

KIC 008091579

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})
008091579-01	OBS	No	454.132789	218.404471	110.2	8.845	20.0	9.6	148.39	3284	208.54	1496.92
008091579-02	OBS	No	714.904938	136.052672	1612.2	1.228	89.0	45.0	148.39	3284	1309.26	817.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008091579-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA_TRACKER—LPP_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
008091579-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

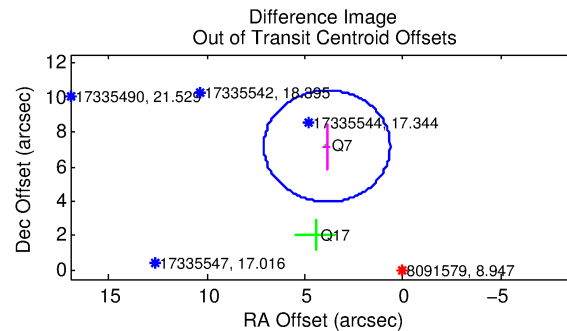
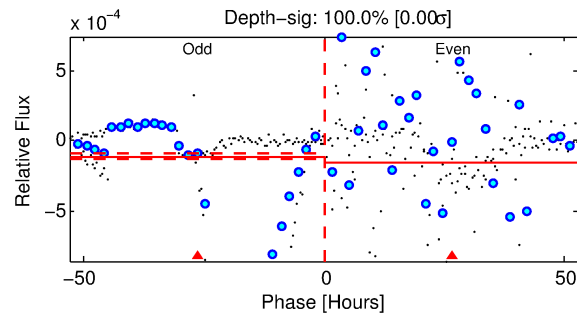
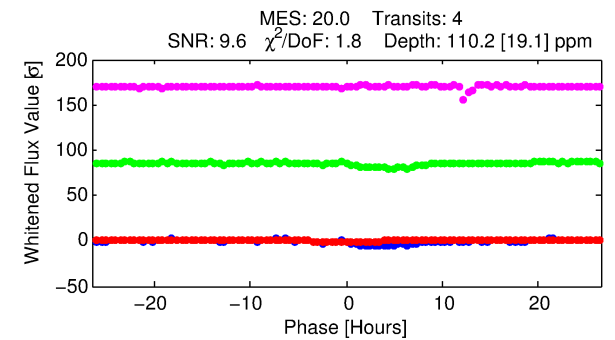
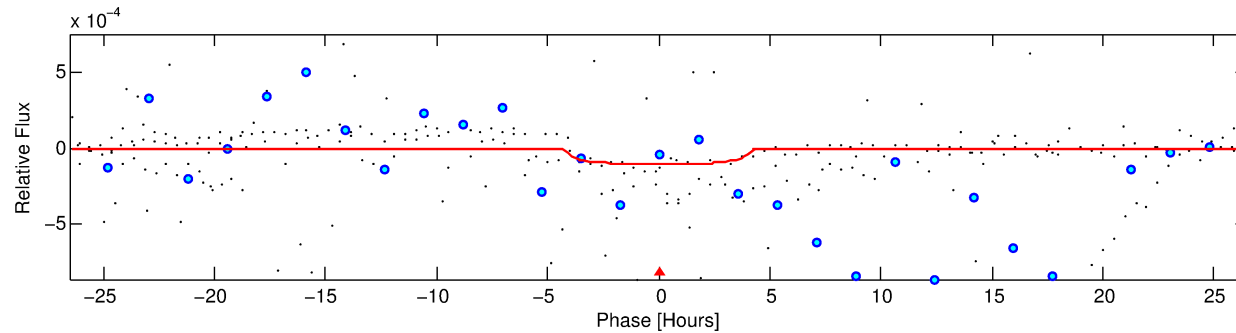
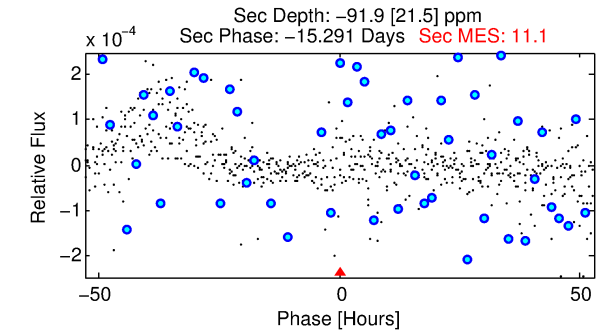
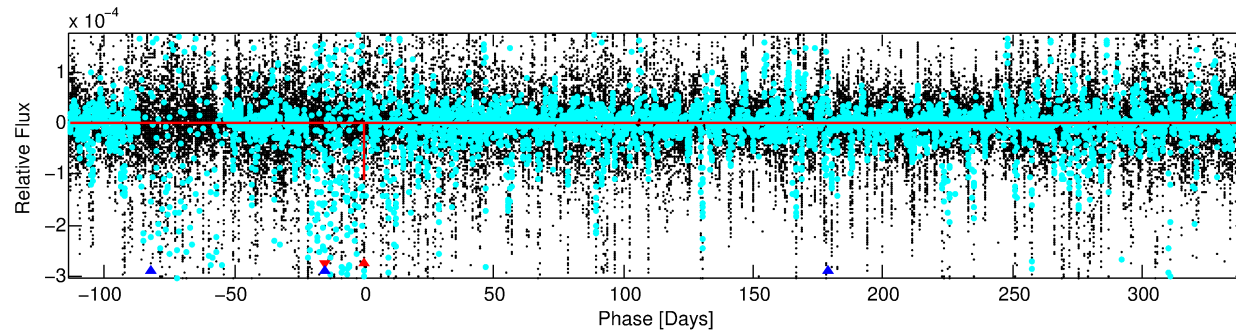
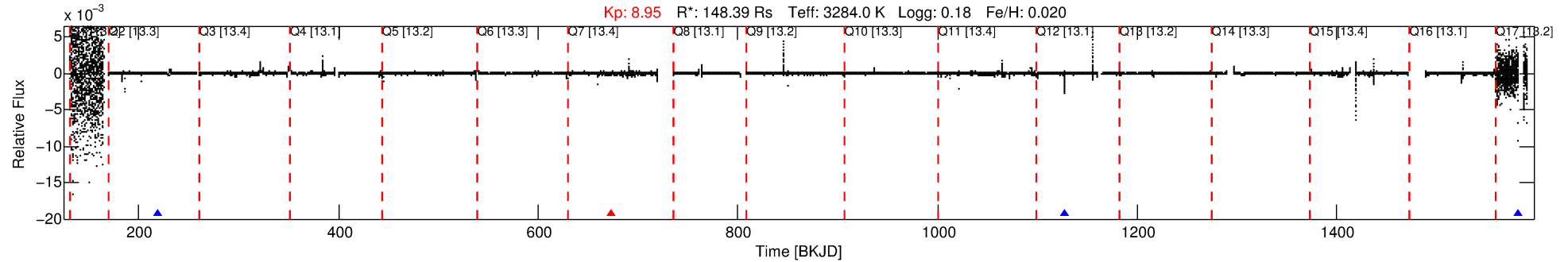
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008091579-01

No Significant Match Found

DV One-Page Summary

KIC: 8091579 Candidate: 1 of 2 Period: 454.133 d



DV Fit Results:

Period = 454.13279 [0.01169] d
Epoch = 218.4045 [0.0095] BKJD
Rp/R* = 0.0129 [0.0039]
a/R* = 162.05 [149.76]
b = 0.92 [0.15]
Seff = 1496.92 [619.23]
Teq = 1586 [164] K
Rp = 208.54 [79.13] Re
a = 1.2381 [0.2922] AU
Ag = N/A
Teffp = N/A

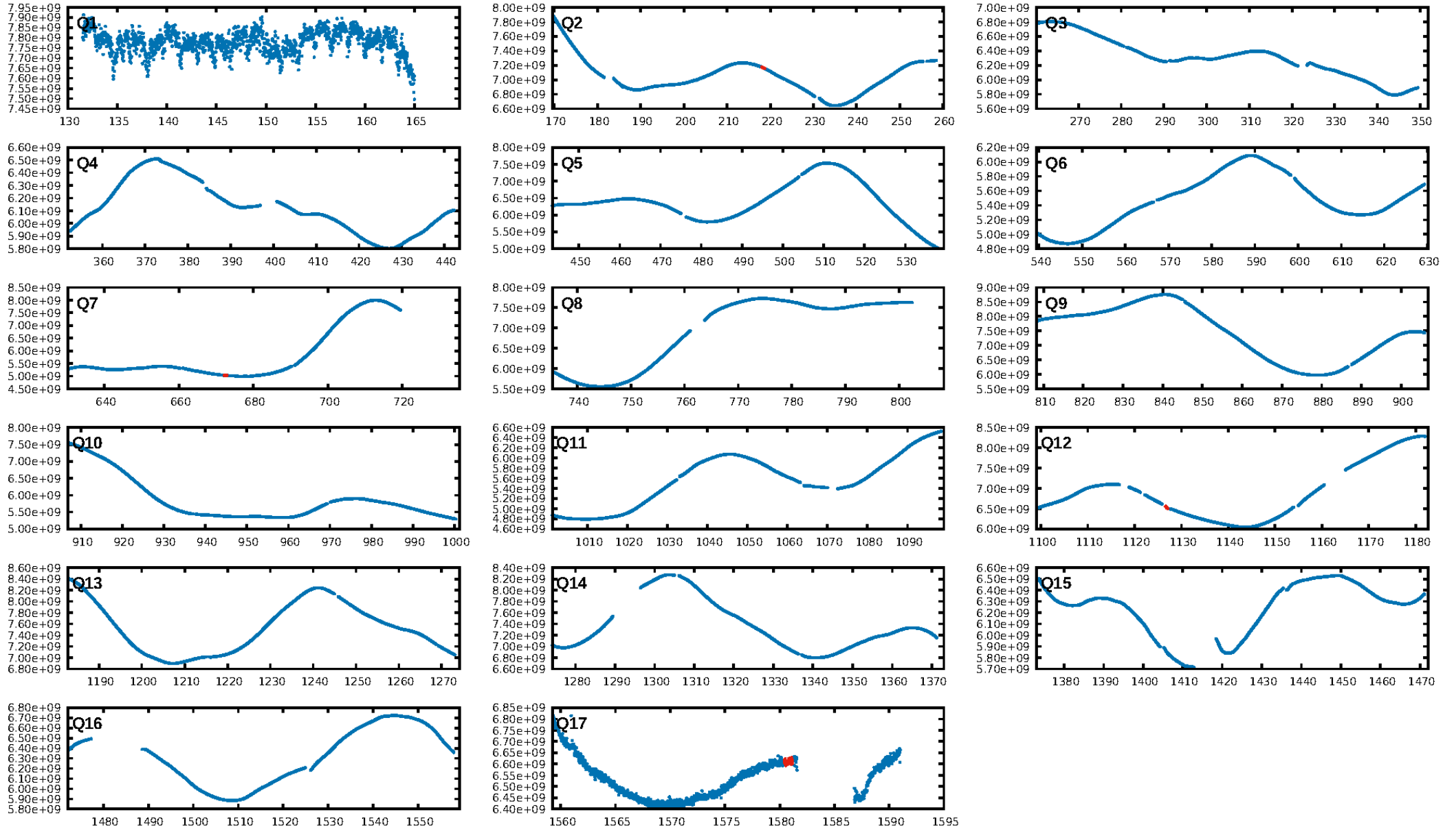
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [700.89 σ]
ModelChiSquare2-sig: 57.1%
ModelChiSquareGof-sig: 71.9%
Bootstrap-pfa: 2.56e-04
RollingBand-fgt: 0.67 [2/3]
GhostDiagnostic-chr: N/A
Centroid-sig: 77.8%
Centroid-so: 3.347 arcsec [0.42 σ]
OotOffset-rm: 8.169 arcsec [7.59 σ]
KicOffset-rm: 6.766 arcsec [8.43 σ]
OotOffset-st: 0/1/0/1 [2]
KicOffset-st: 0/1/0/1 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [3/3]

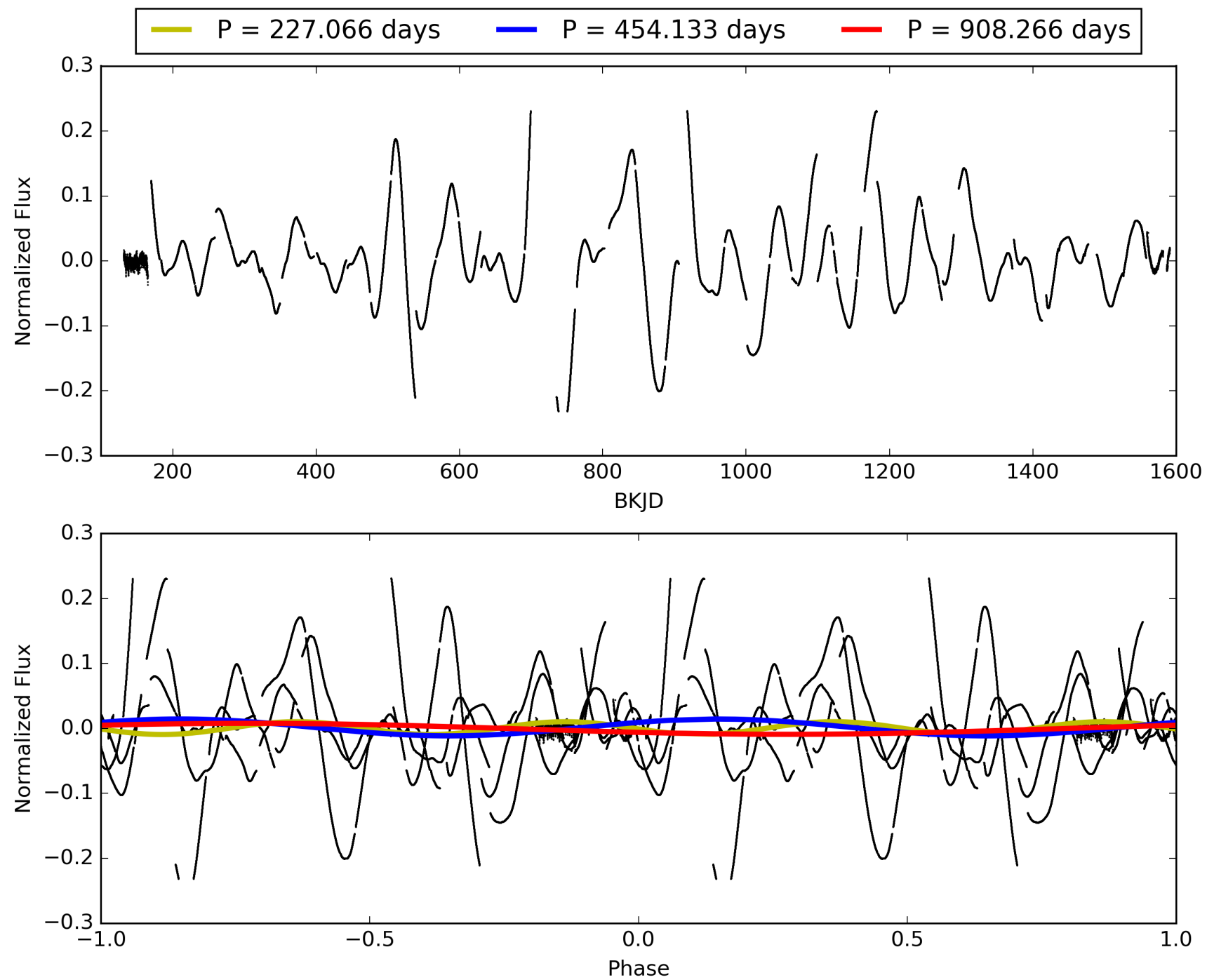
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008091579-01, PDC Light Curves

