

KIC 003446996

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})
003446996-01	OBS	No	0.778068	131.548860	22.9	2.090	8.2	5.1	1.95	7346	1.09	26096.34
003446996-02	OBS	No	258.198835	203.671522	662.0	4.846	8.3	7.1	1.95	7346	5.57	11.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003446996-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003446996-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS

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

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

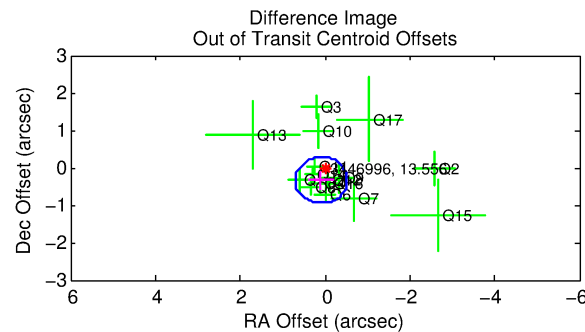
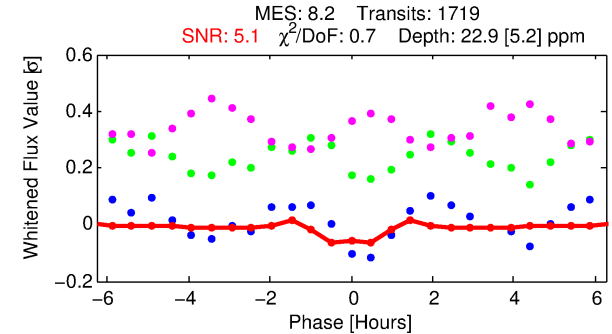
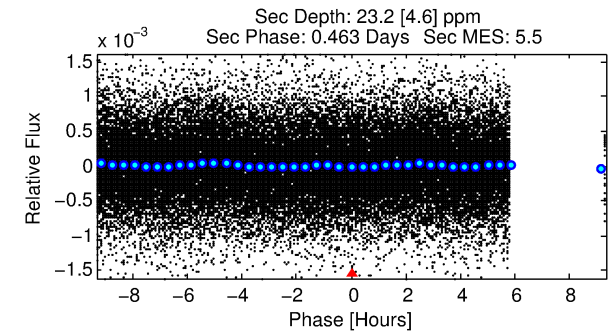
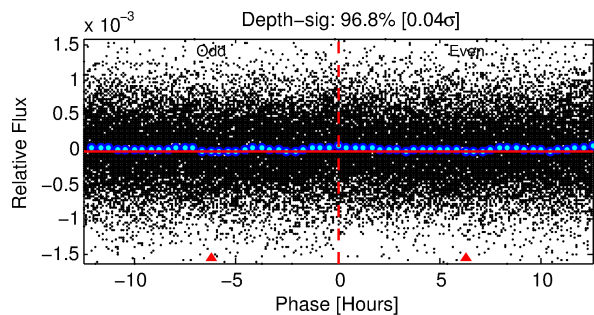
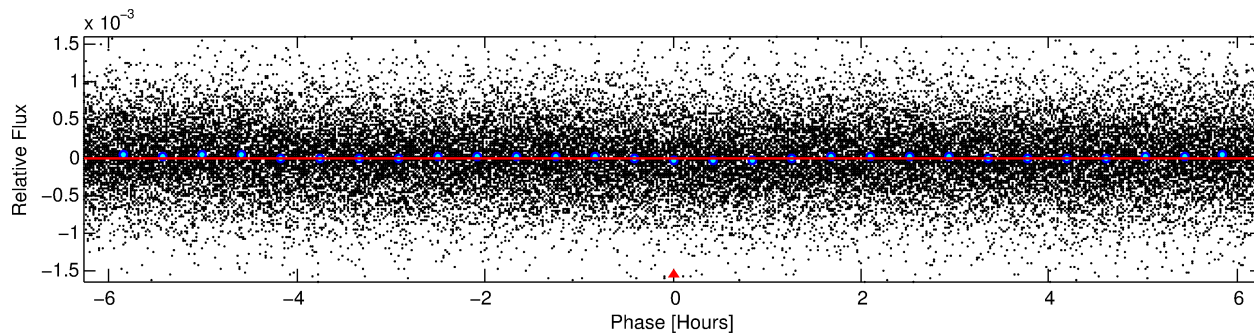
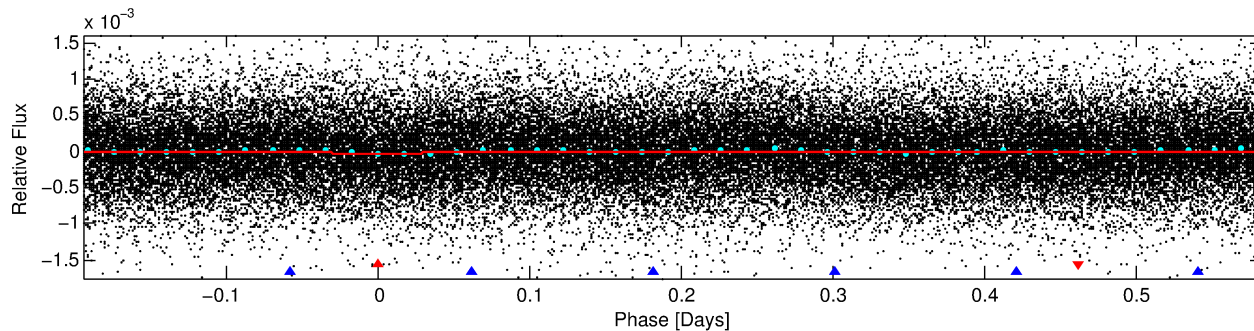
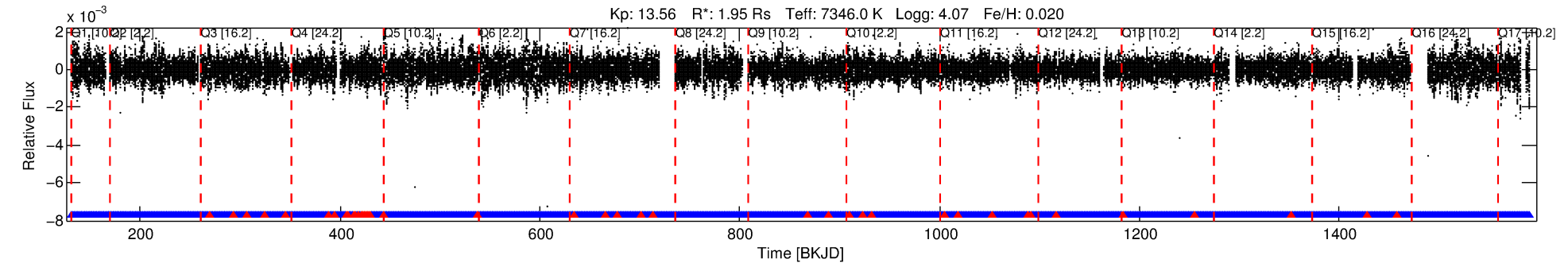
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003446996-01

No Significant Match Found

DV One-Page Summary

KIC: 3446996 Candidate: 1 of 2 Period: 0.778 d



DV Fit Results:

Period = 0.77807 [0.00002] d
Epoch = 131.5489 [0.0035] BKJD
Rp/R* = 0.0051 [0.0022]
a/R* = 1.53 [2.41]
b = 0.91 [0.51]
Seff = 26096.34 [9702.36]
Teq = 3241 [301] K
Rp = 1.09 [0.56] Re
a = 0.0195 [0.0045] AU
Ag = 4.07 [3.87] [0.79 σ]
Teffp = 7118 [1616] K [2.36 σ]

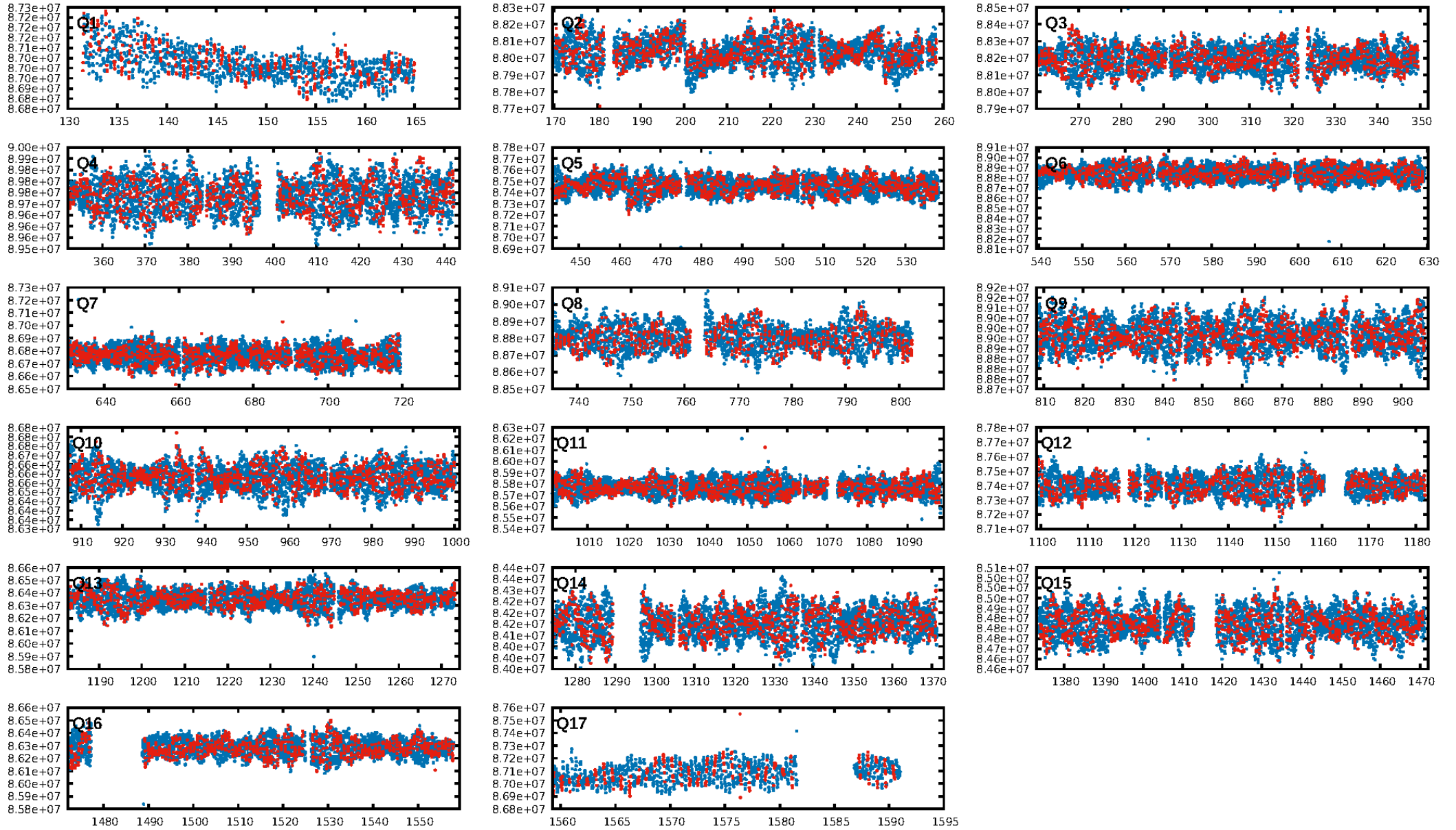
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [1170.74 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.83e-18
RollingBand-fgt: 0.97 [1593/1641]
GhostDiagnostic-chr: 1.784
Centroid-sig: 65.0%
Centroid-so: 0.760 arcsec [0.50 σ]
OotOffset-rm: 0.344 arcsec [1.67 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-rm: 0.408 arcsec [1.94 σ]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.50 [8/16]
DiffImageOverlap-fno: 1.00 [17/17]

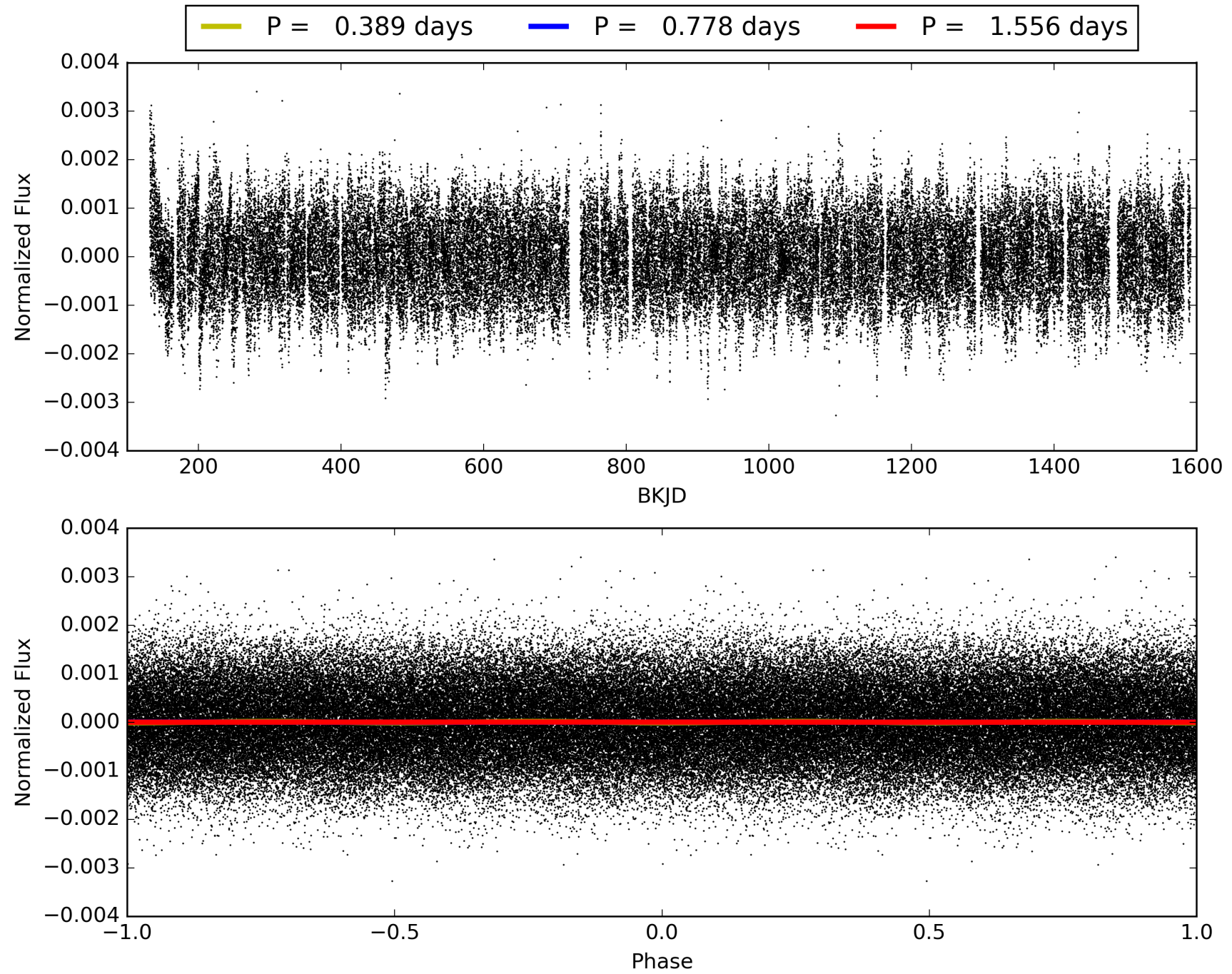
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 003446996-01, PDC Light Curves

