

KIC 005551228

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})
005551228-01	OBS	4154.02	122.905792	195.924943	1011.3	16.124	21.0	21.3	0.87	5692	4.81	3.09
005551228-02	OBS	No	368.705746	369.222136	1061.2	15.982	9.7	10.8	0.87	5692	4.52	0.71
005551228-03	OBS	No	368.716241	246.254644	767.5	17.164	8.9	9.6	0.87	5692	4.72	0.71

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005551228-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
005551228-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_FEW_DIFFS—HALO_GHOST
005551228-03	OBS	FP	0.00	1	0	0	0	SAME_NTL_PERIOD—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 005551228-01

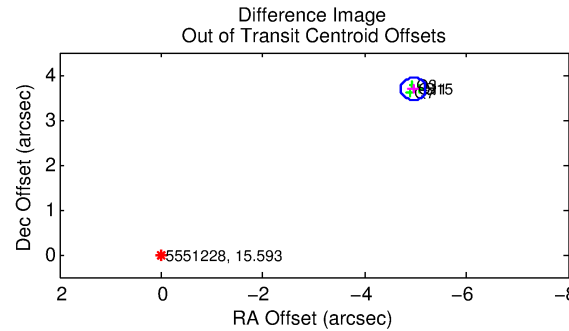
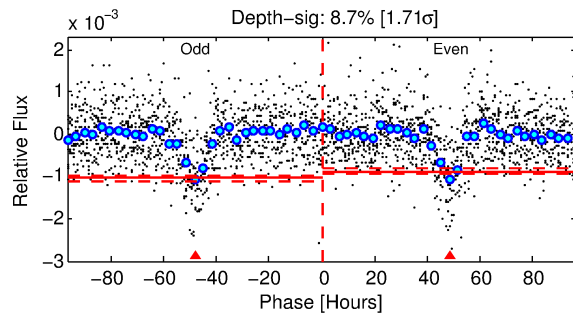
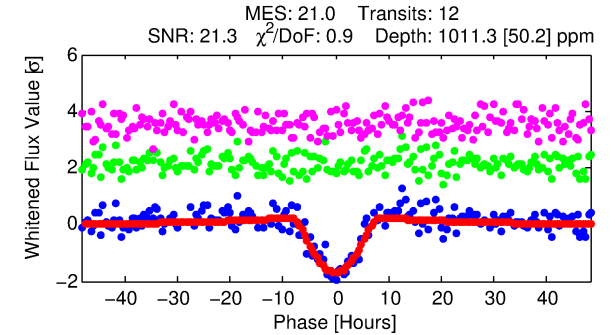
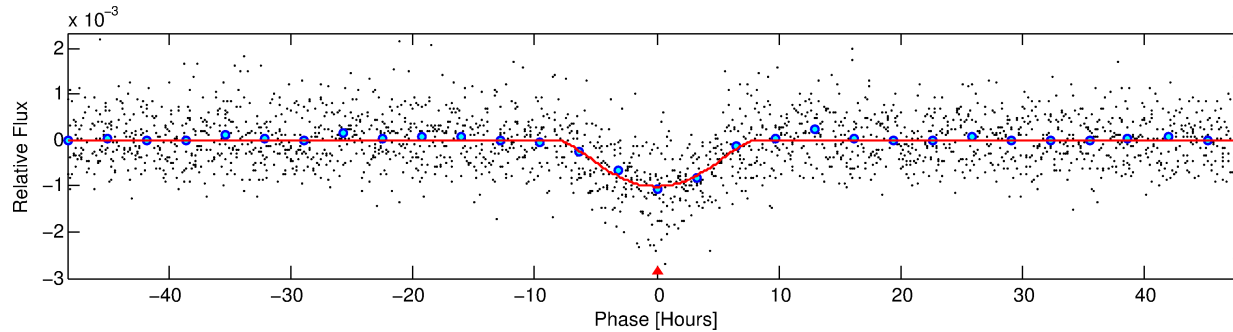
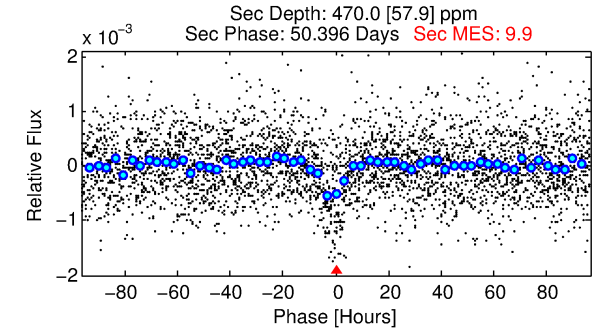
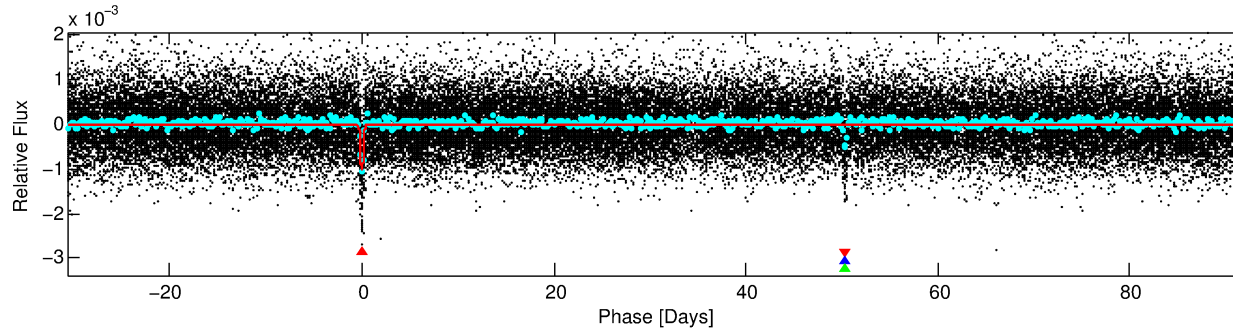
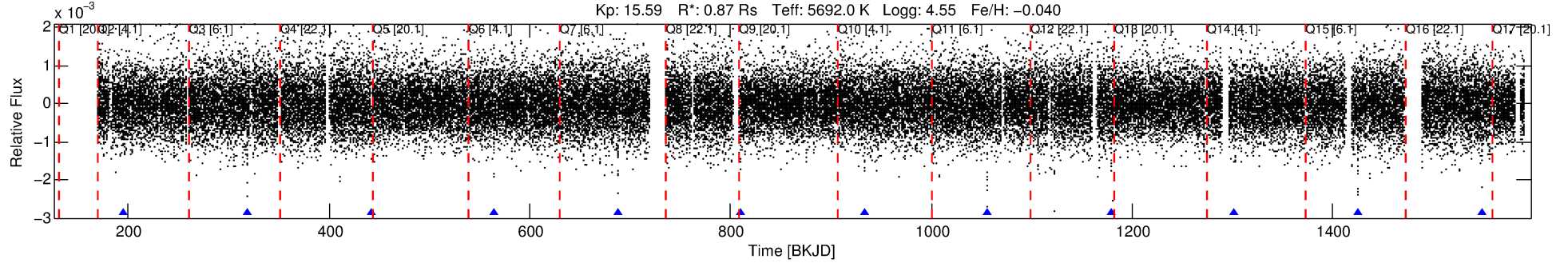
No Significant Match Found

DV One-Page Summary

KIC: 5551228 Candidate: 1 of 3 Period: 122.906 d

KOI: K04154.02 Corr: 0.976

Kp: 15.59 R*: 0.87 Rs Teff: 5692.0 K Logg: 4.55 Fe/H: -0.040



DV Fit Results:

Period = 122.90579 [0.00249] d
Epoch = 195.9249 [0.0163] BKJD
Rp/R* = 0.0509 [0.0582]
a/R* = 20.47 [6.62]
b = 0.99 [0.09]
Seff = 3.09 [1.15]
Teq = 338 [32] K
Rp = 4.81 [5.67] Re
a = 0.4780 [0.1147] AU
Ag = 2552.11 [5916.12] [0.43σ]
Teff = 3714 [2131] K [1.58σ]

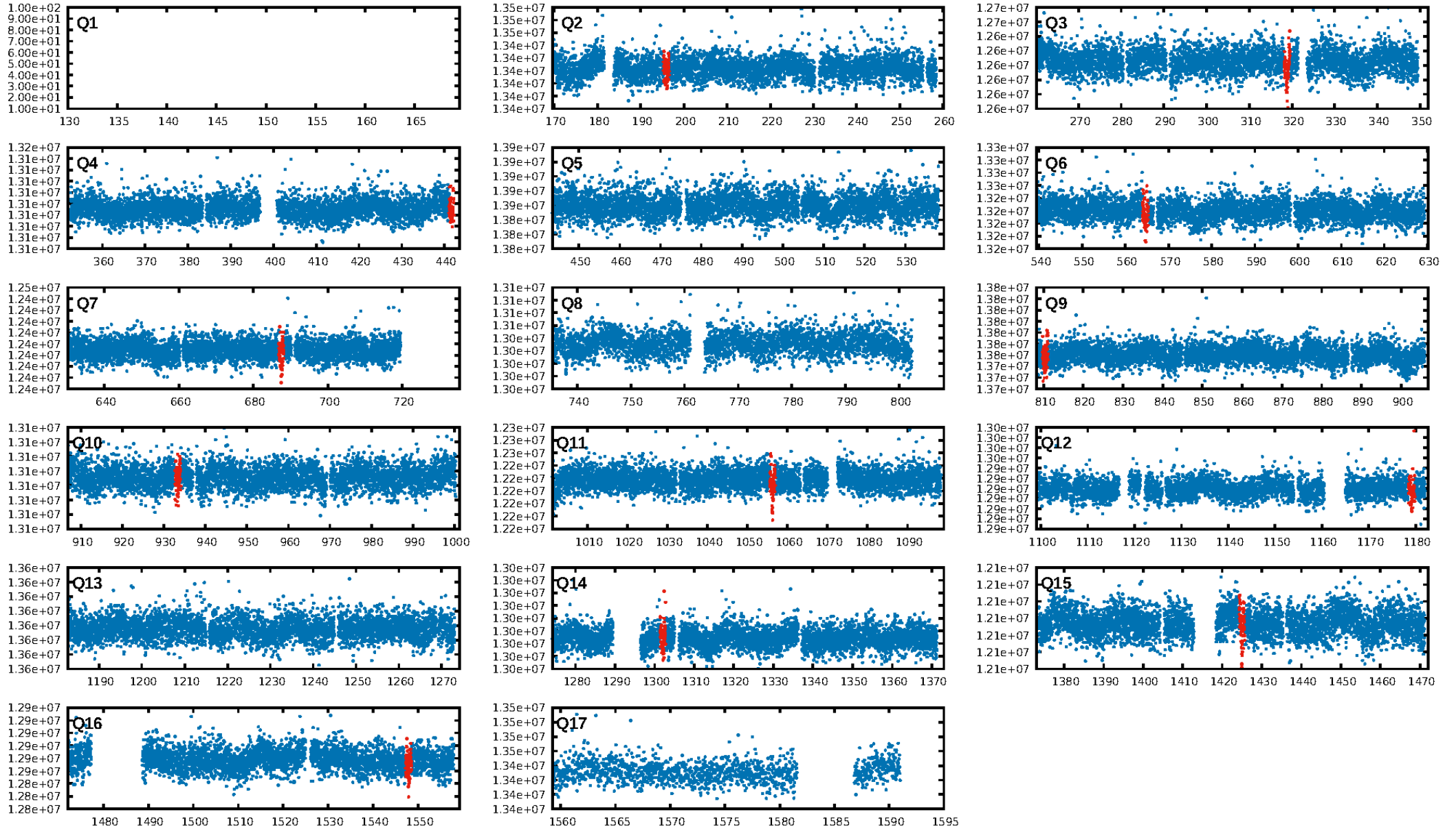
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [259.85σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 3.00e-80
RollingBand-fgt: 1.00 [12/12]
GhostDiagnostic-chr: -0.2238
Centroid-sig: 0.0%
Centroid-so: 32.584 arcsec [45.69σ]
OotOffset-rm: 6.175 arcsec [76.02σ]
KicOffset-rm: 6.188 arcsec [73.72σ]
OotOffset-st: 0/4/0/0 [4]
KicOffset-st: 0/4/0/0 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [9/9]

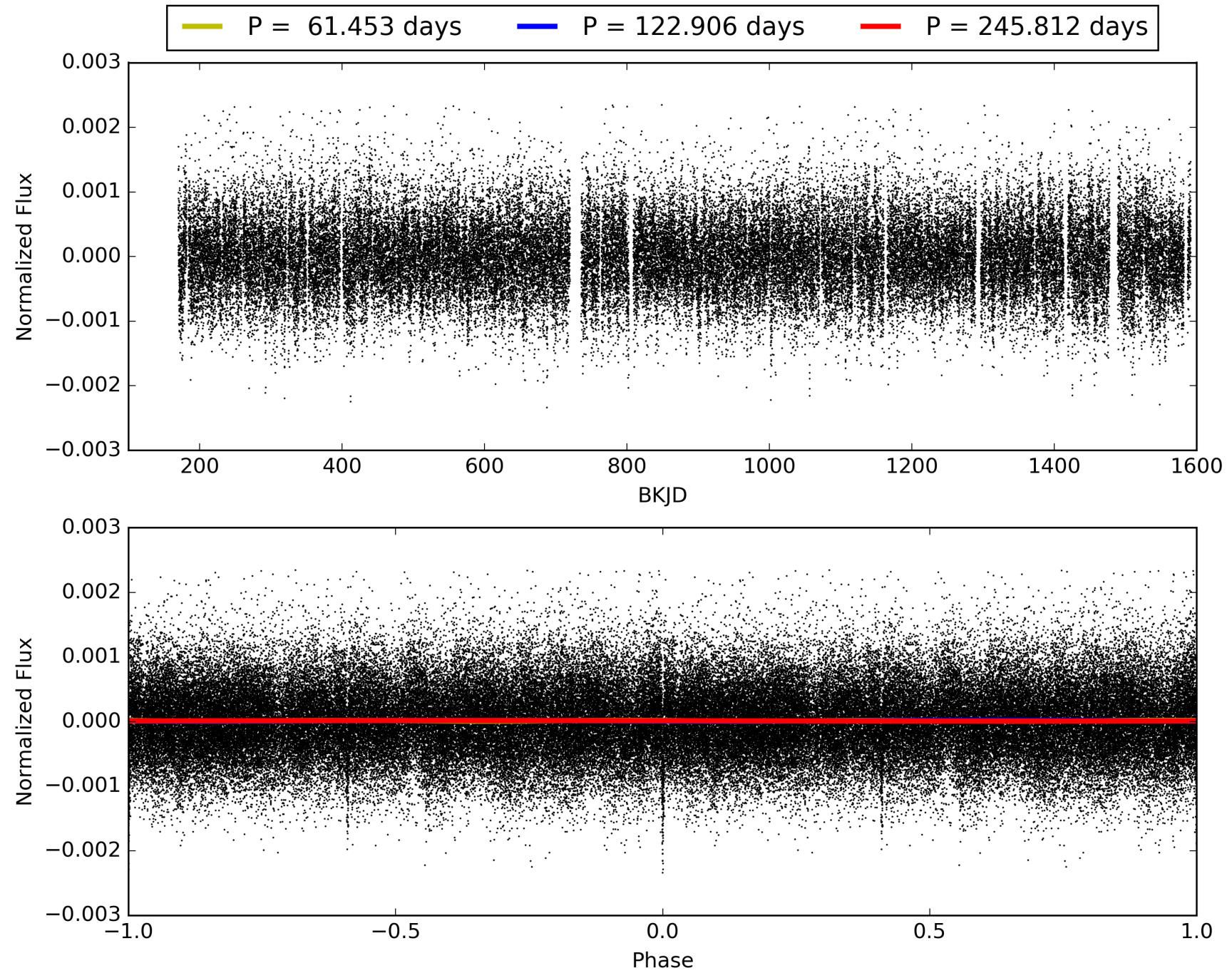
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:27:06 Z

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

TCE 005551228-01, PDC Light Curves

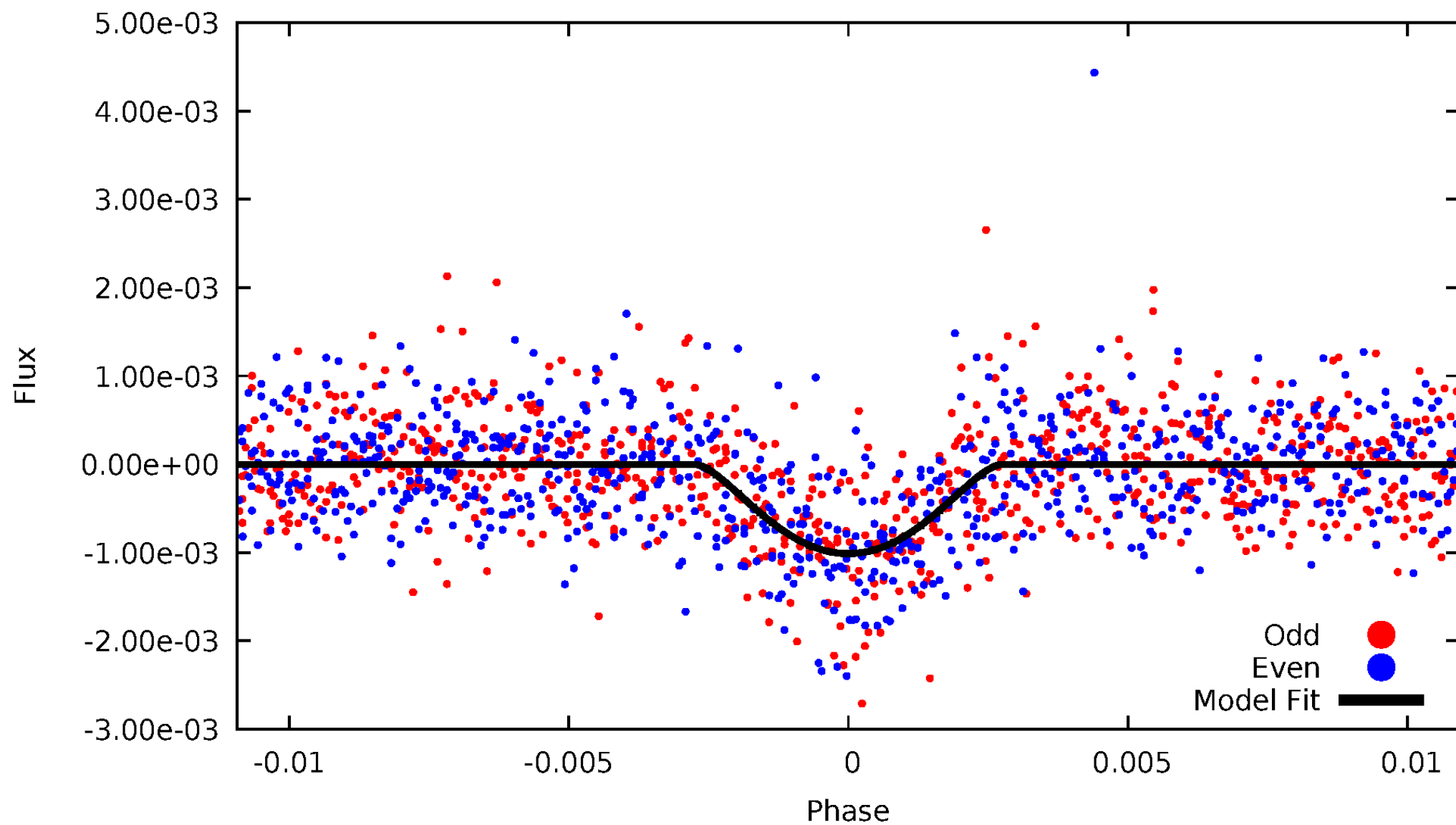


TCE 005551228-01



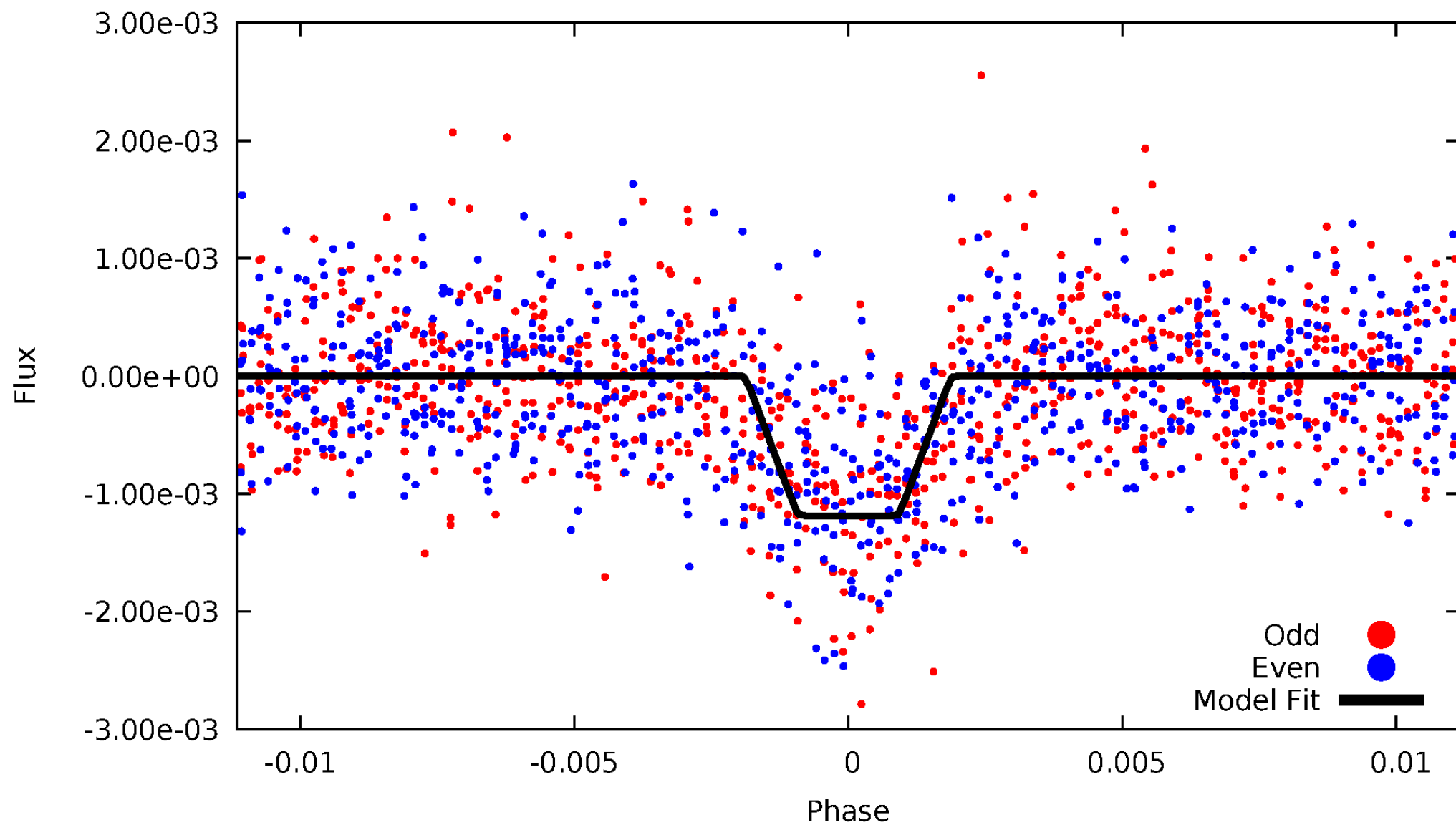
DV Odd/Even

TCE 005551228-01

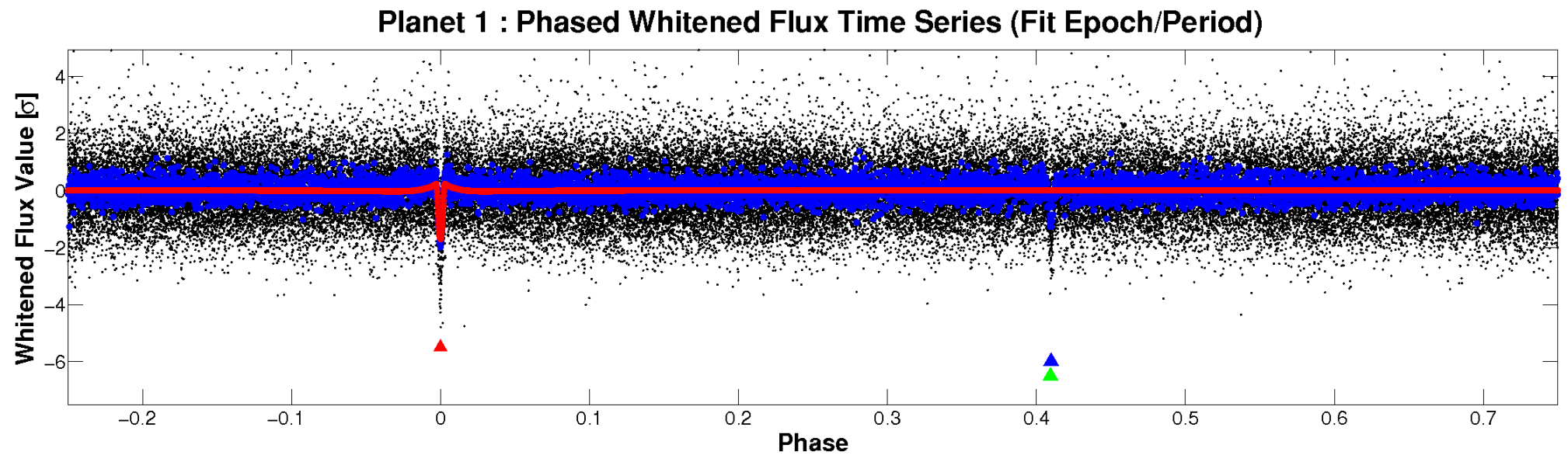
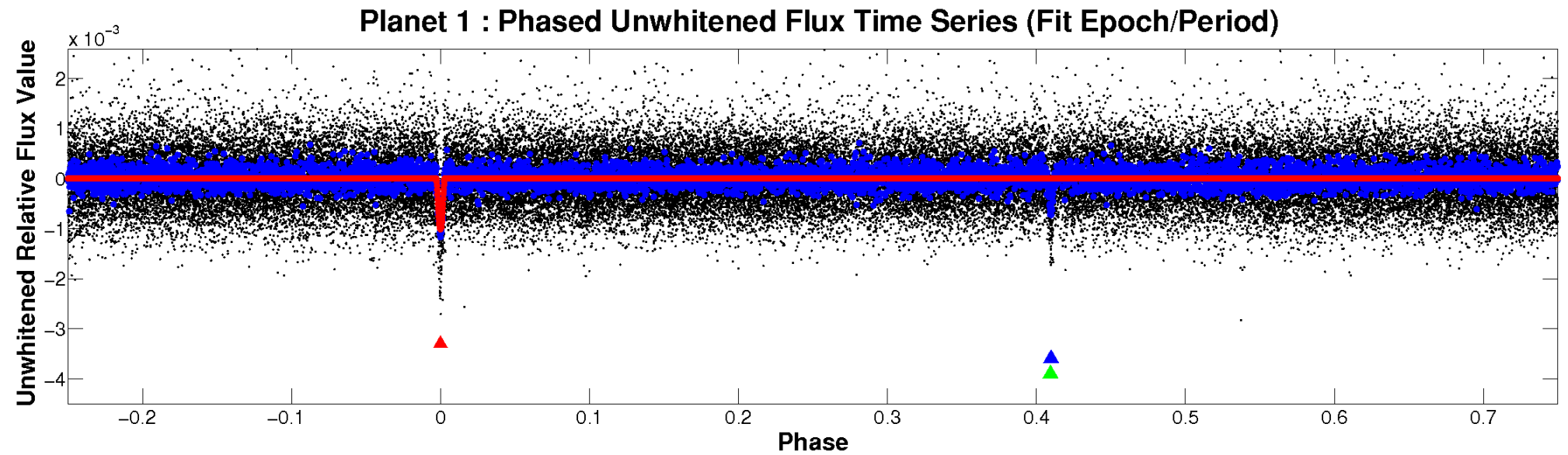