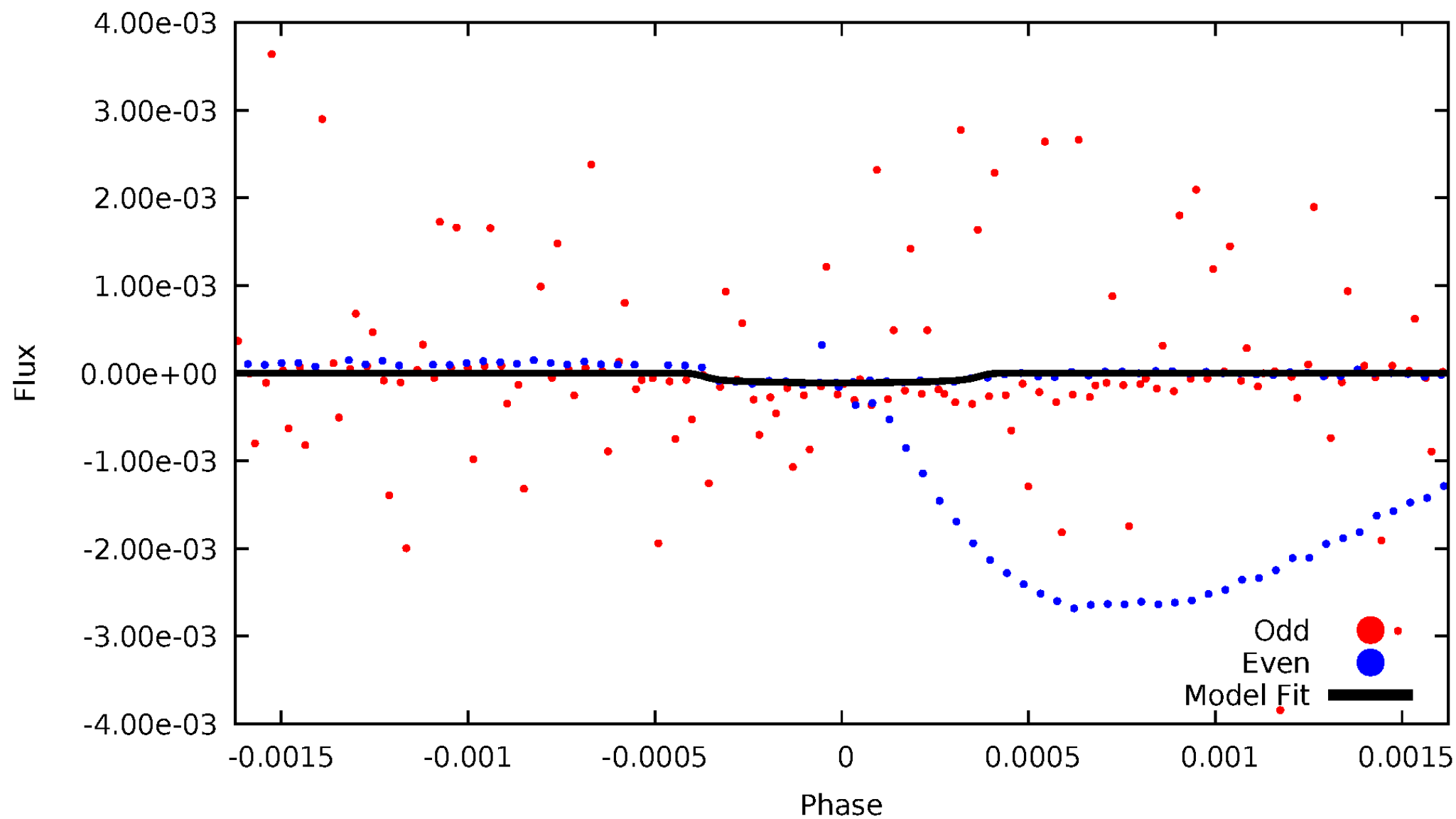


TCE 008091579-01



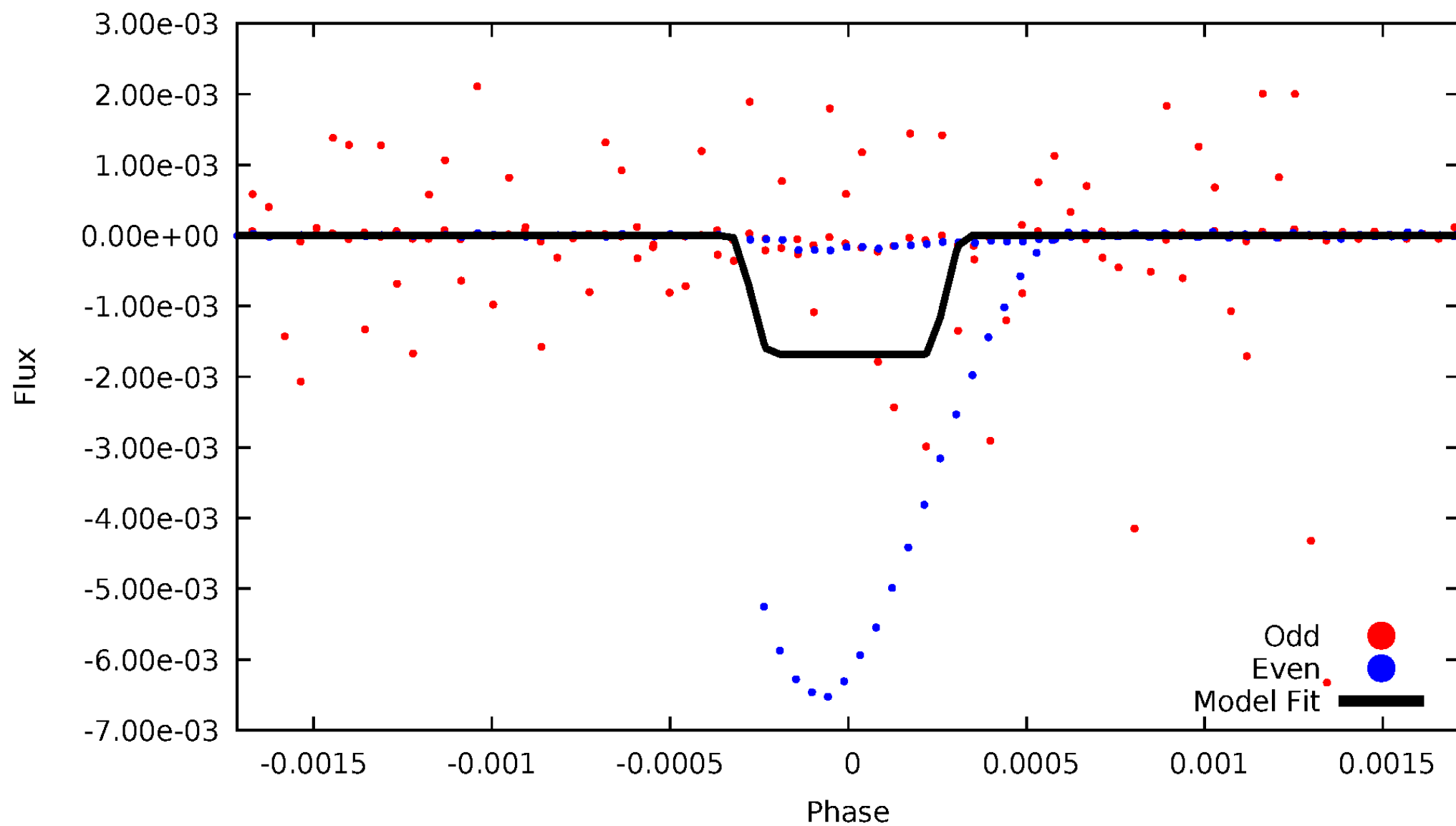
DV Odd/Even

TCE 008091579-01



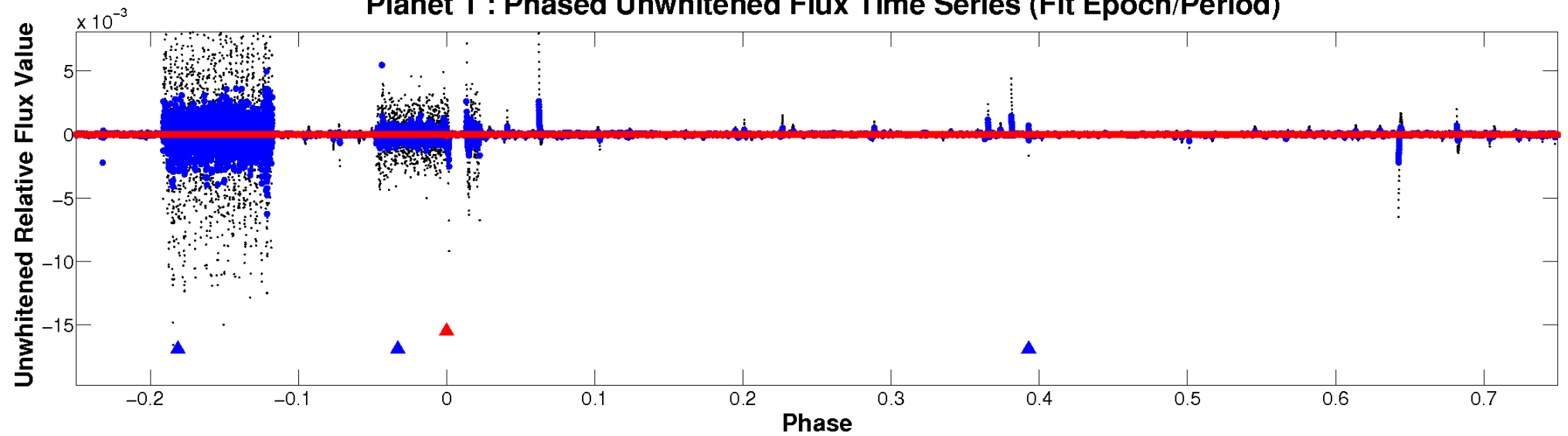
ALT Odd/Even

TCE 008091579-01

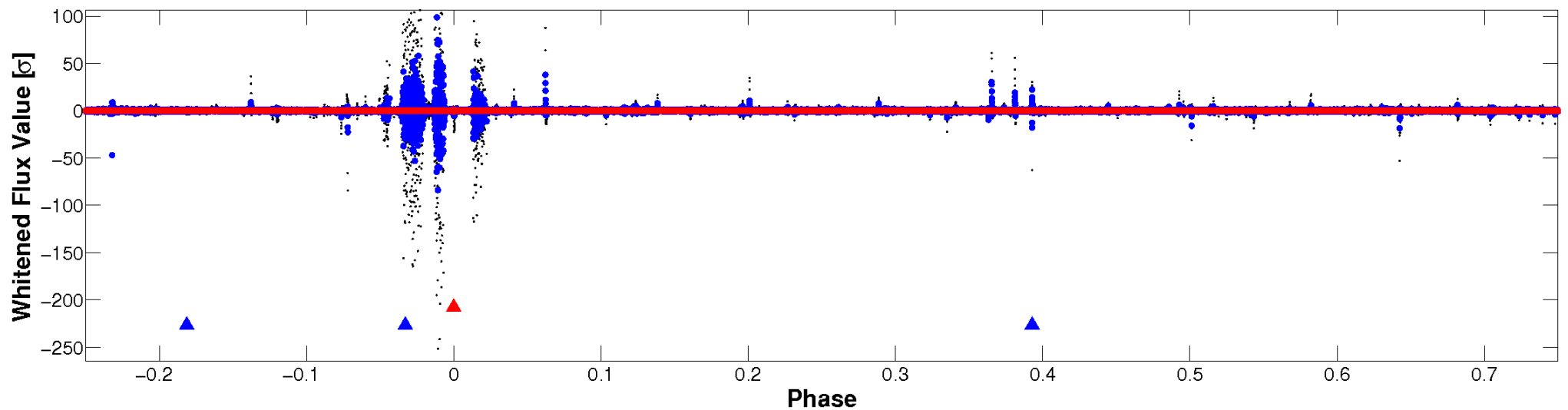


Non-Whitened Vs. Whitened Light Curve

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

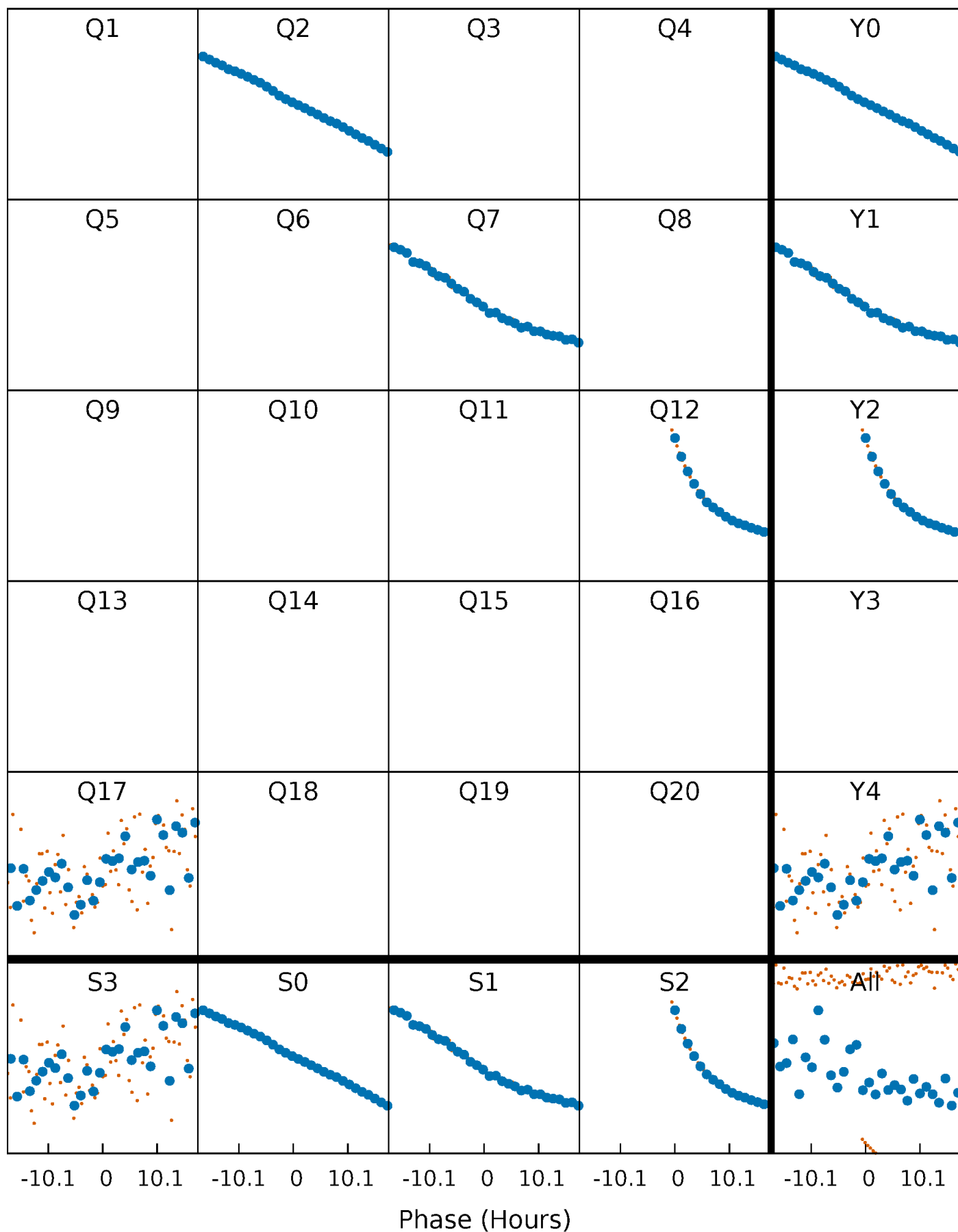


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



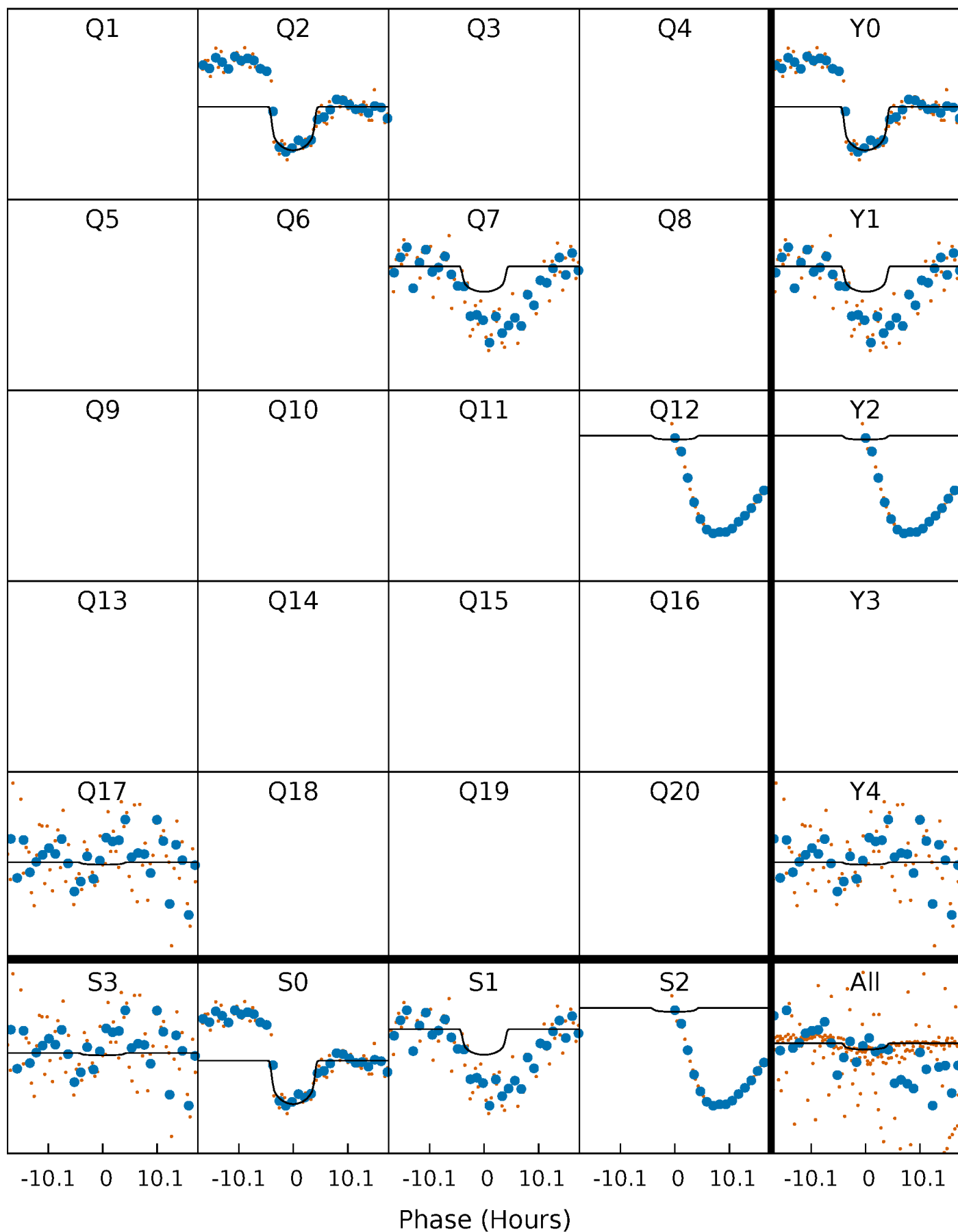
PDC Quarter-Phased Transit Curves

TCE 008091579-01 P=454.132789 Days $T_0=218.404471$ (BKJD)