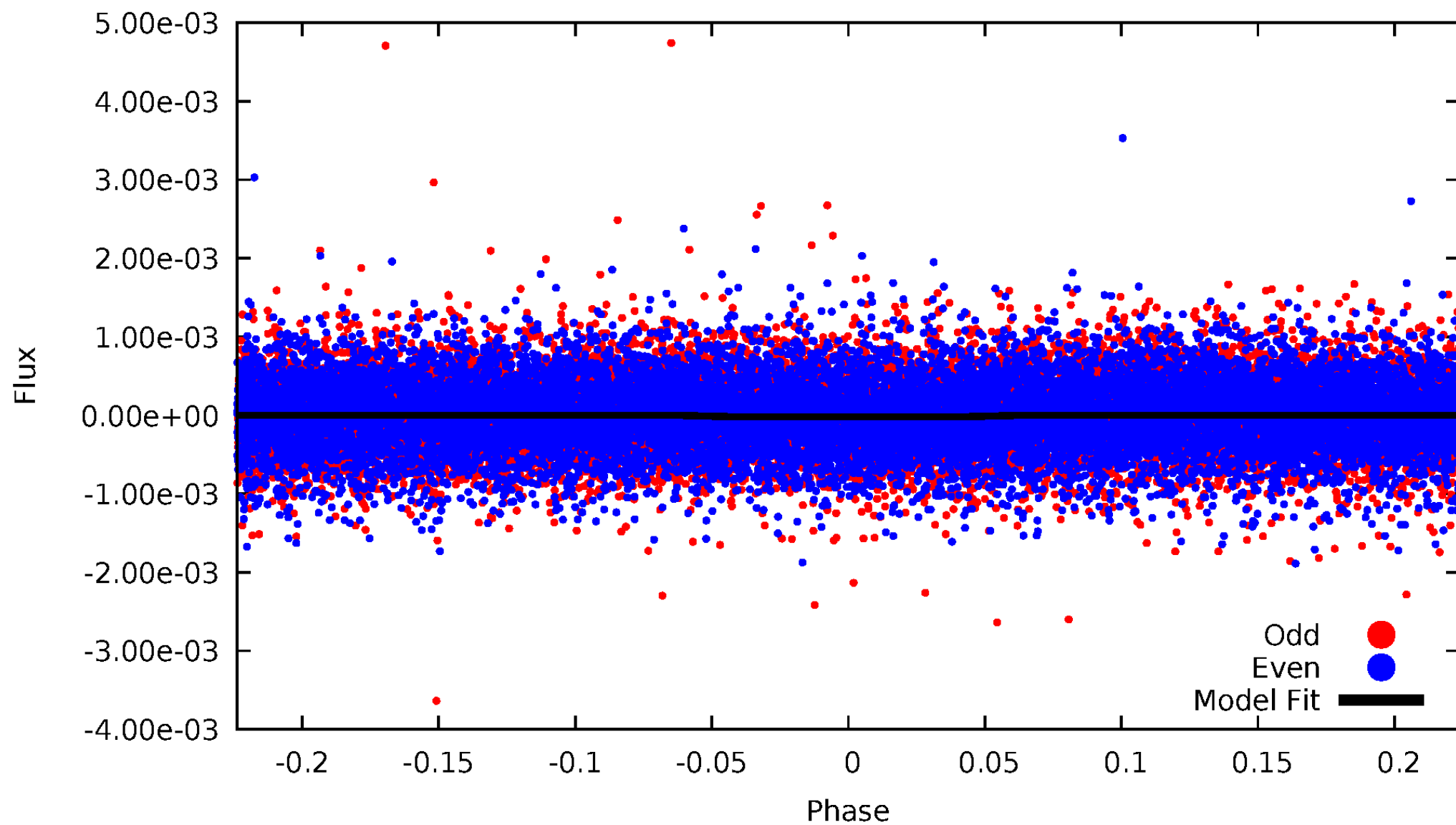


TCE 003446996-01



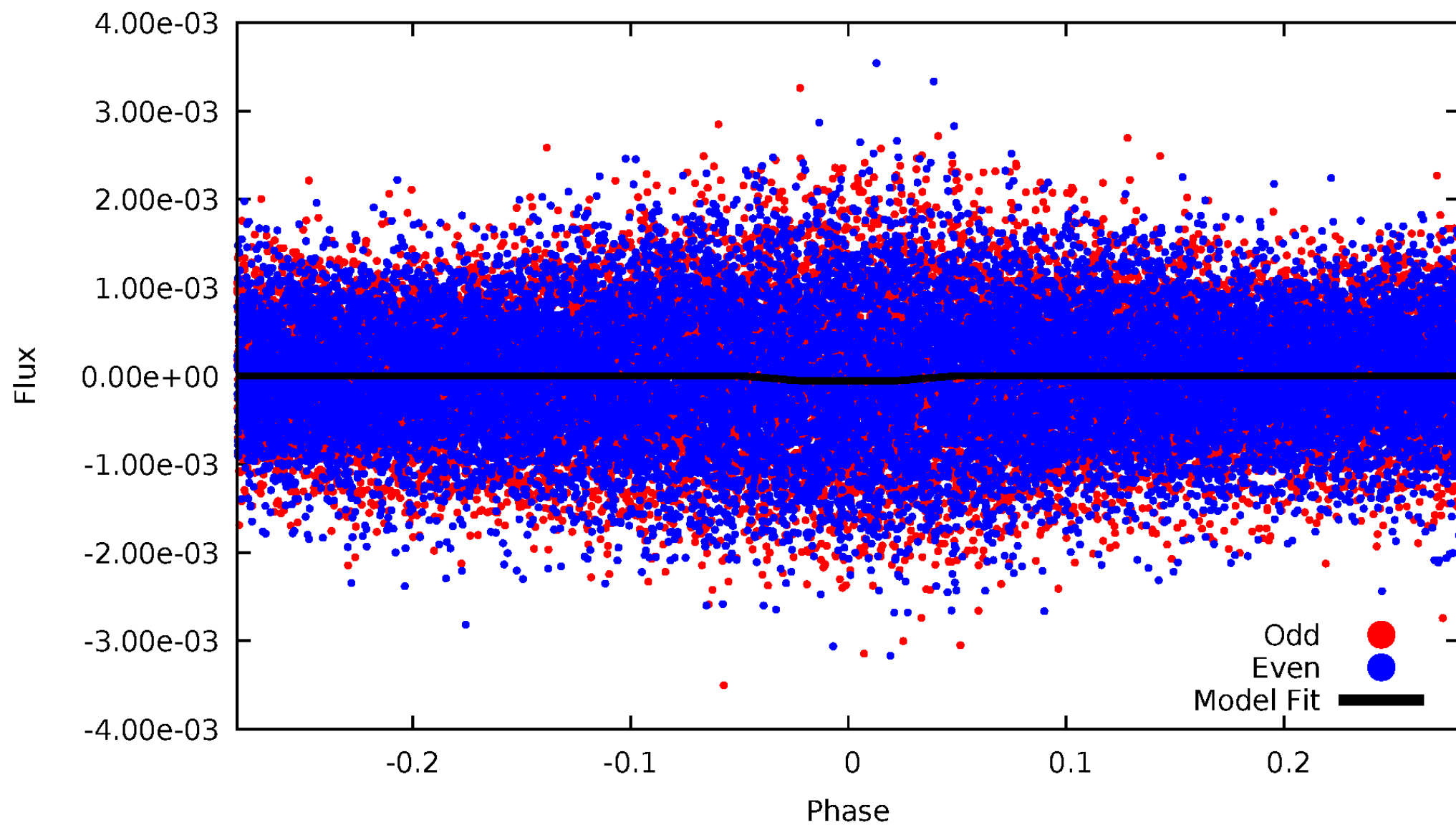
DV Odd/Even

TCE 003446996-01

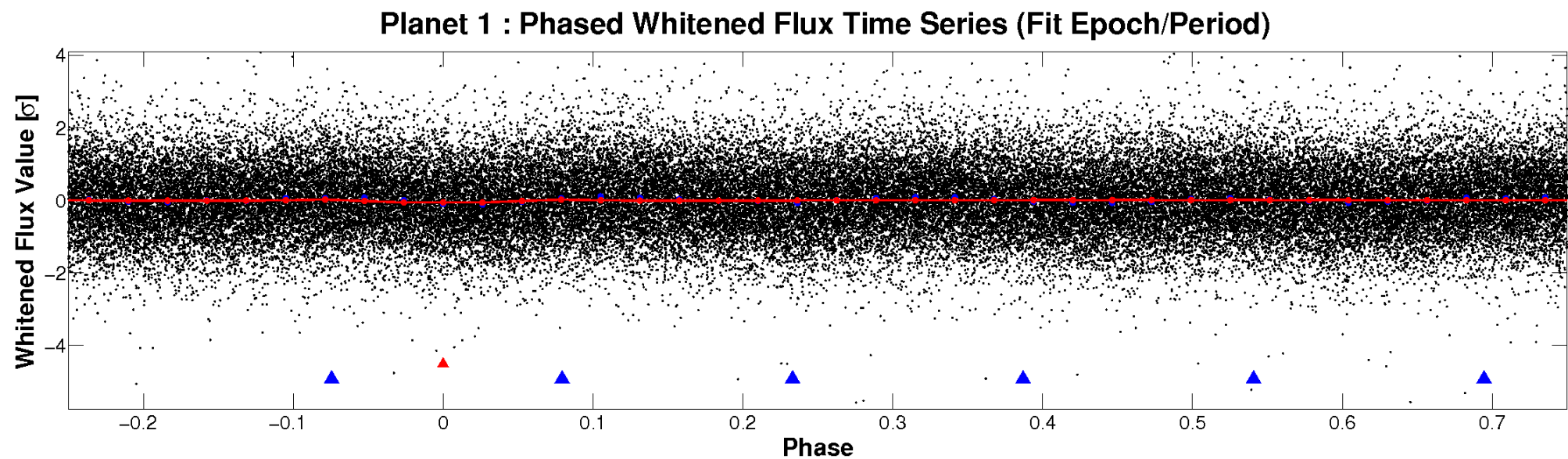
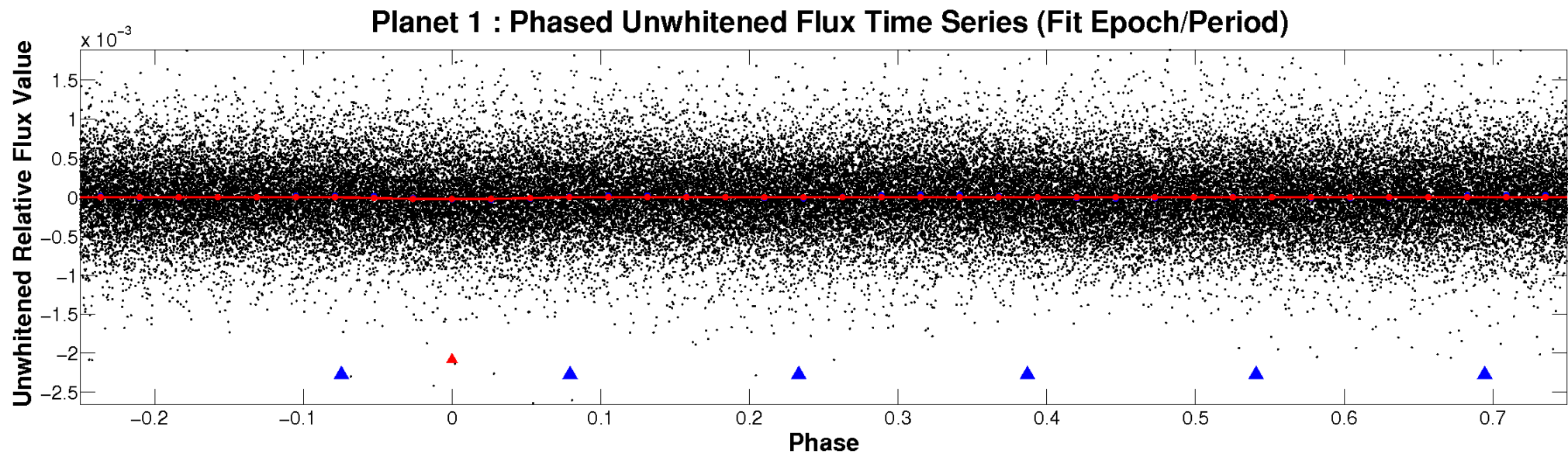


ALT Odd/Even

TCE 003446996-01

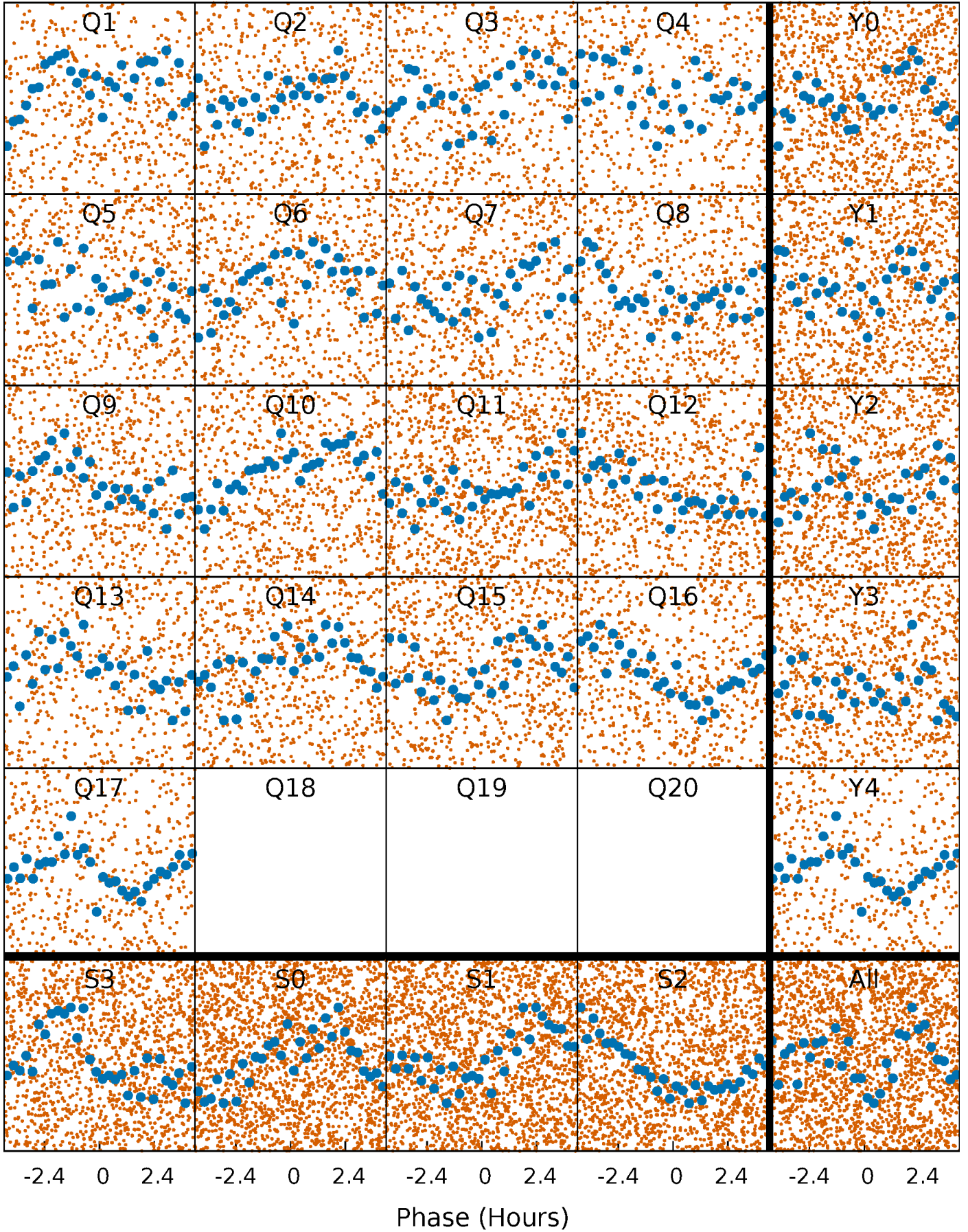


Non-Whitened Vs. Whitened Light Curve



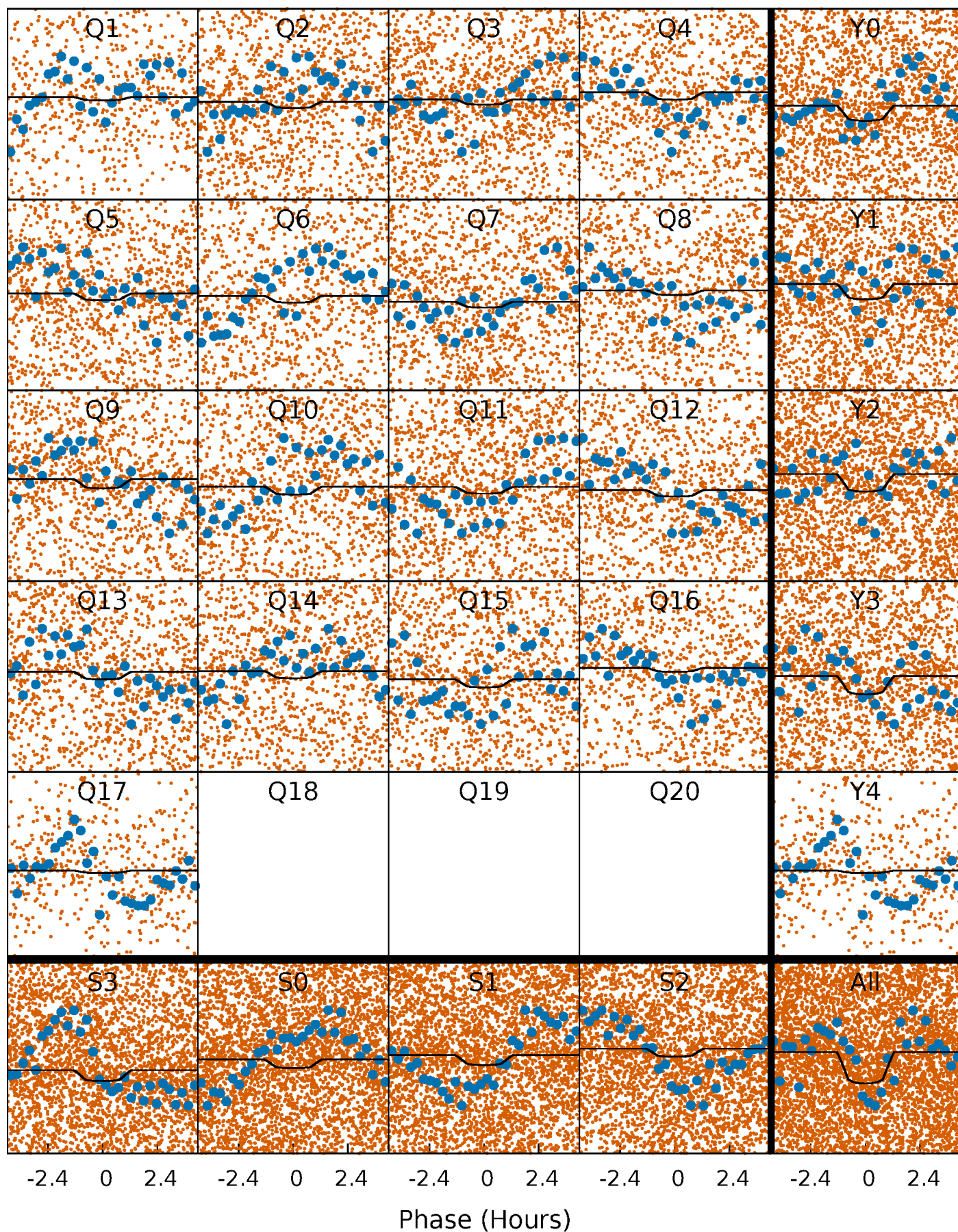
PDC Quarter-Phased Transit Curves

TCE 003446996-01 $P = 0.778068$ Days $T_0 = 131.548860$ (BKJD)



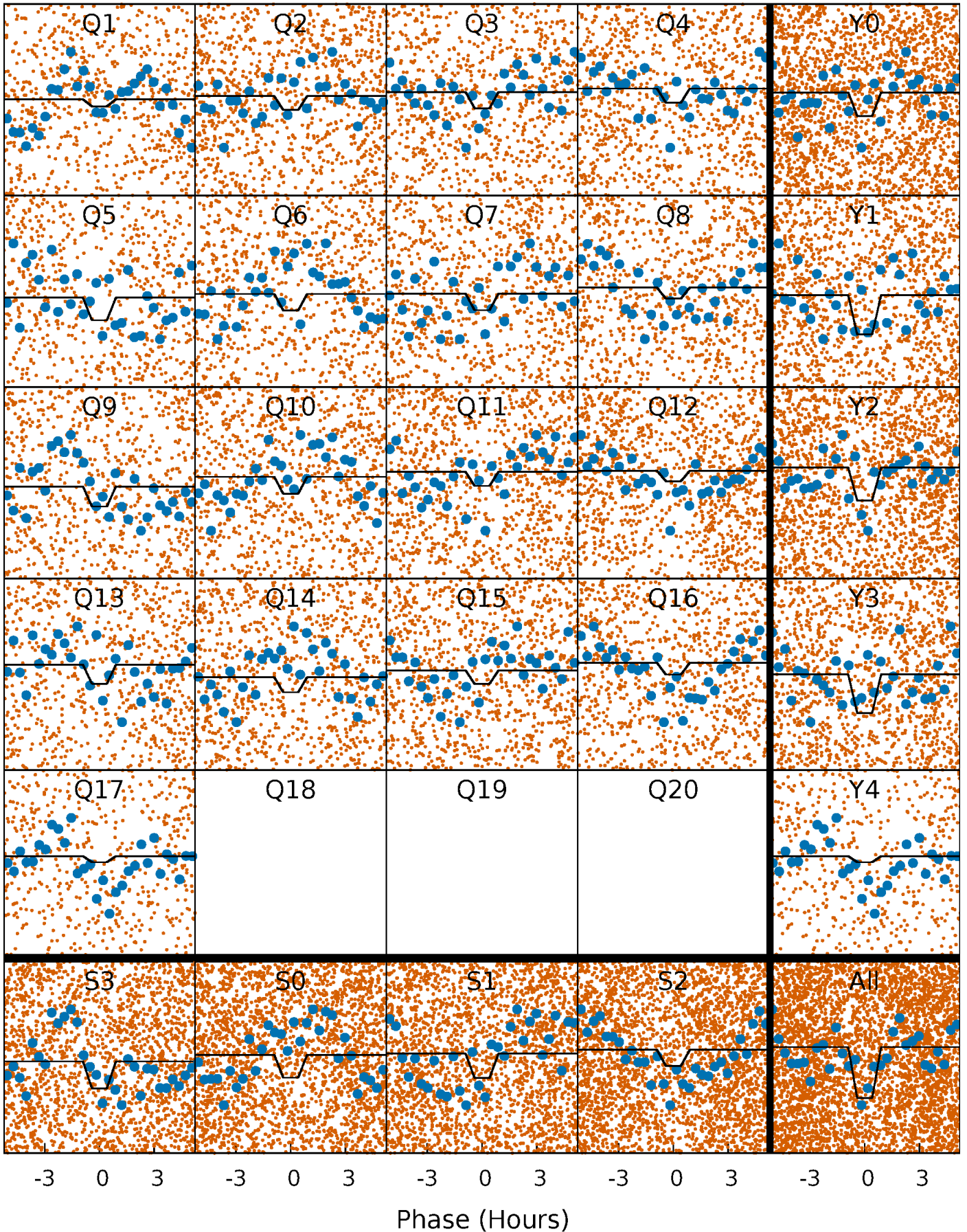
DV Quarter-Phased Transit Curves

TCE 003446996-01 P= 0.778068 Days $T_0=131.548860$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

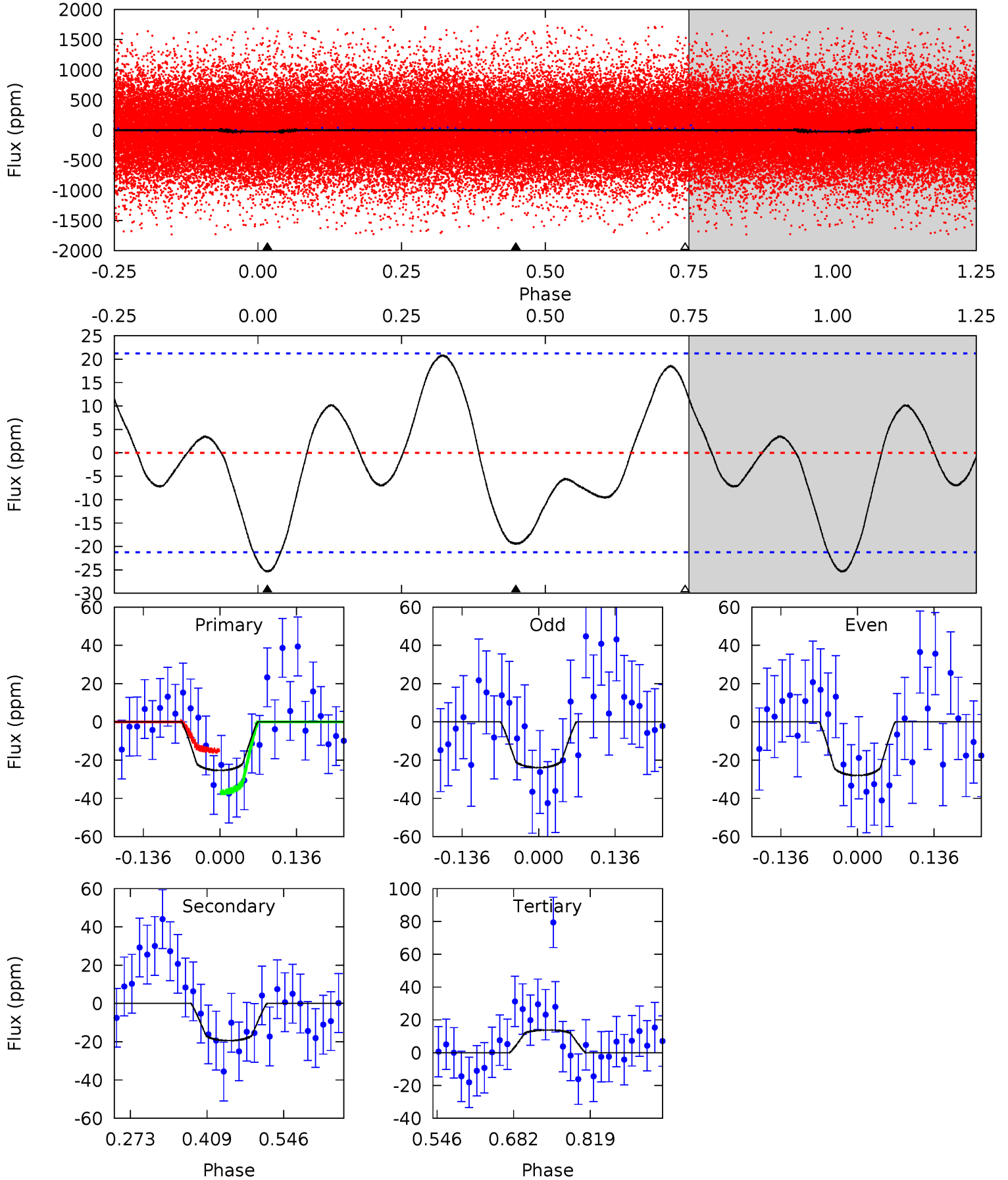
TCE 003446996-01 P= 0.778091 Days $T_0=131.539017$ (BKJD)



