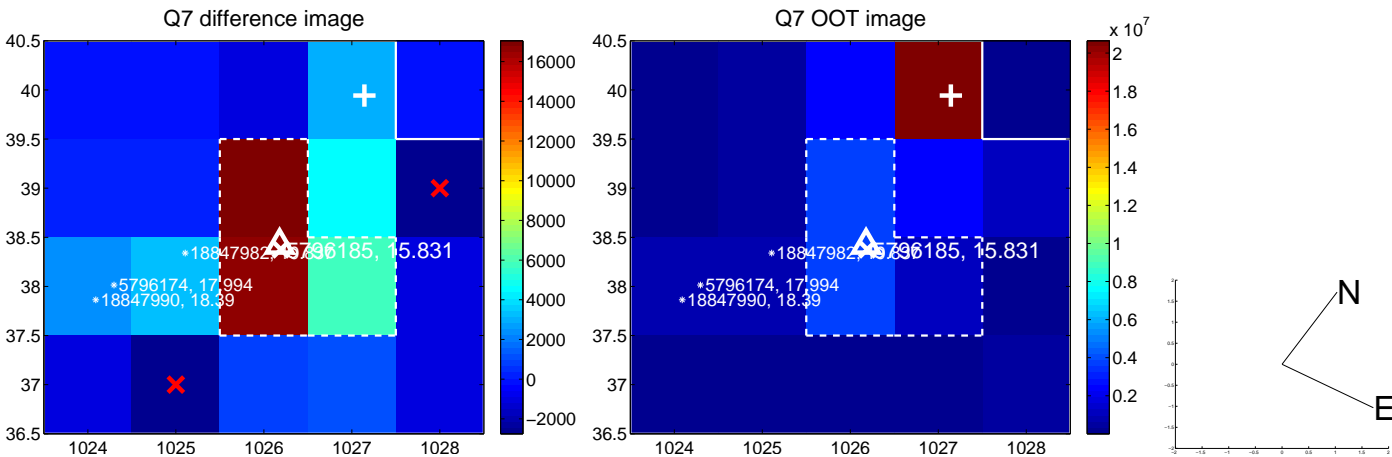
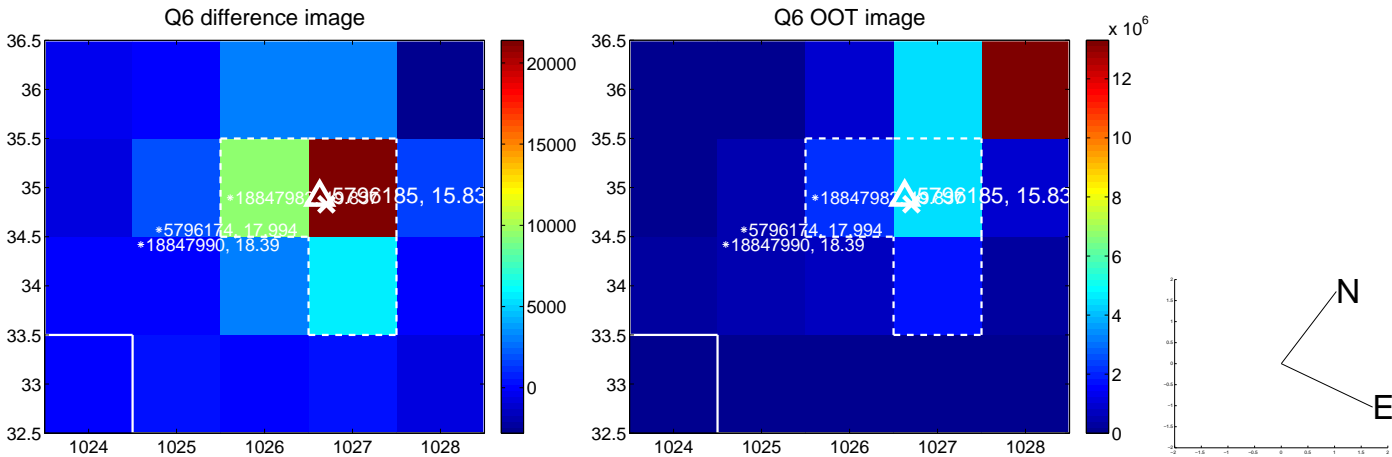
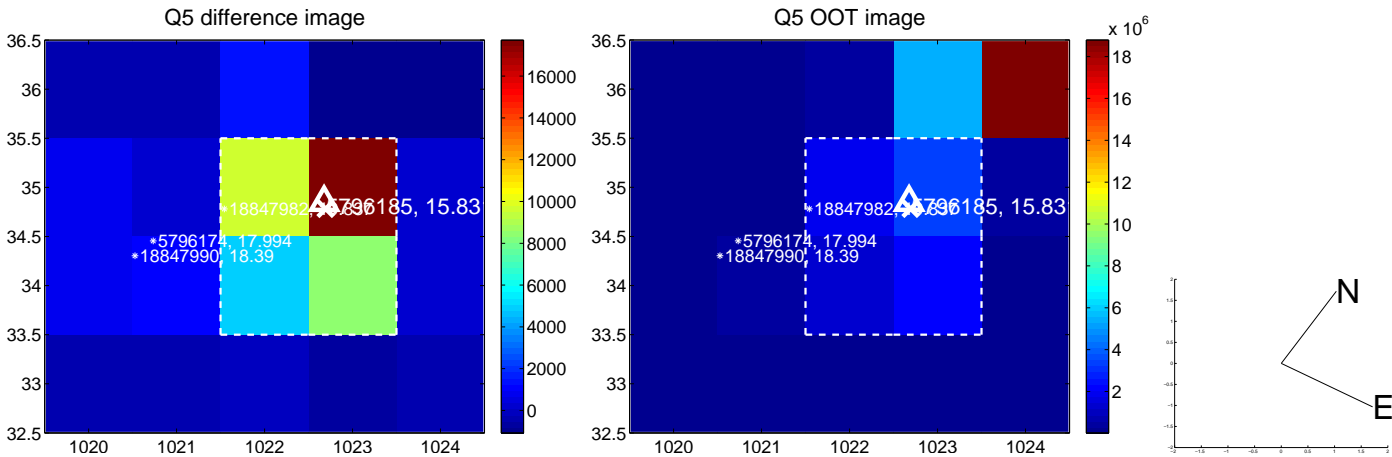