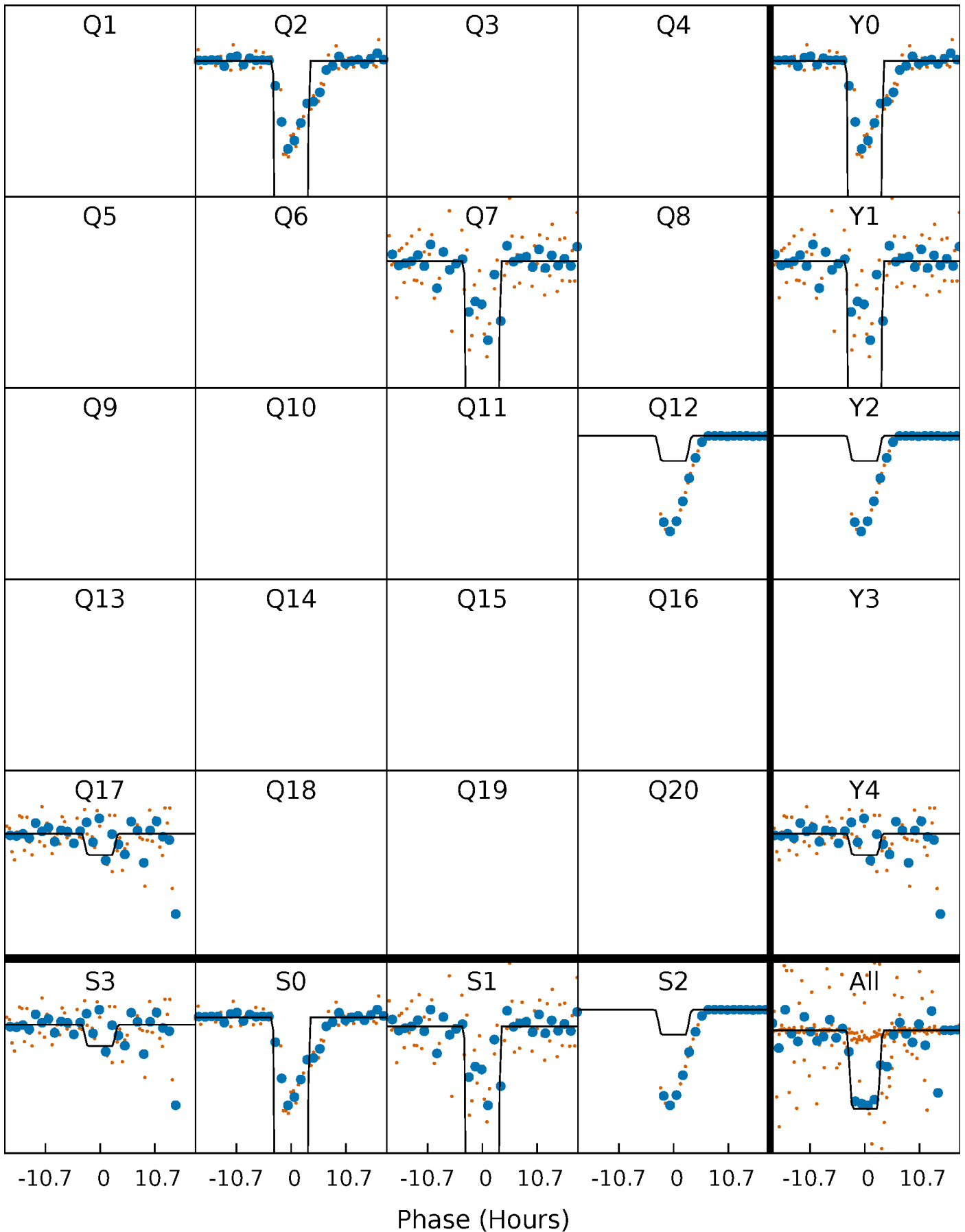
DV Quarter-Phased Transit Curves

TCE 008091579-01 P=454.132789 Days $T_0=218.404471$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

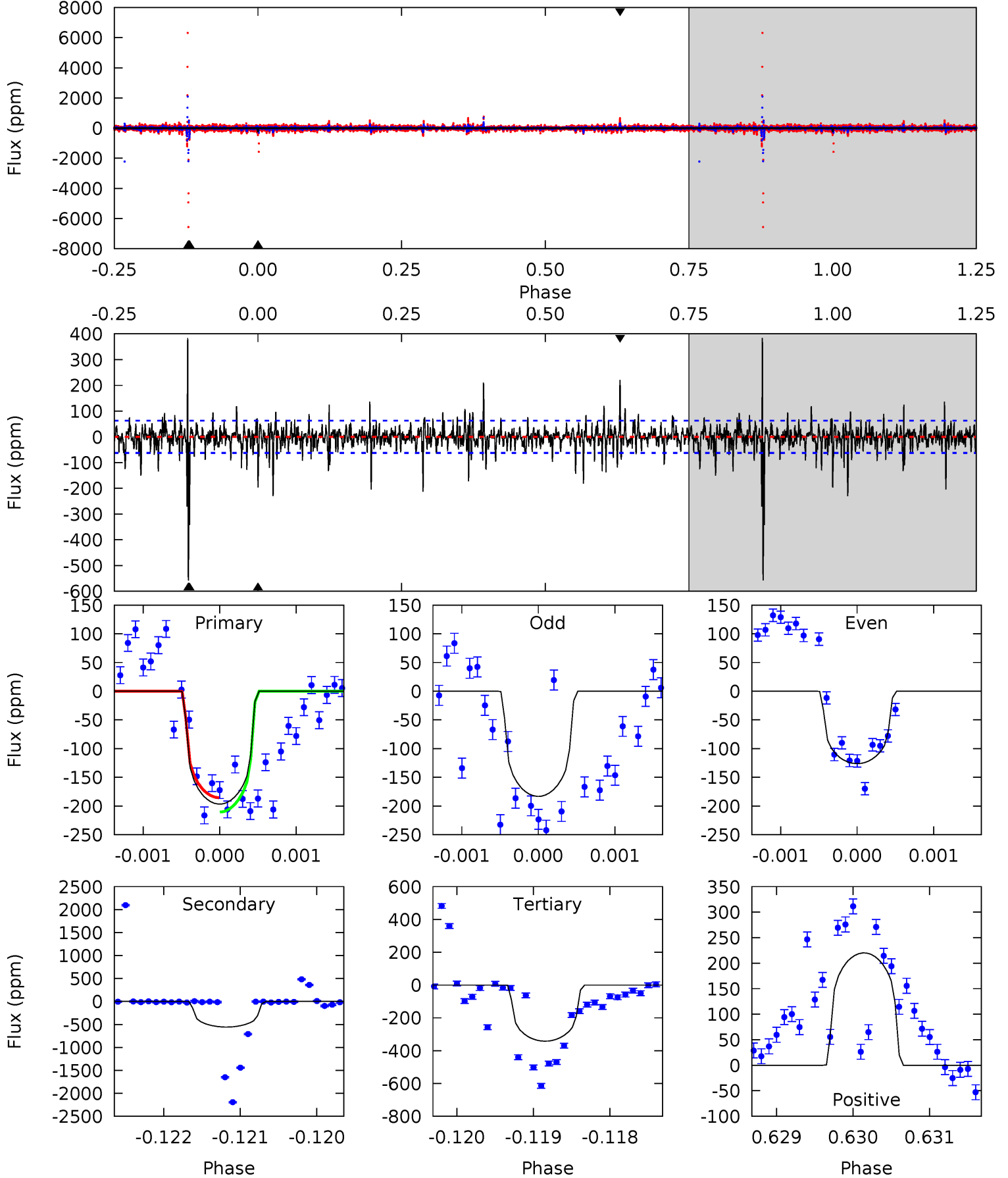
TCE 008091579-01 P=454.217605 Days $T_0=218.318419$ (BKJD)



DV Model-Shift Uniqueness Test

008091579-01, P = 454.132789 Days, E = 218.404471 Days

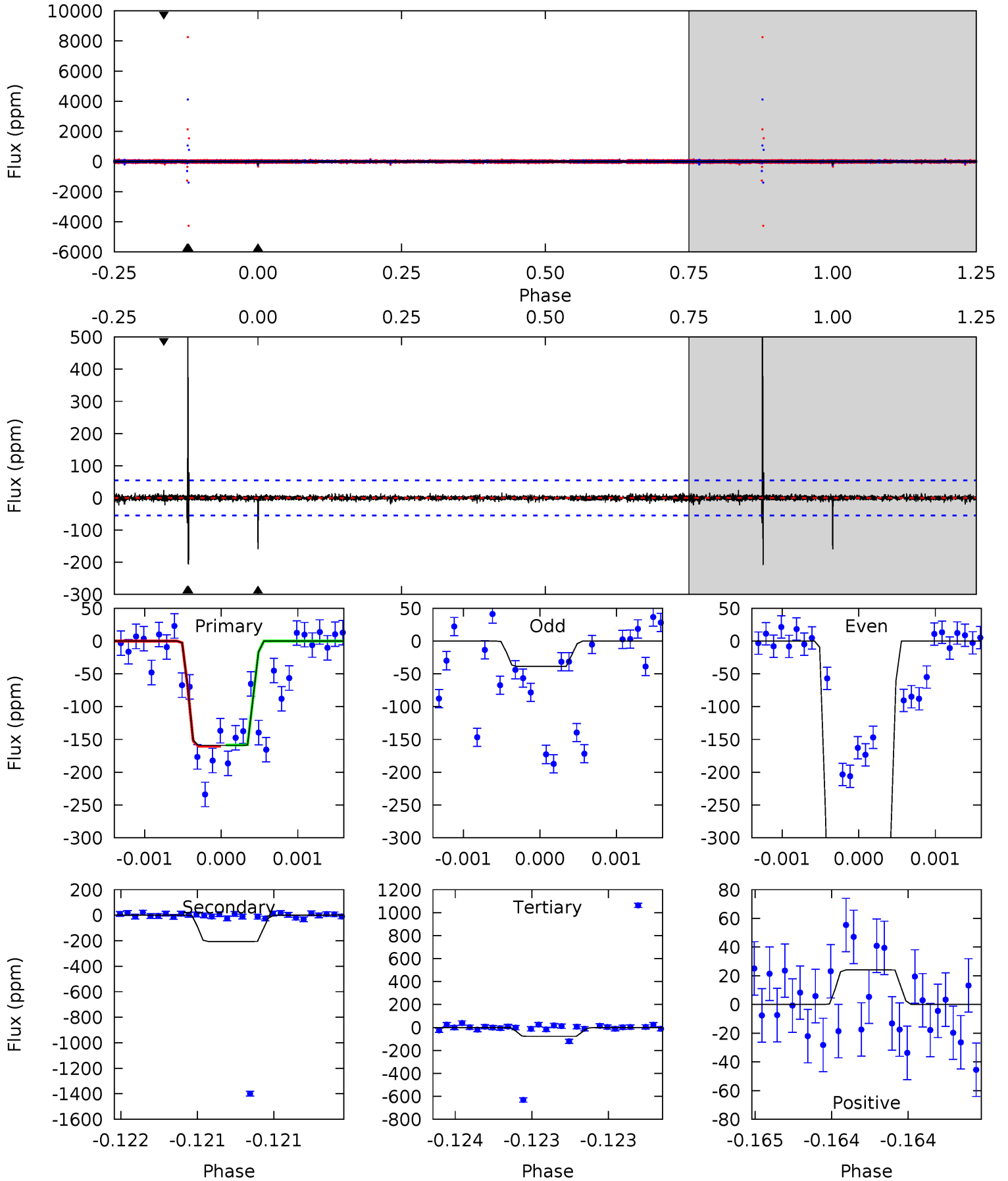
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.2	48.7	29.9	19.2	5.48	3.34	3.07	-12.7	-2.05	18.8	29.5	0.79	0.99	0.41	1.09



Alt Model-Shift Uniqueness Test

008091579-01, P = 454.217605 Days, E = 218.318419 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.1	20.9	7.89	2.44	5.53	3.42	0.90	8.22	13.7	13.0	18.5	6.73	11.2	0.71	0.10



Stellar Parameters For KIC 008091579

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3284^{+117}_{-88}	$0.184^{+0.232}_{-0.058}$	$0.020^{+0.250}_{-0.150}$	$148.390^{+11.490}_{-34.470}$	$1.226^{+0.235}_{-0.157}$	$0.000^{+0.000}_{-0.000}$
	+4%/-3%	+126%/-32%	+1250%/-750%	+8%/-23%	+19%/-13%	+123%/-18%
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 008091579-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-558 ± 11	$196.12^{+67.84}_{-60.40}$	2192^{+102}_{-138}	4024^{+620}_{-388}	12^{+13}_{-5}
Alt.	-206 ± 10	$642.75^{+93.66}_{-96.52}$	2176^{+104}_{-132}	2179^{+152}_{-274}	$0.443^{+0.140}_{-0.108}$

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 $A_{obs} \gg 1.0$

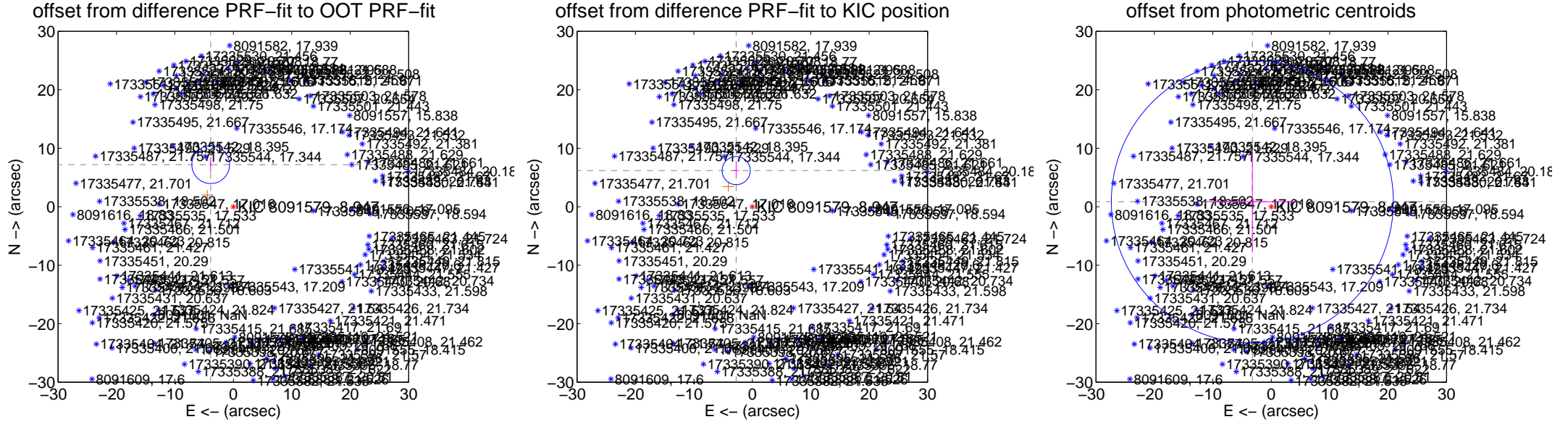
DV Centroid Data

Supplemental centroid analysis for 008091579-01. **Kepler magnitude: 8.95.** Transit SNR 9.62