DV Model-Shift Uniqueness Test

003446996-01, P = 0.778068 Days, E = 130.770792 Days

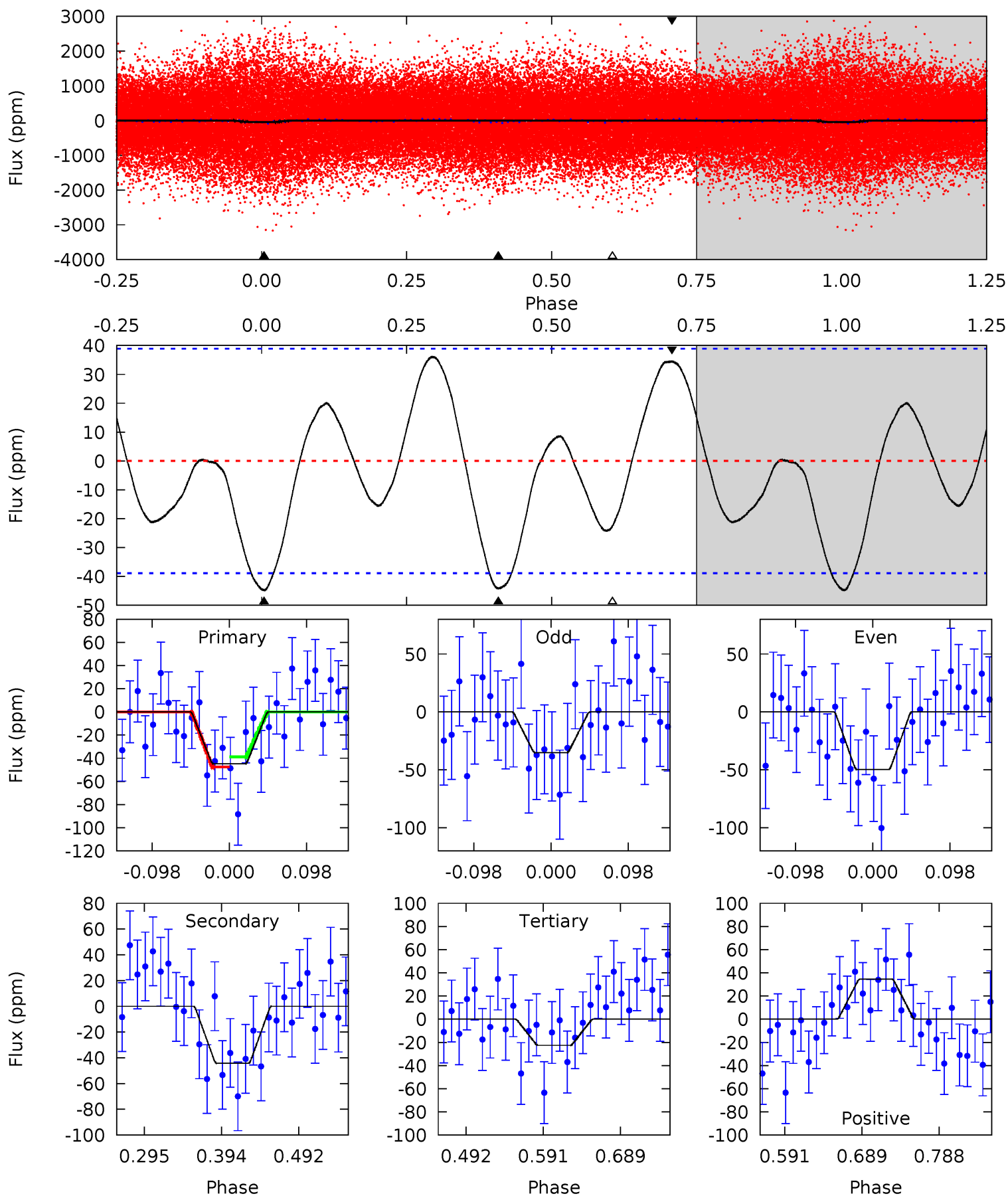
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.37	4.12	-2.92	0	4.50	1.49	1.89	8.29	5.37	7.04	4.12	0.44	0.57	0.45	2.30



Alt Model-Shift Uniqueness Test

003446996-01, P = 0.778091 Days, E = 130.760926 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.26	5.19	2.66	4.05	4.57	1.65	2.15	2.60	1.20	2.53	1.14	0.85	0.89	0.45	0.52



Stellar Parameters For KIC 003446996

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7346^{+203}_{-319}	$4.071^{+0.160}_{-0.176}$	$0.020^{+0.200}_{-0.350}$	$1.951^{+0.548}_{-0.449}$	$1.635^{+0.203}_{-0.271}$	$0.310^{+0.266}_{-0.143}$
	+3%/-4%	+4%/-4%	+1000%/-1750%	+28%/-23%	+12%/-17%	+86%/-46%
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 003446996-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-19 ± 5	$1.10^{+0.50}_{-0.45}$	4524^{+354}_{-330}	6458^{+2527}_{-1210}	$3.294^{+5.898}_{-1.817}$
Alt.	-44 ± 9	$1.54^{+0.57}_{-0.50}$	4522^{+346}_{-317}	6702^{+1850}_{-993}	$3.726^{+4.561}_{-1.809}$

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 $A_{obs} \gg 1.0$

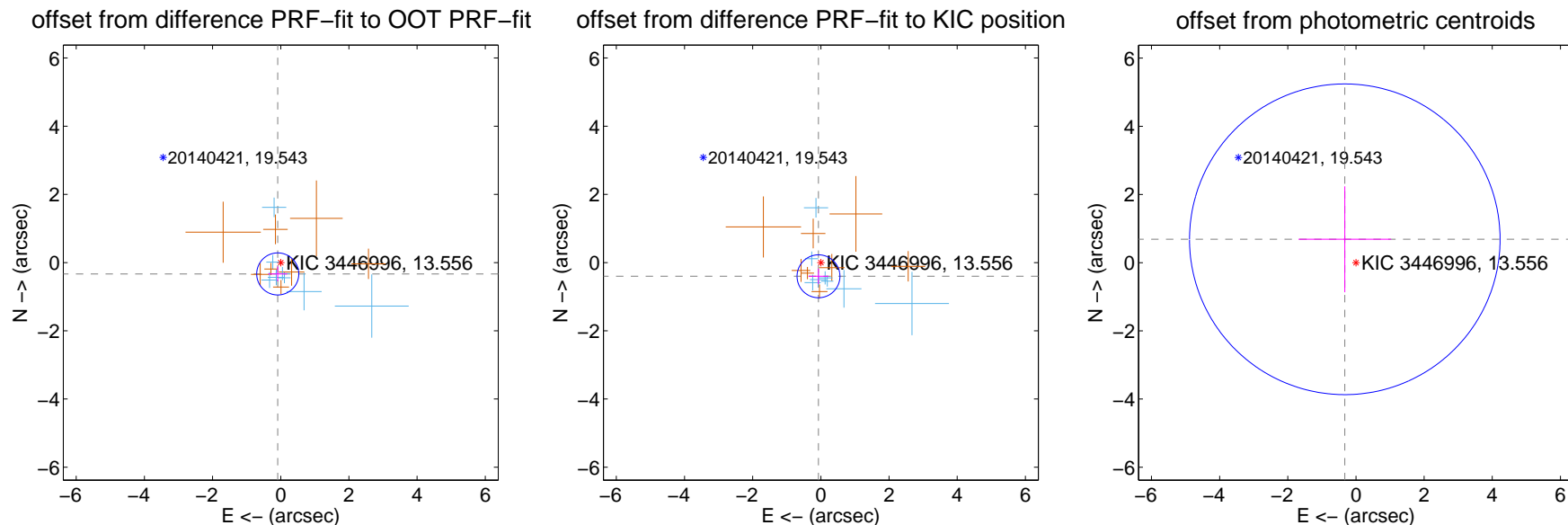
DV Centroid Data

Supplemental centroid analysis for 003446996-01. Kepler magnitude: 13.56. Transit SNR 5.13

There are 8 quarters with good PRF difference image offsets

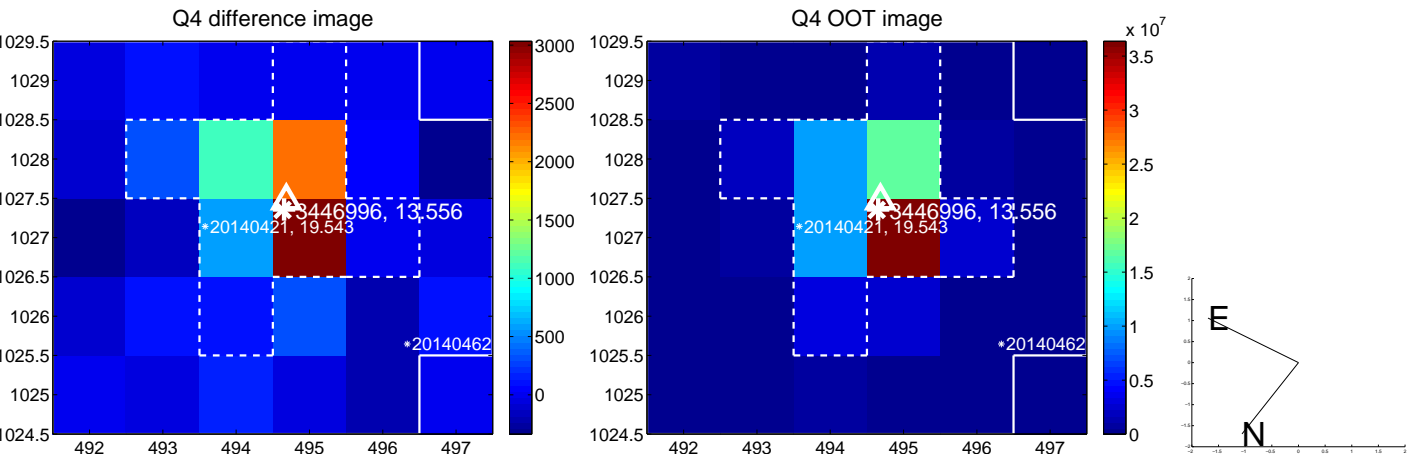
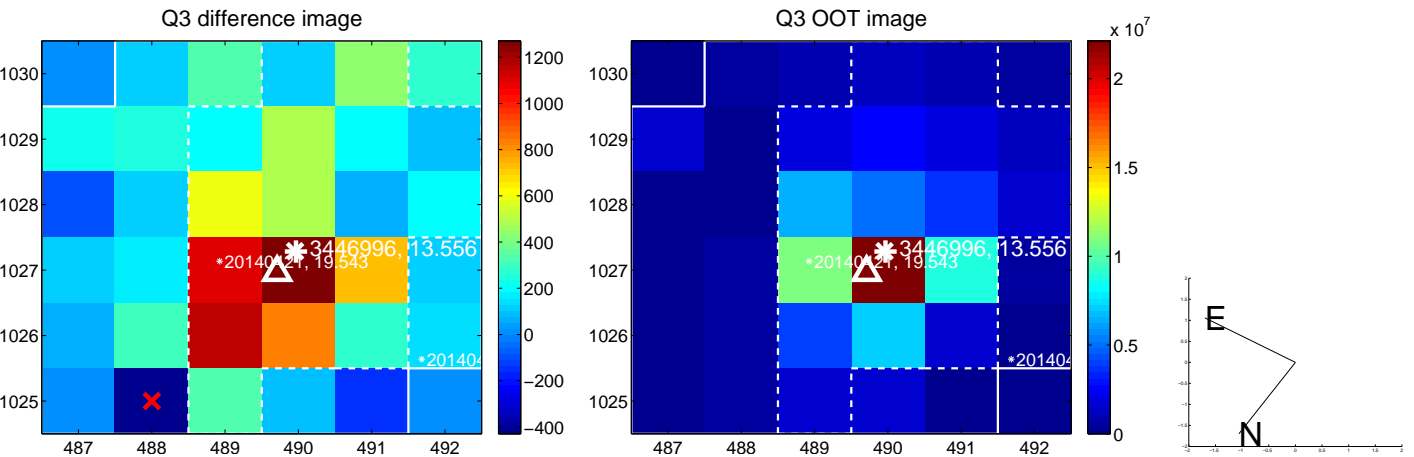
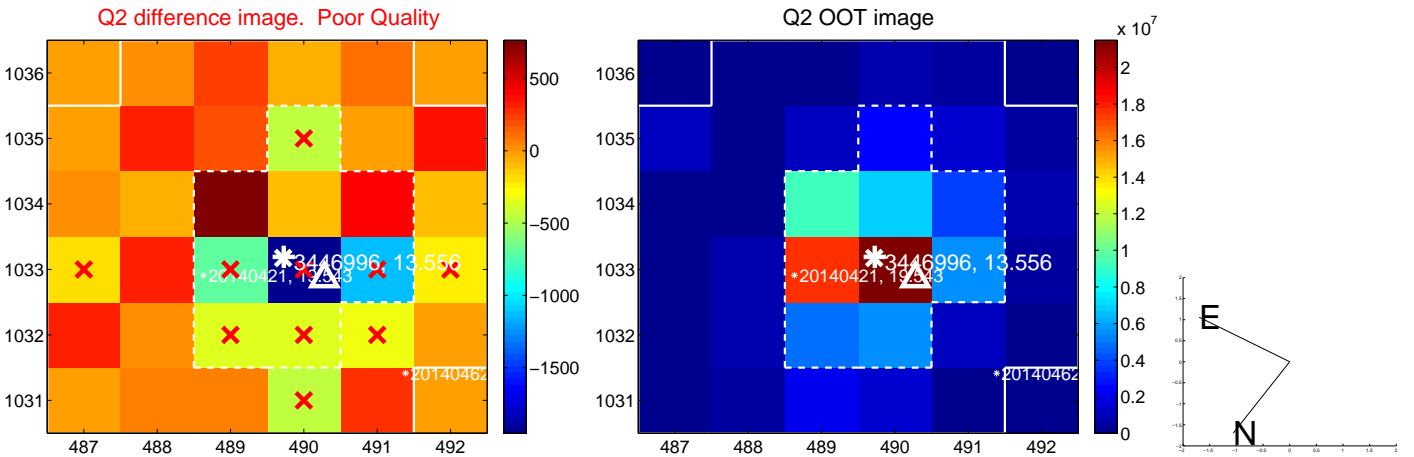
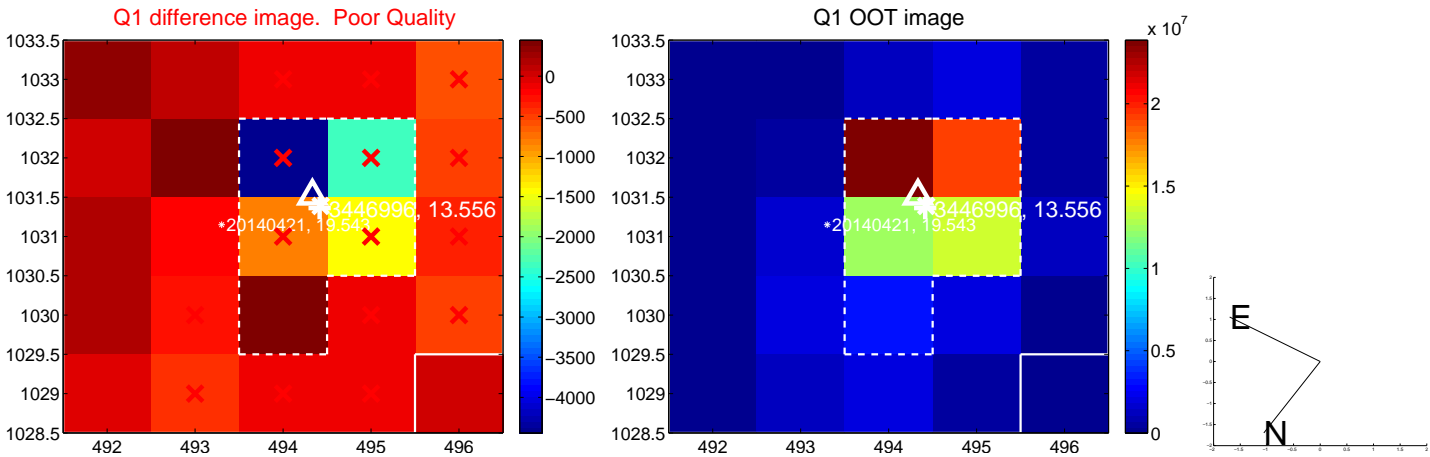
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.344 ± 0.206	1.67	0.088 ± 0.278	-0.332 ± 0.219
PRF-fit source offset from KIC position	0.408 ± 0.210	1.94	0.069 ± 0.291	-0.402 ± 0.225
photometric centroid source offset	0.76 ± 1.52	0.50	0.33 ± 1.36	0.69 ± 1.55