ALT Odd/Even

TCE 005551228-01

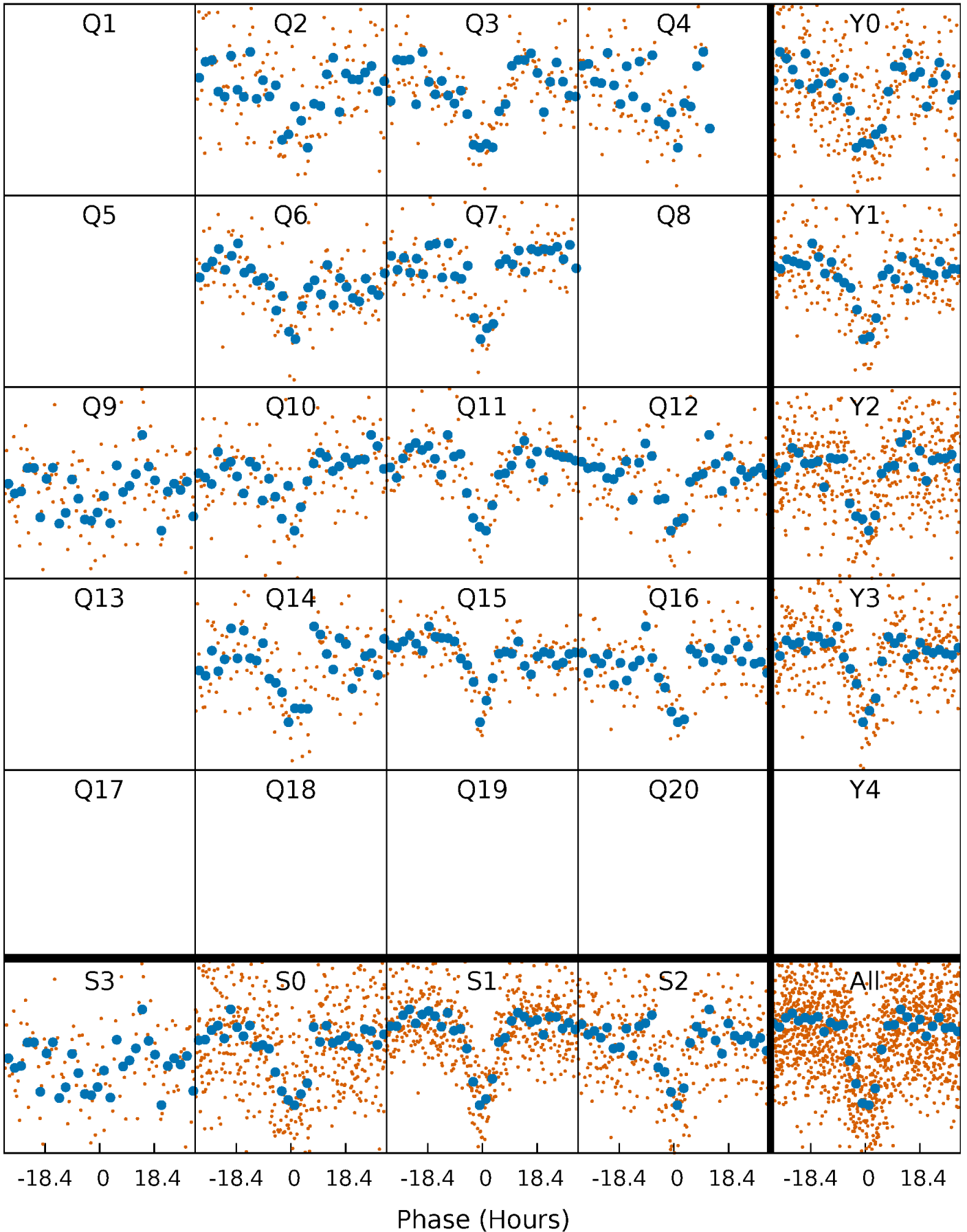


Non-Whitened Vs. Whitened Light Curve



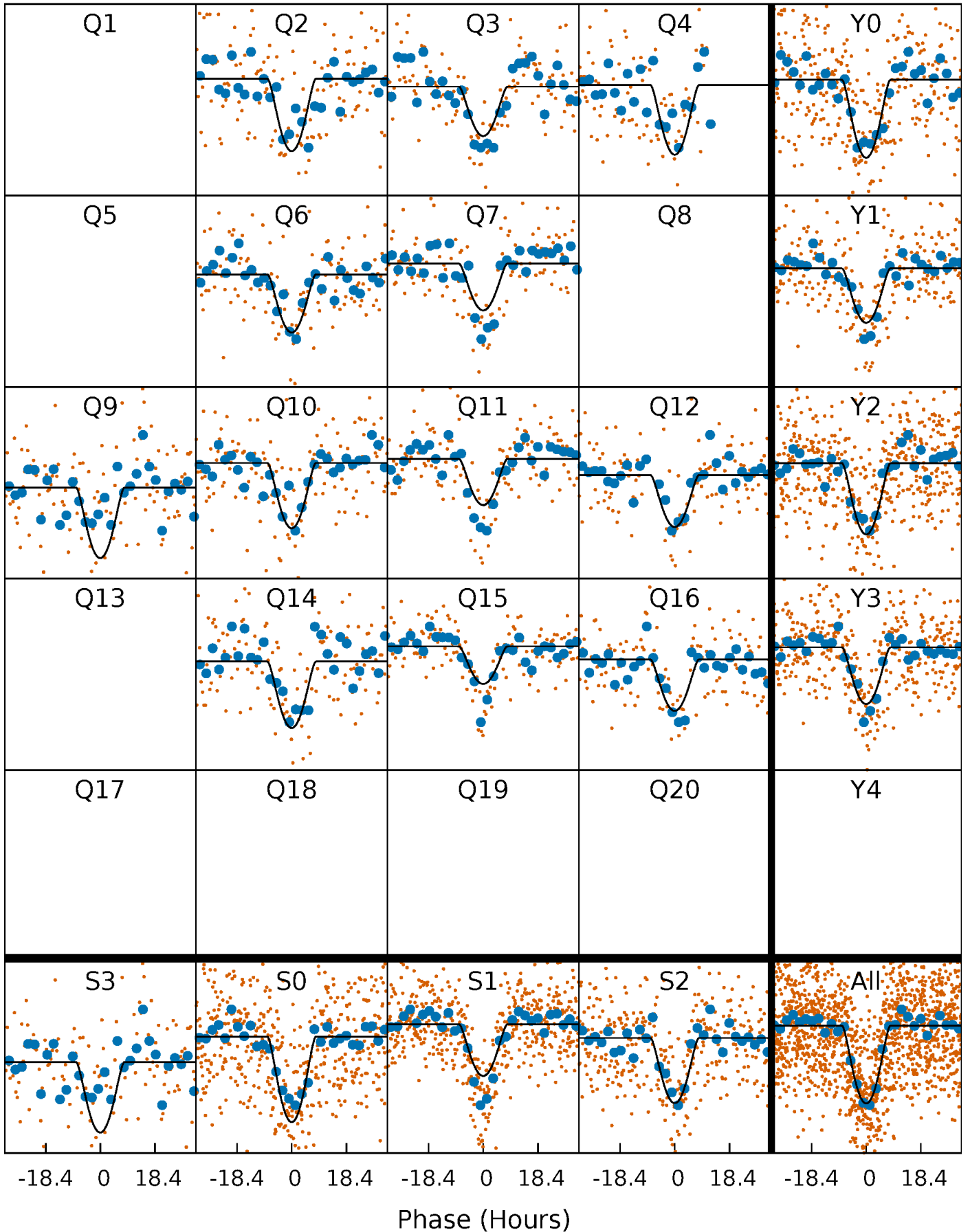
PDC Quarter-Phased Transit Curves

TCE 005551228-01 P=122.905792 Days $T_0=195.924943$ (BKJD)



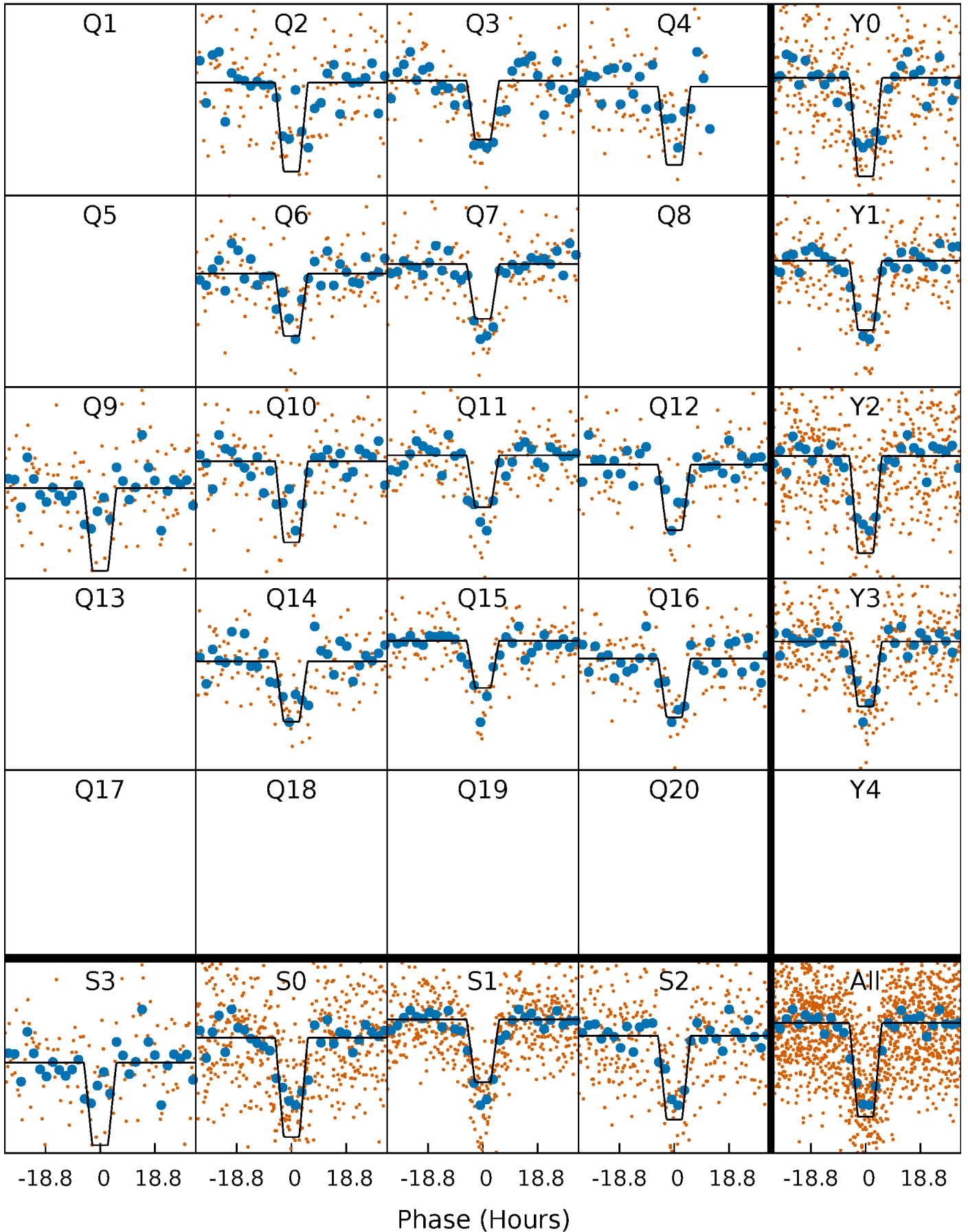
DV Quarter-Phased Transit Curves

TCE 005551228-01 P=122.905792 Days $T_0=195.924943$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

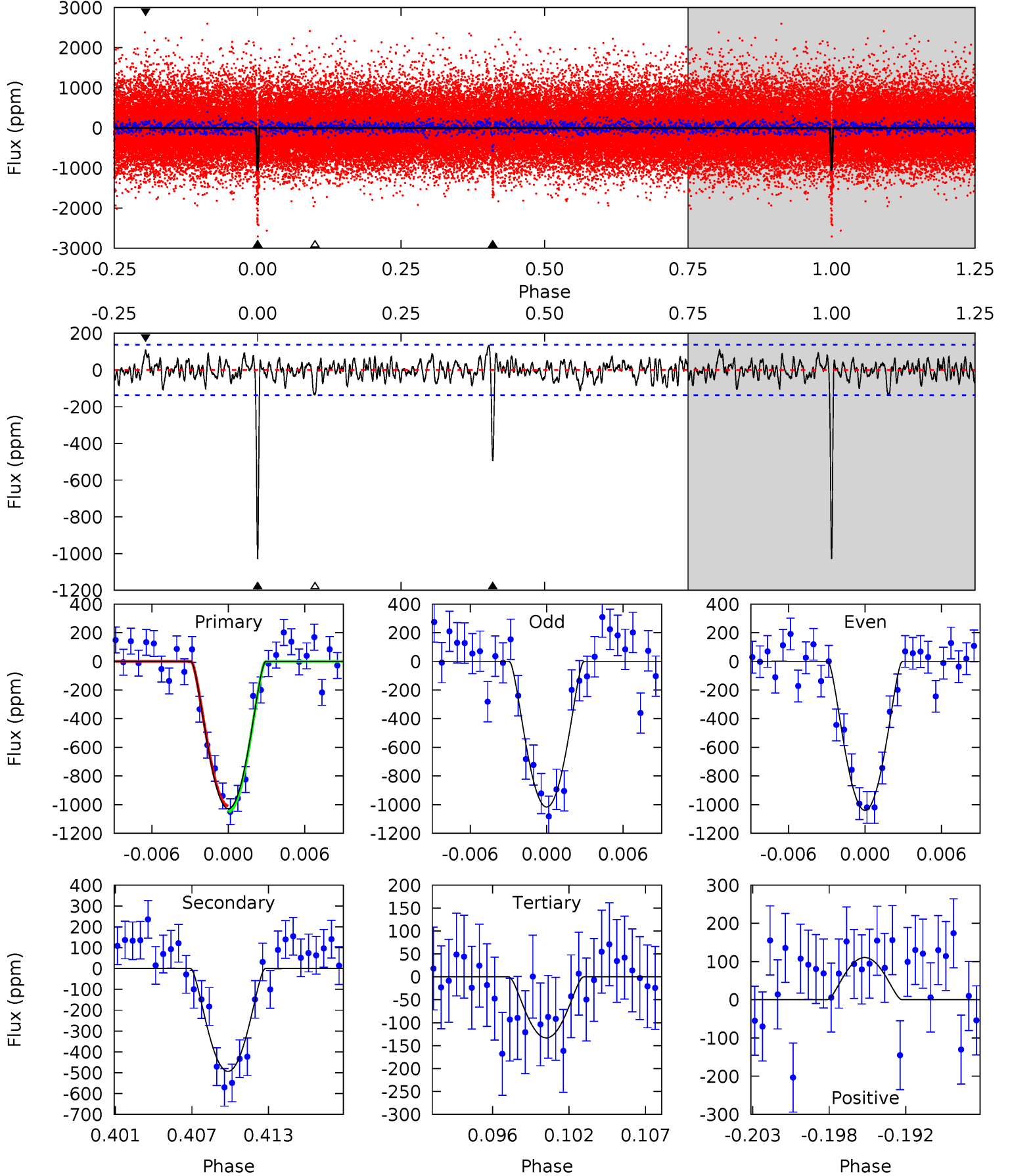
TCE 005551228-01 P=122.907863 Days $T_0=195.911285$ (BKJD)



DV Model-Shift Uniqueness Test

005551228-01, P = 122.905792 Days, E = 73.019151 Days

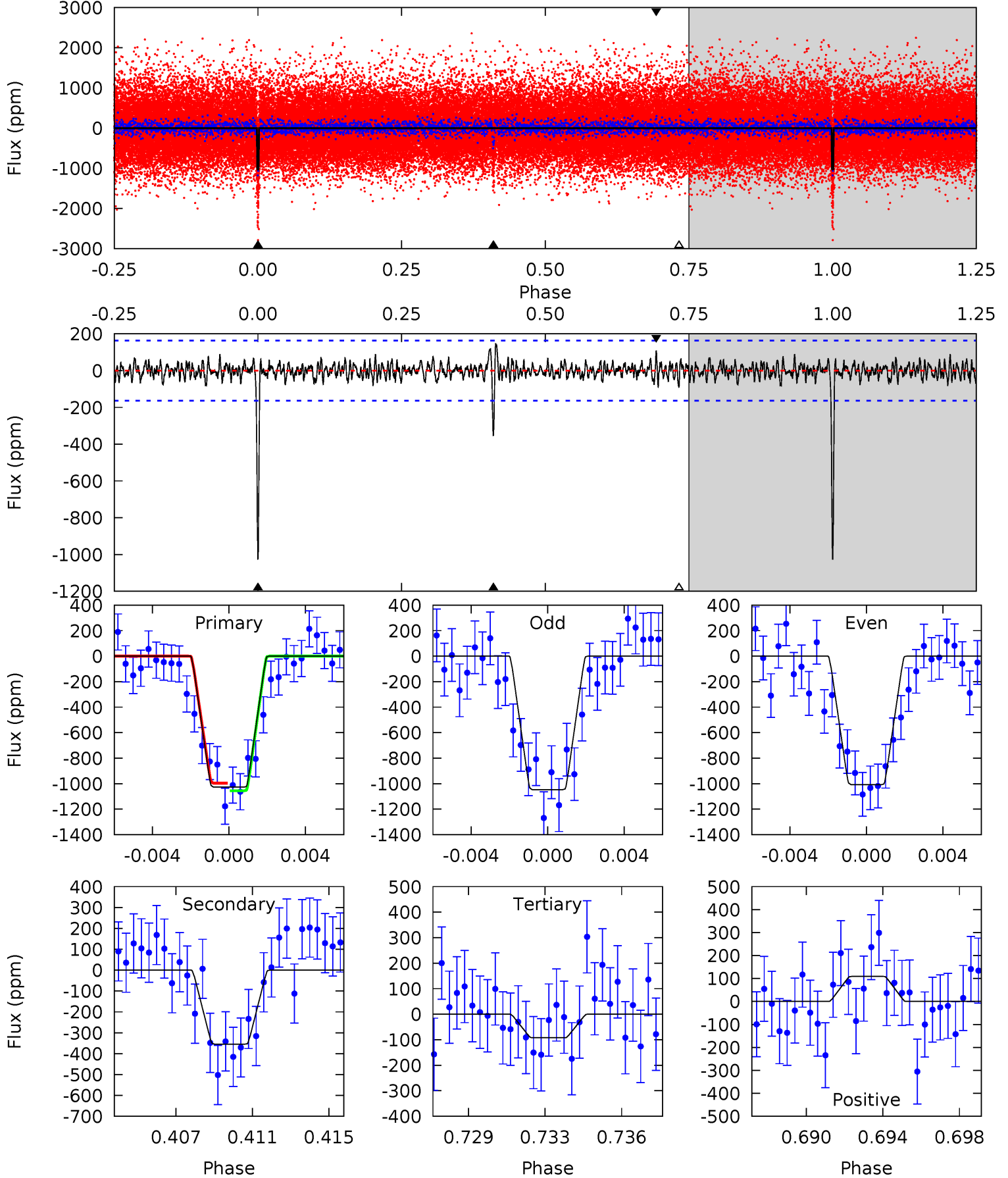
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.3	18.4	4.97	4.12	5.13	2.77	1.48	33.4	34.2	13.4	14.3	0.43	1.12	0.11	0.72



Alt Model-Shift Uniqueness Test

005551228-01, P = 122.907863 Days, E = 73.003422 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.8	11.3	2.95	3.48	5.21	2.89	1.01	29.8	29.3	8.37	7.83	0.63	1.12	0.12	0.96



Stellar Parameters For KIC 005551228

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5692^{+186}_{-169}	$4.547^{+0.036}_{-0.192}$	$-0.040^{+0.250}_{-0.300}$	$0.866^{+0.246}_{-0.082}$	$0.965^{+0.104}_{-0.115}$	$2.090^{+0.400}_{-1.054}$
	+3%/-3%	+1%/-4%	+625%/-750%	+28%/-9%	+11%/-12%	+19%/-50%
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 005551228-01 / KOI 4154.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-494 ± 27	$6.57^{+5.43}_{-4.31}$	484^{+35}_{-24}	3732^{+1938}_{-626}	1423^{+10601}_{-982}
Alt.	-354 ± 31	$5.54^{+5.06}_{-3.77}$	483^{+35}_{-20}	3711^{+2232}_{-658}	1421^{+12359}_{-1028}

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 $A_{obs} \gg 1.0$

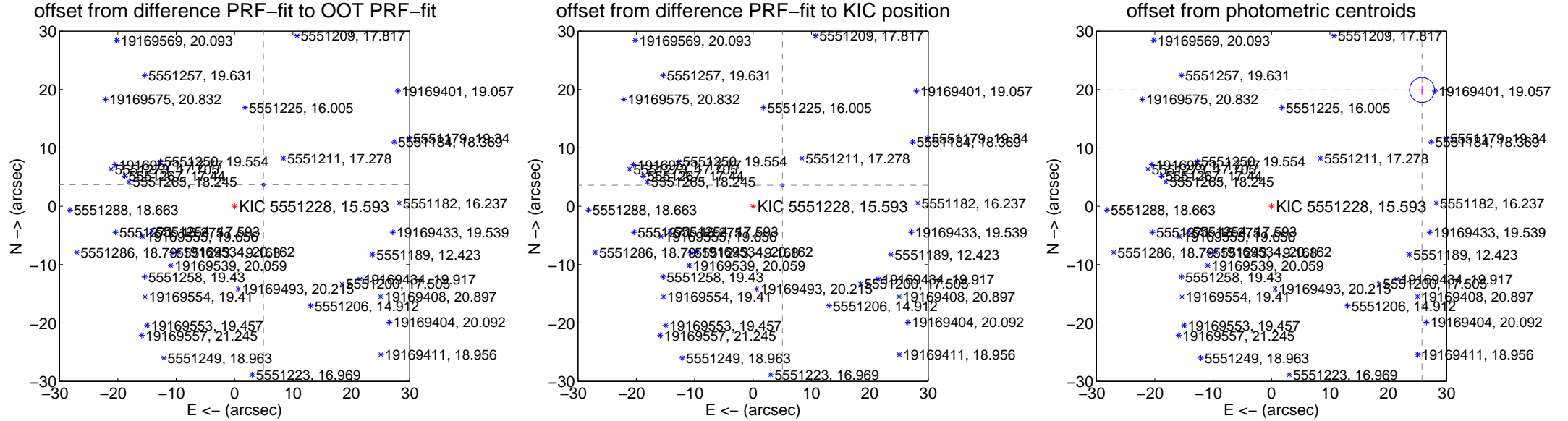
DV Centroid Data

Supplemental centroid analysis for 005551228-01. Kepler magnitude: 15.59. Transit SNR 21.26

