

KIC 003547091

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})
003547091-01	OBS	1177.01	3.305581	134.402897	17372.8	2.463	566.3	555.7	0.71	5534	12.21	263.63
003547091-02	OBS	No	3.305572	132.751708	1808.6	2.373	54.8	63.7	0.71	5534	4.28	263.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003547091-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
003547091-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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 003547091-01

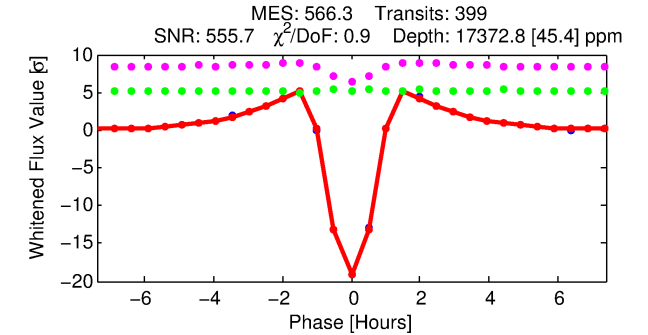
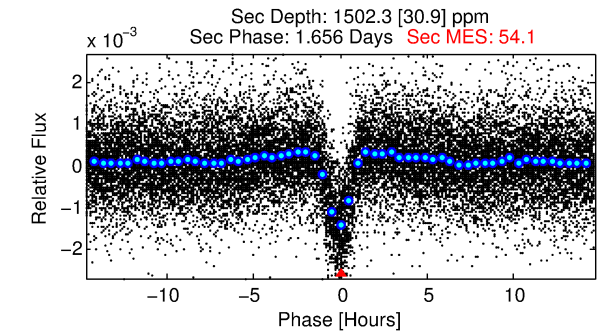
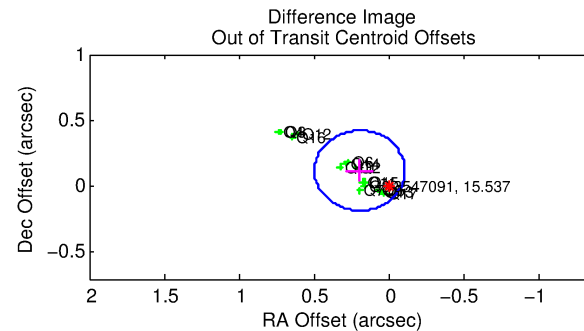
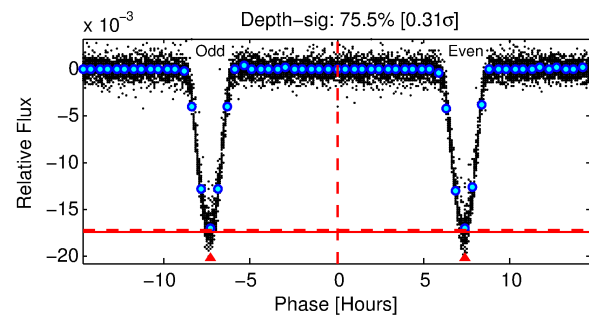
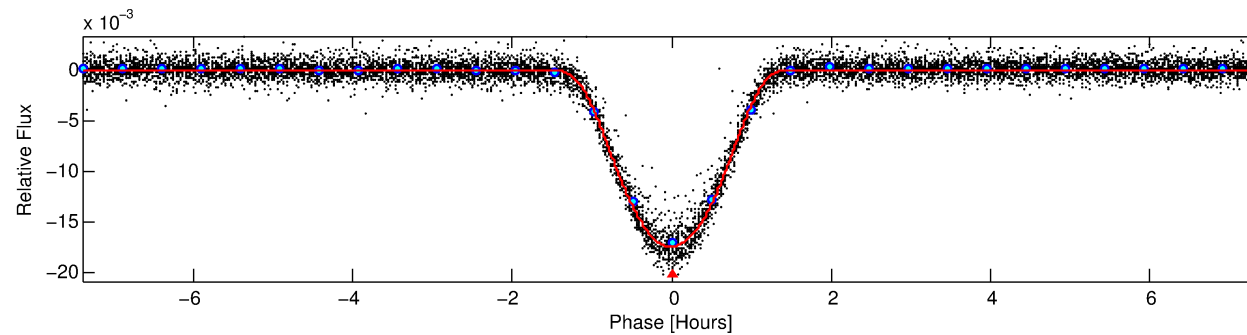
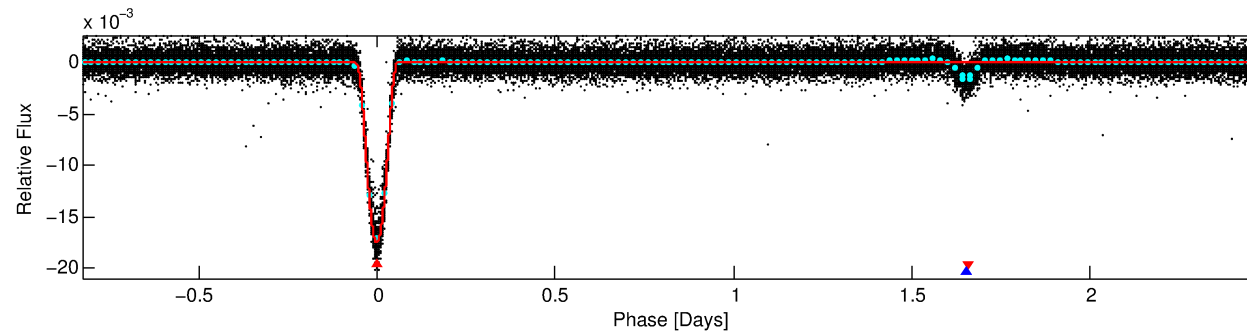
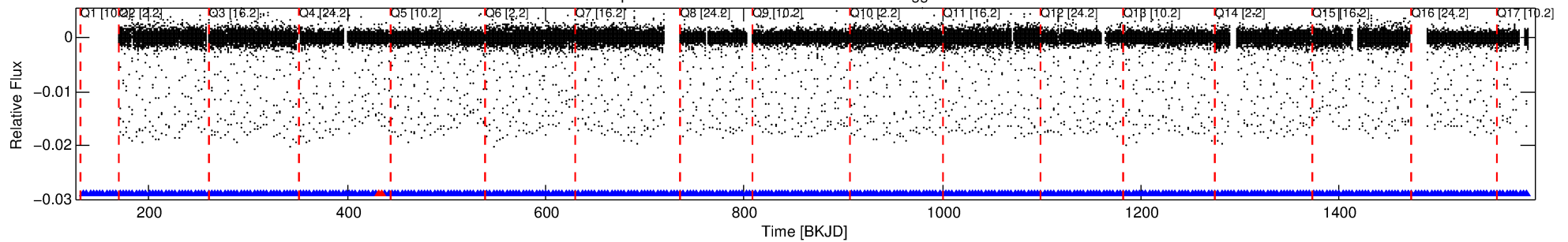
No Significant Match Found

DV One-Page Summary

KIC: 3547091 Candidate: 1 of 2 Period: 3.306 d

KOI: K01177.01 Corr: 0.989

Kp: 15.54 R*: 0.71 Rs Teff: 5534.0 K Logg: 4.63 Fe/H: -0.580



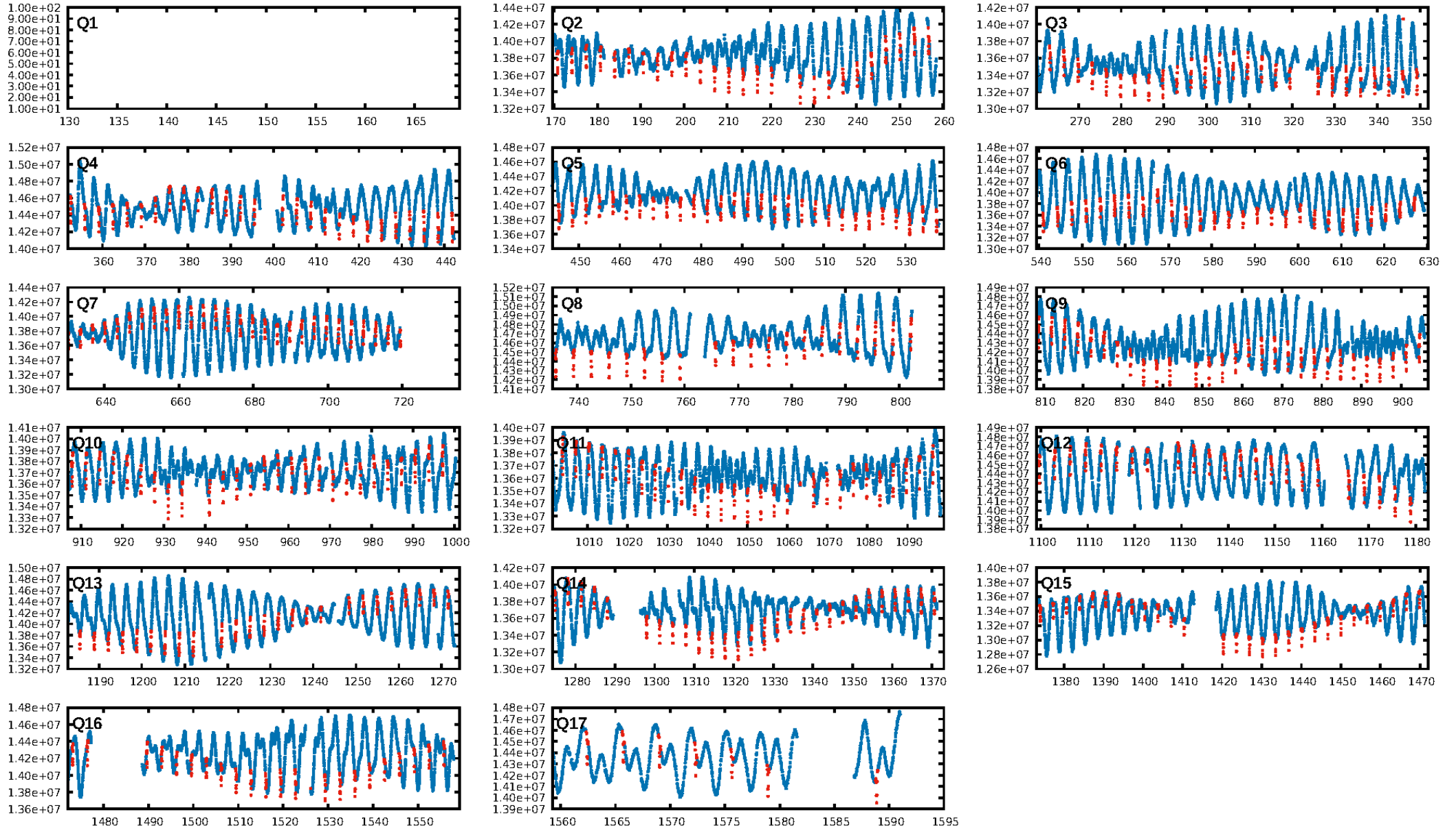
DV Fit Results:

Period = 3.30558 [0.00000] d
Epoch = 134.4029 [0.0001] BKJD
Rp/R* = 0.1583 [0.0034]
a/R* = 7.47 [0.05]
b = 0.91 [0.01]
Seff = 263.63 [62.29]
Teq = 1027 [61] K
Rp = 12.21 [2.05] Re
a = 0.0399 [0.0056] AU
Ag = 8.83 [1.86] [4.22σ]
Teffp = 2739 [87] K [16.14σ]

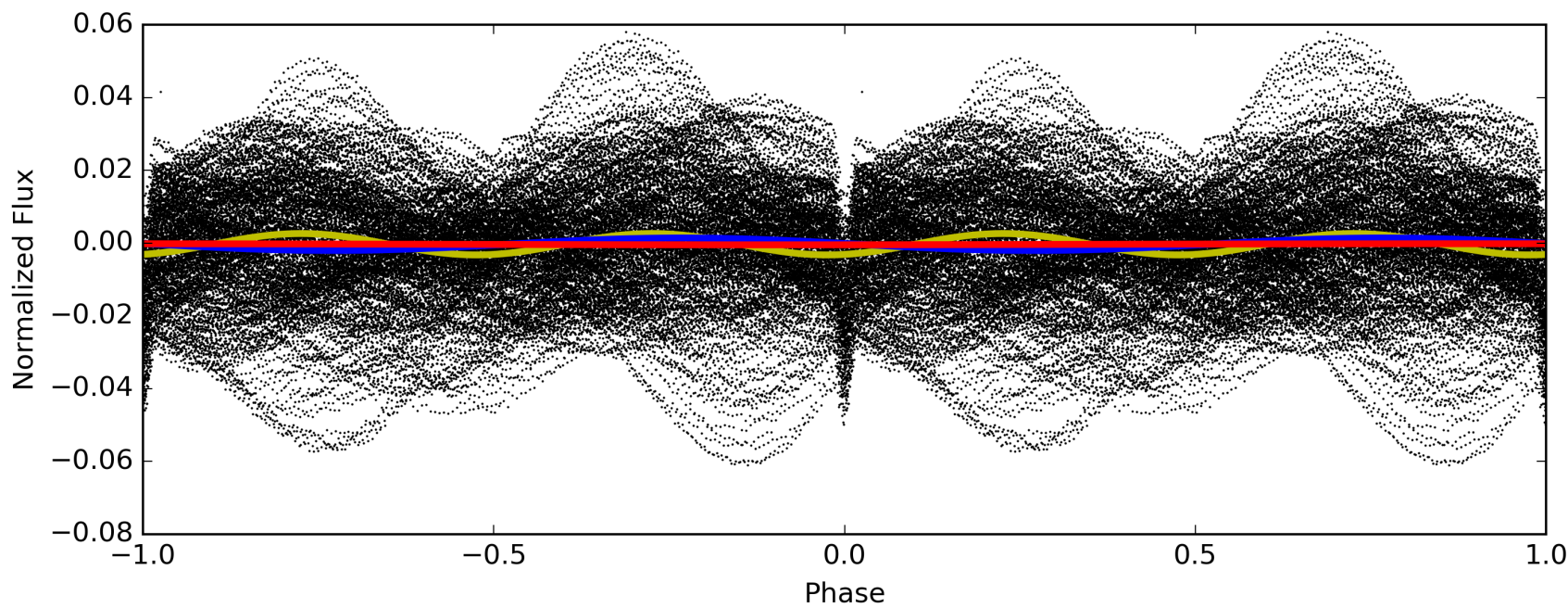
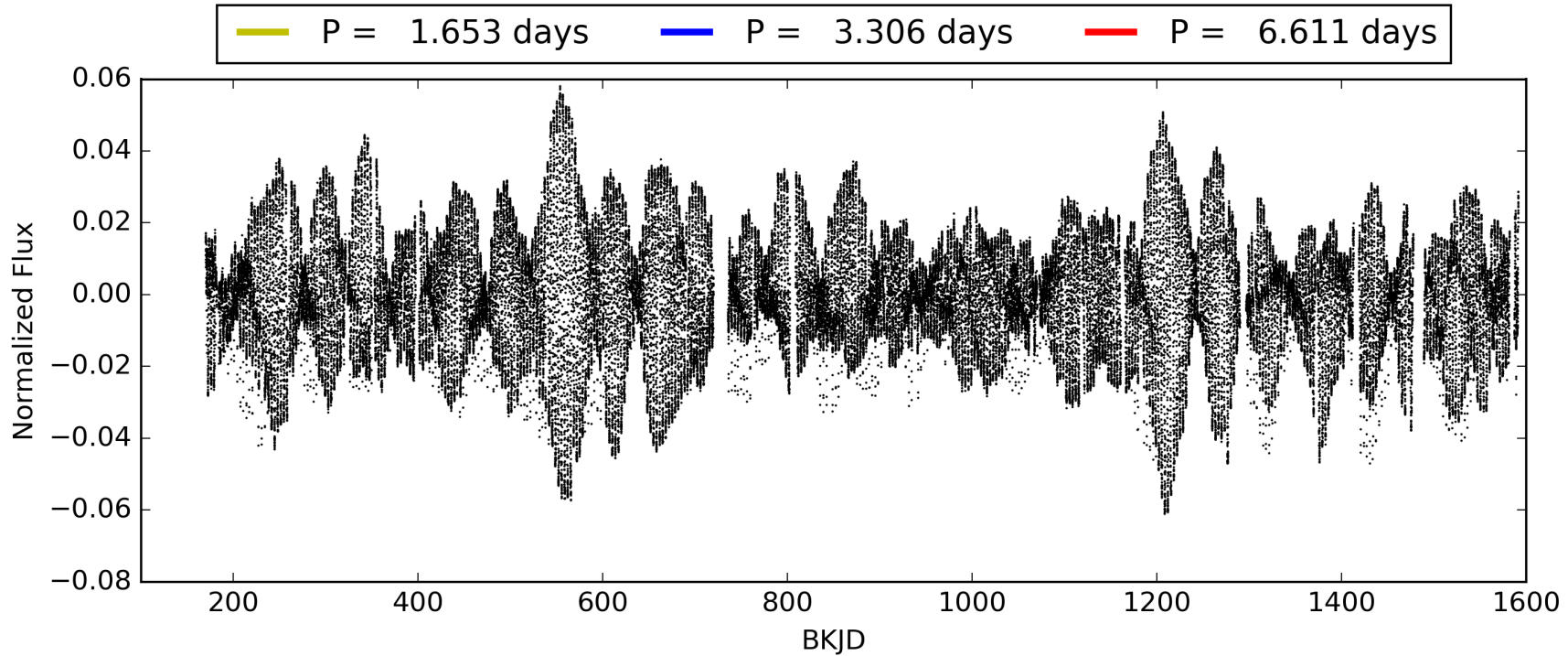
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.99 [390/392]
GhostDiagnostic-chr: 2.447
Centroid-sig: 0.0%
Centroid-so: 0.214 arcsec [10.93σ]
OotOffset-rm: 0.228 arcsec [2.26σ]
KicOffset-rm: 0.045 arcsec [0.65σ]
OotOffset-st: 4/4/4 [16]
KicOffset-st: 4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [16/16]

