

KIC 012602567

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})
012602567-01	OBS	No	2.047463	131.861875	39.8	3.872	14.7	14.8	2.65	8564	1.94	20138.83
012602567-02	OBS	No	1.023679	132.263277	183.3	3.000	8.9	-1.0	2.65	8564	3.64	50750.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012602567-01	OBS	FP	0.00	1	0	1	0	SWEET_NTL—LPP_DV—HALO_GHOST
012602567-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

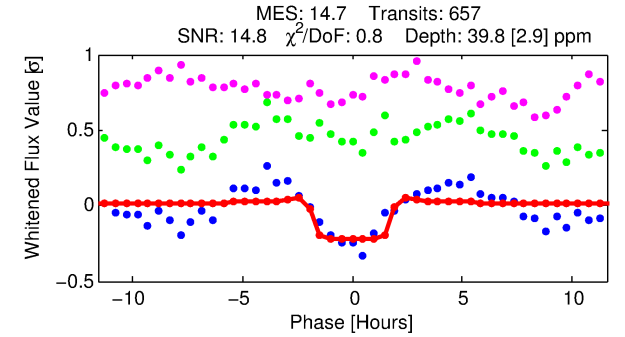
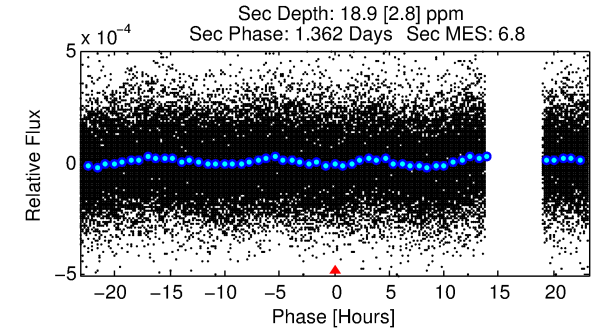
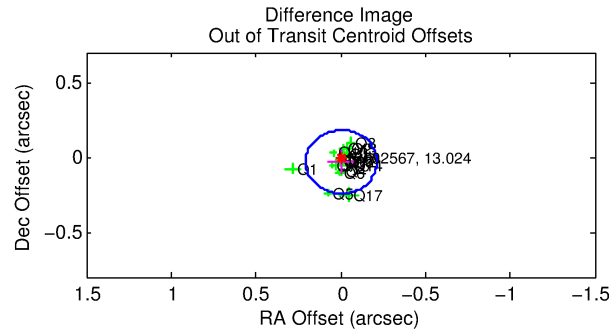
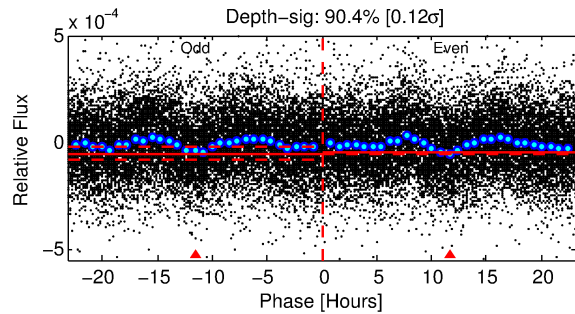
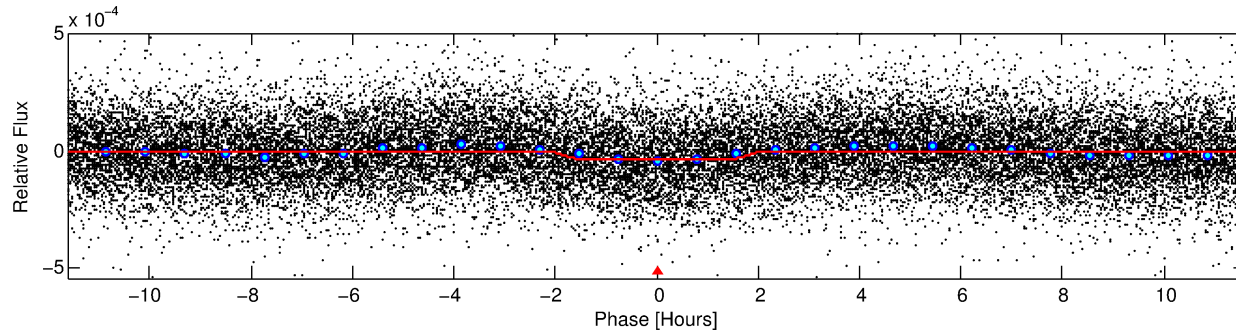
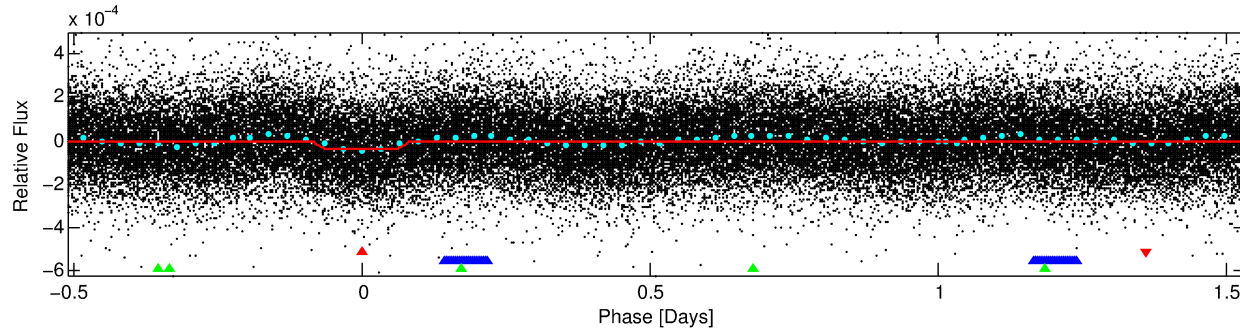
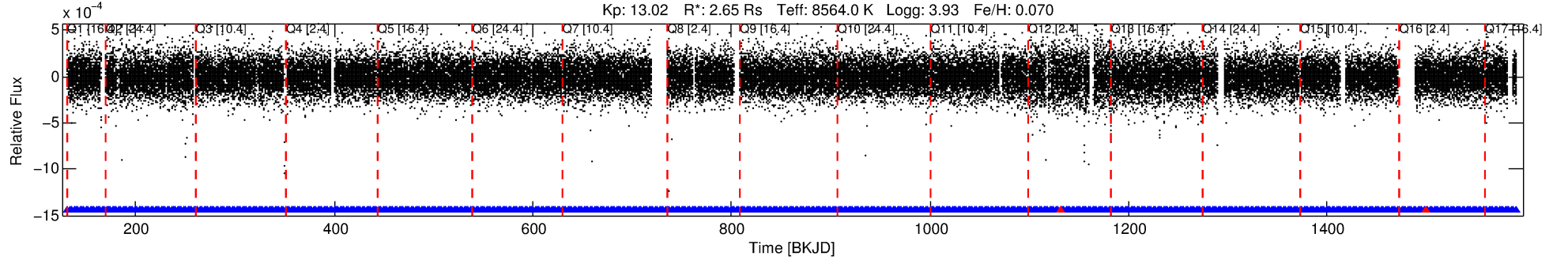
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012602567-01

No Significant Match Found

DV One-Page Summary

KIC: 12602567 Candidate: 1 of 3 Period: 2.047 d



DV Fit Results:

Period = 2.04746 [0.00001] d
Epoch = 131.8619 [0.0026] BKJD
Rp/R* = 0.0067 [0.0014]
a/R* = 2.03 [2.11]
b = 0.90 [0.28]
Seff = 20138.83 [9553.23]
Teq = 3038 [360] K
Rp = 1.94 [0.75] Re
a = 0.0410 [0.0118] AU
Ag = 4.63 [2.85] [1.27σ]
Teffp = 6888 [816] K [4.32σ]

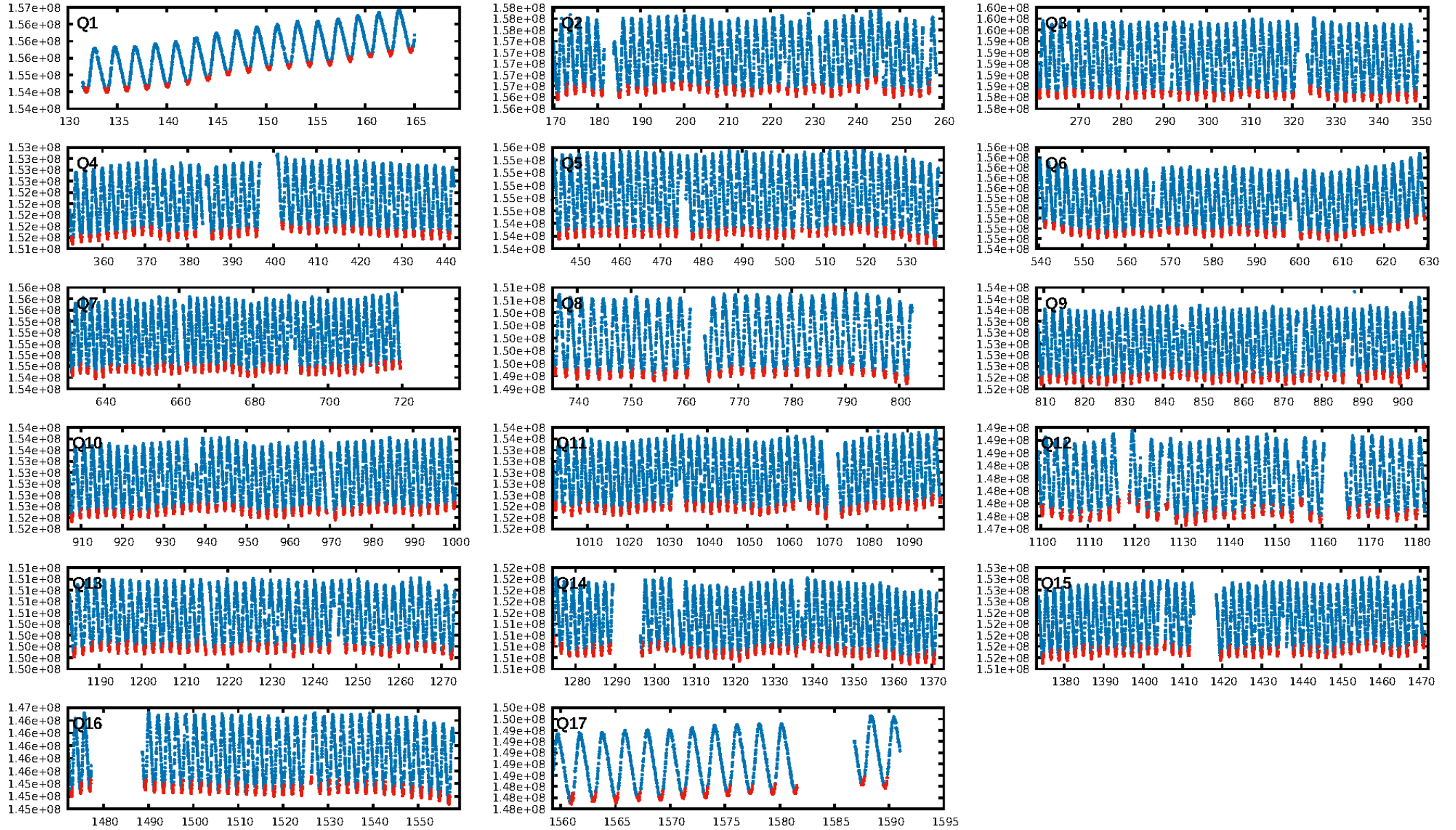
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [5.02σ]
LongPeriod-sig: 100.0% [455.30σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.16e-38
RollingBand-fgt: 1.00 [625/627]
GhostDiagnostic-chr: -0.005203
Centroid-sig: 34.4%
Centroid-so: 1.014 arcsec [1.40σ]
OotOffset-rm: 0.032 arcsec [0.45σ]
KicOffset-rm: 0.102 arcsec [1.45σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

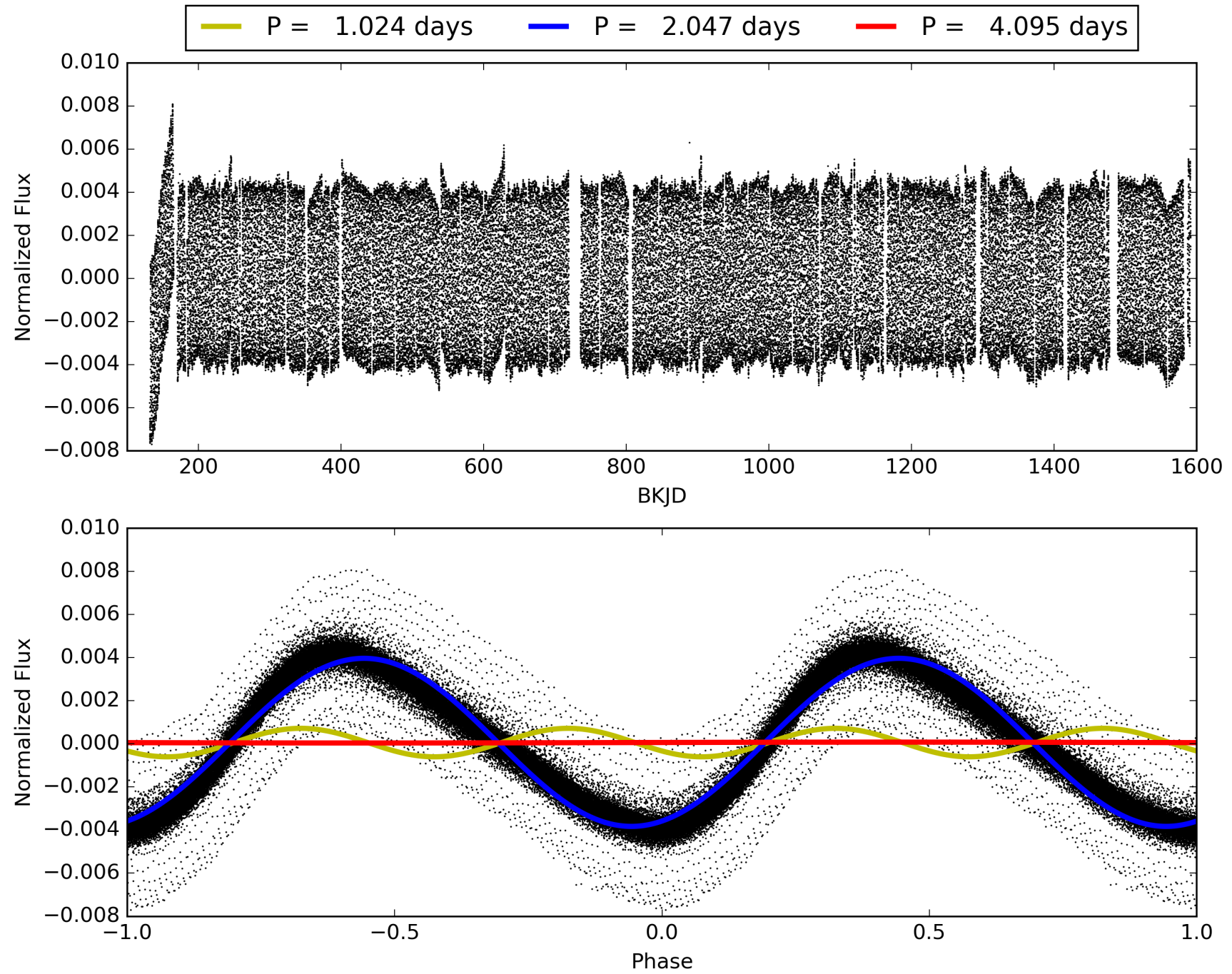
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 11:35:51 Z

