

KIC 004743508

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})
004743508-01	OBS	3572.01	2.086080	133.414878	55979.3	2.272	1855.3	1971.2	1.12	6124	28.64	1734.39
004743508-02	OBS	No	2.086057	132.379852	873.0	1.783	38.1	45.9	1.12	6124	3.89	1734.42
004743508-03	OBS	No	299.858720	247.512064	2614.1	3.798	7.5	8.8	1.12	6124	6.33	2.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004743508-01	OBS	PC	0.69	0	1	0	0	MOD_SEC_DV—PLANET_OCCULT_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_KIC_POS
004743508-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS
004743508-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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.

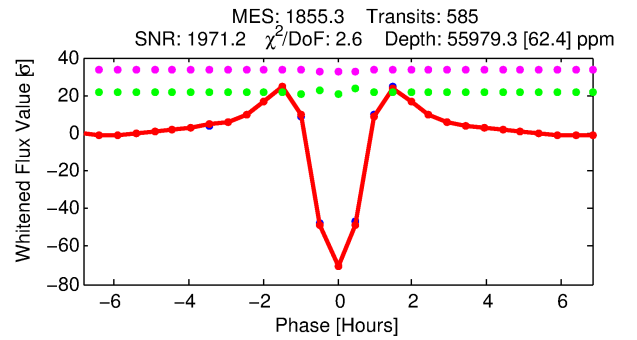
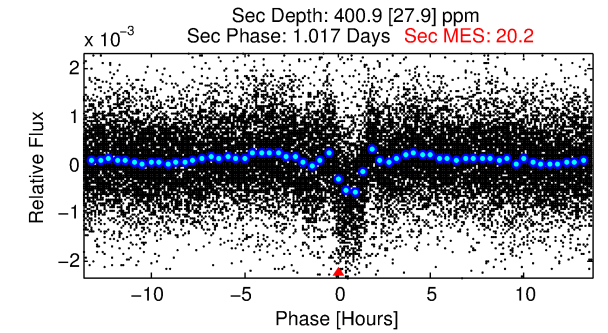
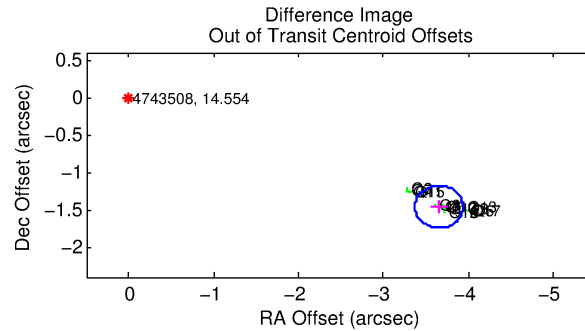
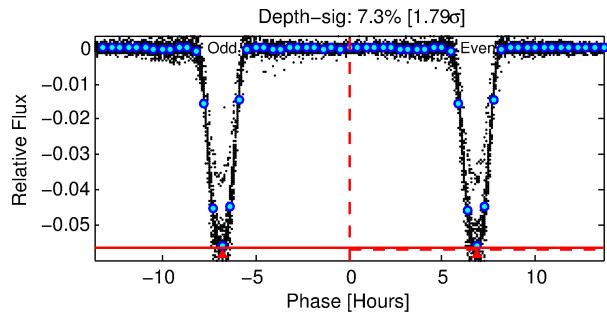
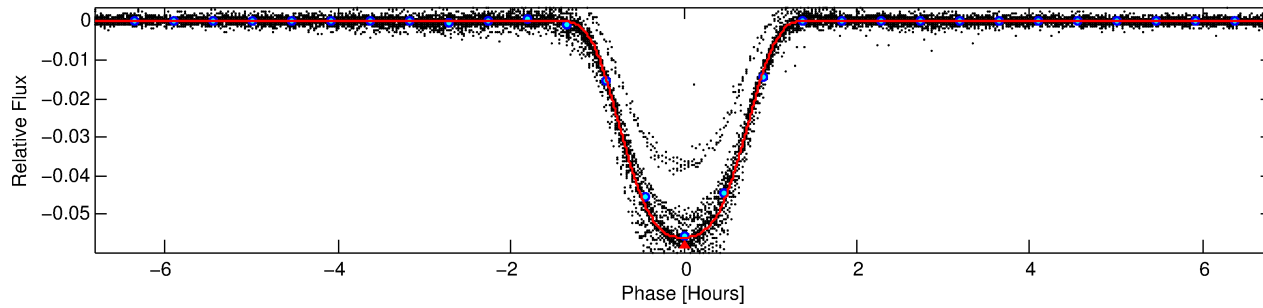
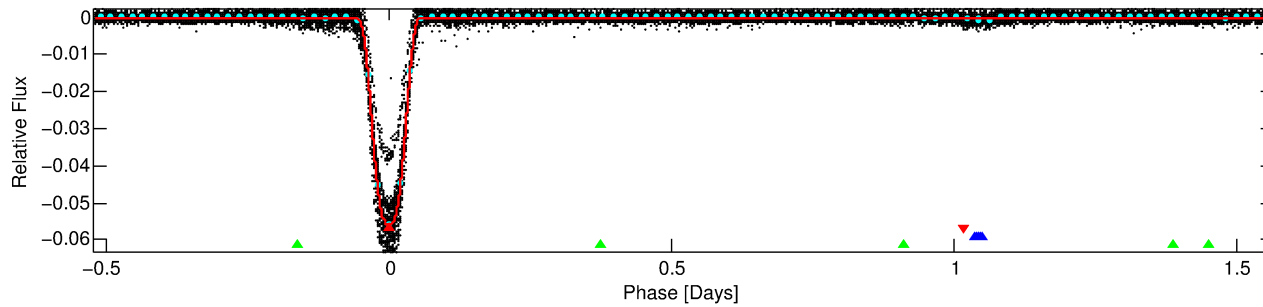
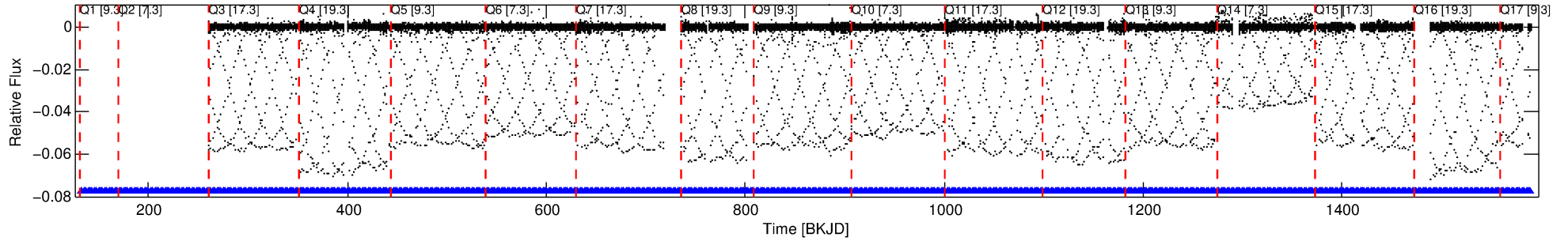
Ephemeris Match Information For 004743508-01

No Significant Match Found

DV One-Page Summary

KIC: 4743508 Candidate: 1 of 3 Period: 2.086 d
KOI: K03572.01 Corr: 0.974

Kp: 14.55 R*: 1.12 Rs Teff: 6124.0 K Logg: 4.26 Fe/H: -0.680



DV Fit Results:

Period = 2.08608 [0.00000] d
Epoch = 133.4149 [0.0000] BKJD
Rp/R* = 0.2345 [0.0002]
a/R* = 7.23 [0.01]
b = 0.69 [0.00]
Seff = 1734.39 [727.77]
Teq = 1646 [173] K
Rp = 28.64 [7.45] Re
a = 0.0302 [0.0075] AU
Ag = 0.24 [0.10] [-7.70σ]
Teffp = 1789 [71] K [0.77σ]

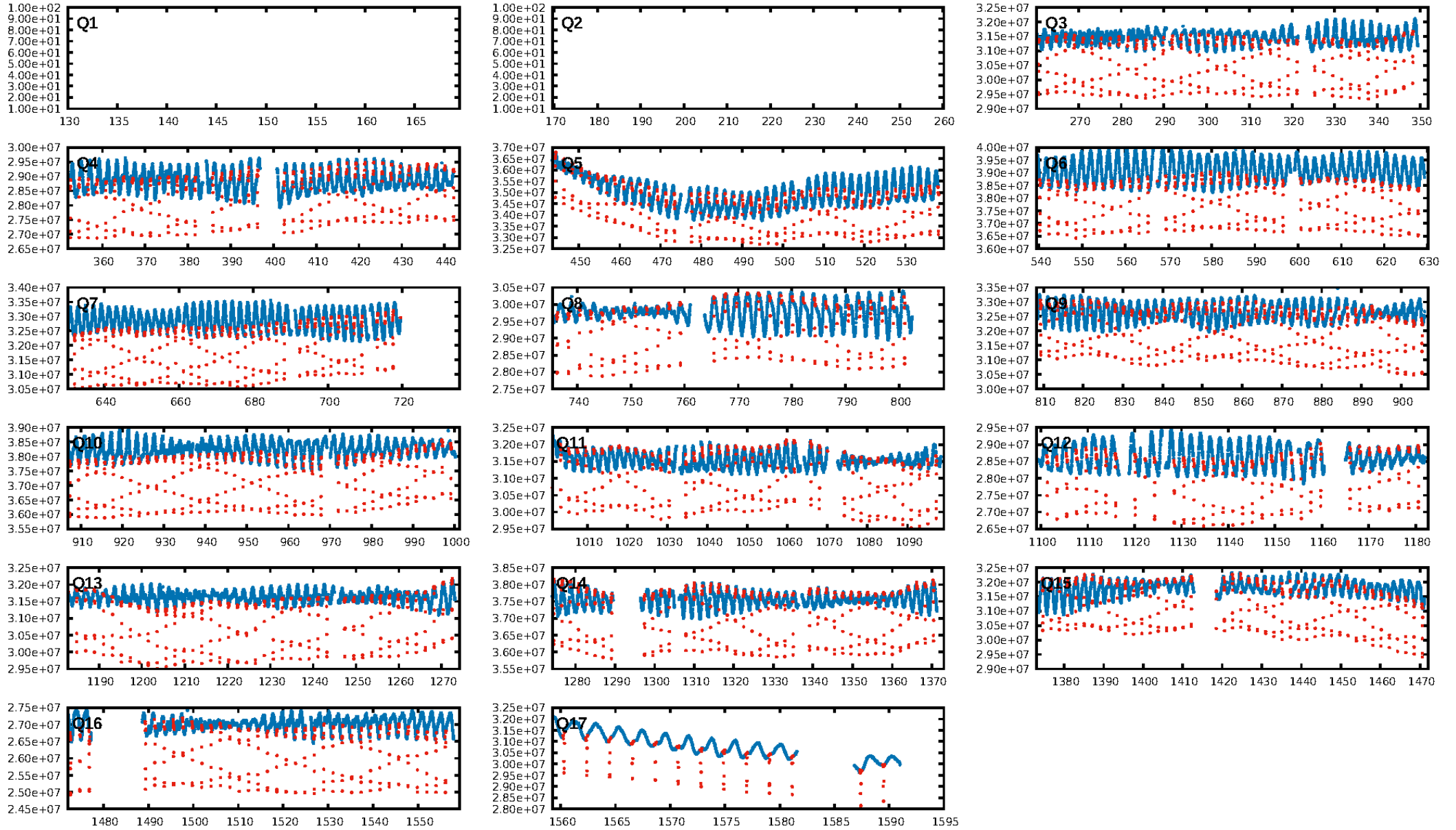
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [1614.76σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [572/572]
GhostDiagnostic-chr: 1.053
Centroid-sig: 0.0%
Centroid-so: 2.161 arcsec [1841.67σ]
OotOffset-rm: 3.937 arcsec [41.78σ]
KicOffset-rm: 0.061 arcsec [0.87σ]
OotOffset-st: 3/4/4/4 [15]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 1.00 [15/15]
DiffImageOverlap-fno: 1.00 [15/15]

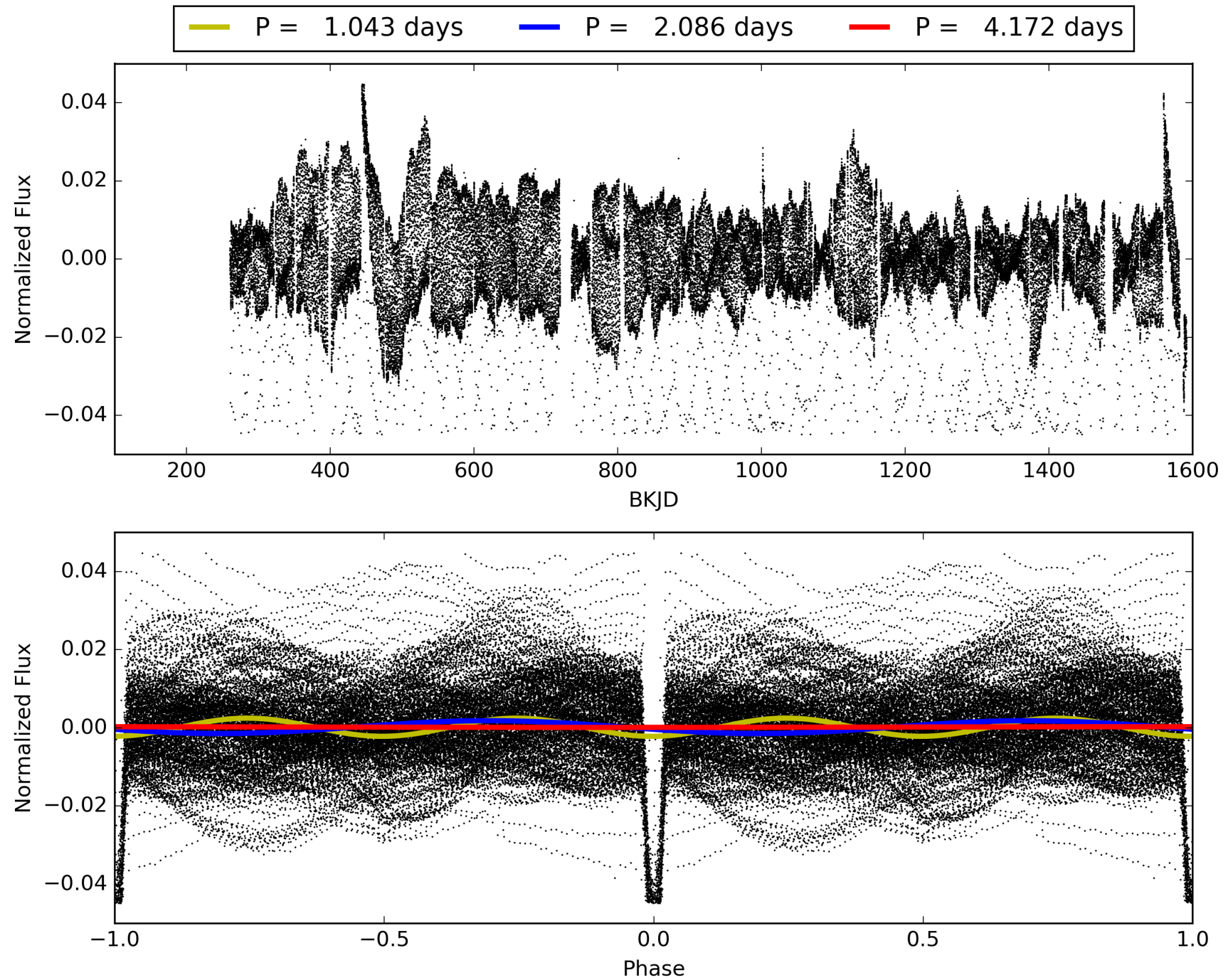
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 004743508-01, PDC Light Curves

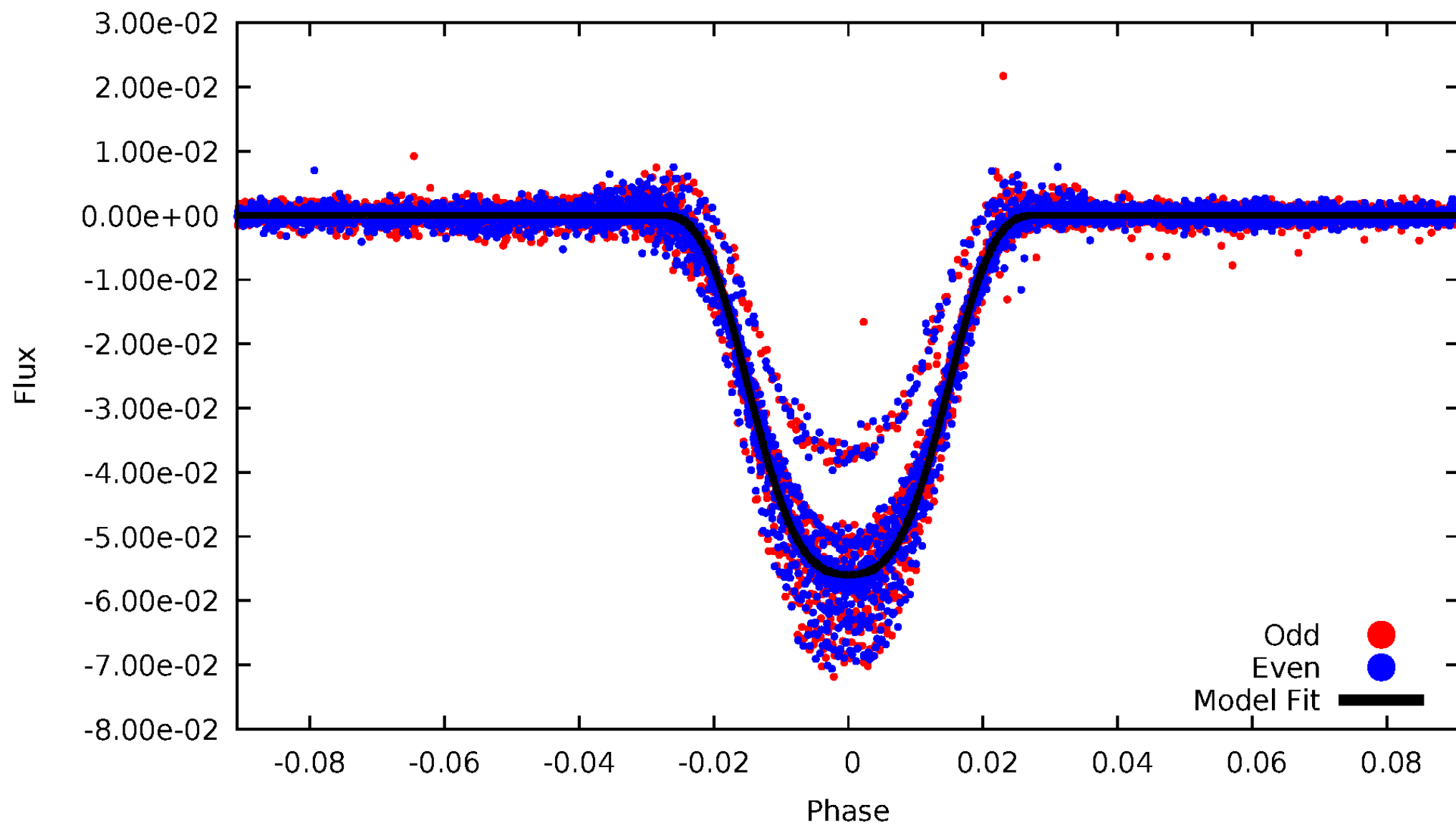


TCE 004743508-01



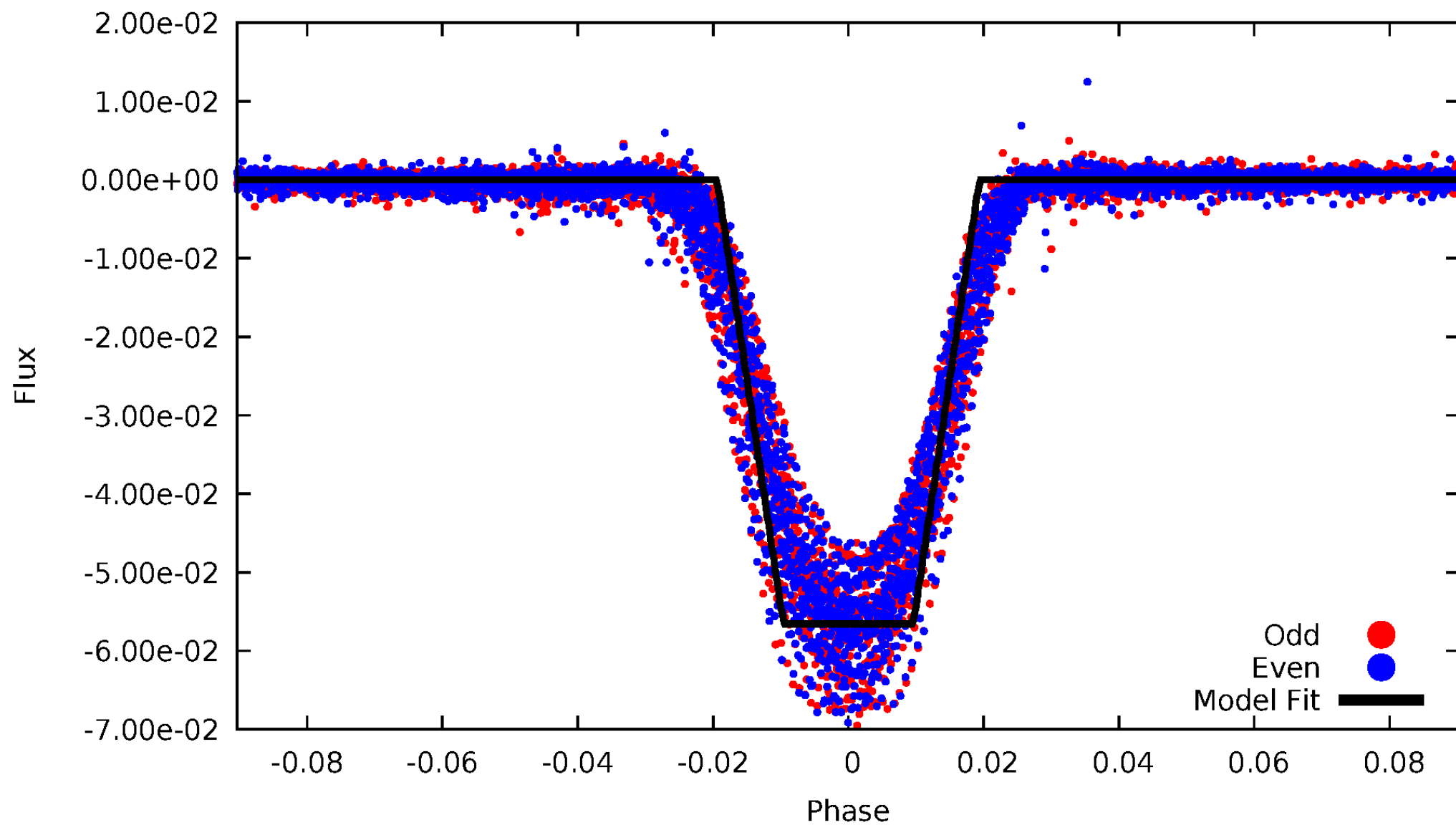
DV Odd/Even

TCE 004743508-01



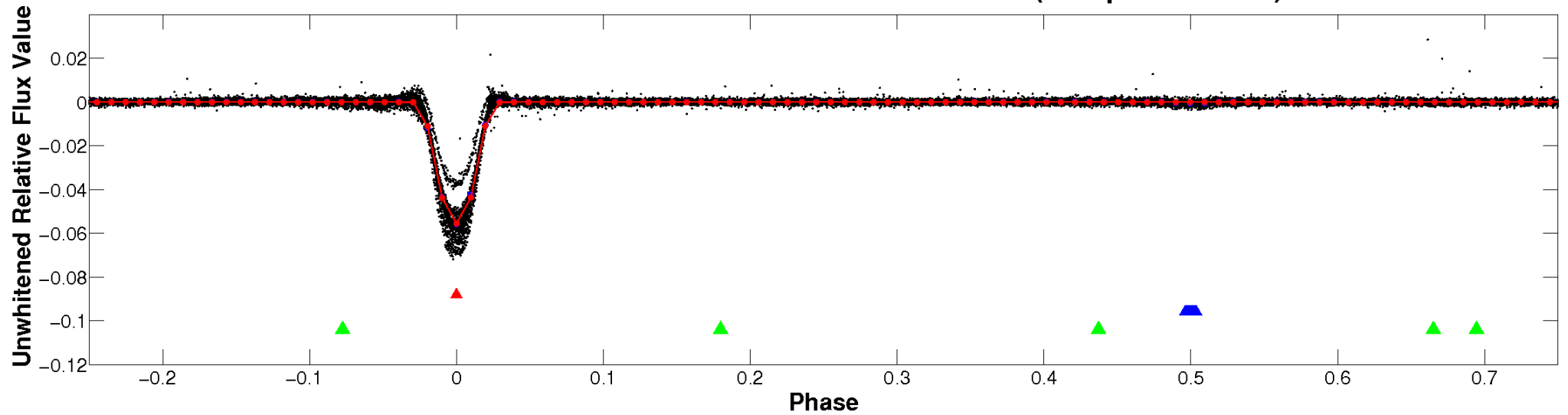
ALT Odd/Even

TCE 004743508-01

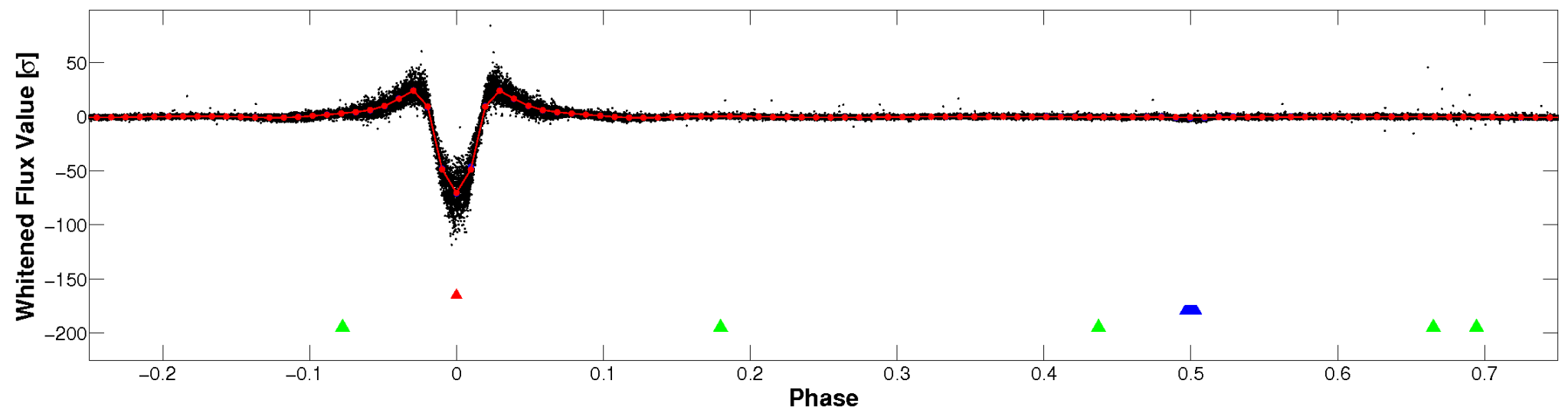


Non-Whitened Vs. Whitened Light Curve

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

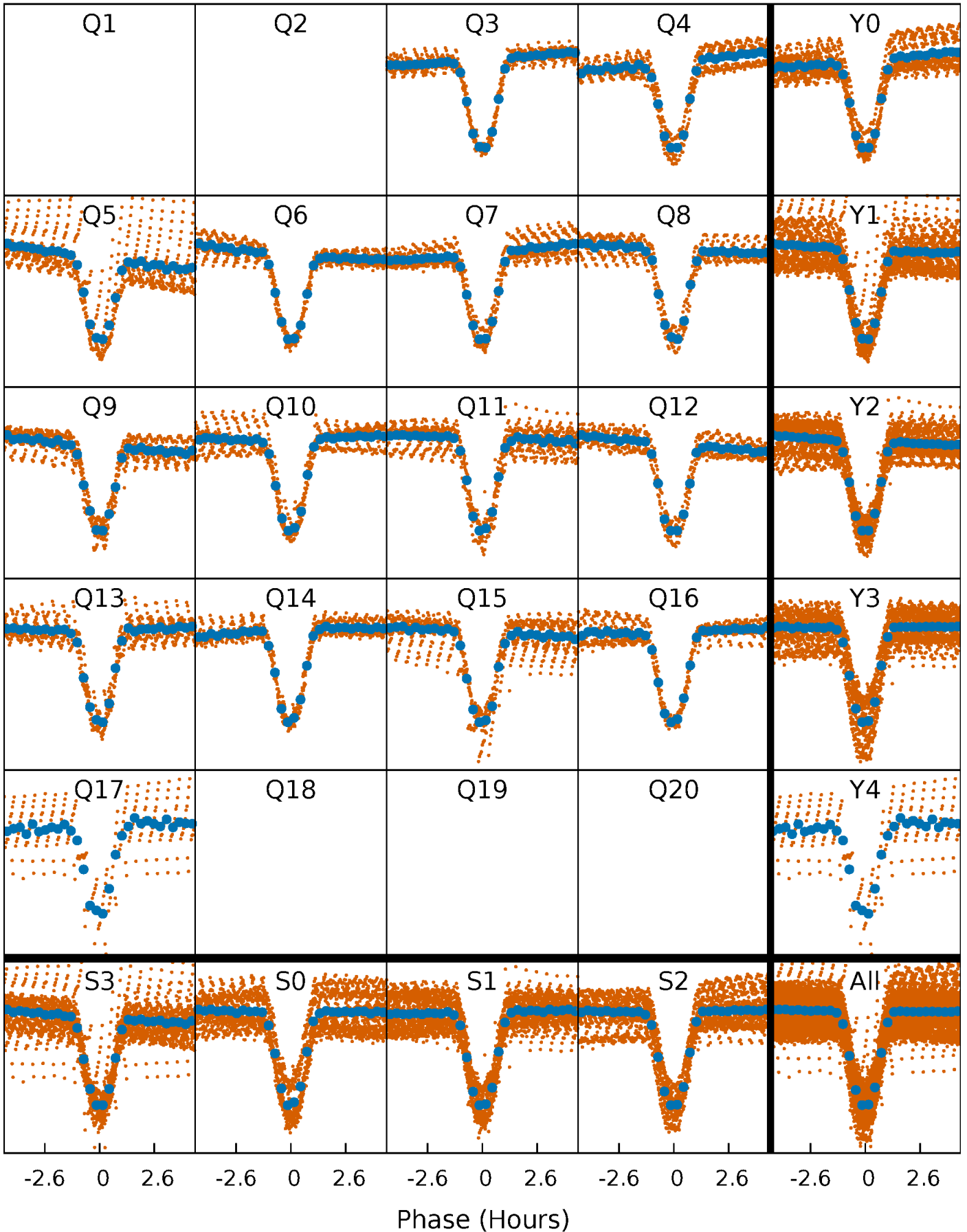


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



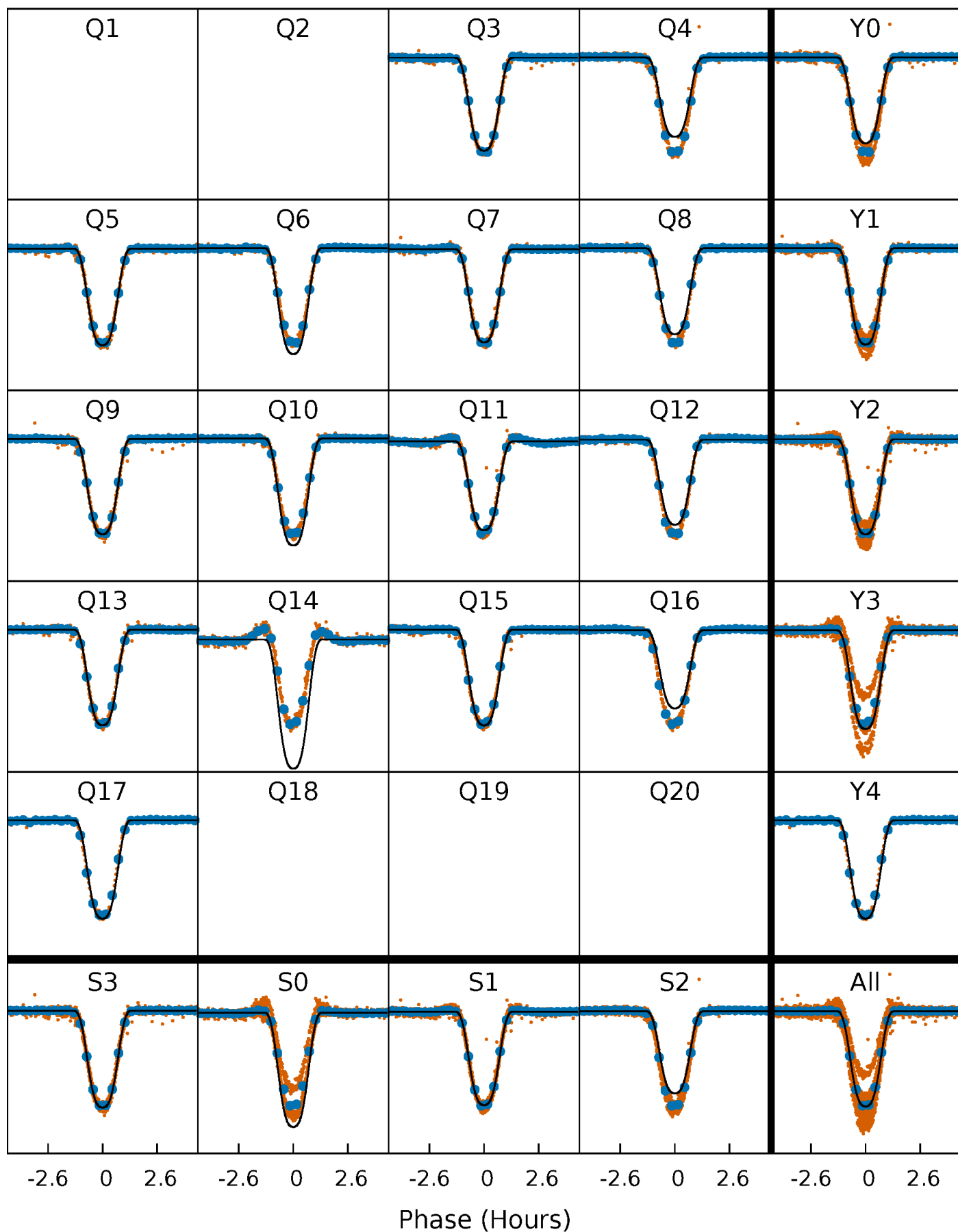
PDC Quarter-Phased Transit Curves

TCE 004743508-01 P= 2.086080 Days $T_0=133.414878$ (BKJD)