TCE 003547091-01, PDC Light Curves

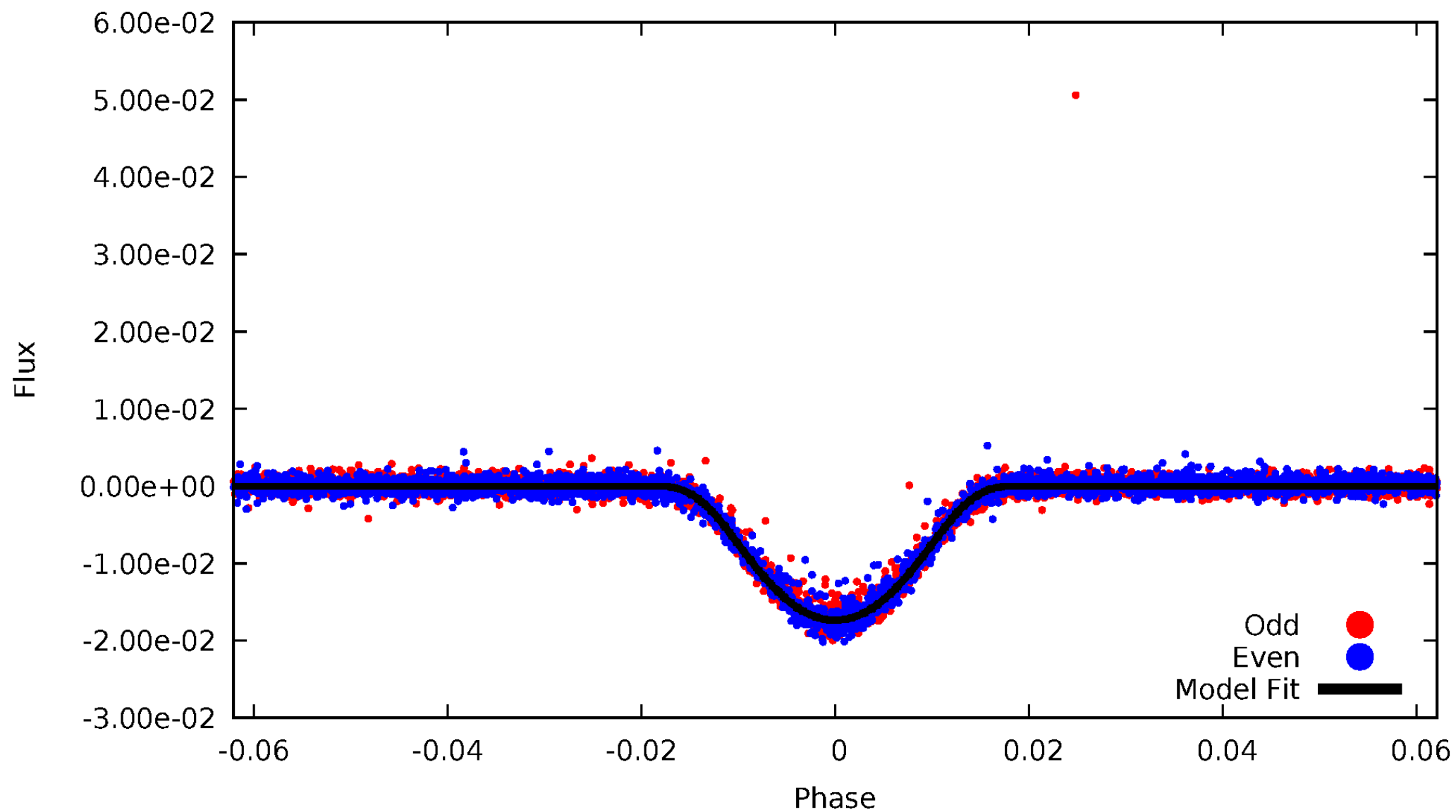


TCE 003547091-01



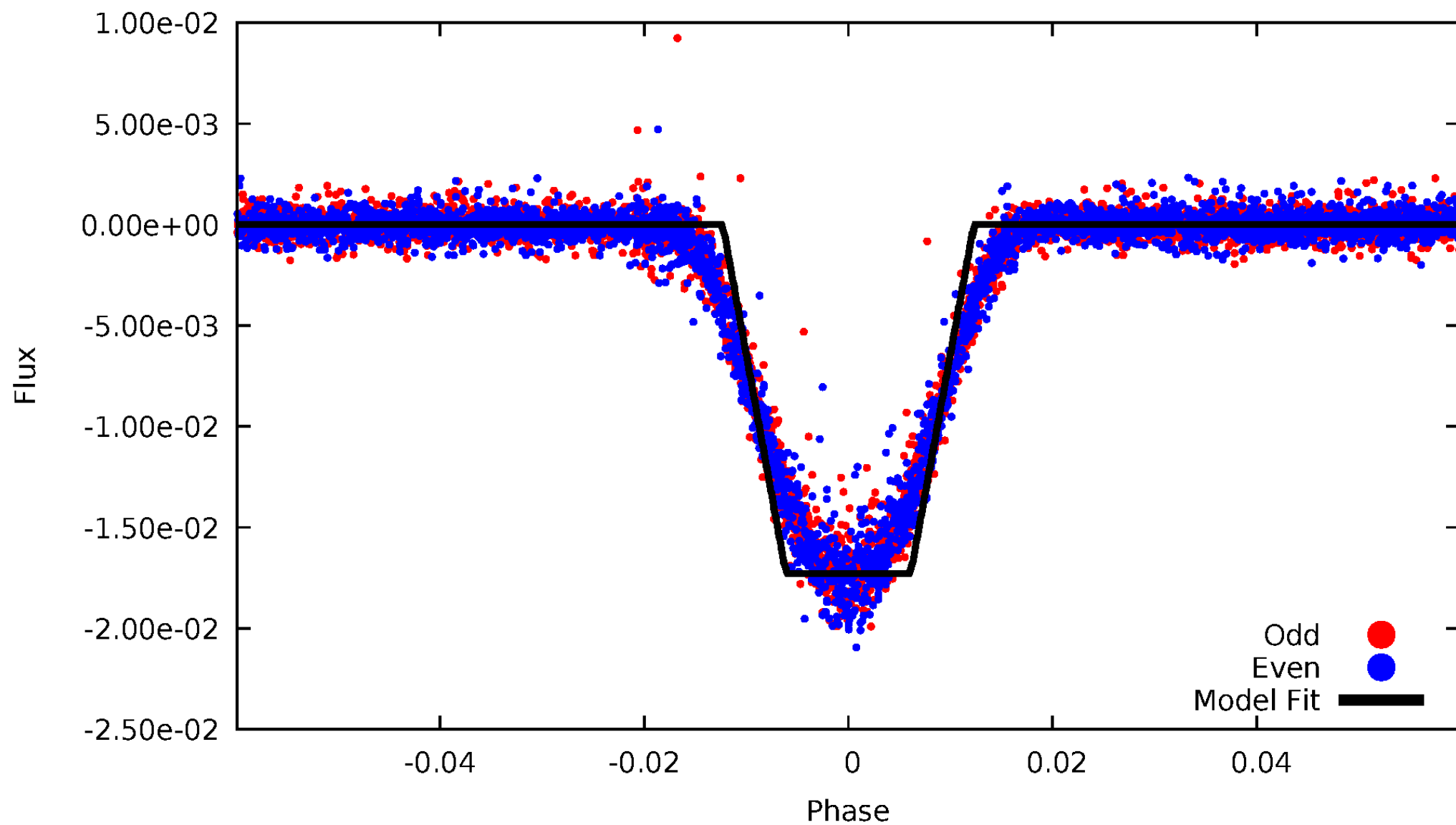
DV Odd/Even

TCE 003547091-01



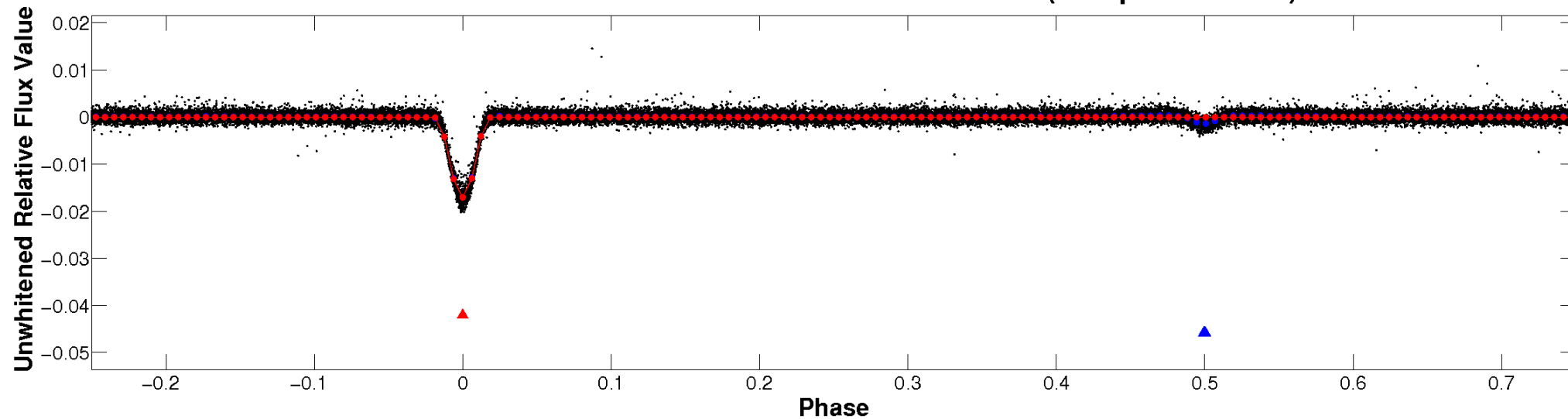
ALT Odd/Even

TCE 003547091-01

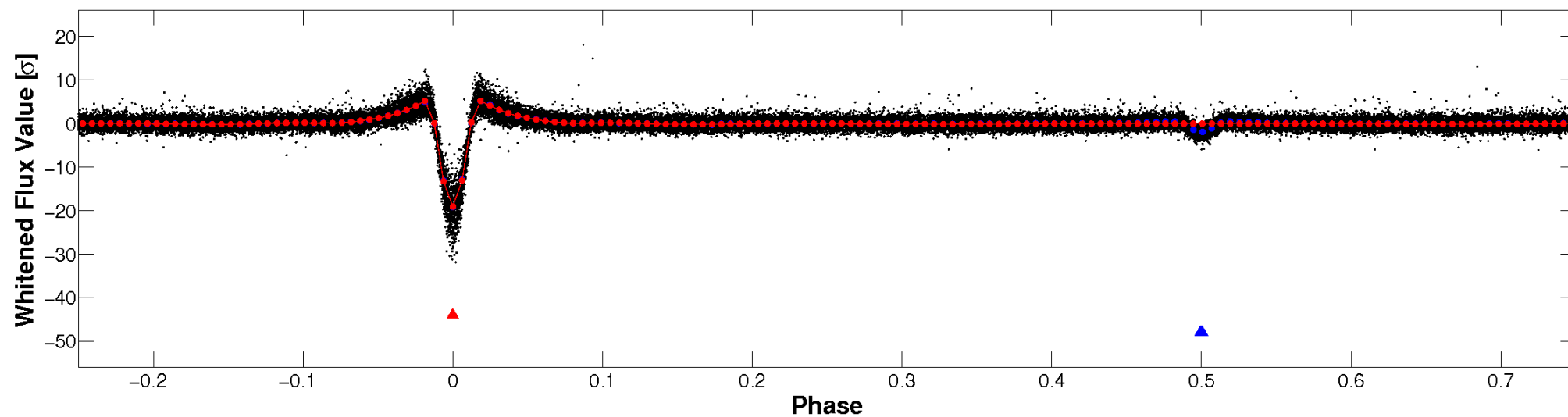


Non-Whitened Vs. Whitened Light Curve

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

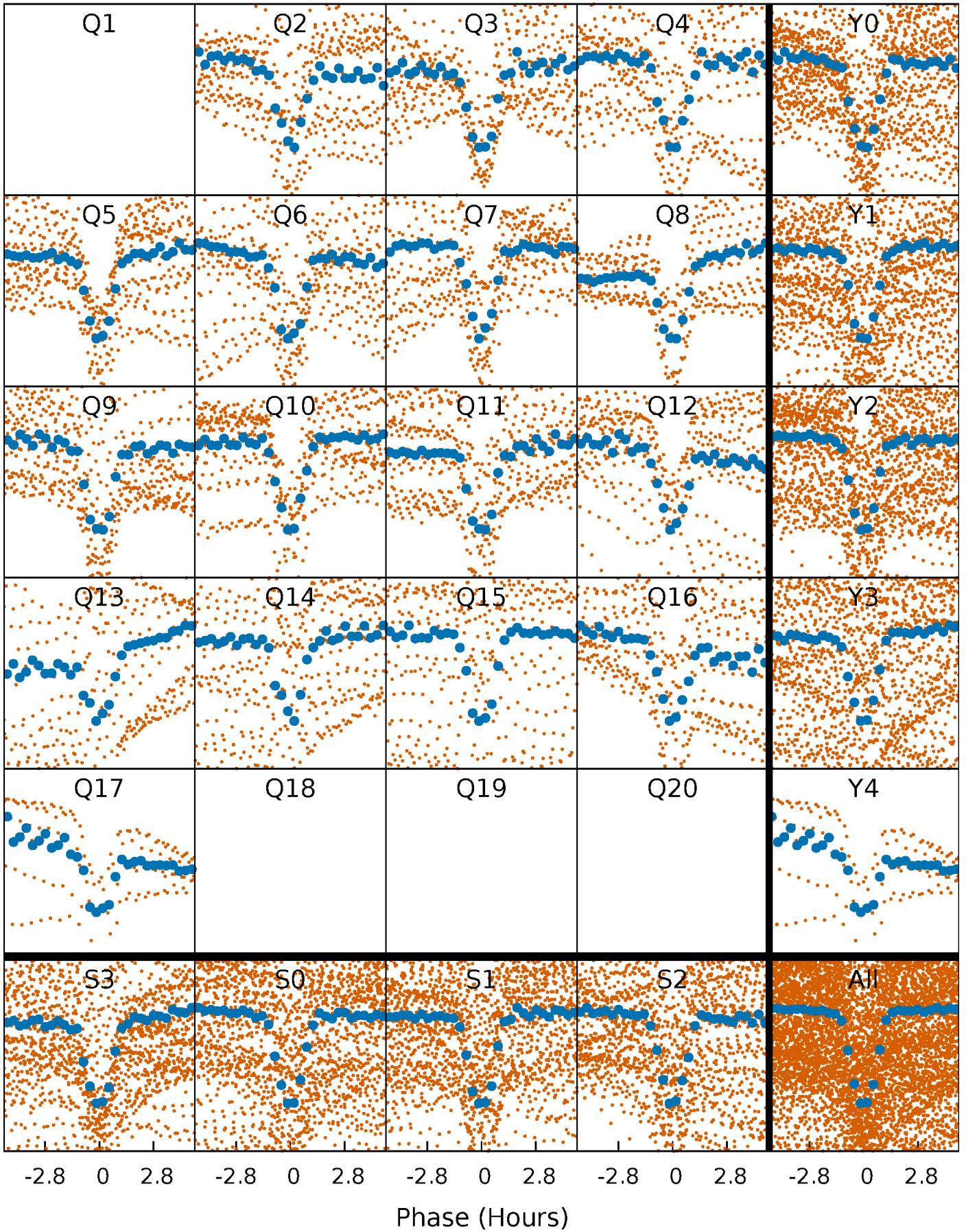


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



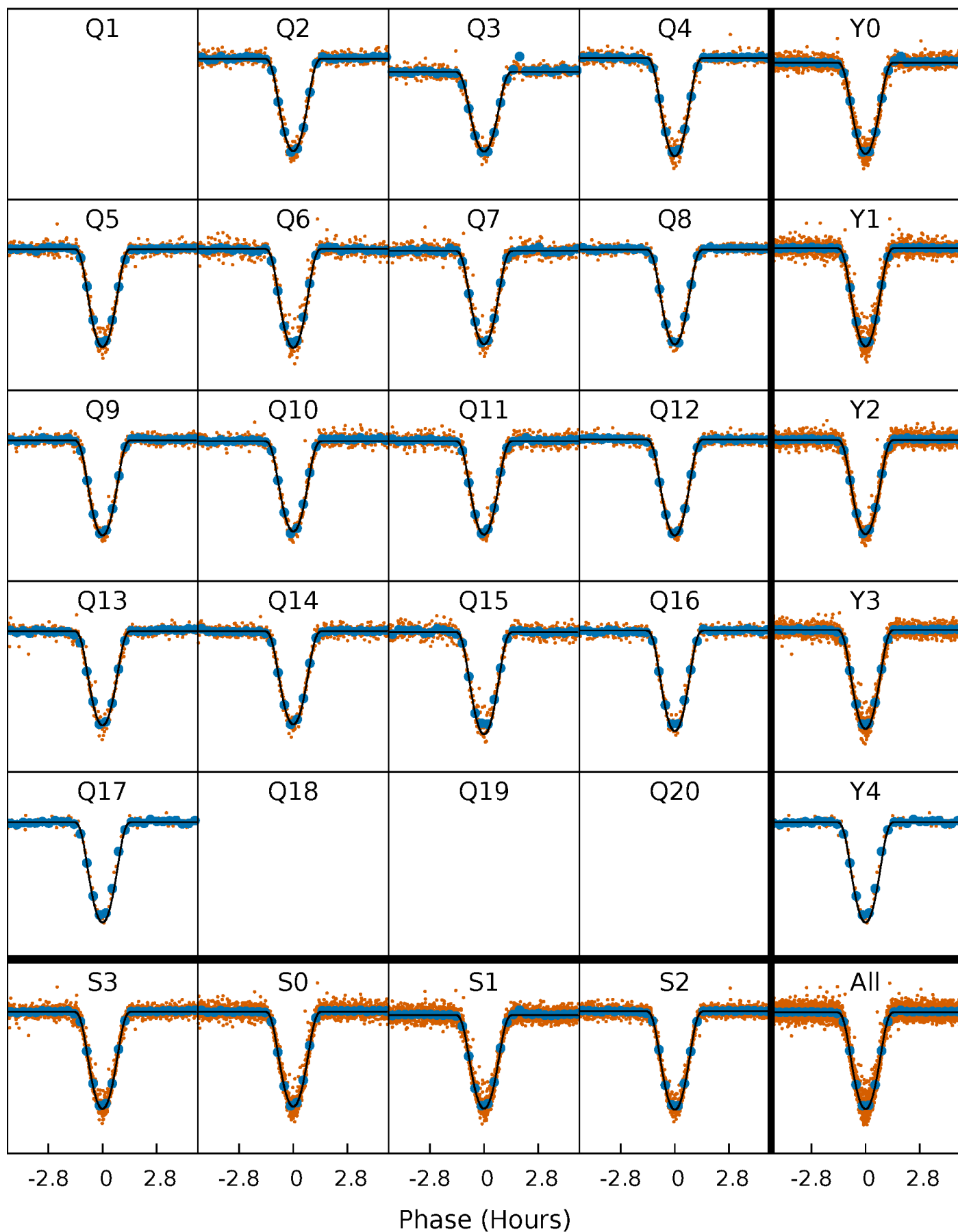
PDC Quarter-Phased Transit Curves

TCE 003547091-01 P= 3.305581 Days $T_0=134.402897$ (BKJD)



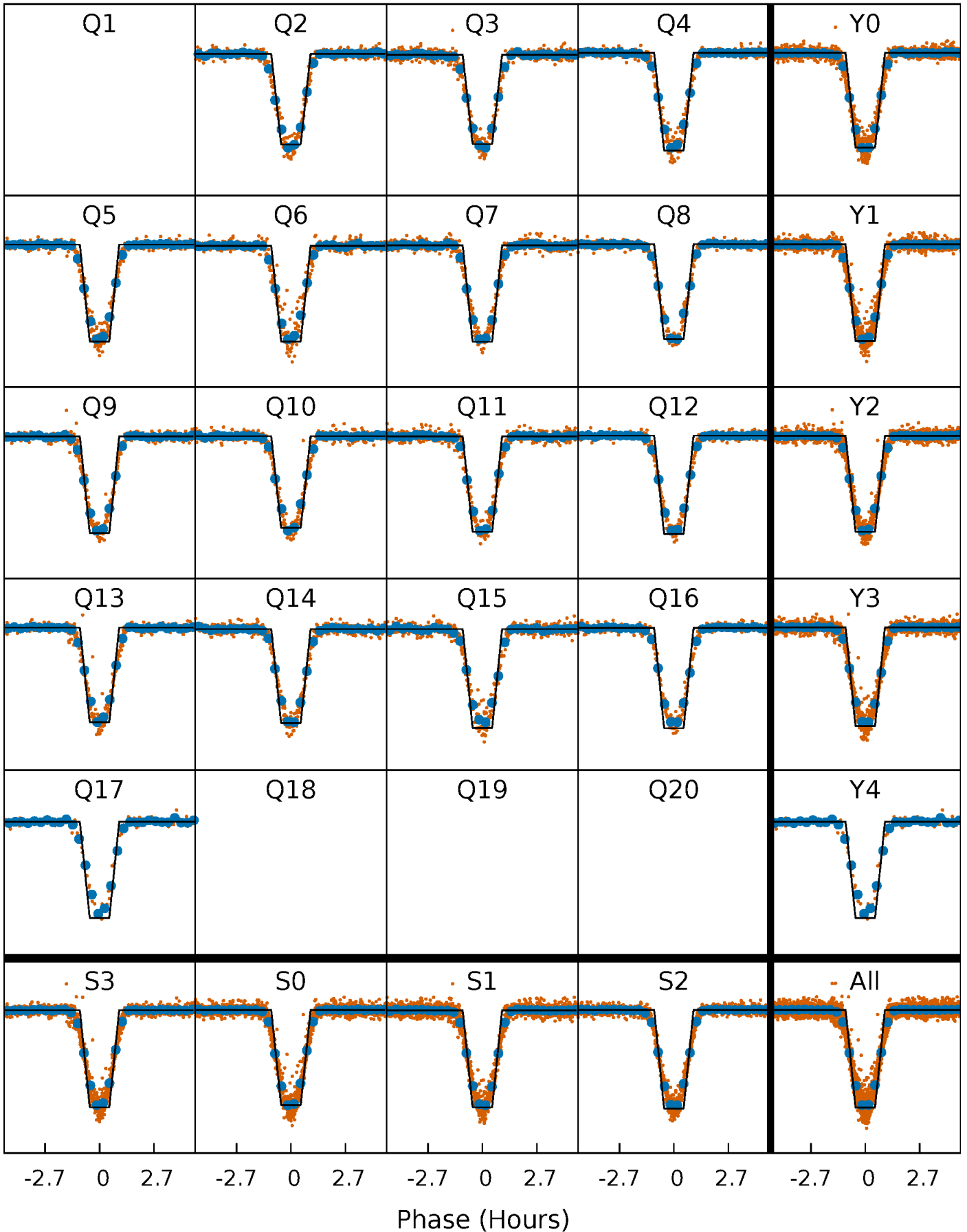
DV Quarter-Phased Transit Curves

TCE 003547091-01 P= 3.305581 Days $T_0=134.402897$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

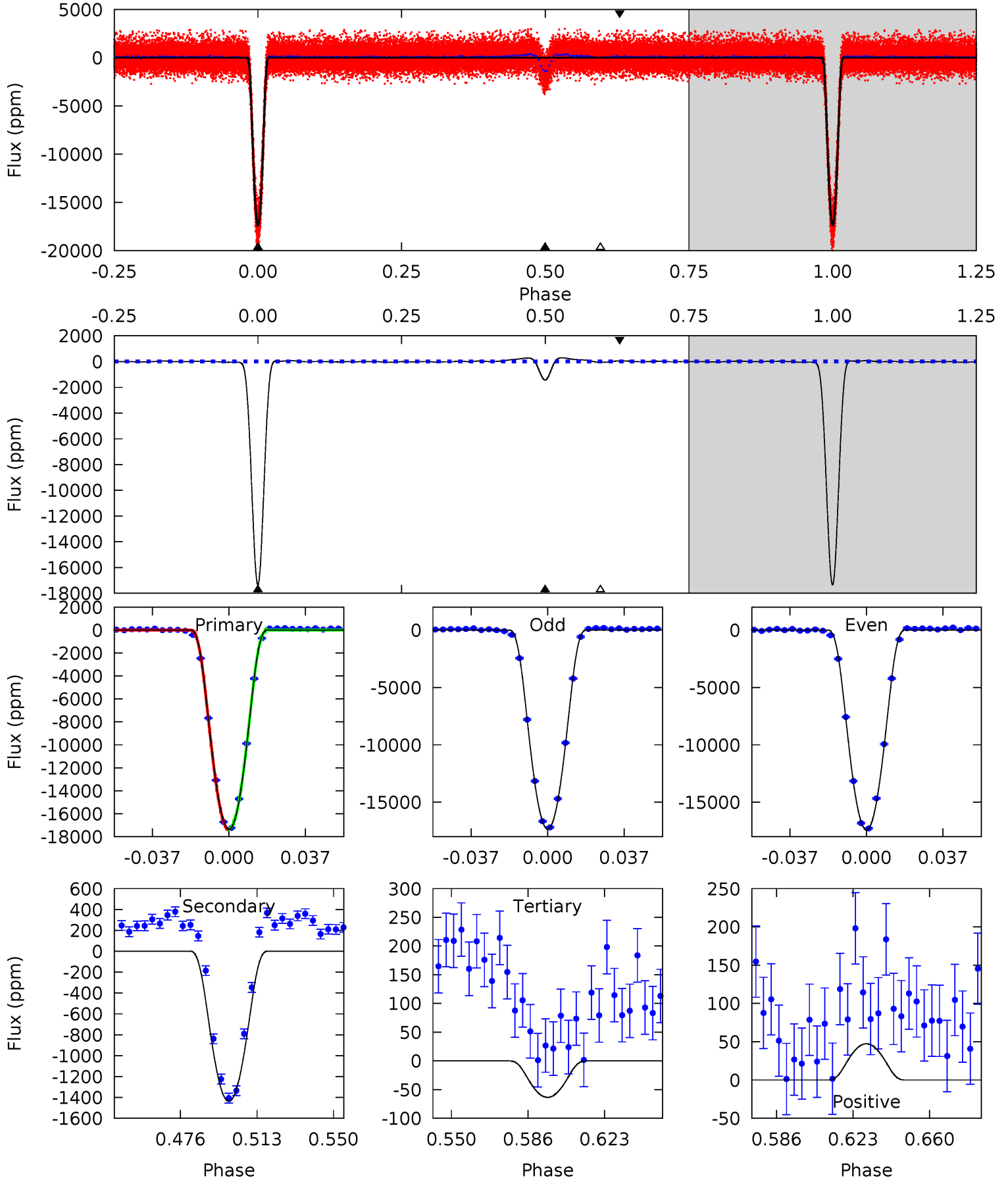
TCE 003547091-01 $P = 3.305575$ Days $T_0 = 134.404187$ (BKJD)



