

KIC 004563268

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})
004563268-01	OBS	0627.01	7.751908	137.414536	403.1	3.659	61.5	67.8	0.91	5604	2.09	124.64
004563268-02	OBS	0627.02	4.165379	132.037872	119.6	3.346	24.8	26.8	0.91	5604	1.17	285.33

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004563268-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
004563268-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

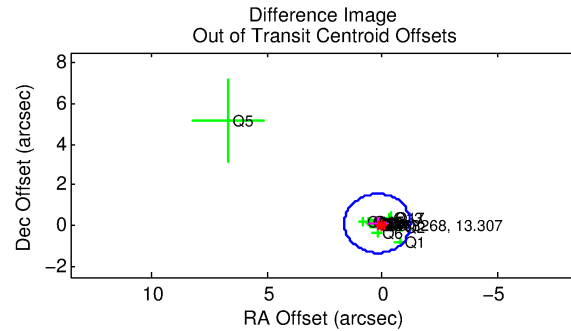
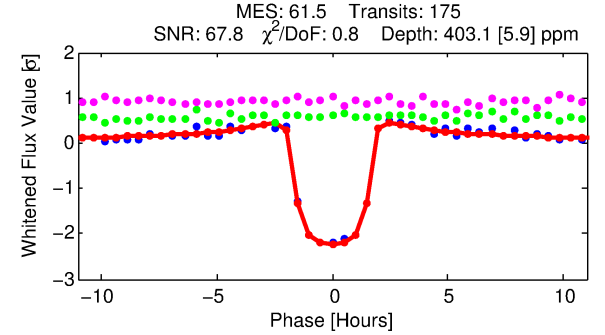
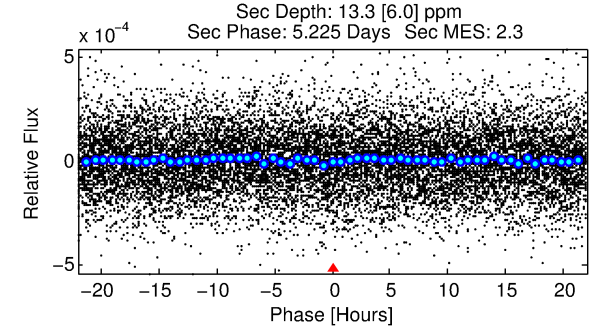
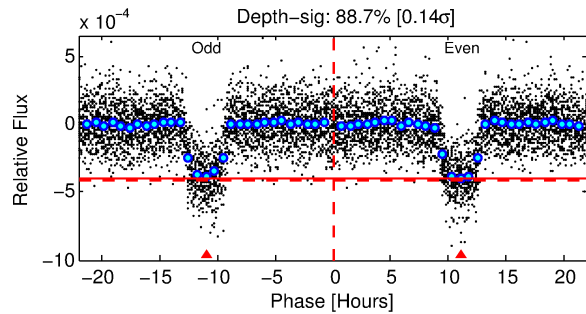
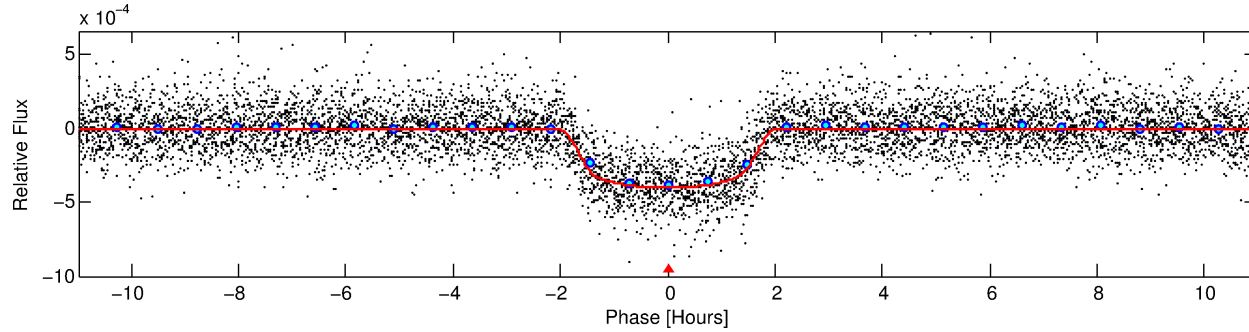
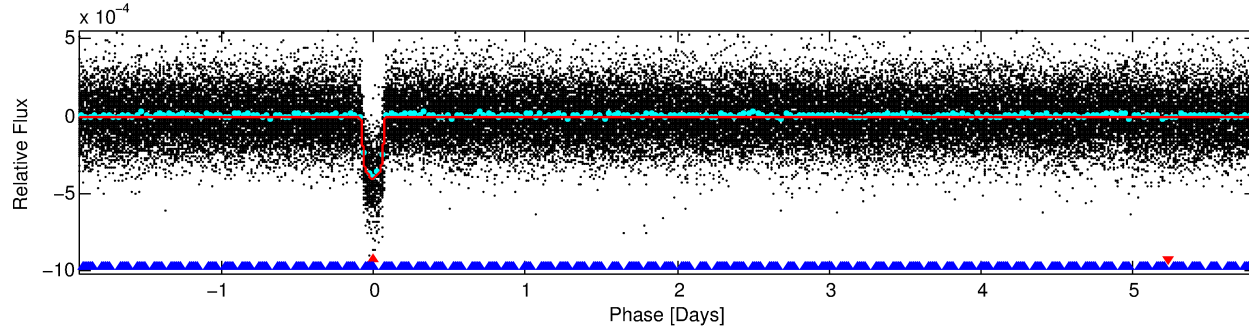
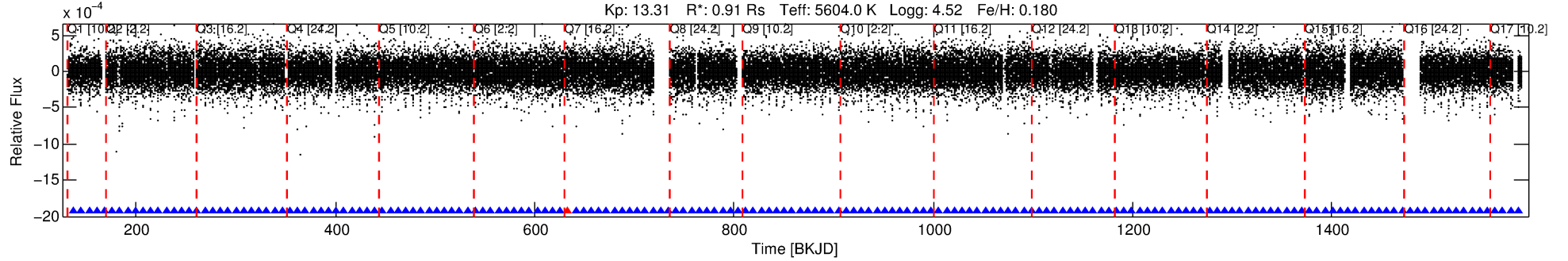
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004563268-01

No Significant Match Found

DV One-Page Summary

KIC: 4563268 Candidate: 1 of 2 Period: 7.752 d
KOI: K00627.01 Corr: 0.976



DV Fit Results:

Period = 7.75191 [0.00001] d
Epoch = 137.4145 [0.0009] BKJD
Rp/R* = 0.0210 [0.0018]
a/R* = 9.33 [3.40]
b = 0.84 [0.13]
Seff = 124.64 [26.74]
Teq = 852 [46] K
Rp = 2.09 [0.34] Re
a = 0.0768 [0.0097] AU
Ag = 9.82 [5.13] [1.72 σ]
Teffp = 2332 [287] K [5.09 σ]

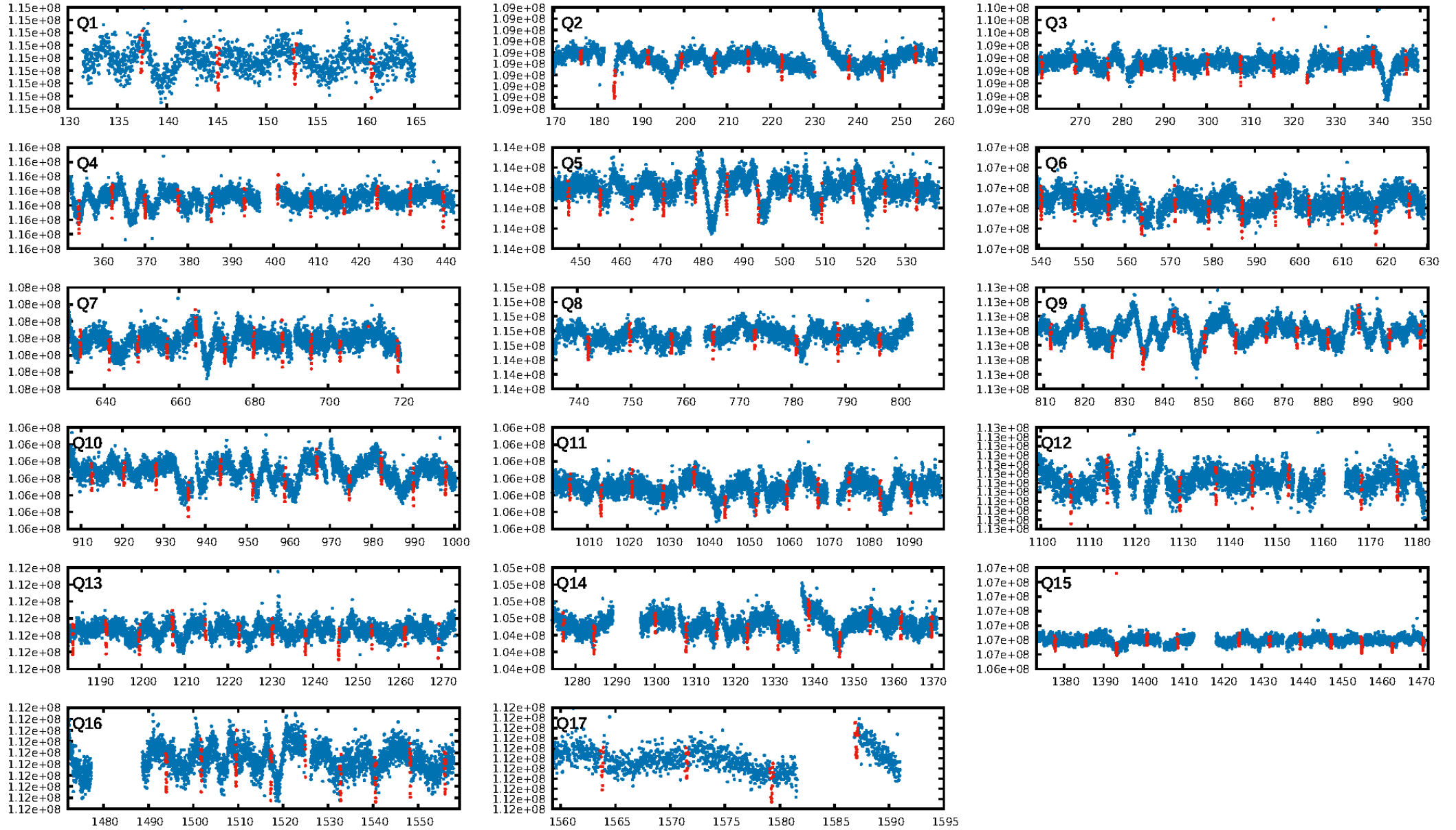
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [17.36 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.99 [166/167]
GhostDiagnostic-chr: 3.999
Centroid-sig: 0.0%
Centroid-so: 0.648 arcsec [2.24 σ]
OotOffset-rm: 0.250 arcsec [0.52 σ]
KicOffset-rm: 0.080 arcsec [0.26 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.88 [15/17]
DiffImageOverlap-fno: 1.00 [17/17]

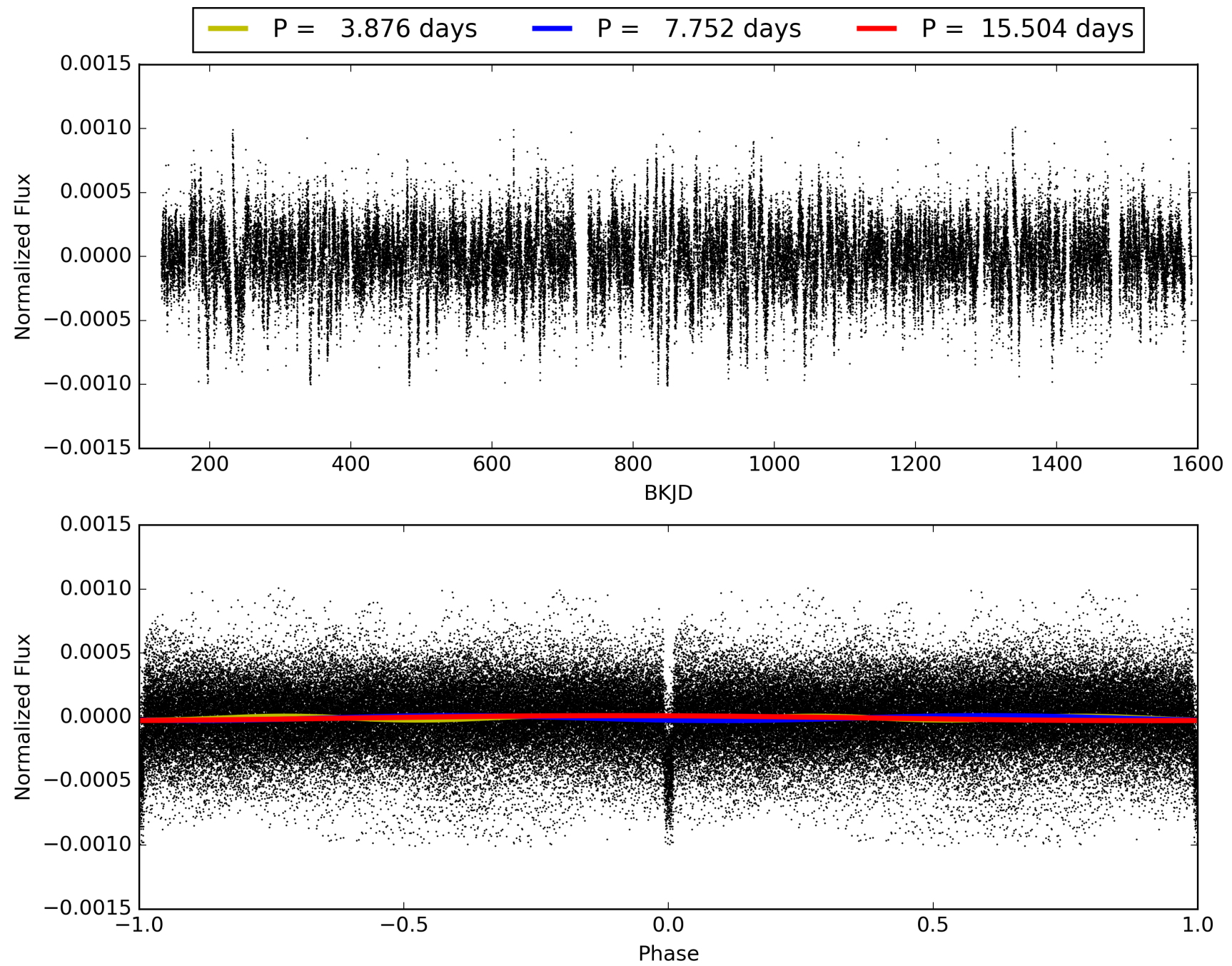
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:55:58 Z