There are 4 quarters with good PRF difference image offsets

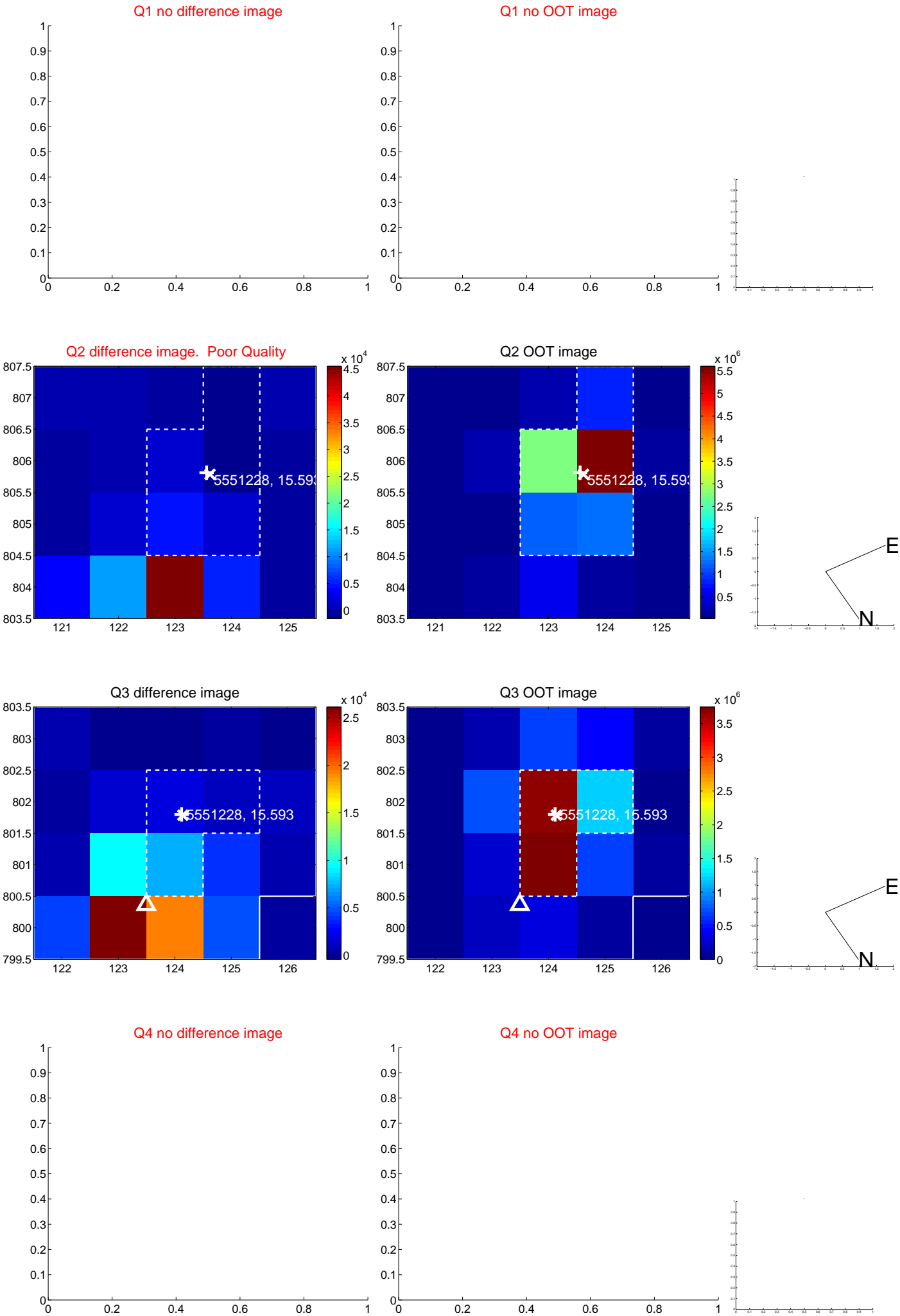
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.175 \pm 0.081	76.02	-4.951 \pm 0.083	3.690 \pm 0.077
PRF-fit source offset from KIC position	6.188 \pm 0.084	73.72	-5.032 \pm 0.087	3.602 \pm 0.078
photometric centroid source offset	32.58 \pm 0.71	45.69	-25.78 \pm 0.73	19.92 \pm 0.68

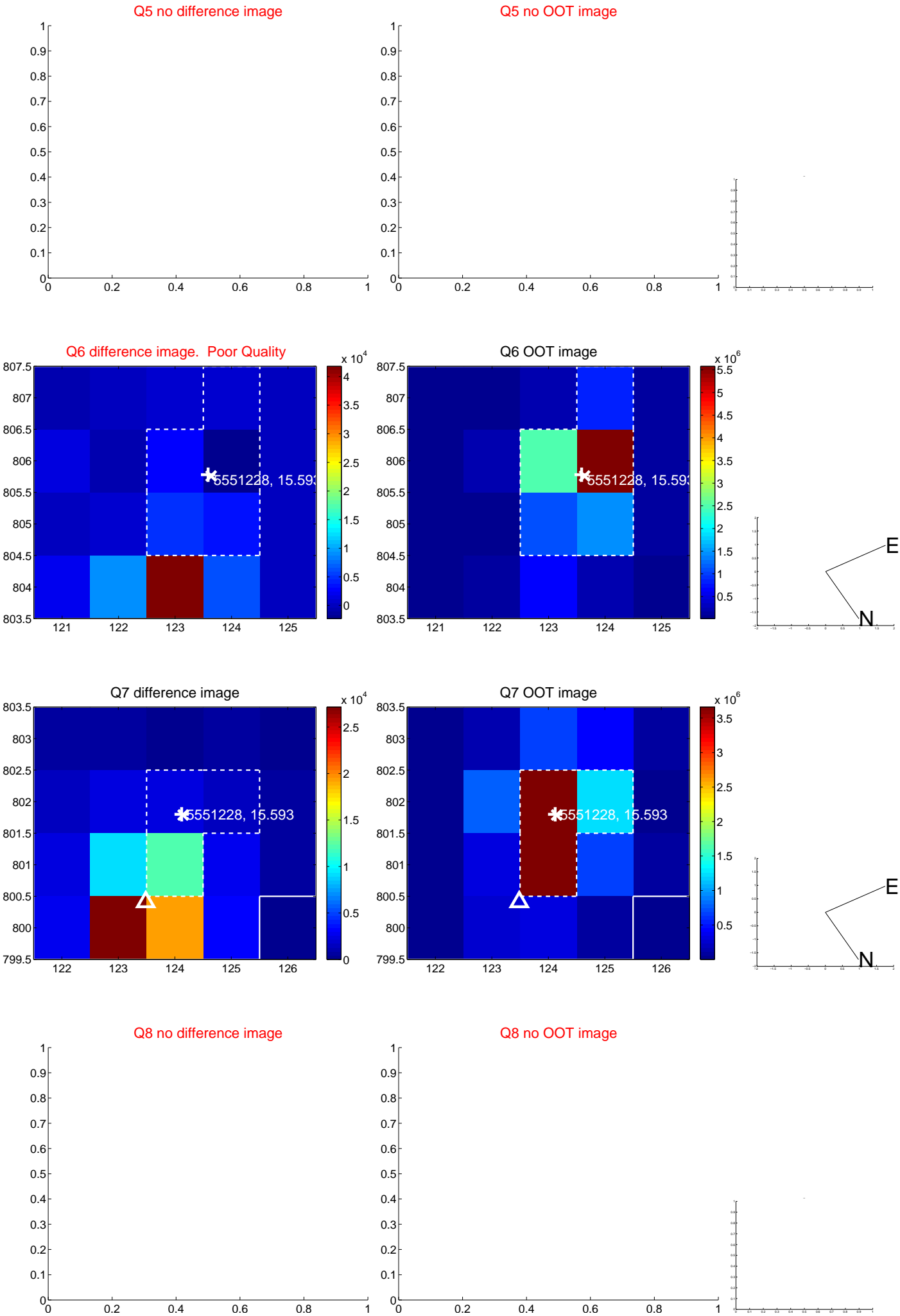


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

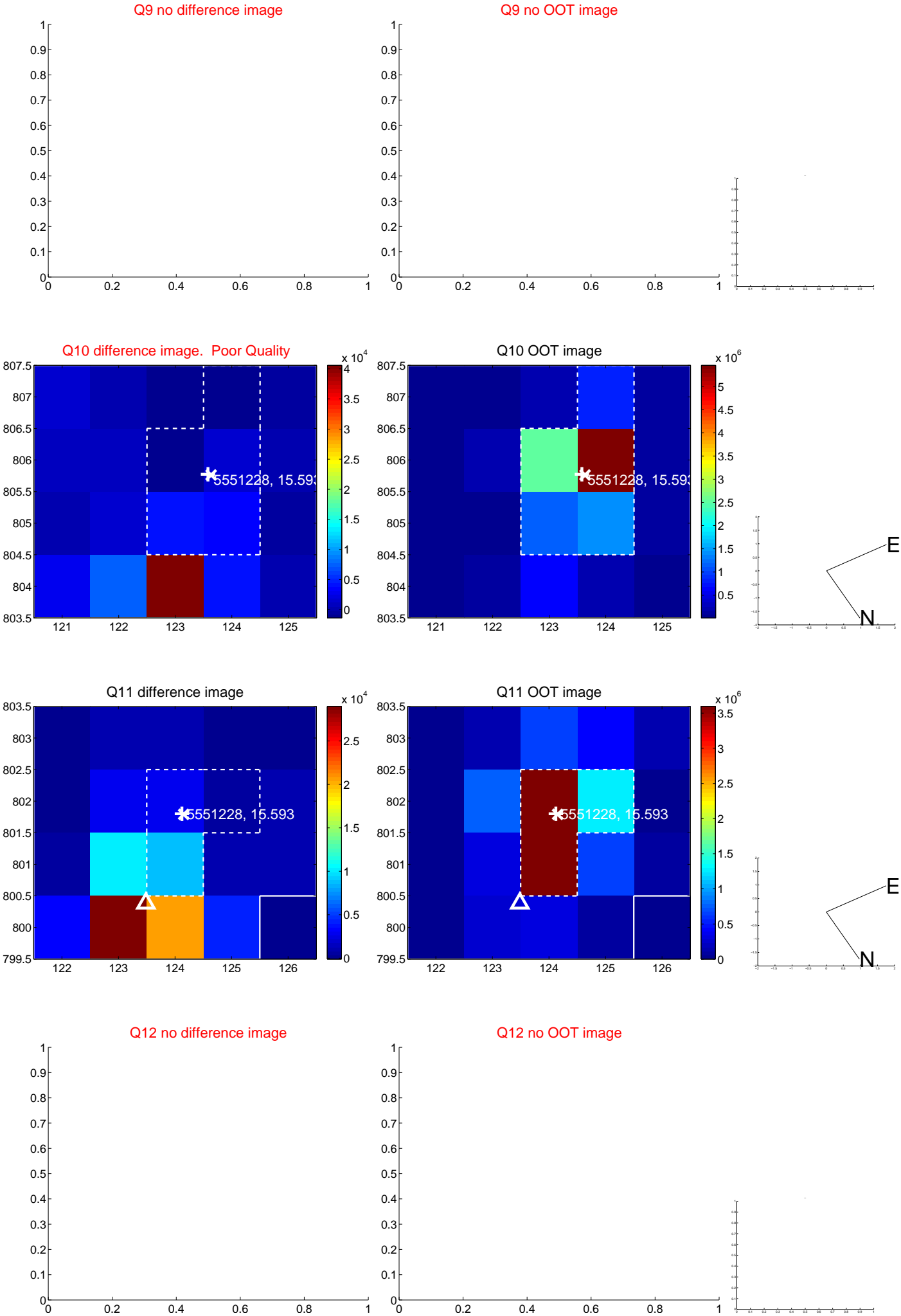
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



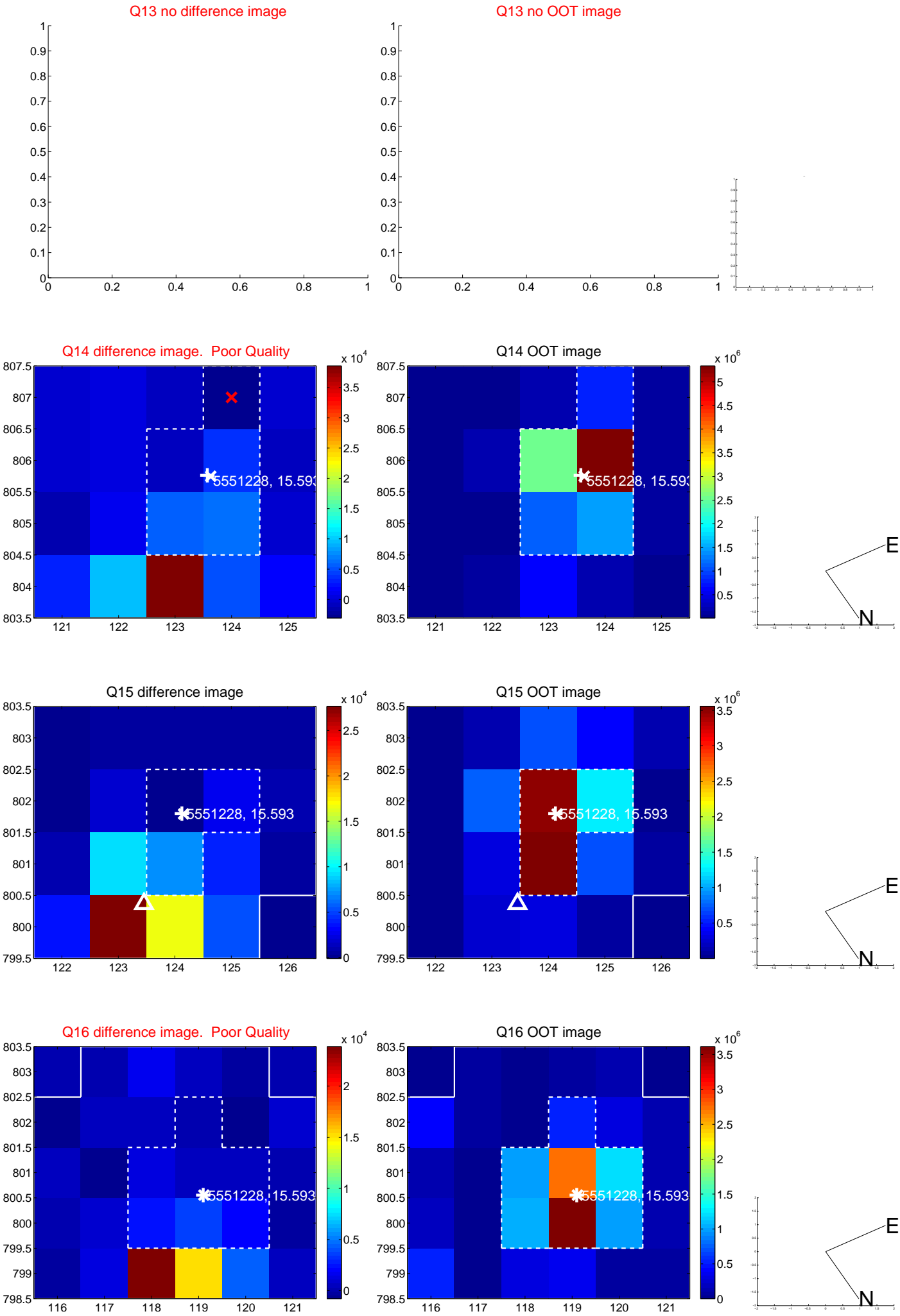
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



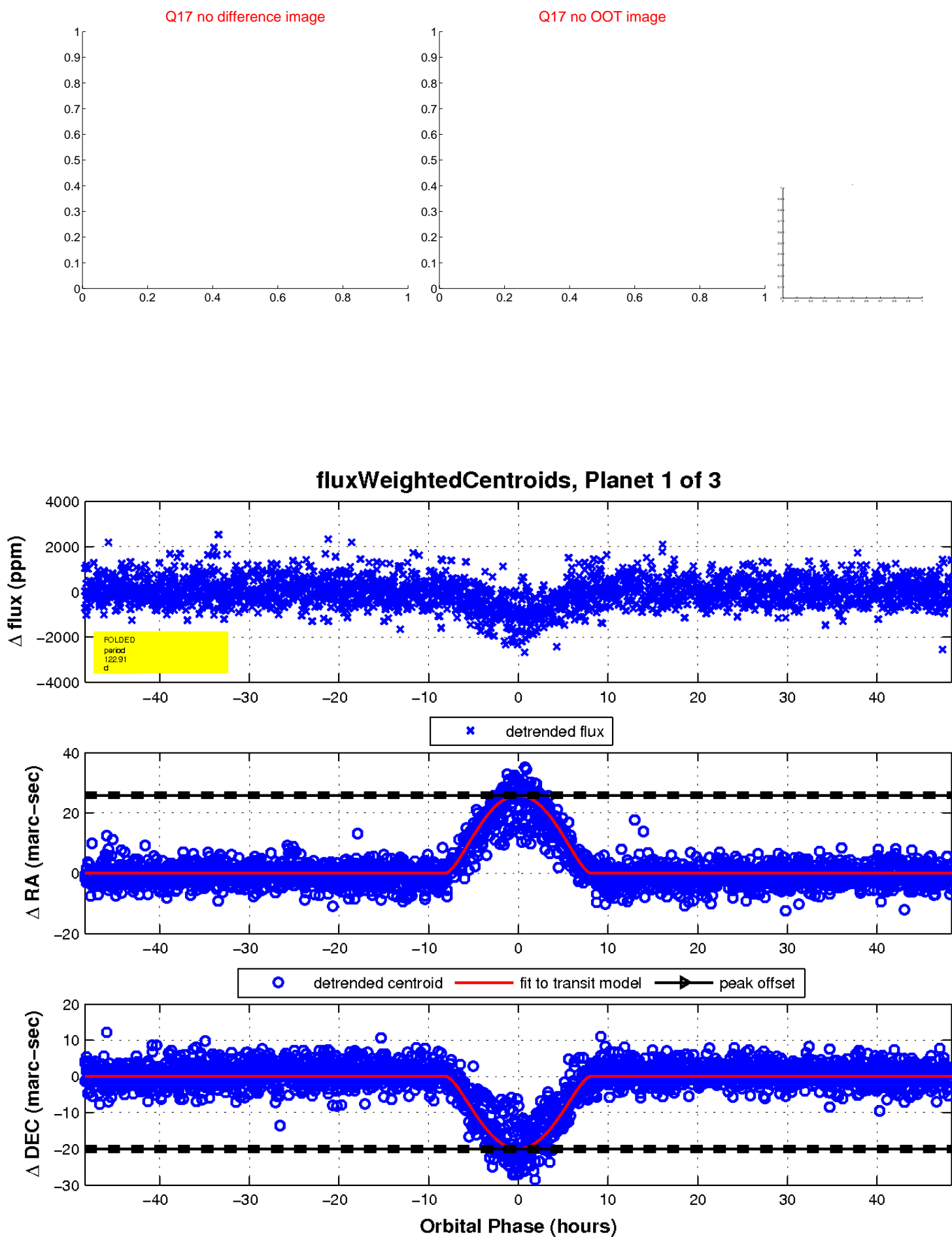
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



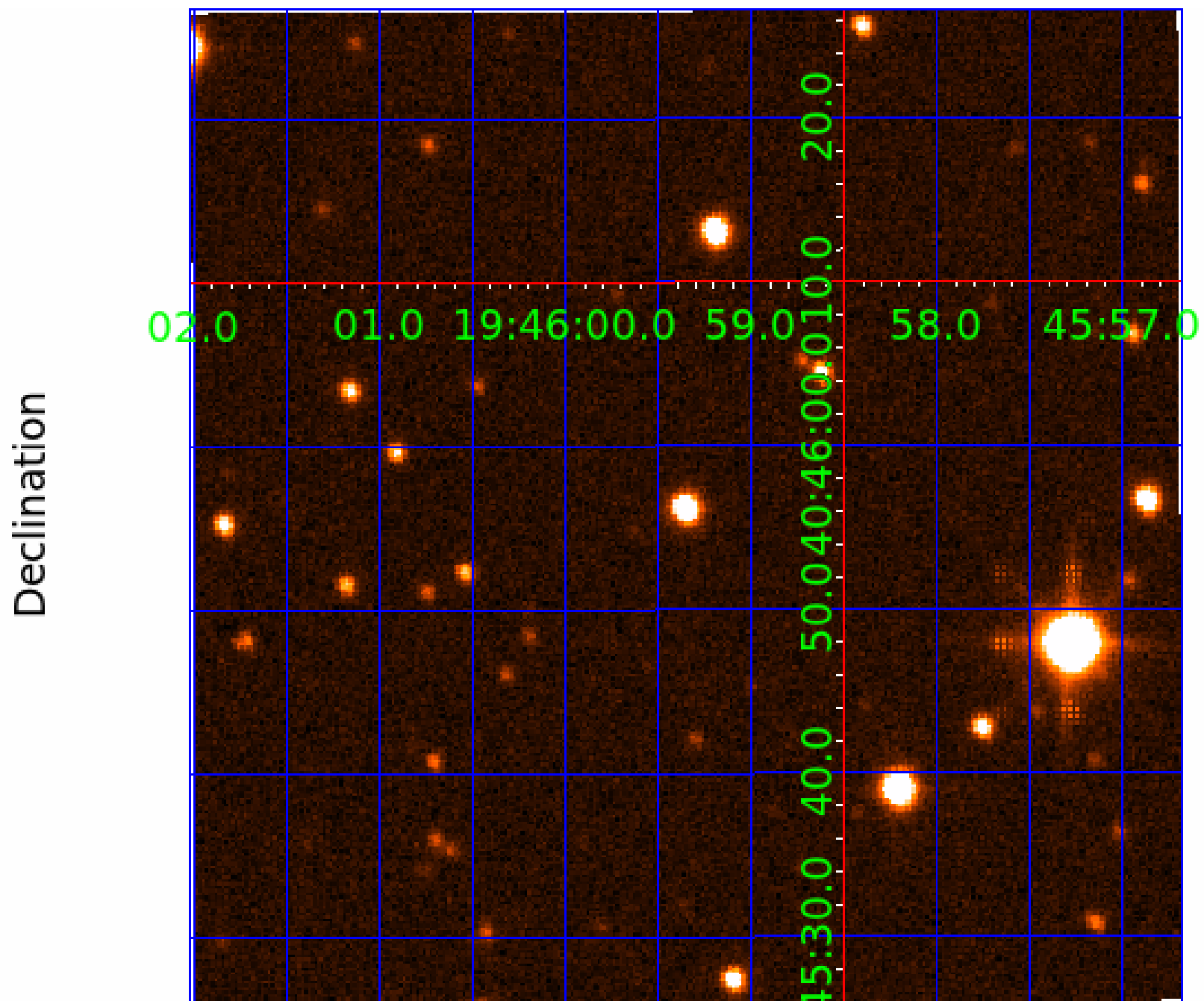
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 005551228

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})
005551228-01	OBS	4154.02	122.905792	195.924943	1011.3	16.124	21.0	21.3	0.87	5692	4.81	3.09
005551228-02	OBS	No	368.705746	369.222136	1061.2	15.982	9.7	10.8	0.87	5692	4.52	0.71
005551228-03	OBS	No	368.716241	246.254644	767.5	17.164	8.9	9.6	0.87	5692	4.72	0.71

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005551228-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
005551228-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_FEW_DIFFS—HALO_GHOST
005551228-03	OBS	FP	0.00	1	0	0	0	SAME_NTL_PERIOD—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.

