

KIC 003852258

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})
003852258-01	OBS	5989.01	5.758466	135.109168	815.4	3.448	36.1	42.4	25.29	4754	150.67	0.00
003852258-02	OBS	No	5.758476	132.419465	276.9	2.411	16.6	17.5	25.29	4754	51.51	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003852258-01	OBS	FP	0.00	0	1	1	0	PLANET_IN_STAR—MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_RESOLVED_OFFSET
003852258-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST

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.

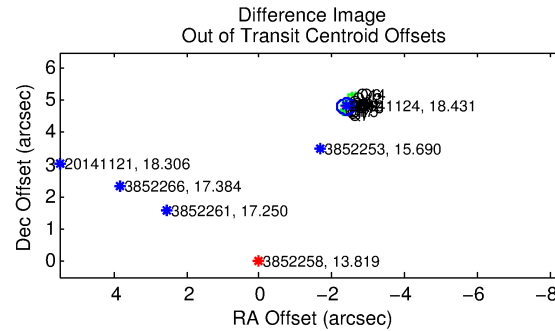
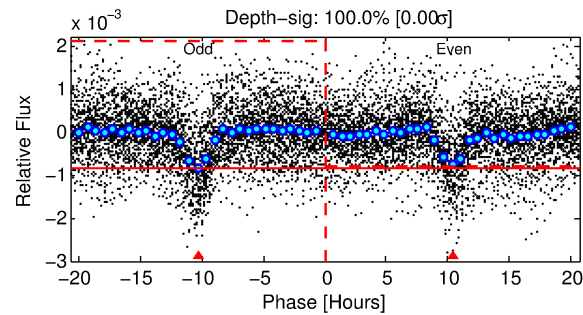
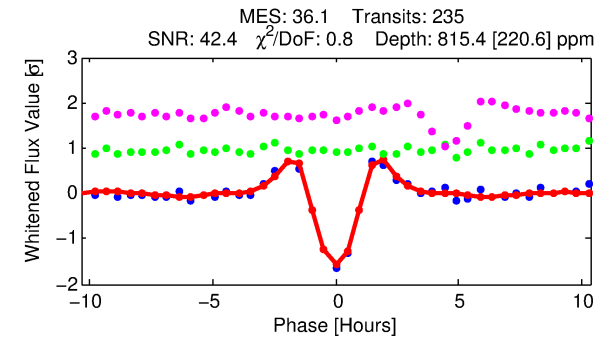
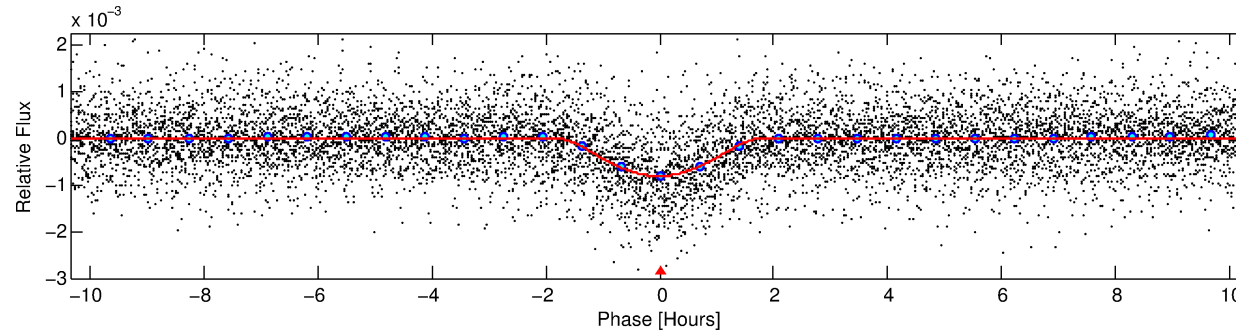
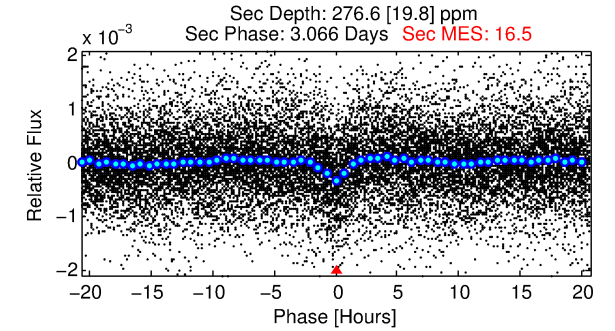
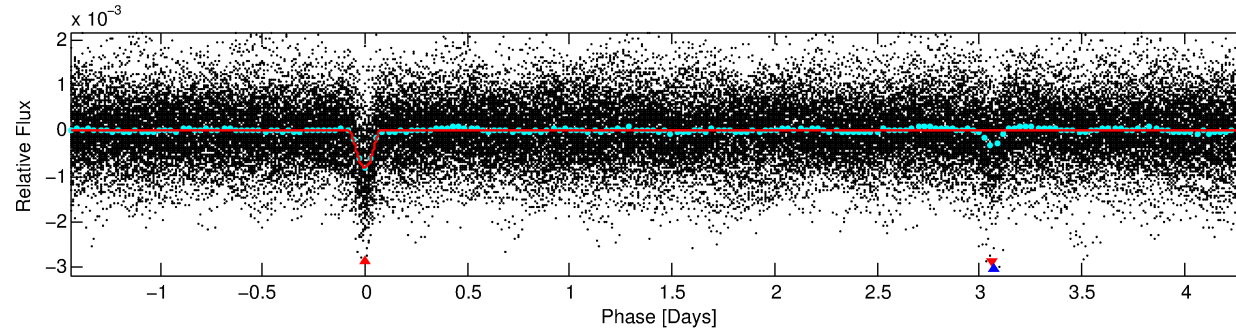
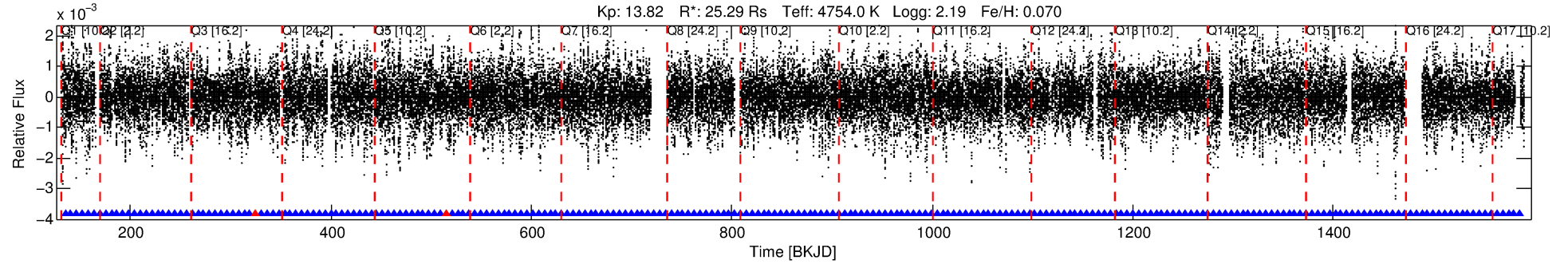
Ephemeris Match Information For 003852258-01

No Significant Match Found

DV One-Page Summary

KIC: 3852258 Candidate: 1 of 2 Period: 5.758 d

KOI: K05989.01 Corr: 0.992



DV Fit Results:

Period = 5.75847 [0.00001] d
Epoch = 135.1092 [0.0011] BKJD
Rp/R* = 0.0546 [0.0284]
a/R* = 4.39 [0.50]
b = 1.00 [0.05]
Seff = N/A
Teq = N/A
Rp = 150.67 [99.72] Re
a = N/A
Ag = N/A
Teffp = N/A

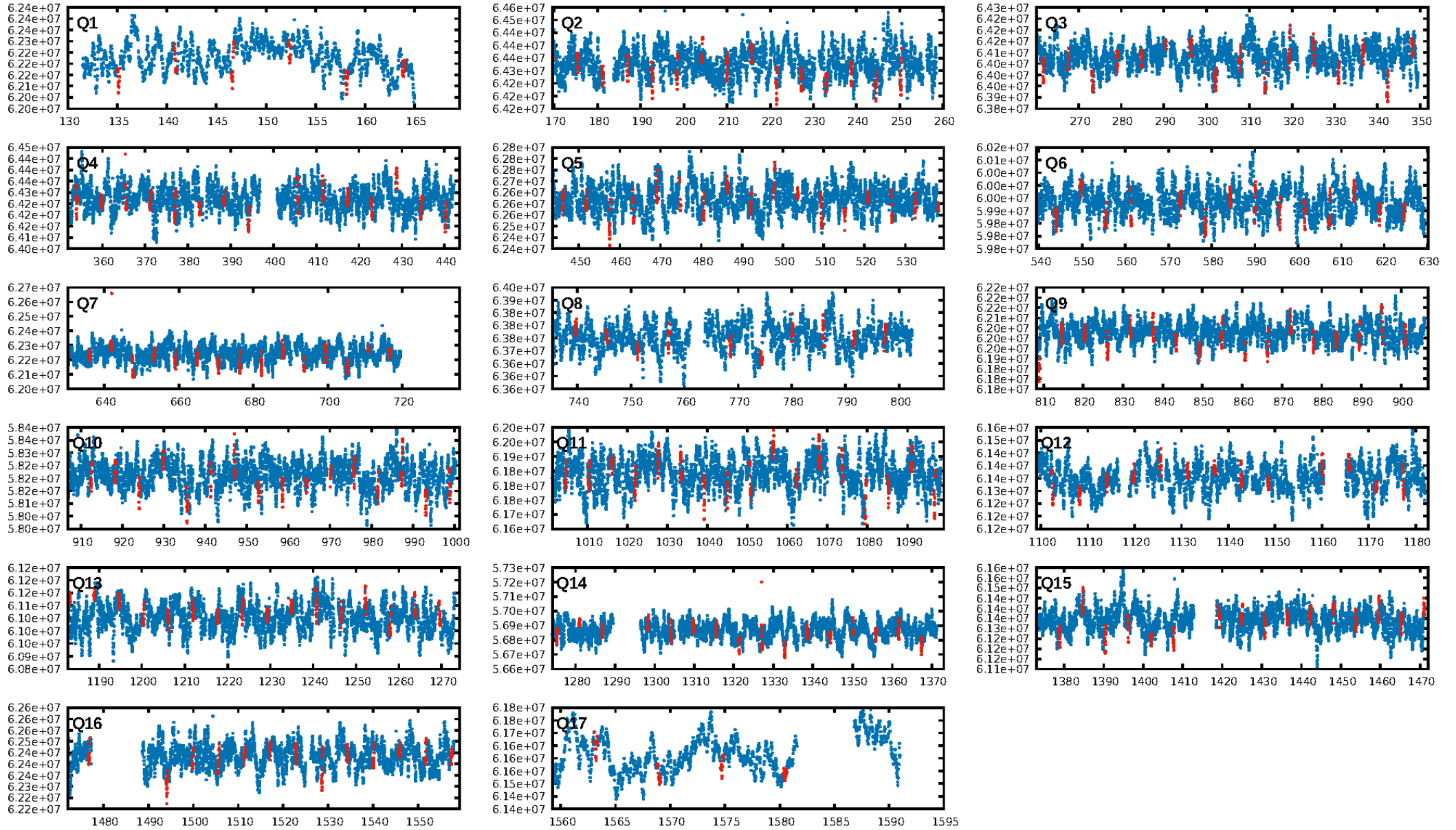
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 1.92e-283
RollingBand-fgt: 0.99 [223/225]
GhostDiagnostic-chr: 0.3418
Centroid-sig: 0.0%
Centroid-so: 7.961 arcsec [59.88 σ]
OotOffset-rm: 5.368 arcsec [65.66 σ]
KicOffset-rm: 5.405 arcsec [71.04 σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [17/17]

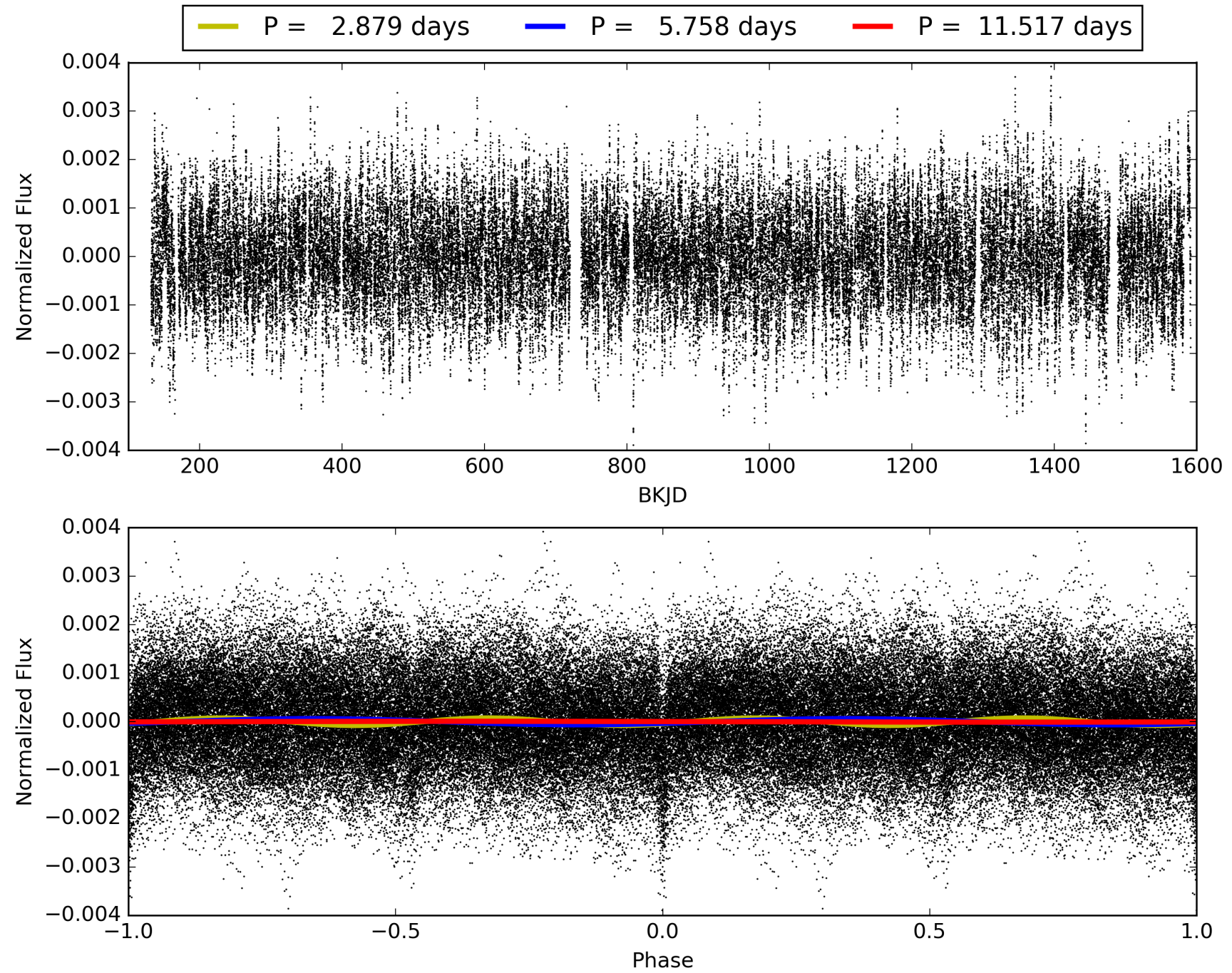
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:23:22 Z