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

TCE 004563268-01, PDC Light Curves

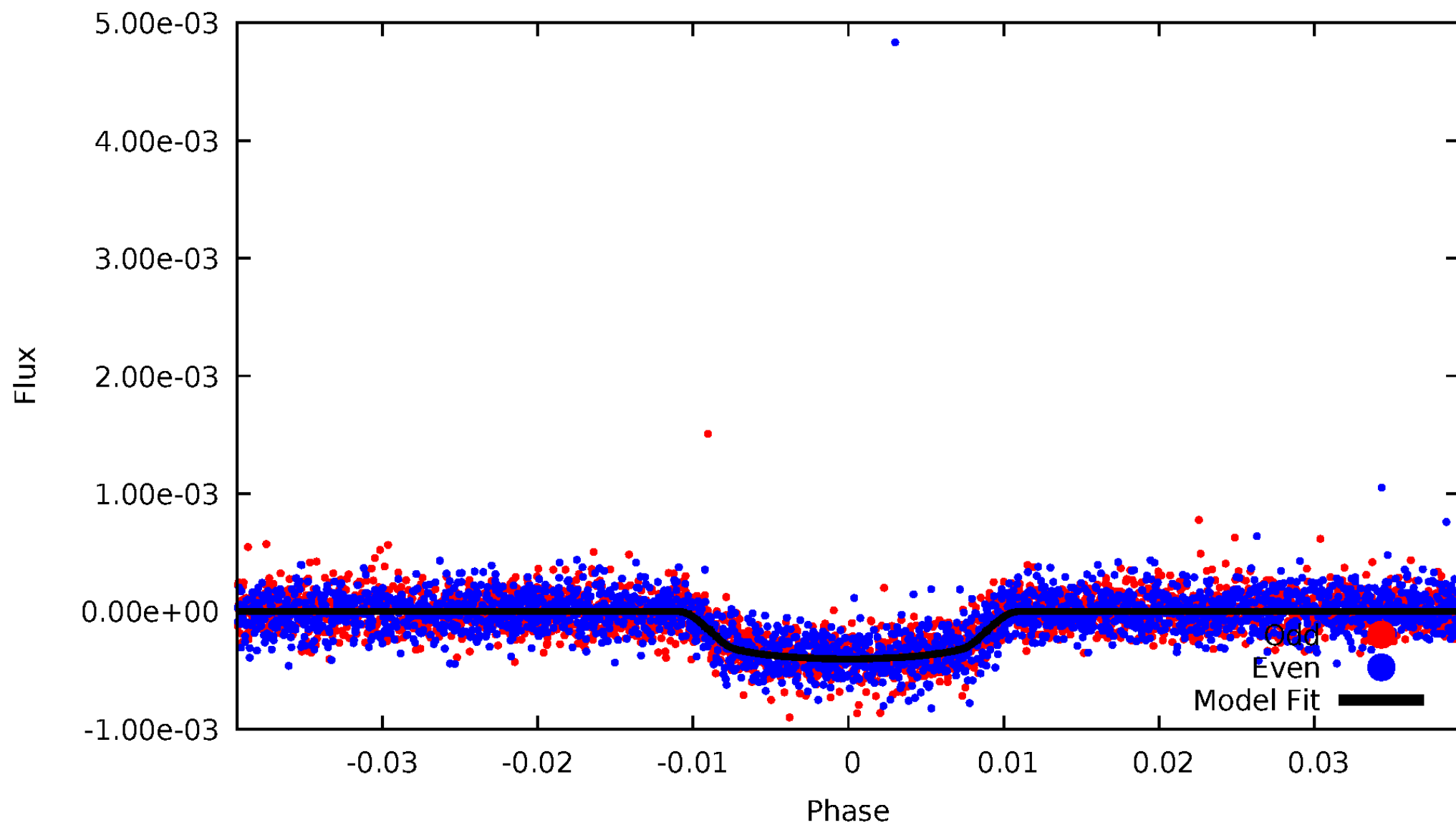


TCE 004563268-01



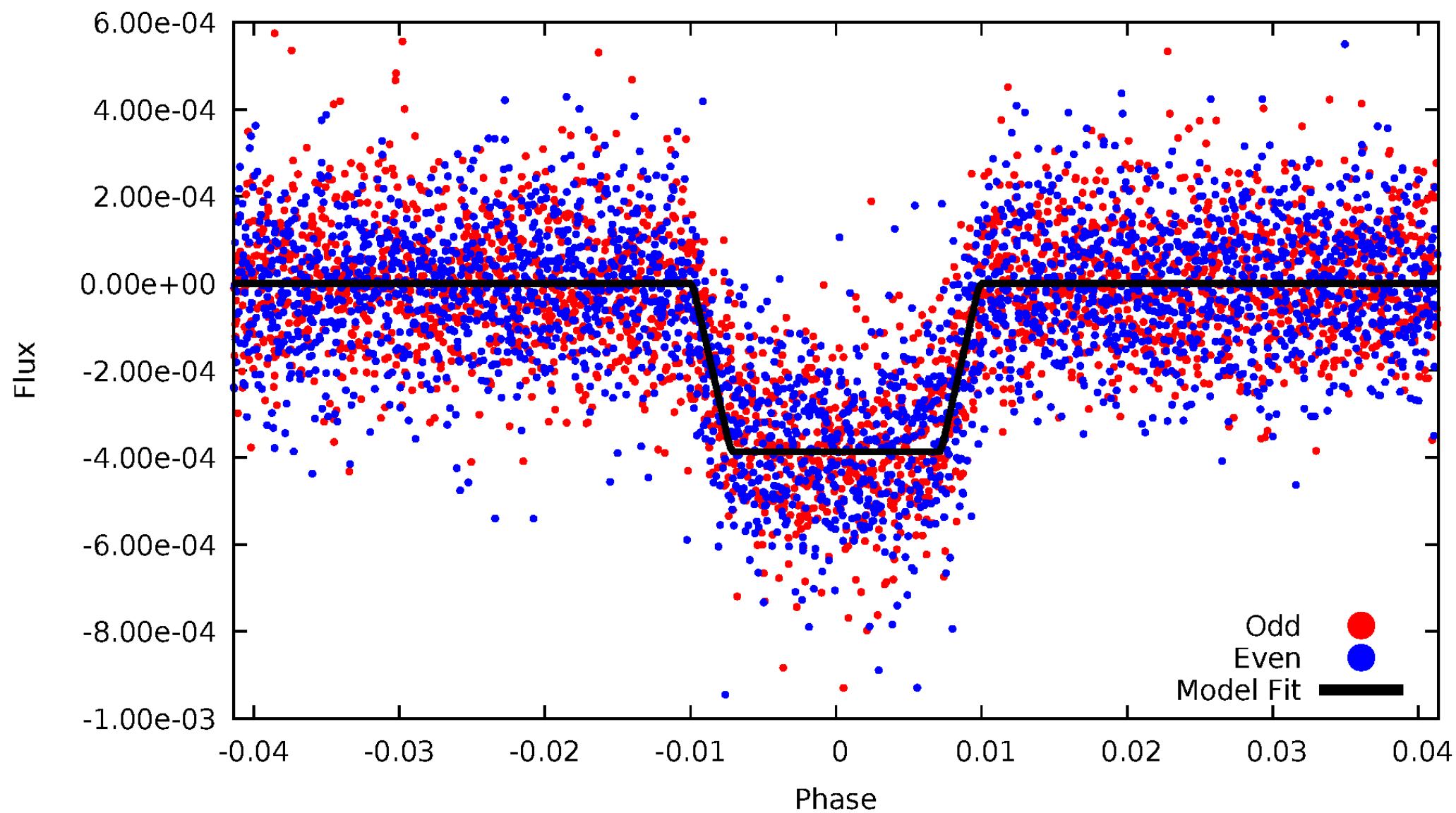
DV Odd/Even

TCE 004563268-01

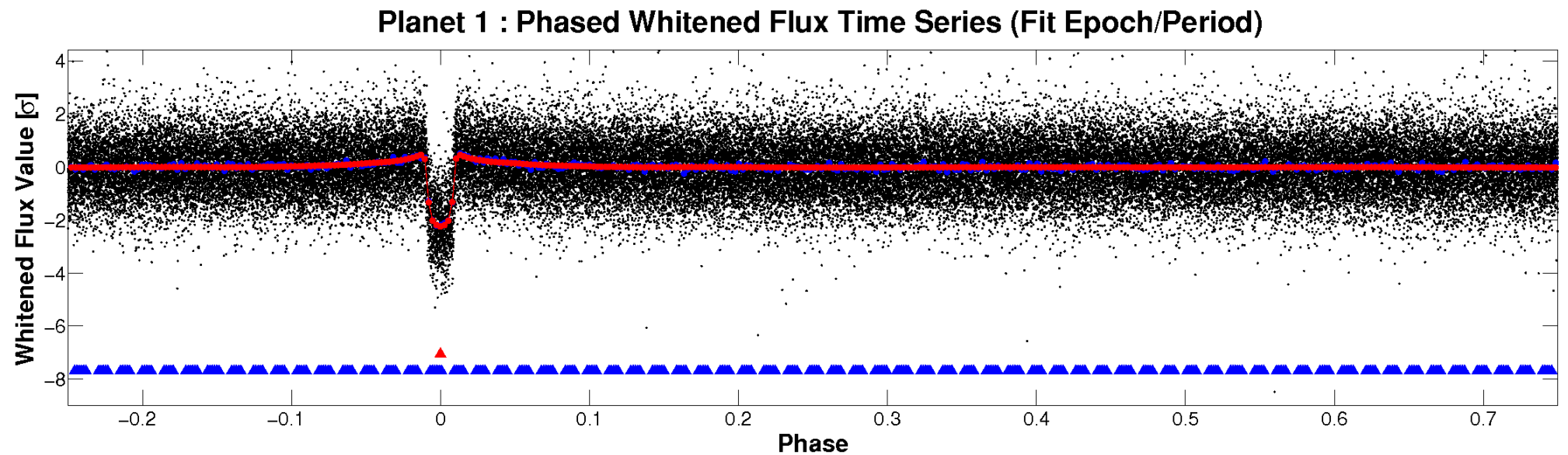
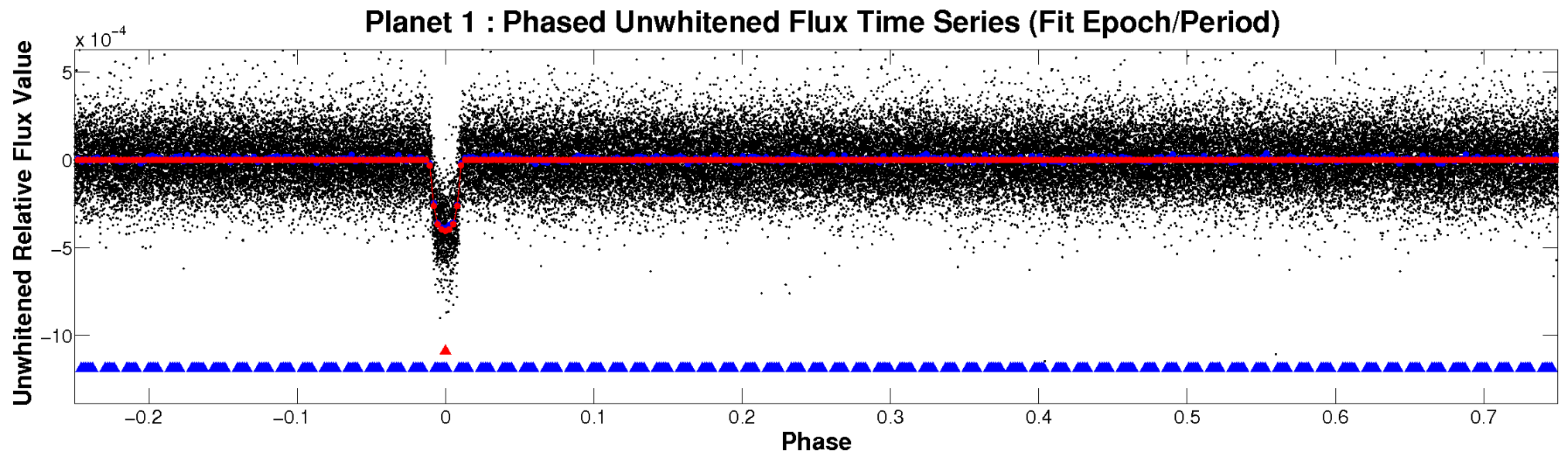


ALT Odd/Even

TCE 004563268-01

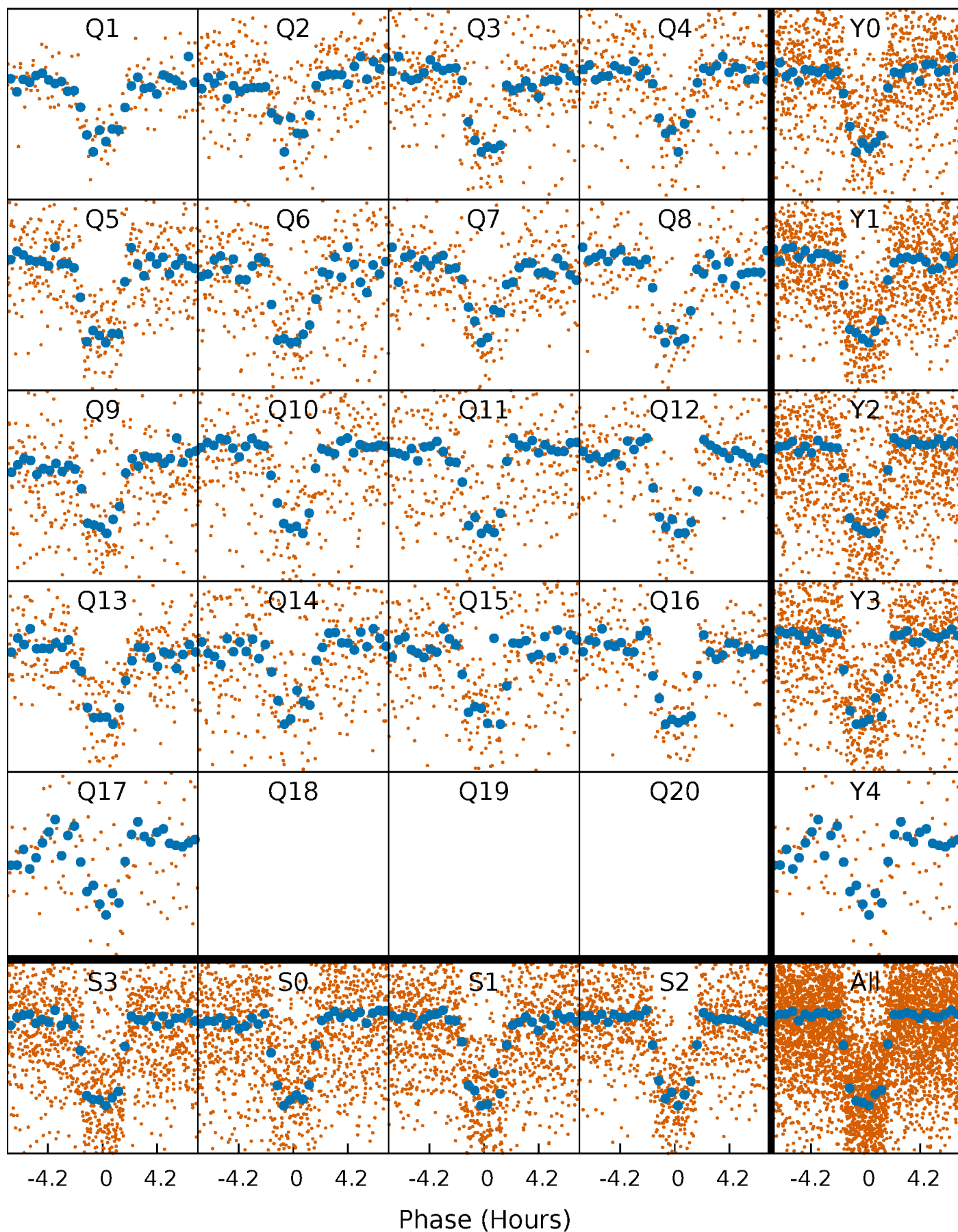


Non-Whitened Vs. Whitened Light Curve



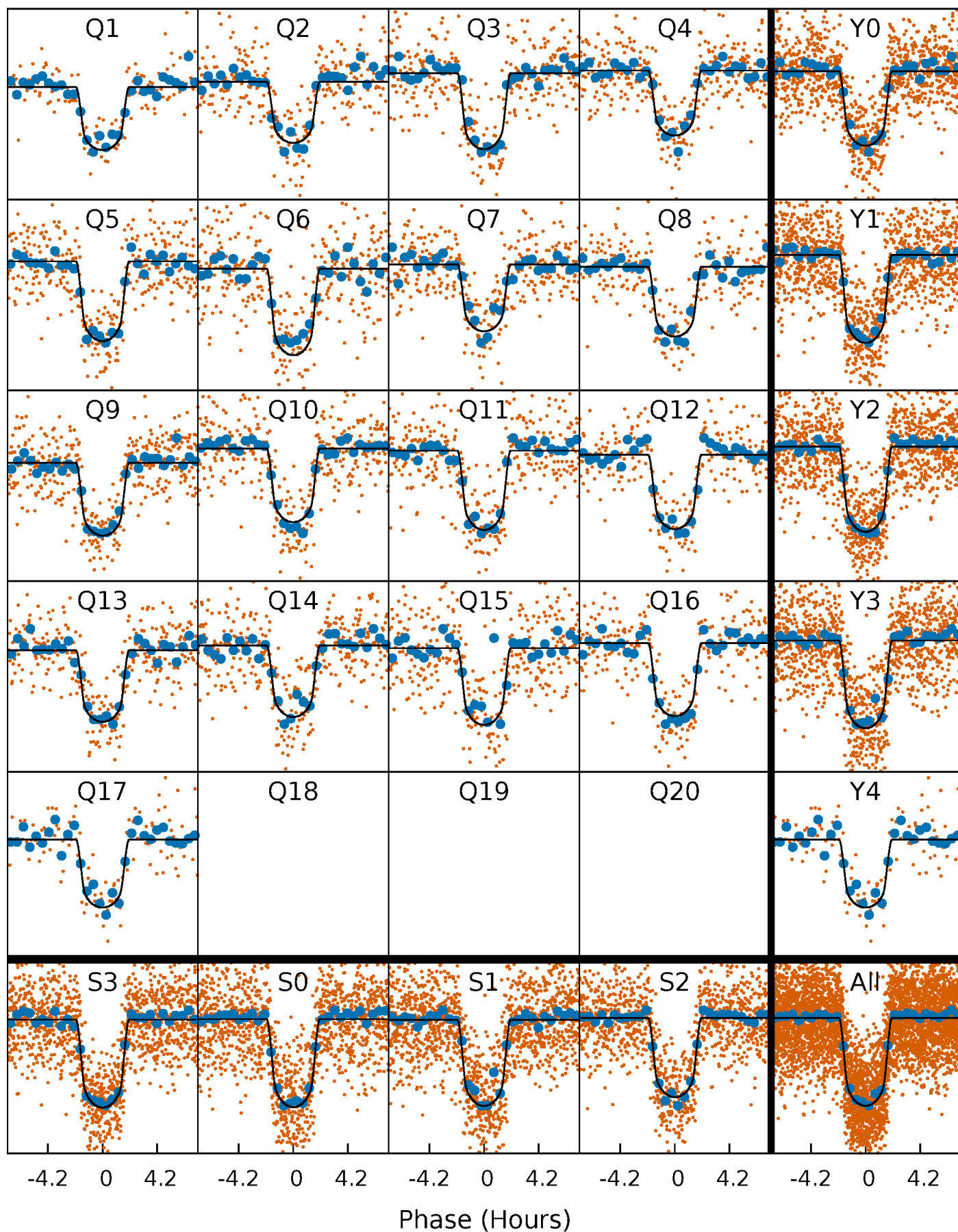
PDC Quarter-Phased Transit Curves

TCE 004563268-01 P= 7.751908 Days $T_0=137.414536$ (BKJD)