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

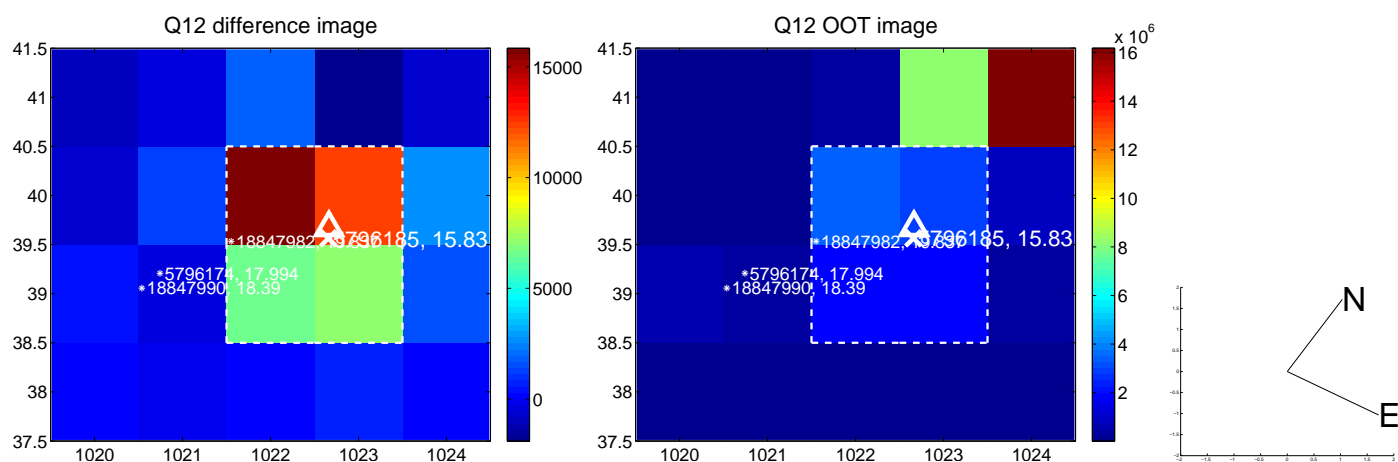