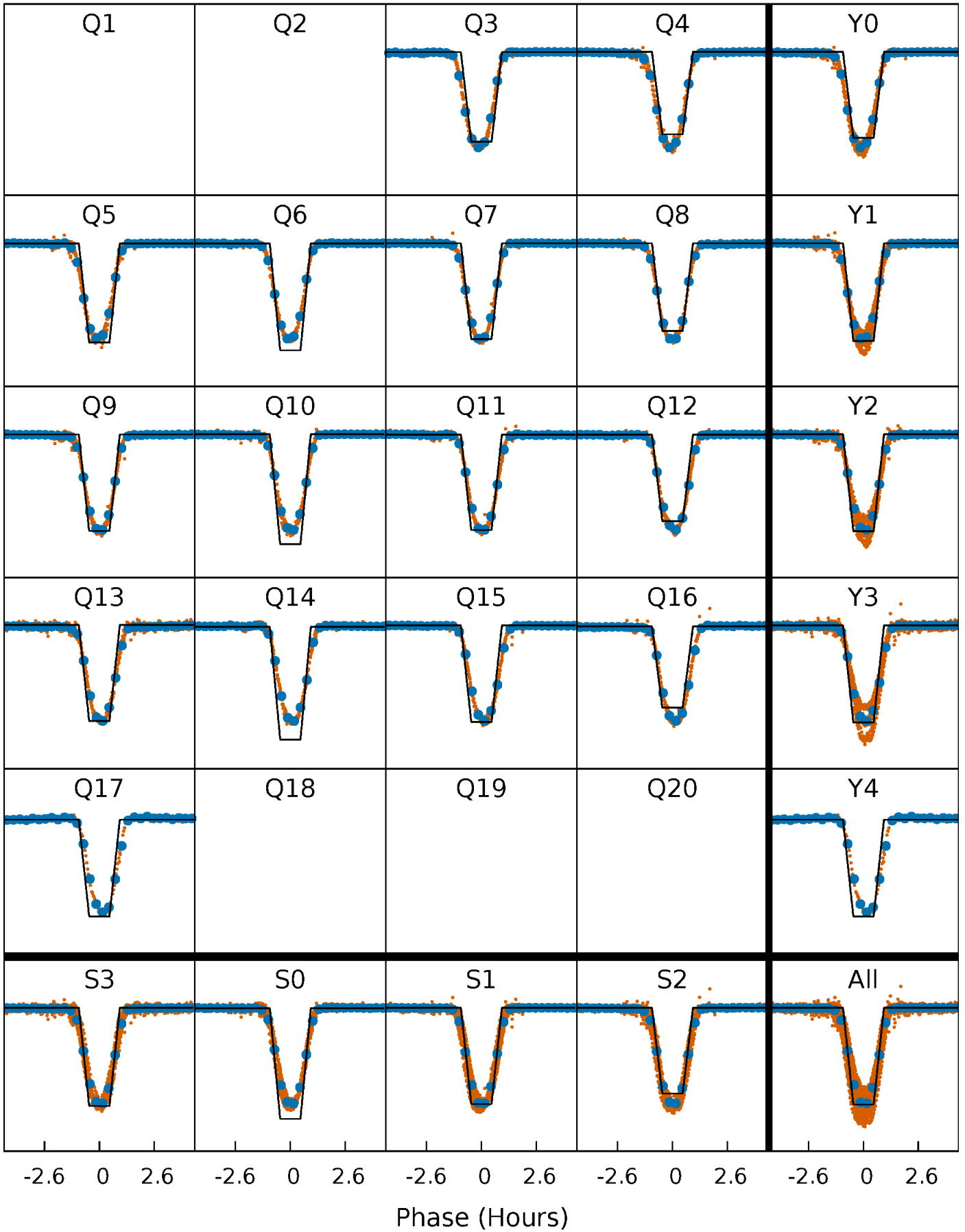
DV Quarter-Phased Transit Curves

TCE 004743508-01 P= 2.086080 Days $T_0=133.414878$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

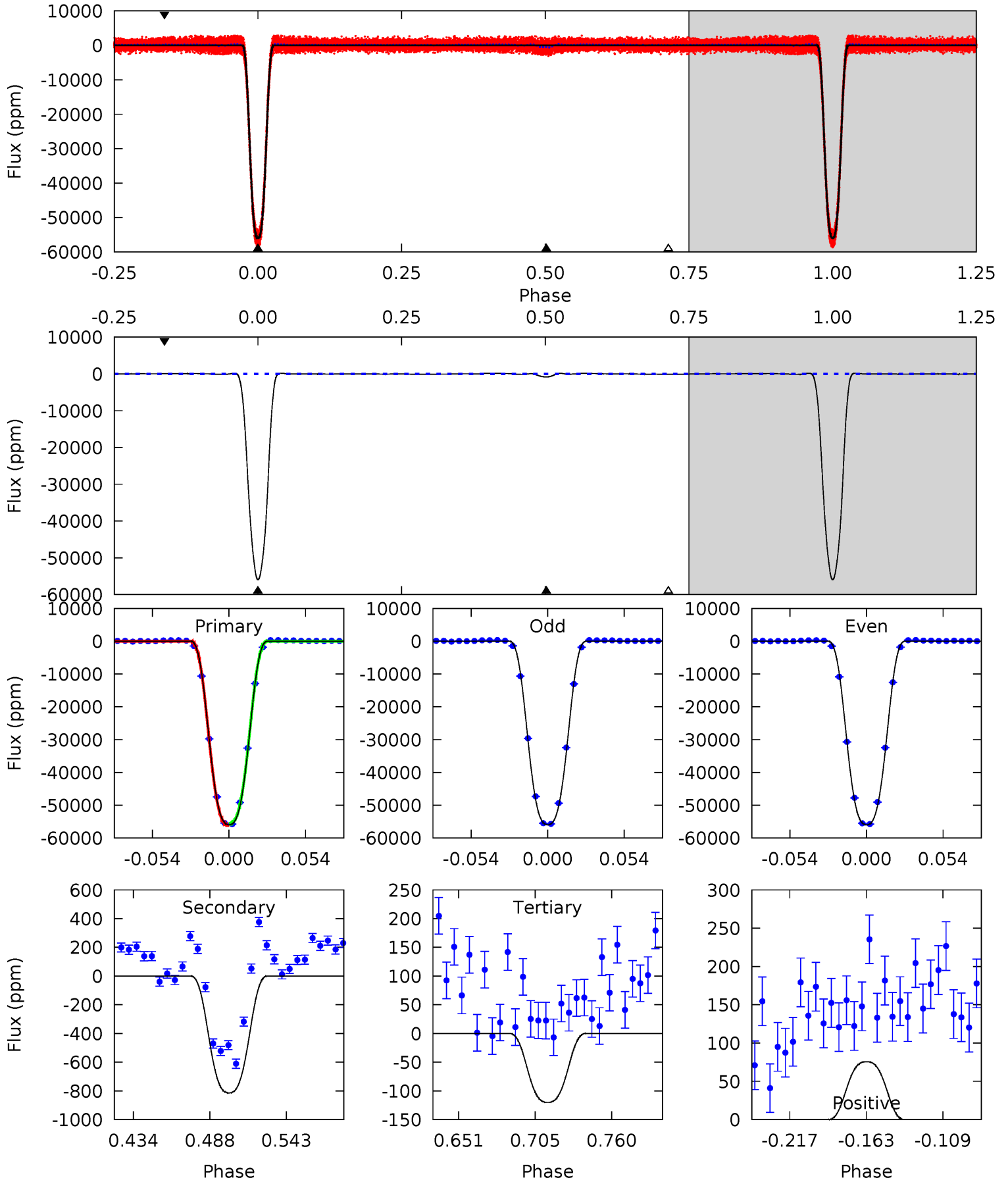
TCE 004743508-01 P= 2.086058 Days $T_0=133.422084$ (BKJD)



DV Model-Shift Uniqueness Test

004743508-01, P = 2.086080 Days, E = 133.414878 Days

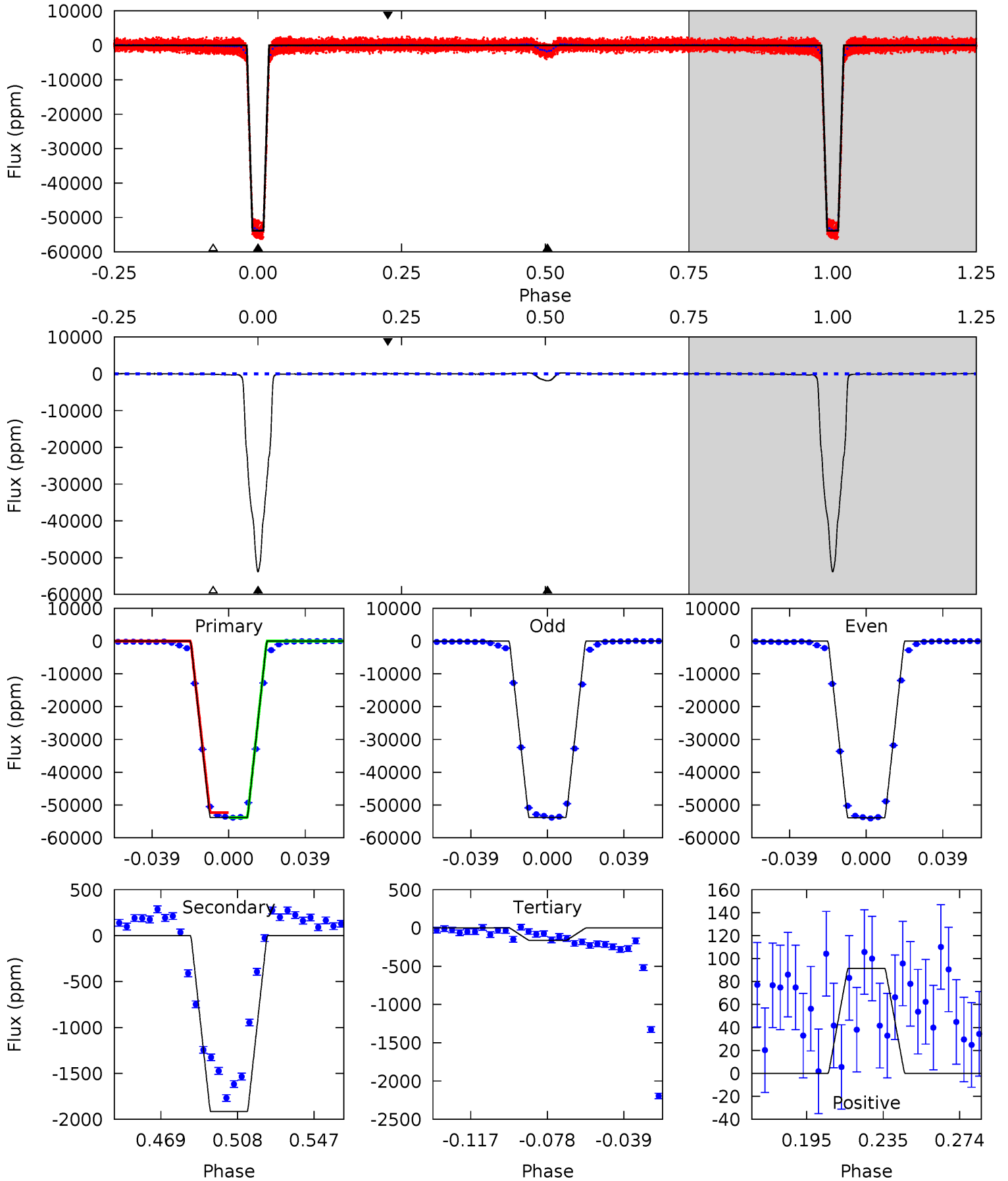
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3831	55.7	8.22	5.18	4.69	1.92	4.72	3823	3826	47.5	50.6	1.02	0.99	0.00	0



Alt Model-Shift Uniqueness Test

004743508-01, P = 2.086058 Days, E = 133.422084 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2231	79.3	6.75	3.79	4.76	2.06	3.08	2224	2227	72.5	75.5	1.86	1.00	0.00	0



Stellar Parameters For KIC 004743508

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6124^{+200}_{-218}	$4.265^{+0.231}_{-0.189}$	$-0.680^{+0.300}_{-0.300}$	$1.119^{+0.291}_{-0.291}$	$0.839^{+0.117}_{-0.063}$	$0.844^{+1.079}_{-0.409}$
	+3%/-4%	+5%/-4%	+44%/-44%	+26%/-26%	+14%/-8%	+128%/-48%
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 004743508-01 / KOI 3572.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-814 ± 15	$28.74^{+3.96}_{-4.46}$	2280^{+188}_{-175}	2535^{+126}_{-174}	$0.500^{+0.187}_{-0.113}$
Alt.	-1915 ± 24	$29.32^{+4.24}_{-4.26}$	2296^{+169}_{-187}	3067^{+76}_{-79}	$1.132^{+0.407}_{-0.262}$

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

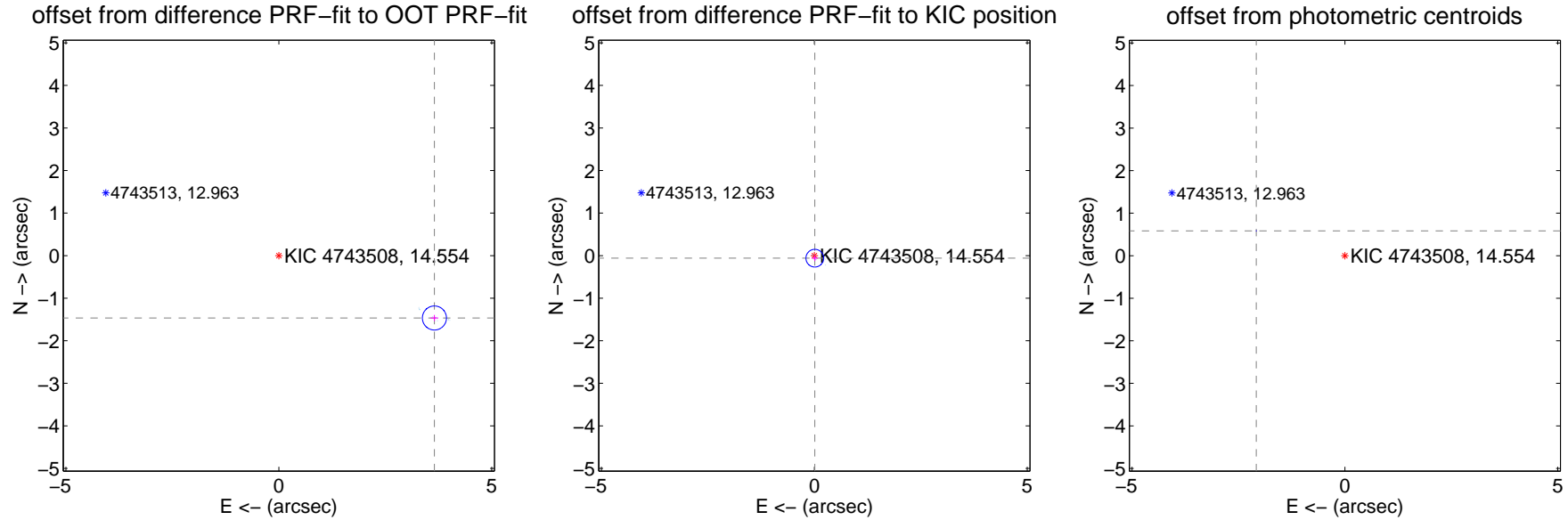
DV Centroid Data

Supplemental centroid analysis for 004743508-01. Kepler magnitude: 14.55. Transit SNR 1971.16

There are 15 quarters with good PRF difference image offsets

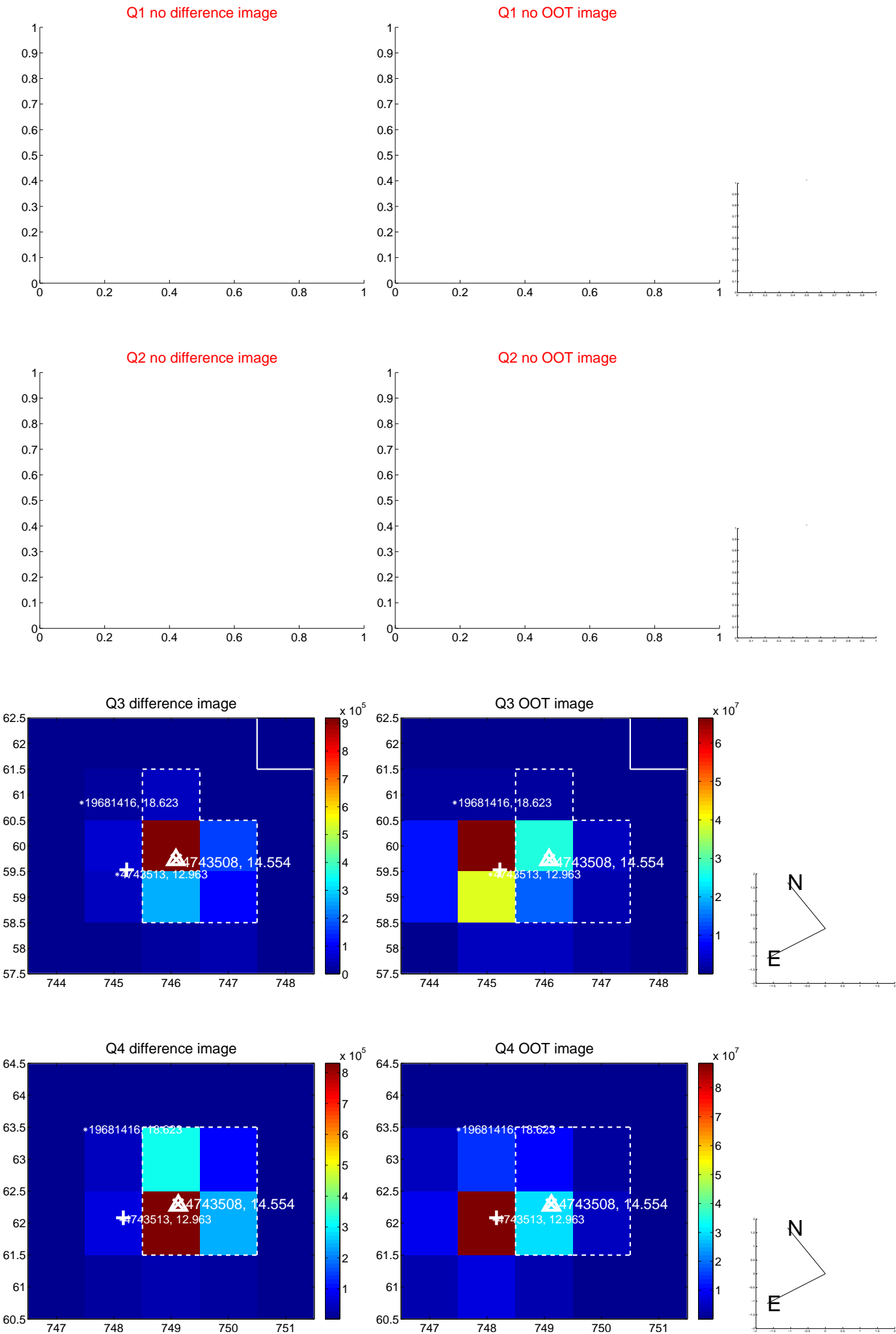
The OOT PRF centroid is offset from the target star catalog position by about 4.32 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.937 ± 0.094	41.78	-3.654 ± 0.091	-1.466 ± 0.072
PRF-fit source offset from KIC position	0.061 ± 0.069	0.87	-0.011 ± 0.072	-0.060 ± 0.069
photometric centroid source offset	2.16 ± 0.00	1841.67	2.08 ± 0.00	0.58 ± 0.00

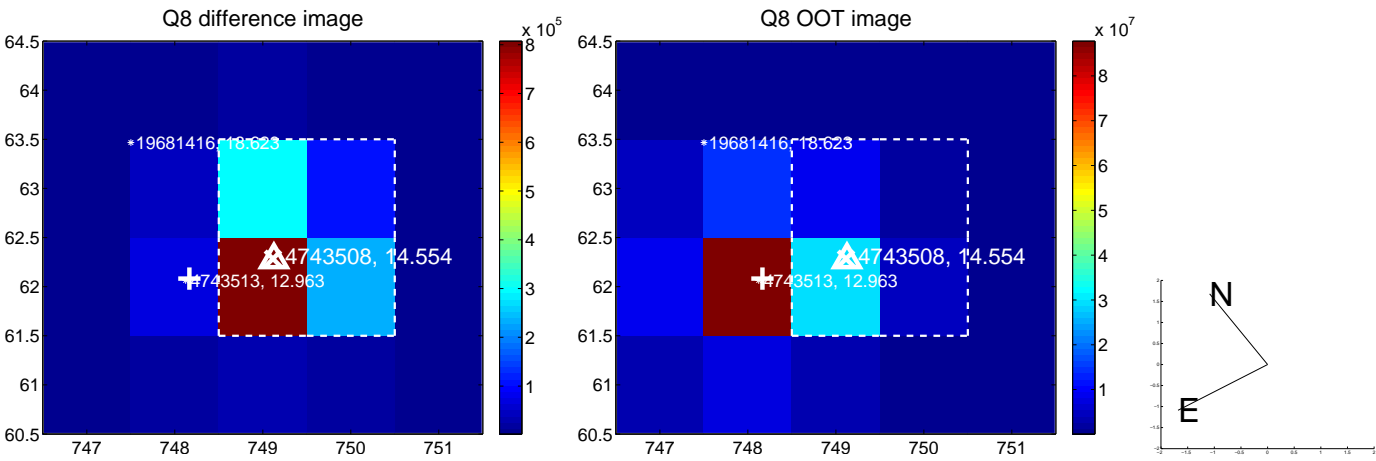
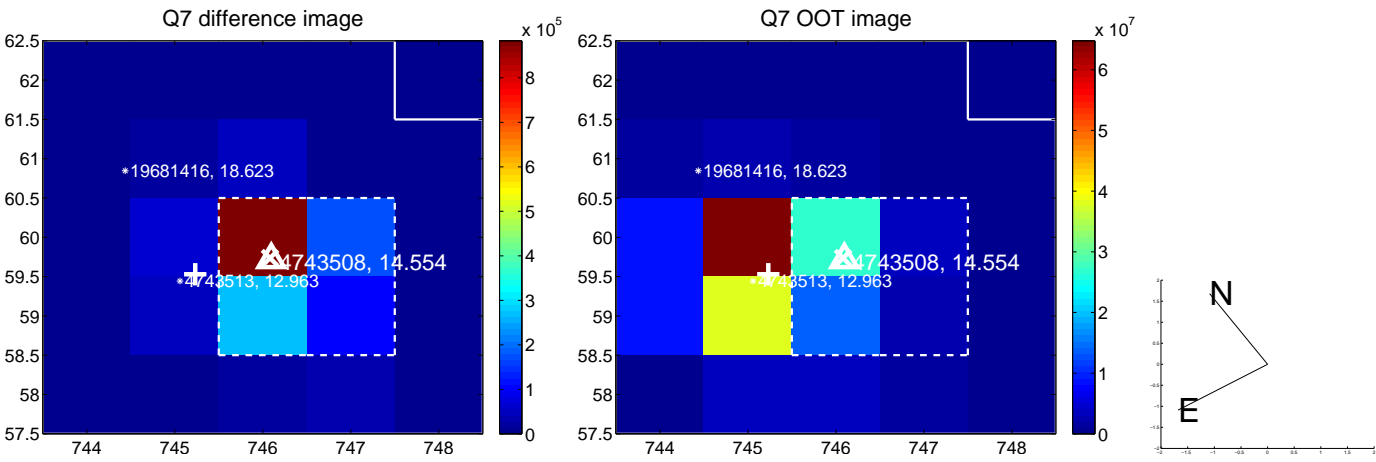
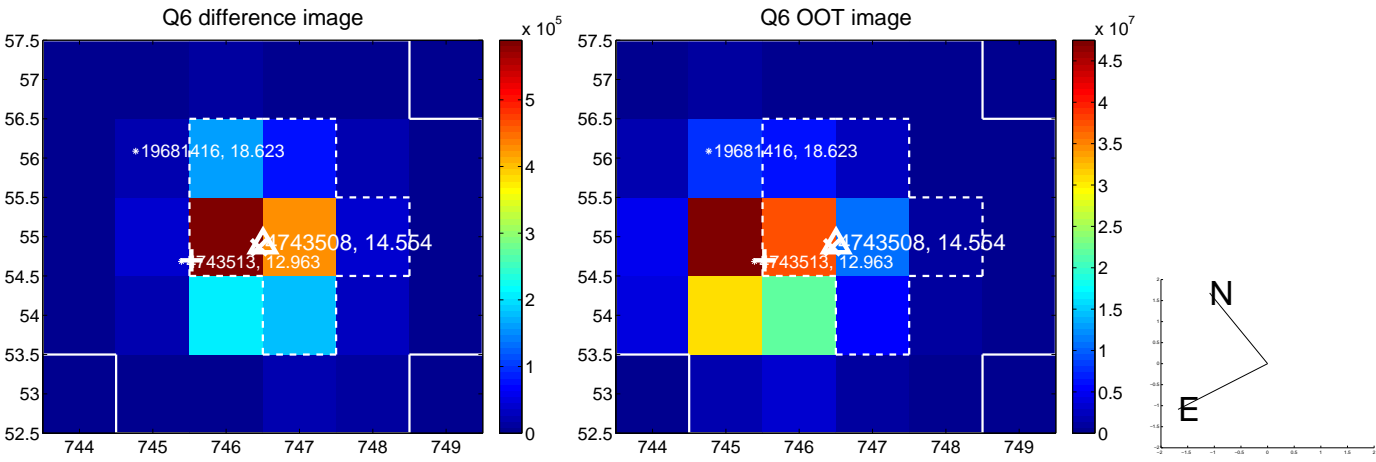
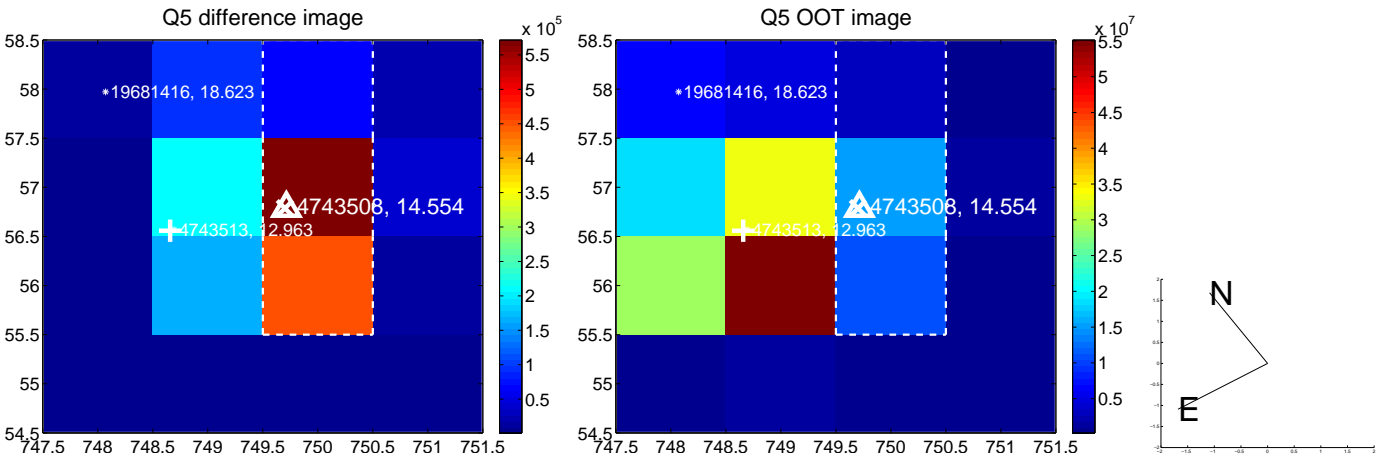