DV Model-Shift Uniqueness Test

003547091-01, P = 3.305581 Days, E = 134.402897 Days

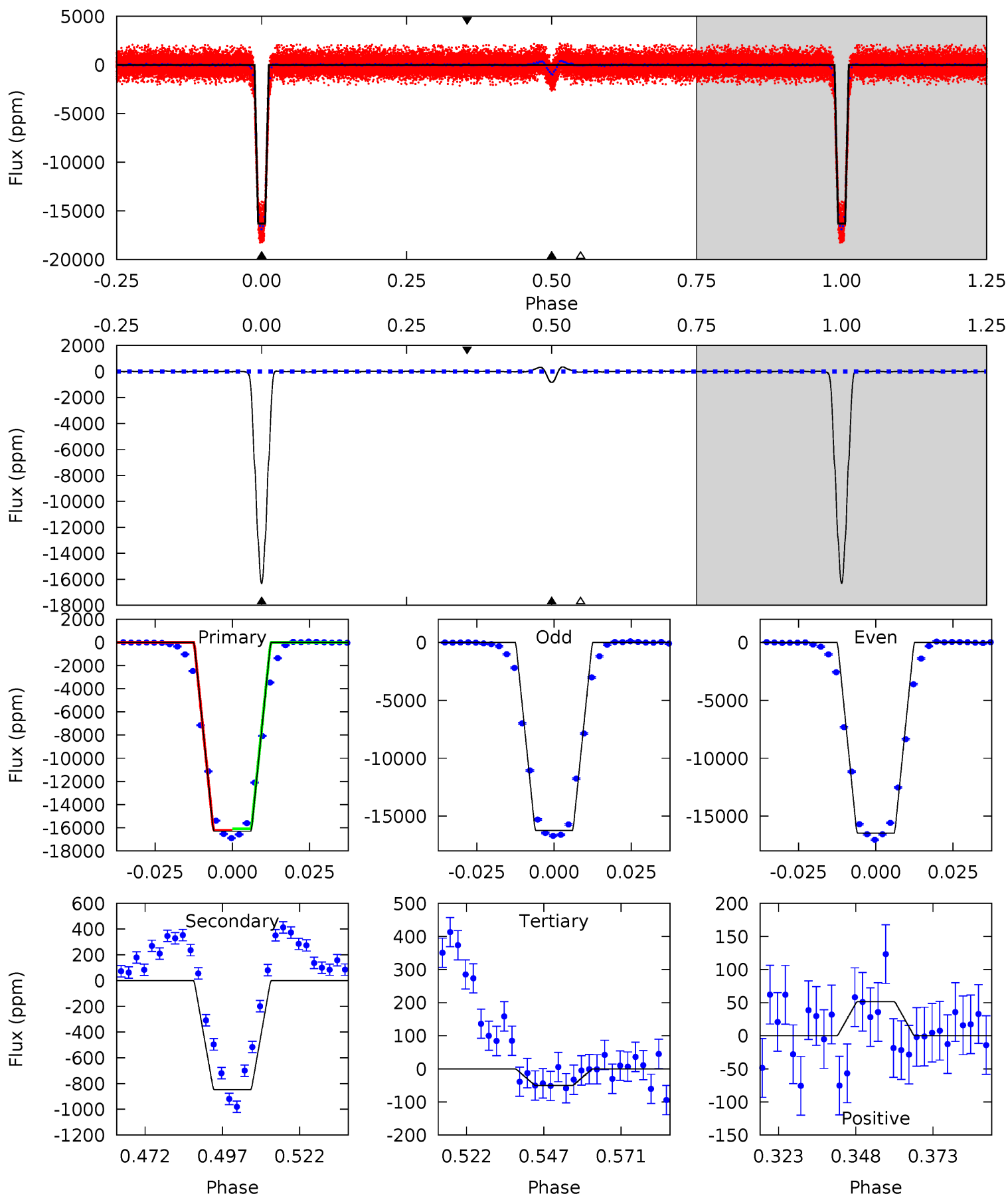
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1154	95.6	4.22	3.15	4.77	2.09	3.59	1149	1150	91.3	92.4	2.61	0.99	0.02	0



Alt Model-Shift Uniqueness Test

003547091-01, P = 3.305575 Days, E = 134.404187 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1009	52.4	3.11	3.19	4.85	2.24	1.90	1006	1006	49.3	49.2	6.80	0.99	0.02	4.00



Stellar Parameters For KIC 003547091

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5534^{+163}_{-163}	$4.629^{+0.035}_{-0.112}$	$-0.580^{+0.300}_{-0.300}$	$0.707^{+0.118}_{-0.055}$	$0.786^{+0.073}_{-0.073}$	$3.132^{+0.460}_{-1.052}$
	+3%/-3%	+1%/-2%	+52%/-52%	+17%/-8%	+9%/-9%	+15%/-34%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 003547091-01 / KOI 1177.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1438 ± 15	$12.52^{+1.09}_{-0.80}$	1454^{+66}_{-55}	3248^{+63}_{-65}	$8.031^{+0.854}_{-1.025}$
Alt.	-847 ± 16	$10.34^{+1.04}_{-0.60}$	1450^{+73}_{-52}	3166^{+62}_{-63}	$6.916^{+0.766}_{-1.033}$

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

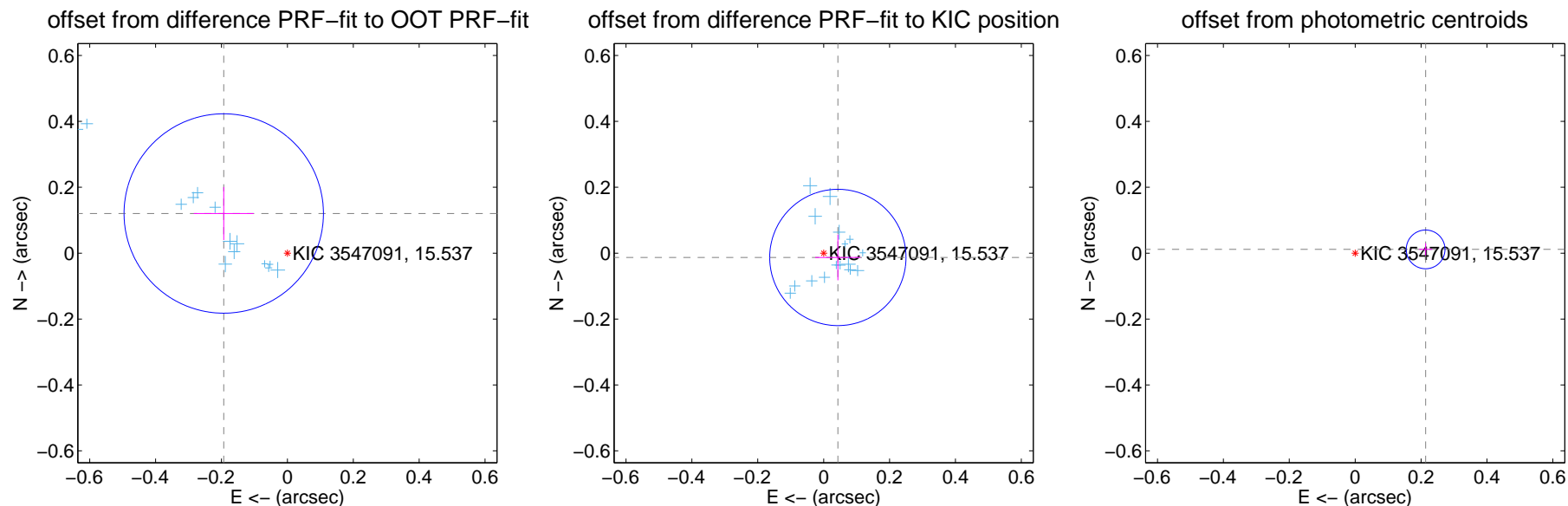
DV Centroid Data

Supplemental centroid analysis for 003547091-01. Kepler magnitude: 15.54. Transit SNR 555.67

There are 16 quarters with good PRF difference image offsets

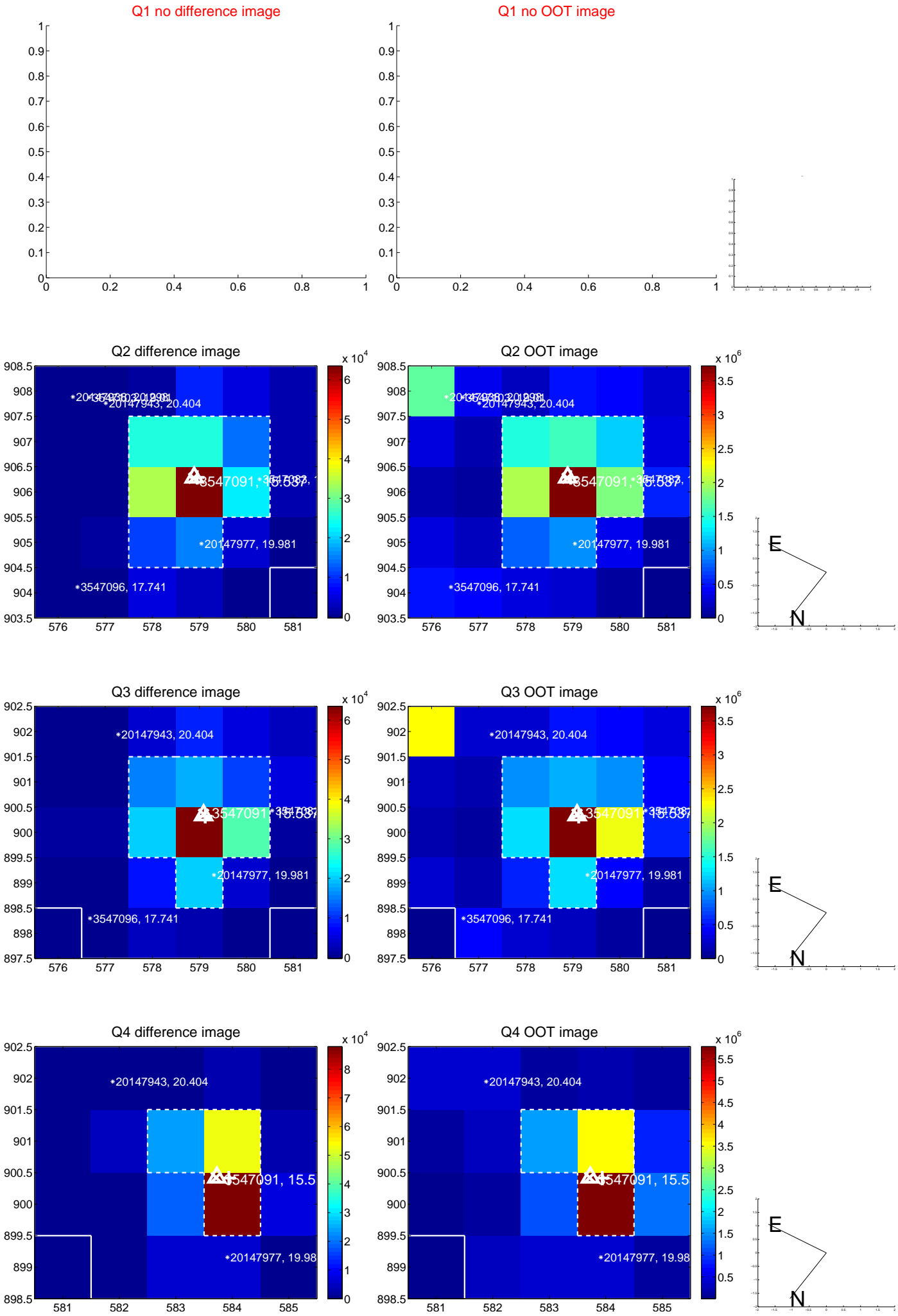
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.228 ± 0.101	2.26	0.193 ± 0.091	0.120 ± 0.080
PRF-fit source offset from KIC position	0.045 ± 0.069	0.65	-0.043 ± 0.069	-0.013 ± 0.069
photometric centroid source offset	0.21 ± 0.02	10.93	-0.21 ± 0.02	0.01 ± 0.02

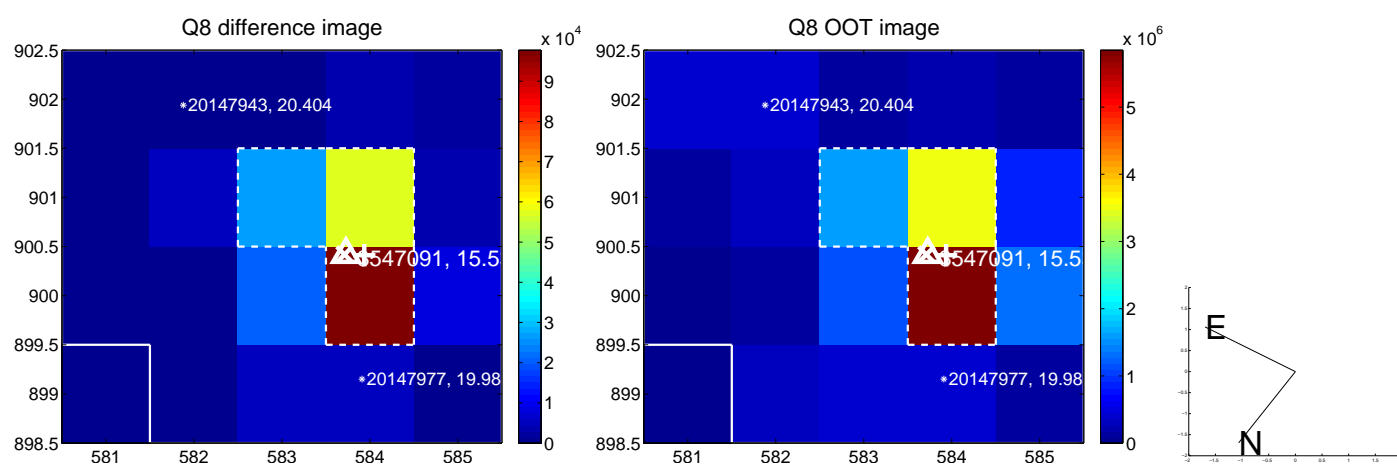
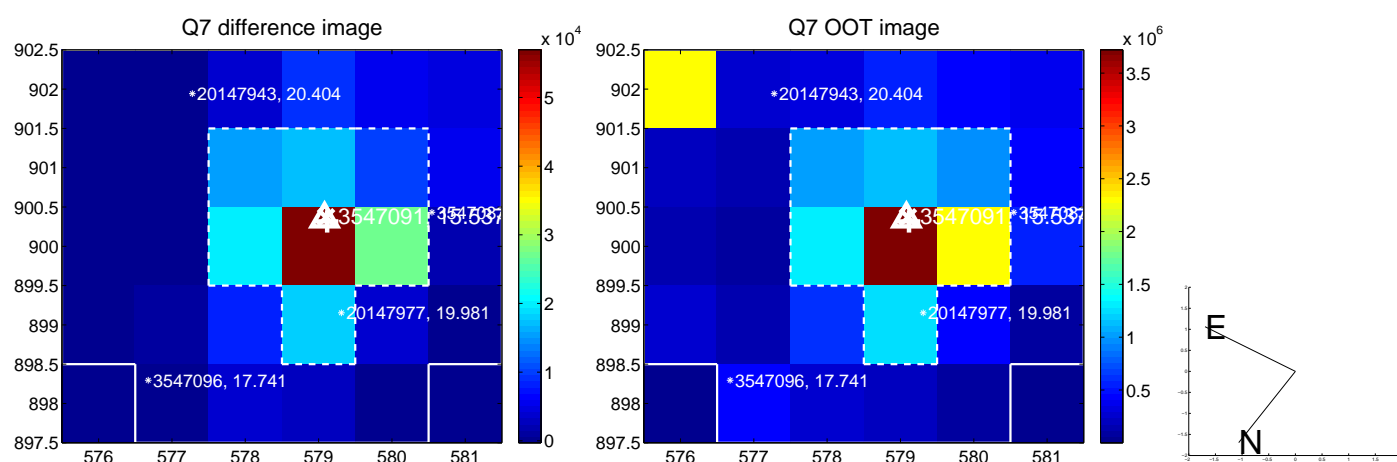
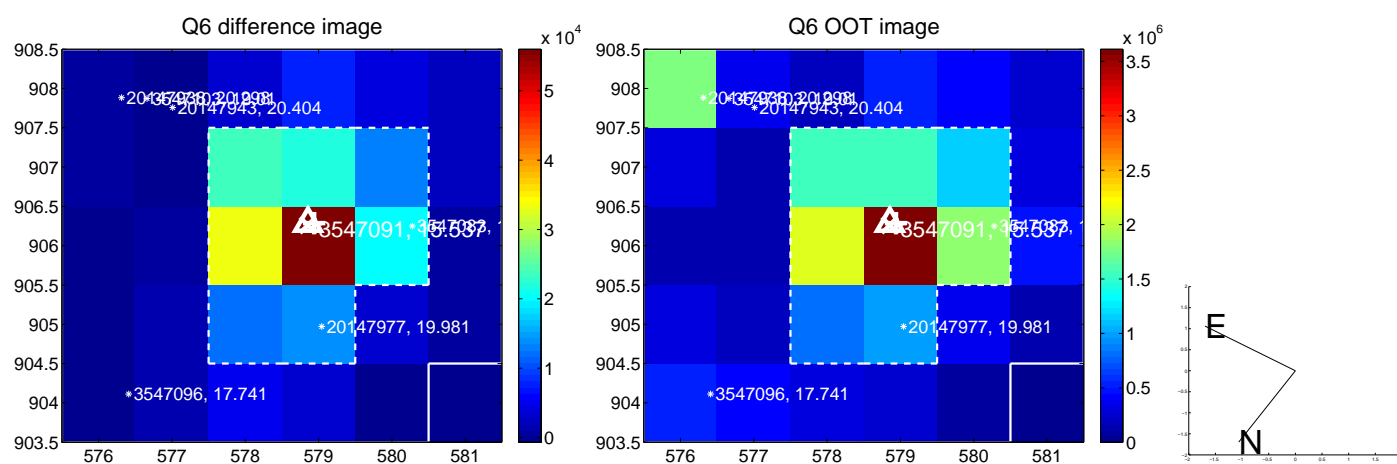
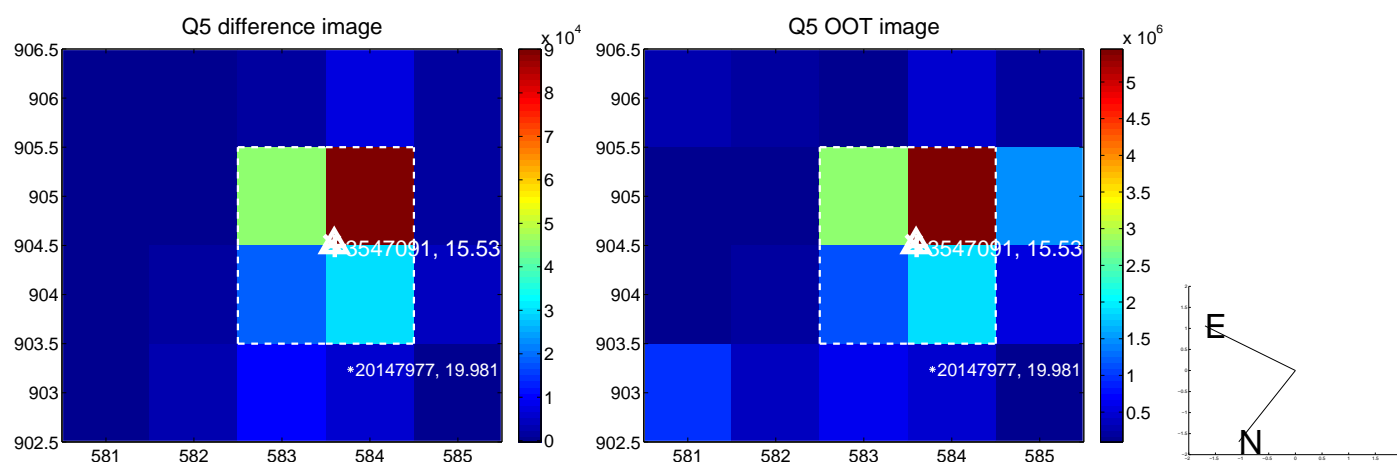