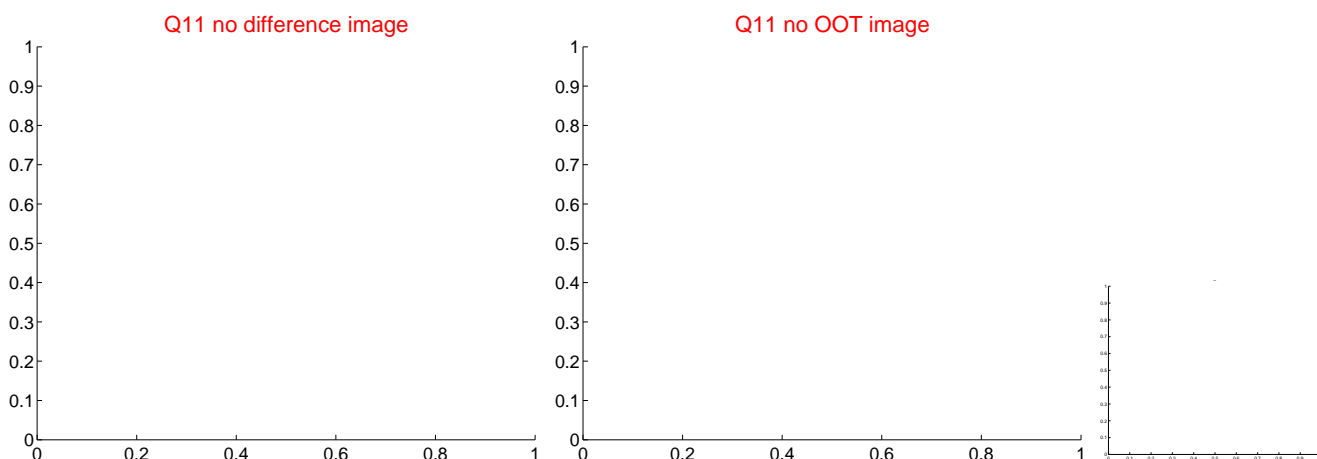
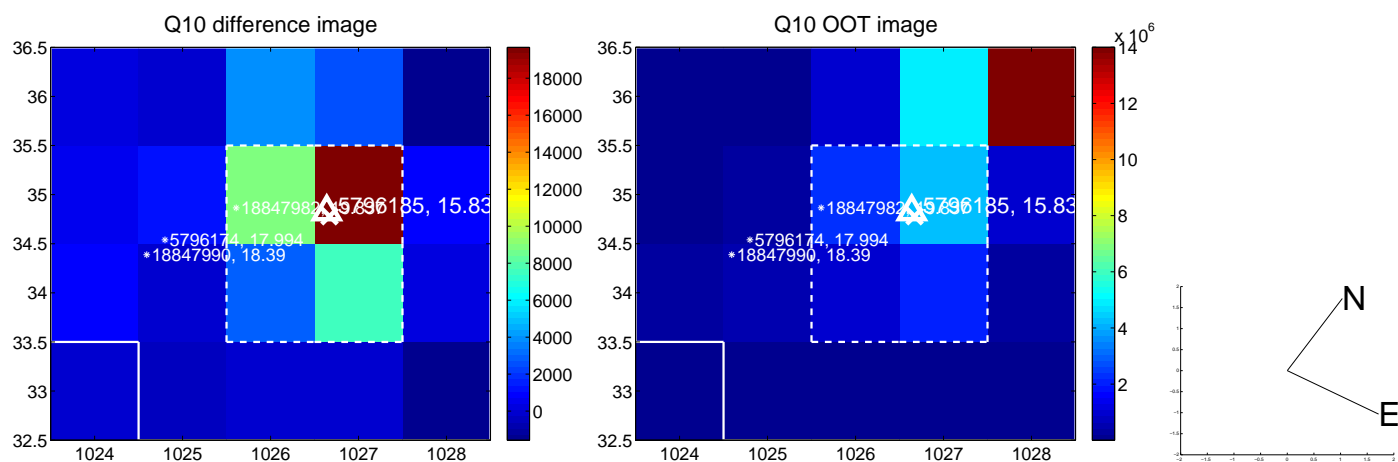
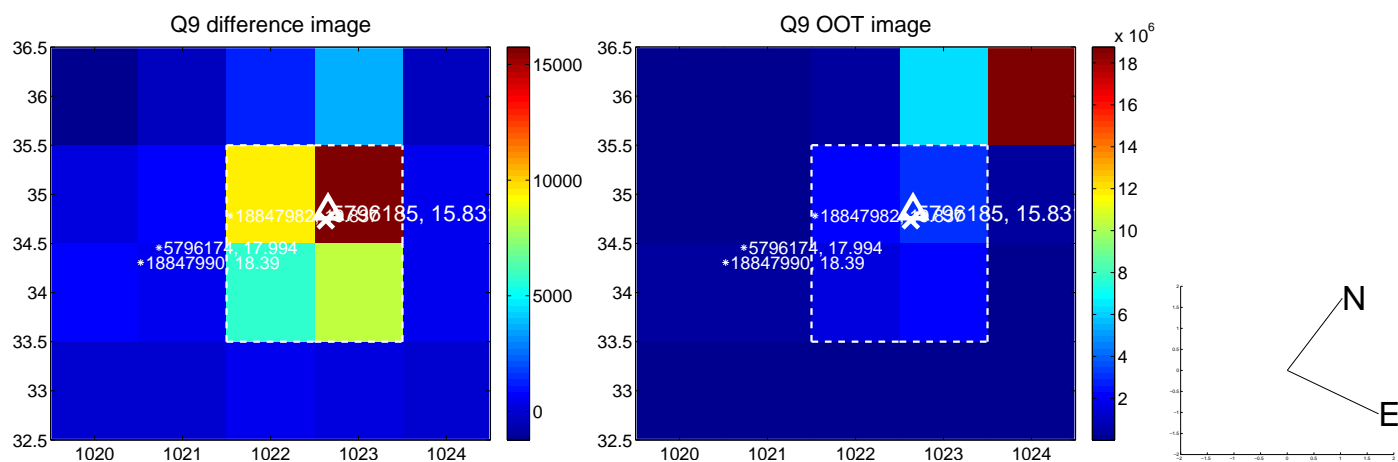