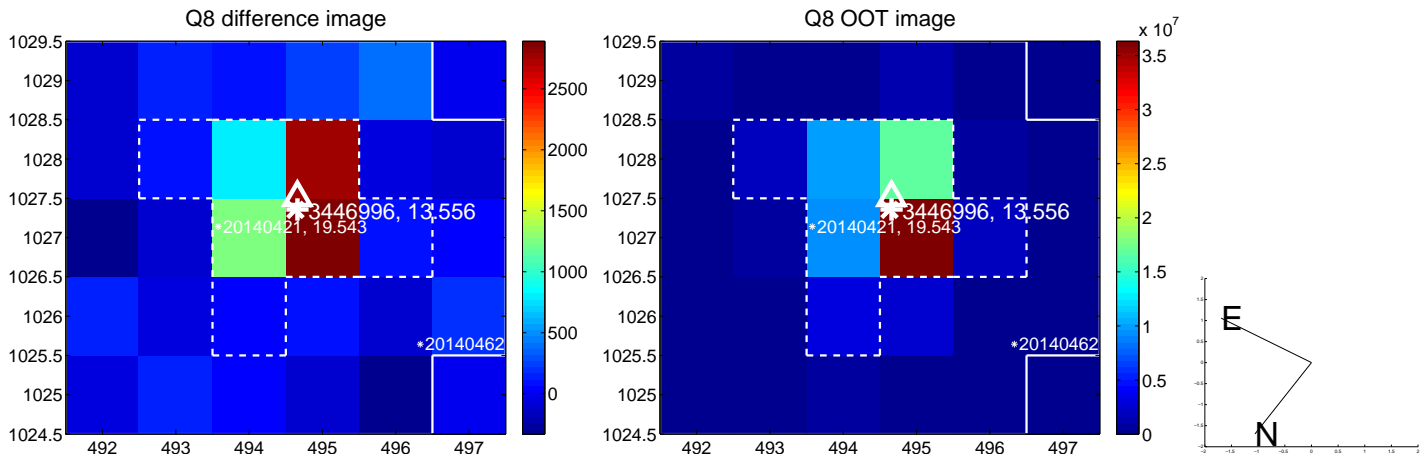
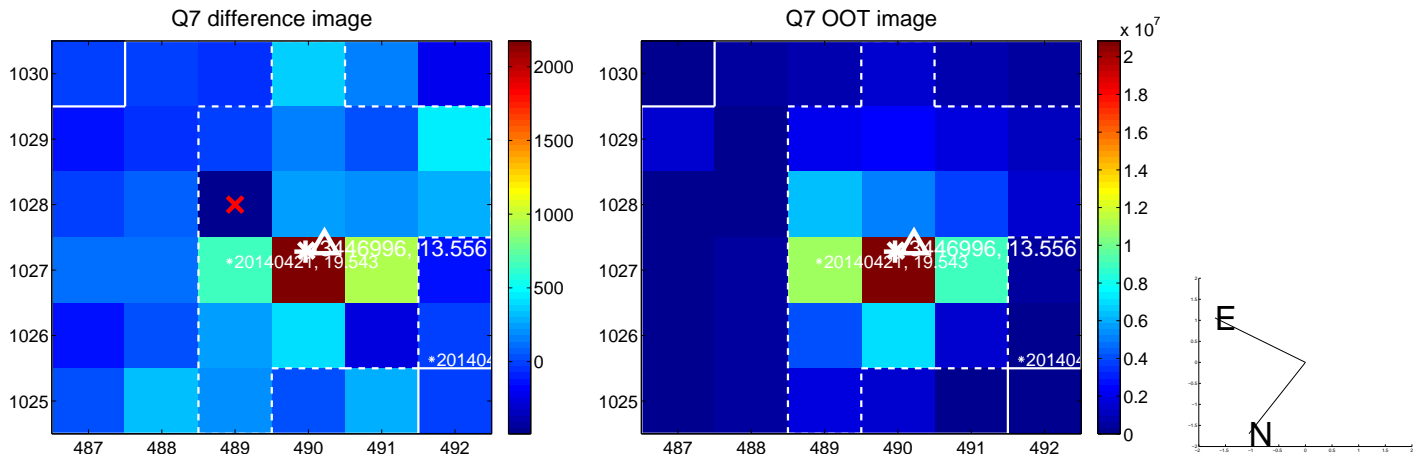
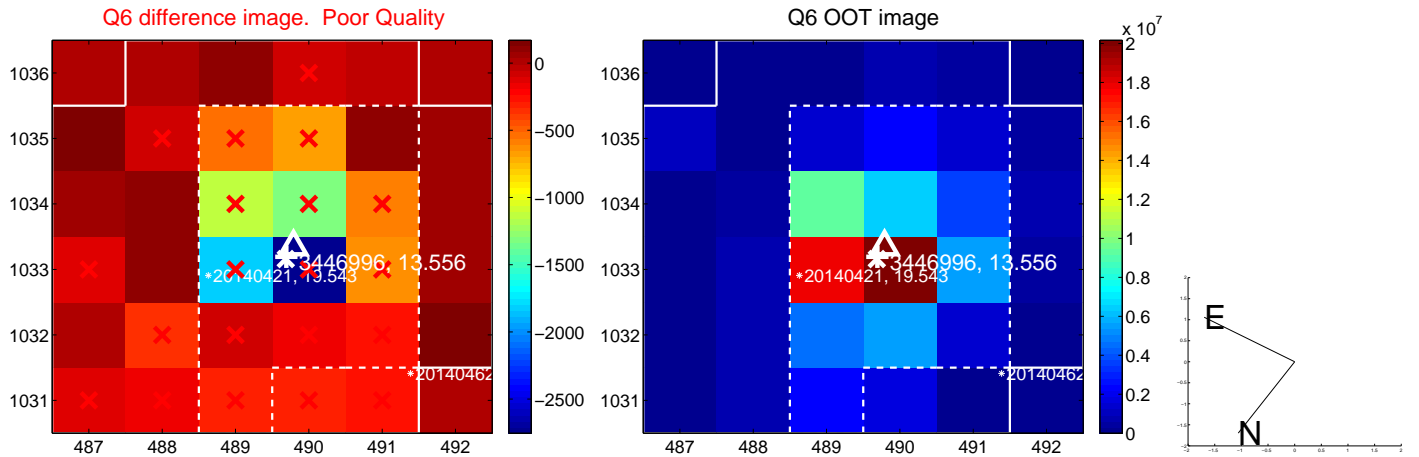
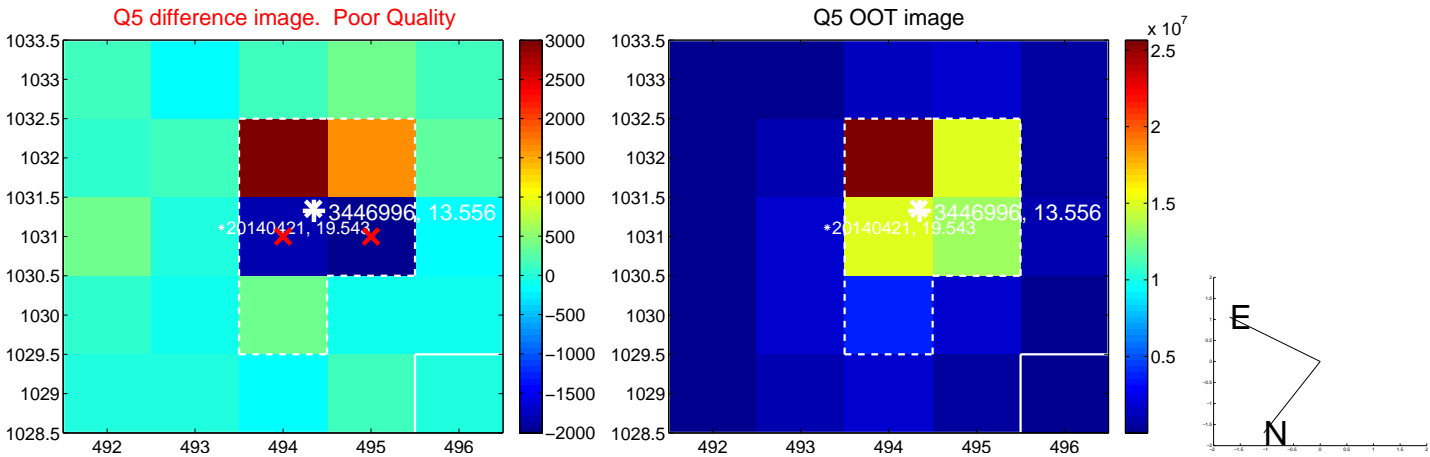


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

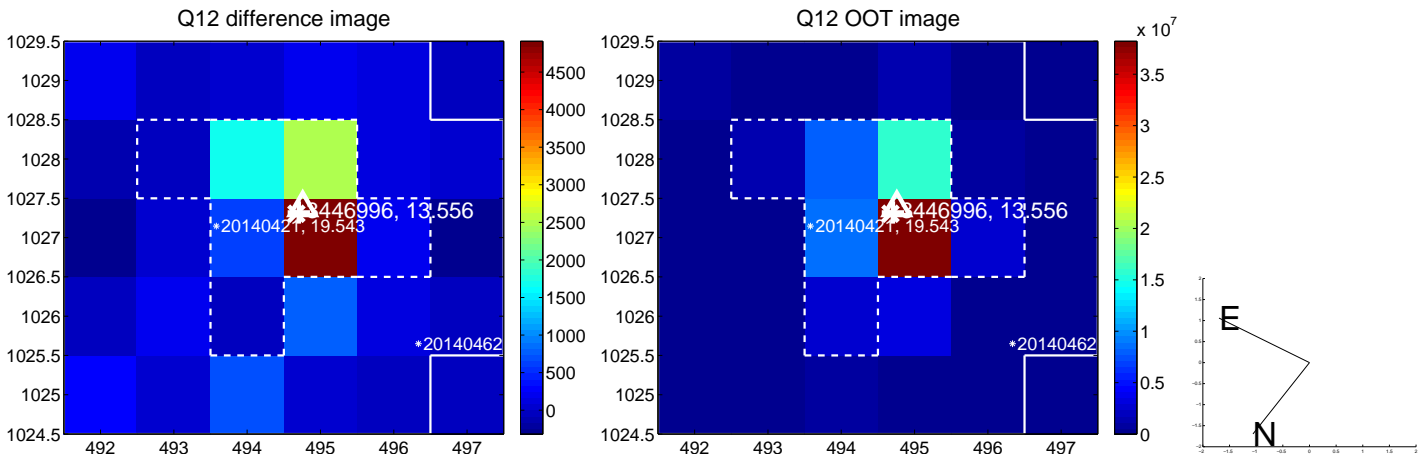
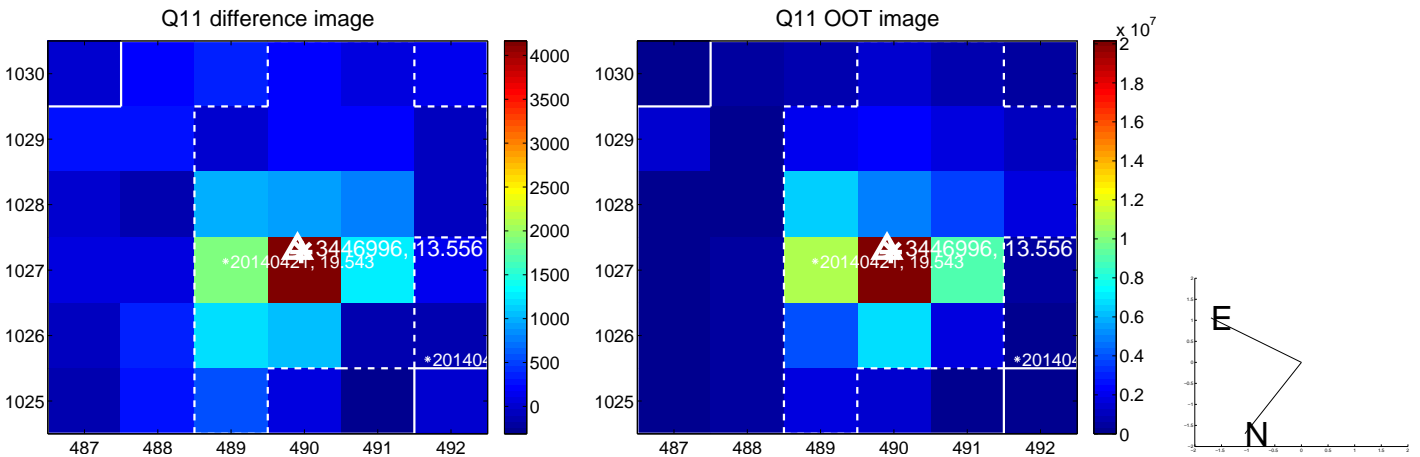
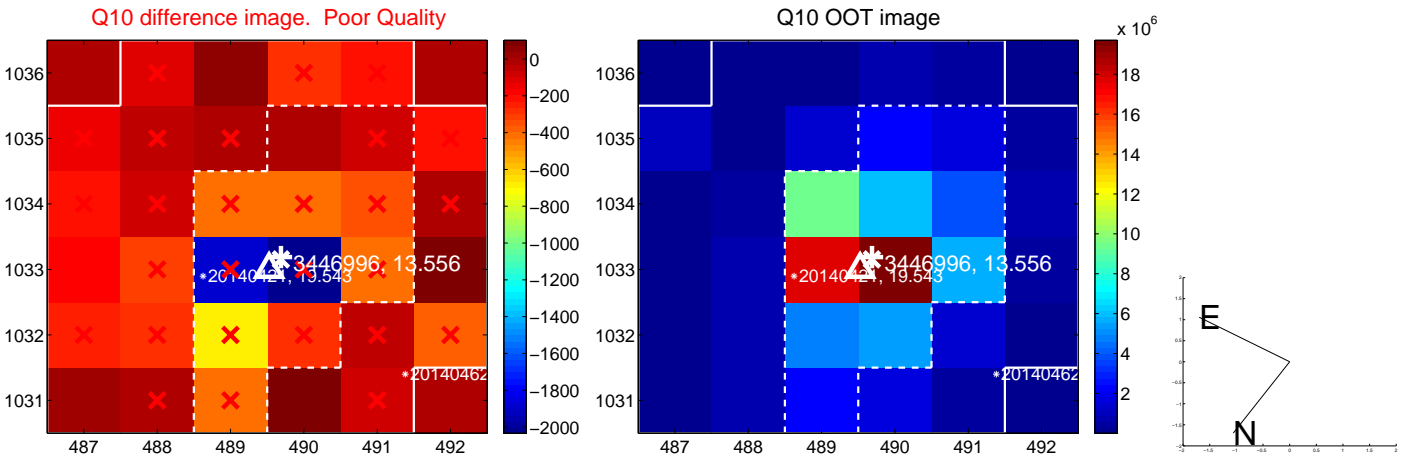
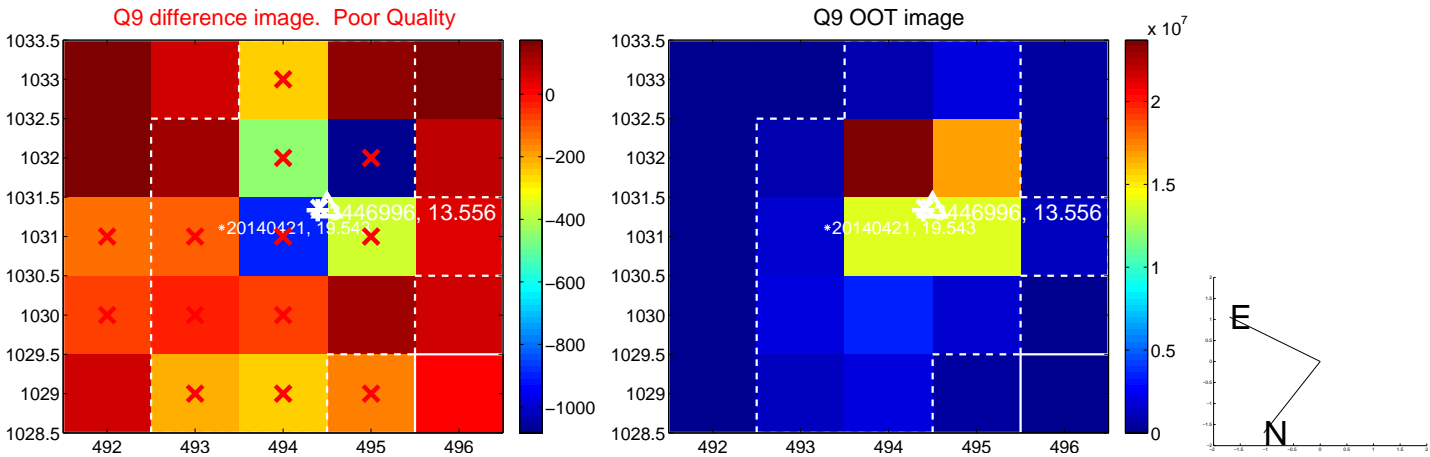
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



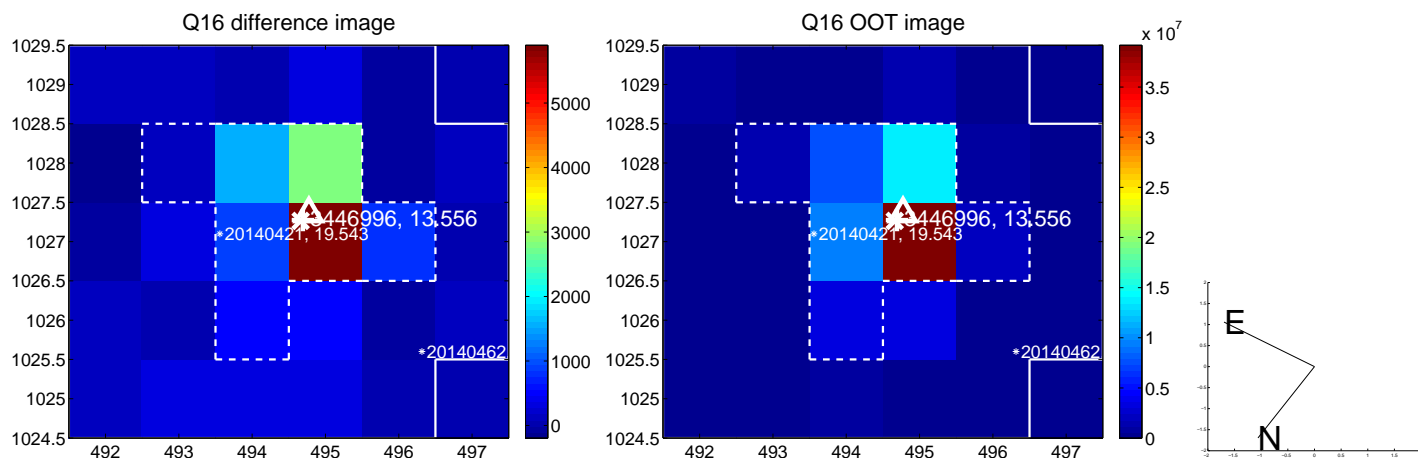
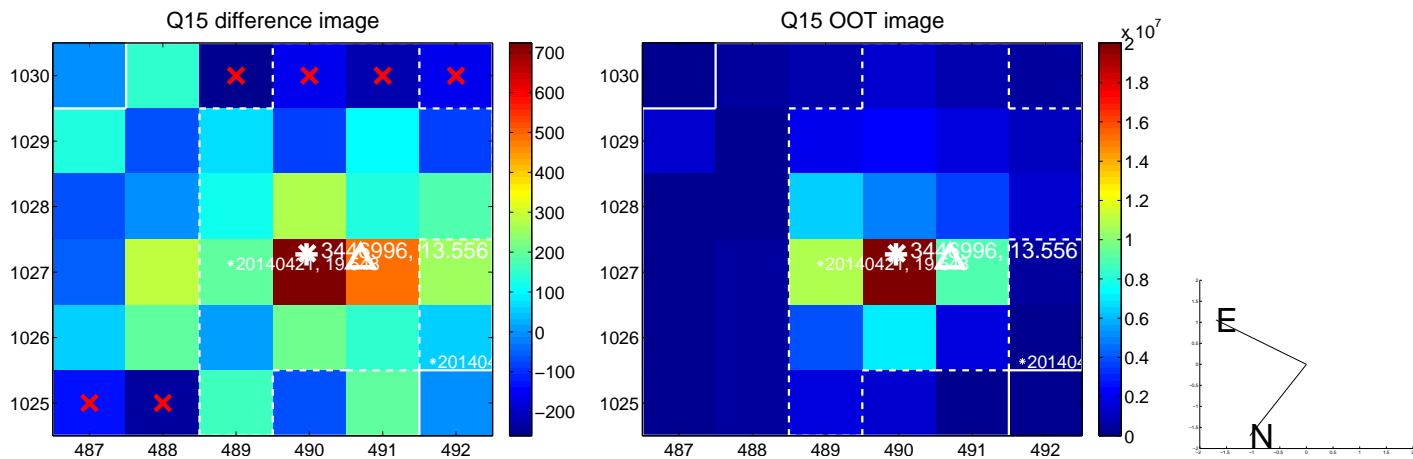
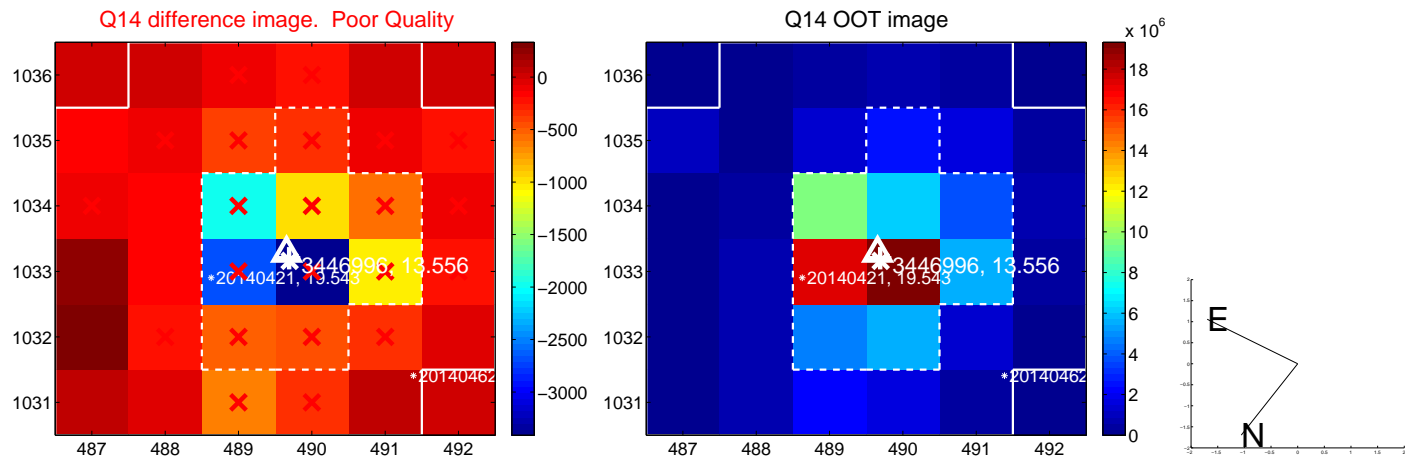
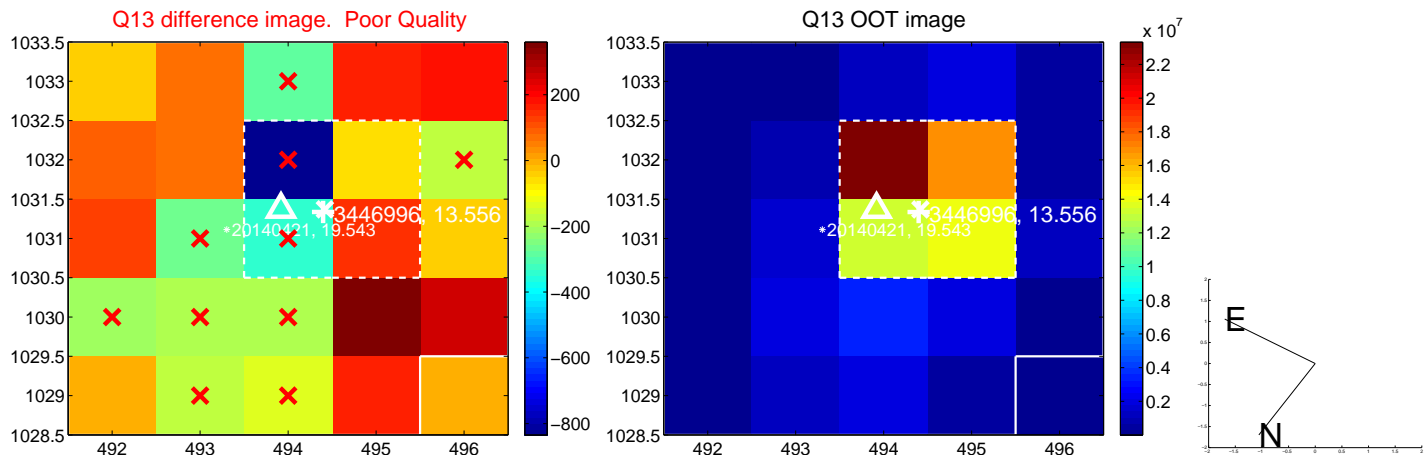
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