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

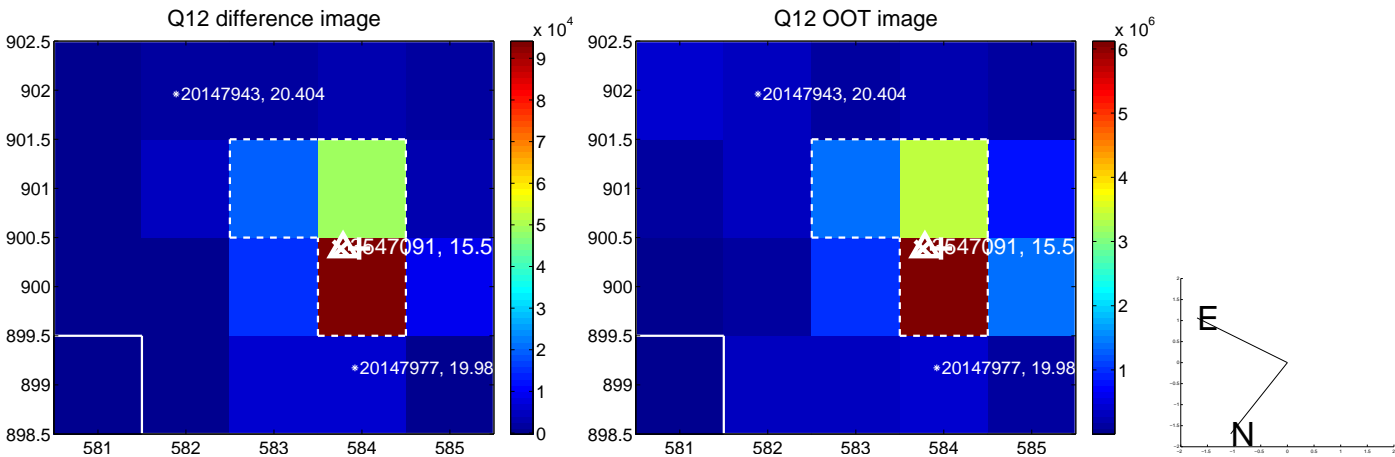
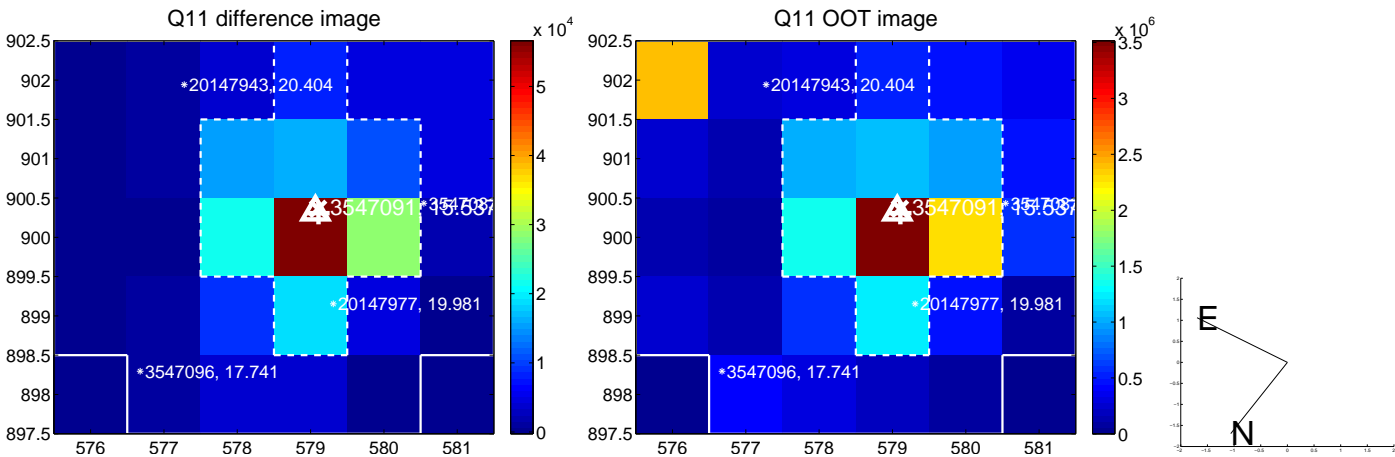
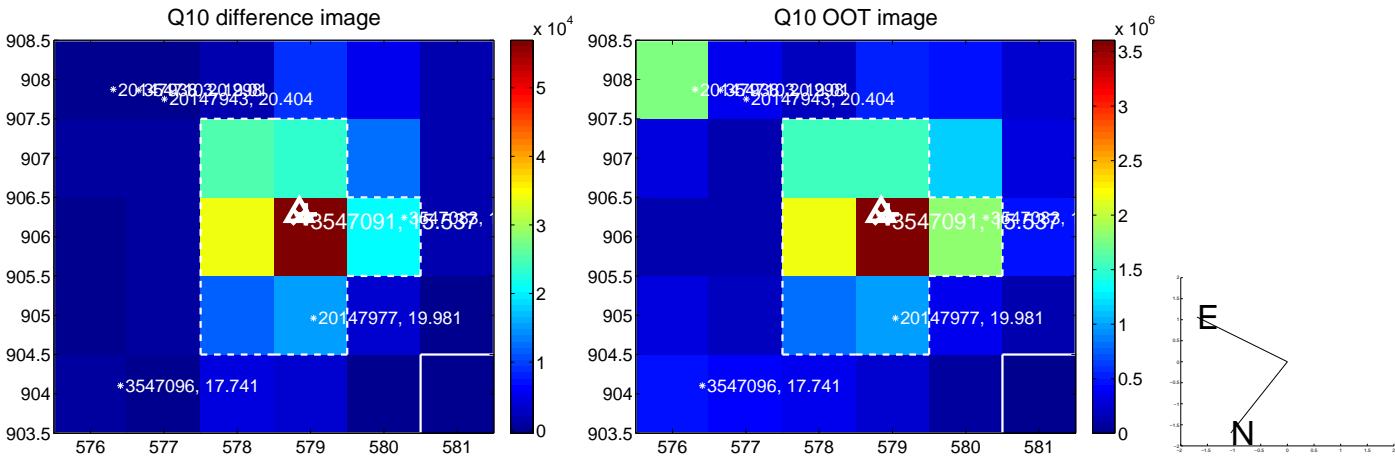
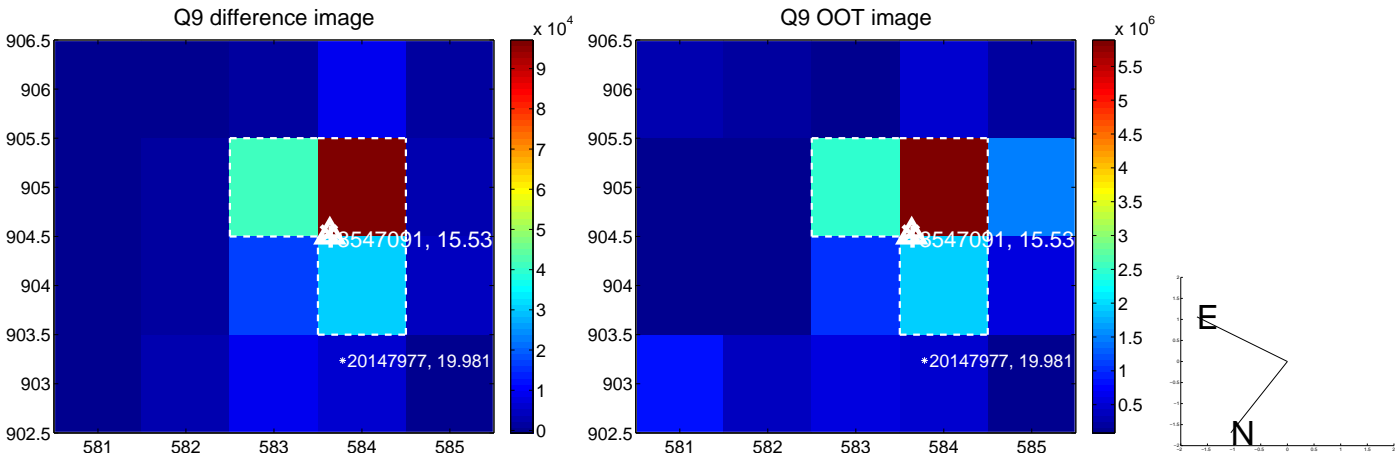
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



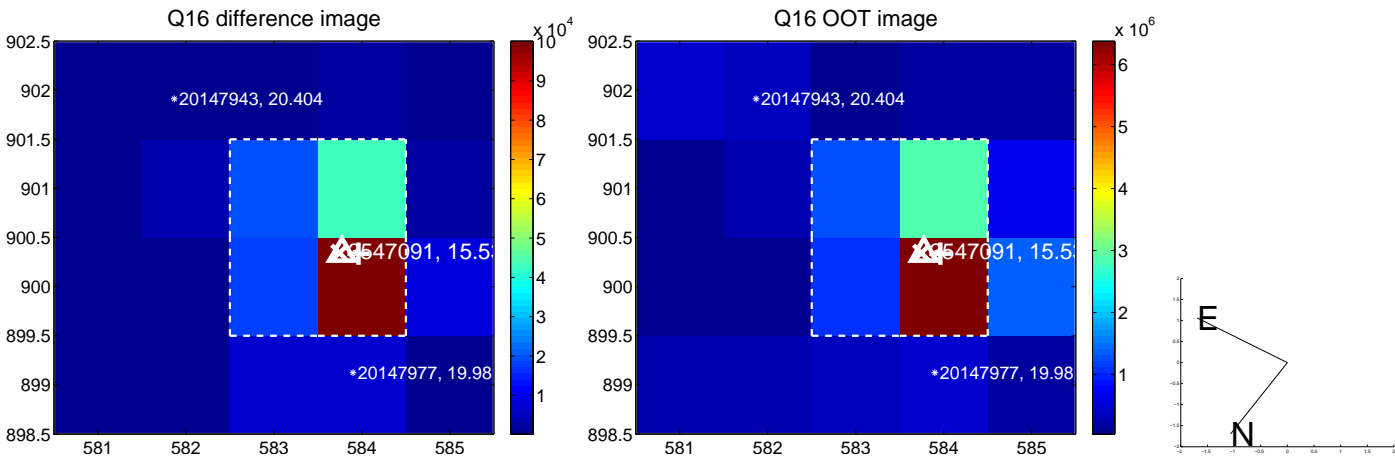
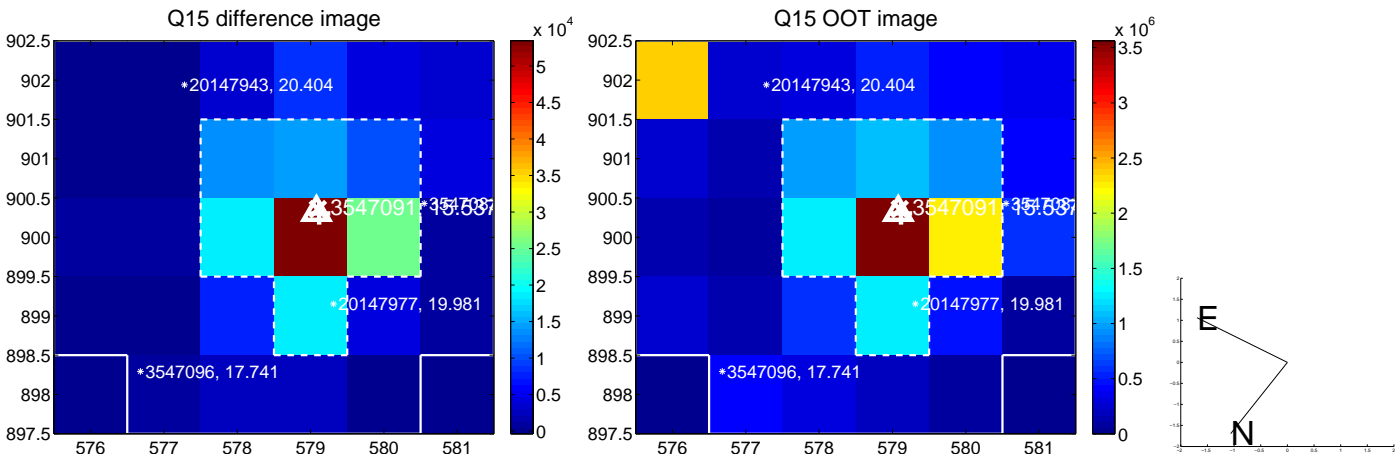
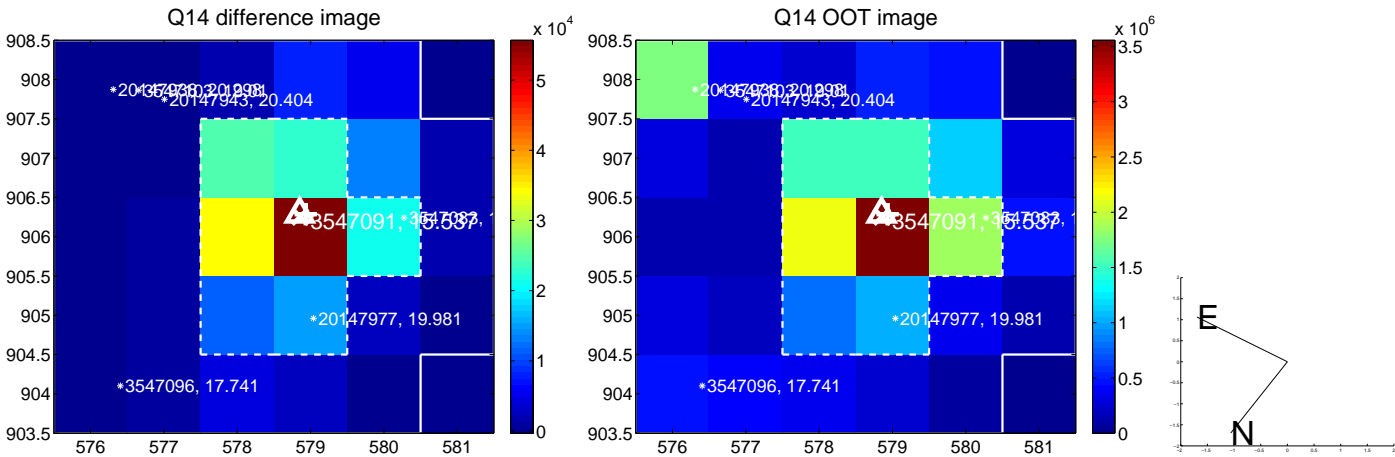
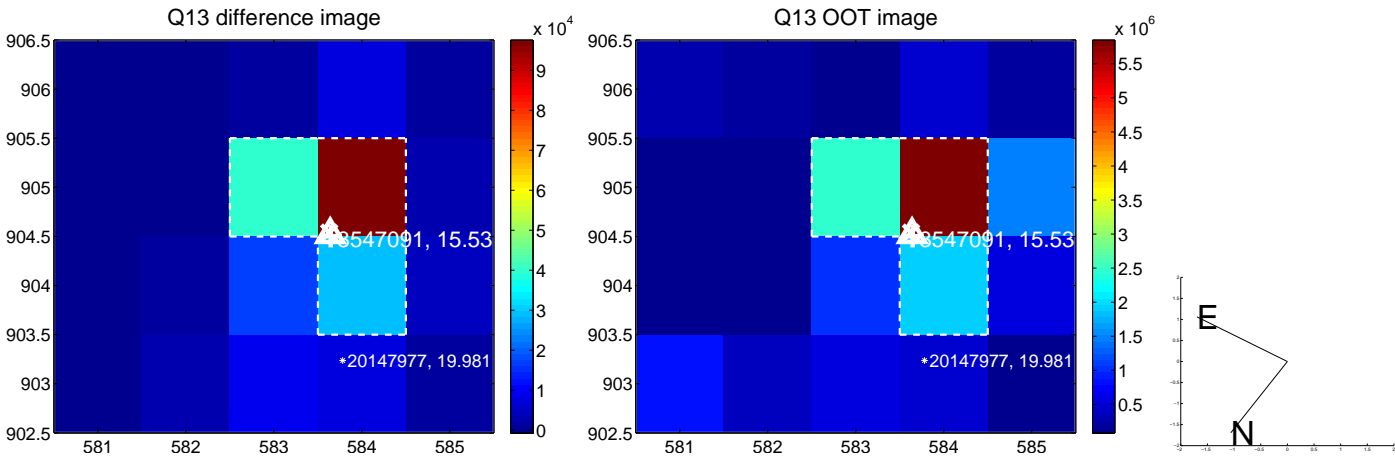
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



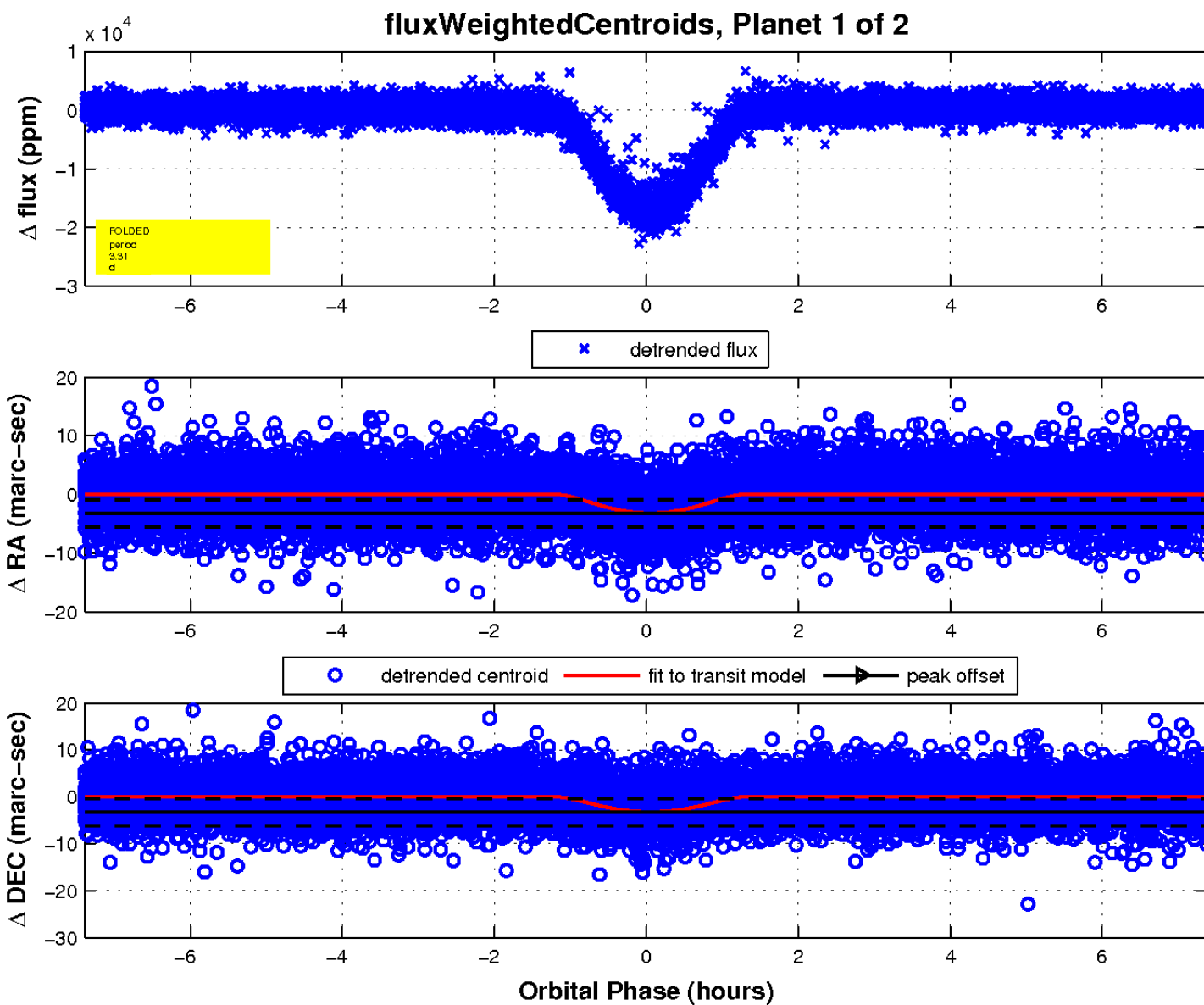
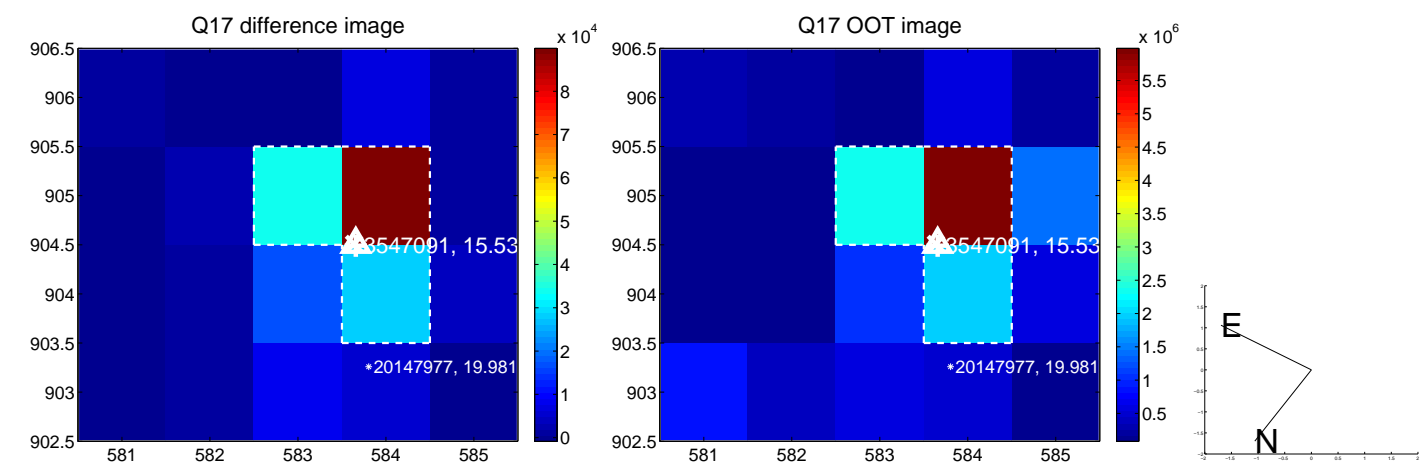
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

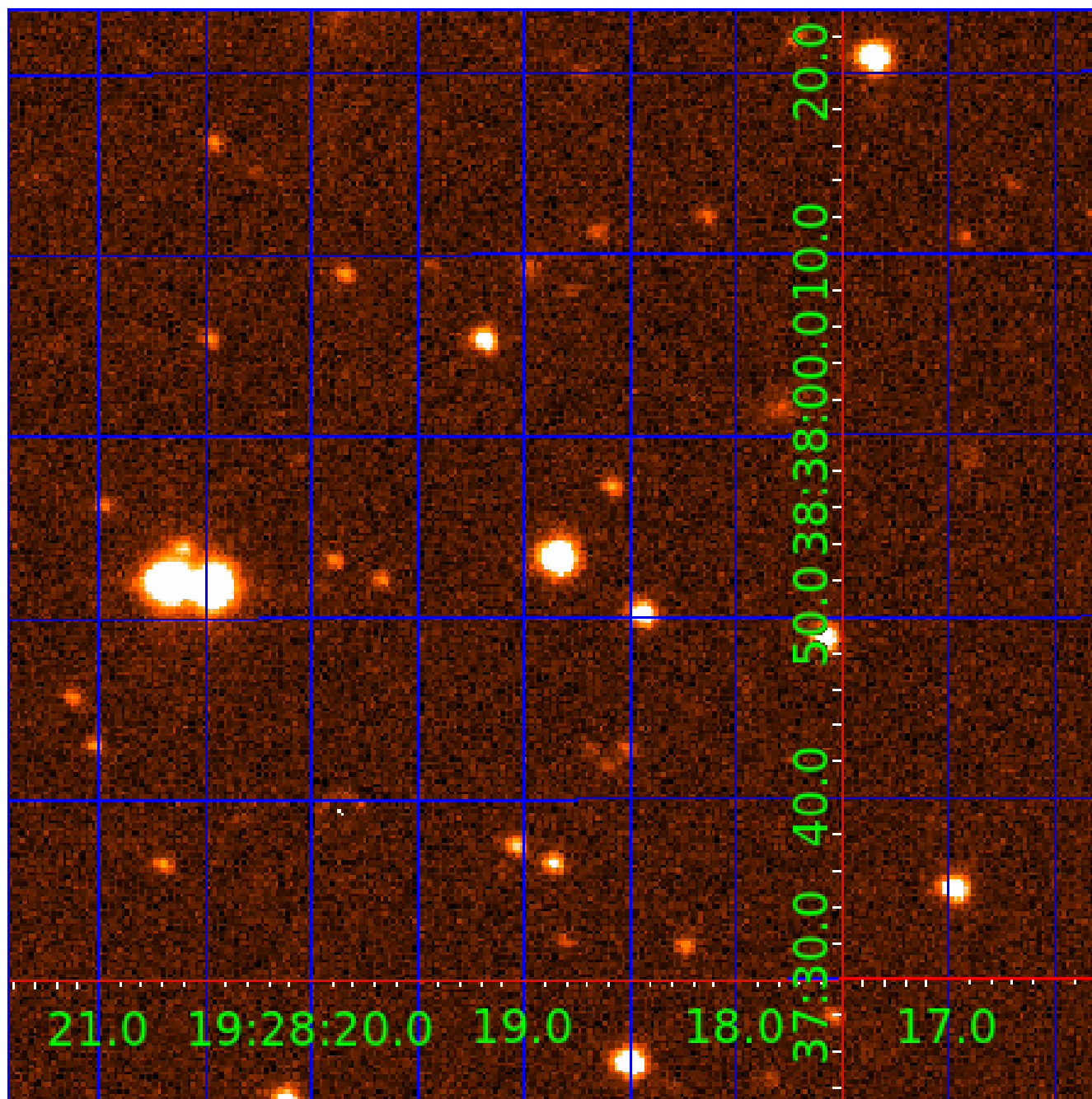


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003547091

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})
003547091-01	OBS	1177.01	3.305581	134.402897	17372.8	2.463	566.3	555.7	0.71	5534	12.21	263.63
003547091-02	OBS	No	3.305572	132.751708	1808.6	2.373	54.8	63.7	0.71	5534	4.28	263.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003547091-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
003547091-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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 003547091-02