There are 0 quarters with good PRF difference image offsets

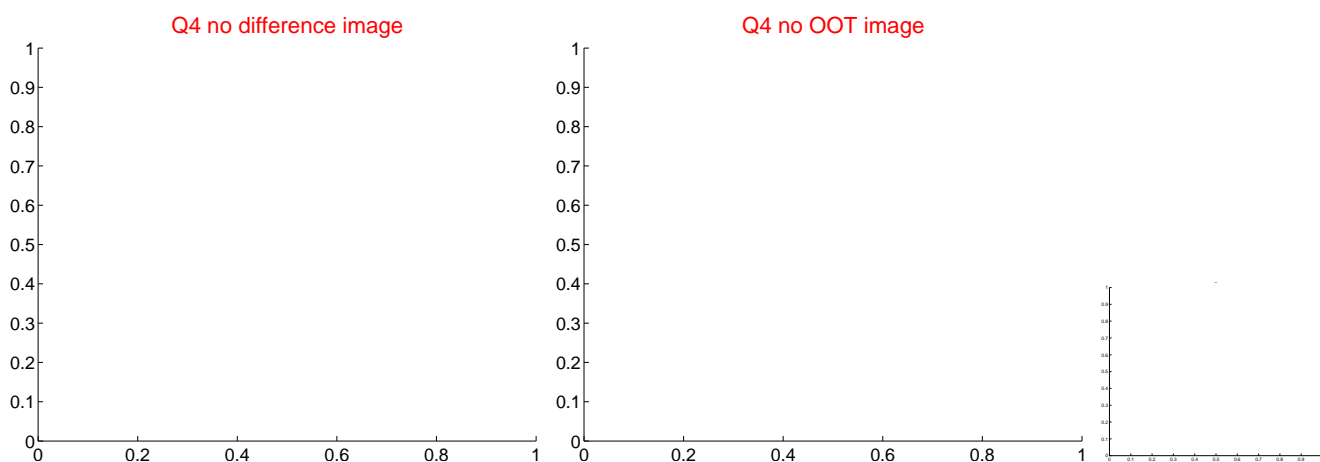
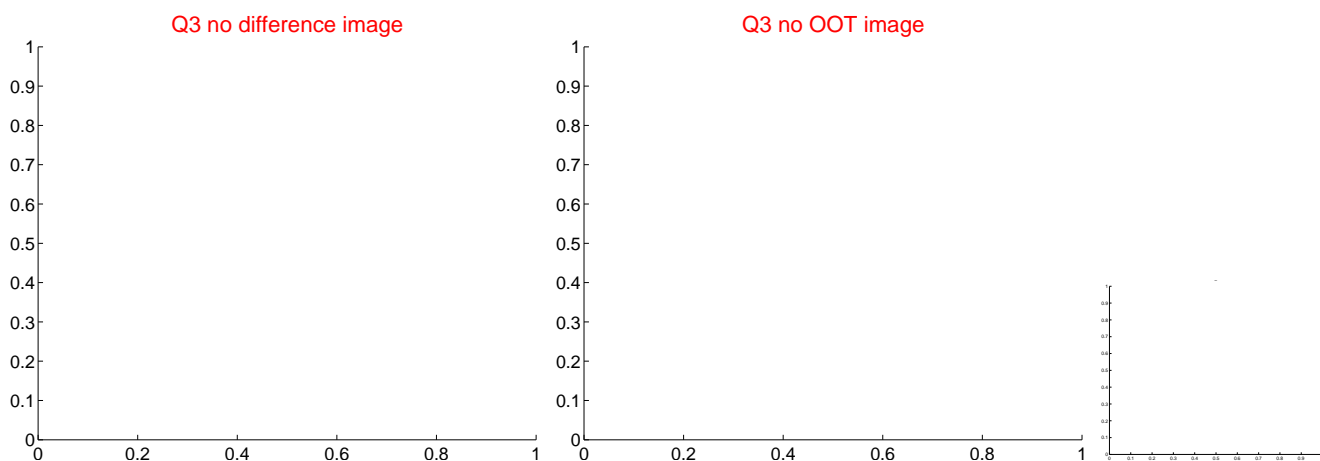
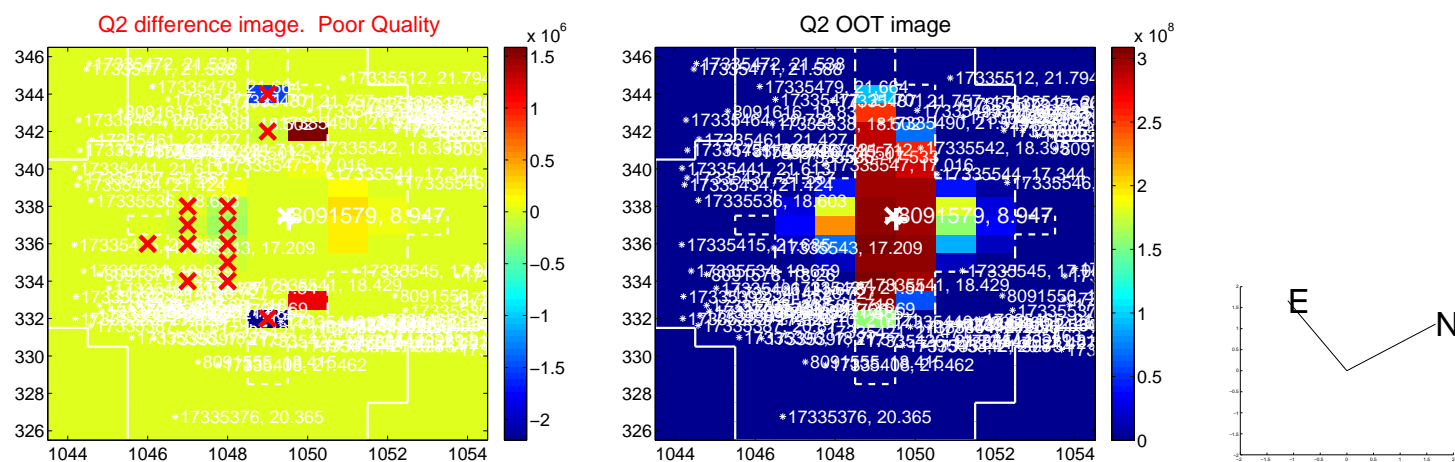
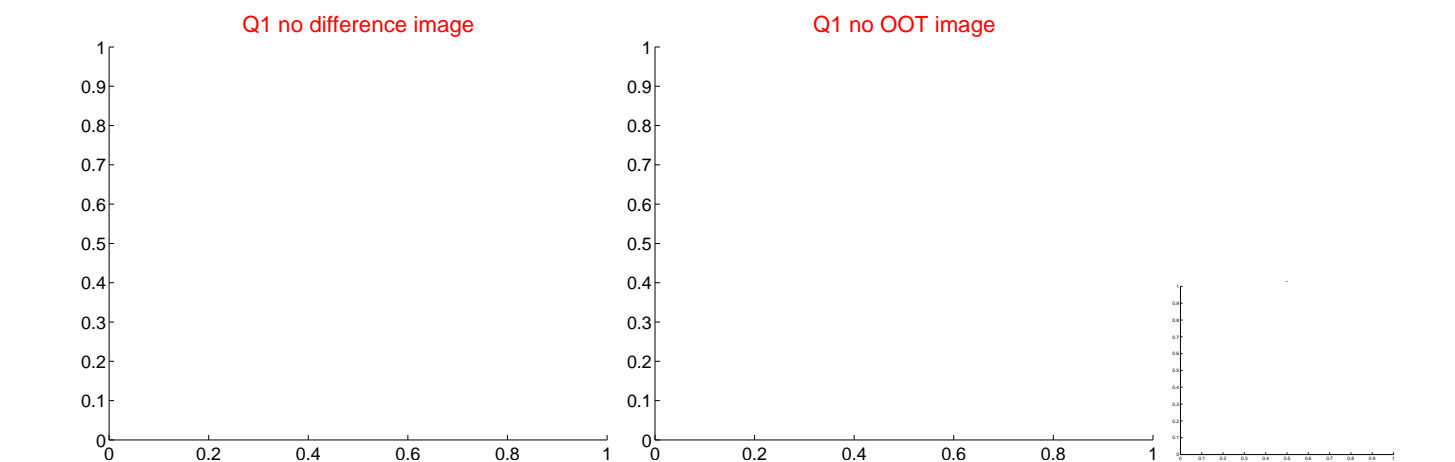
The direct PRF centroid is offset from the target star catalog position by about 1.48 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.169 \pm 1.076	7.59	3.879 ± 0.160	7.190 ± 1.301
PRF-fit source offset from KIC position	6.766 \pm 0.802	8.43	2.758 ± 0.549	6.178 ± 1.121
photometric centroid source offset	3.35 ± 8.05	0.42	3.24 ± 8.00	0.86 ± 8.64

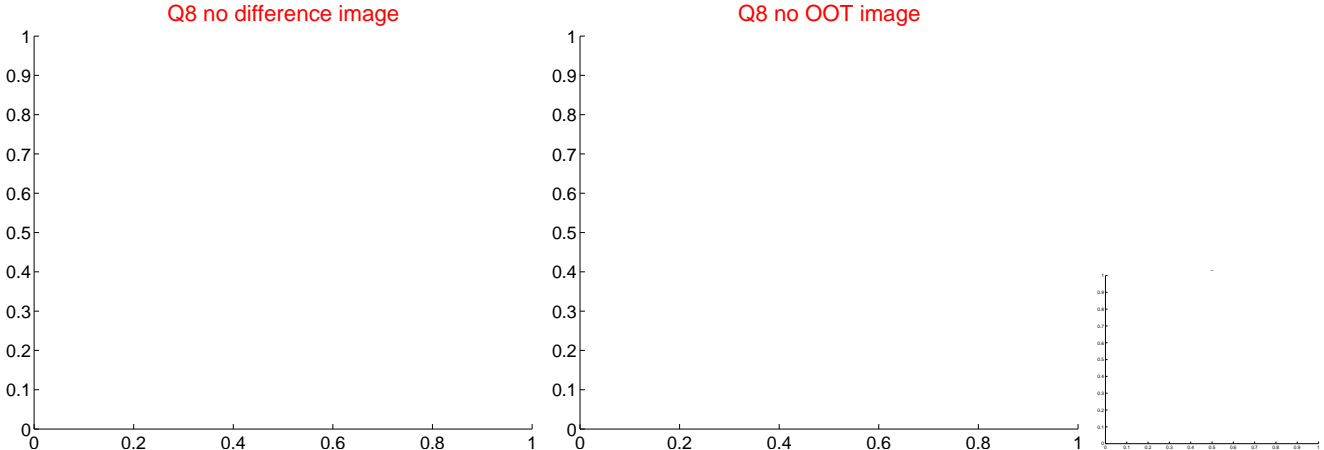
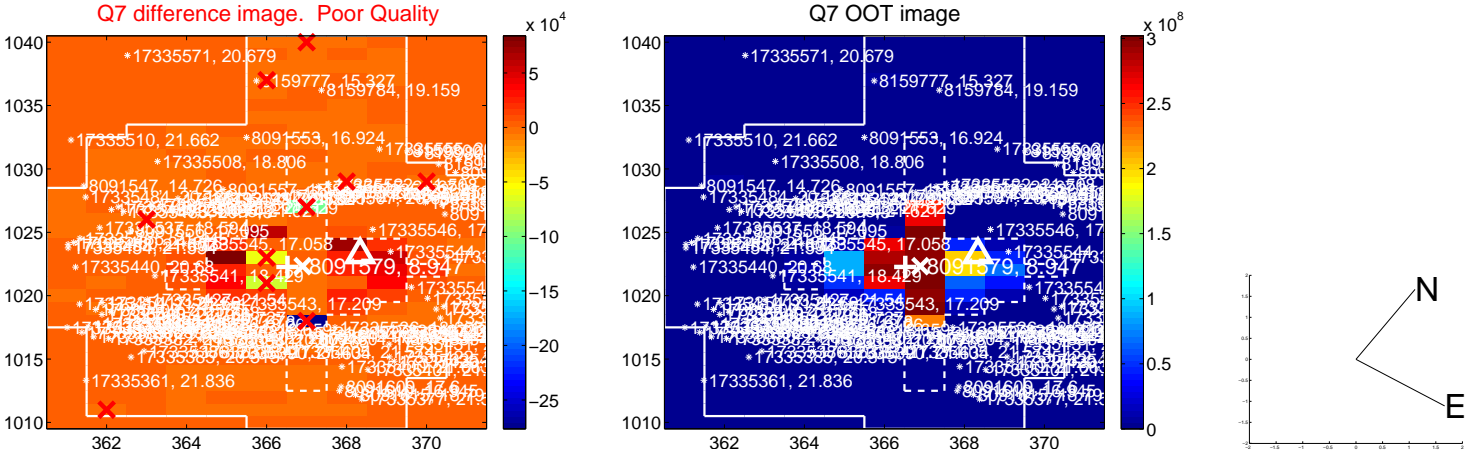
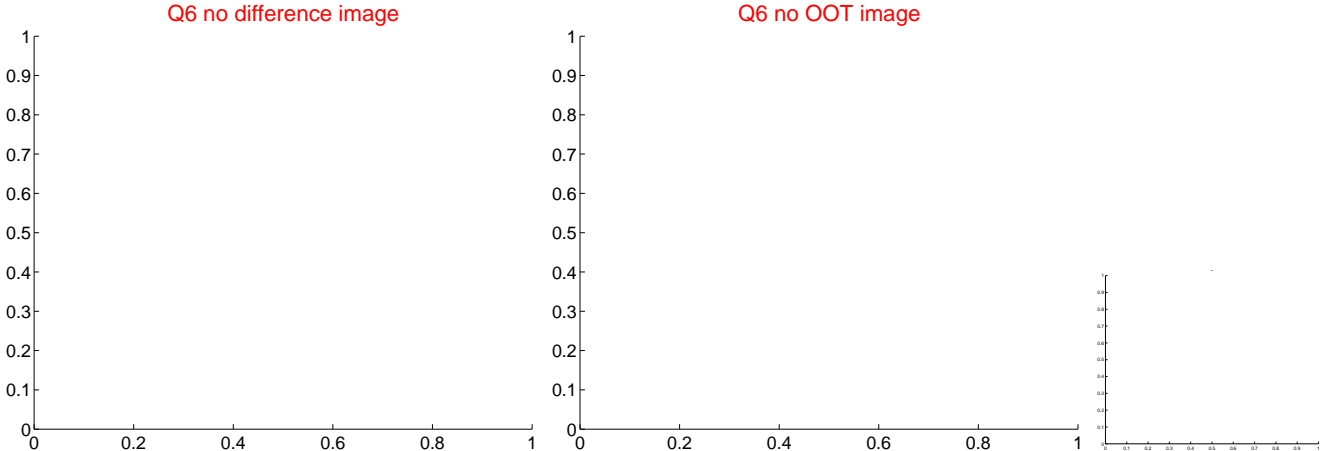
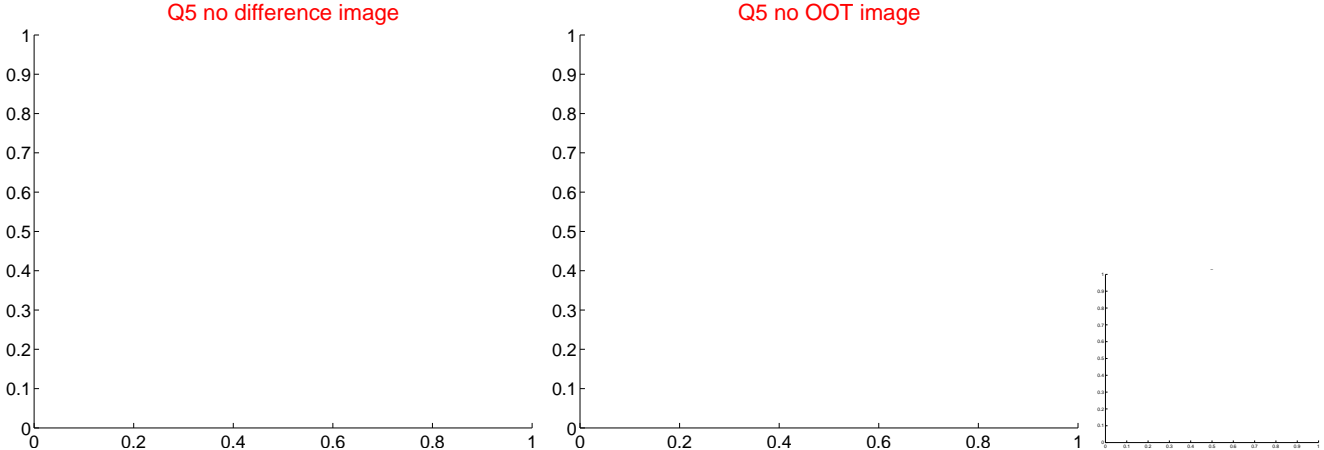


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



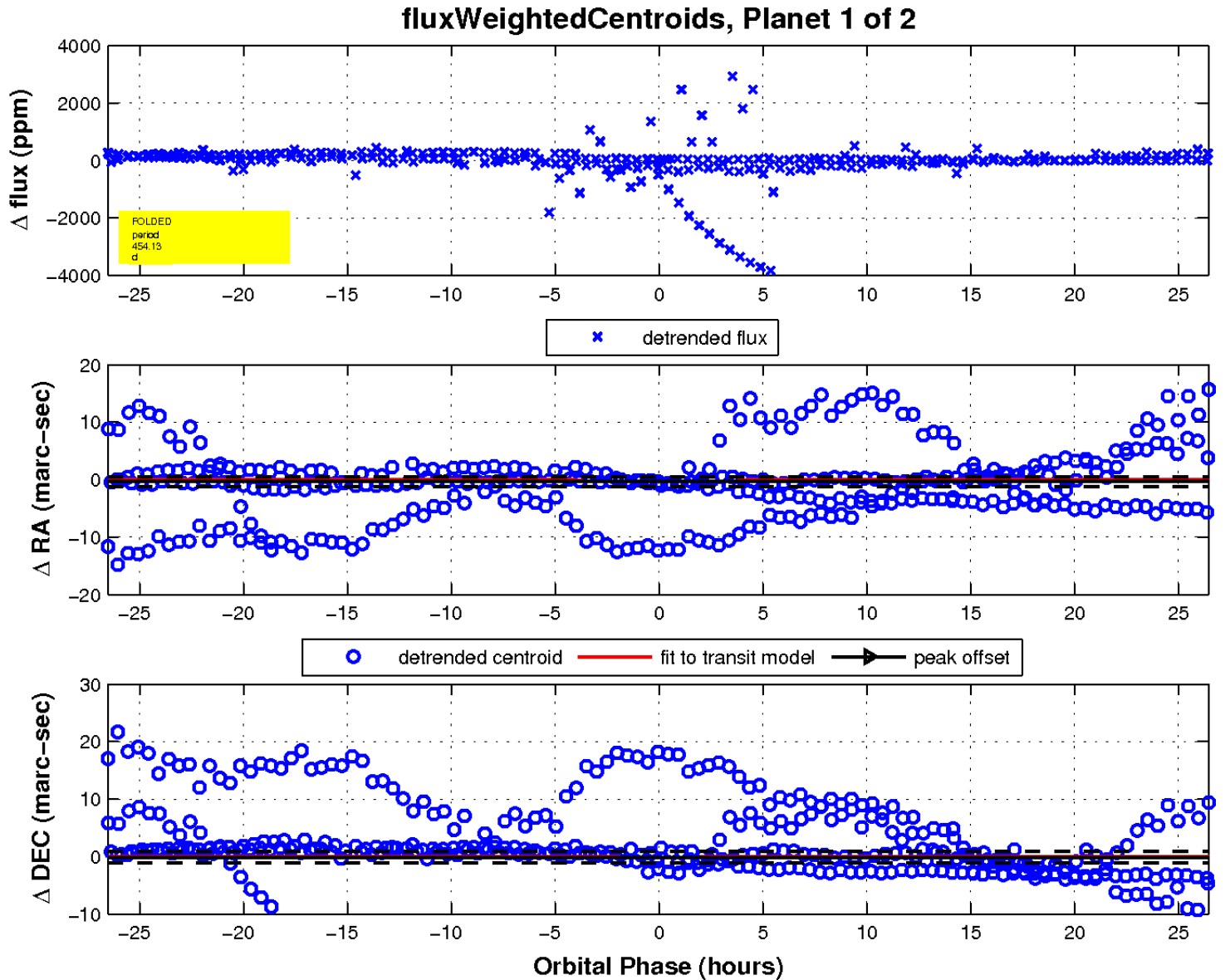
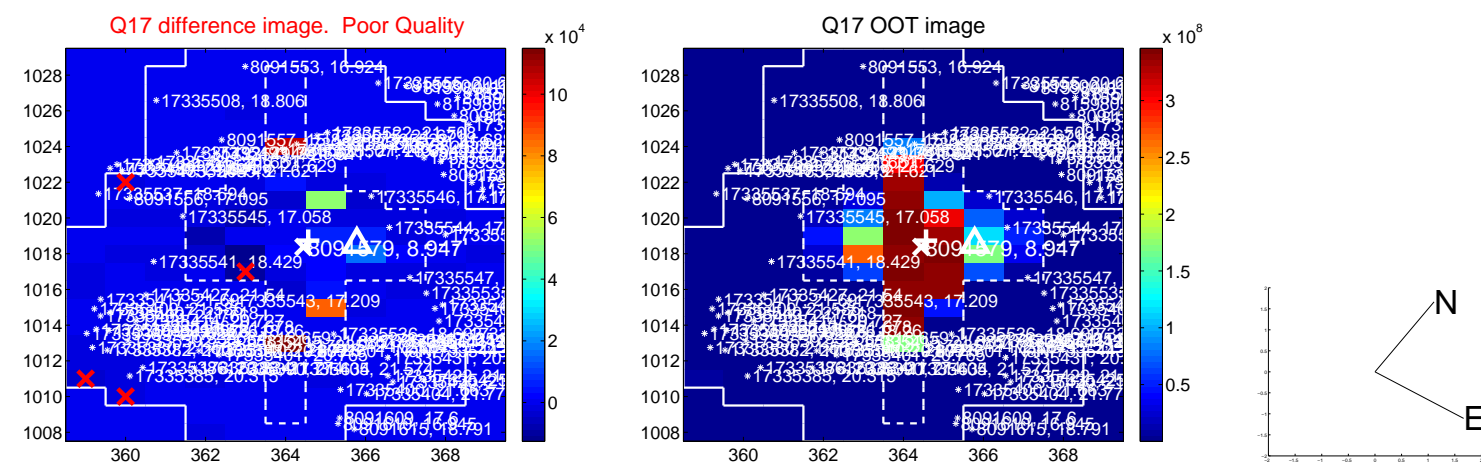
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



