

KIC 009552608

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})
009552608-01	OBS	0080.01	9.250573	135.407623	1029.9	3.580	337.0	335.5	3.29	8133	19.70	3538.52
009552608-02	OBS	No	9.250562	132.189796	100.8	2.127	32.2	35.1	3.29	8133	3.85	3538.53

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009552608-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_SATURATED
009552608-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_SATURATED

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

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

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

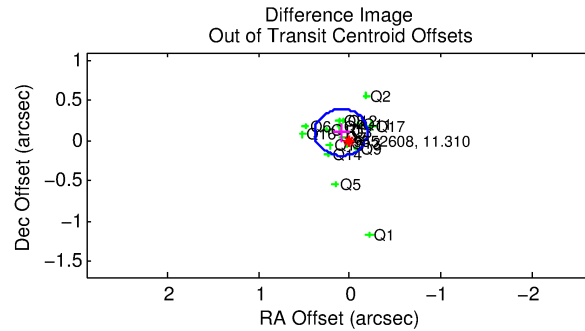
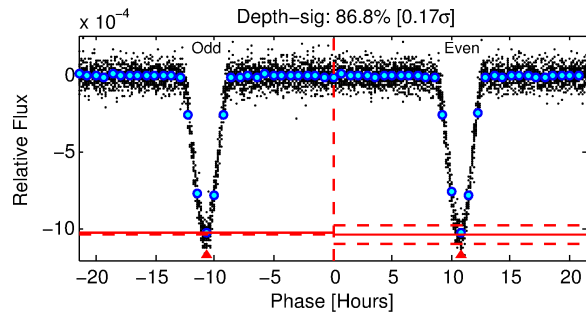
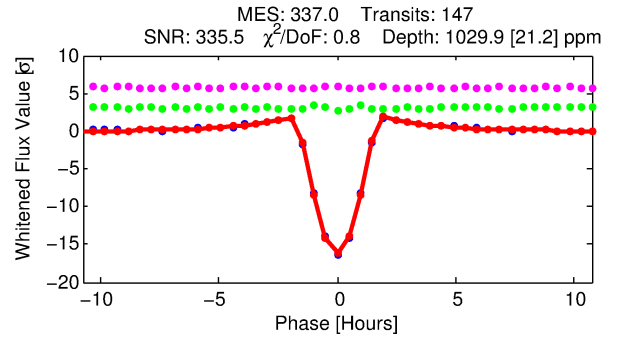
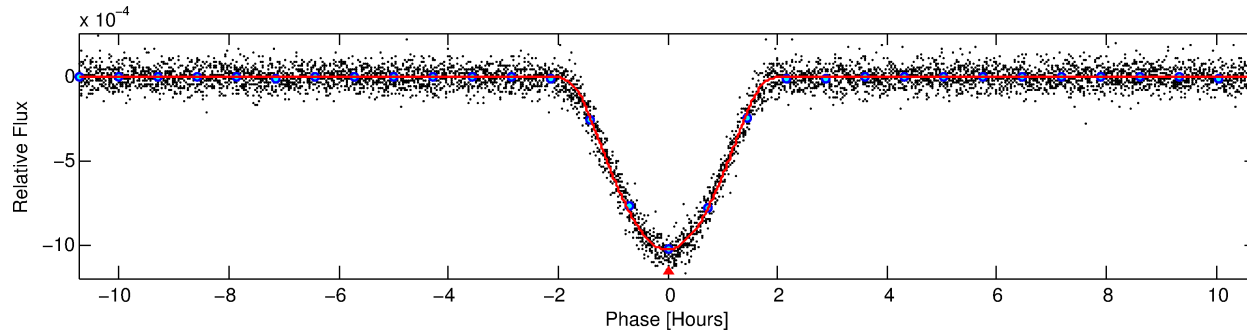
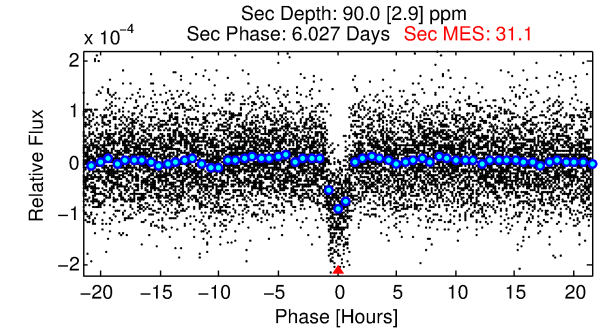
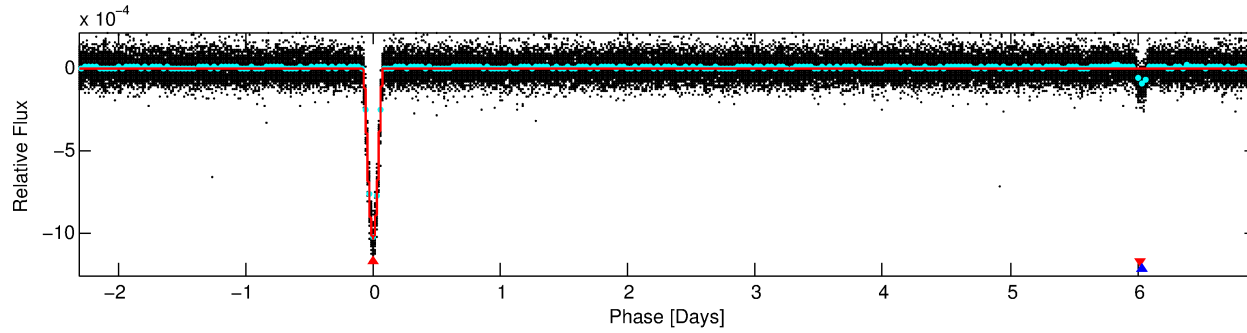
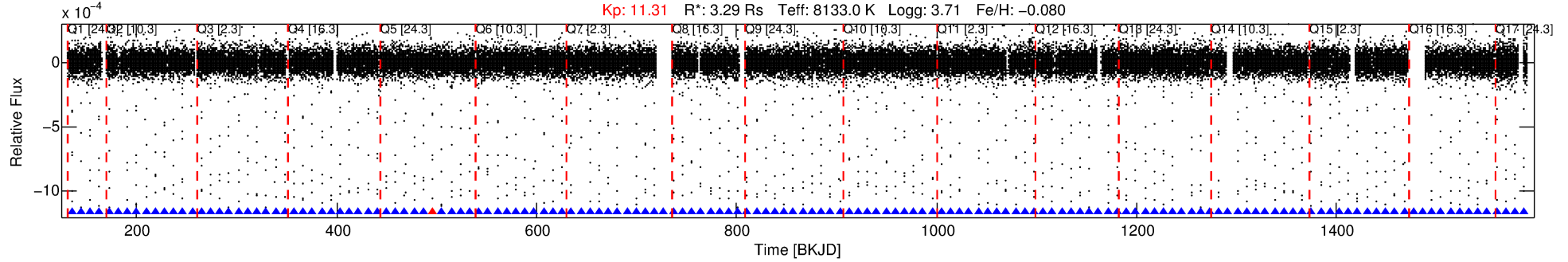
Ephemeris Match Information For 009552608-01

No Significant Match Found

DV One-Page Summary

KIC: 9552608 Candidate: 1 of 2 Period: 9.251 d
KOI: K00080.01 Corr: 0.995

Kp: 11.31 R*: 3.29 Rs Teff: 8133.0 K Logg: 3.71 Fe/H: -0.080



DV Fit Results:

Period = 9.25057 [0.00000] d
Epoch = 135.4076 [0.0002] BKJD
Rp/R* = 0.0548 [0.0061]
a/R* = 6.71 [0.18]
b = 1.00 [0.01]
Seff = 3538.52 [2574.56]
Teq = 1967 [358] K
Rp = 19.70 [9.59] Re
a = 0.1096 [0.0491] AU
Ag = 1.53 [1.14] [0.47σ]
Teffp = 3384 [237] K [3.30σ]

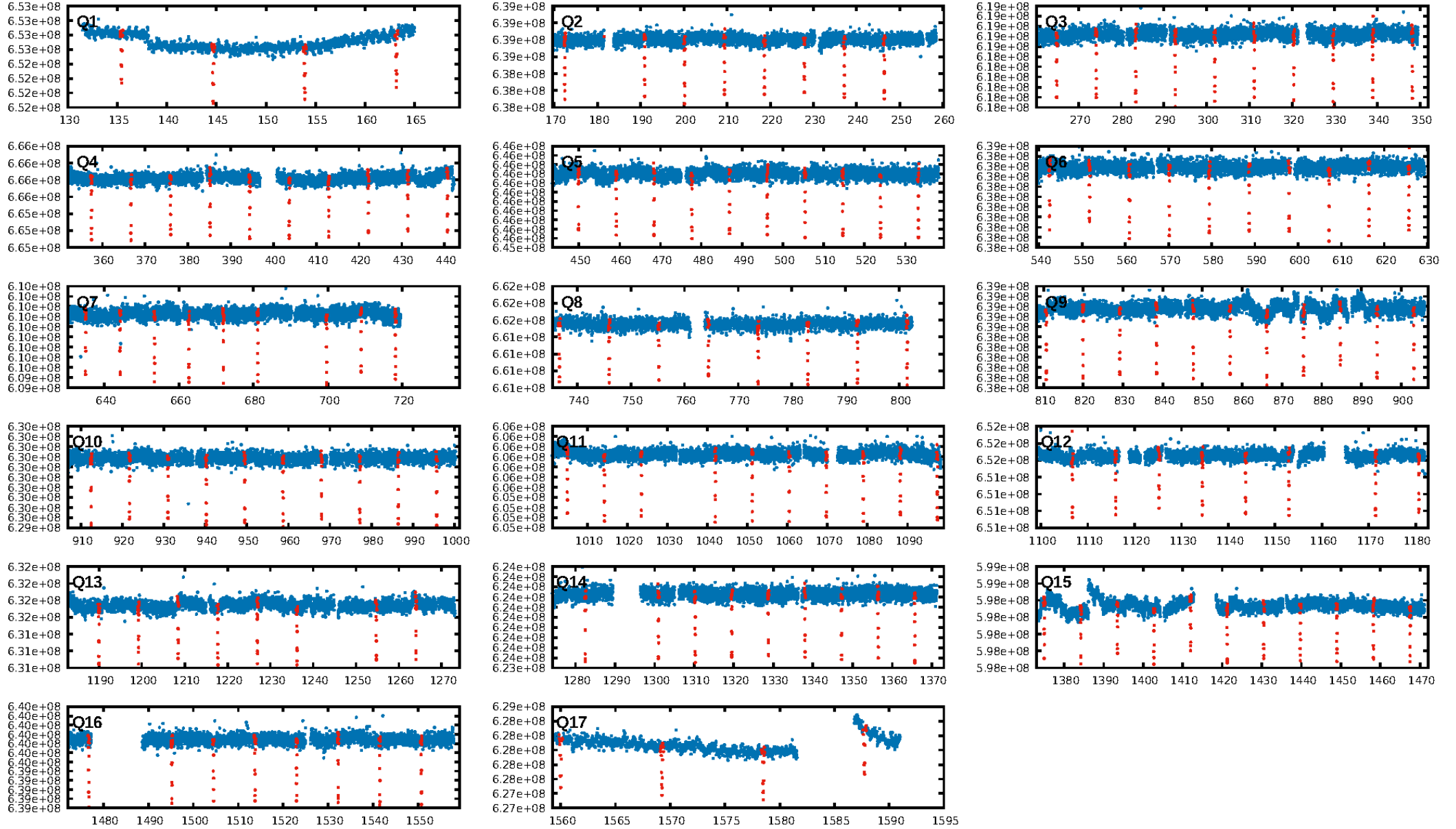
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.99 [138/139]
GhostDiagnostic-chr: 7.08
Centroid-sig: 1.0%
Centroid-so: 0.224 arcsec [4.54σ]
OotOffset-rm: 0.141 arcsec [1.45σ]
KicOffset-rm: 0.081 arcsec [0.88σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

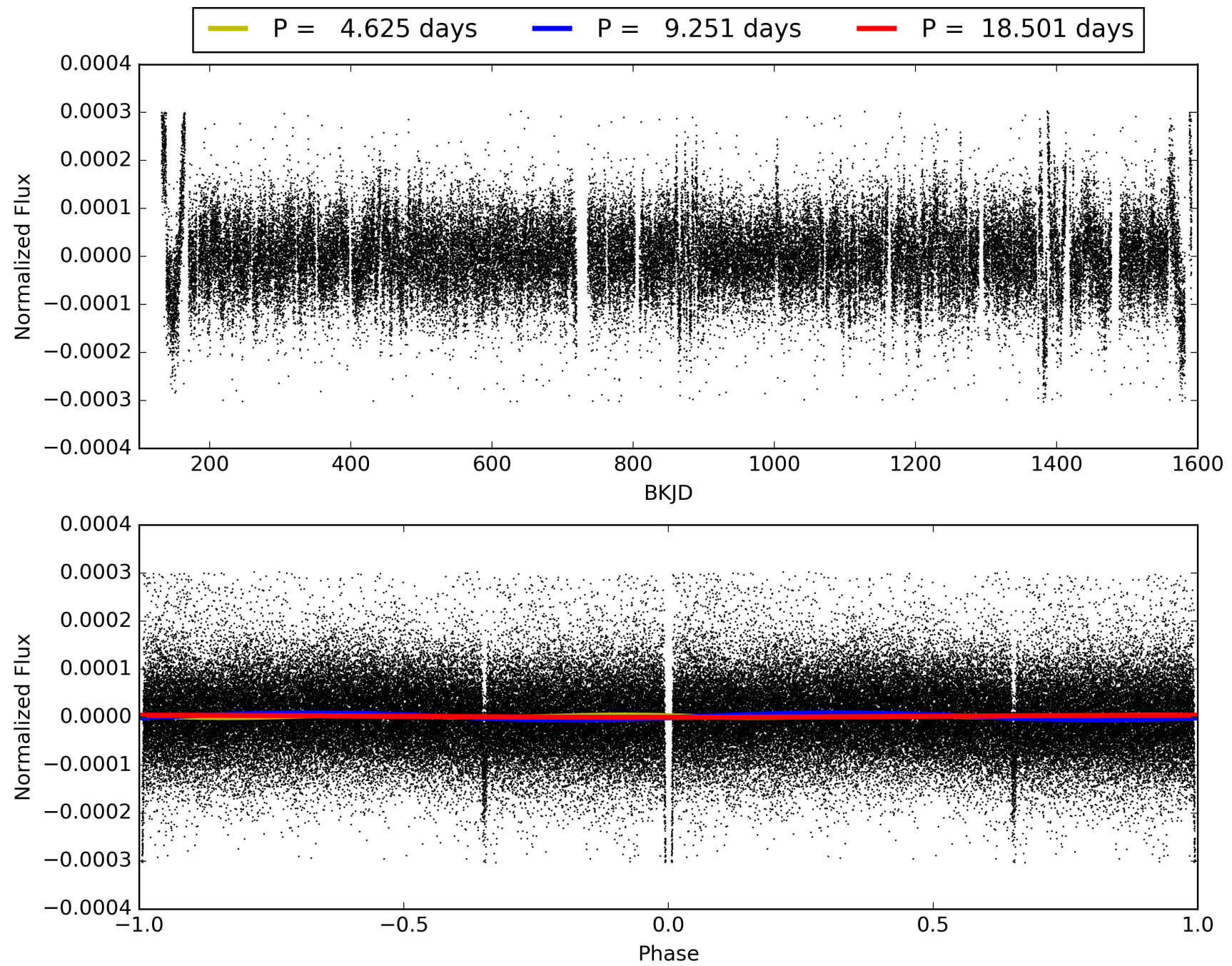
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 12:37:03 Z