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

TCE 012602567-01, PDC Light Curves

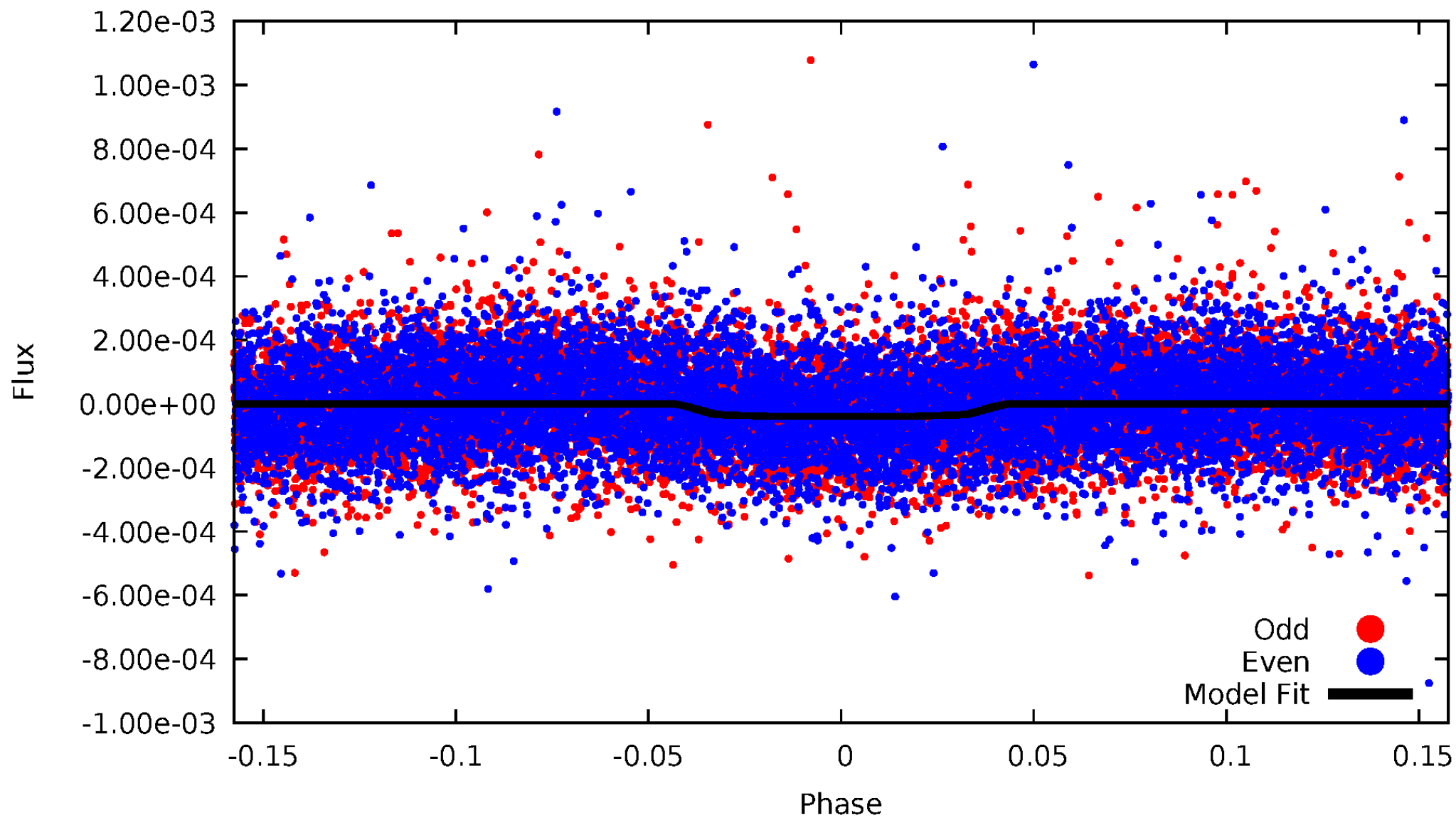


TCE 012602567-01



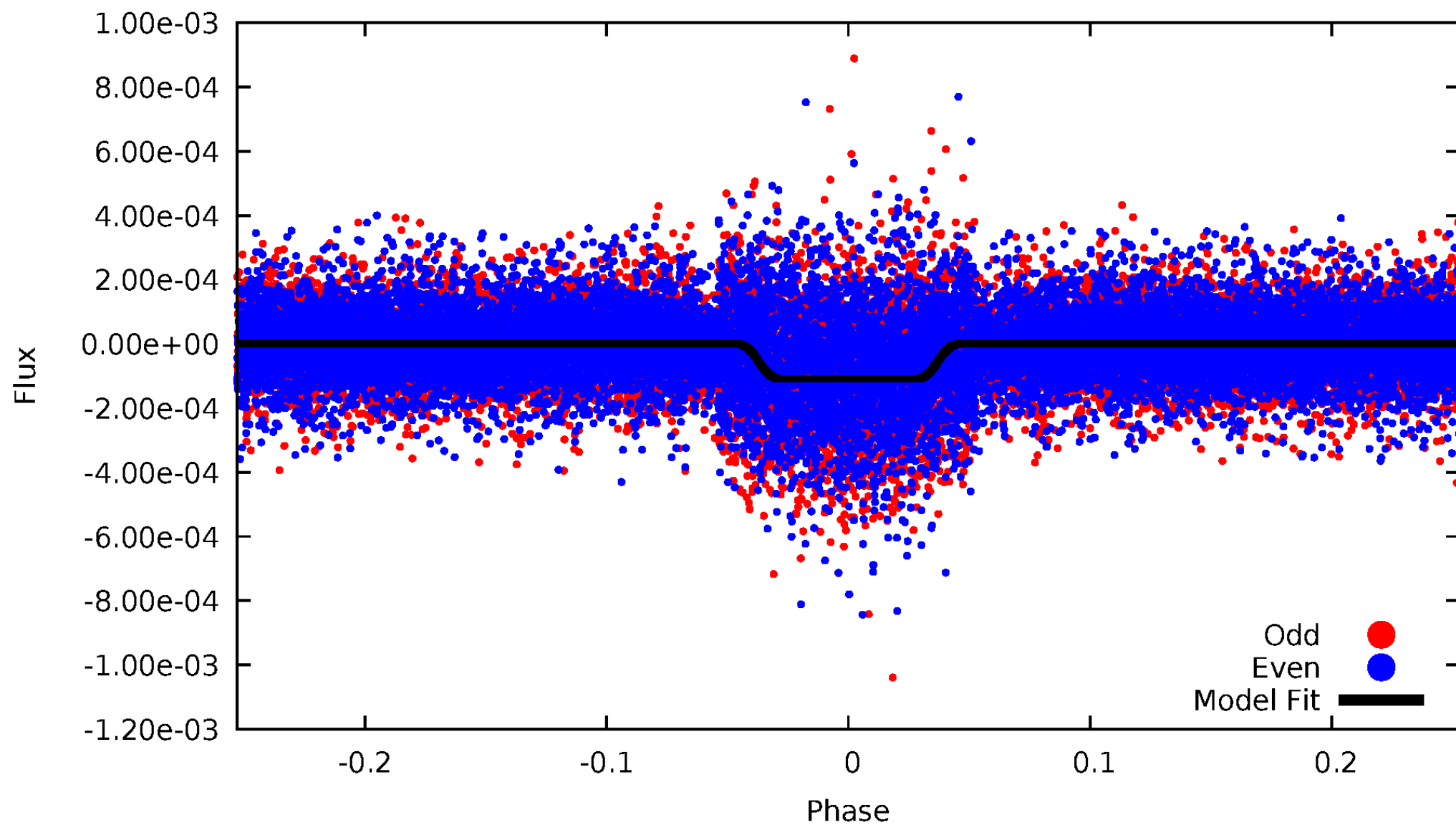
DV Odd/Even

TCE 012602567-01



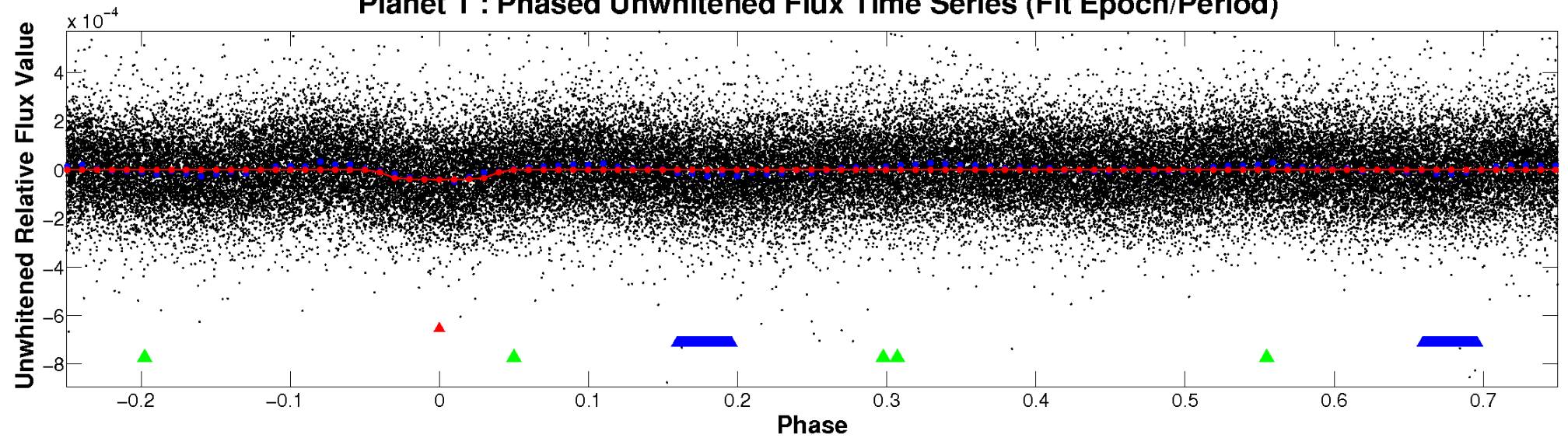
ALT Odd/Even

TCE 012602567-01

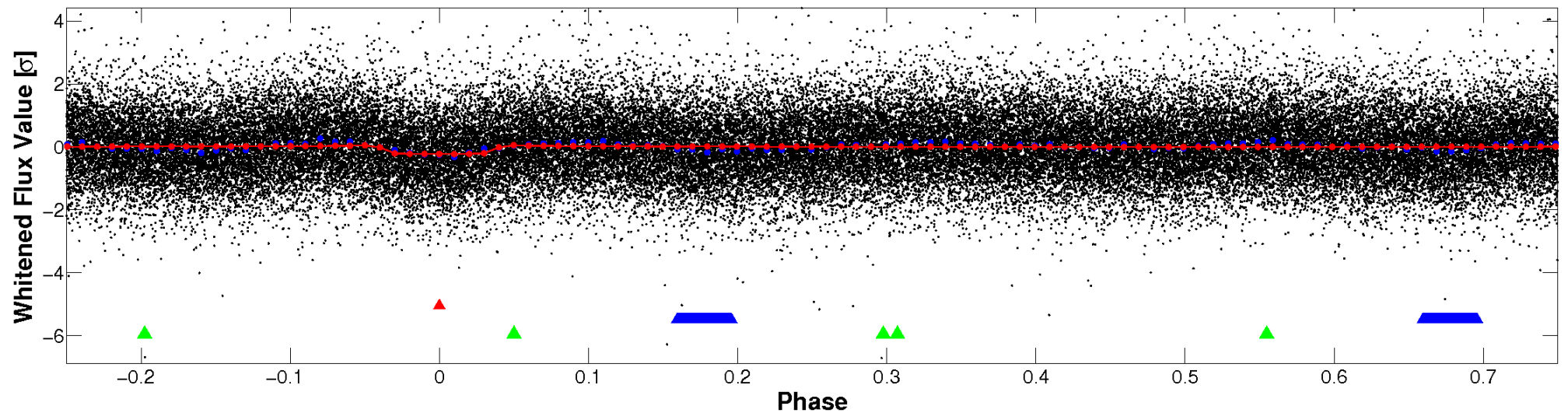


Non-Whitened Vs. Whitened Light Curve

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

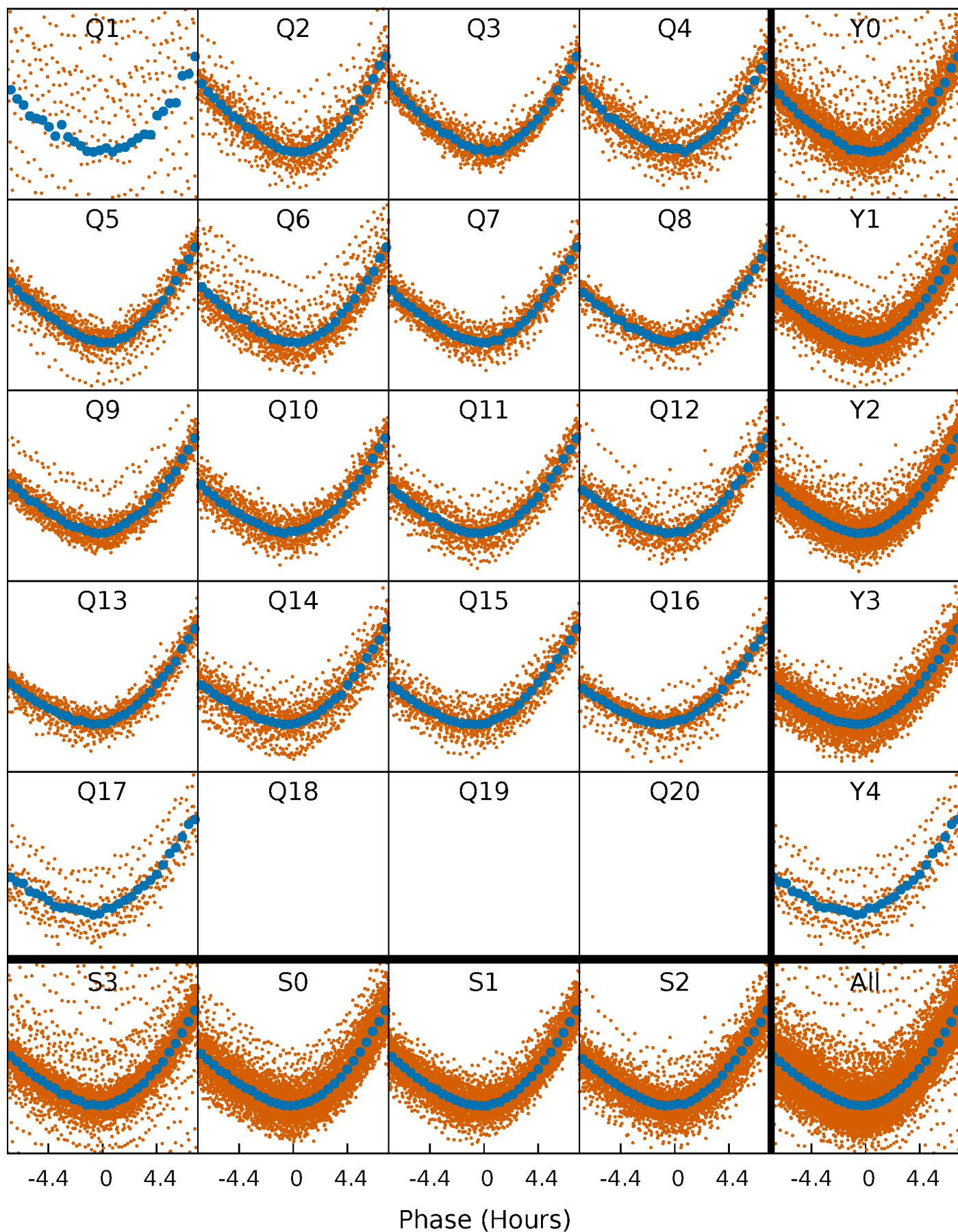


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



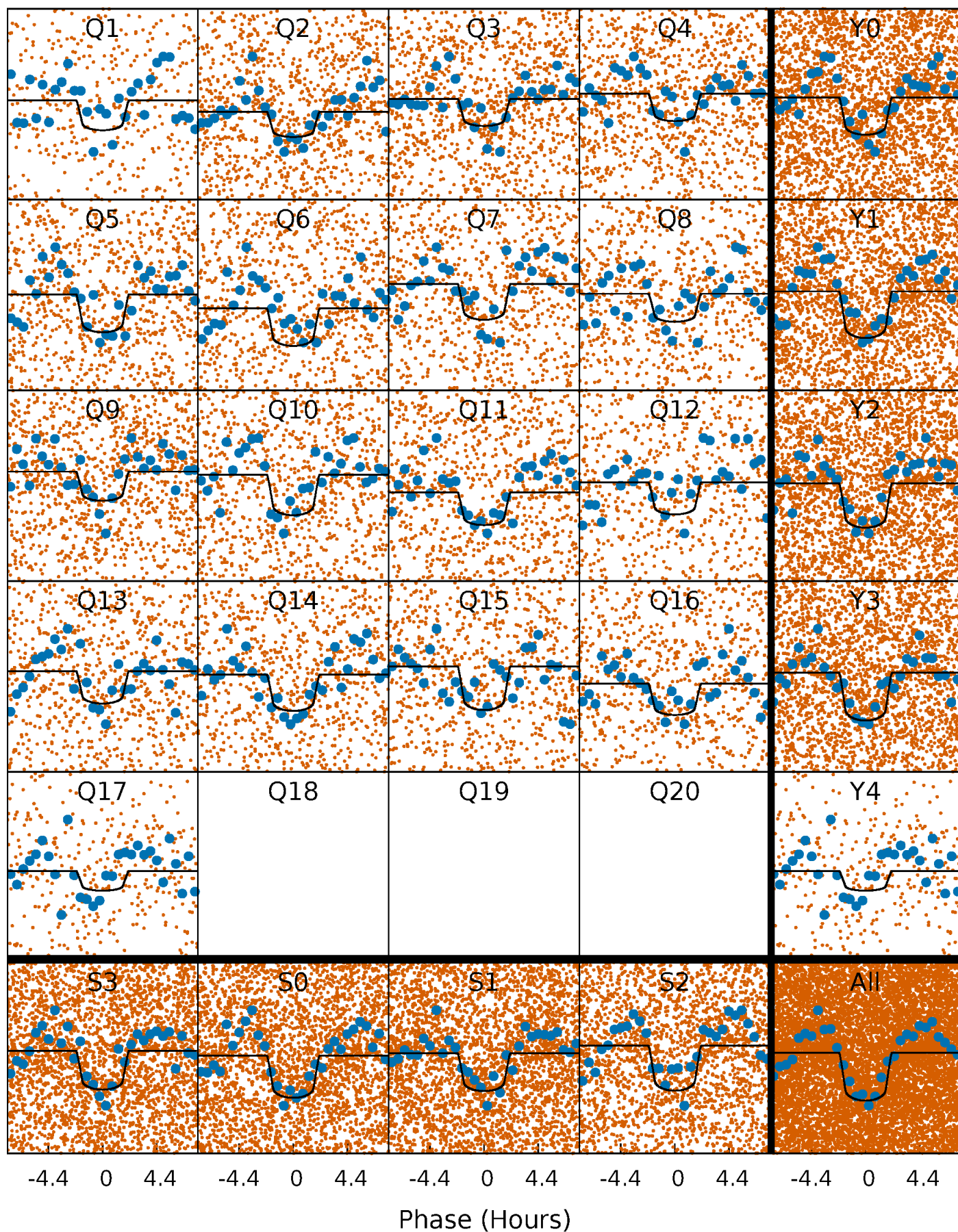
PDC Quarter-Phased Transit Curves

TCE 012602567-01 P= 2.047463 Days $T_0=131.861875$ (BKJD)