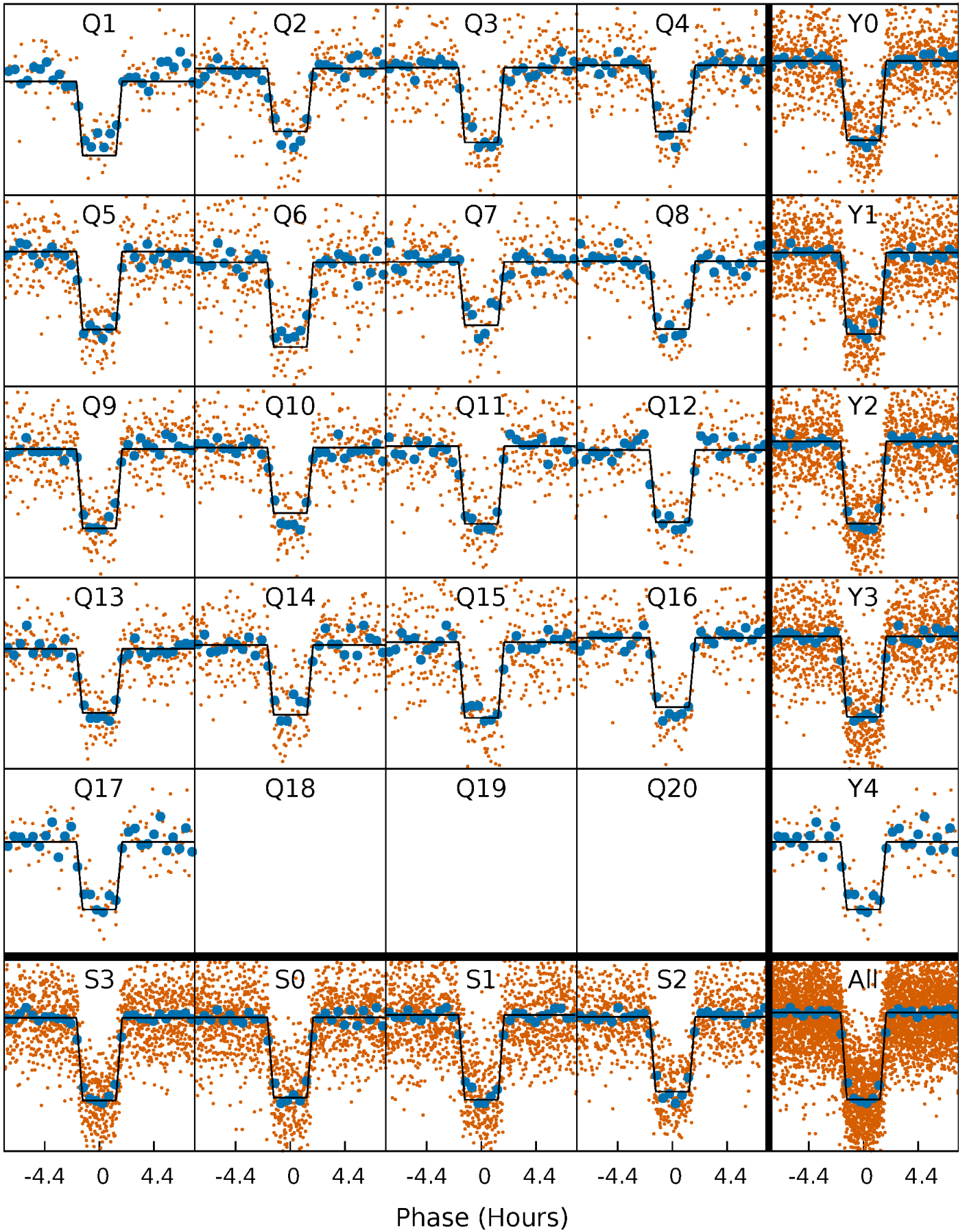
DV Quarter-Phased Transit Curves

TCE 004563268-01 P= 7.751908 Days $T_0=137.414536$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

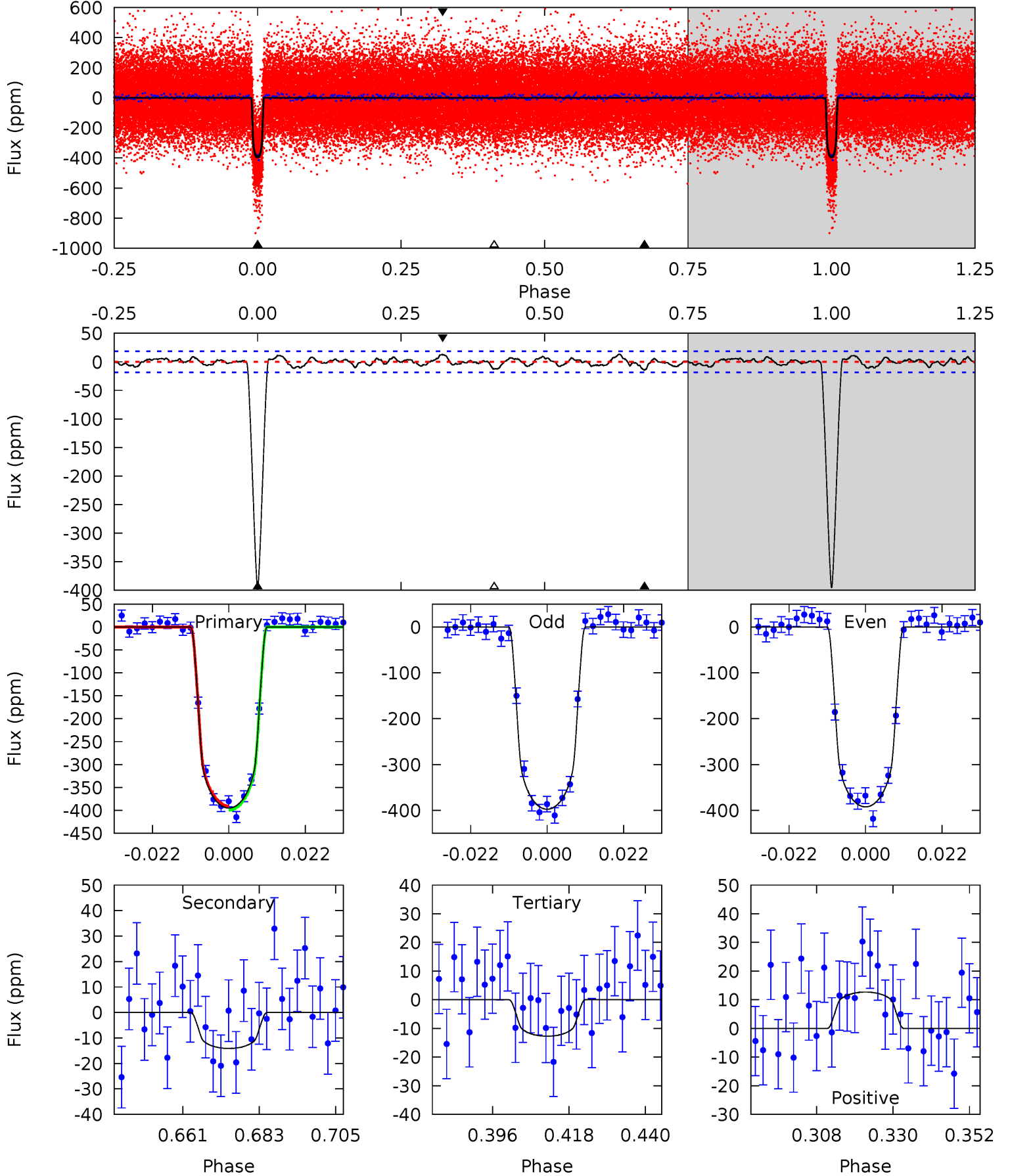
TCE 004563268-01 P= 7.751926 Days $T_0=137.412674$ (BKJD)



DV Model-Shift Uniqueness Test

004563268-01, P = 7.751908 Days, E = 129.662628 Days

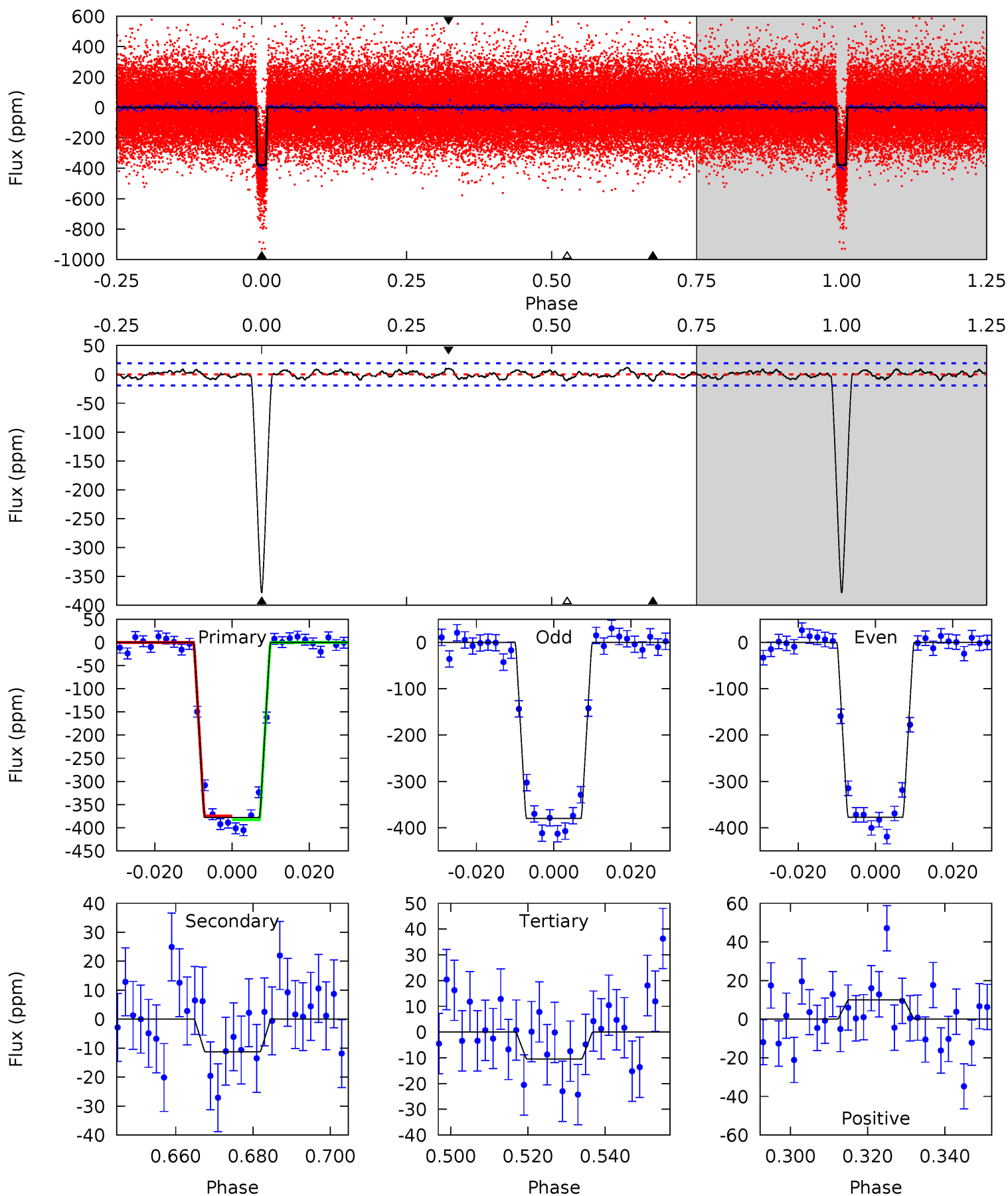
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
104.2	3.73	3.36	3.35	4.87	2.29	1.35	100.8	100.9	0.37	0.38	0.68	1.00	0.03	1.16



Alt Model-Shift Uniqueness Test

004563268-01, P = 7.751926 Days, E = 129.660748 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
95.5	2.85	2.65	2.54	4.89	2.33	1.16	92.8	92.9	0.20	0.31	0.33	1.03	0.03	1.08



Stellar Parameters For KIC 004563268

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5604^{+101}_{-124}	$4.520^{+0.028}_{-0.112}$	$0.180^{+0.150}_{-0.150}$	$0.912^{+0.127}_{-0.042}$	$1.004^{+0.043}_{-0.081}$	$1.867^{+0.197}_{-0.583}$
	+2%/-2%	+1%/-2%	+83%/-83%	+14%/-5%	+4%/-8%	+11%/-31%
Source	SPE59	SPE59	SPE59	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 004563268-01 / KOI 0627.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-14 ± 4	$2.13^{+0.21}_{-0.22}$	1201^{+46}_{-33}	3017^{+144}_{-157}	10^{+4}_{-3}
Alt.	-11 ± 4	$1.98^{+0.24}_{-0.19}$	1203^{+42}_{-33}	2967^{+167}_{-182}	$8.984^{+3.889}_{-3.472}$

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

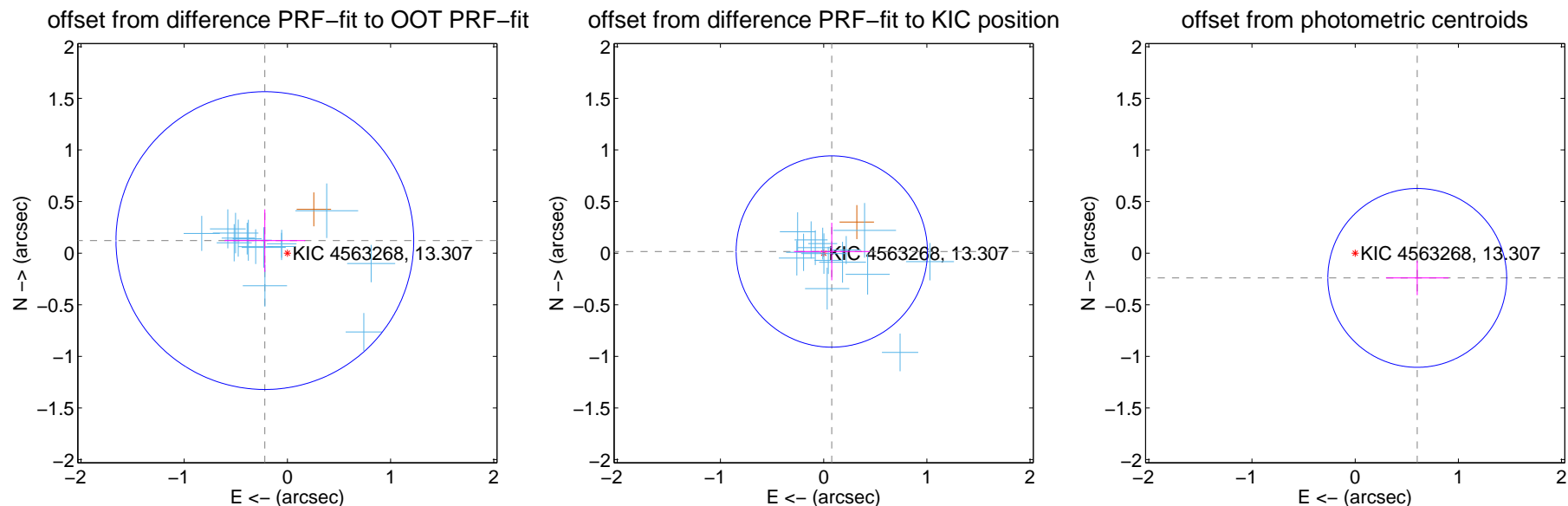
DV Centroid Data

Supplemental centroid analysis for 004563268-01. Kepler magnitude: 13.31. Transit SNR 67.77

There are 15 quarters with good PRF difference image offsets

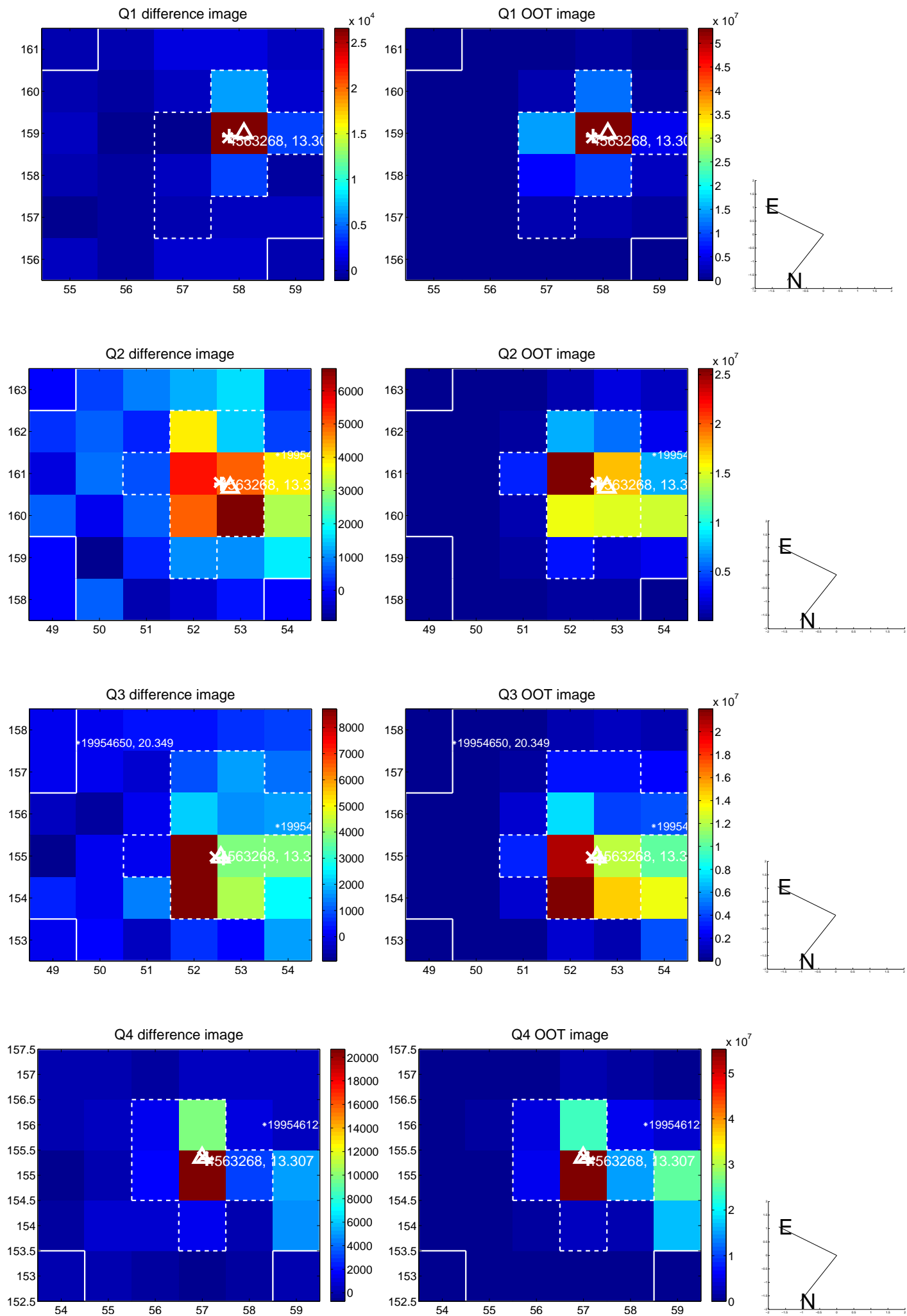
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.250 ± 0.481	0.52	0.218 ± 0.391	0.122 ± 0.303
PRF-fit source offset from KIC position	0.080 ± 0.309	0.26	-0.079 ± 0.366	0.016 ± 0.279
photometric centroid source offset	0.65 ± 0.29	2.24	-0.60 ± 0.30	-0.24 ± 0.17