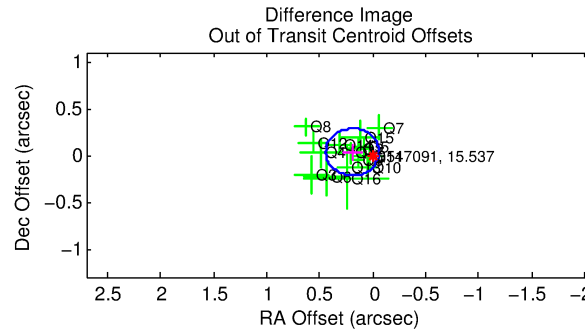
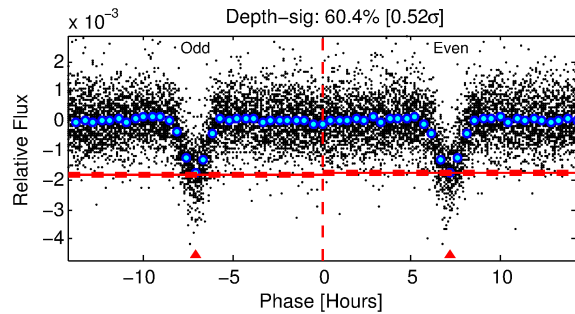
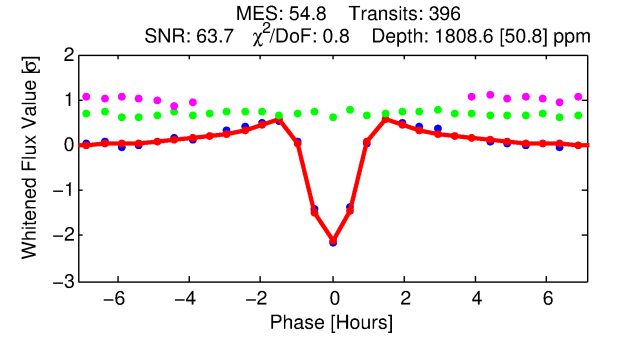
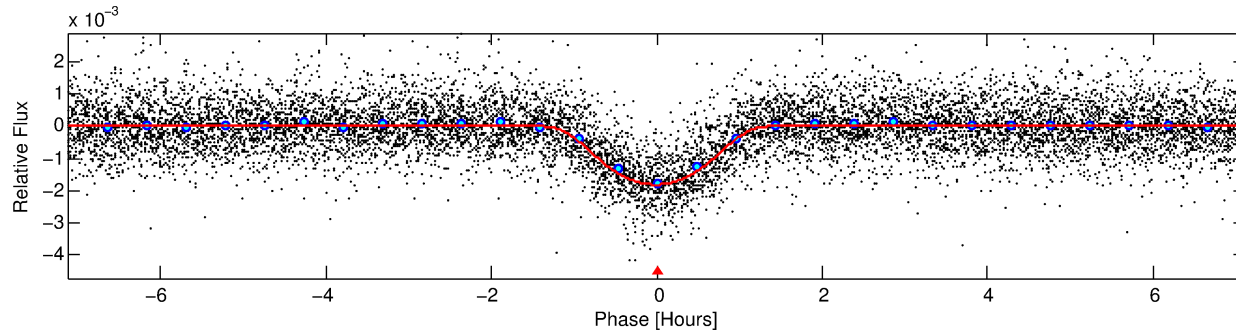
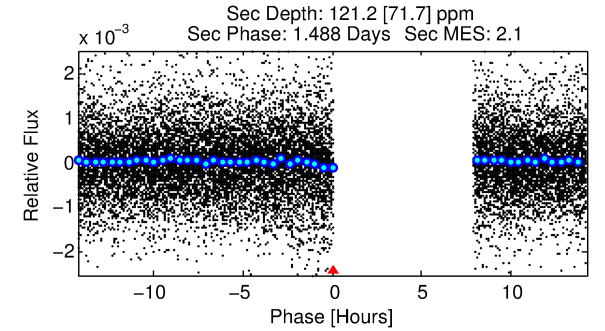
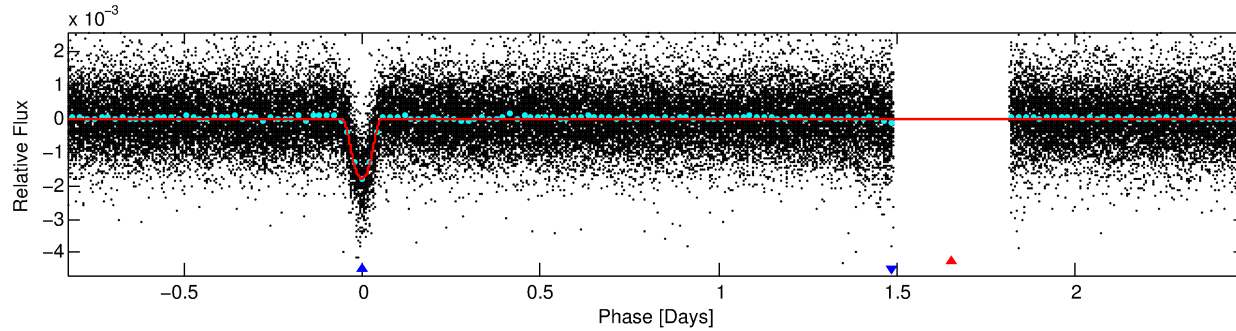
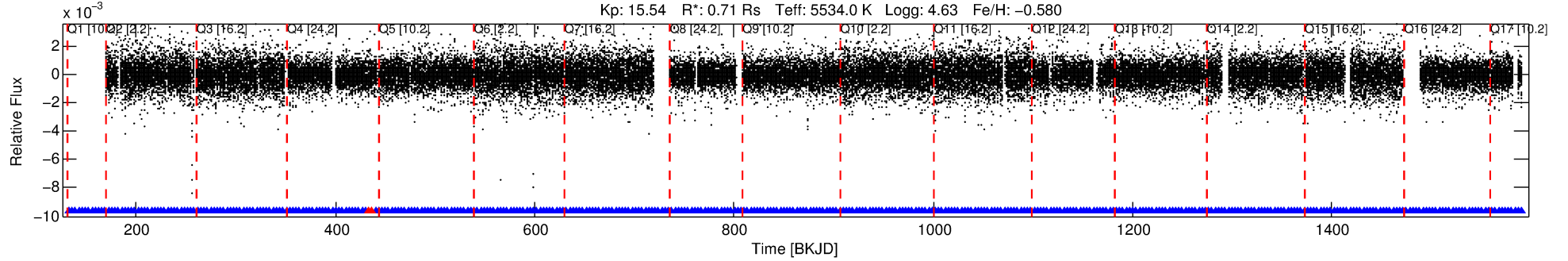
No Significant Match Found

DV One-Page Summary

KIC: 3547091 Candidate: 2 of 2 Period: 3.306 d

KOI: K01177 Corr: No Ephemeris Match

Kp: 15.54 R*: 0.71 Rs Teff: 5534.0 K Logg: 4.63 Fe/H: -0.580



DV Fit Results:

Period = 3.30557 [0.00000] d
Epoch = 132.7517 [0.0005] BKJD
Rp/R* = 0.0554 [0.0081]
a/R* = 4.63 [0.32]
b = 0.97 [0.02]
Seff = 263.63 [62.29]
Teff = 1027 [61] K
Rp = 4.27 [0.95] Re
a = 0.0399 [0.0056] AU
Ag = 5.81 [4.02] [1.20σ]
Teffp = 2467 [414] K [3.44σ]

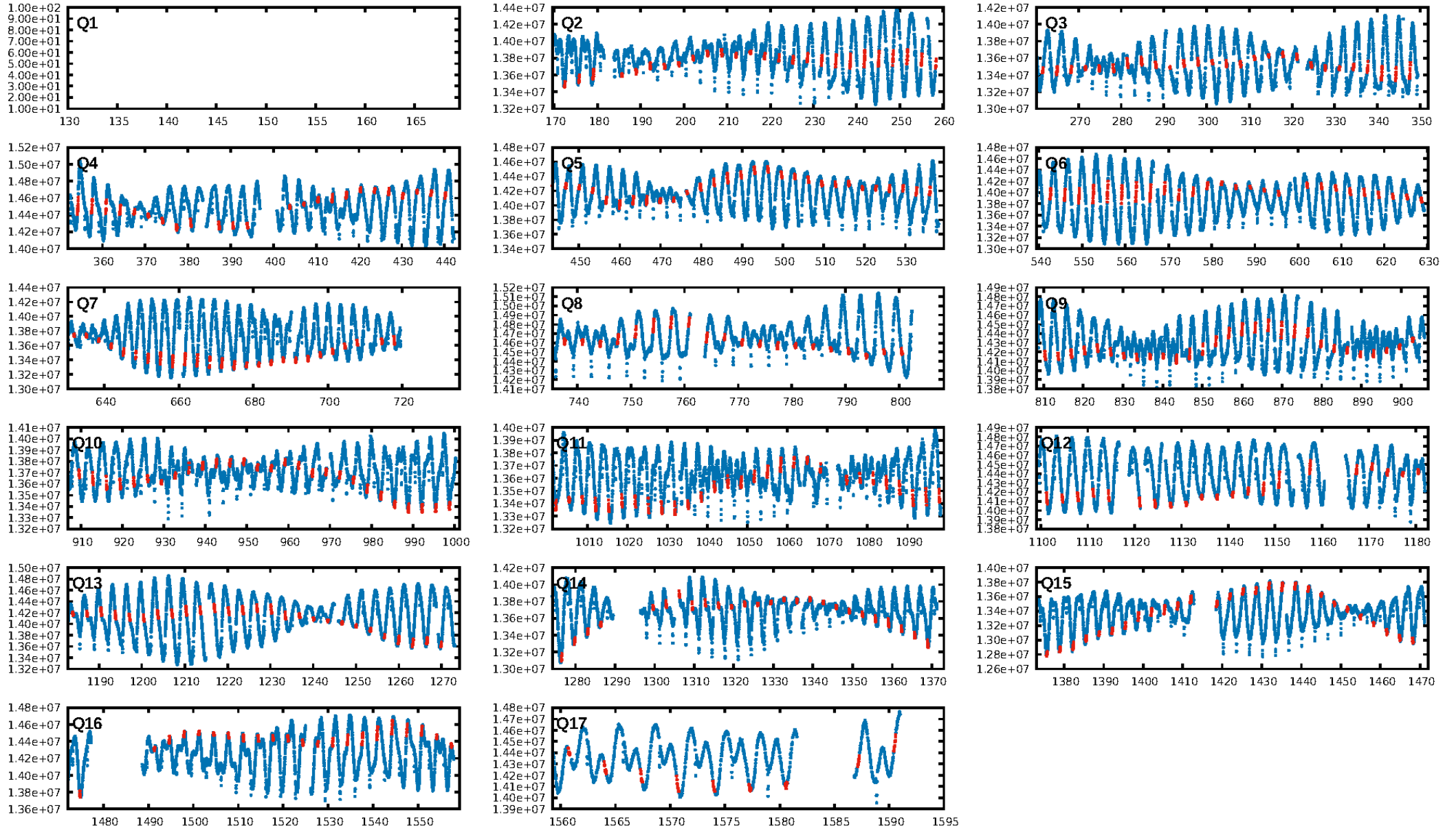
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.99 [385/387]
GhostDiagnostic-chr: 3.481
Centroid-sig: 0.7%
Centroid-so: 0.199 arcsec [1.07σ]
OotOffset-rm: 0.193 arcsec [2.30σ]
KicOffset-rm: 0.077 arcsec [0.78σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [16/16]

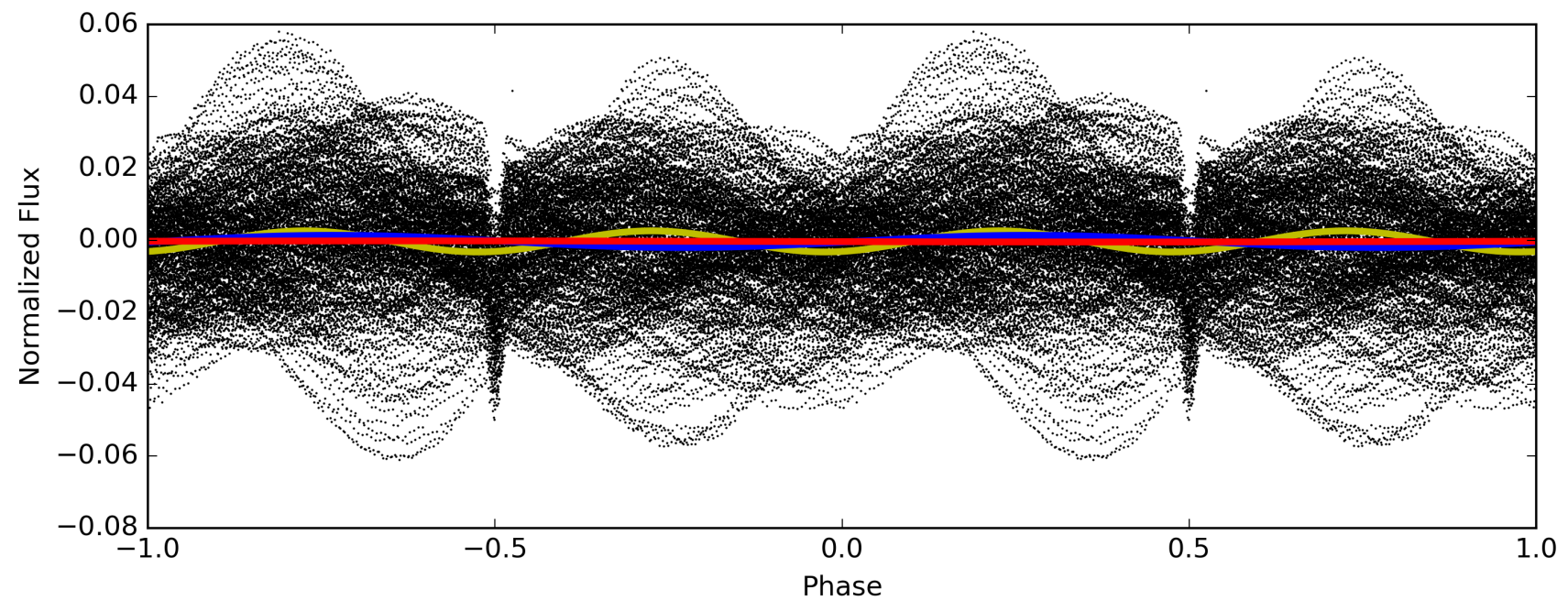
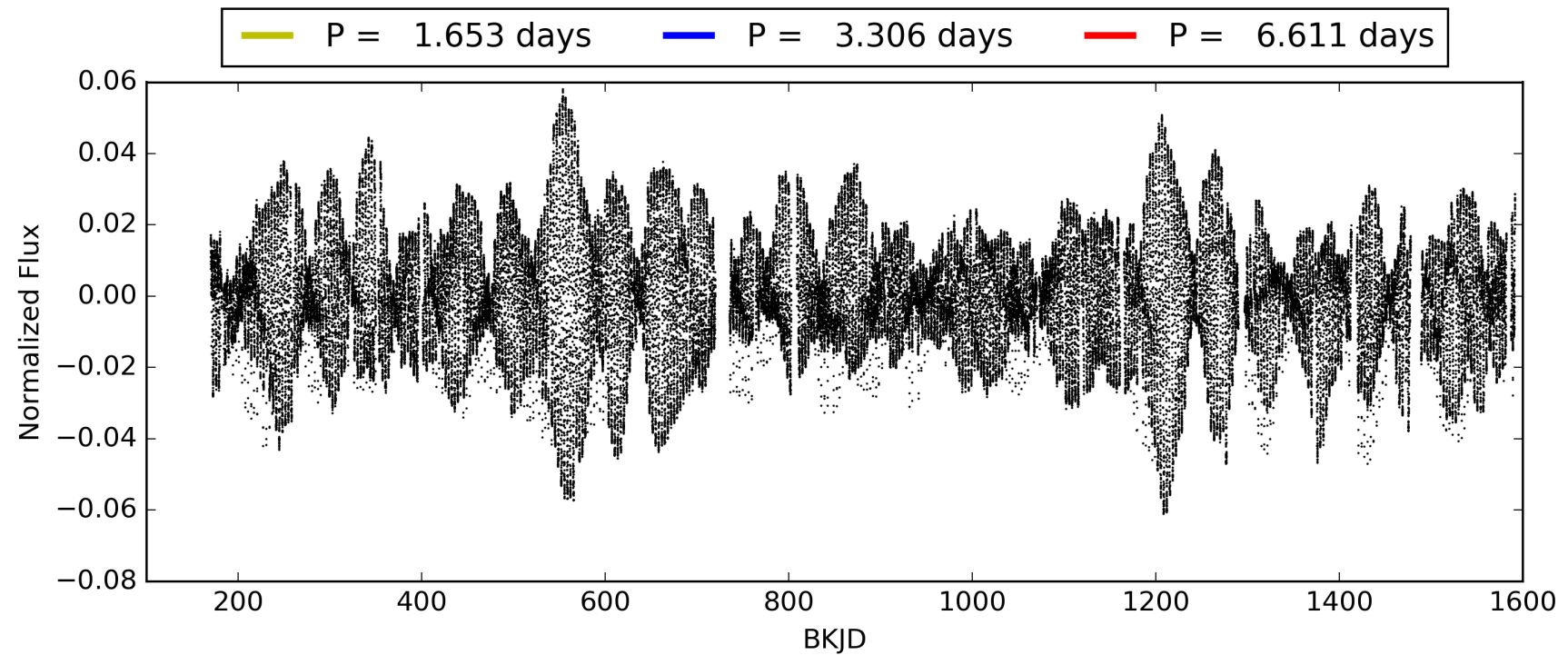
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:15:07 Z

