

KIC 008542993

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})
008542993-01	OBS	No	1.799279	132.701068	45.1	7.695	10.0	10.7	1.91	7308	1.39	8487.85
008542993-02	OBS	No	259.561768	155.498383	476.5	5.083	8.3	7.6	1.91	7308	4.61	11.22
008542993-03	OBS	No	197.070927	158.226564	477.0	9.681	7.6	8.0	1.91	7308	4.72	16.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008542993-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008542993-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
008542993-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

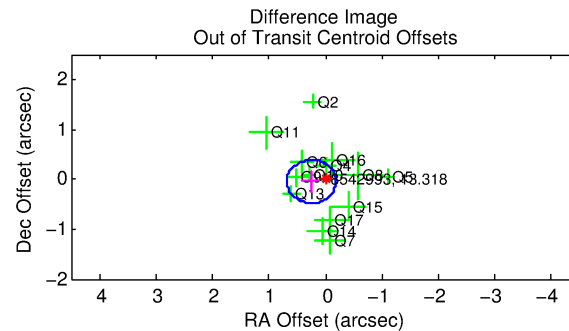
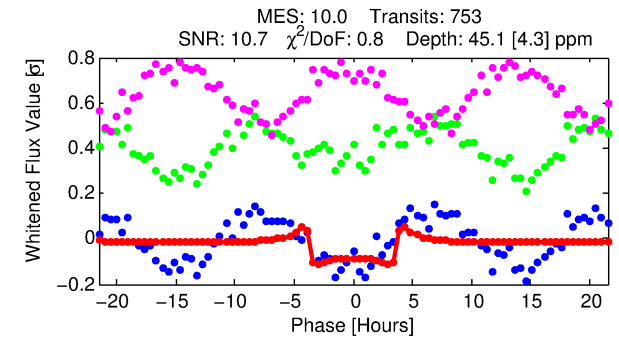
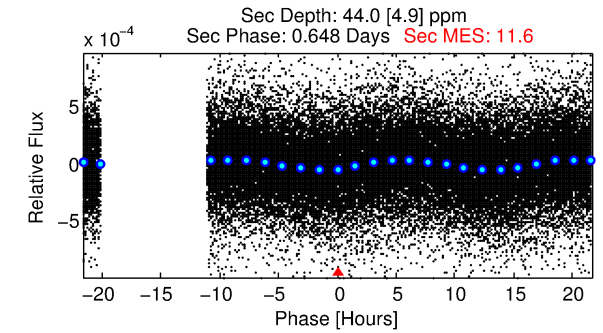
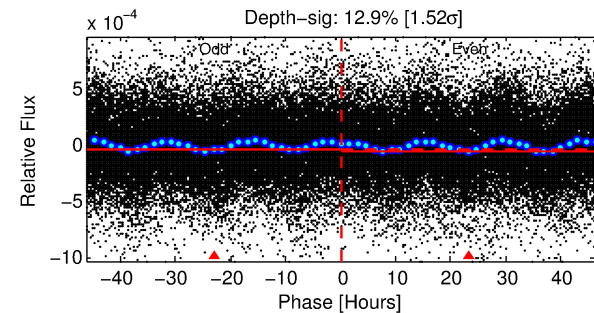
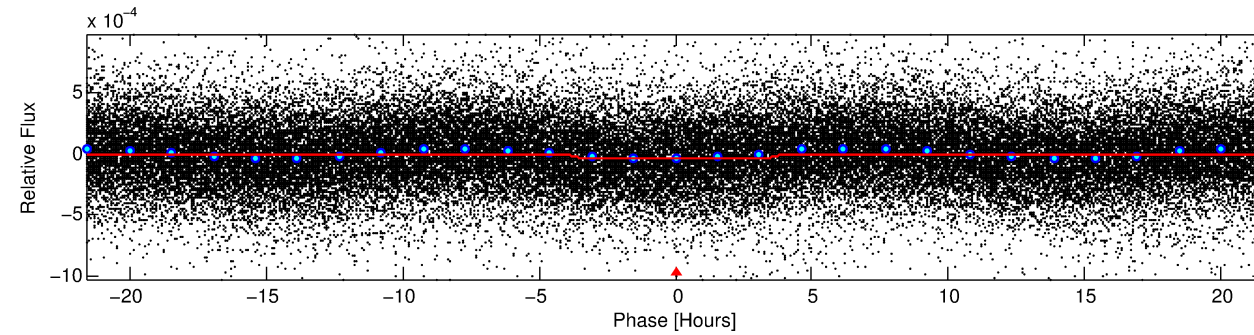
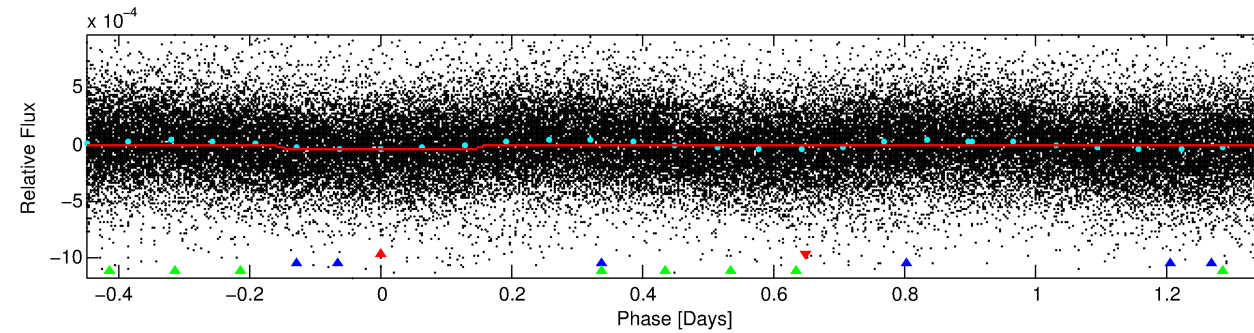
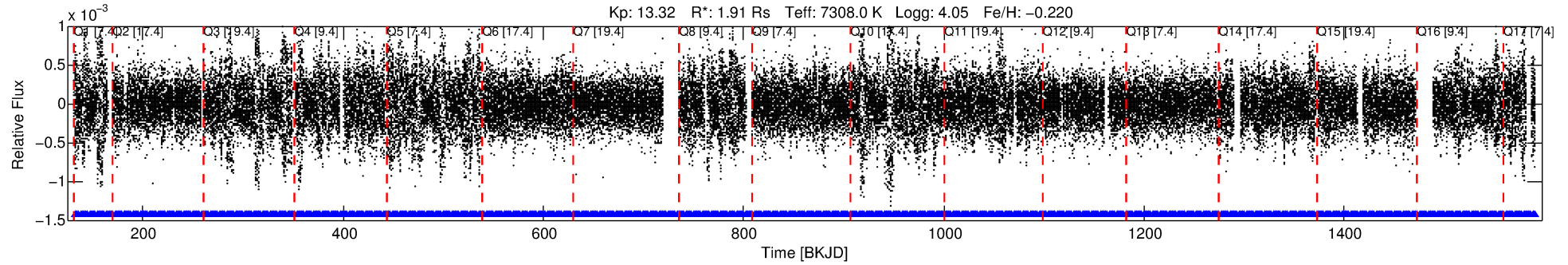
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008542993-01

No Significant Match Found

DV One-Page Summary

KIC: 8542993 Candidate: 1 of 3 Period: 1.799 d



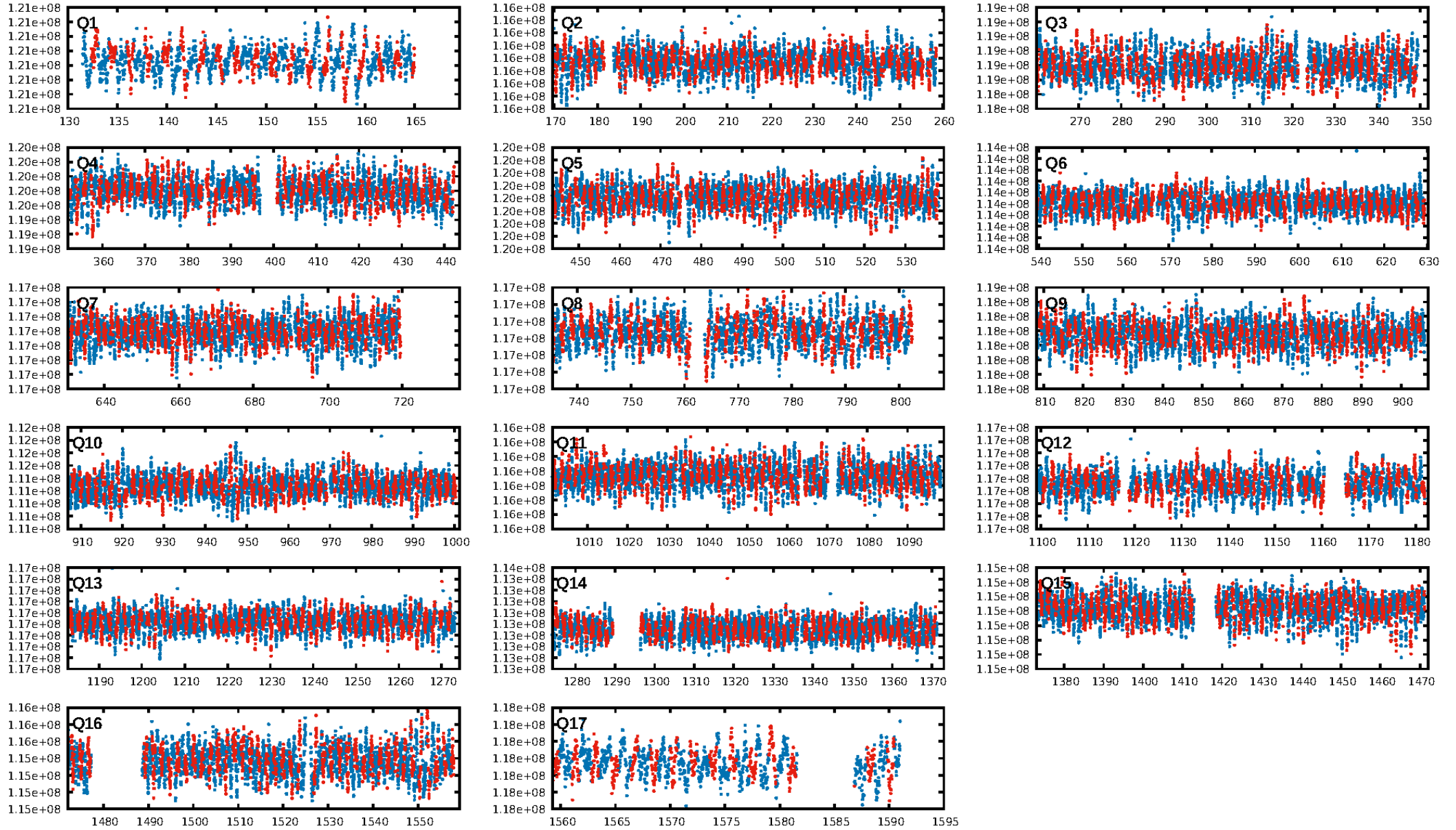
DV Fit Results:

Period = 1.79928 [0.00001] d
Epoch = 132.7011 [0.0030] BKJD
Rp/R* = 0.0067 [0.0012]
a/R* = 1.48 [0.88]
b = 0.74 [0.67]
Seff = 8487.85 [3393.48]
Teq = 2448 [245] K
Rp = 1.39 [0.46] Re
a = 0.0332 [0.0080] AU
Ag = 13.78 [7.35] [1.74 σ]
Teffp = 7291 [775] K [5.96 σ]

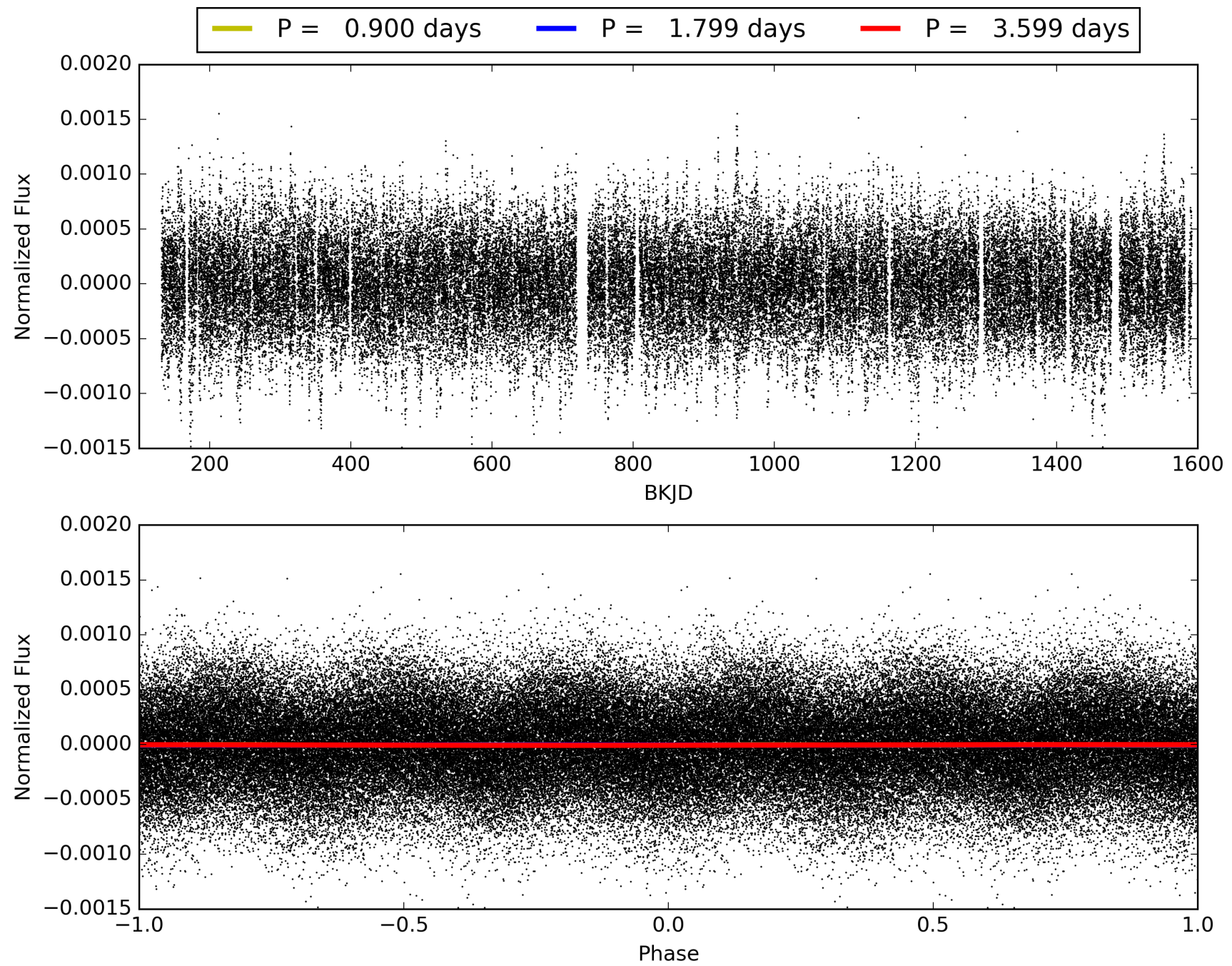
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [378.97 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.07e-12
RollingBand-fgt: 1.00 [719/719]
GhostDiagnostic-chr: 1.96
Centroid-sig: 1.1%
Centroid-so: 0.477 arcsec [1.46 σ]
OotOffset-rm: 0.258 arcsec [1.79 σ]
KicOffset-rm: 0.292 arcsec [2.11 σ]
OotOffset-st: 4/3/3/4 [14]
KicOffset-st: 4/3/3/4 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008542993-01, PDC Light Curves

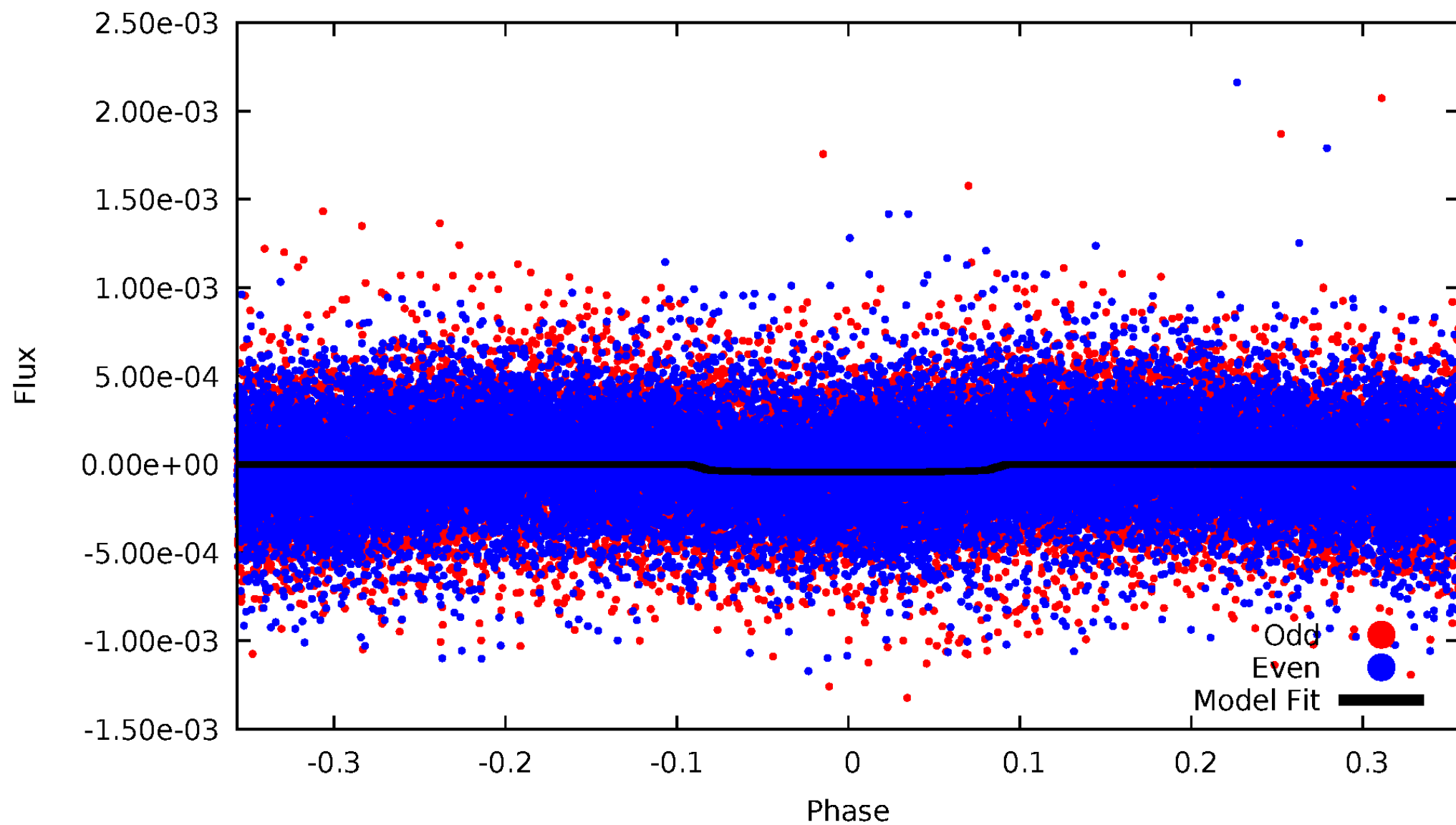


TCE 008542993-01



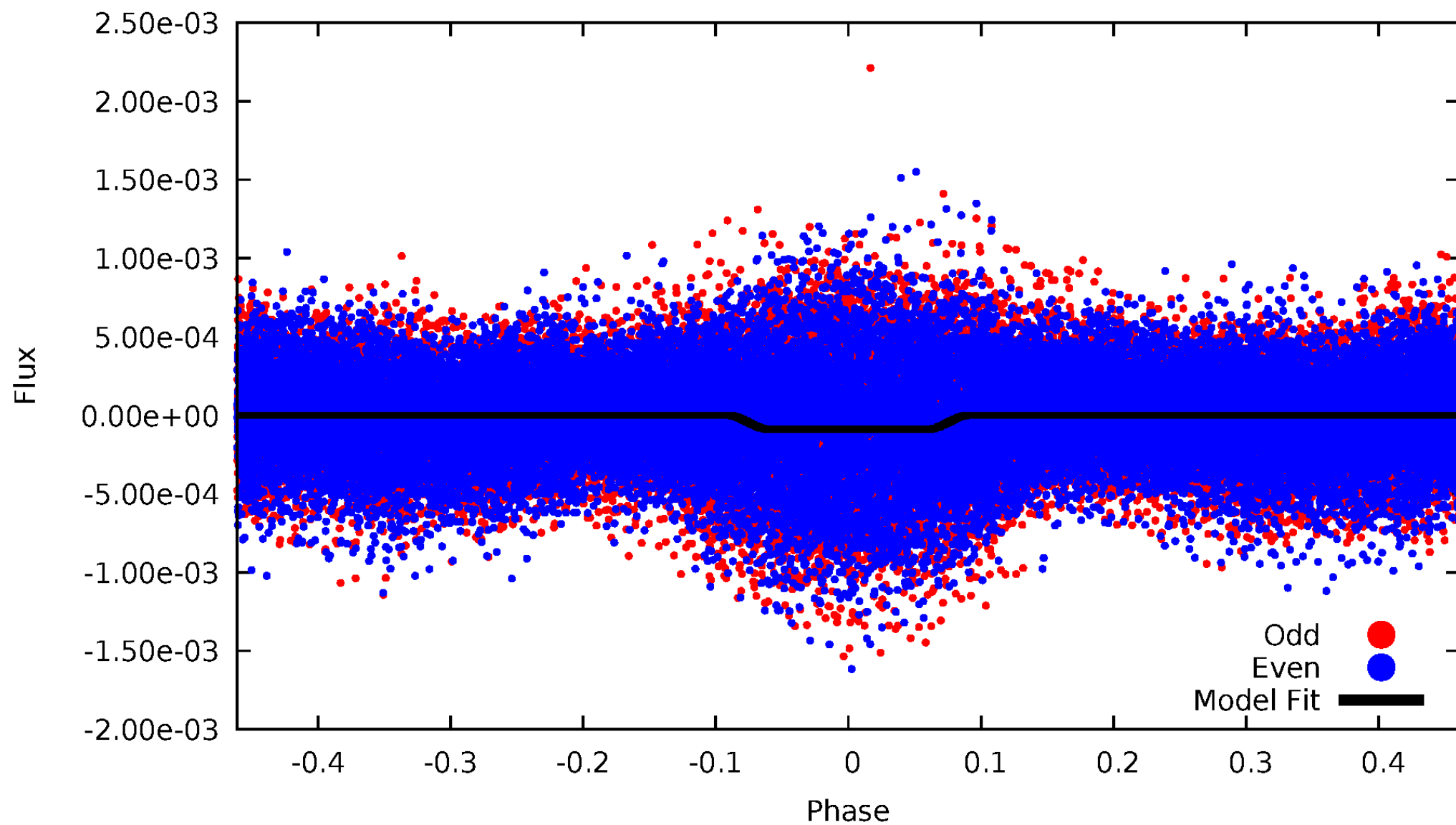
DV Odd/Even

TCE 008542993-01

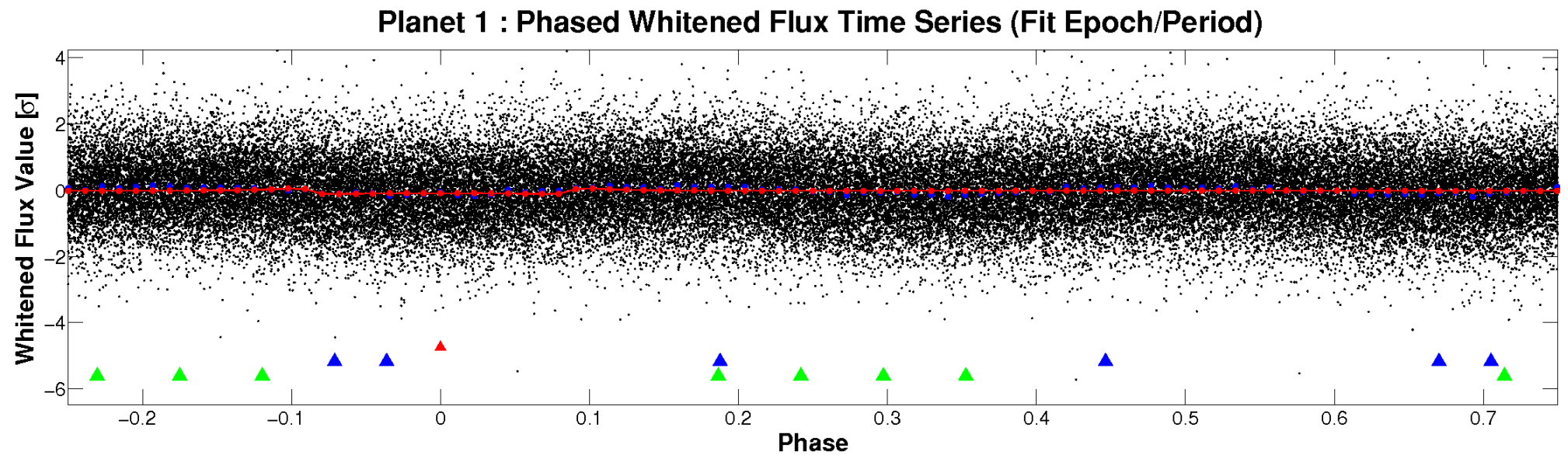
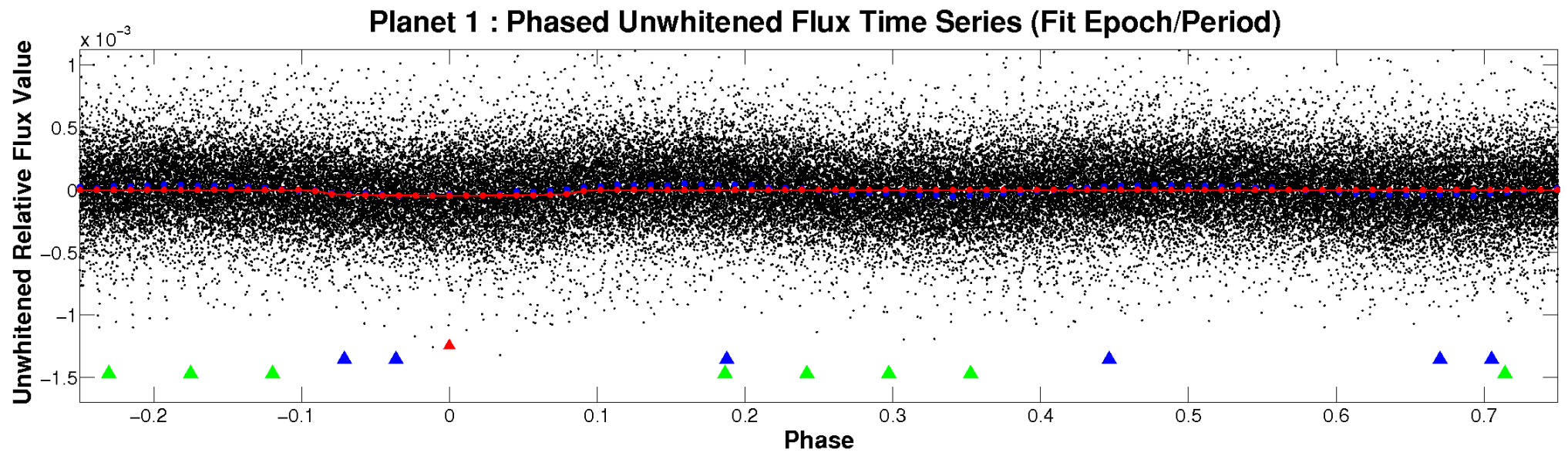