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



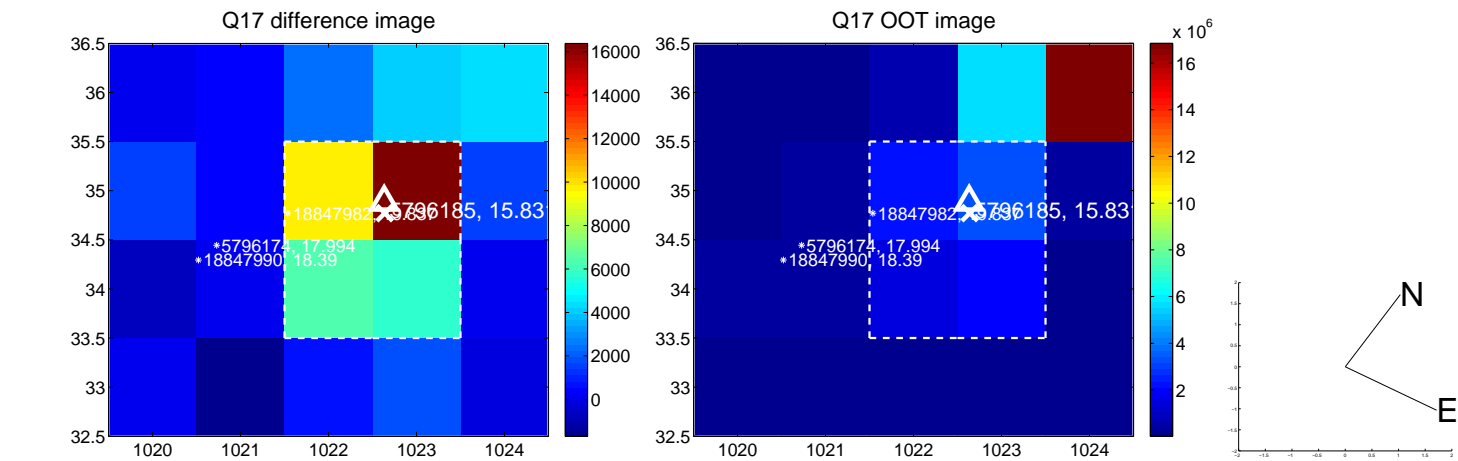
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