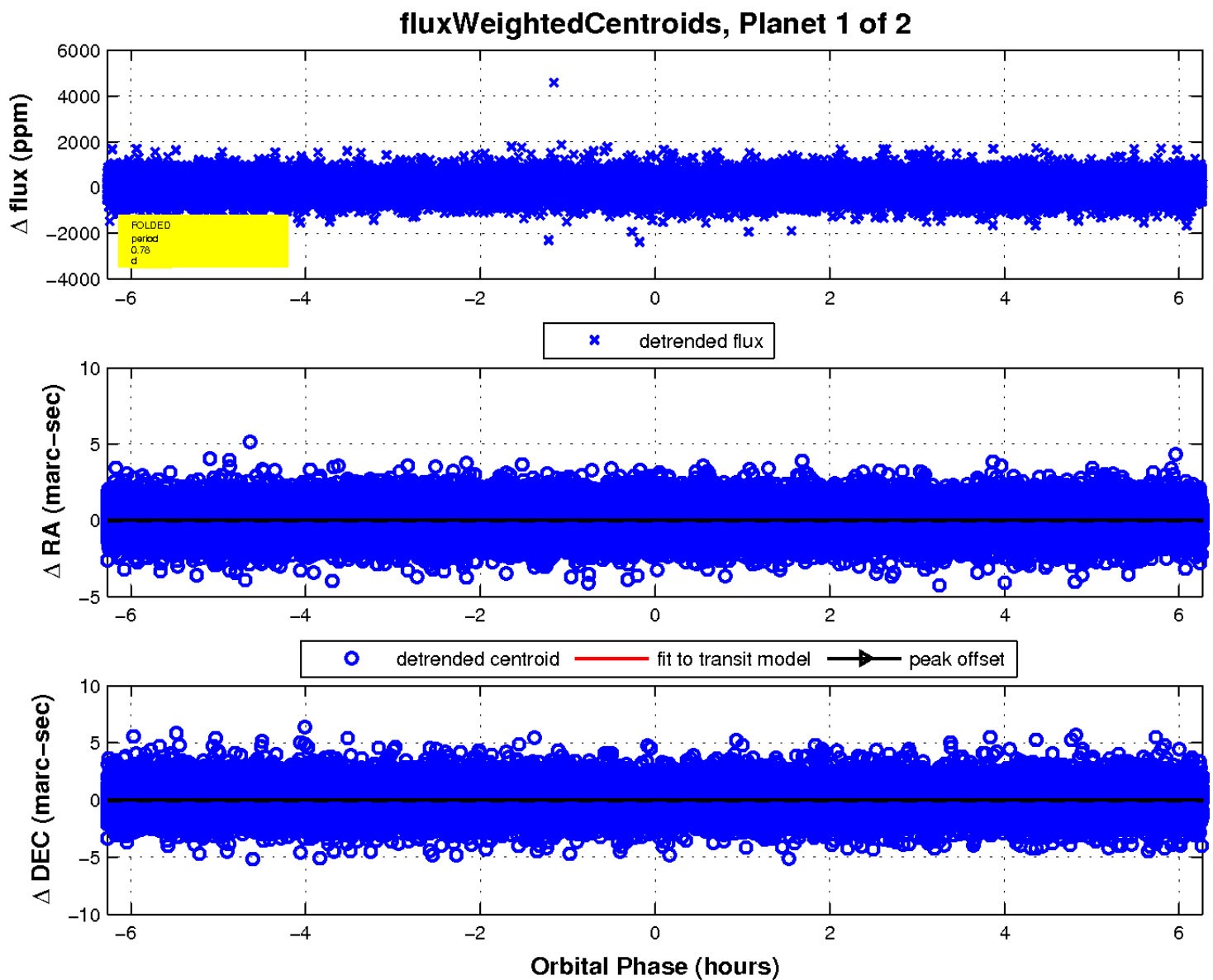
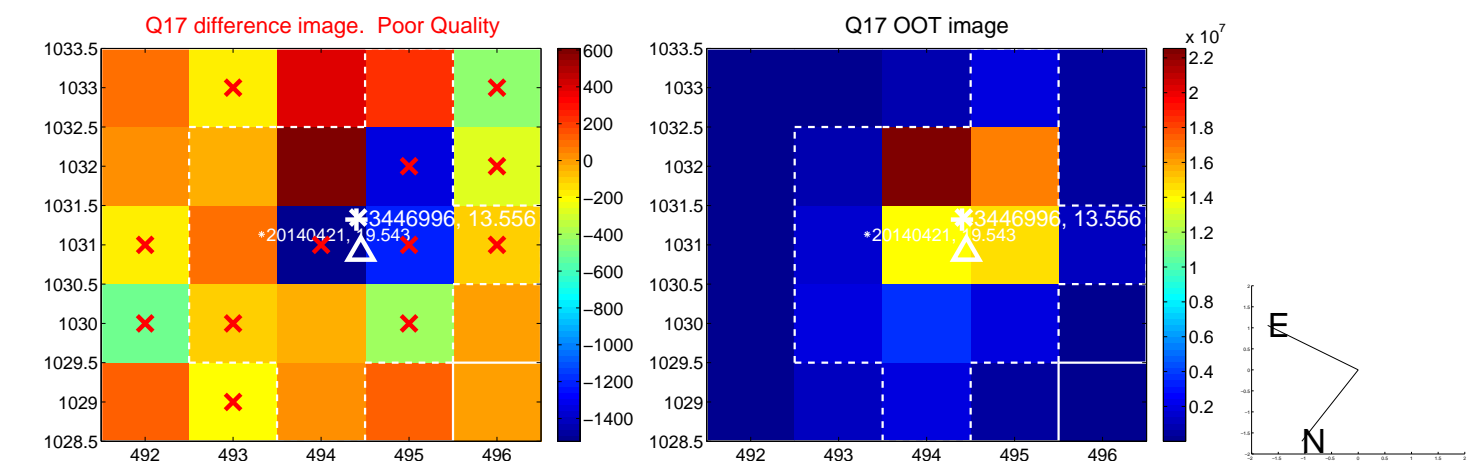
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

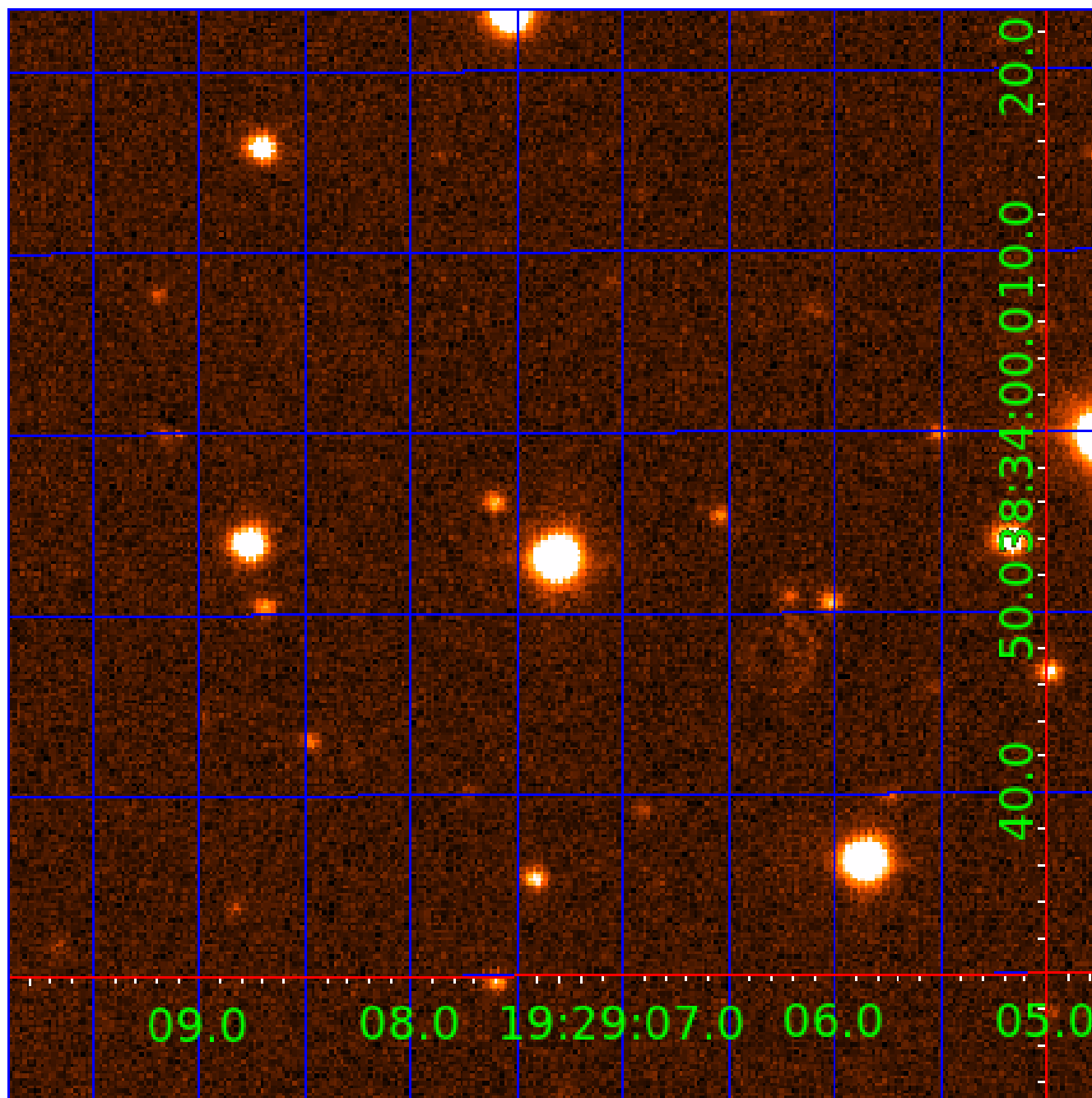


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003446996

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})
003446996-01	OBS	No	0.778068	131.548860	22.9	2.090	8.2	5.1	1.95	7346	1.09	26096.34
003446996-02	OBS	No	258.198835	203.671522	662.0	4.846	8.3	7.1	1.95	7346	5.57	11.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003446996-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003446996-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS

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

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

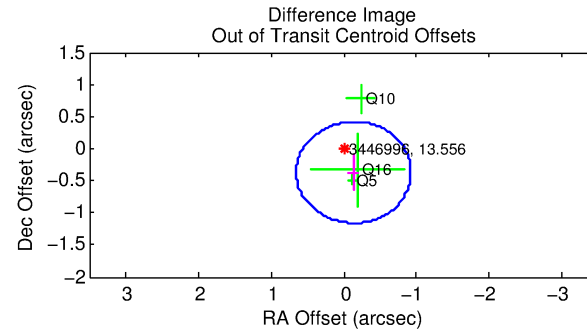
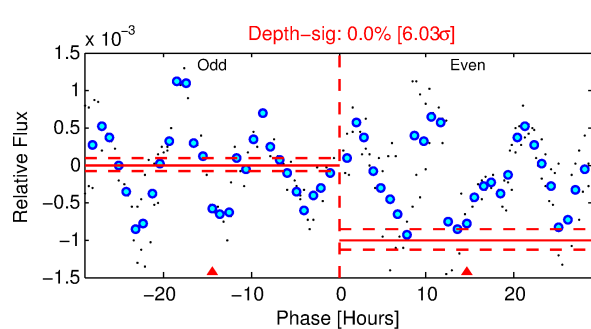
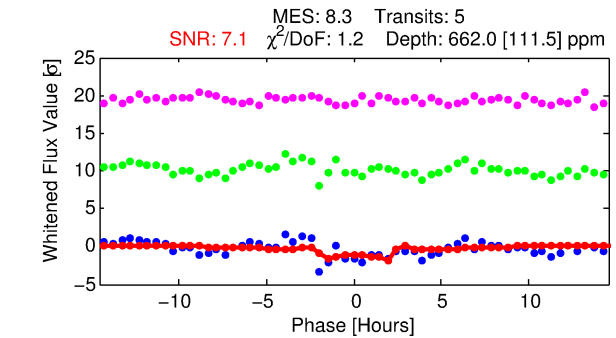
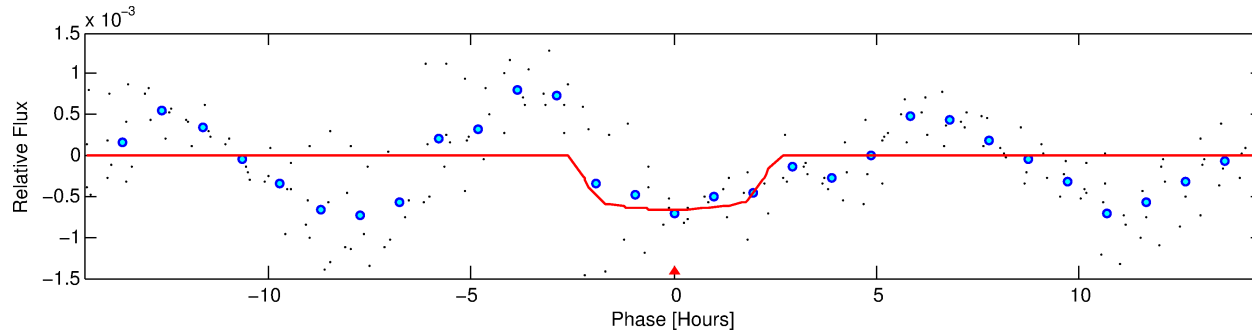
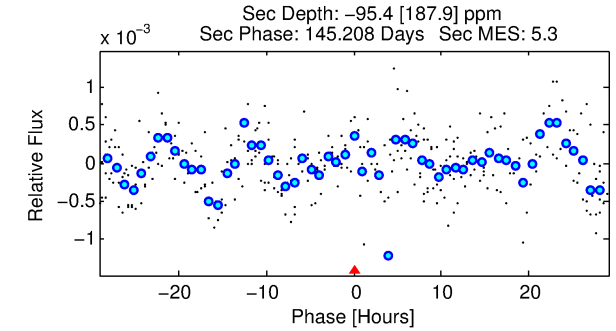
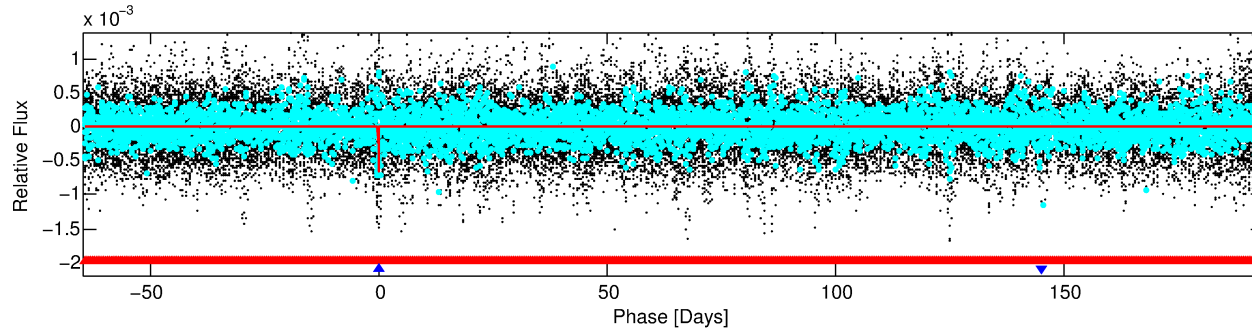
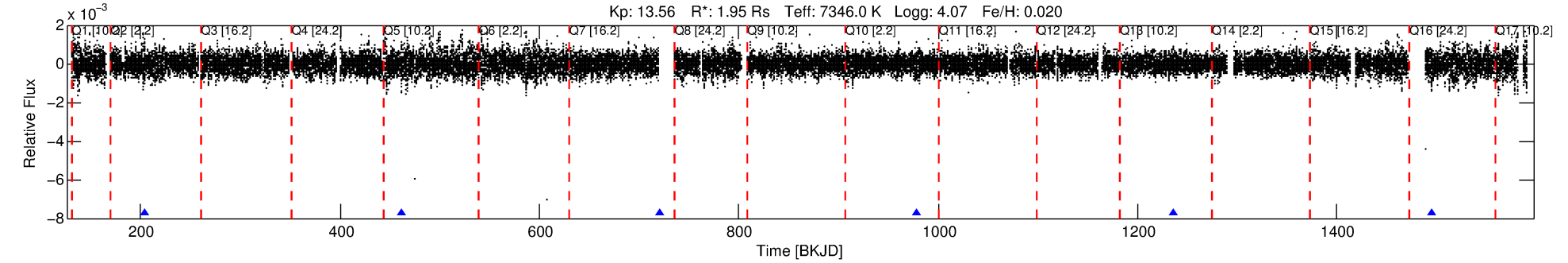
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003446996-02

No Significant Match Found

DV One-Page Summary

KIC: 3446996 Candidate: 2 of 2 Period: 258.199 d



DV Fit Results:

Period = 258.19883 [0.00242] d
Epoch = 203.6715 [0.0070] BKJD
Rp/R* = 0.0262 [0.0157]
a/R* = 252.01 [937.56]
b = 0.82 [1.51]
Seff = 11.36 [4.22]
Teq = 468 [44] K
Rp = 5.57 [3.69] Re
a = 0.9351 [0.2159] AU
Ag = N/A
Teffp = N/A

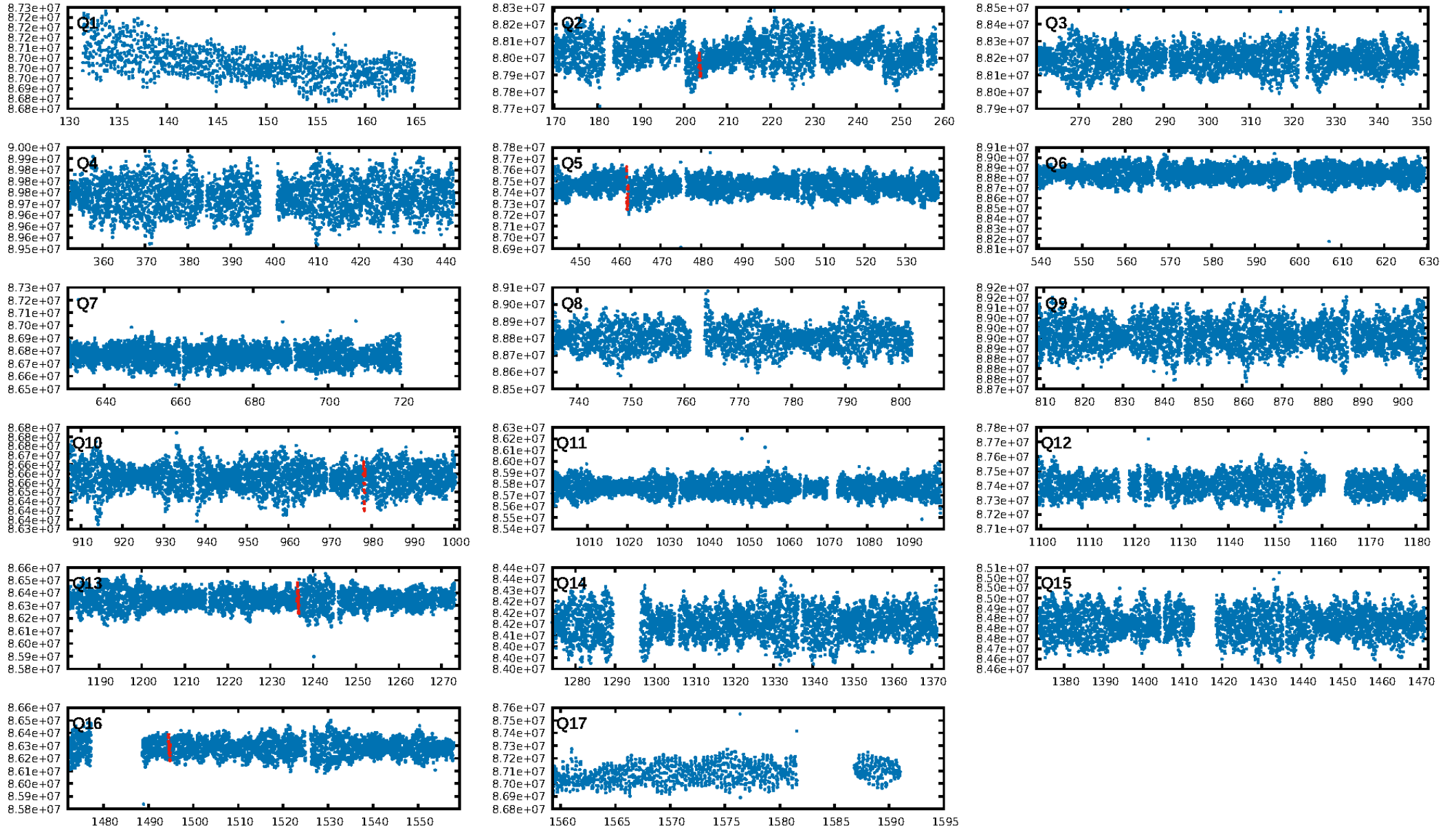
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1170.74σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.67e-13
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 14.63
Centroid-sig: 2.2%
Centroid-so: 0.987 arcsec [1.54σ]
OotOffset-rm: 0.396 arcsec [1.50σ]
KicOffset-rm: 0.362 arcsec [1.57σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.00 [0/5]