ALT Odd/Even

TCE 008542993-01

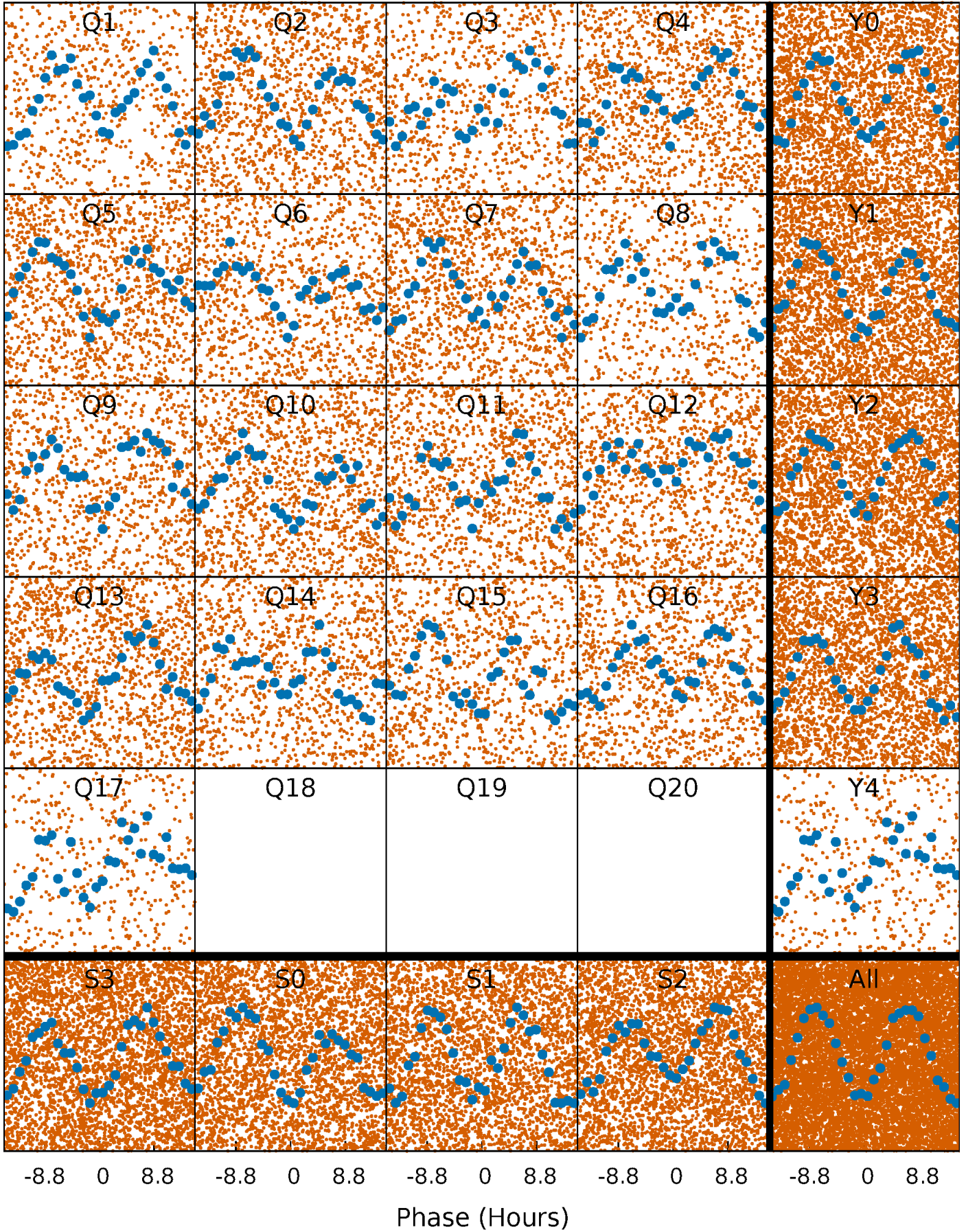


Non-Whitened Vs. Whitened Light Curve



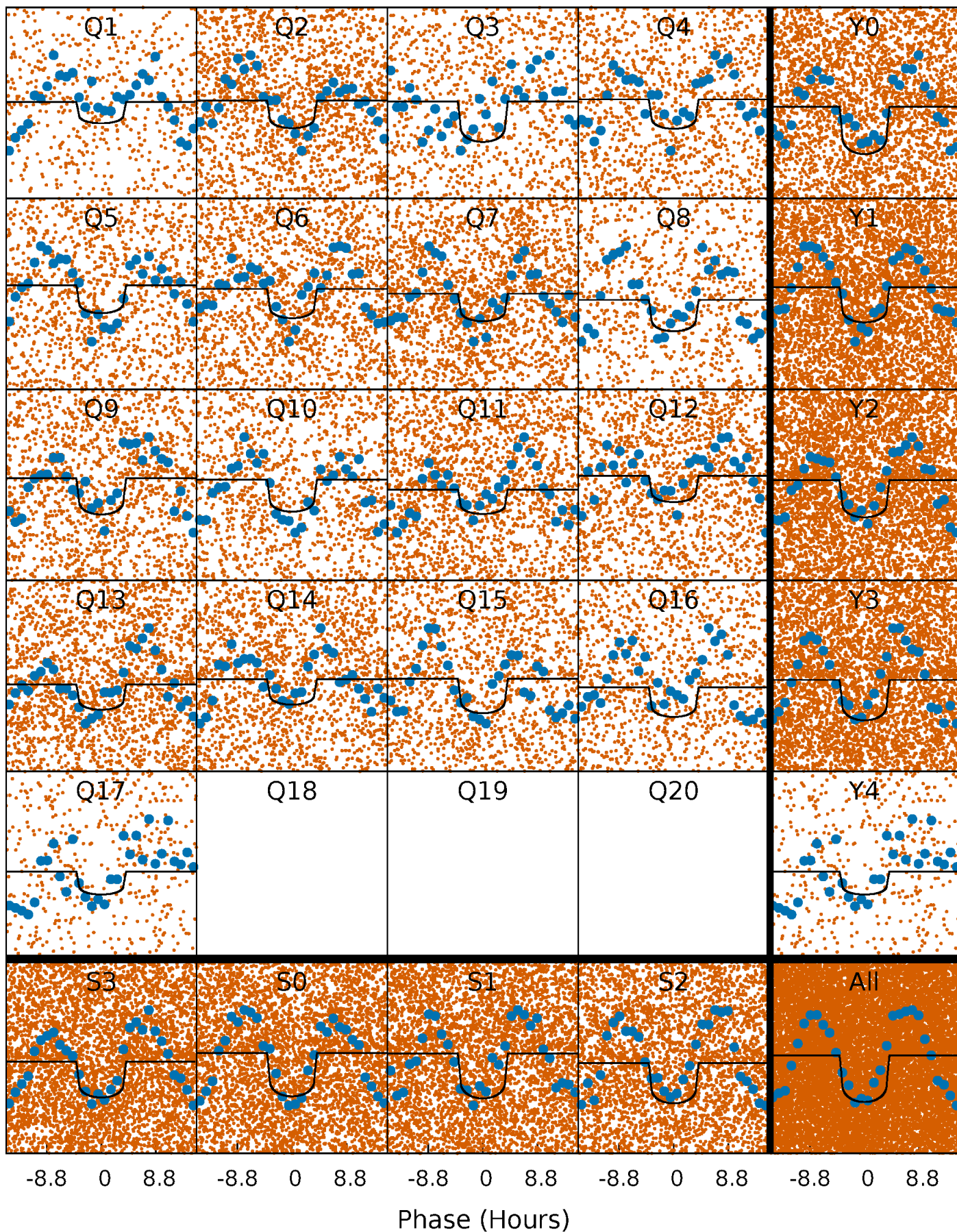
PDC Quarter-Phased Transit Curves

TCE 008542993-01 P= 1.799279 Days $T_0=132.701068$ (BKJD)



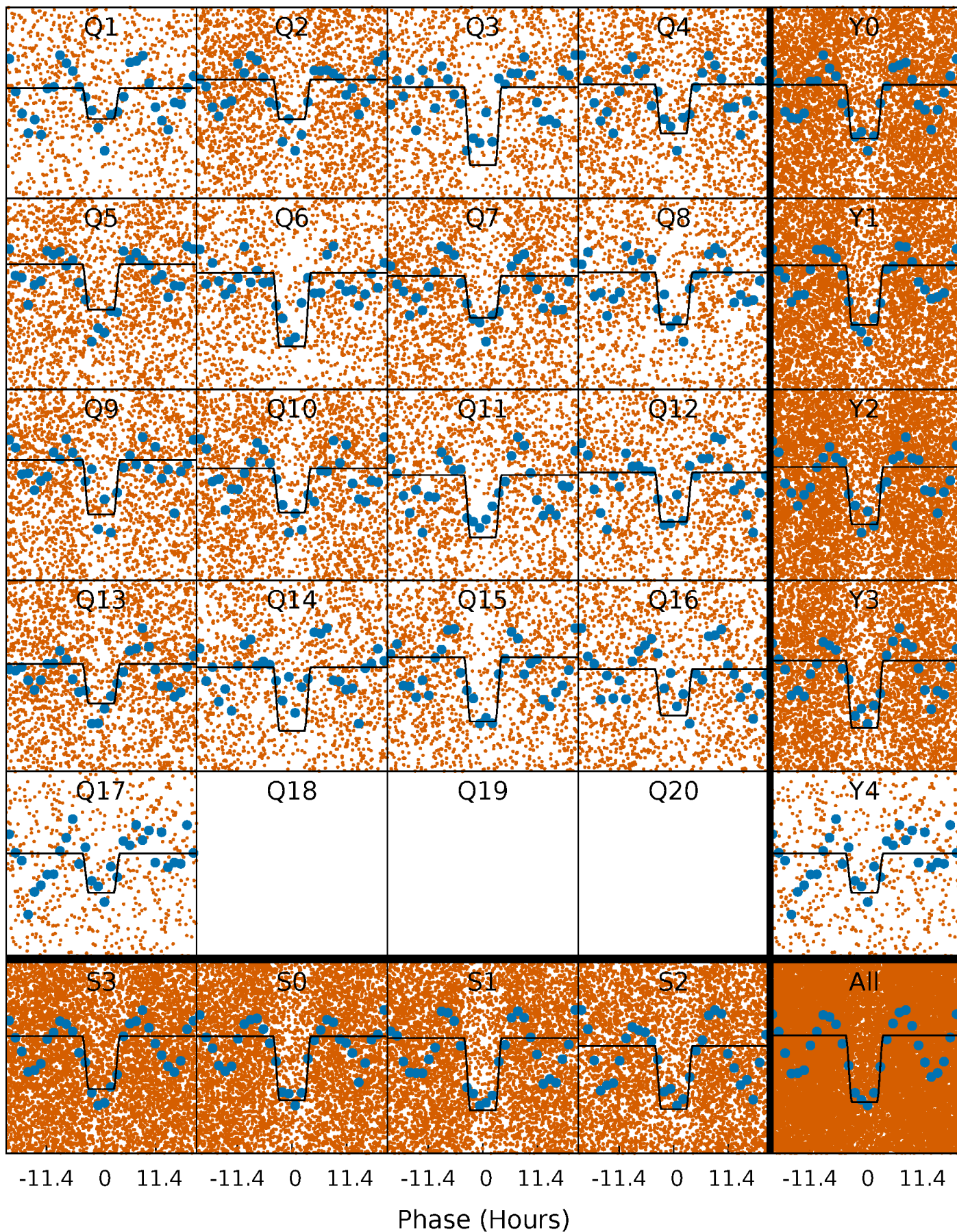
DV Quarter-Phased Transit Curves

TCE 008542993-01 P= 1.799279 Days $T_0=132.701068$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

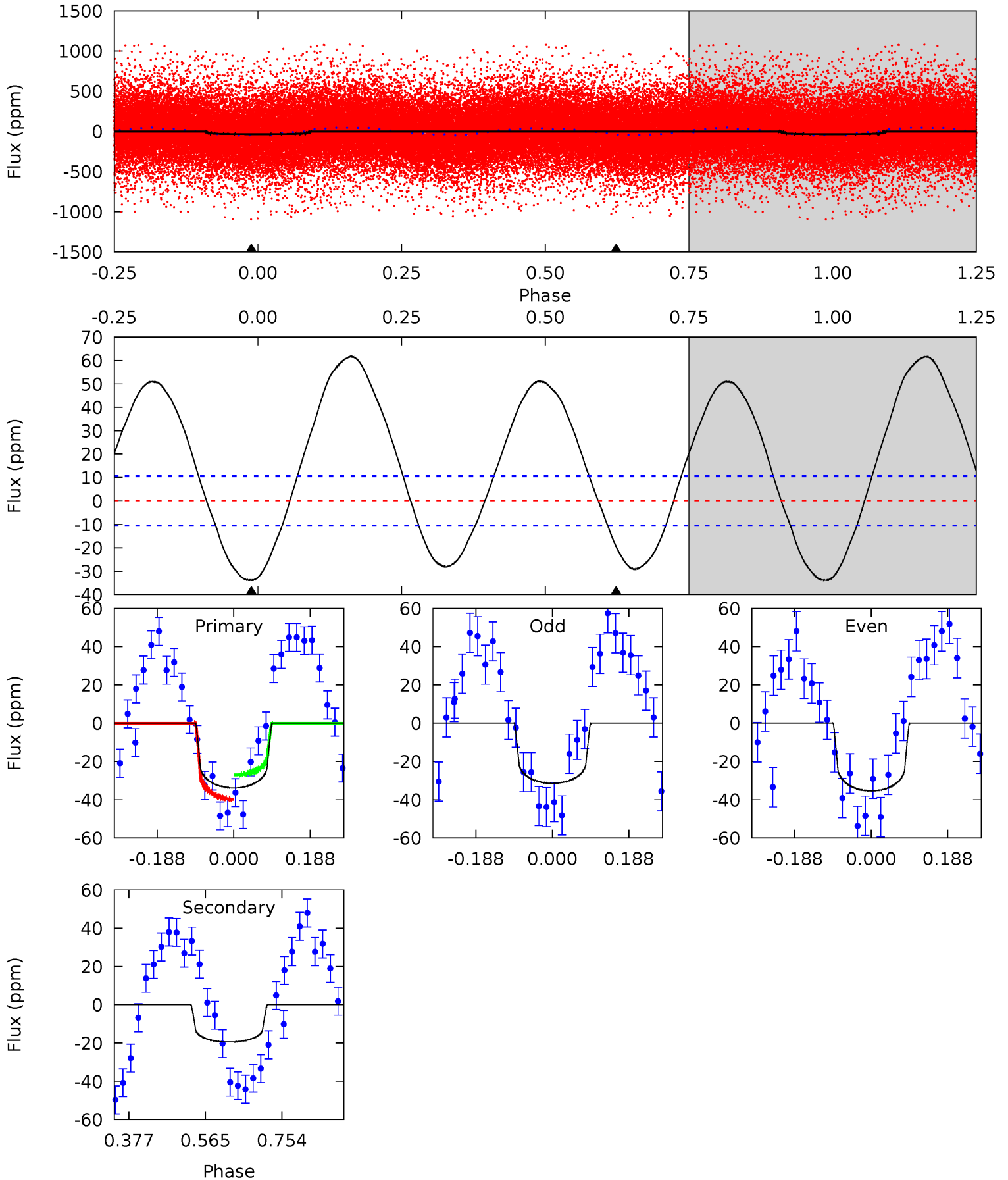
TCE 008542993-01 P= 1.799147 Days $T_0=132.731663$ (BKJD)



DV Model-Shift Uniqueness Test

008542993-01, P = 1.799279 Days, E = 130.901789 Days

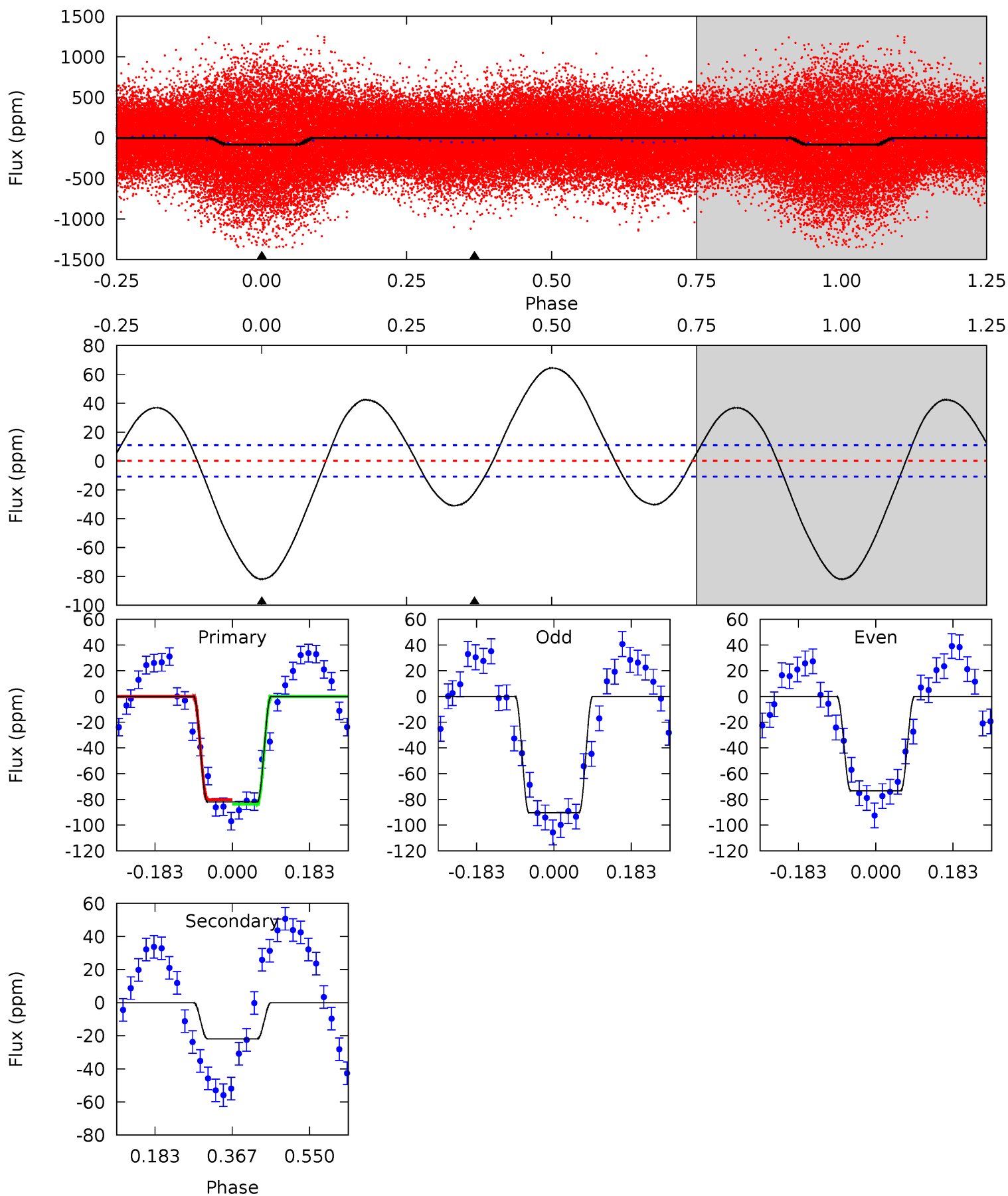
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	8.15	0	0	4.43	1.32	11.0	14.2	14.2	8.15	8.15	0.84	0.90	0.65	2.67



Alt Model-Shift Uniqueness Test

008542993-01, P = 1.799147 Days, E = 130.932516 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.4	8.90	0	0	4.44	1.33	9.95	33.4	33.4	8.90	8.90	3.48	1.05	0.44	0.76



Stellar Parameters For KIC 008542993

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7308^{+230}_{-307}	$4.052^{+0.204}_{-0.167}$	$-0.220^{+0.250}_{-0.350}$	$1.911^{+0.525}_{-0.525}$	$1.500^{+0.209}_{-0.279}$	$0.303^{+0.370}_{-0.147}$
	+3%/-4%	+5%/-4%	+114%/-159%	+27%/-27%	+14%/-19%	+122%/-49%
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 008542993-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-19 ± 2	$1.36^{+0.33}_{-0.32}$	3405^{+241}_{-257}	5805^{+758}_{-528}	$6.325^{+4.247}_{-2.347}$
Alt.	-22 ± 2	$1.95^{+0.43}_{-0.39}$	3407^{+261}_{-285}	5002^{+390}_{-330}	$3.354^{+1.985}_{-1.075}$

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 $A_{obs} \gg 1.0$

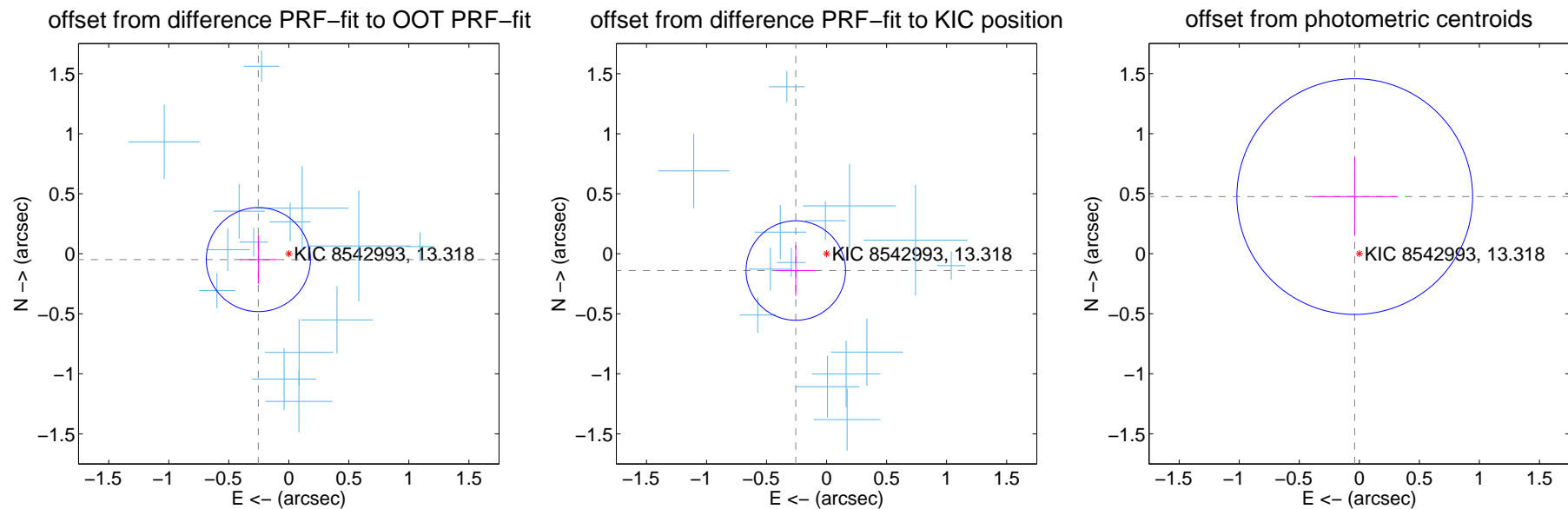
DV Centroid Data

Supplemental centroid analysis for 008542993-01. Kepler magnitude: 13.32. Transit SNR 10.70

There are 14 quarters with good PRF difference image offsets

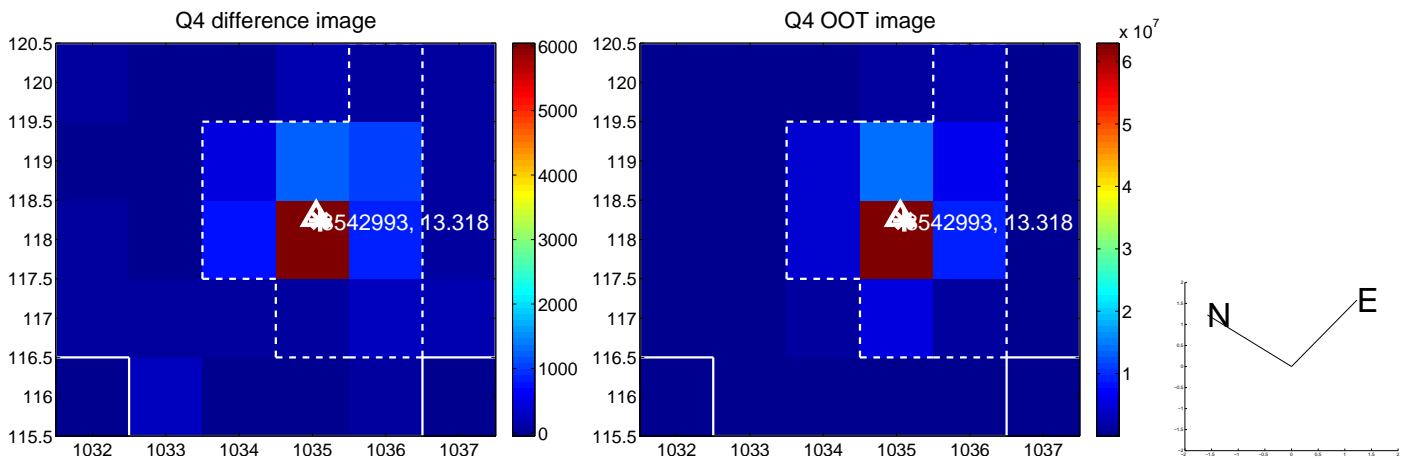
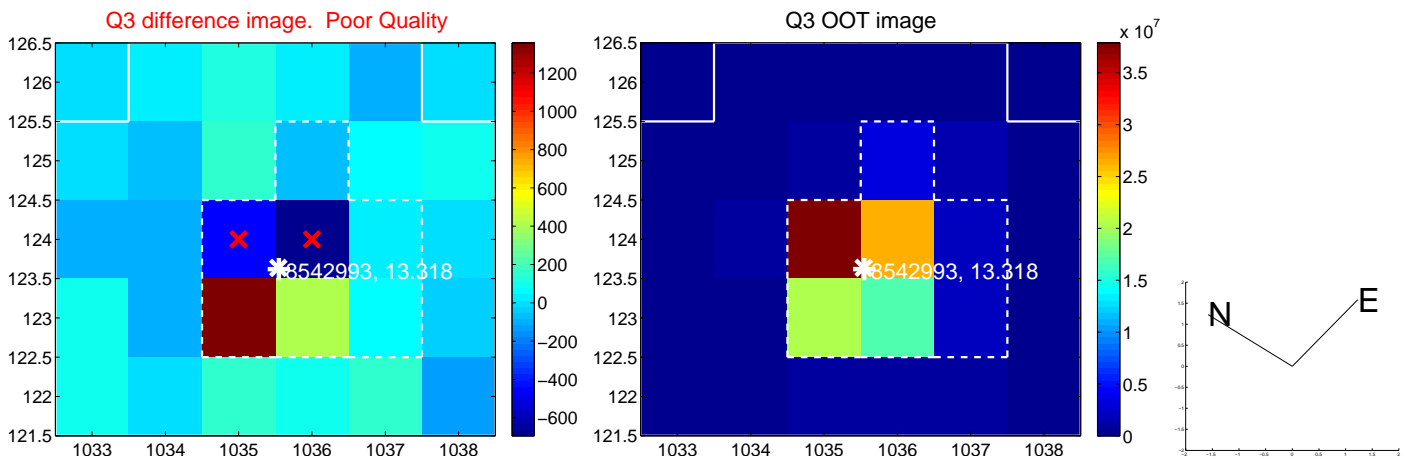
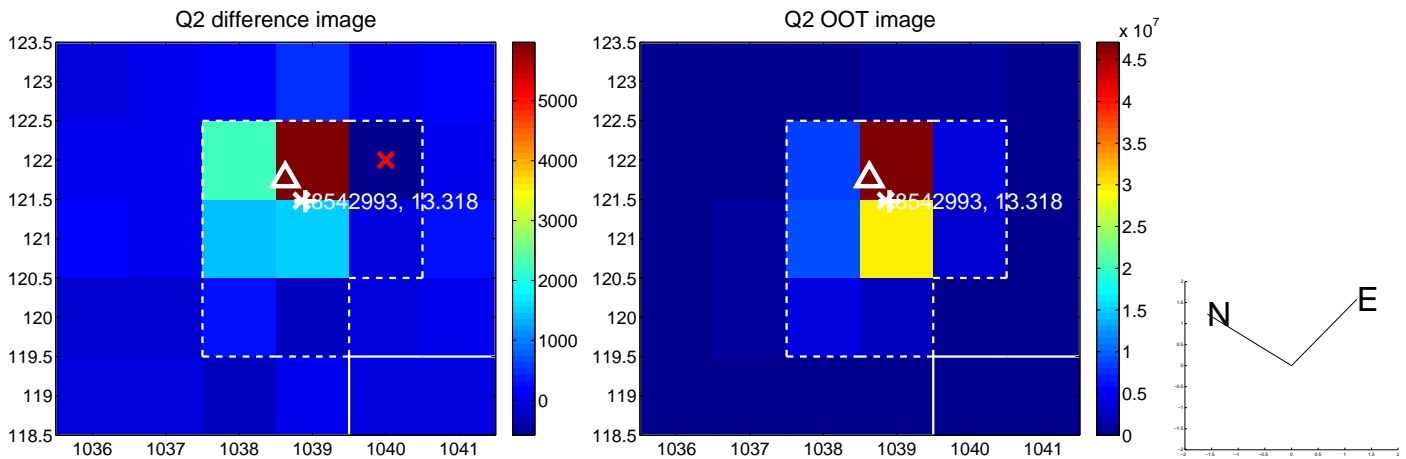
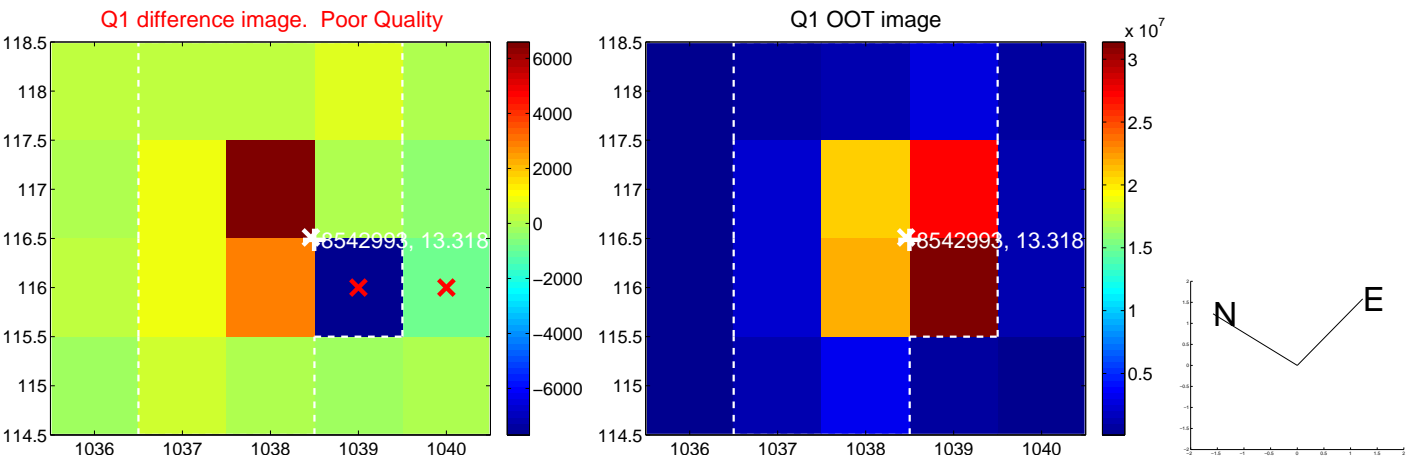
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.258 ± 0.144	1.79	0.254 ± 0.154	-0.048 ± 0.203
PRF-fit source offset from KIC position	0.292 ± 0.138	2.11	0.256 ± 0.163	-0.140 ± 0.211
photometric centroid source offset	0.48 ± 0.33	1.46	0.04 ± 0.35	0.48 ± 0.33