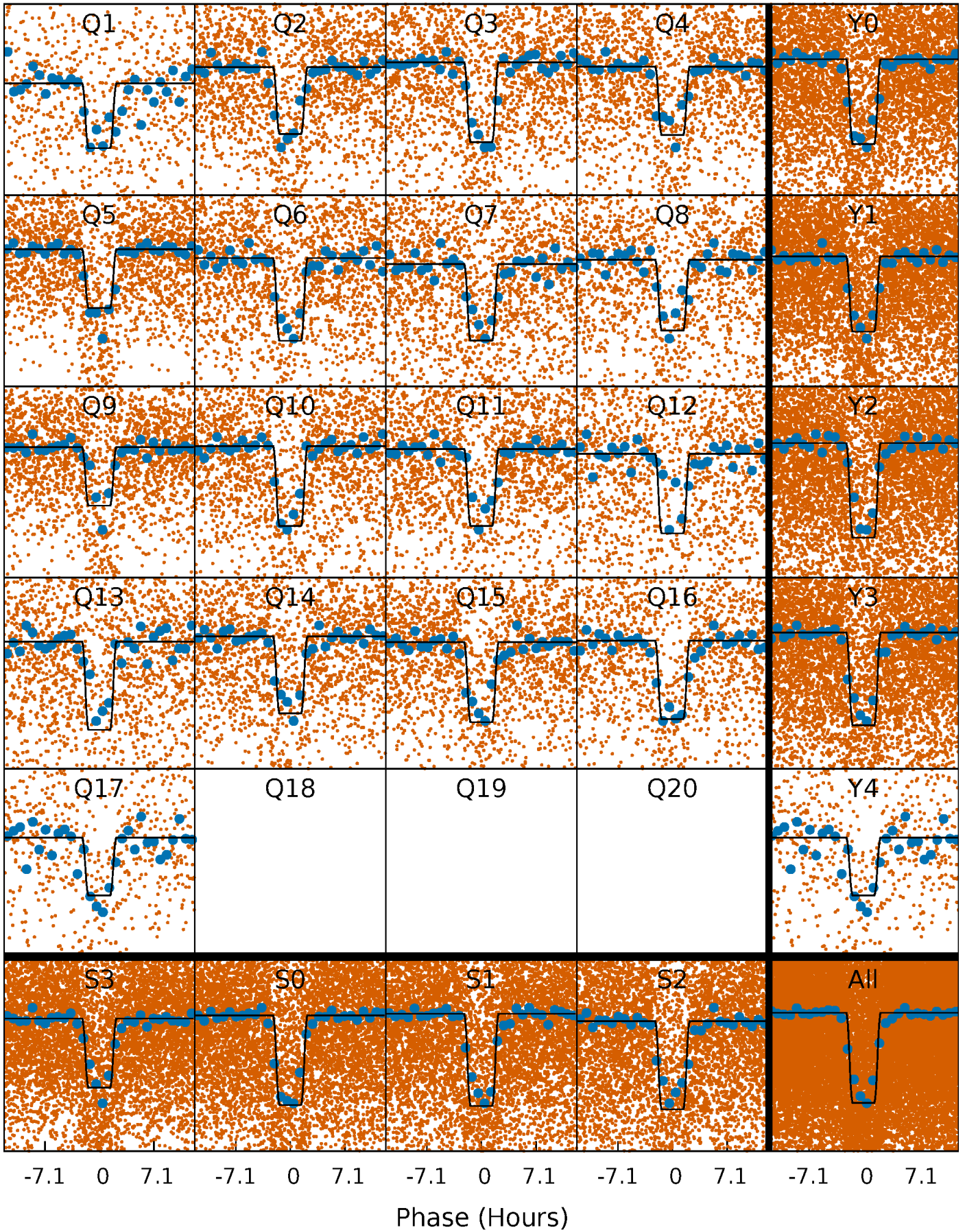
DV Quarter-Phased Transit Curves

TCE 012602567-01 P= 2.047463 Days $T_0=131.861875$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

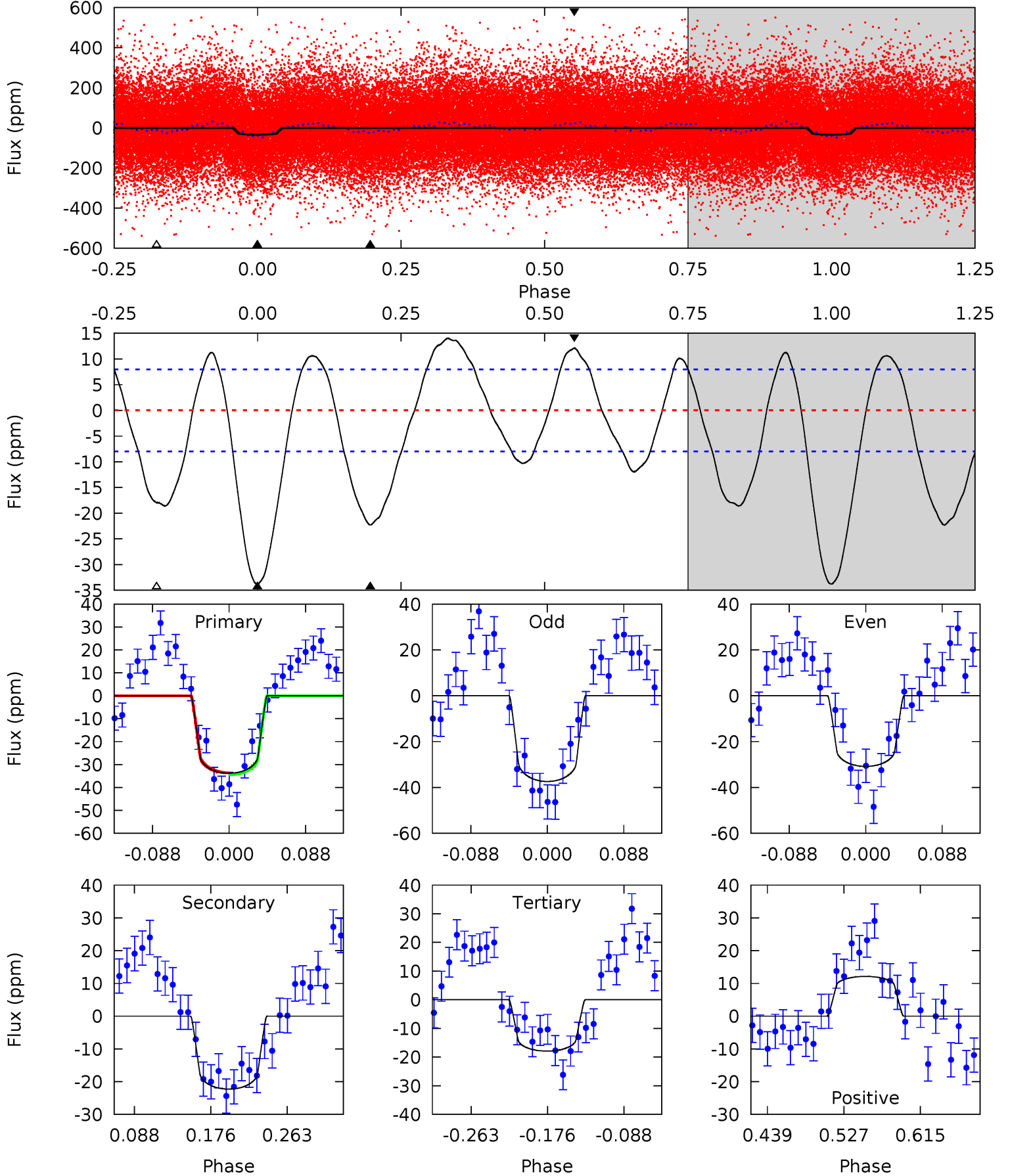
TCE 012602567-01 P= 2.047381 Days $T_0=131.880175$ (BKJD)



DV Model-Shift Uniqueness Test

012602567-01, P = 2.047463 Days, E = 129.814412 Days

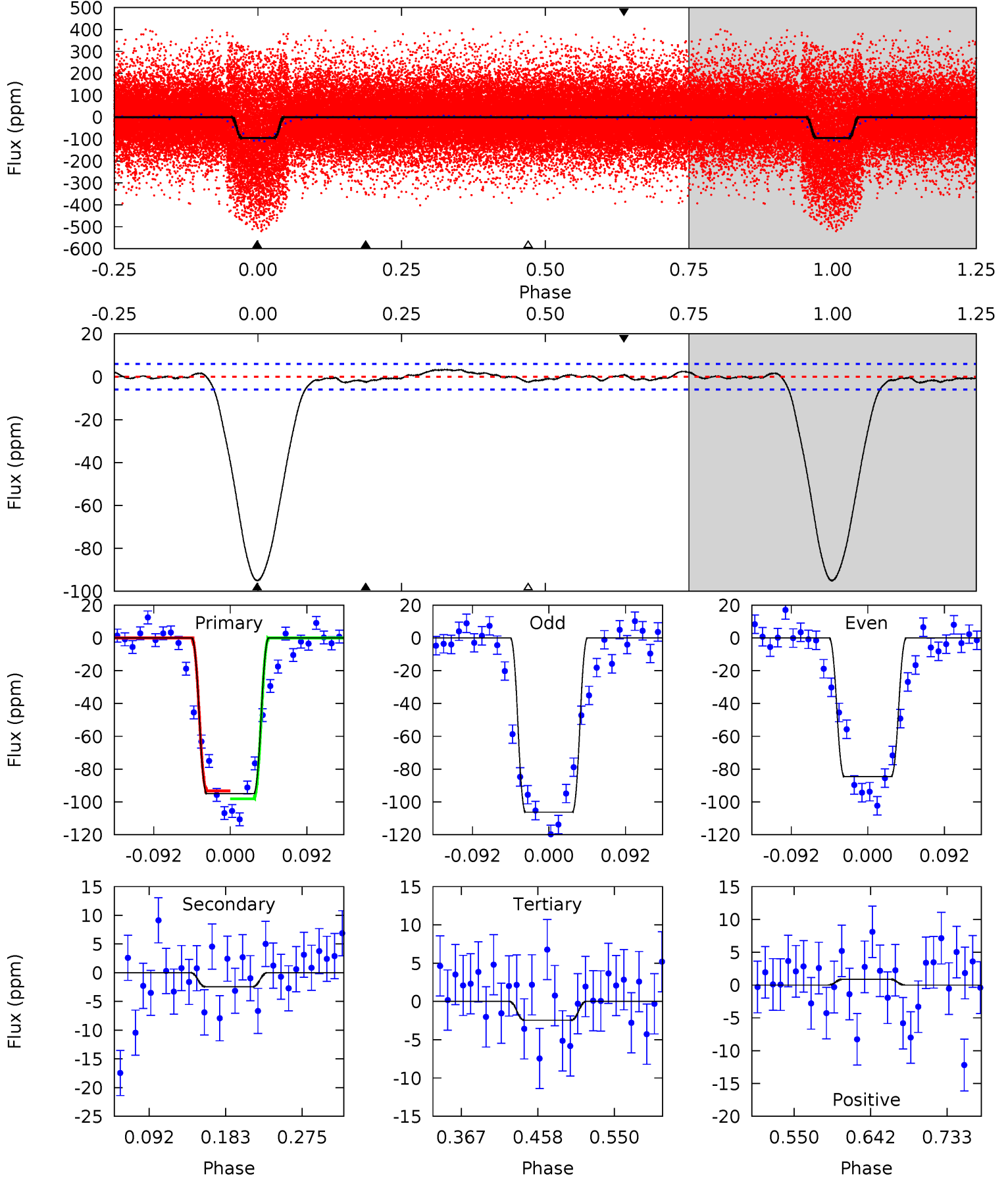
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.5	12.8	10.3	6.98	4.59	1.71	5.45	9.15	12.5	2.52	5.86	1.90	0.95	0.29	0.23



Alt Model-Shift Uniqueness Test

012602567-01, P = 2.047381 Days, E = 129.832794 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
73.3	1.89	1.89	0.69	4.58	1.69	1.11	71.4	72.6	0.01	1.21	8.35	1.04	0.03	1.84



Stellar Parameters For KIC 012602567

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8564^{+268}_{-402}	$3.932^{+0.246}_{-0.164}$	$0.070^{+0.250}_{-0.500}$	$2.649^{+0.863}_{-0.863}$	$2.190^{+0.360}_{-0.585}$	$0.166^{+0.244}_{-0.081}$
	+3%/-5%	+6%/-4%	+357%/-714%	+33%/-33%	+16%/-27%	+147%/-49%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 012602567-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-22 ± 2	$1.86^{+0.54}_{-0.47}$	4158^{+361}_{-336}	6803^{+988}_{-753}	$5.810^{+4.442}_{-2.274}$
Alt.	-2 ± 1	$2.95^{+0.61}_{-0.66}$	4179^{+358}_{-386}	-2865^{+6100}_{-650}	$0.246^{+0.214}_{-0.128}$

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

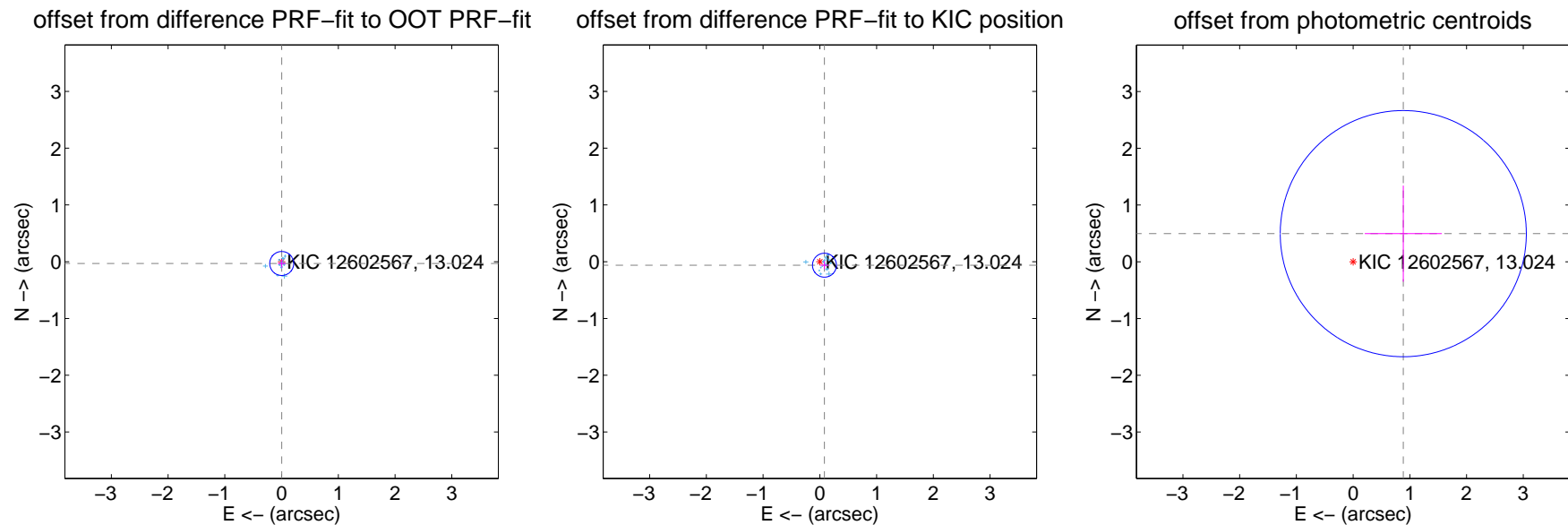
DV Centroid Data

Supplemental centroid analysis for 012602567-01. Kepler magnitude: 13.02. Transit SNR 14.77

There are 17 quarters with good PRF difference image offsets

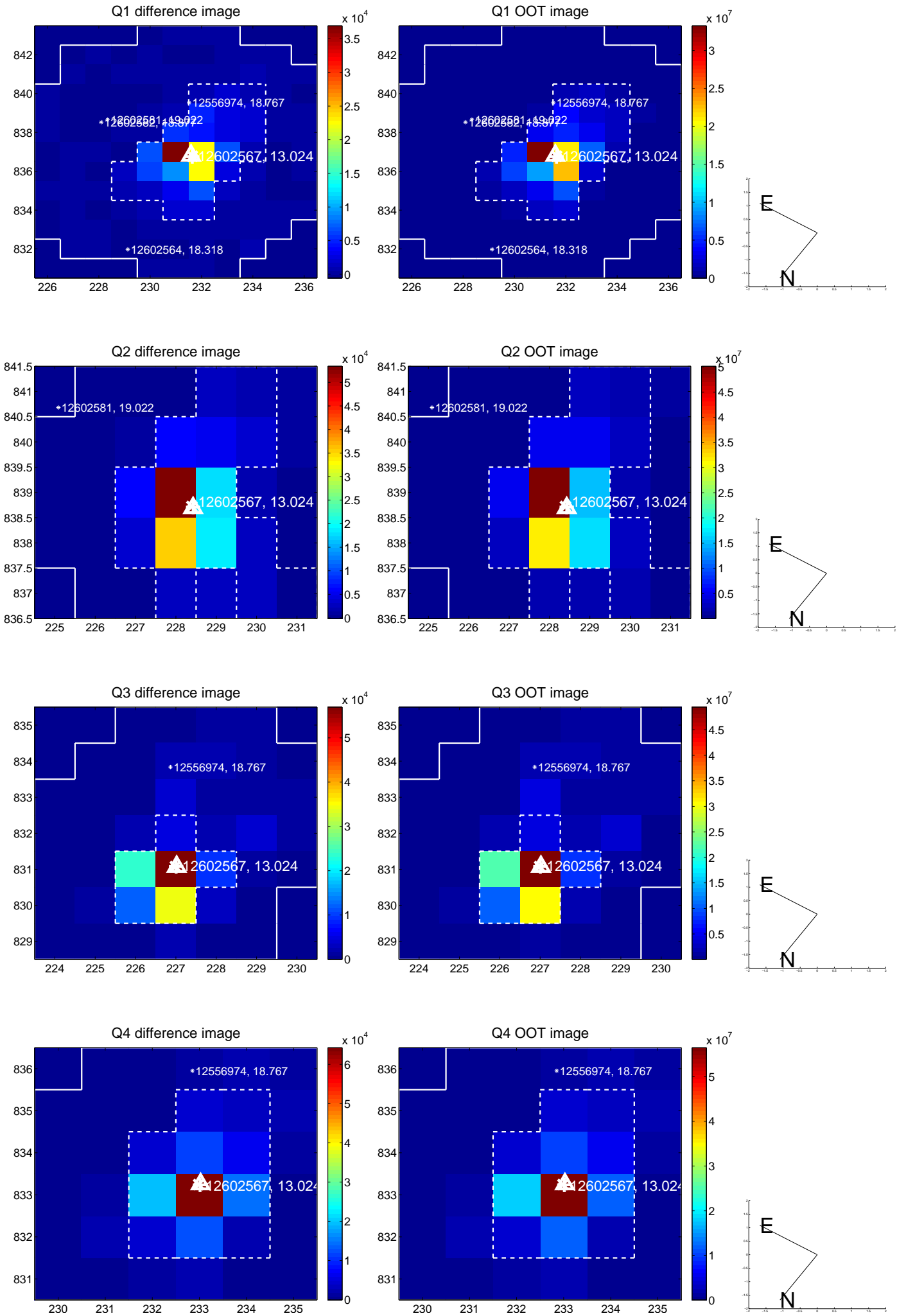
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.032 ± 0.070	0.45	-0.003 ± 0.069	-0.032 ± 0.071
PRF-fit source offset from KIC position	0.102 ± 0.070	1.45	-0.081 ± 0.071	-0.062 ± 0.071
photometric centroid source offset	1.01 ± 0.72	1.40	-0.88 ± 0.68	0.50 ± 0.85