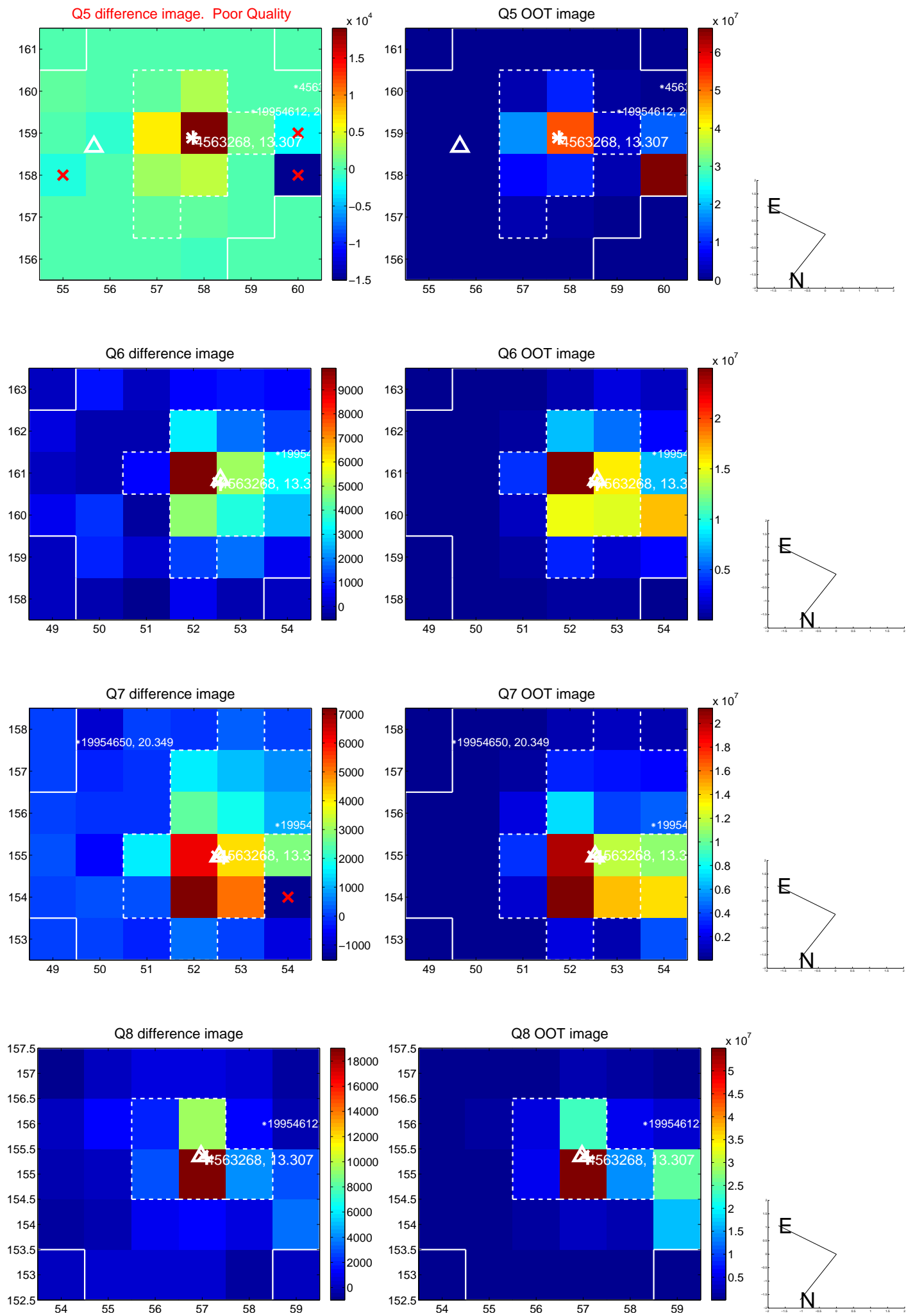


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

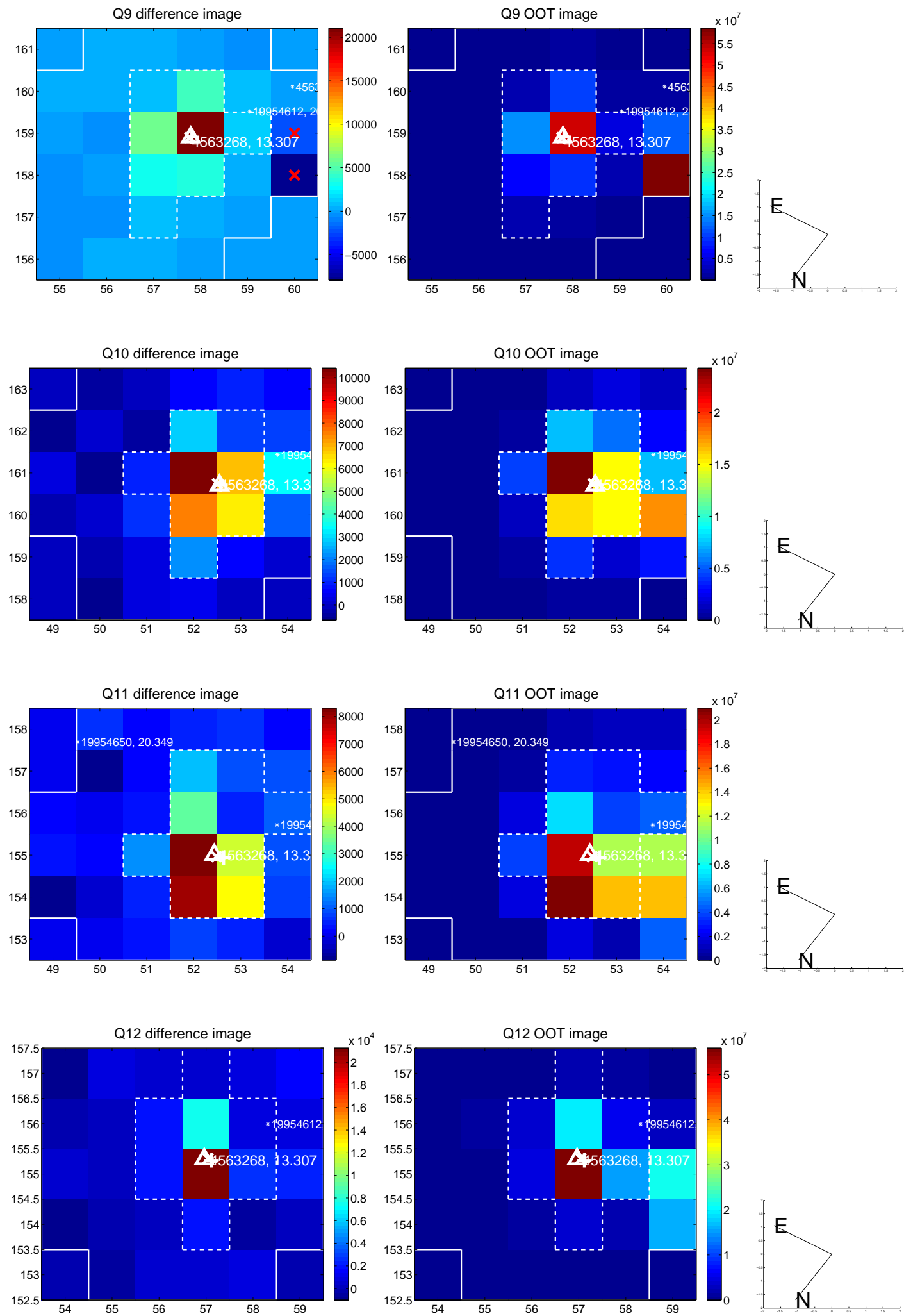
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



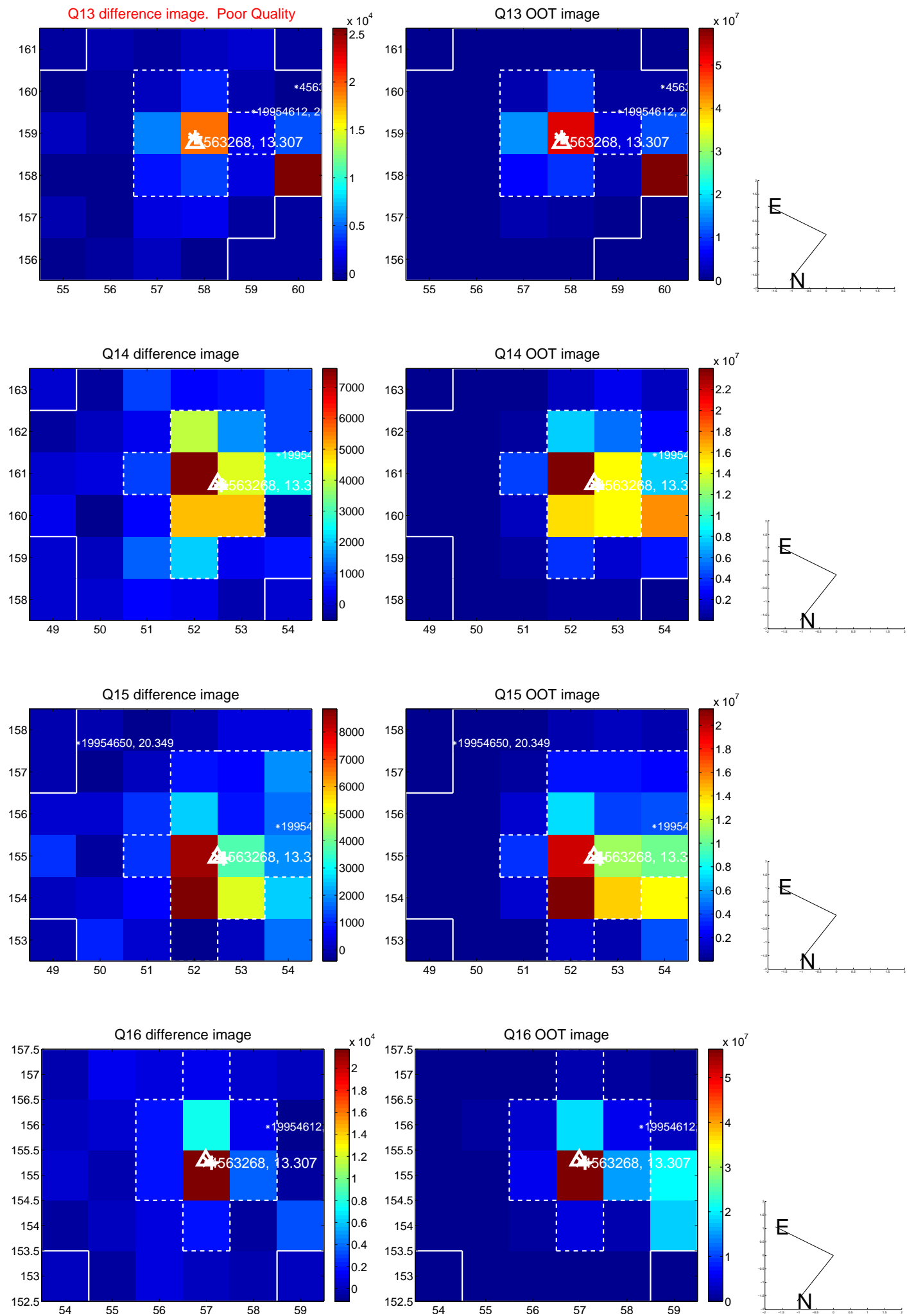
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



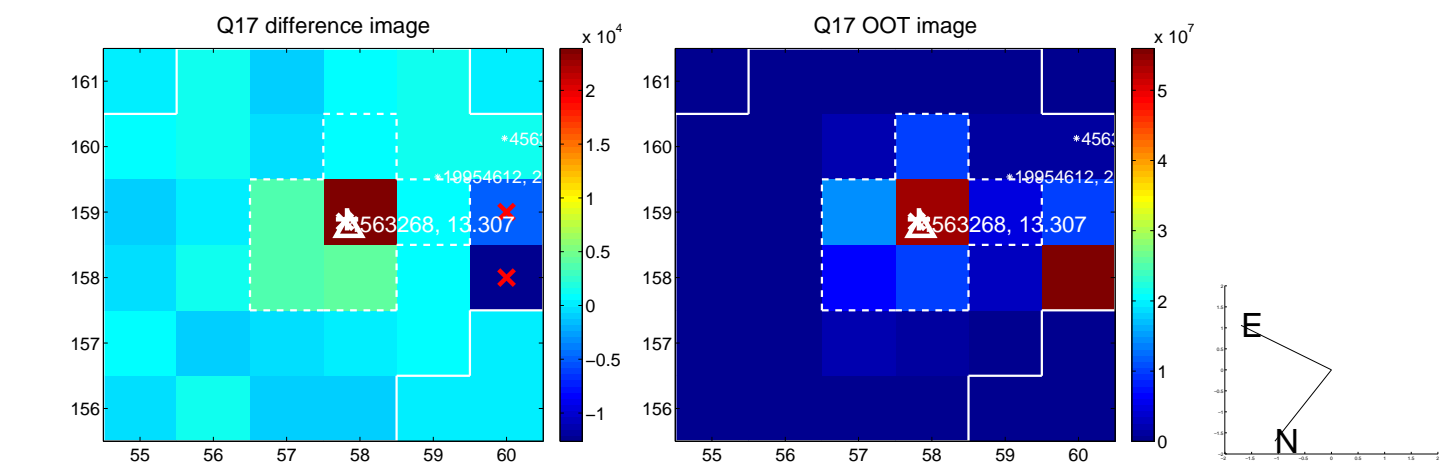
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



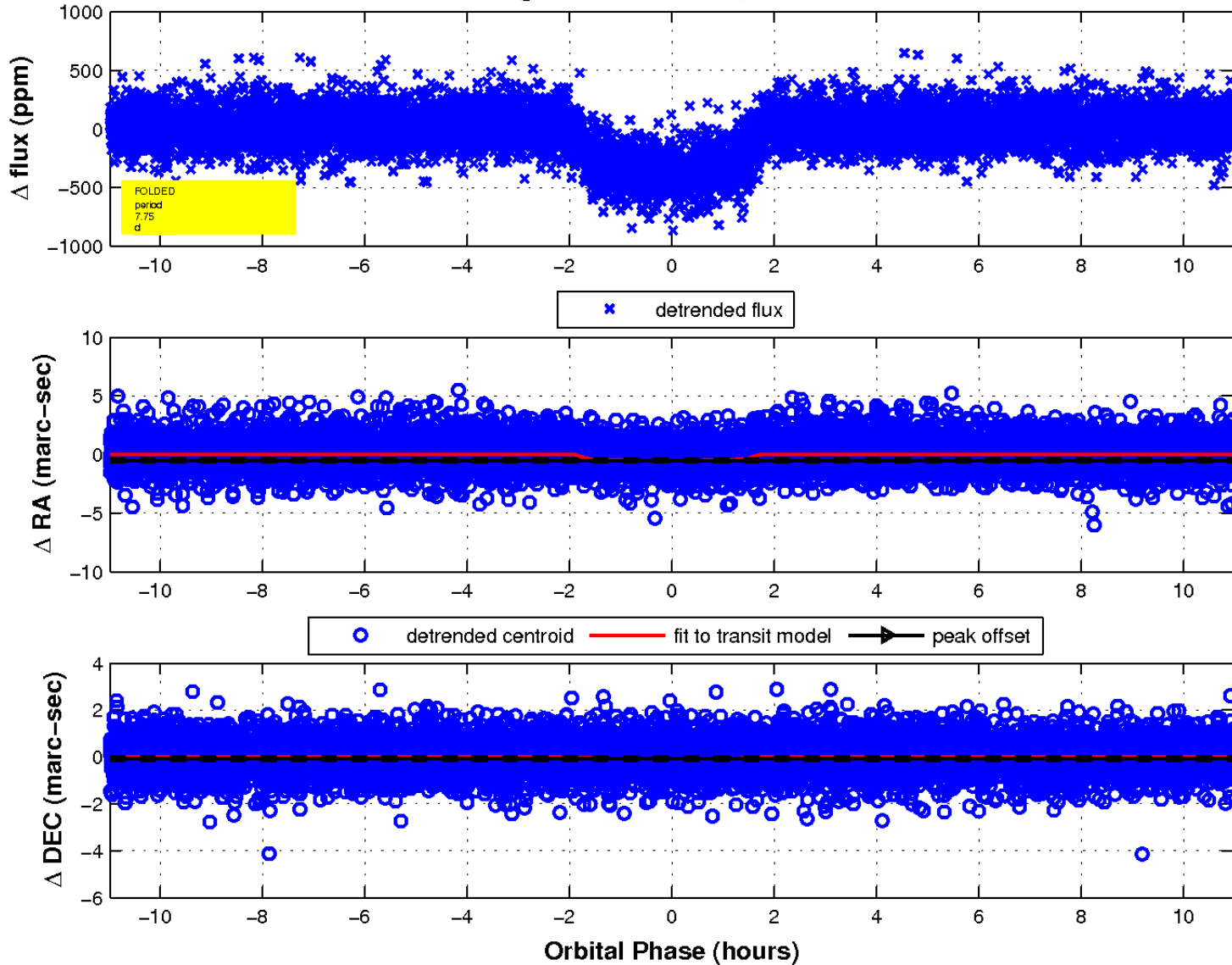
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