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

TCE 003852258-01, PDC Light Curves

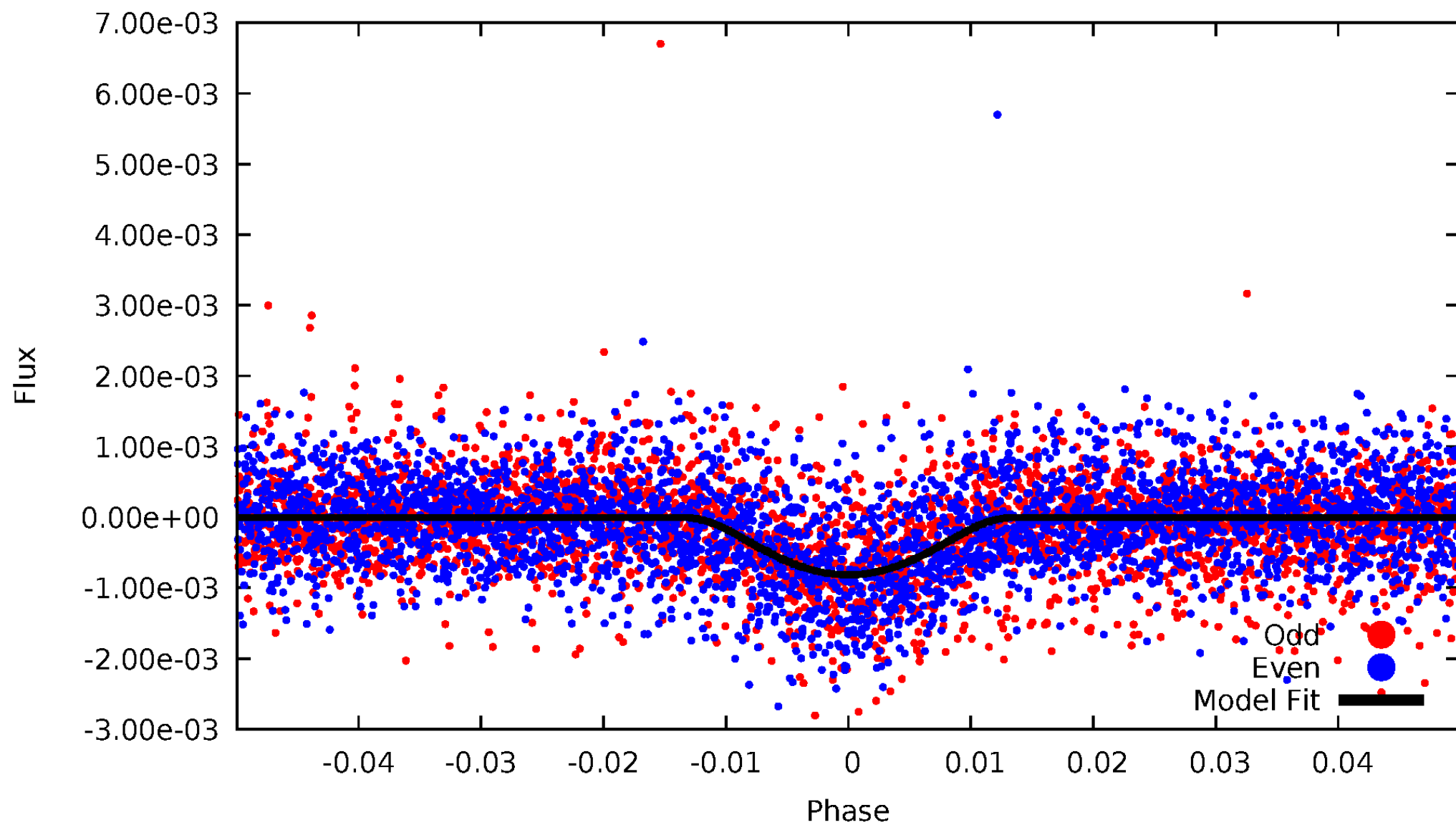


TCE 003852258-01



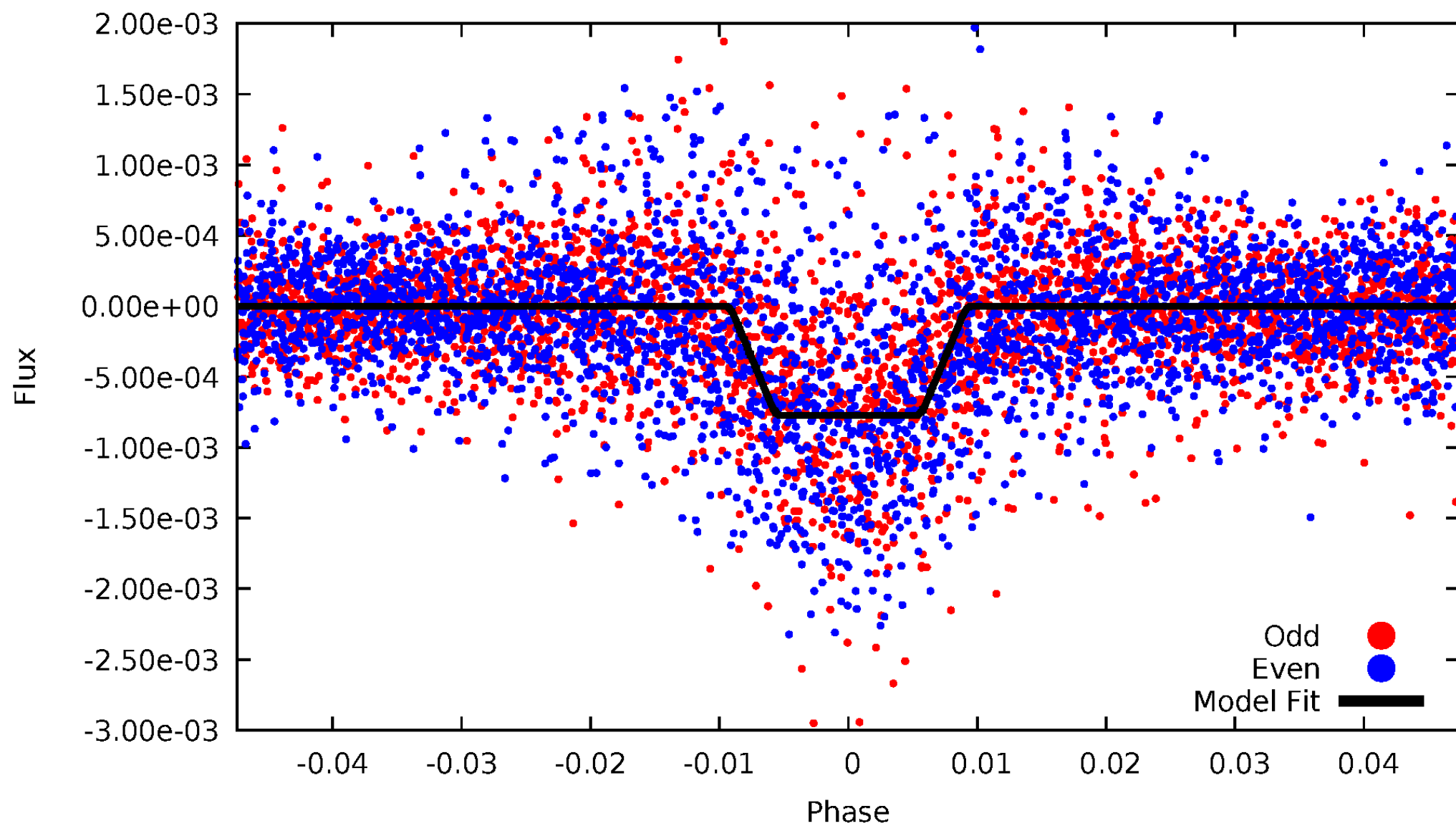
DV Odd/Even

TCE 003852258-01



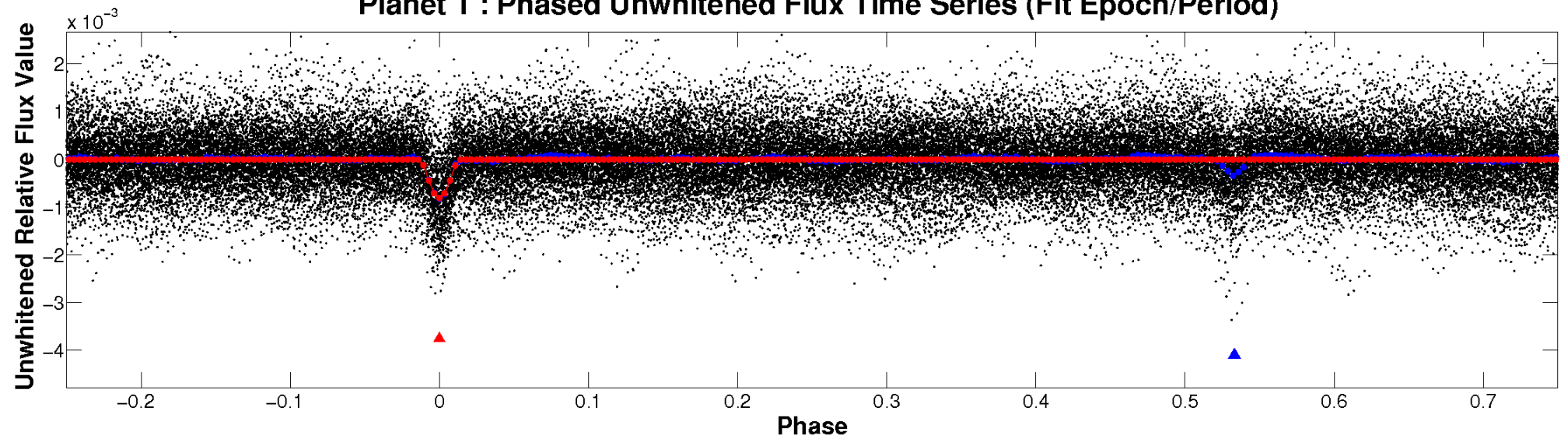
ALT Odd/Even

TCE 003852258-01

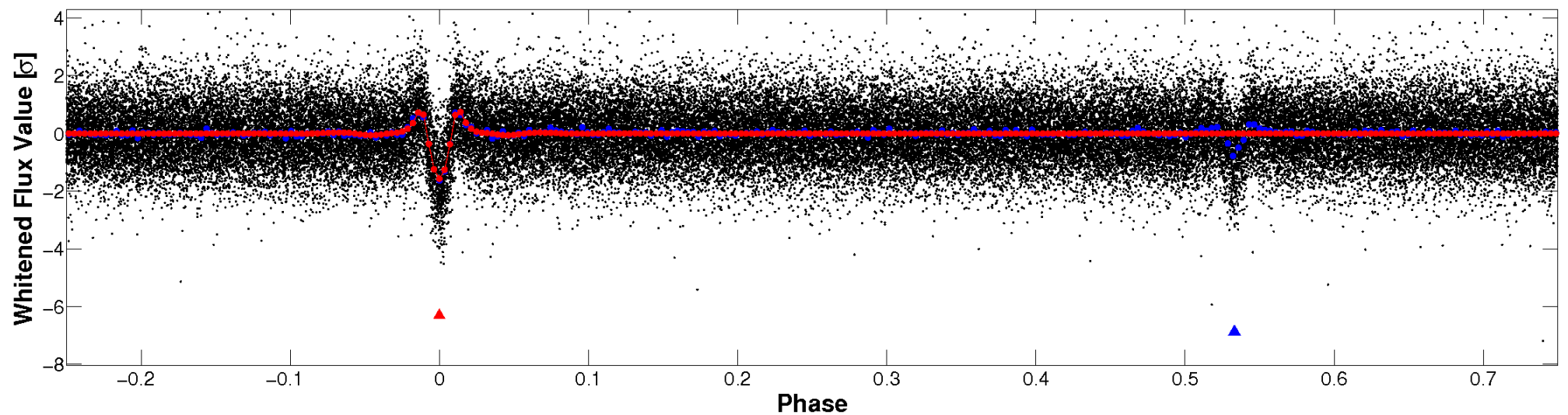


Non-Whitened Vs. Whitened Light Curve

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

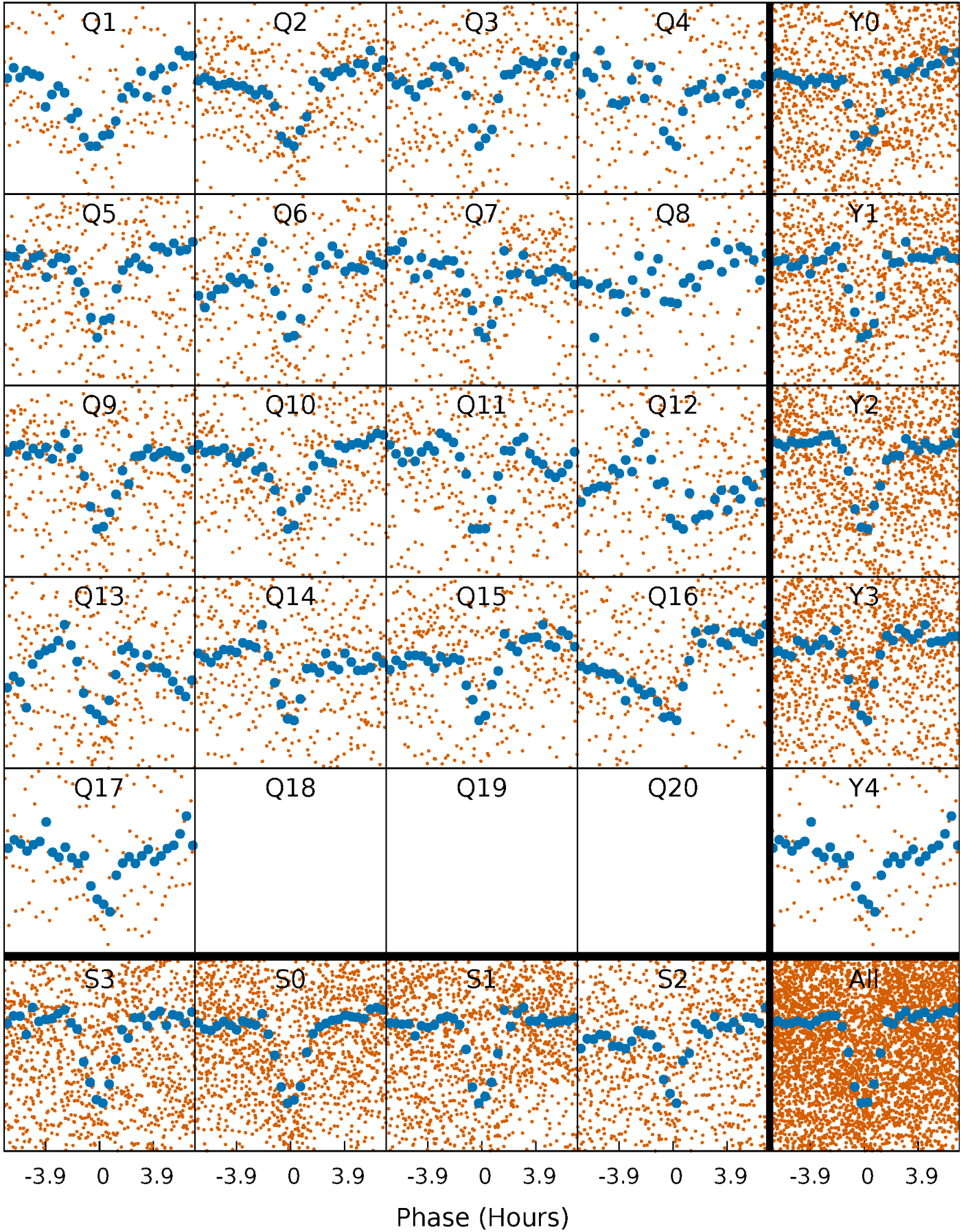


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



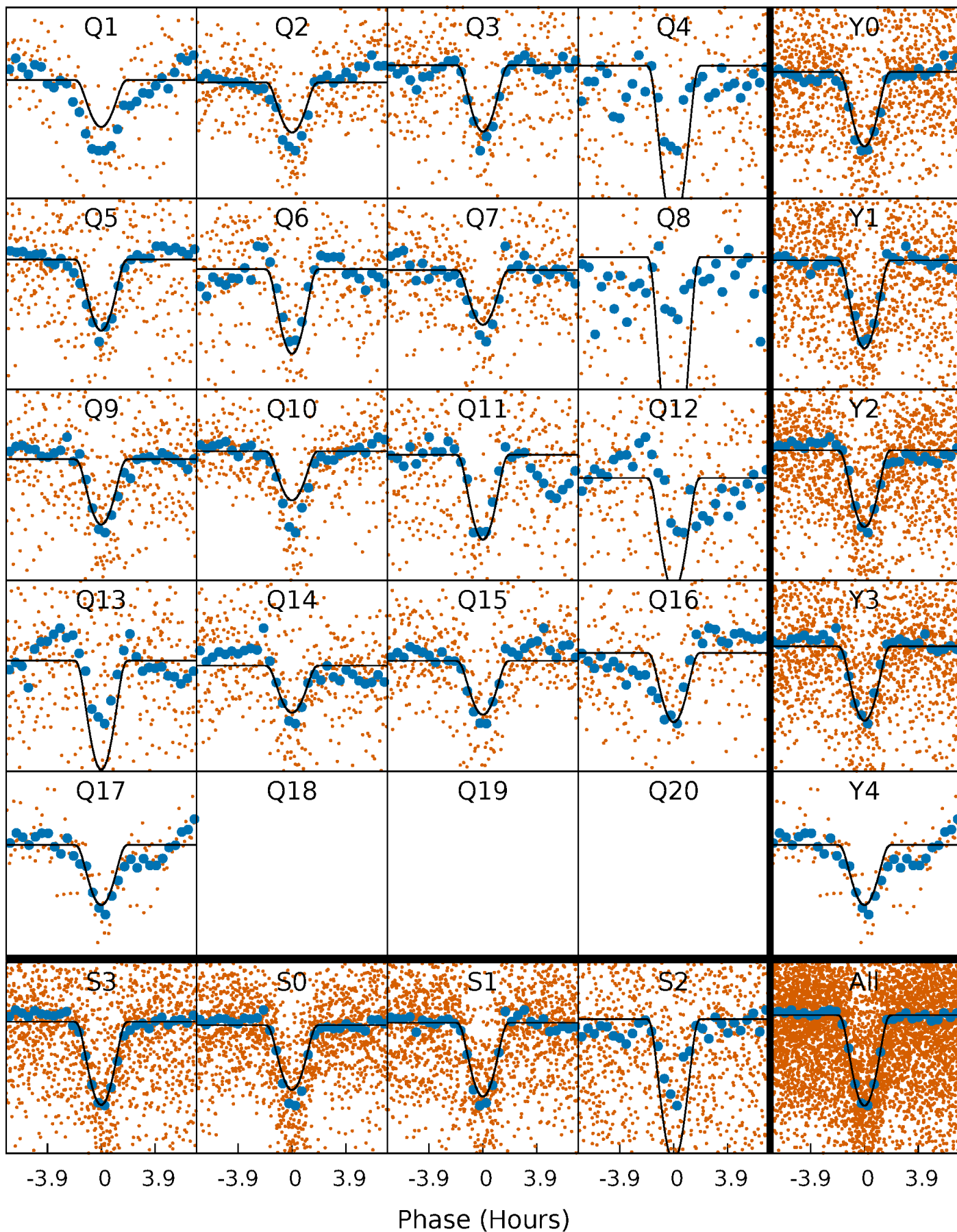
PDC Quarter-Phased Transit Curves

TCE 003852258-01 P= 5.758466 Days $T_0=135.109168$ (BKJD)



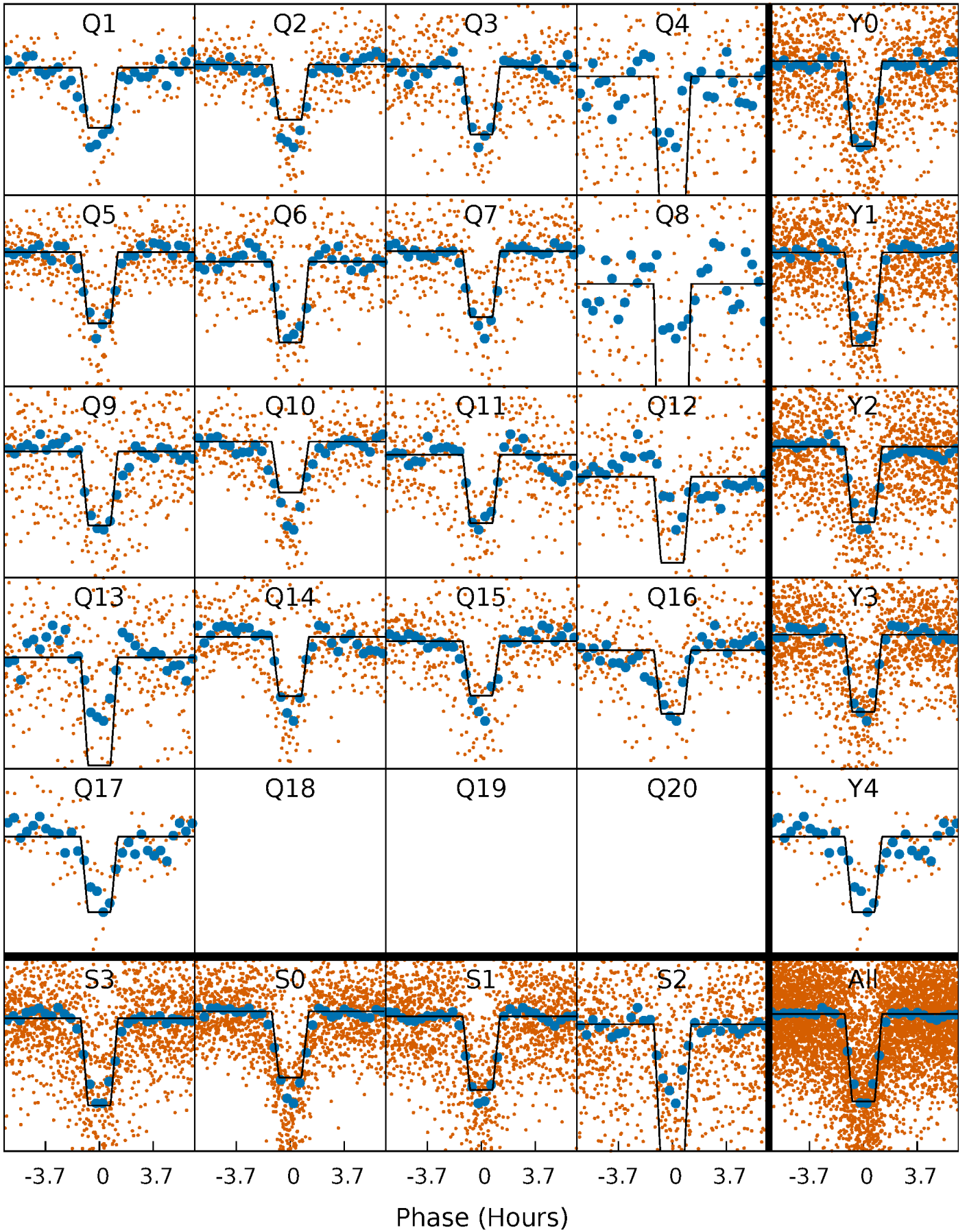
DV Quarter-Phased Transit Curves

TCE 003852258-01 P= 5.758466 Days $T_0=135.109168$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