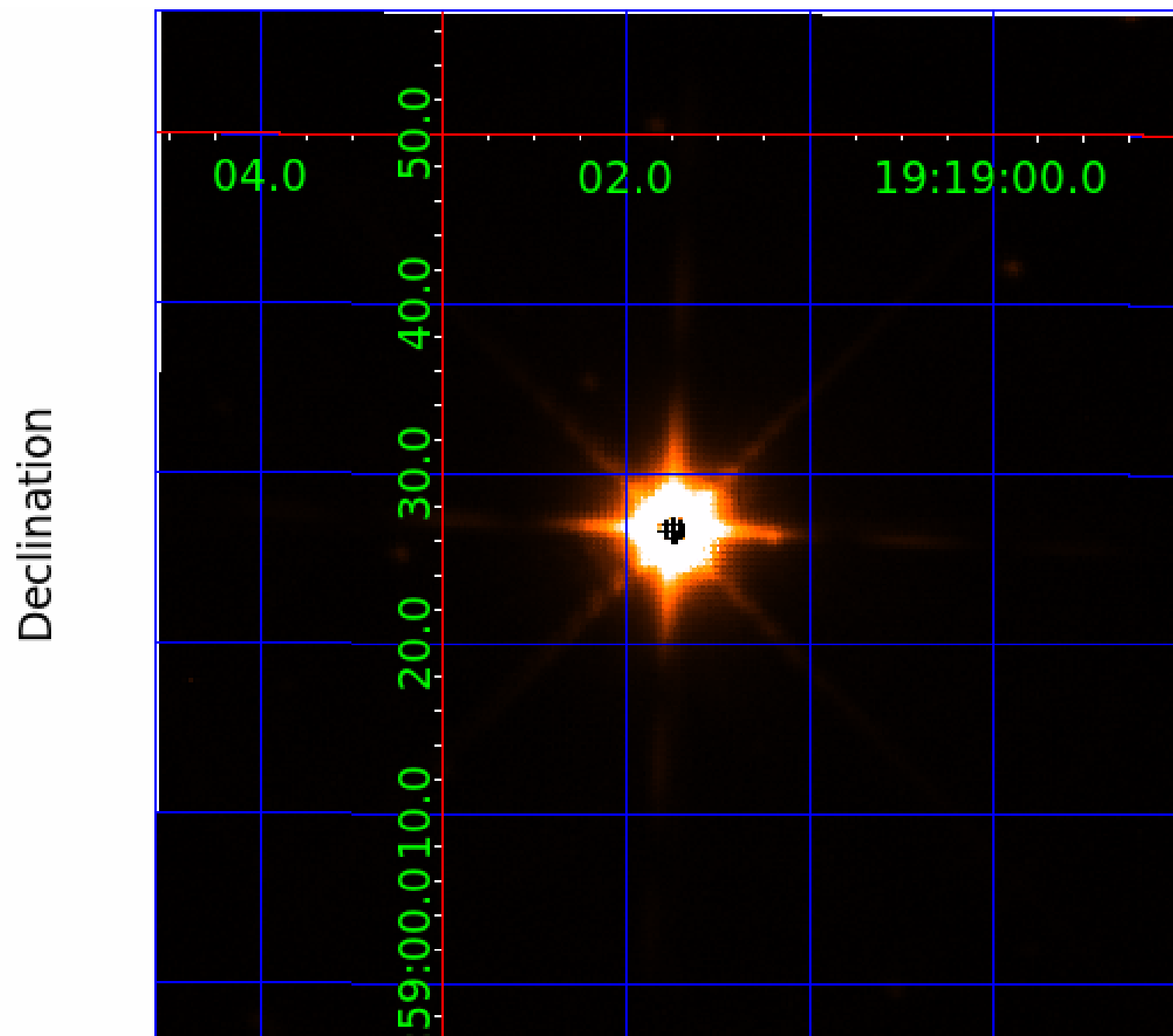
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 008091579

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})
008091579-01	OBS	No	454.132789	218.404471	110.2	8.845	20.0	9.6	148.39	3284	208.54	1496.92
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008091579-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA_TRACKER—LPP_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
008091579-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

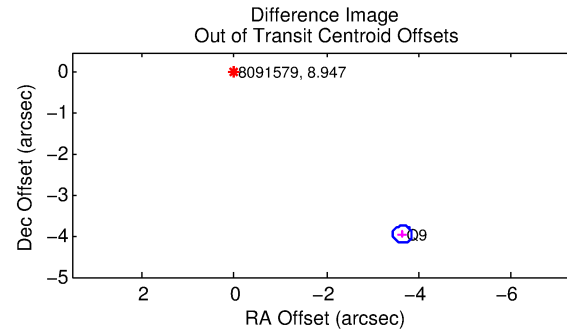
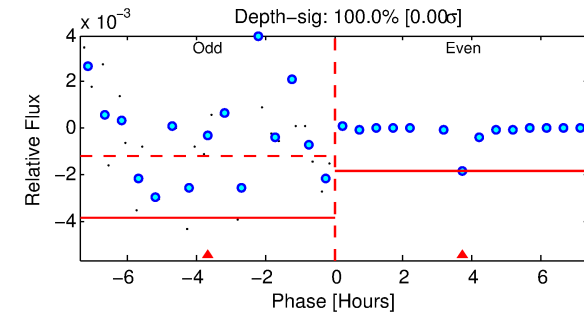
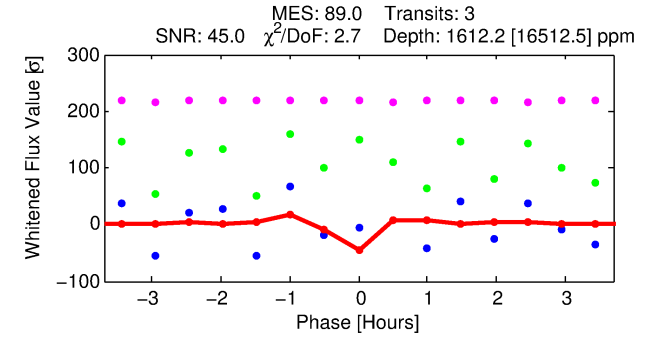
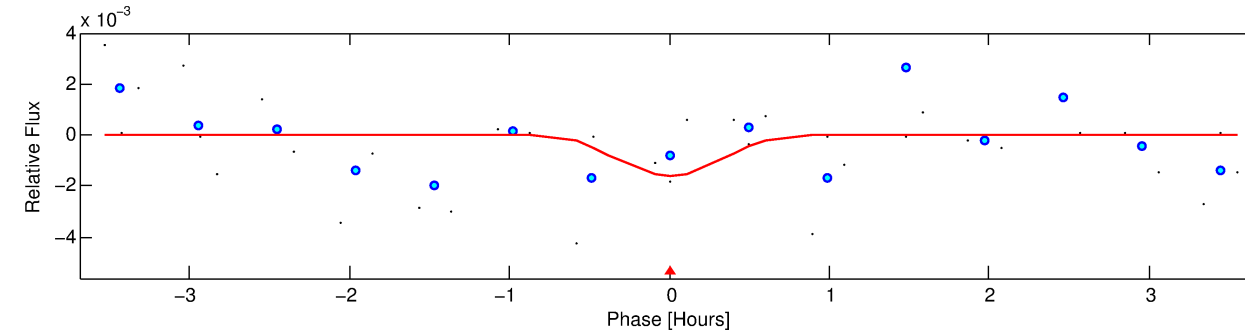
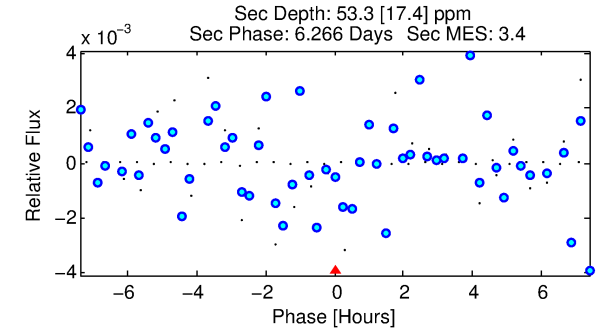
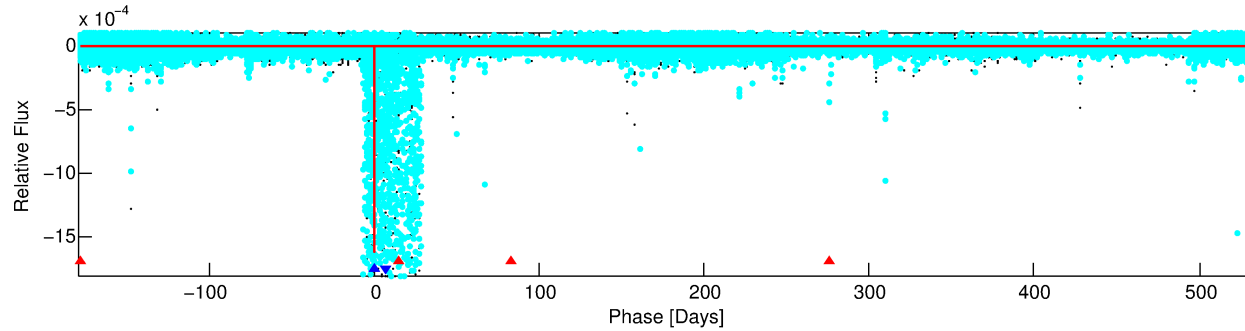
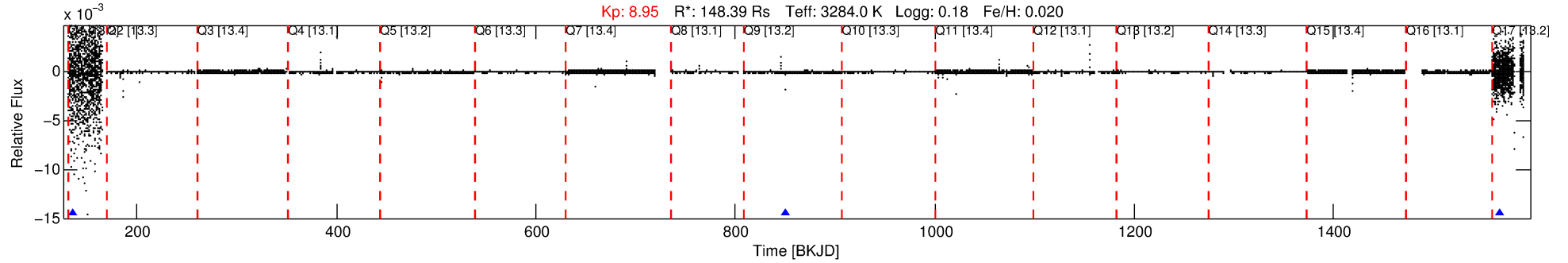
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008091579-02

No Significant Match Found

DV One-Page Summary

KIC: 8091579 Candidate: 2 of 2 Period: 714.905 d



DV Fit Results:

Period = 714.90494 [0.01252] d
Epoch = 136.0527 [0.0204] BKJD
Rp/R* = 0.0809 [9.2634]
a/R* = 1853.94 [41654.59]
b = 1.00 [13.45]
Seff = 817.42 [338.14]
Teq = 1363 [141] K
Rp = 1309.26 [149999.64] Re
a = 1.6755 [0.3954] AU
Ag = 0.05 [11.00] [-0.09 σ]
Teffp = 987 [56530] K [-0.01 σ]

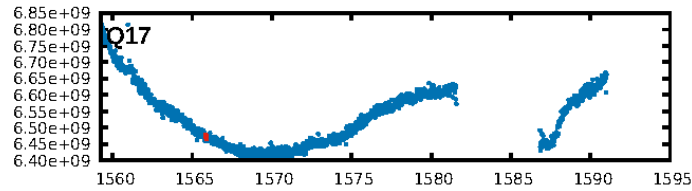
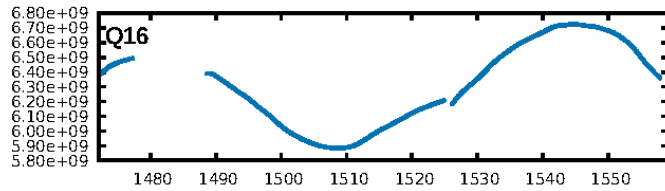
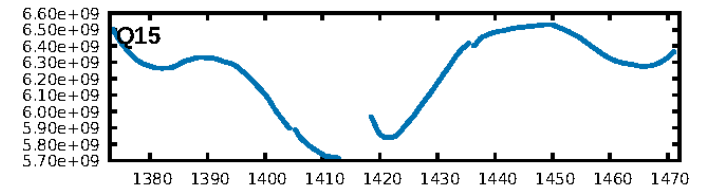
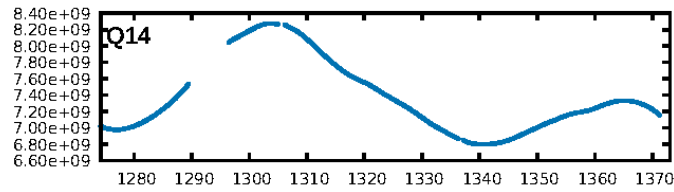
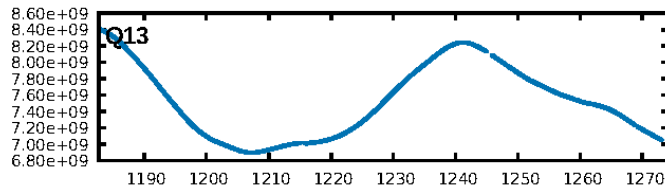
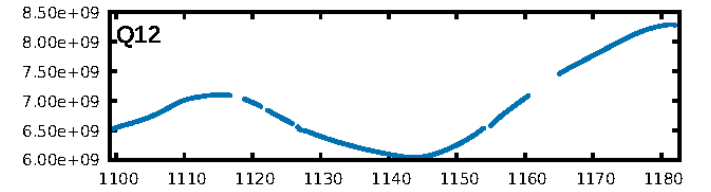
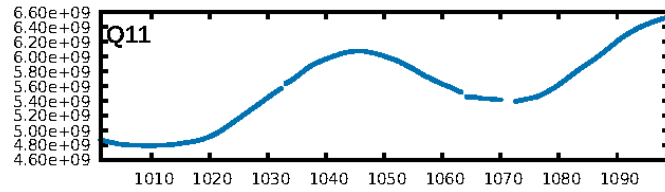
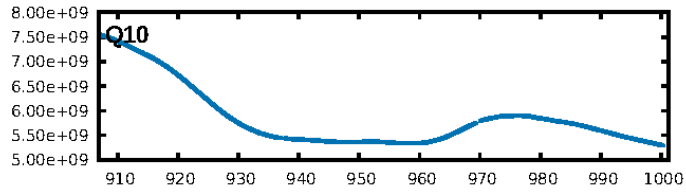
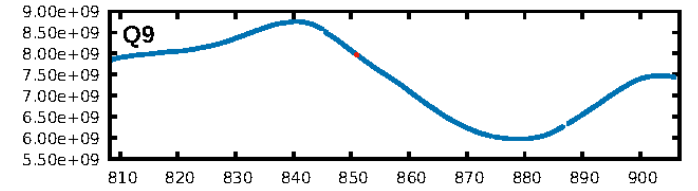
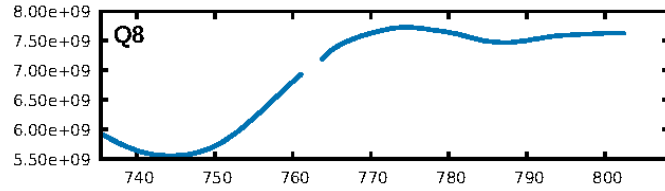
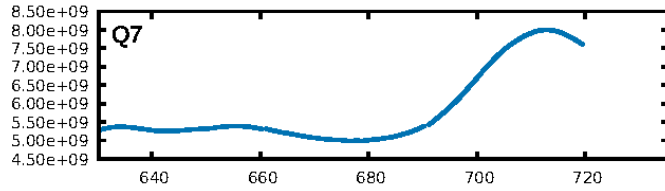
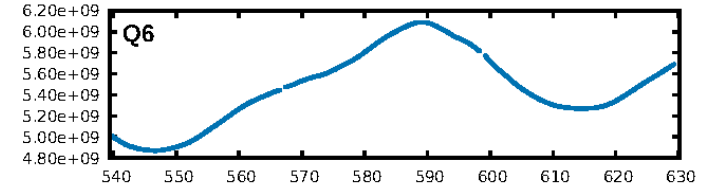
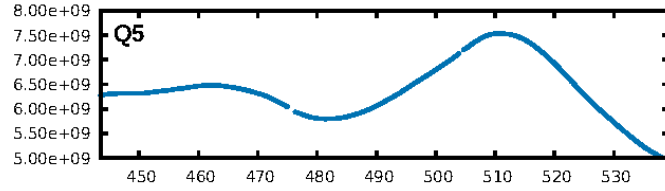
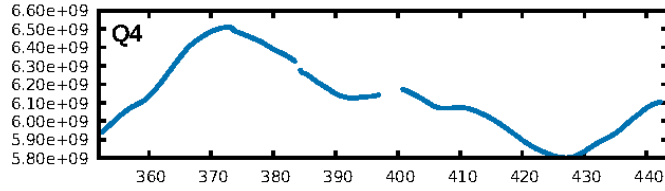
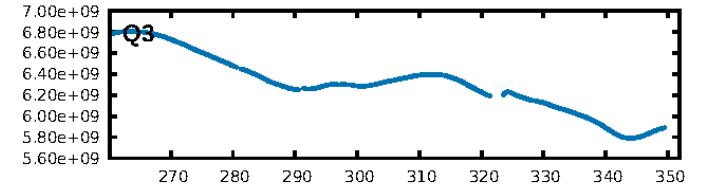
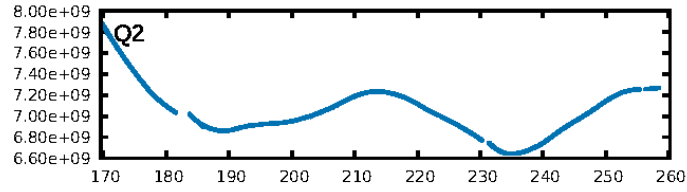
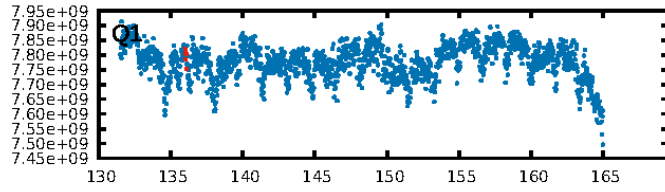
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [700.89 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 42.3%
ModelChiSquareGof-sig: 97.8%
Bootstrap-pfa: 1.32e-07
RollingBand-fgt: 1.00 [1/1]
GhostDiagnostic-chr: N/A
Centroid-sig: 62.2%
Centroid-so: 0.766 arcsec [1.25 σ]
OotOffset-rm: 5.373 arcsec [78.15 σ]
KicOffset-rm: 4.737 arcsec [68.93 σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
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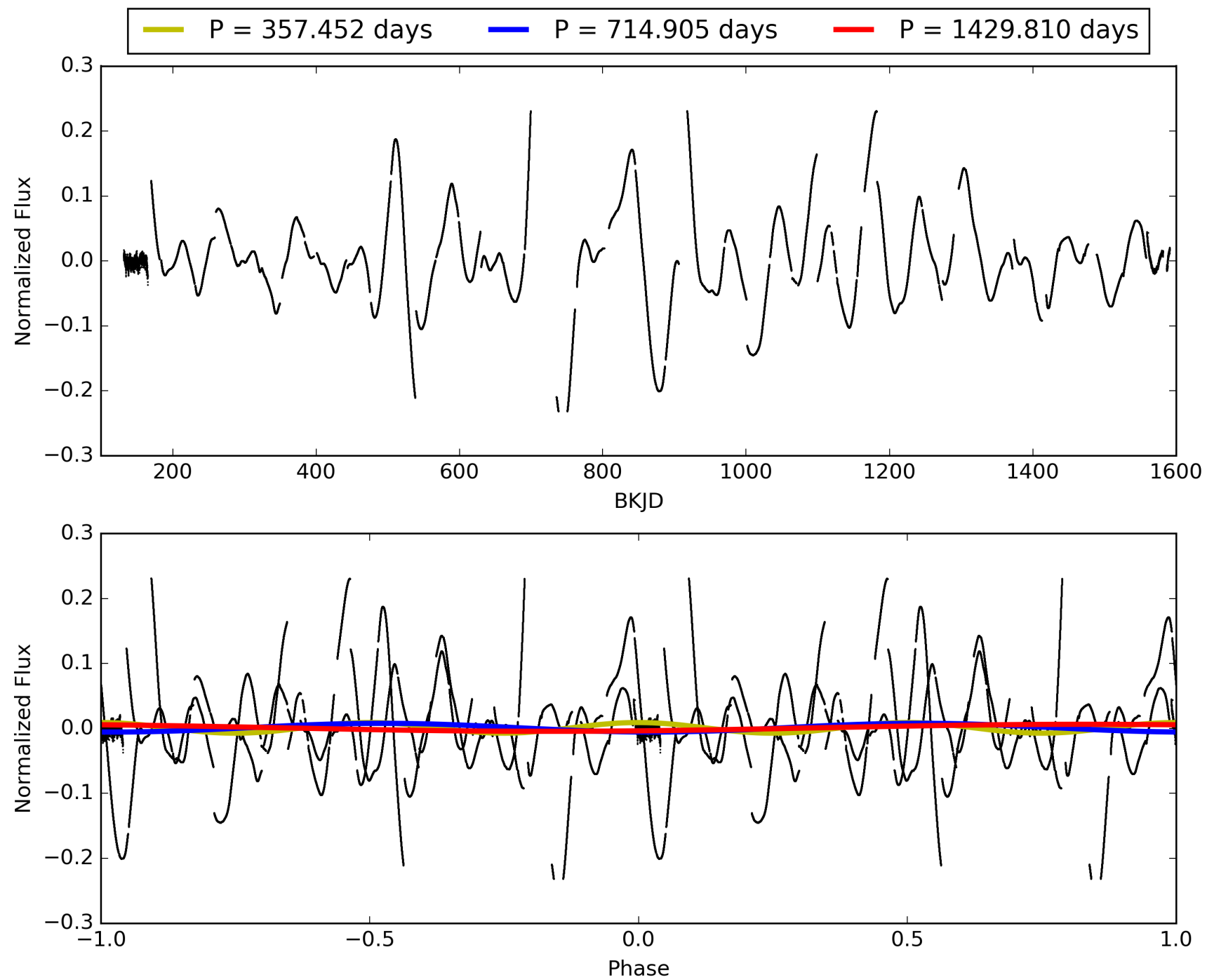
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008091579-02, PDC Light Curves