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

TCE 009552608-01, PDC Light Curves

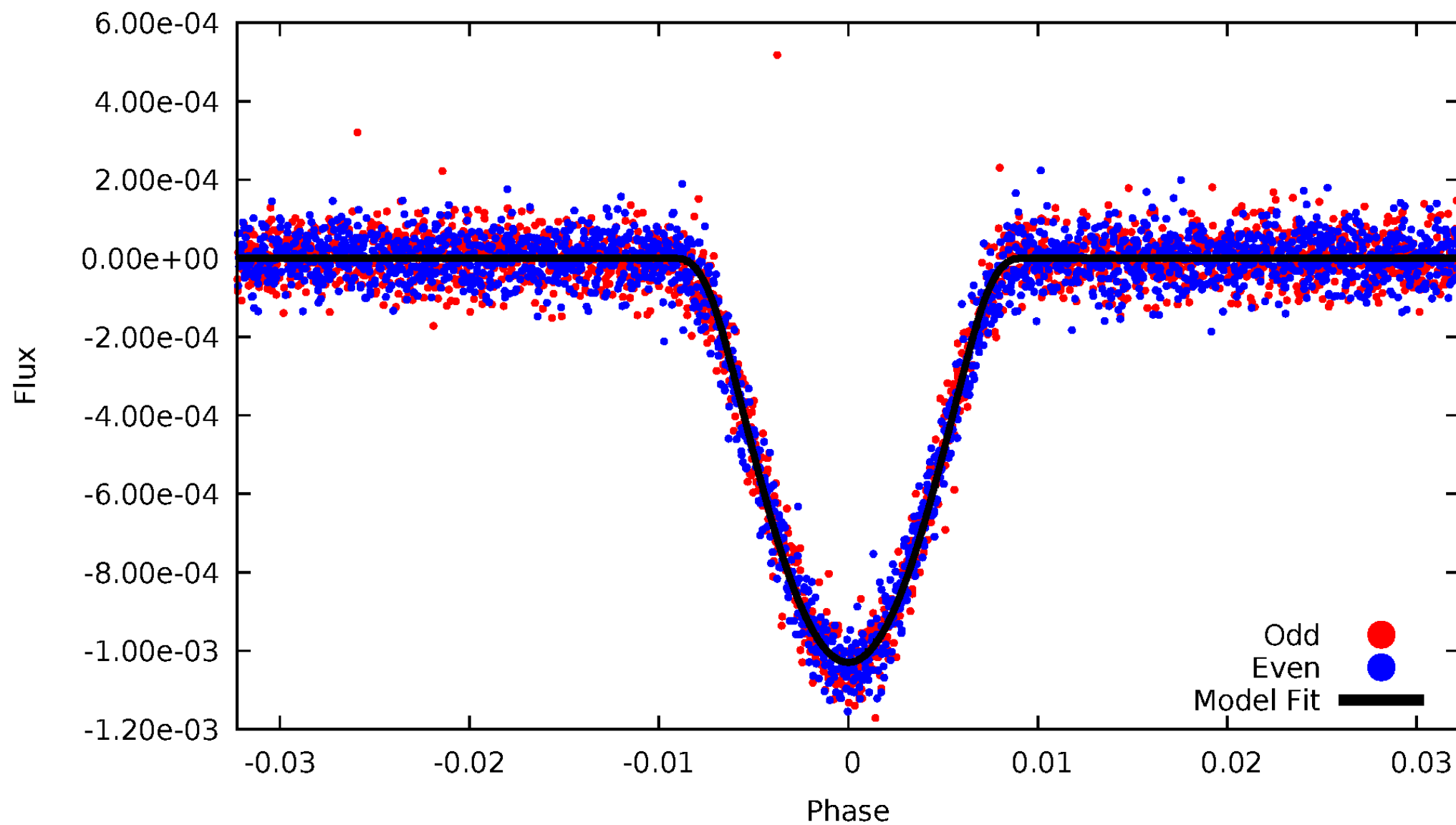


TCE 009552608-01



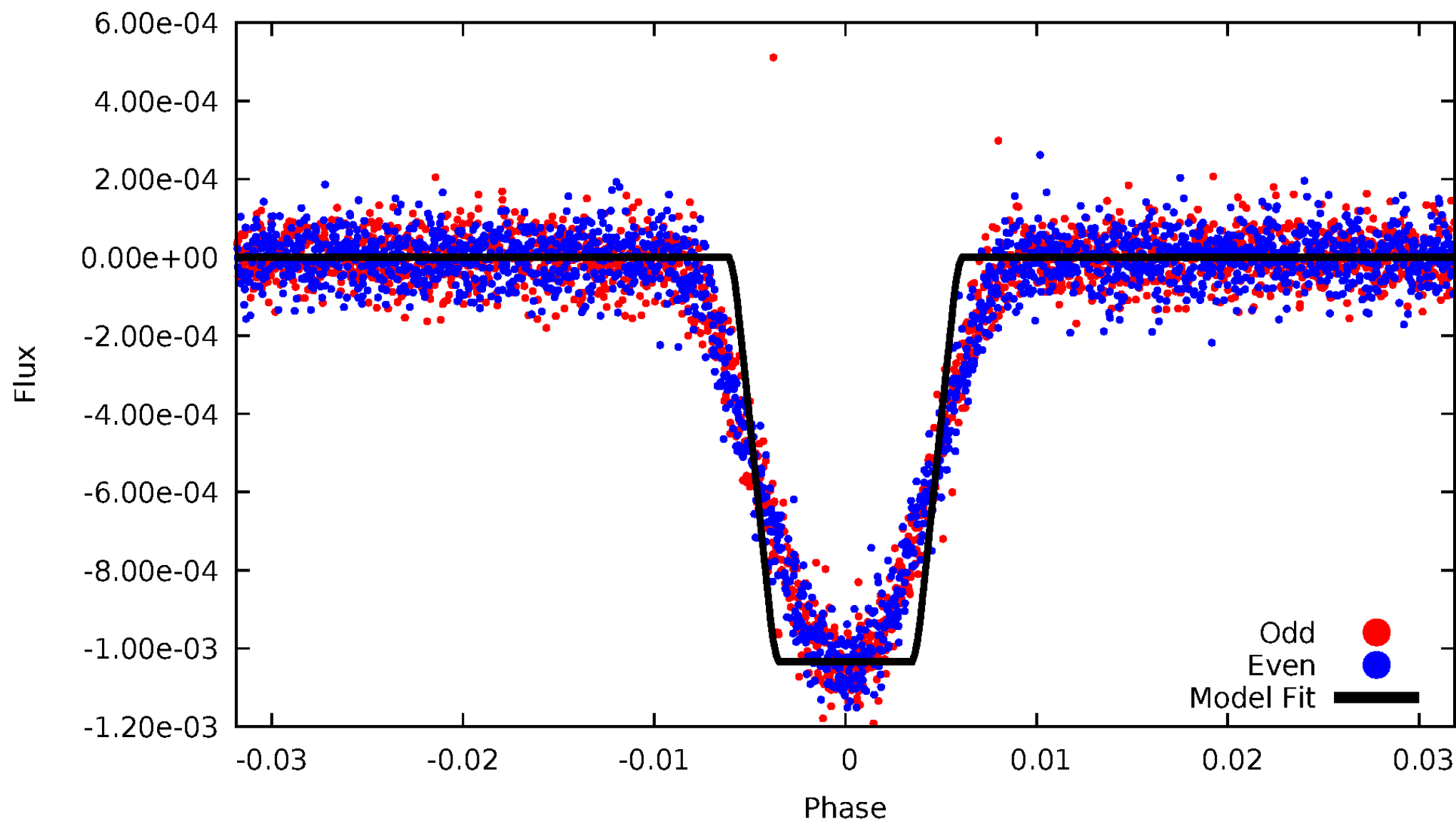
DV Odd/Even

TCE 009552608-01



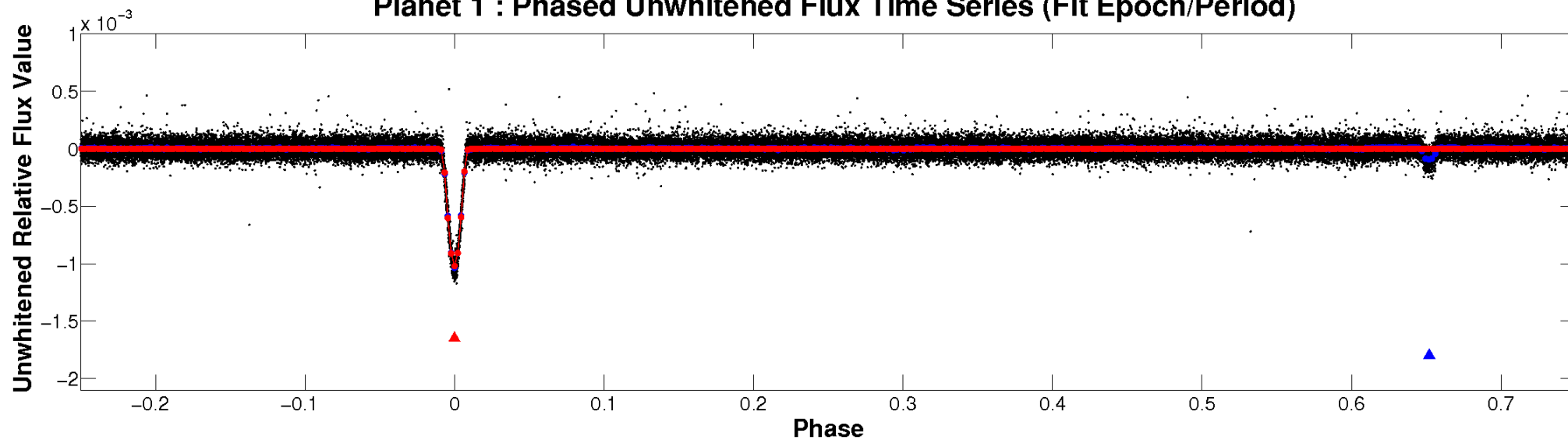
ALT Odd/Even

TCE 009552608-01

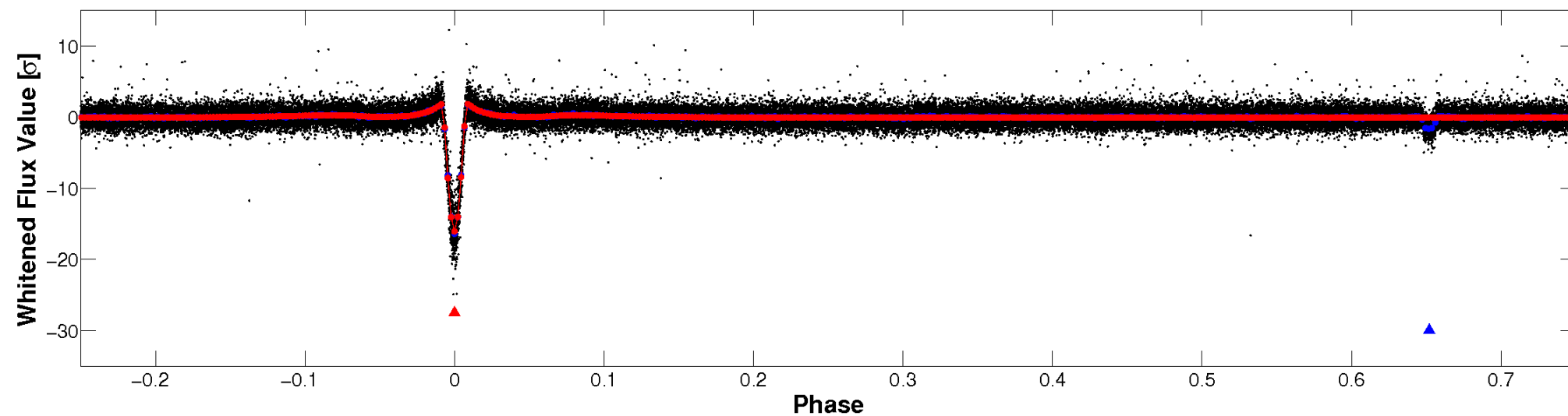


Non-Whitened Vs. Whitened Light Curve

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

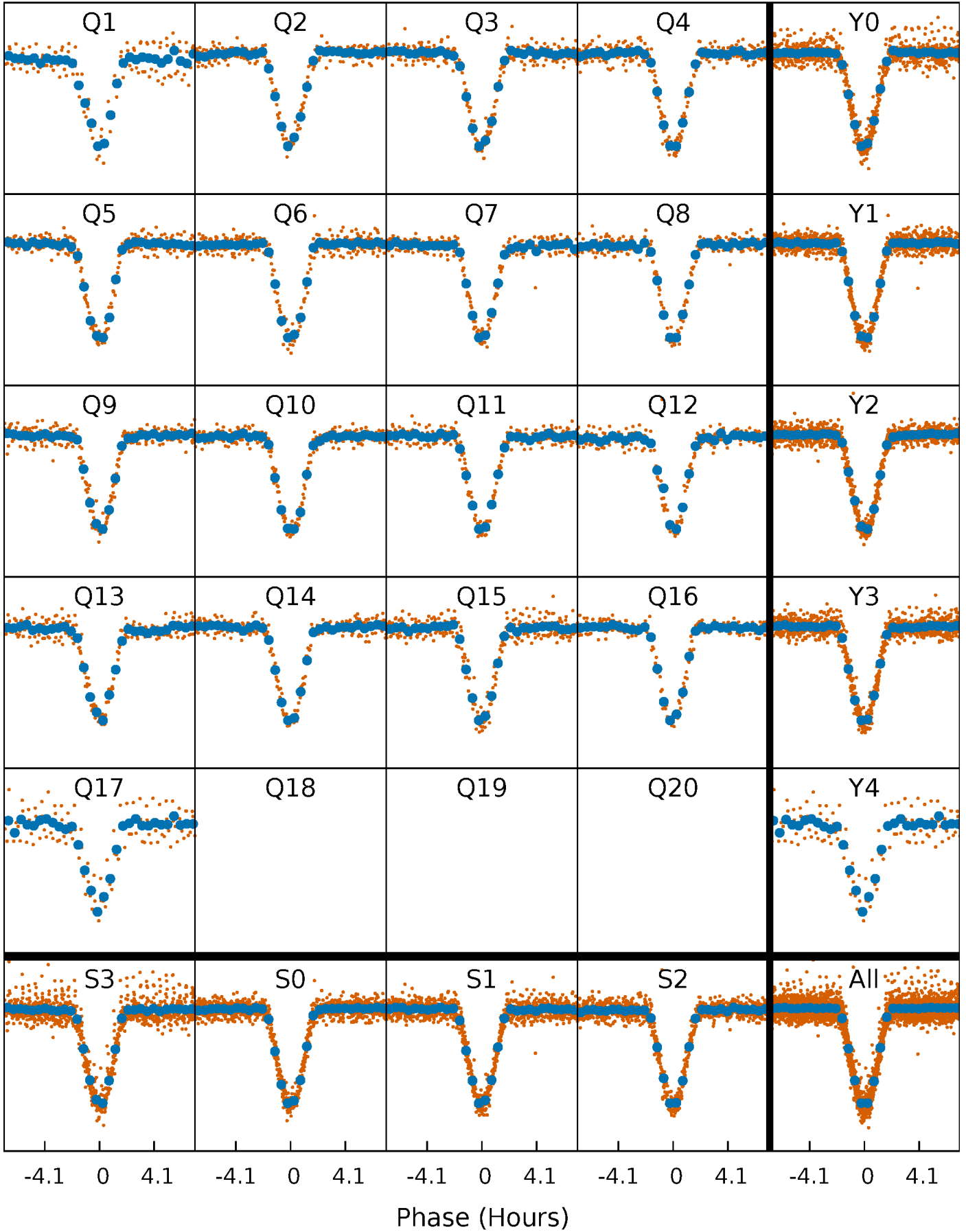


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



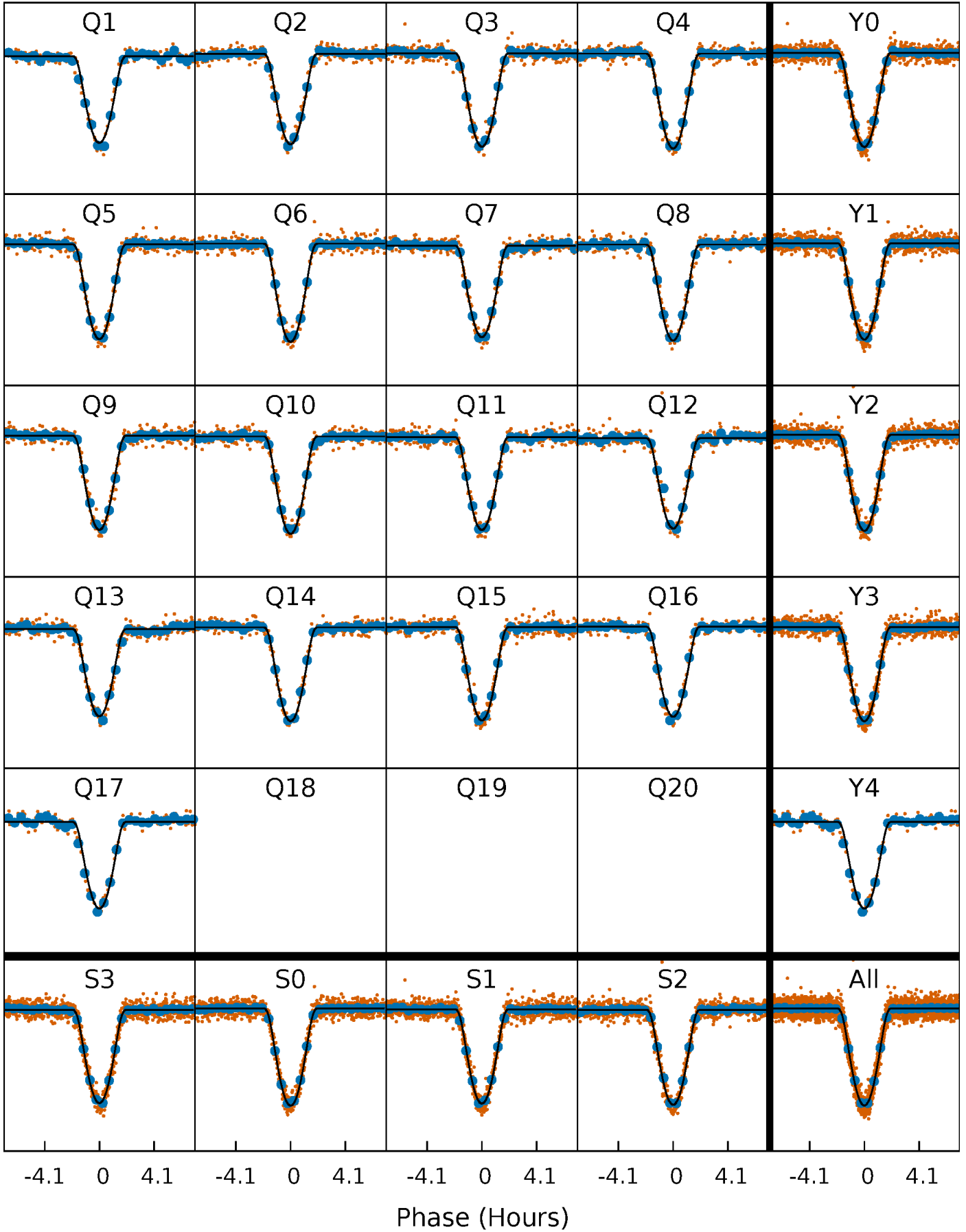
PDC Quarter-Phased Transit Curves

TCE 009552608-01 P= 9.250573 Days $T_0=135.407623$ (BKJD)