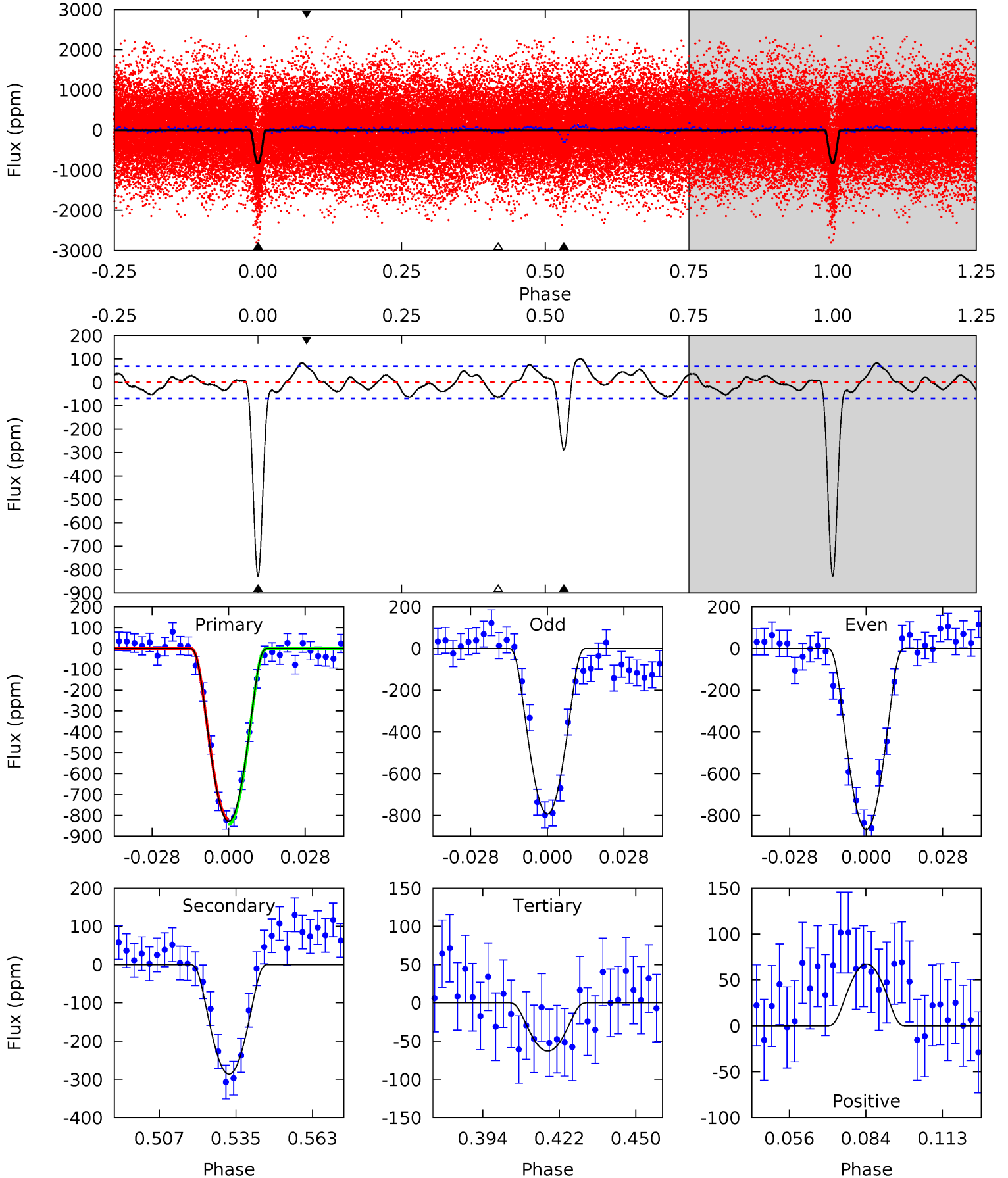
TCE 003852258-01 P= 5.758452 Days $T_0=135.111243$ (BKJD)



DV Model-Shift Uniqueness Test

003852258-01, P = 5.758466 Days, E = 129.350702 Days

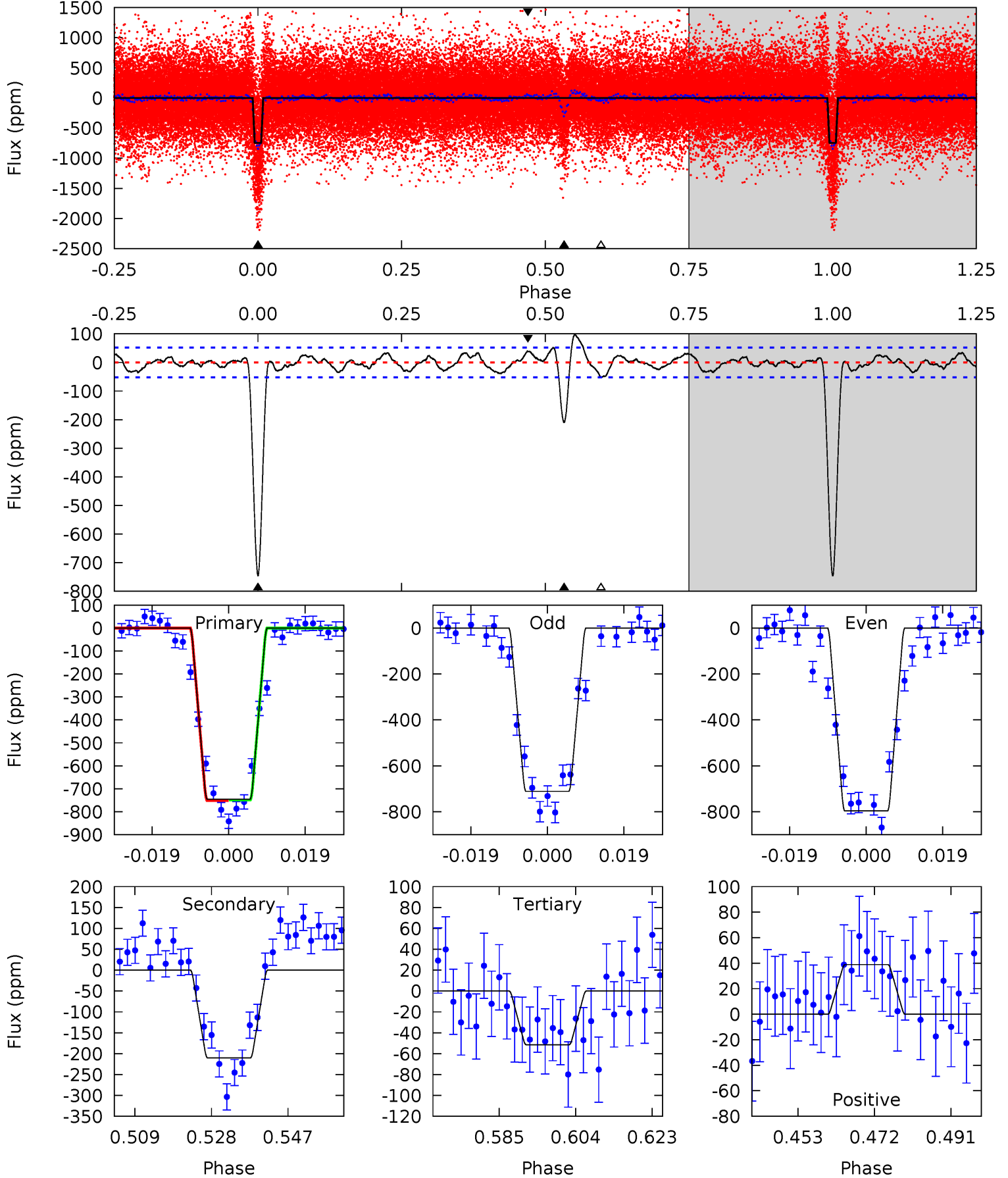
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
57.8	20.0	4.39	4.70	4.82	2.20	2.43	53.4	53.1	15.6	15.3	2.62	1.01	0.11	0.81



Alt Model-Shift Uniqueness Test

003852258-01, P = 5.758452 Days, E = 129.352791 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
70.3	19.8	4.86	3.67	4.90	2.35	2.02	65.4	66.6	15.0	16.1	4.00	1.00	0.11	0.06



Stellar Parameters For KIC 003852258

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4754^{+100}_{-120}	$2.194^{+0.033}_{-0.030}$	$0.070^{+0.150}_{-0.700}$	$25.287^{+0.546}_{-10.374}$	$3.644^{+0.073}_{-2.401}$	$0.000^{+0.000}_{-0.000}$
	+2%/-3%	+2%/-1%	+214%/-1000%	+2%/-41%	+2%/-66%	+73%/-9%
Source	PHO1	AST9	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 003852258-01 / KOI 5989.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-286 ± 14	$149.55^{+72.98}_{-68.79}$	4747^{+115}_{-137}	-3876^{+608}_{-157}	$0.066^{+0.151}_{-0.036}$
Alt.	-210 ± 11	$96.43^{+66.73}_{-62.96}$	4748^{+106}_{-137}	-3707^{+8494}_{-282}	$0.118^{+0.872}_{-0.077}$

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 $A_{obs} \gg 1.0$

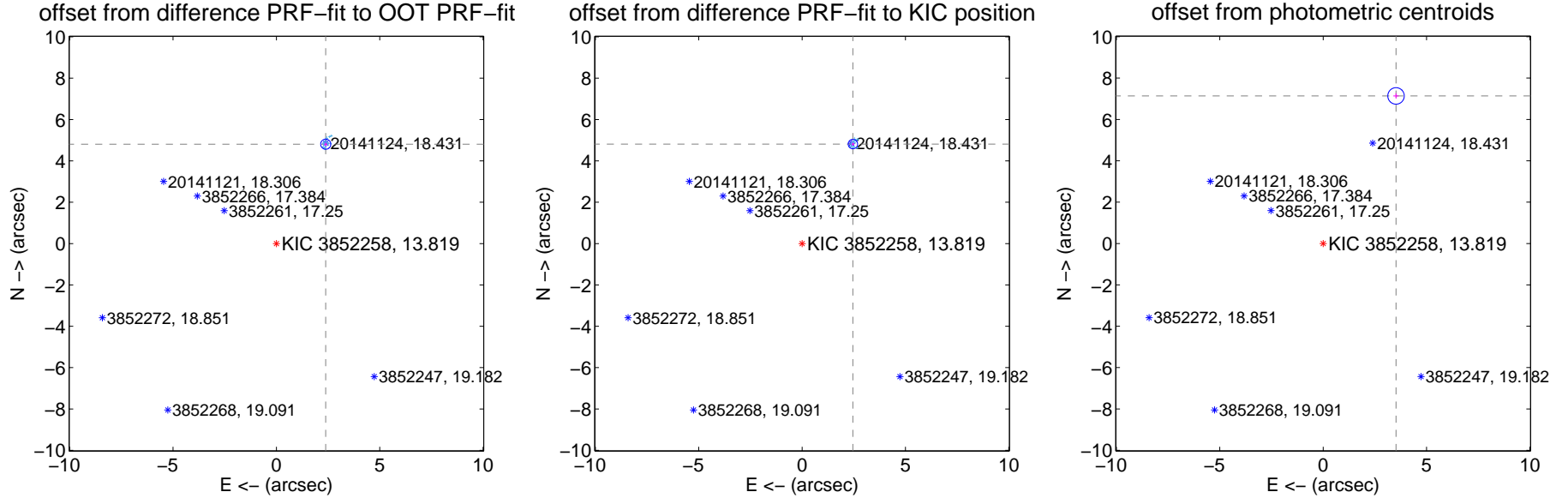
DV Centroid Data

Supplemental centroid analysis for 003852258-01. Kepler magnitude: 13.82. Transit SNR 42.42

There are 16 quarters with good PRF difference image offsets

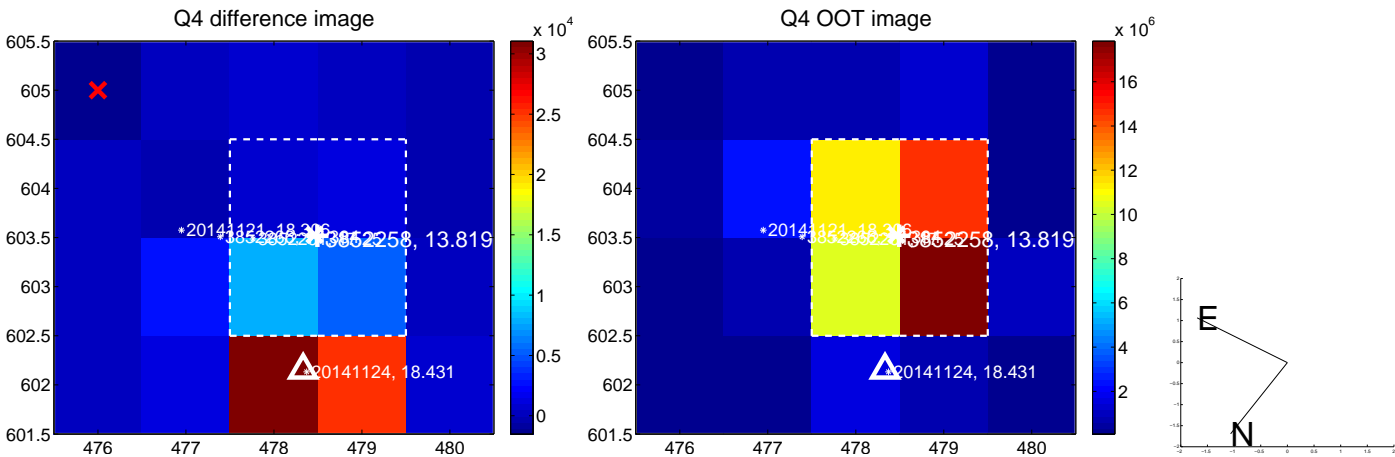
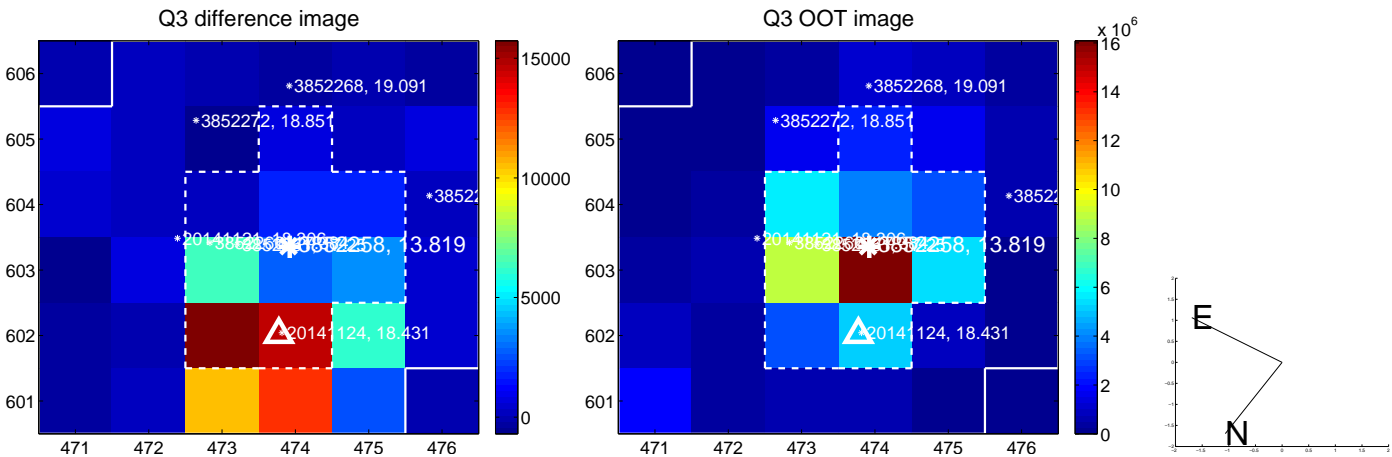
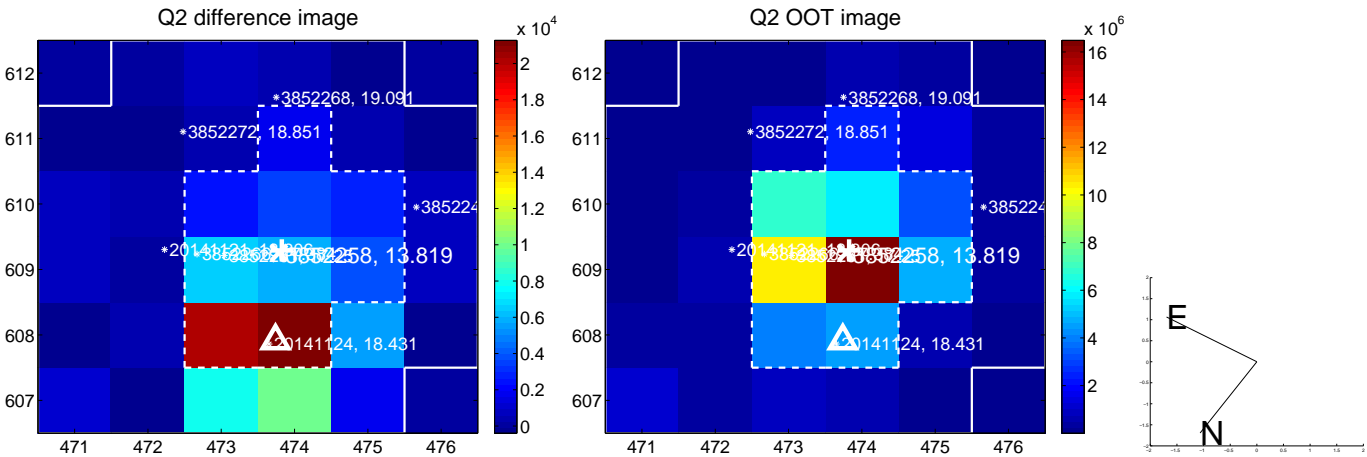
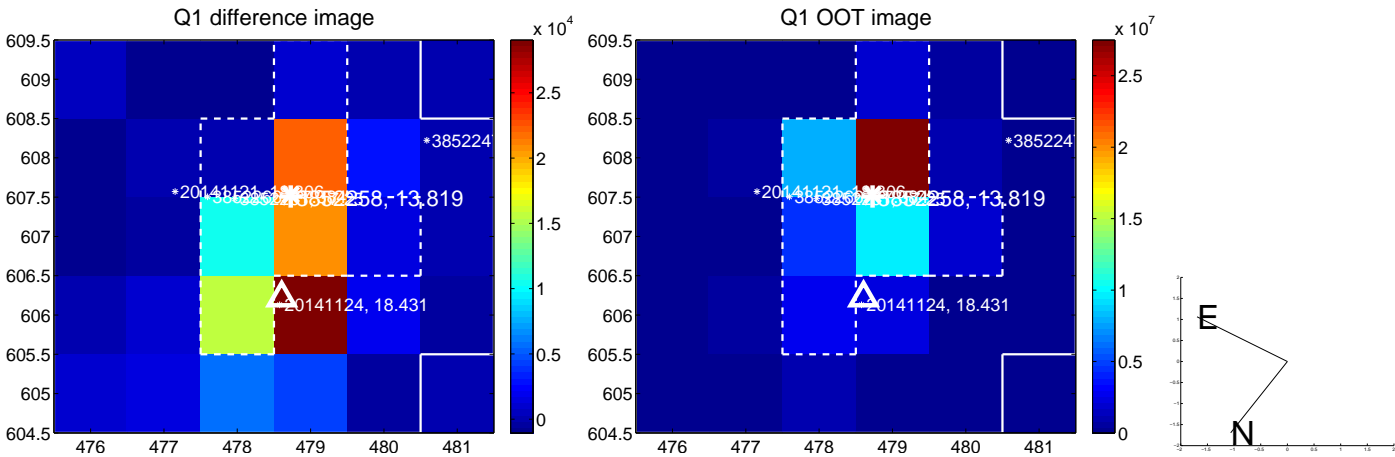
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.368 ± 0.082	65.66	-2.387 ± 0.072	4.808 ± 0.079
PRF-fit source offset from KIC position	5.405 ± 0.076	71.04	-2.459 ± 0.073	4.813 ± 0.074
photometric centroid source offset	7.96 ± 0.13	59.88	-3.53 ± 0.13	7.14 ± 0.13