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

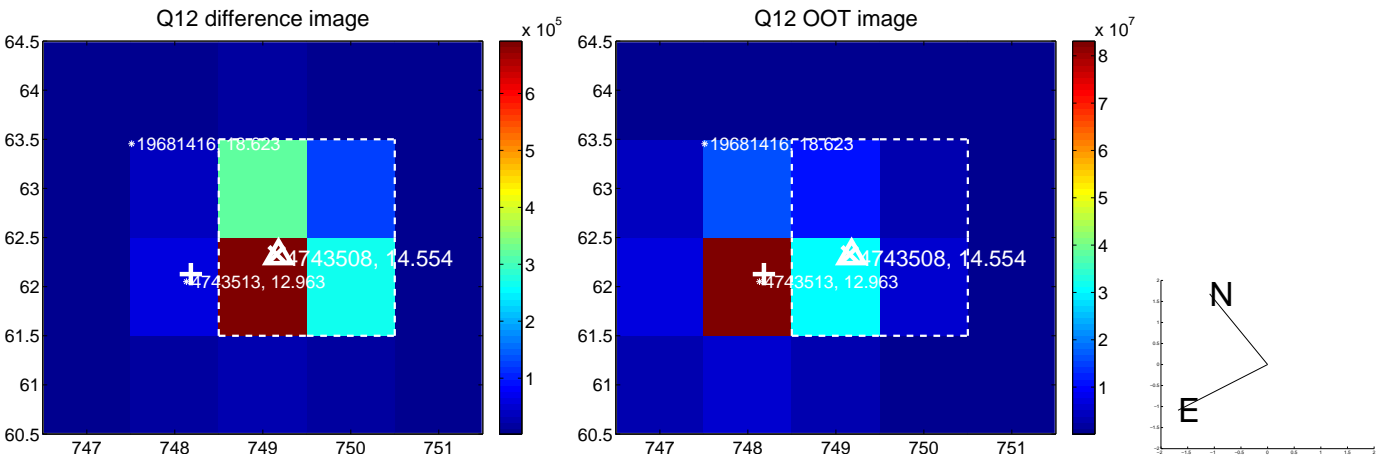
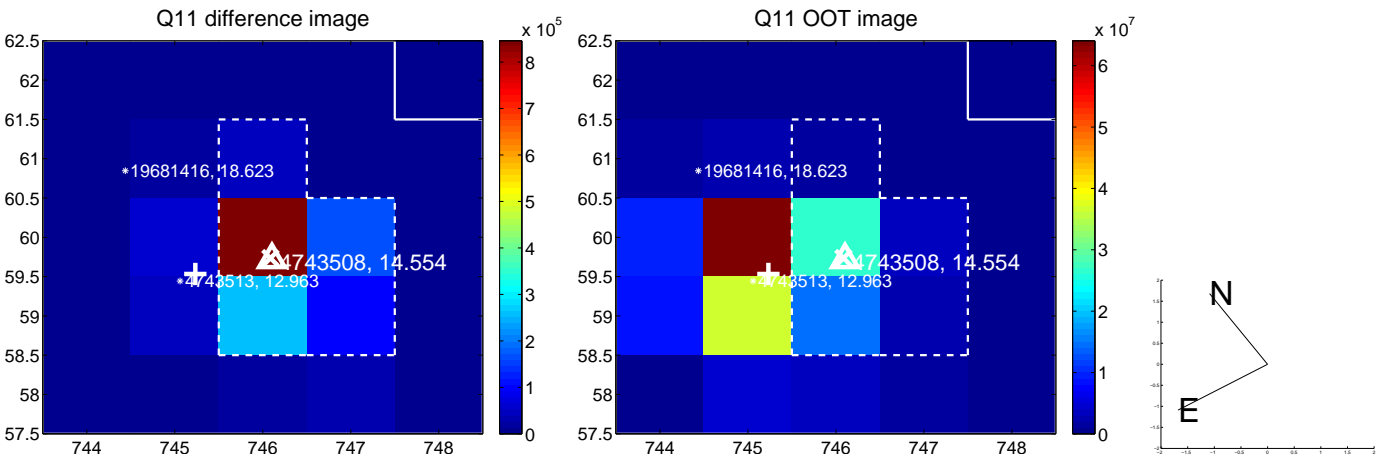
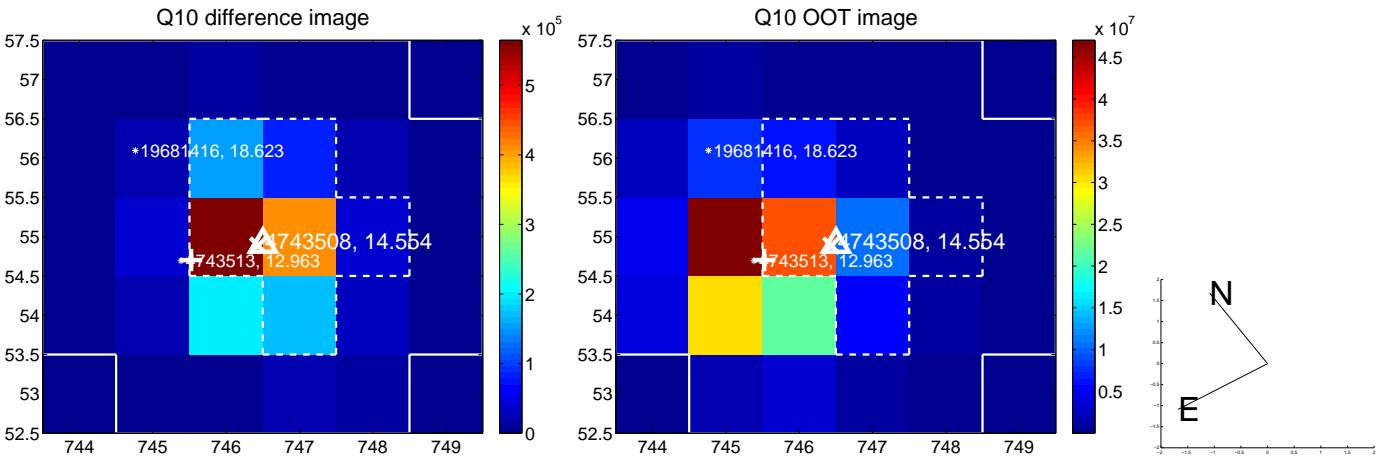
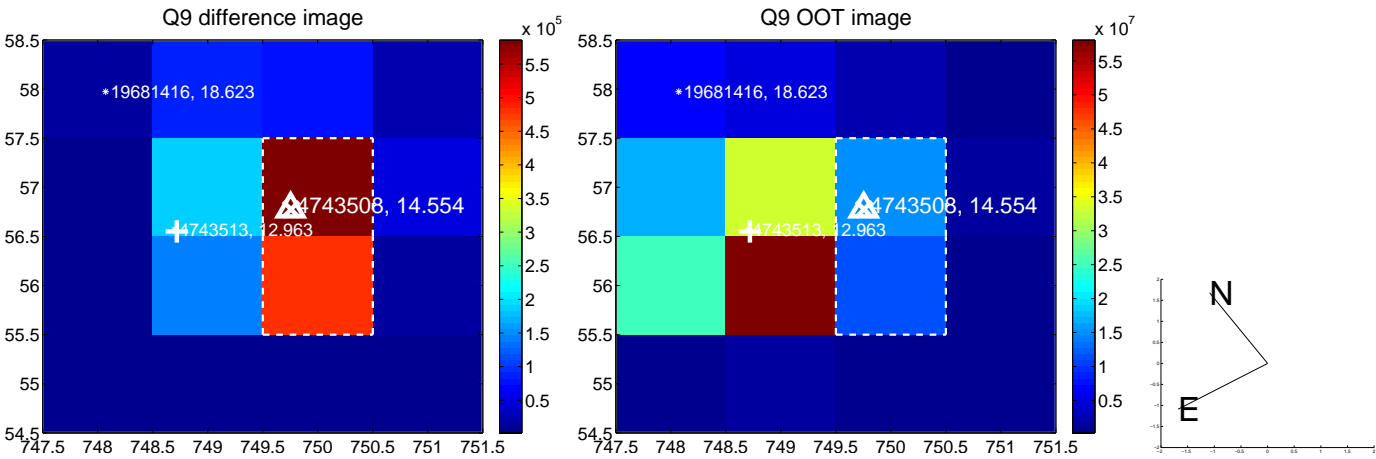
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



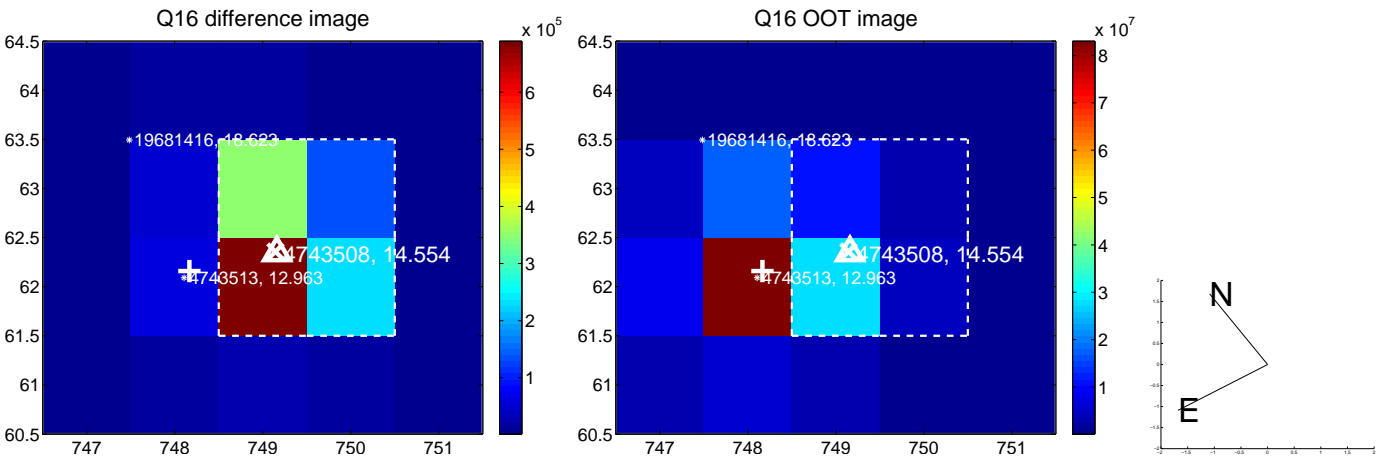
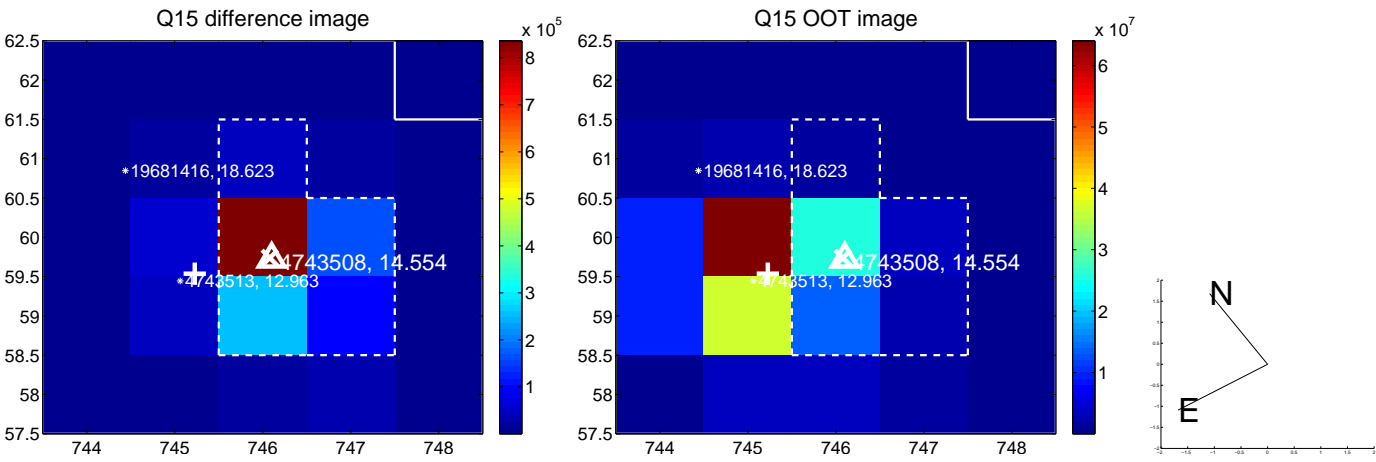
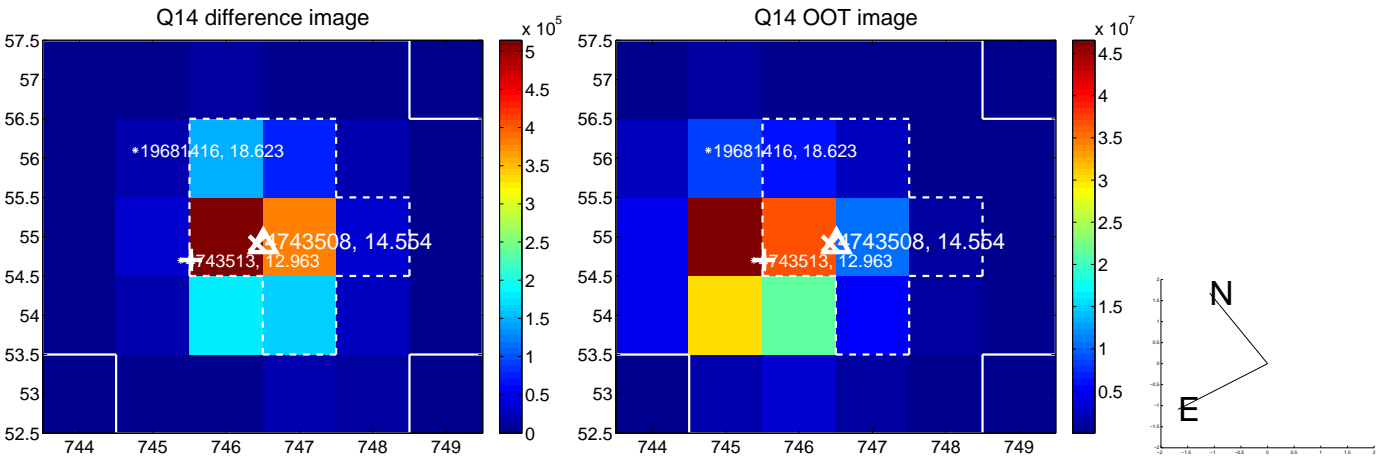
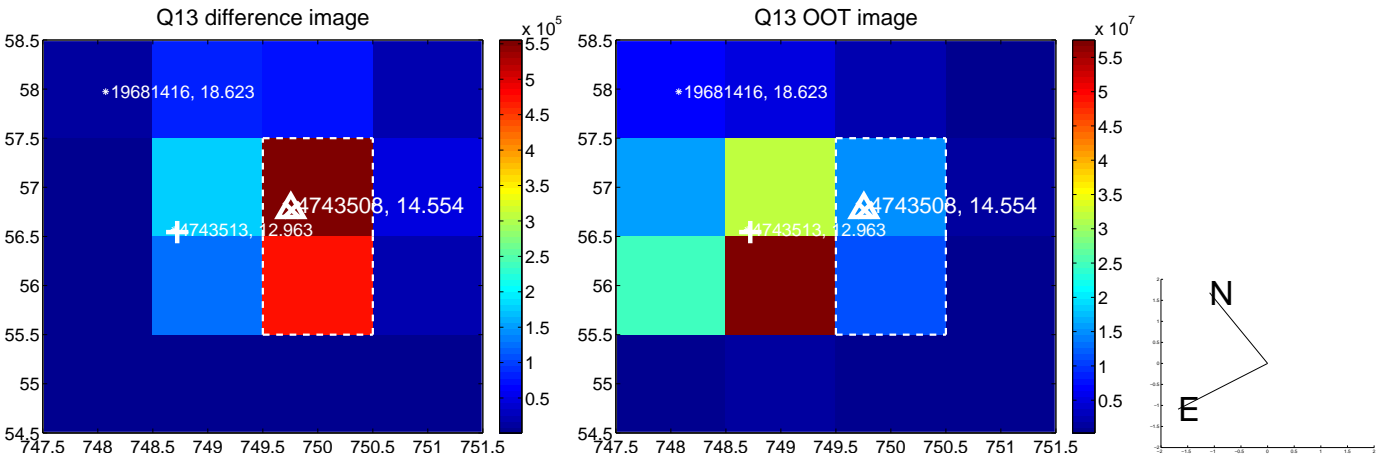
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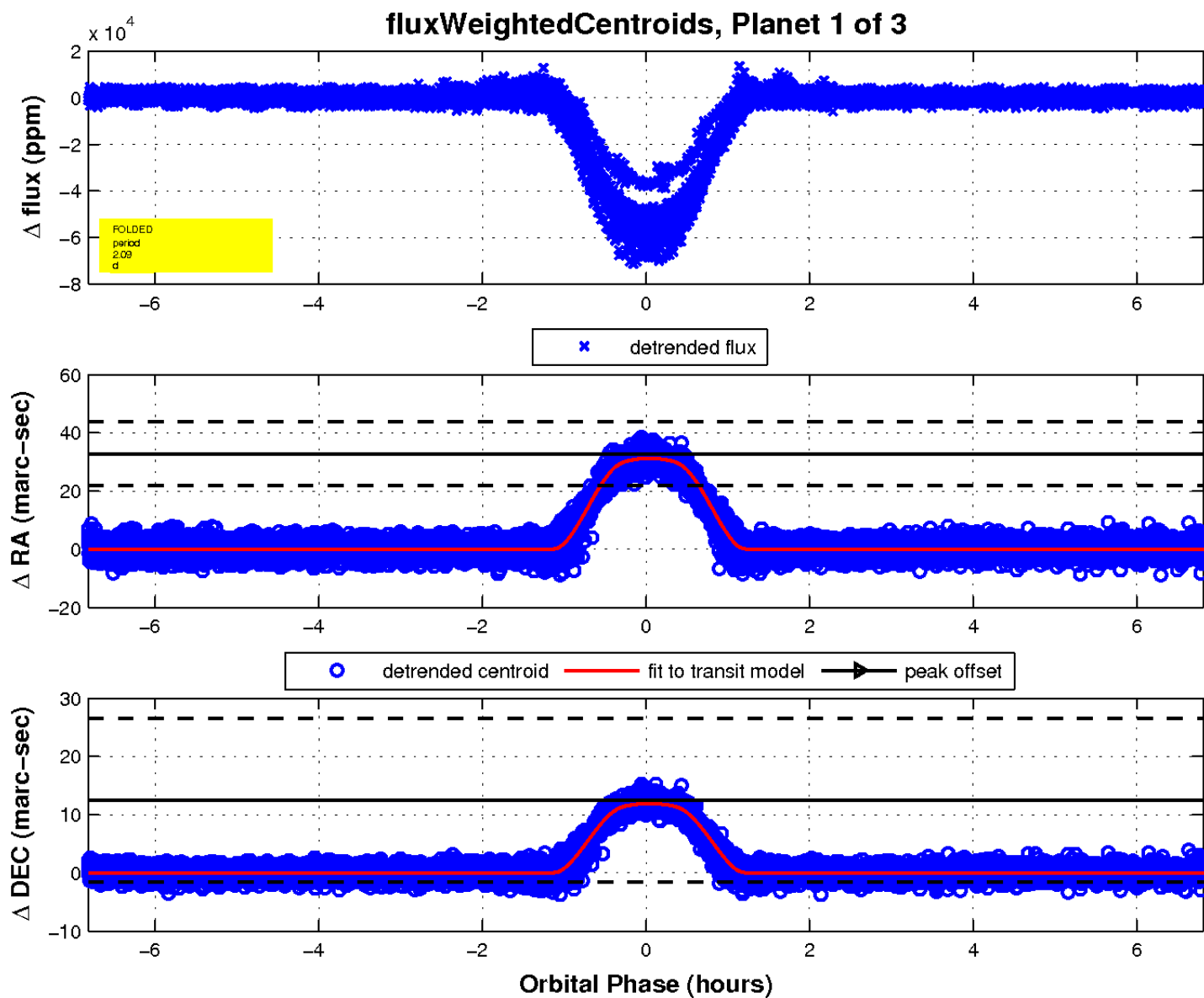
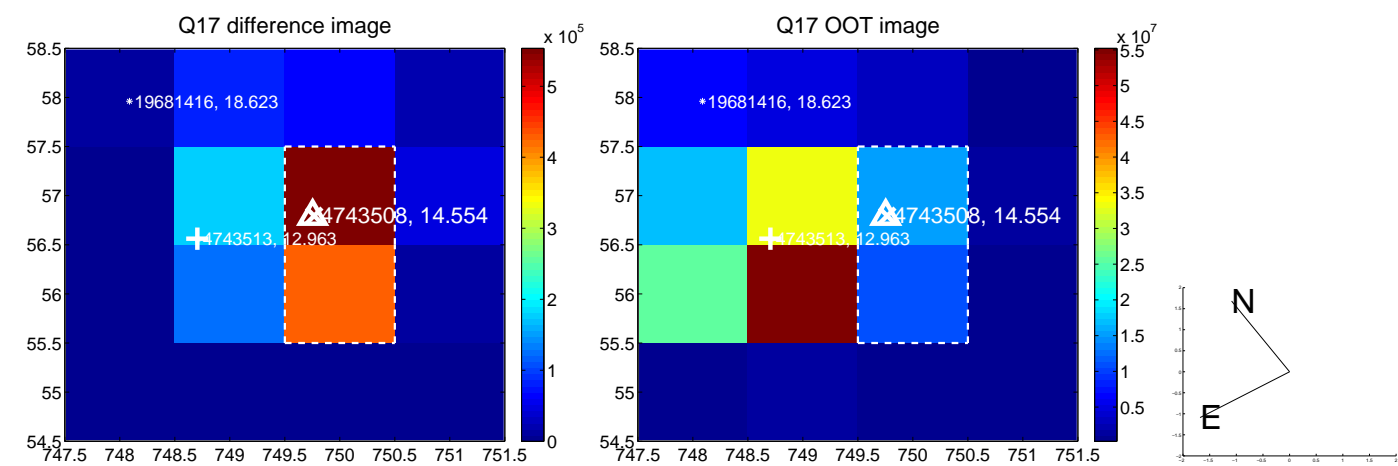
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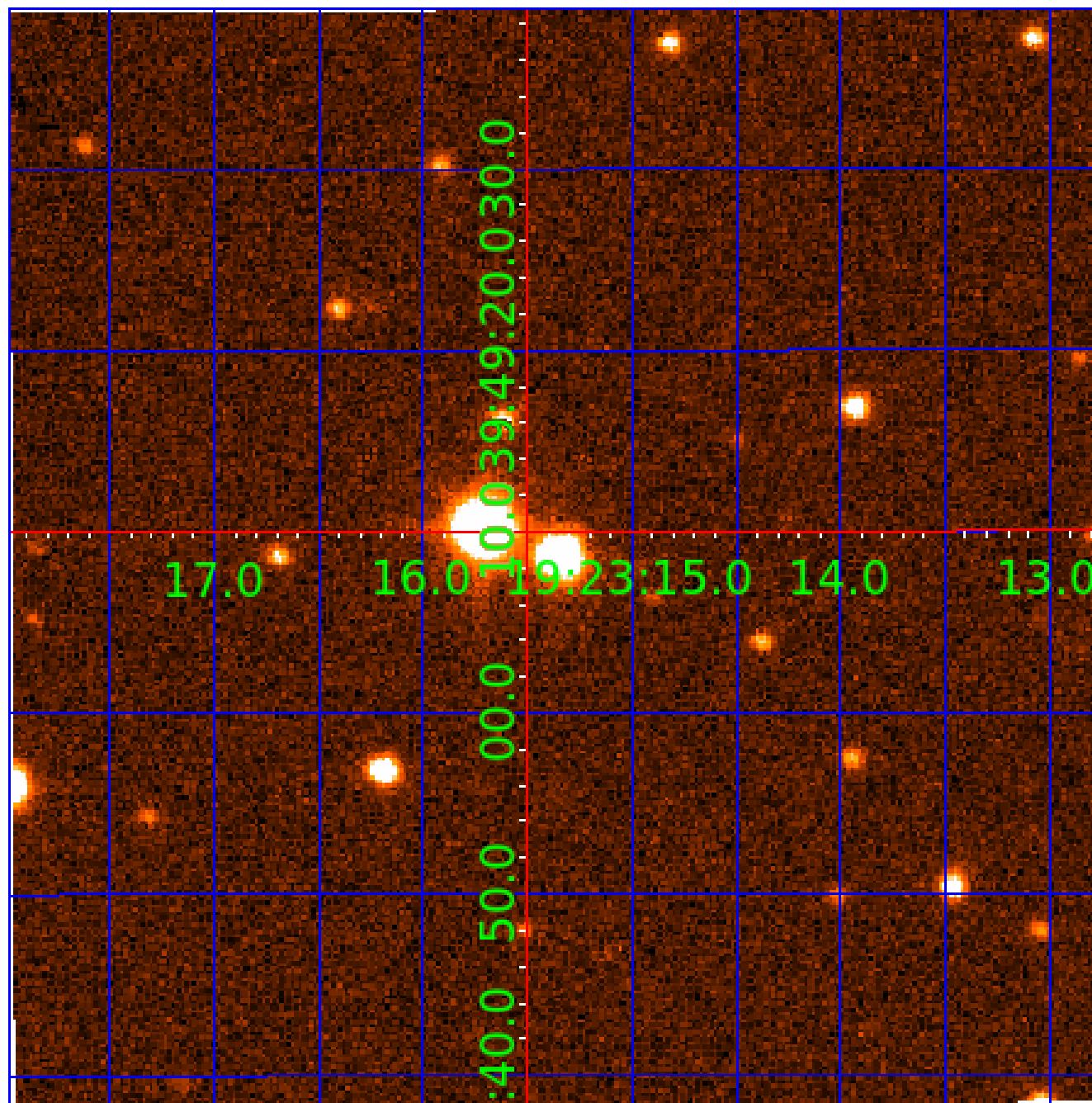


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UKIRT Image

Declination



KIC 004743508

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})
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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004743508-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS
004743508-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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.