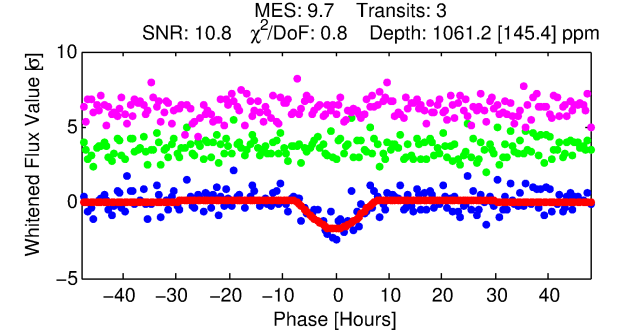
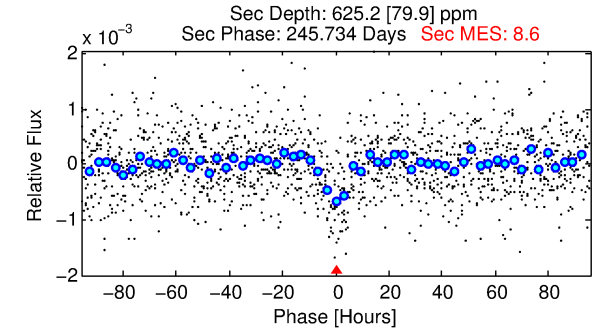
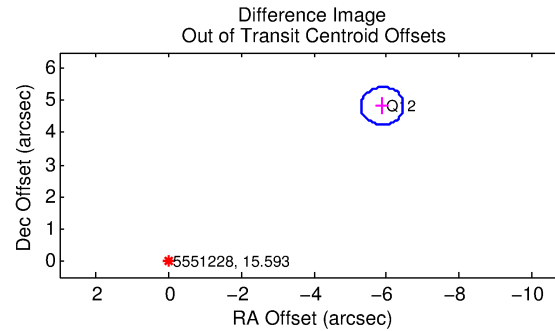
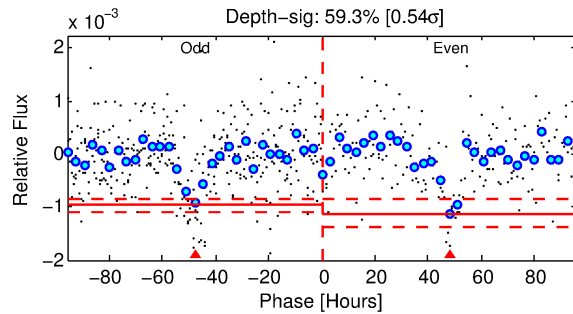
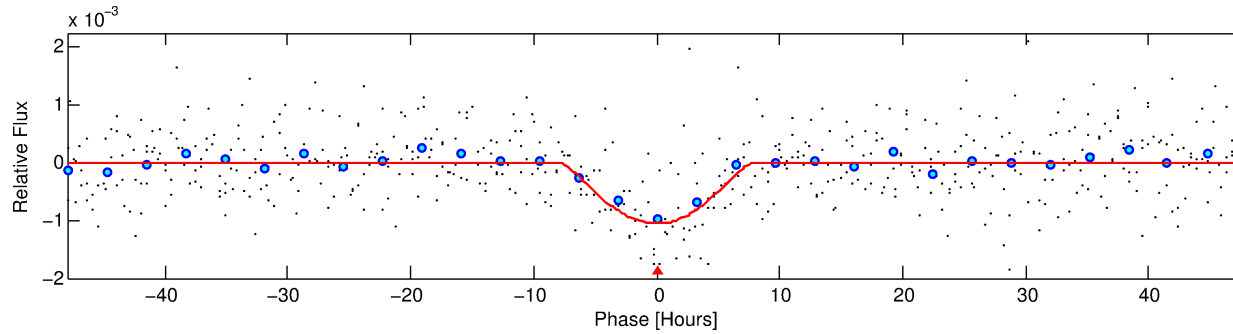
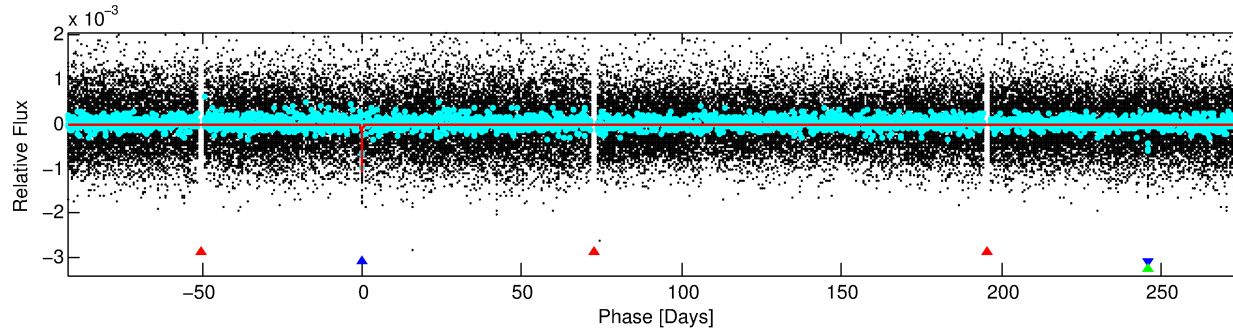
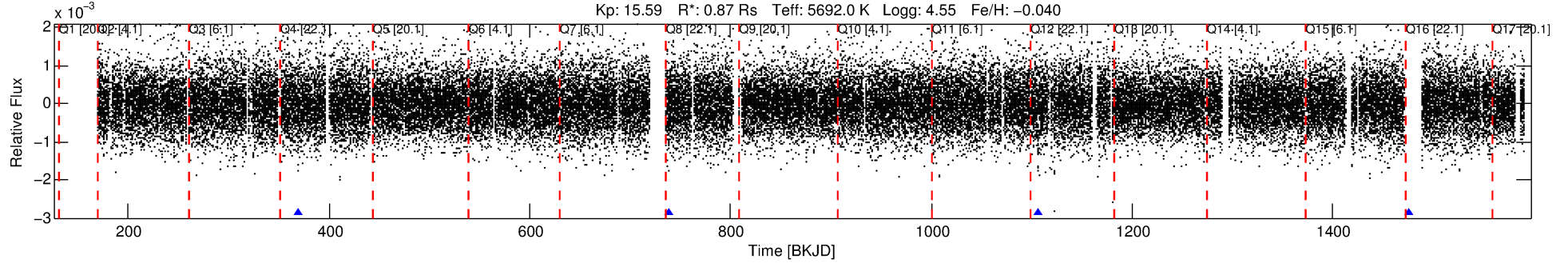
Ephemeris Match Information For 005551228-02

No Significant Match Found

DV One-Page Summary

KIC: 5551228 Candidate: 2 of 3 Period: 368.706 d
KOI: K04154 Corr: No Ephemeris Match

Kp: 15.59 R*: 0.87 Rs Teff: 5692.0 K Logg: 4.55 Fe/H: -0.040



DV Fit Results:

Period = 368.70575 [0.01915] d
Epoch = 369.2221 [0.0247] BKJD
Rp/R* = 0.0478 [0.0696]
a/R* = 63.99 [31.80]
b = 0.98 [0.13]
Seff = 0.71 [0.27]
Teq = 234 [22] K
Rp = 4.52 [6.70] Re
a = 0.9943 [0.2386] AU
Ag = 16675.76 [48975.05] [0.34σ]
Teff = 4118 [3005] K [1.29σ]

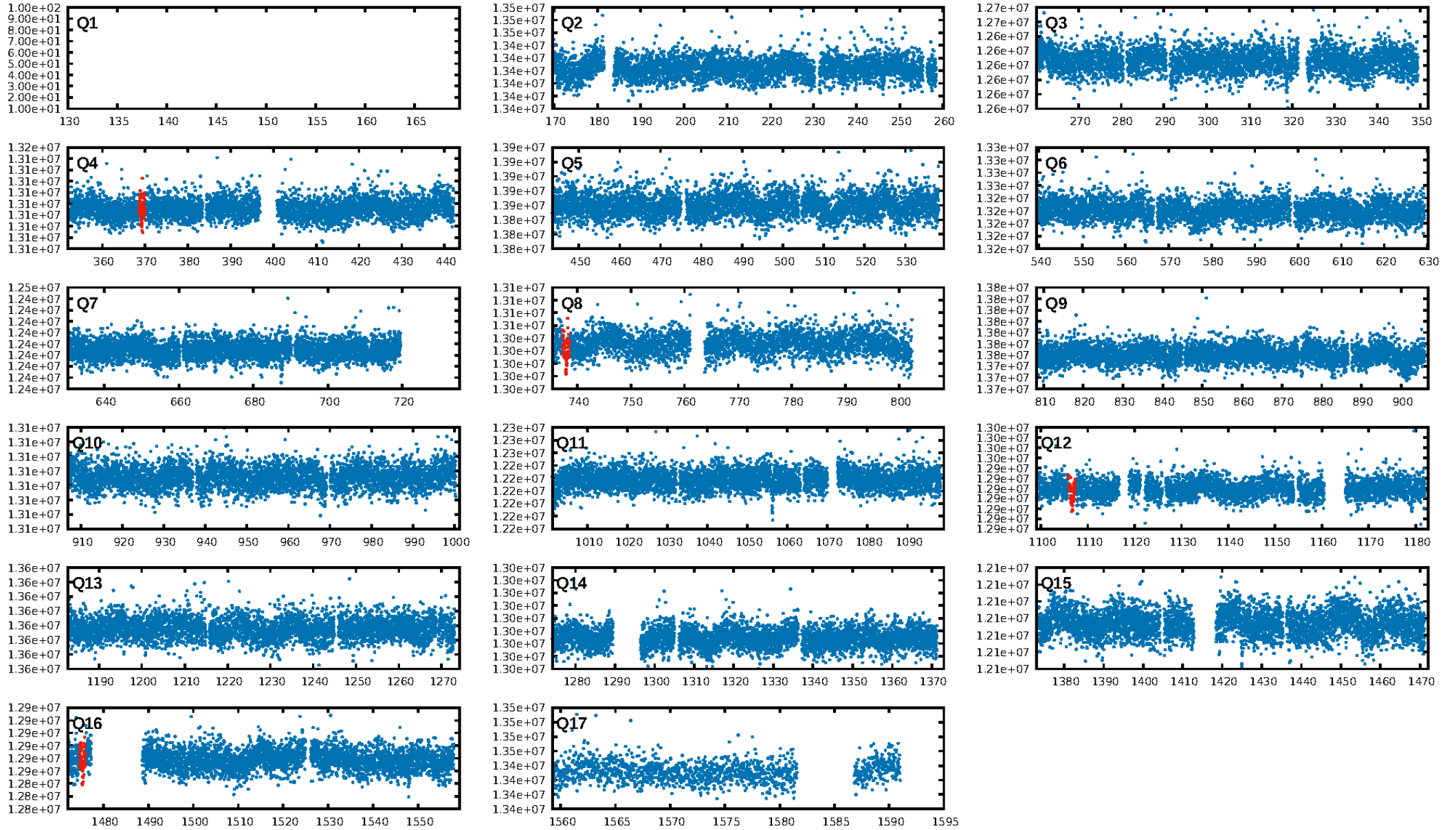
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [259.85σ]
LongPeriod-sig: 0.9% [0.01σ]
ModelChiSquare2-sig: 8.7%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 1.10e-16
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.2086
Centroid-sig: 0.0%
Centroid-so: 24.910 arcsec [14.64σ]
OotOffset-rm: 7.612 arcsec [38.96σ]
KicOffset-rm: 7.645 arcsec [39.24σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [3/3]

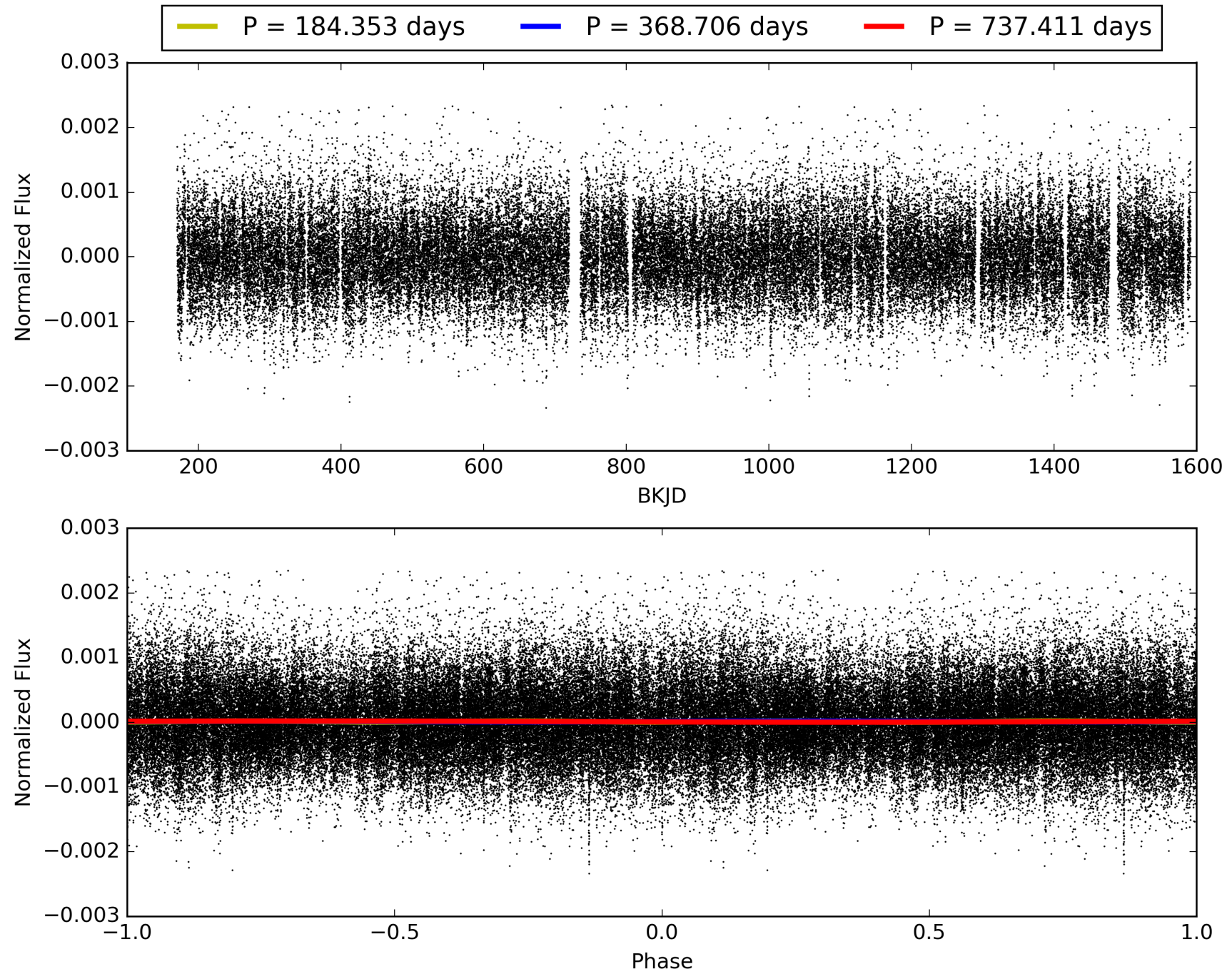
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 005551228-02, PDC Light Curves

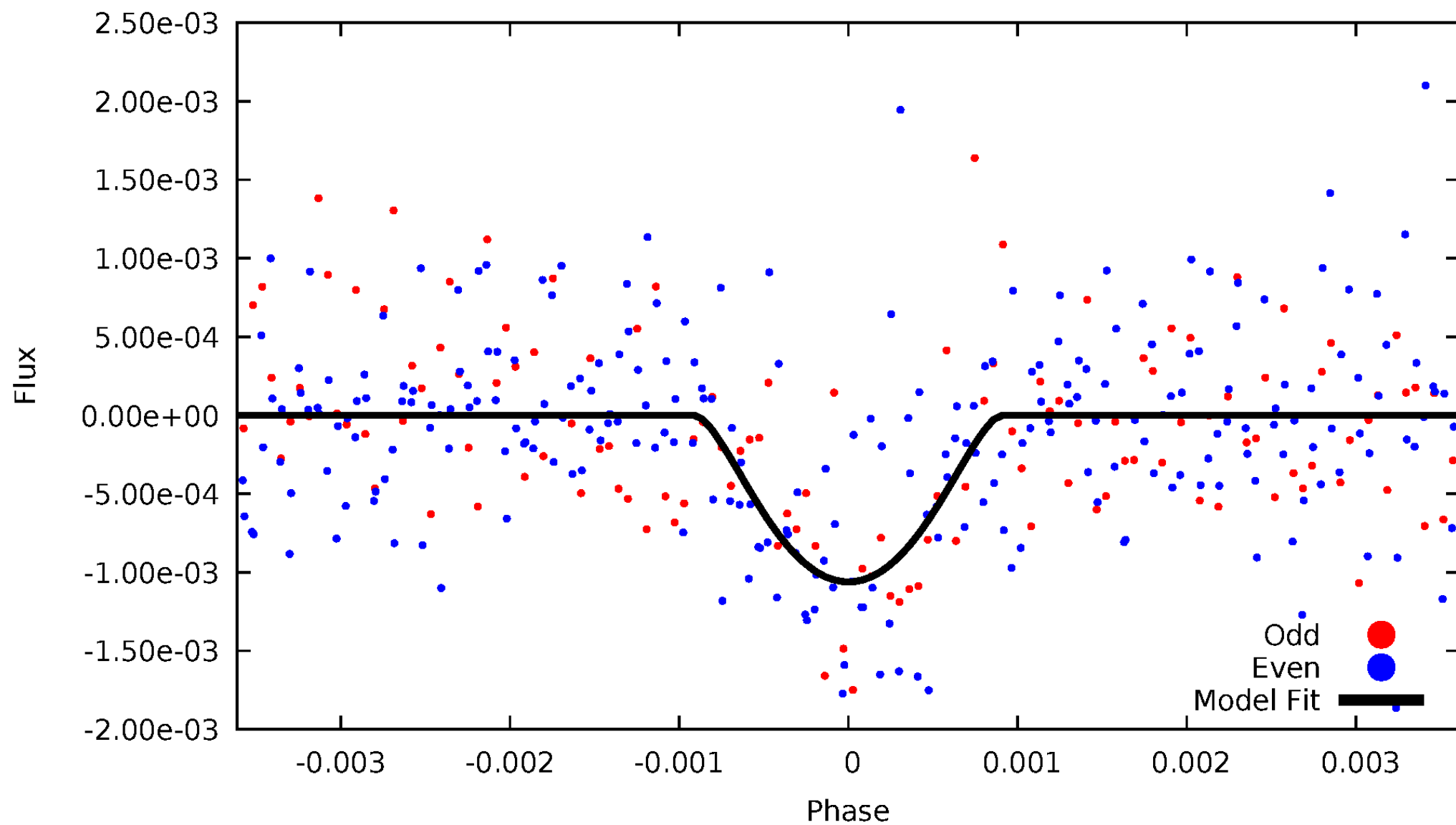


TCE 005551228-02



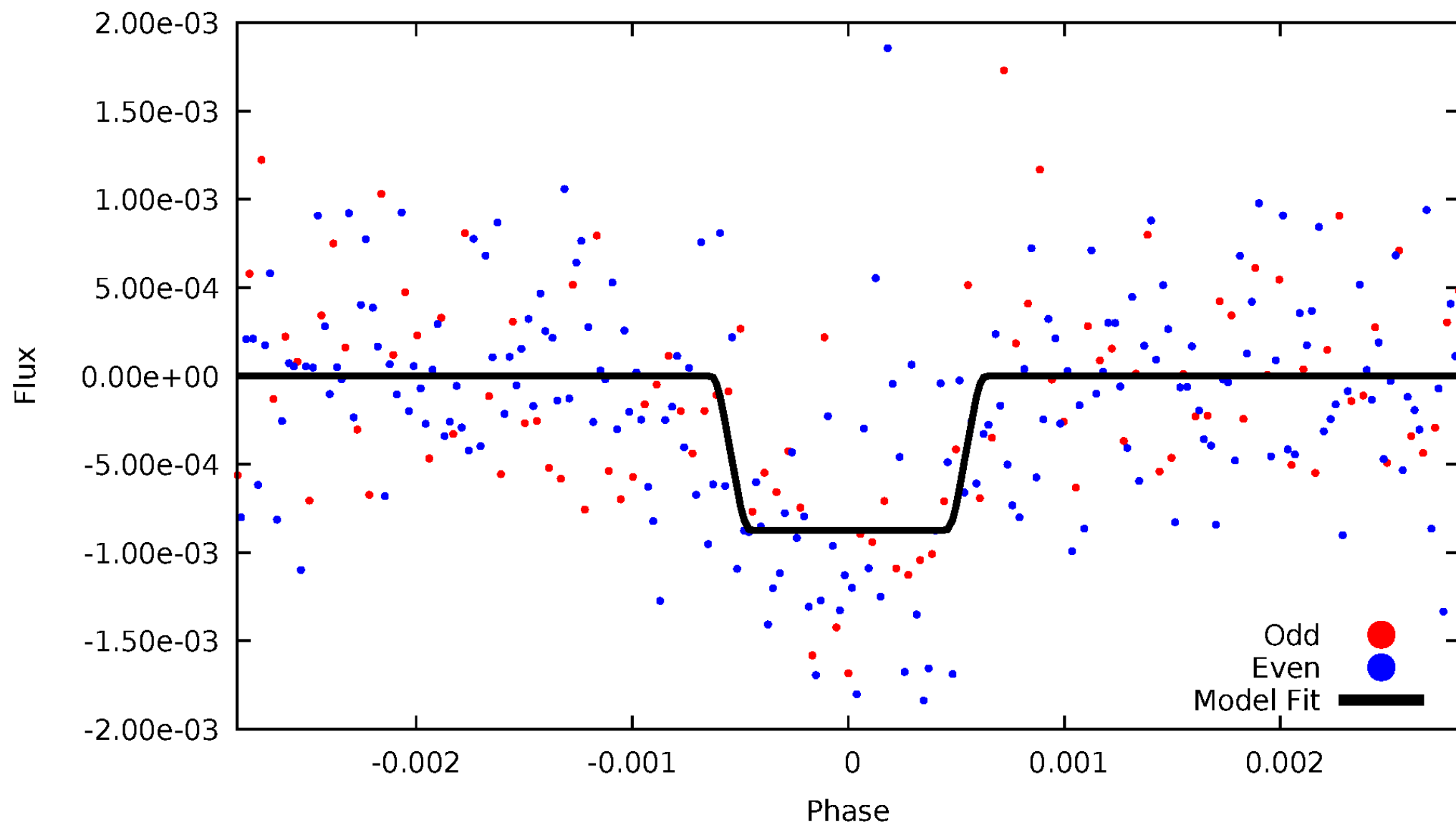
DV Odd/Even

TCE 005551228-02



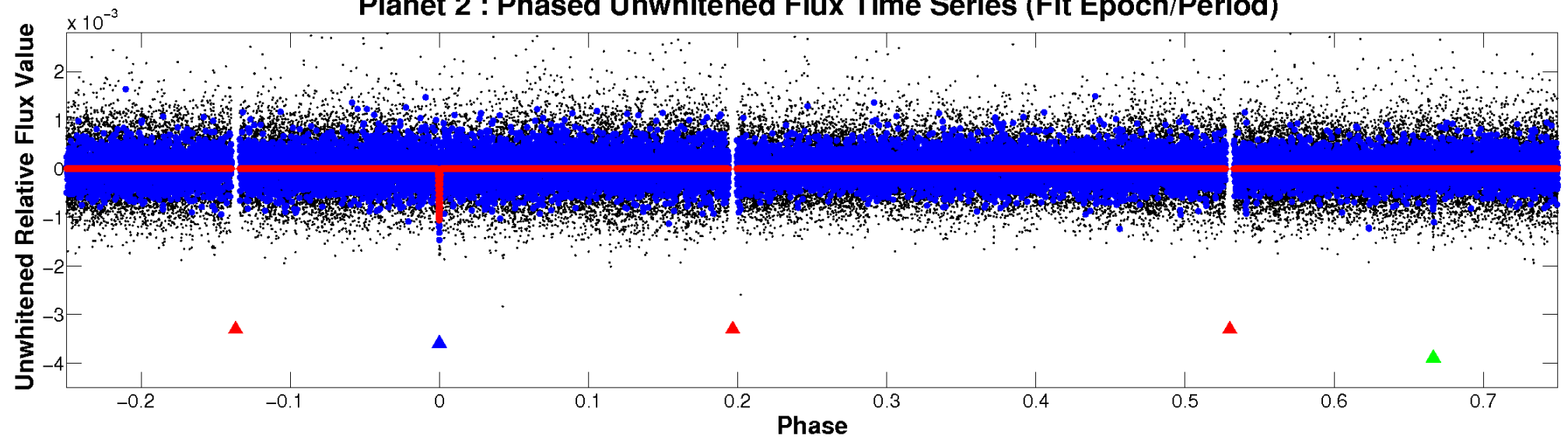
ALT Odd/Even

TCE 005551228-02

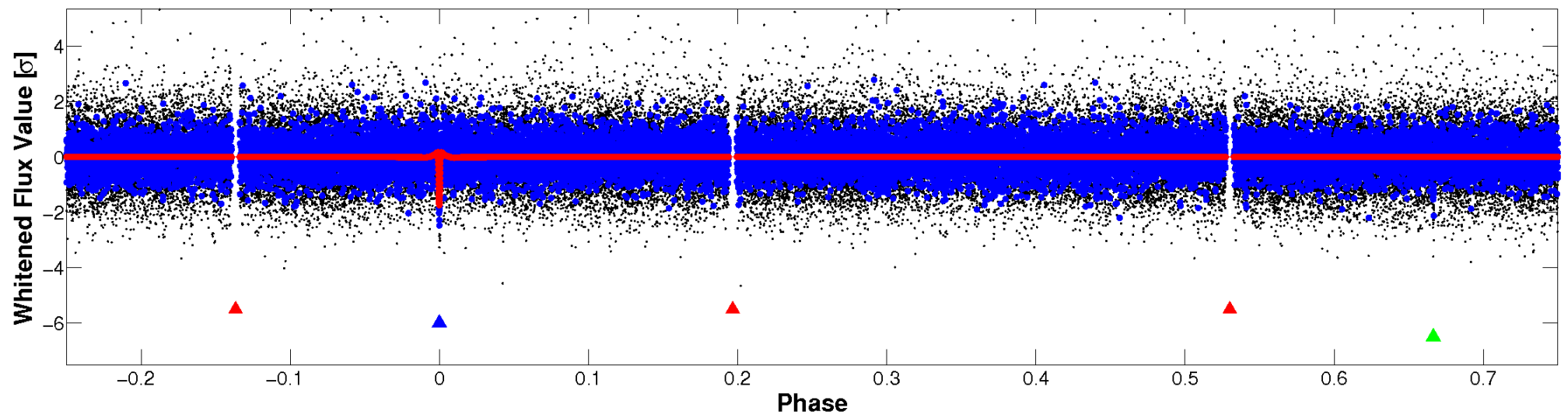


Non-Whitened Vs. Whitened Light Curve

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 005551228-02 P=368.705746 Days $T_0=369.222136$ (BKJD)