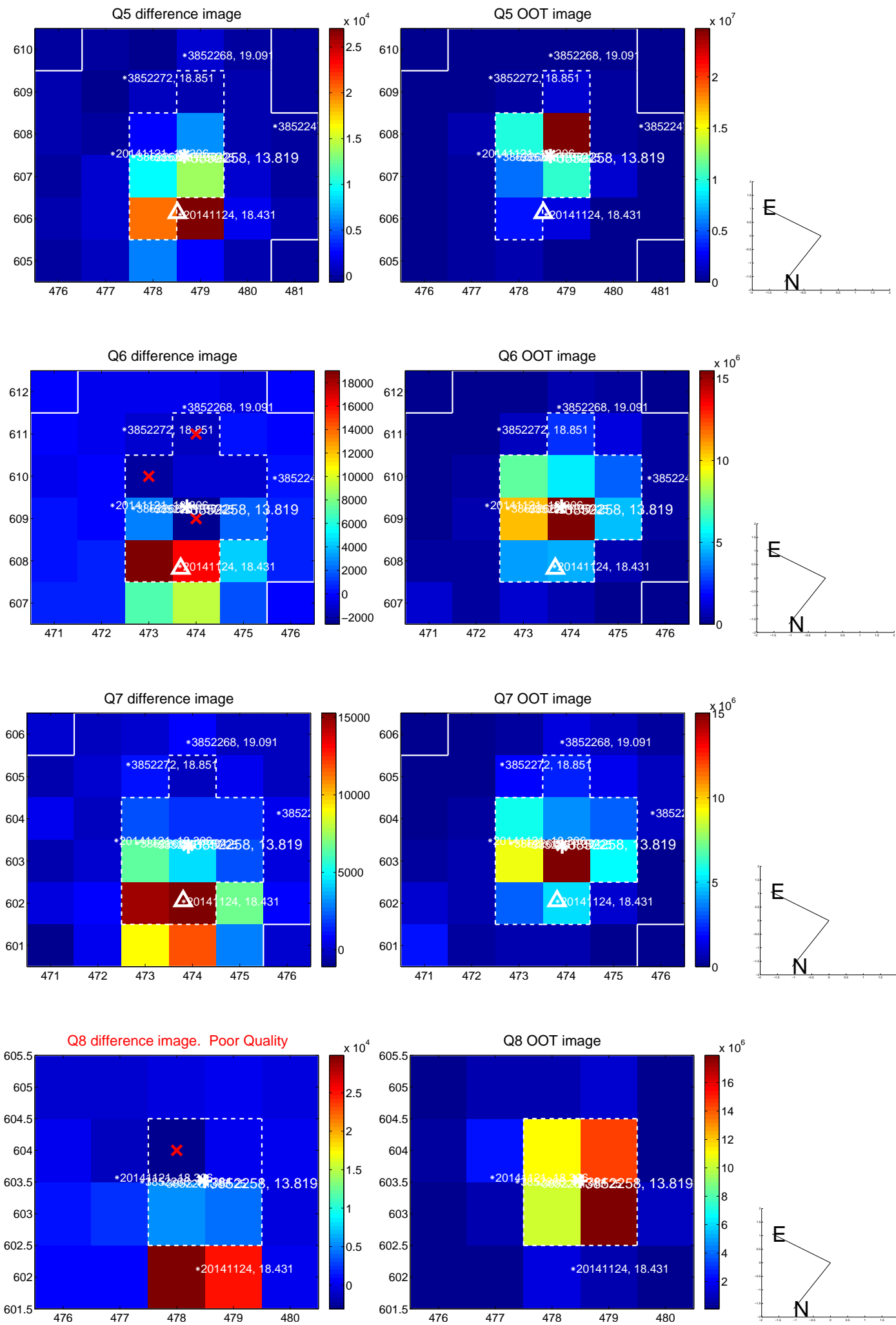


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

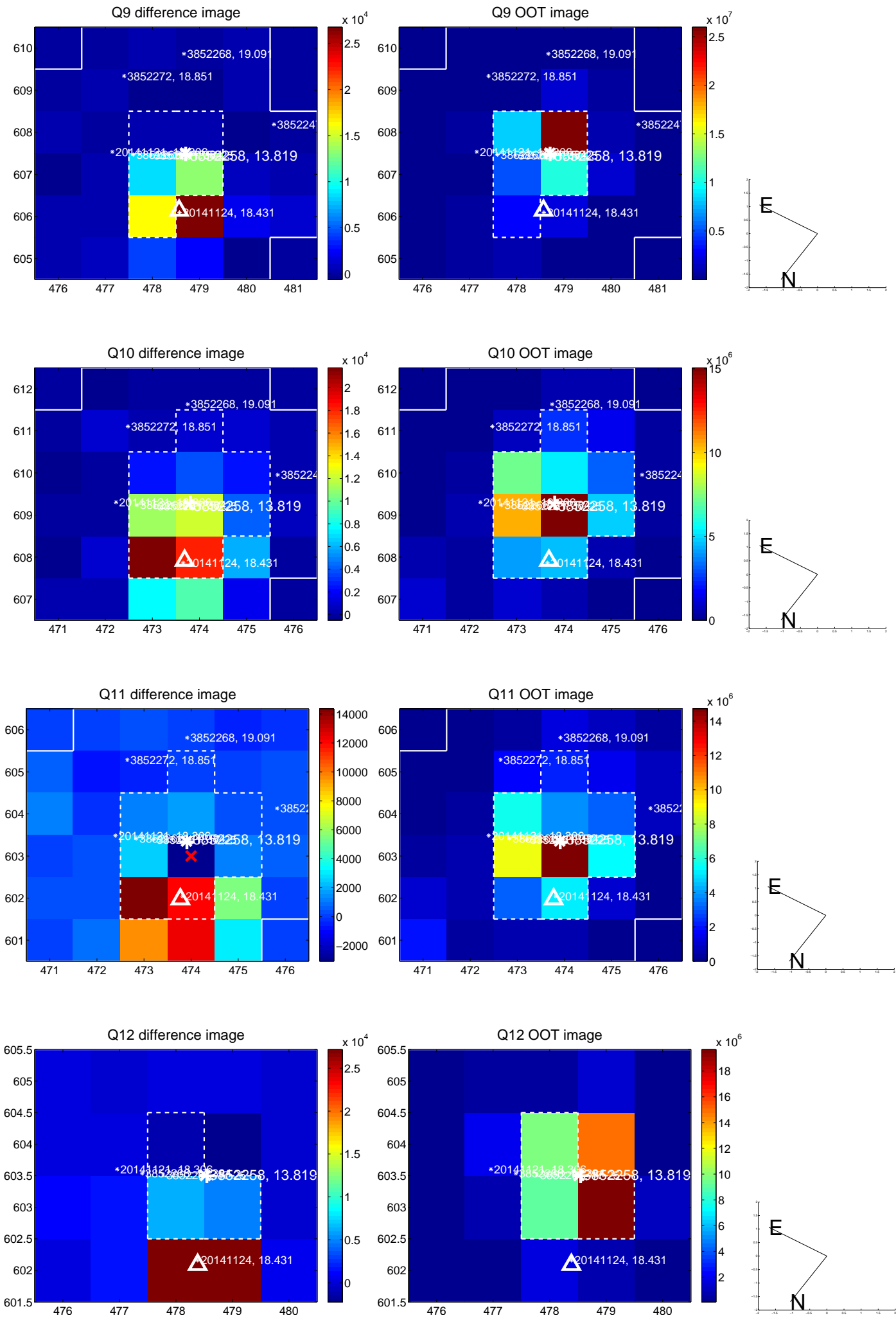
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



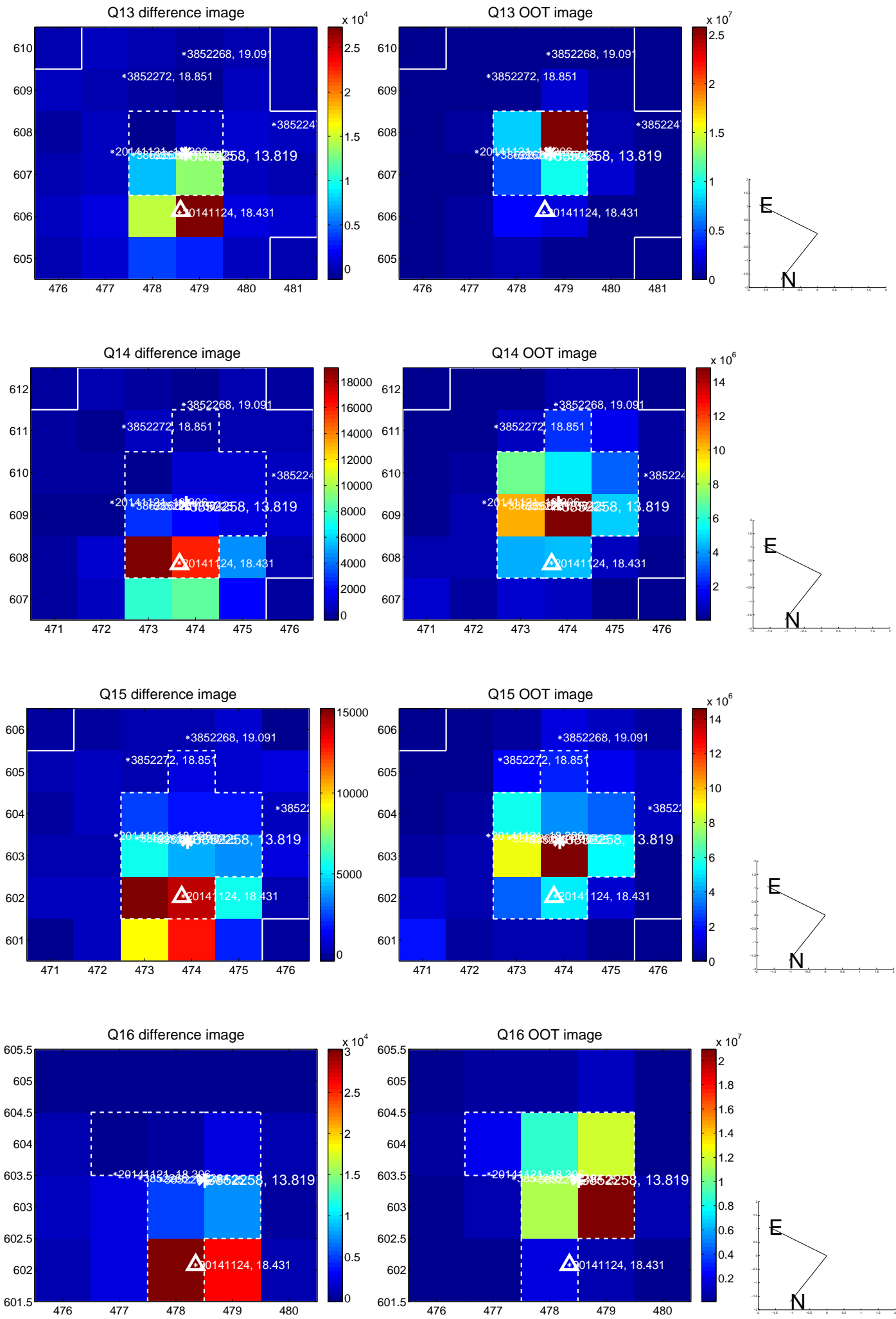
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



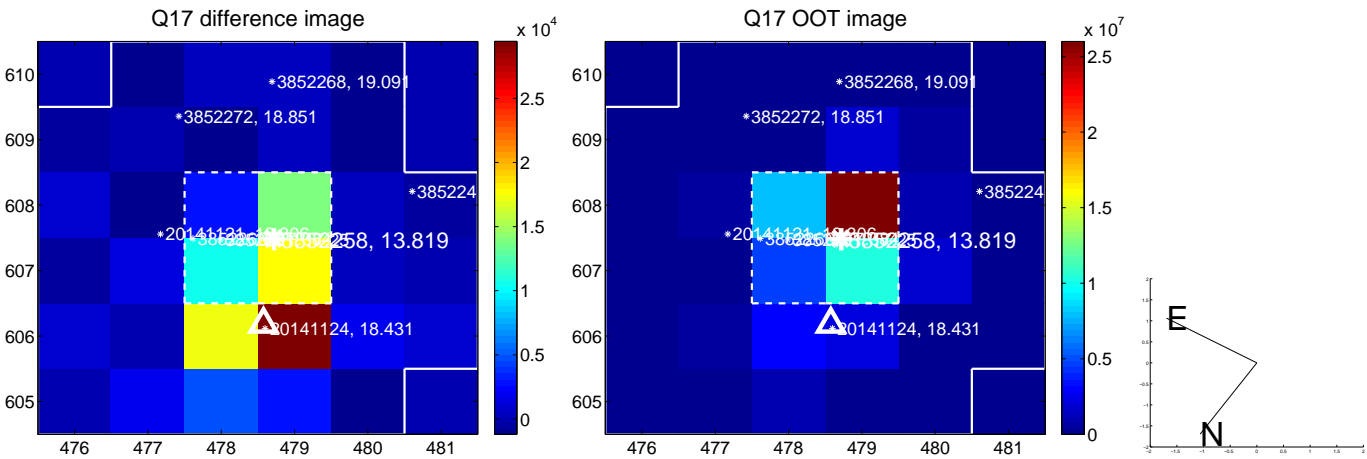
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



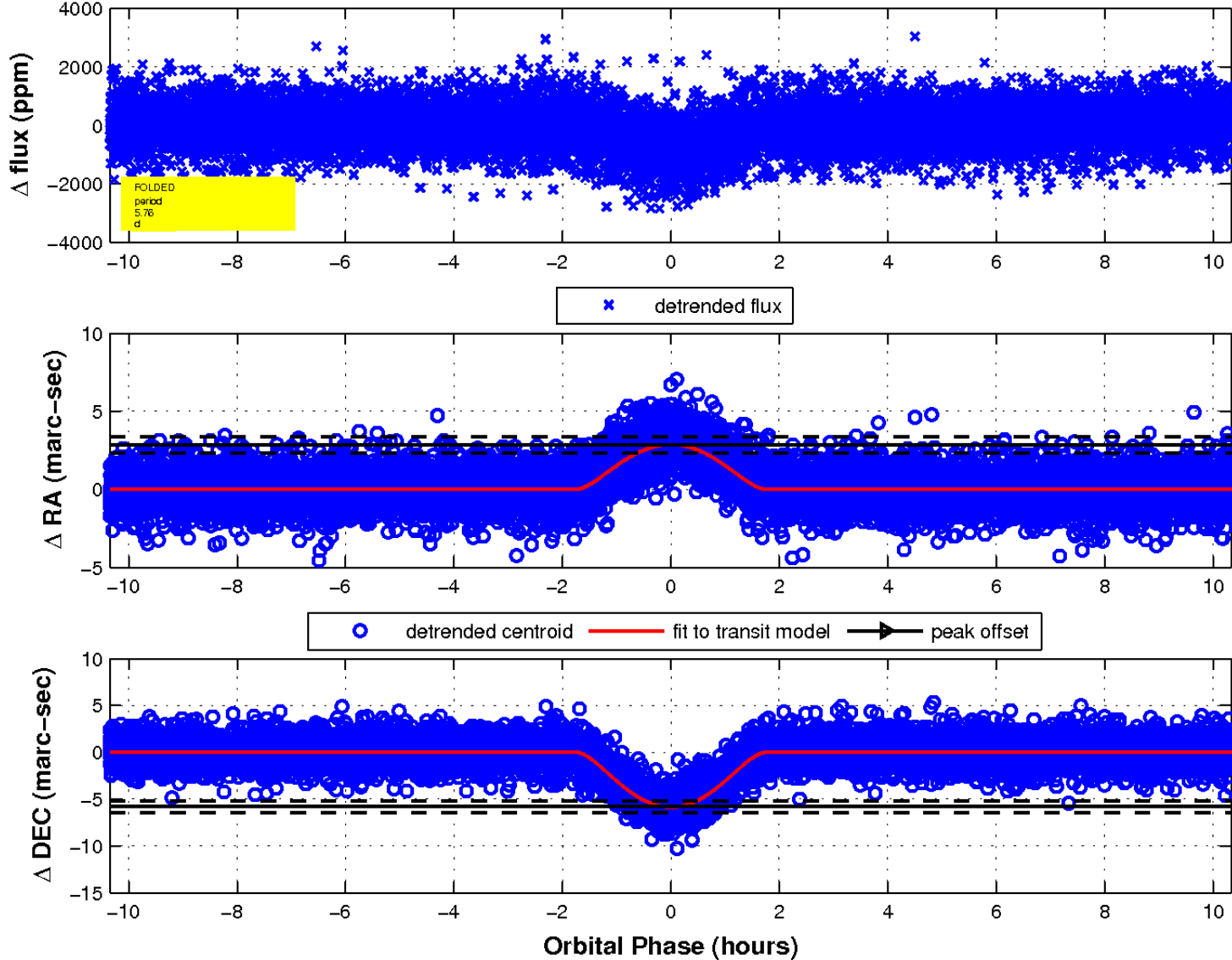
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



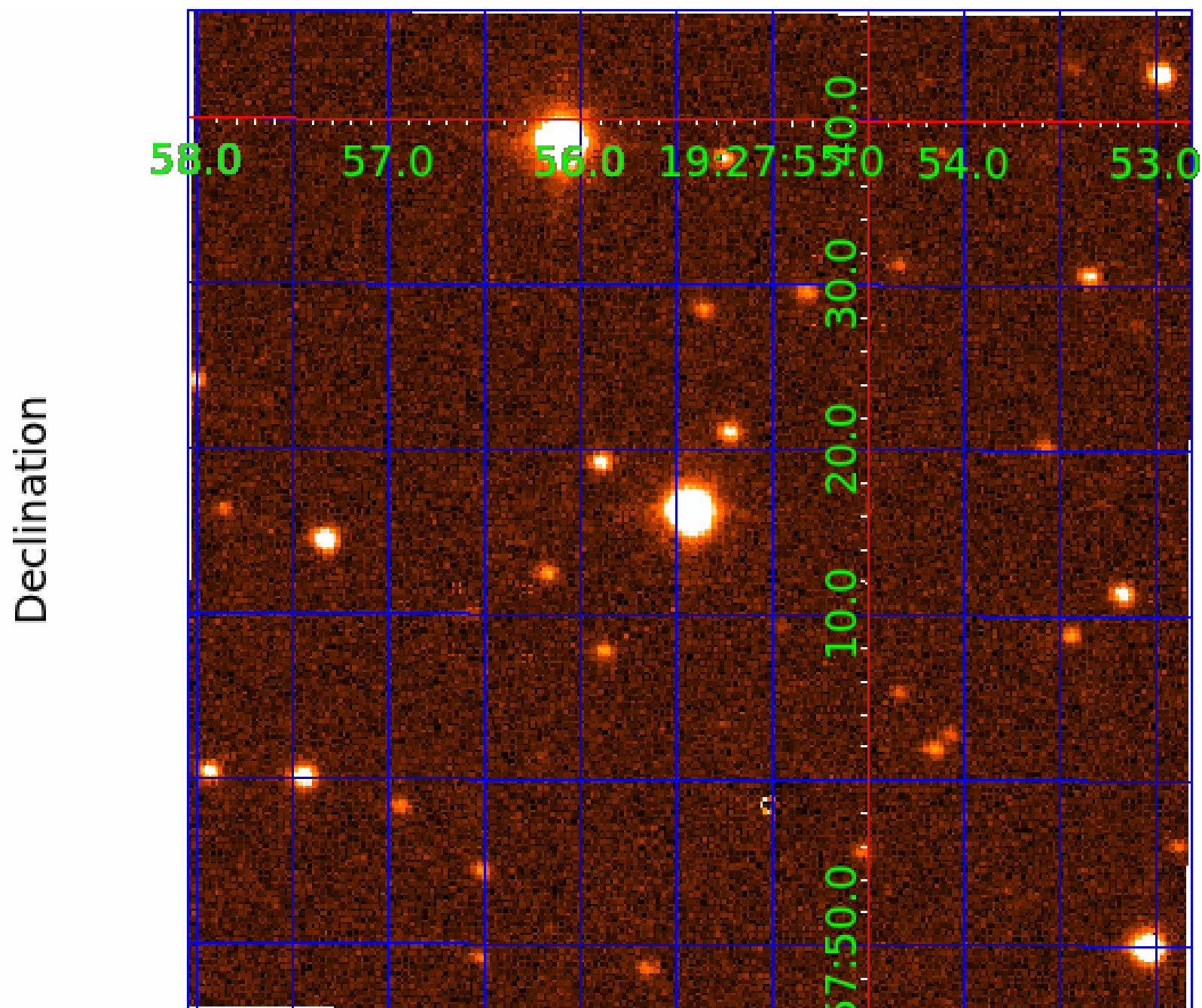
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 2