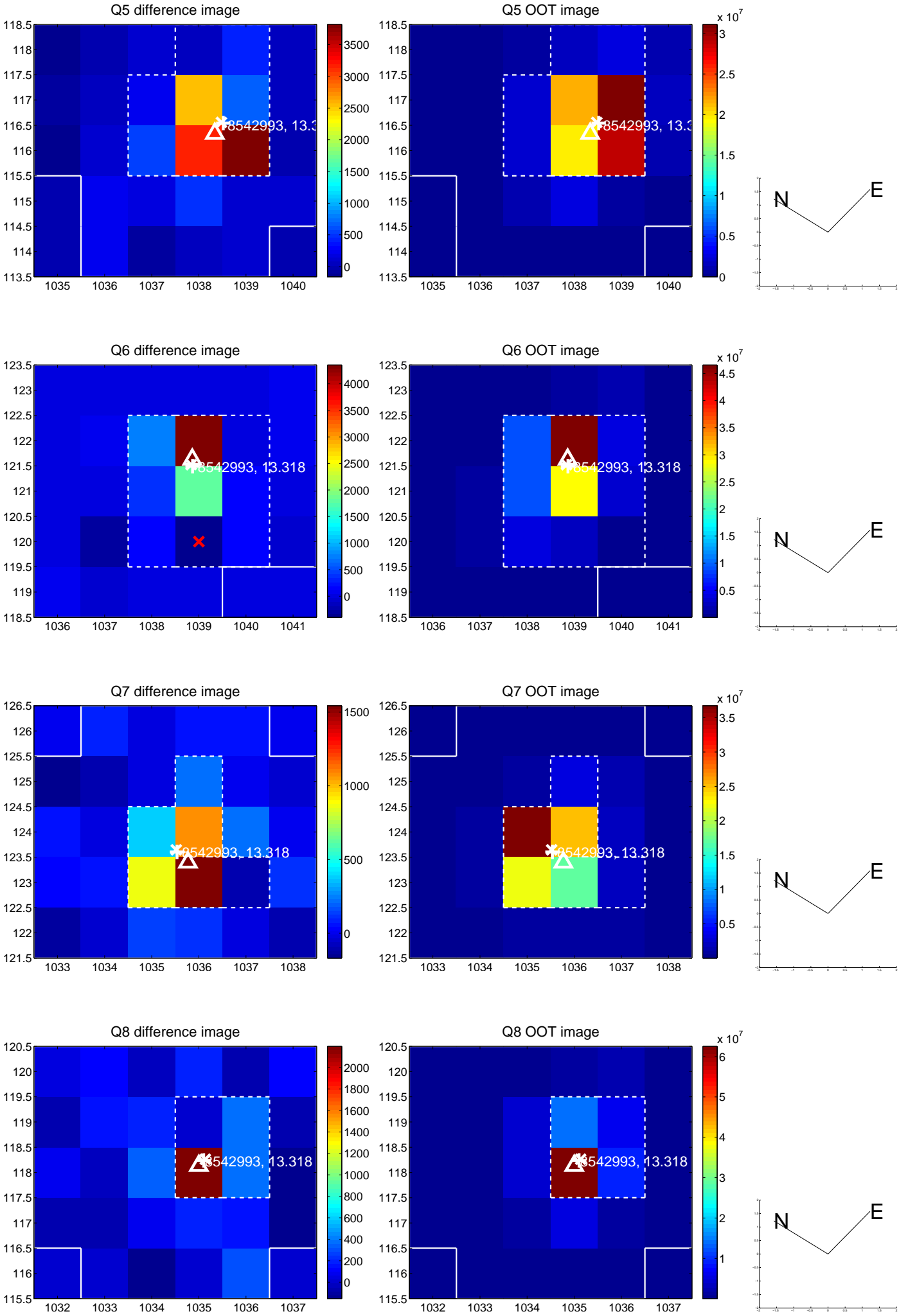


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

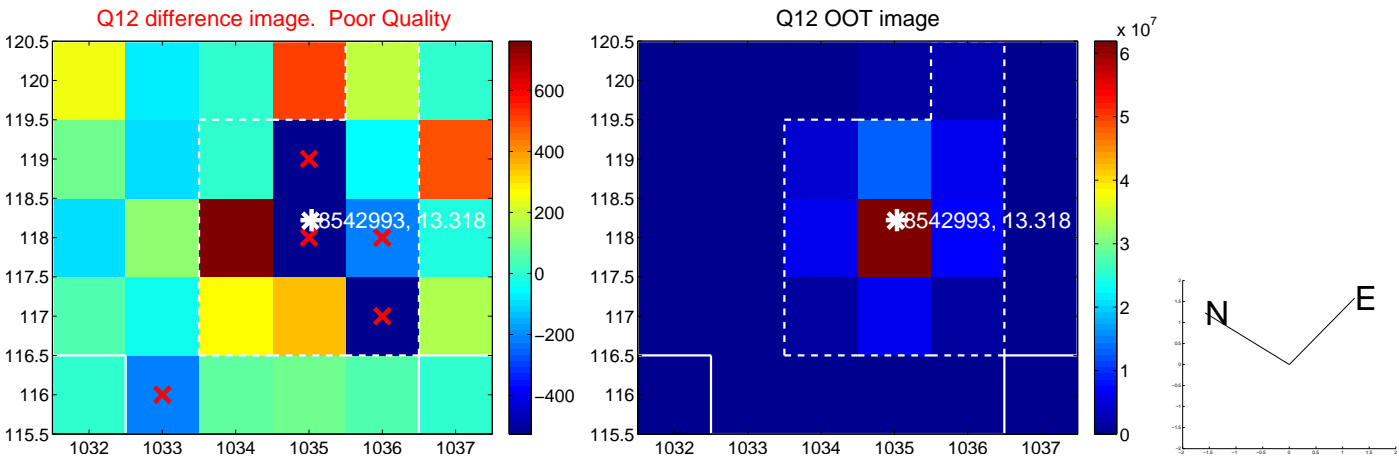
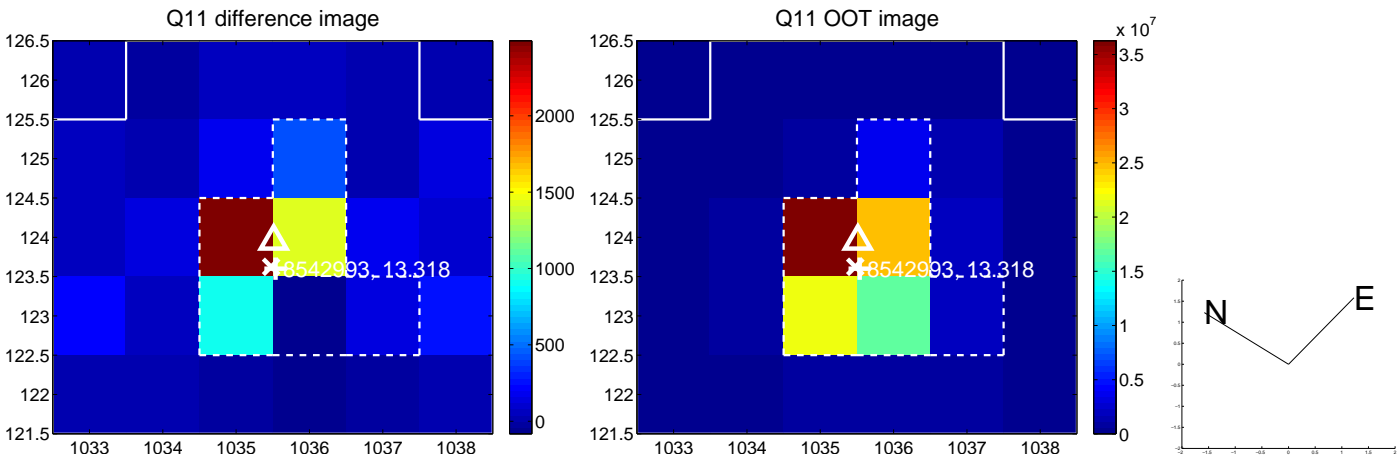
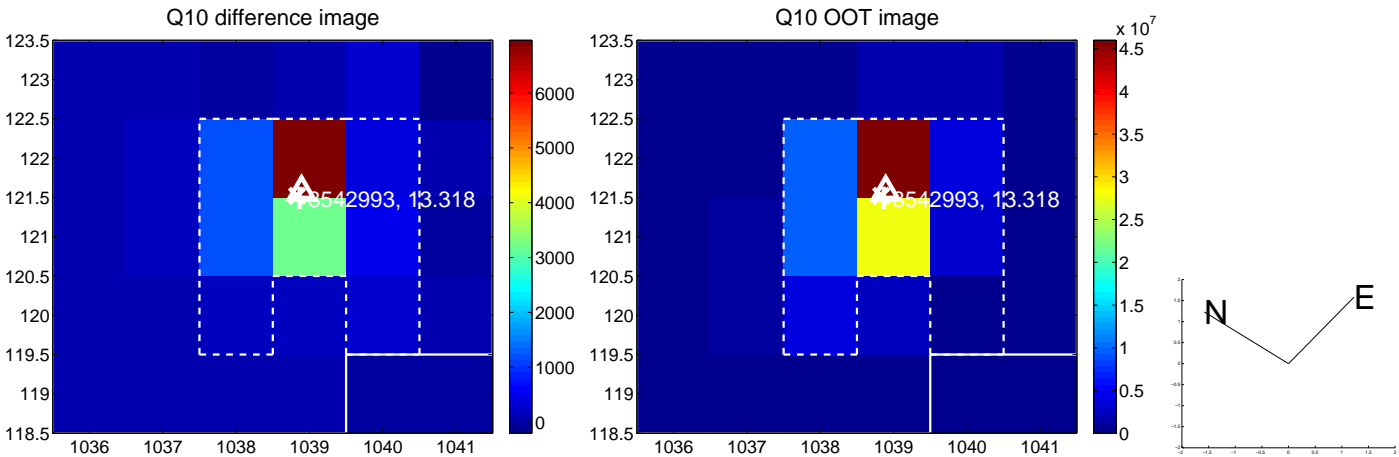
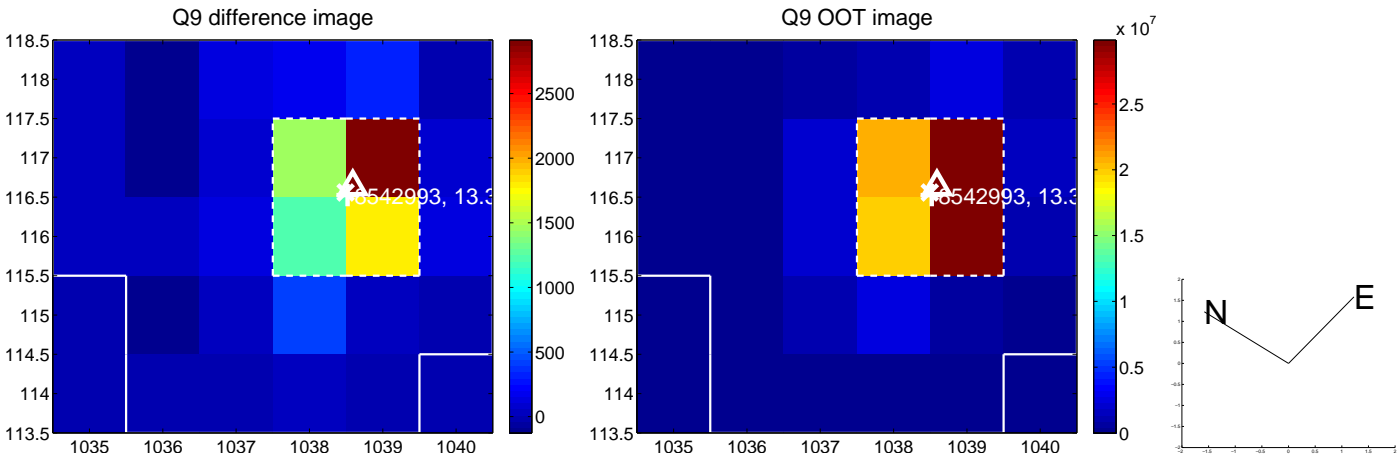
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



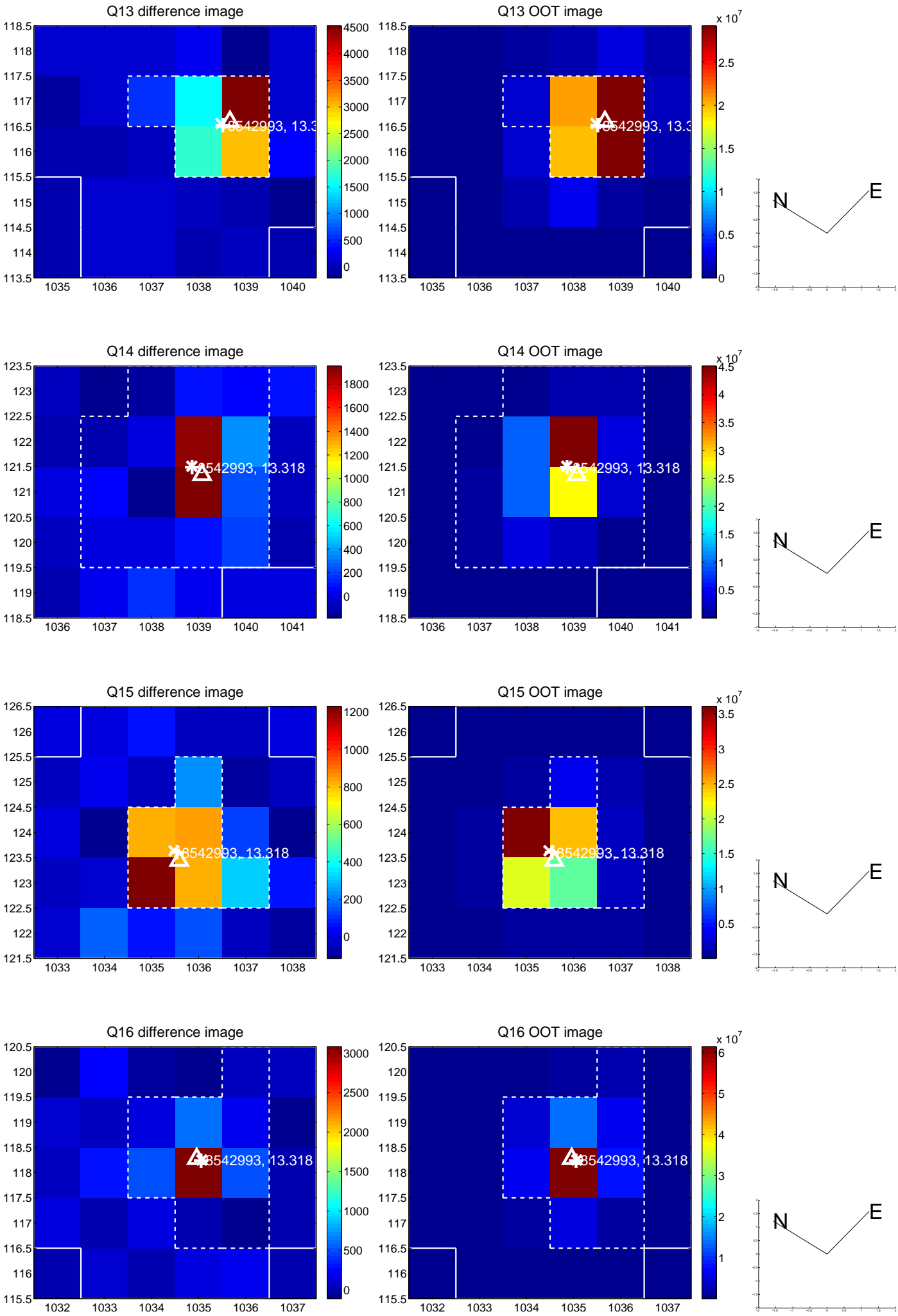
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



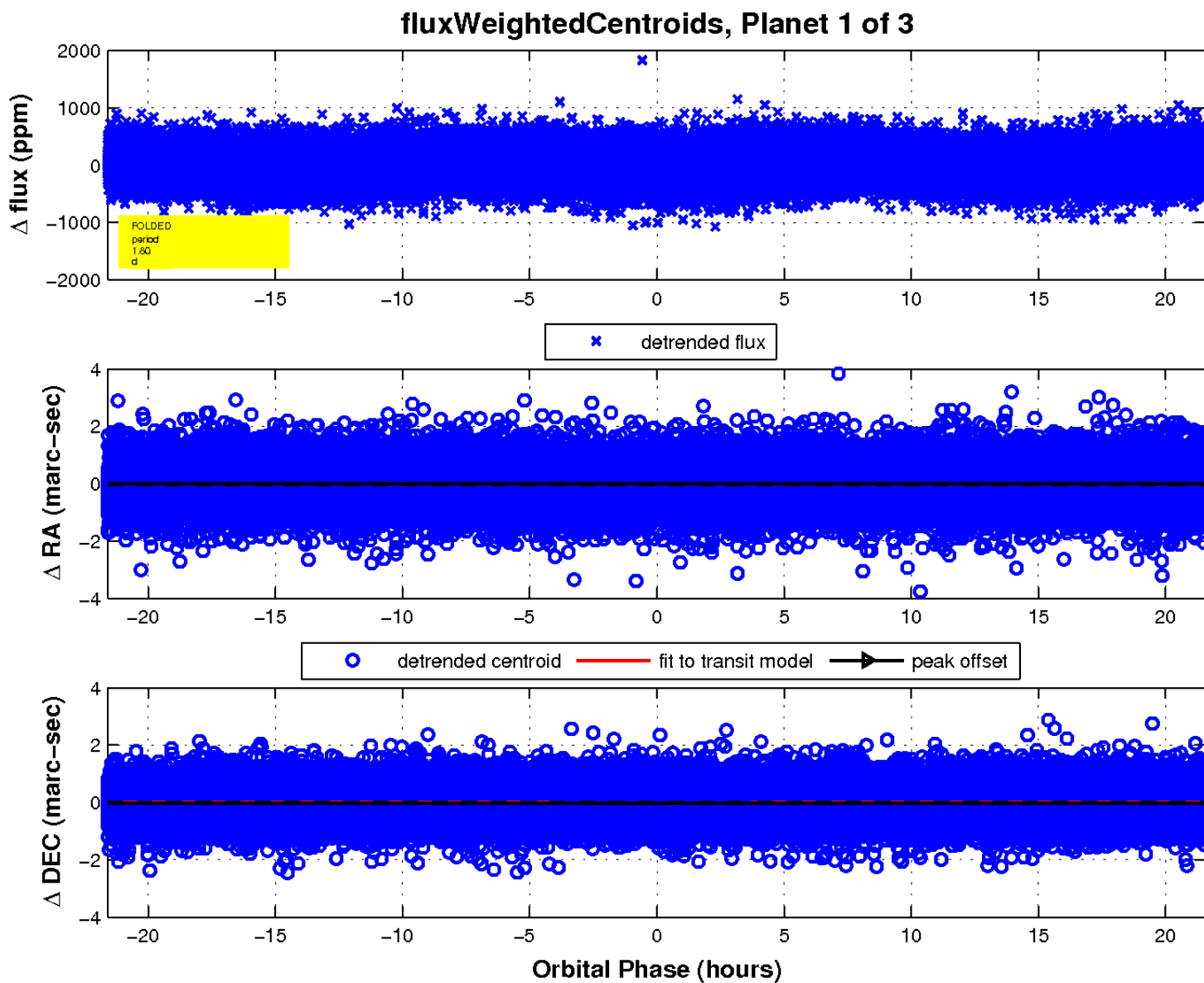
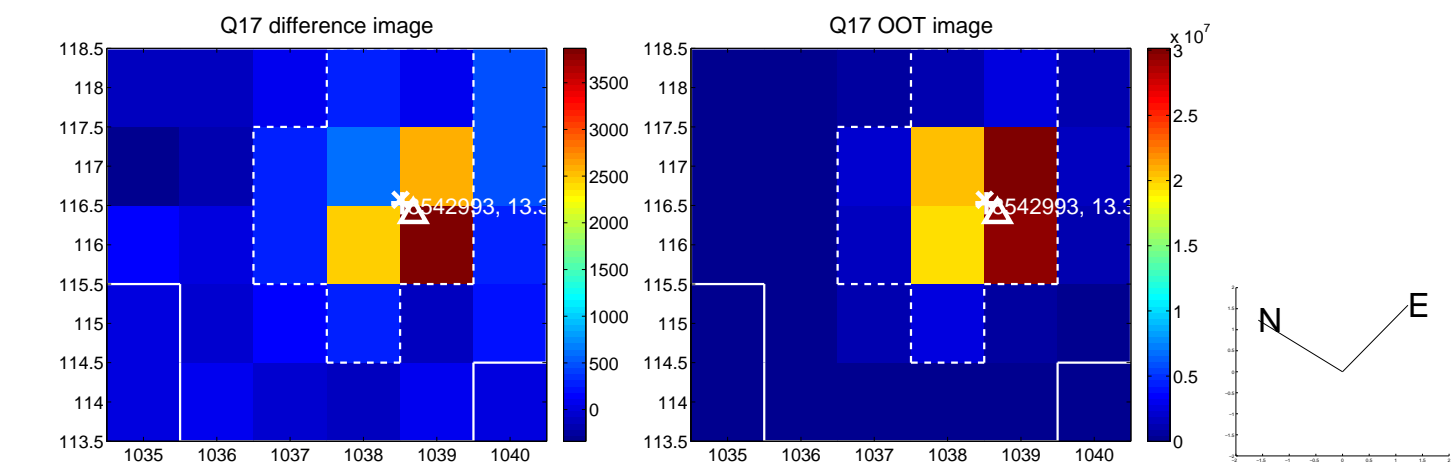
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

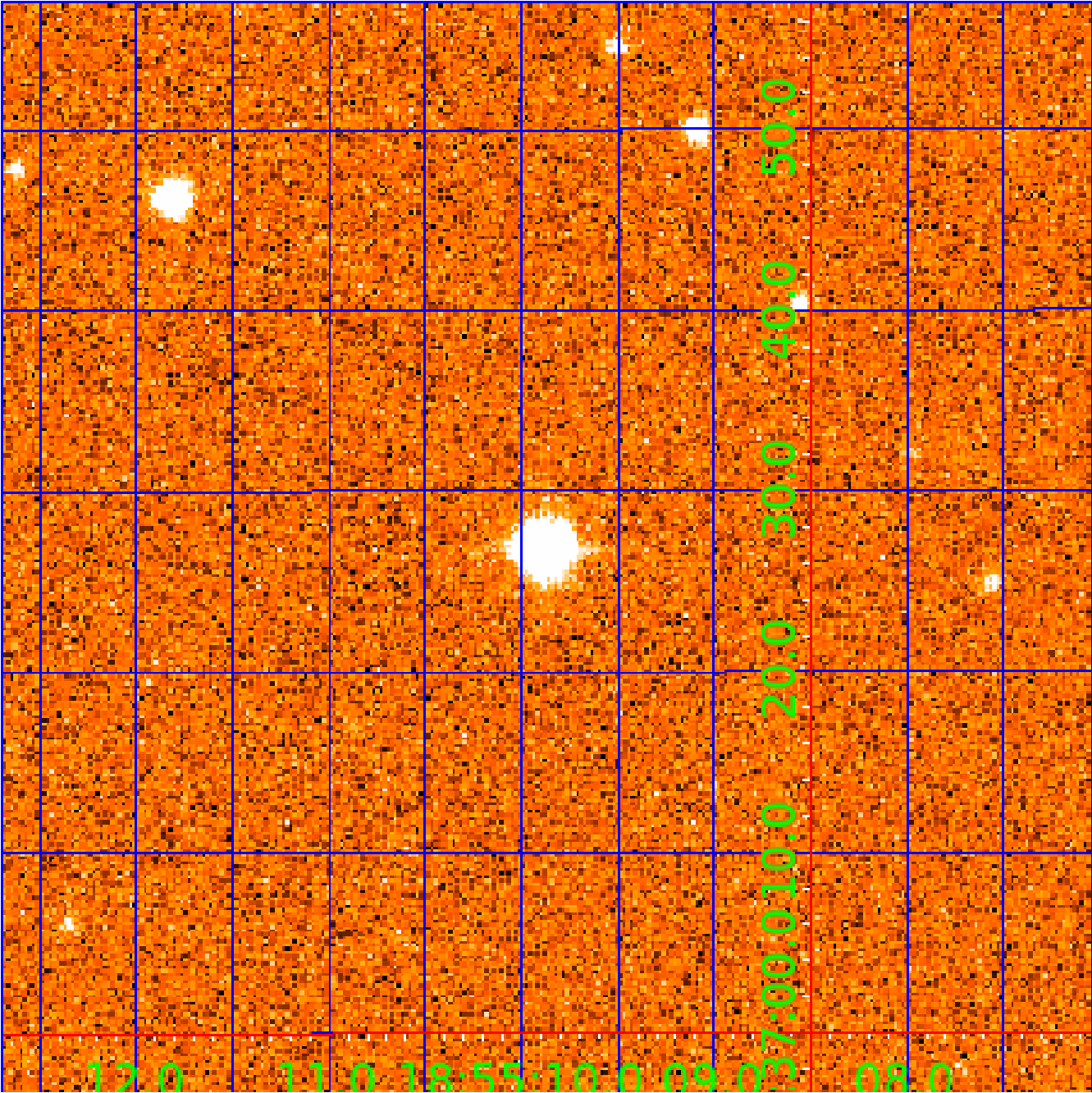


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008542993

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})
008542993-01	OBS	No	1.799279	132.701068	45.1	7.695	10.0	10.7	1.91	7308	1.39	8487.85
008542993-02	OBS	No	259.561768	155.498383	476.5	5.083	8.3	7.6	1.91	7308	4.61	11.22
008542993-03	OBS	No	197.070927	158.226564	477.0	9.681	7.6	8.0	1.91	7308	4.72	16.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008542993-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008542993-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
008542993-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