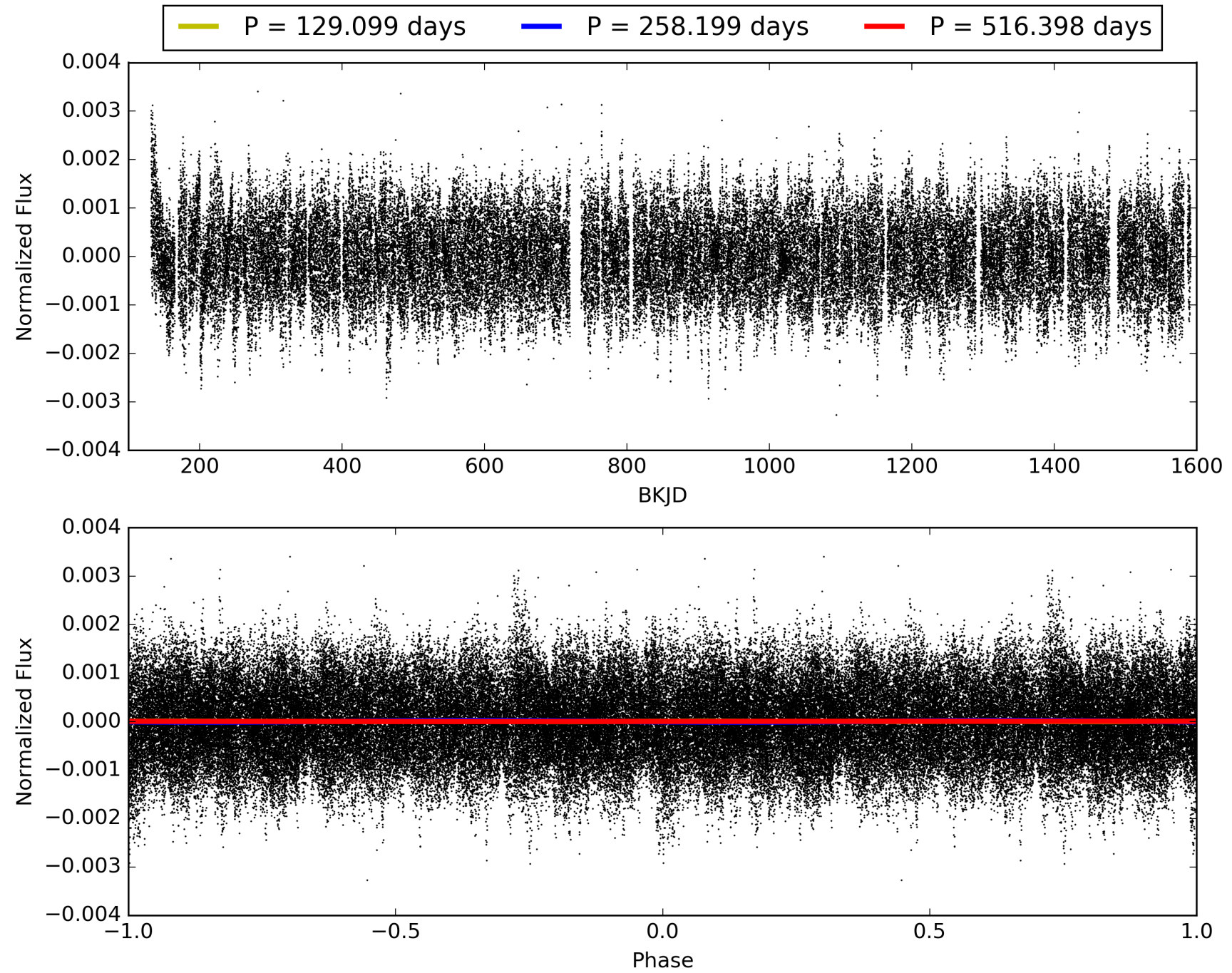
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:02:17 Z

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

TCE 003446996-02, PDC Light Curves

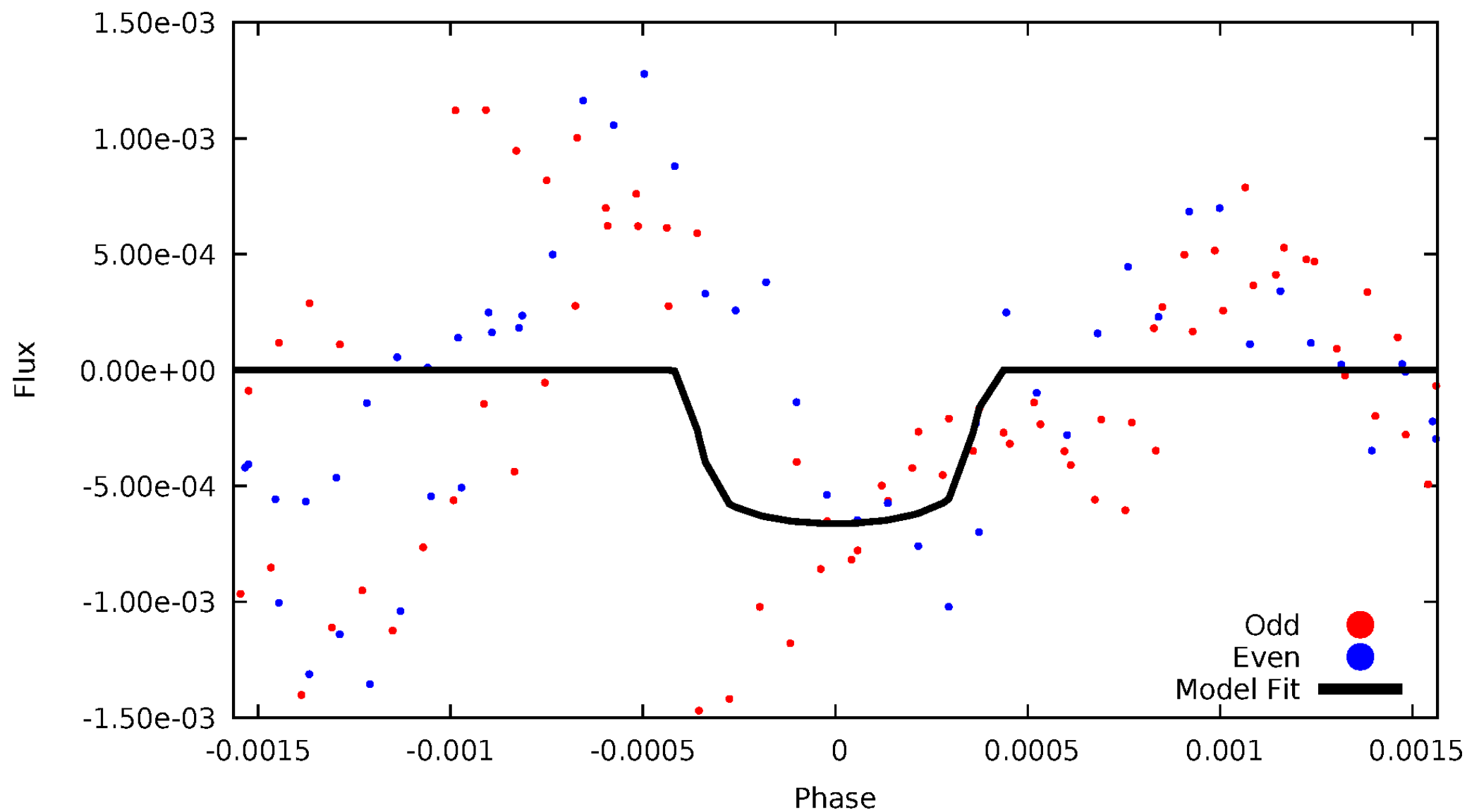


TCE 003446996-02



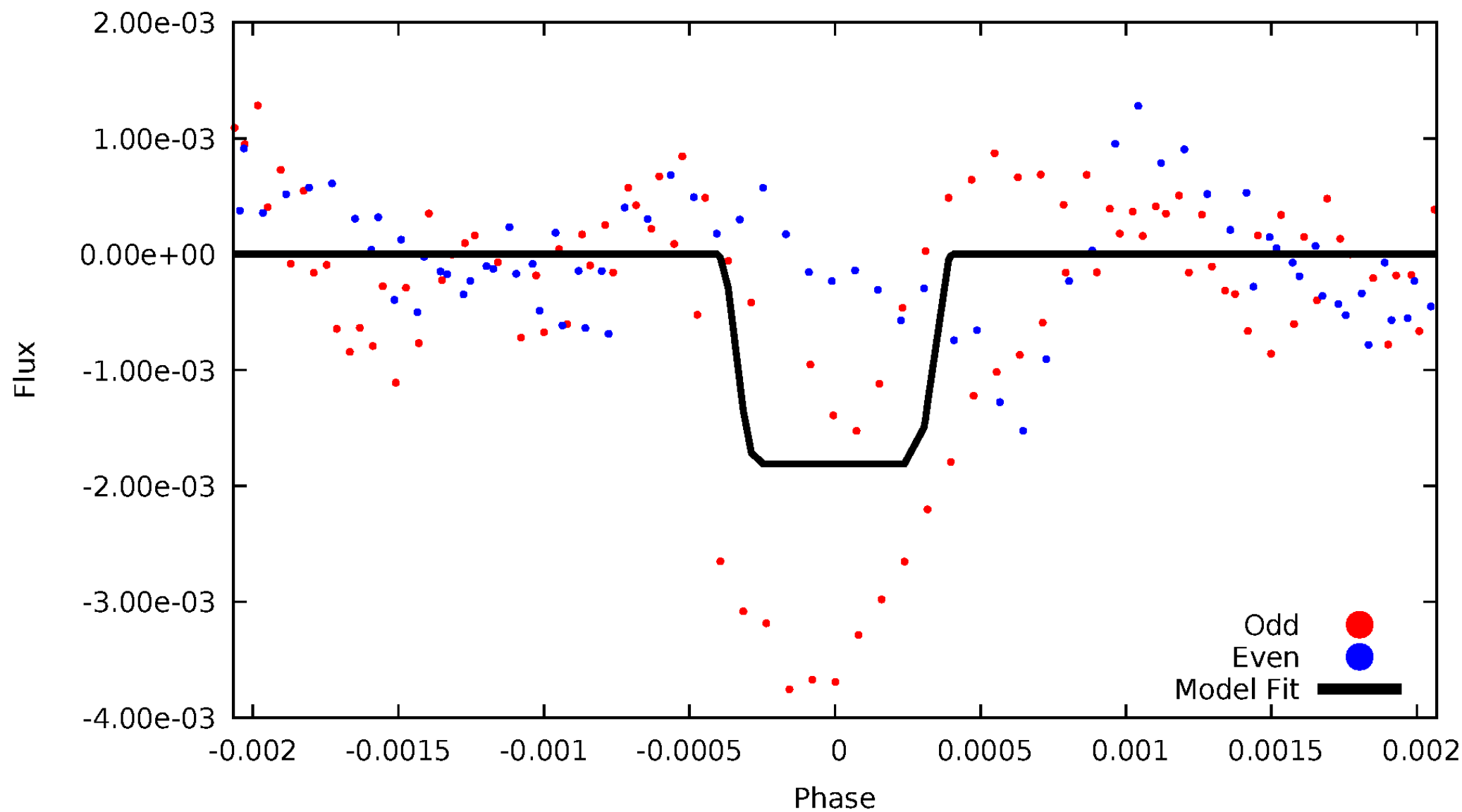
DV Odd/Even

TCE 003446996-02



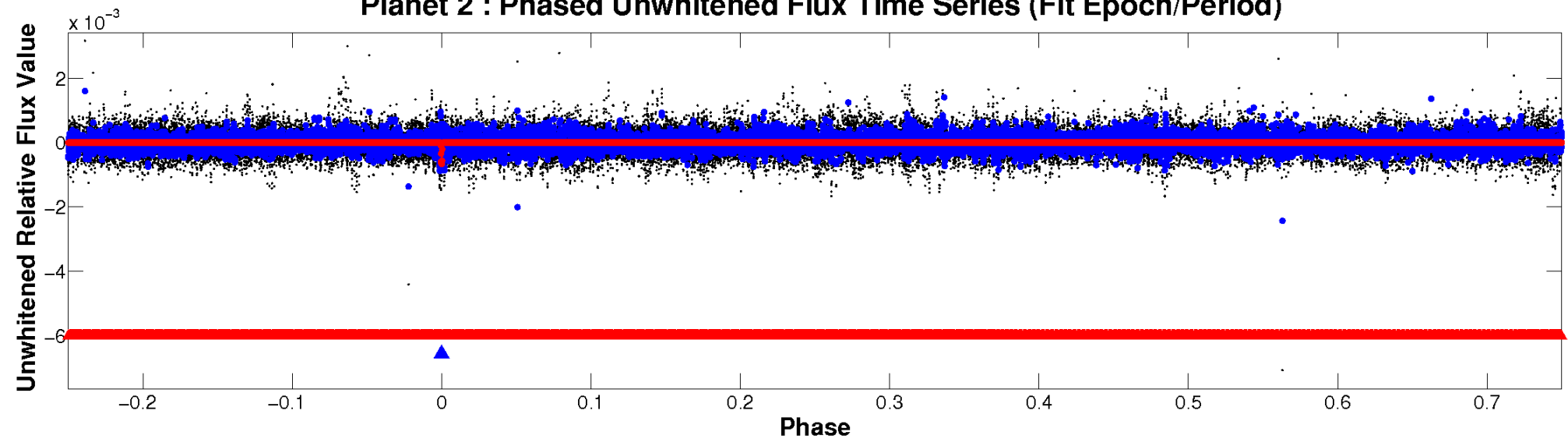
ALT Odd/Even

TCE 003446996-02

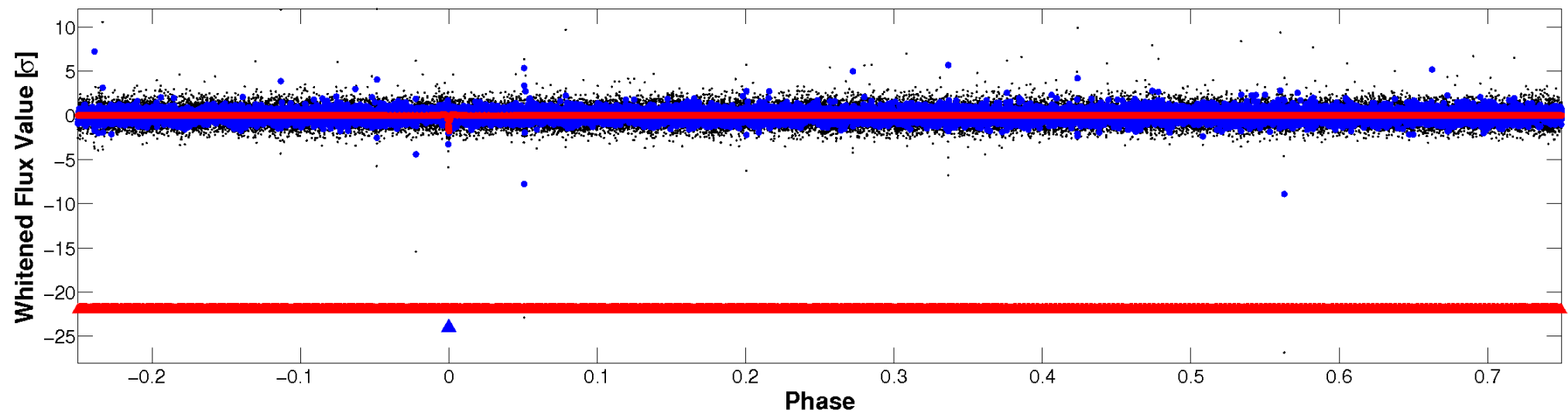


Non-Whitened Vs. Whitened Light Curve

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

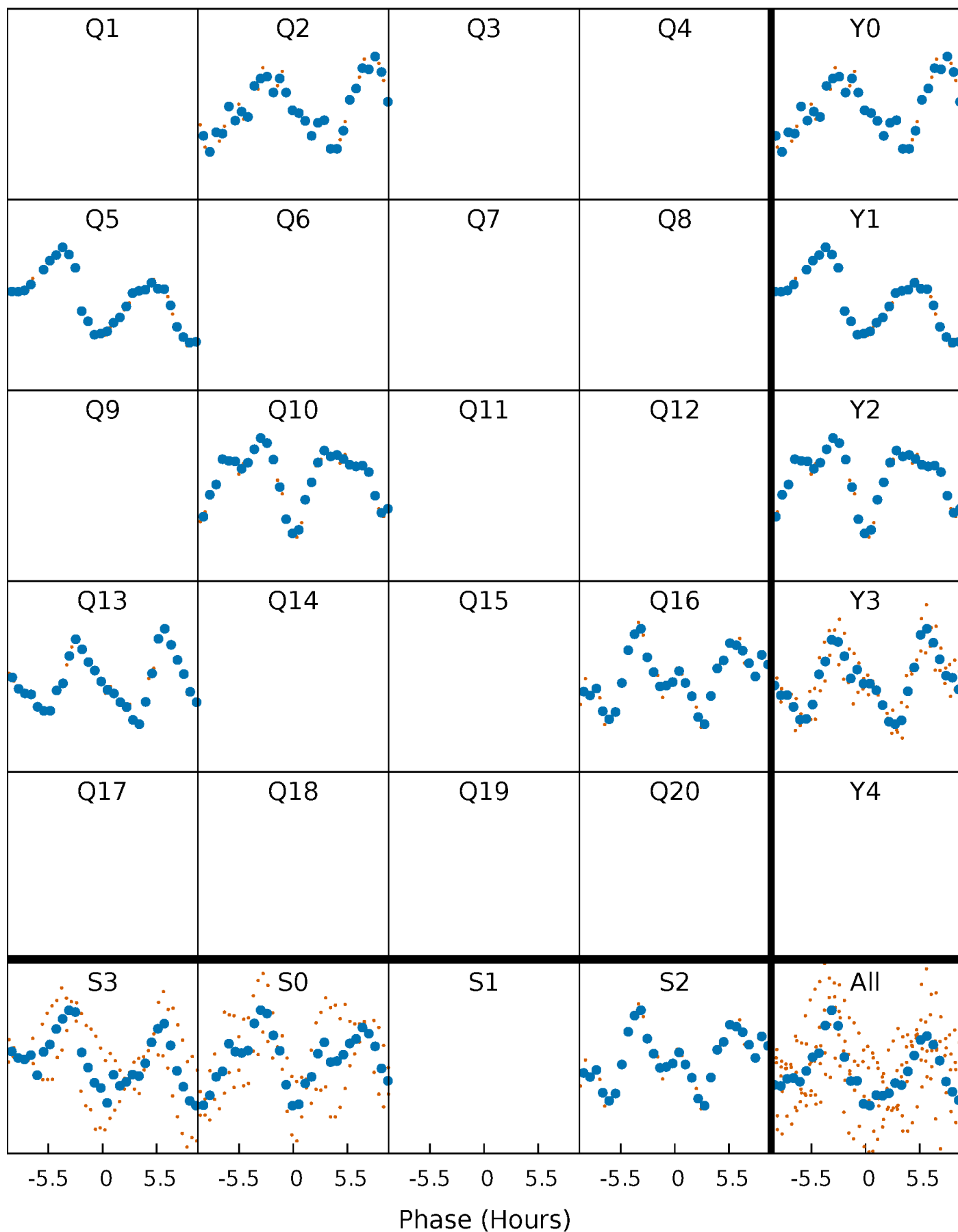


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



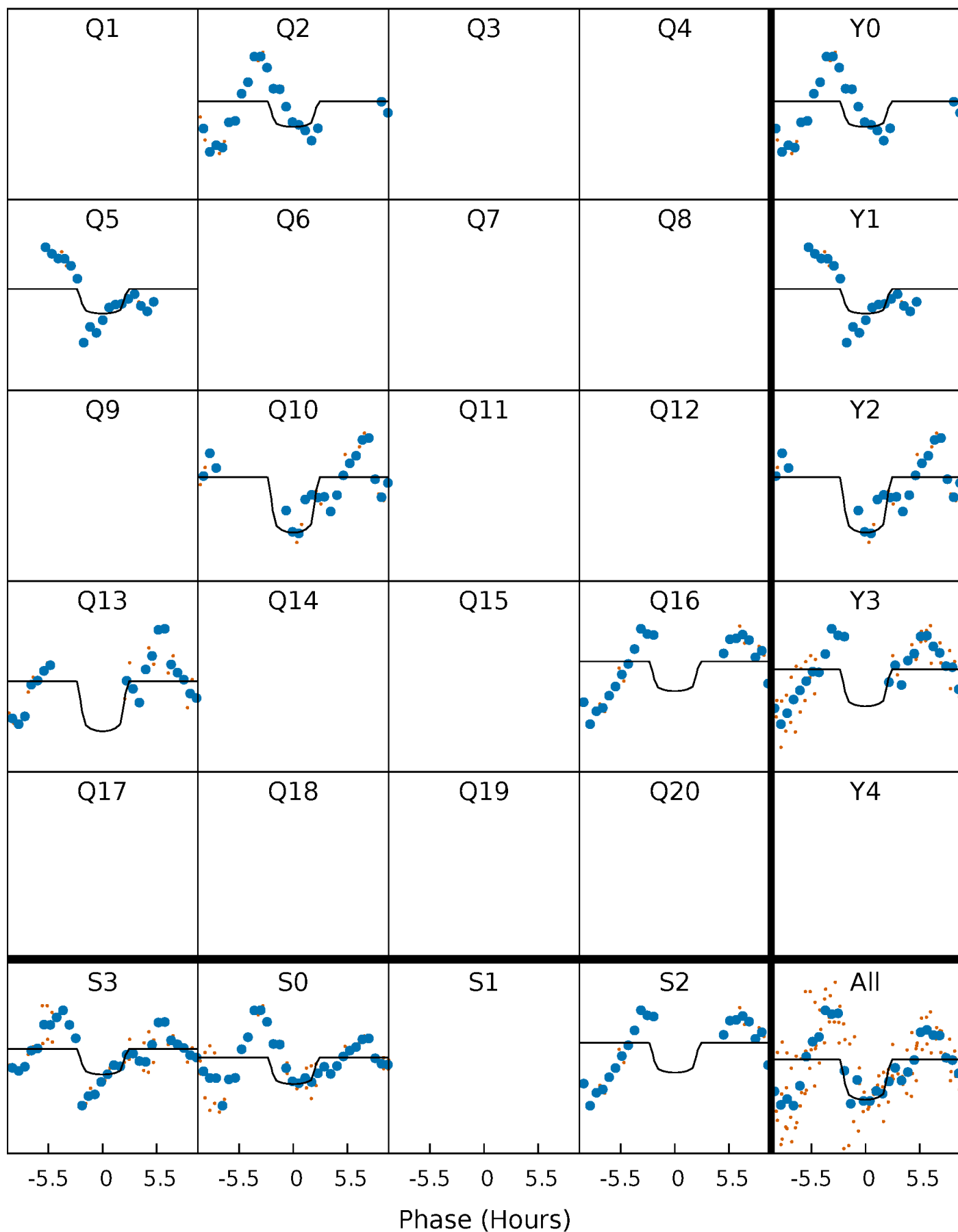
PDC Quarter-Phased Transit Curves

TCE 003446996-02 $P=258.198835$ Days $T_0=203.671522$ (BKJD)