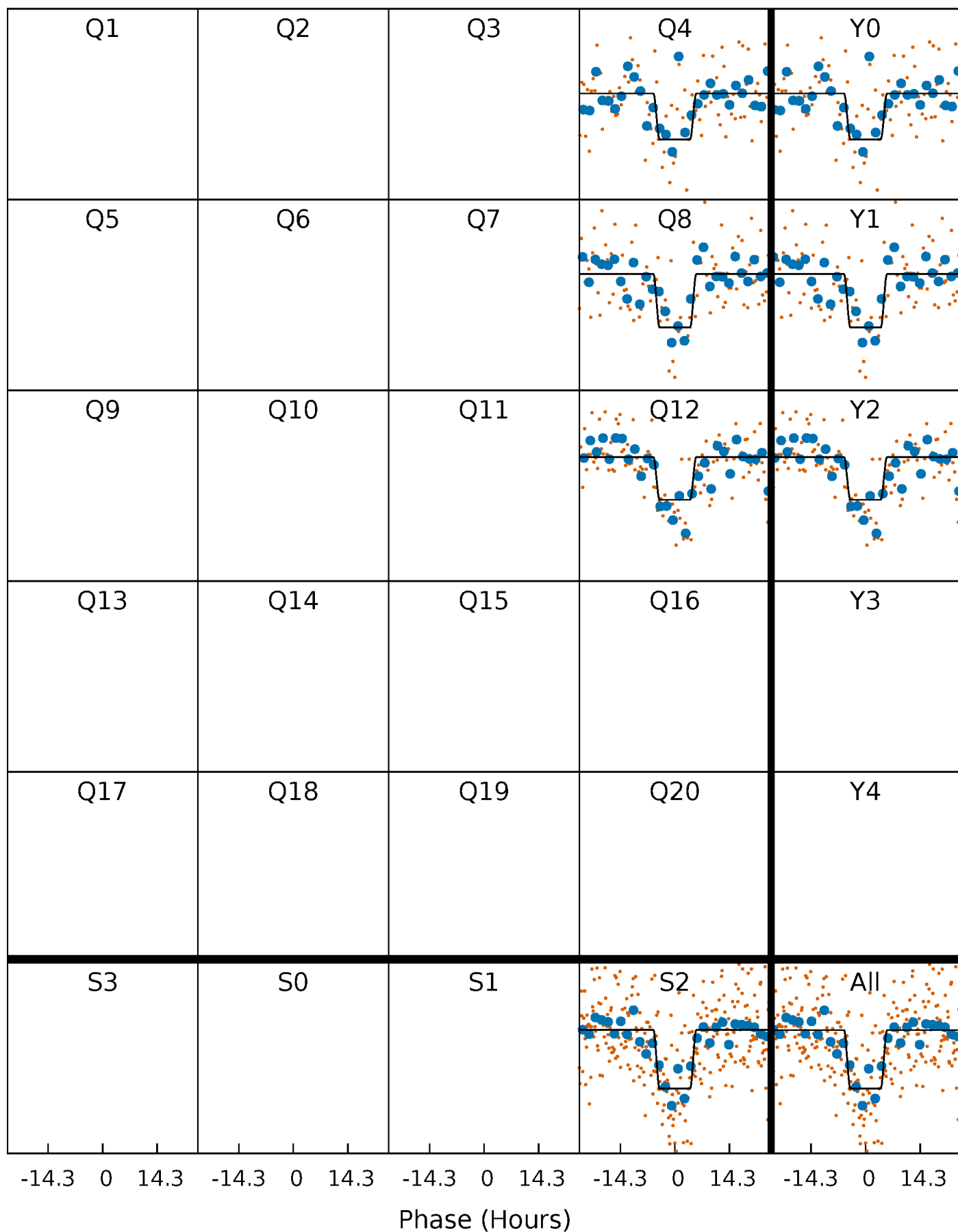
DV Quarter-Phased Transit Curves

TCE 005551228-02 $P=368.705746$ Days $T_0=369.222136$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

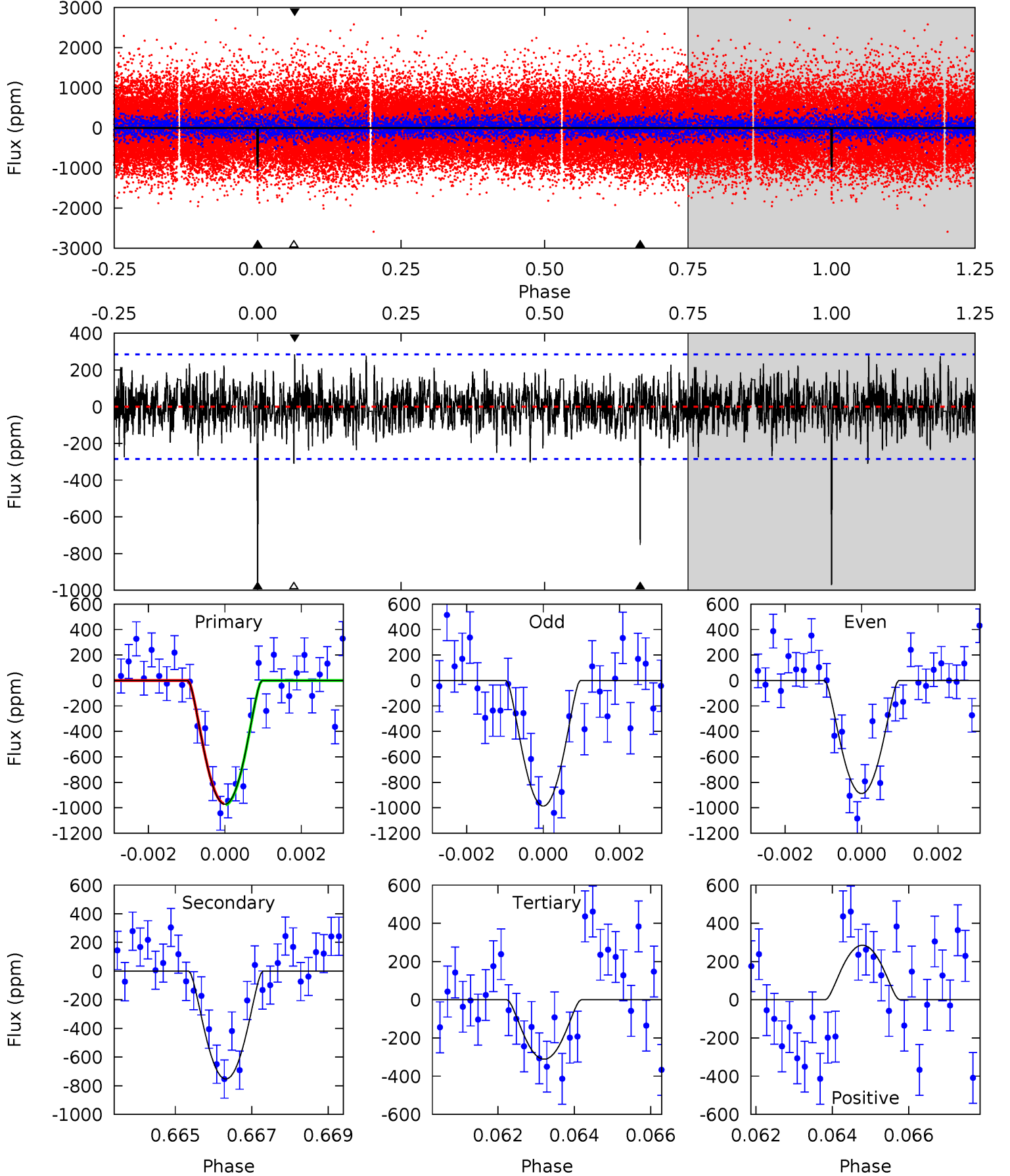
TCE 005551228-02 P=368.669101 Days $T_0=369.268737$ (BKJD)



DV Model-Shift Uniqueness Test

005551228-02, P = 368.705746 Days, E = 0.516390 Days

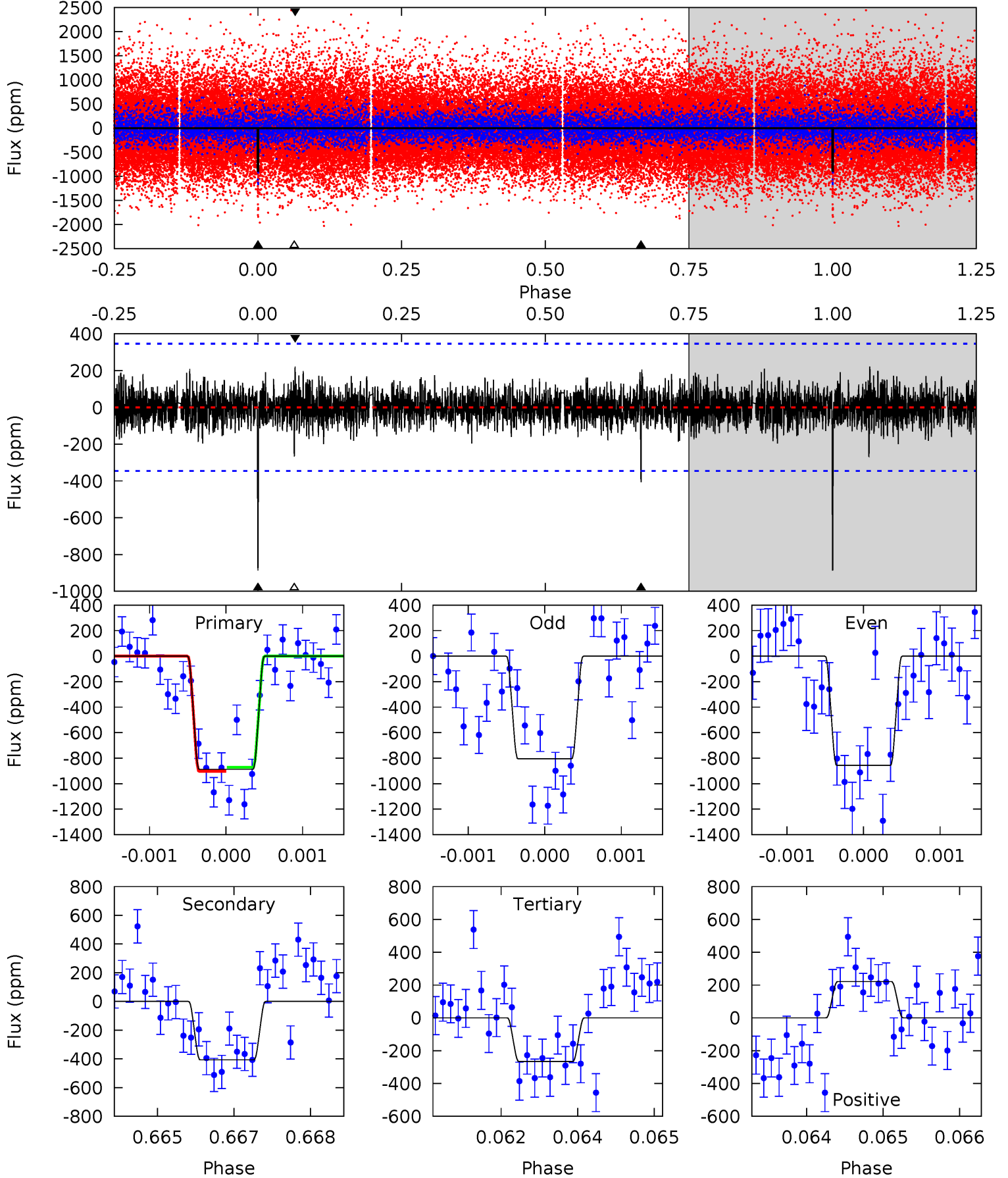
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.2	14.1	5.83	5.34	5.34	3.11	1.50	12.4	12.9	8.27	8.75	0.87	0.93	0.23	0.08



Alt Model-Shift Uniqueness Test

005551228-02, P = 368.669101 Days, E = 0.599636 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.9	6.36	4.16	3.46	5.41	3.22	0.94	9.71	10.4	2.19	2.89	0.38	1.04	0.20	0.25



Stellar Parameters For KIC 005551228

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5692^{+186}_{-169}	$4.547^{+0.036}_{-0.192}$	$-0.040^{+0.250}_{-0.300}$	$0.866^{+0.246}_{-0.082}$	$0.965^{+0.104}_{-0.115}$	$2.090^{+0.400}_{-1.054}$
	+3%/-3%	+1%/-4%	+625%/-750%	+28%/-9%	+11%/-12%	+19%/-50%
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 005551228-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-753 ± 53	$7.13^{+5.81}_{-4.53}$	337^{+22}_{-16}	3885^{+2001}_{-674}	7936^{+50944}_{-5597}
Alt.	-407 ± 64	$5.54^{+5.41}_{-3.78}$	337^{+22}_{-15}	3780^{+2325}_{-713}	7073^{+64469}_{-5349}

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 $A_{obs} \gg 1.0$

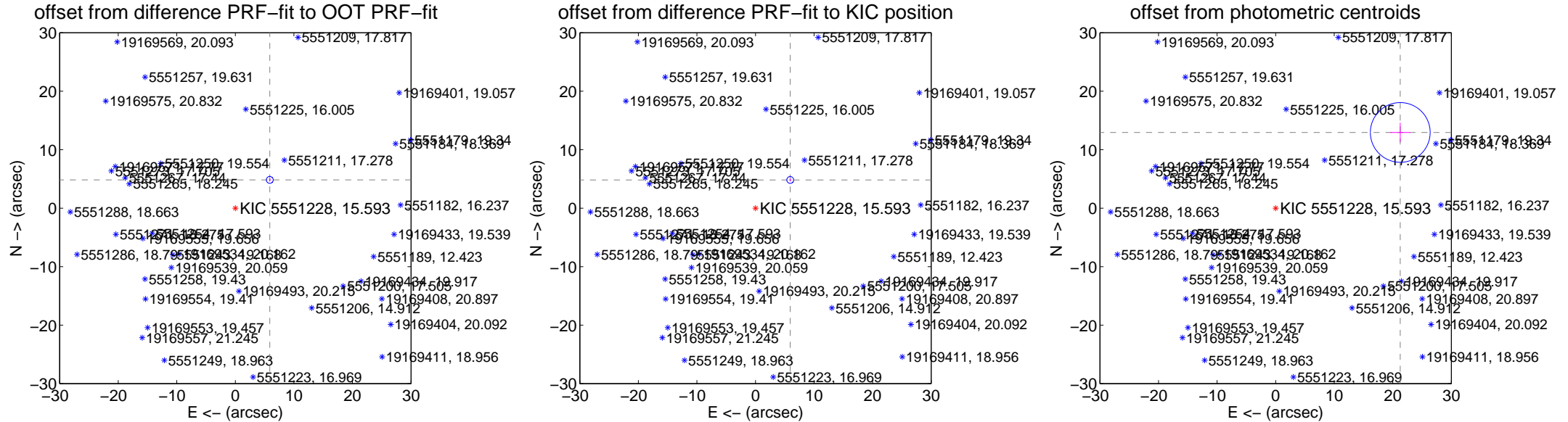
DV Centroid Data

Supplemental centroid analysis for 005551228-02. Kepler magnitude: 15.59. Transit SNR 10.82

There are 1 quarters with good PRF difference image offsets

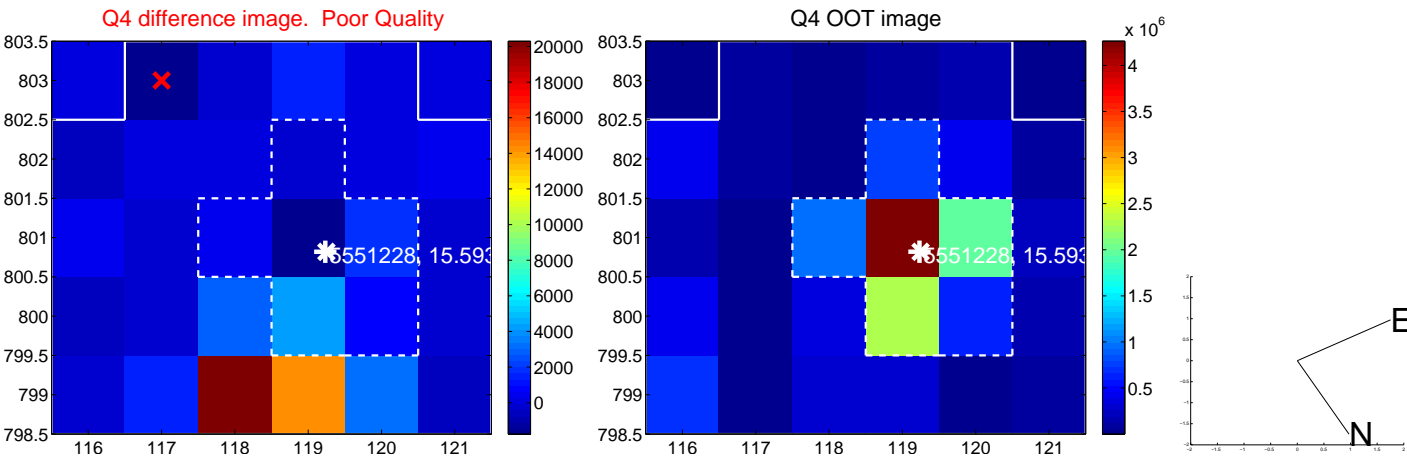
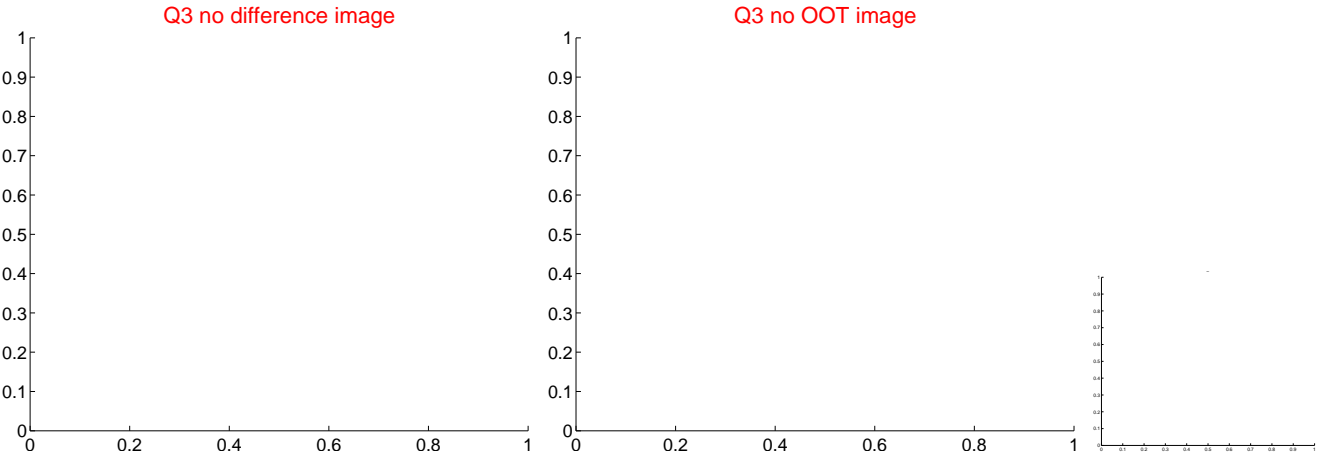
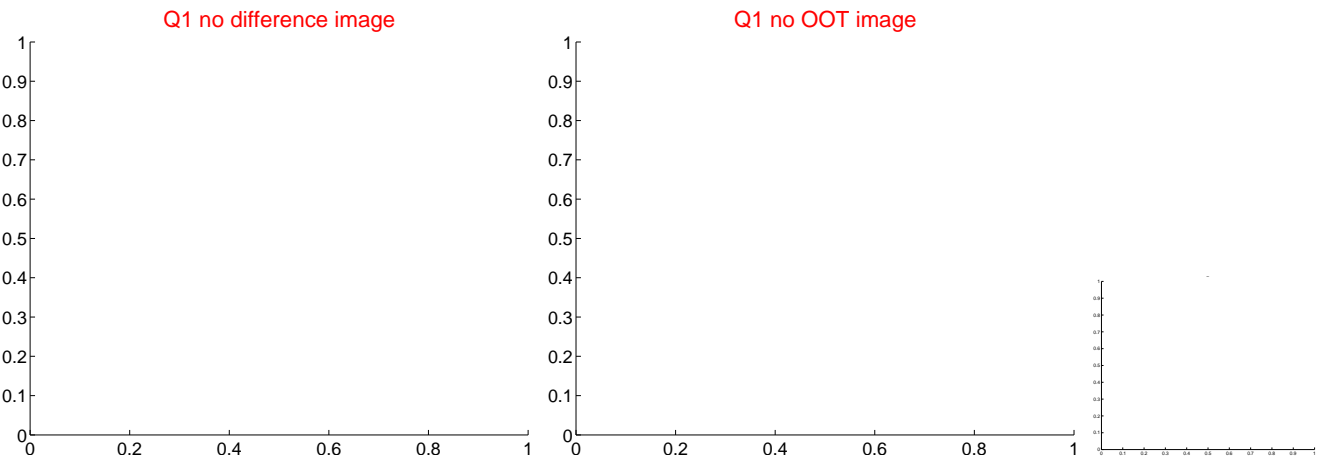
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.612 \pm 0.195	38.96	-5.882 \pm 0.140	4.833 \pm 0.257
PRF-fit source offset from KIC position	7.645 \pm 0.195	39.24	-5.931 \pm 0.140	4.824 \pm 0.257
photometric centroid source offset	24.91 \pm 1.70	14.64	-21.28 \pm 1.72	12.95 \pm 1.66

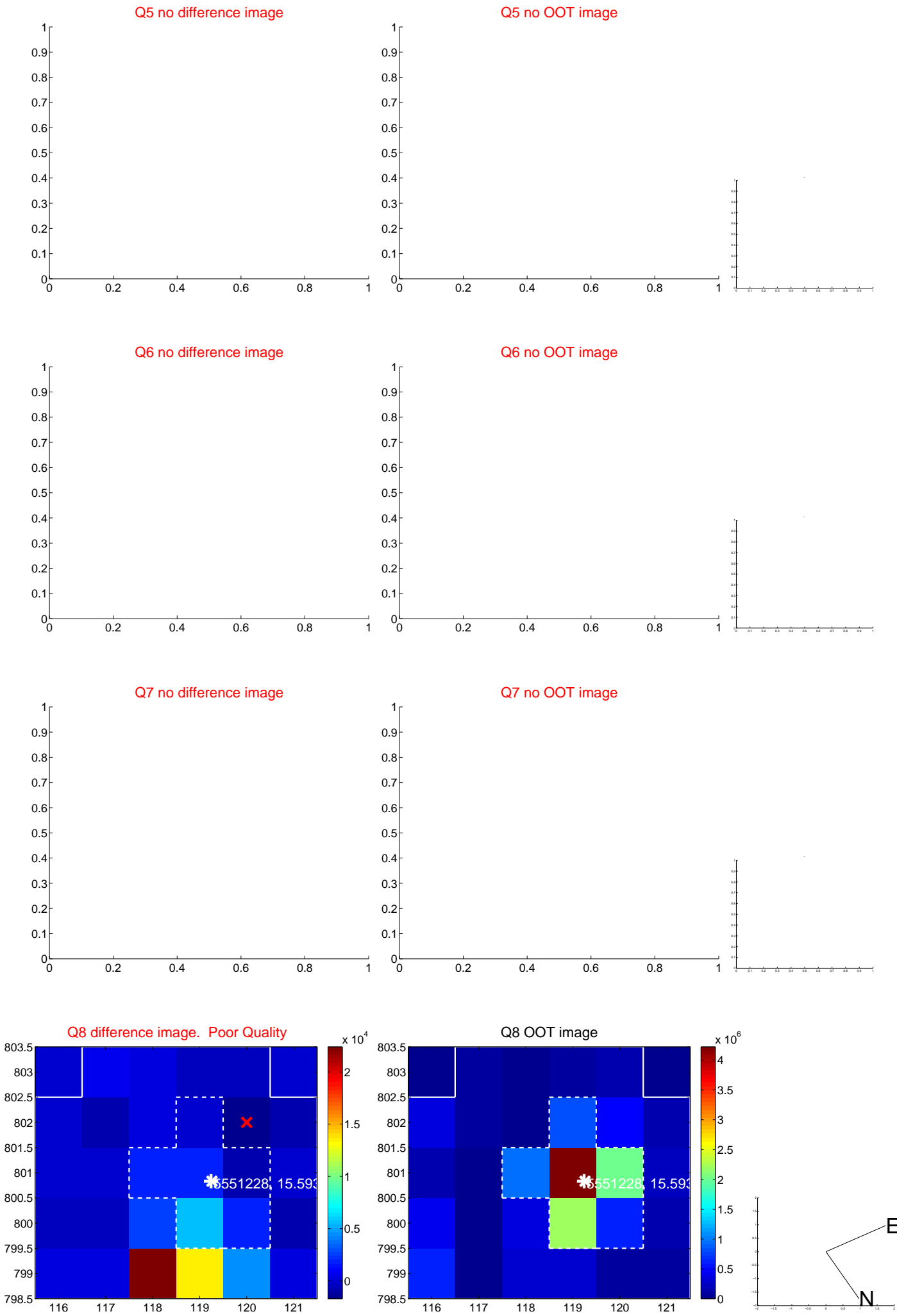


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

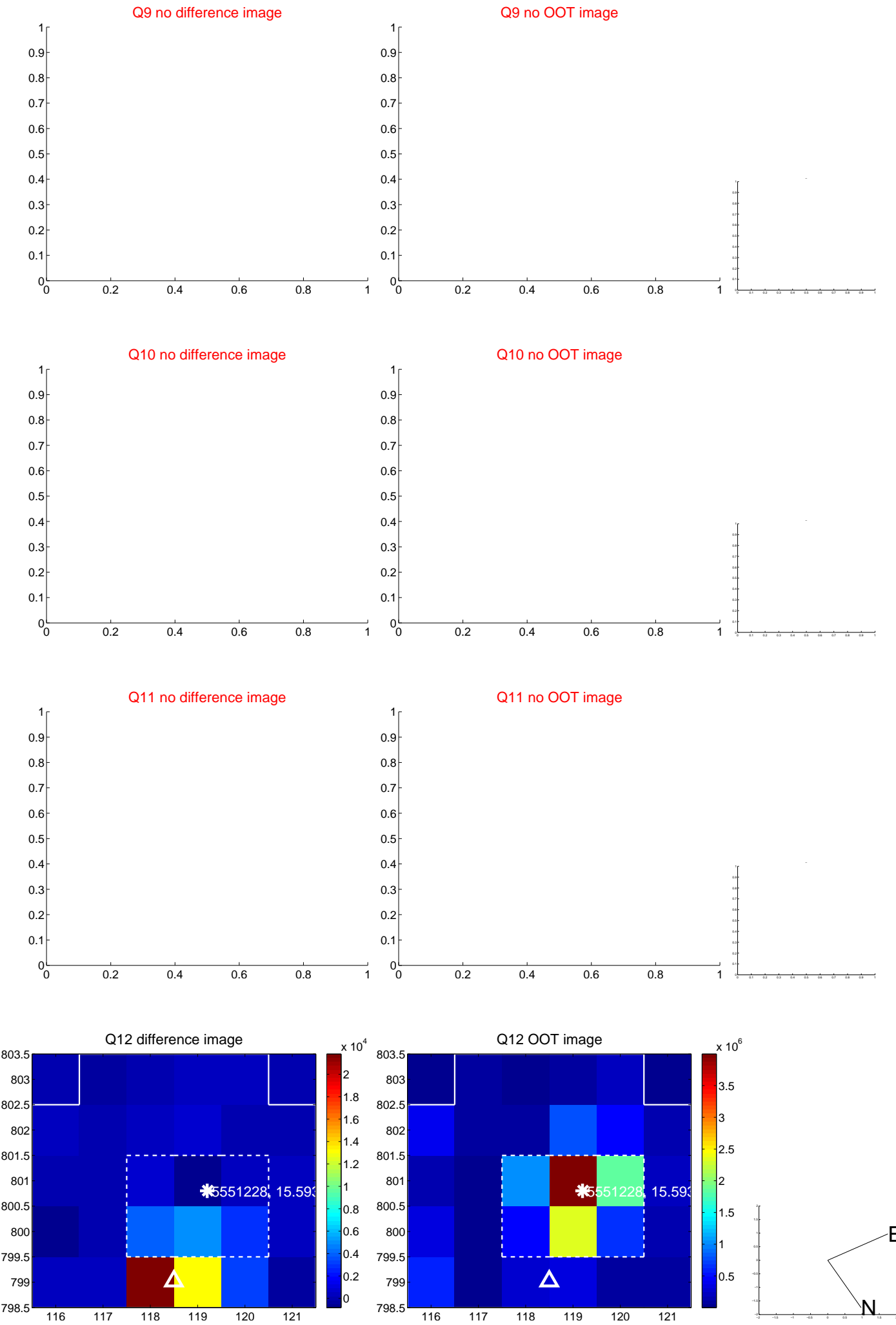
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