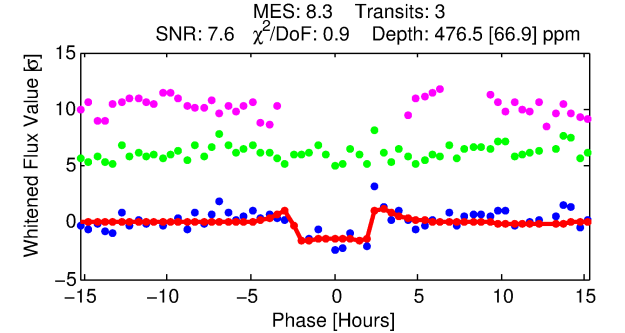
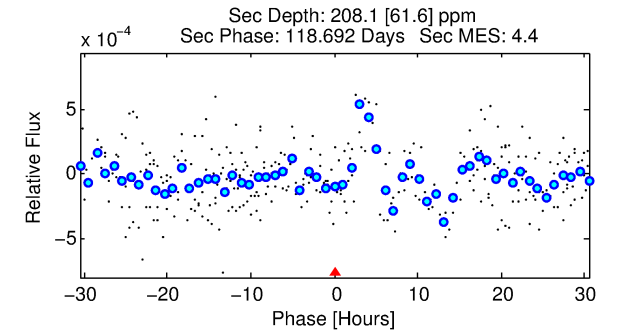
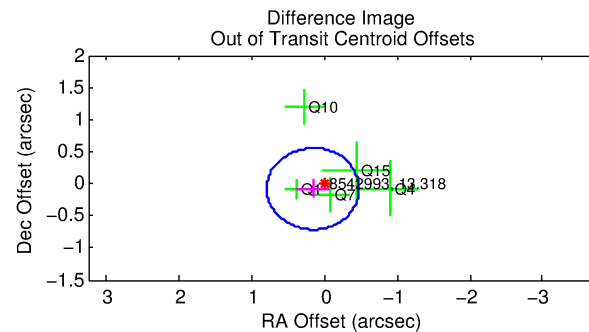
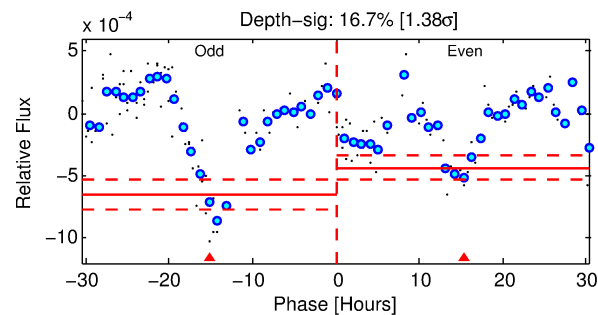
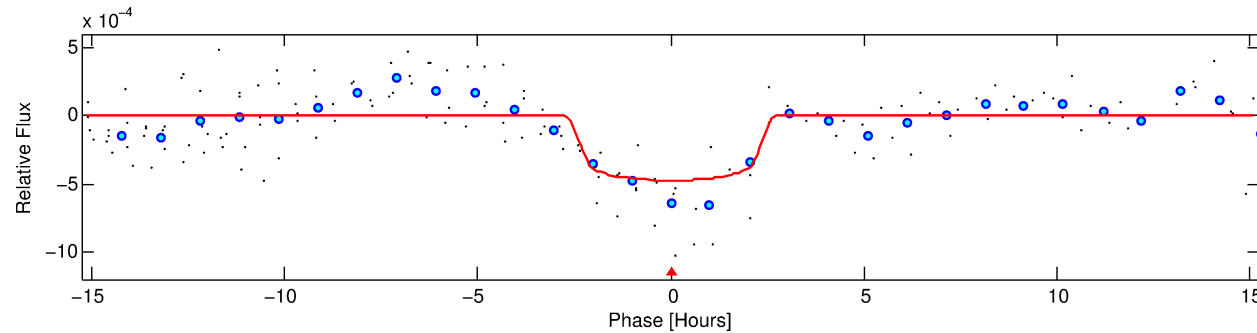
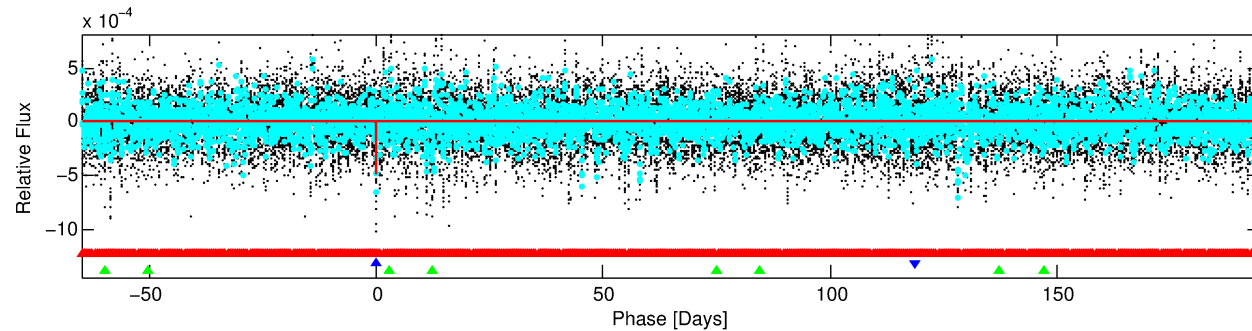
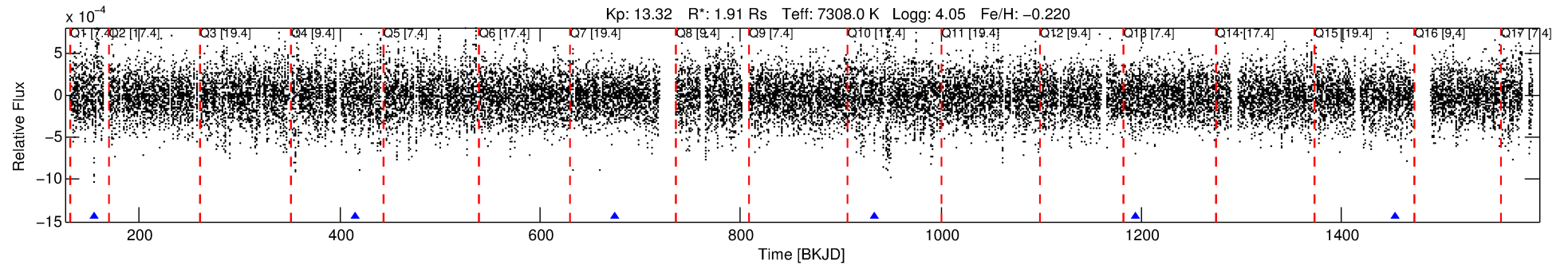
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008542993-02

No Significant Match Found

DV One-Page Summary

KIC: 8542993 Candidate: 2 of 3 Period: 259.562 d



DV Fit Results:

Period = 259.56177 [0.00291] d
Epoch = 155.4984 [0.0087] BKJD
Rp/R* = 0.0221 [0.0094]
a/R* = 245.15 [607.34]
b = 0.81 [1.09]
Seff = 11.22 [4.49]
Teq = 467 [47] K
Rp = 4.61 [2.33] Re
a = 0.9121 [0.2198] AU
Ag = 4480.22 [4346.01] [1.03 σ]
Teffp = 5903 [1351] K [4.02 σ]

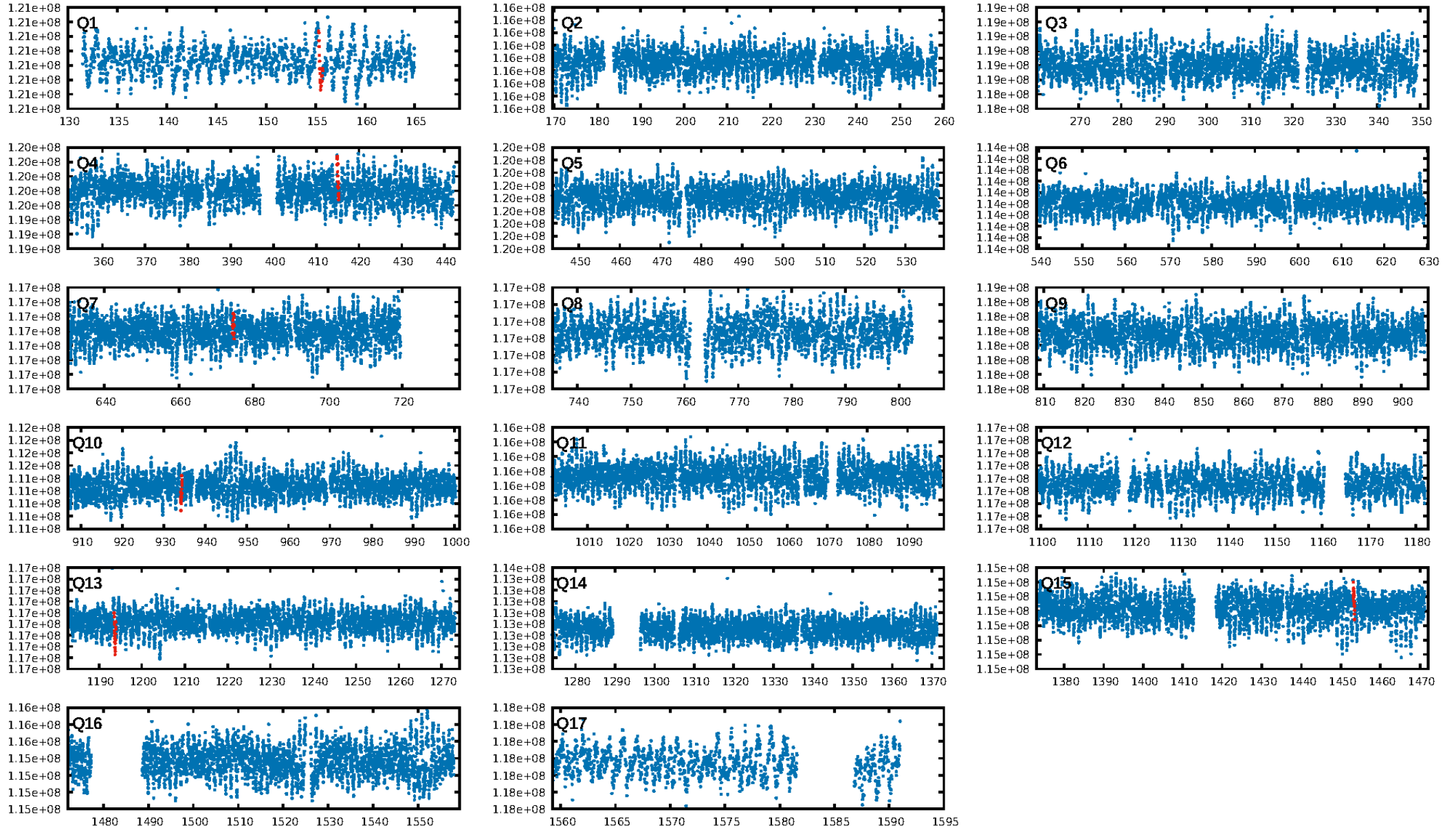
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [137.16 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 76.6%
ModelChiSquareGof-sig: 99.3%
Bootstrap-pfa: 1.34e-10
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 2.023
Centroid-sig: 46.5%
Centroid-so: 0.395 arcsec [0.89 σ]
OotOffset-rm: 0.178 arcsec [0.84 σ]
KicOffset-rm: 0.292 arcsec [1.77 σ]
OotOffset-st: 1/2/1/1 [5]
KicOffset-st: 1/2/1/1 [5]
DiffImageQuality-fgm: 0.40 [2/5]
DiffImageOverlap-fno: 0.20 [1/5]

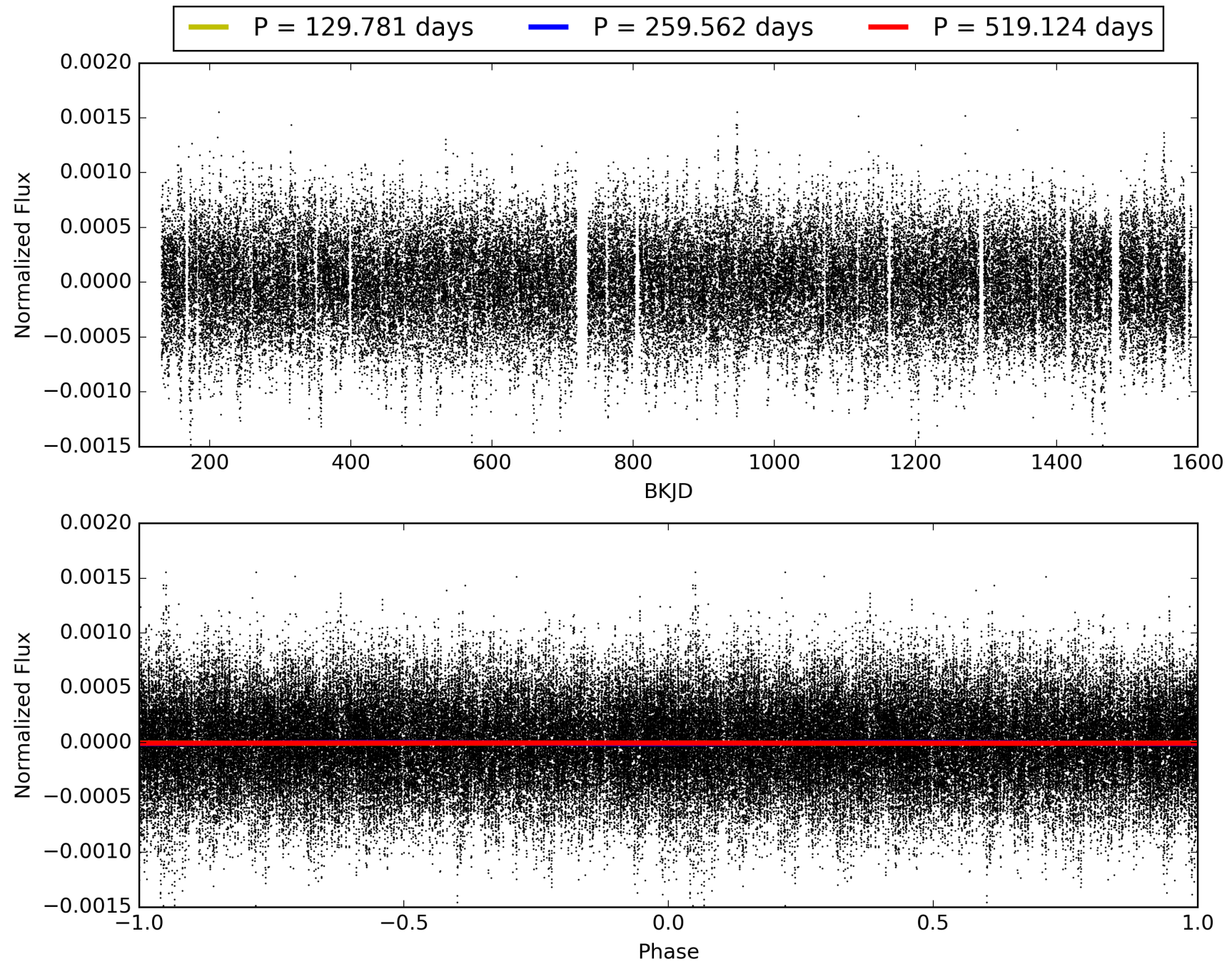
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 03:37:19 Z

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

TCE 008542993-02, PDC Light Curves

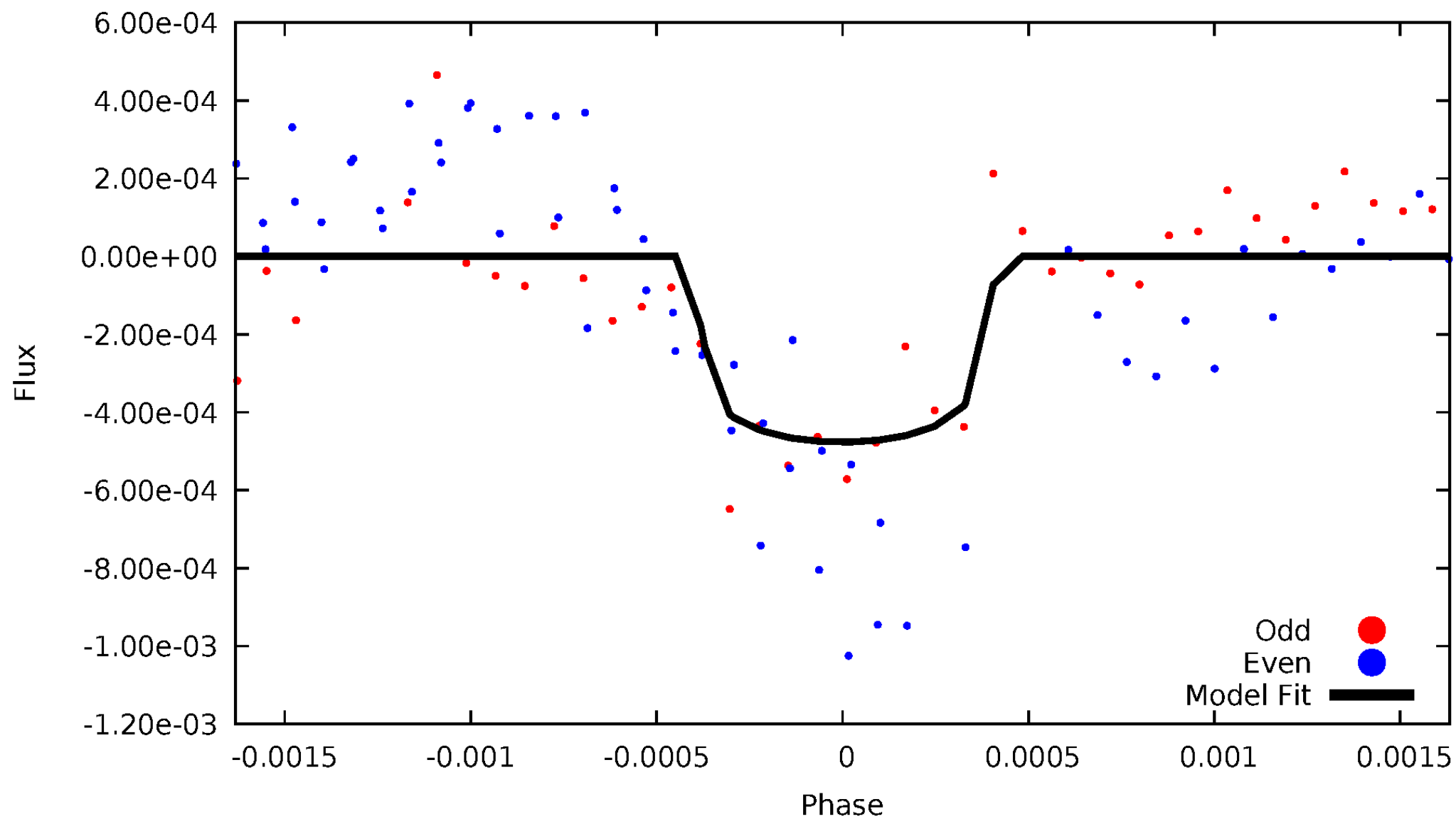


TCE 008542993-02



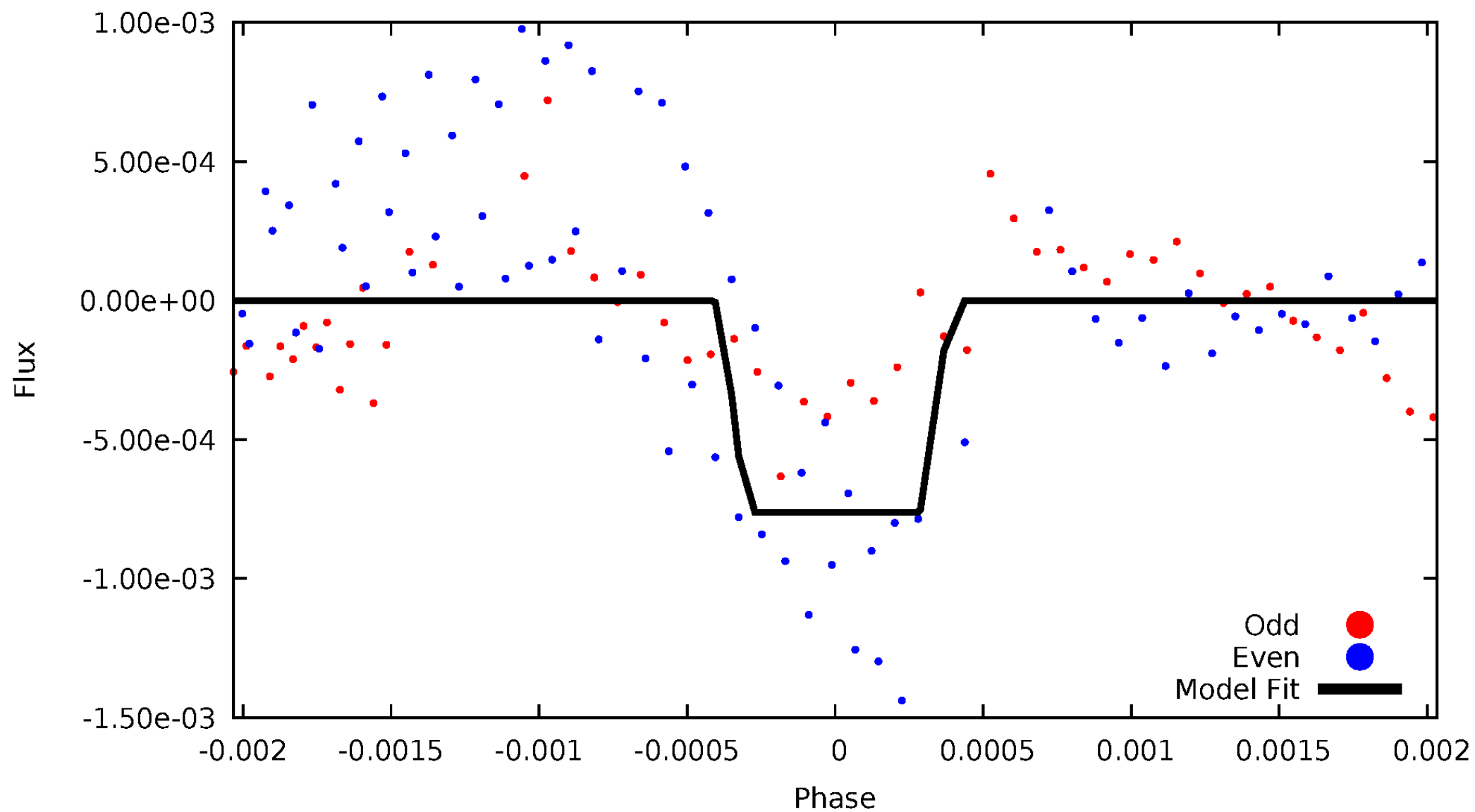
DV Odd/Even

TCE 008542993-02



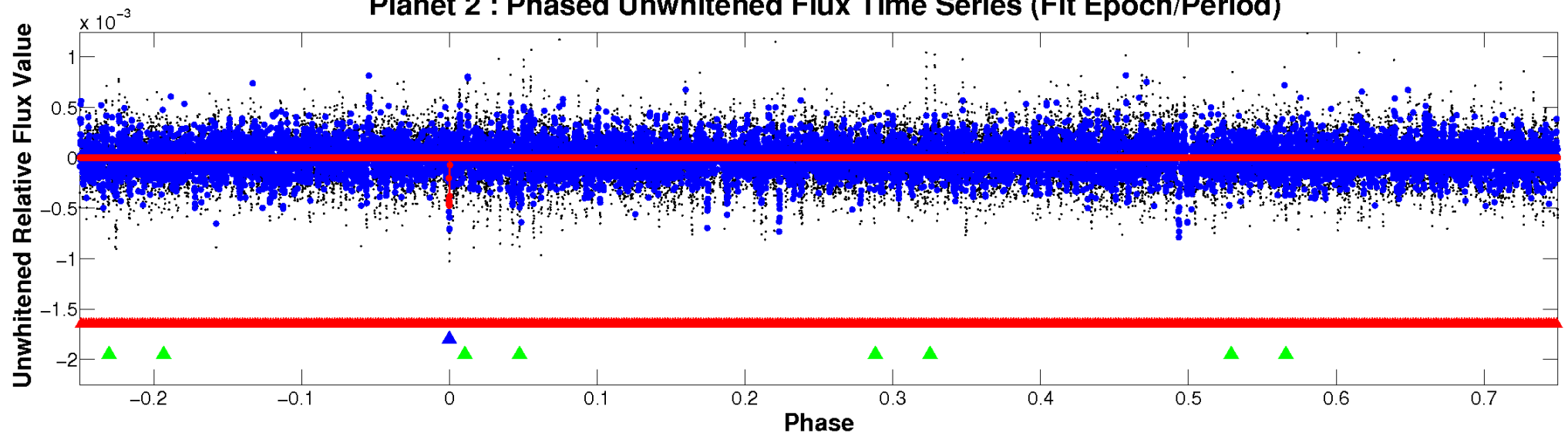
ALT Odd/Even

TCE 008542993-02

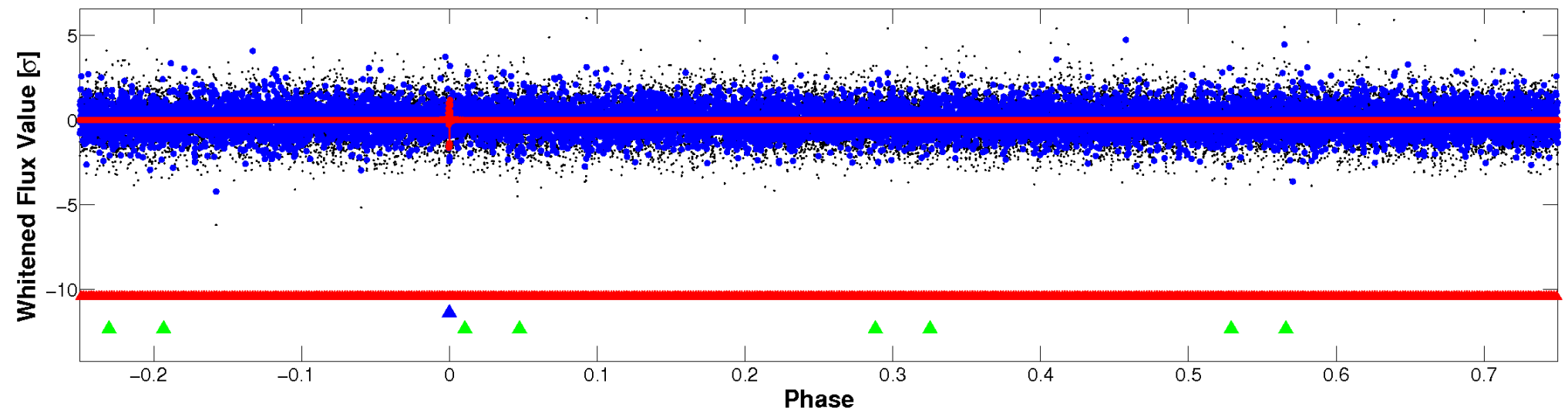


Non-Whitened Vs. Whitened Light Curve

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

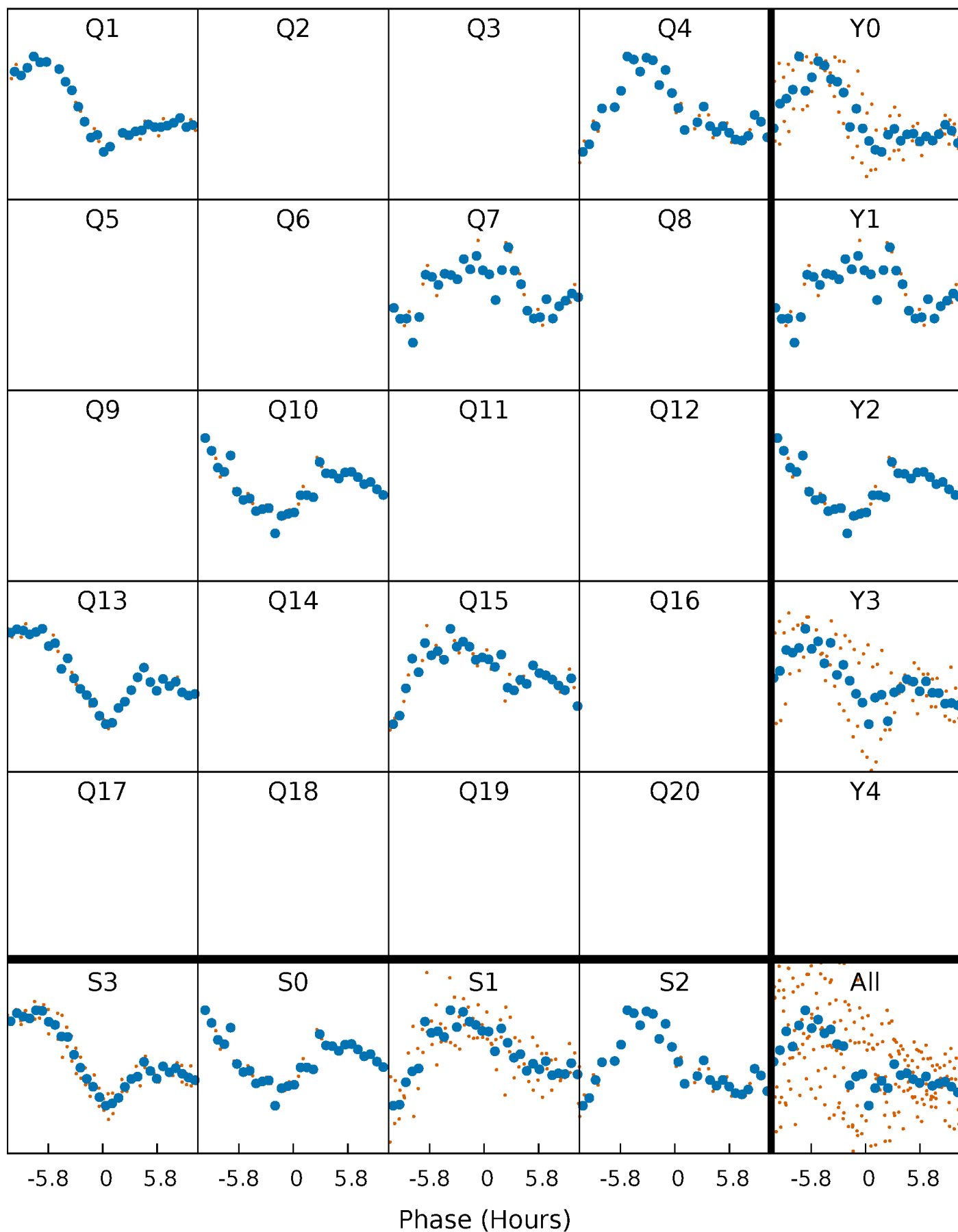


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



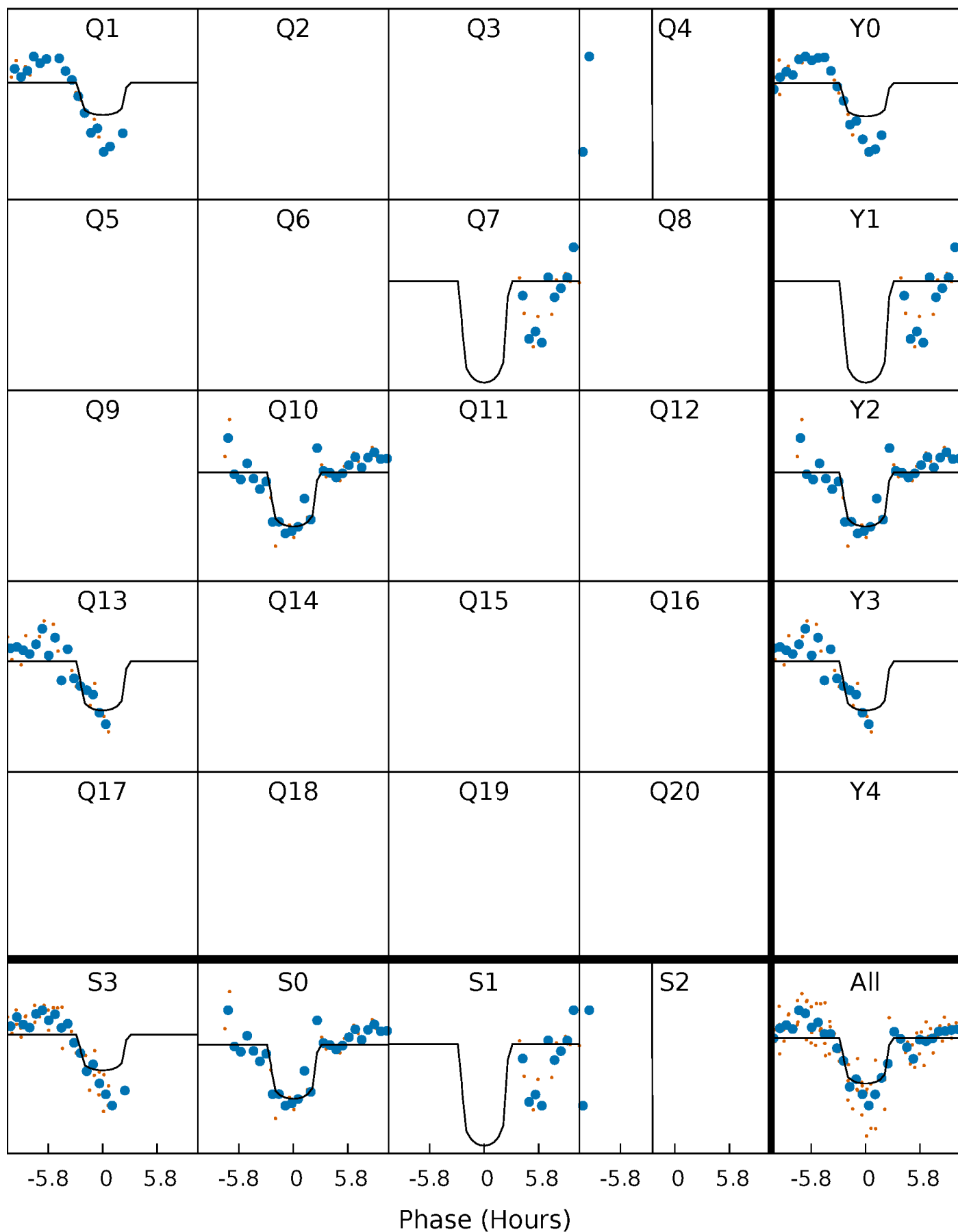
PDC Quarter-Phased Transit Curves

TCE 008542993-02 $P=259.561768$ Days $T_0=155.498383$ (BKJD)