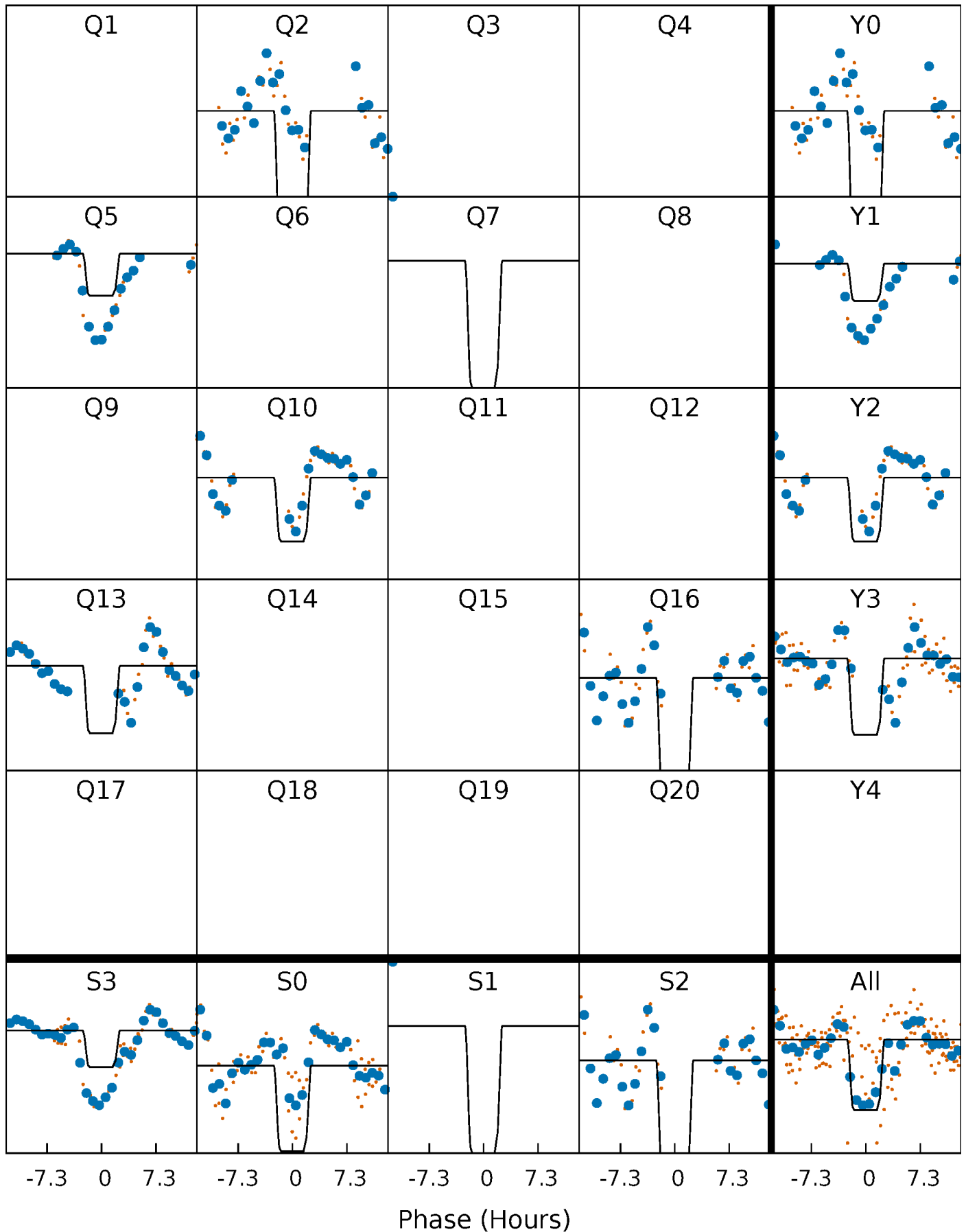
DV Quarter-Phased Transit Curves

TCE 003446996-02 $P=258.198835$ Days $T_0=203.671522$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

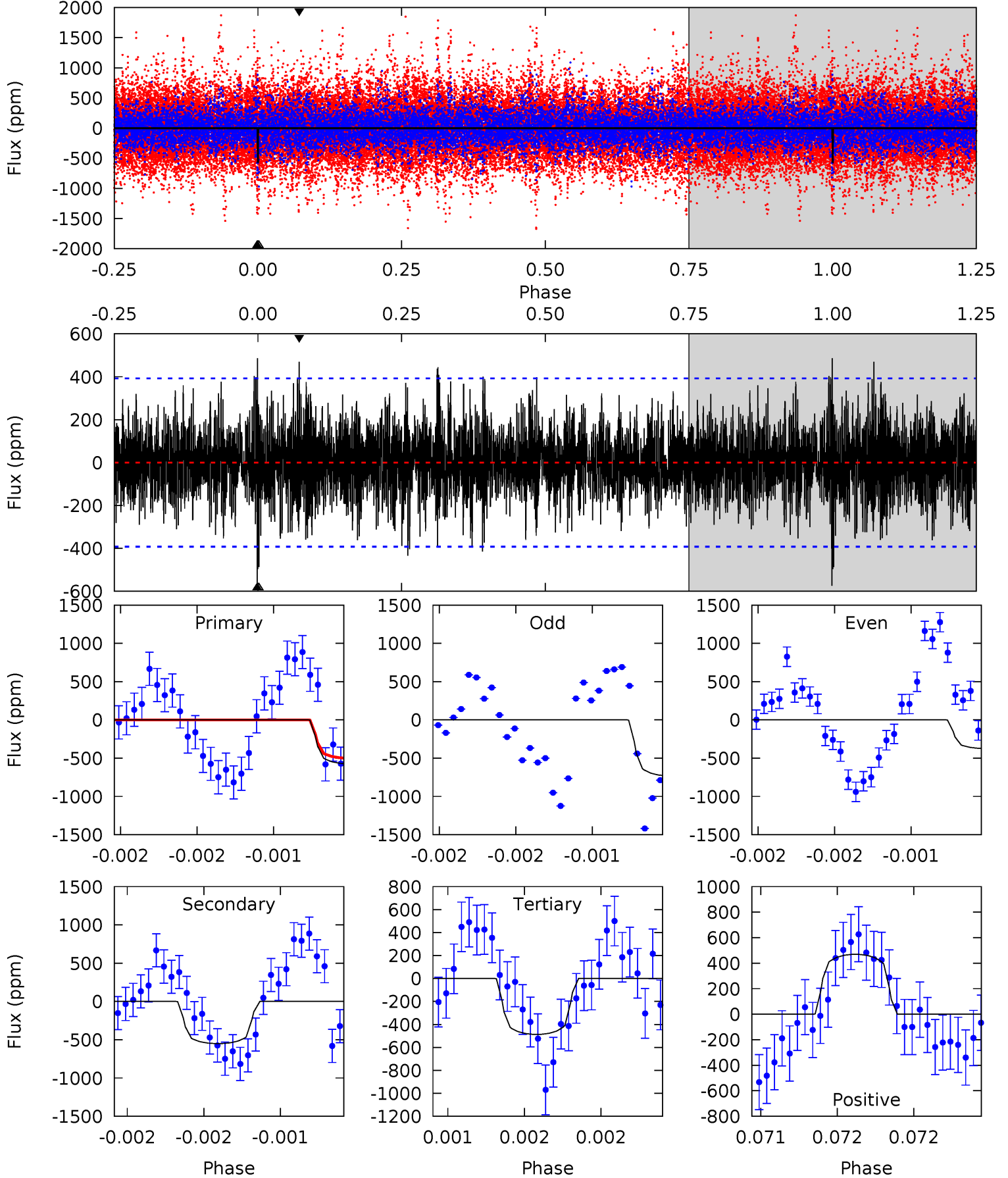
TCE 003446996-02 P=258.191653 Days $T_0=203.688927$ (BKJD)



DV Model-Shift Uniqueness Test

003446996-02, P = 258.198835 Days, E = 203.671522 Days

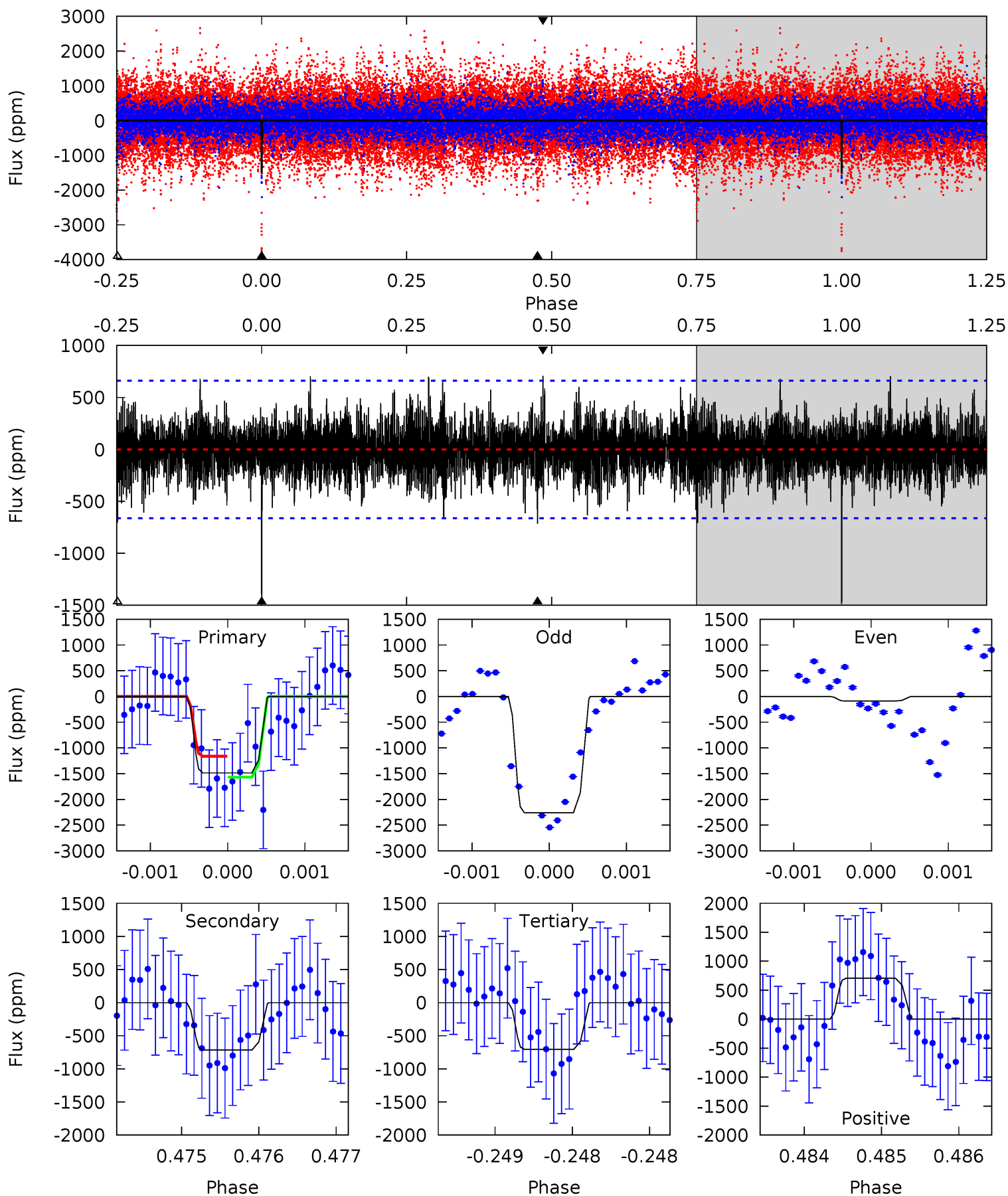
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.04	7.71	6.82	6.57	5.49	3.35	1.74	1.22	1.47	0.89	1.14	2.50	1.19	0.46	0.94



Alt Model-Shift Uniqueness Test

003446996-02, P = 258.191653 Days, E = 203.688927 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.3	5.94	5.87	5.88	5.50	3.37	1.55	6.46	6.46	0.07	0.06	8.49	1.73	0.32	1.65



Stellar Parameters For KIC 003446996

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7346^{+203}_{-319}	$4.071^{+0.160}_{-0.176}$	$0.020^{+0.200}_{-0.350}$	$1.951^{+0.548}_{-0.449}$	$1.635^{+0.203}_{-0.271}$	$0.310^{+0.266}_{-0.143}$
	+3%/-4%	+4%/-4%	+1000%/-1750%	+28%/-23%	+12%/-17%	+86%/-46%
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 003446996-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-551 ± 71	$5.66^{+3.57}_{-2.84}$	651^{+48}_{-46}	6709^{+3629}_{-1296}	7870^{+24669}_{-4808}
Alt.	-715 ± 120	$8.97^{+3.52}_{-3.33}$	654^{+47}_{-47}	5750^{+1545}_{-814}	4183^{+6277}_{-2142}

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 $A_{obs} \gg 1.0$

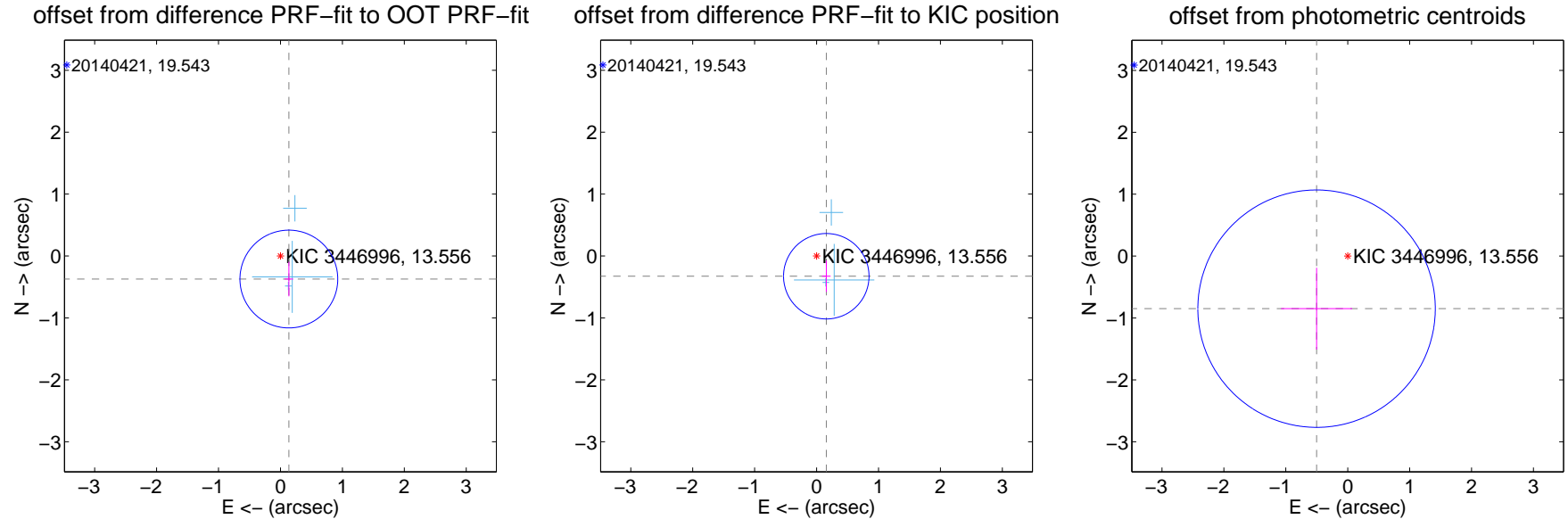
DV Centroid Data

Supplemental centroid analysis for 003446996-02. Kepler magnitude: 13.56. Transit SNR 7.09

There are 3 quarters with good PRF difference image offsets

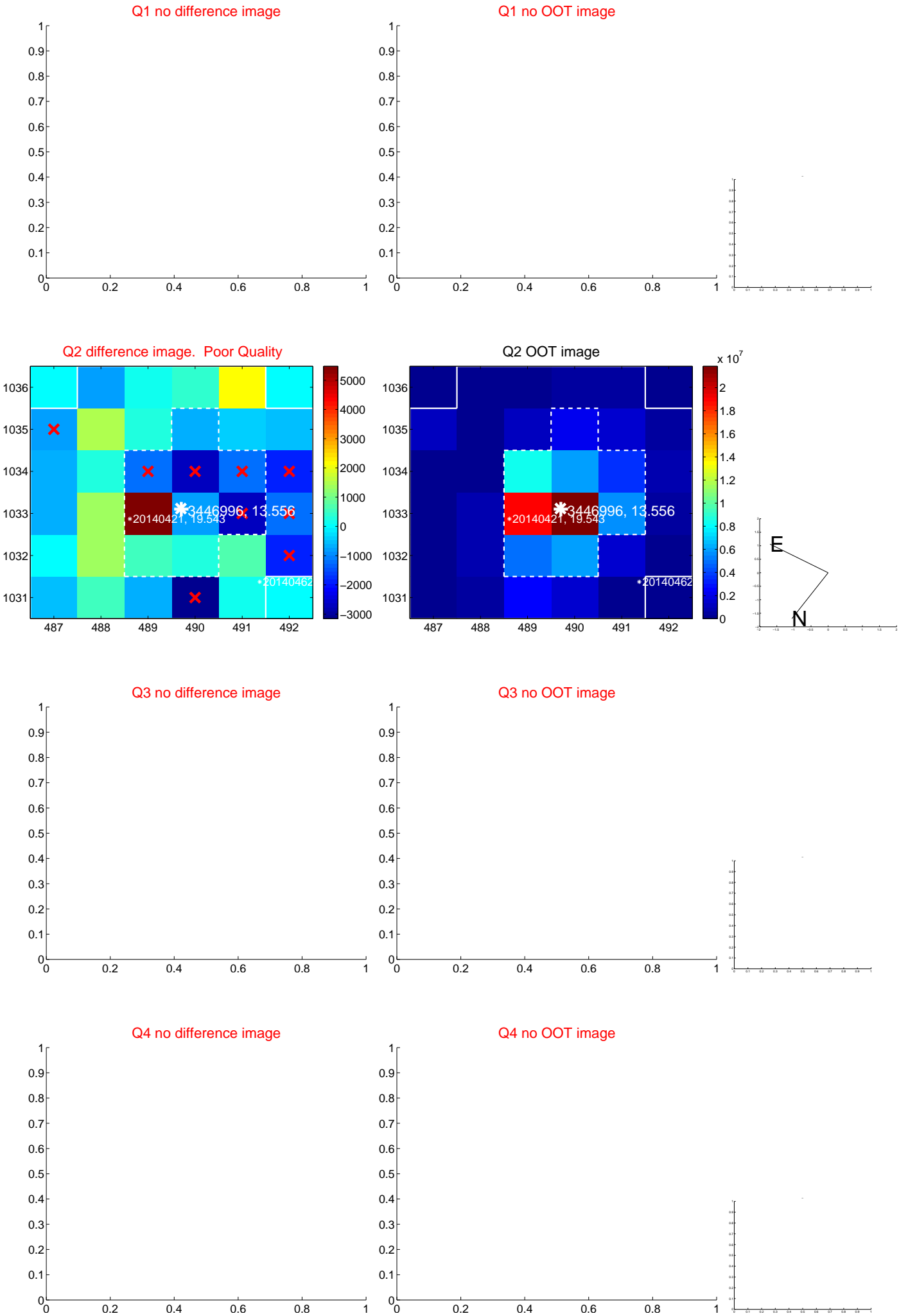
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.396 ± 0.263	1.50	-0.136 ± 0.070	-0.372 ± 0.279
PRF-fit source offset from KIC position	0.362 ± 0.230	1.57	-0.157 ± 0.070	-0.326 ± 0.253
photometric centroid source offset	0.99 ± 0.64	1.54	0.50 ± 0.58	-0.85 ± 0.66