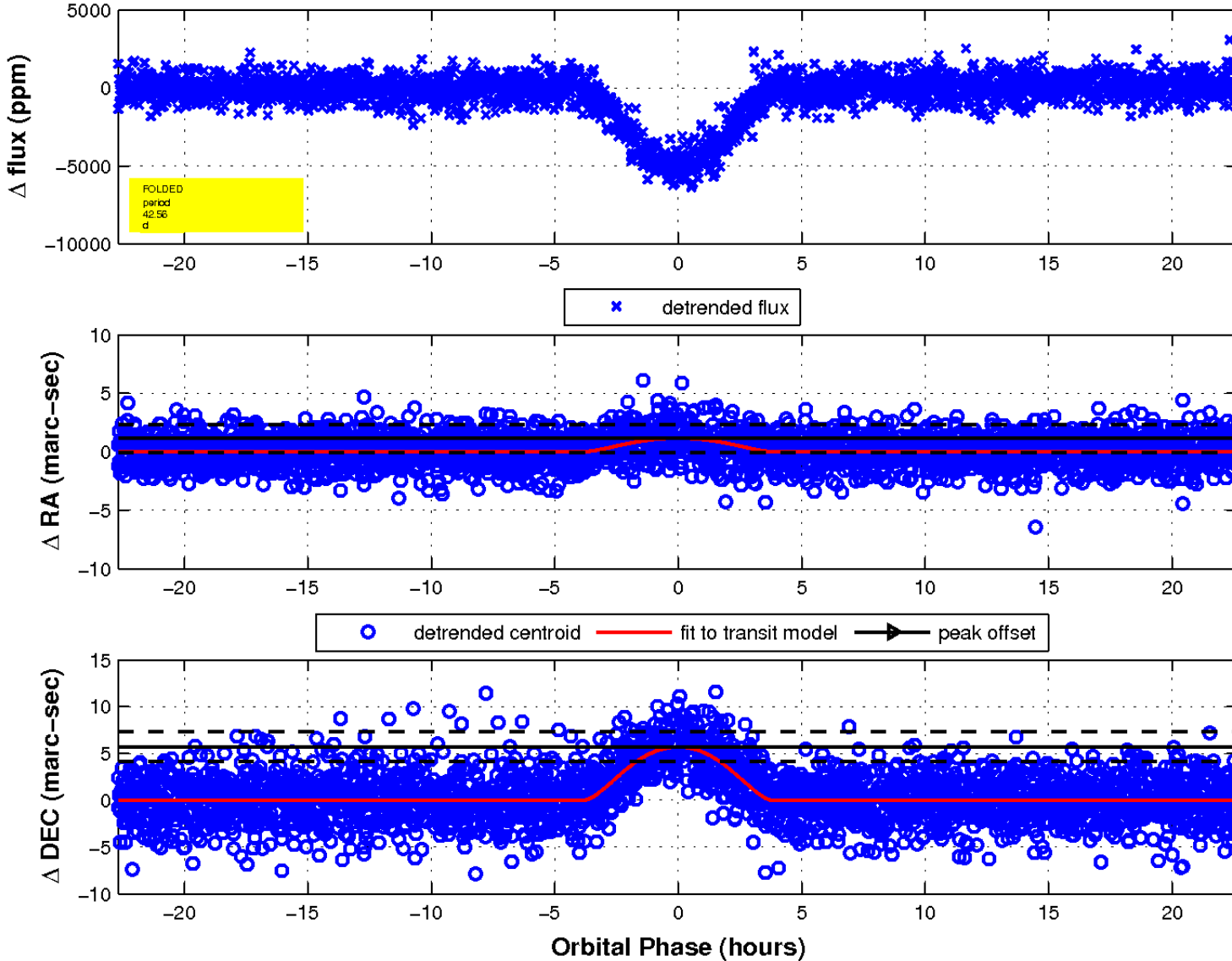
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