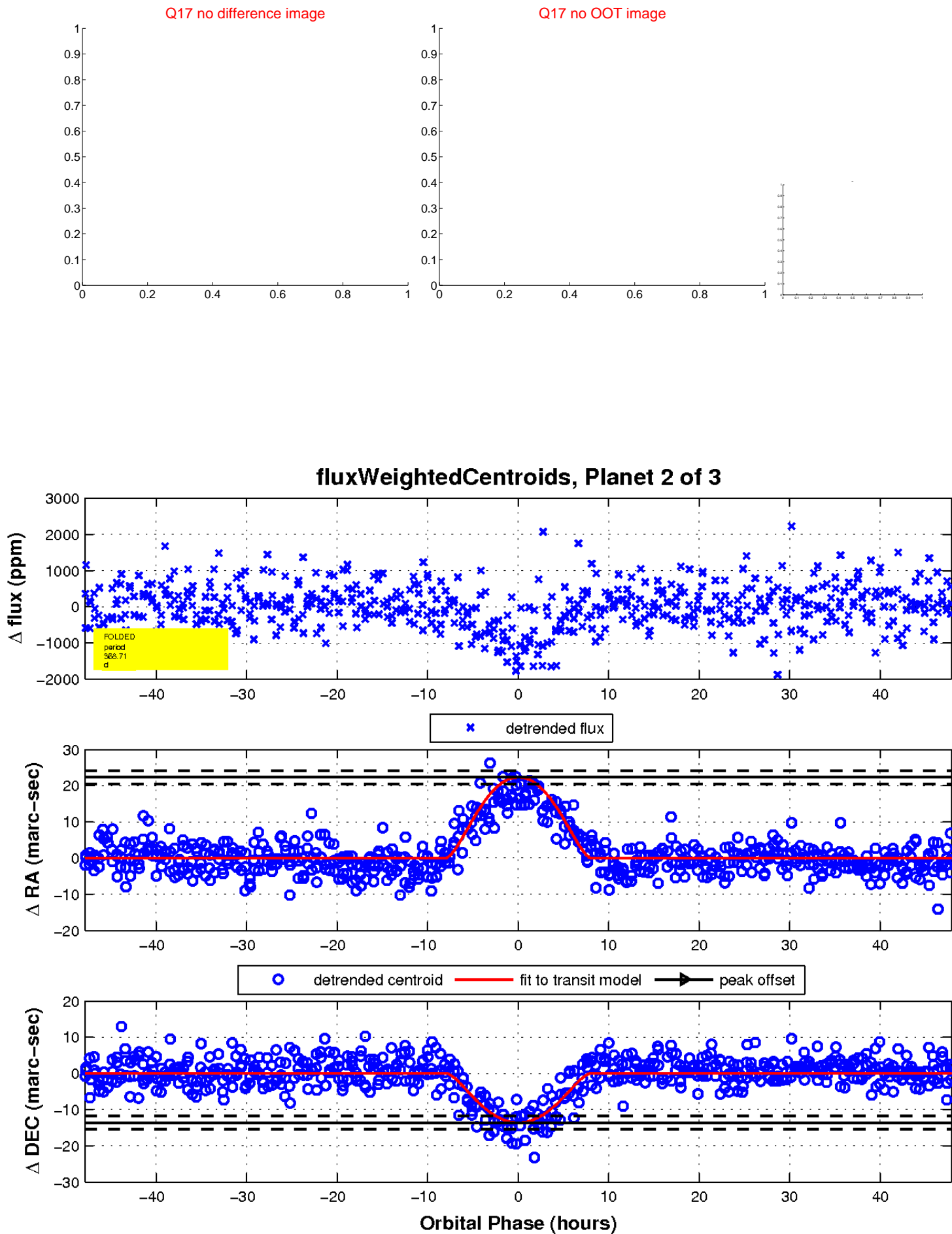
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



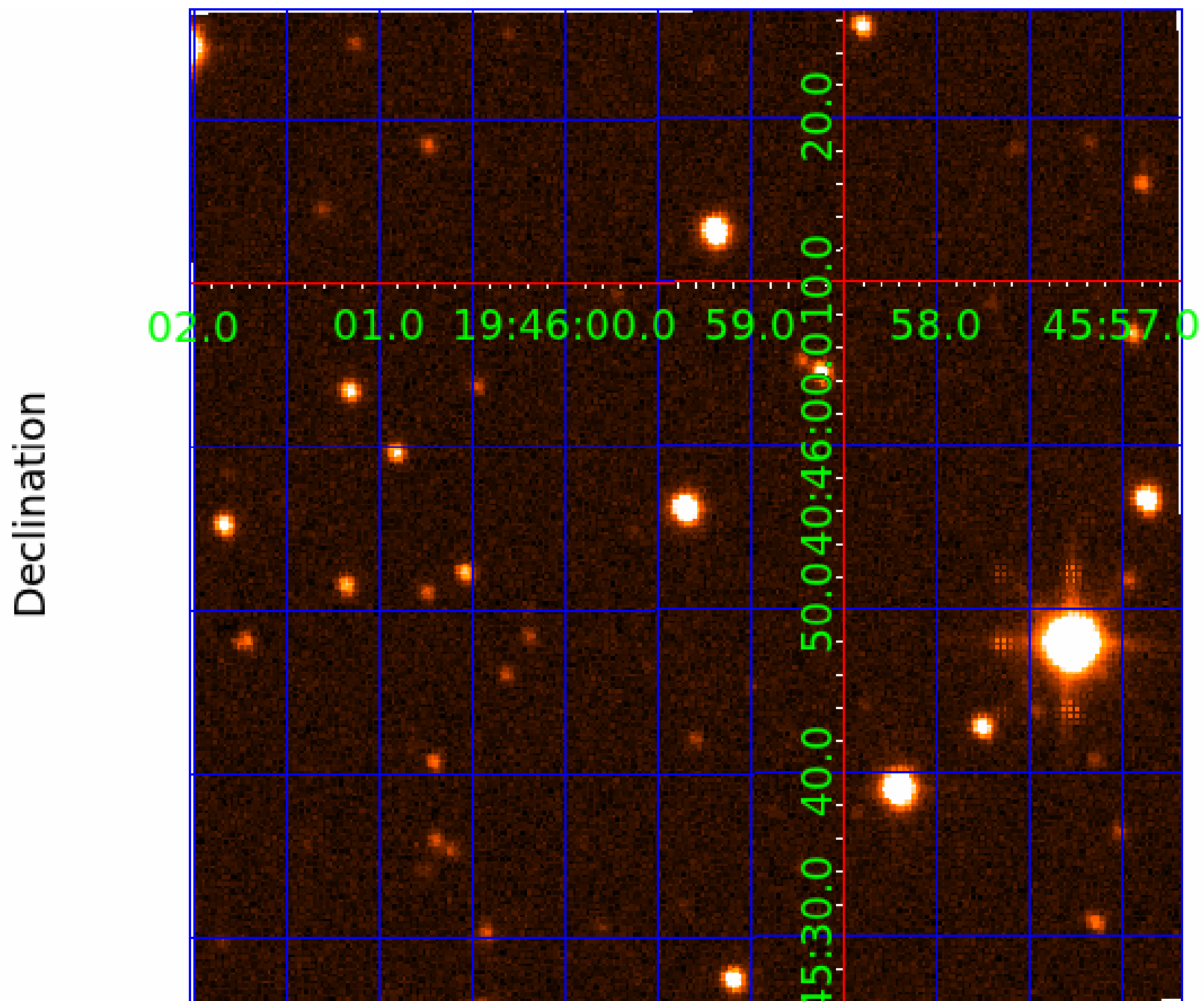
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 005551228

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})
005551228-01	OBS	4154.02	122.905792	195.924943	1011.3	16.124	21.0	21.3	0.87	5692	4.81	3.09
005551228-02	OBS	No	368.705746	369.222136	1061.2	15.982	9.7	10.8	0.87	5692	4.52	0.71
005551228-03	OBS	No	368.716241	246.254644	767.5	17.164	8.9	9.6	0.87	5692	4.72	0.71

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005551228-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
005551228-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_FEW_DIFFS—HALO_GHOST
005551228-03	OBS	FP	0.00	1	0	0	0	SAME_NTL_PERIOD—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 005551228-03

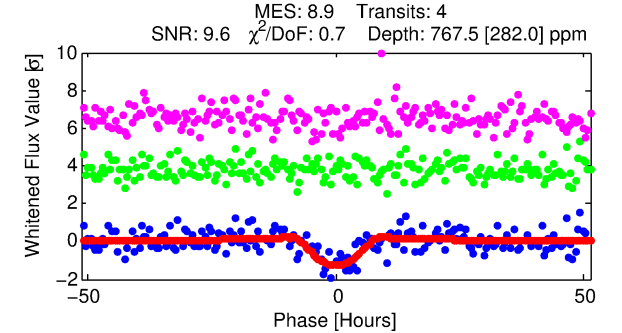
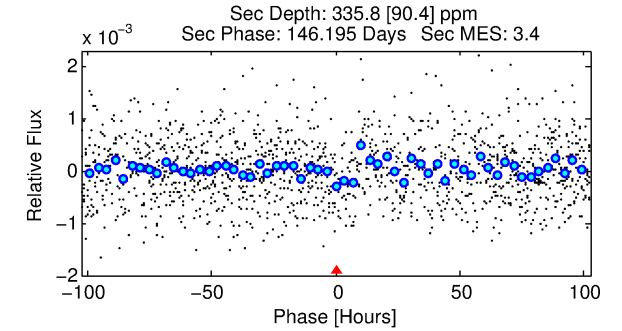
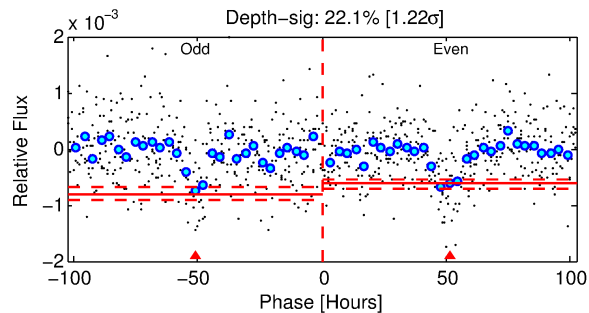
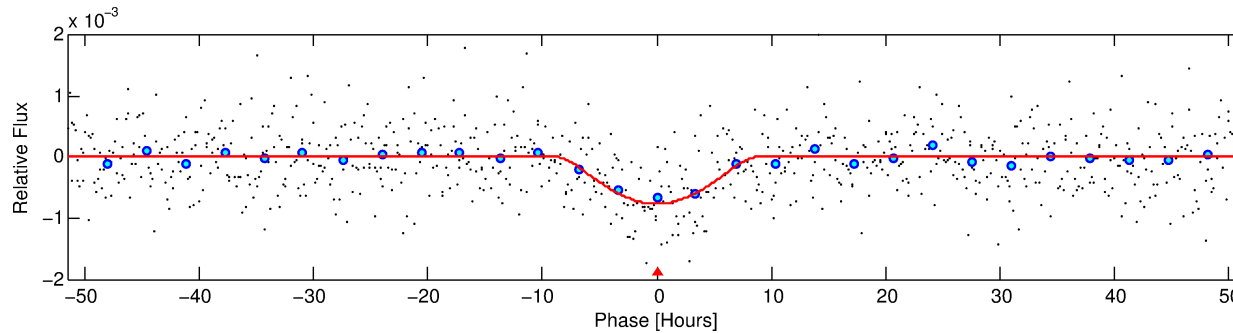
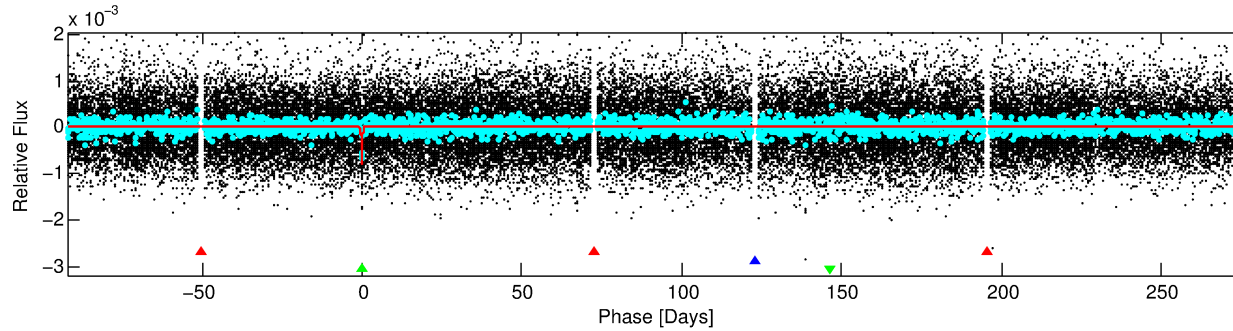
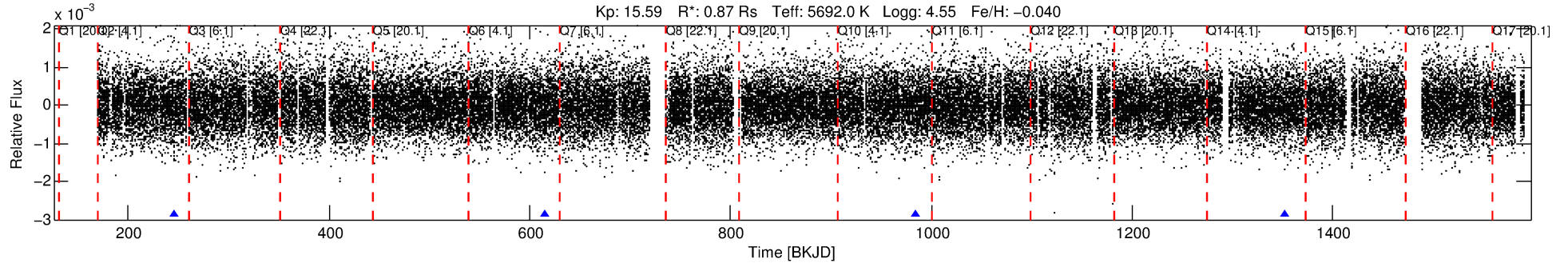
No Significant Match Found

DV One-Page Summary

KIC: 5551228 Candidate: 3 of 3 Period: 368.716 d

KOI: K04154 Corr: No Ephemeris Match

Kp: 15.59 R*: 0.87 Rs Teff: 5692.0 K Logg: 4.55 Fe/H: -0.040



DV Fit Results:

Period = 368.71624 [0.01651] d
Epoch = 246.2546 [0.0310] BKJD
Rp/R* = 0.0499 [0.1757]
a/R* = 52.69 [44.89]
b = 1.00 [0.26]
Seff = 0.71 [0.27]
Teq = 234 [22] K
Rp = 4.72 [16.66] Re
a = 0.9943 [0.2386] AU
Ag = 8199.37 [57819.87] [0.14σ]
Teffp = 3448 [6072] K [0.53σ]

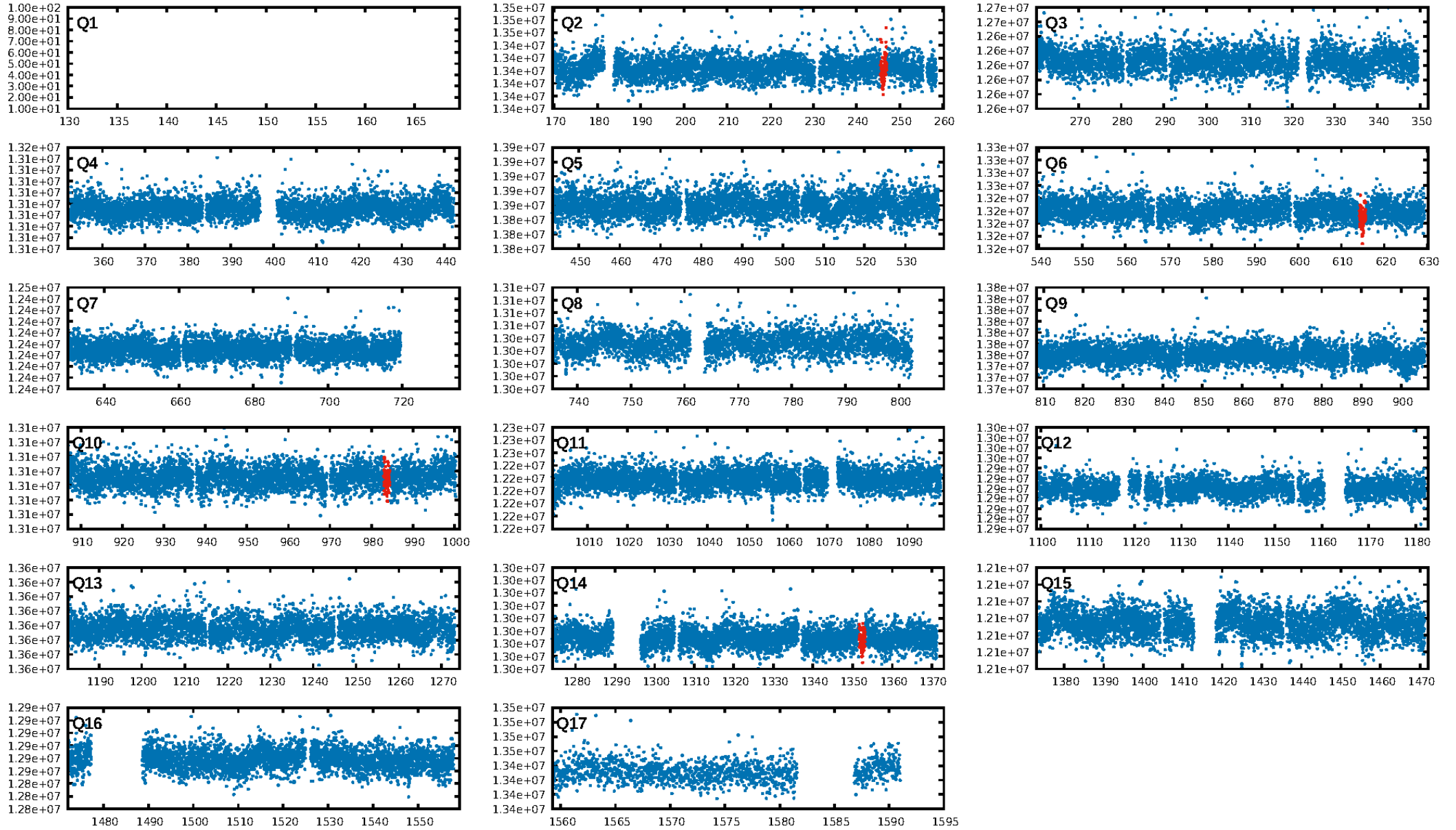
DV Diagnostic Results:

ShortPeriod-sig: 0.9% [0.01σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 67.7%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 1.93e-15
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.4074
Centroid-sig: 0.0%
Centroid-so: 46.233 arcsec [26.23σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [3/3]

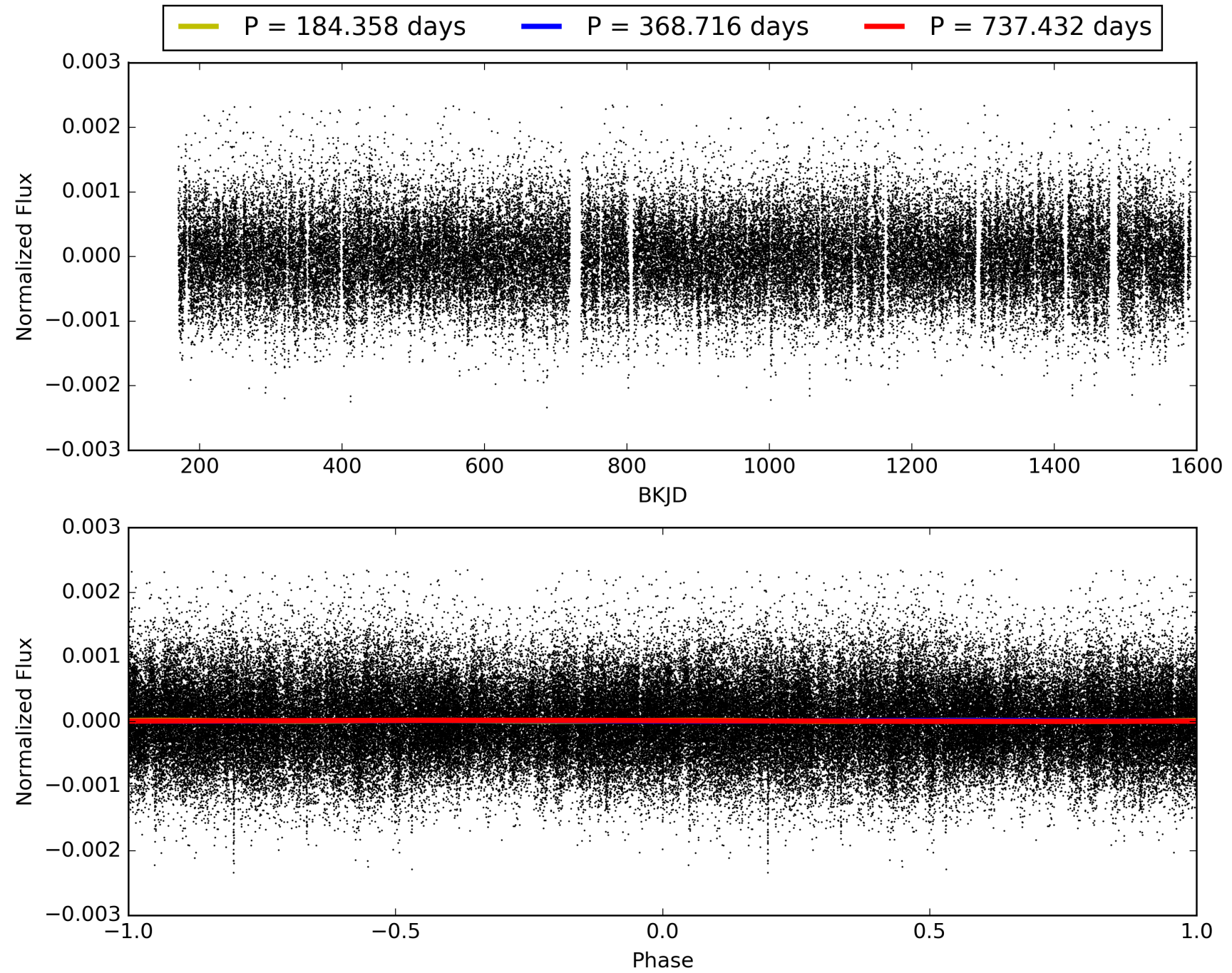
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:27:23 Z