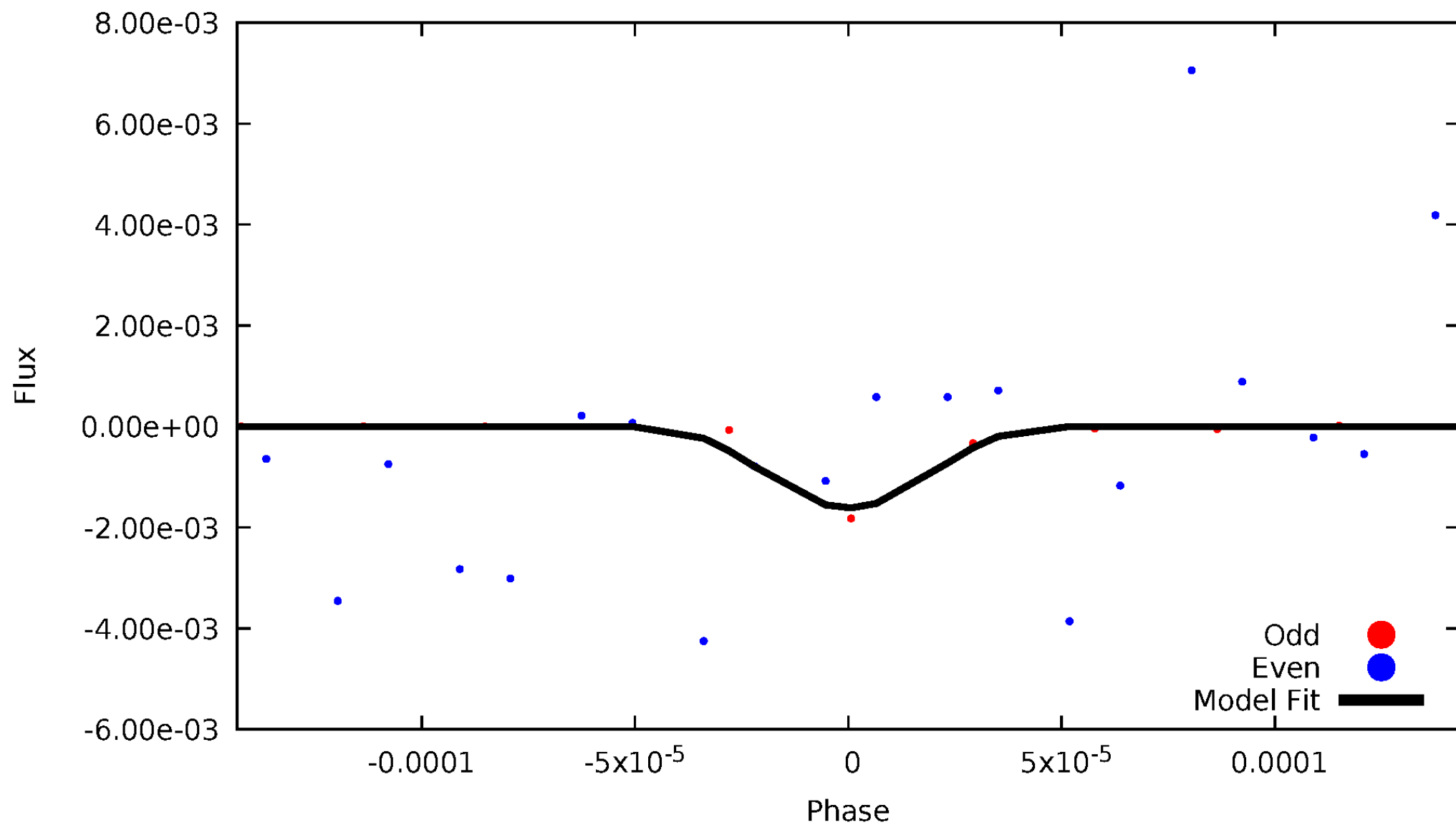


TCE 008091579-02



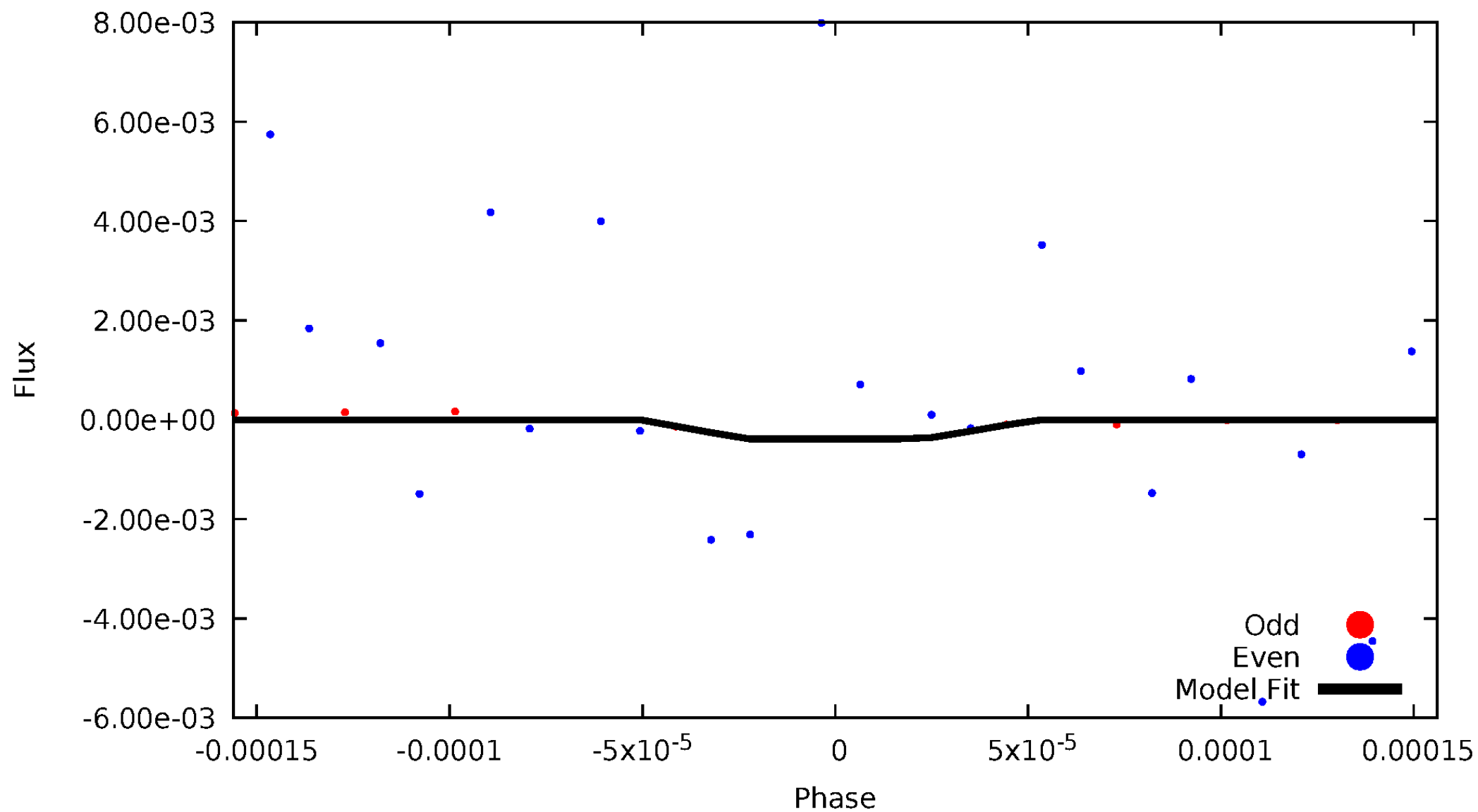
DV Odd/Even

TCE 008091579-02



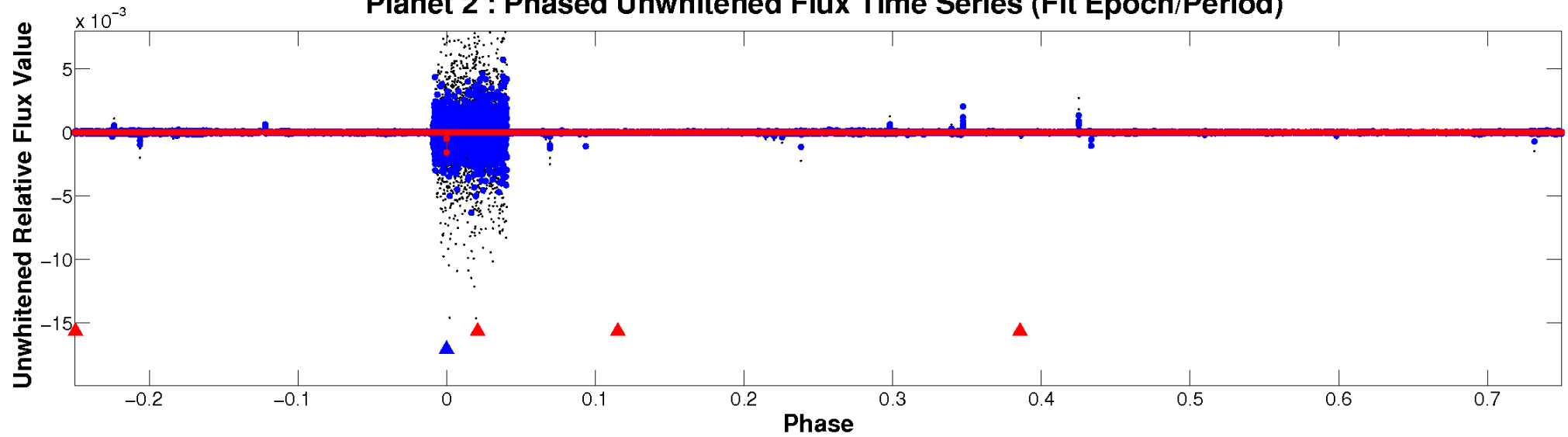
ALT Odd/Even

TCE 008091579-02

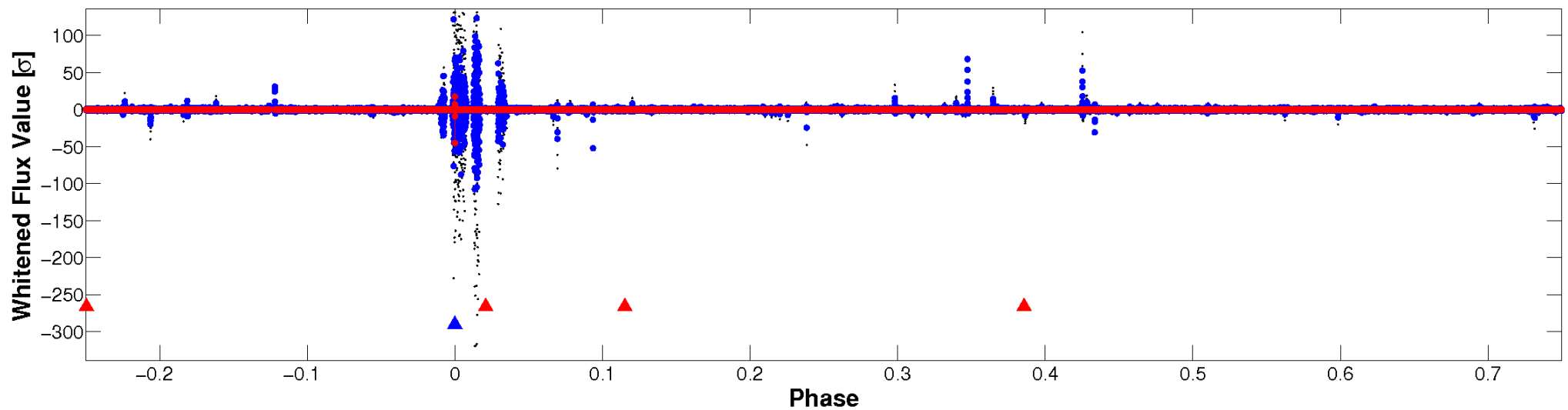


Non-Whitened Vs. Whitened Light Curve

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

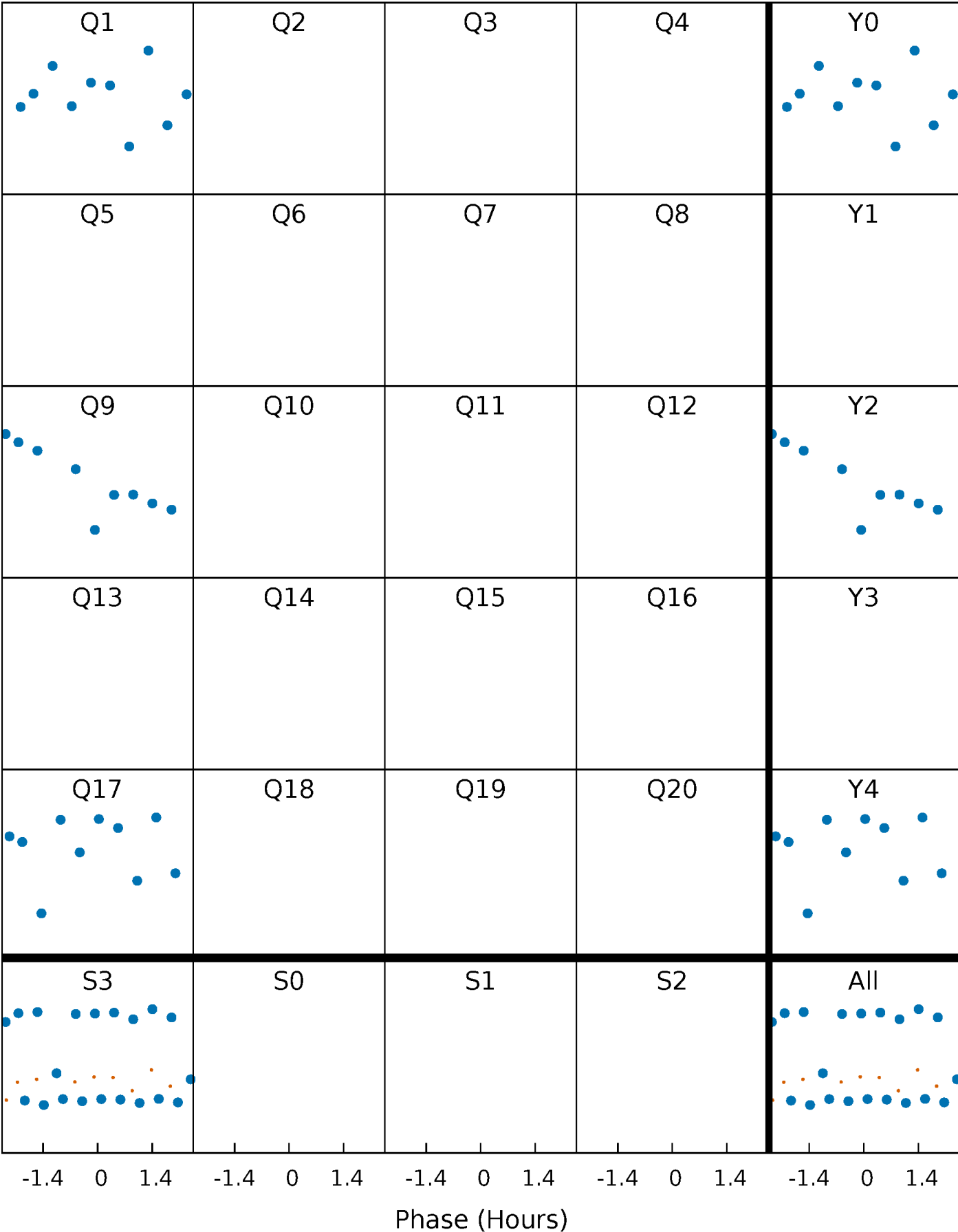


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



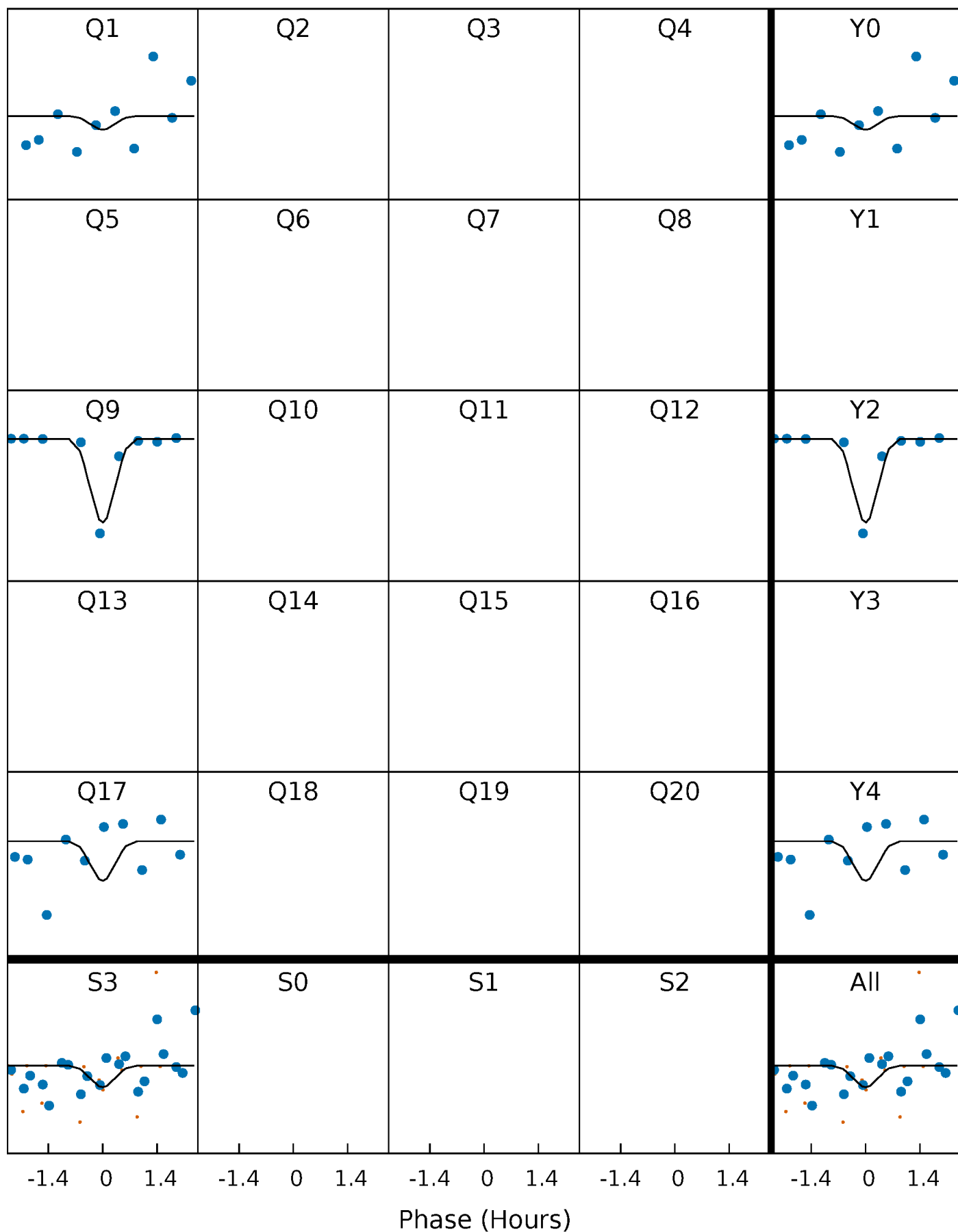
PDC Quarter-Phased Transit Curves

TCE 008091579-02 P=714.904938 Days T₀=136.052672 (BKJD)



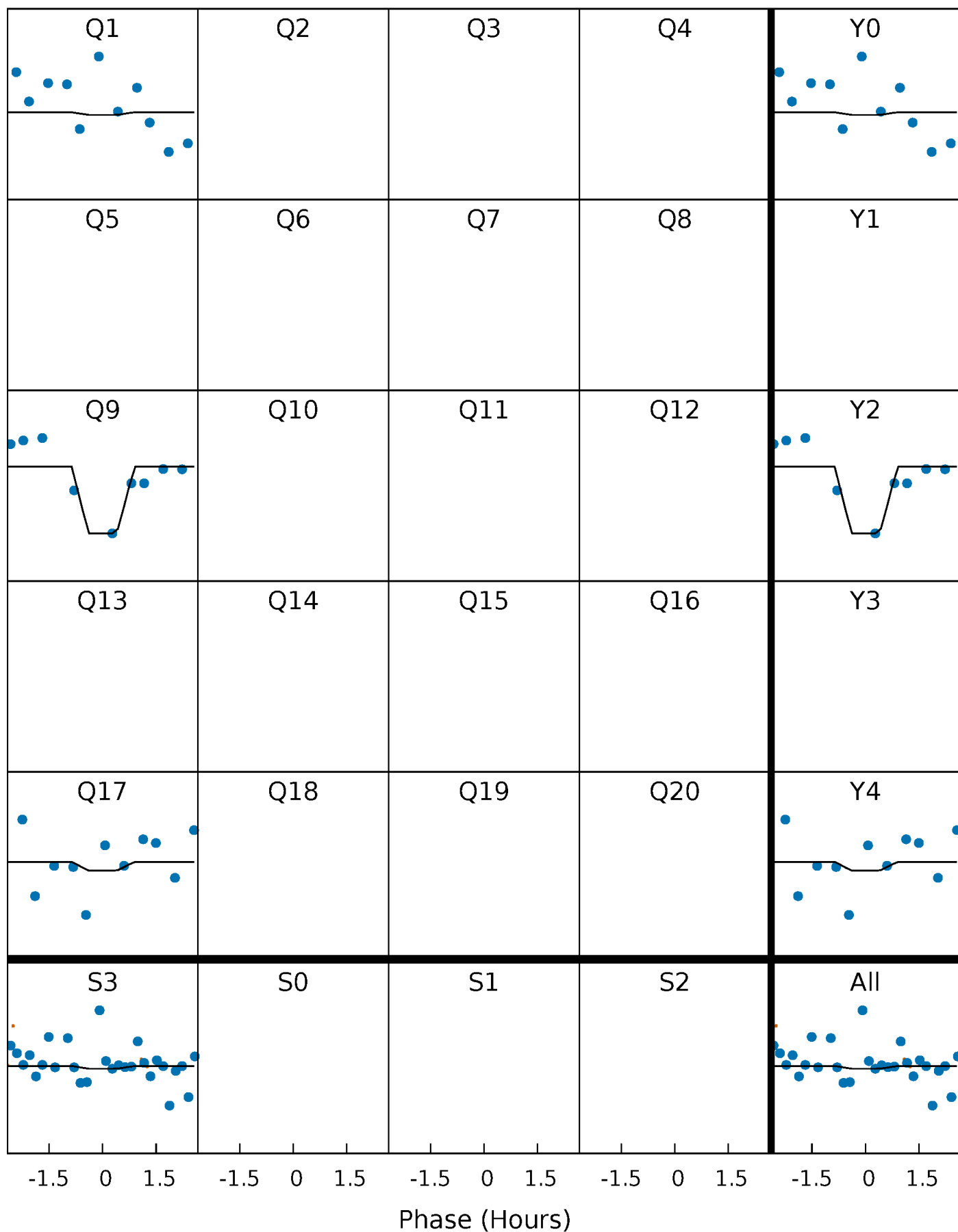
DV Quarter-Phased Transit Curves