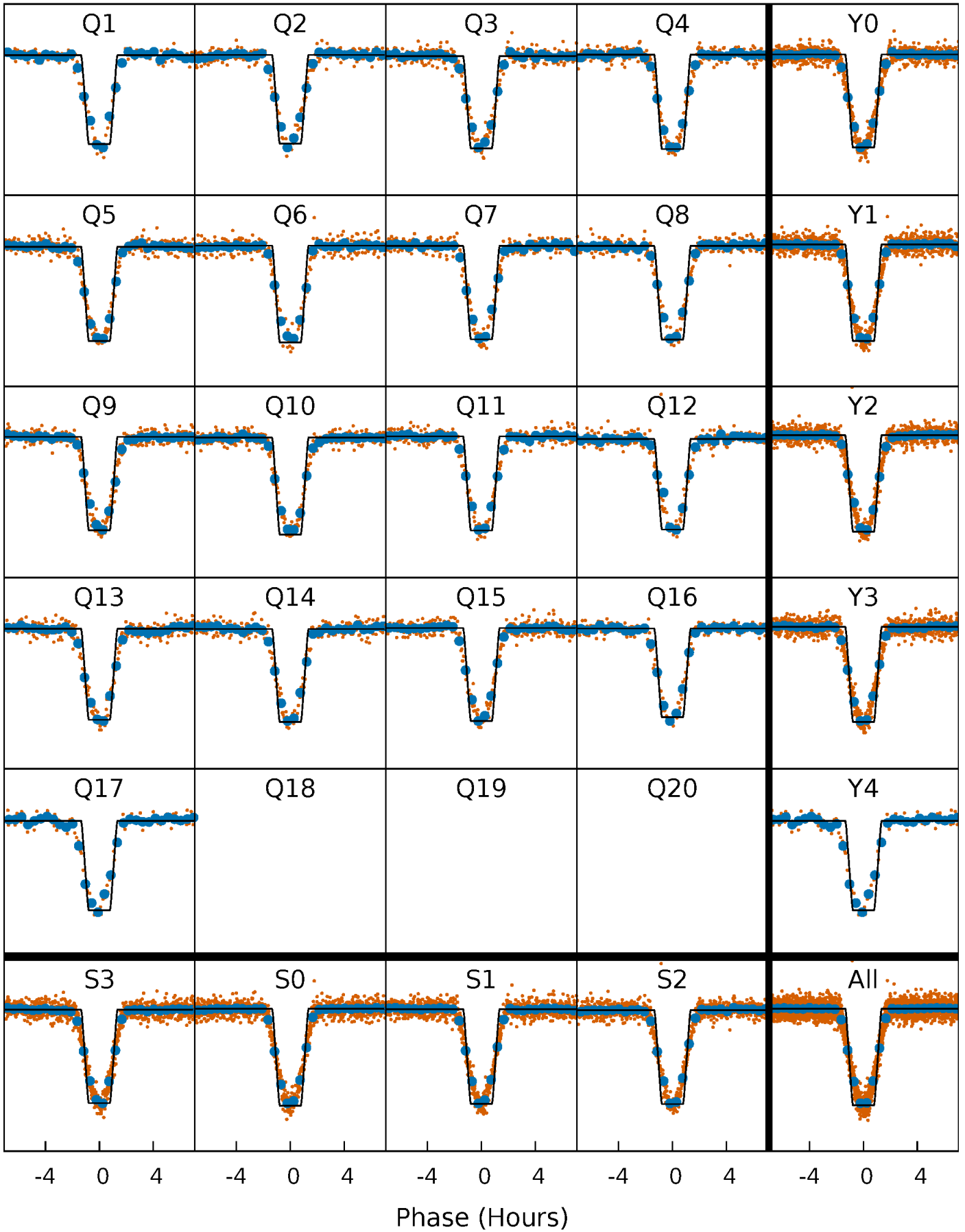
DV Quarter-Phased Transit Curves

TCE 009552608-01 P= 9.250573 Days $T_0=135.407623$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

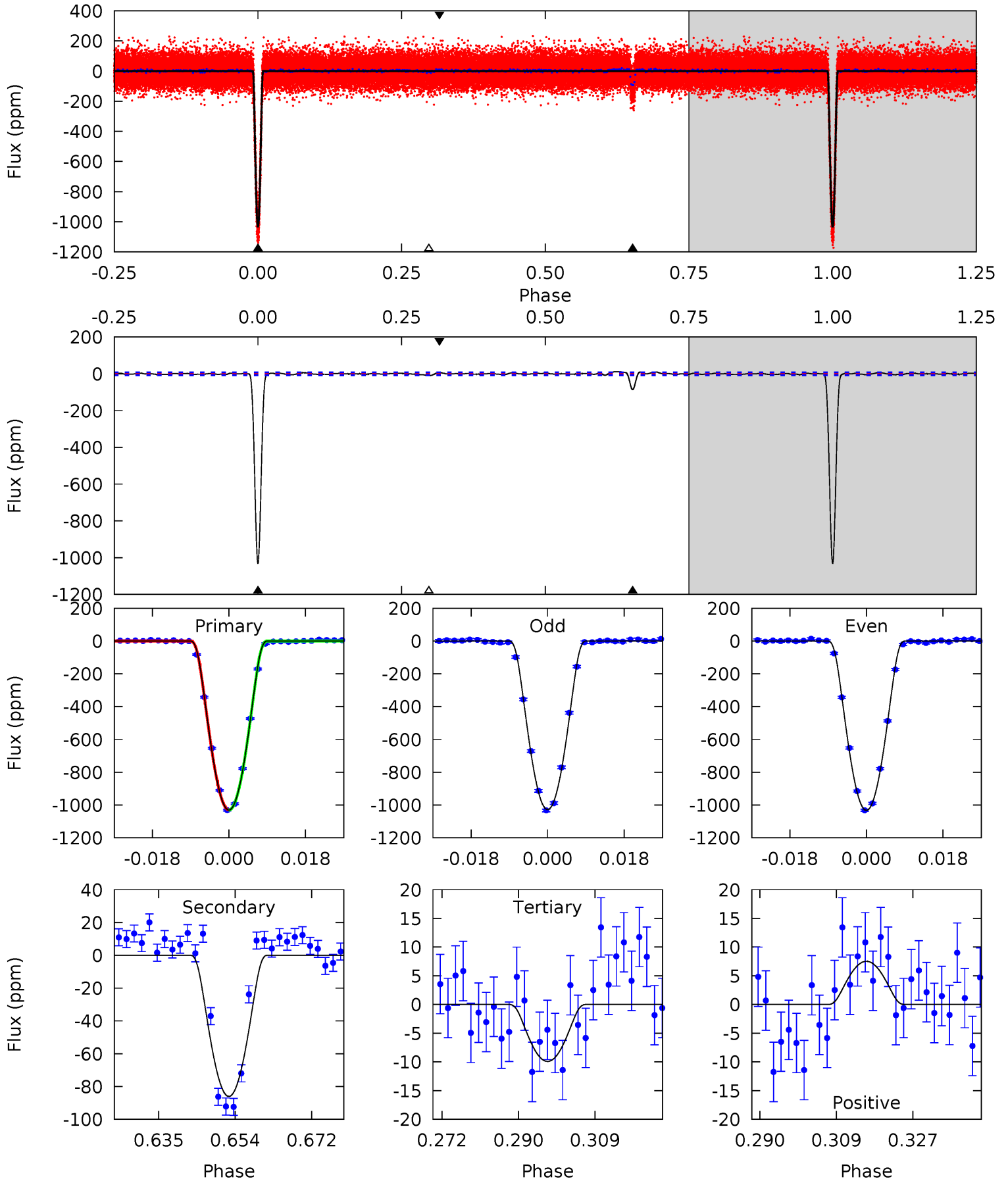
TCE 009552608-01 P= 9.250579 Days $T_0=135.407273$ (BKJD)



DV Model-Shift Uniqueness Test

009552608-01, P = 9.250573 Days, E = 126.157050 Days

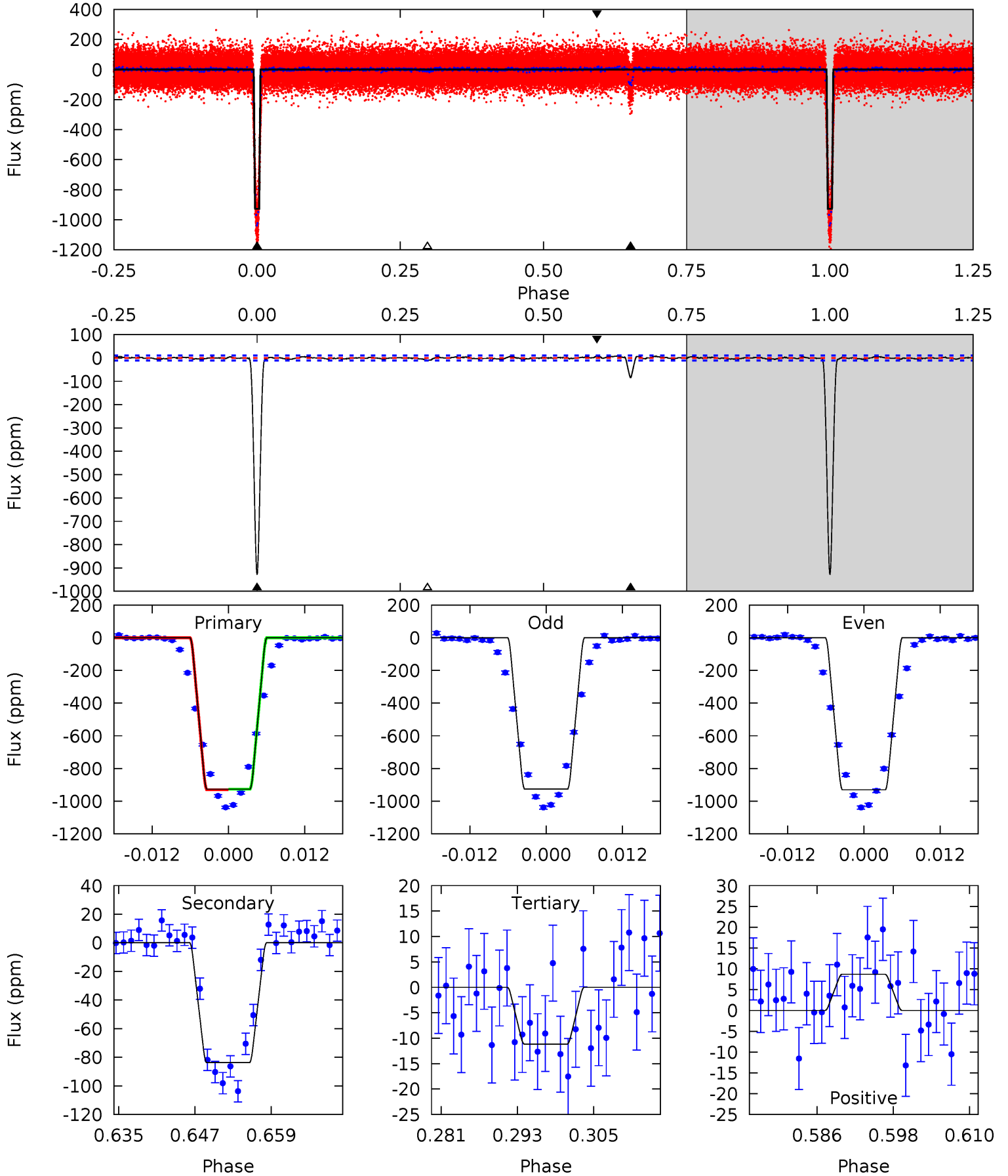
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
641.5	53.6	6.17	4.68	4.91	2.36	1.98	635.4	636.8	47.4	48.9	1.59	1.00	0.01	0.41



Alt Model-Shift Uniqueness Test

009552608-01, P = 9.250579 Days, E = 126.156694 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
433.3	39.1	5.21	4.07	4.99	2.51	1.42	428.1	429.3	33.9	35.1	0.99	1.00	0.01	1.06



Stellar Parameters For KIC 009552608

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8133^{+225}_{-338}	$3.715^{+0.413}_{-0.110}$	$-0.080^{+0.250}_{-0.350}$	$3.294^{+0.840}_{-1.561}$	$2.053^{+0.348}_{-0.523}$	$0.081^{+0.310}_{-0.033}$
	+3%/-4%	+11%/-3%	+312%/-438%	+26%/-47%	+17%/-25%	+384%/-40%
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 009552608-01 / KOI 0080.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-86 ± 2	$18.35^{+4.22}_{-4.58}$	2639^{+220}_{-310}	3547^{+181}_{-164}	$1.701^{+1.159}_{-0.527}$
Alt.	-84 ± 2	$10.57^{+3.28}_{-2.98}$	2642^{+218}_{-303}	4350^{+431}_{-300}	$4.996^{+4.445}_{-1.989}$

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

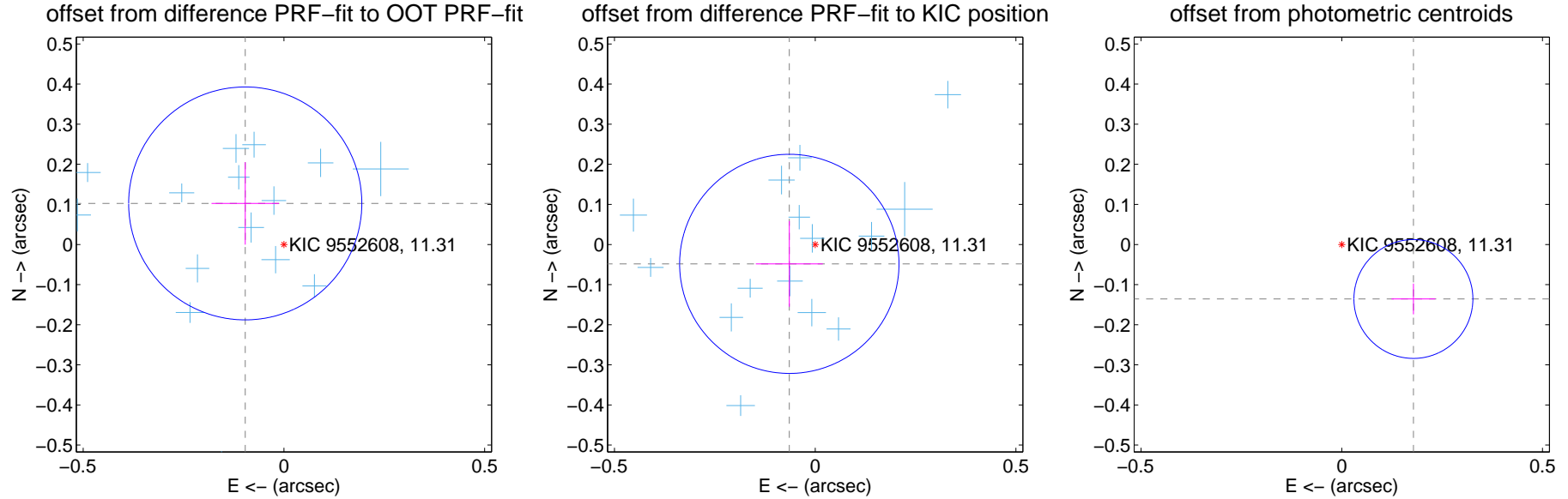
DV Centroid Data

Supplemental centroid analysis for 009552608-01. **Kepler magnitude: 11.31.** Transit SNR 335.54