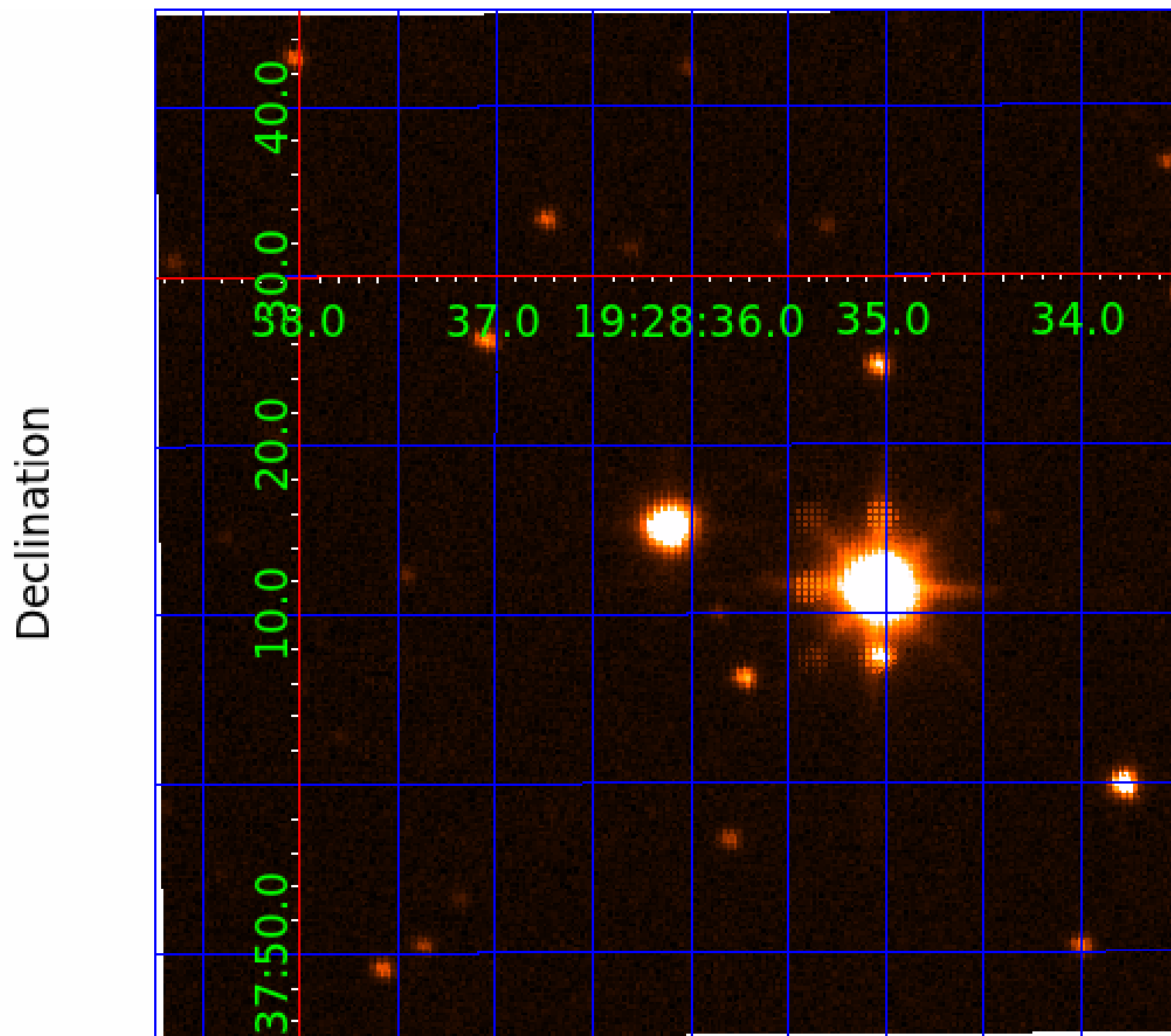
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 2



UKIRT Image



KIC 004563268

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})
004563268-01	OBS	0627.01	7.751908	137.414536	403.1	3.659	61.5	67.8	0.91	5604	2.09	124.64
004563268-02	OBS	0627.02	4.165379	132.037872	119.6	3.346	24.8	26.8	0.91	5604	1.17	285.33

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004563268-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
004563268-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

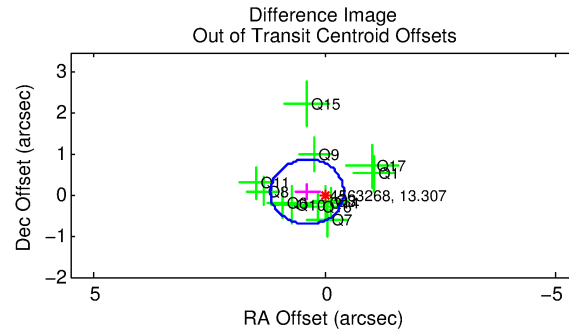
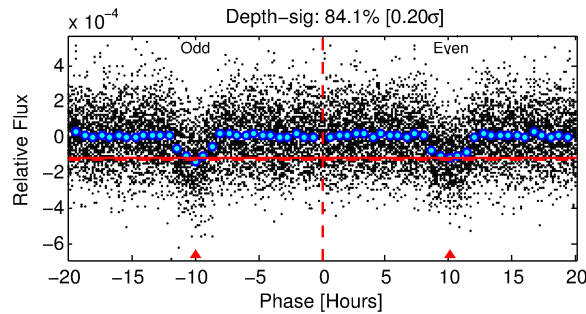
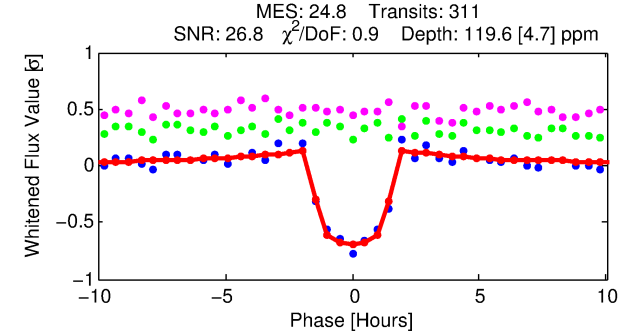
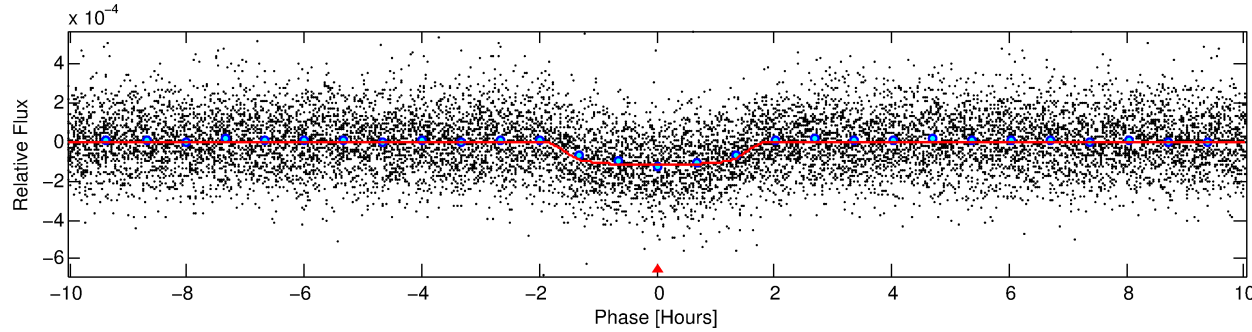
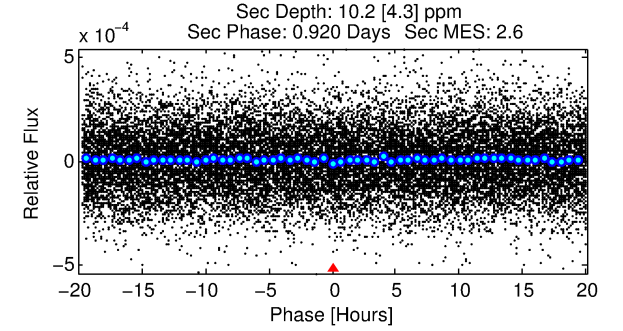
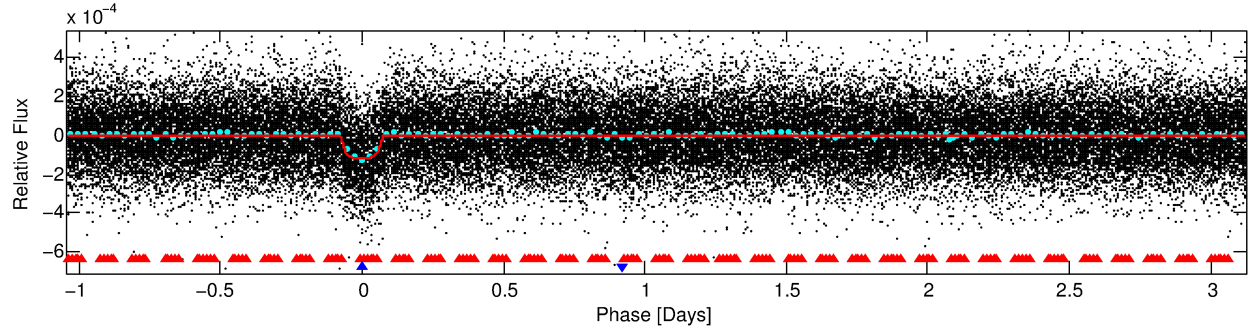
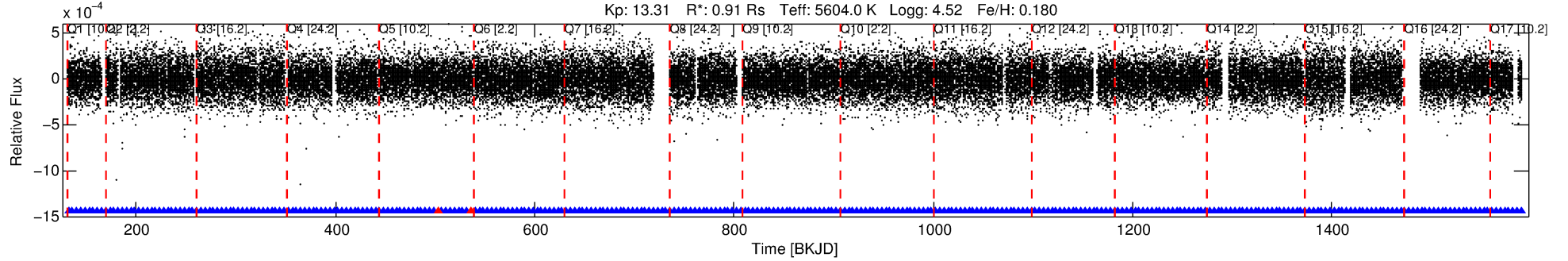
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004563268-02

No Significant Match Found

DV One-Page Summary

KIC: 4563268 Candidate: 2 of 2 Period: 4.165 d
KOI: K00627.02 Corr: 0.985



DV Fit Results:

Period = 4.16538 [0.00001] d
Epoch = 132.0379 [0.0018] BKJD
Rp/R* = 0.0118 [0.0028]
a/R* = 4.83 [4.83]
b = 0.88 [0.27]
Seff = 285.33 [61.20]
Teq = 1048 [56] K
Rp = 1.17 [0.32] Re
a = 0.0508 [0.0064] AU
Ag = 10.50 [6.97] [1.36σ]
Teffp = 2917 [467] K [3.97σ]

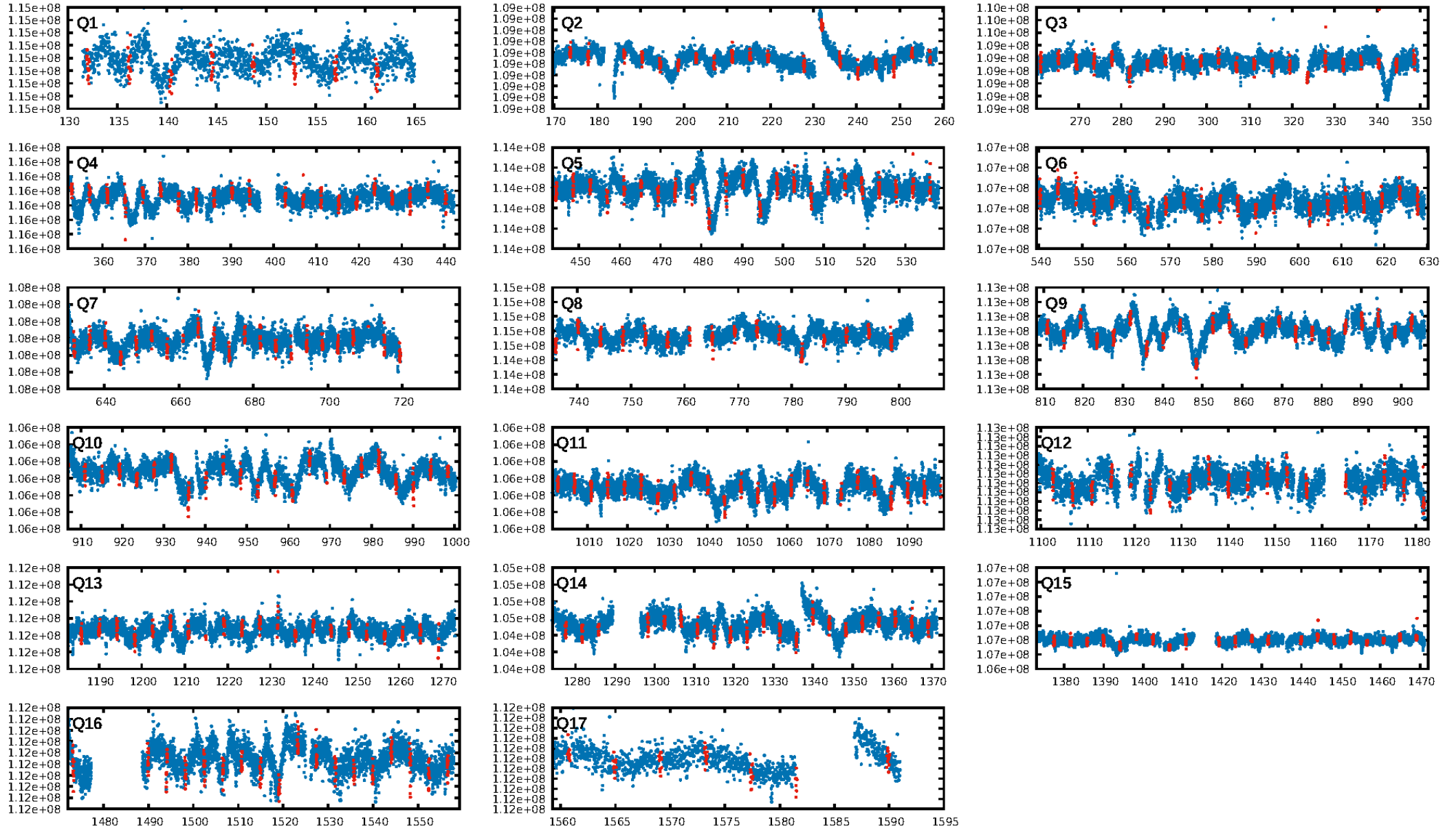
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [17.36σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.59e-130
RollingBand-fgt: 0.99 [295/297]
GhostDiagnostic-chr: 5.671
Centroid-sig: 0.0%
Centroid-so: 0.380 arcsec [0.78σ]
OotOffset-rm: 0.388 arcsec [1.46σ]
KicOffset-rm: 0.068 arcsec [0.30σ]
OotOffset-st: 3/4/2/3 [12]
KicOffset-st: 3/4/2/3 [12]
DiffImageQuality-fgm: 0.75 [9/12]
DiffImageOverlap-fno: 1.00 [17/17]

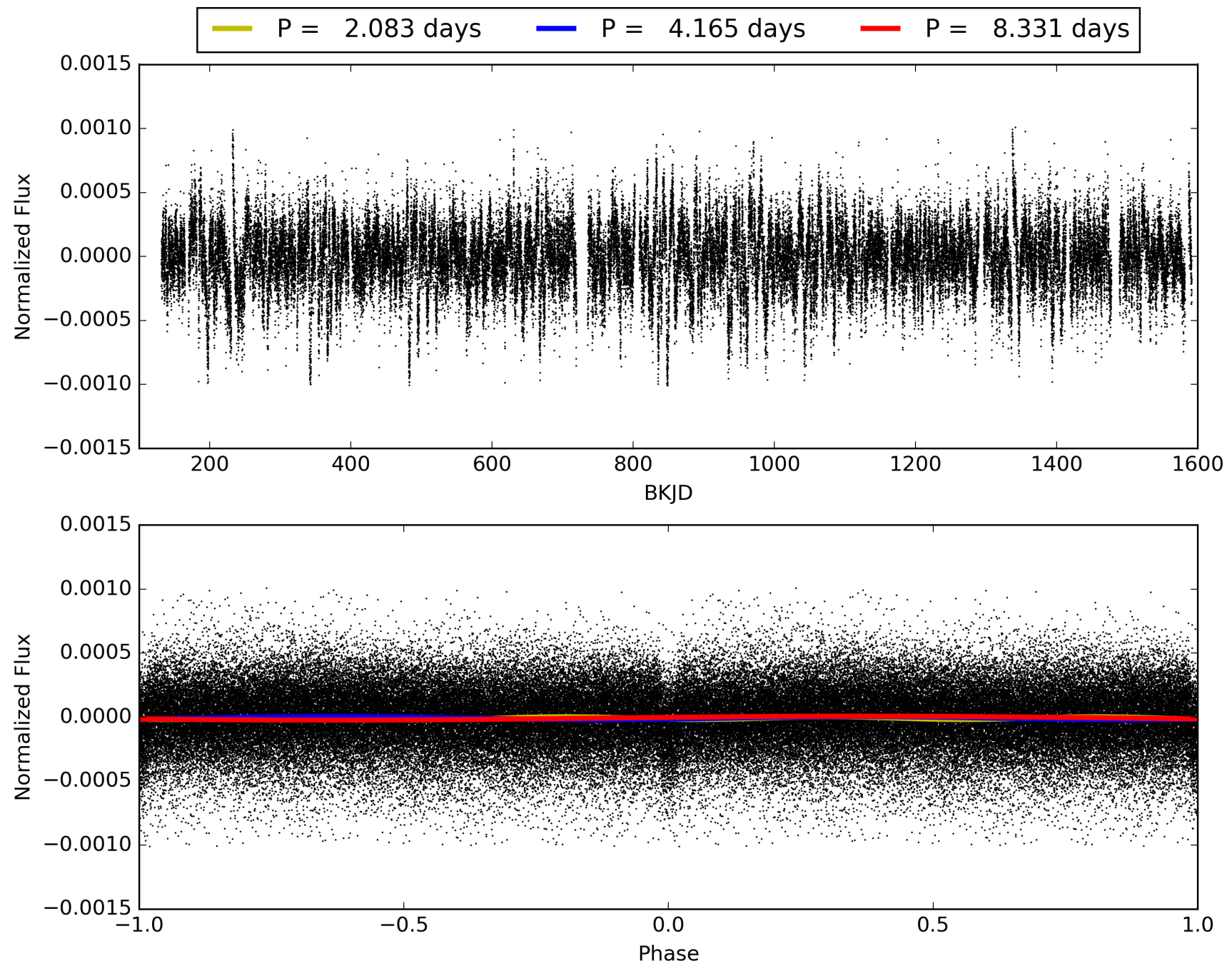
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:56:05 Z