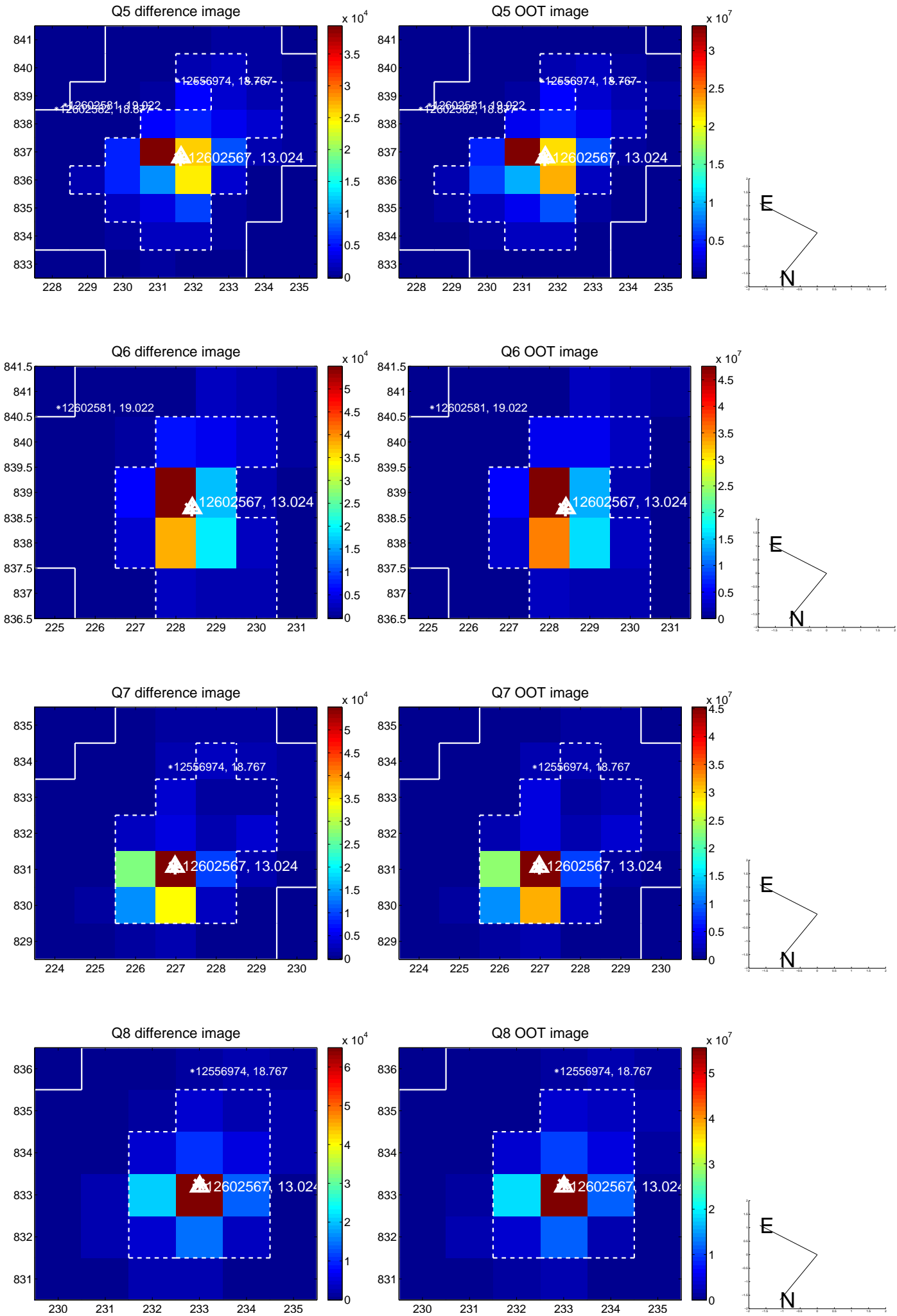


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

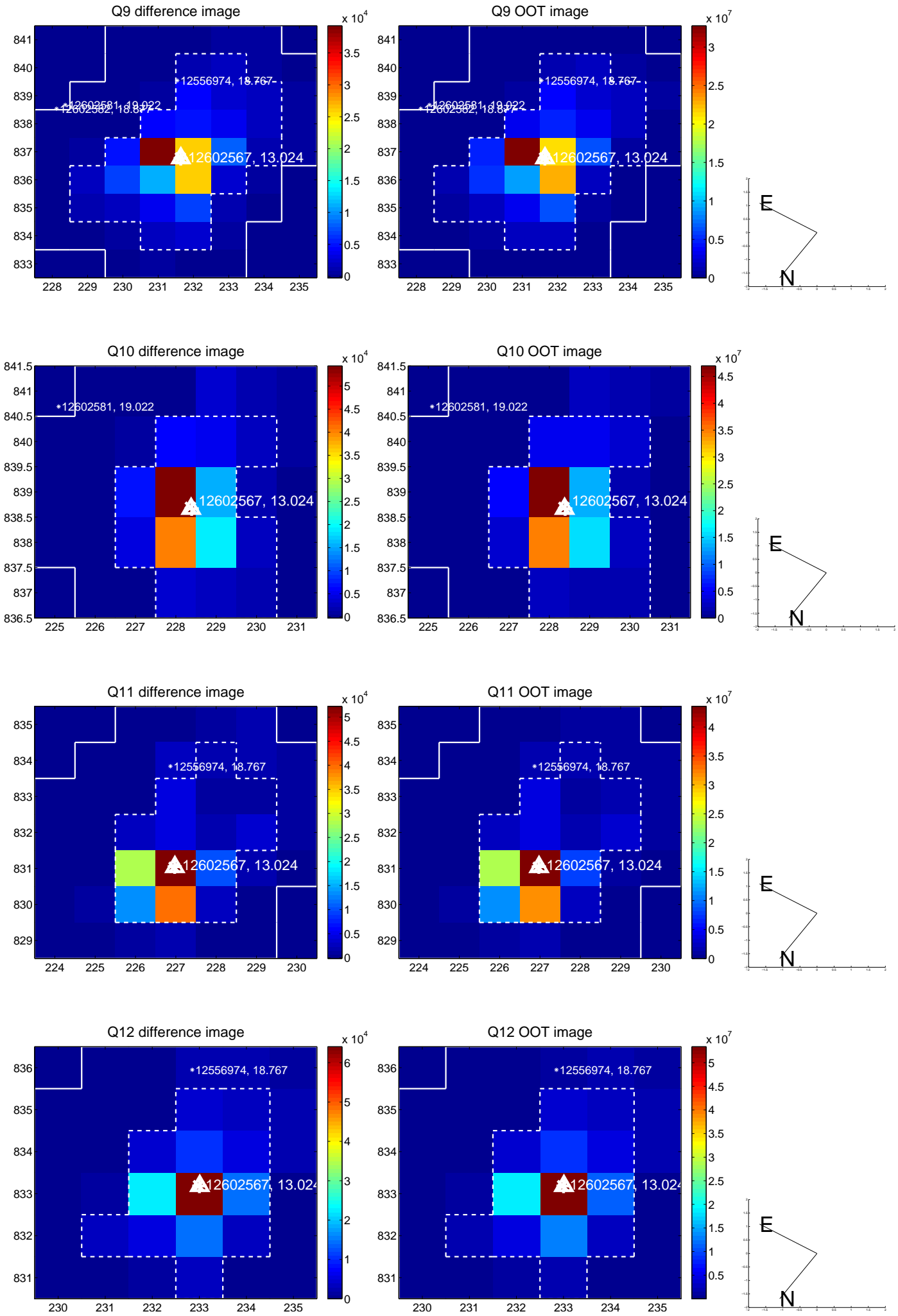
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



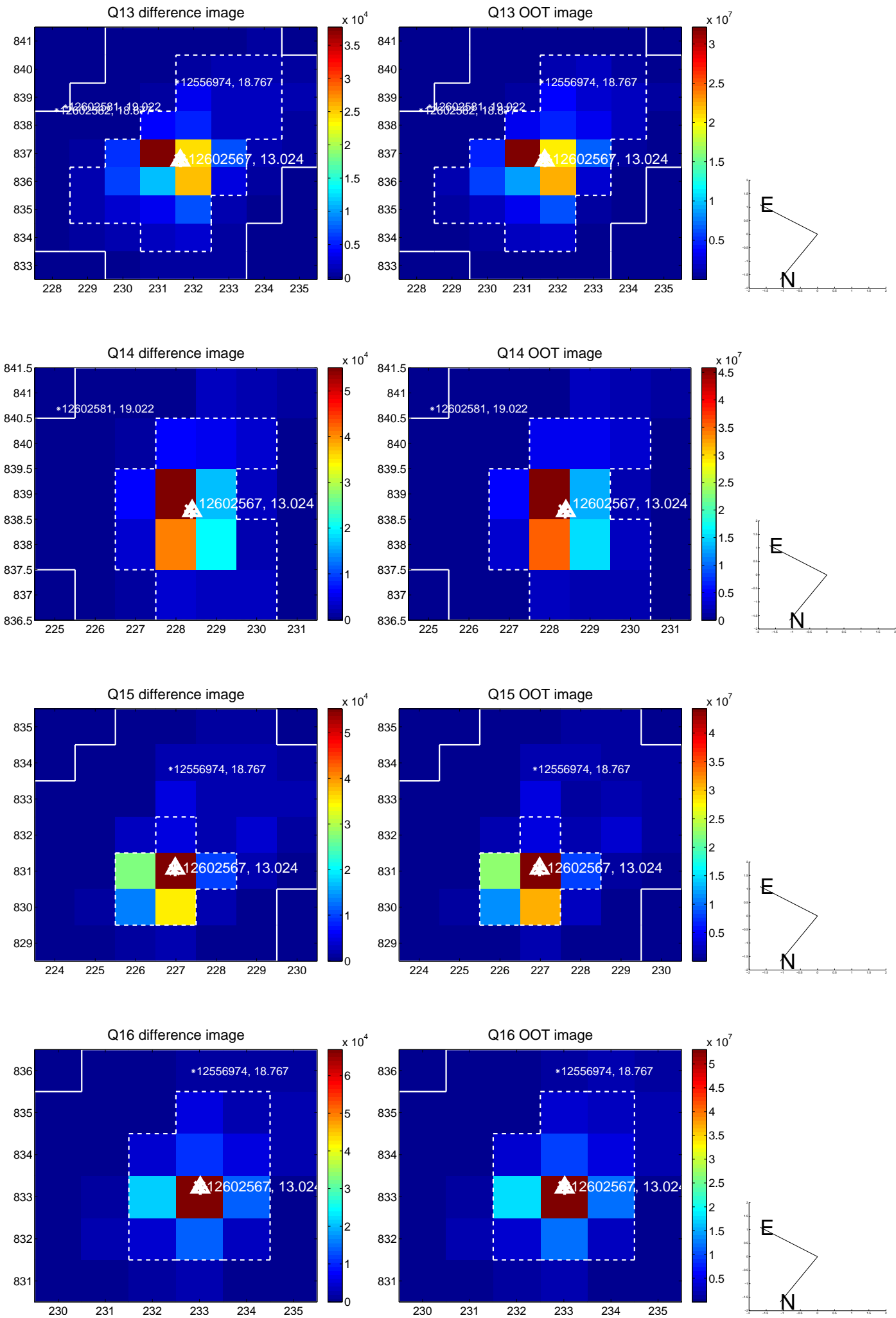
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



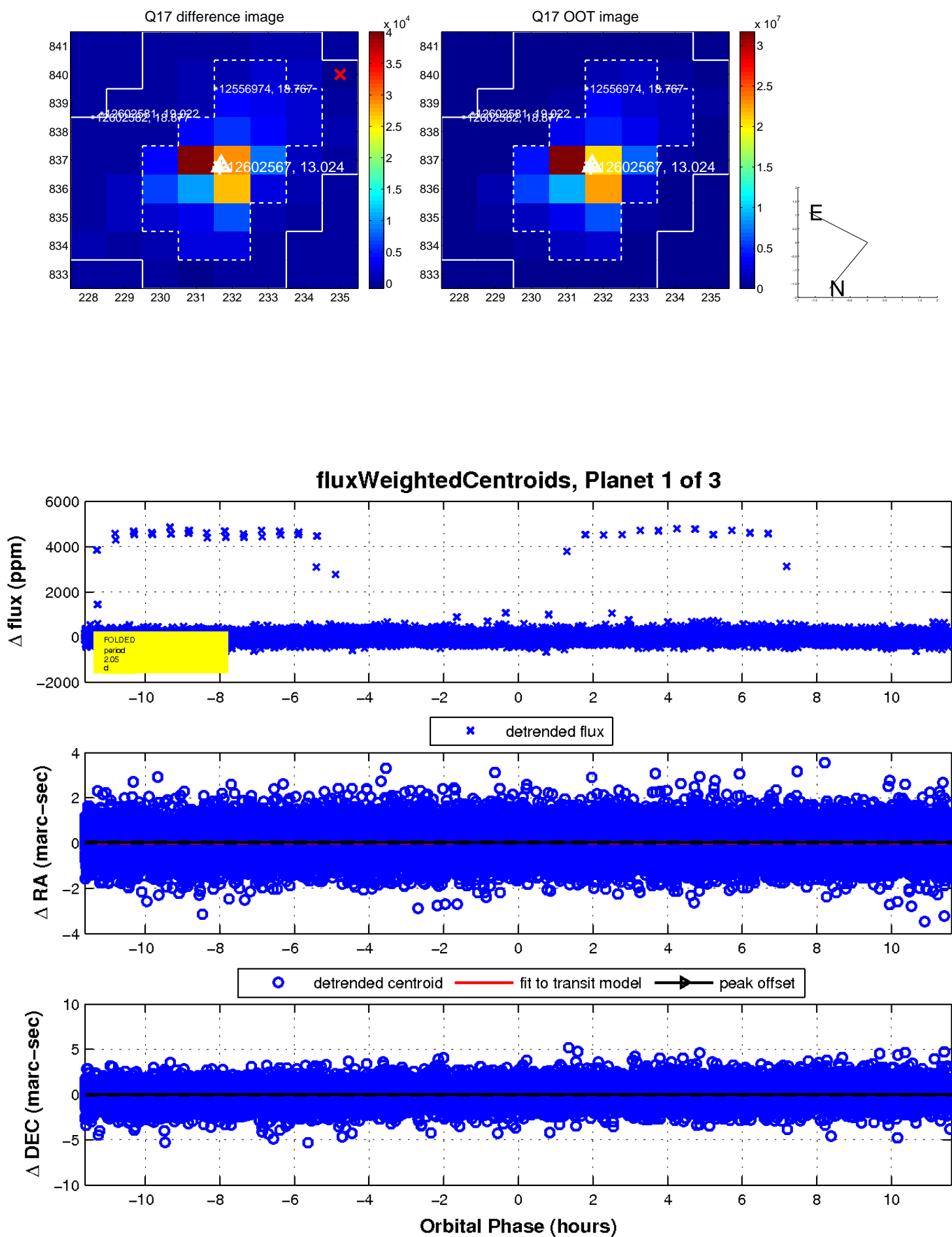
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



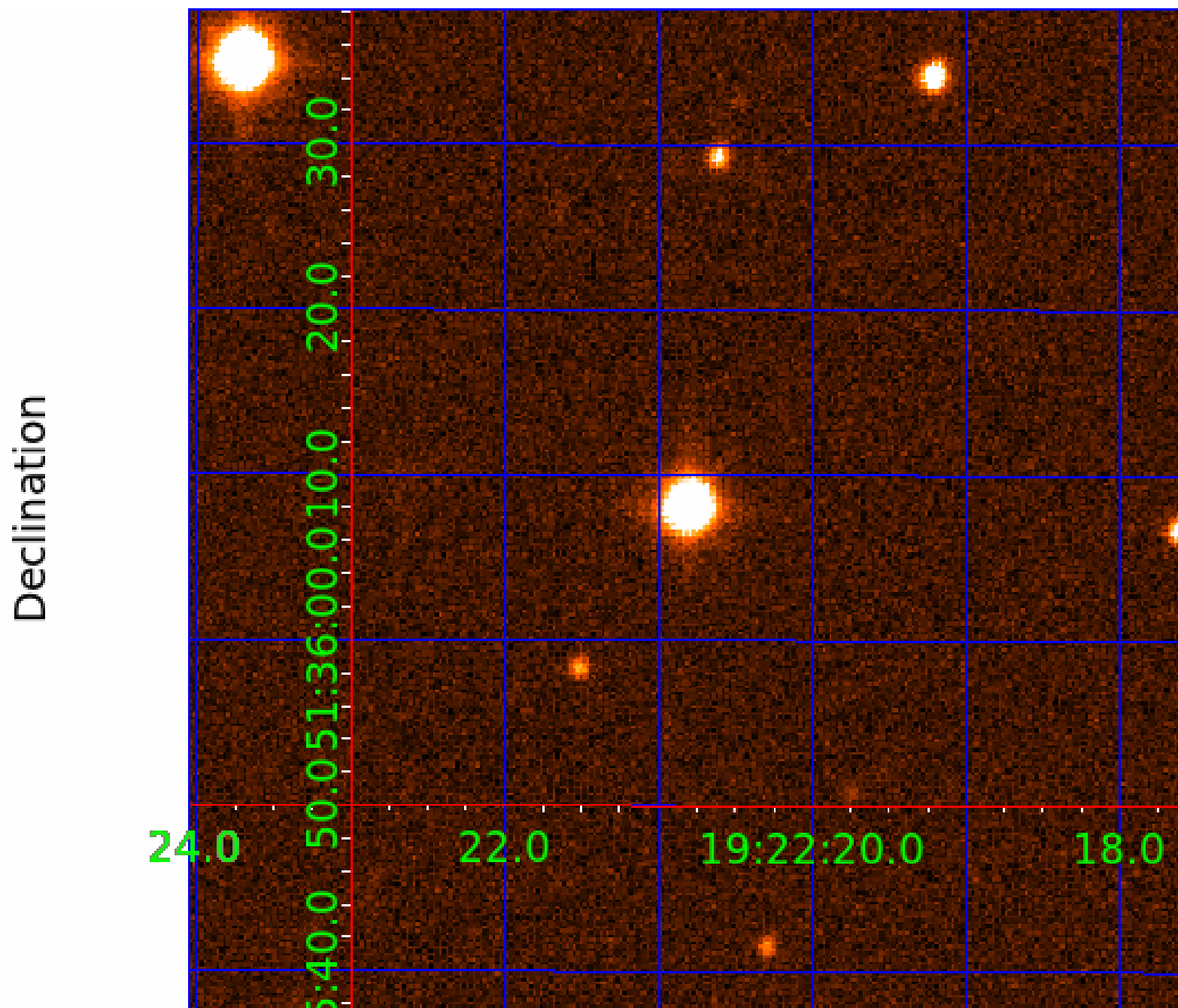
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 012602567