TCE 008091579-02 $P=714.904938$ Days $T_0=136.052672$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

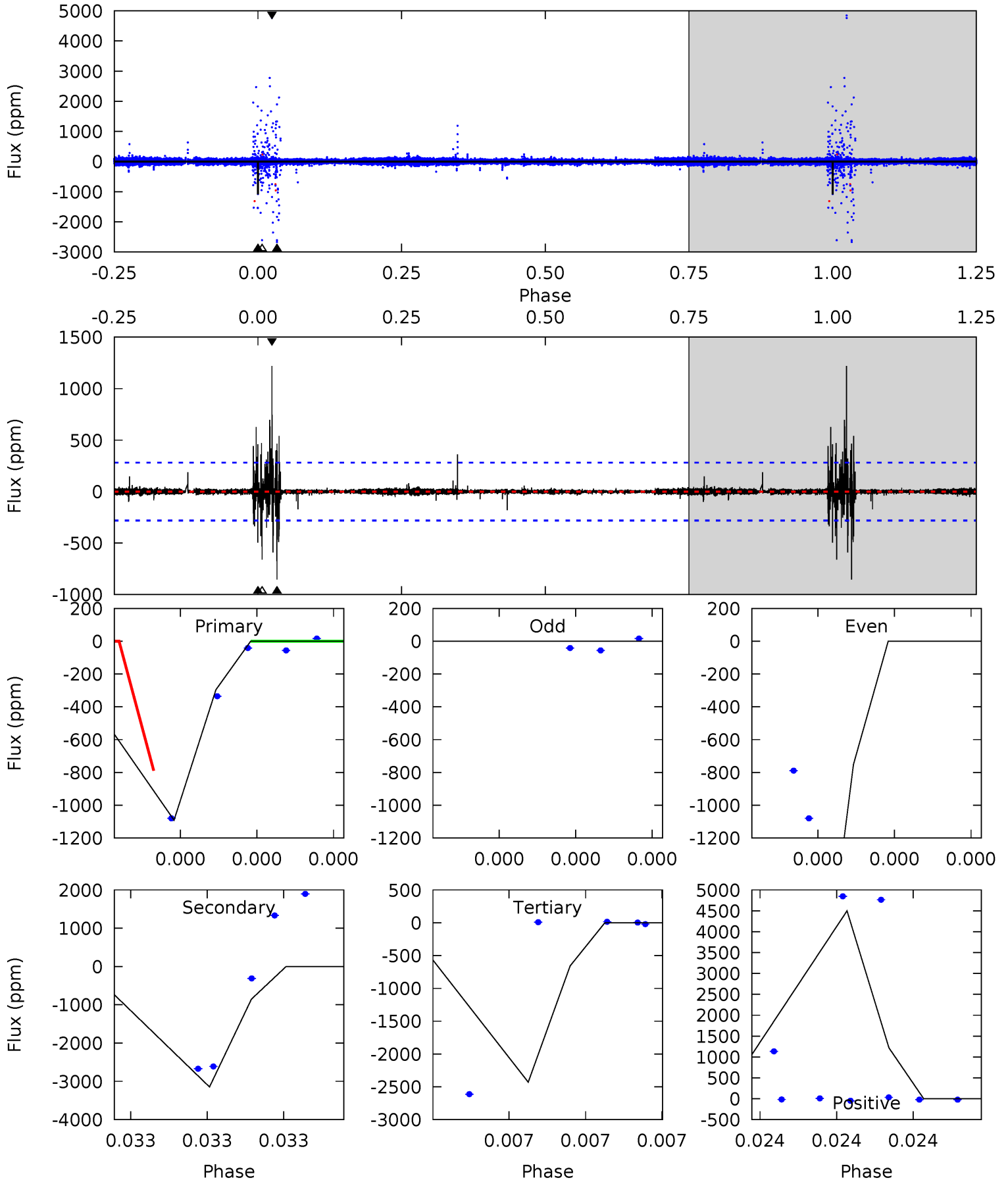
TCE 008091579-02 $P=714.854474$ Days $T_0=136.112747$ (BKJD)



DV Model-Shift Uniqueness Test

008091579-02, P = 714.904938 Days, E = 136.052672 Days

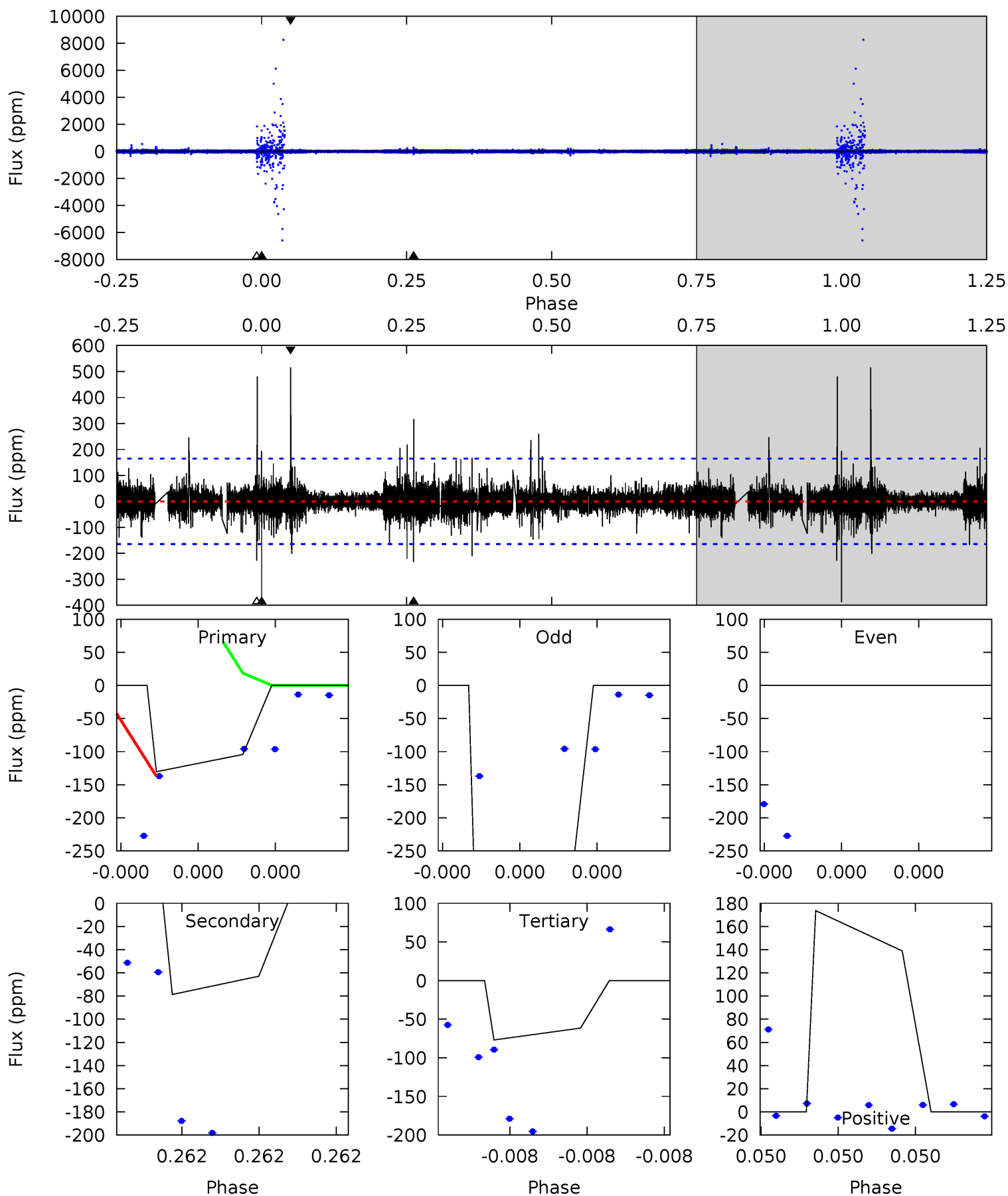
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.23	18.0	13.9	25.7	5.92	4.00	0.37	-7.64	-19.5	4.09	-7.72	0	0.73	0.59	0



Alt Model-Shift Uniqueness Test

008091579-02, P = 714.854474 Days, E = 136.112747 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.9	8.36	8.17	18.5	5.89	3.95	0.87	5.69	-4.60	0.19	-10.1	0	-1.45	0.57	0