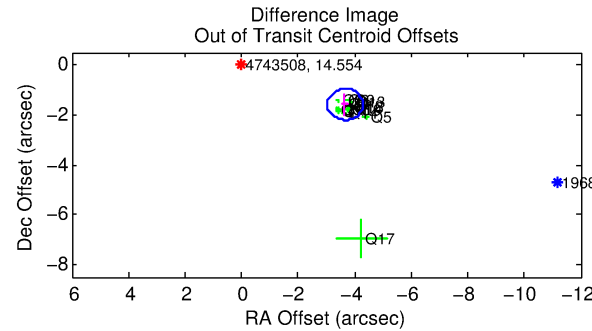
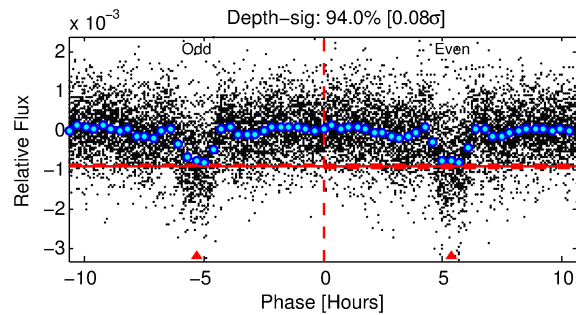
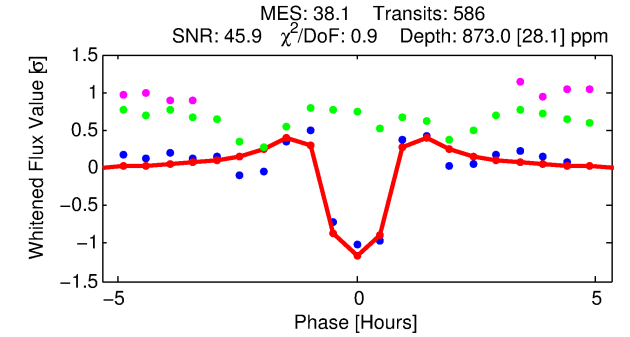
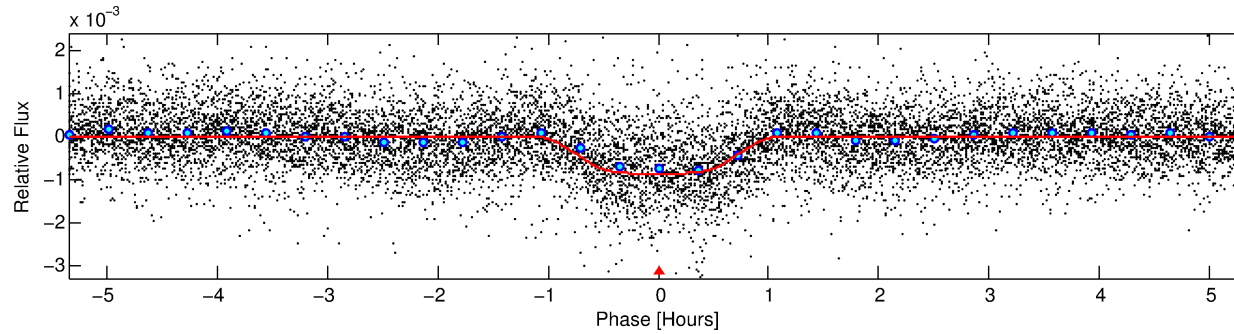
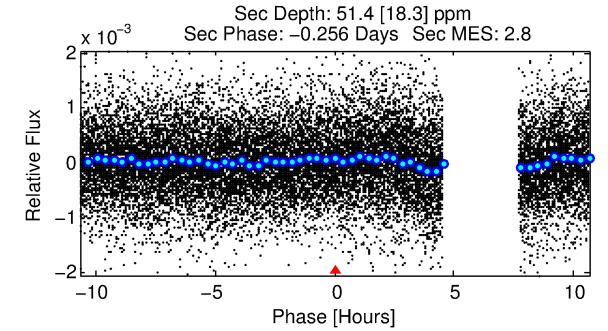
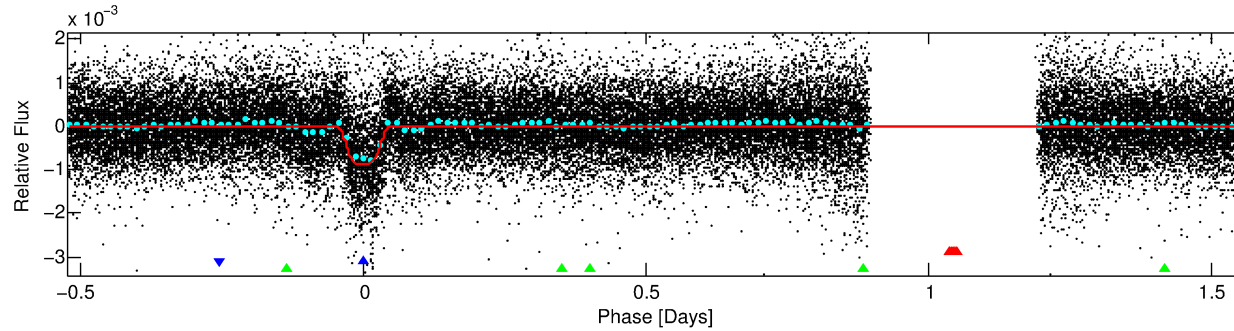
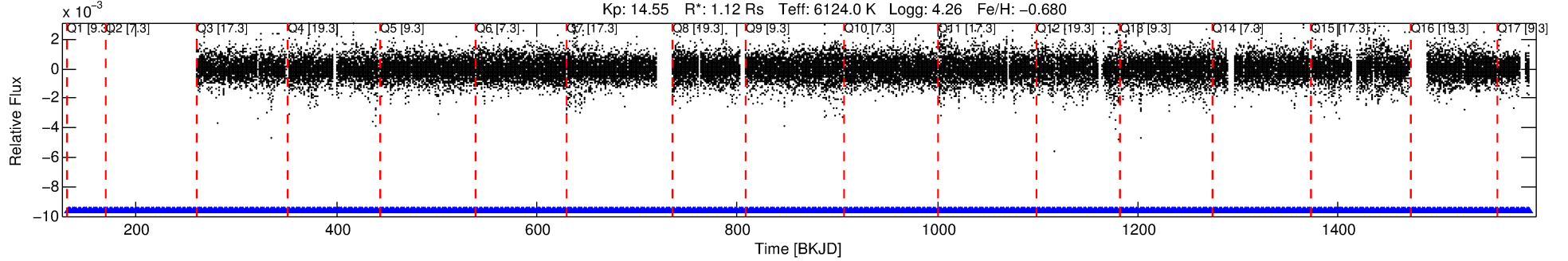
Ephemeris Match Information For 004743508-02

No Significant Match Found

DV One-Page Summary

KIC: 4743508 Candidate: 2 of 3 Period: 2.086 d
KOI: K03572 Corr: No Ephemeris Match

Kp: 14.55 R*: 1.12 Rs Teff: 6124.0 K Logg: 4.26 Fe/H: -0.680



DV Fit Results:

Period = 2.08606 [0.00000] d
Epoch = 132.3799 [0.0005] BKJD
Rp/R* = 0.0318 [0.0018]
a/R* = 4.60 [1.18]
b = 0.90 [0.06]
Seff = 1734.42 [727.78]
Teq = 1646 [173] K
Rp = 3.89 [1.03] Re
a = 0.0302 [0.0075] AU
Ag = 1.70 [0.93] [0.76σ]
Teffp = 2906 [291] K [3.73σ]

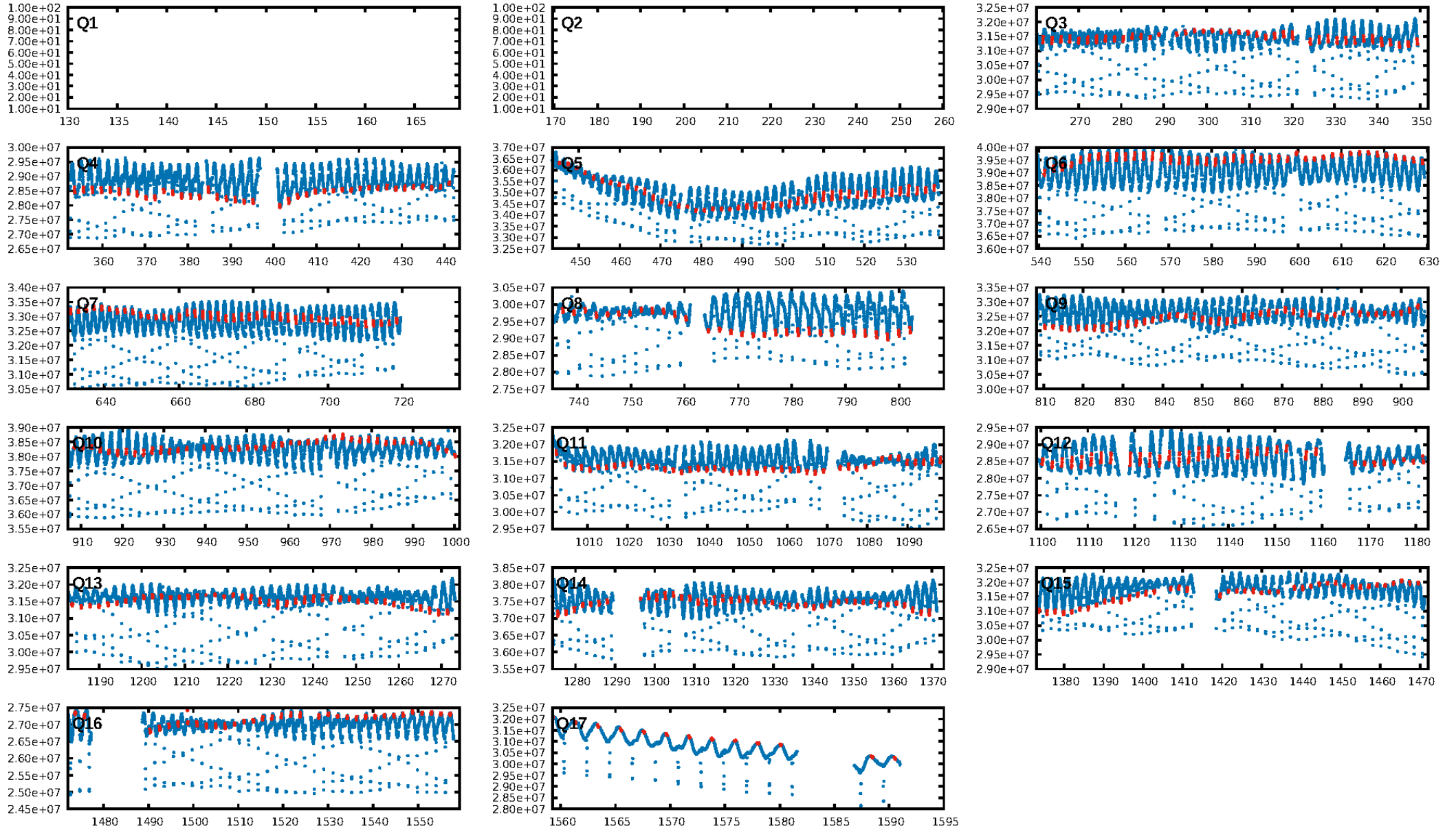
DV Diagnostic Results:

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: 1.00 [573/573]
GhostDiagnostic-chr: 2.042
Centroid-sig: 0.0%
Centroid-so: 1.722 arcsec [24.39σ]
OotOffset-rm: 3.987 arcsec [19.00σ]
KicOffset-rm: 0.225 arcsec [0.64σ]
OotOffset-st: 2/4/4/4 [14]
KicOffset-st: 2/4/4/4 [14]
DiffImageQuality-fgm: 0.93 [13/14]
DiffImageOverlap-fno: 1.00 [15/15]

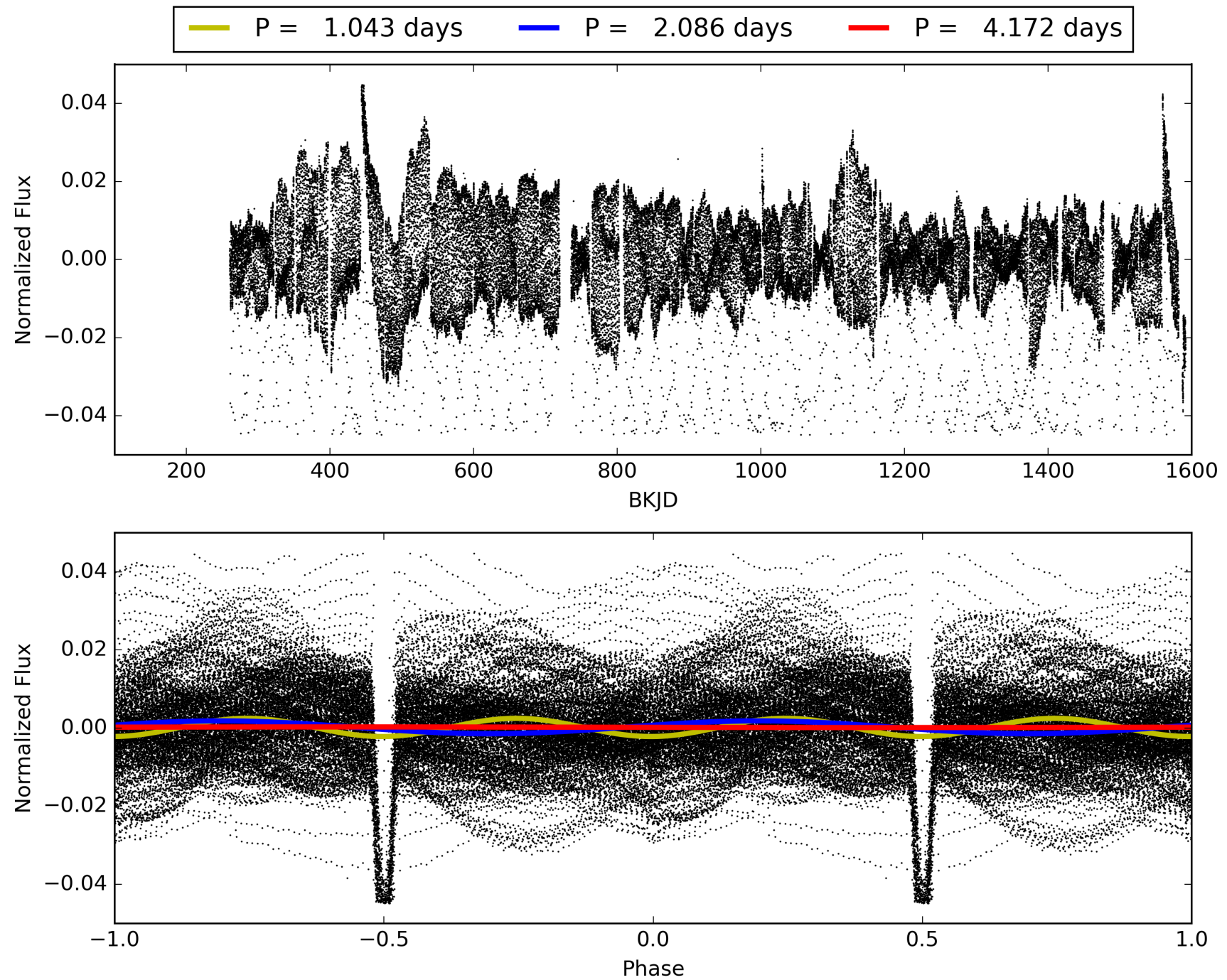
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 004743508-02, PDC Light Curves

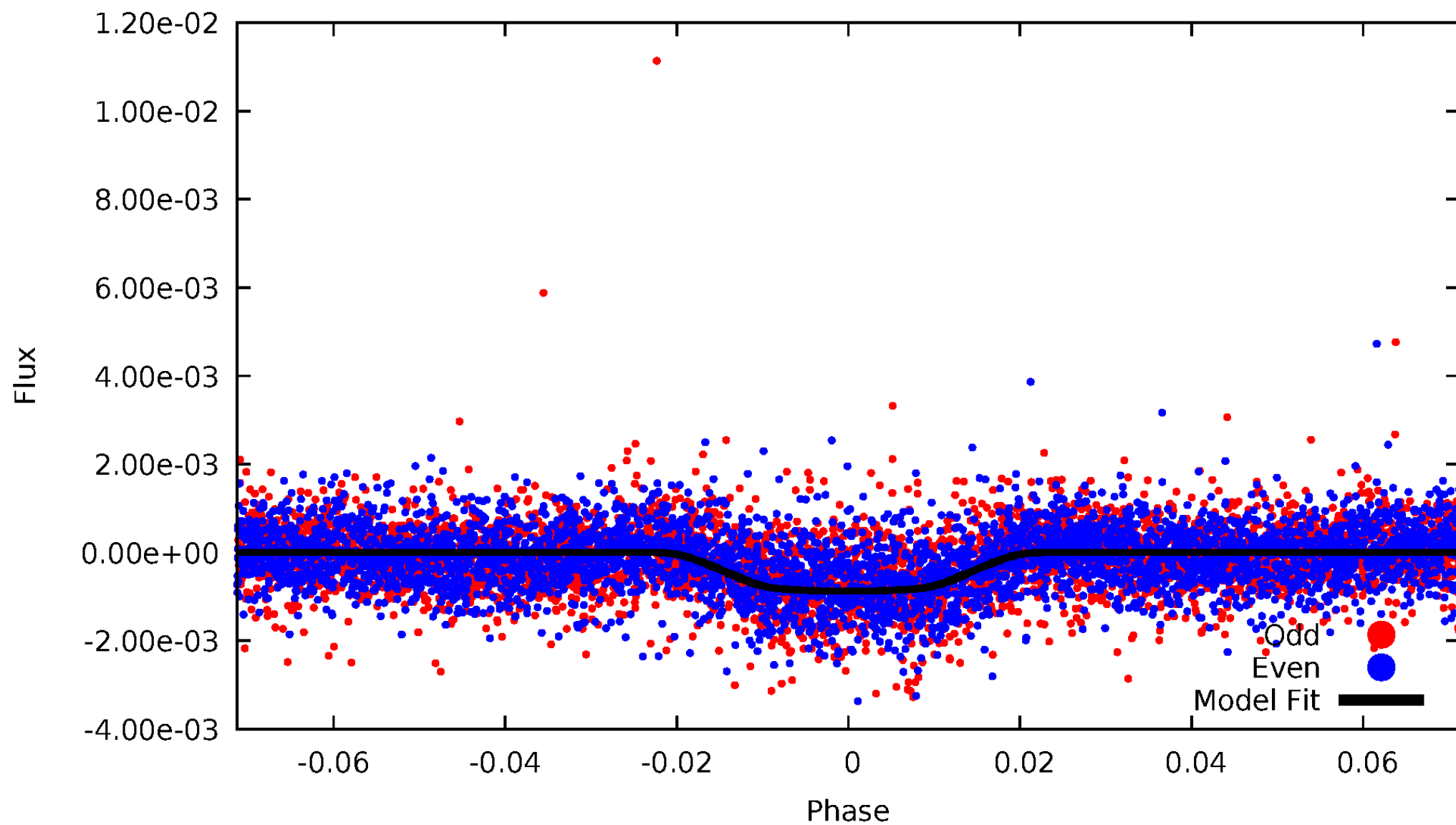


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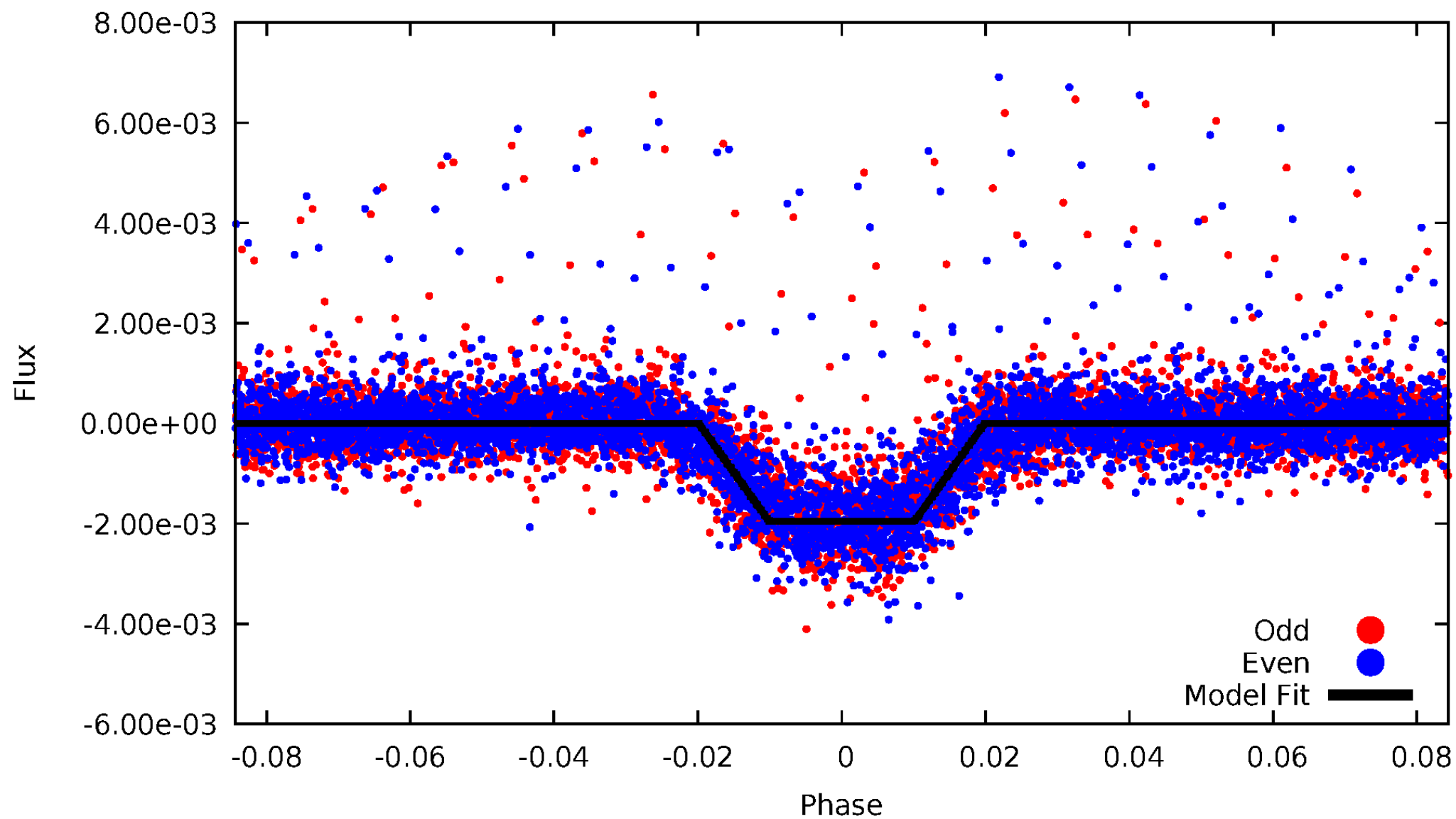
DV Odd/Even

TCE 004743508-02



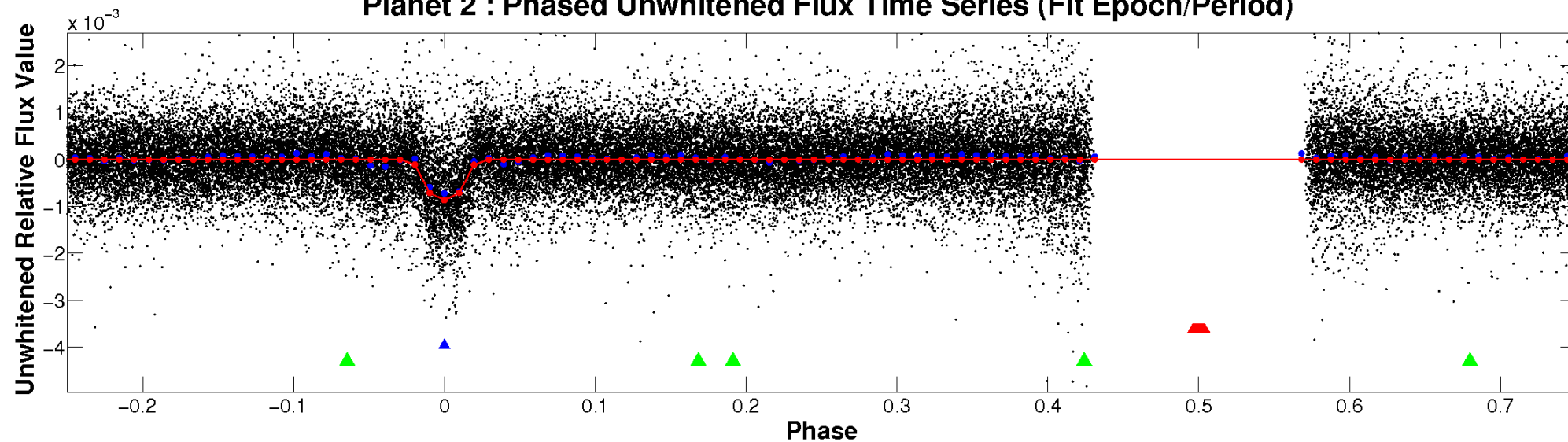
ALT Odd/Even

TCE 004743508-02

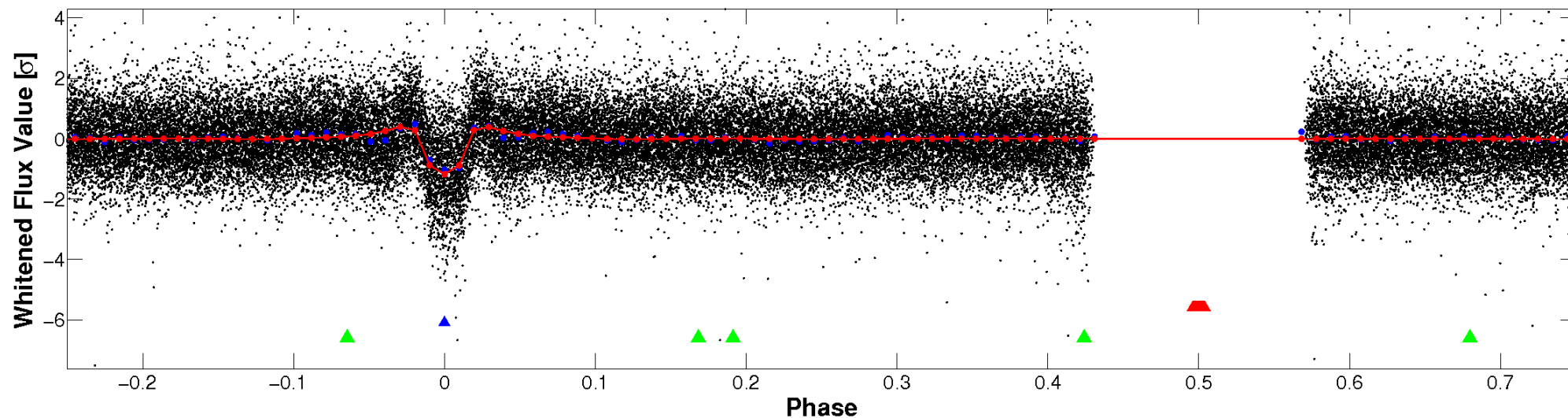


Non-Whitened Vs. Whitened Light Curve

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

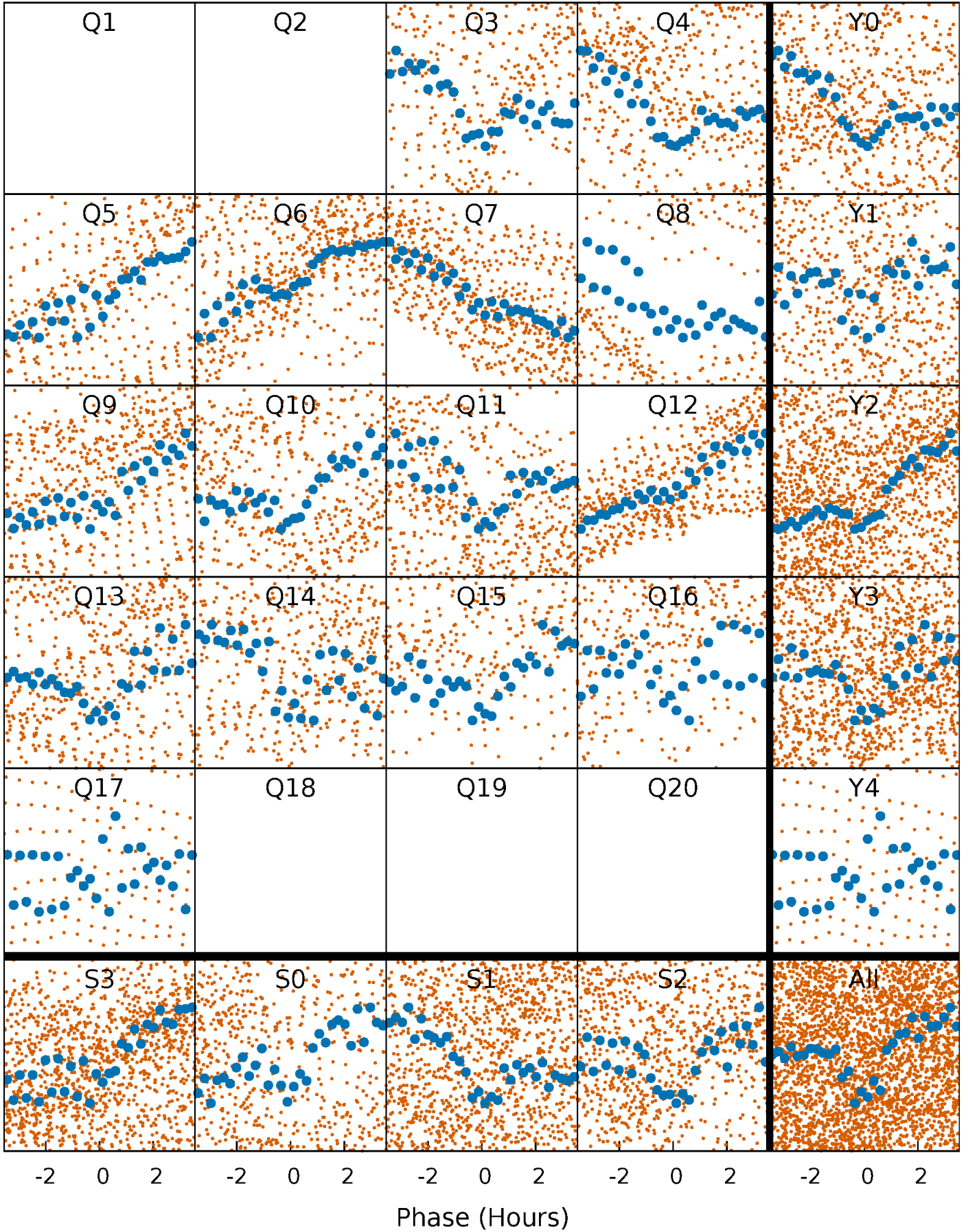


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



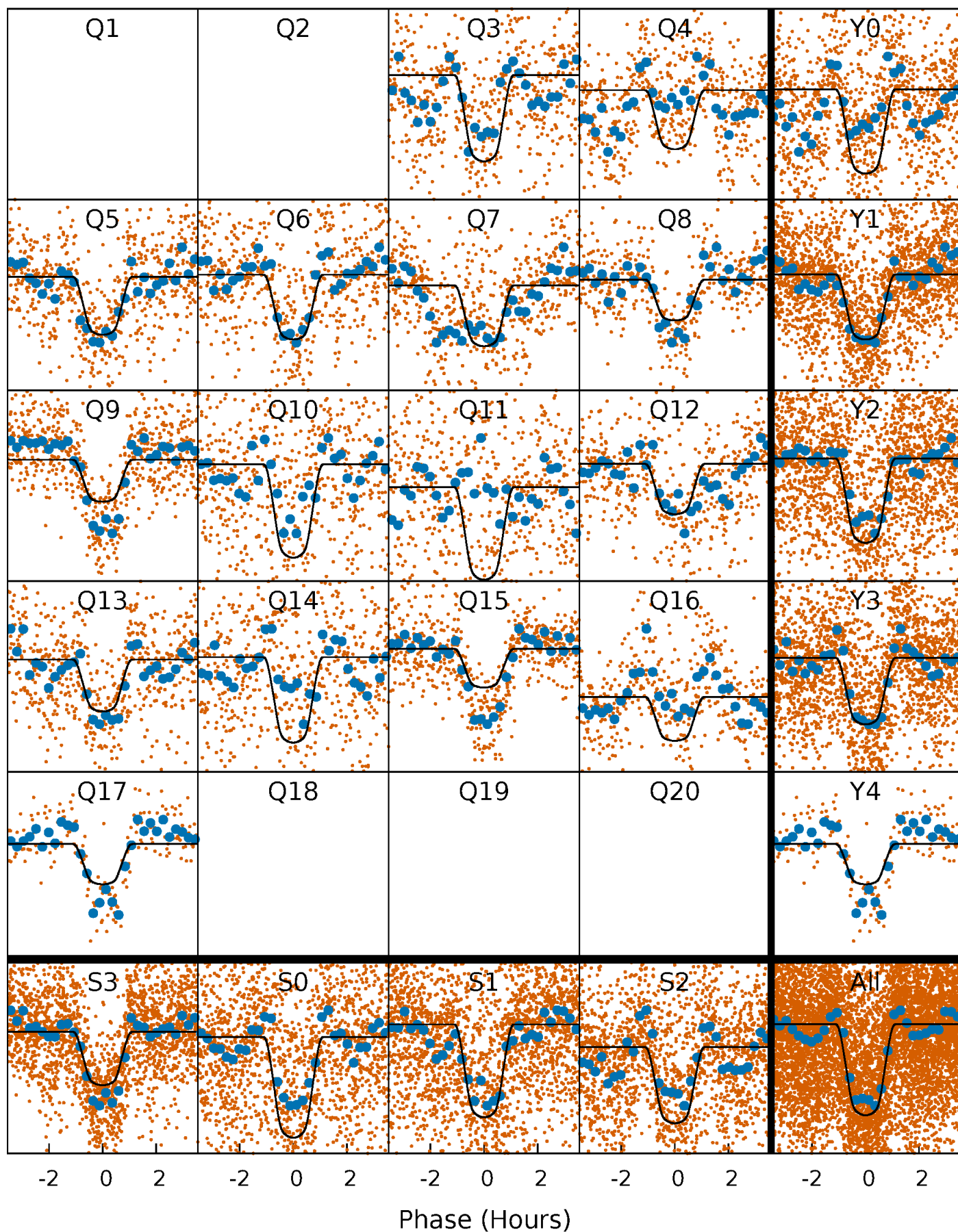
PDC Quarter-Phased Transit Curves

TCE 004743508-02 P= 2.086057 Days $T_0=132.379852$ (BKJD)