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

TCE 003547091-02, PDC Light Curves

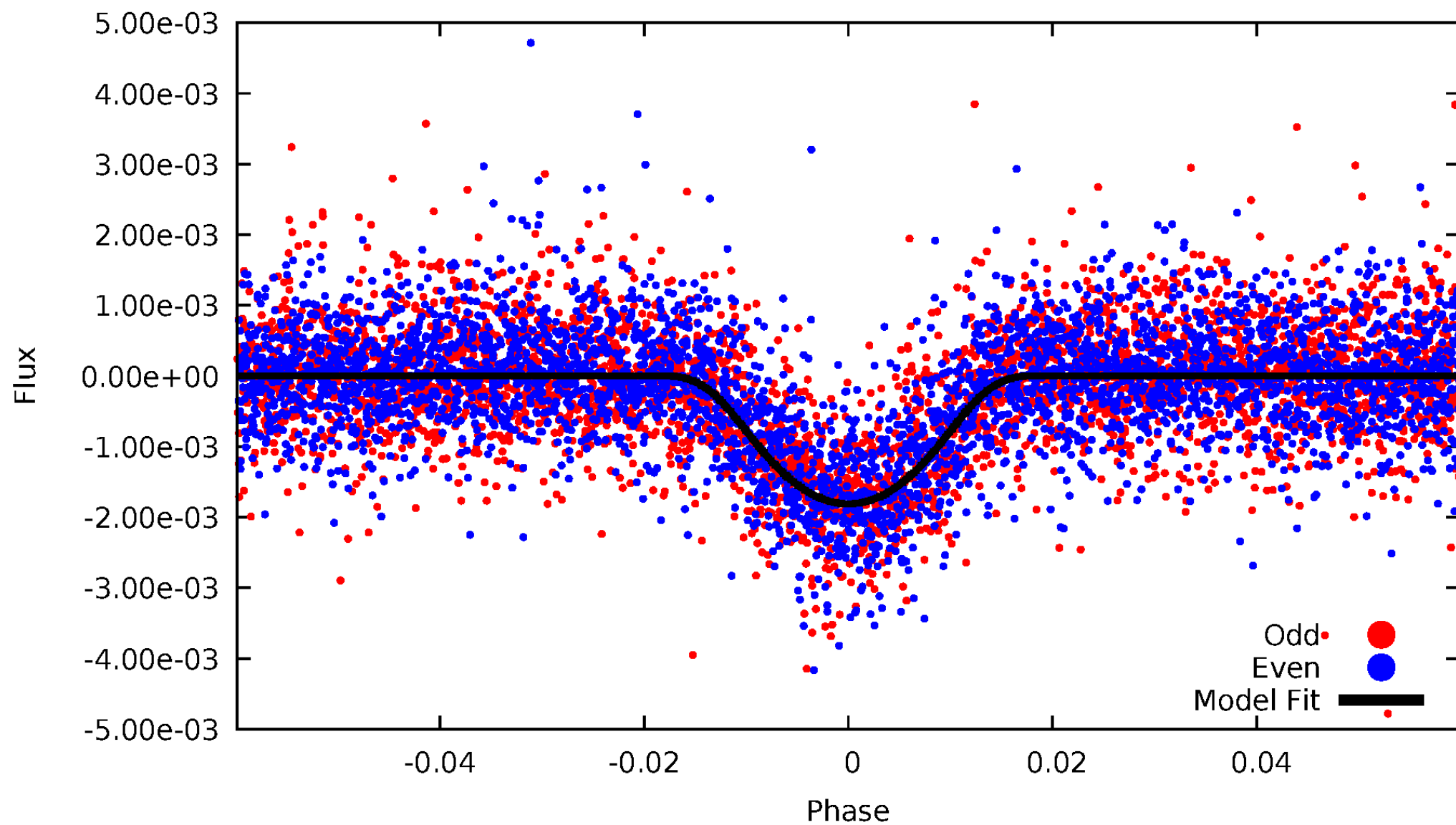


TCE 003547091-02



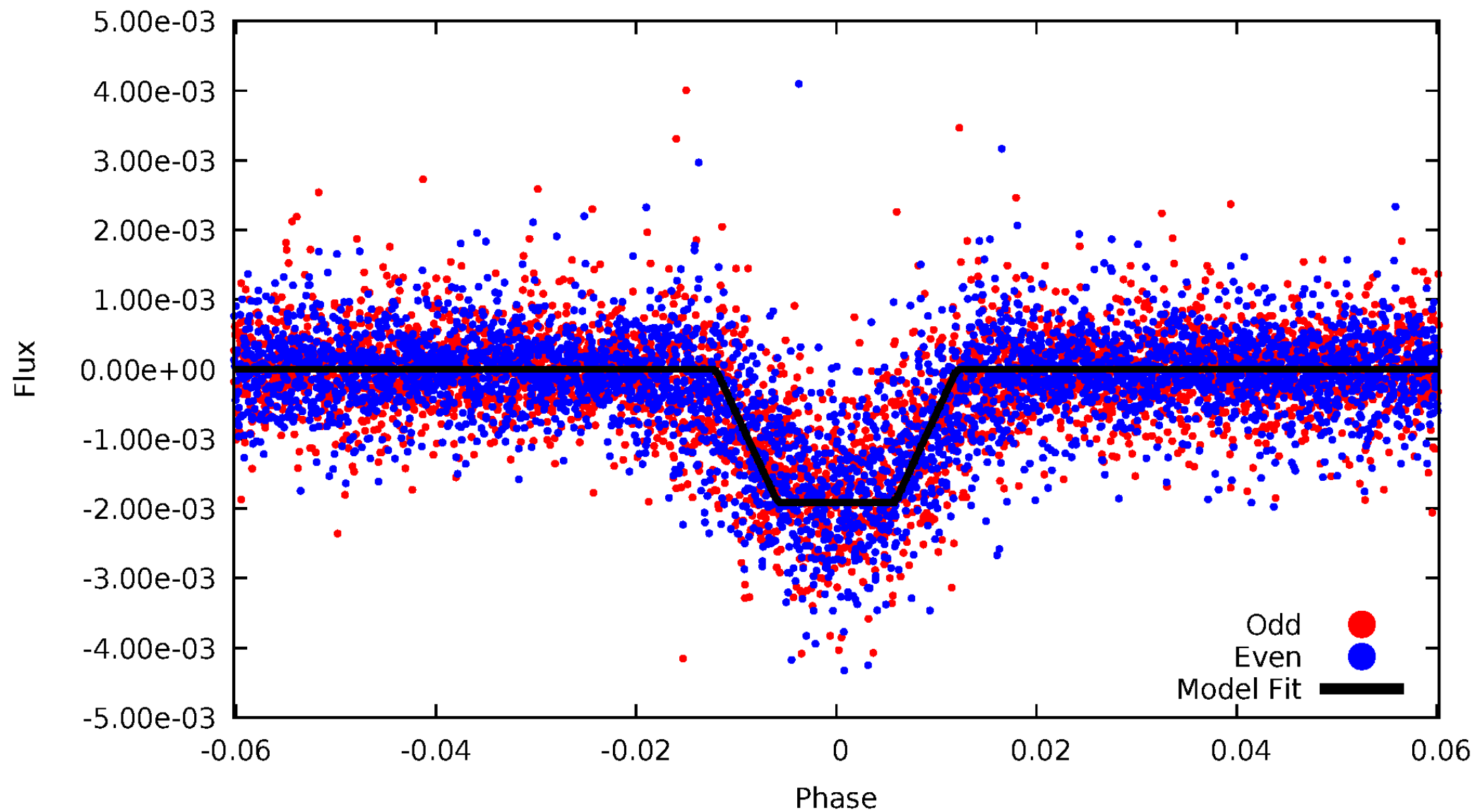
DV Odd/Even

TCE 003547091-02



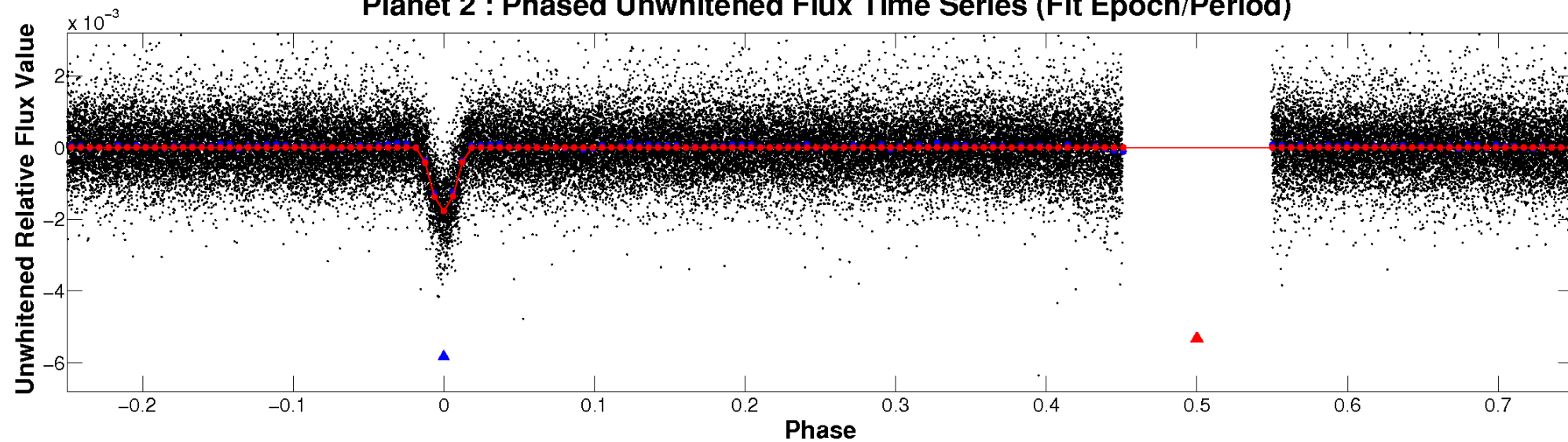
ALT Odd/Even

TCE 003547091-02

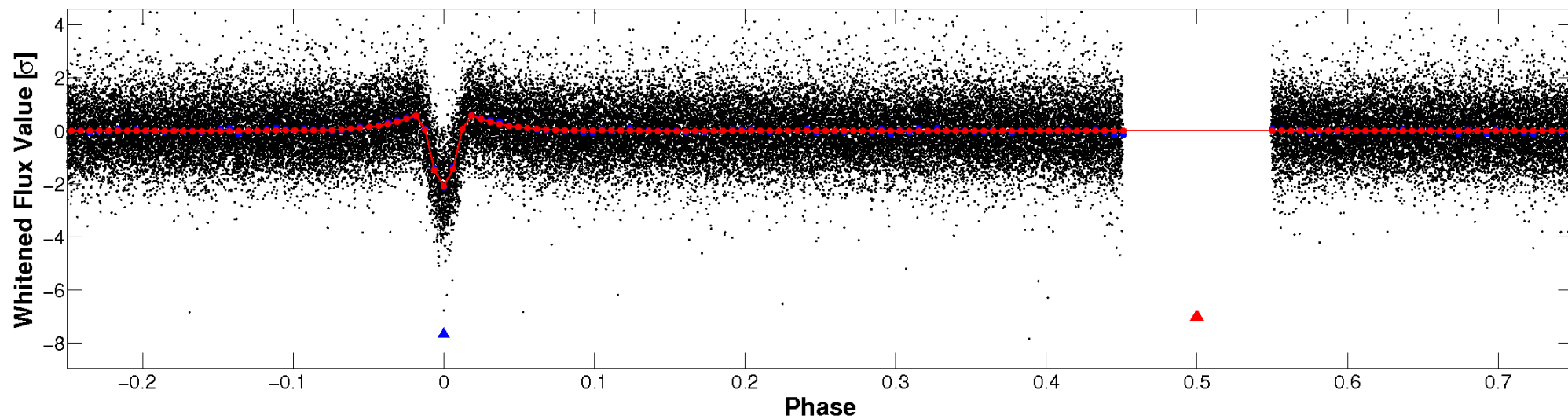


Non-Whitened Vs. Whitened Light Curve

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

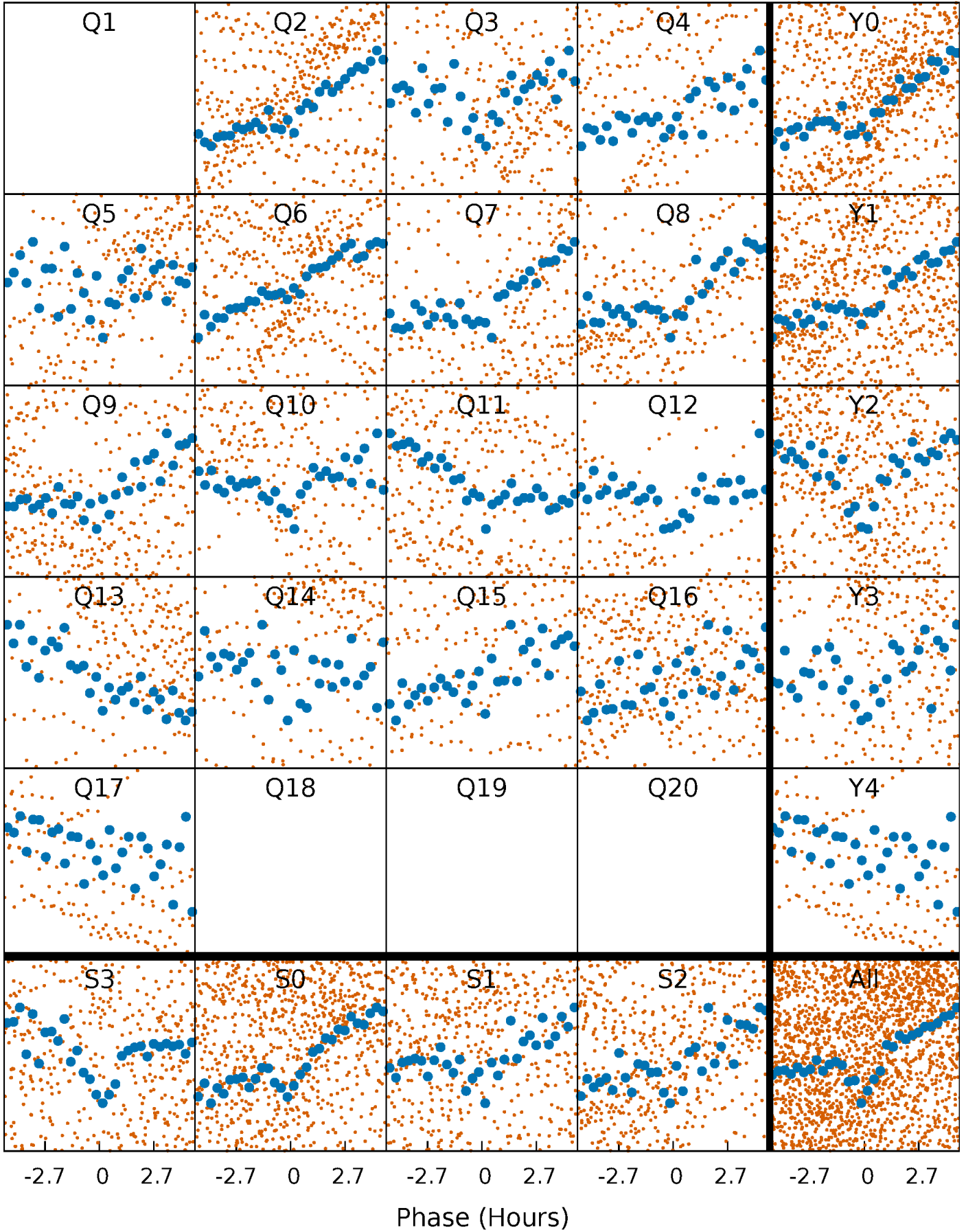


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



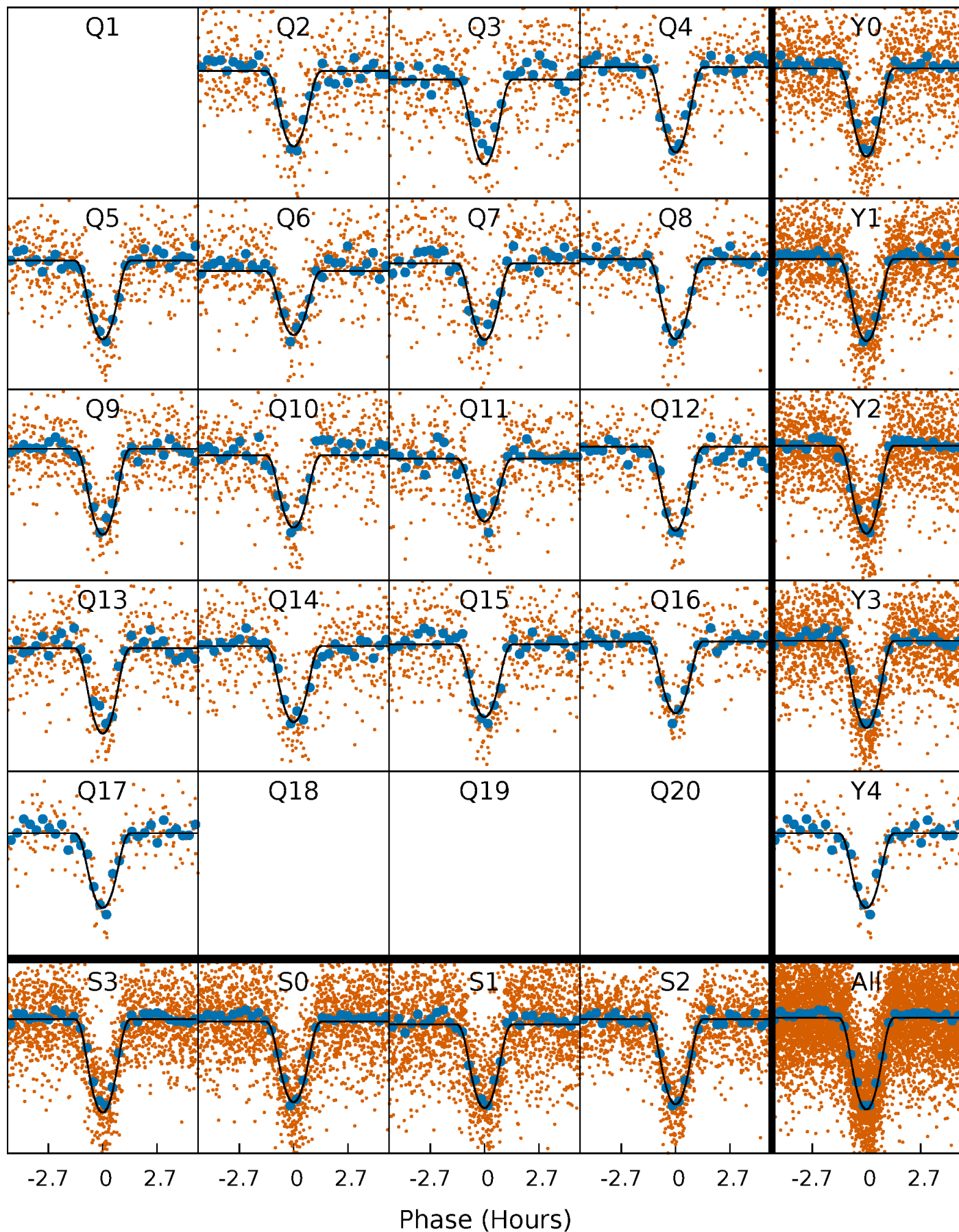
PDC Quarter-Phased Transit Curves

TCE 003547091-02 P= 3.305572 Days $T_0=132.751708$ (BKJD)



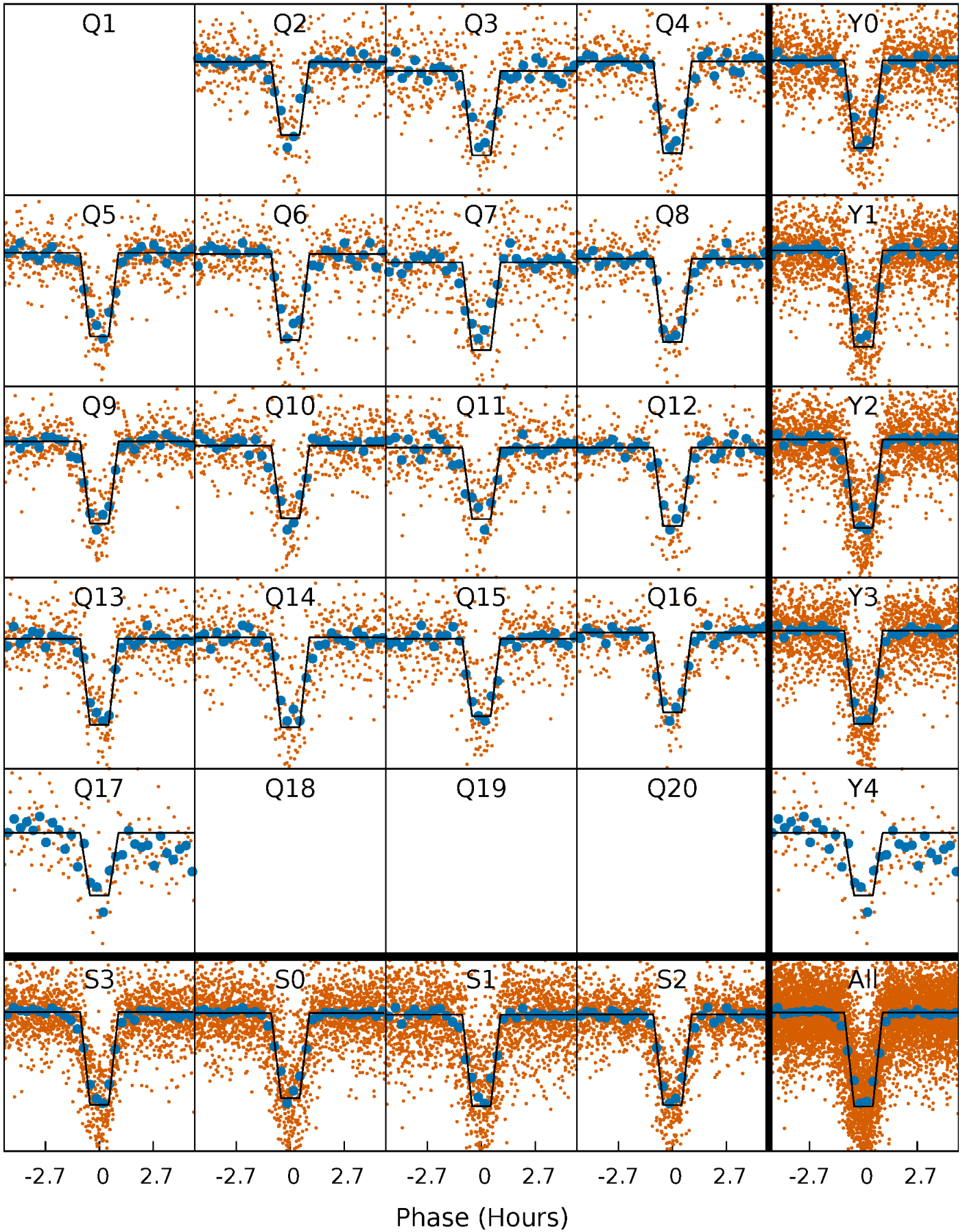
DV Quarter-Phased Transit Curves

TCE 003547091-02 P= 3.305572 Days $T_0=132.751708$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

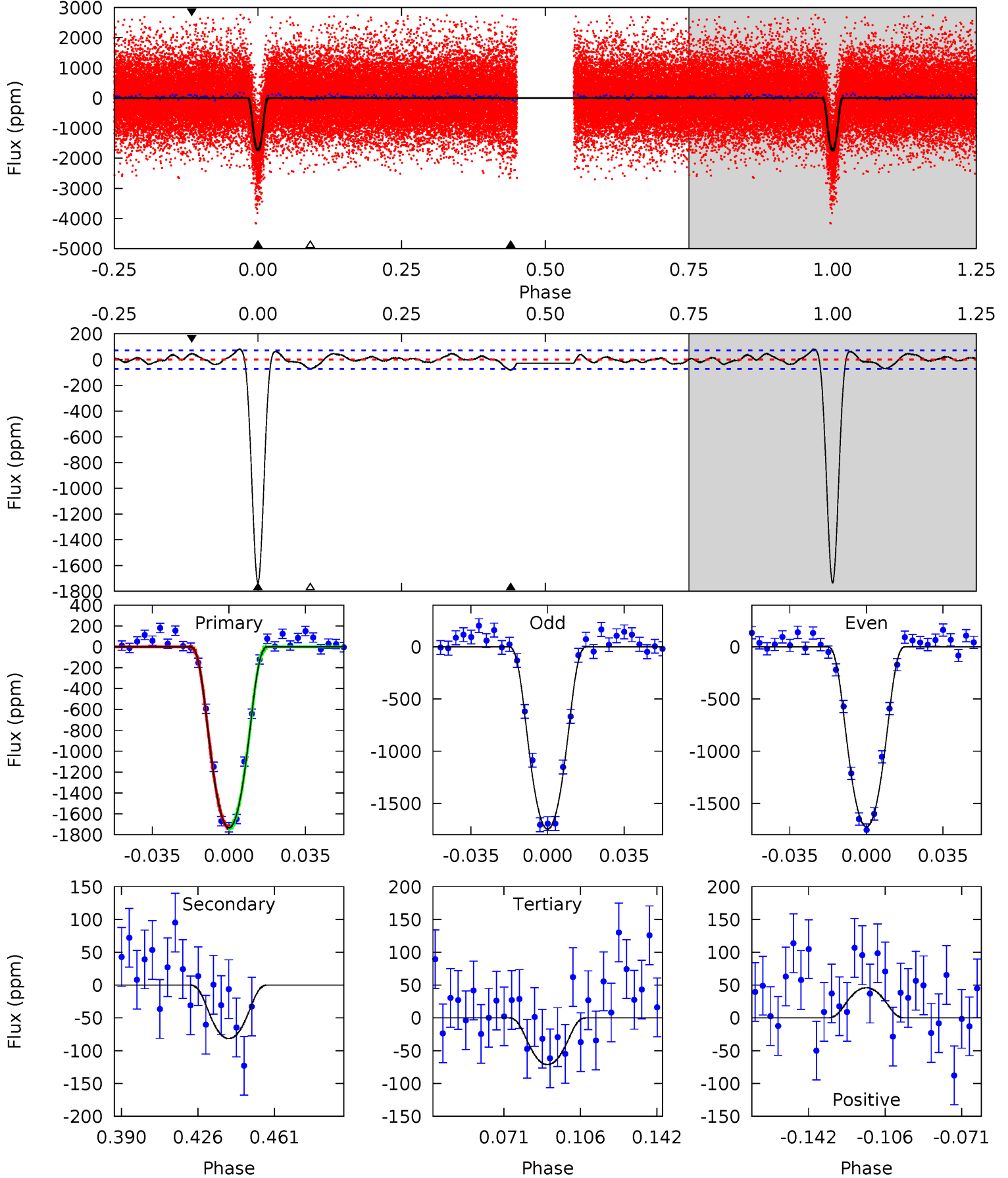
TCE 003547091-02 P= 3.305575 Days $T_0=132.751345$ (BKJD)