There are 17 quarters with good PRF difference image offsets

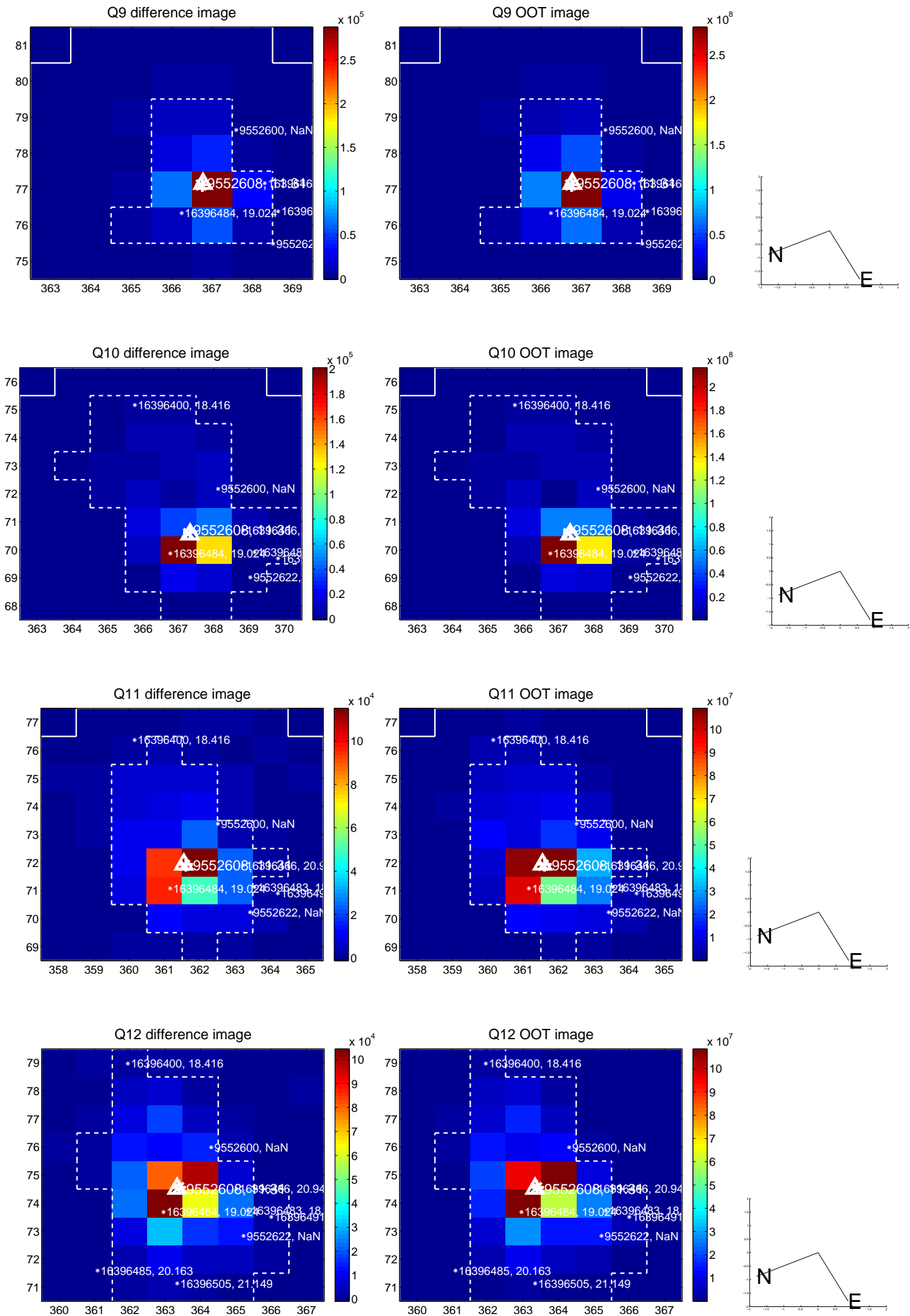
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.141 ± 0.097	1.45	0.096 ± 0.084	0.102 ± 0.103
PRF-fit source offset from KIC position	0.081 ± 0.091	0.88	0.064 ± 0.083	-0.048 ± 0.107
photometric centroid source offset	0.22 ± 0.05	4.54	-0.18 ± 0.05	-0.14 ± 0.04

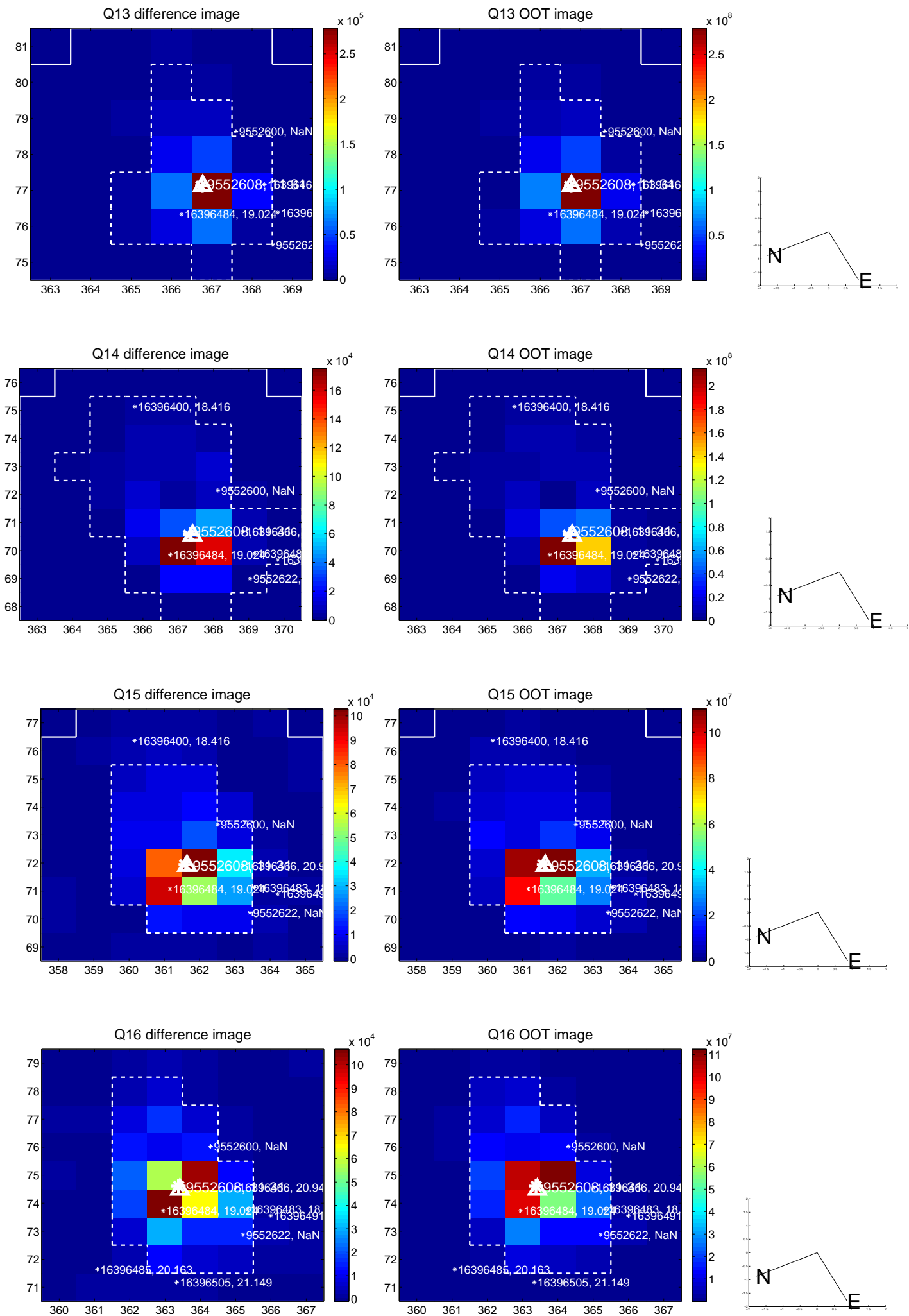


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

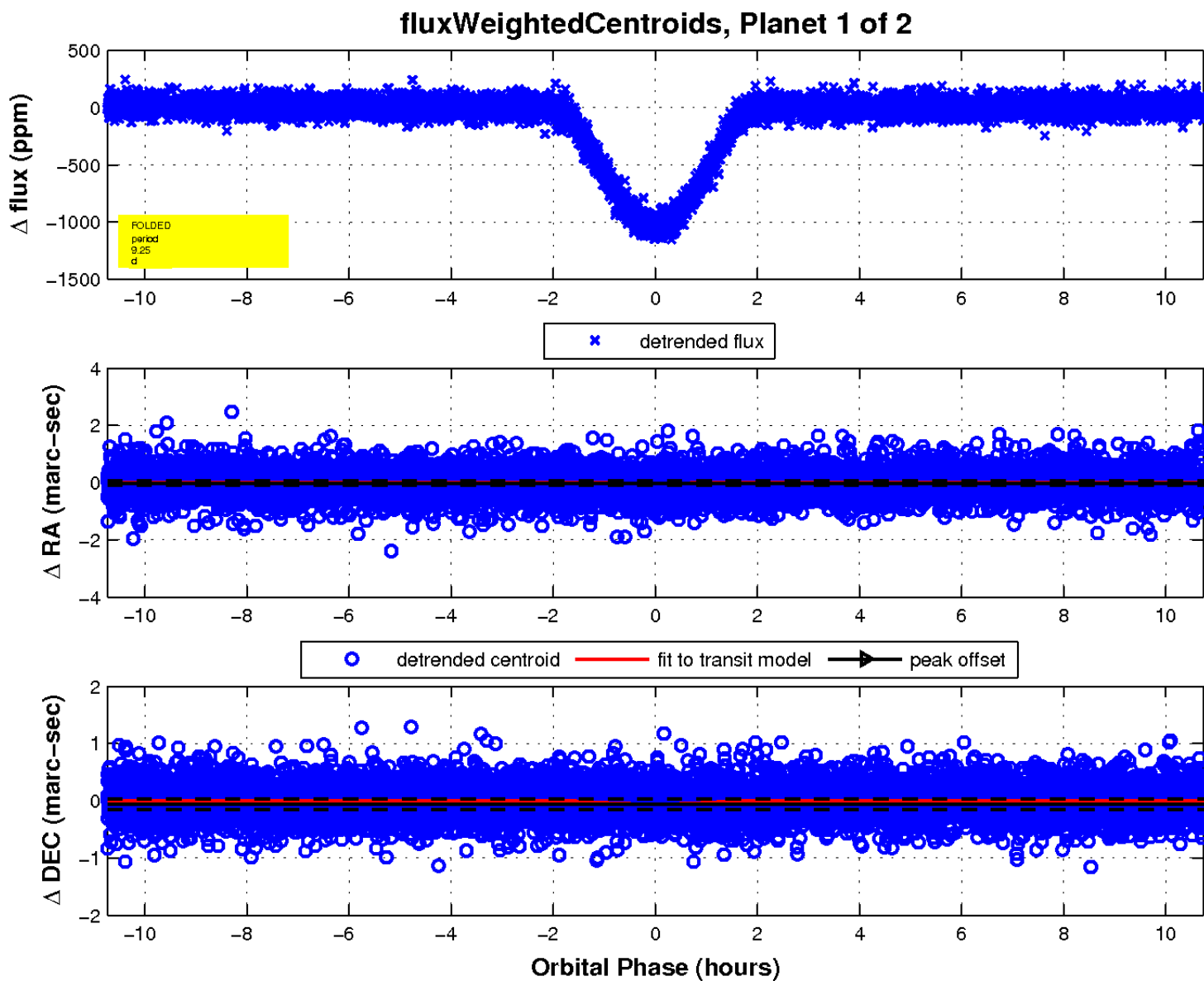
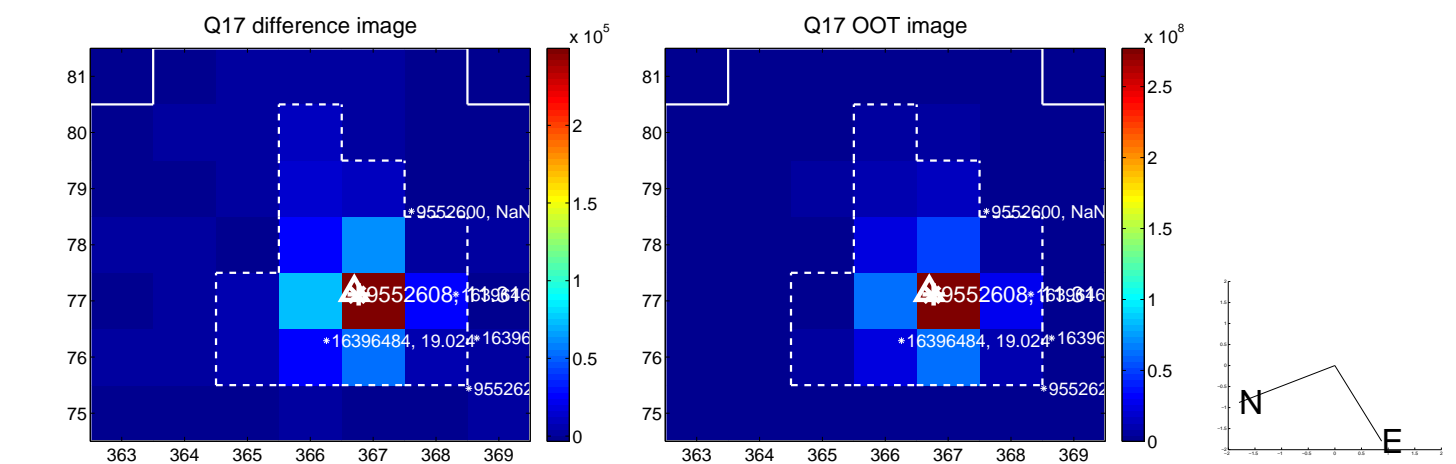
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

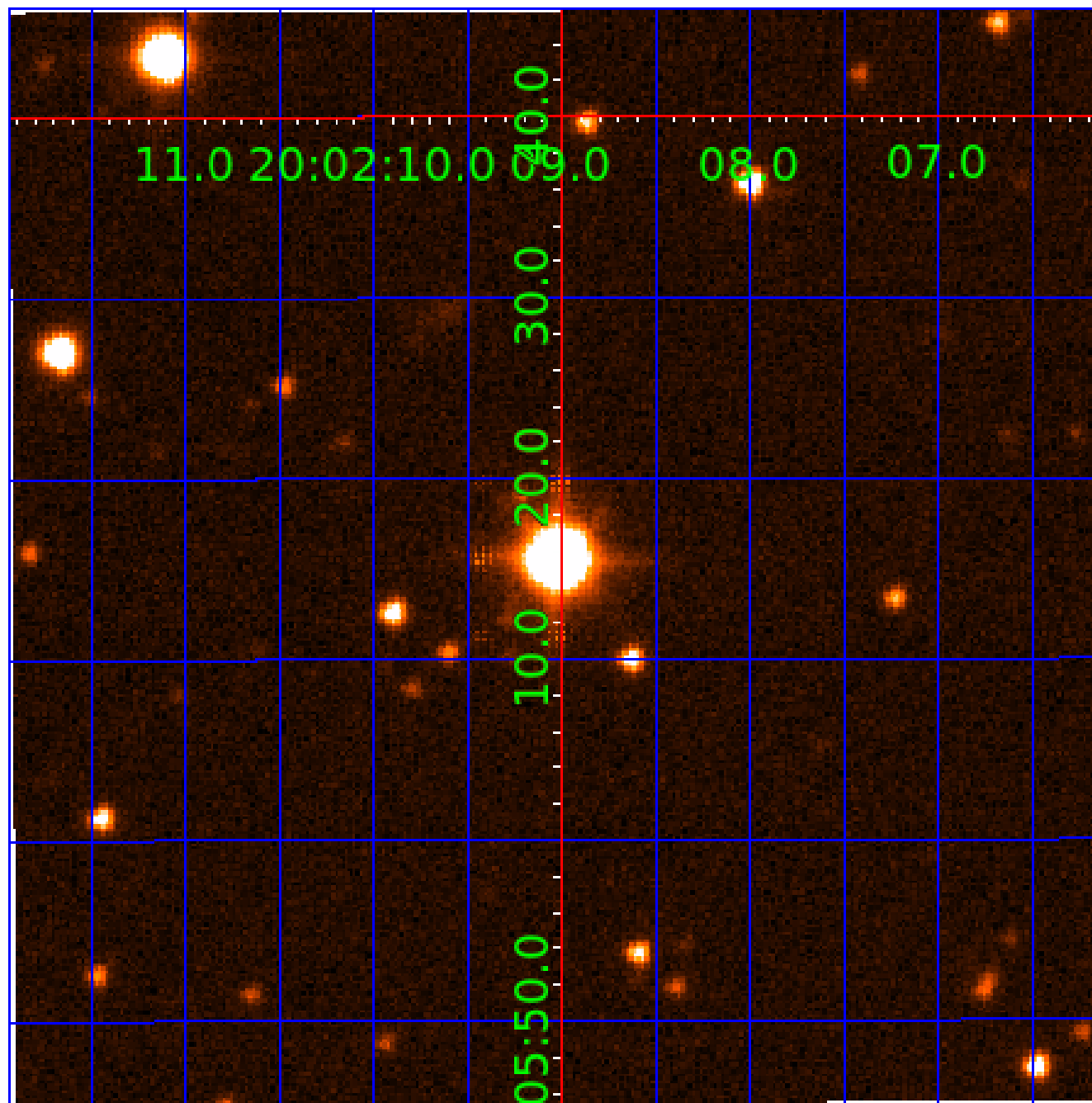


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009552608

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})
009552608-01	OBS	0080.01	9.250573	135.407623	1029.9	3.580	337.0	335.5	3.29	8133	19.70	3538.52
009552608-02	OBS	No	9.250562	132.189796	100.8	2.127	32.2	35.1	3.29	8133	3.85	3538.53

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009552608-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_SATURATED
009552608-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_SATURATED