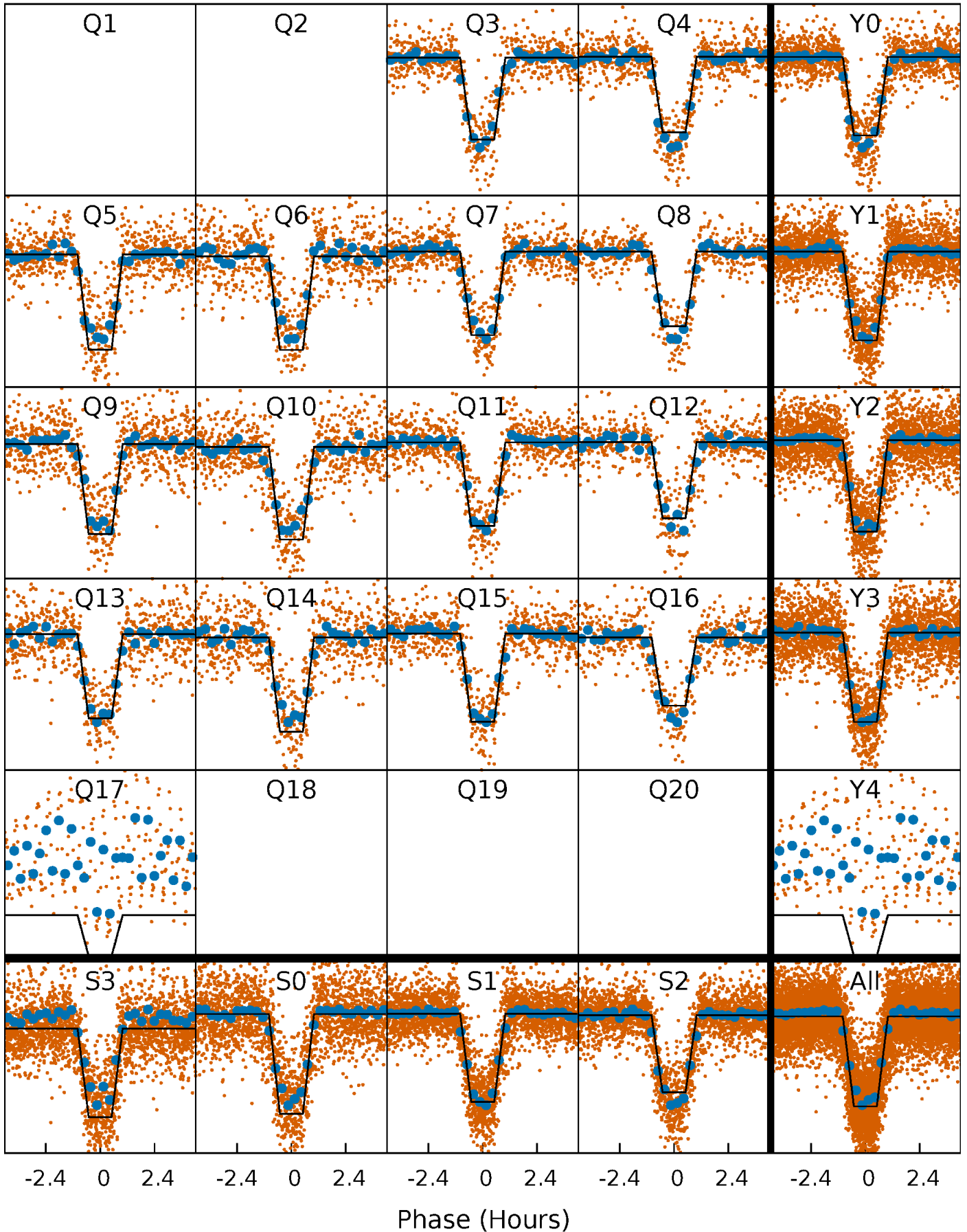
DV Quarter-Phased Transit Curves

TCE 004743508-02 $P = 2.086057$ Days $T_0 = 132.379852$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

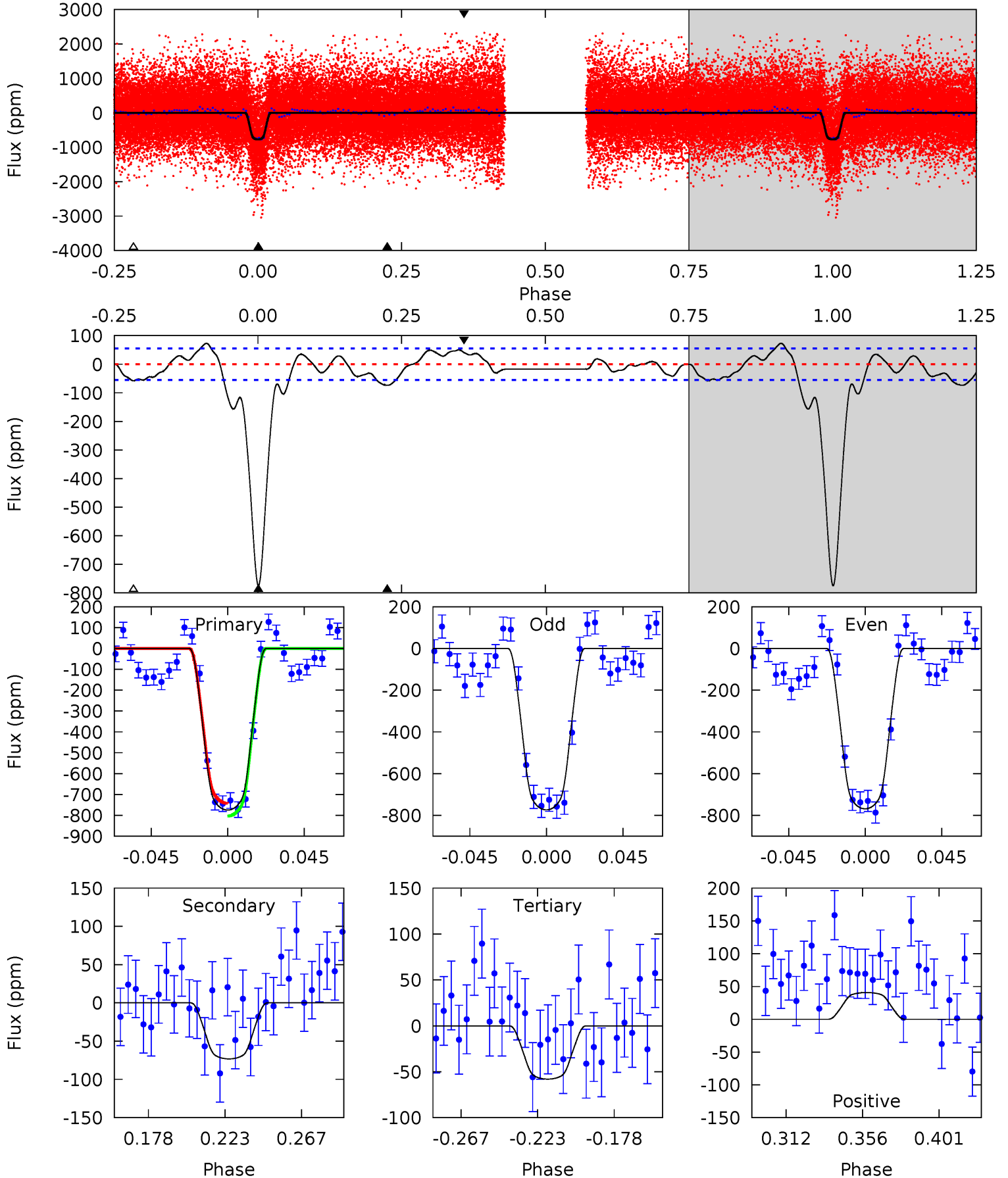
TCE 004743508-02 P= 2.086069 Days $T_0=132.376720$ (BKJD)



DV Model-Shift Uniqueness Test

004743508-02, P = 2.086057 Days, E = 132.379852 Days

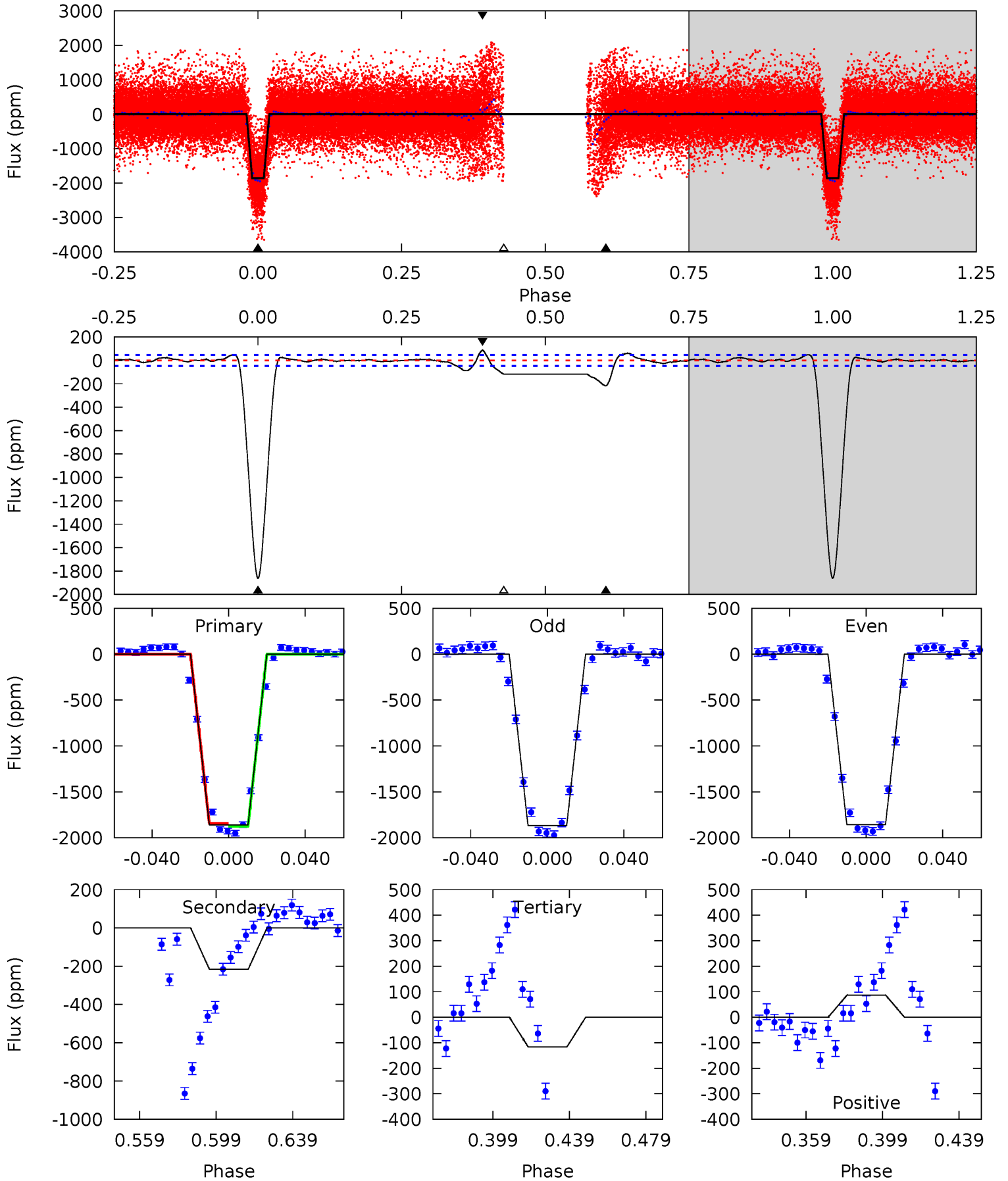
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
66.4	6.28	4.98	3.49	4.73	2.01	3.16	61.4	62.9	1.30	2.79	0.22	0.95	0.09	2.72



Alt Model-Shift Uniqueness Test

004743508-02, P = 2.086069 Days, E = 132.376720 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
189.5	22.0	11.9	8.83	4.75	2.05	2.39	177.6	180.7	10.2	13.2	0.56	0.96	0.04	1.64



Stellar Parameters For KIC 004743508

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6124^{+200}_{-218}	$4.265^{+0.231}_{-0.189}$	$-0.680^{+0.300}_{-0.300}$	$1.119^{+0.291}_{-0.291}$	$0.839^{+0.117}_{-0.063}$	$0.844^{+1.079}_{-0.409}$
	+3%/-4%	+5%/-4%	+44%/-44%	+26%/-26%	+14%/-8%	+128%/-48%
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 004743508-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-73 ± 12	$3.93^{+0.61}_{-0.60}$	2294^{+183}_{-174}	3539^{+152}_{-147}	$2.421^{+1.016}_{-0.659}$
Alt.	-216 ± 10	$5.50^{+0.80}_{-0.84}$	2295^{+177}_{-166}	3827^{+118}_{-109}	$3.688^{+1.381}_{-0.894}$

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

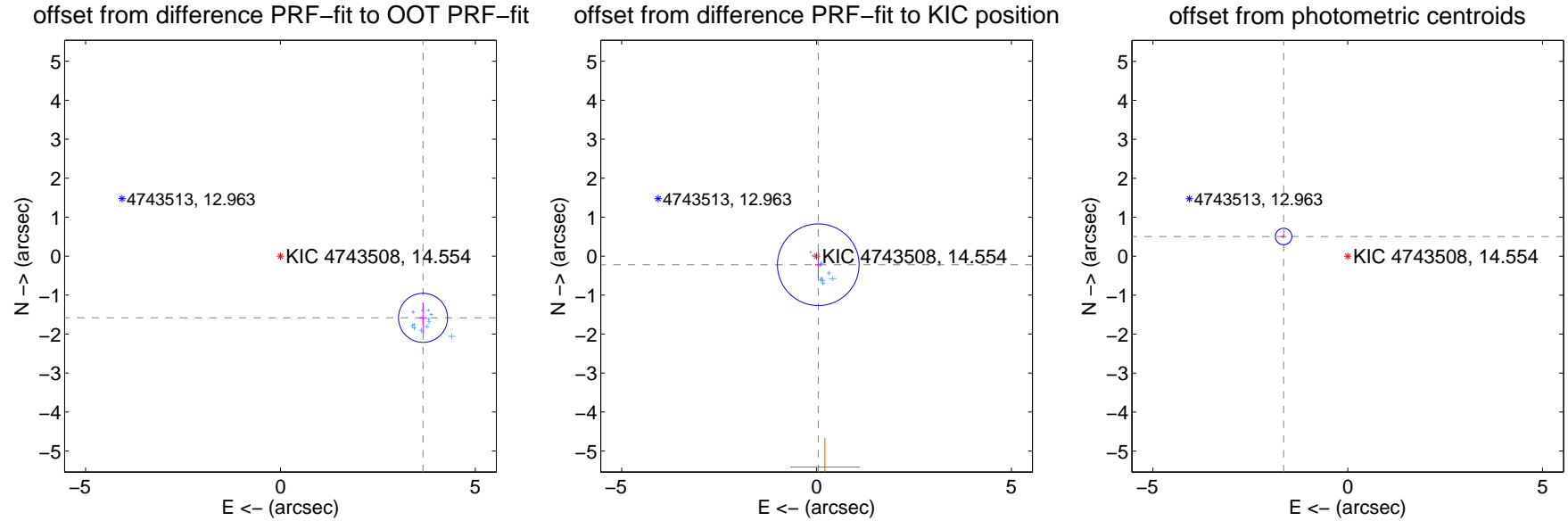
DV Centroid Data

Supplemental centroid analysis for 004743508-02. Kepler magnitude: 14.55. Transit SNR 45.88

There are 13 quarters with good PRF difference image offsets

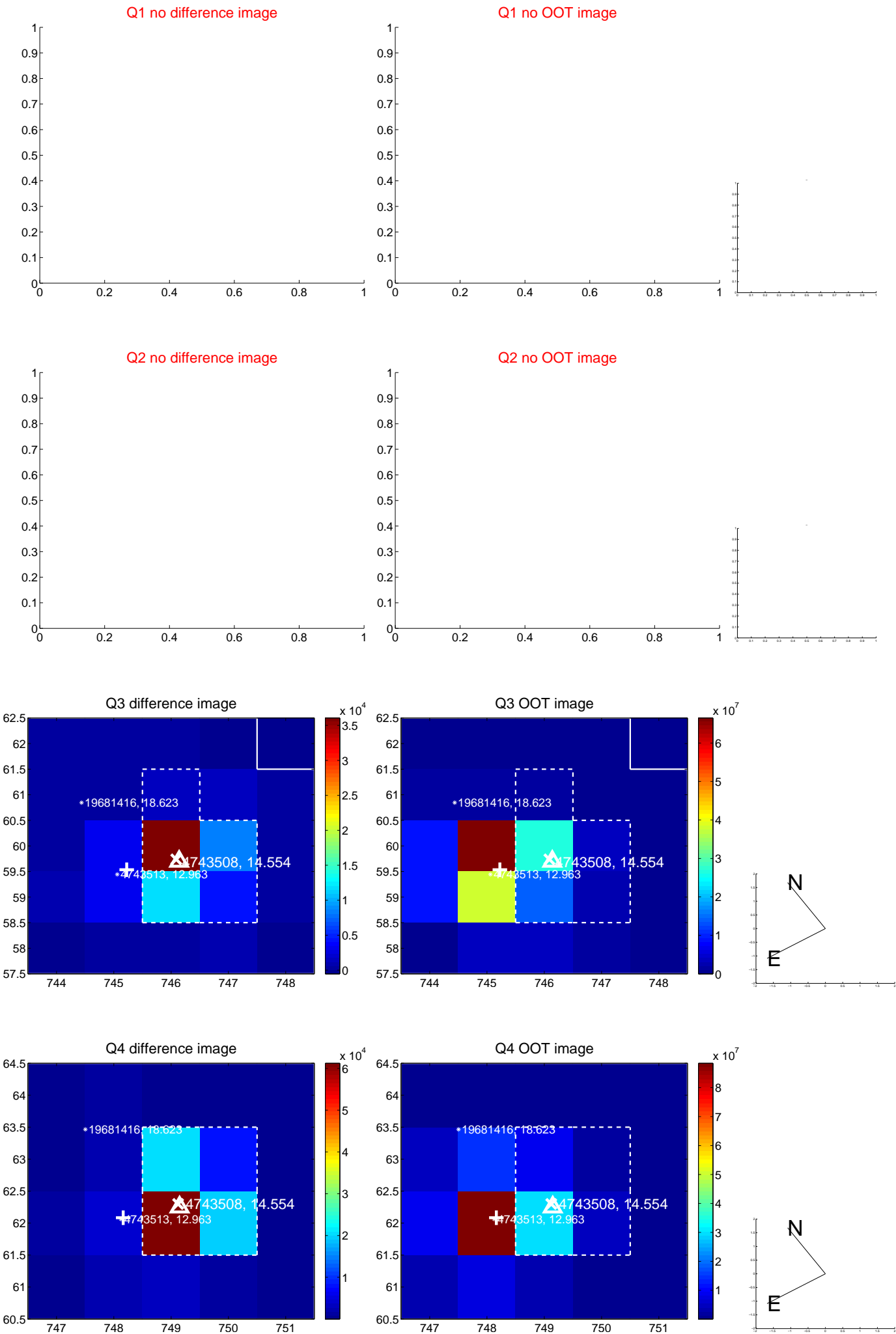
The OOT PRF centroid is offset from the target star catalog position by about 4.32 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.987 ± 0.210	19.00	-3.659 ± 0.101	-1.583 ± 0.396
PRF-fit source offset from KIC position	0.225 ± 0.349	0.64	-0.043 ± 0.077	-0.221 ± 0.353
photometric centroid source offset	1.72 ± 0.07	24.39	1.65 ± 0.07	0.51 ± 0.04

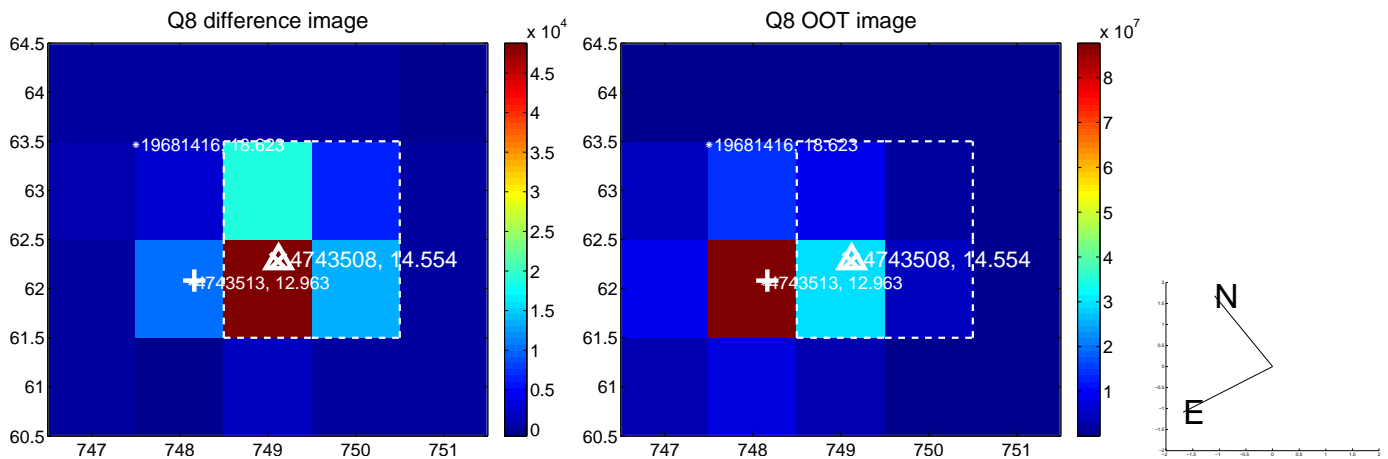
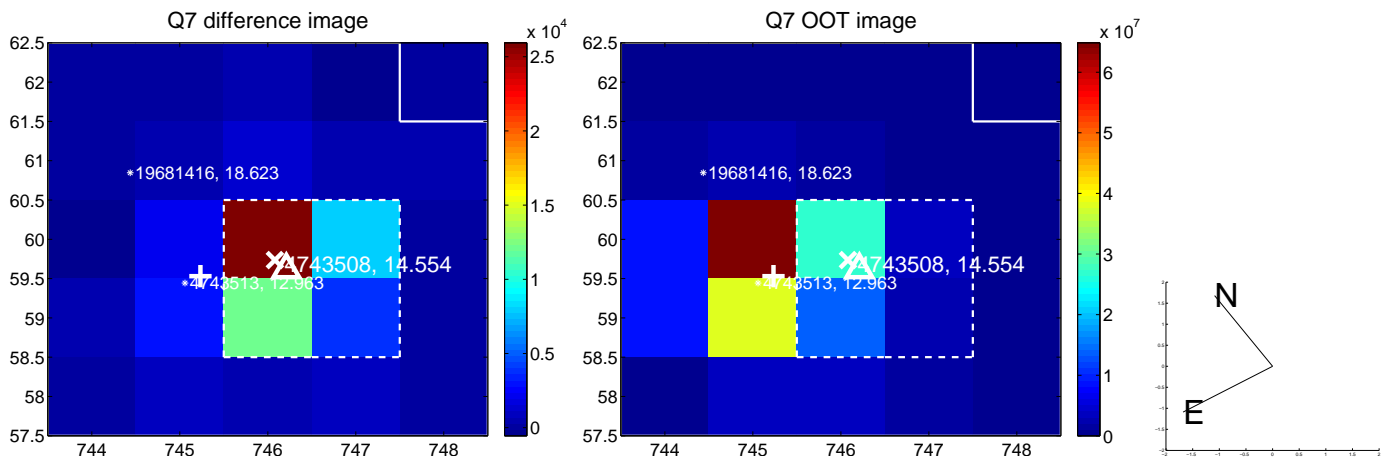
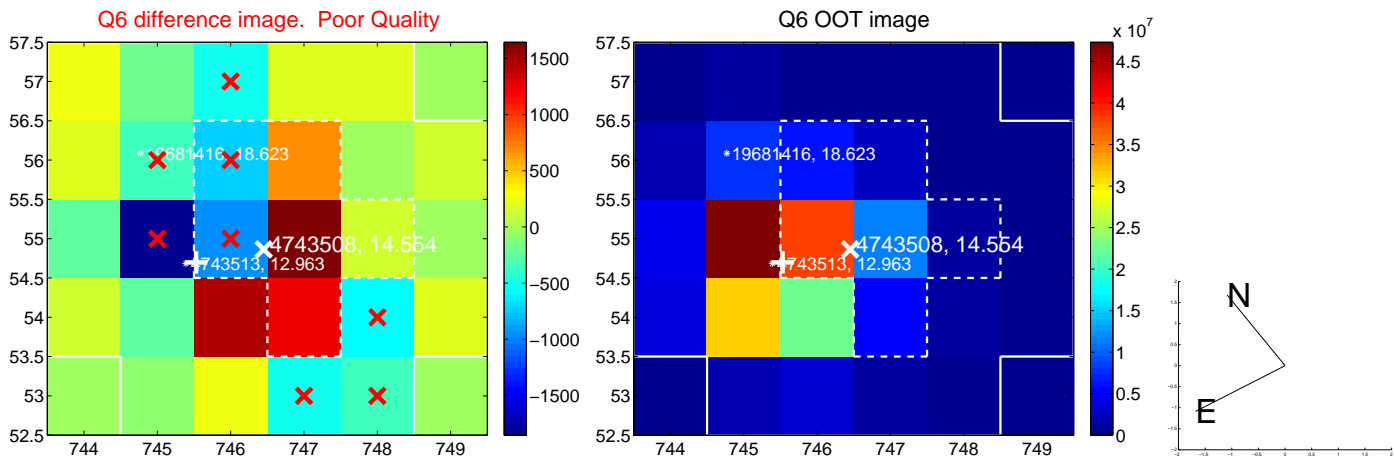
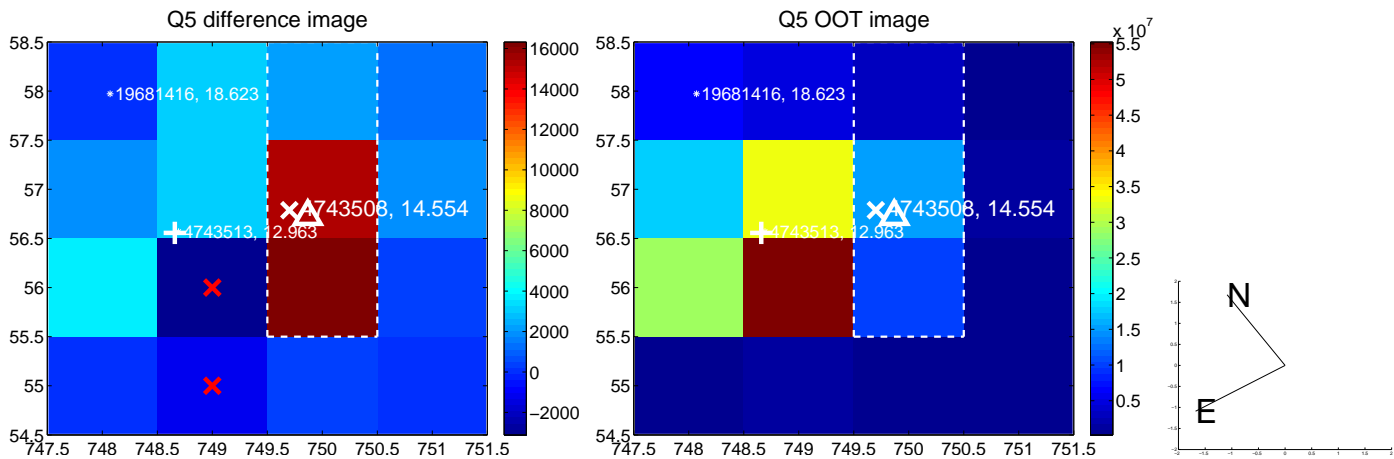