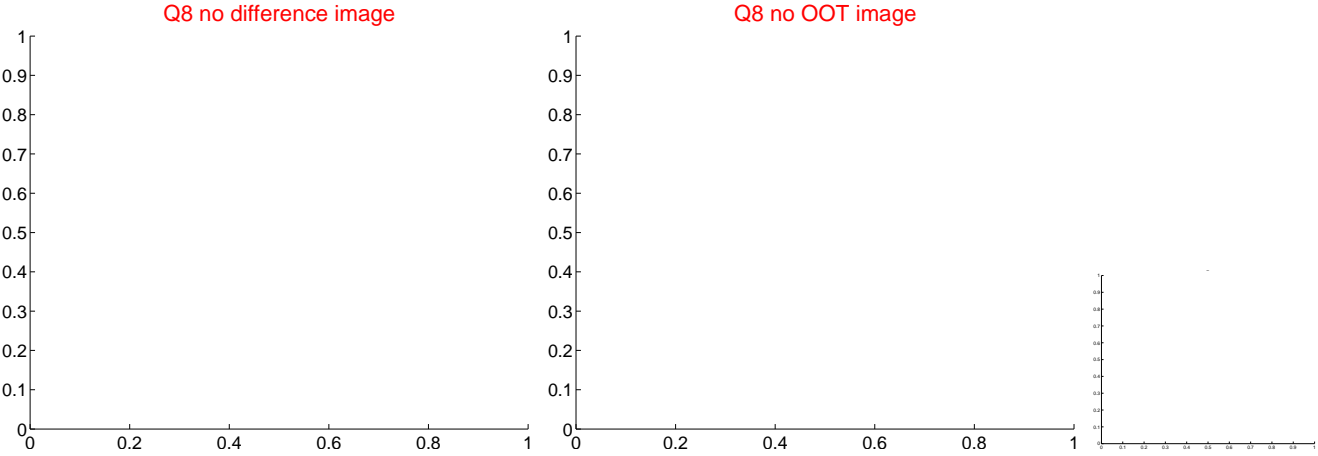
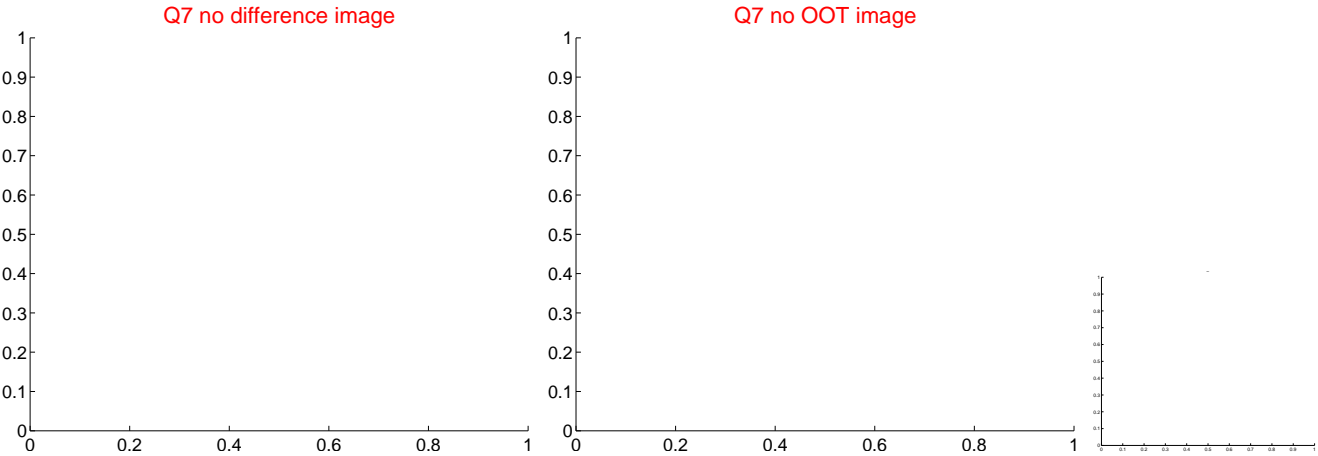
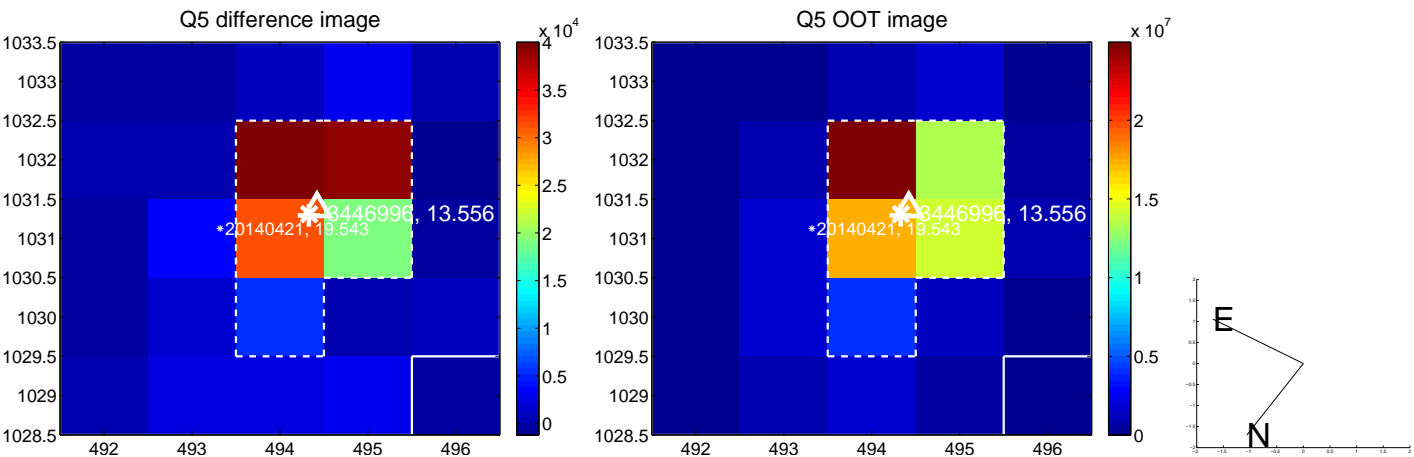


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

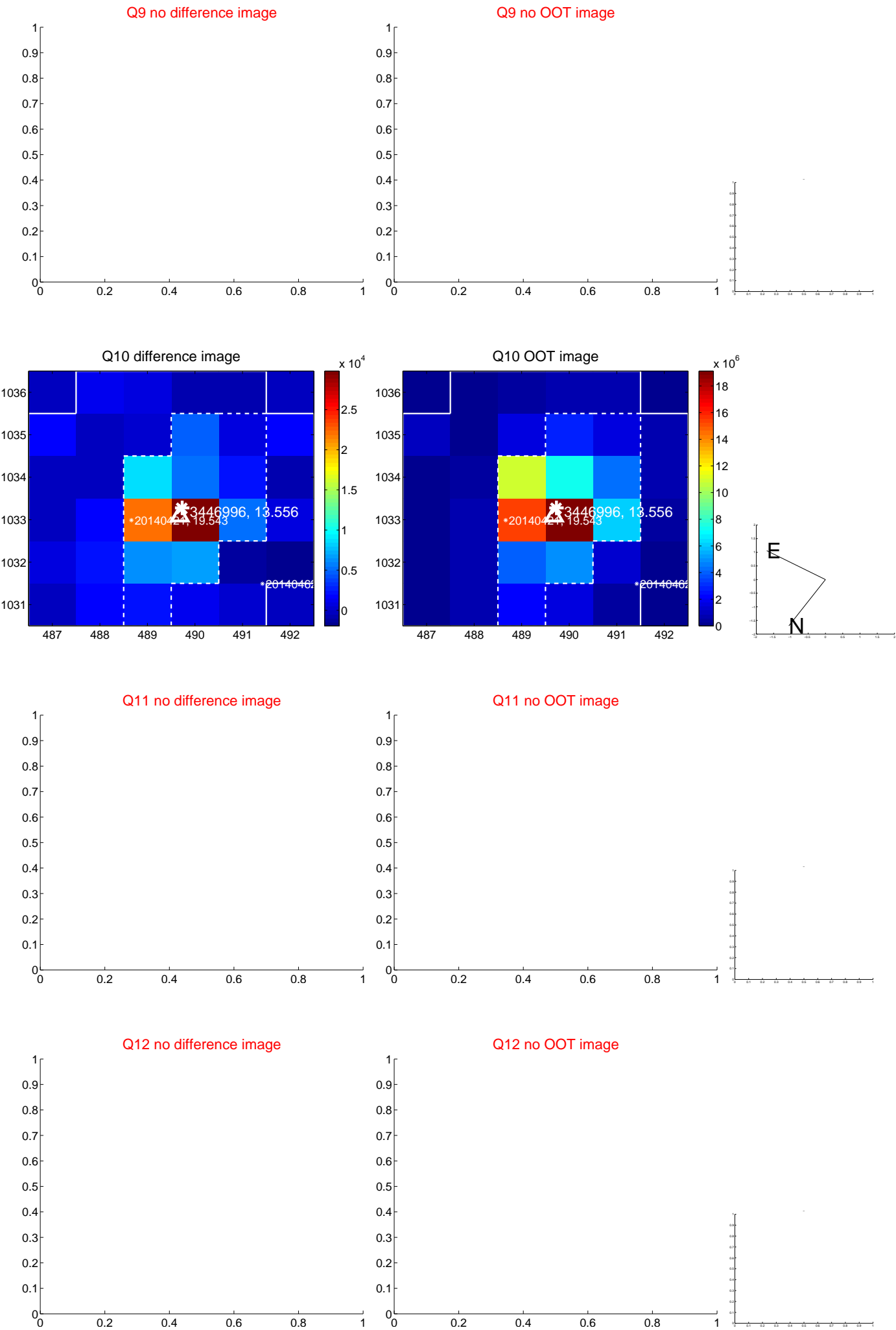
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



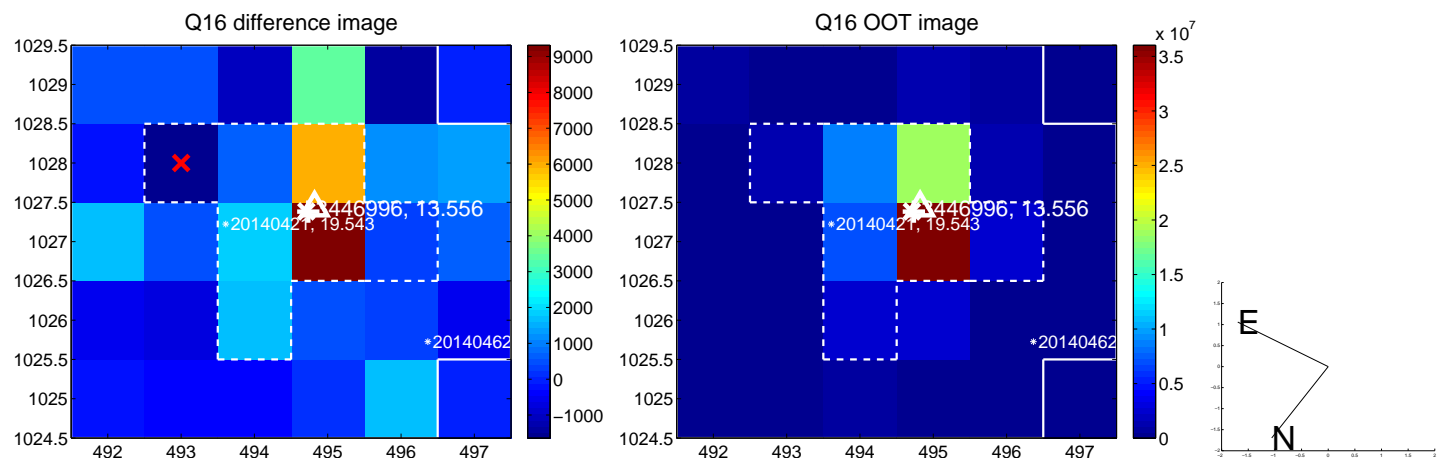
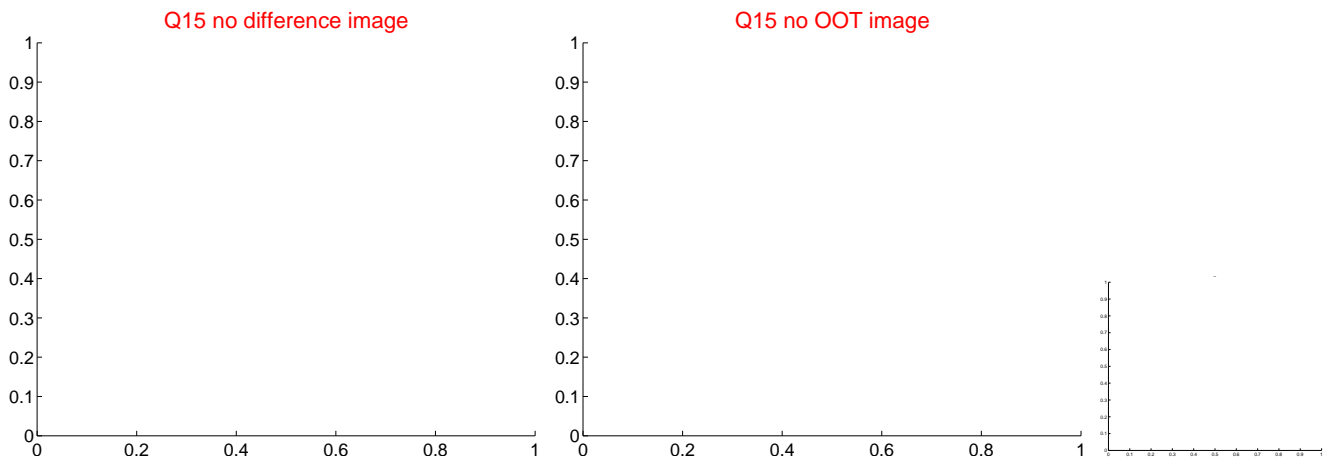
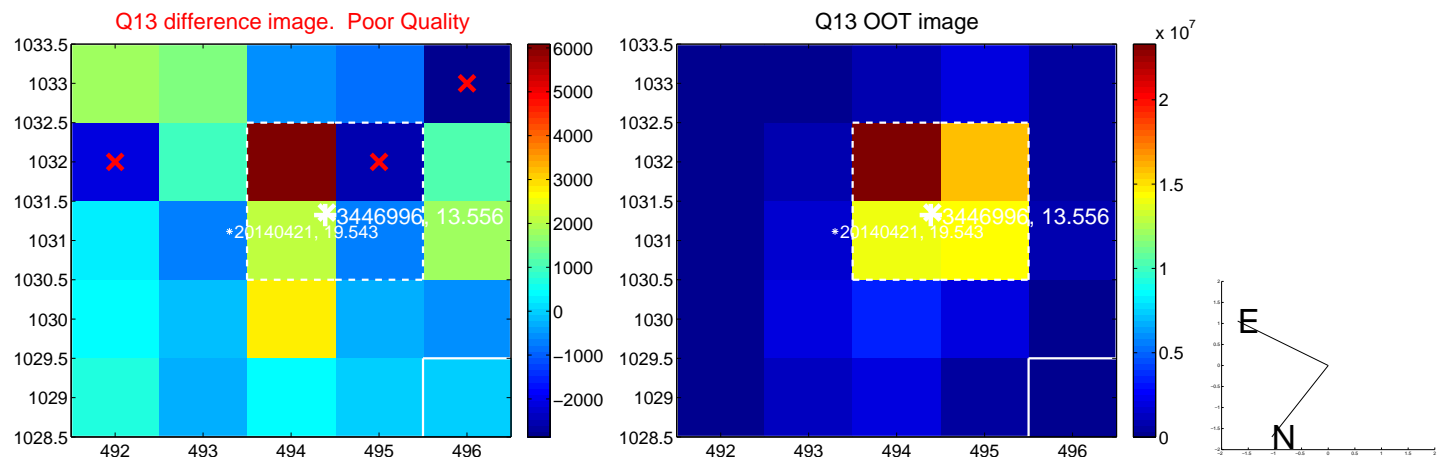
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



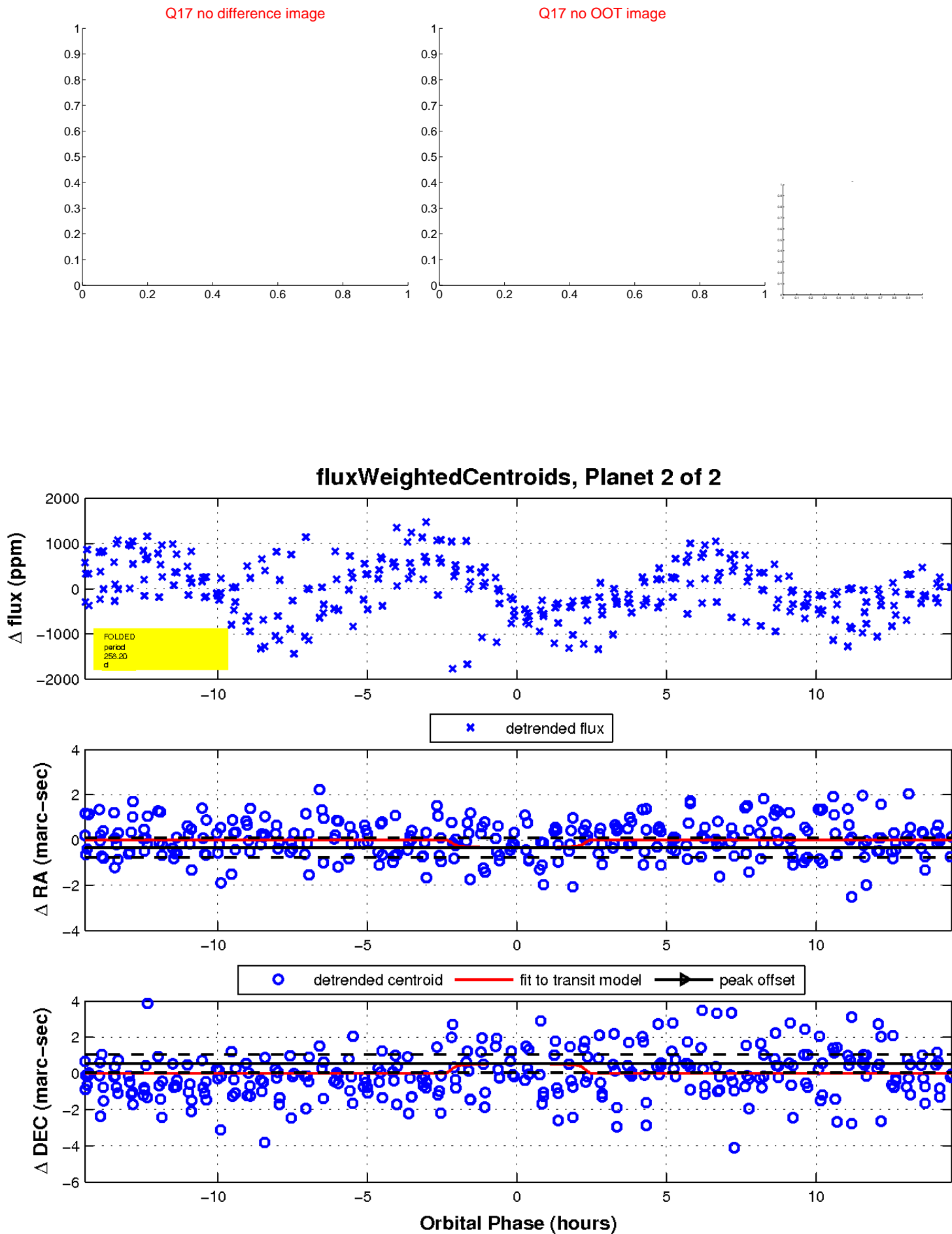
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