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

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

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

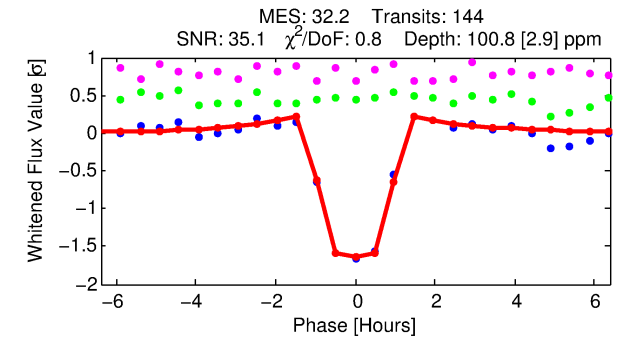
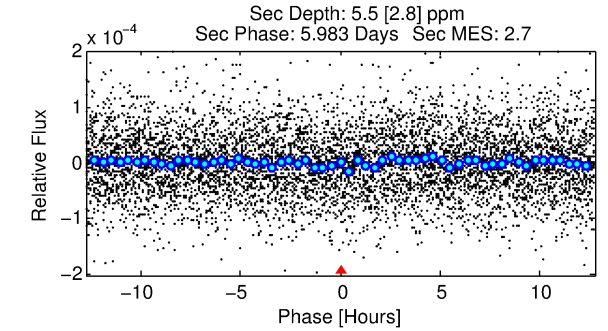
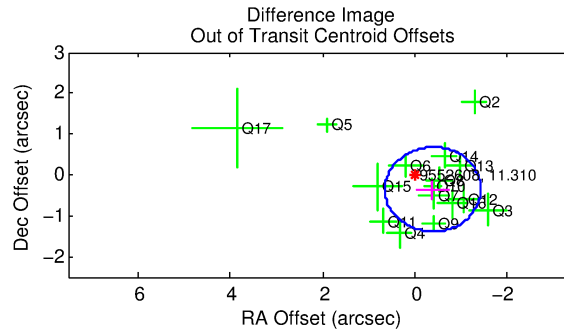
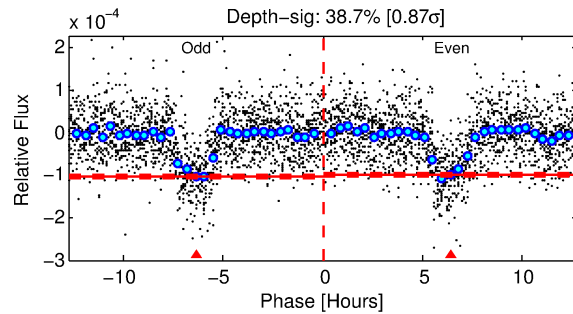
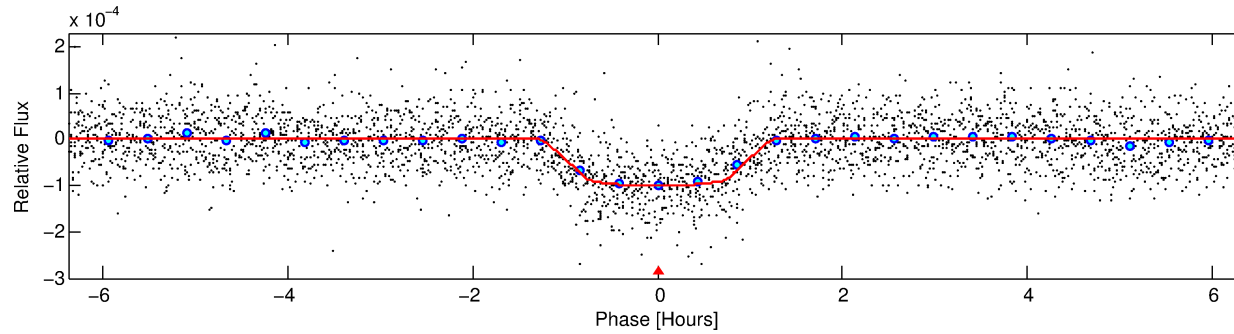
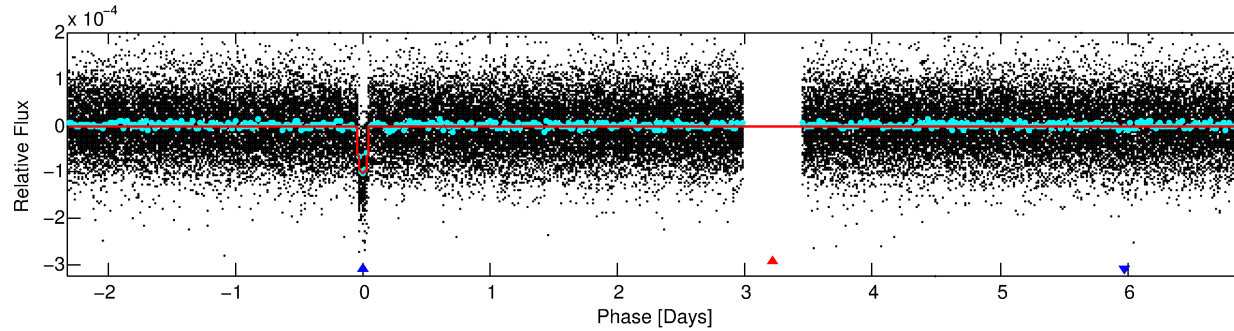
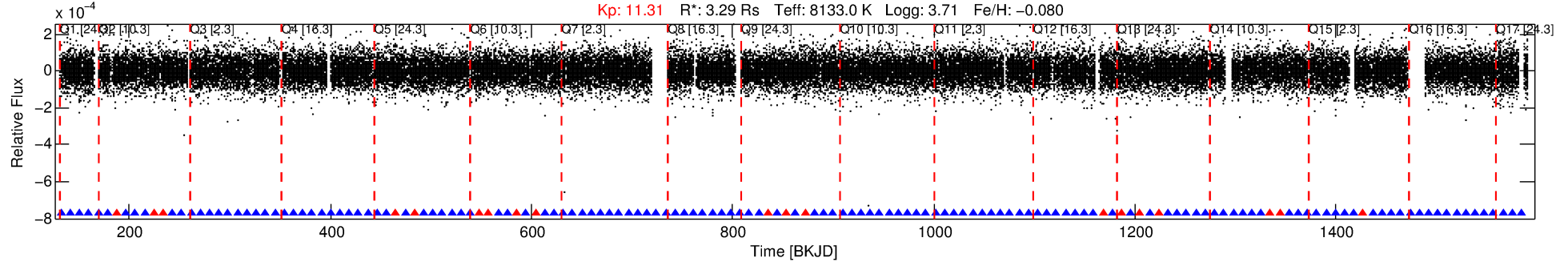
Ephemeris Match Information For 009552608-02

No Significant Match Found

DV One-Page Summary

KIC: 9552608 Candidate: 2 of 2 Period: 9.251 d
KOI: K00080 Corr: No Ephemeris Match

Kp: 11.31 R*: 3.29 Rs Teff: 8133.0 K Logg: 3.71 Fe/H: -0.080



DV Fit Results:

Period = 9.25056 [0.00001] d
Epoch = 132.1898 [0.0013] BKJD
Rp/R* = 0.0107 [0.0015]
a/R* = 15.38 [13.12]
b = 0.90 [0.19]
Seff = 3538.53 [2574.56]
Teq = 1967 [358] K
Rp = 3.85 [1.90] Re
a = 0.1096 [0.0491] AU
Ag = 2.44 [2.23] [0.65σ]
Teffp = 3802 [570] K [2.73σ]

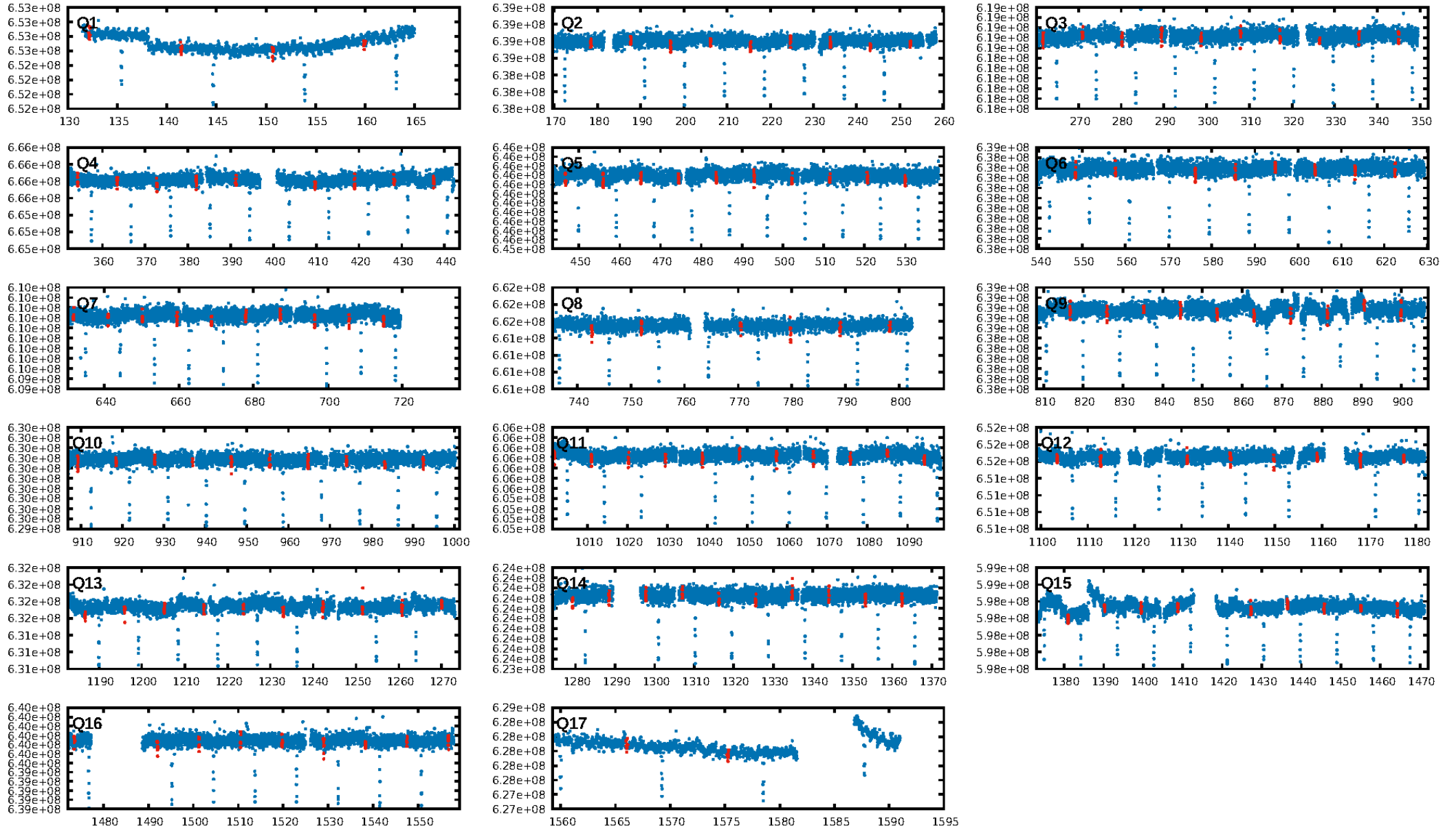
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 98.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.10e-210
RollingBand-fgt: 0.86 [119/138]
GhostDiagnostic-chr: 87.29
Centroid-sig: 0.1%
Centroid-so: 0.649 arcsec [1.48σ]
OotOffset-rm: 0.522 arcsec [1.51σ]
KicOffset-rm: 0.727 arcsec [2.13σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.94 [15/16]
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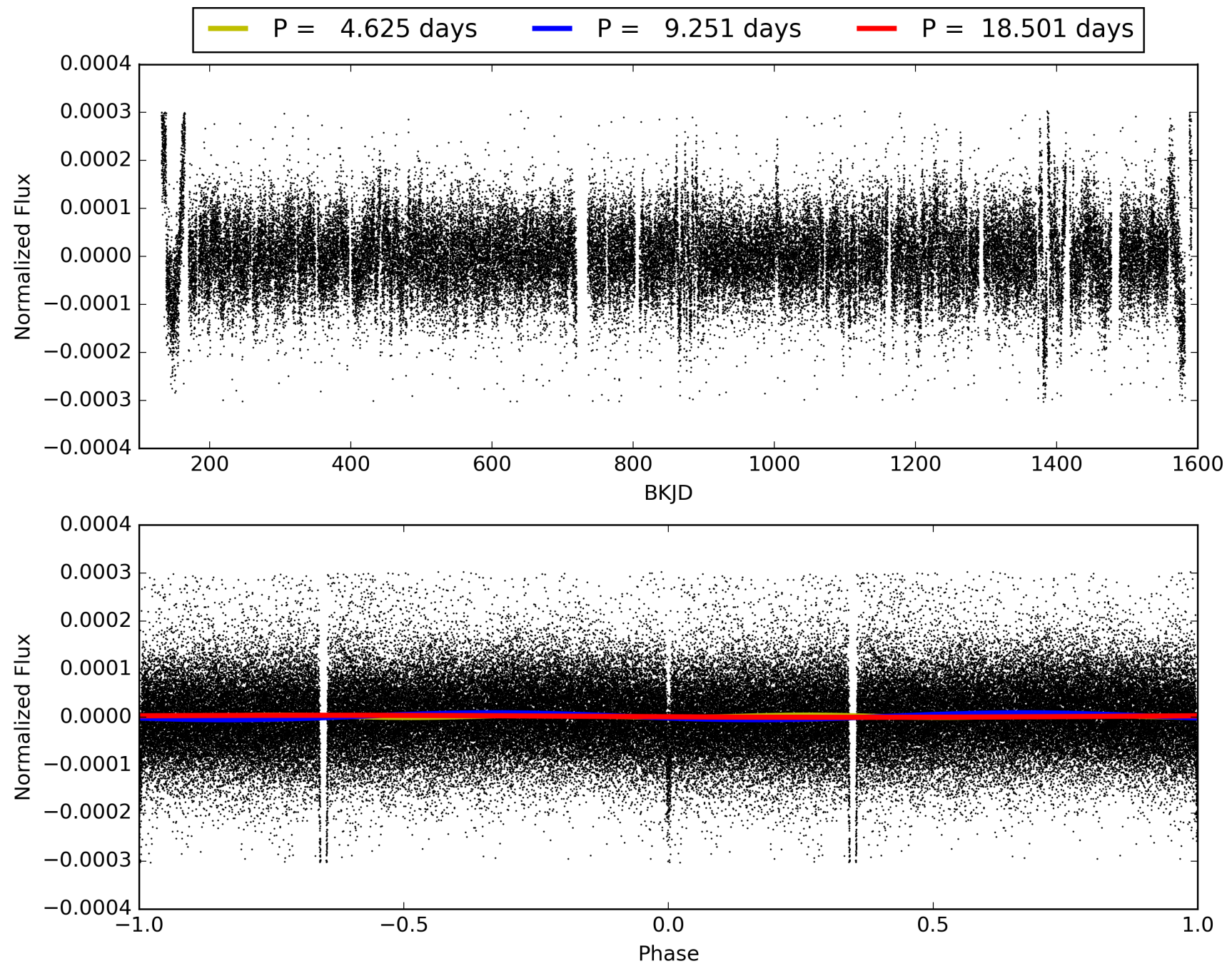
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 12:37:10 Z