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

TCE 004563268-02, PDC Light Curves

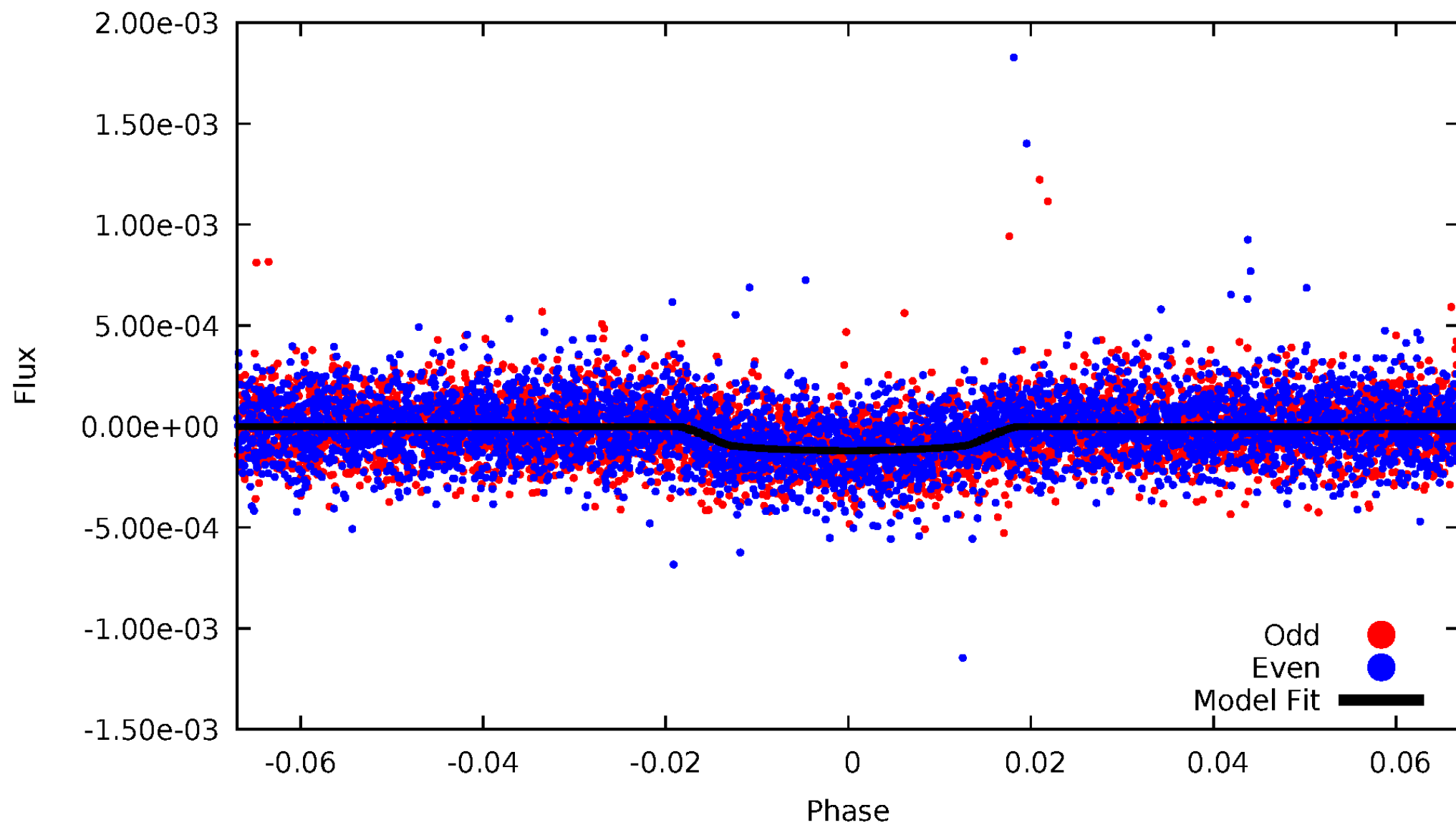


TCE 004563268-02



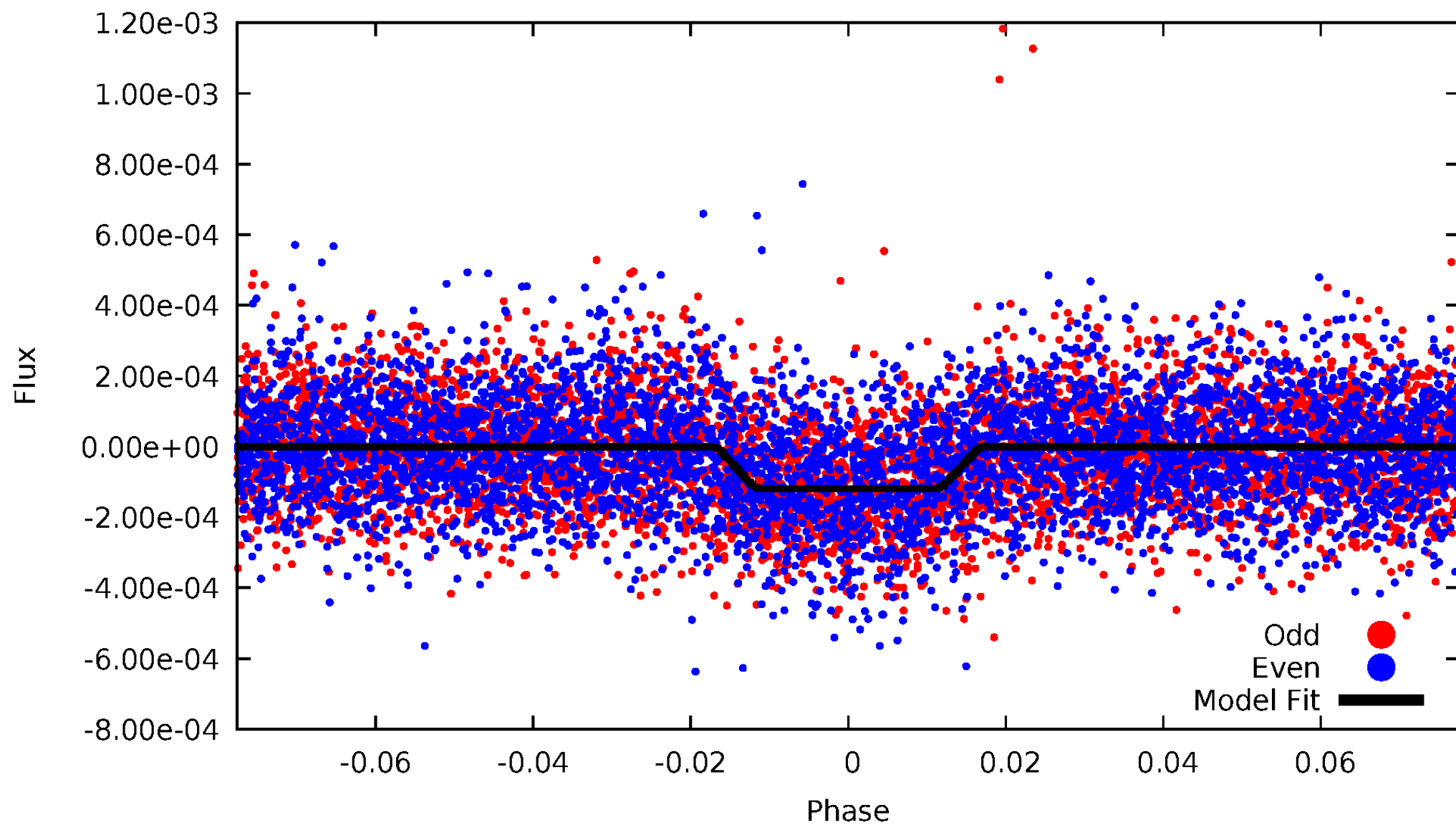
DV Odd/Even

TCE 004563268-02



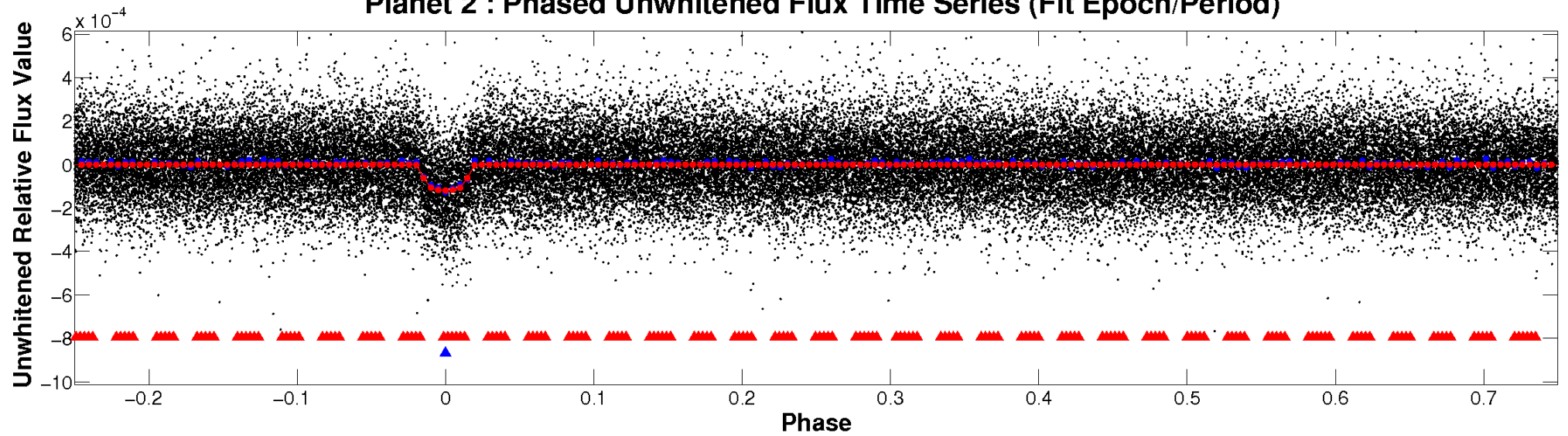
ALT Odd/Even

TCE 004563268-02

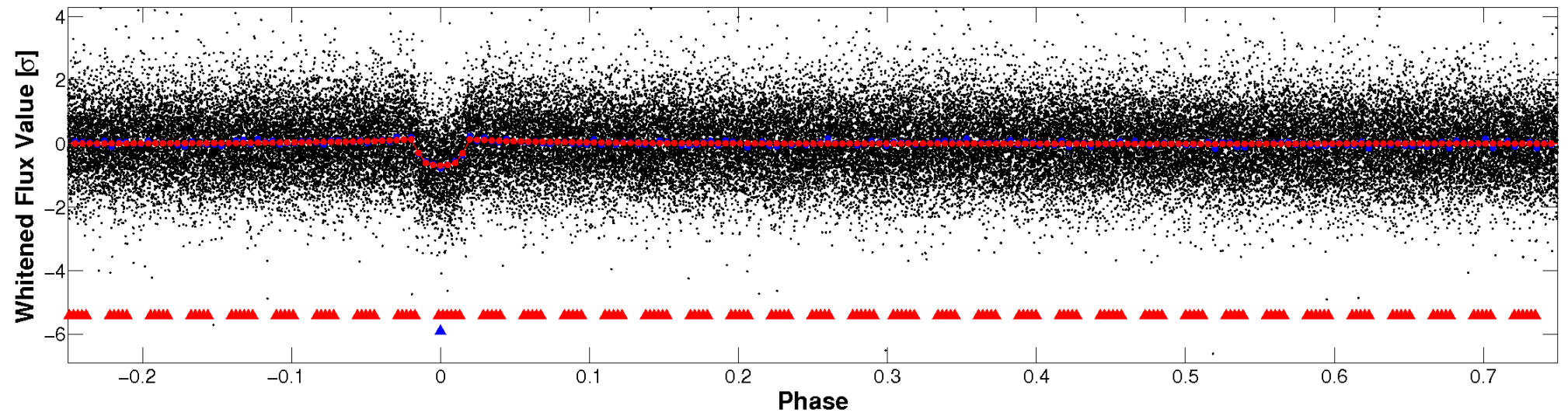


Non-Whitened Vs. Whitened Light Curve

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

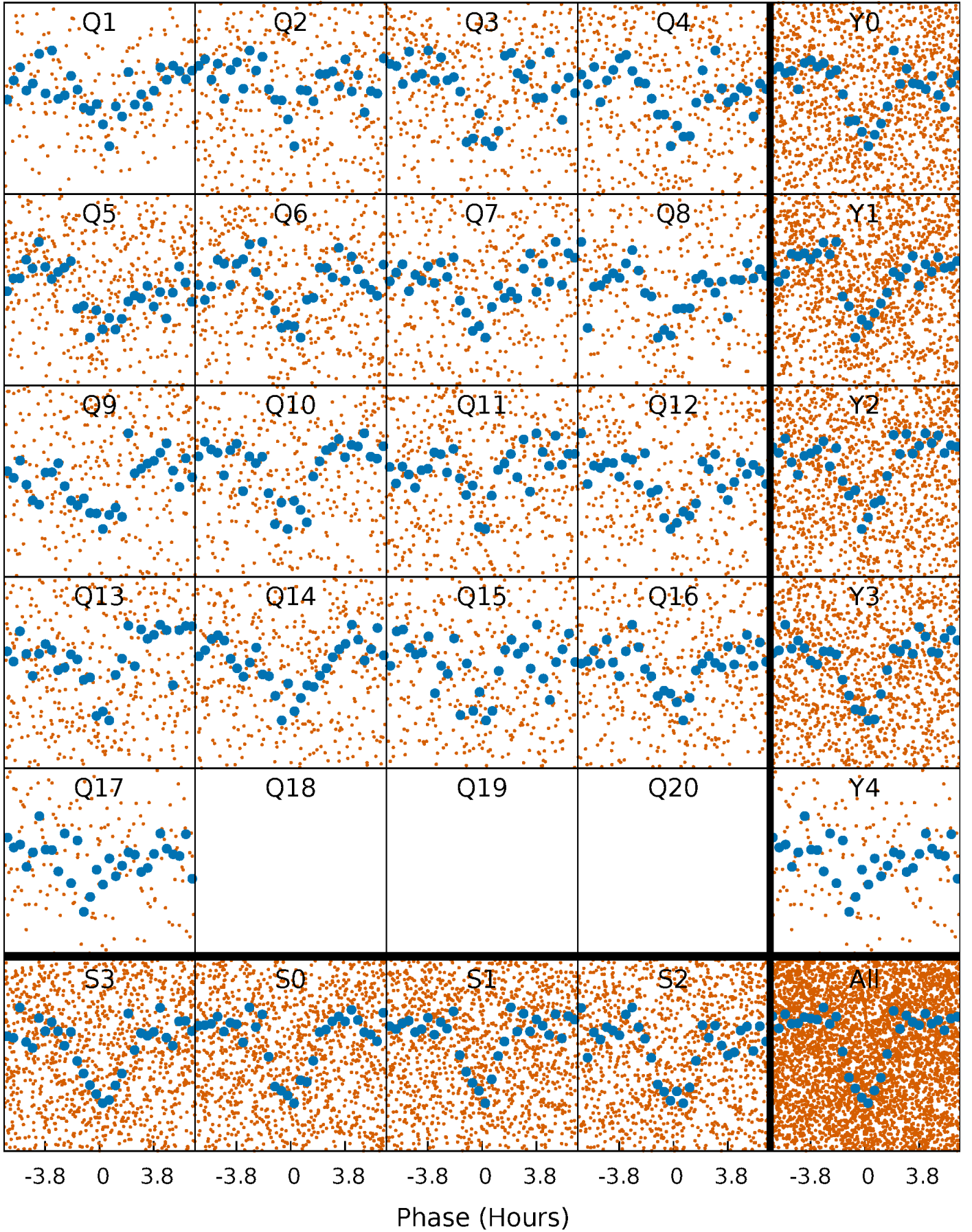


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



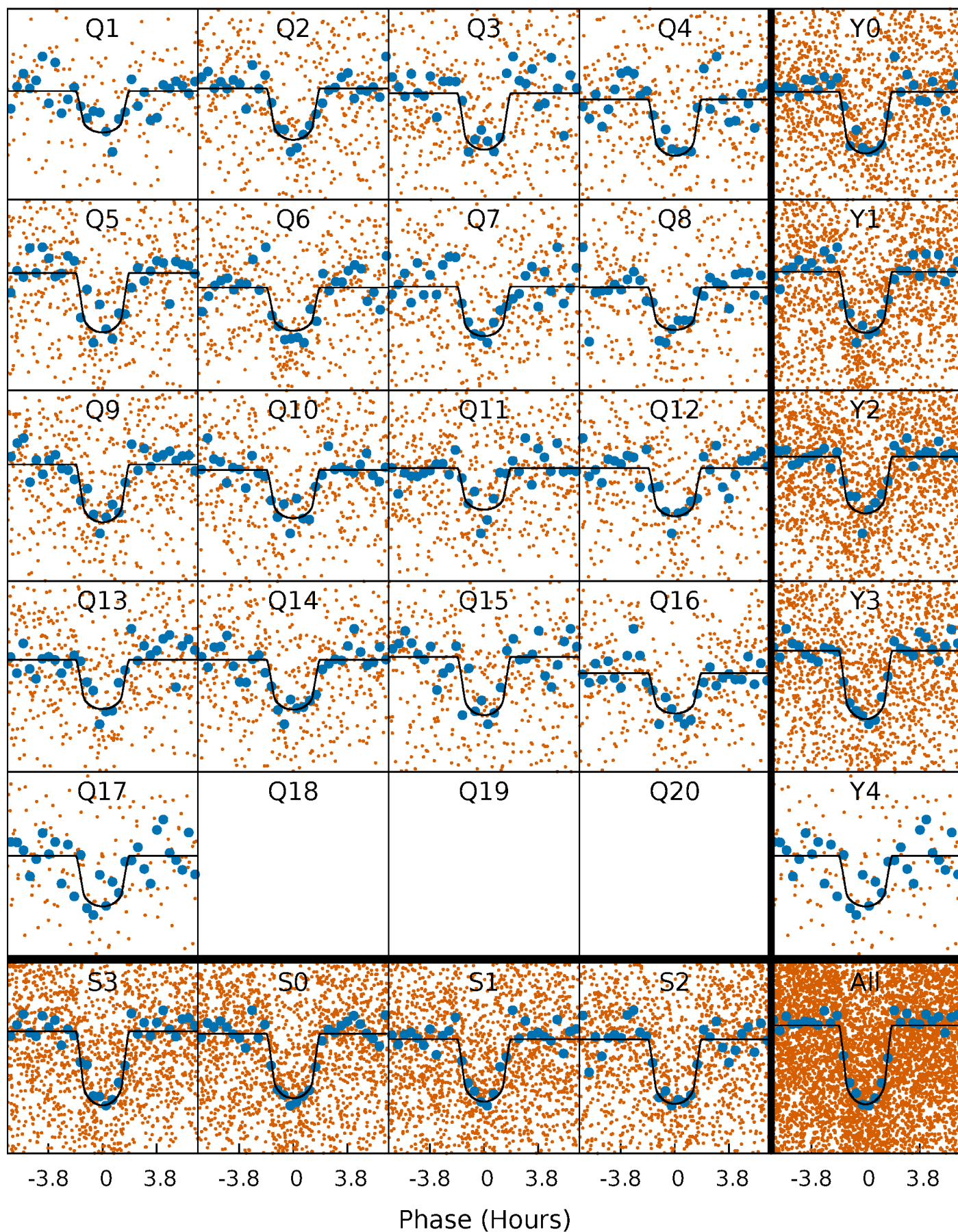
PDC Quarter-Phased Transit Curves

TCE 004563268-02 P= 4.165379 Days $T_0=132.037872$ (BKJD)