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

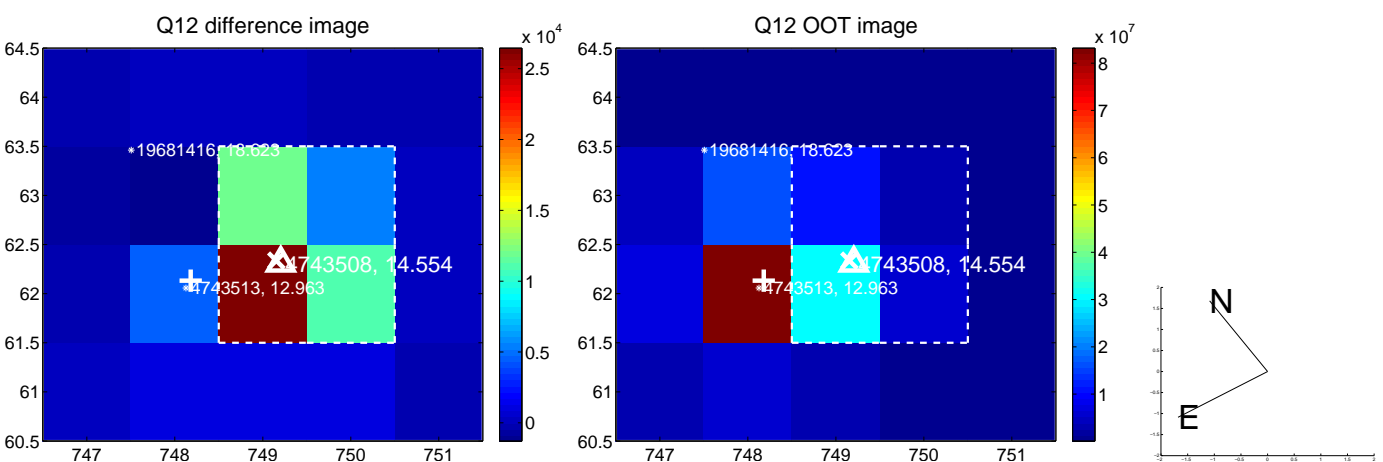
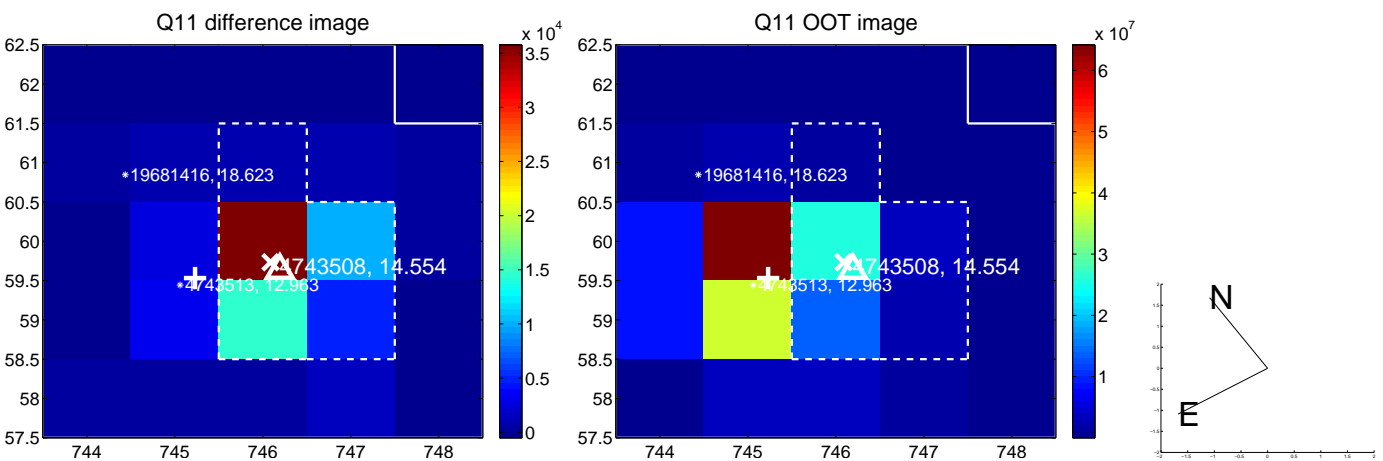
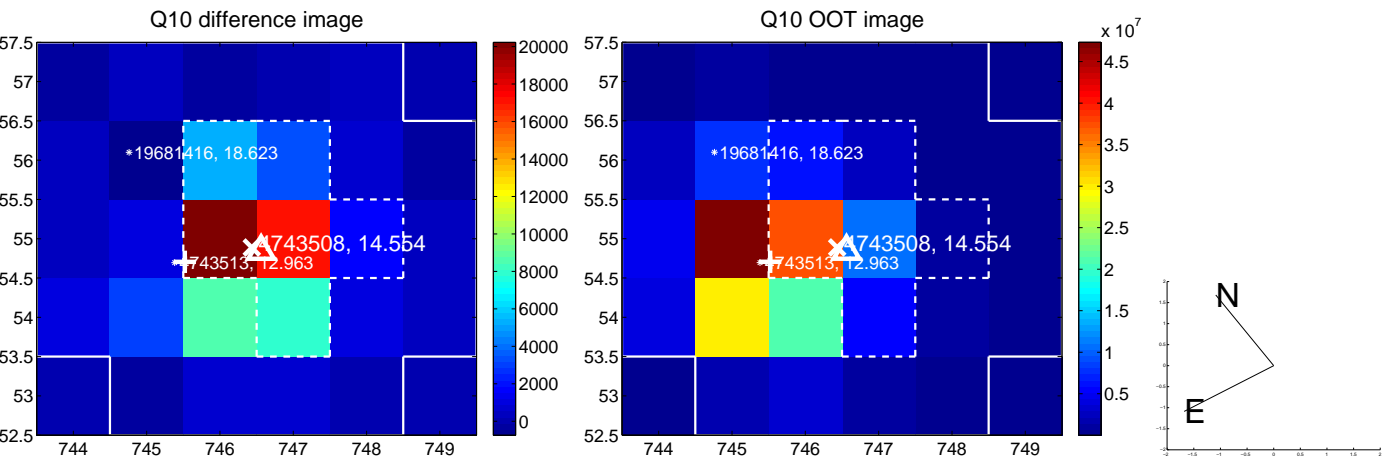
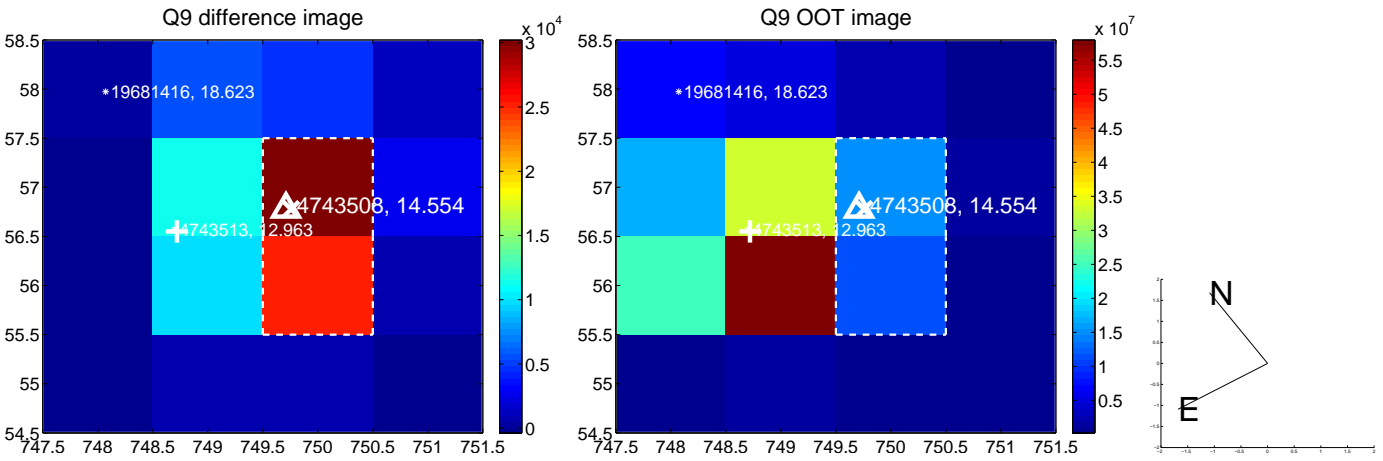
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



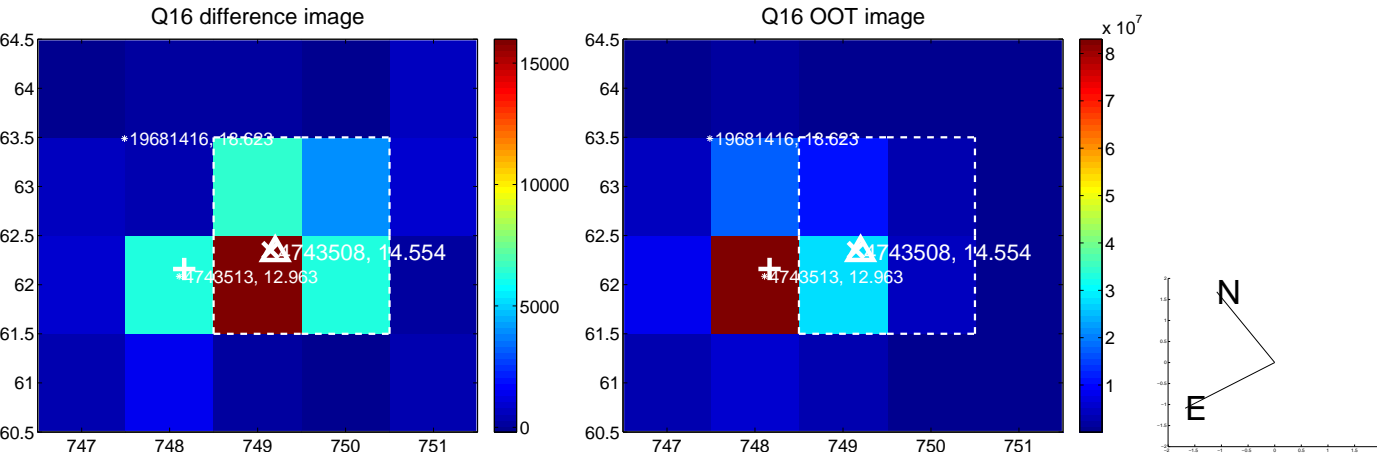
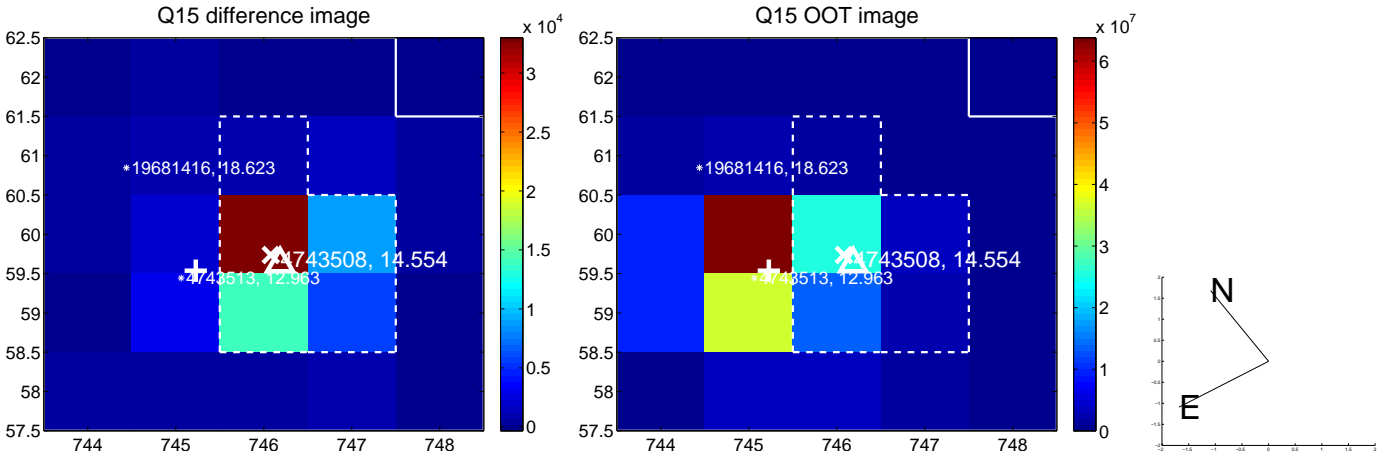
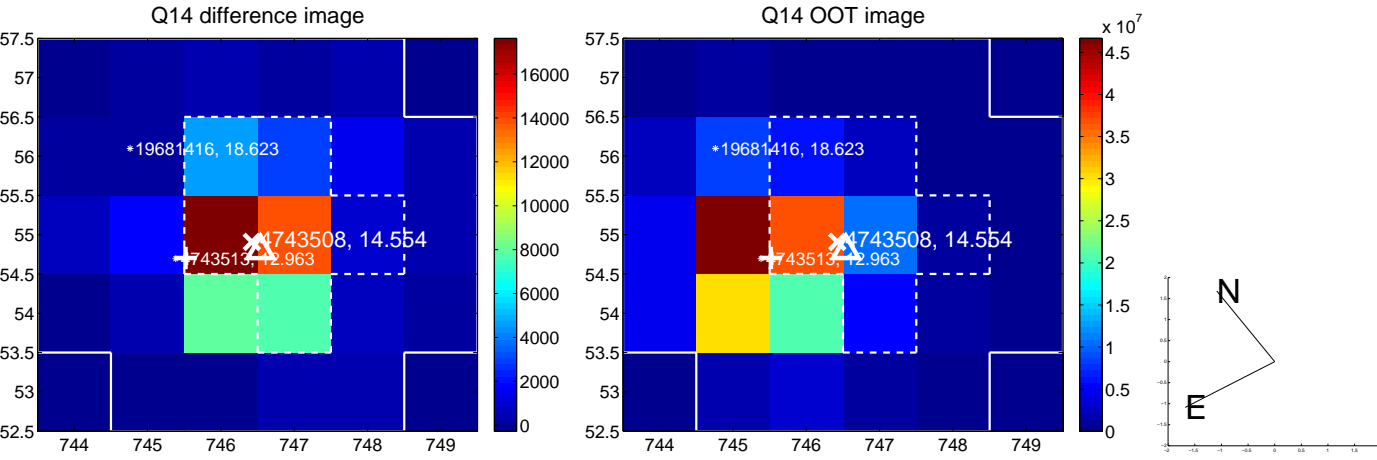
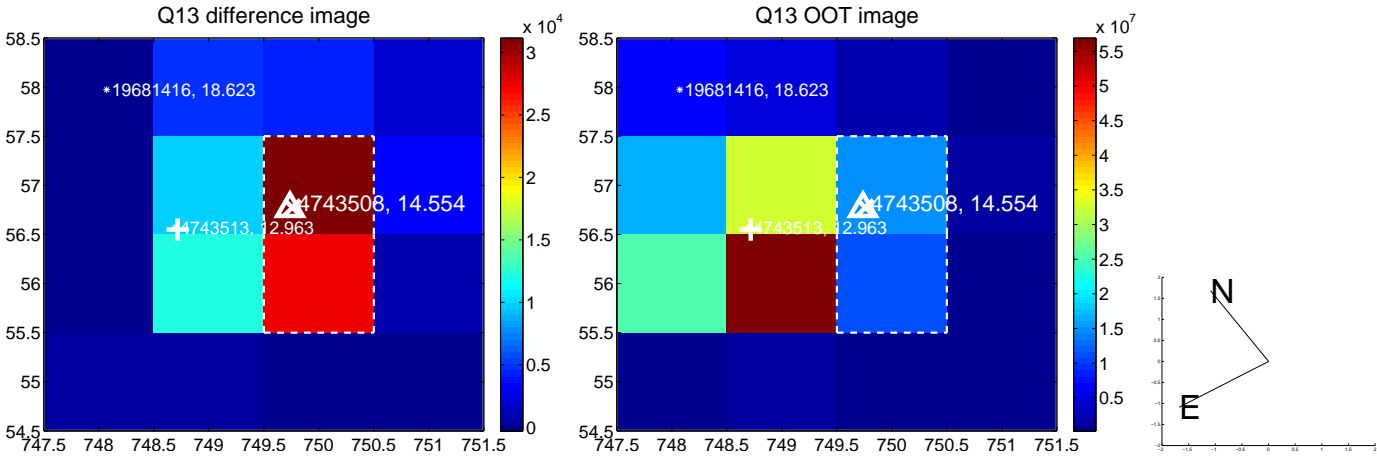
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



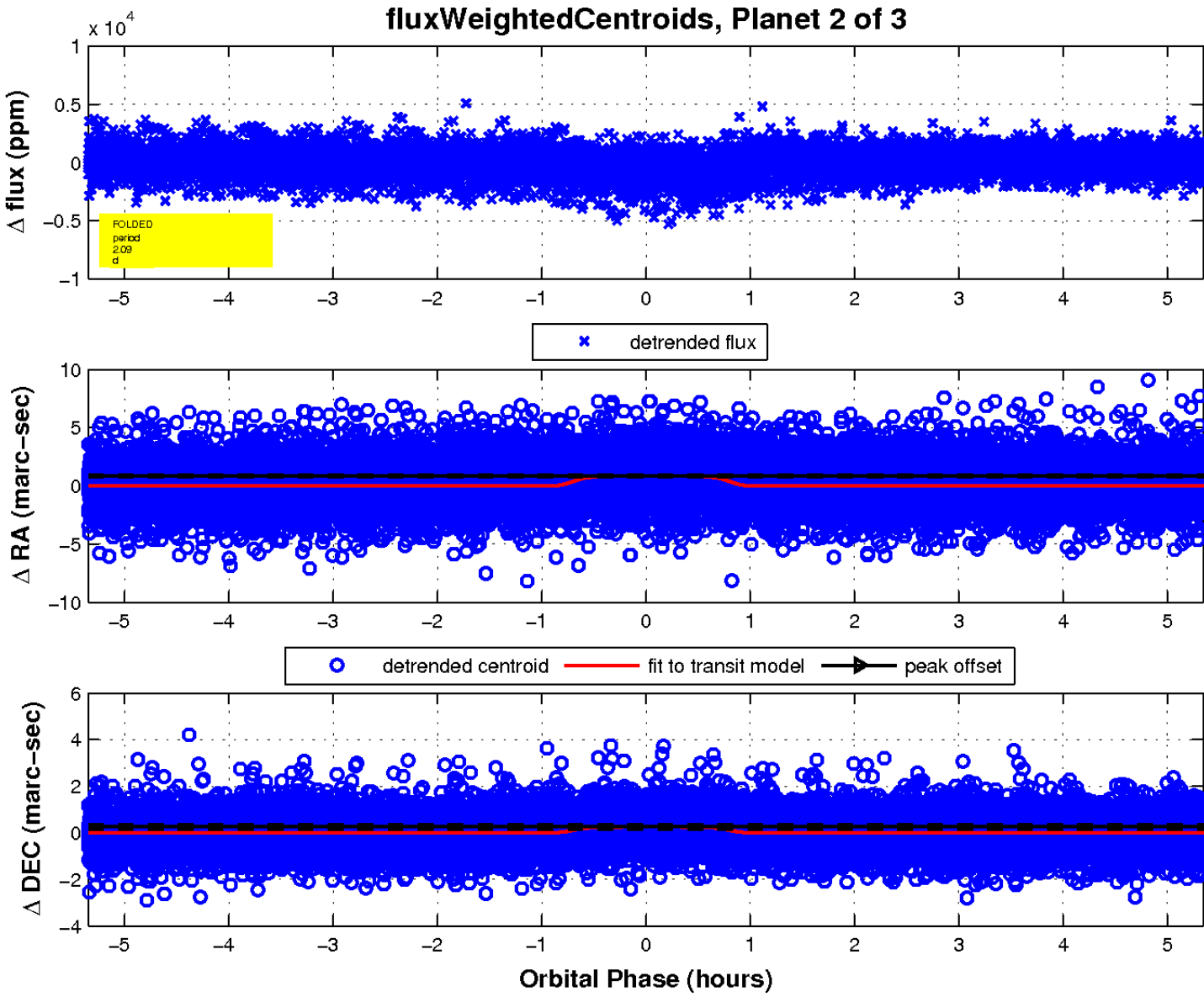
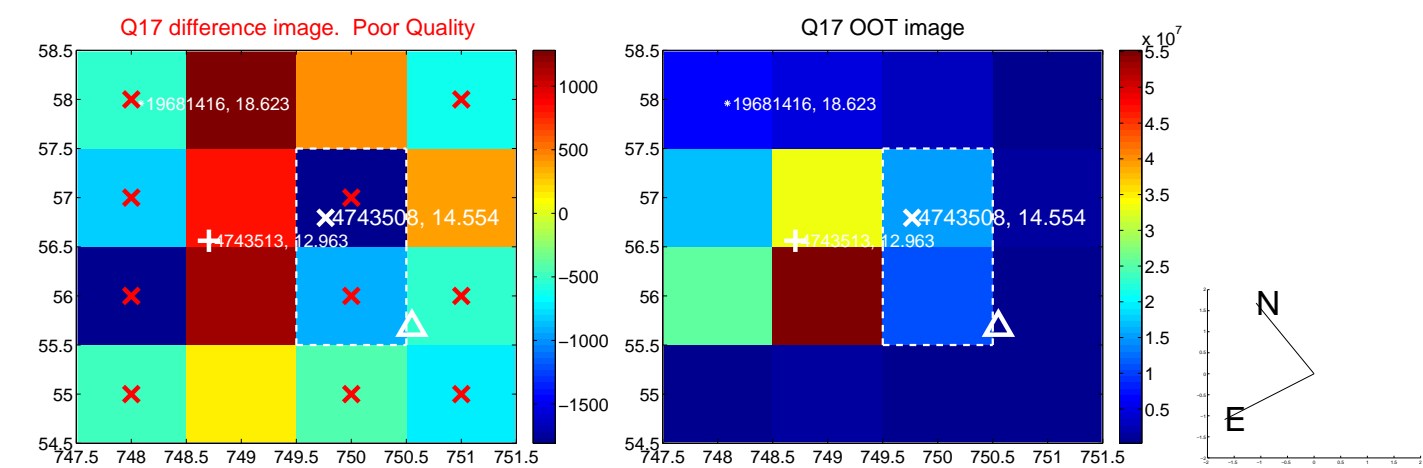
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

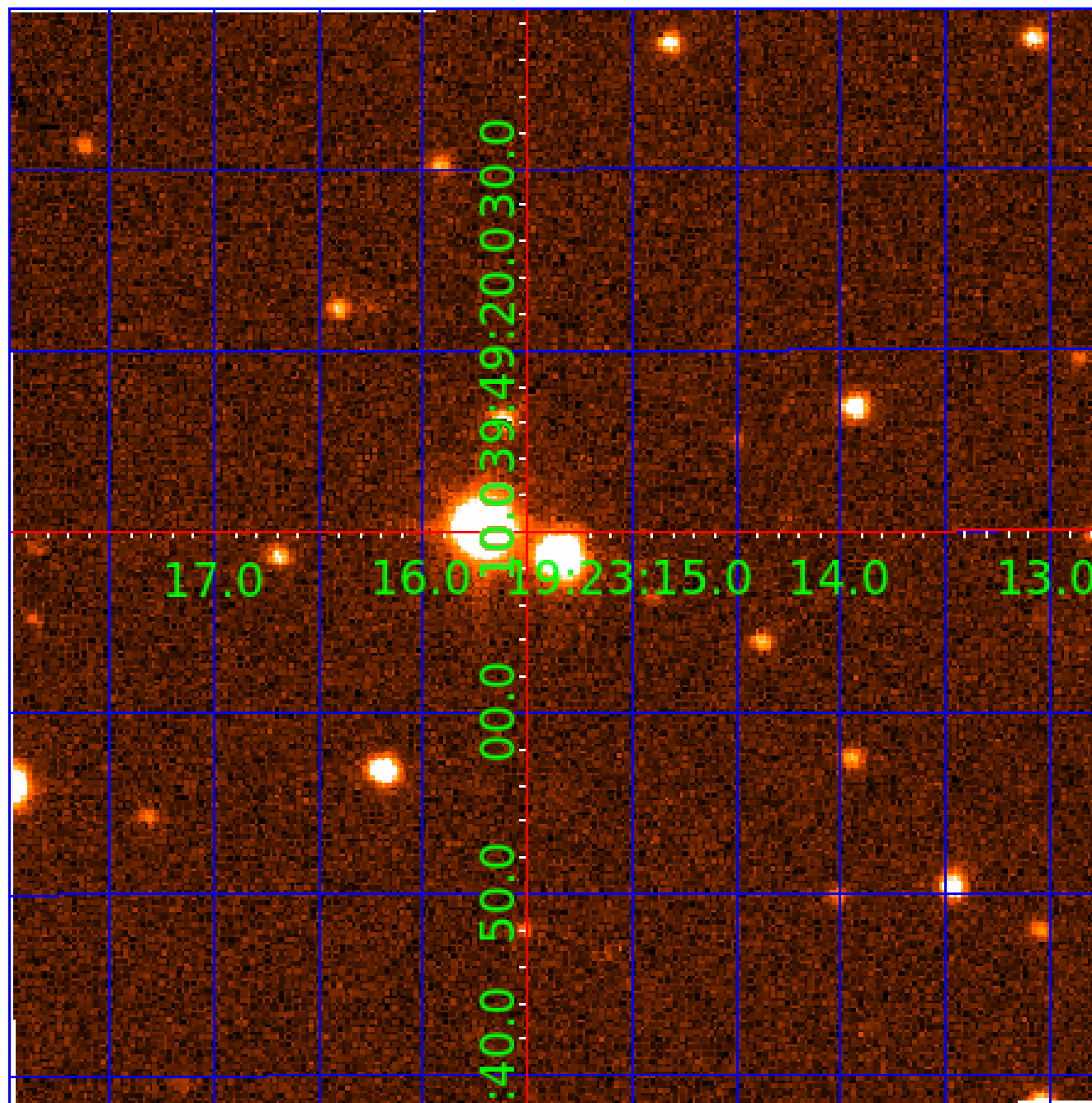


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004743508

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})
004743508-01	OBS	3572.01	2.086080	133.414878	55979.3	2.272	1855.3	1971.2	1.12	6124	28.64	1734.39
004743508-02	OBS	No	2.086057	132.379852	873.0	1.783	38.1	45.9	1.12	6124	3.89	1734.42
004743508-03	OBS	No	299.858720	247.512064	2614.1	3.798	7.5	8.8	1.12	6124	6.33	2.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004743508-01	OBS	PC	0.69	0	1	0	0	MOD_SEC_DV—PLANET_OCCULT_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_KIC_POS
004743508-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS
004743508-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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 004743508-03

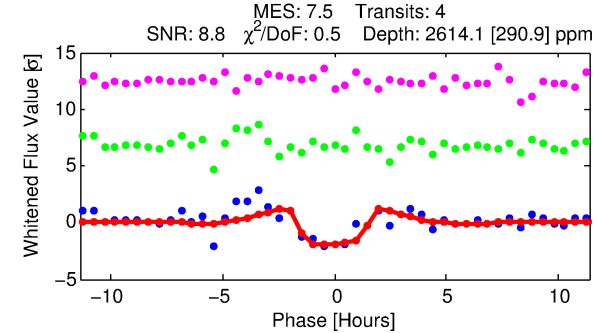
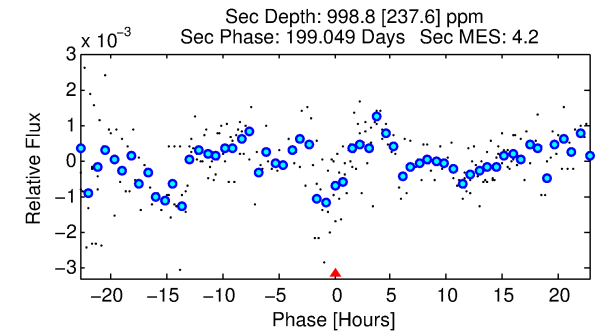
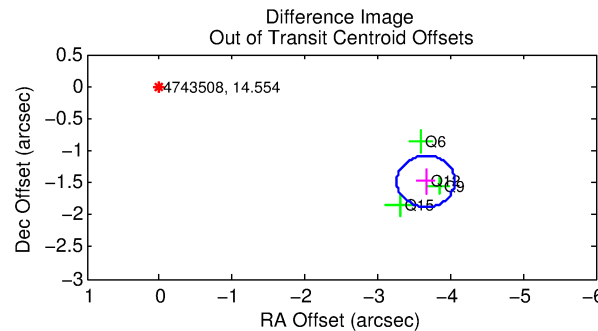
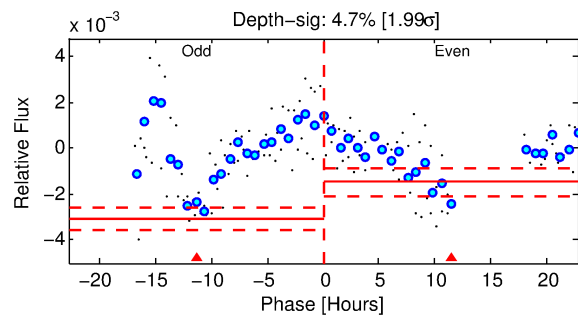
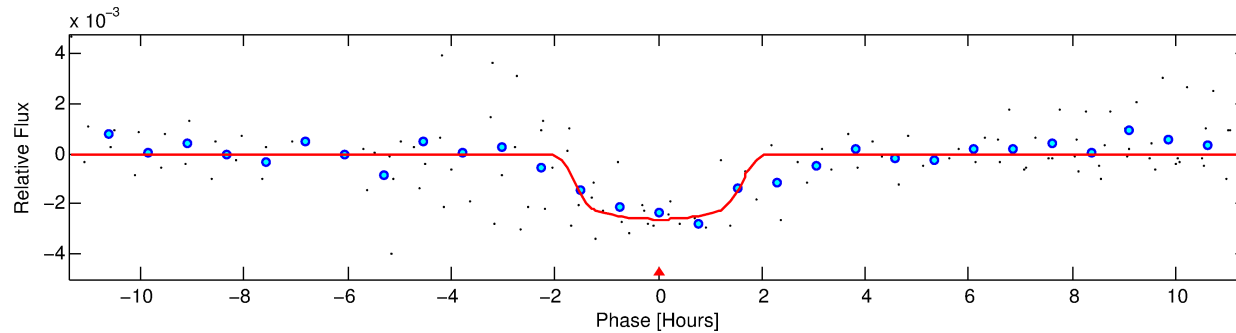
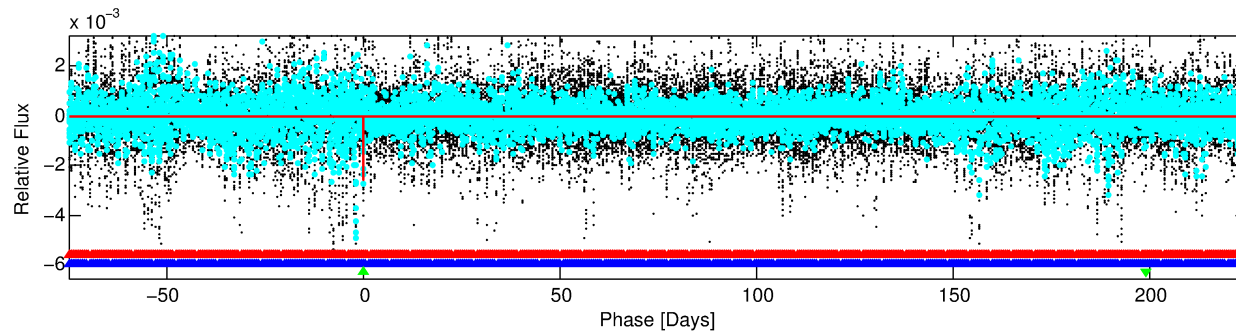
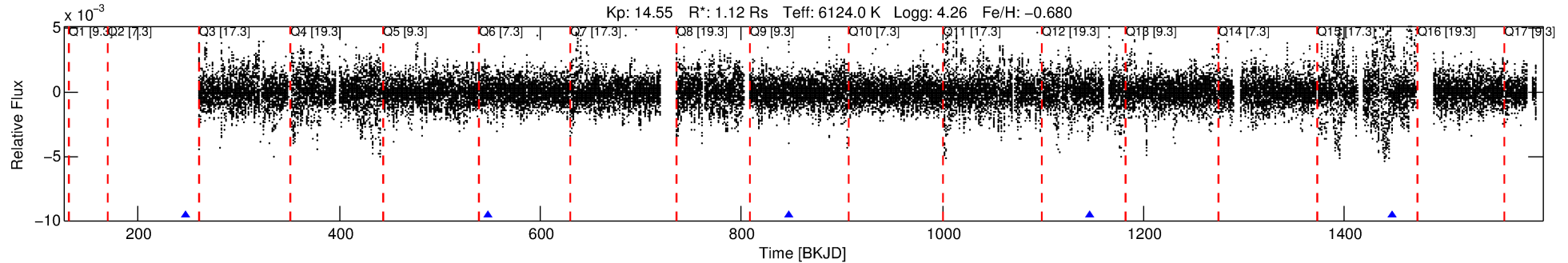
No Significant Match Found