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})
012602567-01	OBS	No	2.047463	131.861875	39.8	3.872	14.7	14.8	2.65	8564	1.94	20138.83
012602567-02	OBS	No	1.023679	132.263277	183.3	3.000	8.9	-1.0	2.65	8564	3.64	50750.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012602567-01	OBS	FP	0.00	1	0	1	0	SWEET_NTL—LPP_DV—HALO_GHOST
012602567-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

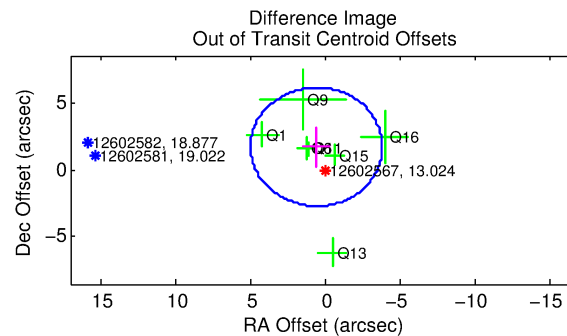
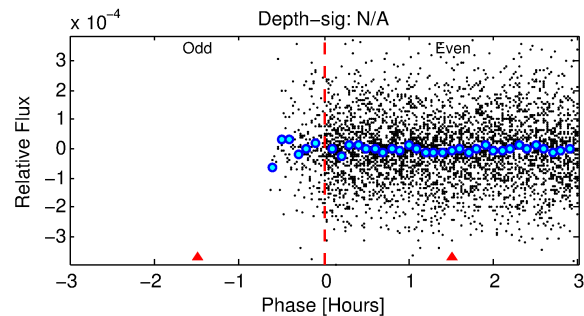
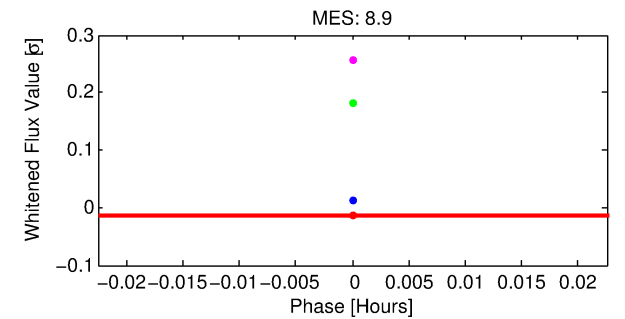
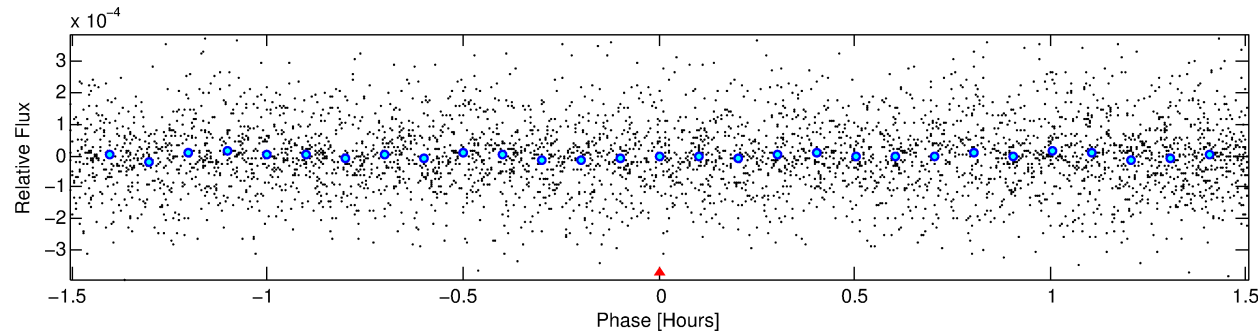
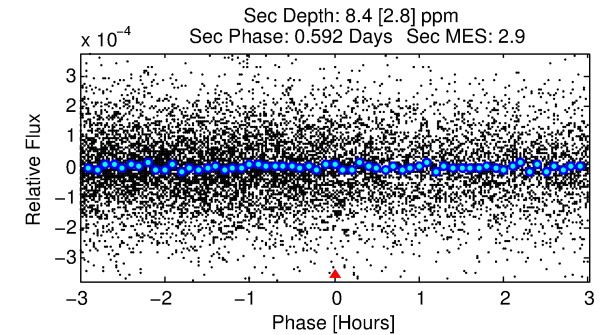
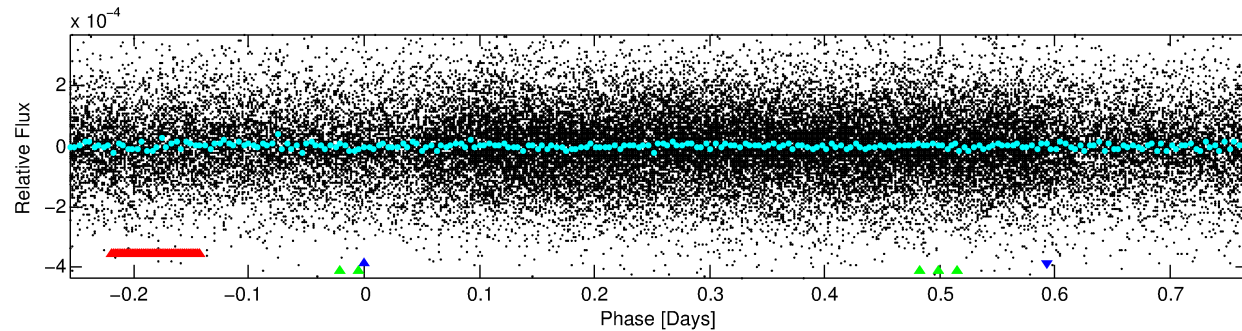
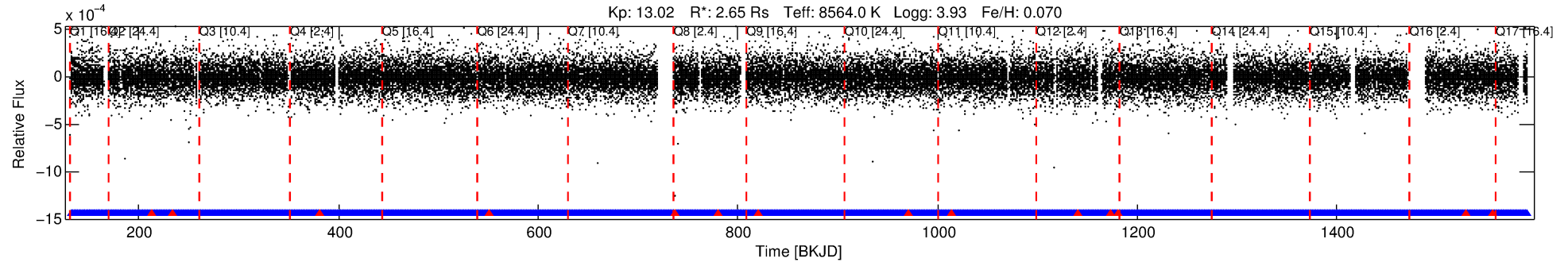
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012602567-02

No Significant Match Found

DV One-Page Summary

KIC: 12602567 Candidate: 2 of 3 Period: 1.024 d



TPS TCE Results:

Period = 1.02368 d
Epoch = 132.2633 BKJD

DV fit results are unavailable

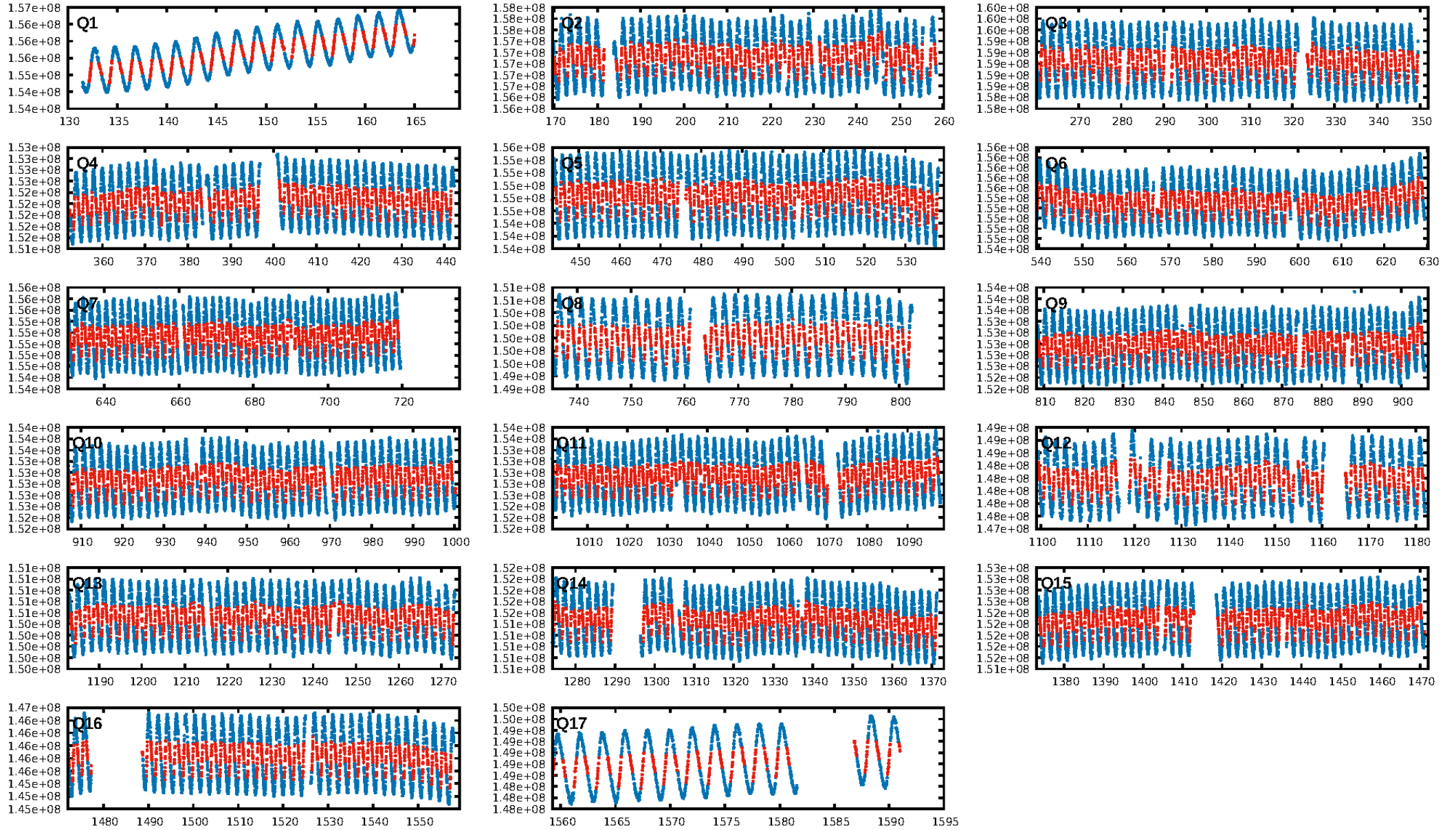
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [5.025]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 9.51e-17
RollingBand-fgt: 0.98 [613/627]
GhostDiagnostic-chr: 0.2649
Centroid-sig: 65.5%
Centroid-so: 7.562 arcsec [0.76σ]
OotOffset-rm: 1.792 arcsec [1.22σ]
KicOffset-rm: 1.726 arcsec [1.44σ]
OotOffset-st: 1/2/1/3 [7]
KicOffset-st: 1/2/1/3 [7]
DiffImageQuality-fgm: 0.00 [0/7]
DiffImageOverlap-fno: 1.00 [17/17]

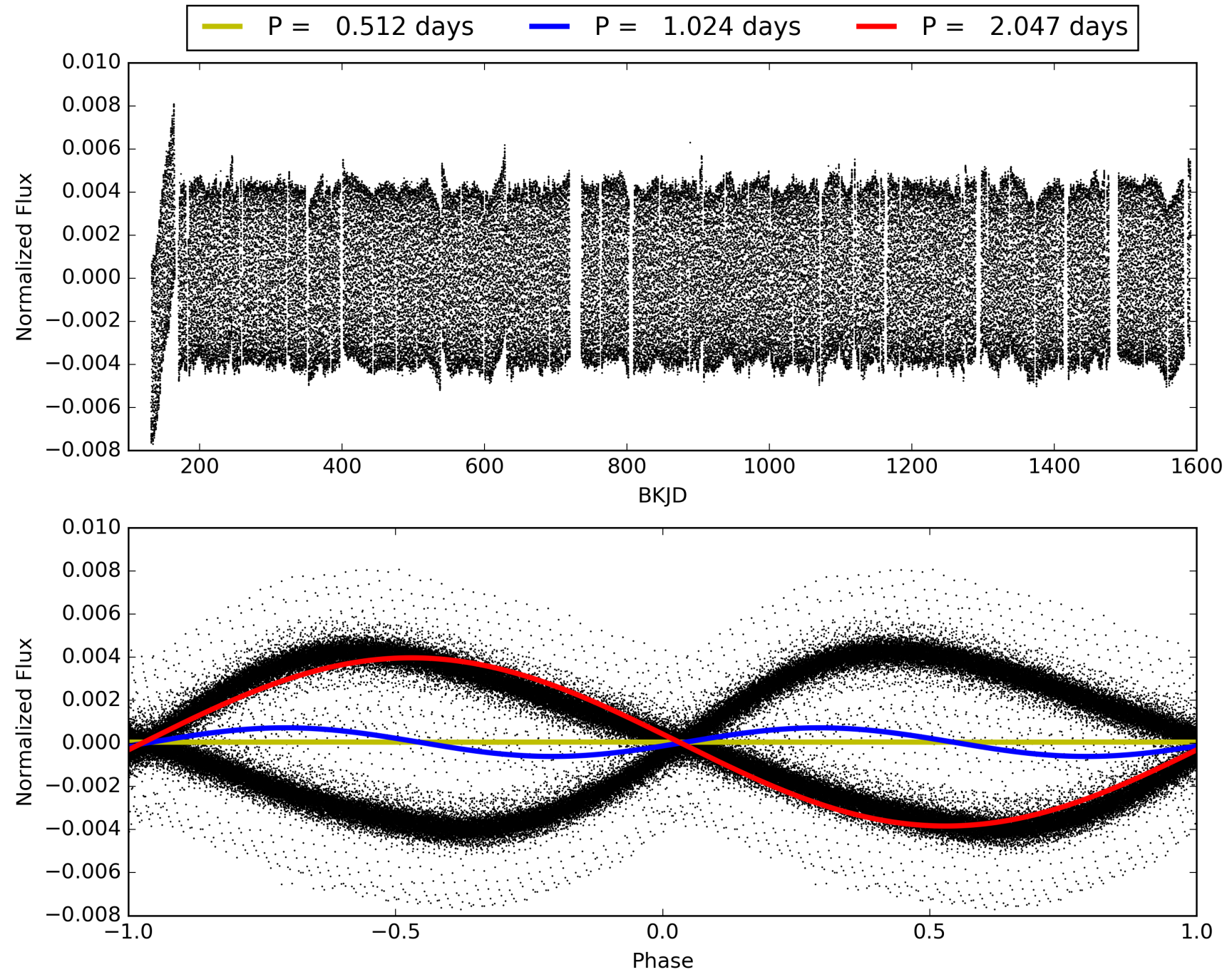
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 11:36:01 Z