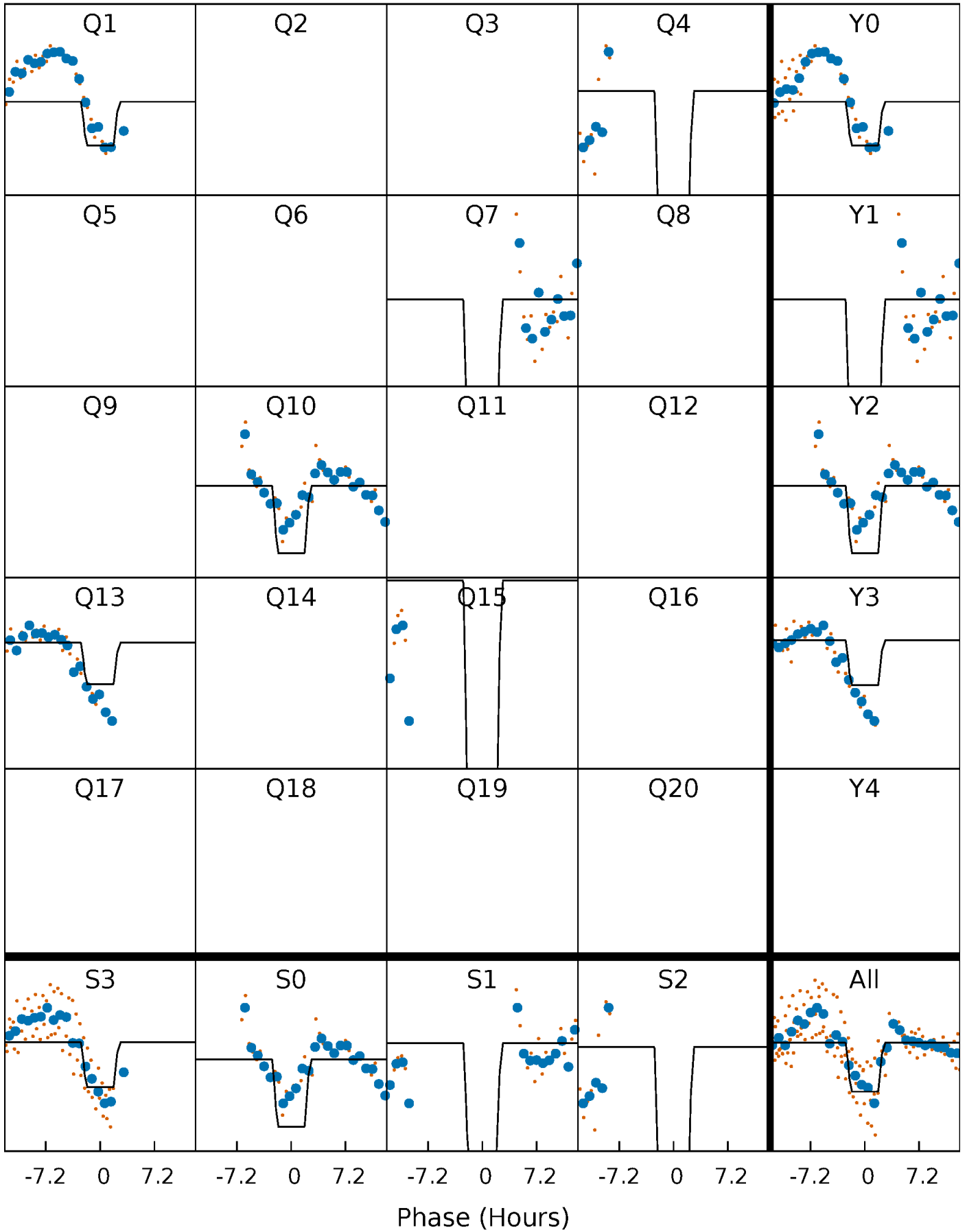
DV Quarter-Phased Transit Curves

TCE 008542993-02 P=259.561768 Days $T_0=155.498383$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

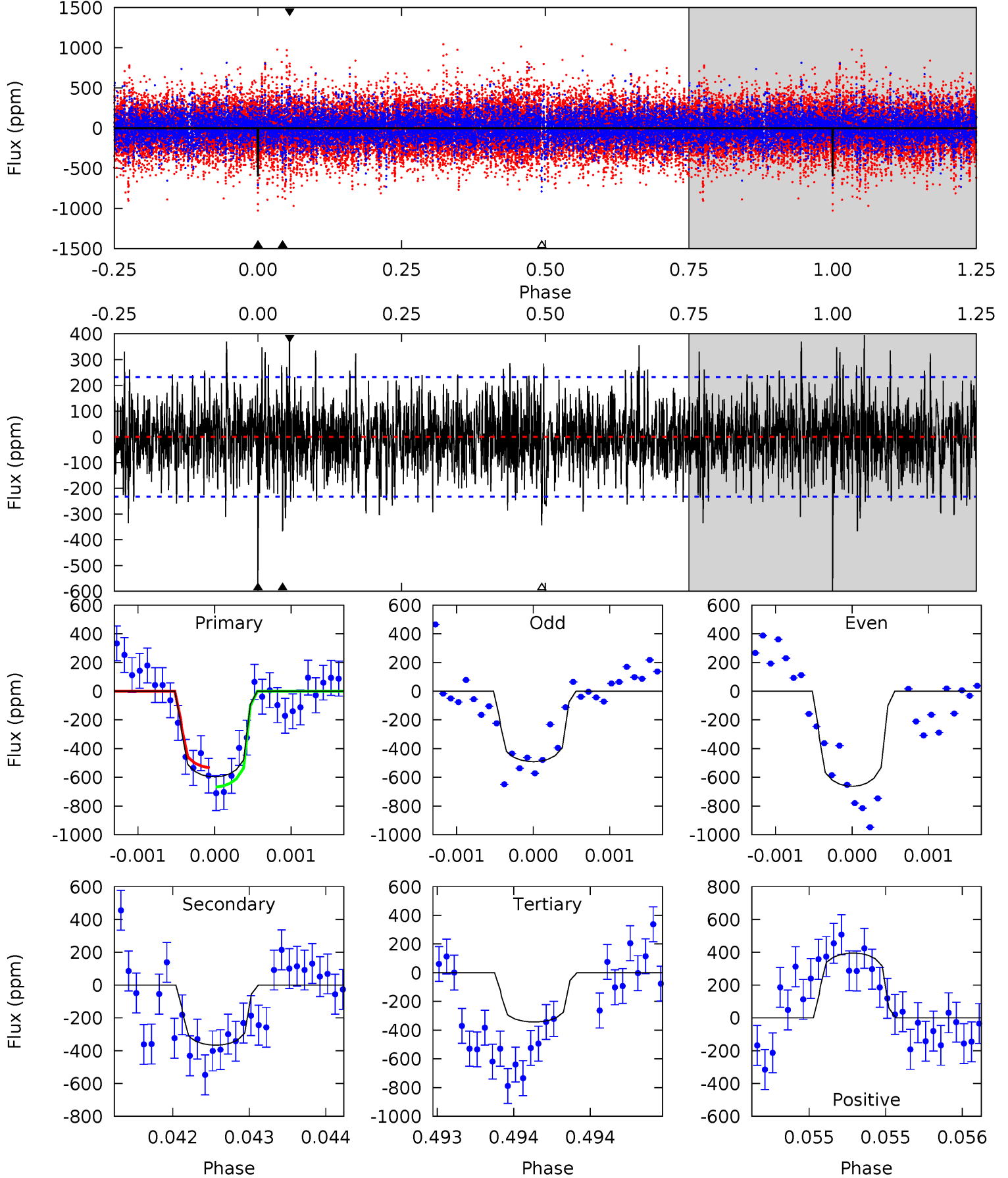
TCE 008542993-02 P=259.560701 Days $T_0=155.470634$ (BKJD)



DV Model-Shift Uniqueness Test

008542993-02, P = 259.561768 Days, E = 155.498383 Days

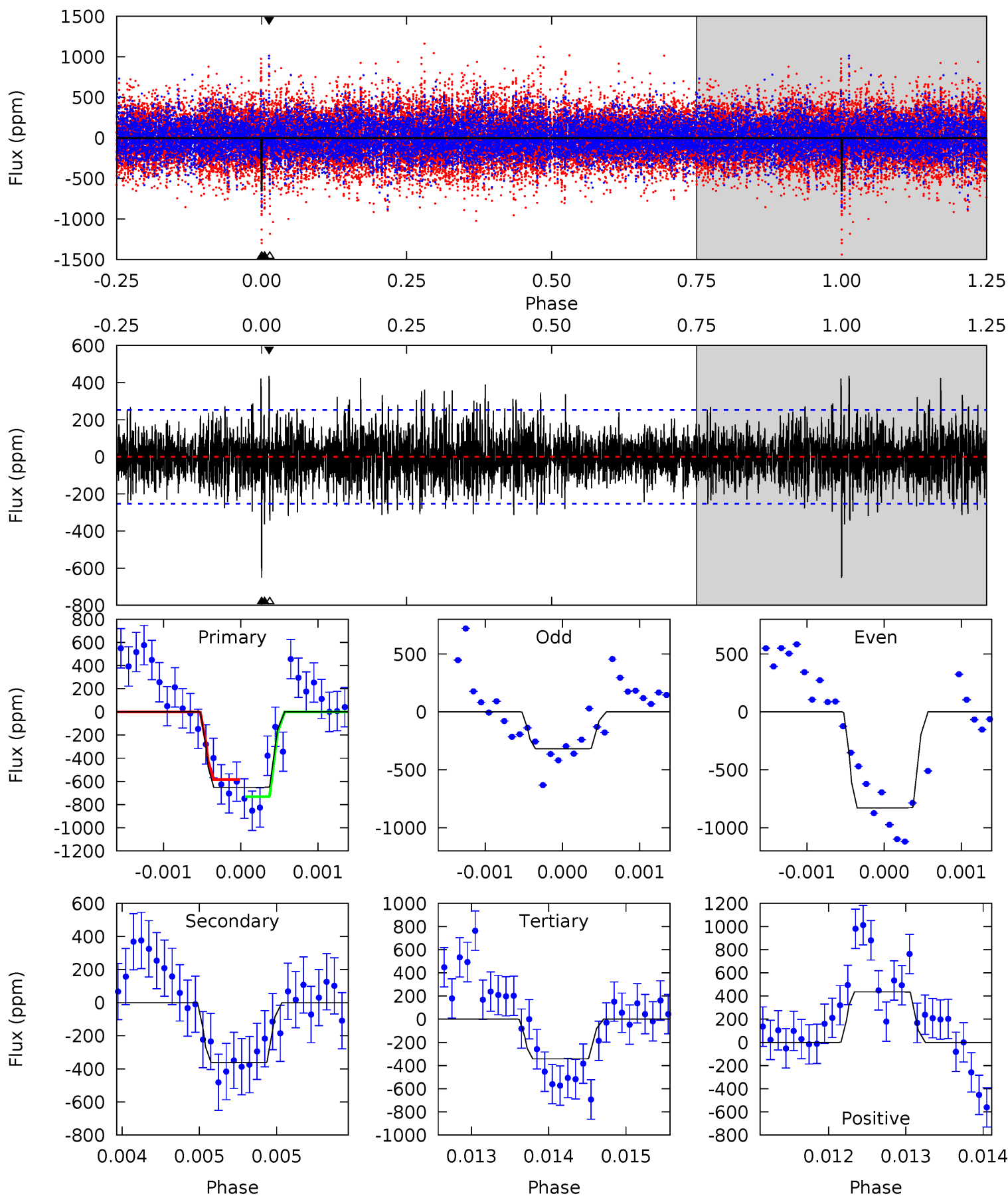
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.1	8.63	8.08	9.31	5.48	3.33	2.30	5.98	4.76	0.54	-0.68	1.96	1.21	0.40	1.57



Alt Model-Shift Uniqueness Test

008542993-02, P = 259.560701 Days, E = 155.470634 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	7.90	7.46	9.49	5.50	3.36	2.32	6.73	4.71	0.44	-1.58	5.32	1.18	0.40	1.58



Stellar Parameters For KIC 008542993

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7308^{+230}_{-307}	$4.052^{+0.204}_{-0.167}$	$-0.220^{+0.250}_{-0.350}$	$1.911^{+0.525}_{-0.525}$	$1.500^{+0.209}_{-0.279}$	$0.303^{+0.370}_{-0.147}$
	+3%/-4%	+5%/-4%	+114%/-159%	+27%/-27%	+14%/-19%	+122%/-49%
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 008542993-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-366 ± 42	$4.68^{+2.17}_{-2.12}$	652^{+54}_{-50}	6698^{+2648}_{-1154}	7489^{+17636}_{-3951}
Alt.	-363 ± 46	$5.67^{+2.30}_{-2.02}$	649^{+51}_{-49}	6004^{+1365}_{-775}	5156^{+7092}_{-2515}

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

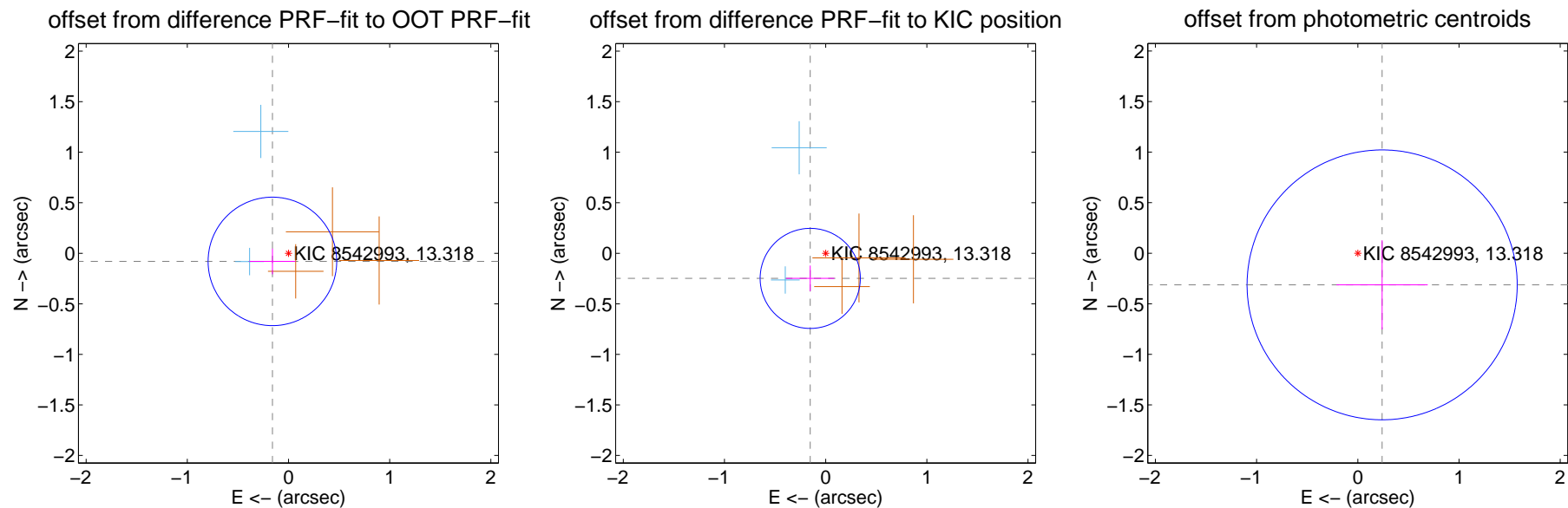
DV Centroid Data

Supplemental centroid analysis for 008542993-02. Kepler magnitude: 13.32. Transit SNR 7.56

There are 2 quarters with good PRF difference image offsets

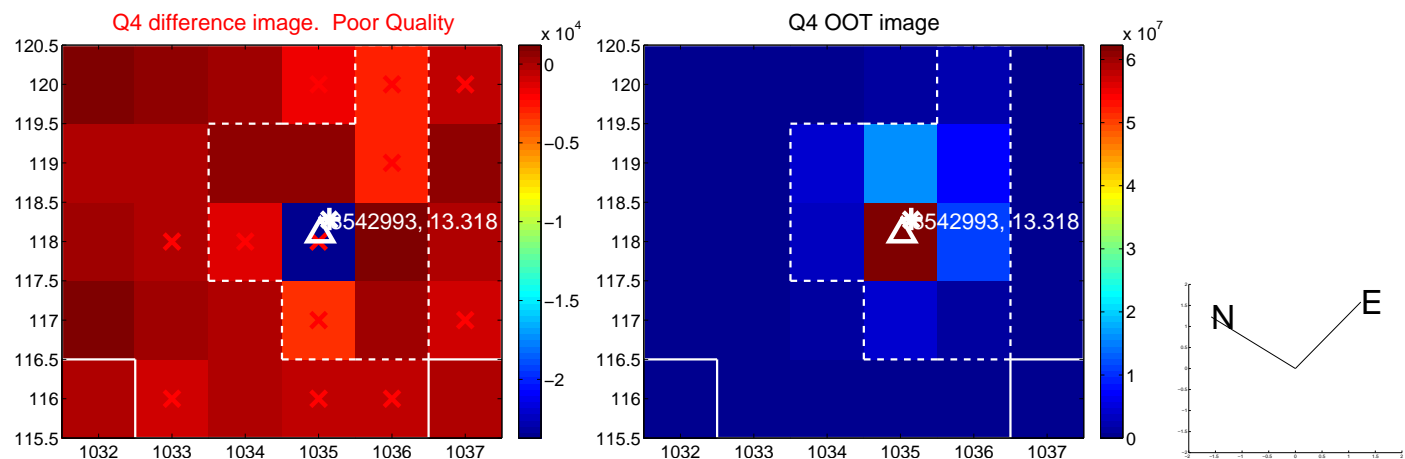
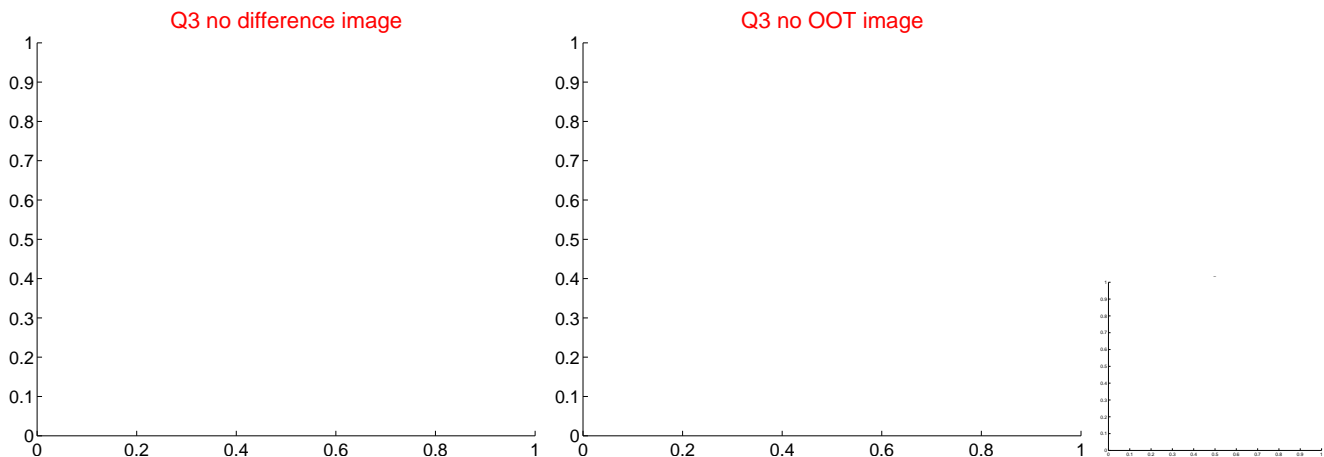
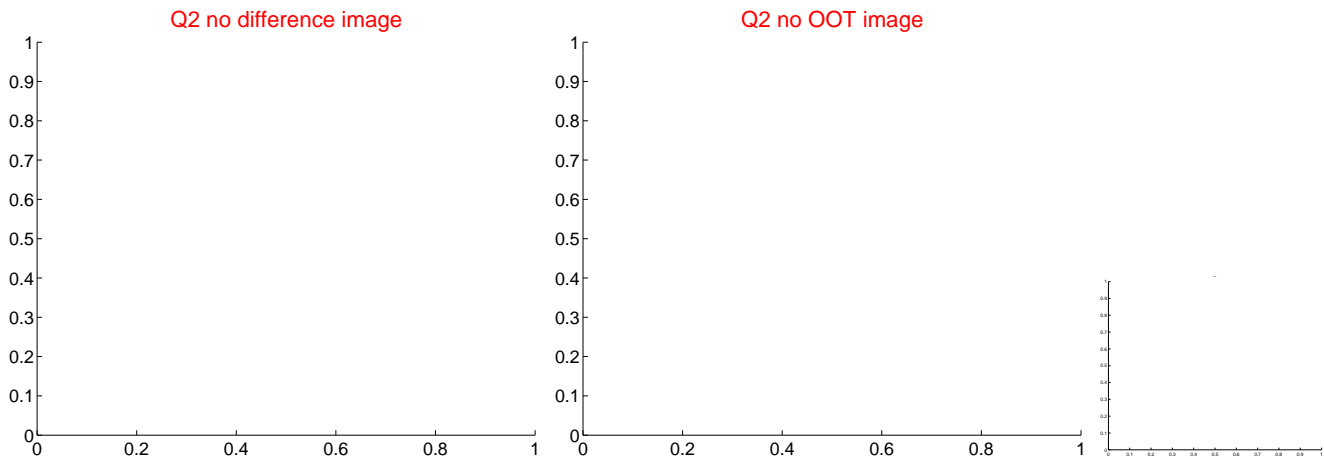
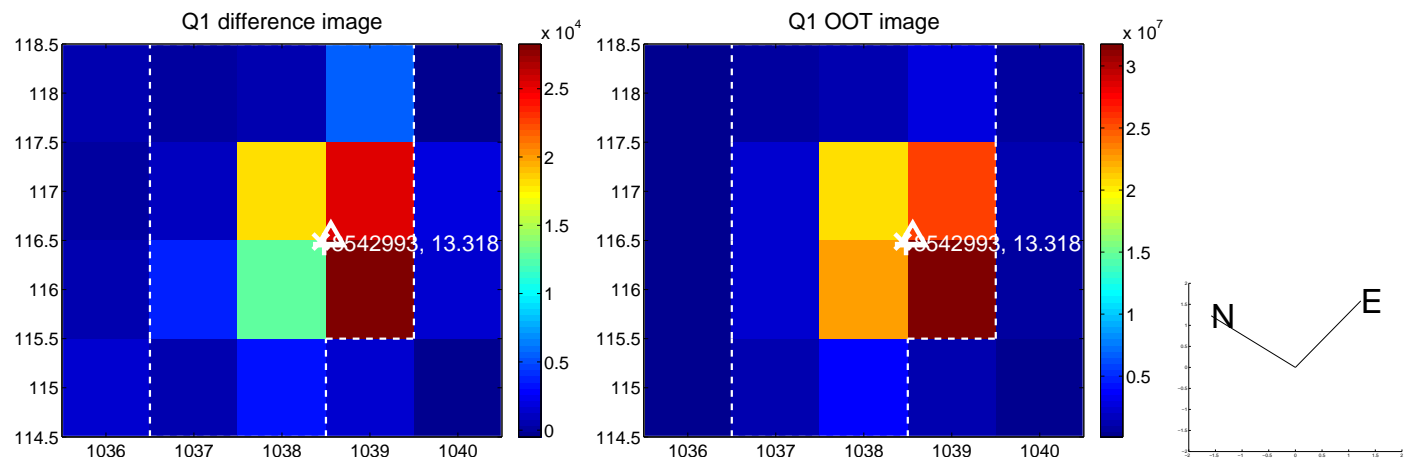
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.178 ± 0.212	0.84	0.159 ± 0.228	-0.080 ± 0.127
PRF-fit source offset from KIC position	0.292 ± 0.165	1.77	0.153 ± 0.239	-0.248 ± 0.127
photometric centroid source offset	0.39 ± 0.44	0.89	-0.24 ± 0.45	-0.31 ± 0.44



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.