DV Model-Shift Uniqueness Test

003547091-02, P = 3.305572 Days, E = 132.751708 Days

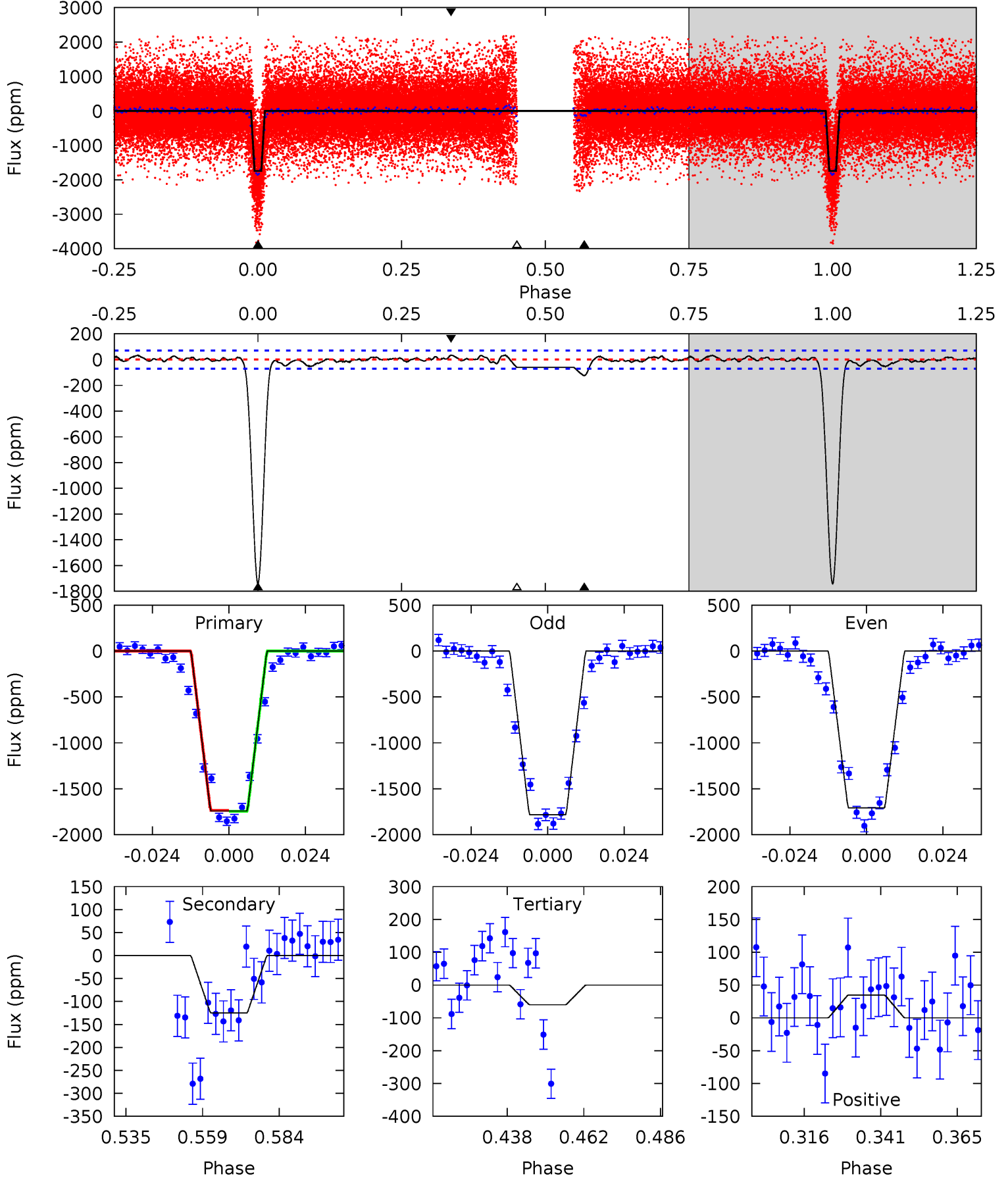
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
115.9	5.46	4.76	3.06	4.78	2.10	1.56	111.1	112.8	0.70	2.40	0.76	1.01	0.04	0.24



Alt Model-Shift Uniqueness Test

003547091-02, P = 3.305575 Days, E = 132.751345 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
120.4	8.65	4.15	2.41	4.85	2.25	1.12	116.3	118.0	4.51	6.24	2.60	0.98	0.02	0.38



Stellar Parameters For KIC 003547091

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5534^{+163}_{-163}	$4.629^{+0.035}_{-0.112}$	$-0.580^{+0.300}_{-0.300}$	$0.707^{+0.118}_{-0.055}$	$0.786^{+0.073}_{-0.073}$	$3.132^{+0.460}_{-1.052}$
	+3%/-3%	+1%/-2%	+52%/-52%	+17%/-8%	+9%/-9%	+15%/-34%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 003547091-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-82 ± 15	$4.45^{+0.79}_{-0.74}$	1460^{+64}_{-61}	2884^{+180}_{-146}	$3.605^{+1.752}_{-1.143}$
Alt.	-125 ± 14	$3.45^{+0.66}_{-0.64}$	1456^{+65}_{-55}	3333^{+227}_{-206}	$9.238^{+4.714}_{-2.890}$

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

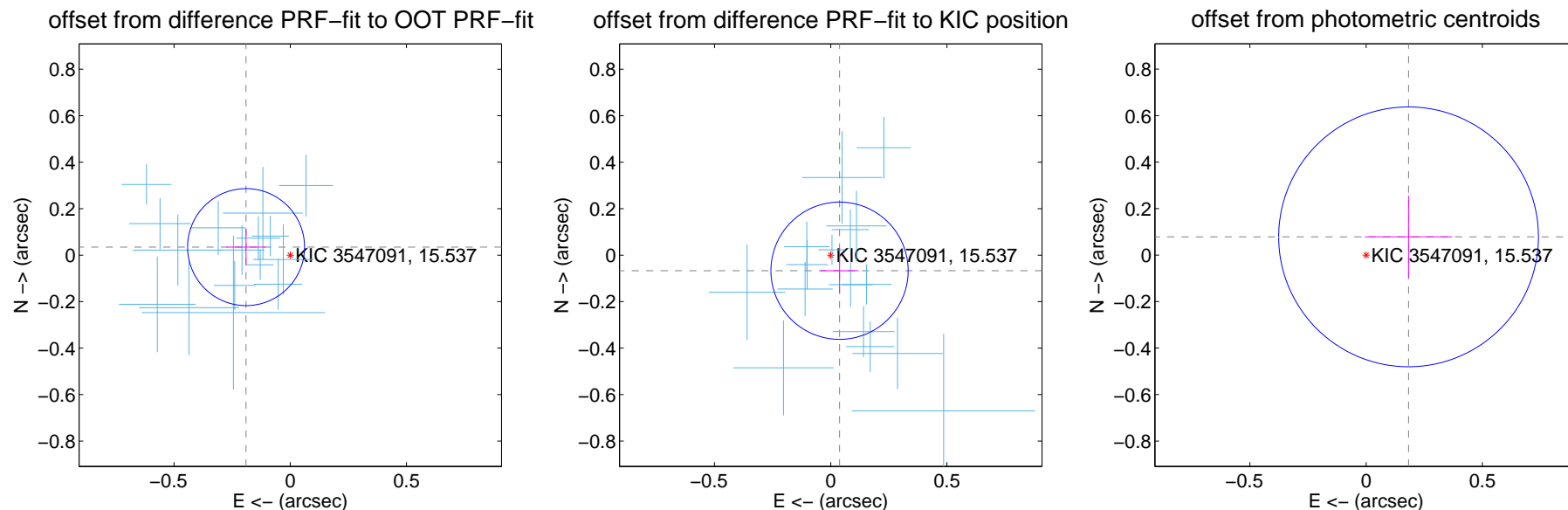
DV Centroid Data

Supplemental centroid analysis for 003547091-02. Kepler magnitude: 15.54. Transit SNR 63.73

There are 16 quarters with good PRF difference image offsets

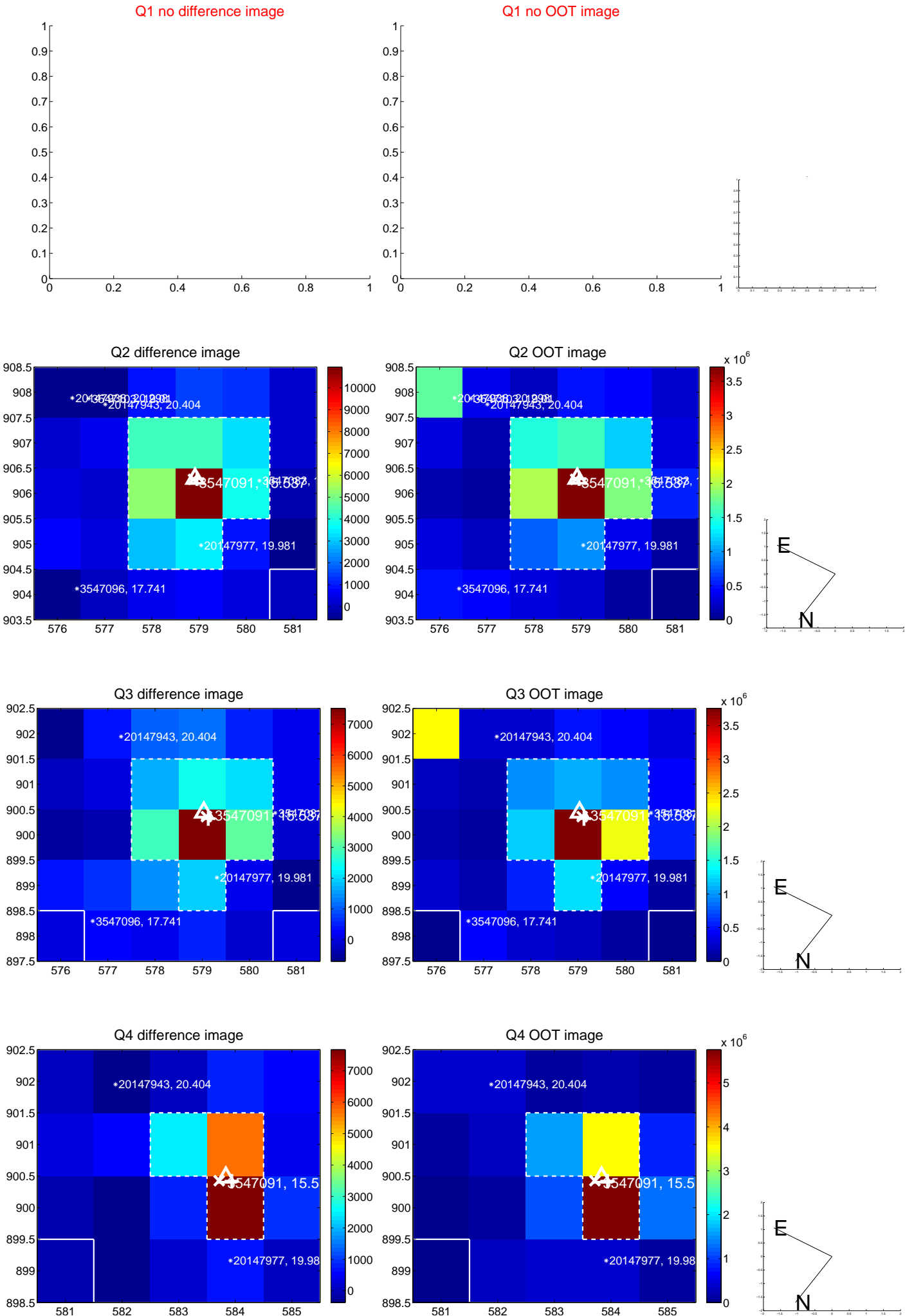
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.193 ± 0.084	2.30	0.190 ± 0.085	0.035 ± 0.080
PRF-fit source offset from KIC position	0.077 ± 0.098	0.78	-0.038 ± 0.082	-0.067 ± 0.099
photometric centroid source offset	0.20 ± 0.19	1.07	-0.18 ± 0.19	0.08 ± 0.18

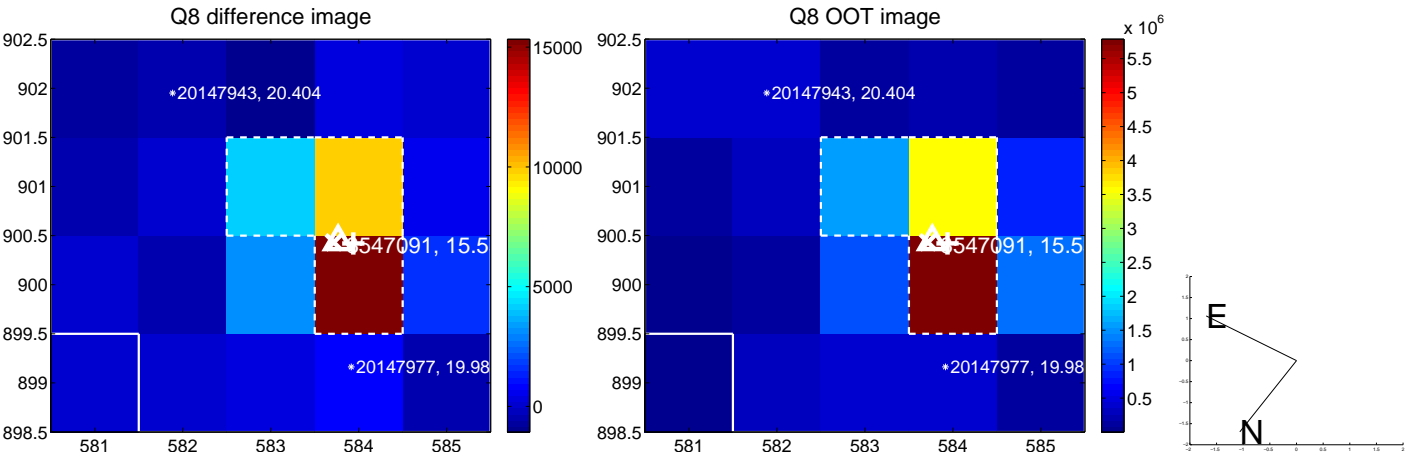
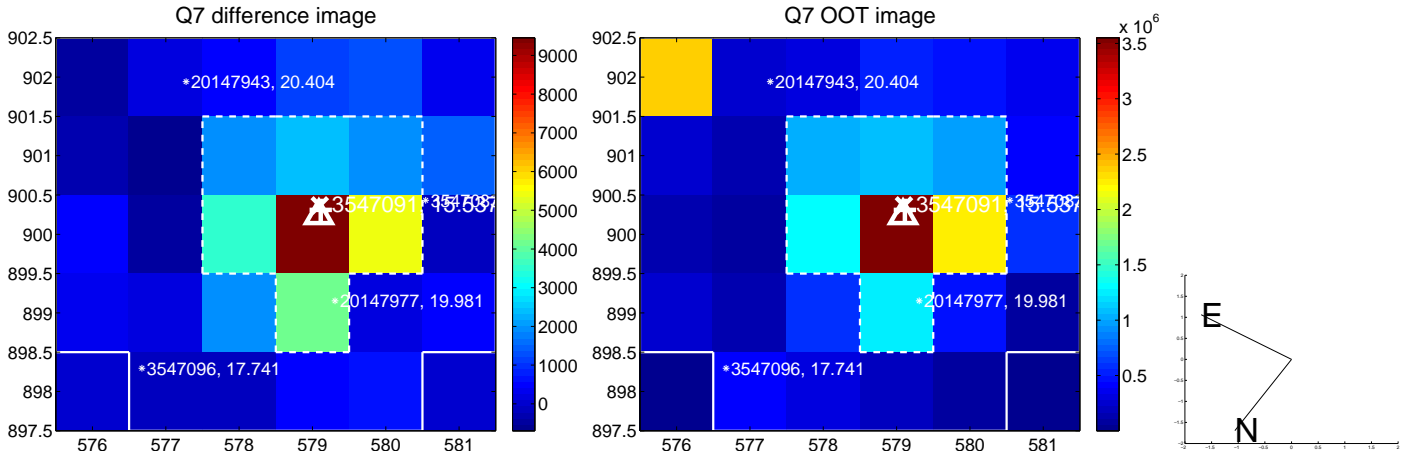
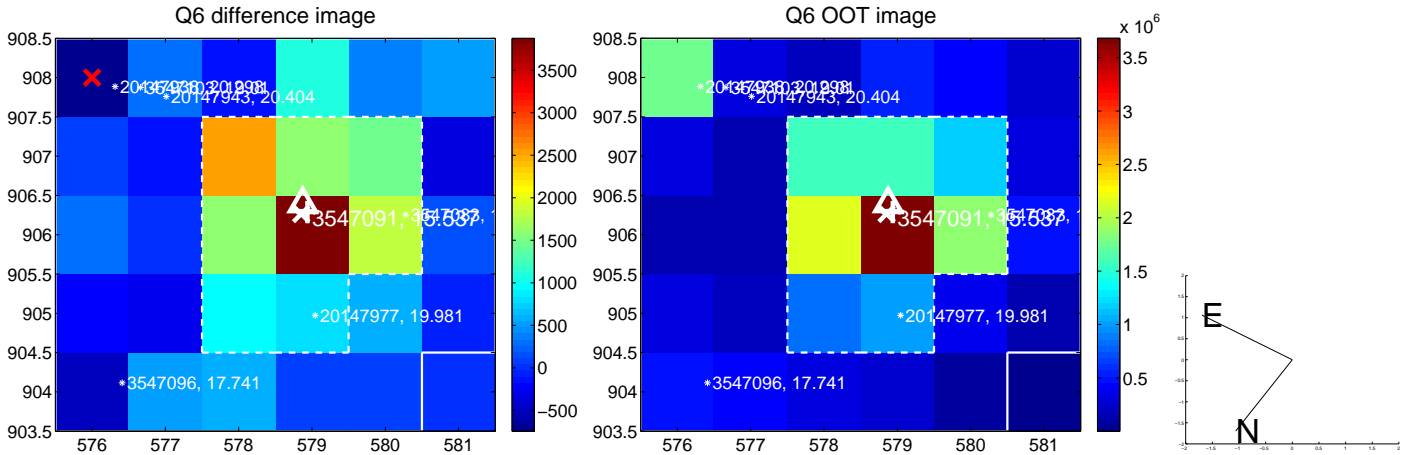
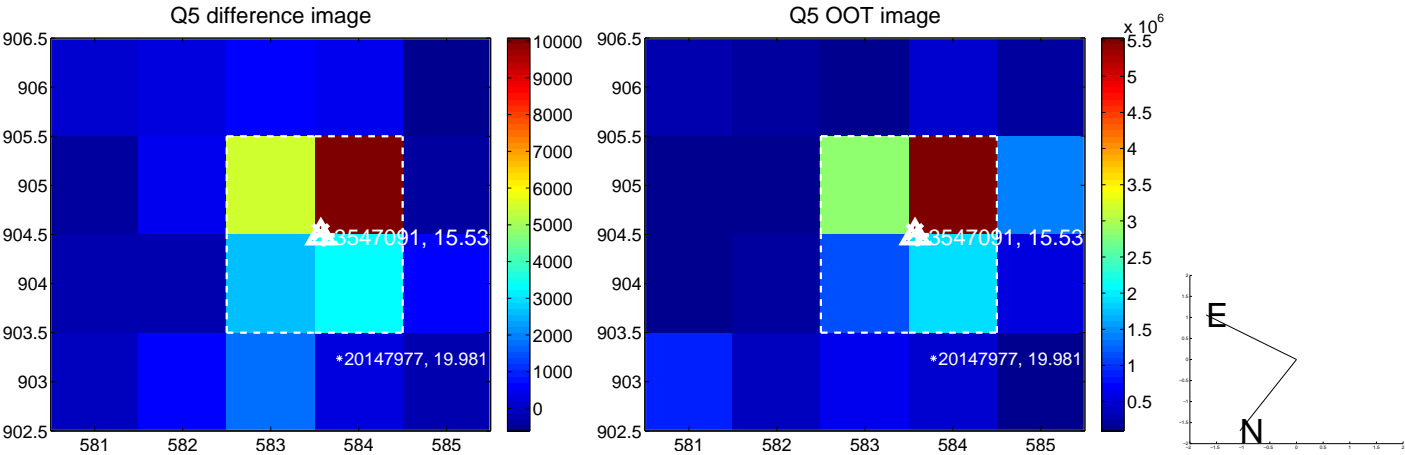