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

TCE 012602567-02, PDC Light Curves

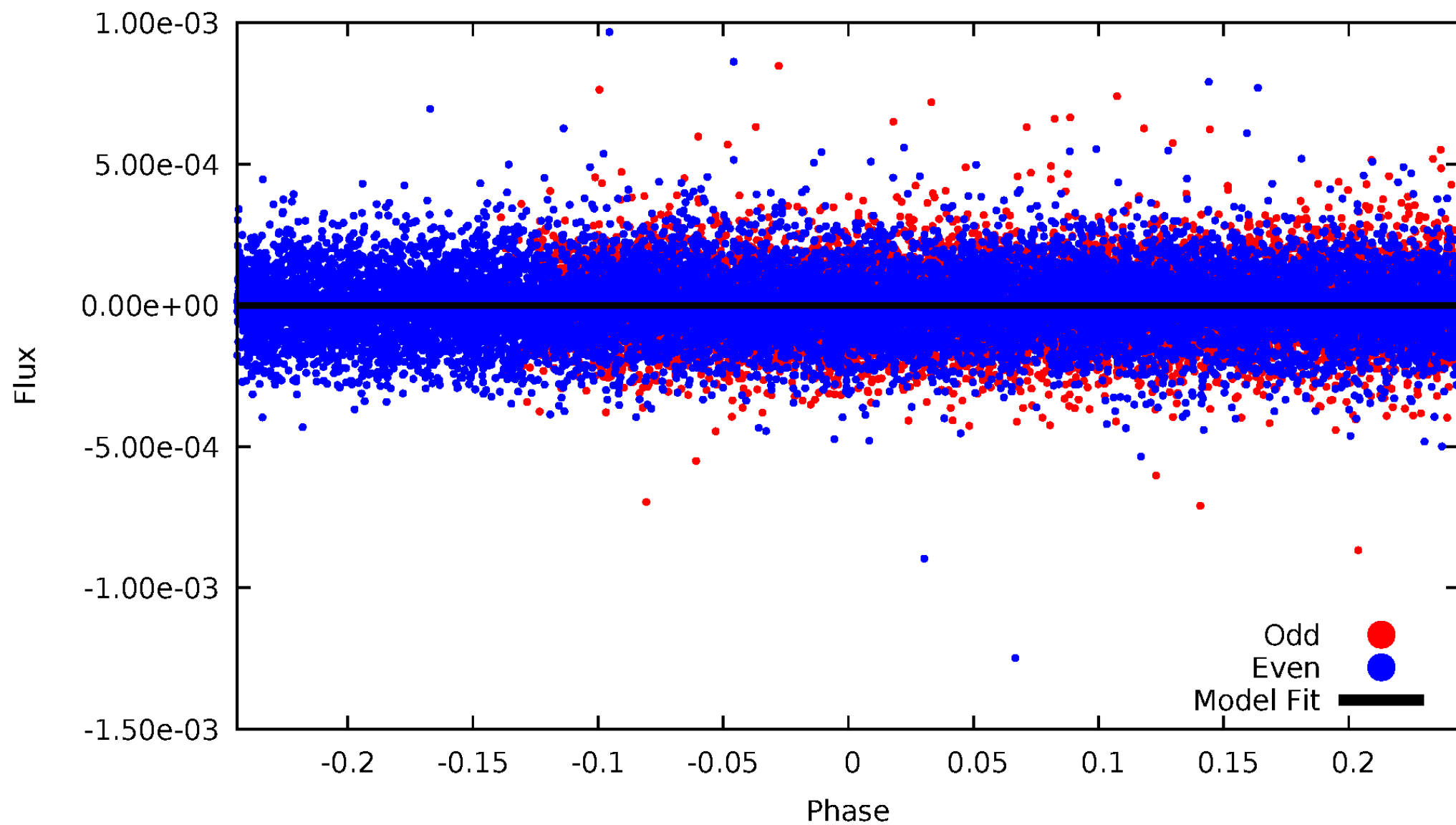


TCE 012602567-02



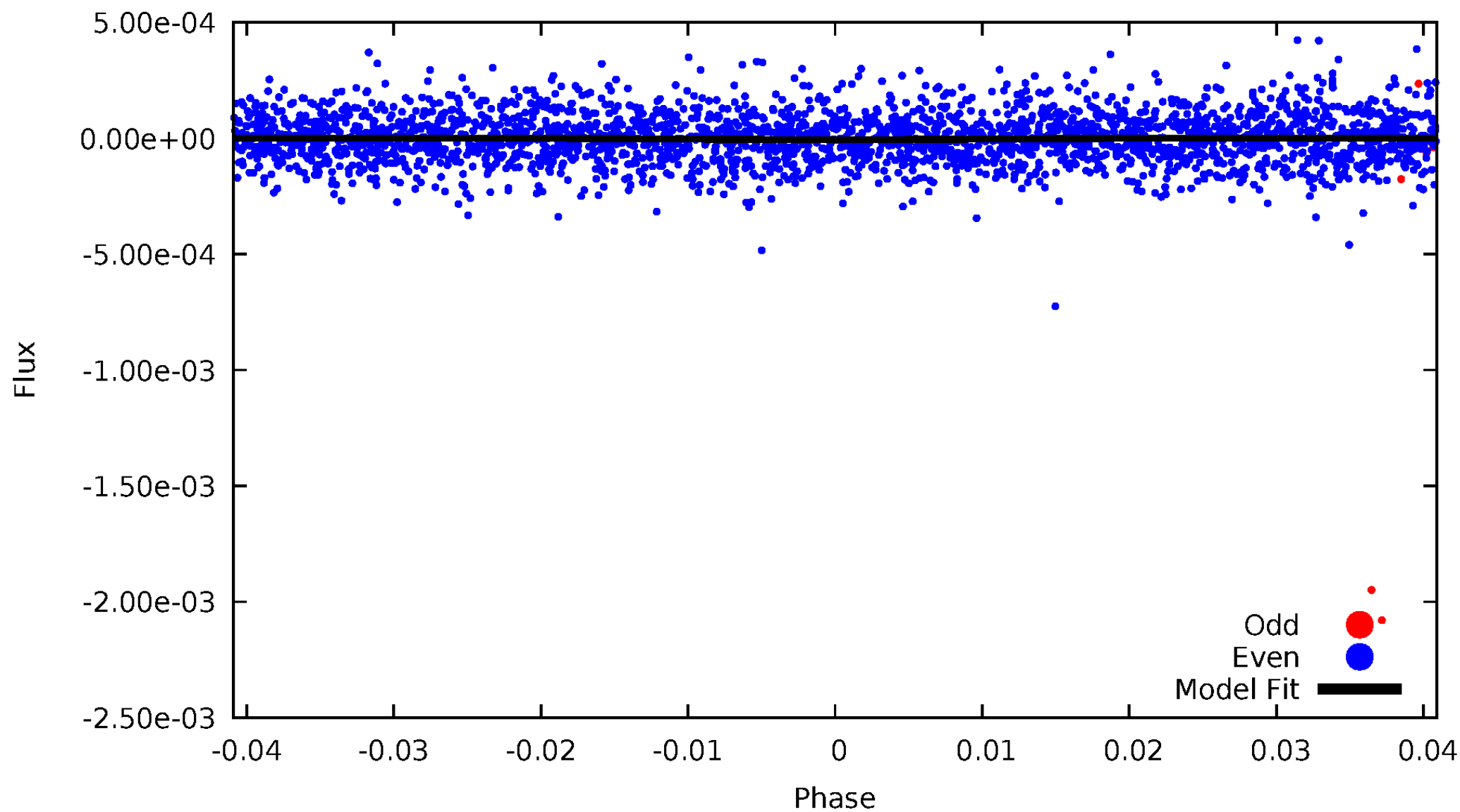
DV Odd/Even

TCE 012602567-02



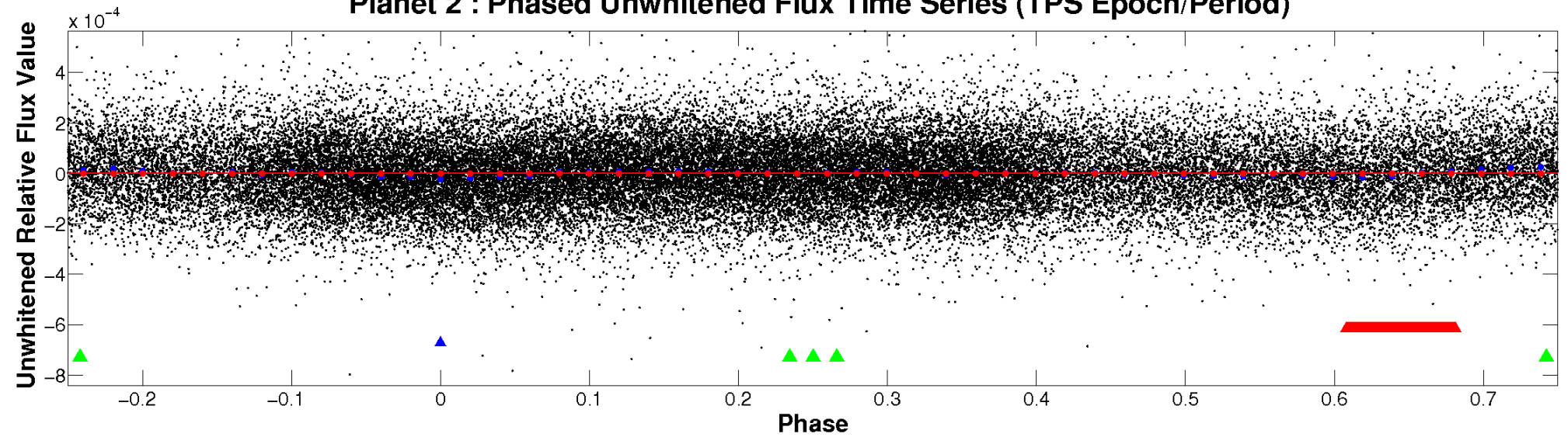
ALT Odd/Even

TCE 012602567-02

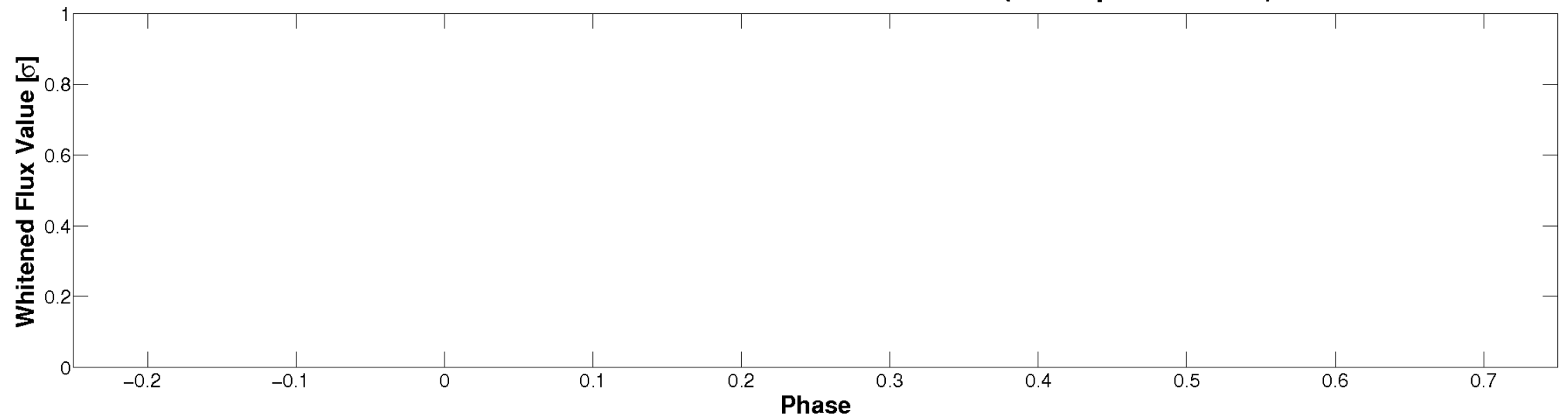


Non-Whitened Vs. Whitened Light Curve

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

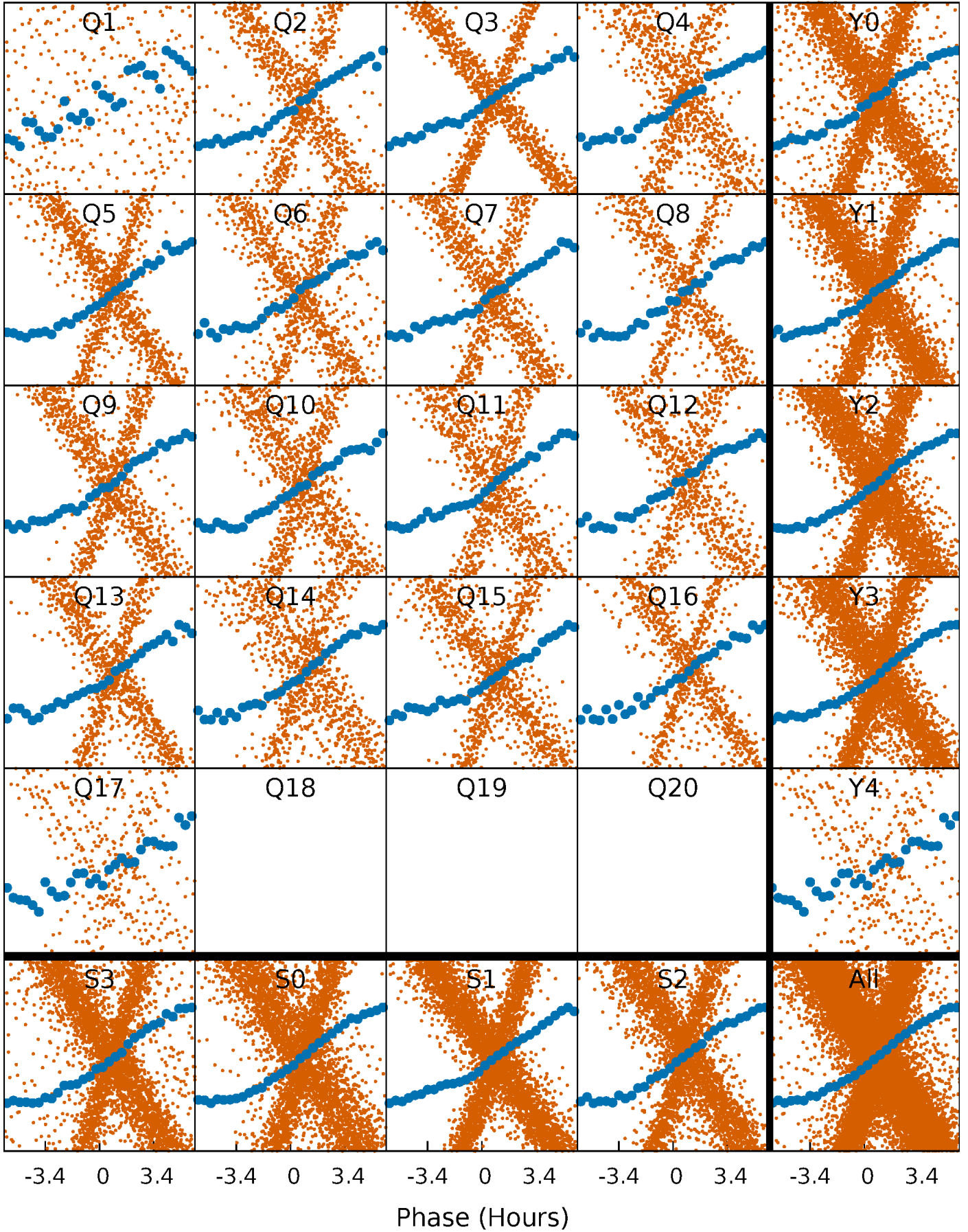


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



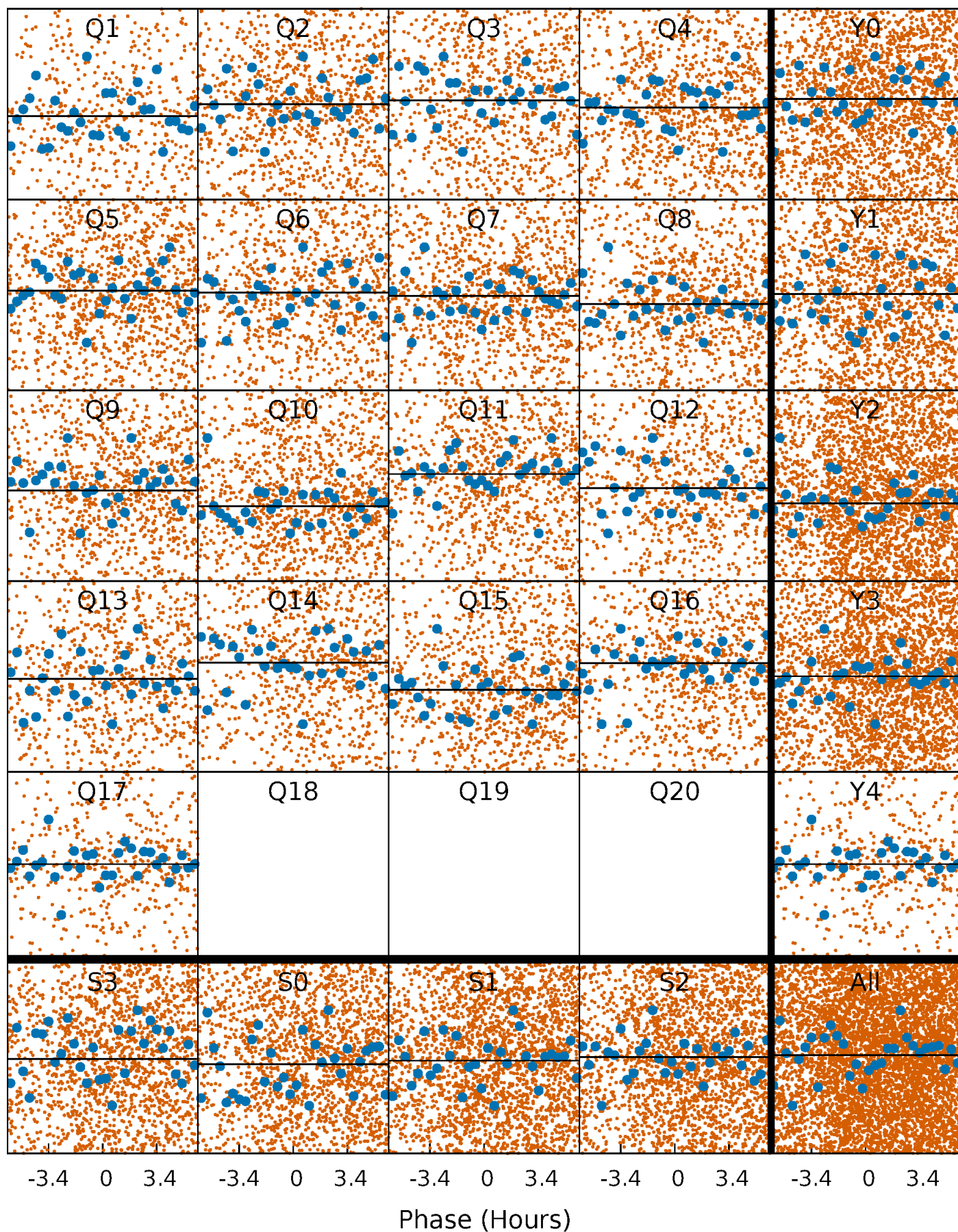
PDC Quarter-Phased Transit Curves

TCE 012602567-02 $P = 1.023679$ Days $T_0 = 132.263277$ (BKJD)