UKIRT Image



KIC 003852258

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})
003852258-01	OBS	5989.01	5.758466	135.109168	815.4	3.448	36.1	42.4	25.29	4754	150.67	0.00
003852258-02	OBS	No	5.758476	132.419465	276.9	2.411	16.6	17.5	25.29	4754	51.51	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003852258-01	OBS	FP	0.00	0	1	1	0	PLANET_IN_STAR—MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_RESOLVED_OFFSET
003852258-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST

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 003852258-02

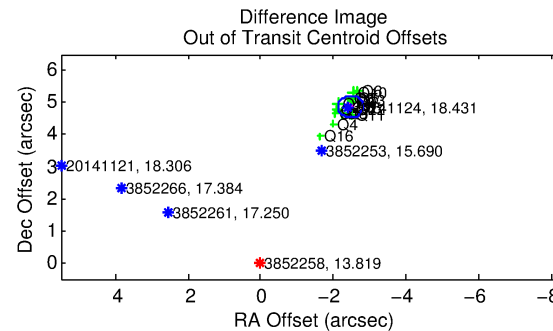
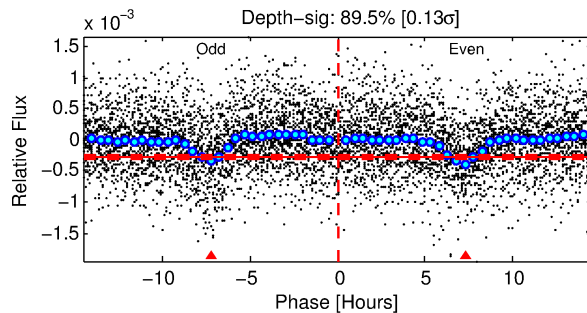
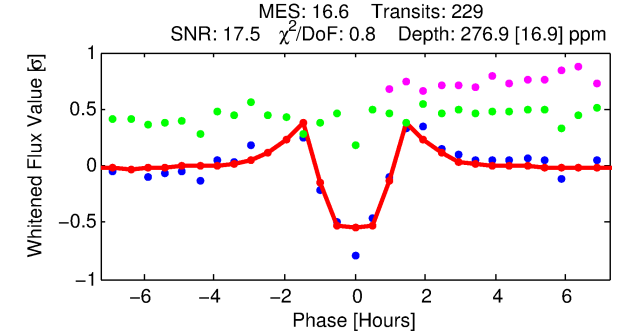
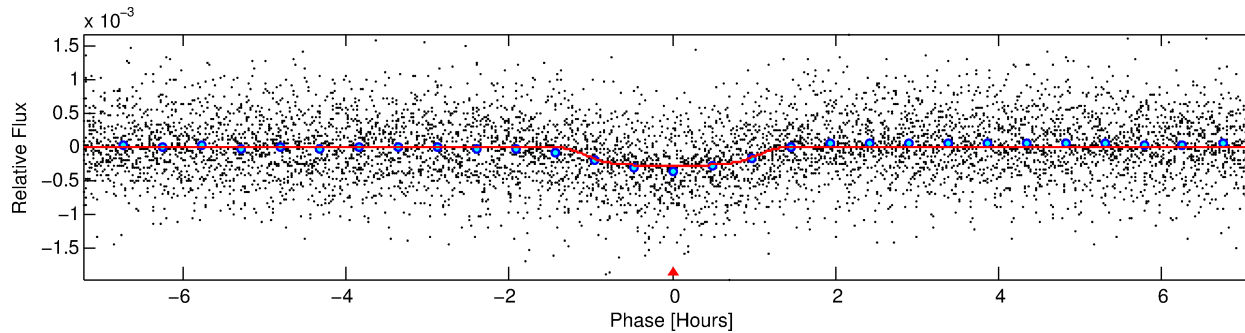
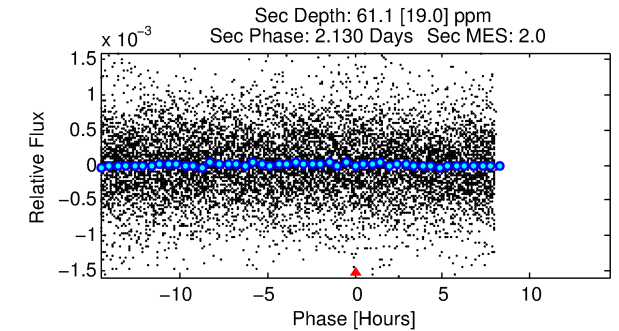
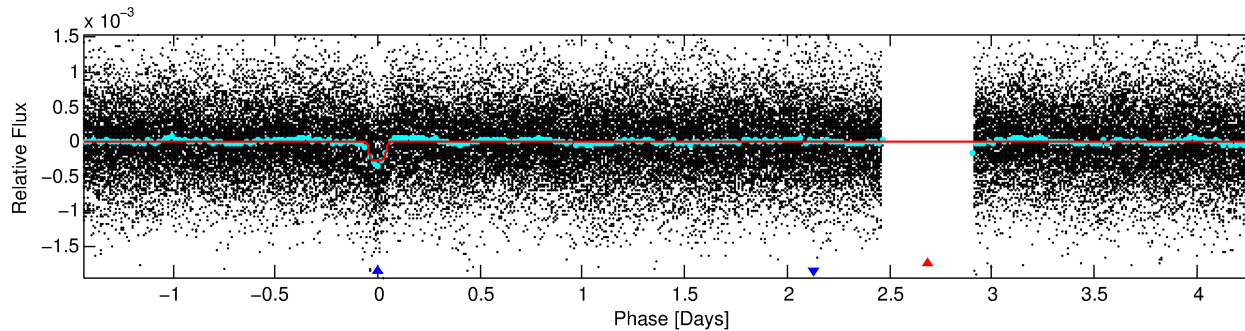
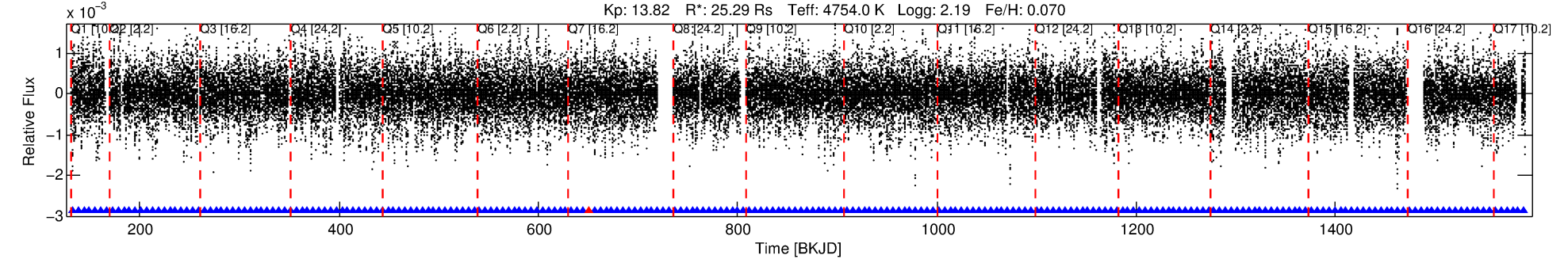
No Significant Match Found

DV One-Page Summary

KIC: 3852258 Candidate: 2 of 2 Period: 5.758 d

KOI: K05989 Corr: No Ephemeris Match

Kp: 13.82 R*: 25.29 Rs Teff: 4754.0 K Logg: 2.19 Fe/H: 0.070



DV Fit Results:

Period = 5.75848 [0.00001] d
Epoch = 132.4195 [0.0016] BKJD
Rp/R* = 0.0187 [0.0046]
a/R* = 8.84 [7.94]
b = 0.90 [0.20]
Seff = N/A
Teq = N/A
Rp = 51.50 [24.66] Re
a = N/A
Ag = N/A
Teffp = N/A

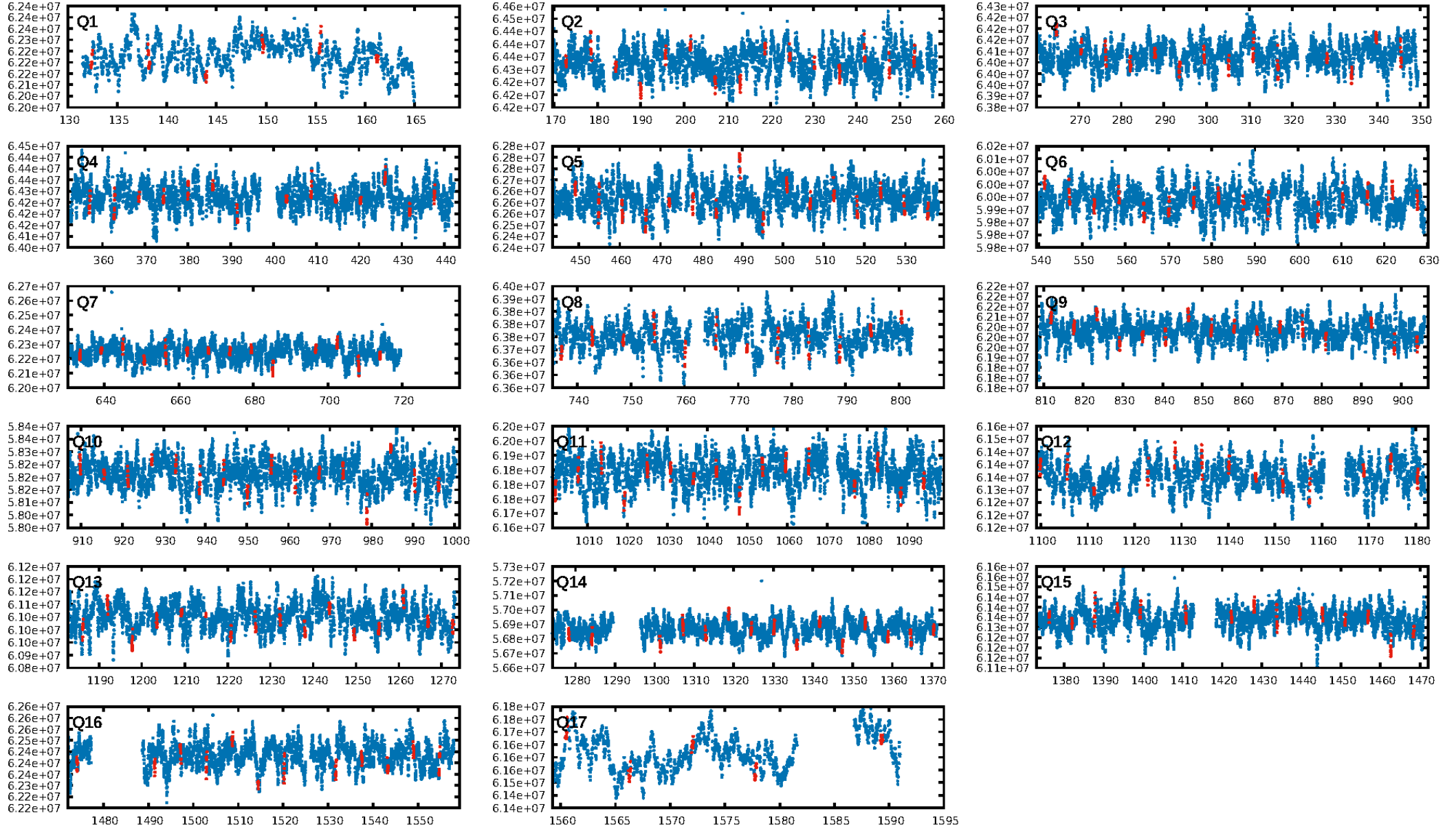
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.03e-61
RollingBand-fgt: 1.00 [217/218]
GhostDiagnostic-chr: 0.2019
Centroid-sig: 0.0%
Centroid-so: 9.393 arcsec [25.18σ]
OotOffset-rm: 5.458 arcsec [47.54σ]
KicOffset-rm: 5.489 arcsec [47.16σ]
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]

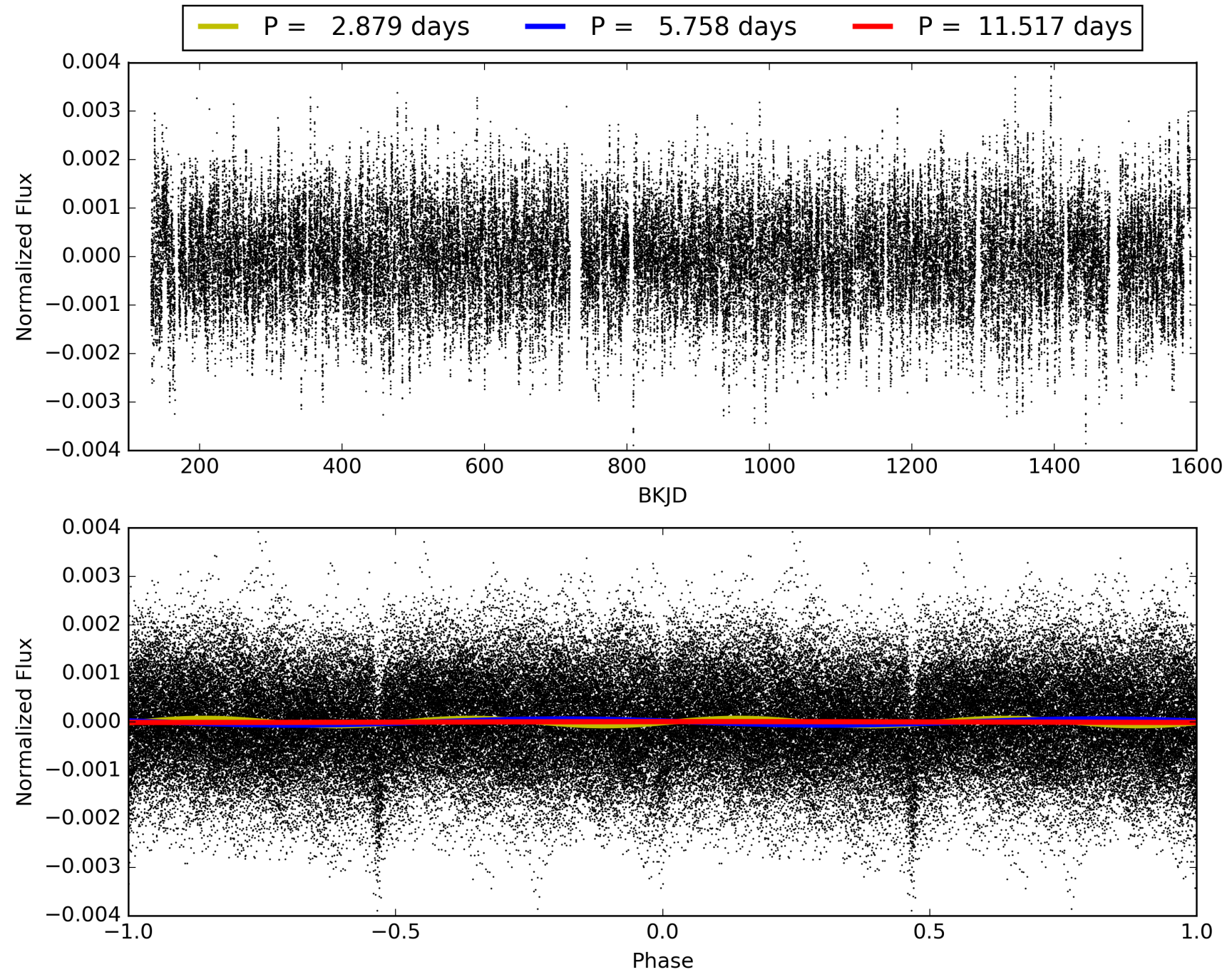
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:23:29 Z