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

TCE 005551228-03, PDC Light Curves

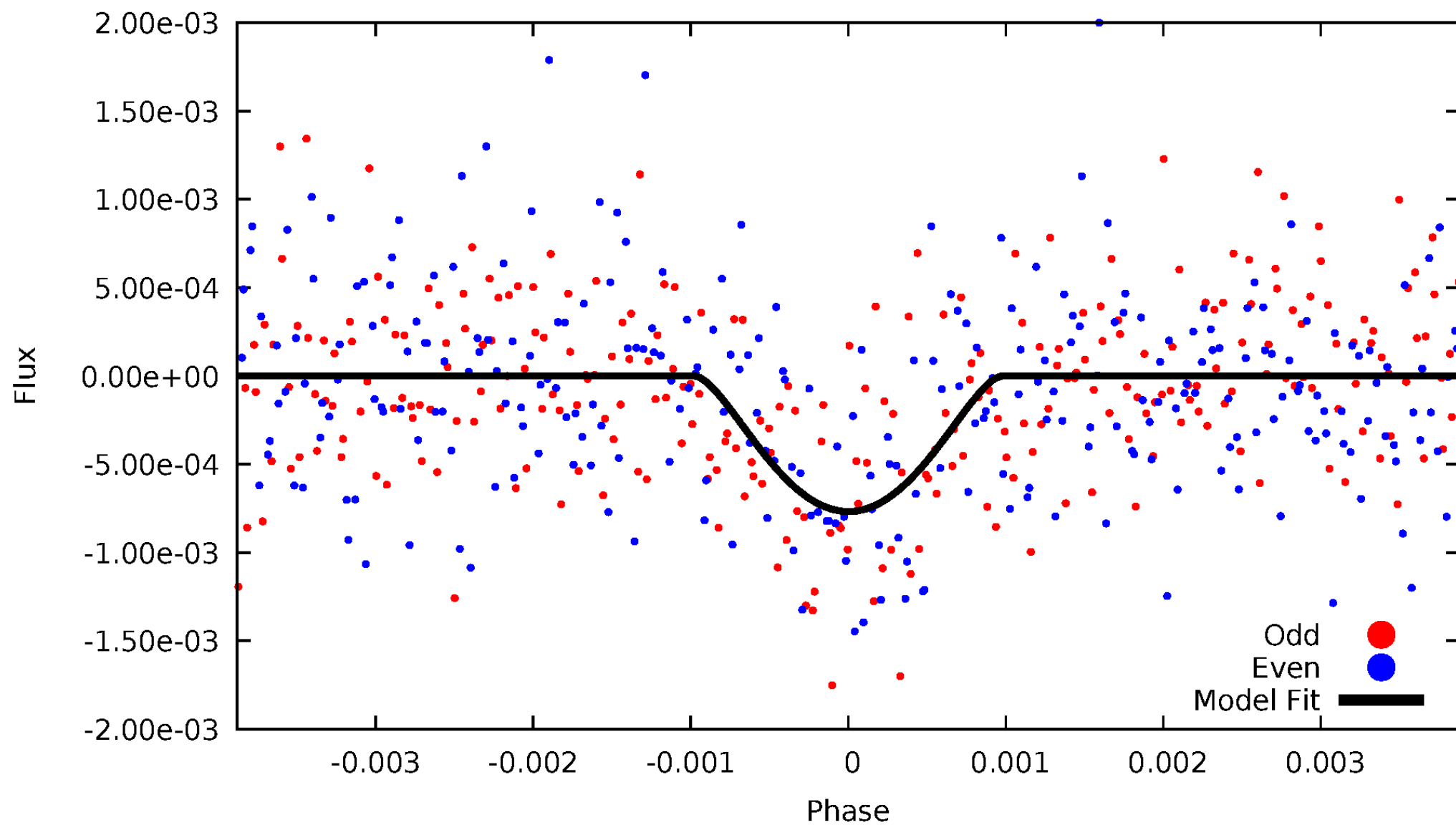


TCE 005551228-03



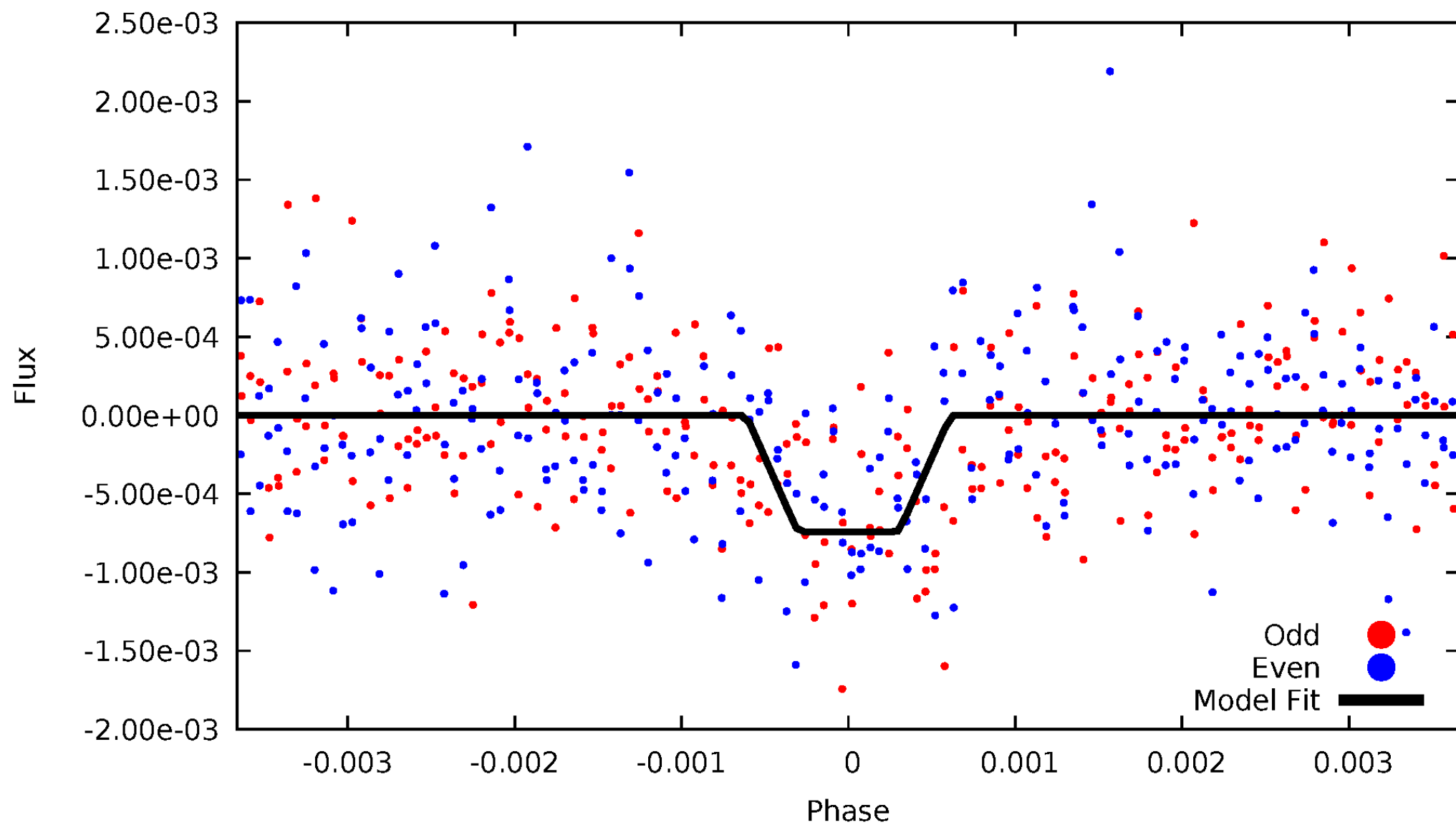
DV Odd/Even

TCE 005551228-03



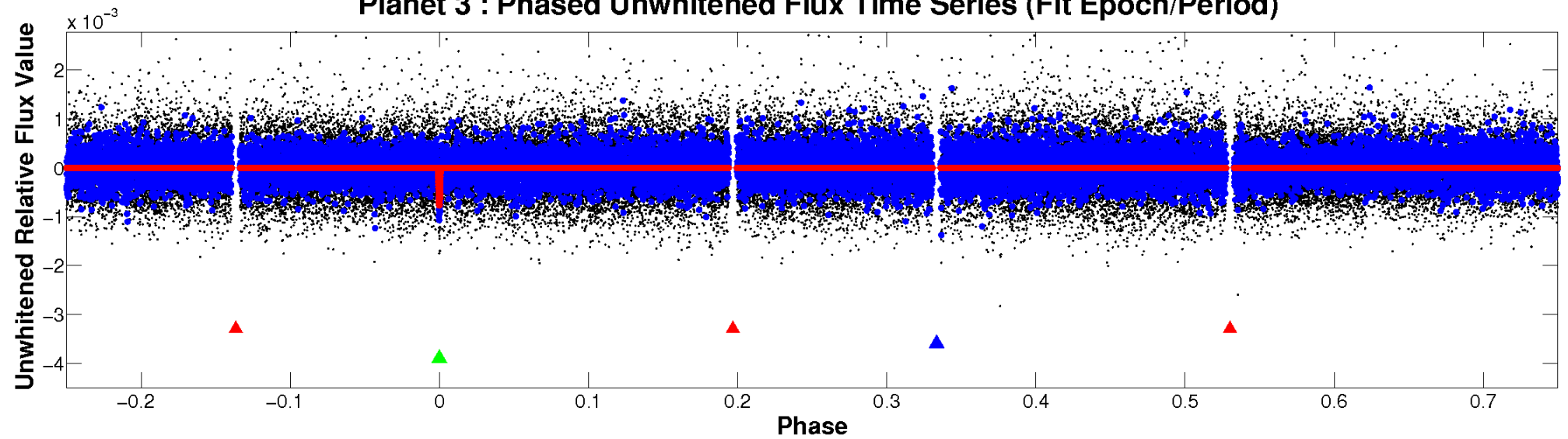
ALT Odd/Even

TCE 005551228-03

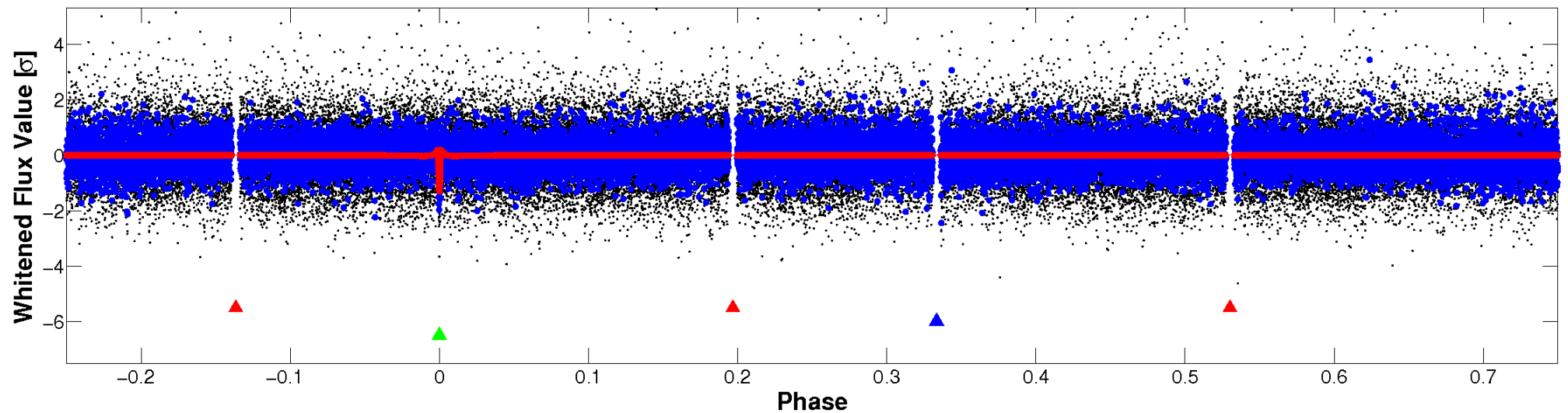


Non-Whitened Vs. Whitened Light Curve

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

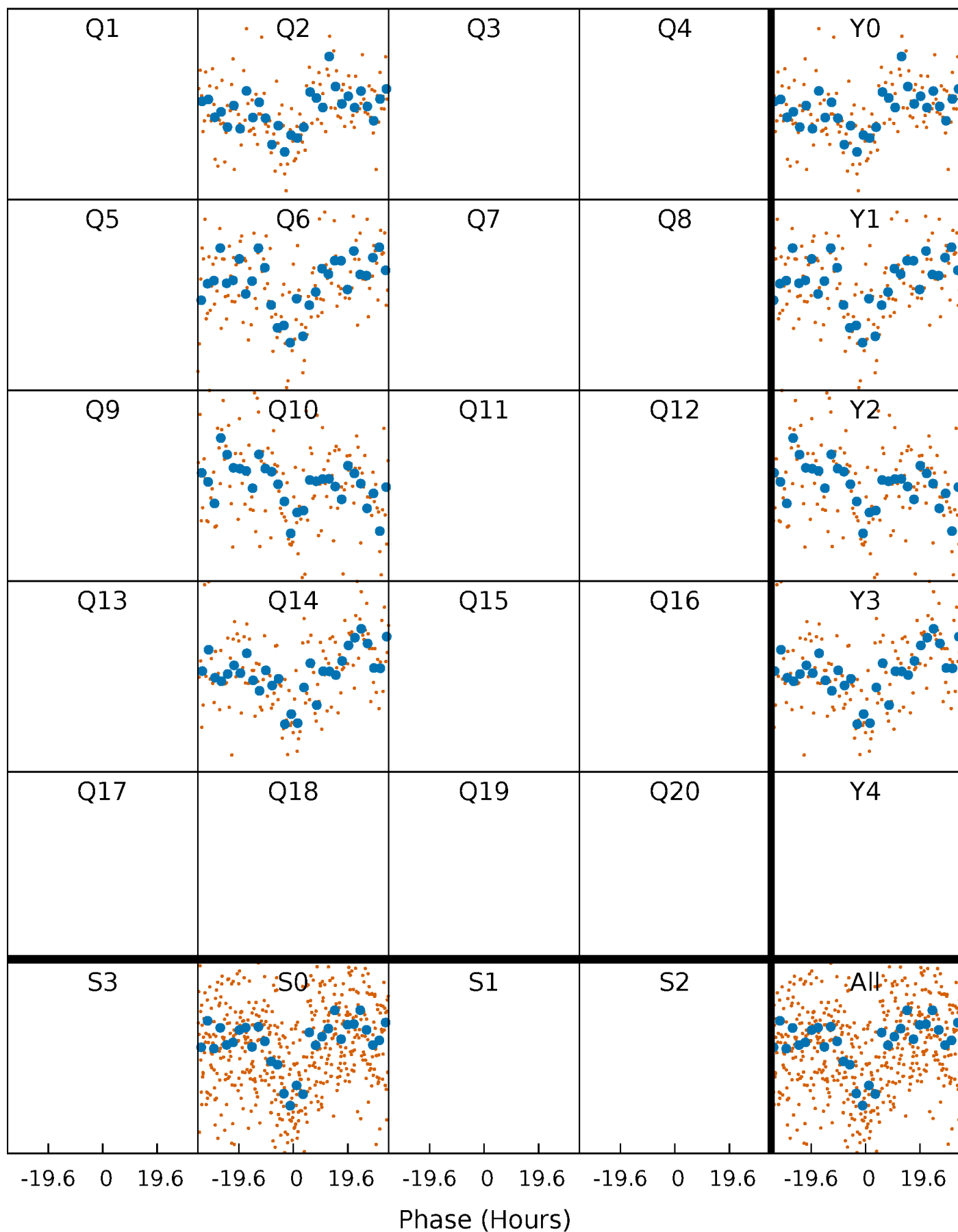


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



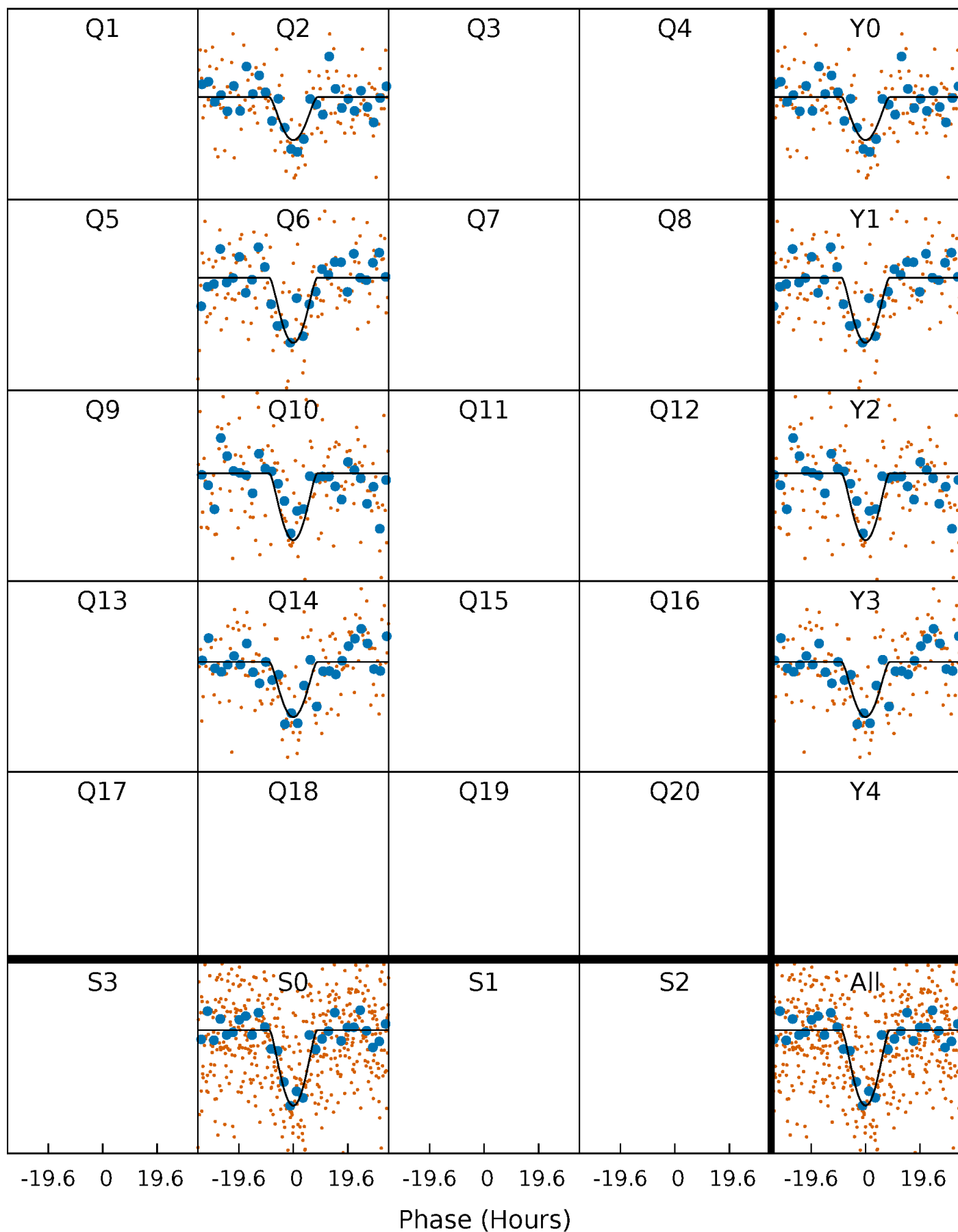
PDC Quarter-Phased Transit Curves

TCE 005551228-03 P=368.716241 Days $T_0=246.254644$ (BKJD)



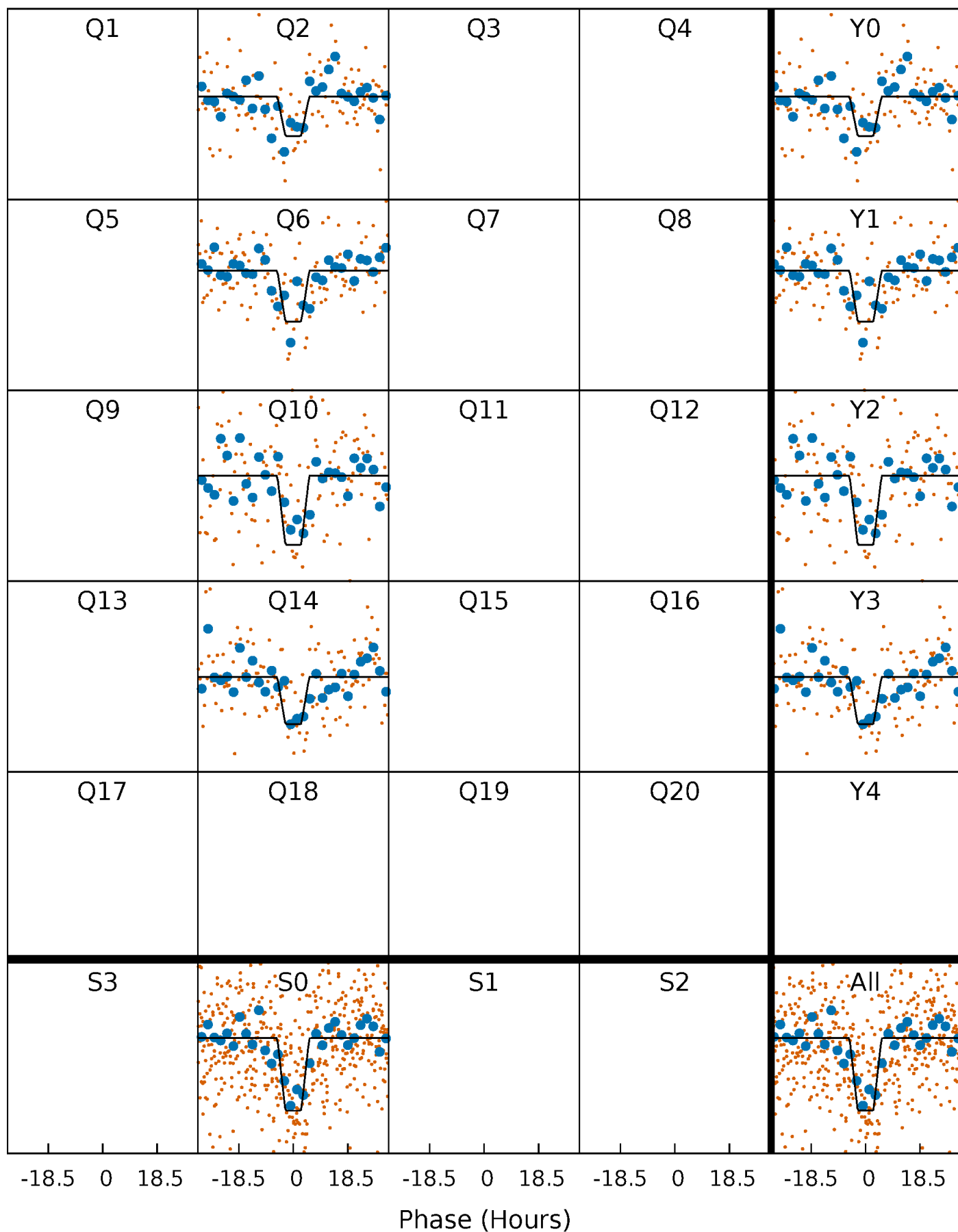
DV Quarter-Phased Transit Curves

TCE 005551228-03 P=368.716241 Days $T_0=246.254644$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

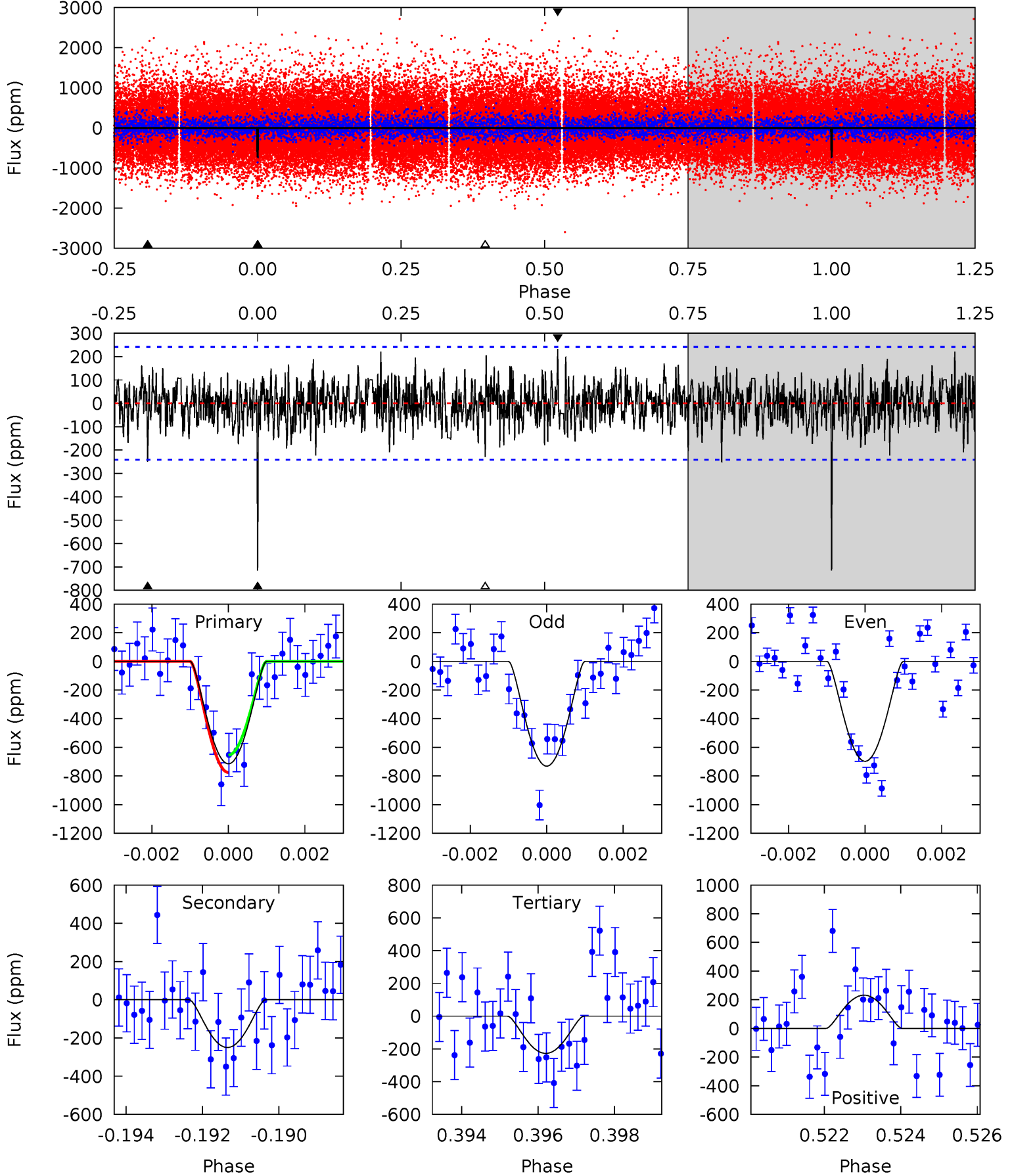
TCE 005551228-03 $P=368.682723$ Days $T_0=246.263195$ (BKJD)