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

TCE 009552608-02, PDC Light Curves

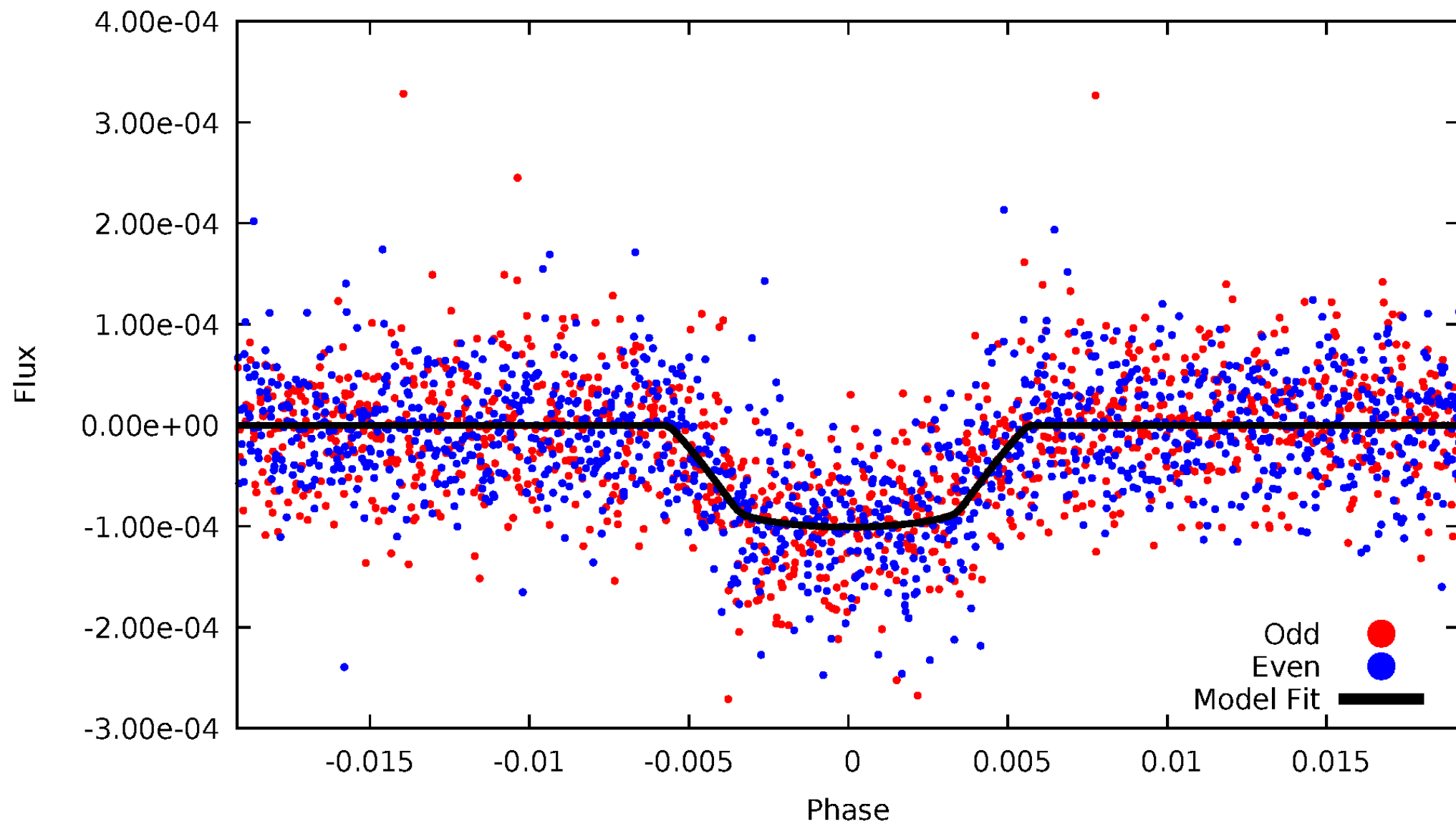


TCE 009552608-02



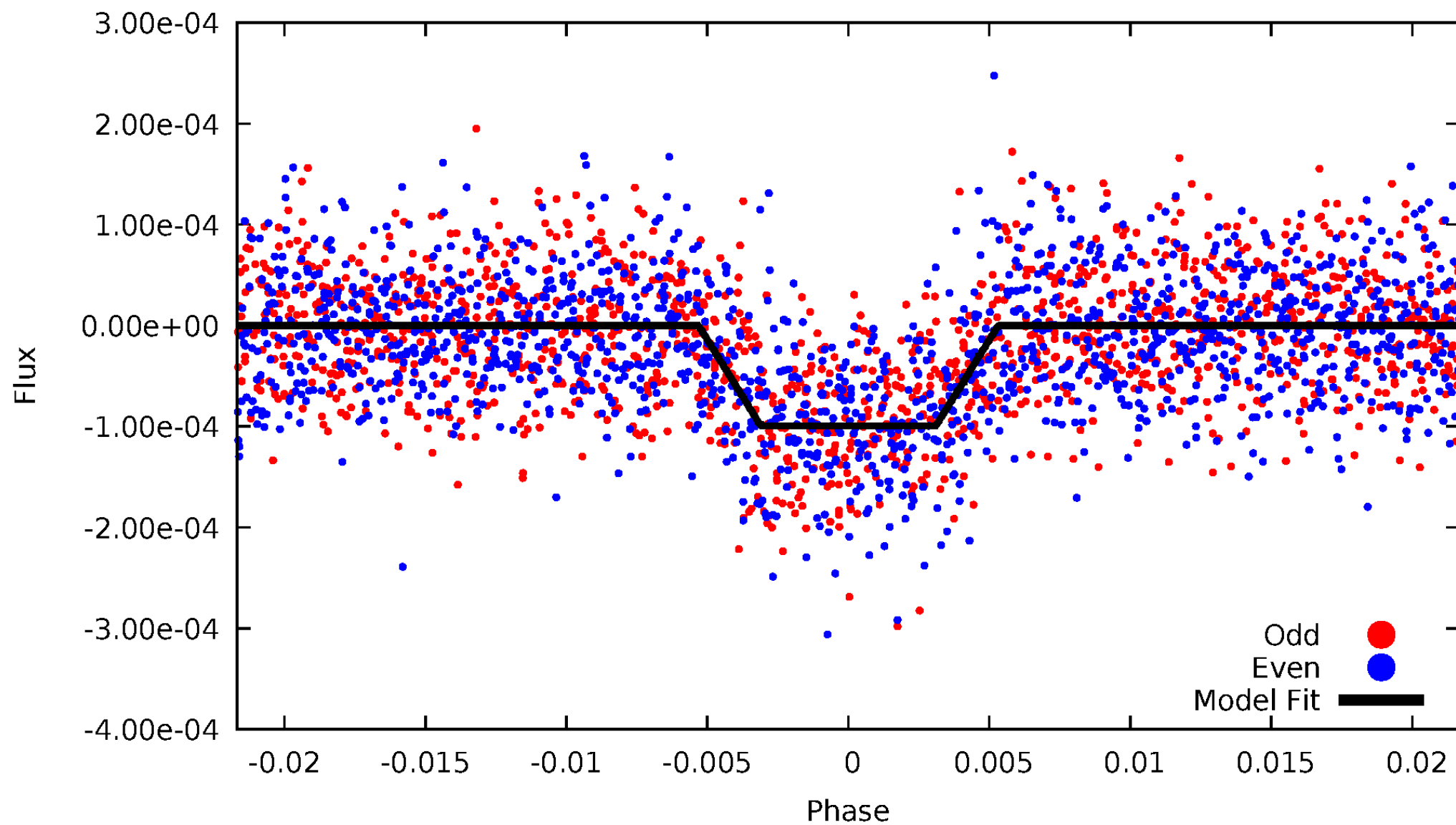
DV Odd/Even

TCE 009552608-02



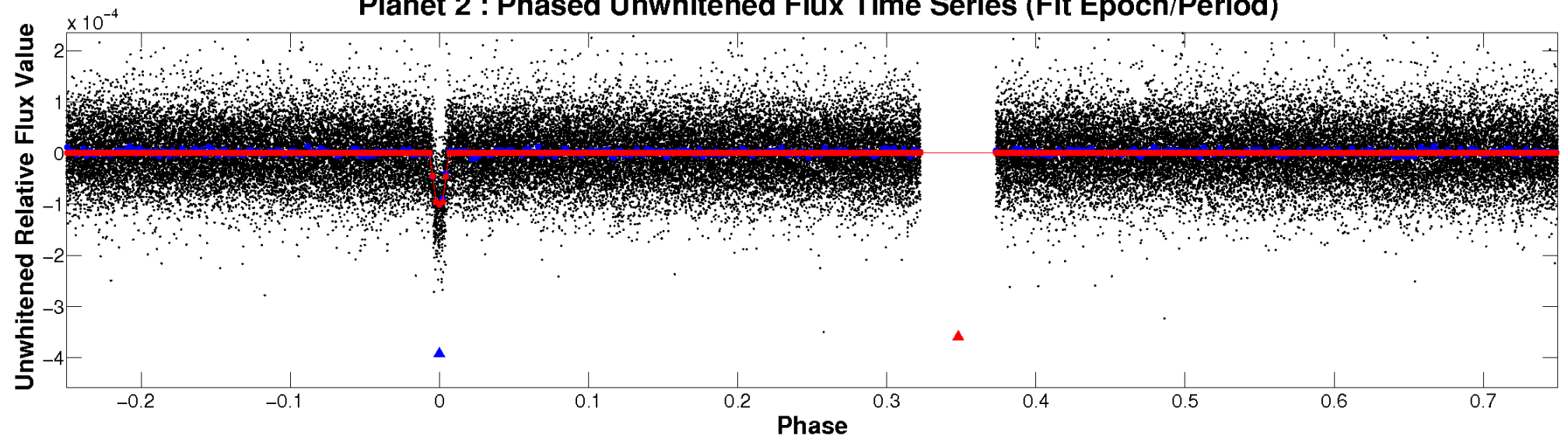
ALT Odd/Even

TCE 009552608-02

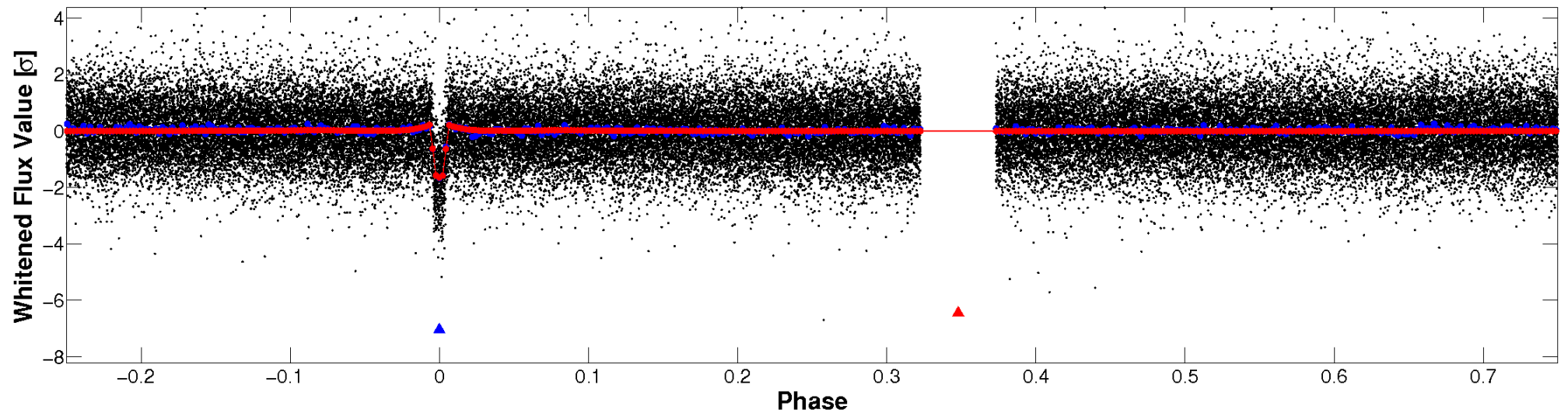


Non-Whitened Vs. Whitened Light Curve

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

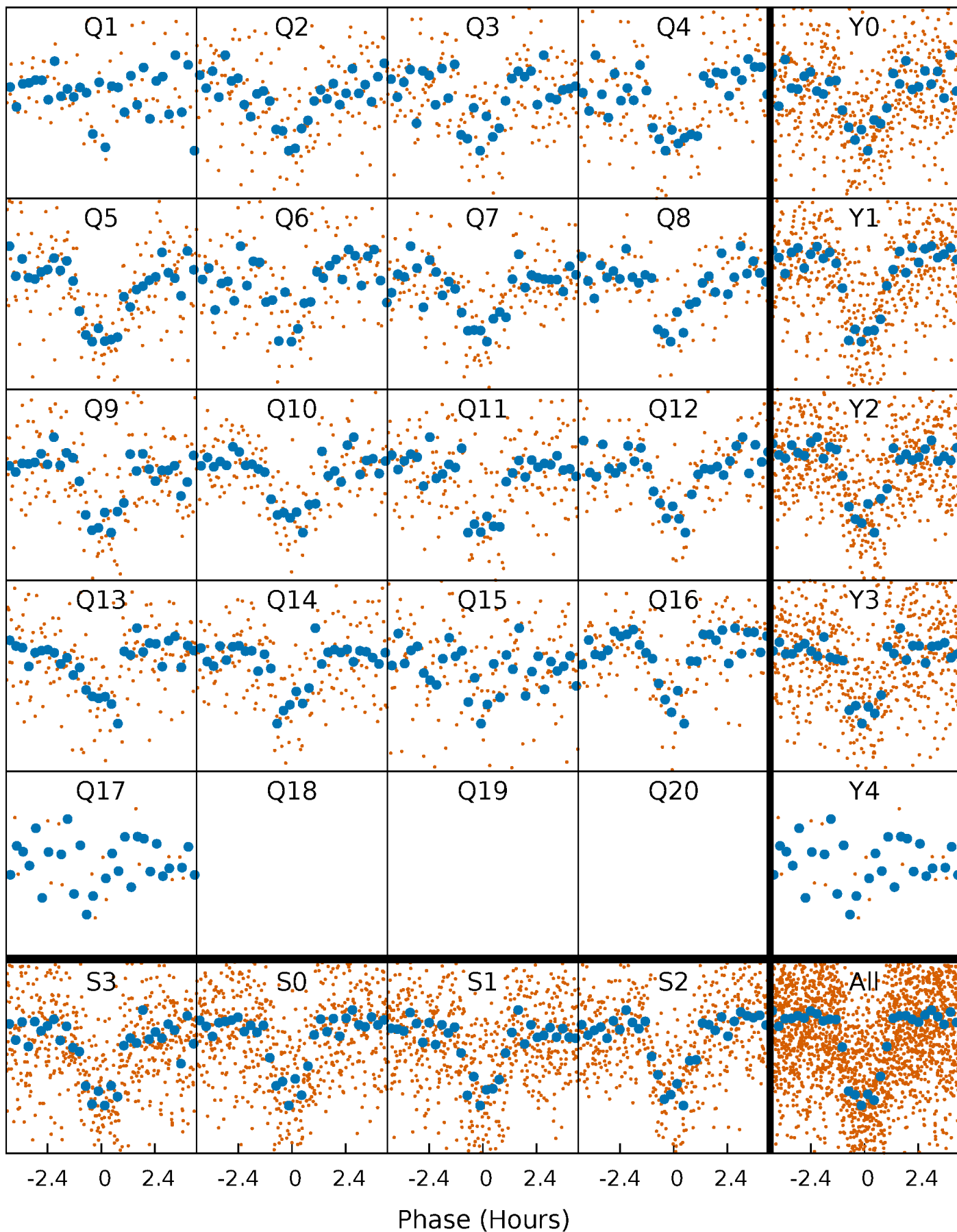


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



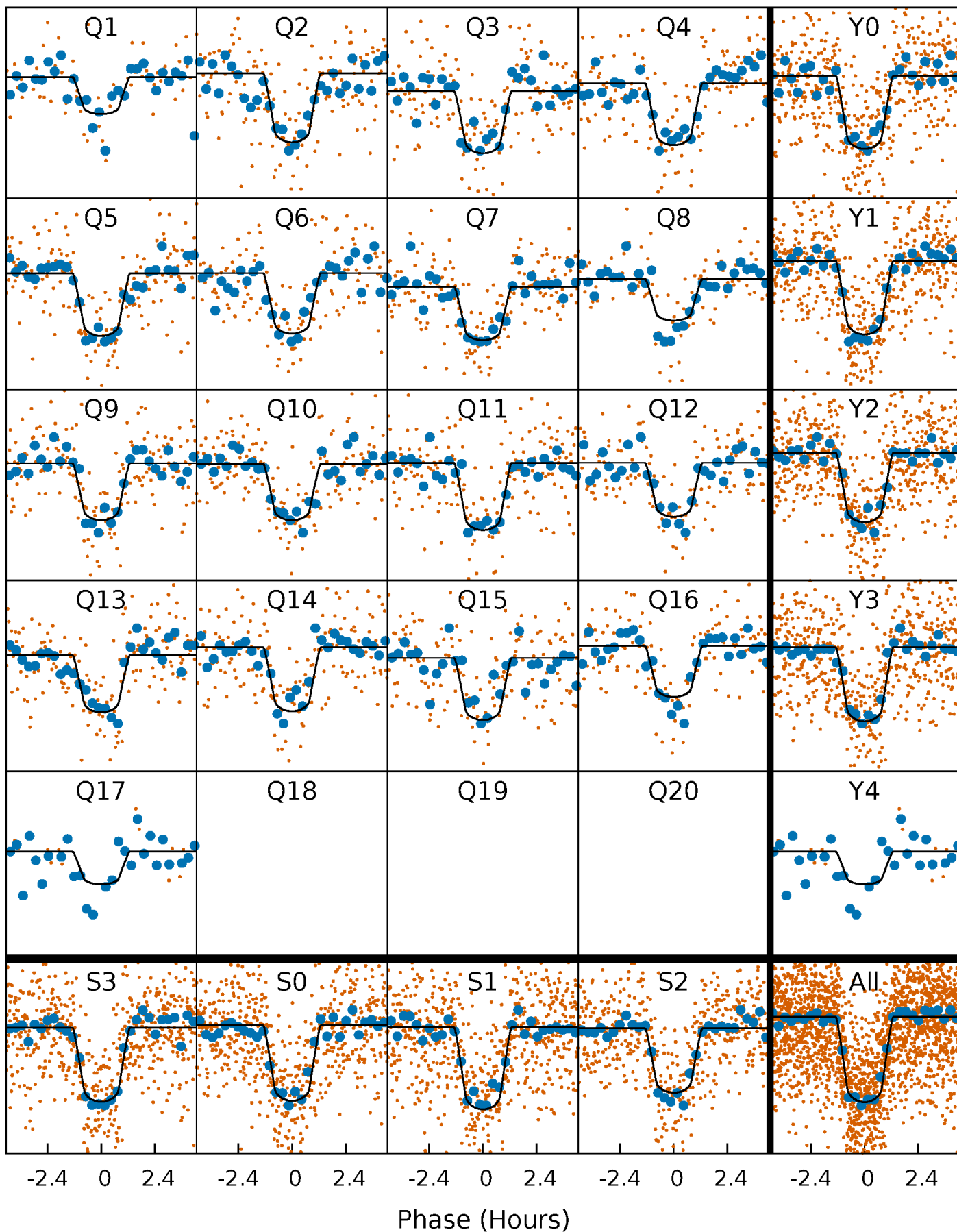
PDC Quarter-Phased Transit Curves

TCE 009552608-02 P= 9.250562 Days $T_0=132.189796$ (BKJD)