Stellar Parameters For KIC 008091579

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3284^{+117}_{-88}	$0.184^{+0.232}_{-0.058}$	$0.020^{+0.250}_{-0.150}$	$148.390^{+11.490}_{-34.470}$	$1.226^{+0.235}_{-0.157}$	$0.000^{+0.000}_{-0.000}$
	+4%/-3%	+126%/-32%	+1250%/-750%	+8%/-23%	+19%/-13%	+123%/-18%
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 008091579-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-853 ± 47	$99372.36^{+118586.00}_{-70923.33}$	1878^{+88}_{-105}	-2215^{+69}_{-68}	$0.000^{+0.002}_{-0.000}$
Alt.	-63 ± 28	$96627.61^{+101725.93}_{-65912.42}$	1877^{+88}_{-116}	-2220^{+73}_{-66}	$0.000^{+0.000}_{-0.000}$

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

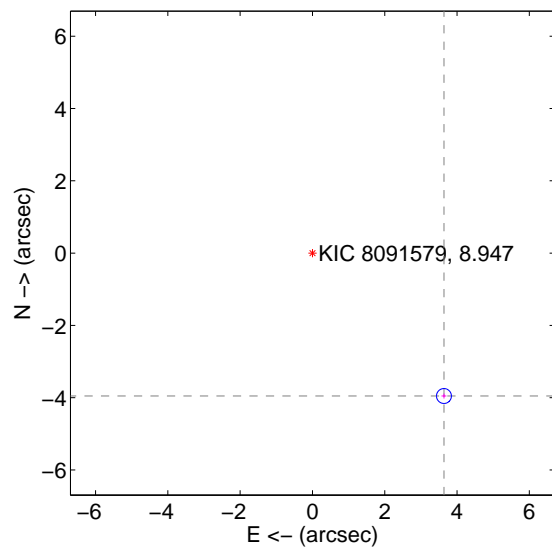
Supplemental centroid analysis for 008091579-02. **Kepler magnitude: 8.95.** Transit SNR 45.01

There are 0 quarters with good PRF difference image offsets

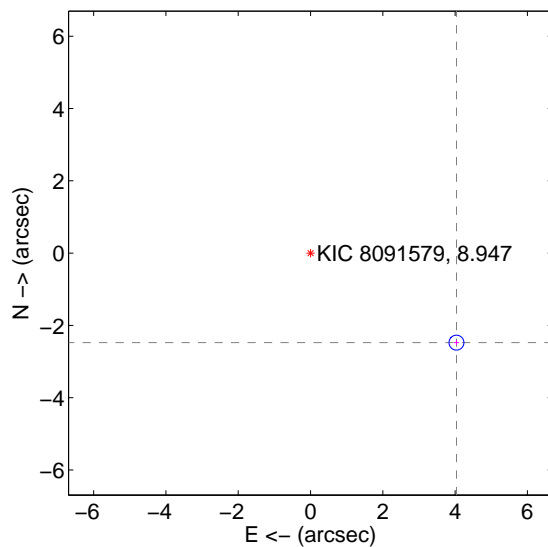
The direct PRF centroid is offset from the target star catalog position by about 1.53 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.373 ± 0.069	78.15	-3.638 ± 0.069	-3.954 ± 0.069
PRF-fit source offset from KIC position	4.737 ± 0.069	68.93	-4.037 ± 0.069	-2.477 ± 0.069
photometric centroid source offset	0.77 ± 0.61	1.25	-0.69 ± 0.56	0.33 ± 0.81

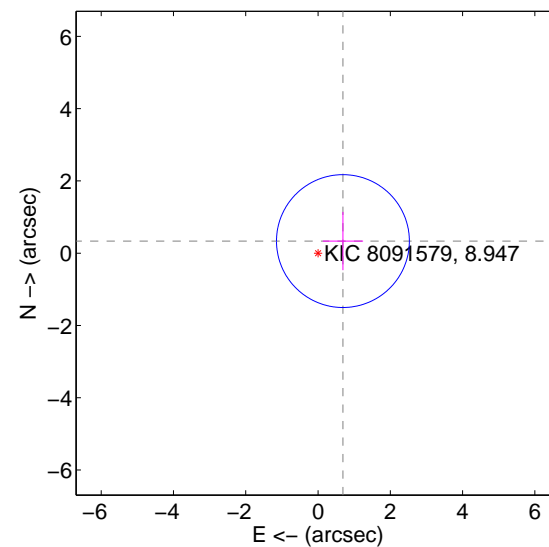
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

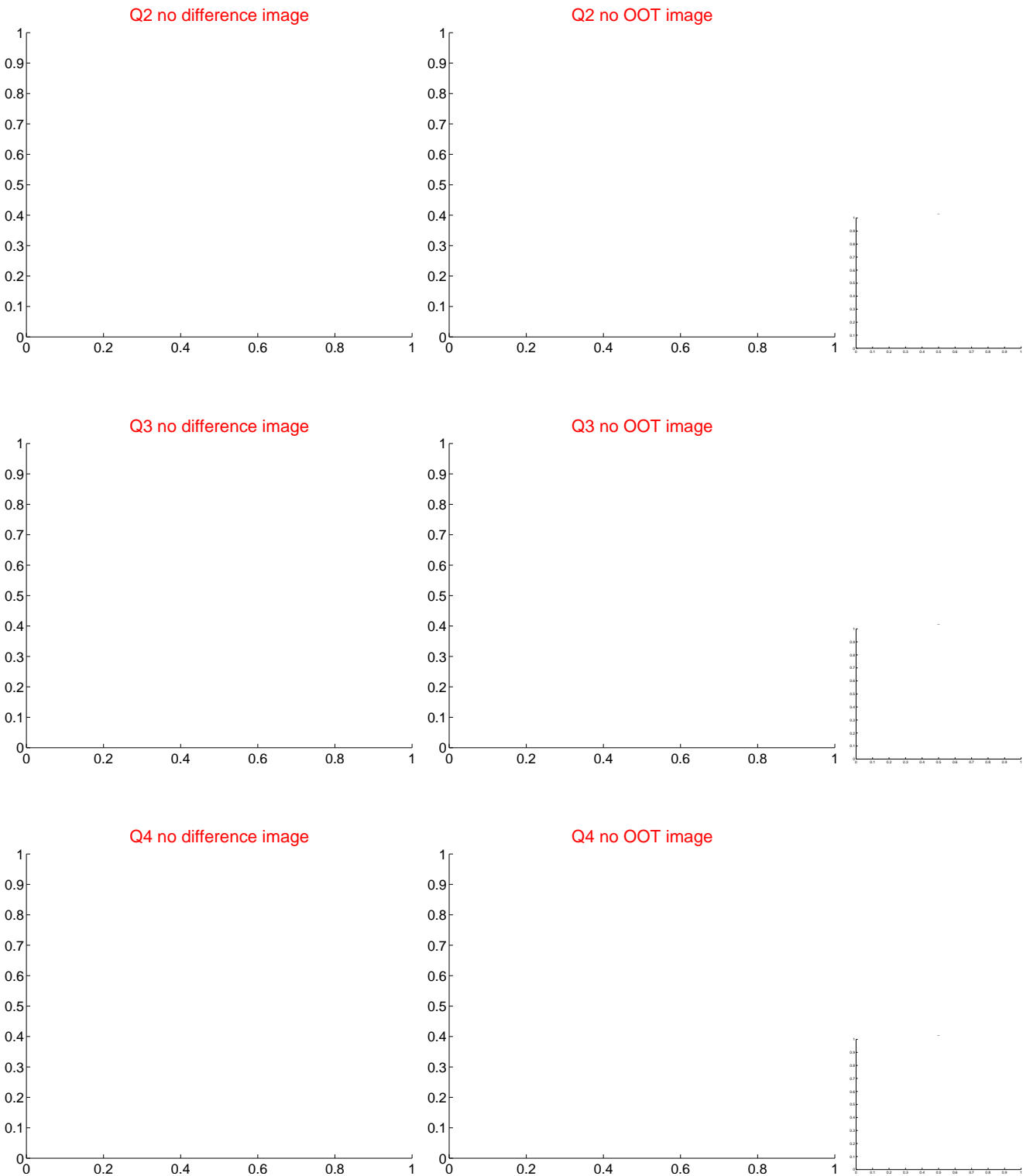
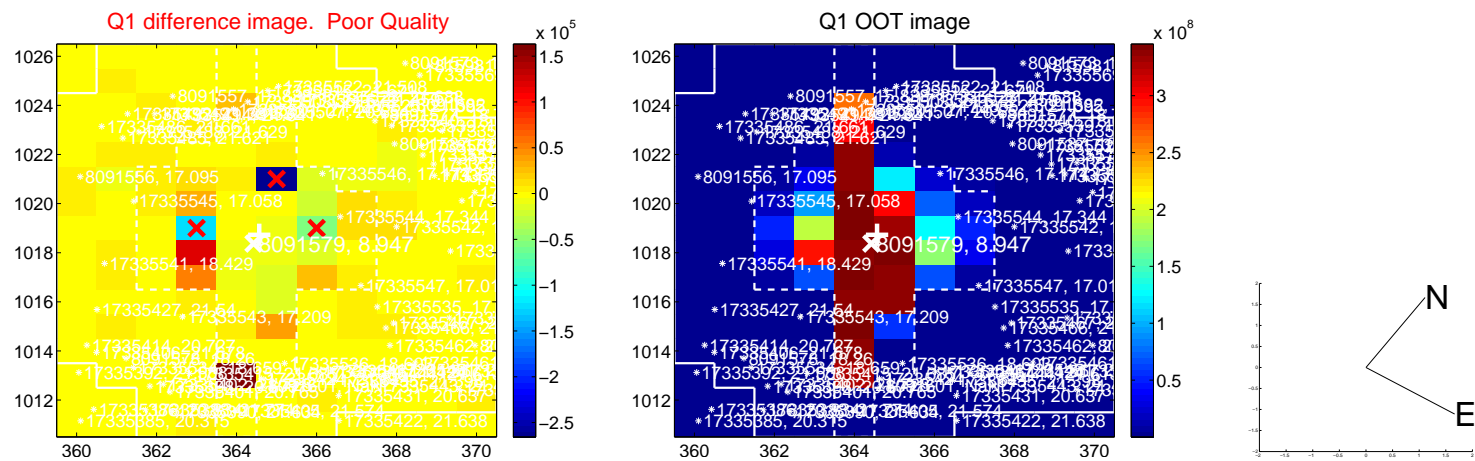


offset from photometric centroids



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.

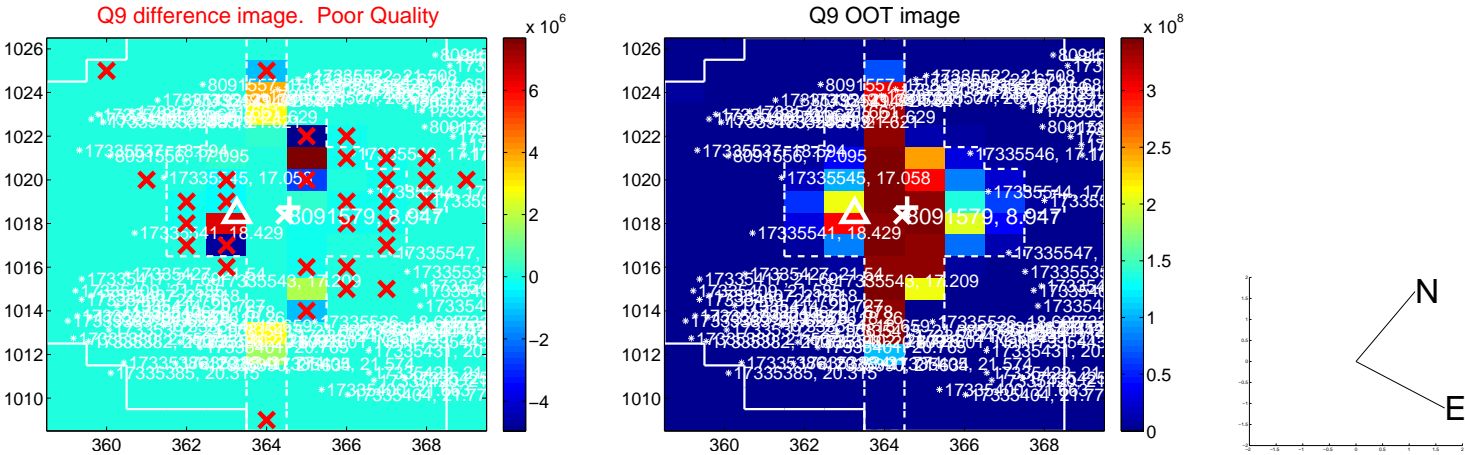
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



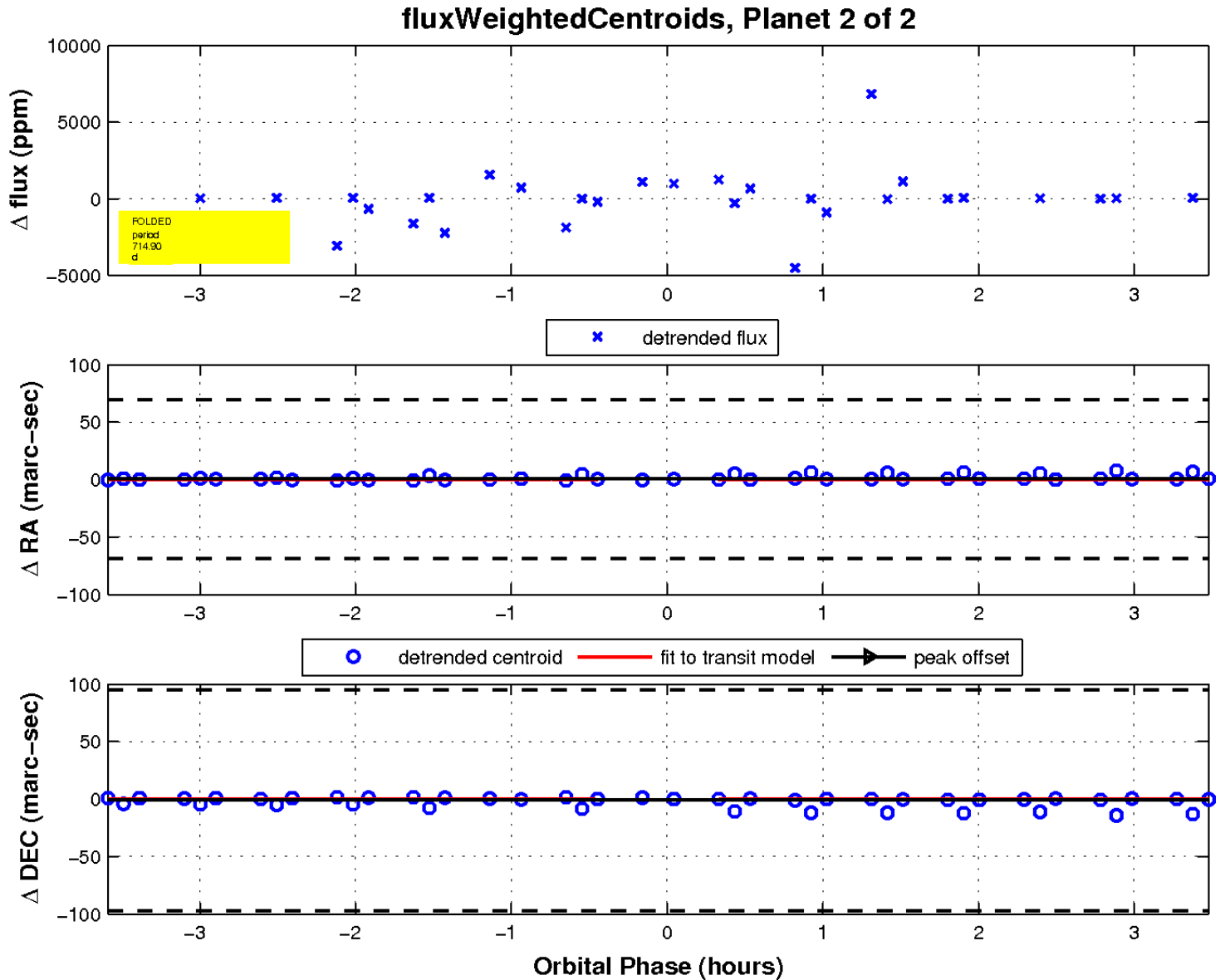
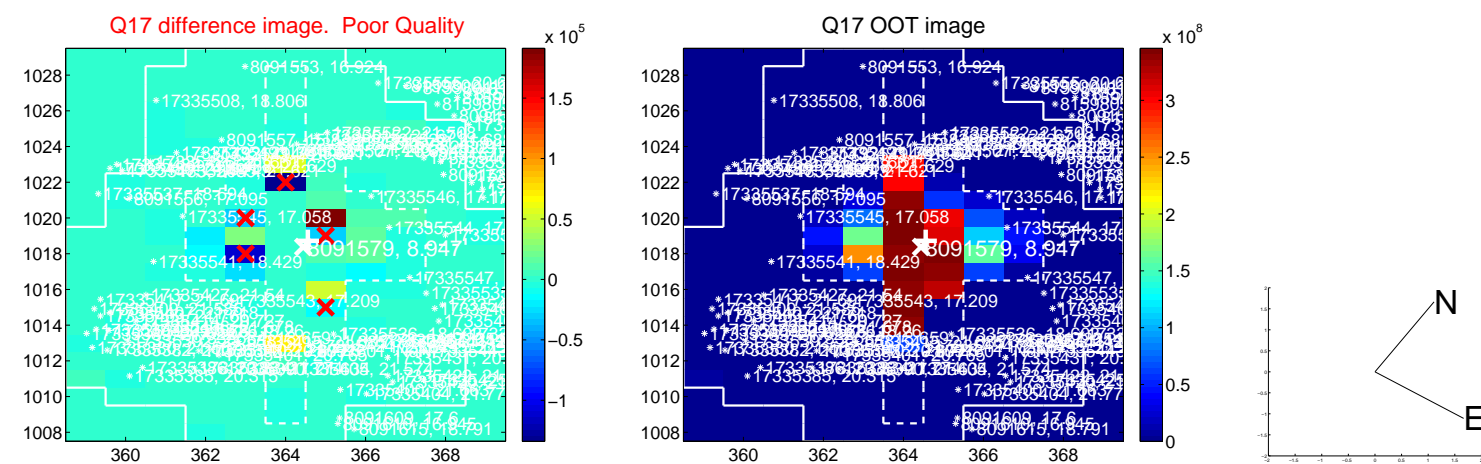
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