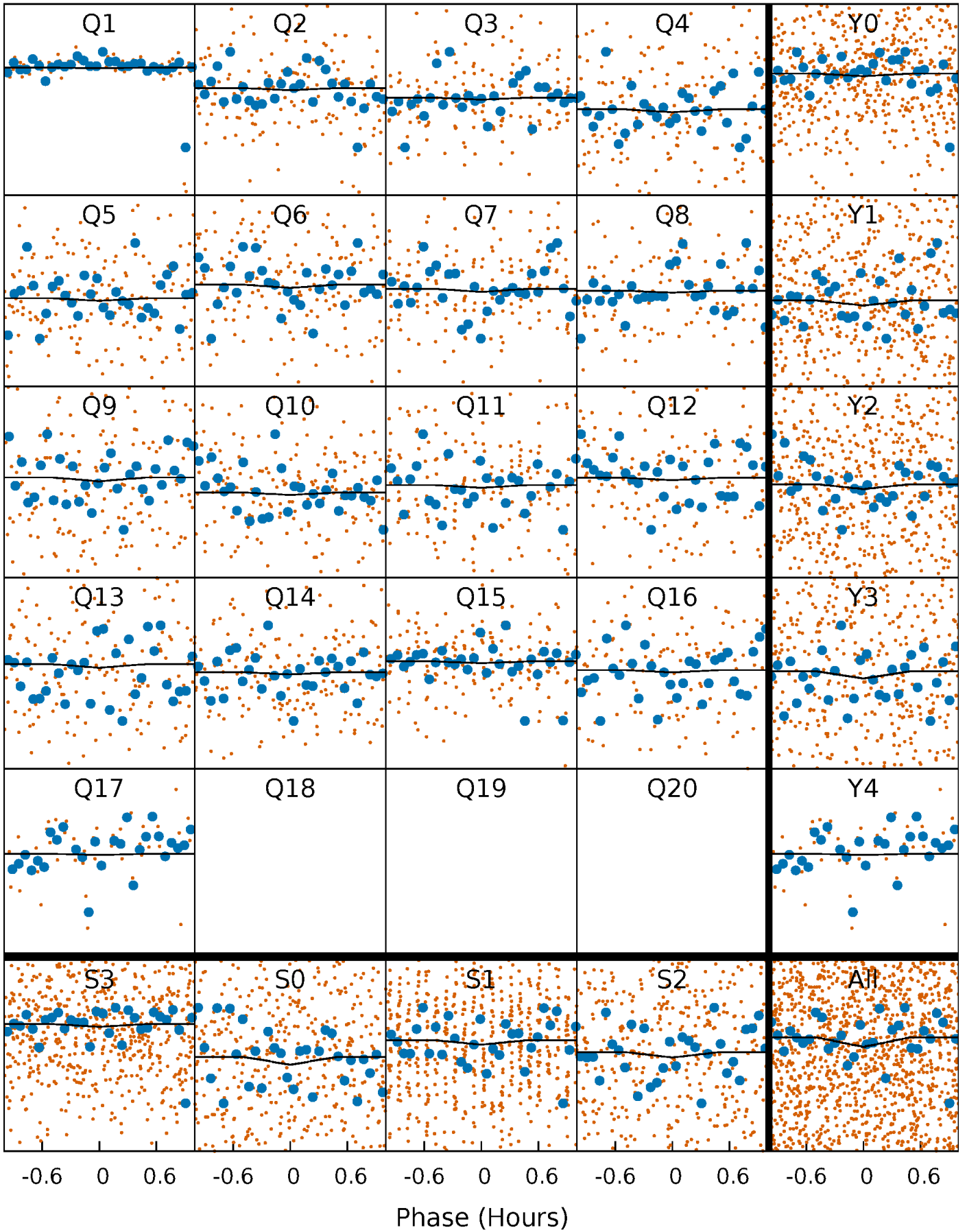
DV Quarter-Phased Transit Curves

TCE 012602567-02 P= 1.023679 Days $T_0=132.263277$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

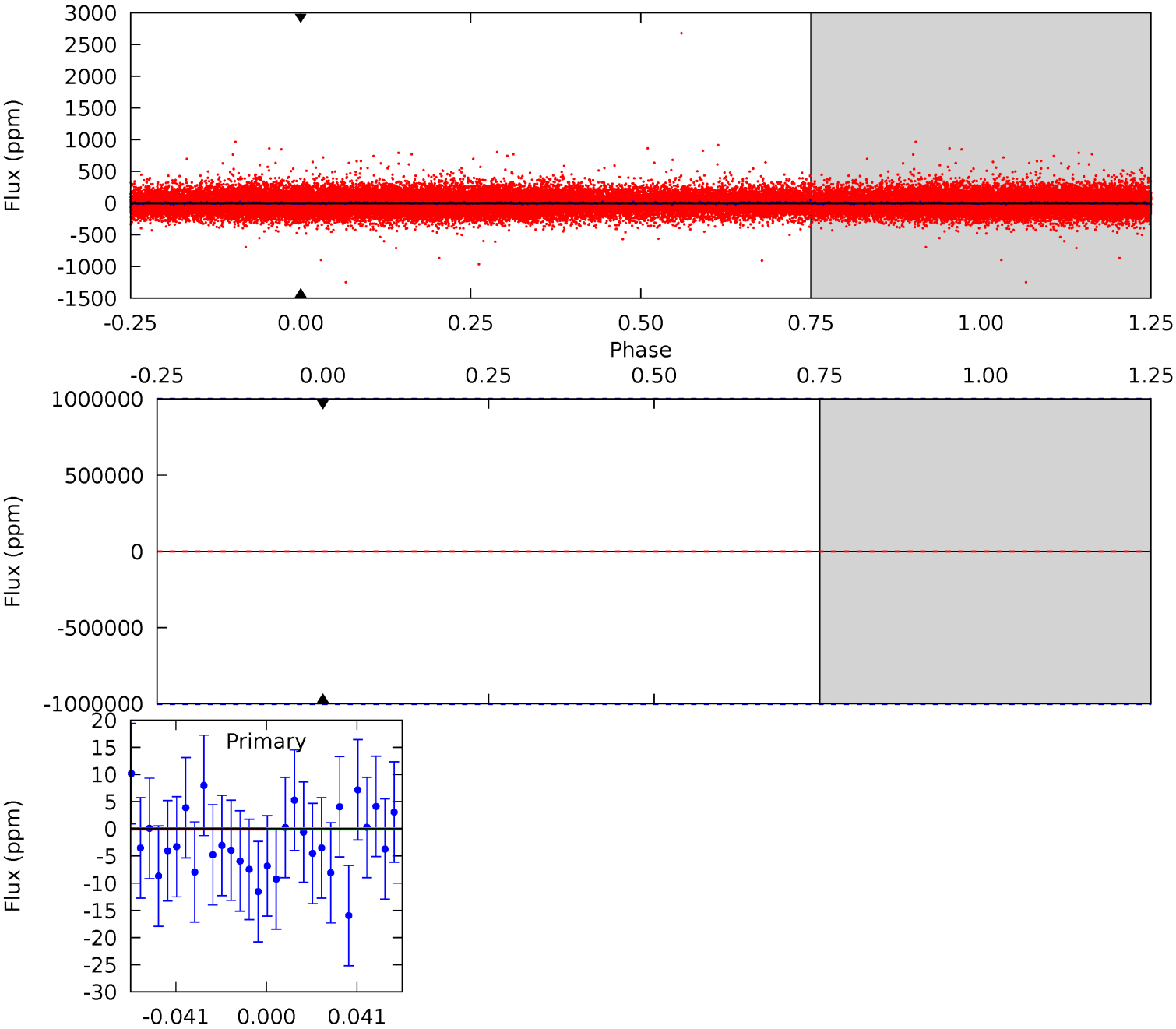
TCE 012602567-02 P= 1.023679 Days $T_0=132.080542$ (BKJD)



DV Model-Shift Uniqueness Test

012602567-02, P = 1.023679 Days, E = 131.239598 Days

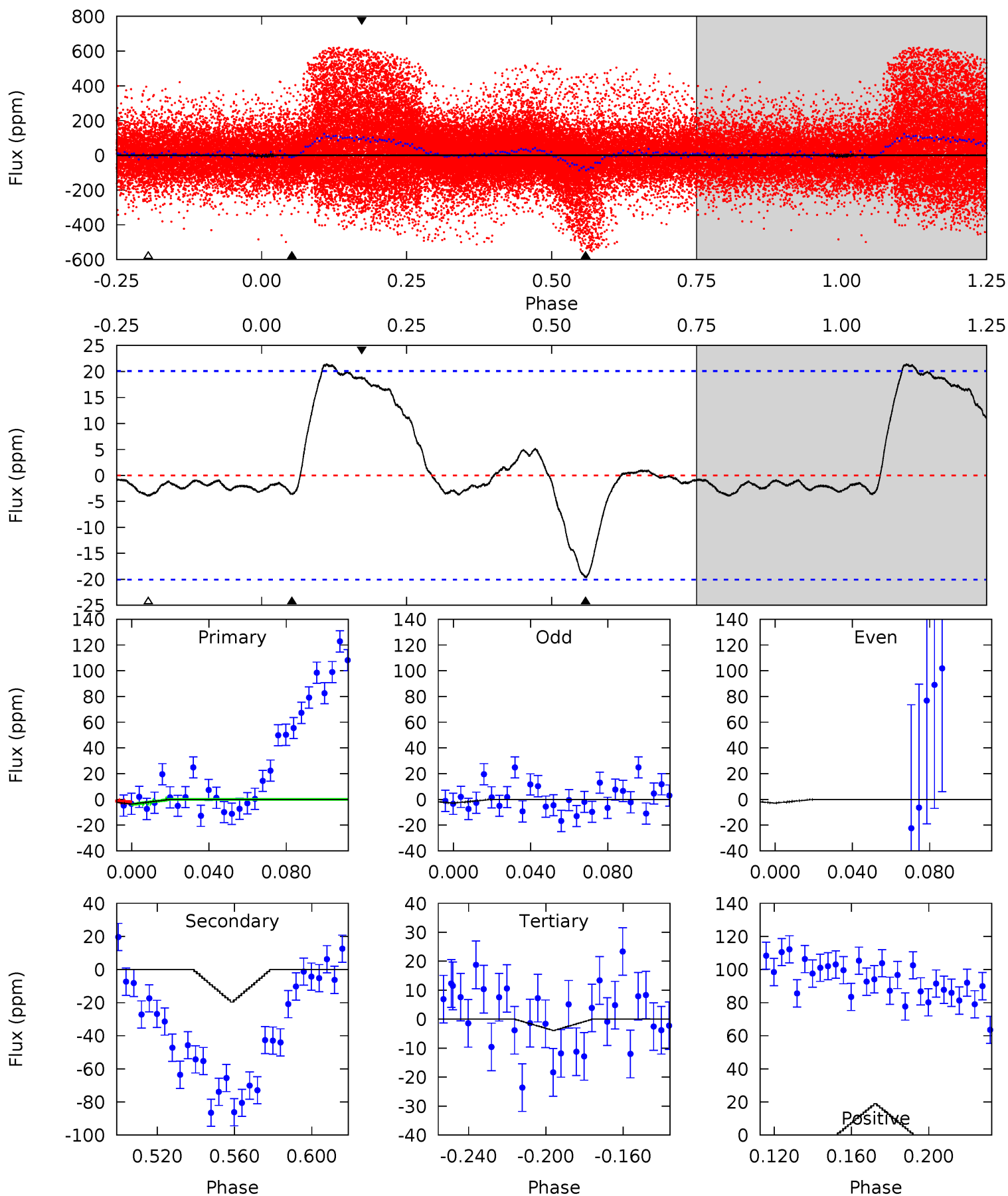
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

012602567-02, P = 1.023679 Days, E = 131.056863 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.86	4.66	0.92	4.47	4.75	2.05	1.94	-0.06	-3.61	3.74	0.19	0	1.70	0.52	0.24



Stellar Parameters For KIC 012602567

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8564^{+268}_{-402}	$3.932^{+0.246}_{-0.164}$	$0.070^{+0.250}_{-0.500}$	$2.649^{+0.863}_{-0.863}$	$2.190^{+0.360}_{-0.585}$	$0.166^{+0.244}_{-0.081}$
	+3%/-5%	+6%/-4%	+357%/-714%	+33%/-33%	+16%/-27%	+147%/-49%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 012602567-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$19.06^{+23.09}_{-13.35}$	5291^{+433}_{-455}	-6794^{+64318}_{-65288}	$-2.014^{+158.278}_{-210.706}$
Alt.	-20 ± 4	$18.71^{+20.10}_{-12.73}$	5268^{+468}_{-425}	-4230^{+701}_{-335}	$0.020^{+0.169}_{-0.016}$

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

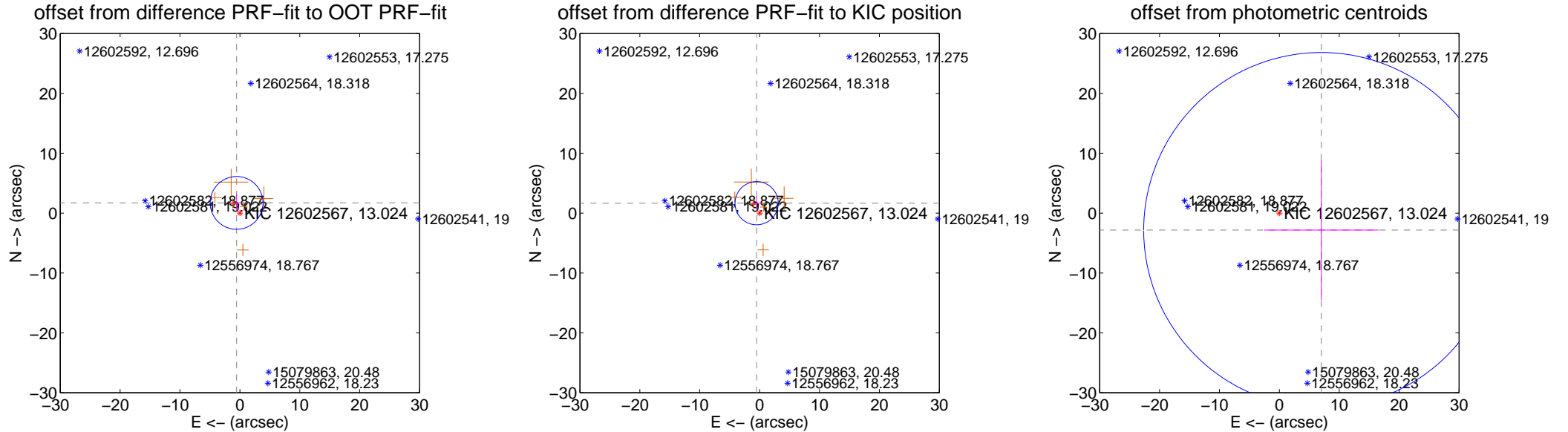
DV Centroid Data

Supplemental centroid analysis for 012602567-02. Kepler magnitude: 13.02. Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

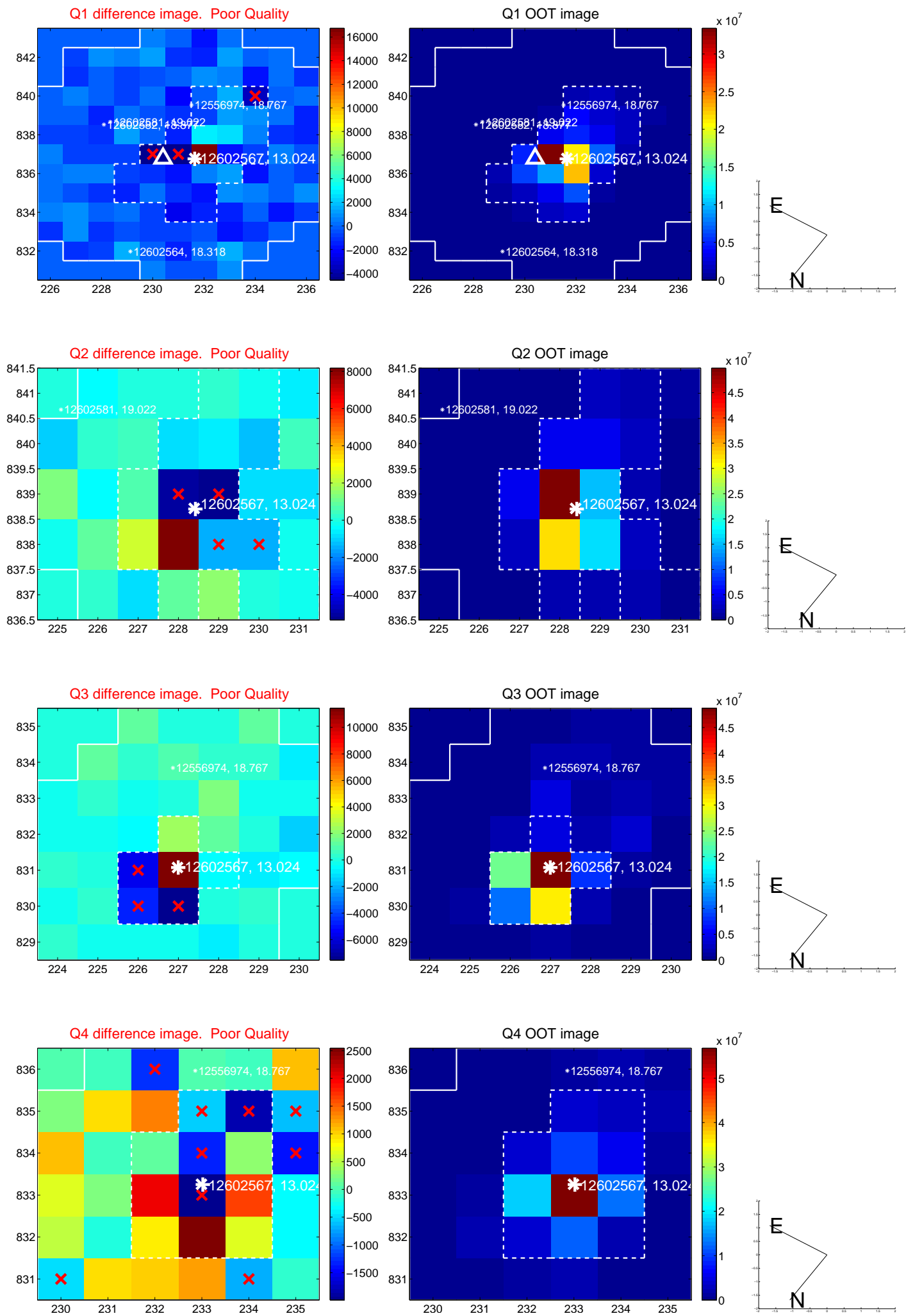
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.792 ± 1.470	1.22	0.551 ± 0.872	1.705 ± 1.471
PRF-fit source offset from KIC position	1.726 ± 1.202	1.44	0.498 ± 0.773	1.653 ± 1.199
photometric centroid source offset	7.56 ± 9.89	0.76	-7.01 ± 9.55	-2.84 ± 11.74