DV Model-Shift Uniqueness Test

005551228-03, P = 368.716241 Days, E = 246.254644 Days

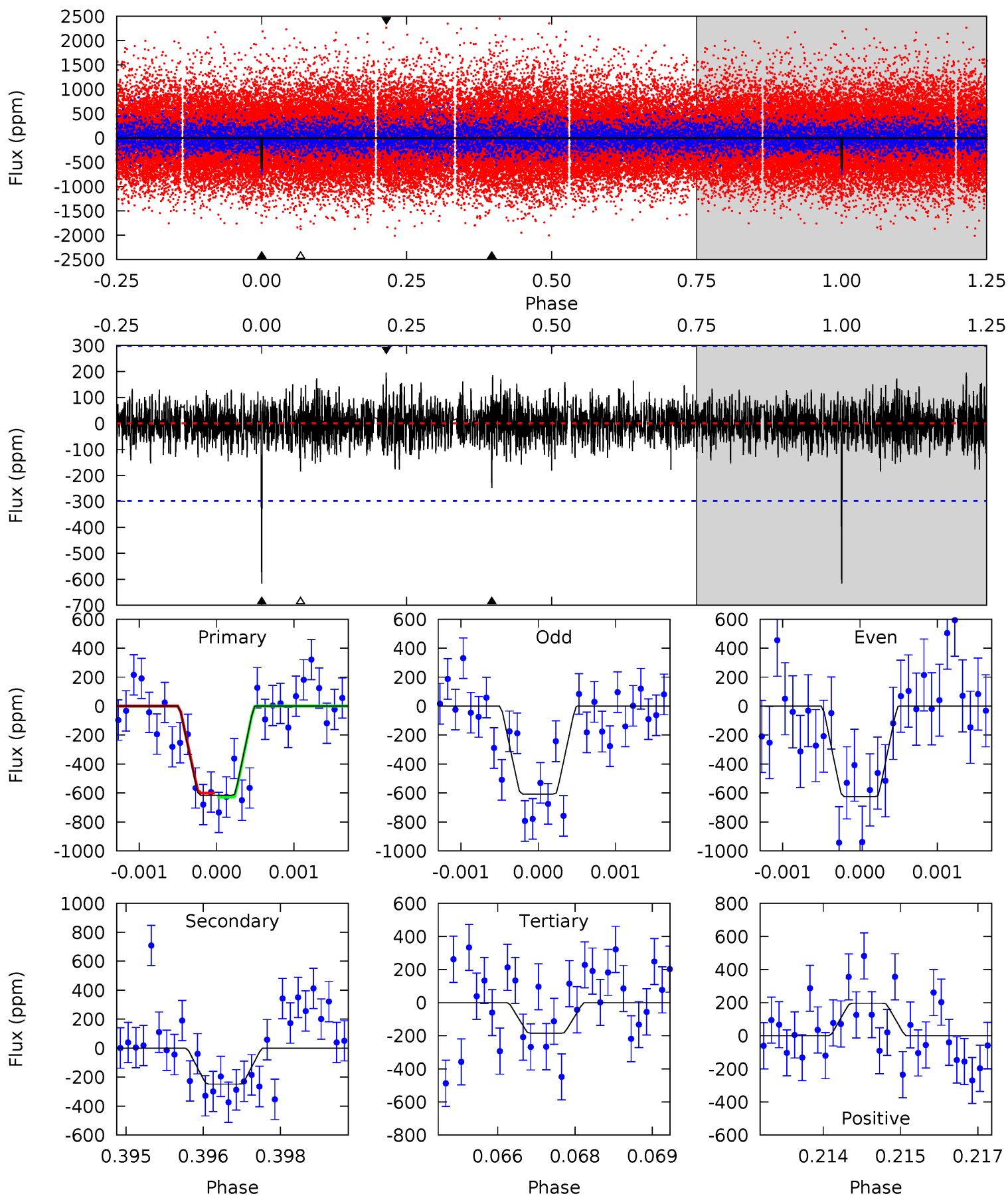
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.8	5.52	5.03	5.13	5.33	3.10	1.48	10.8	10.7	0.49	0.40	0.37	0.98	0.25	1.34



Alt Model-Shift Uniqueness Test

005551228-03, P = 368.682723 Days, E = 246.263195 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.2	4.50	3.35	3.55	5.41	3.22	0.98	7.83	7.62	1.15	0.95	0.17	1.02	0.24	0.27



Stellar Parameters For KIC 005551228

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5692^{+186}_{-169}	$4.547^{+0.036}_{-0.192}$	$-0.040^{+0.250}_{-0.300}$	$0.866^{+0.246}_{-0.082}$	$0.965^{+0.104}_{-0.115}$	$2.090^{+0.400}_{-1.054}$
	+3%/-3%	+1%/-4%	+625%/-750%	+28%/-9%	+11%/-12%	+19%/-50%
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 005551228-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-250 ± 45	$13.94^{+14.82}_{-9.38}$	336^{+22}_{-17}	2702^{+1088}_{-437}	682^{+5372}_{-523}
Alt.	-248 ± 55	$13.28^{+13.13}_{-8.98}$	337^{+23}_{-15}	2732^{+1103}_{-438}	762^{+5908}_{-582}

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 $A_{obs} \gg 1.0$

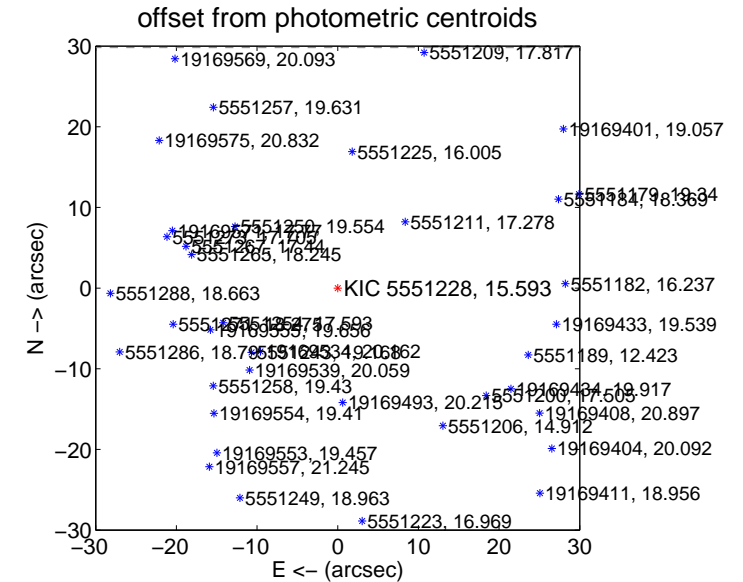
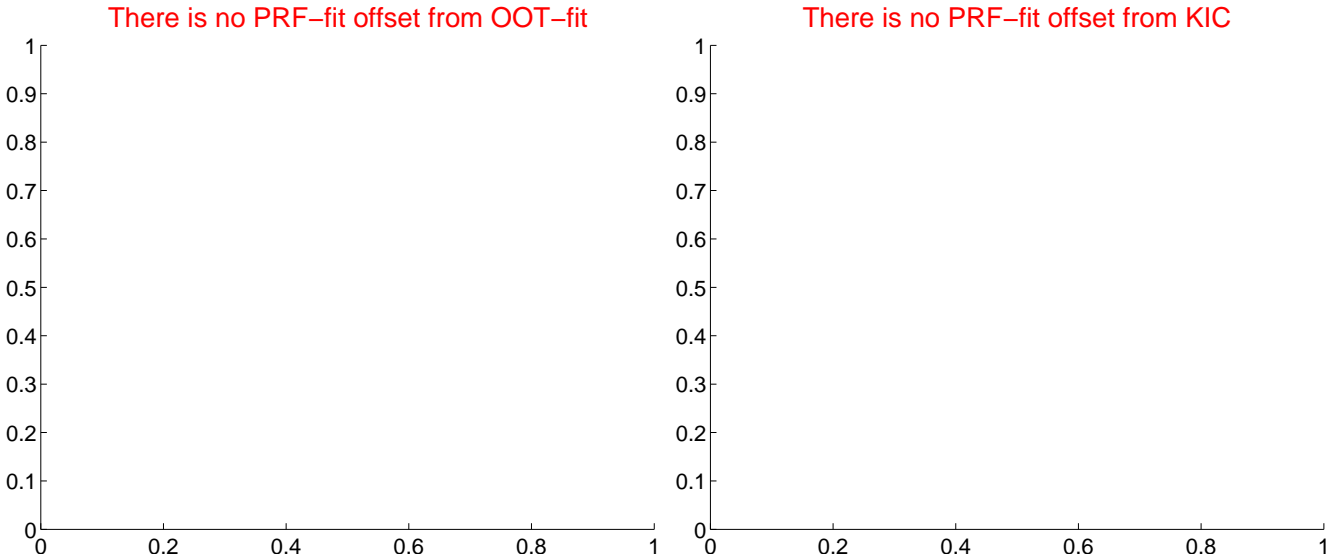
DV Centroid Data

Supplemental centroid analysis for 005551228-03. Kepler magnitude: 15.59. Transit SNR 9.56

There are 0 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	46.23 \pm 1.76	26.23	-35.34 \pm 1.73	29.81 \pm 1.81

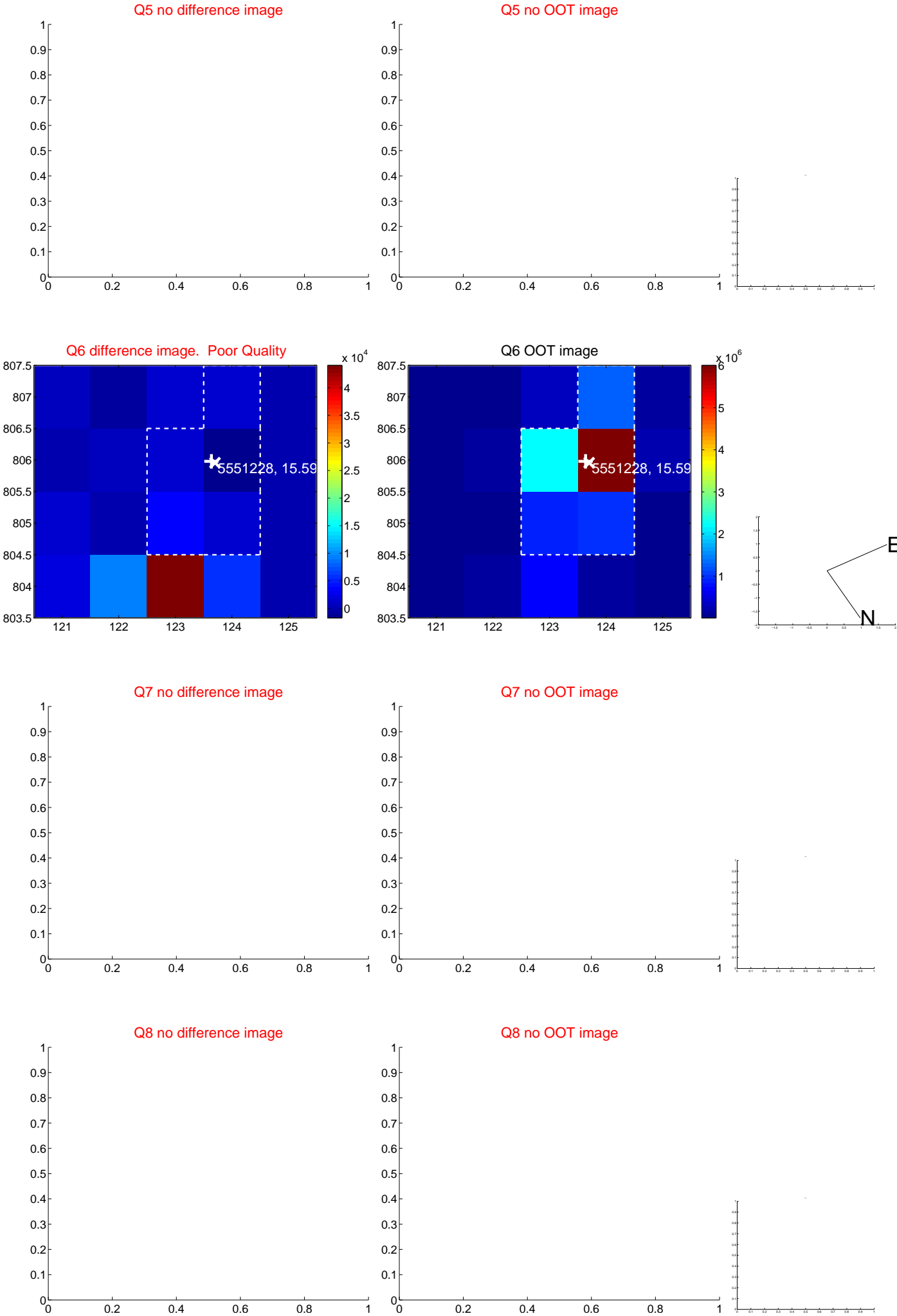


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

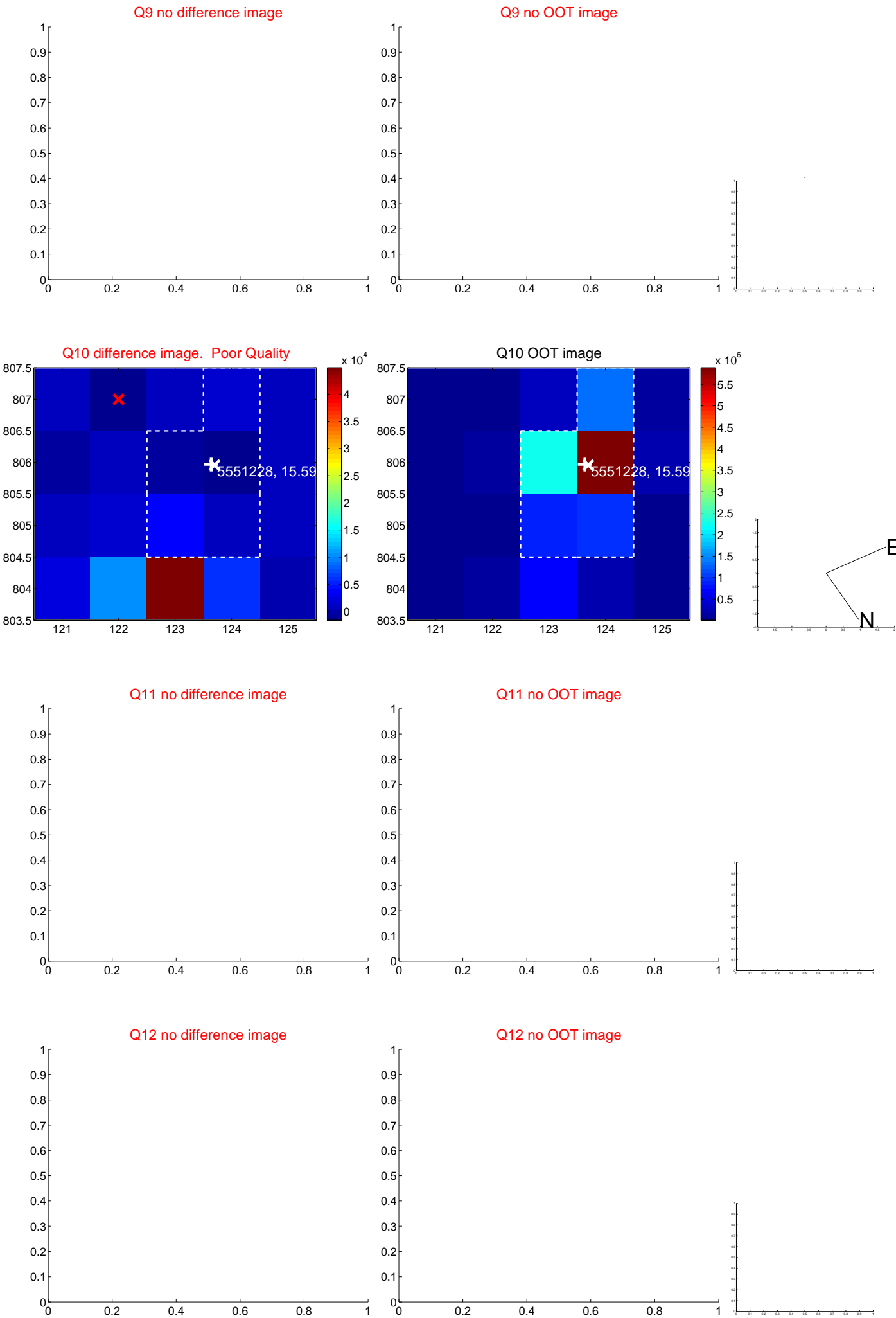
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



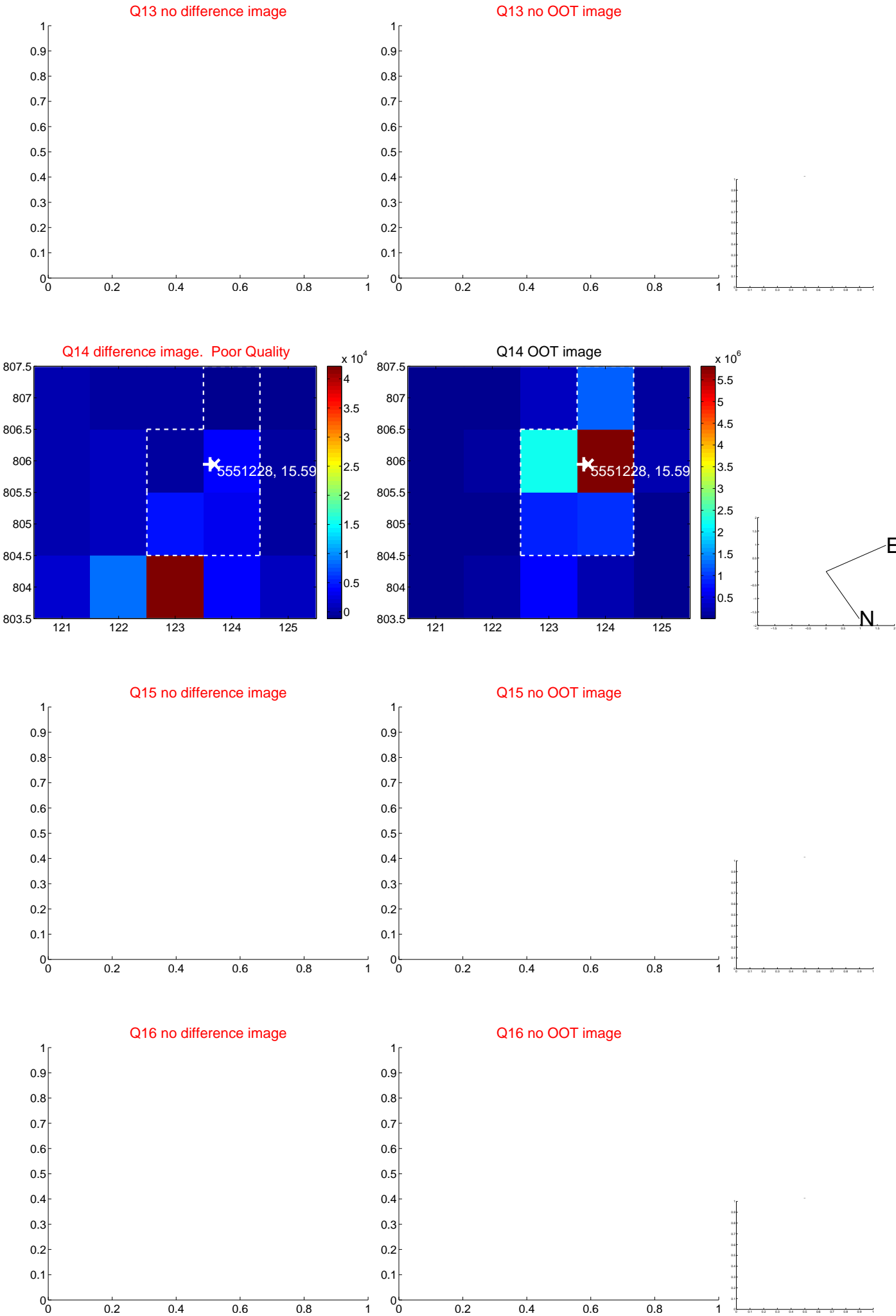
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



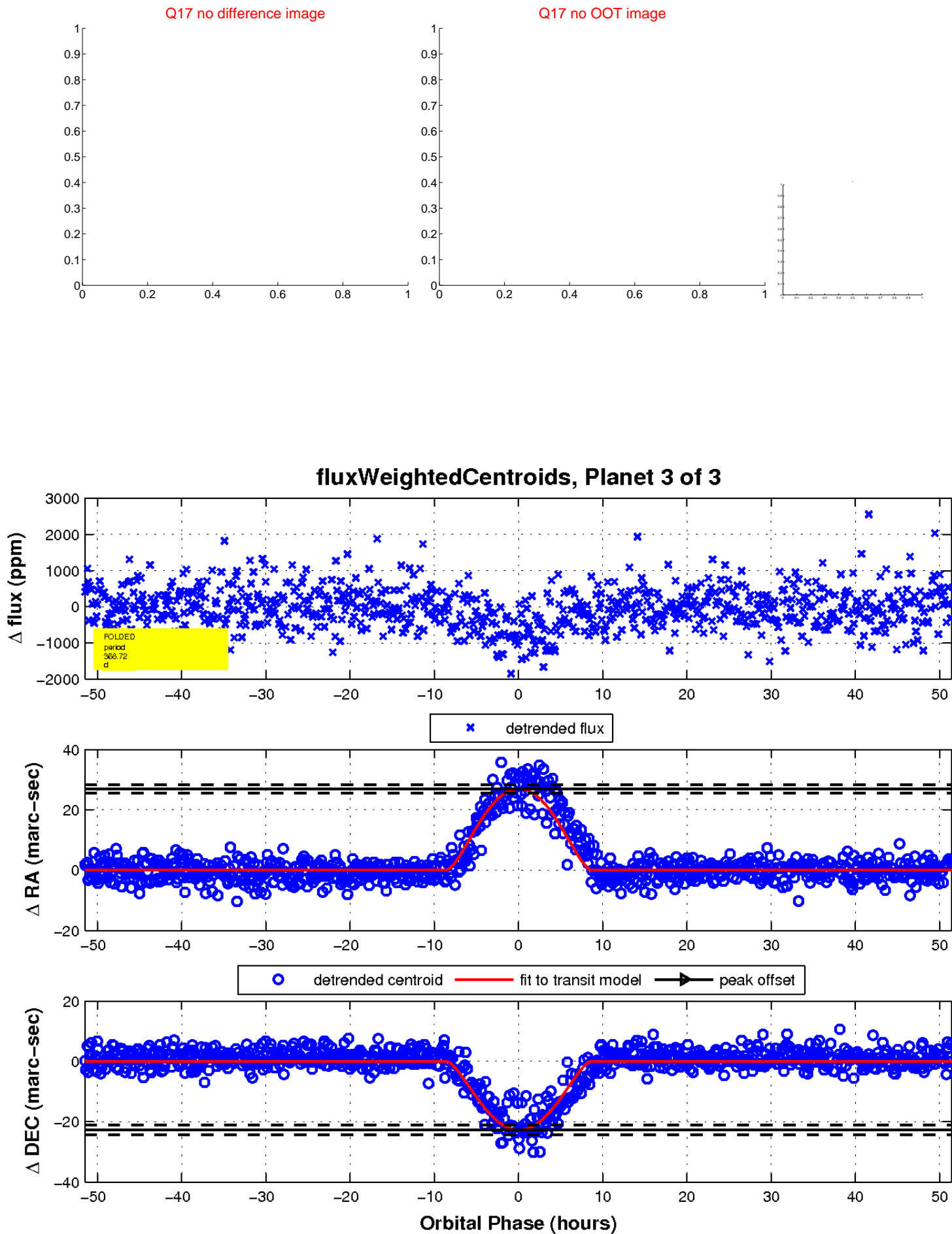
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image