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

TCE 003852258-02, PDC Light Curves

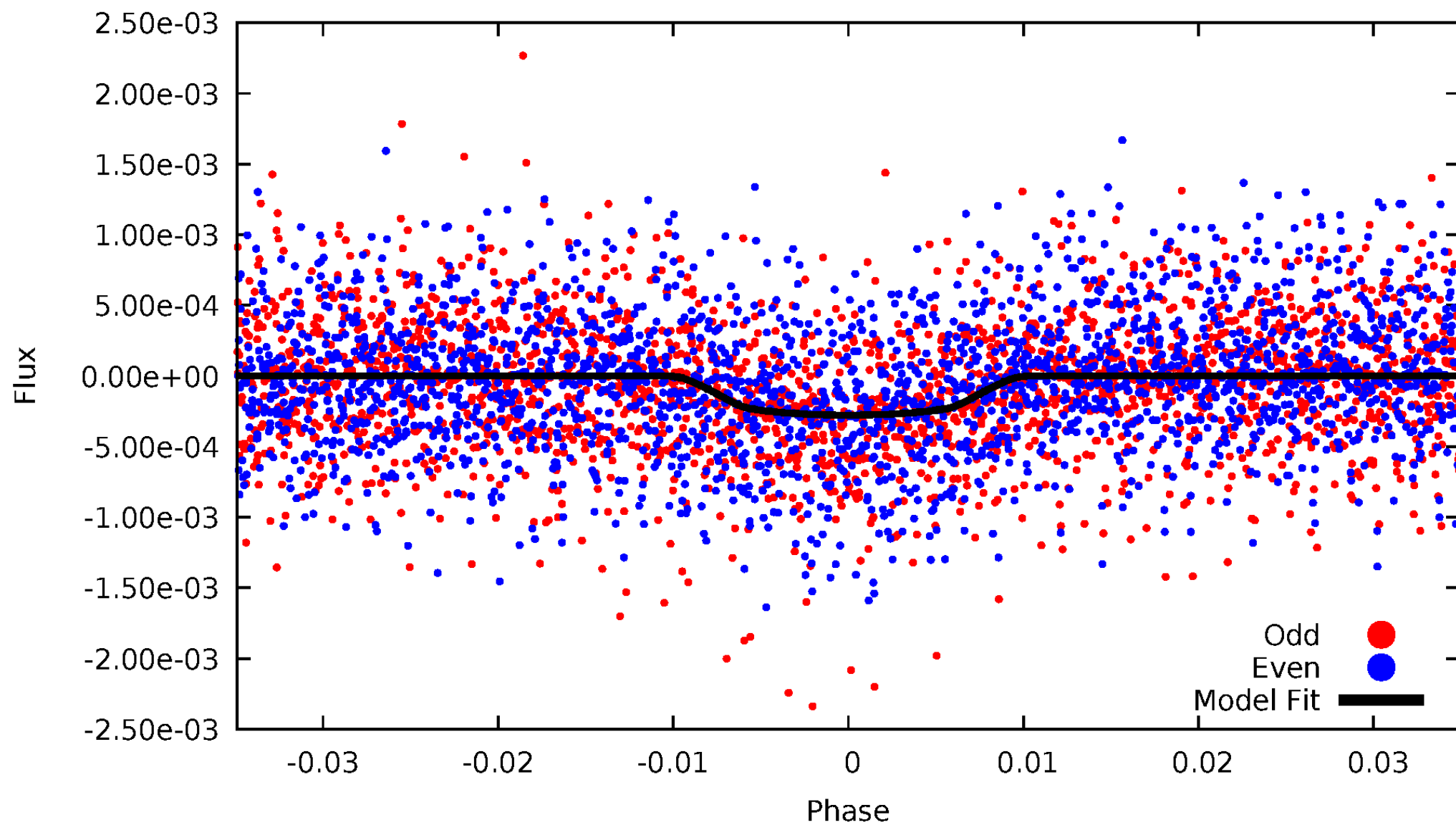


TCE 003852258-02



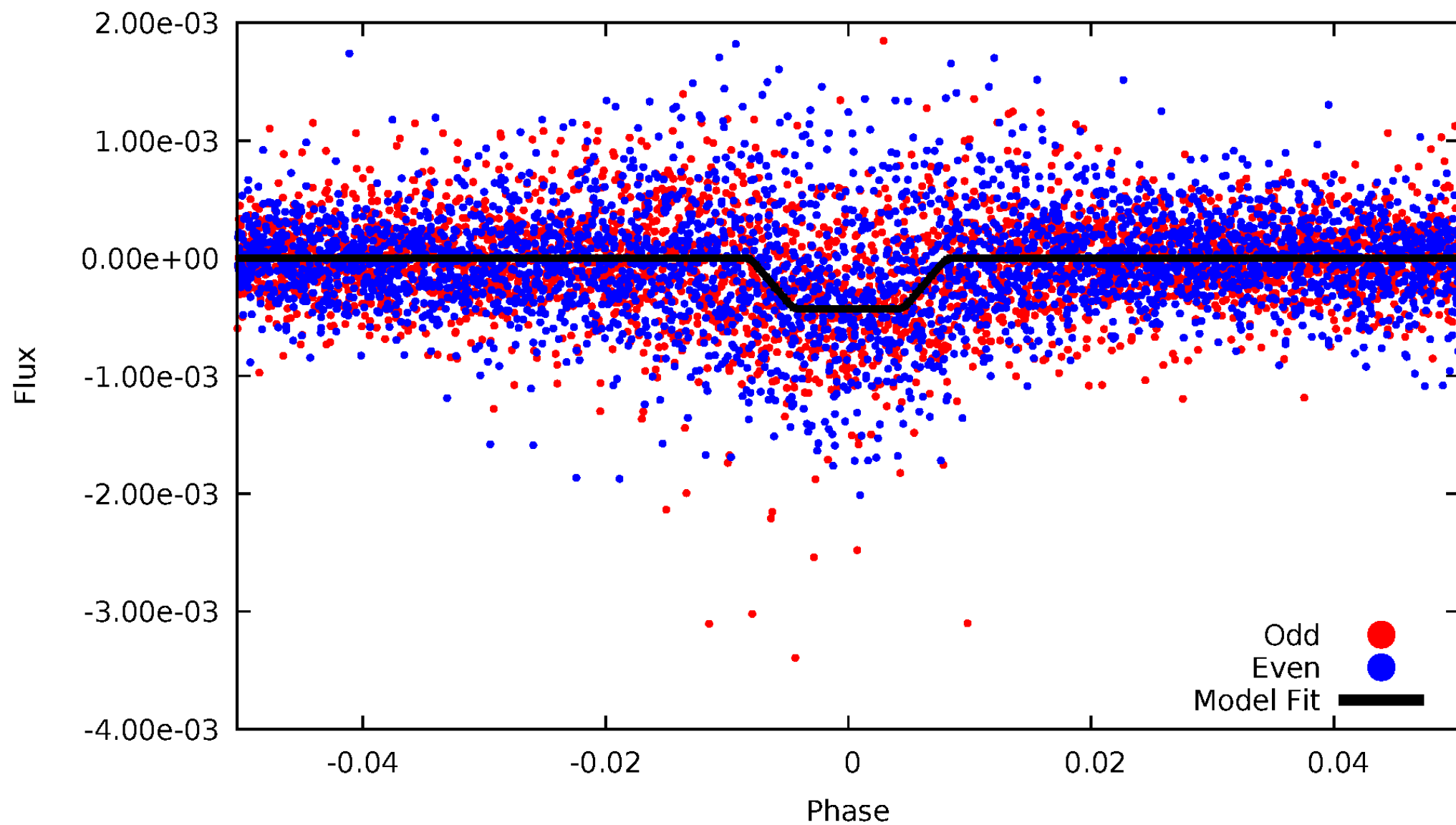
DV Odd/Even

TCE 003852258-02



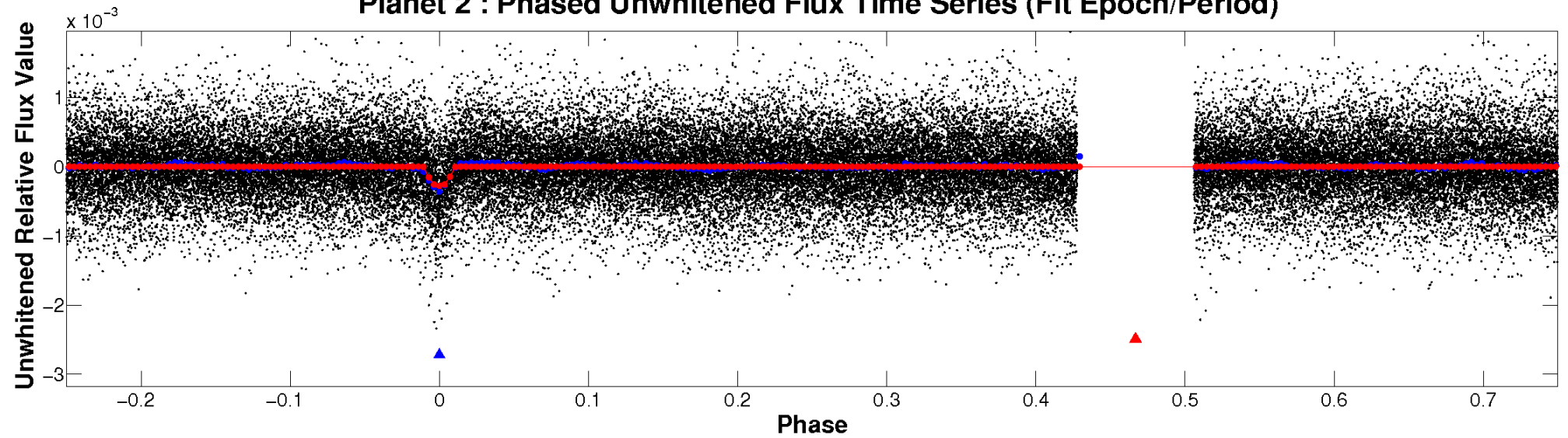
ALT Odd/Even

TCE 003852258-02

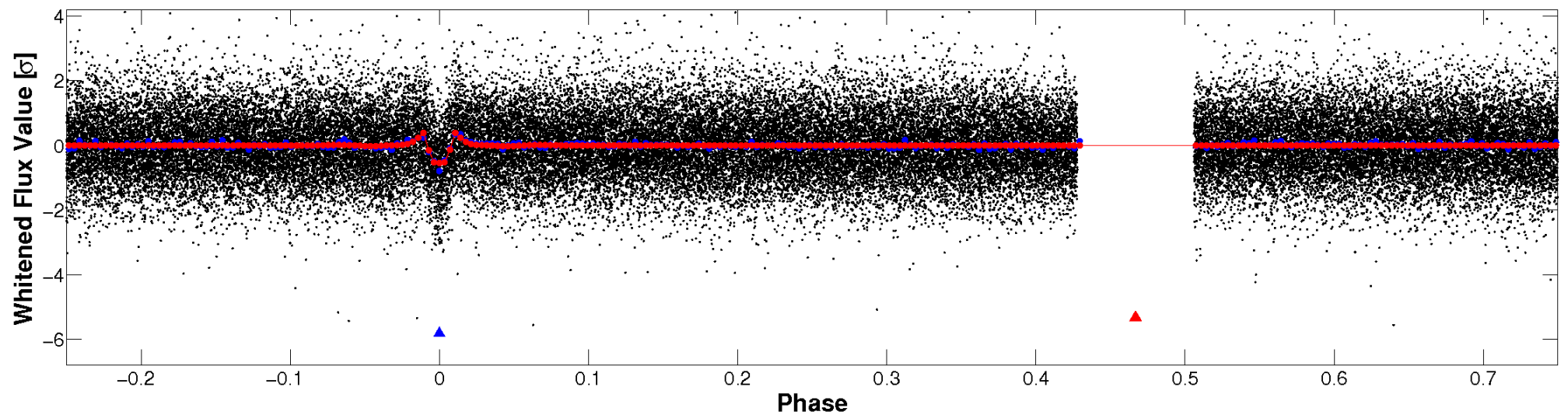


Non-Whitened Vs. Whitened Light Curve

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

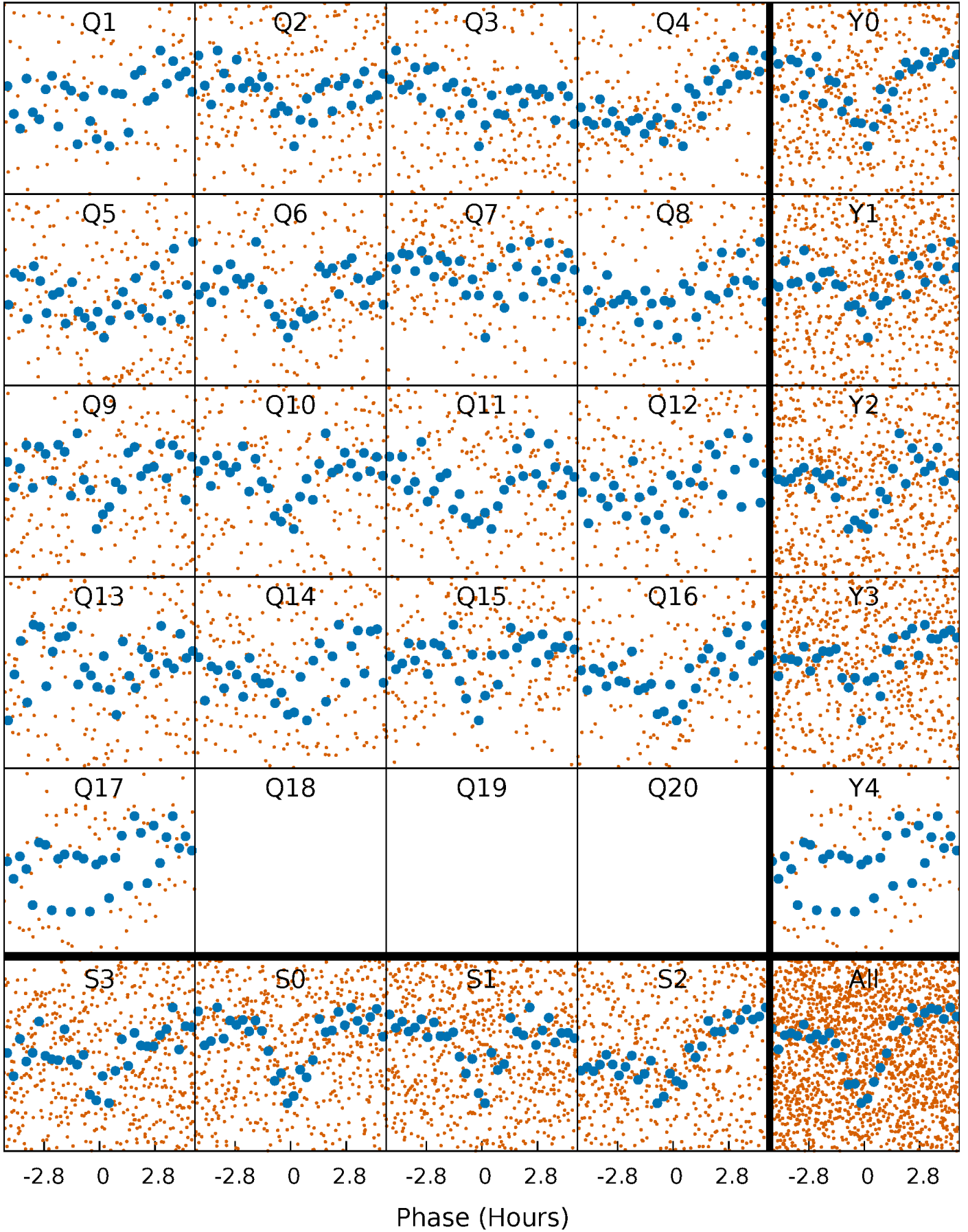


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



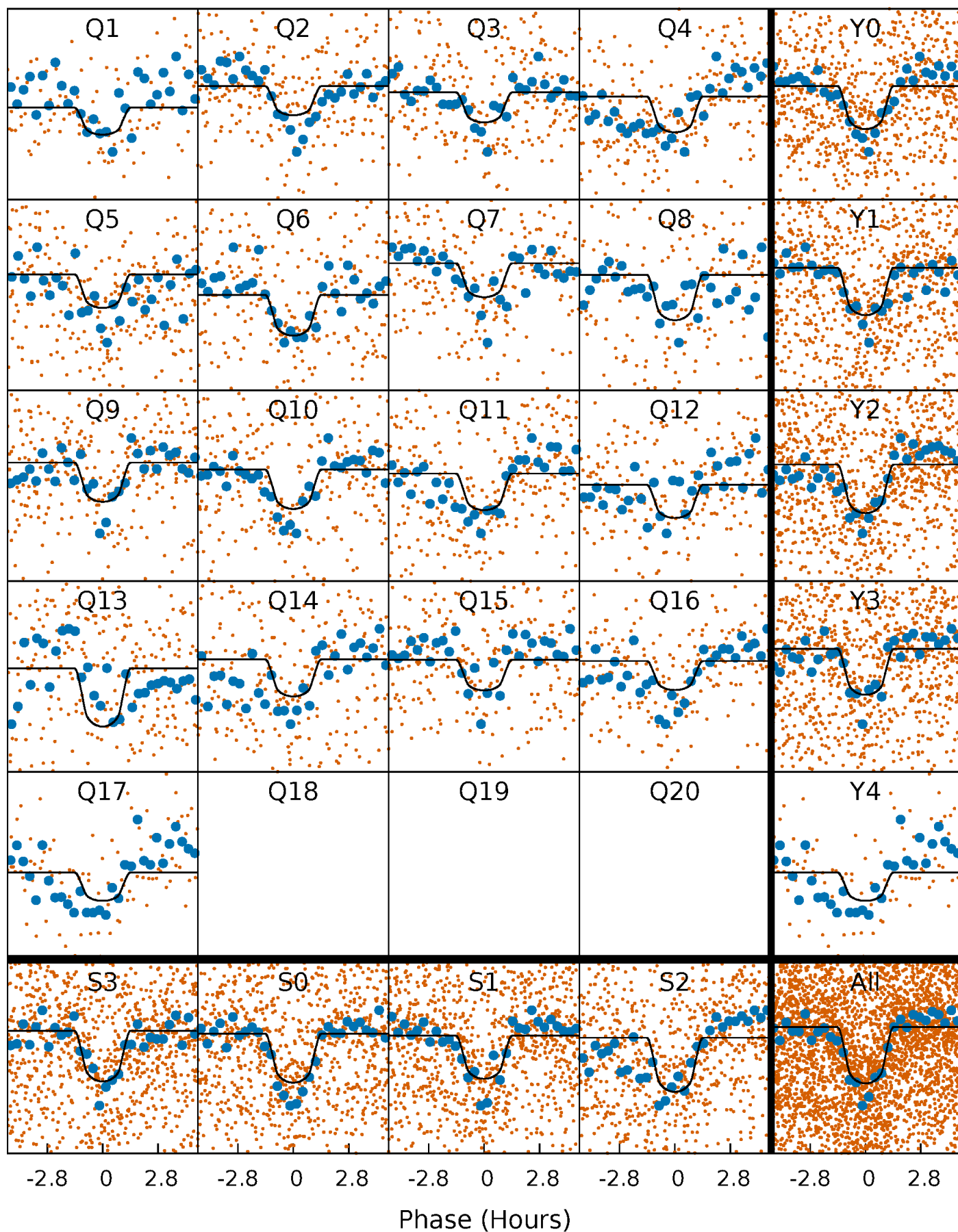
PDC Quarter-Phased Transit Curves

TCE 003852258-02 P= 5.758476 Days $T_0=132.419465$ (BKJD)



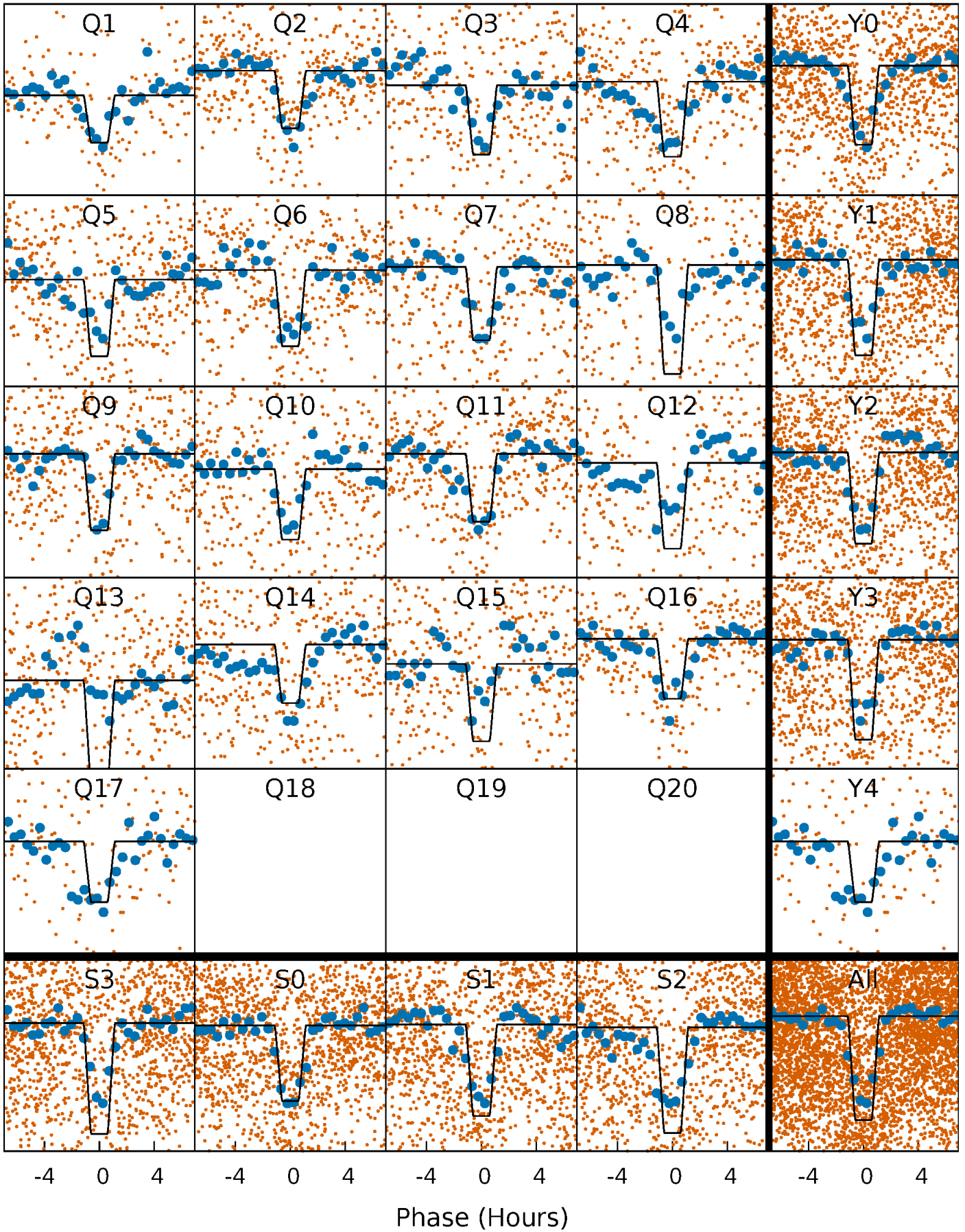
DV Quarter-Phased Transit Curves

TCE 003852258-02 P= 5.758476 Days $T_0=132.419465$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