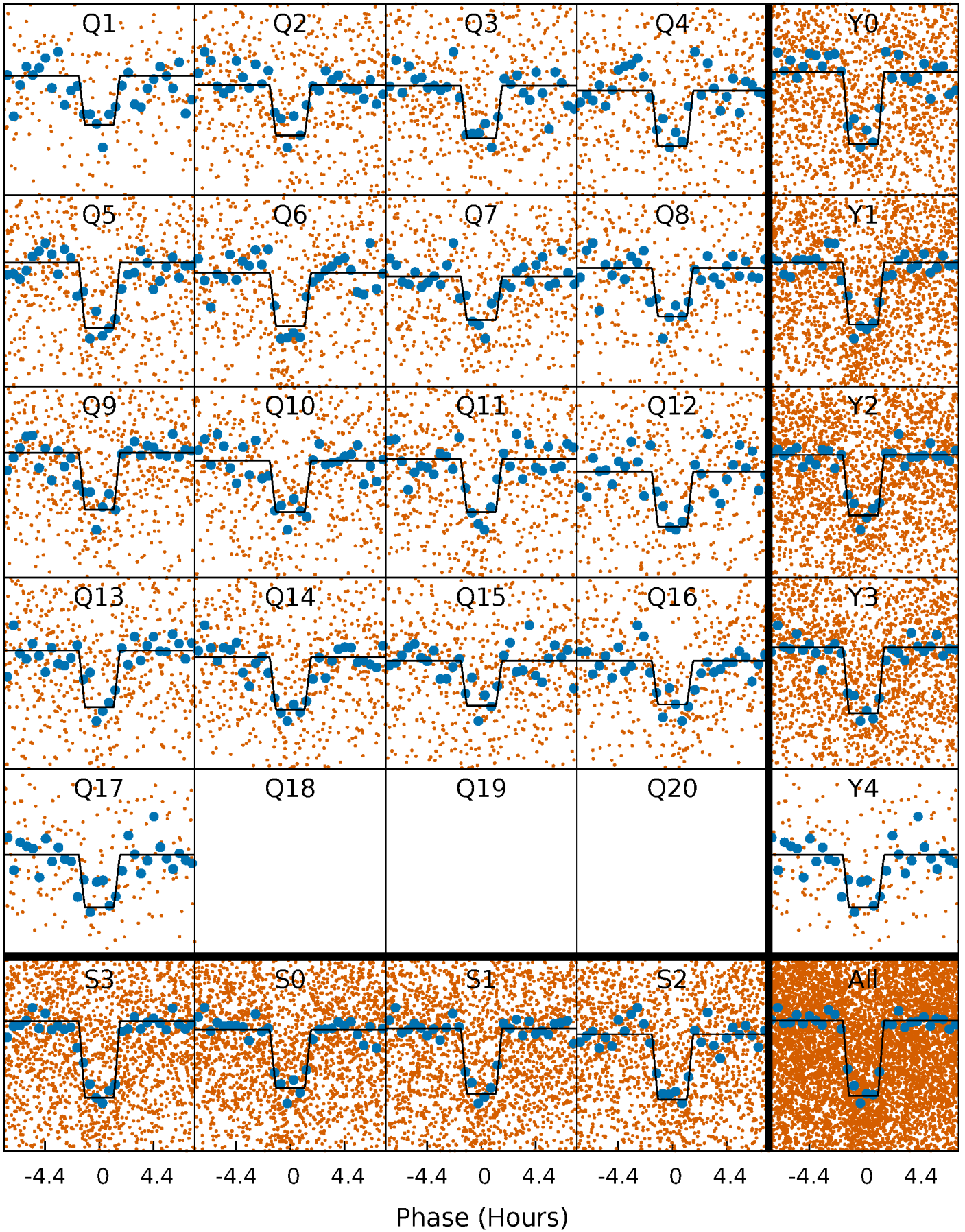
DV Quarter-Phased Transit Curves

TCE 004563268-02 P= 4.165379 Days $T_0=132.037872$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

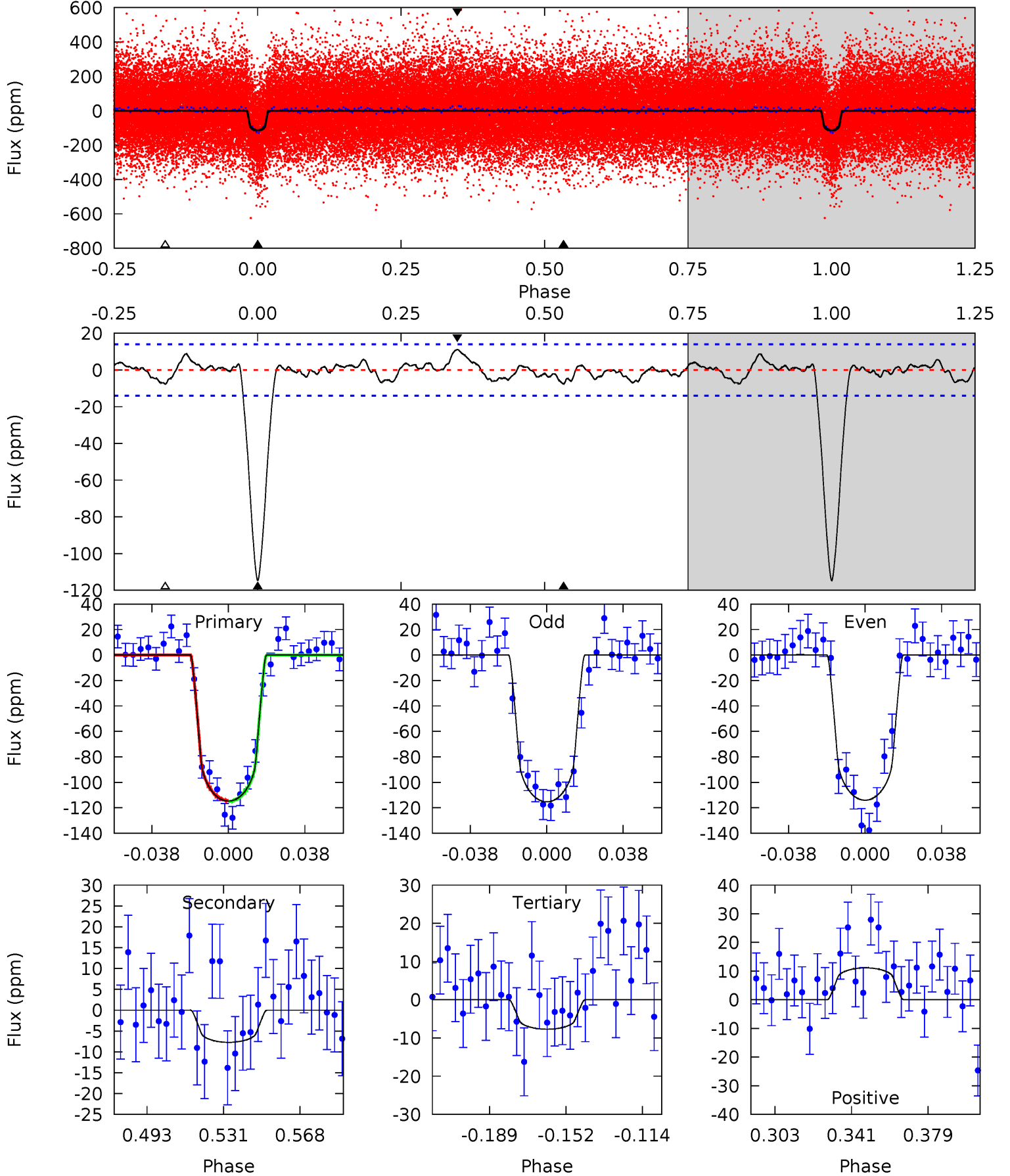
TCE 004563268-02 P= 4.165335 Days $T_0=132.045483$ (BKJD)



DV Model-Shift Uniqueness Test

004563268-02, P = 4.165379 Days, E = 127.872493 Days

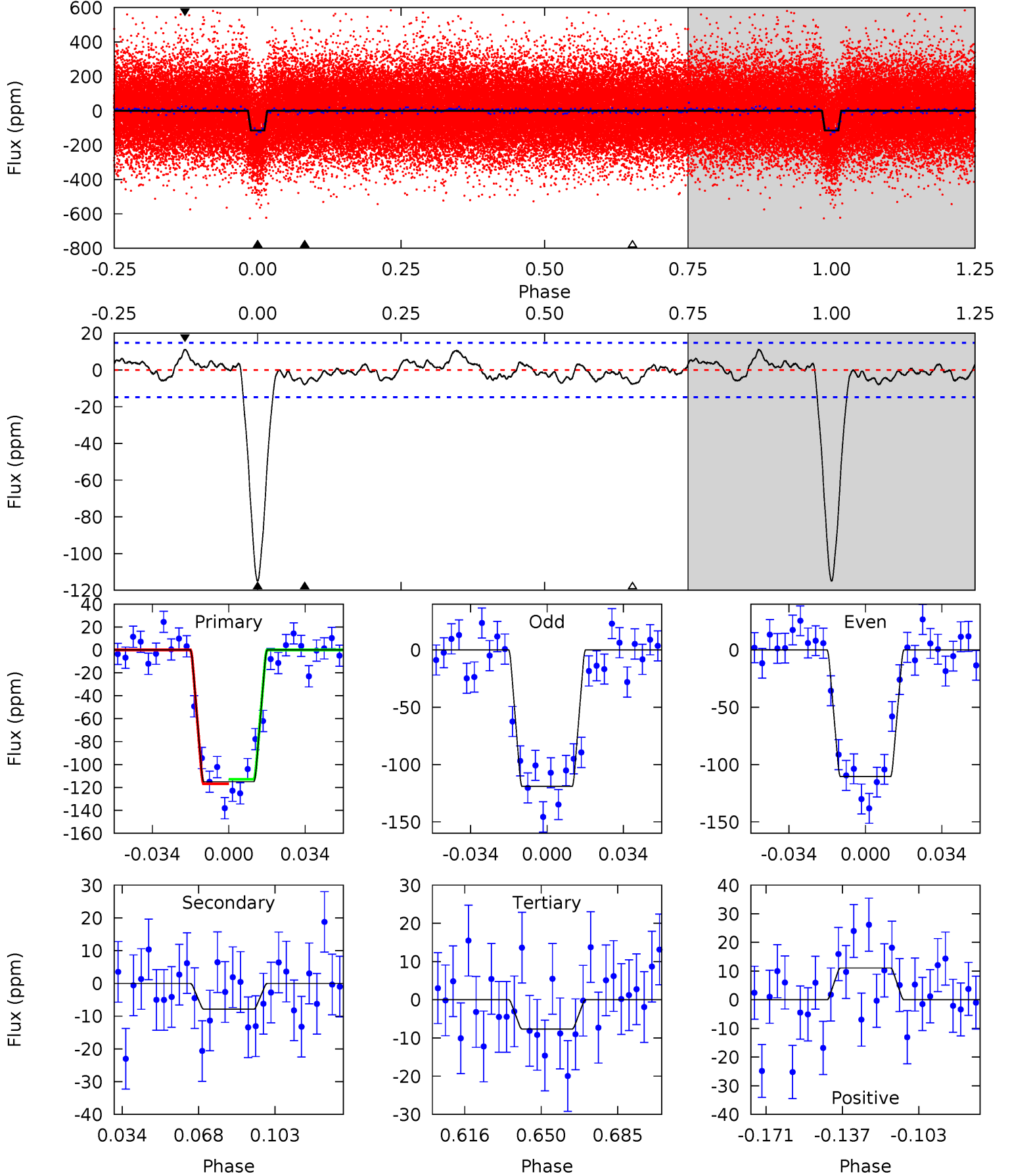
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.9	2.62	2.62	3.78	4.76	2.08	1.23	36.3	35.2	0.00	-1.16	0.22	1.00	0.09	0.10



Alt Model-Shift Uniqueness Test

004563268-02, P = 4.165335 Days, E = 127.880148 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.2	2.54	2.48	3.59	4.78	2.12	1.24	34.7	33.6	0.07	-1.05	1.37	0.98	0.09	0.64



Stellar Parameters For KIC 004563268

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5604^{+101}_{-124}	$4.520^{+0.028}_{-0.112}$	$0.180^{+0.150}_{-0.150}$	$0.912^{+0.127}_{-0.042}$	$1.004^{+0.043}_{-0.081}$	$1.867^{+0.197}_{-0.583}$
	+2%/-2%	+1%/-2%	+83%/-83%	+14%/-5%	+4%/-8%	+11%/-31%
Source	SPE59	SPE59	SPE59	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 004563268-02 / KOI 0627.02

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-8 ± 3	$1.22^{+0.29}_{-0.27}$	1480^{+51}_{-43}	3219^{+347}_{-290}	$7.030^{+6.147}_{-3.245}$
Alt.	-8 ± 3	$1.10^{+0.27}_{-0.29}$	1476^{+57}_{-40}	3339^{+373}_{-321}	$8.817^{+8.201}_{-4.281}$

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

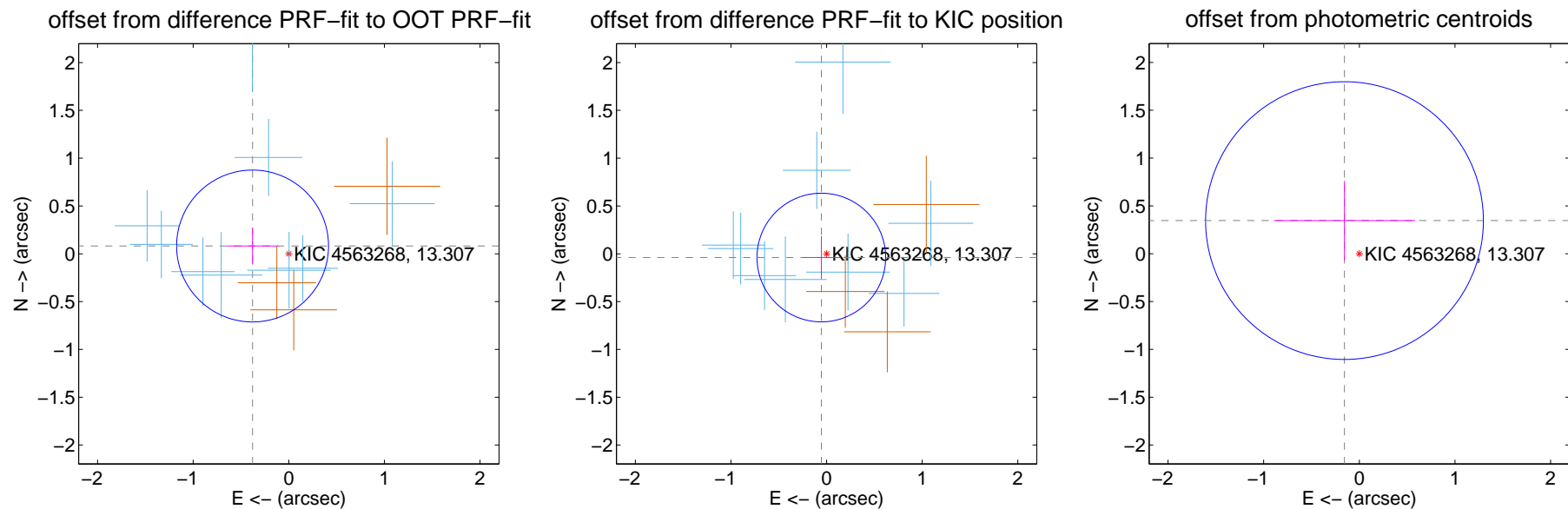
DV Centroid Data

Supplemental centroid analysis for 004563268-02. Kepler magnitude: 13.31. Transit SNR 26.77