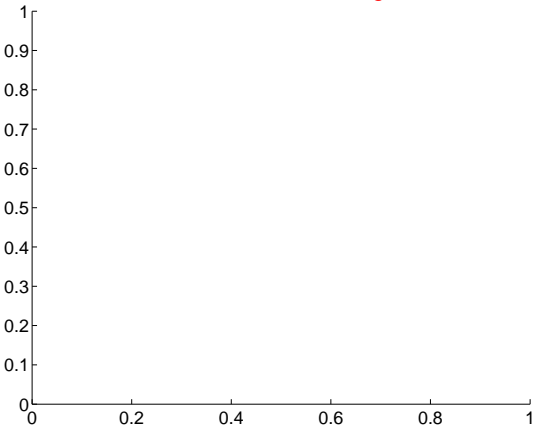
Q5 no difference image



Q5 no OOT image



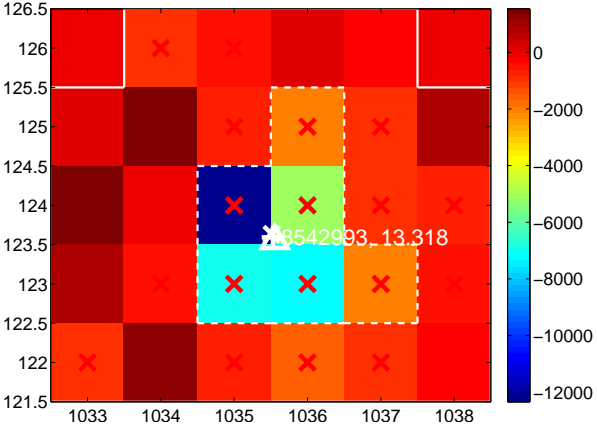
Q6 no difference image



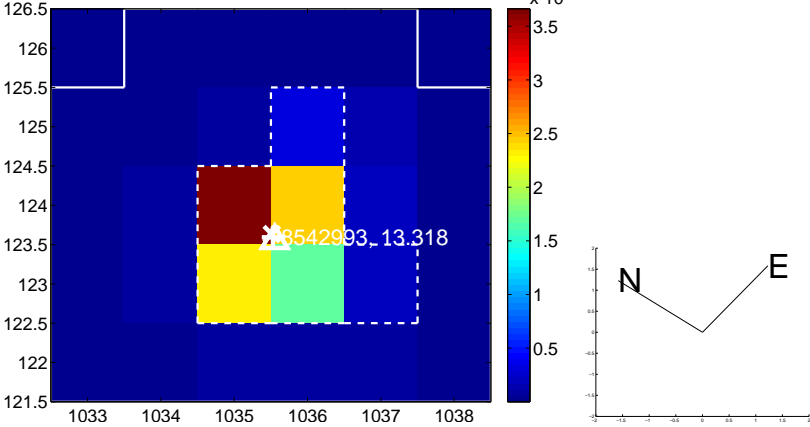
Q6 no OOT image



Q7 difference image. Poor Quality



Q7 OOT image



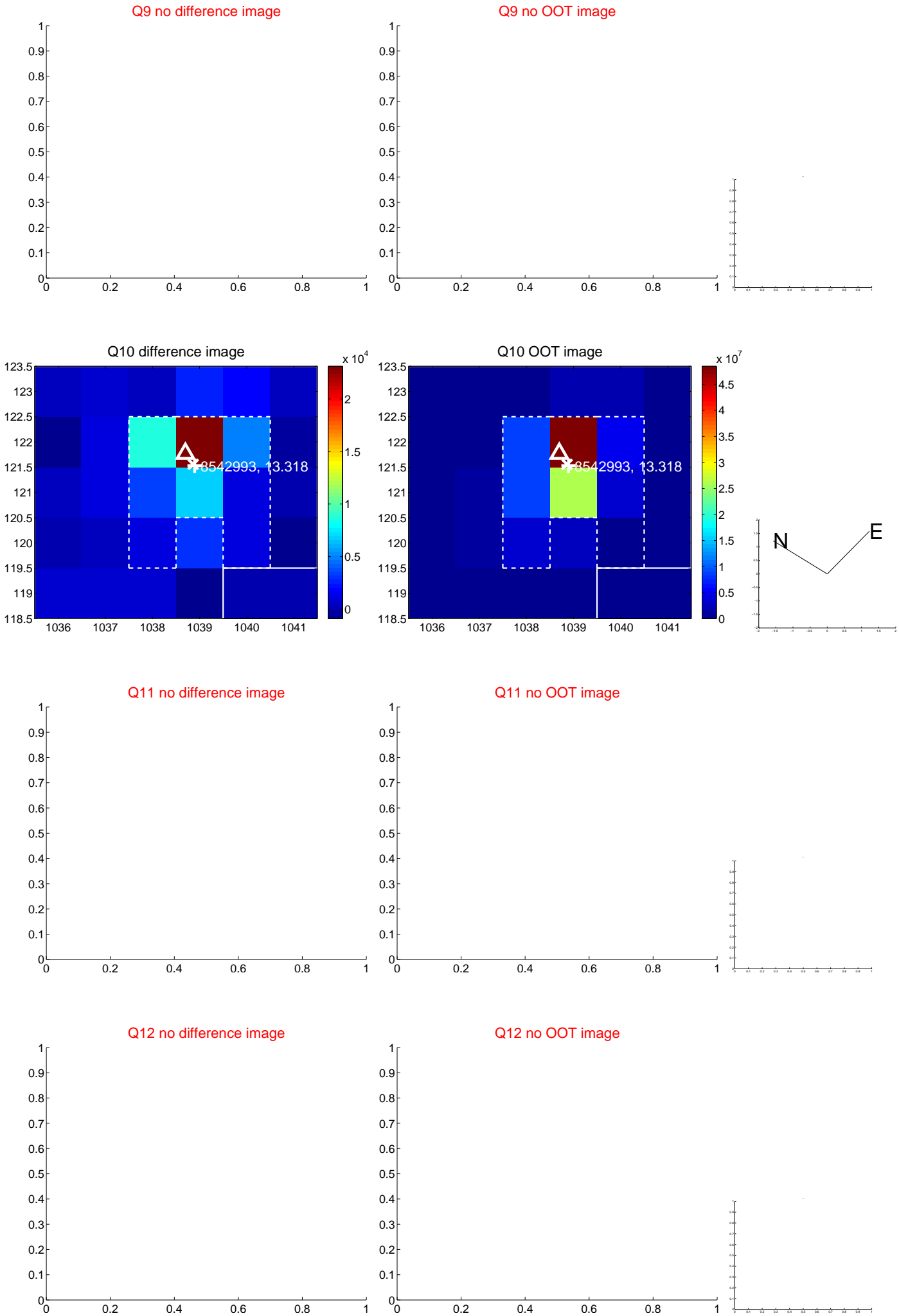
Q8 no difference image



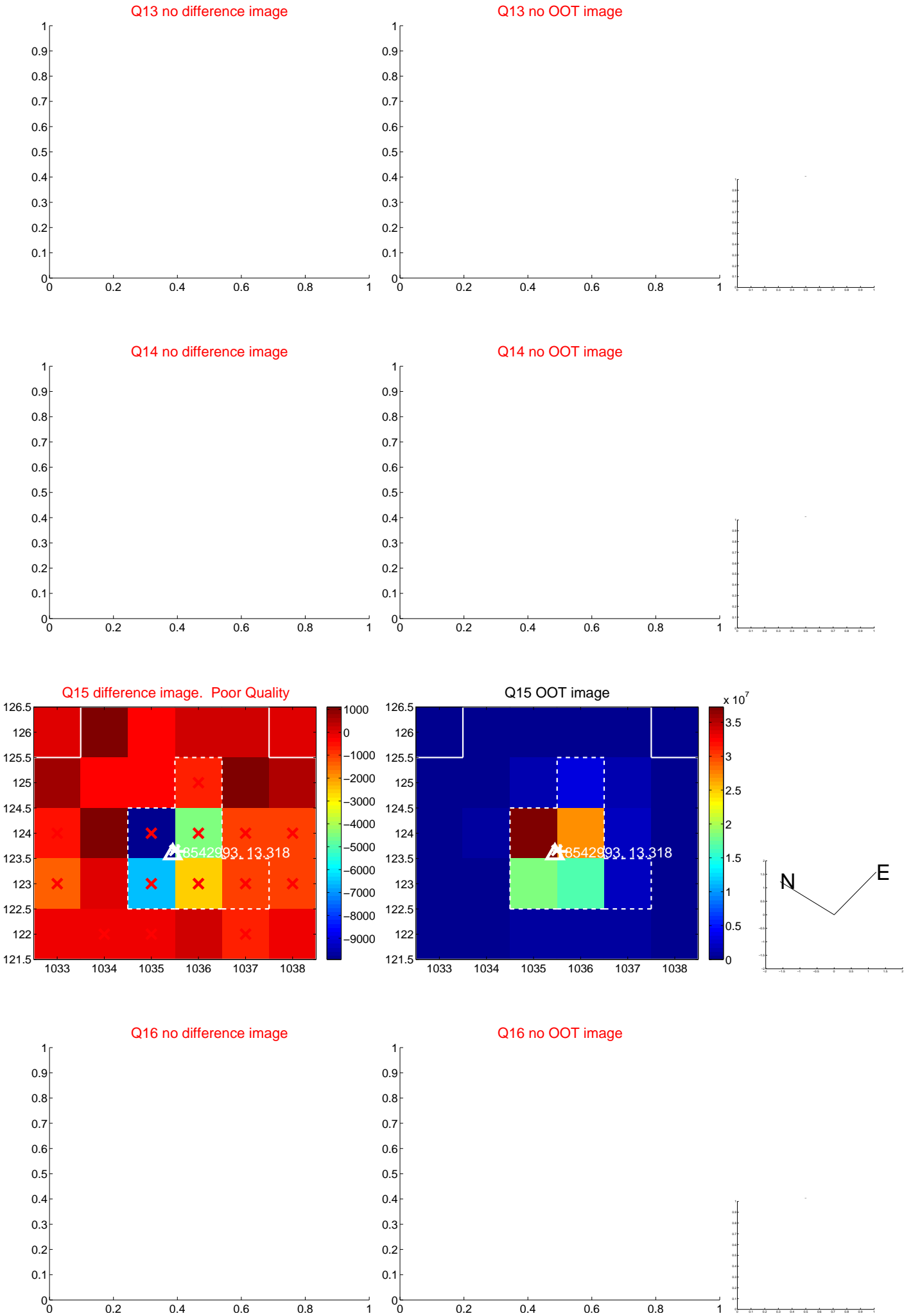
Q8 no OOT image



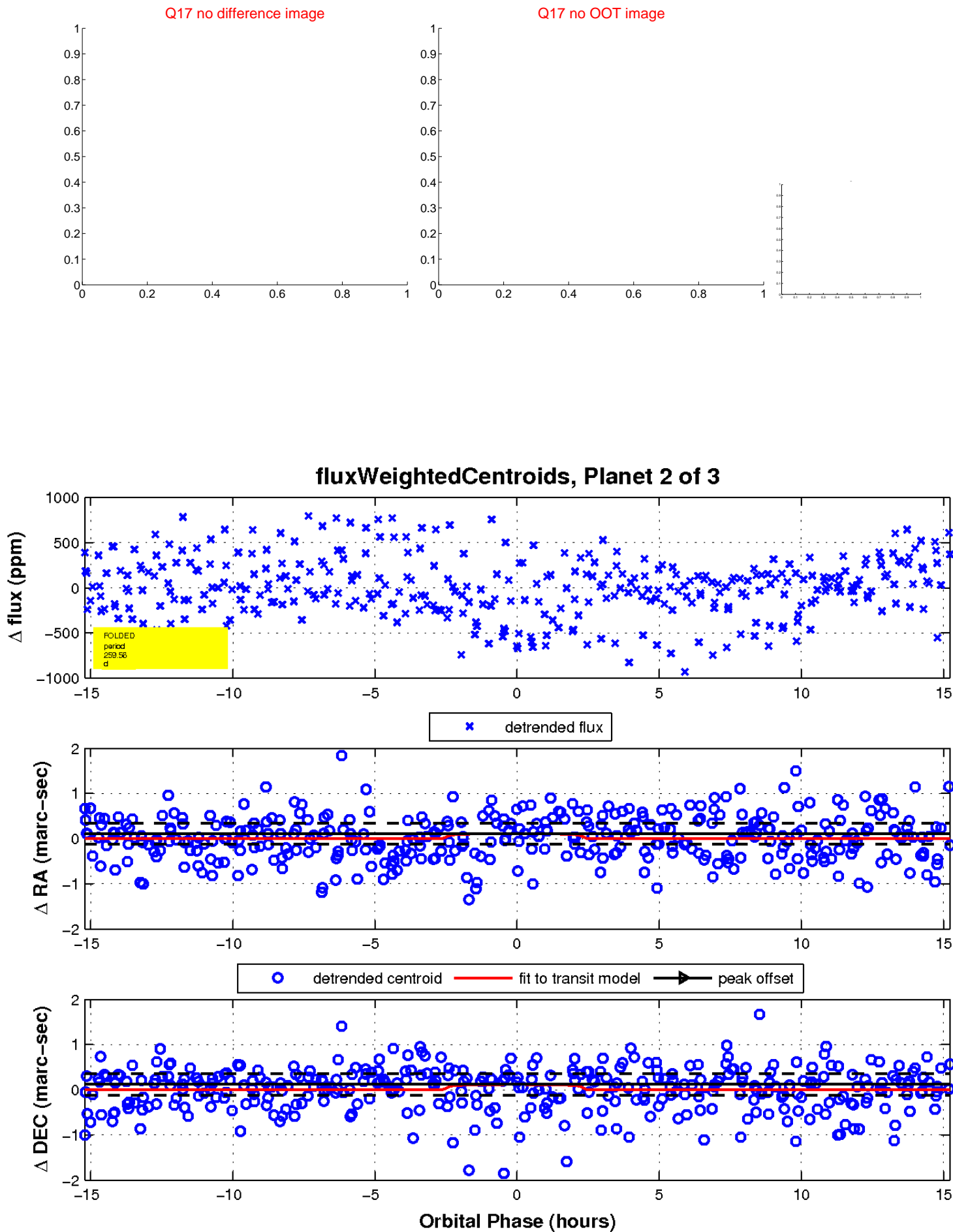
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

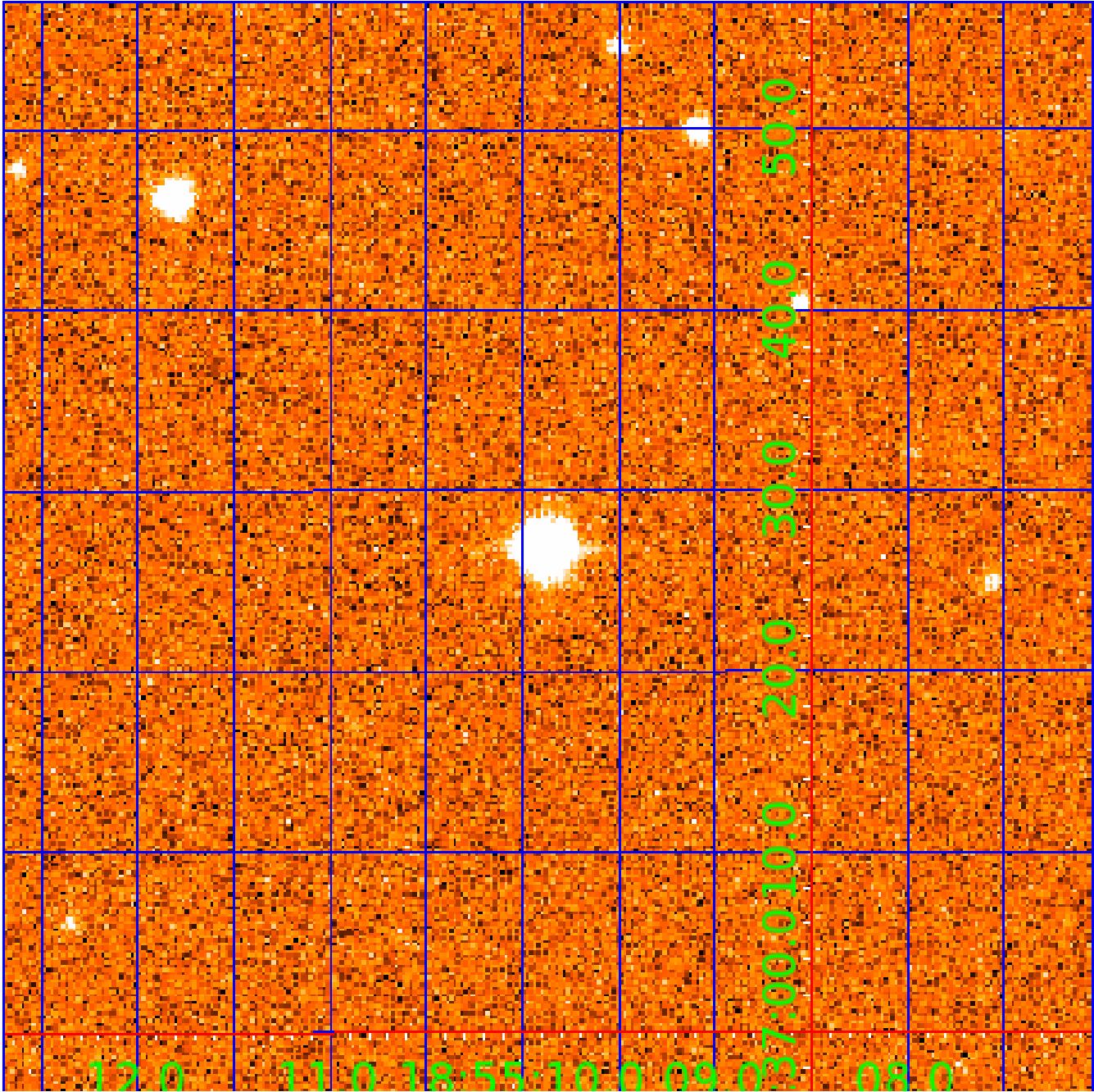


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008542993

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})
008542993-01	OBS	No	1.799279	132.701068	45.1	7.695	10.0	10.7	1.91	7308	1.39	8487.85
008542993-02	OBS	No	259.561768	155.498383	476.5	5.083	8.3	7.6	1.91	7308	4.61	11.22
008542993-03	OBS	No	197.070927	158.226564	477.0	9.681	7.6	8.0	1.91	7308	4.72	16.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008542993-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008542993-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
008542993-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

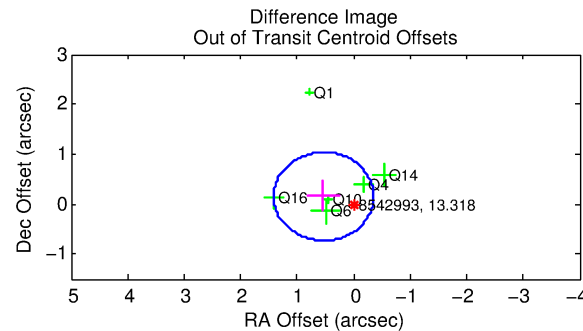
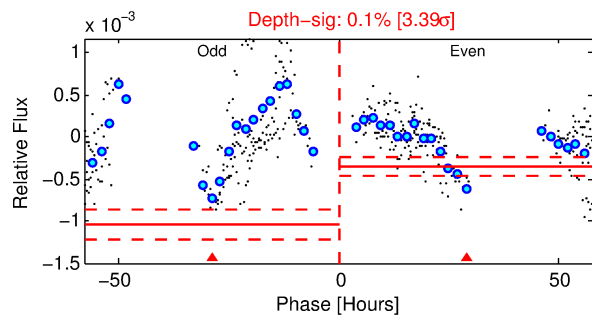
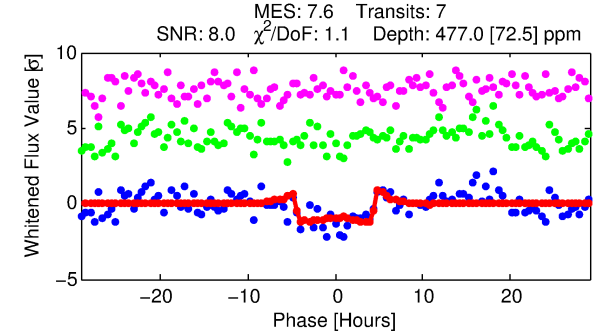
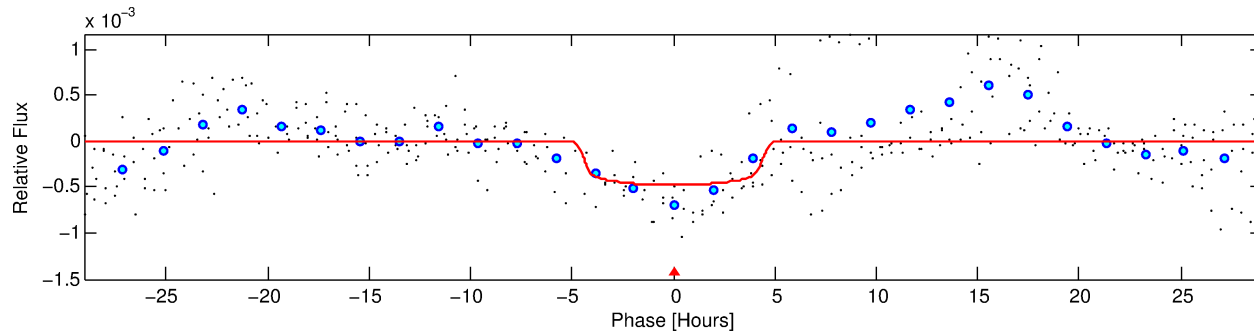
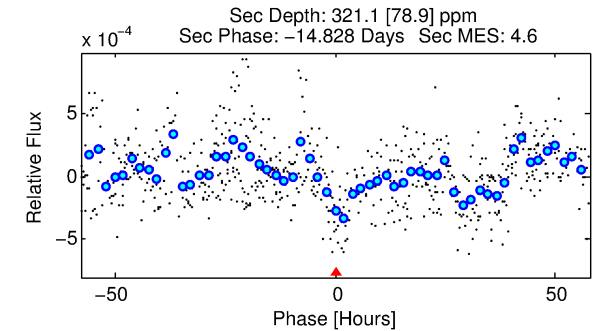
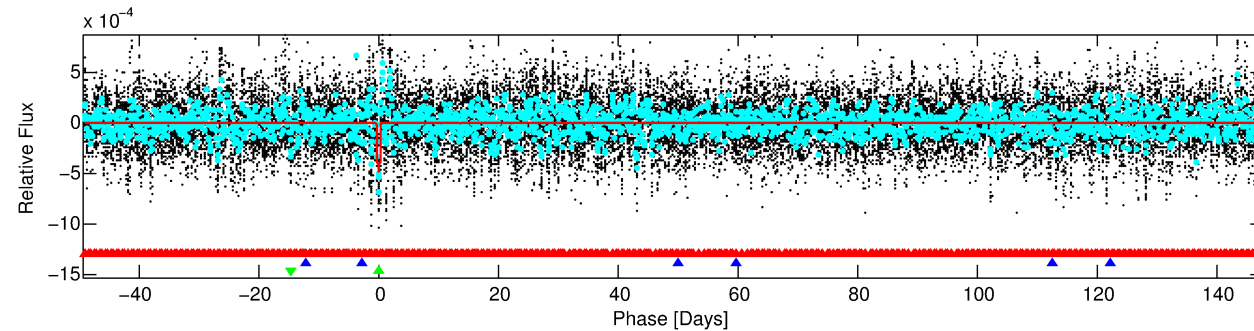
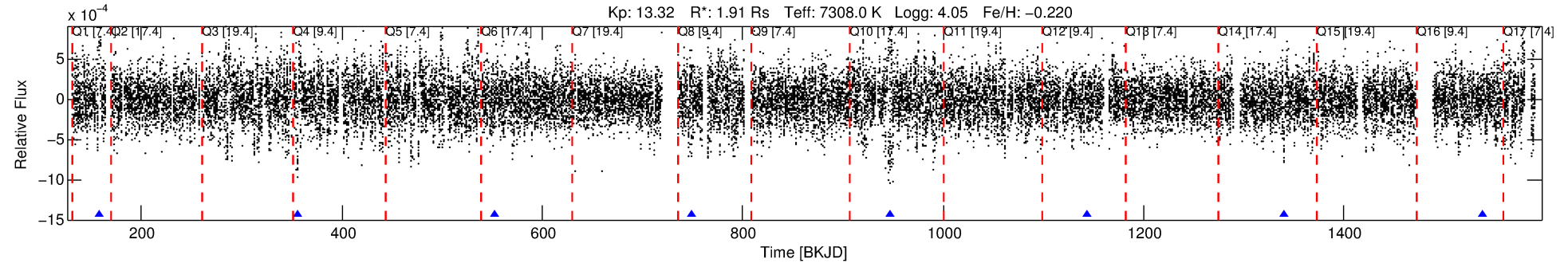
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008542993-03

No Significant Match Found

DV One-Page Summary

KIC: 8542993 Candidate: 3 of 3 Period: 197.071 d



DV Fit Results:

Period = 197.07093 [0.00271] d
Epoch = 158.2266 [0.0103] BKJD
Rp/R* = 0.0227 [0.0028]
a/R* = 85.96 [45.15]
b = 0.86 [0.16]
Seff = 16.20 [6.48]
Teff = 512 [51] K
Rp = 4.73 [1.42] Re
a = 0.7591 [0.1829] AU
Ag = 4558.76 [2295.90] [1.99 σ]
Teffp = 6499 [630] K [9.48 σ]

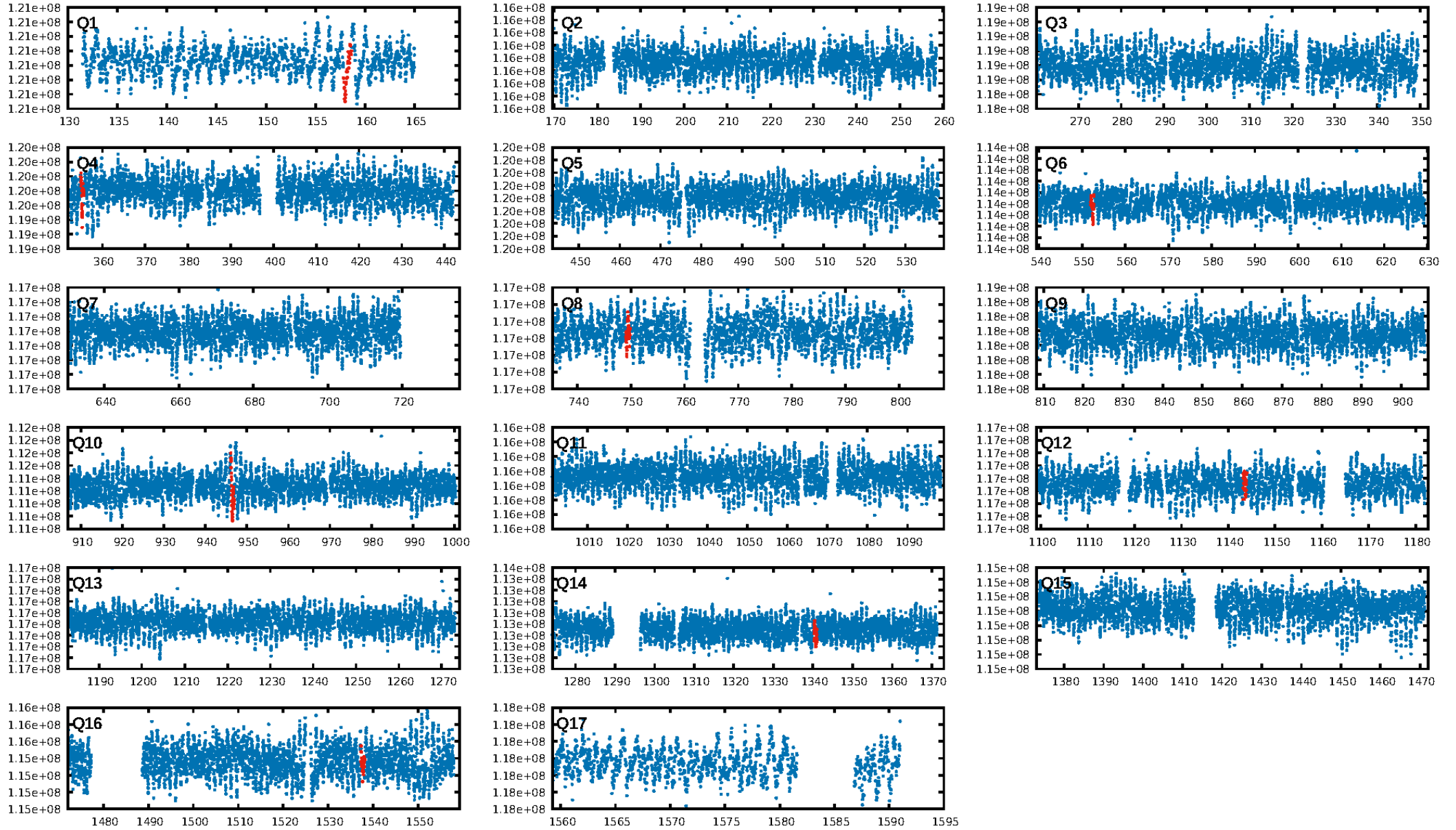
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [378.97 σ]
LongPeriod-sig: 100.0% [137.16 σ]
ModelChiSquare2-sig: 78.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.87e-10
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -1.393
Centroid-sig: 14.7%
Centroid-so: 0.258 arcsec [0.91 σ]
OotOffset-rm: 0.556 arcsec [1.89 σ]
KicOffset-rm: 0.535 arcsec [1.84 σ]
OotOffset-st: 3/0/2/1 [6]
KicOffset-st: 3/0/2/1 [6]
DiffImageQuality-fgm: 1.00 [6/6]
DiffImageOverlap-fno: 0.00 [0/8]

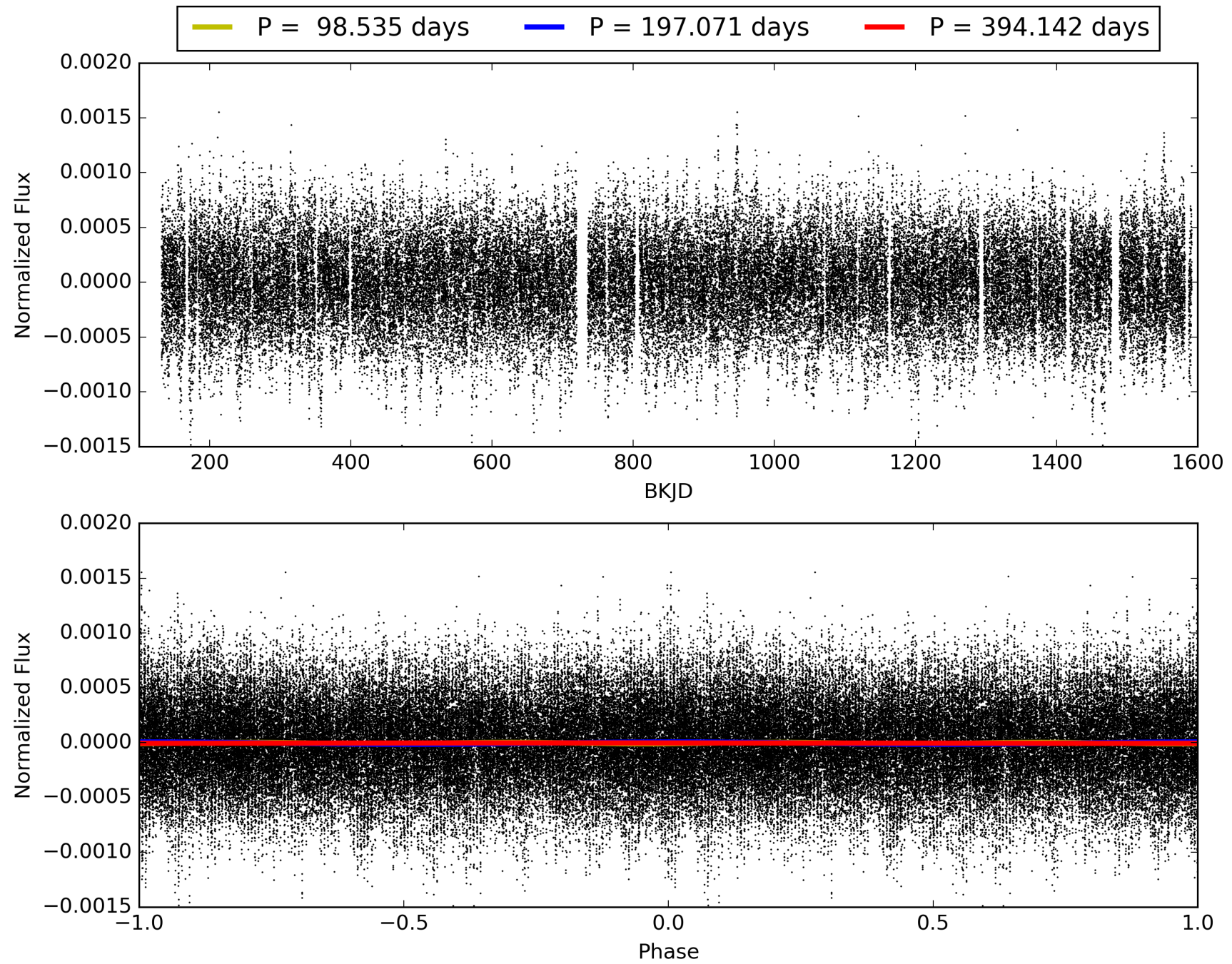
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 03:37:24 Z