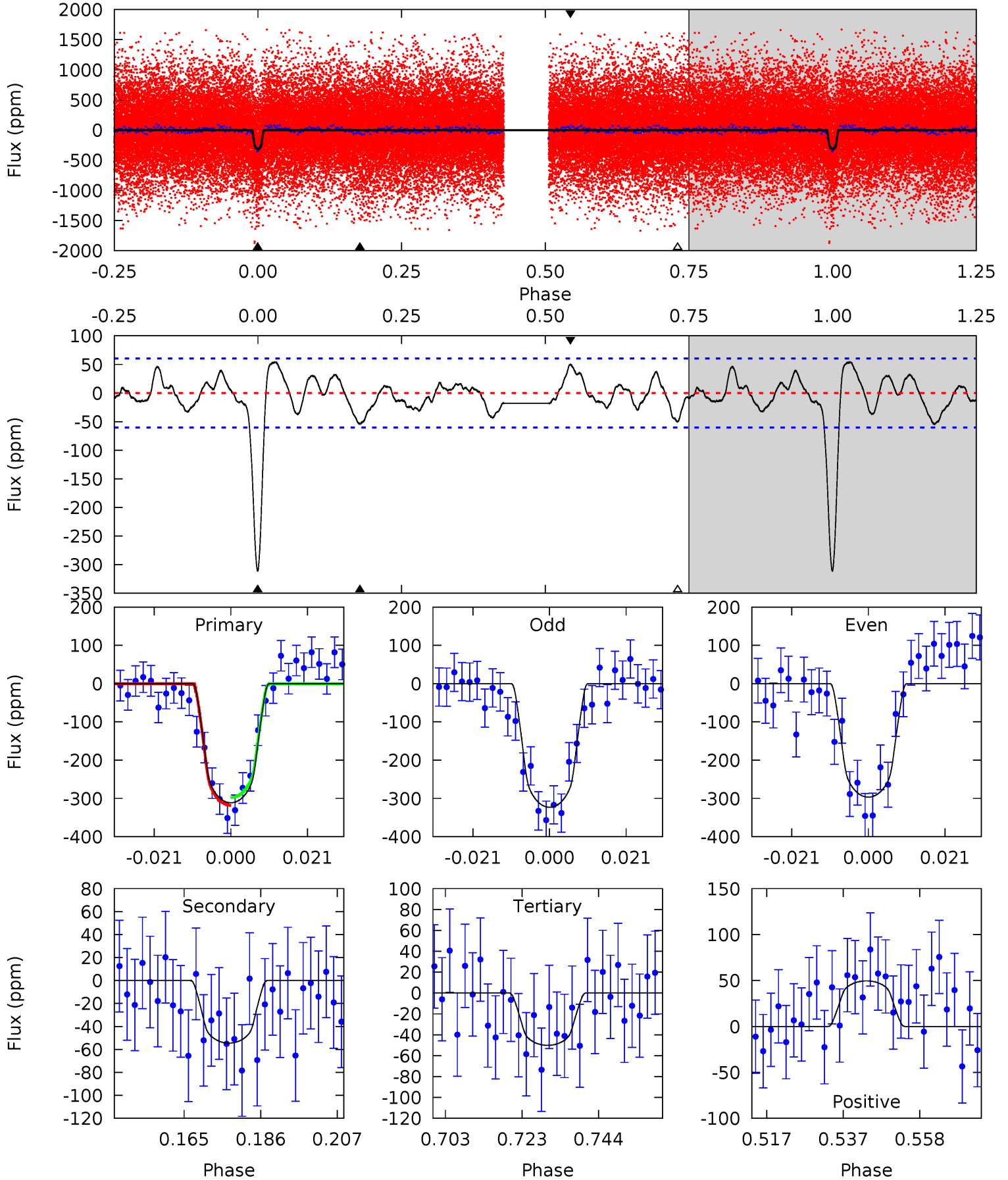
TCE 003852258-02 P= 5.758432 Days $T_0=132.422603$ (BKJD)



DV Model-Shift Uniqueness Test

003852258-02, P = 5.758476 Days, E = 126.660989 Days

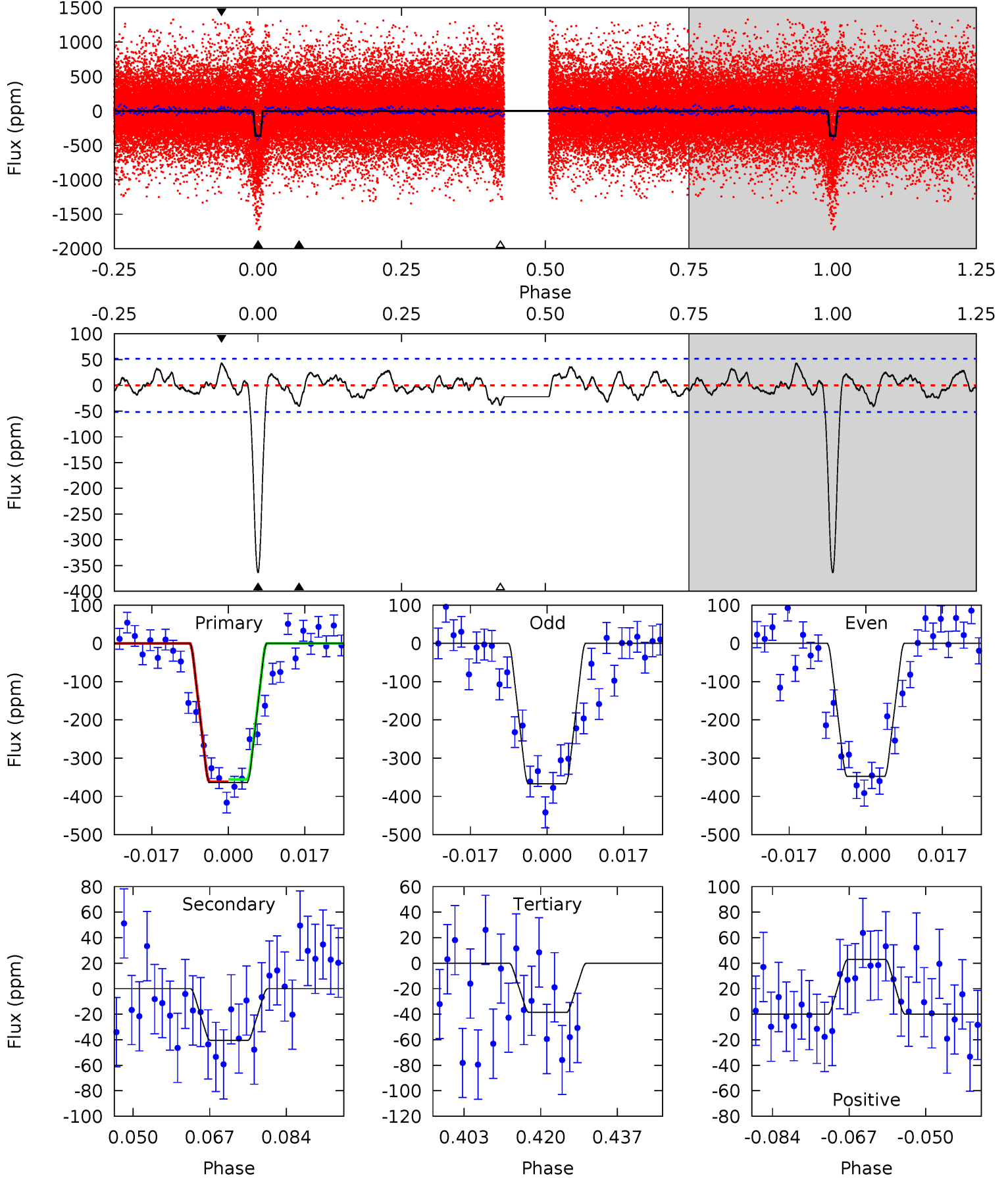
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.2	4.42	4.06	4.02	4.89	2.31	1.75	21.2	21.2	0.36	0.40	1.08	1.08	0.15	0.84



Alt Model-Shift Uniqueness Test

003852258-02, P = 5.758432 Days, E = 126.664171 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.7	3.86	3.68	4.09	4.93	2.39	1.46	31.0	30.6	0.18	-0.23	0.92	0.89	0.11	0.30



Stellar Parameters For KIC 003852258

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4754^{+100}_{-120}	$2.194^{+0.033}_{-0.030}$	$0.070^{+0.150}_{-0.700}$	$25.287^{+0.546}_{-10.374}$	$3.644^{+0.073}_{-2.401}$	$0.000^{+0.000}_{-0.000}$
	+2%/-3%	+2%/-1%	+214%/-1000%	+2%/-41%	+2%/-66%	+73%/-9%
Source	PHO1	AST9	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 003852258-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-55 ± 12	$51.94^{+12.76}_{-13.18}$	4741^{+107}_{-137}	-3761^{+312}_{-165}	$0.105^{+0.080}_{-0.041}$
Alt.	-41 ± 10	$57.12^{+14.07}_{-13.12}$	4749^{+106}_{-130}	-3894^{+157}_{-113}	$0.063^{+0.048}_{-0.025}$

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

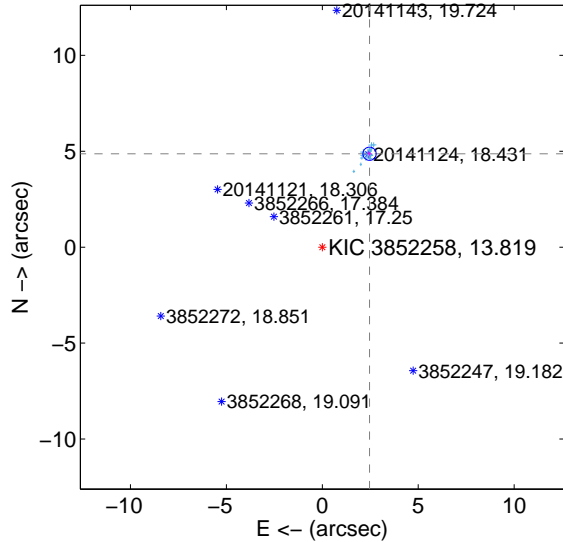
Supplemental centroid analysis for 003852258-02. Kepler magnitude: 13.82. Transit SNR 17.49

There are 17 quarters with good PRF difference image offsets

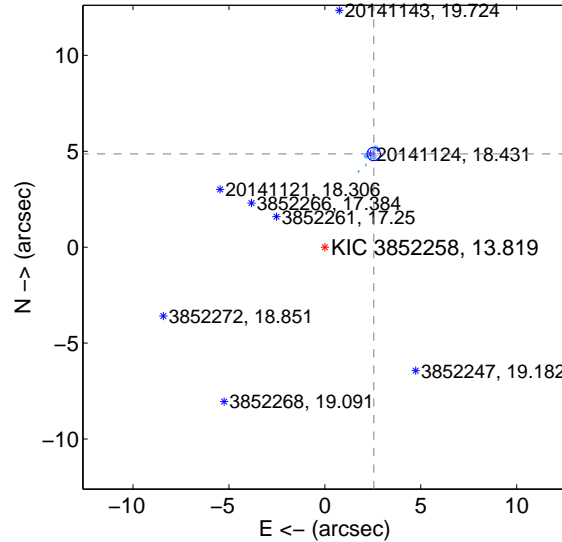
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.458 ± 0.115	47.54	-2.463 ± 0.091	4.871 ± 0.103
PRF-fit source offset from KIC position	5.489 ± 0.116	47.16	-2.549 ± 0.091	4.861 ± 0.104
photometric centroid source offset	9.39 ± 0.37	25.18	-4.18 ± 0.38	8.41 ± 0.37

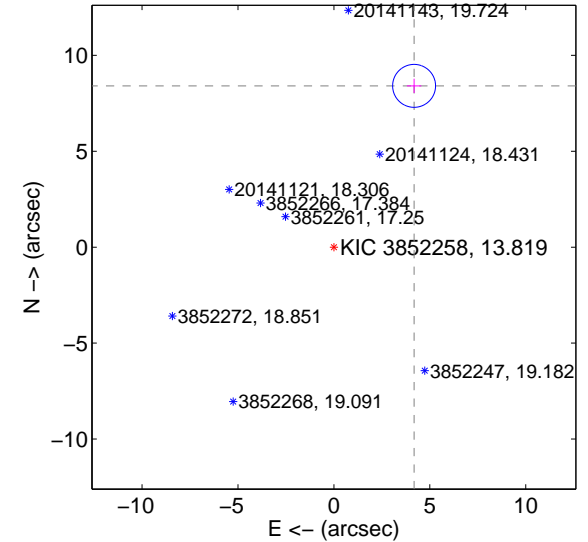
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

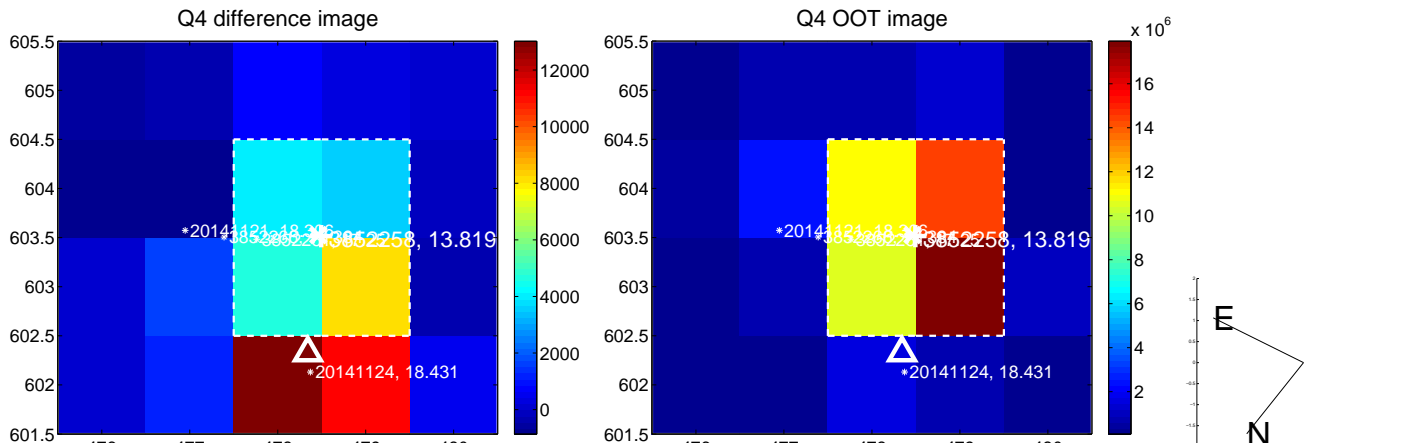
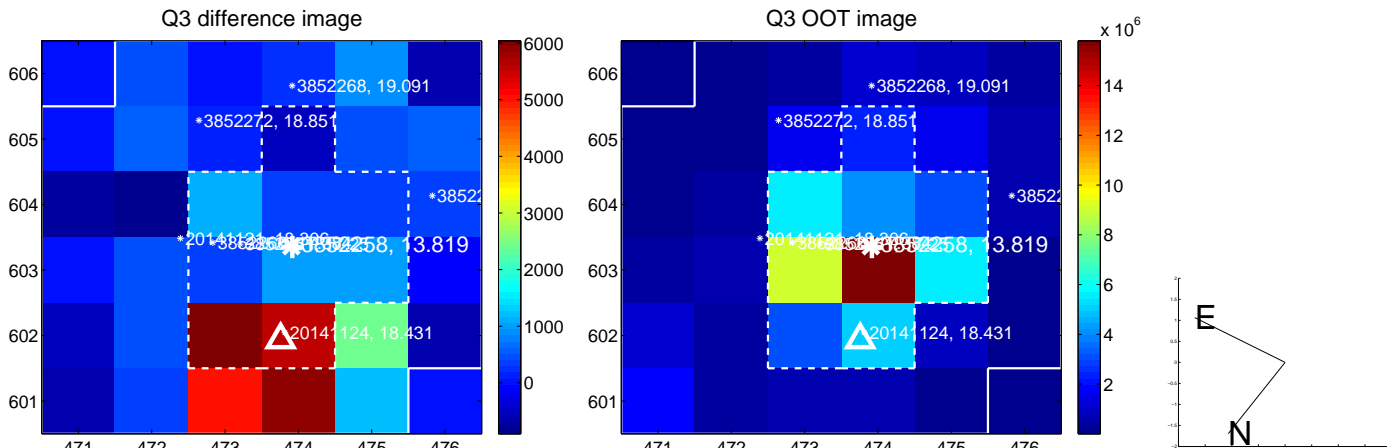
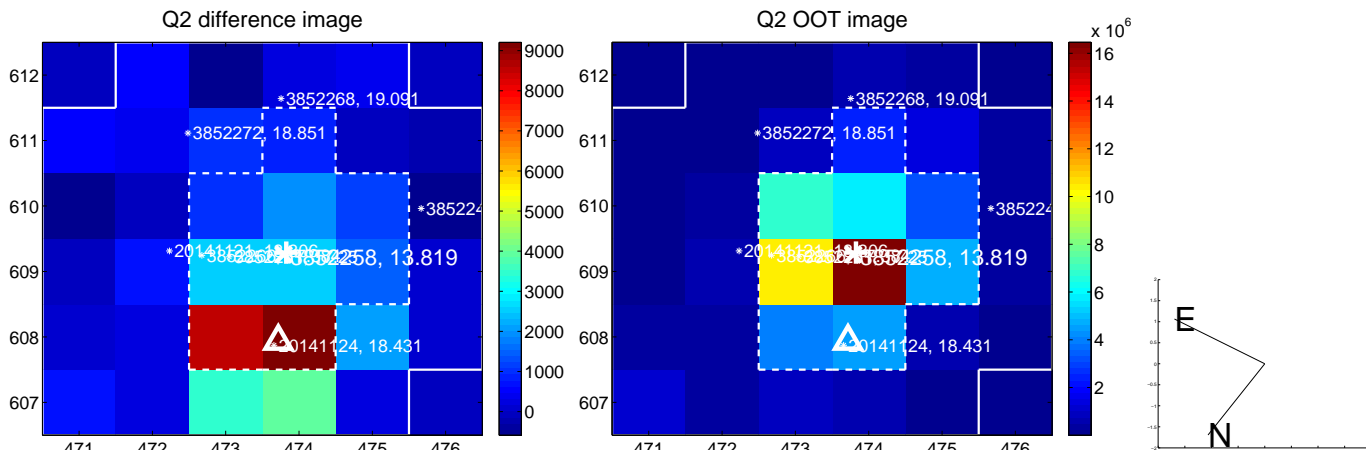
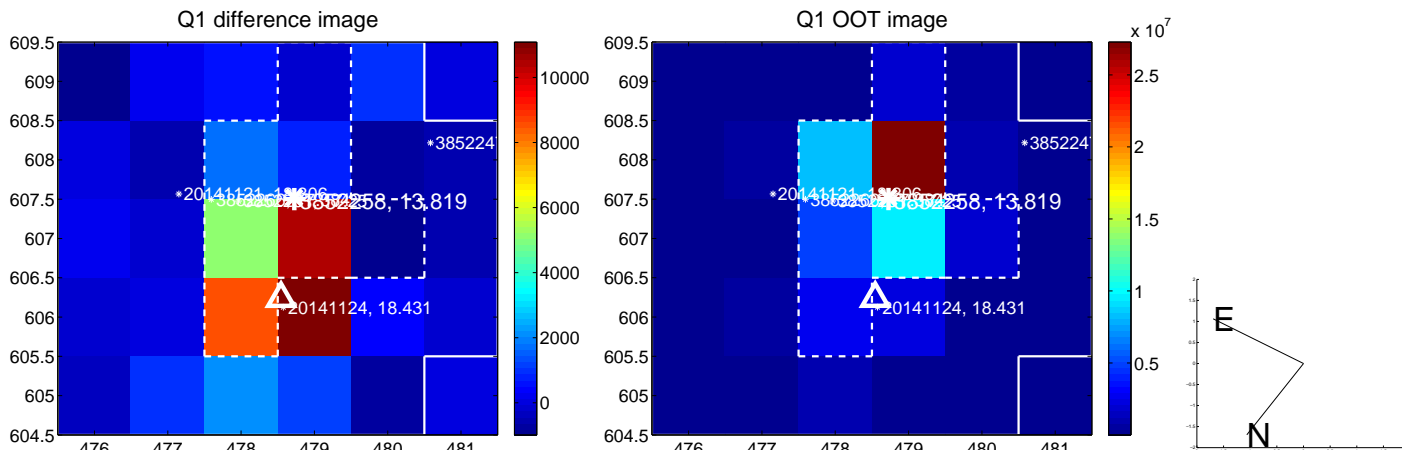