DV One-Page Summary

KIC: 4743508 Candidate: 3 of 3 Period: 299.859 d

KOI: K03572 Corr: No Ephemeris Match

Kp: 14.55 R*: 1.12 Rs Teff: 6124.0 K Logg: 4.26 Fe/H: -0.680



DV Fit Results:

Period = 299.85872 [0.00313] d
Epoch = 247.5121 [0.0083] BKJD
Rp/R* = 0.0519 [0.0098]
a/R* = 411.46 [360.90]
b = 0.80 [0.40]
Seff = 2.30 [0.97]
Teq = 314 [33] K
Rp = 6.33 [2.04] Re
a = 0.8277 [0.2052] AU
Ag = 9387.17 [5597.04] [1.68σ]
Teffp = 4781 [561] K [7.95σ]

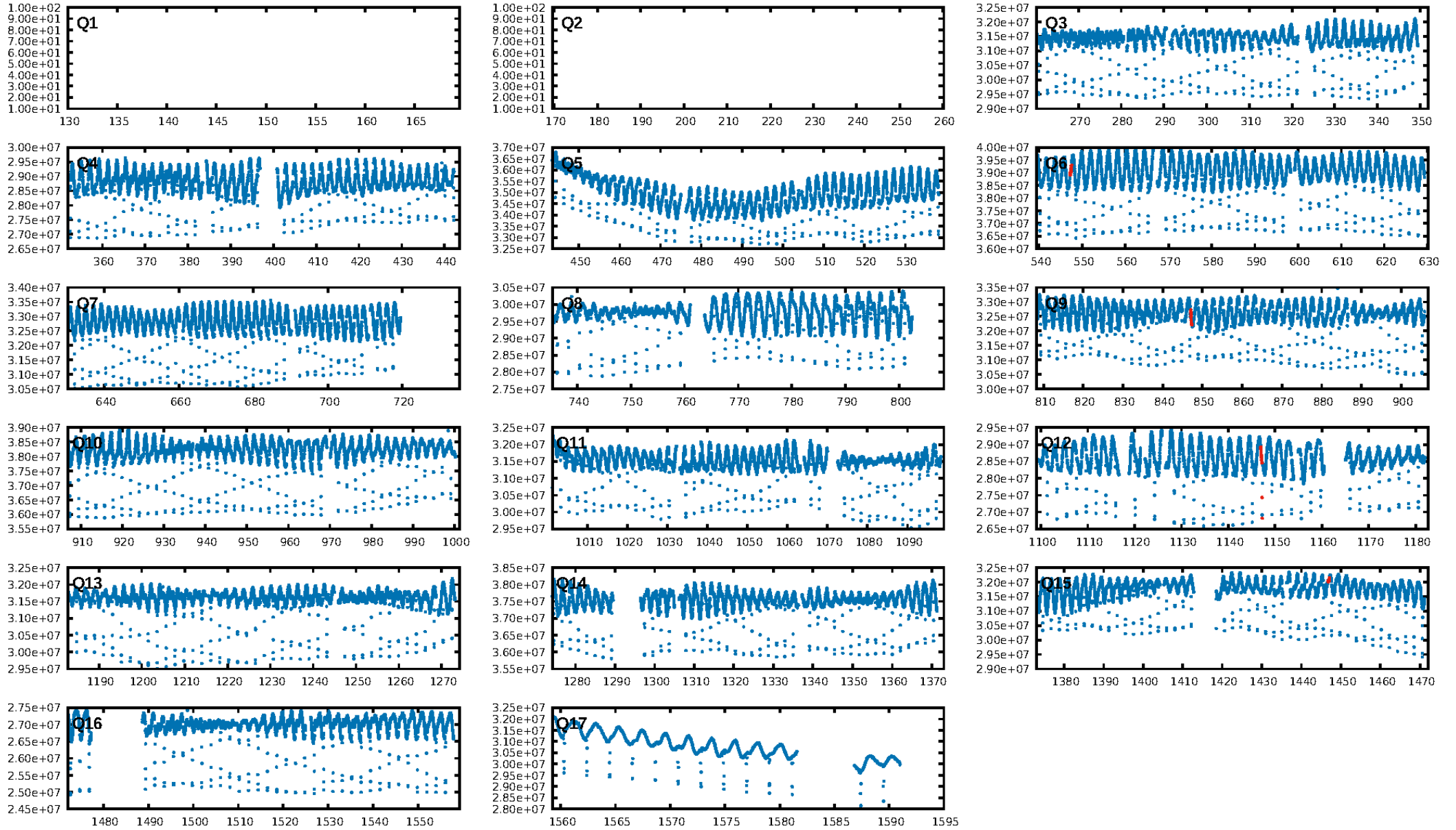
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1614.76σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 48.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.21e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 7.838
Centroid-sig: 66.6%
Centroid-so: 2.906 arcsec [10.62σ]
OotOffset-rm: 3.945 arcsec [29.55σ]
KicOffset-rm: 0.068 arcsec [0.33σ]
OotOffset-st: 1/1/1/1 [4]
KicOffset-st: 1/1/1/1 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 0.00 [0/4]

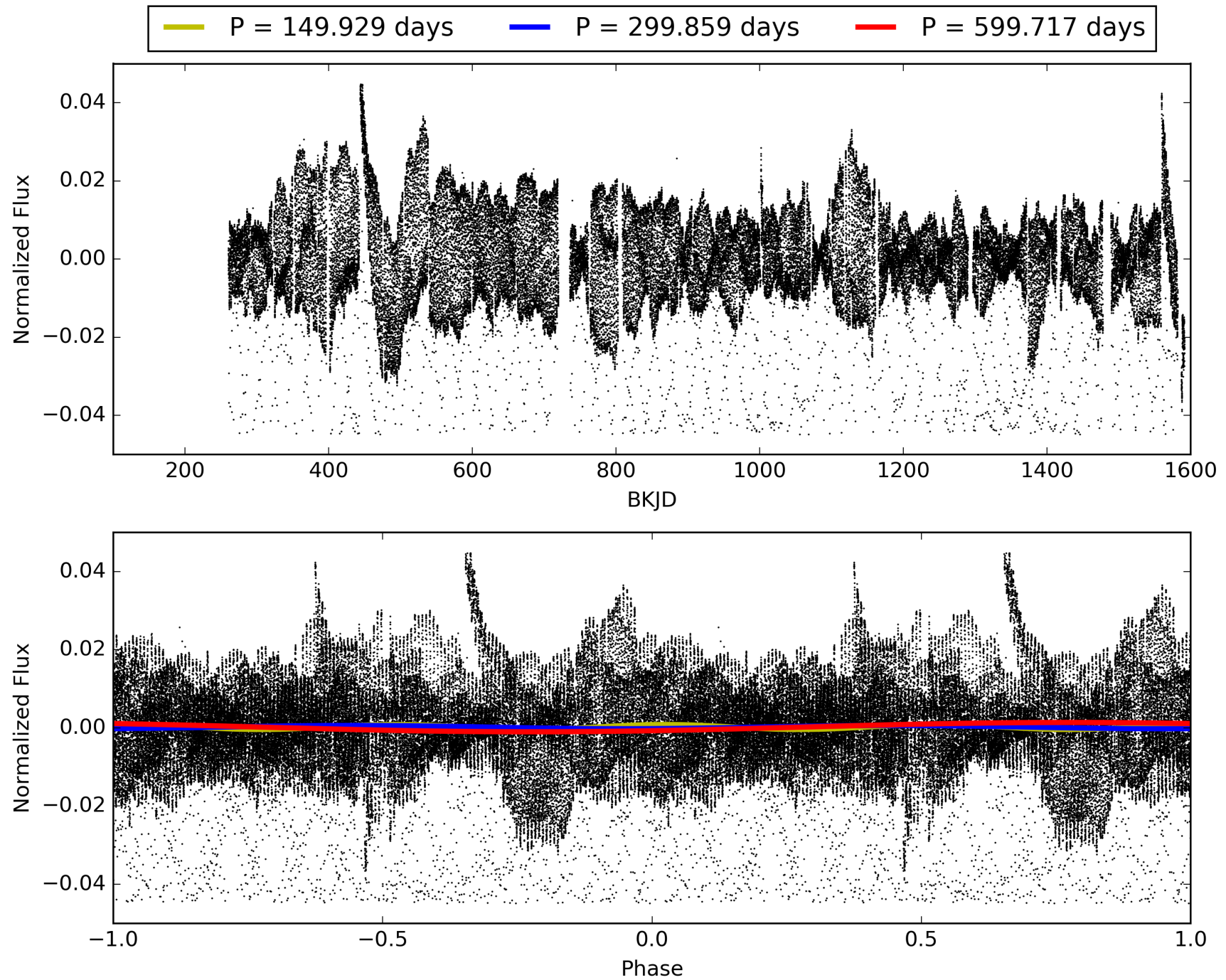
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 07:01:14 Z

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

TCE 004743508-03, PDC Light Curves

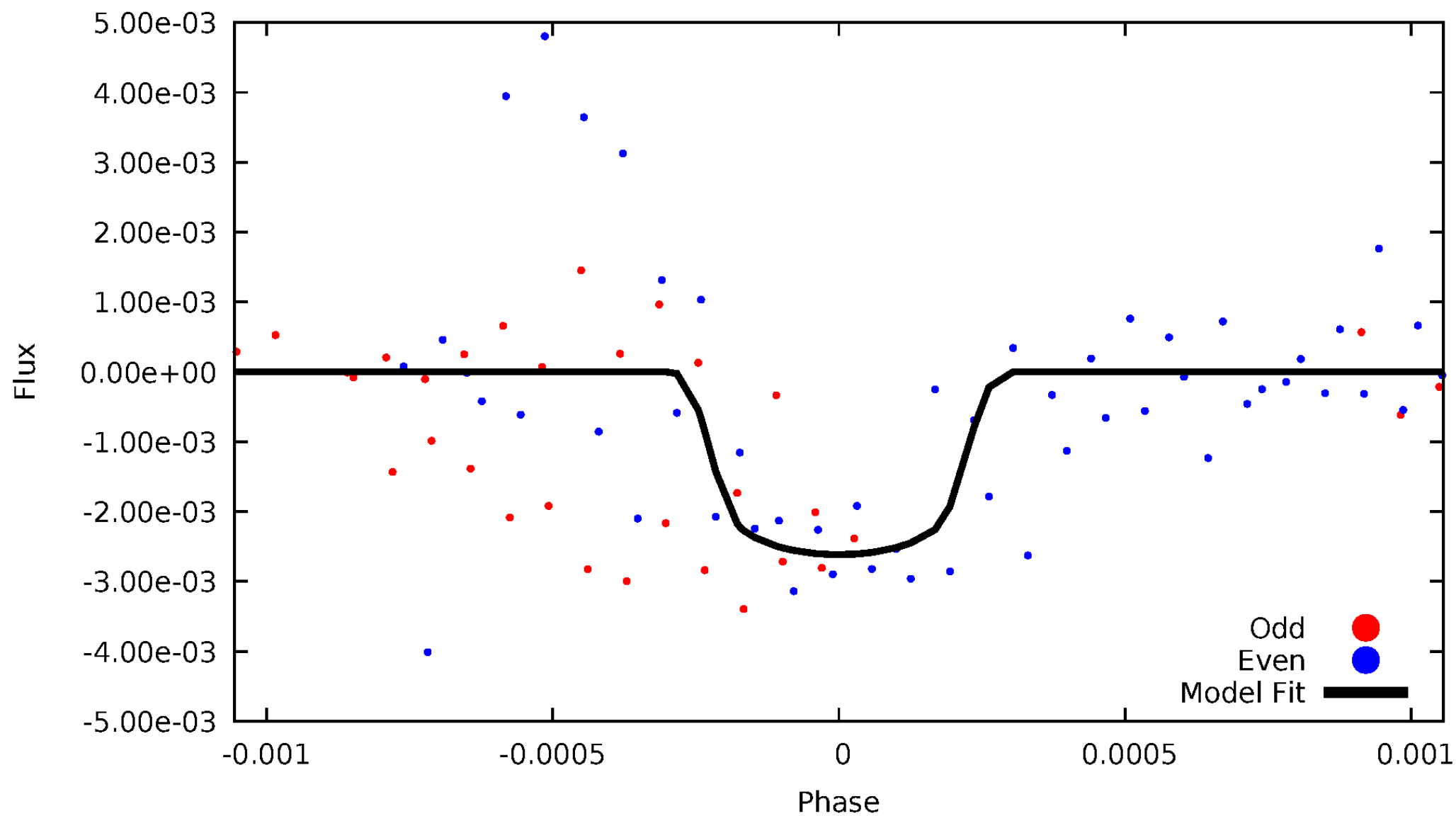


TCE 004743508-03



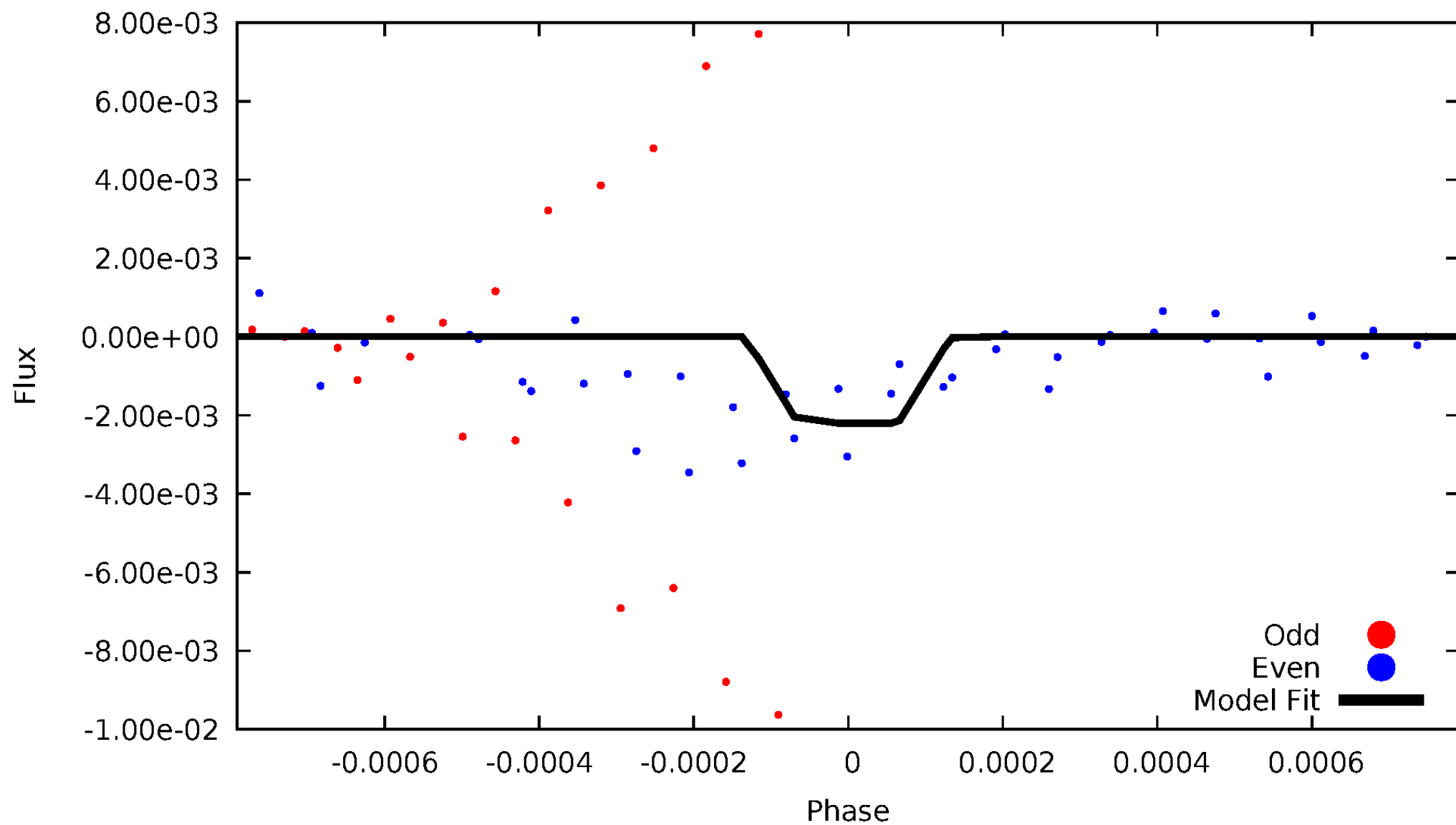
DV Odd/Even

TCE 004743508-03

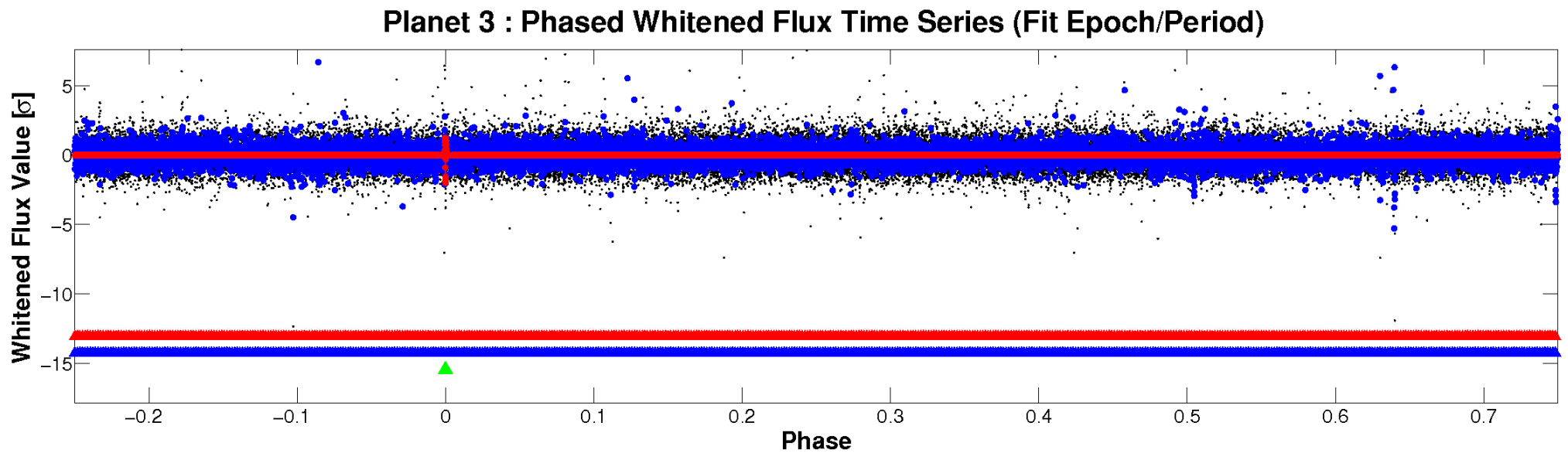
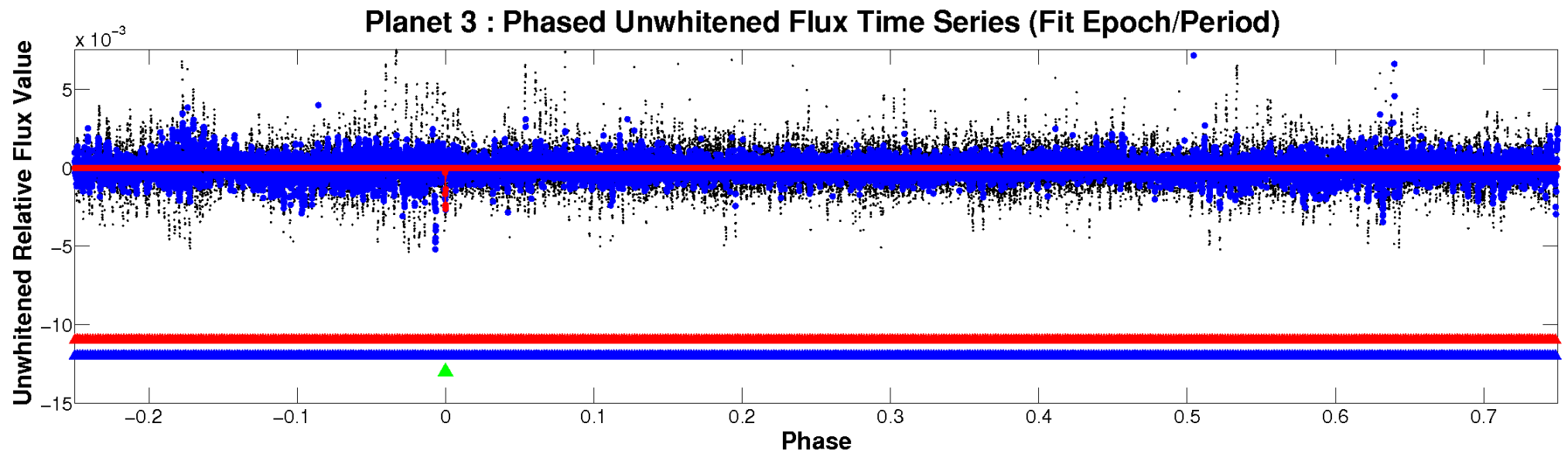


ALT Odd/Even

TCE 004743508-03

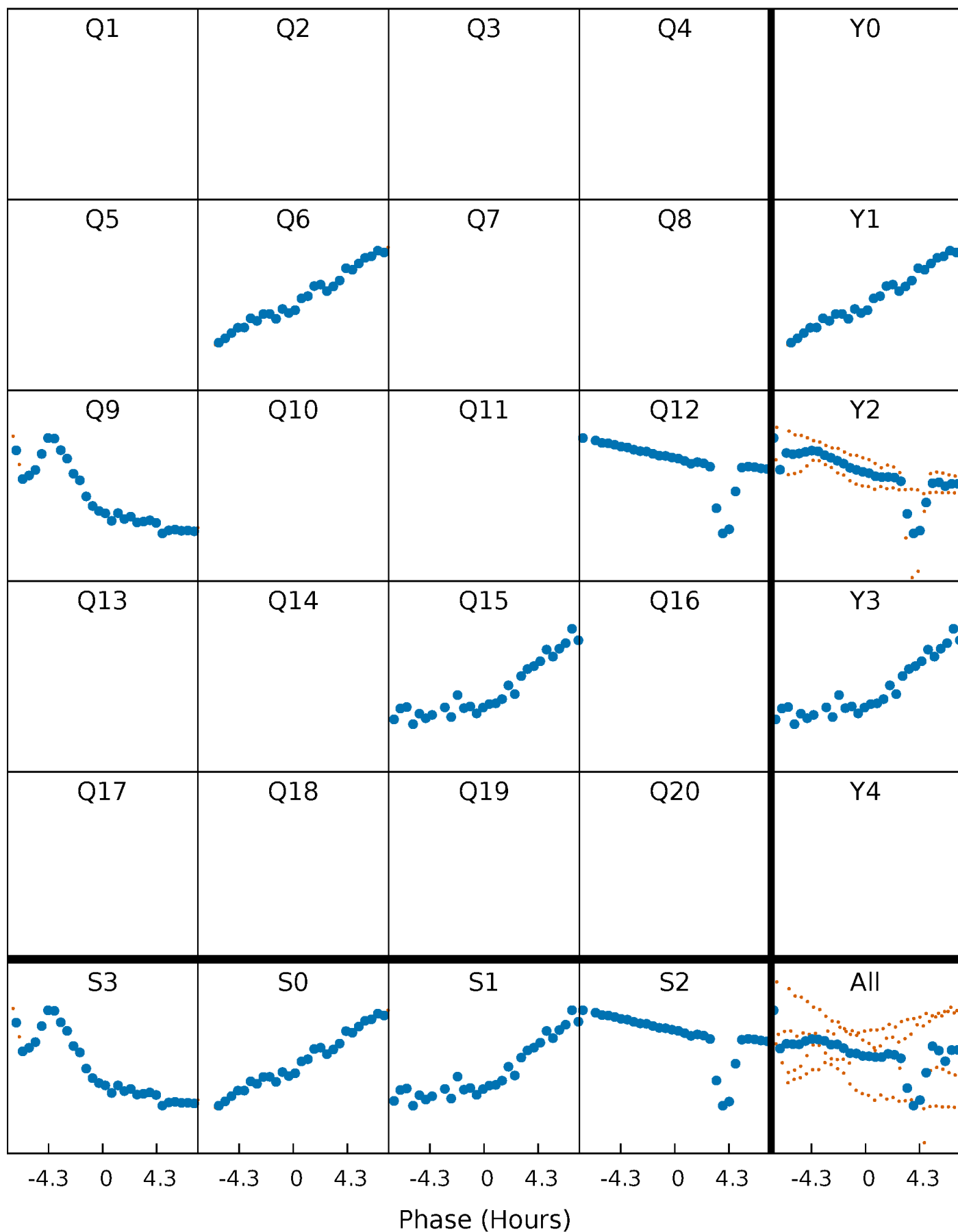


Non-Whitened Vs. Whitened Light Curve



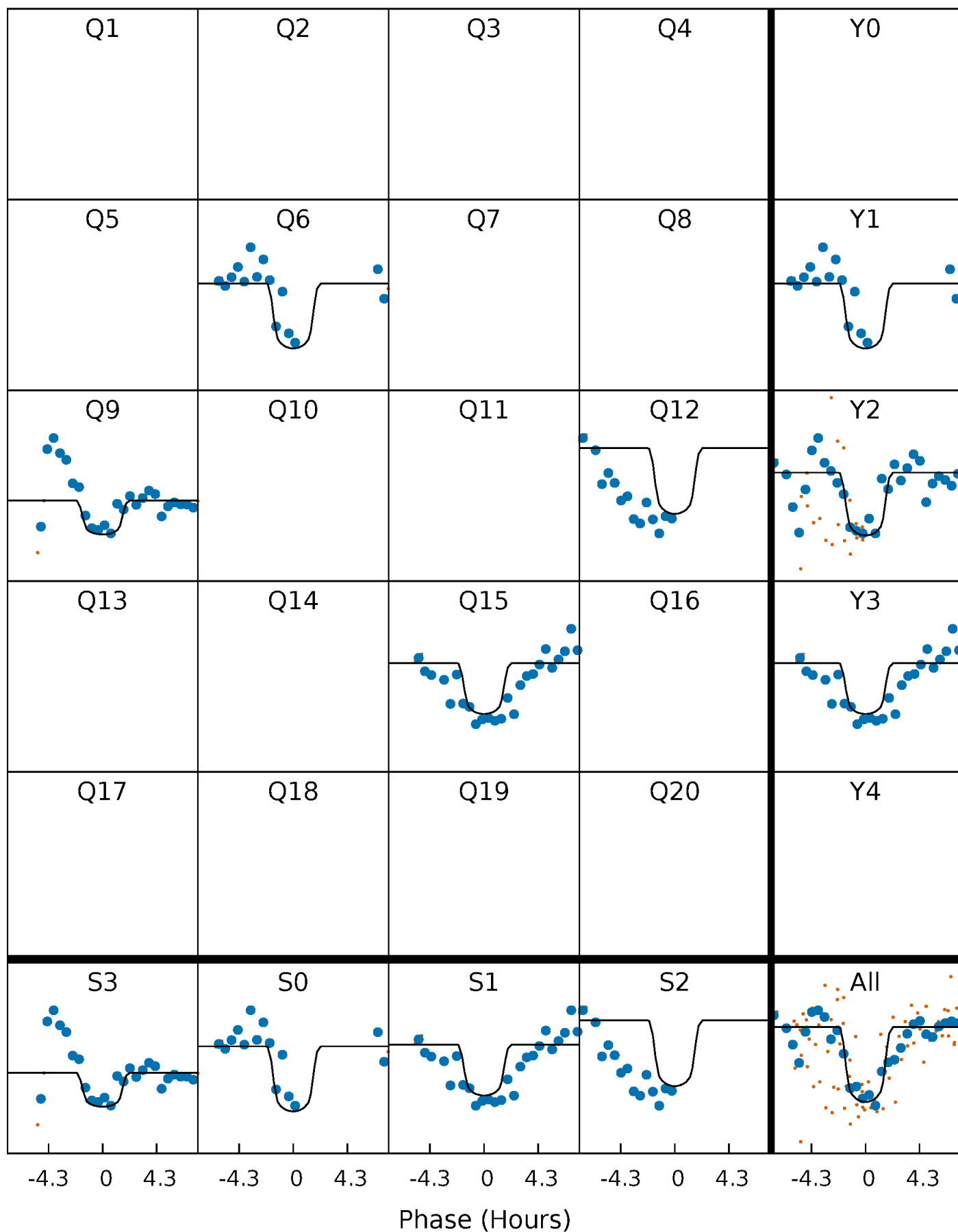
PDC Quarter-Phased Transit Curves

TCE 004743508-03 P=299.858720 Days $T_0=247.512064$ (BKJD)