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

TCE 008542993-03, PDC Light Curves

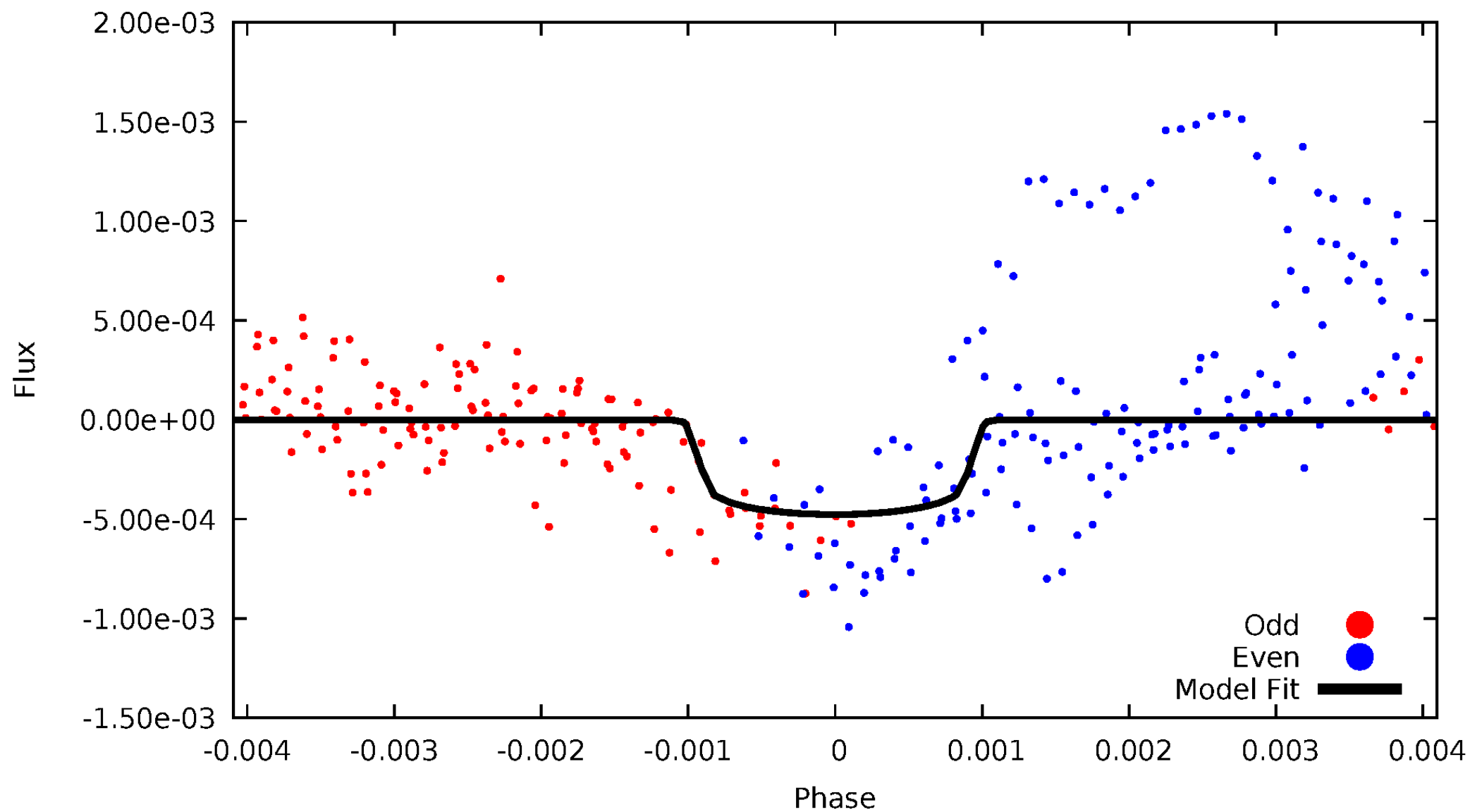


TCE 008542993-03



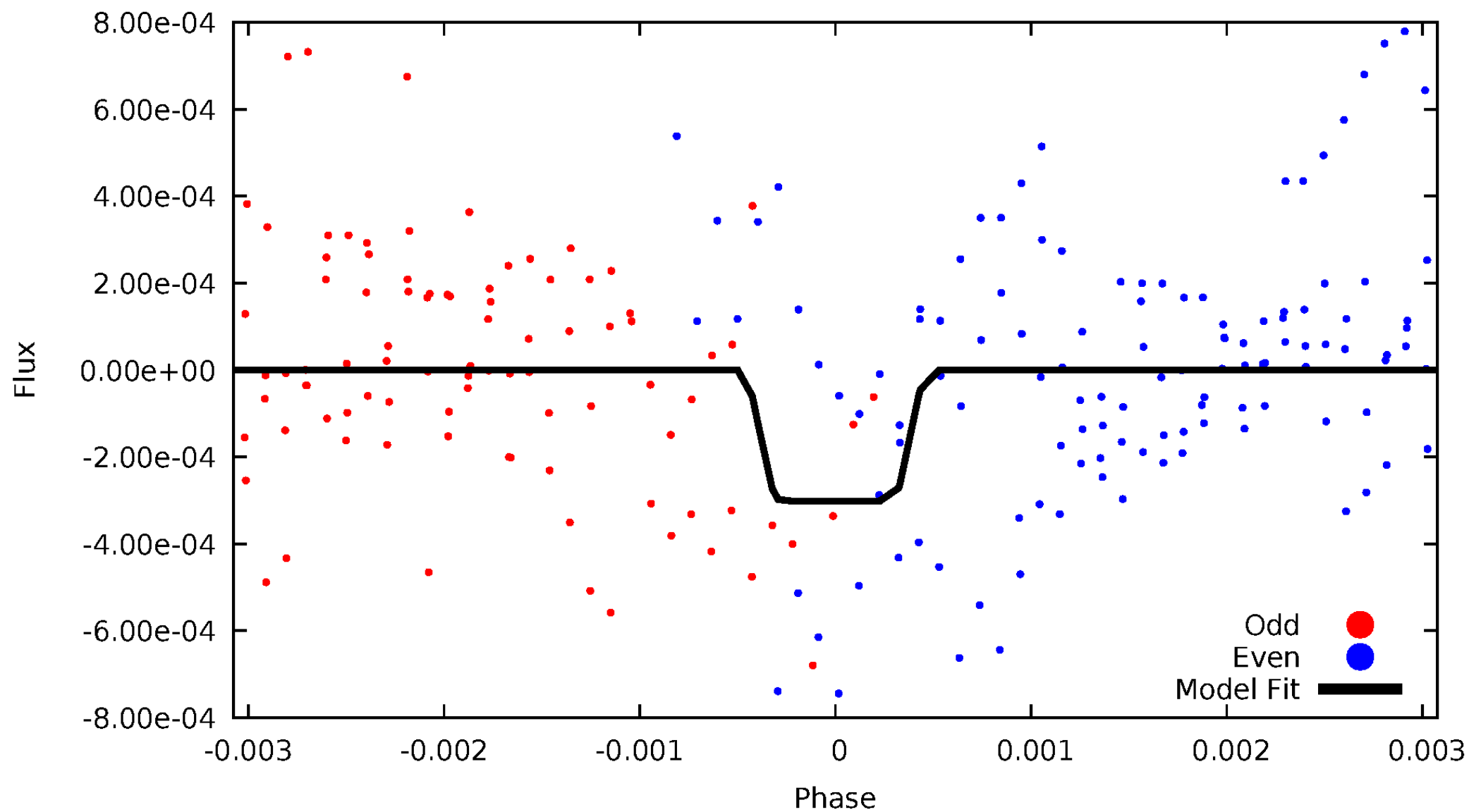
DV Odd/Even

TCE 008542993-03



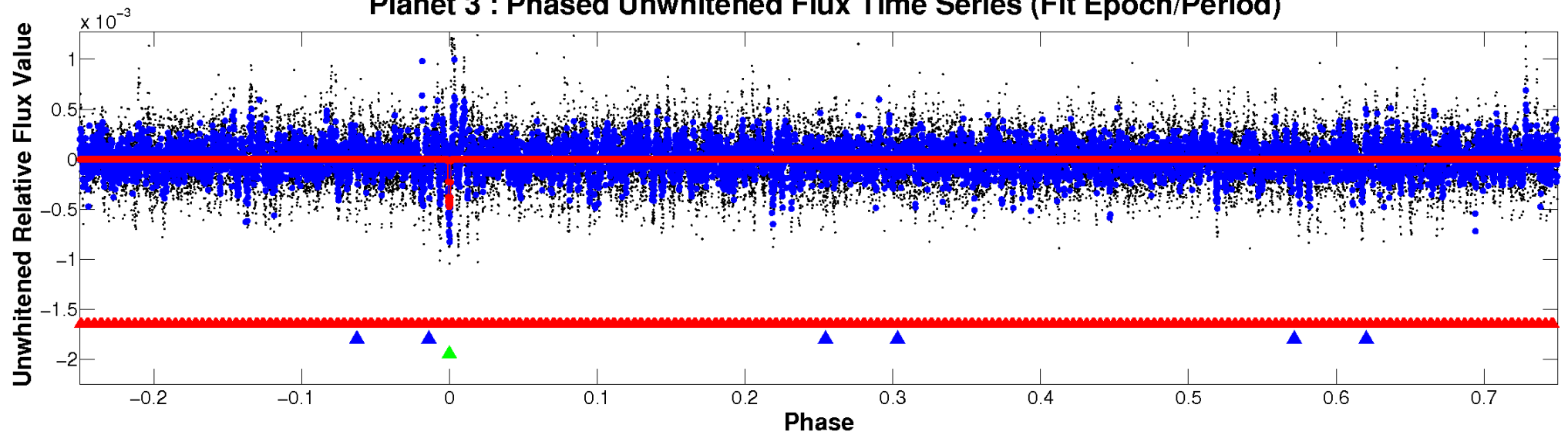
ALT Odd/Even

TCE 008542993-03

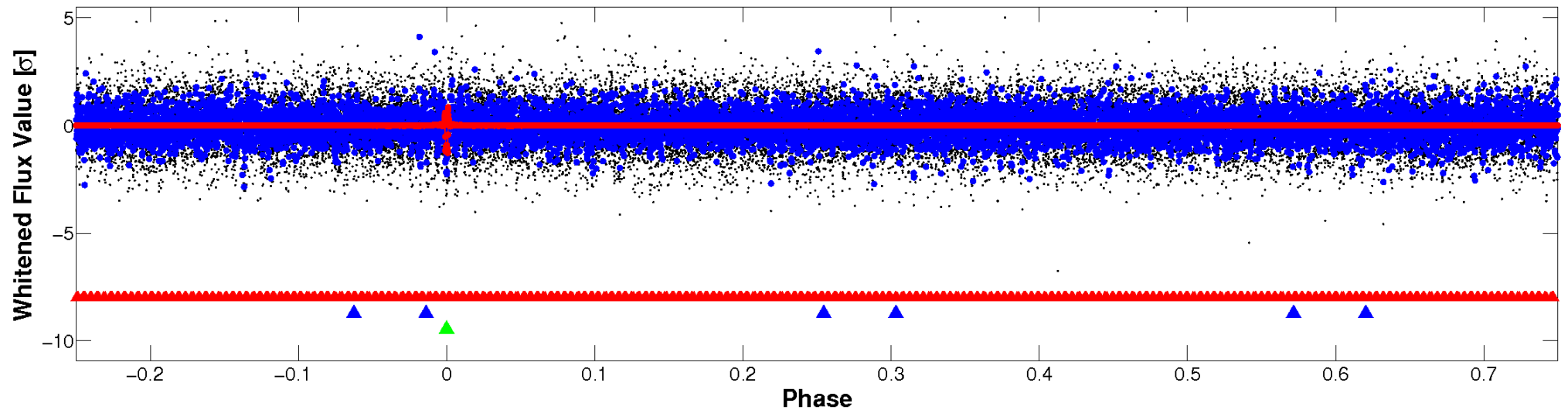


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

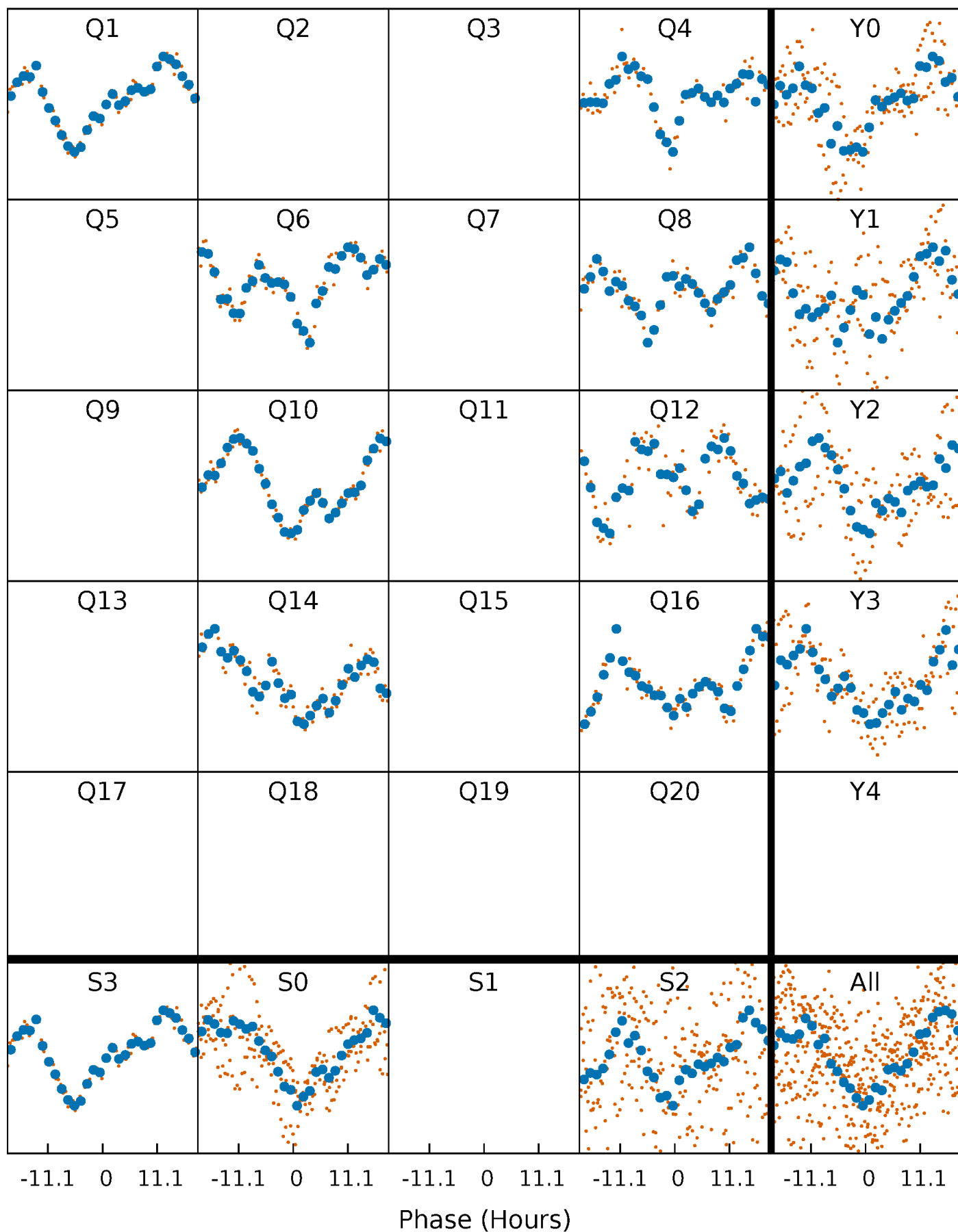


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



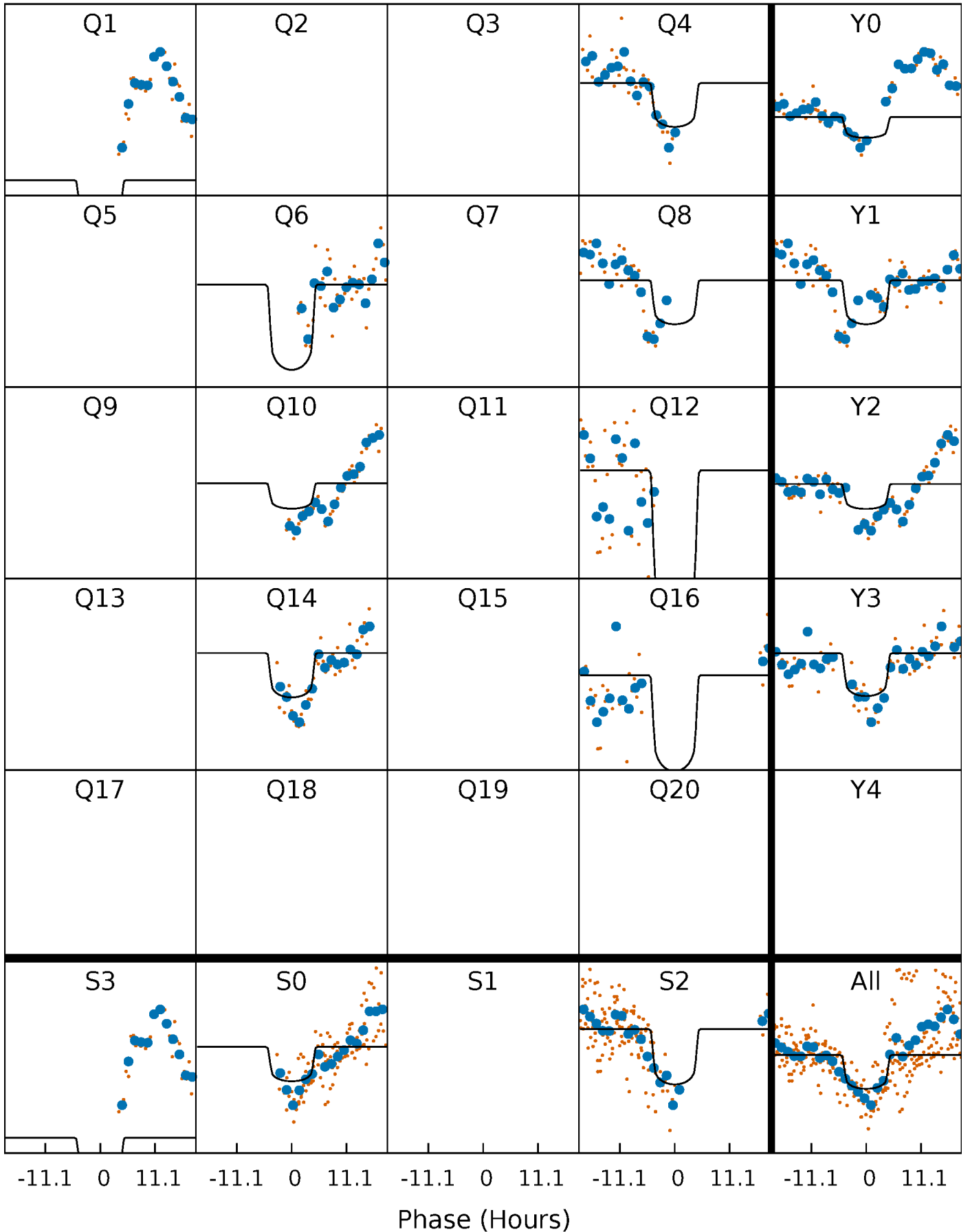
PDC Quarter-Phased Transit Curves

TCE 008542993-03 $P=197.070927$ Days $T_0=158.226564$ (BKJD)



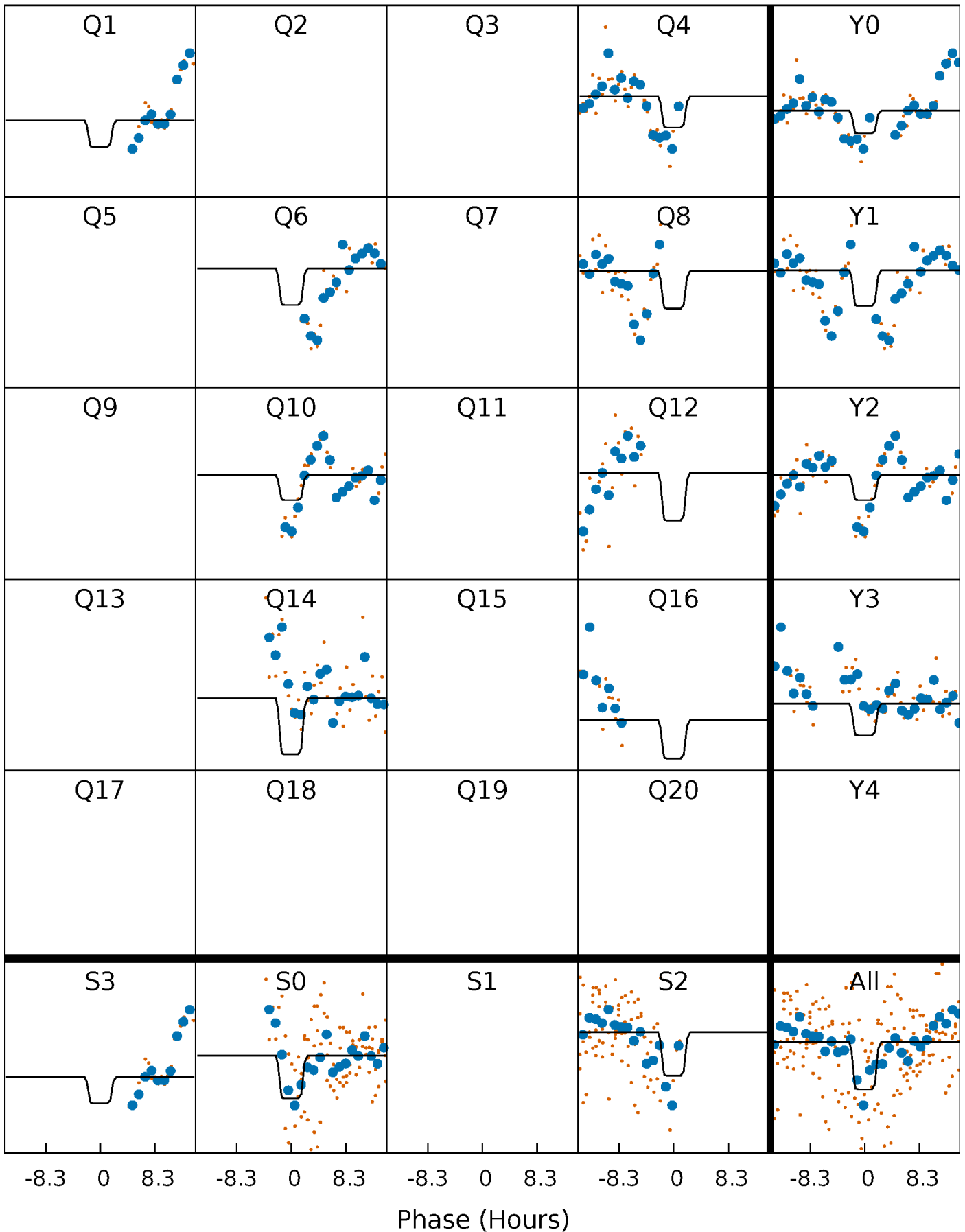
DV Quarter-Phased Transit Curves

TCE 008542993-03 $P=197.070927$ Days $T_0=158.226564$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

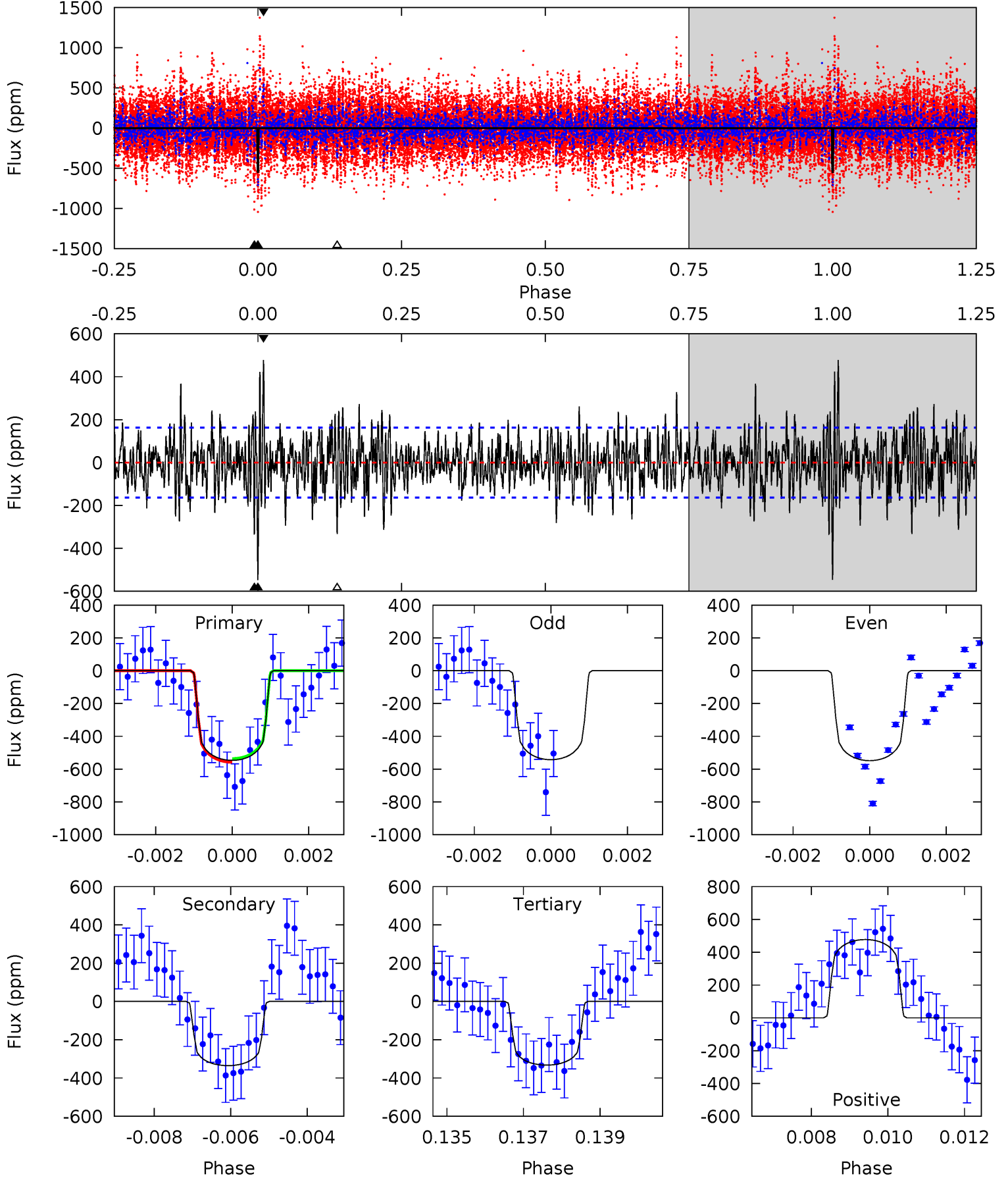
TCE 008542993-03 P=197.081686 Days $T_0=158.198634$ (BKJD)