offset from photometric centroids

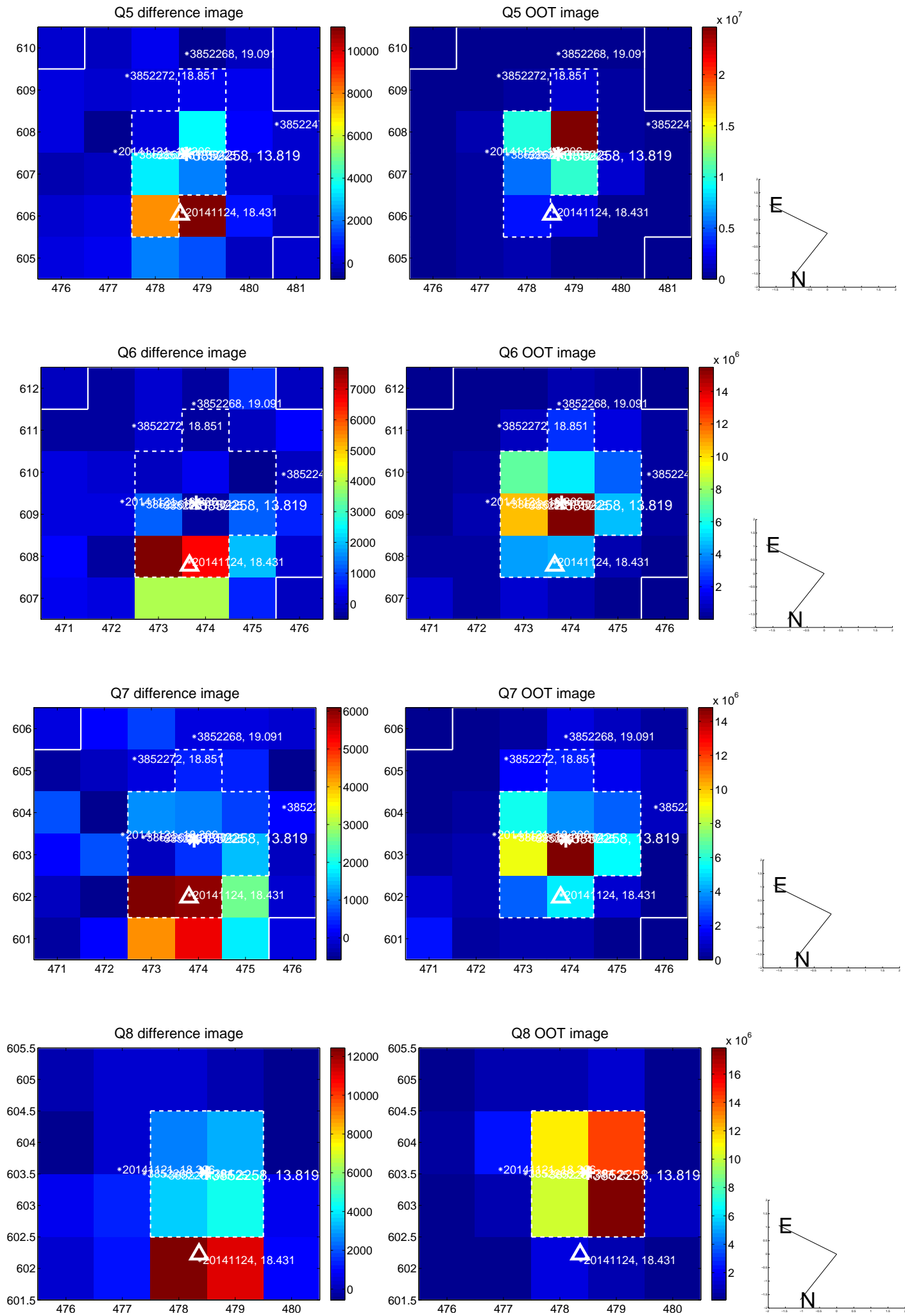


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

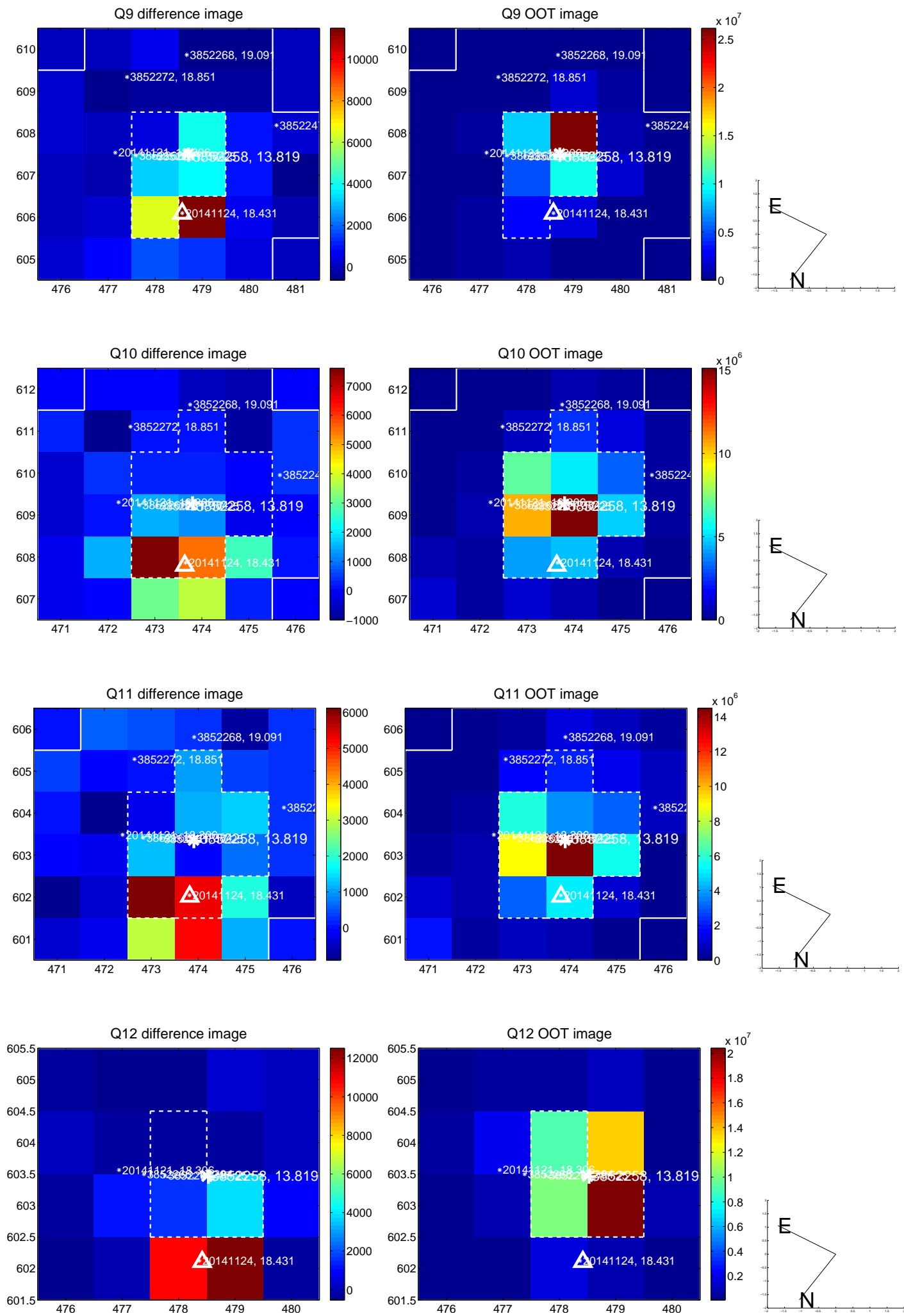
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



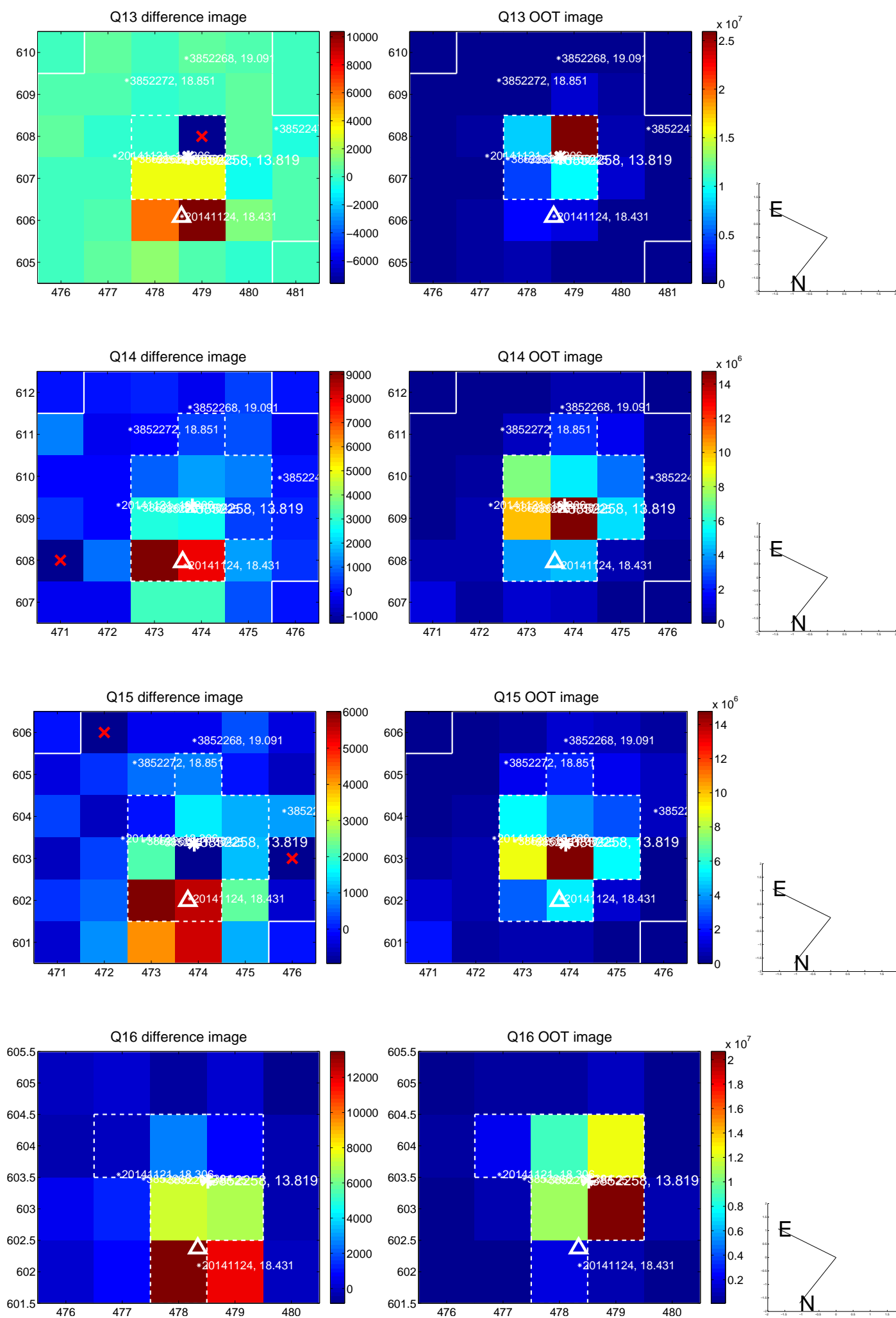
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



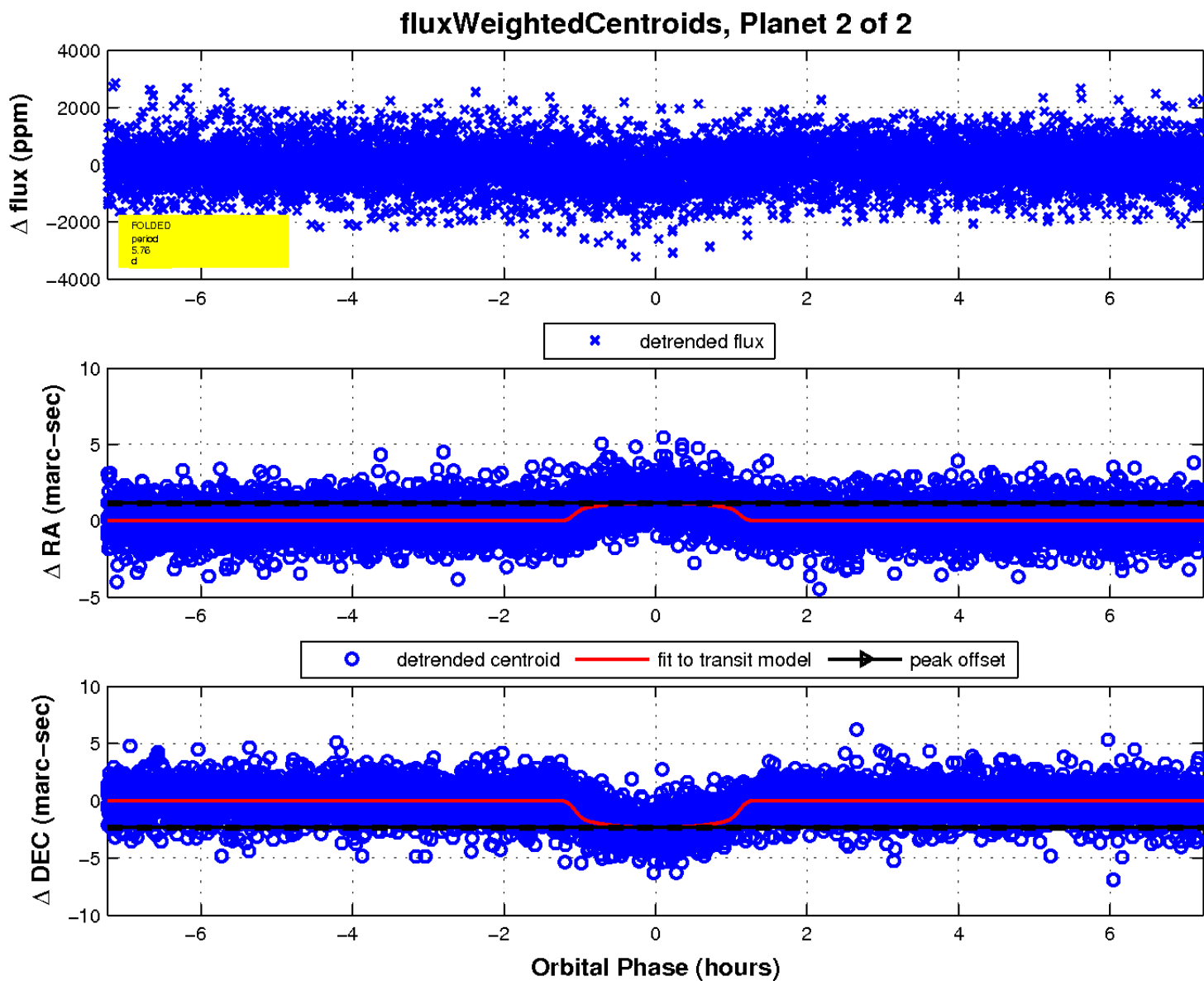
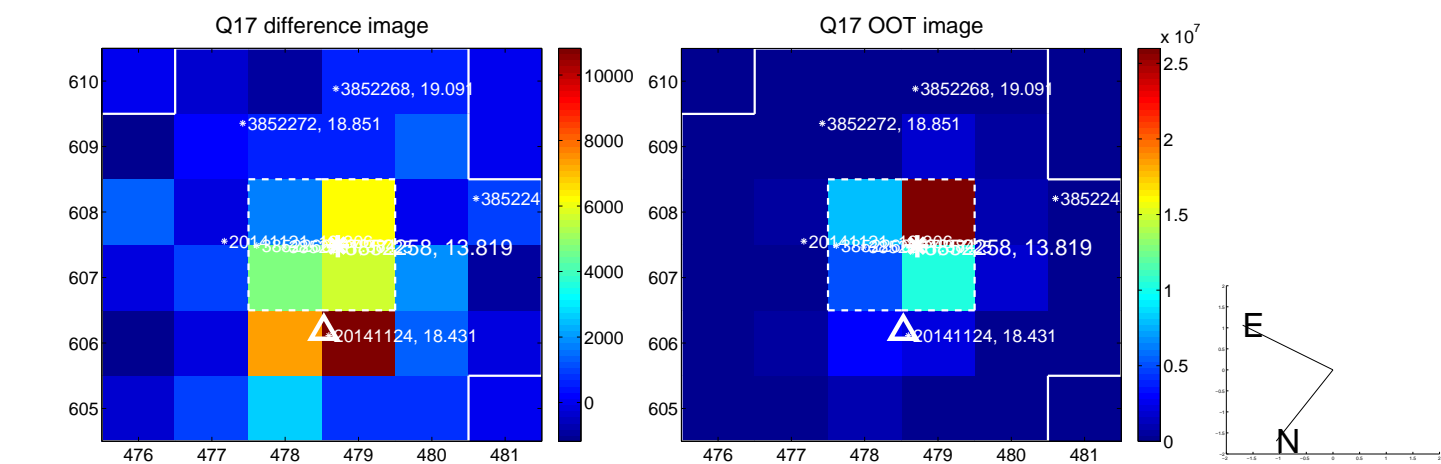
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