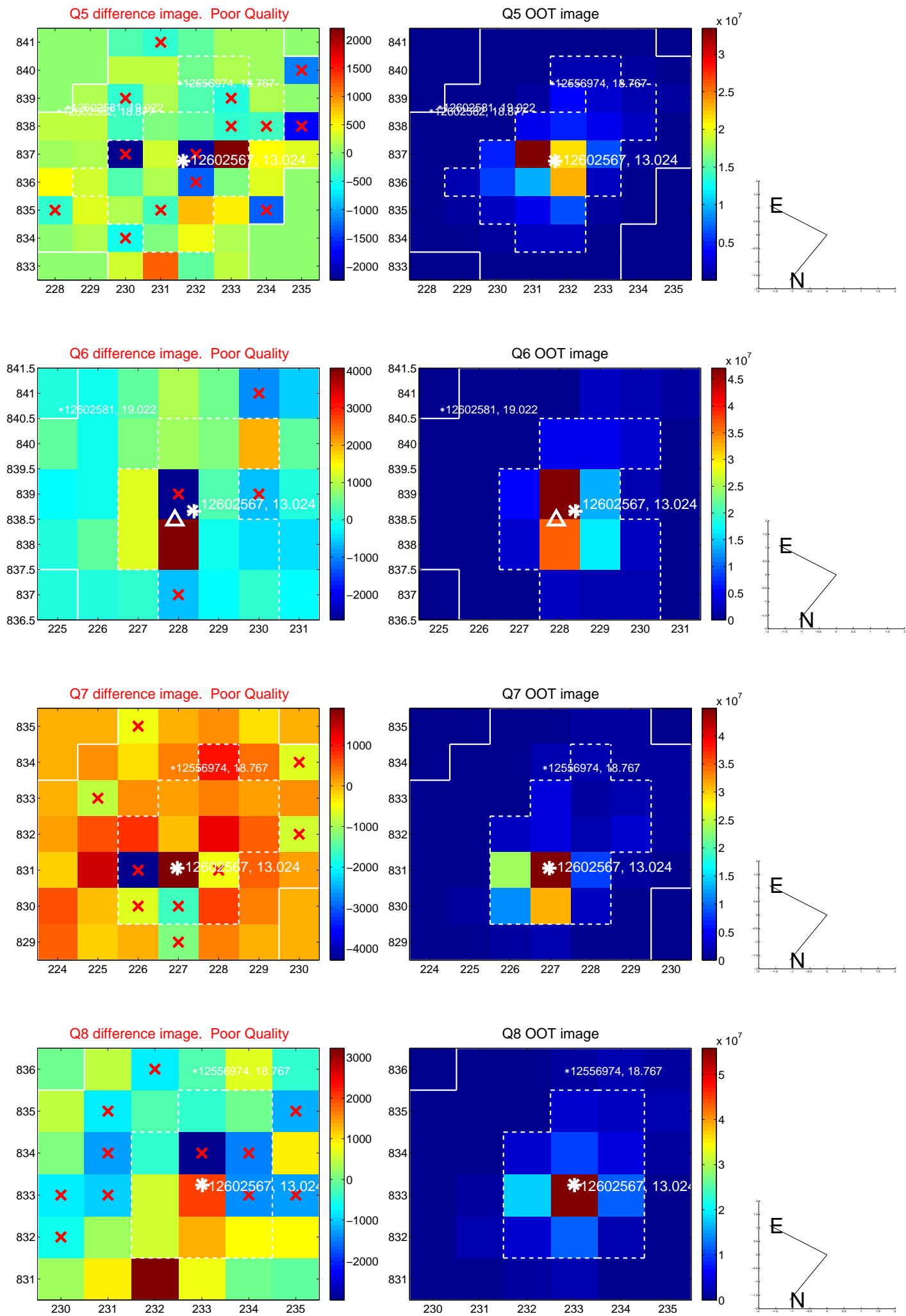


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

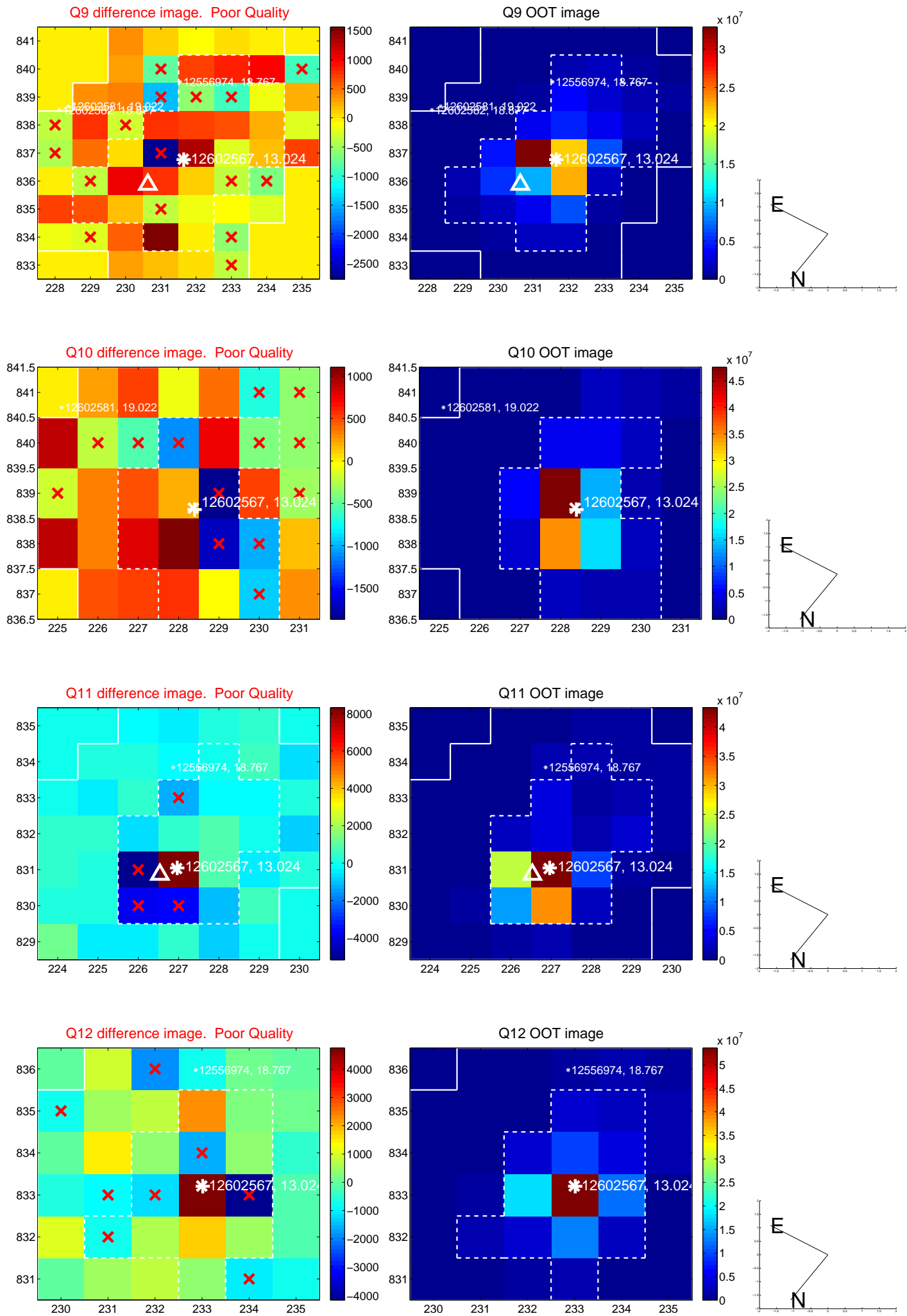
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



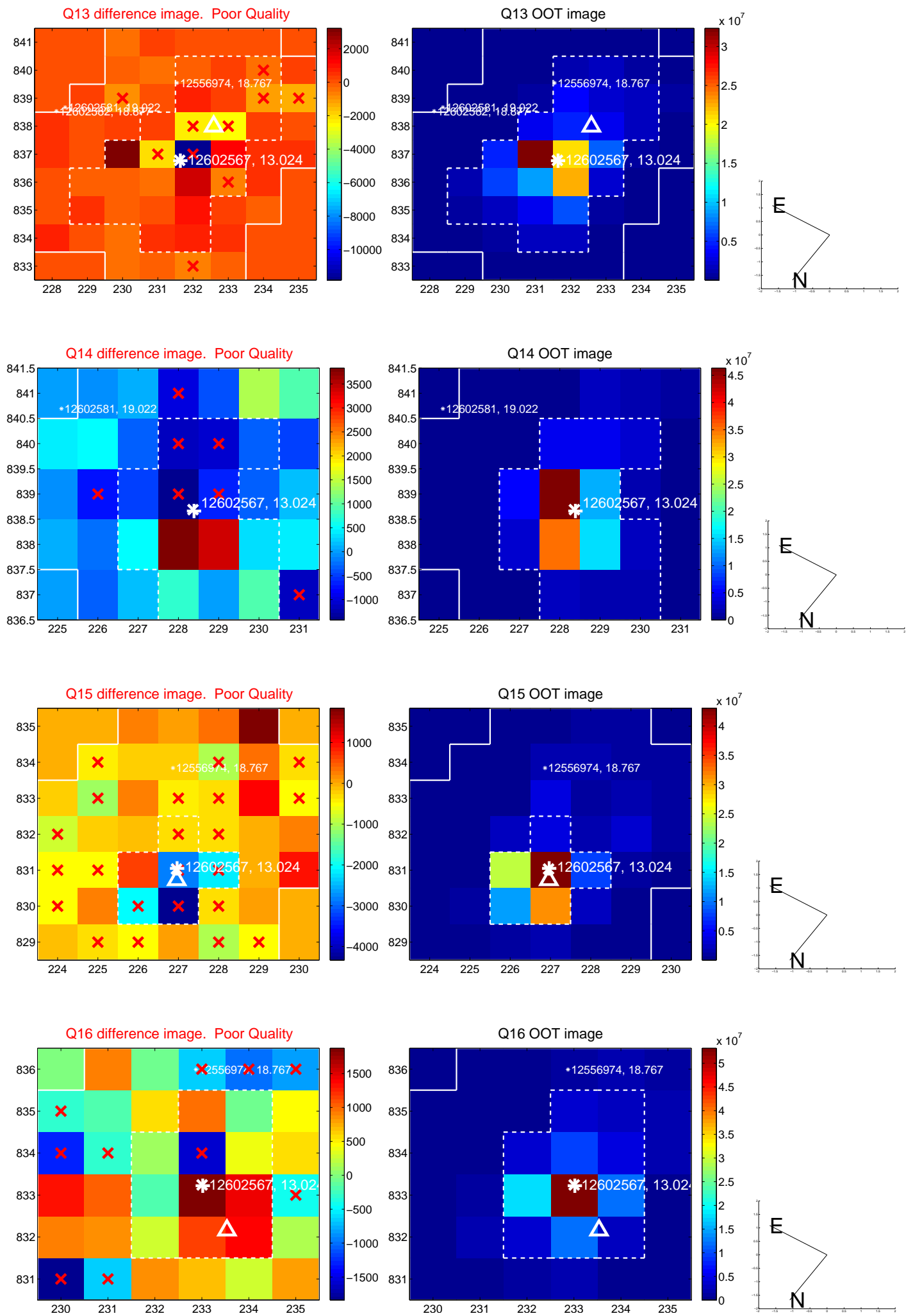
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



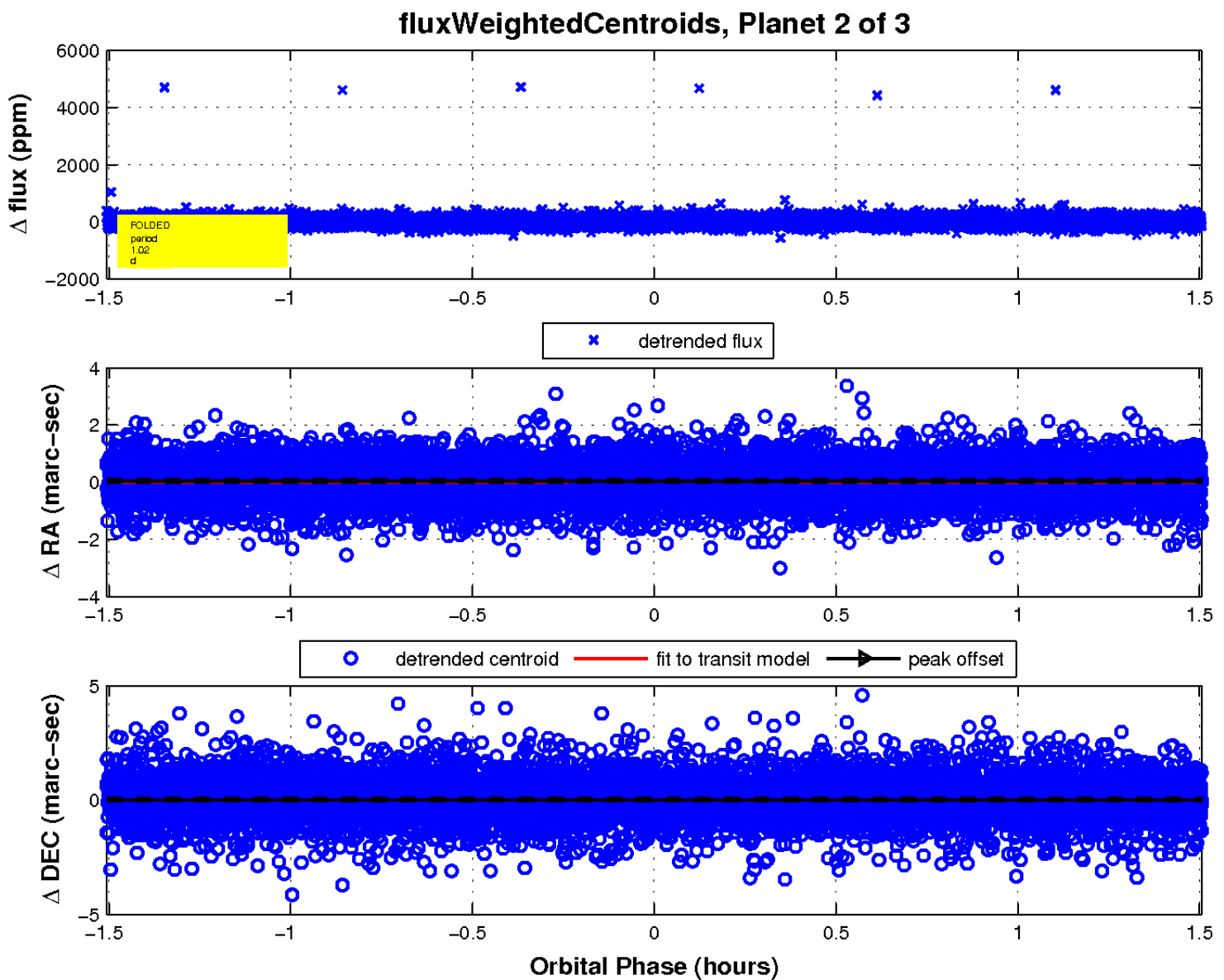
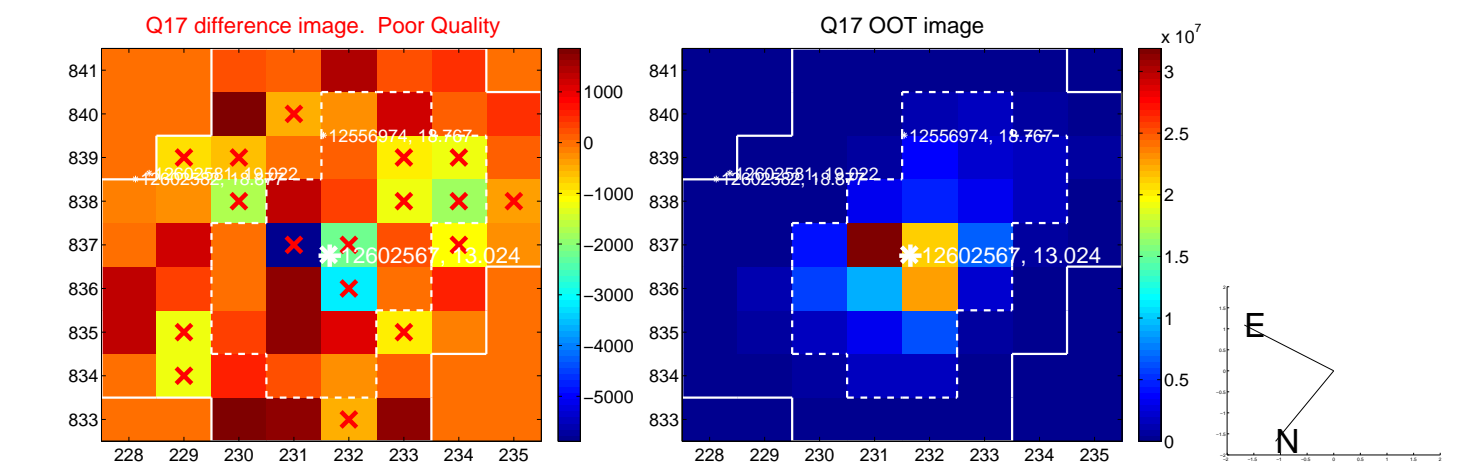
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