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

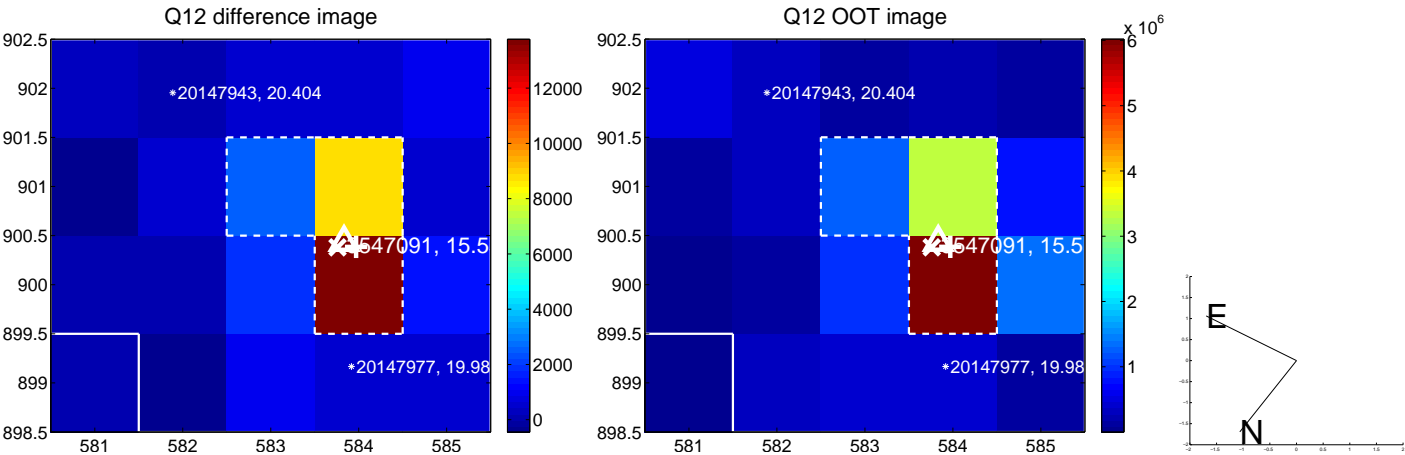
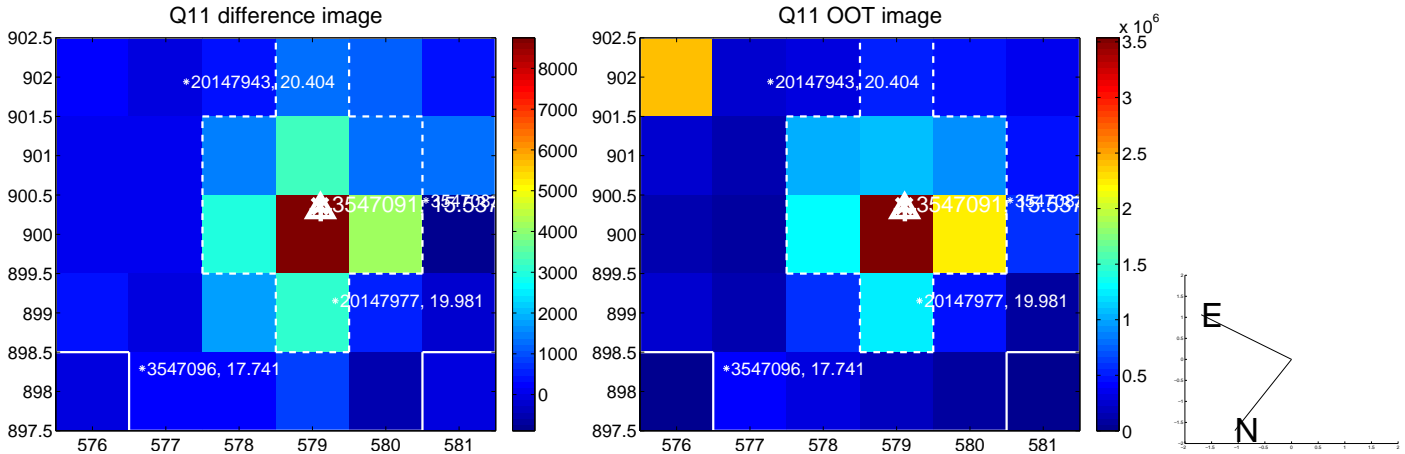
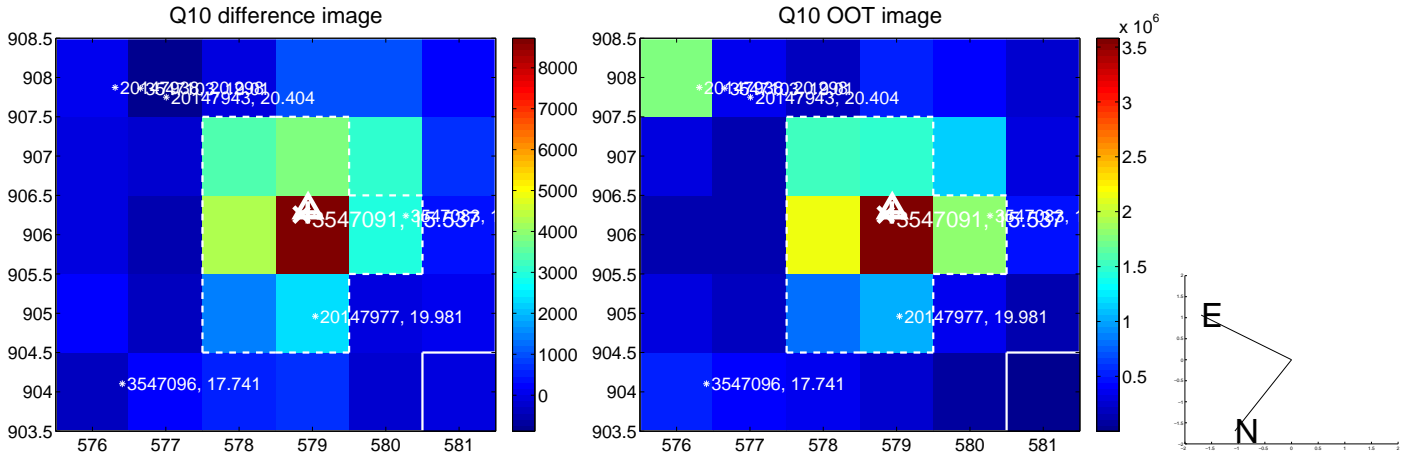
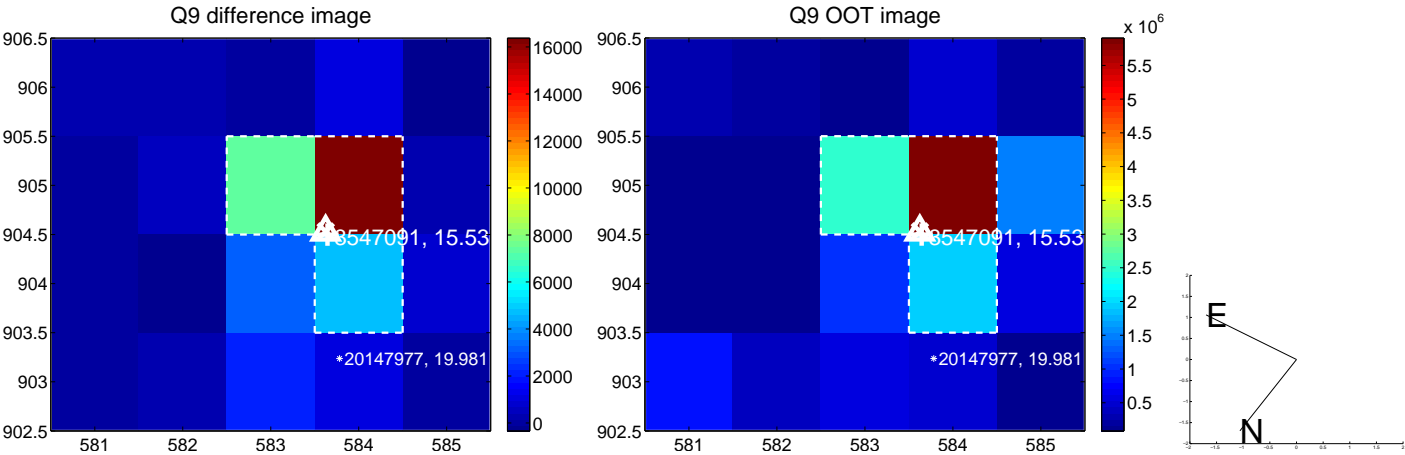
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



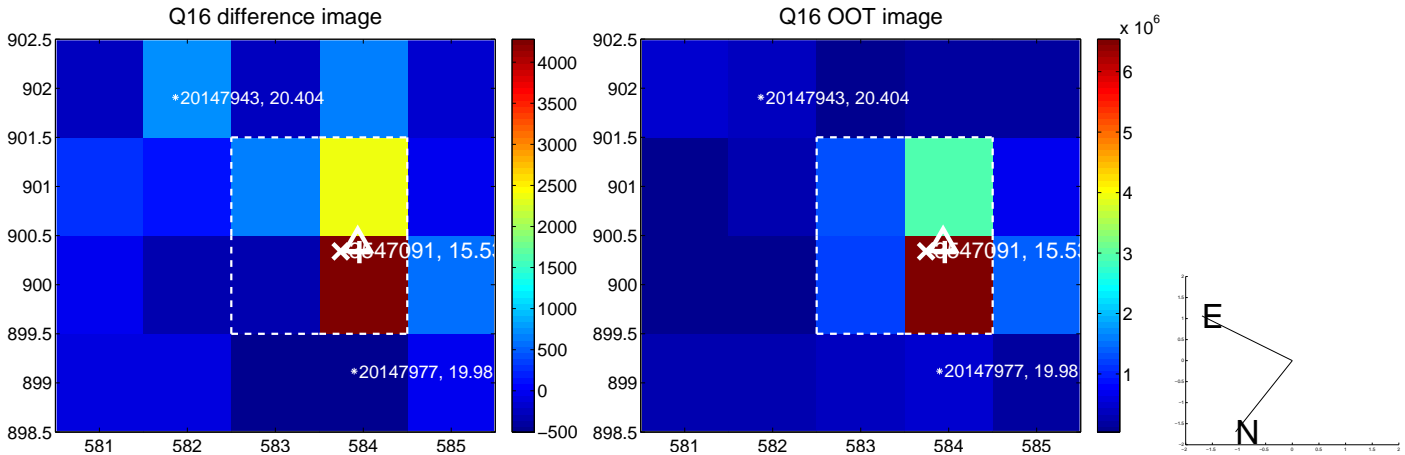
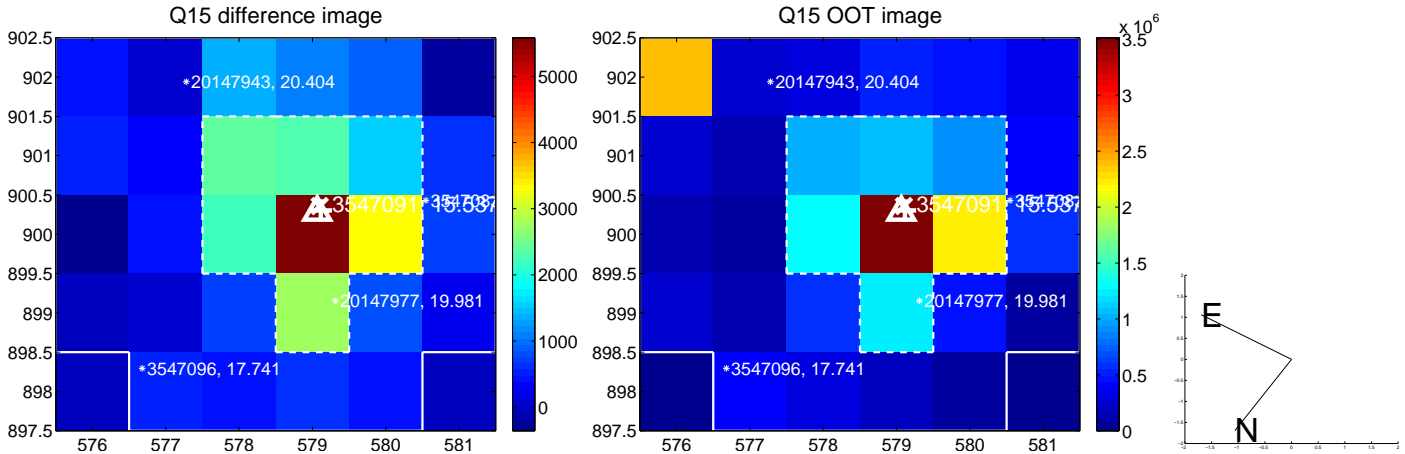
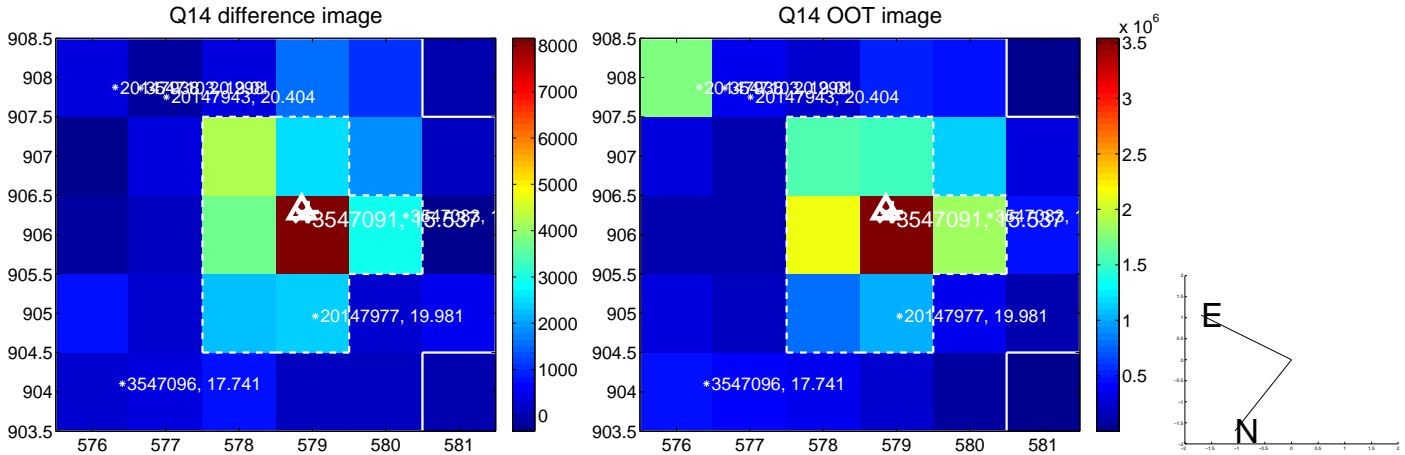
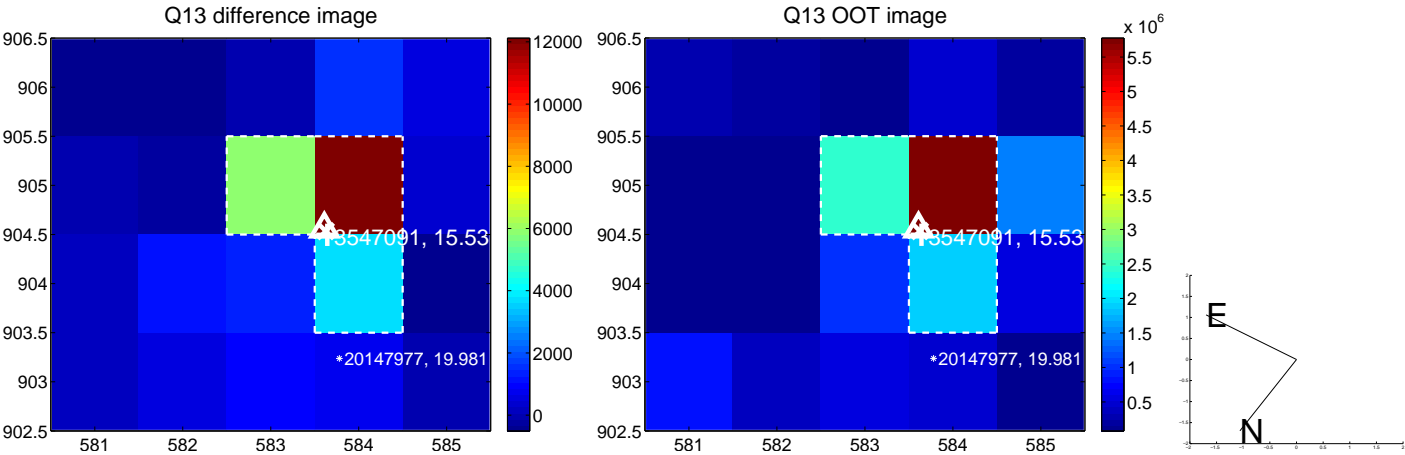
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



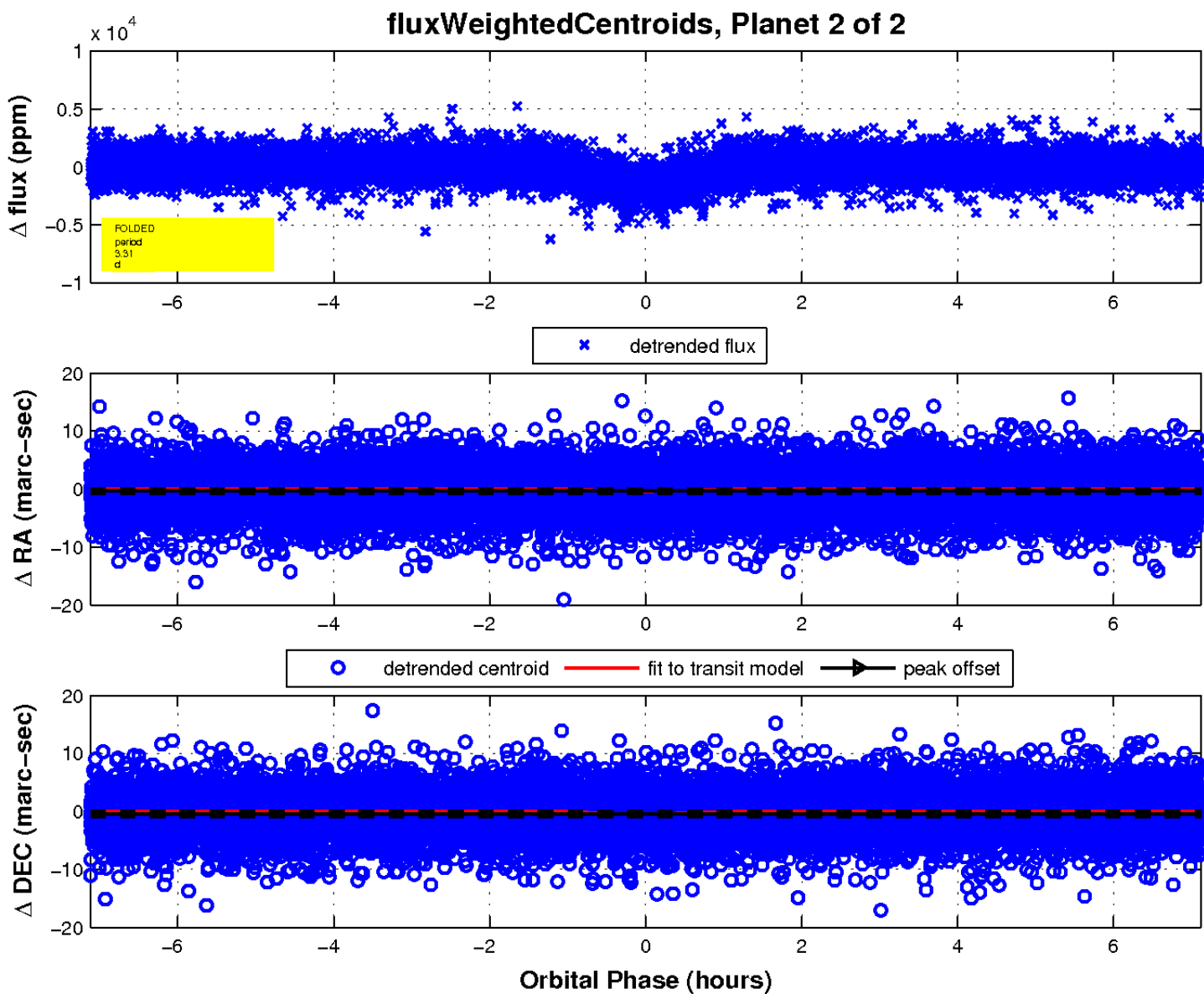
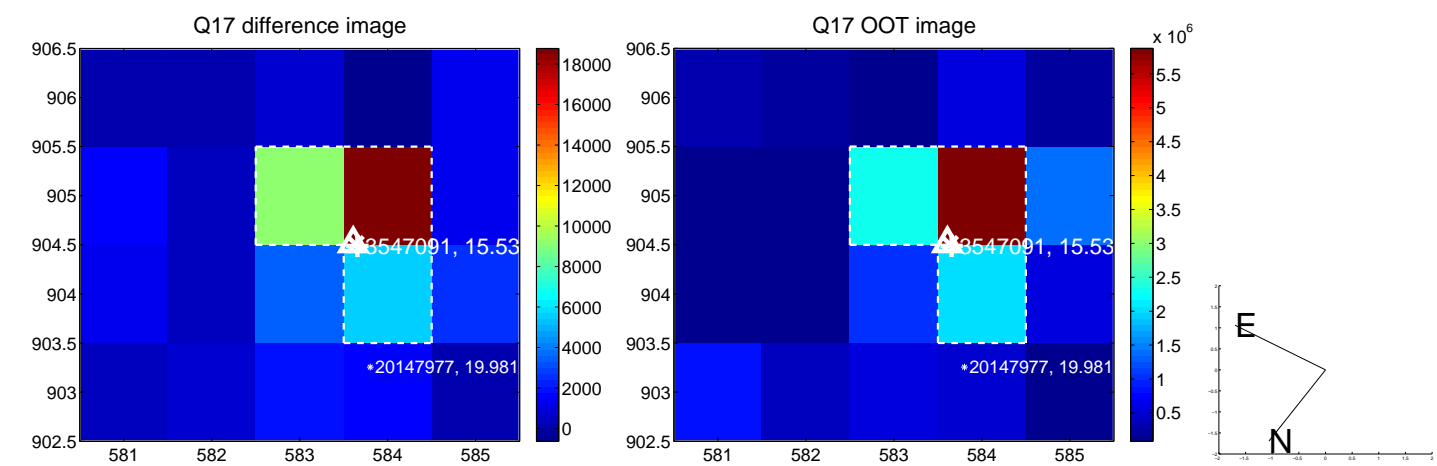
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