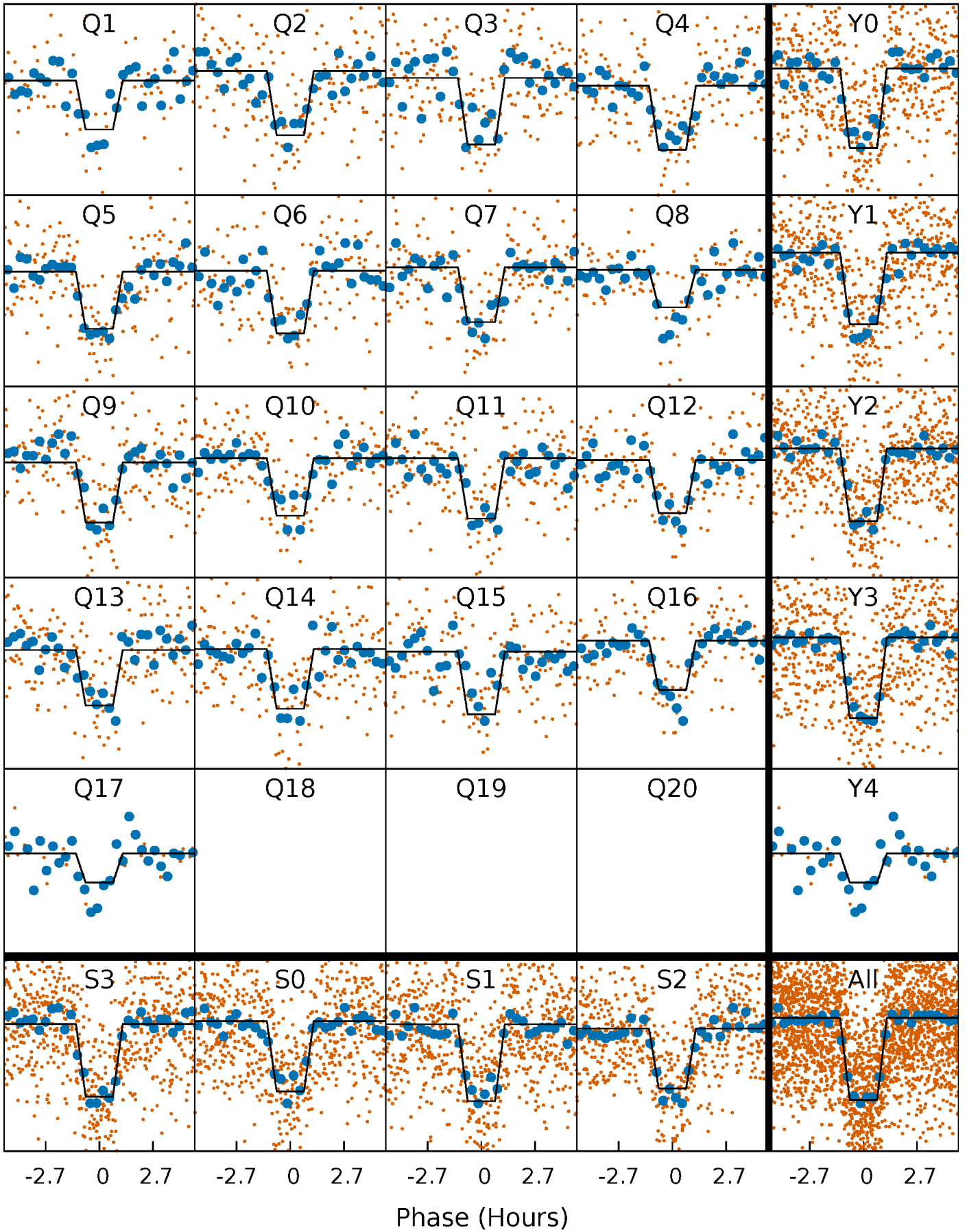
DV Quarter-Phased Transit Curves

TCE 009552608-02 P= 9.250562 Days $T_0=132.189796$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

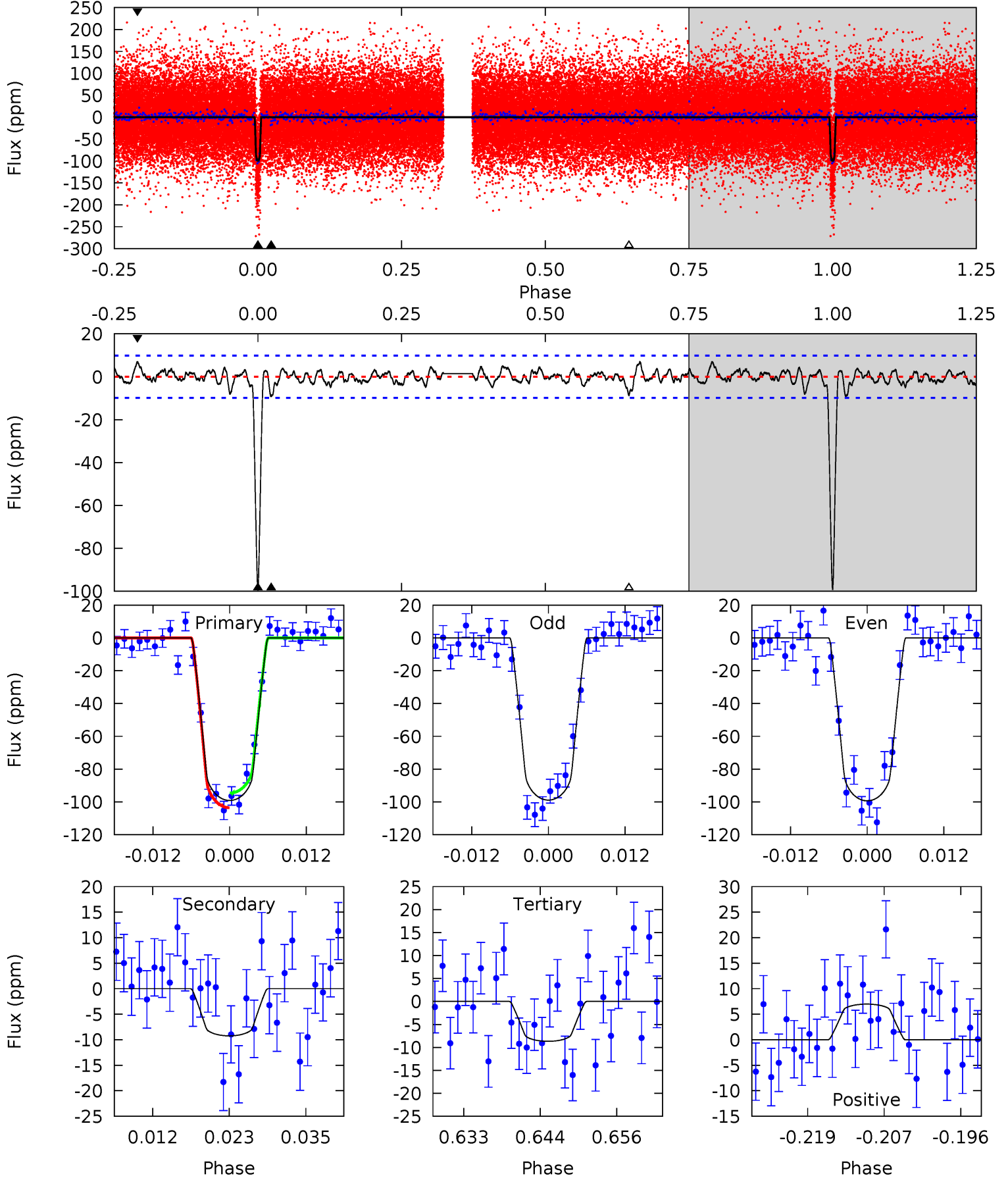
TCE 009552608-02 P= 9.250528 Days $T_0=132.191605$ (BKJD)



DV Model-Shift Uniqueness Test

009552608-02, P = 9.250562 Days, E = 122.939234 Days

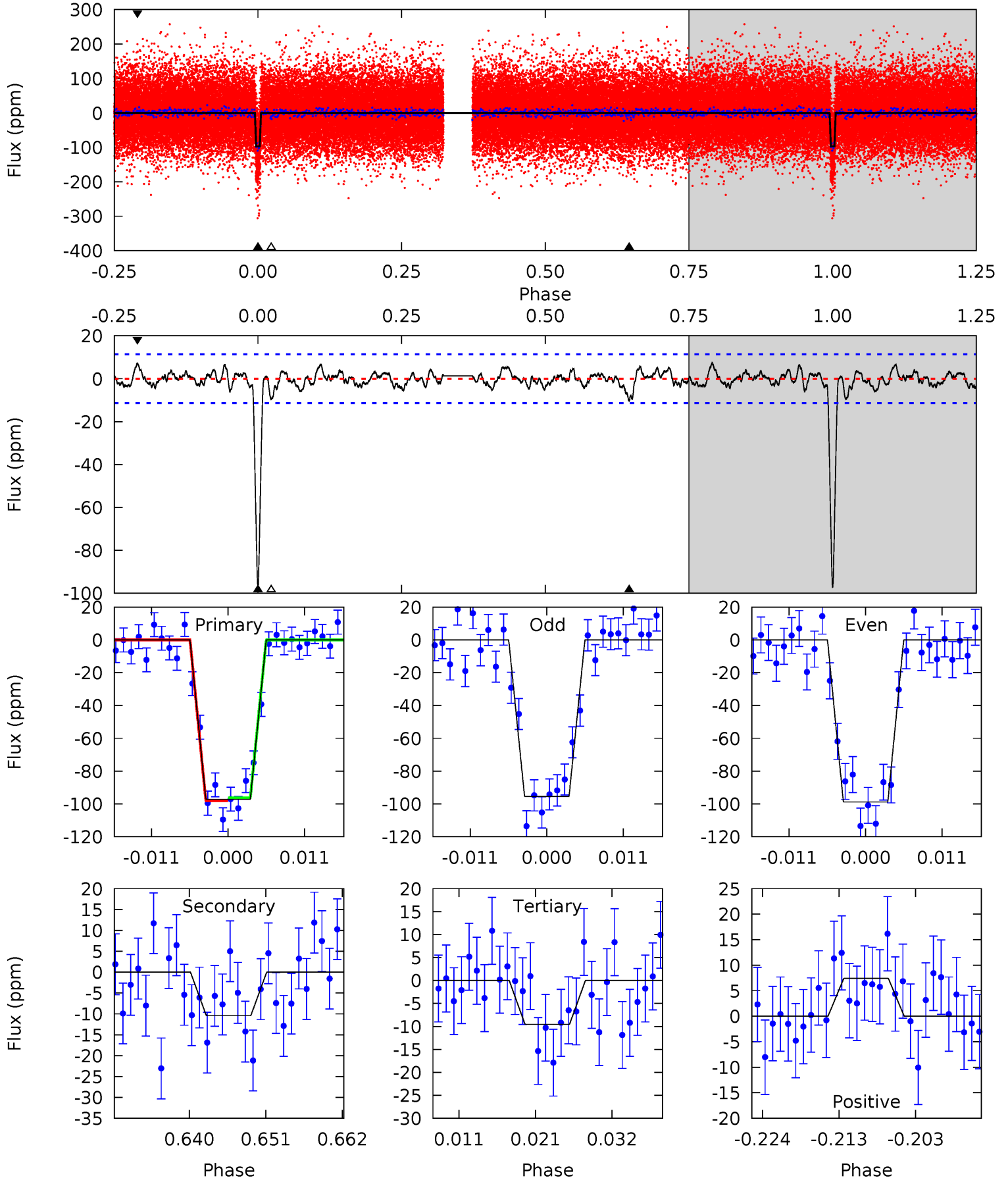
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
50.3	4.69	4.41	3.54	5.00	2.53	1.22	45.9	46.8	0.29	1.15	0.12	1.03	0.07	2.29



Alt Model-Shift Uniqueness Test

009552608-02, P = 9.250528 Days, E = 122.941077 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
42.7	4.58	4.19	3.26	5.01	2.55	1.17	38.5	39.4	0.39	1.32	0.73	0.99	0.07	0.40



Stellar Parameters For KIC 009552608

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8133^{+225}_{-338}	$3.715^{+0.413}_{-0.110}$	$-0.080^{+0.250}_{-0.350}$	$3.294^{+0.840}_{-1.561}$	$2.053^{+0.348}_{-0.523}$	$0.081^{+0.310}_{-0.033}$
	+3%/-4%	+11%/-3%	+312%/-438%	+26%/-47%	+17%/-25%	+384%/-40%
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 009552608-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-9 ± 2	$3.57^{+0.98}_{-0.95}$	2649^{+215}_{-309}	4342^{+350}_{-302}	$4.839^{+3.830}_{-1.892}$
Alt.	-10 ± 2	$3.33^{+0.83}_{-0.86}$	2654^{+236}_{-303}	4562^{+414}_{-329}	$6.100^{+4.971}_{-2.400}$

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

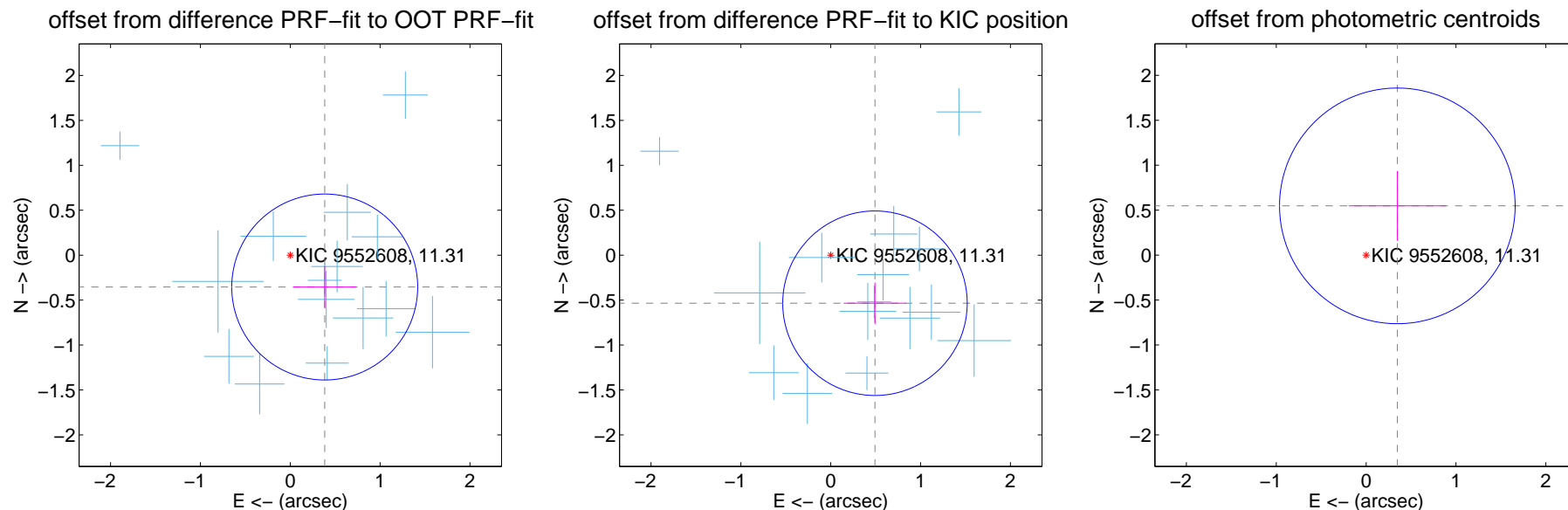
DV Centroid Data

Supplemental centroid analysis for 009552608-02. **Kepler magnitude: 11.31.** Transit SNR 35.13

There are 15 quarters with good PRF difference image offsets

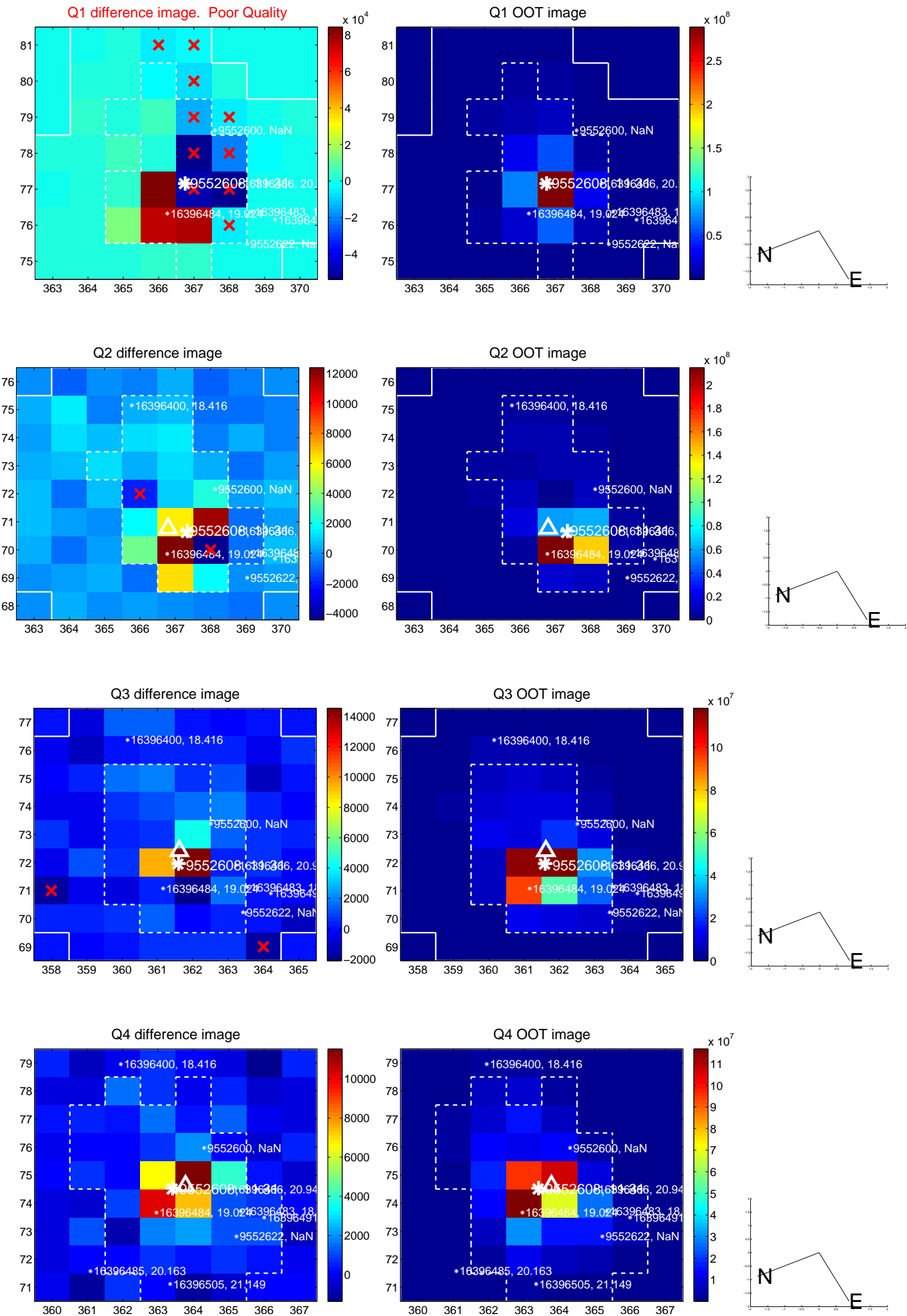
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.522 ± 0.345	1.51	-0.384 ± 0.350	-0.355 ± 0.233
PRF-fit source offset from KIC position	0.727 ± 0.342	2.13	-0.493 ± 0.347	-0.535 ± 0.231
photometric centroid source offset	0.65 ± 0.44	1.48	-0.35 ± 0.54	0.55 ± 0.39