There are 9 quarters with good PRF difference image offsets

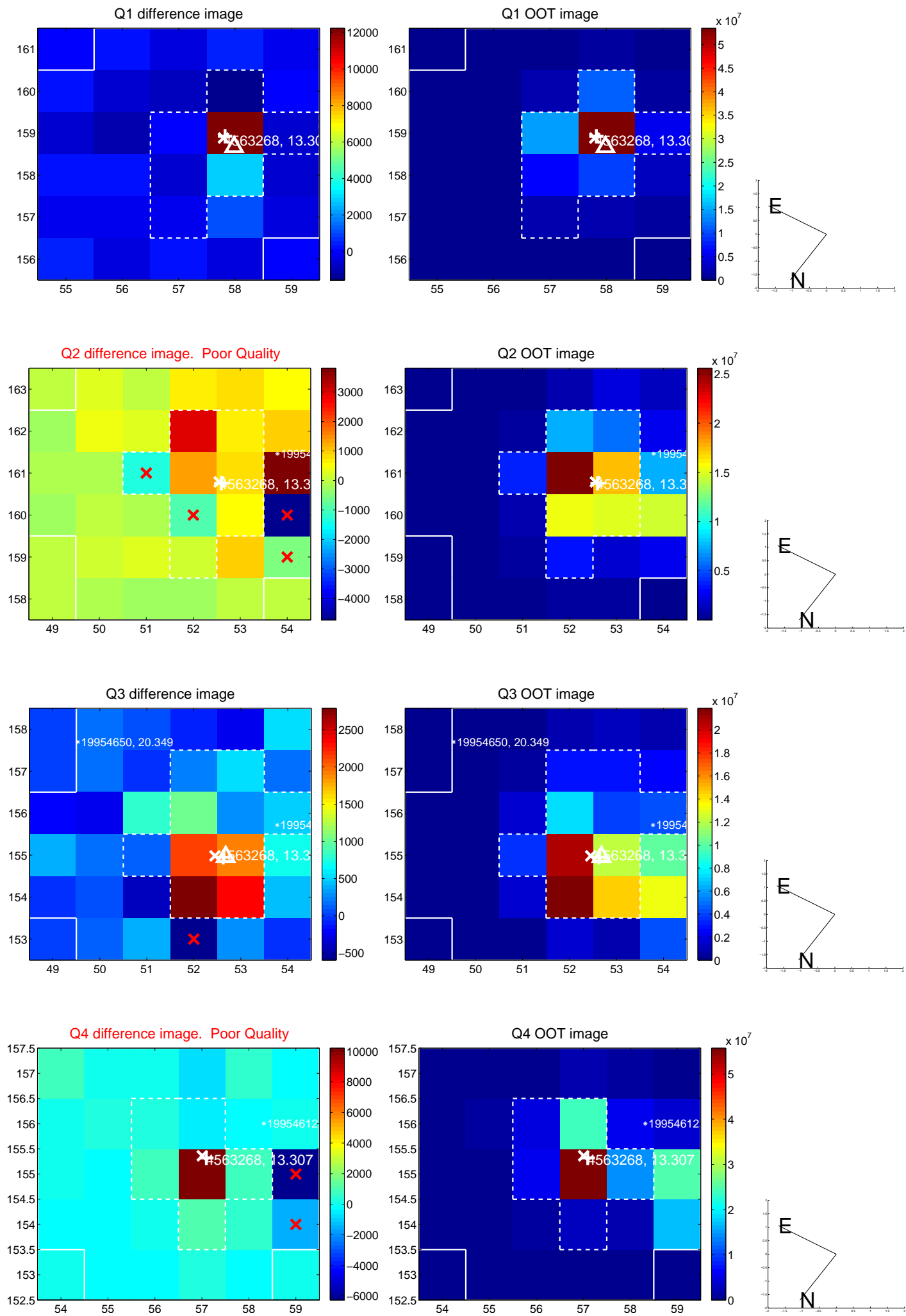
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.388 ± 0.265	1.46	0.379 ± 0.268	0.081 ± 0.193
PRF-fit source offset from KIC position	0.068 ± 0.224	0.30	0.055 ± 0.201	-0.039 ± 0.225
photometric centroid source offset	0.38 ± 0.48	0.78	0.16 ± 0.74	0.35 ± 0.41

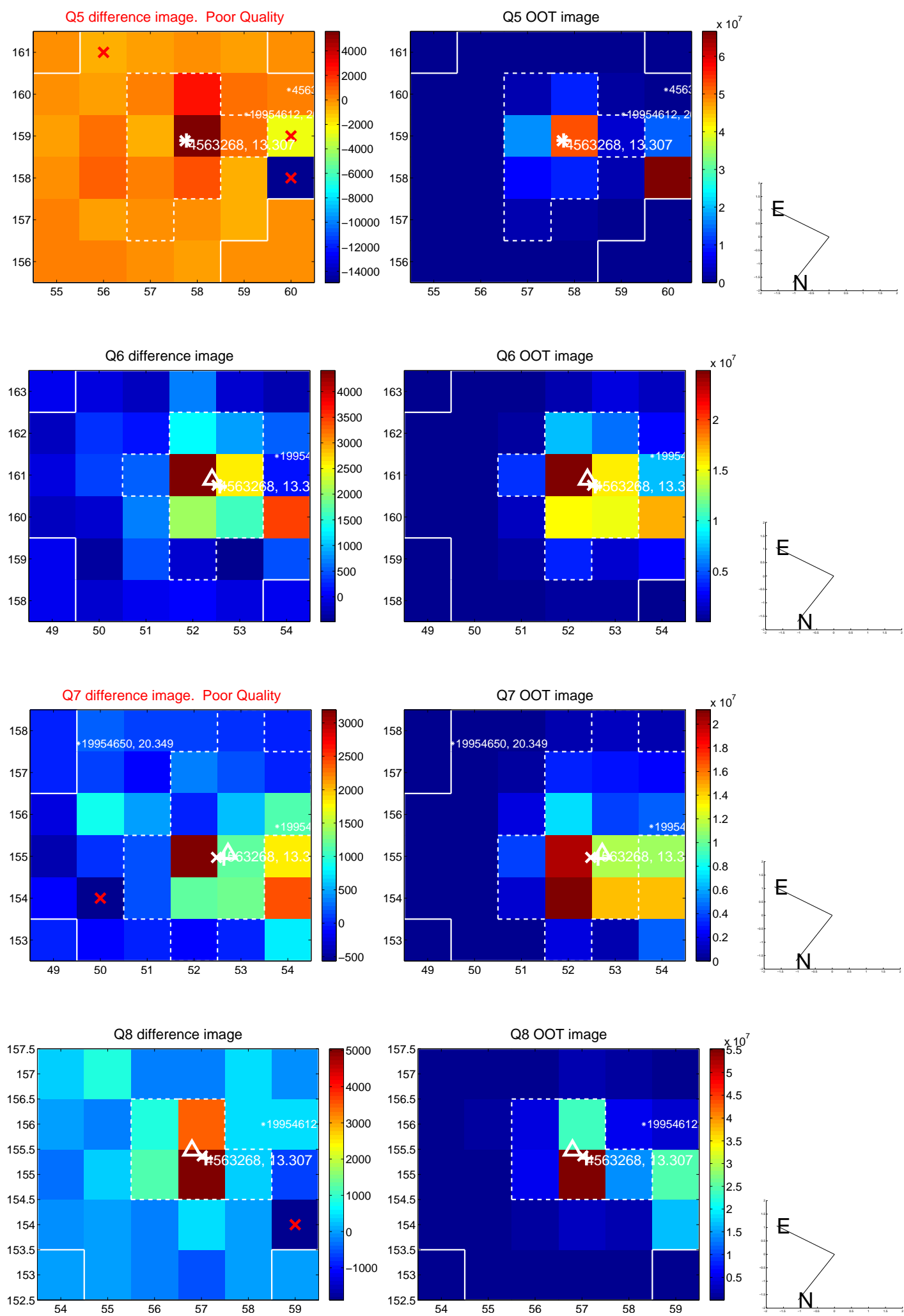


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

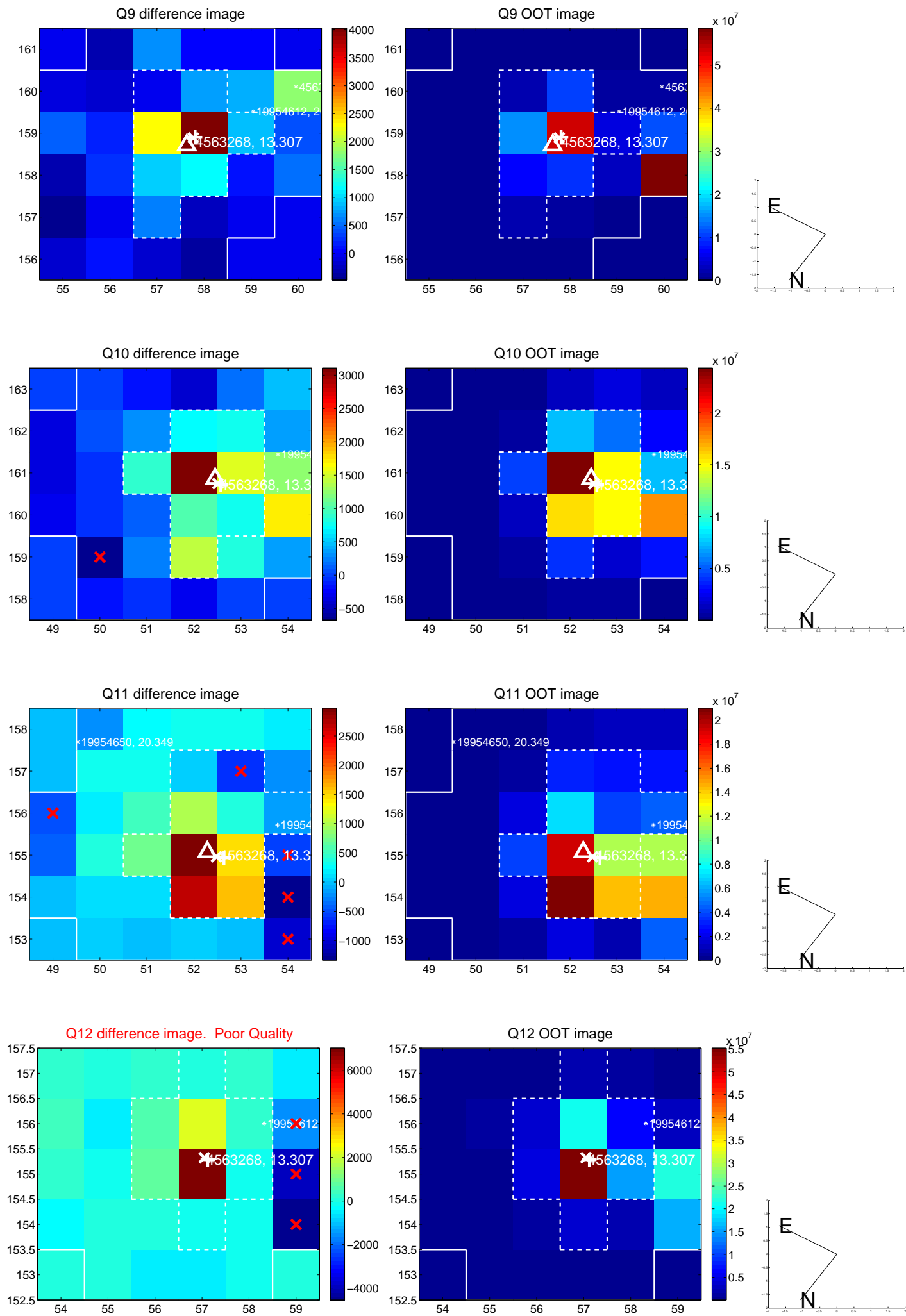
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



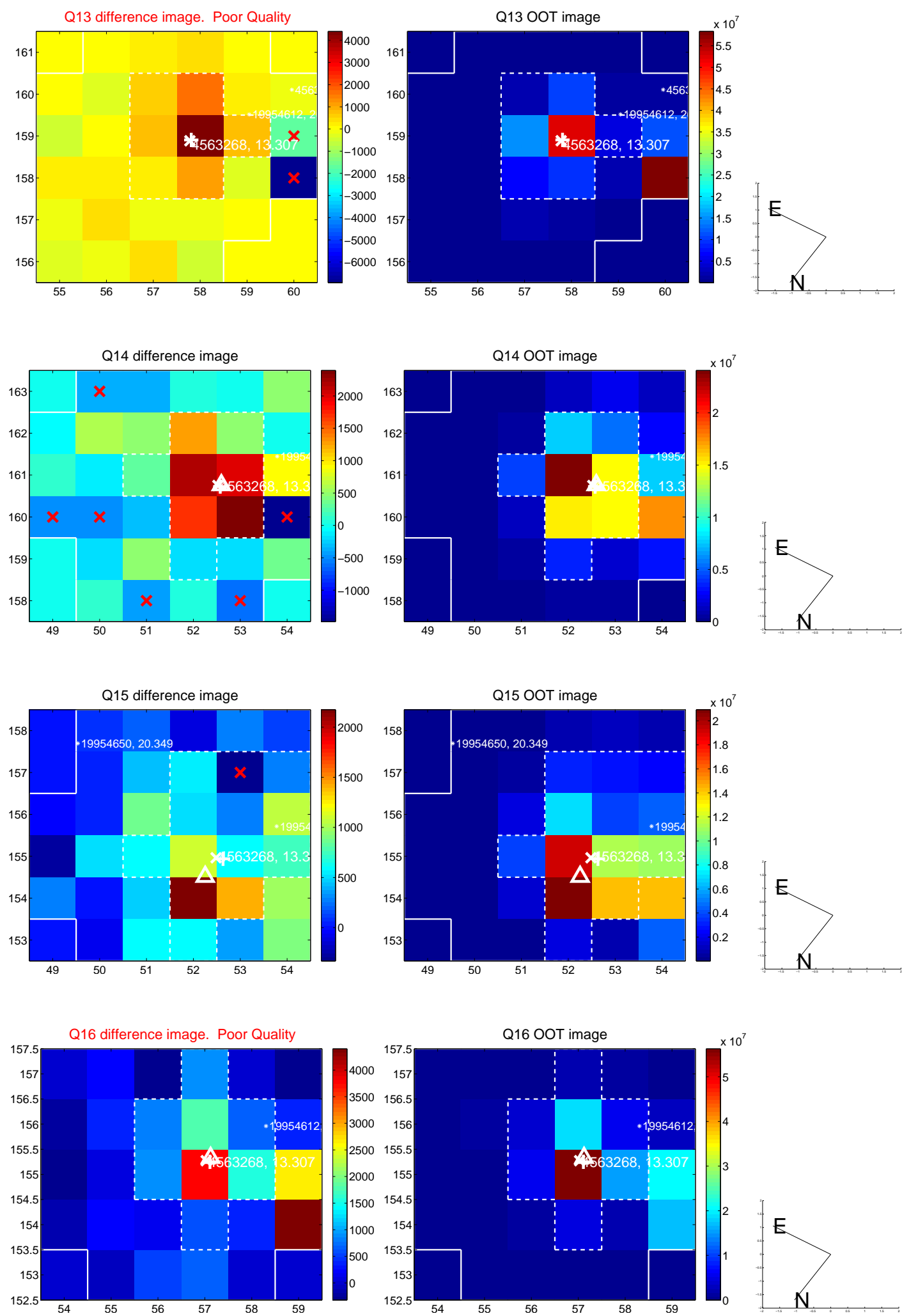
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



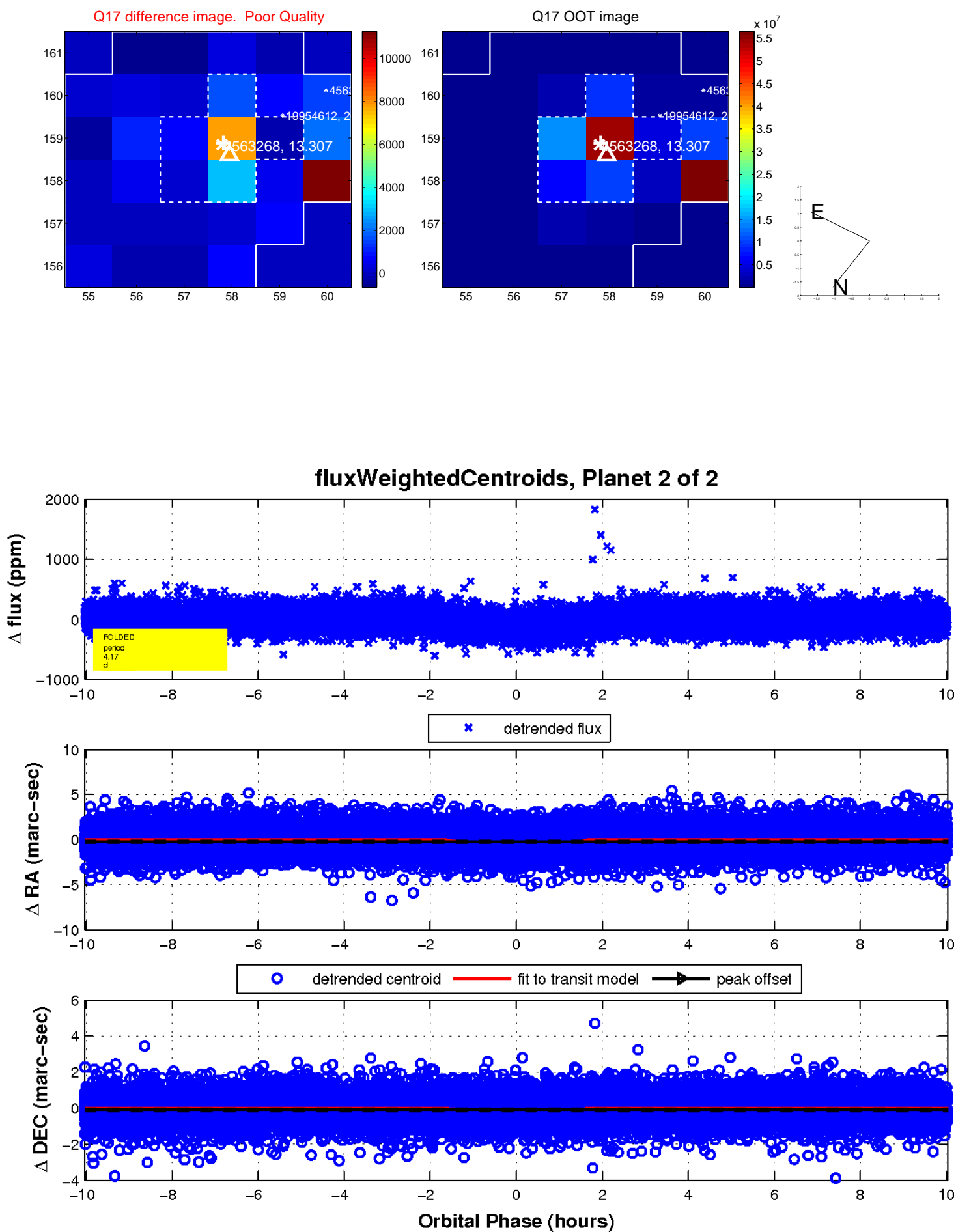
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