DV Model-Shift Uniqueness Test

008542993-03, P = 197.070927 Days, E = 158.226564 Days

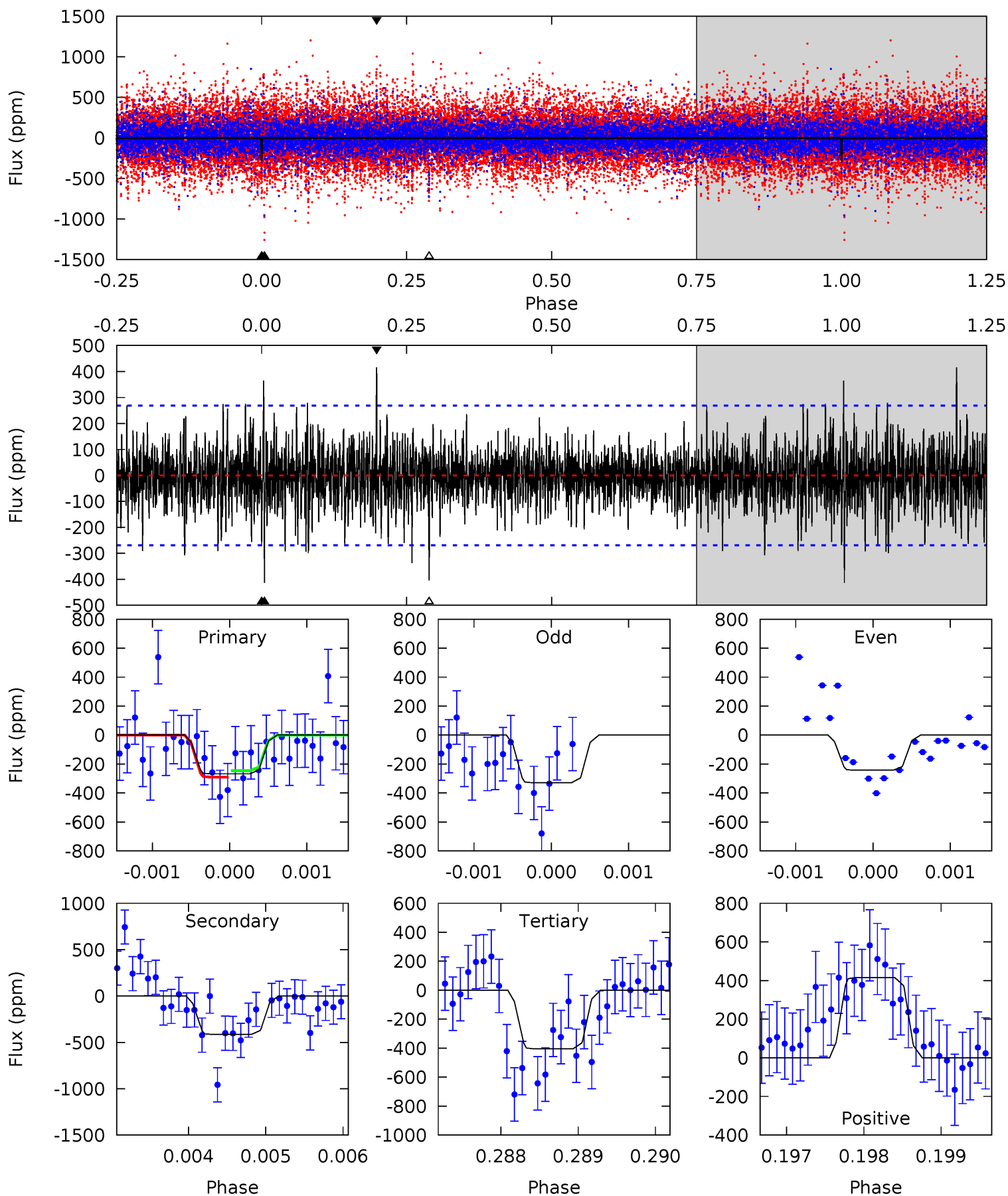
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.9	10.9	10.9	15.6	5.32	3.08	3.15	6.99	2.26	0.09	-4.64	0.09	0.63	0.47	0.35



Alt Model-Shift Uniqueness Test

008542993-03, P = 197.081686 Days, E = 158.198634 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.45	8.43	8.24	8.46	5.48	3.33	1.69	-2.79	-3.01	0.19	-0.03	0.76	0.78	0.50	0.45



Stellar Parameters For KIC 008542993

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7308^{+230}_{-307}	$4.052^{+0.204}_{-0.167}$	$-0.220^{+0.250}_{-0.350}$	$1.911^{+0.525}_{-0.525}$	$1.500^{+0.209}_{-0.279}$	$0.303^{+0.370}_{-0.147}$
	+3%/-4%	+5%/-4%	+114%/-159%	+27%/-27%	+14%/-19%	+122%/-49%
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 008542993-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-335 ± 31	$4.81^{+0.85}_{-0.94}$	716^{+54}_{-57}	6451^{+534}_{-443}	4656^{+2117}_{-1384}
Alt.	-414 ± 49	$3.52^{+0.82}_{-0.69}$	709^{+54}_{-53}	7978^{+1080}_{-789}	10238^{+5484}_{-3467}

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

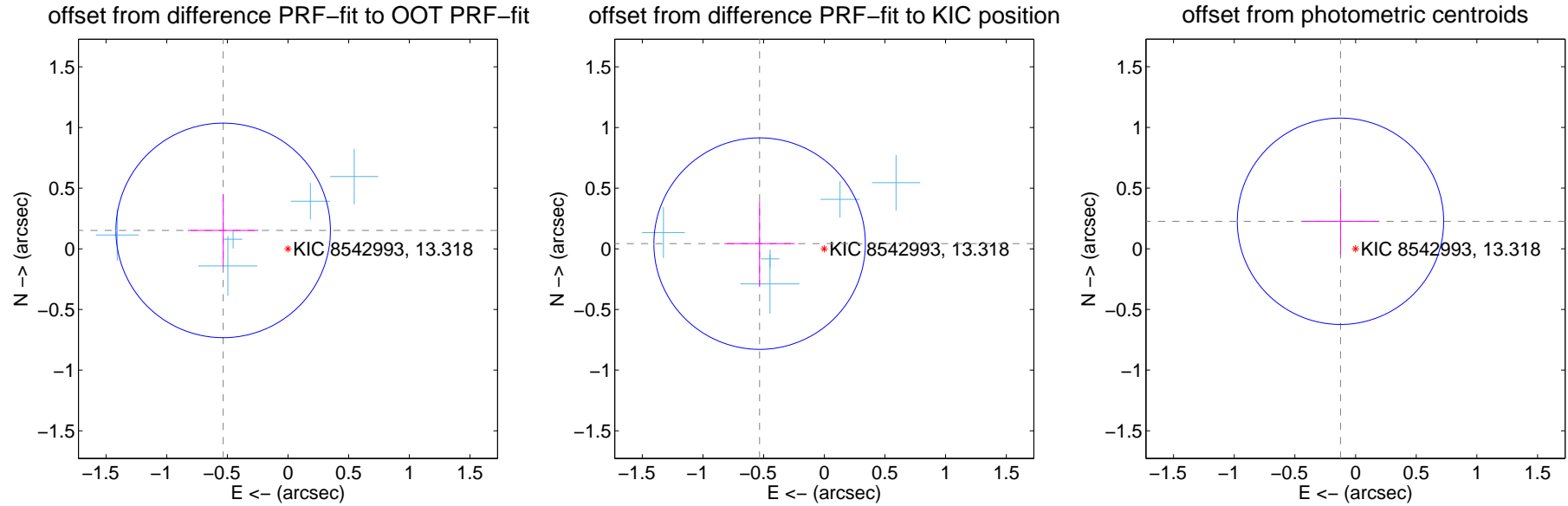
DV Centroid Data

Supplemental centroid analysis for 008542993-03. Kepler magnitude: 13.32. Transit SNR 8.00

There are 6 quarters with good PRF difference image offsets

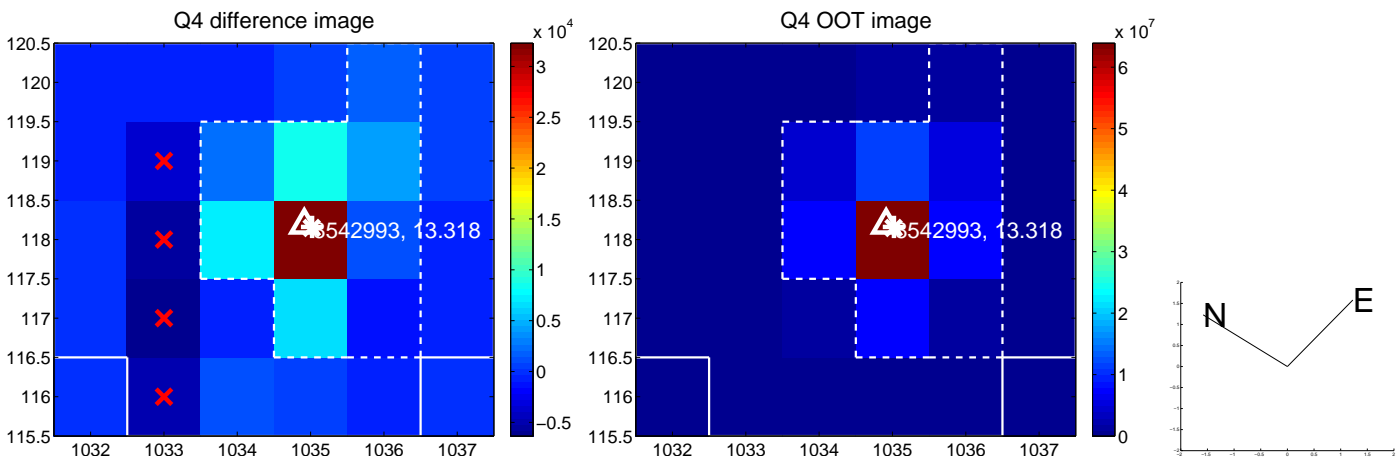
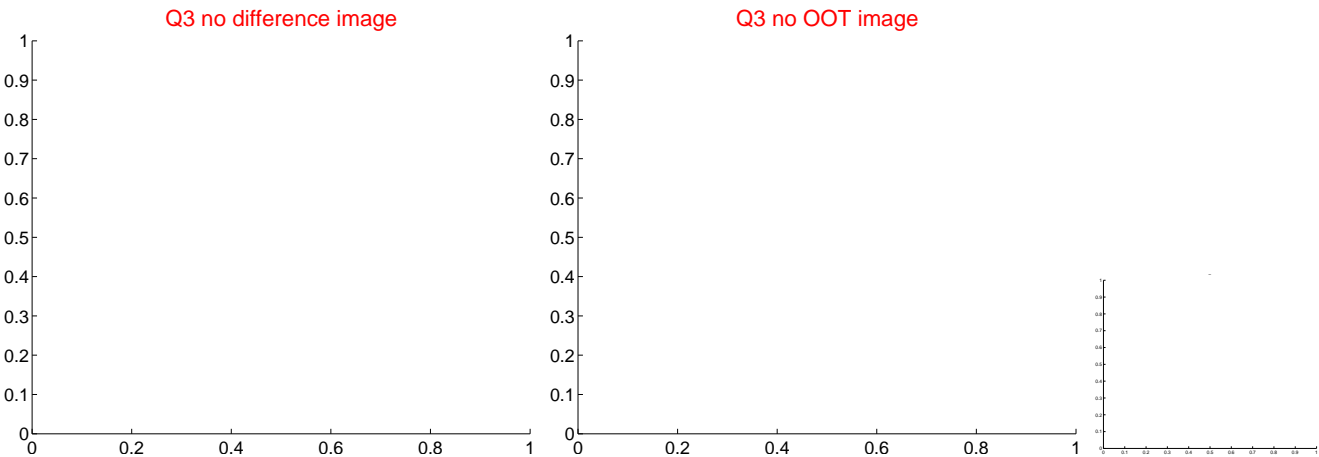
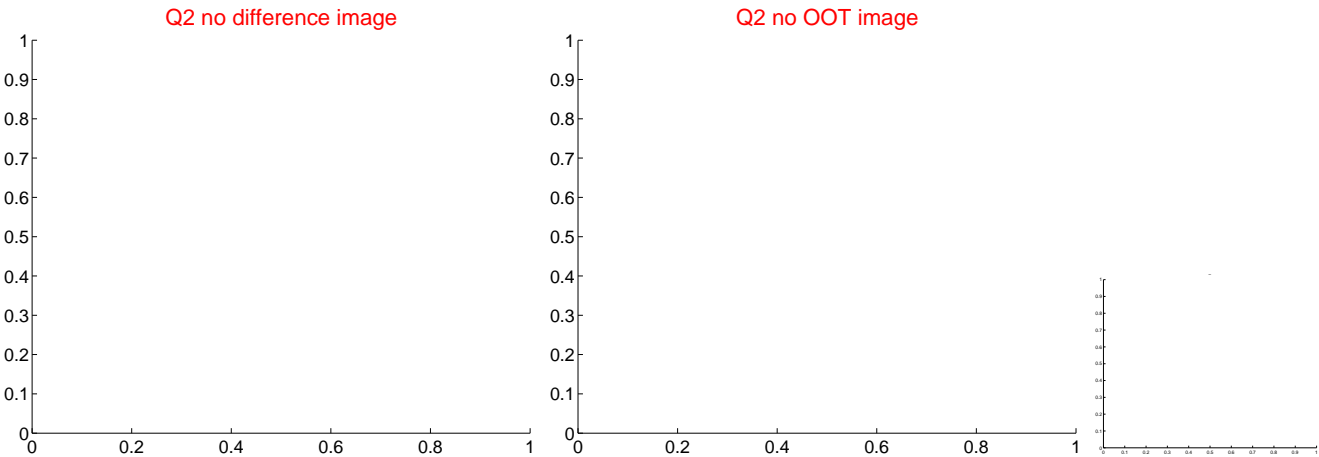
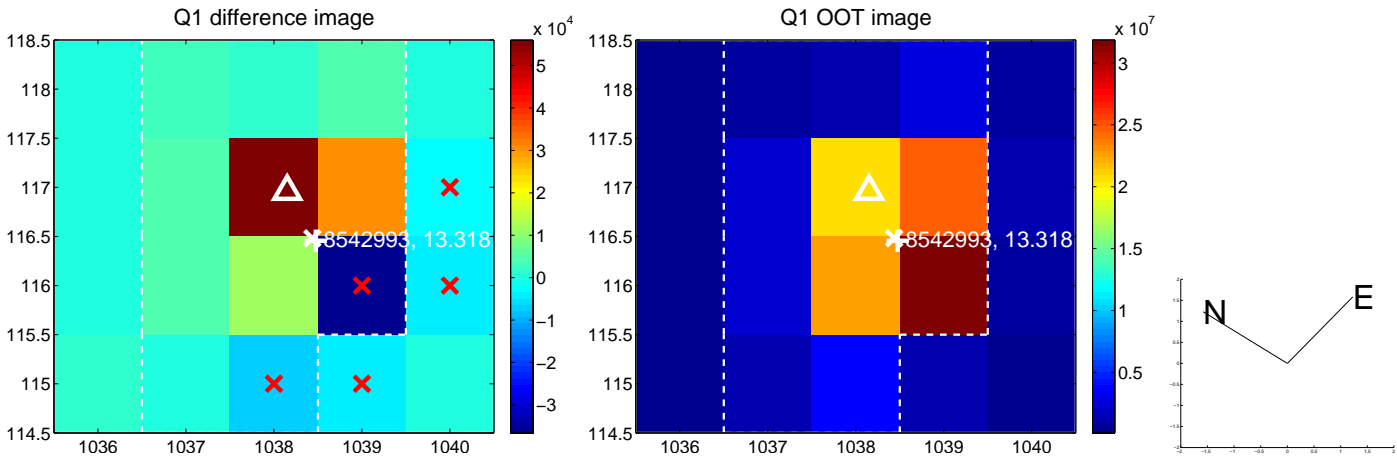
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.556 ± 0.295	1.89	0.535 ± 0.290	0.152 ± 0.299
PRF-fit source offset from KIC position	0.535 ± 0.291	1.84	0.533 ± 0.290	0.043 ± 0.348
photometric centroid source offset	0.26 ± 0.28	0.91	0.12 ± 0.32	0.23 ± 0.27

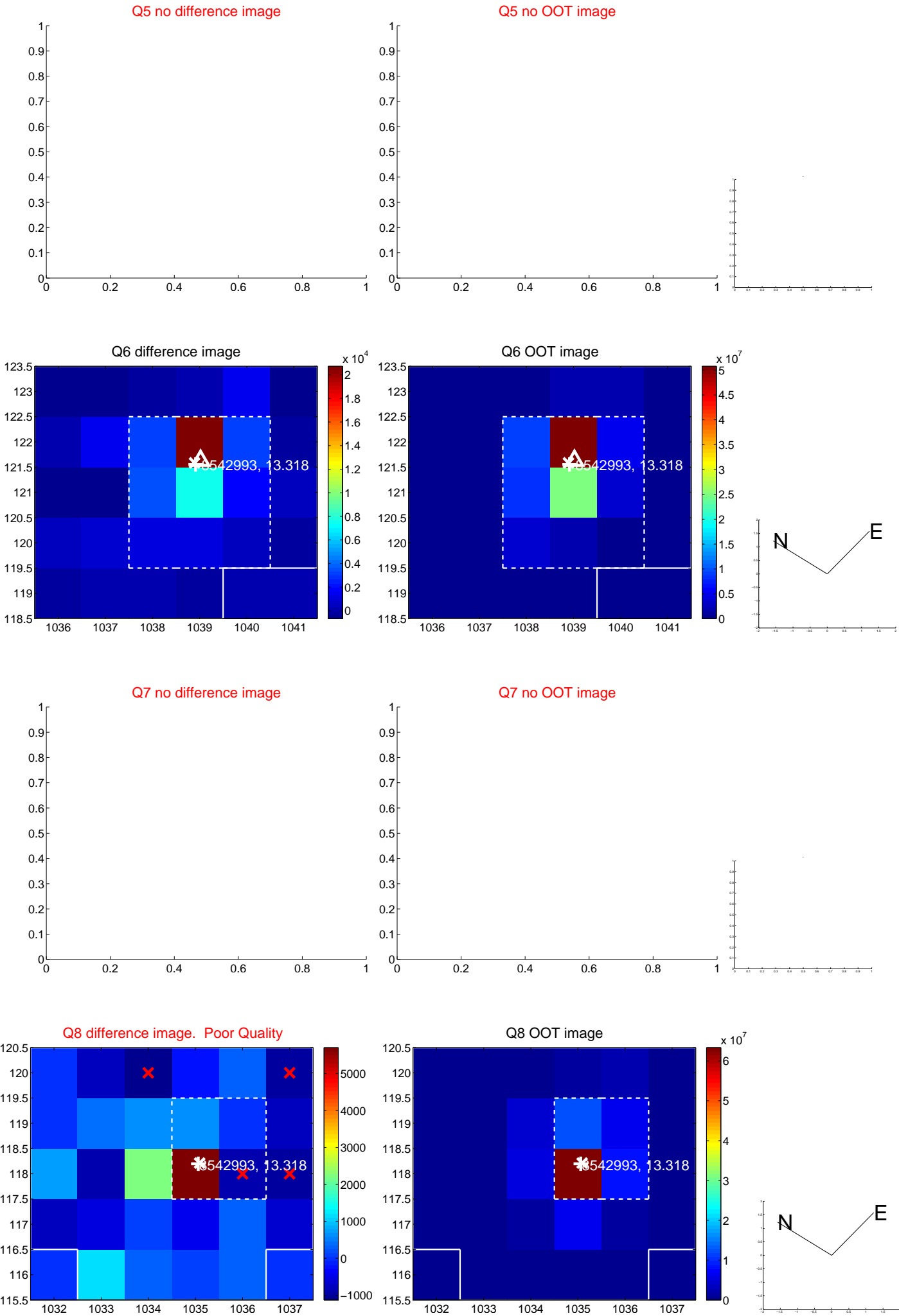


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

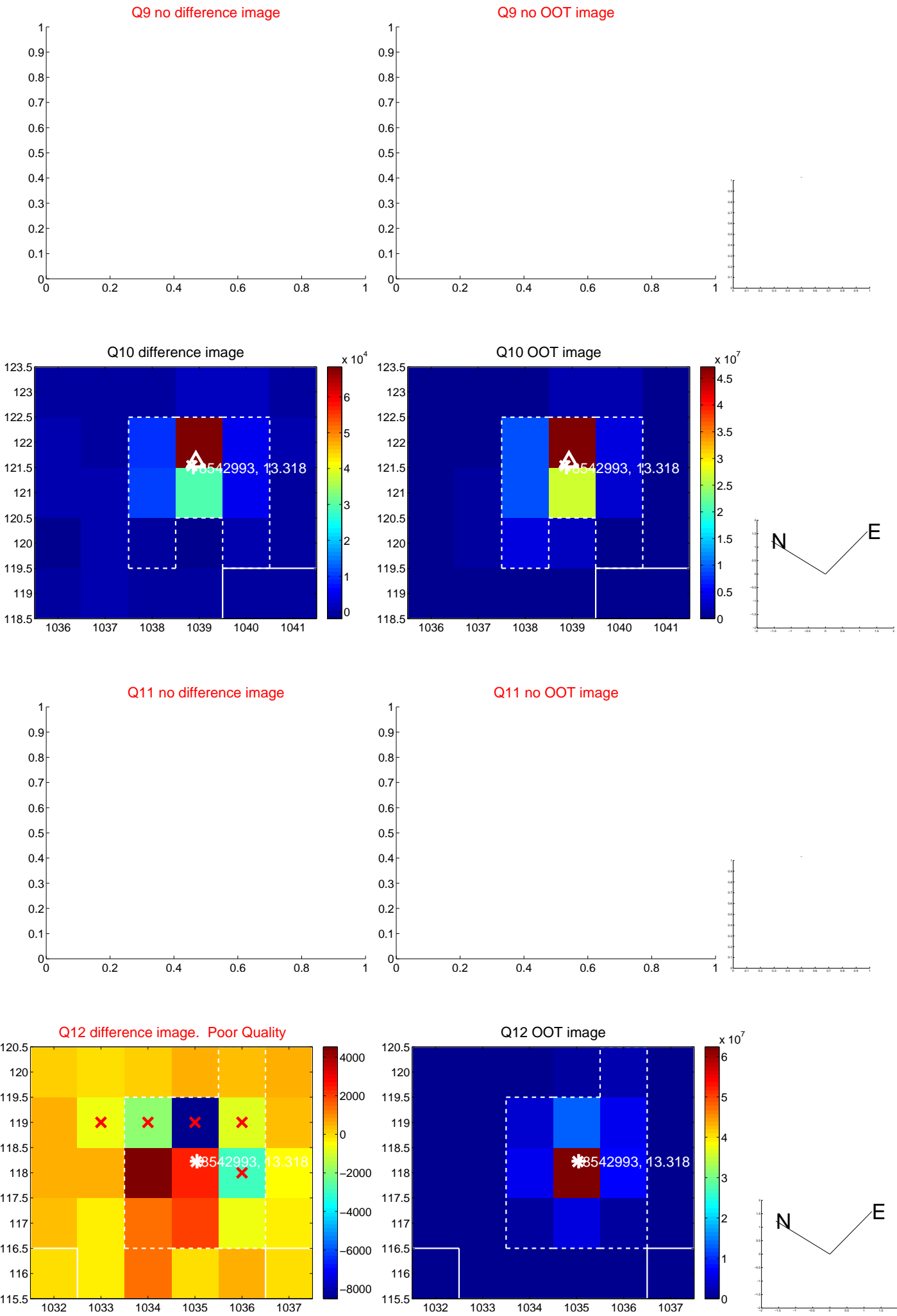
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



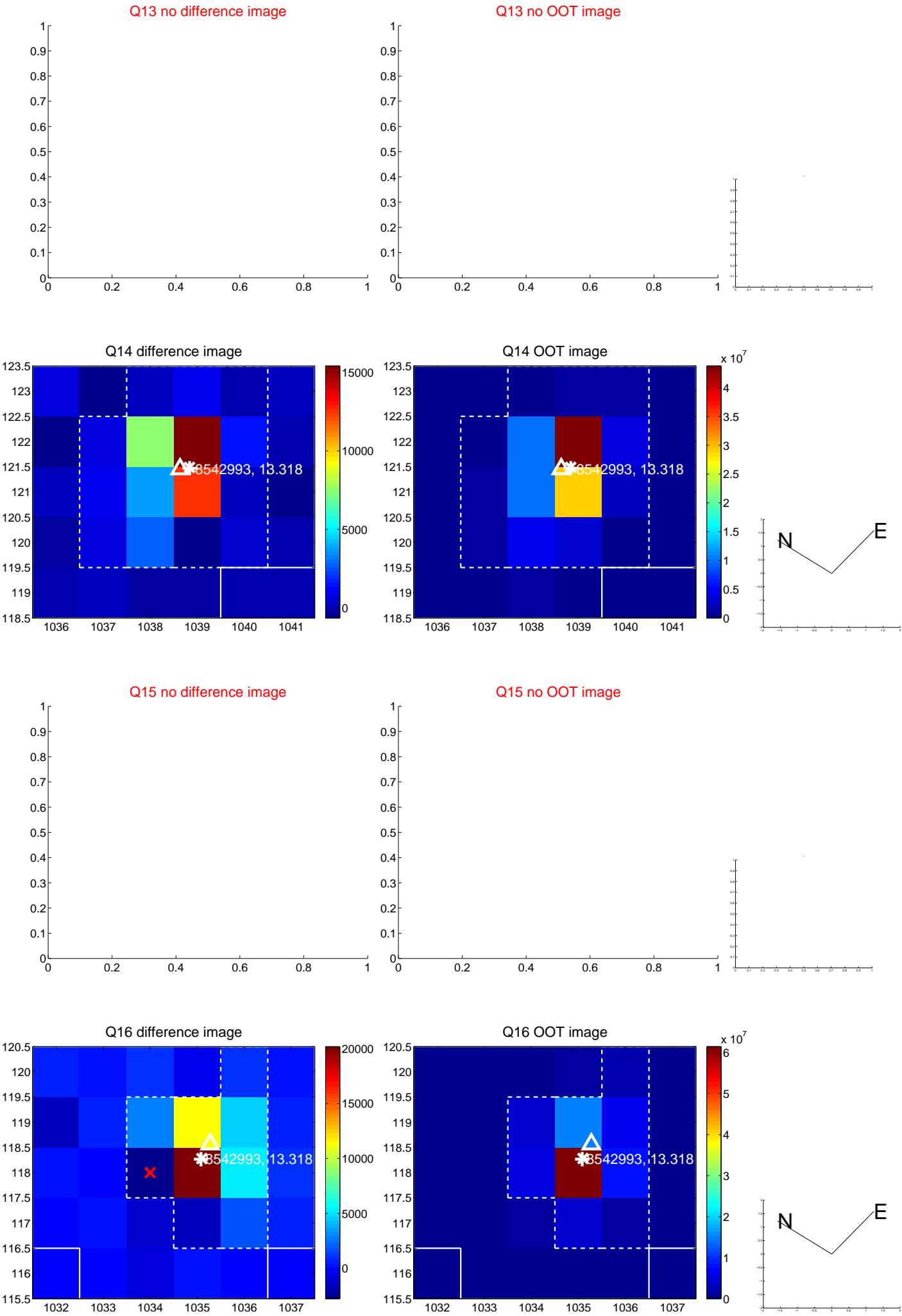
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



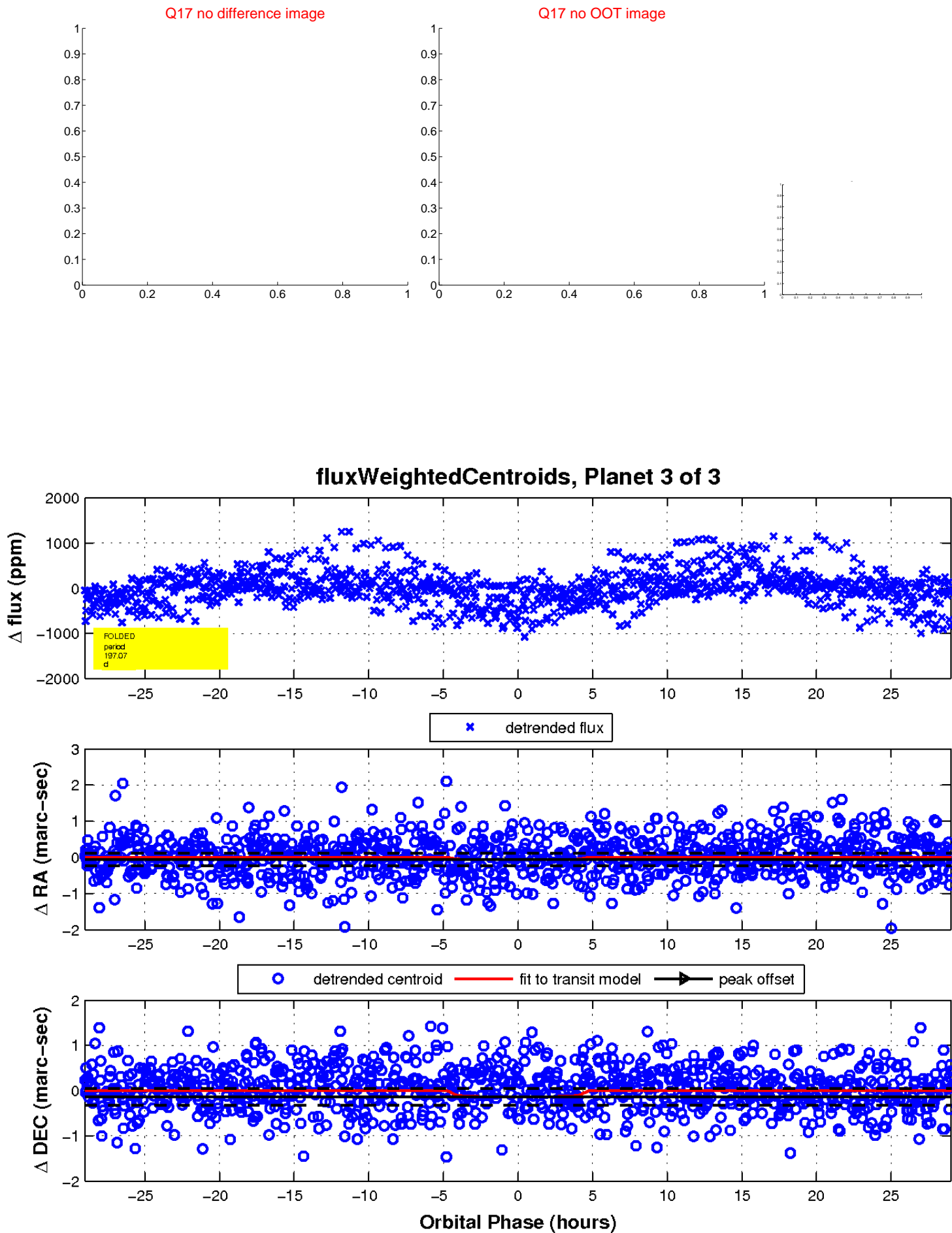
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