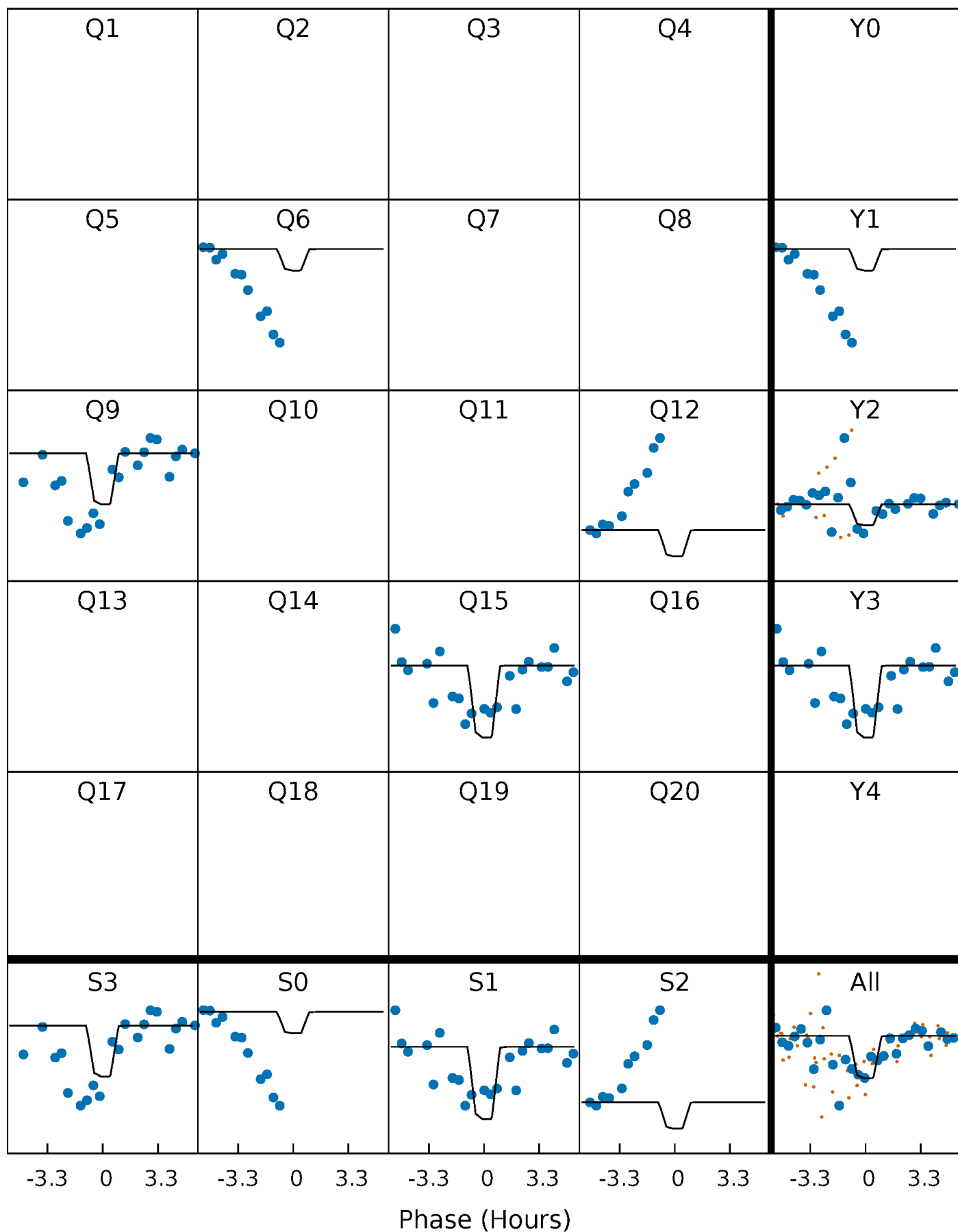
DV Quarter-Phased Transit Curves

TCE 004743508-03 $P=299.858720$ Days $T_0=247.512064$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

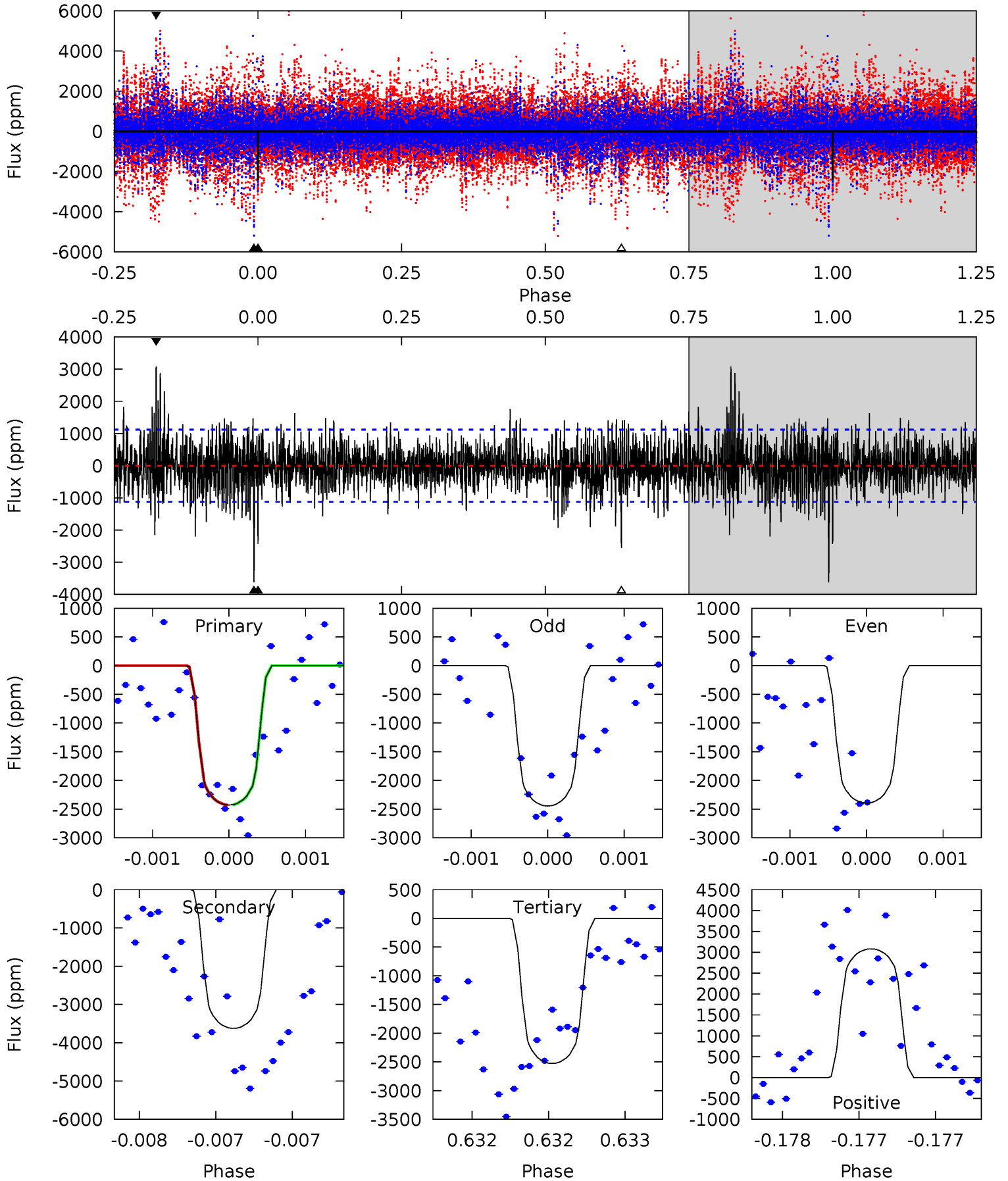
TCE 004743508-03 $P=299.854065$ Days $T_0=247.551842$ (BKJD)



DV Model-Shift Uniqueness Test

004743508-03, P = 299.858720 Days, E = 247.512064 Days

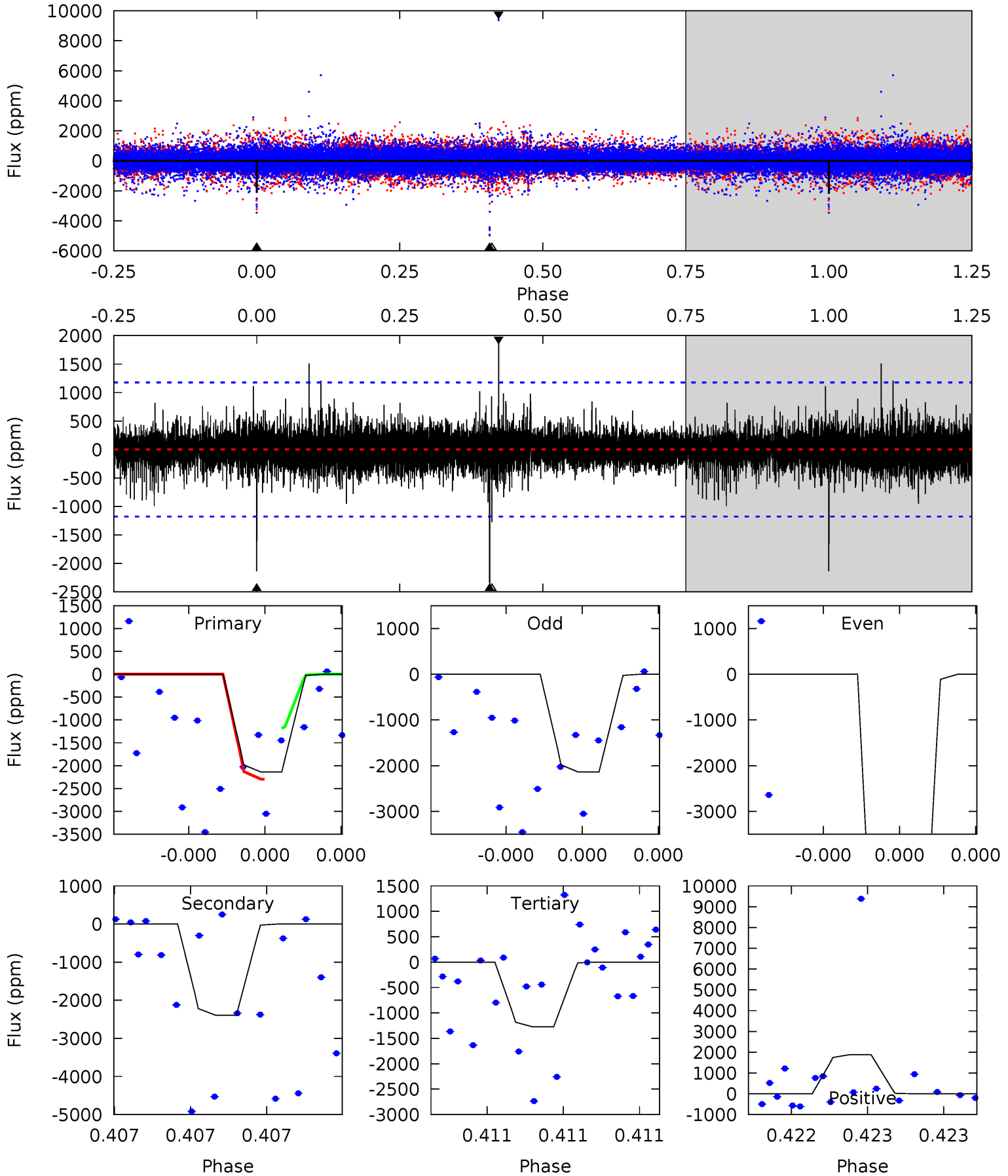
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	17.9	12.5	15.3	5.56	3.46	2.58	-0.48	-3.23	5.43	2.68	0.12	1.01	0.46	0.00



Alt Model-Shift Uniqueness Test

004743508-03, P = 299.854065 Days, E = 247.551842 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	11.6	6.17	9.13	5.69	3.66	0.92	4.18	1.22	5.42	2.46	11.4	1.00	0.44	2.85



Stellar Parameters For KIC 004743508

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6124^{+200}_{-218}	$4.265^{+0.231}_{-0.189}$	$-0.680^{+0.300}_{-0.300}$	$1.119^{+0.291}_{-0.291}$	$0.839^{+0.117}_{-0.063}$	$0.844^{+1.079}_{-0.409}$
	+3%/-4%	+5%/-4%	+44%/-44%	+26%/-26%	+14%/-8%	+128%/-48%
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 004743508-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-3624 ± 202	$6.30^{+1.63}_{-1.47}$	438^{+36}_{-35}	6636^{+838}_{-619}	35634^{+23998}_{-13436}
Alt.	-2393 ± 207	$5.76^{+1.50}_{-1.38}$	439^{+35}_{-33}	6223^{+933}_{-597}	27377^{+19312}_{-10197}

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

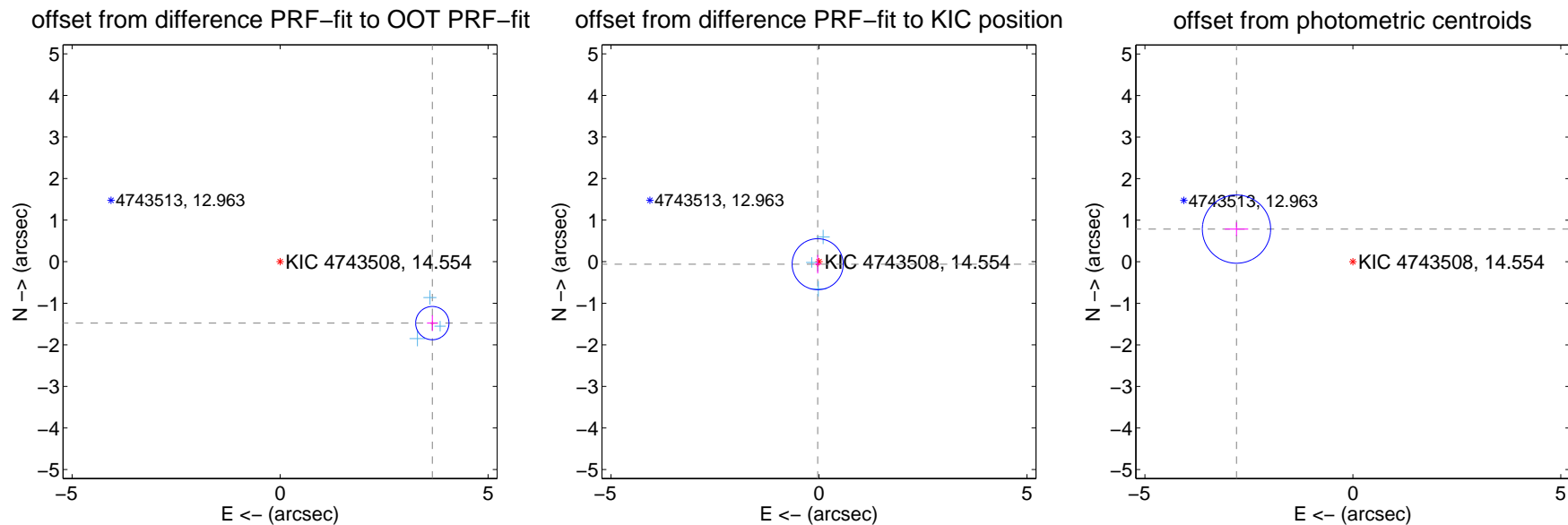
DV Centroid Data

Supplemental centroid analysis for 004743508-03. Kepler magnitude: 14.55. Transit SNR 8.82

There are 3 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 3.53 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.945 ± 0.133	29.55	-3.658 ± 0.127	-1.477 ± 0.188
PRF-fit source offset from KIC position	0.068 ± 0.205	0.33	0.032 ± 0.078	-0.061 ± 0.223
photometric centroid source offset	2.91 ± 0.27	10.62	2.80 ± 0.28	0.79 ± 0.16

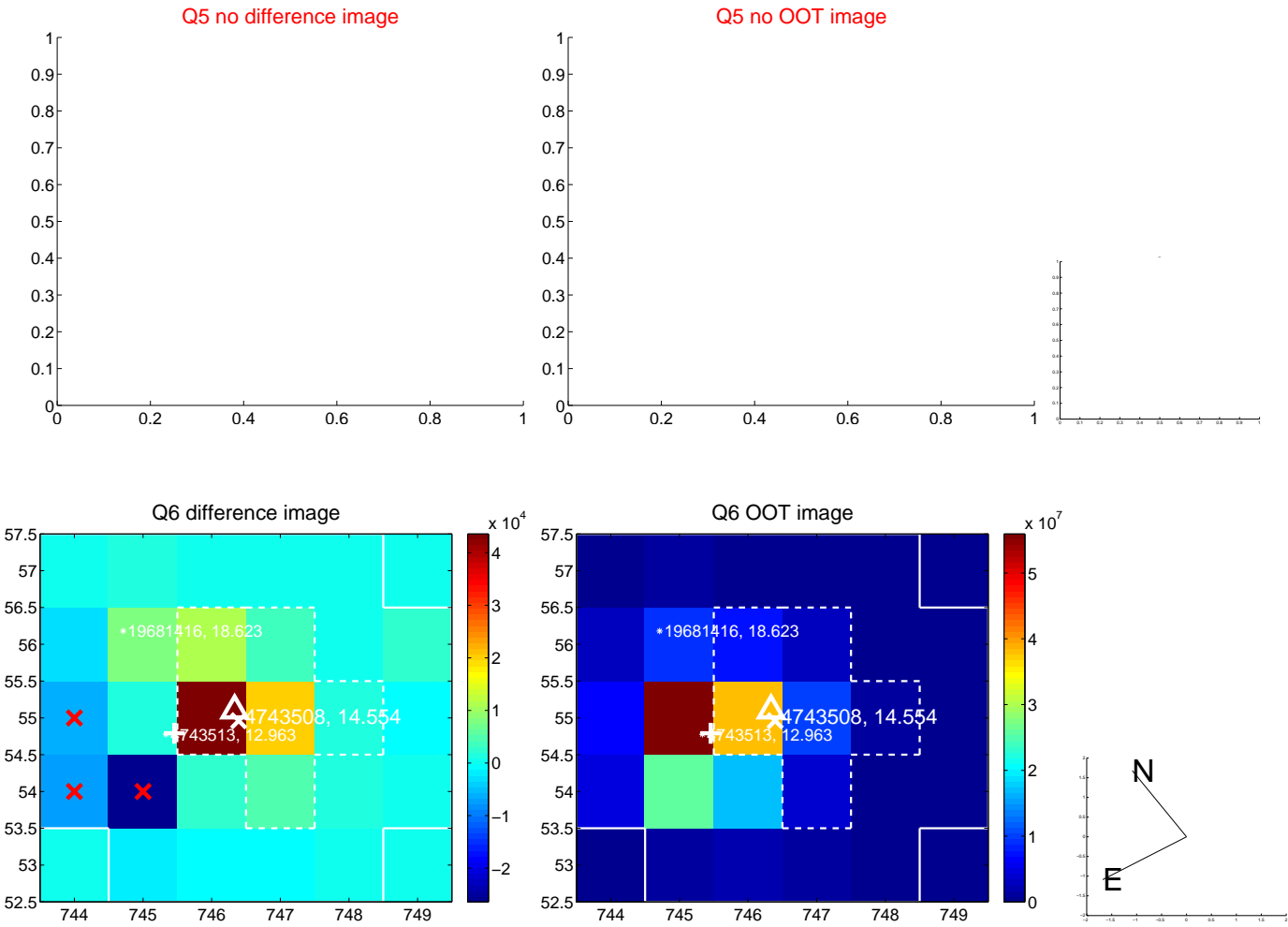


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

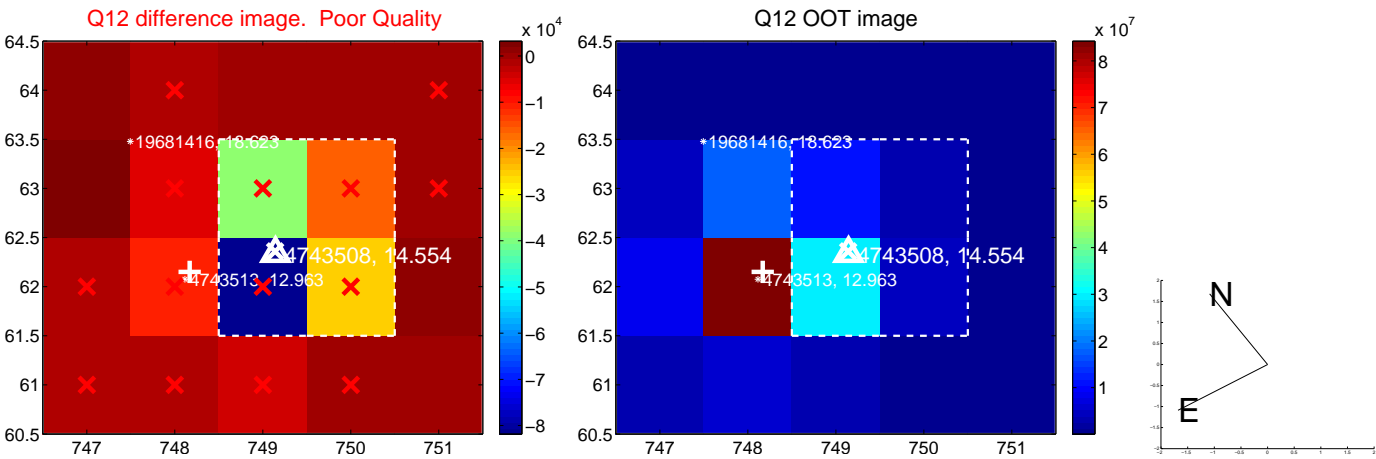
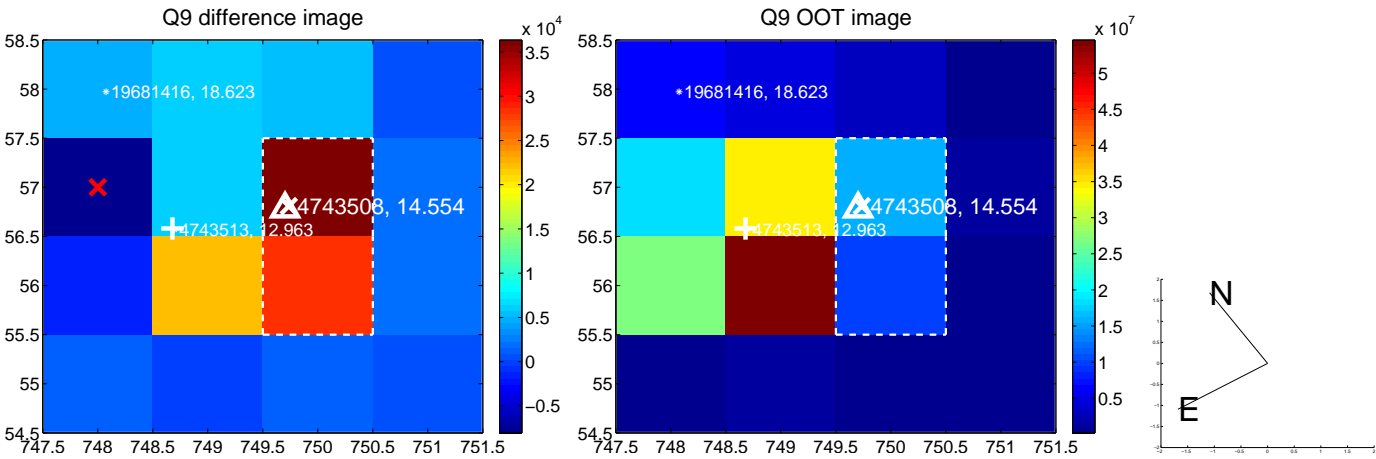
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



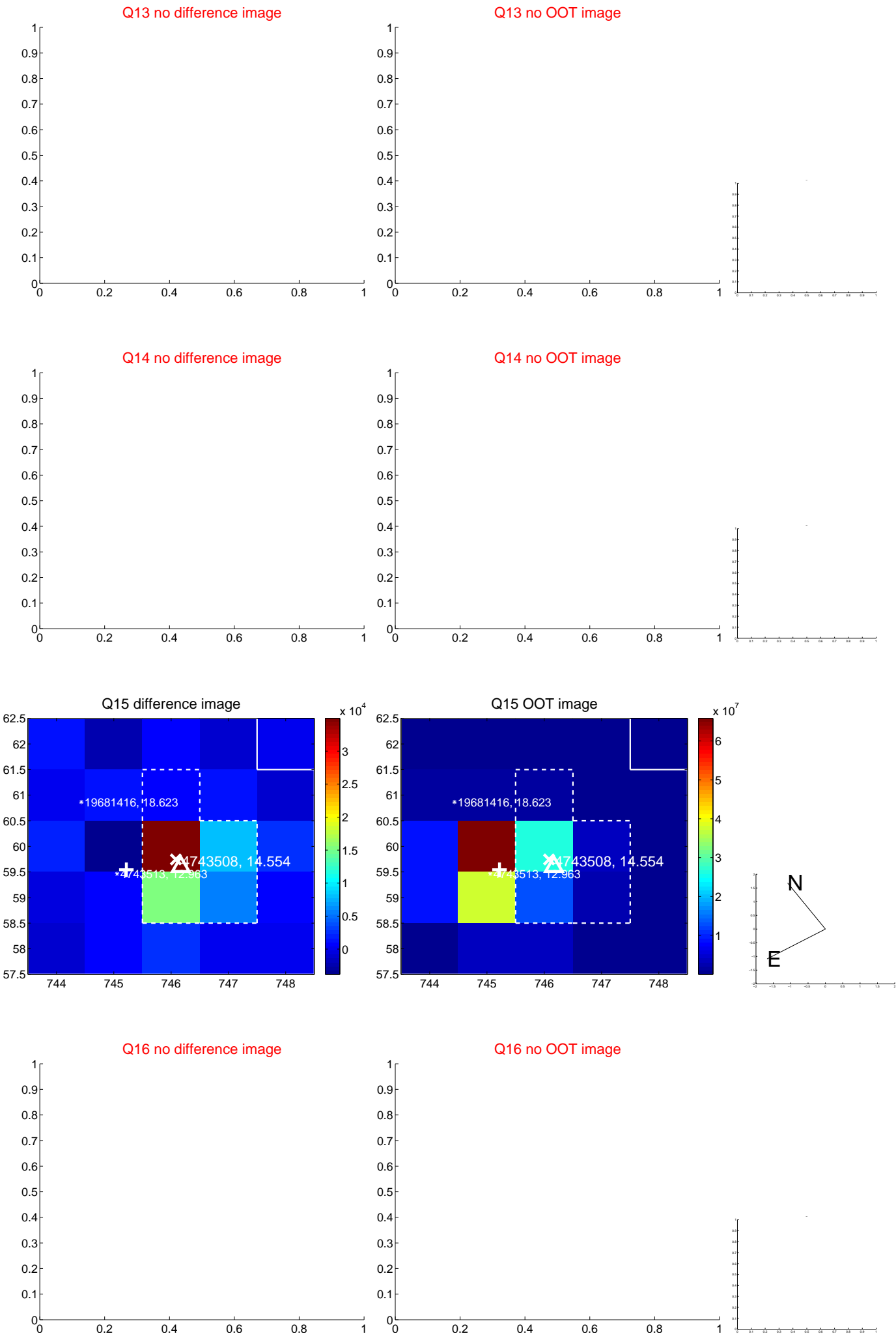
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



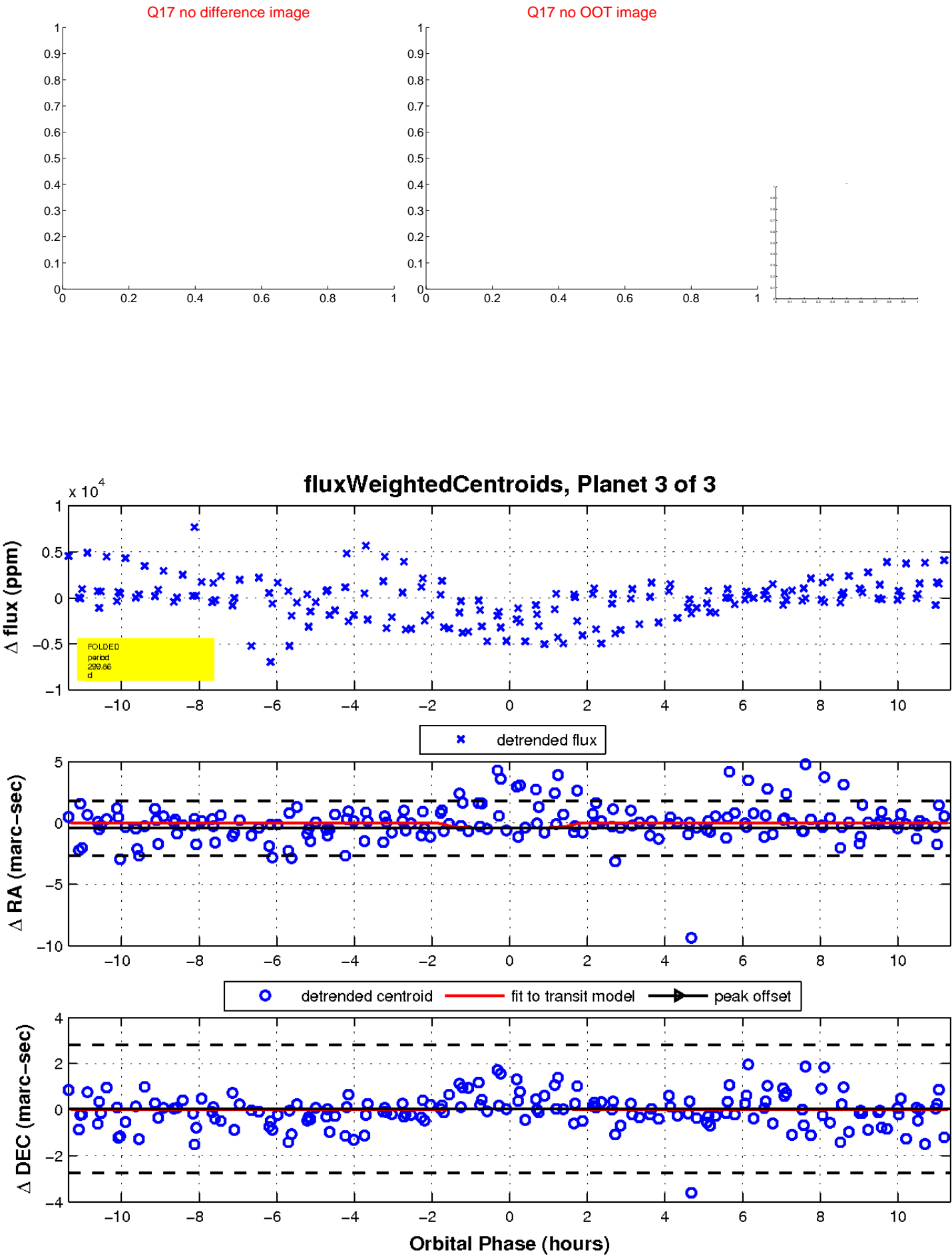
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