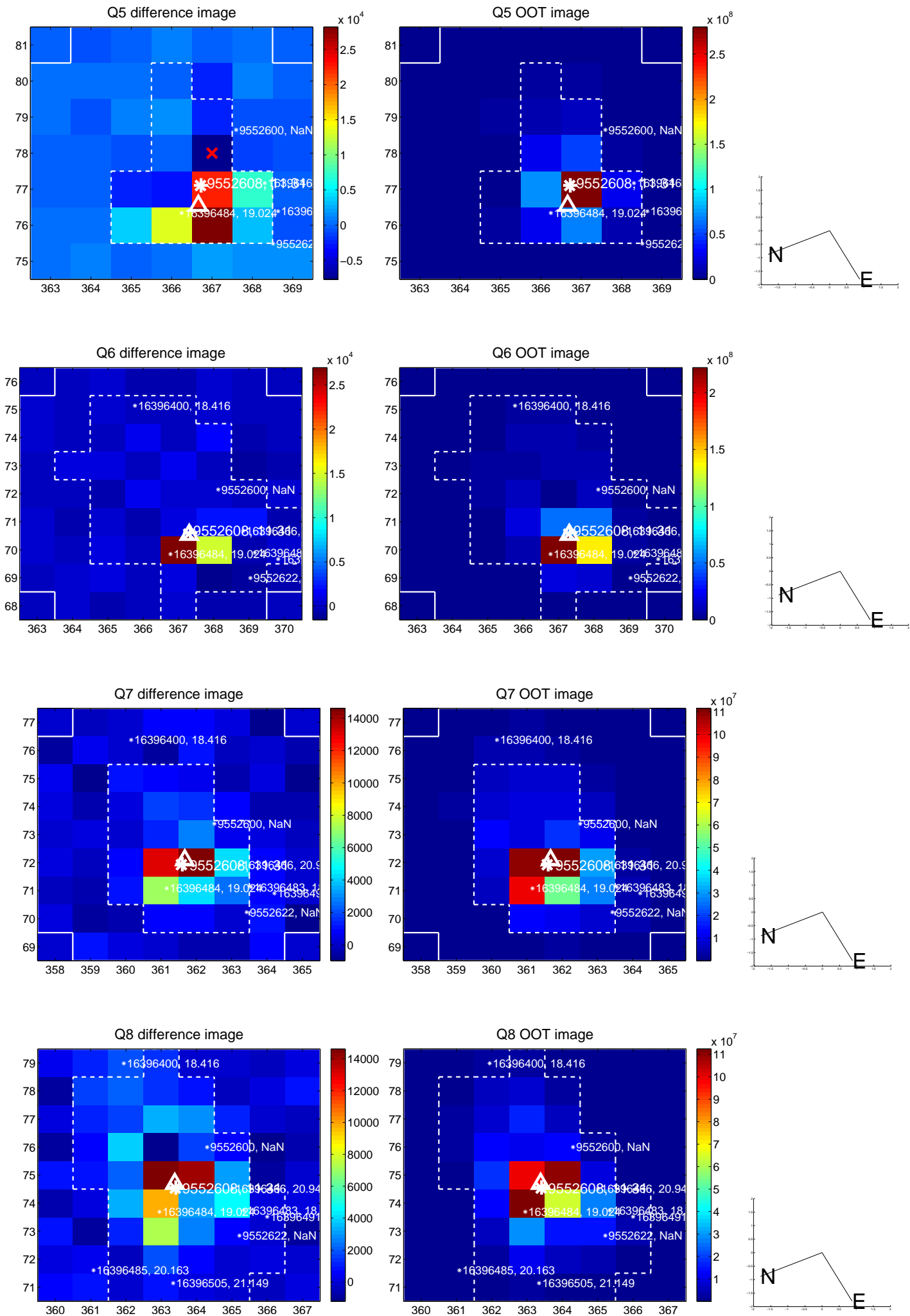


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

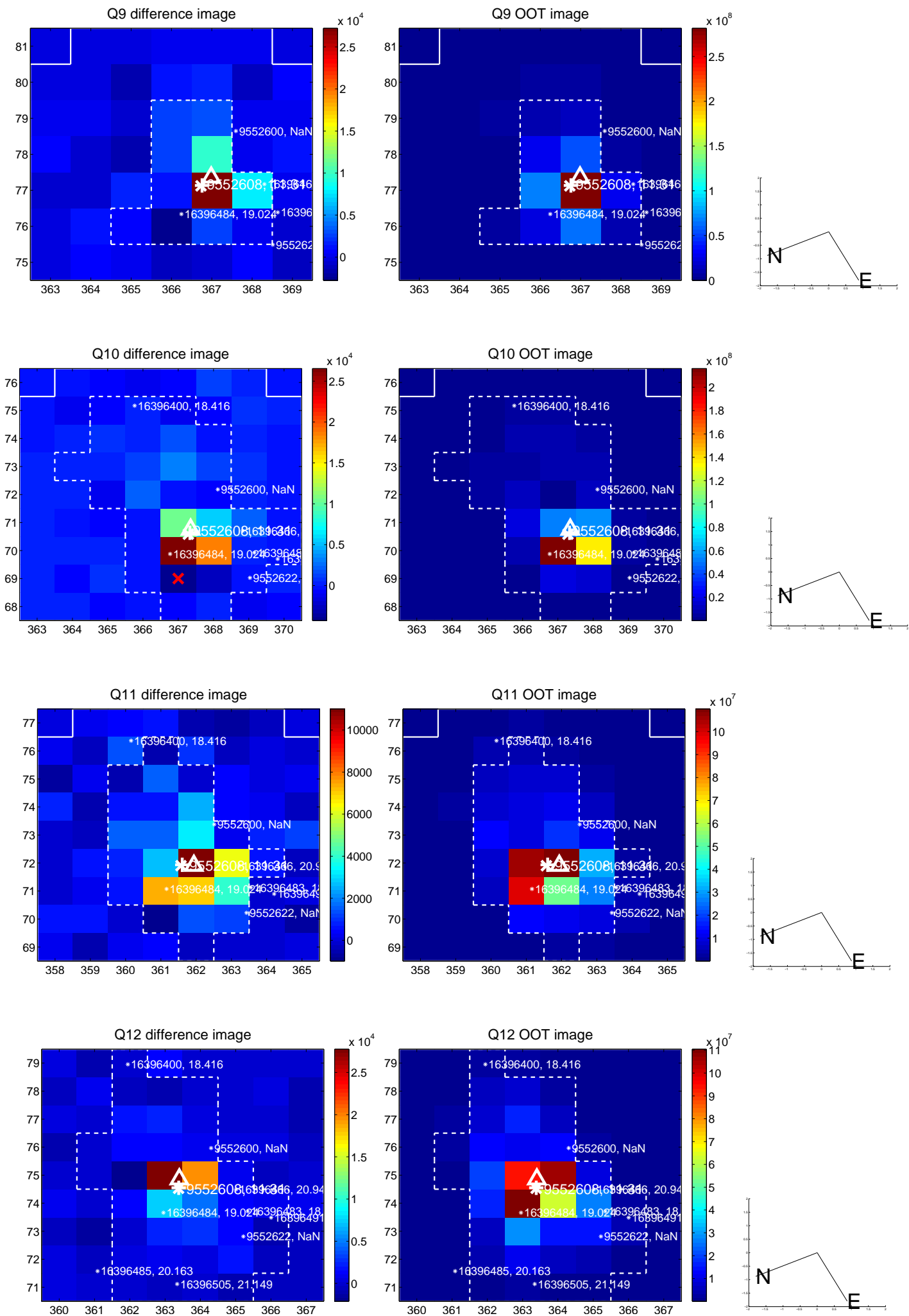
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



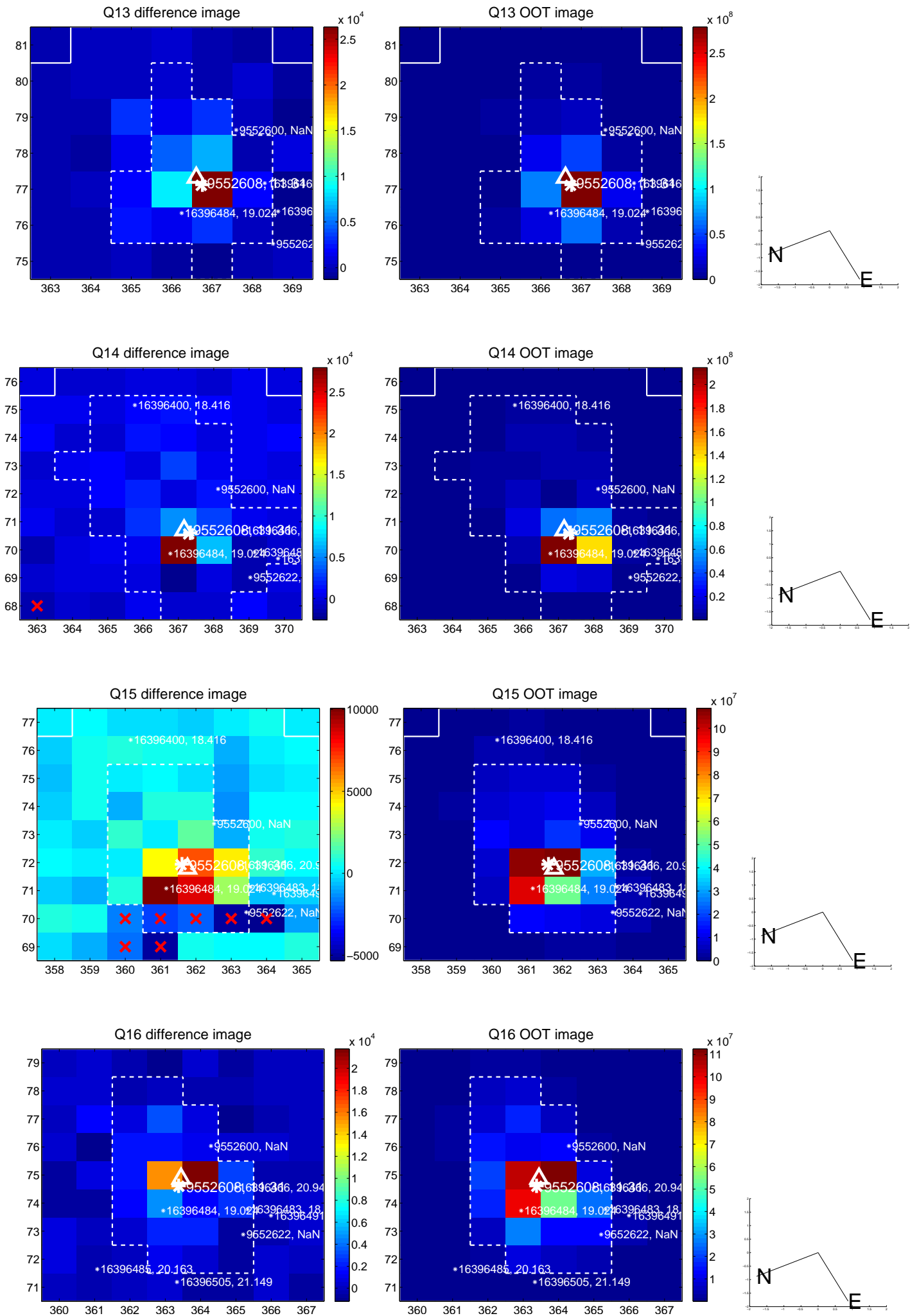
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



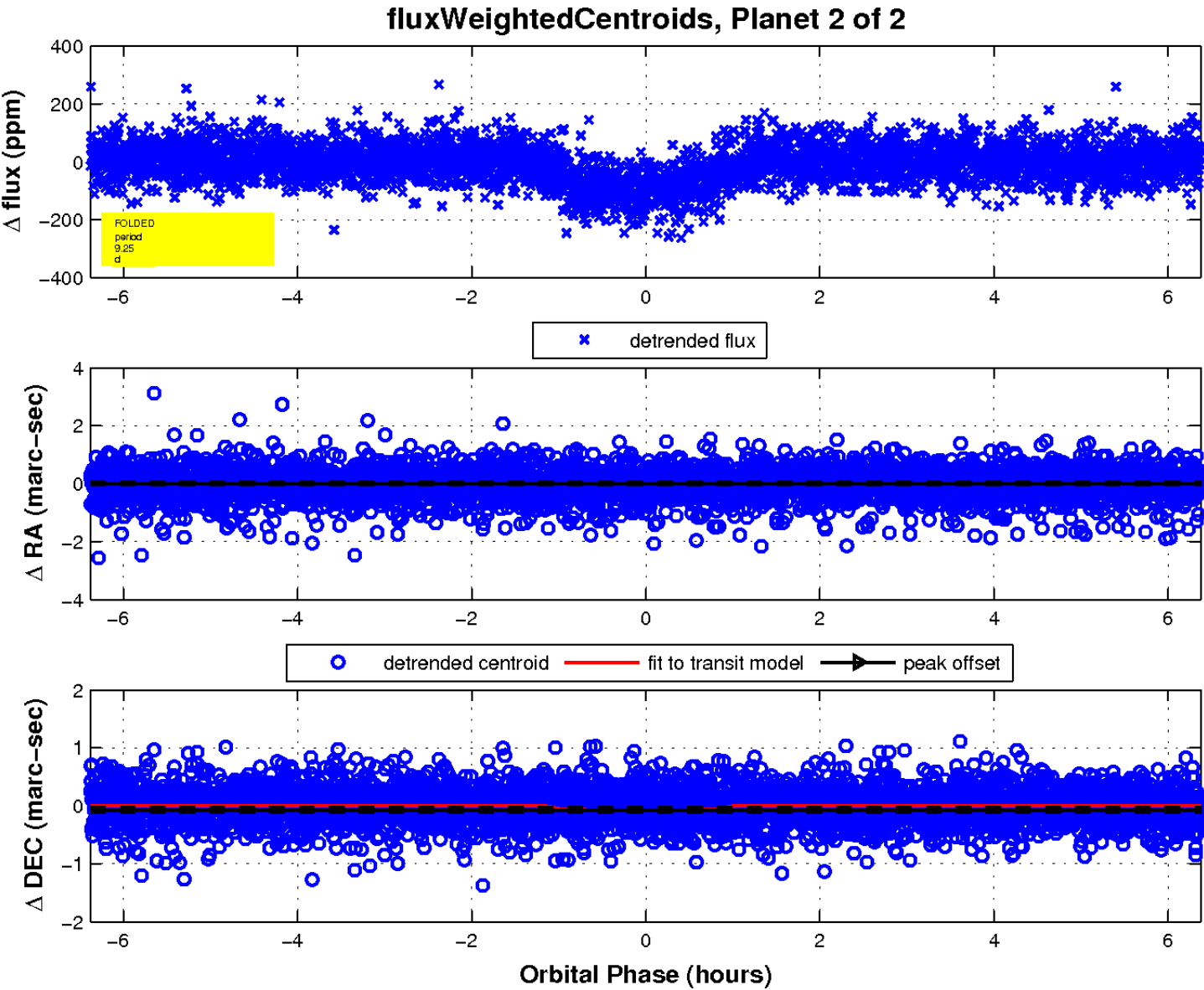
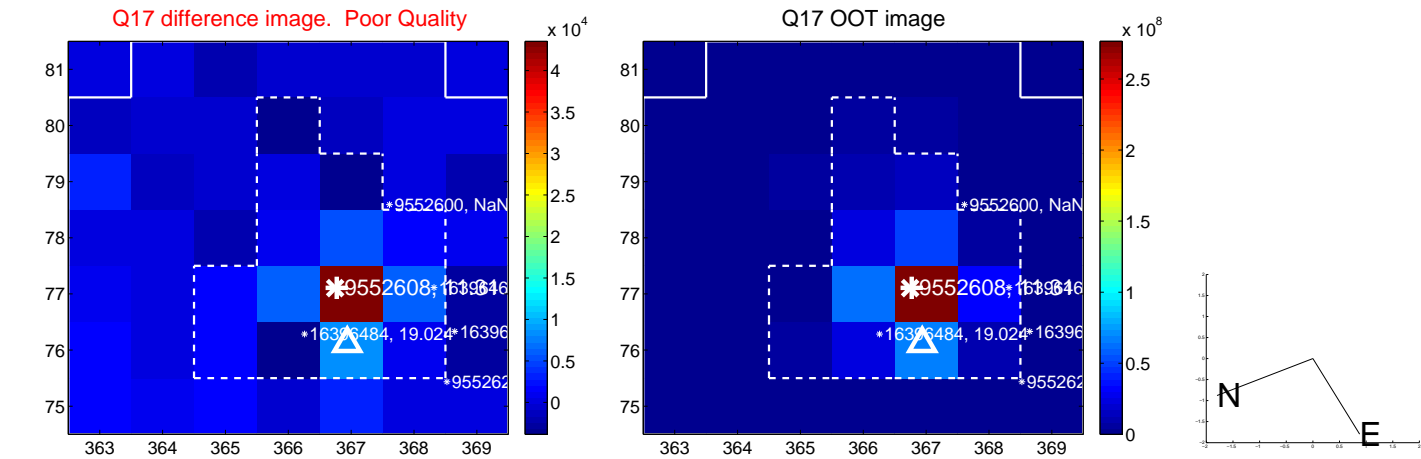
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

