

KIC 008580438

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})
008580438-01	OBS	6058.01	6.496032	135.468767	109234.2	5.241	7242.7	5076.7	0.99	5516	32.43	198.47
008580438-02	OBS	No	6.496032	132.228807	4646.8	5.062	326.8	326.0	0.99	5516	7.65	198.47
008580438-03	OBS	No	412.617459	424.011655	1376.1	17.248	18.3	5.1	0.99	5516	7.14	0.78

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008580438-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
008580438-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
008580438-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—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.

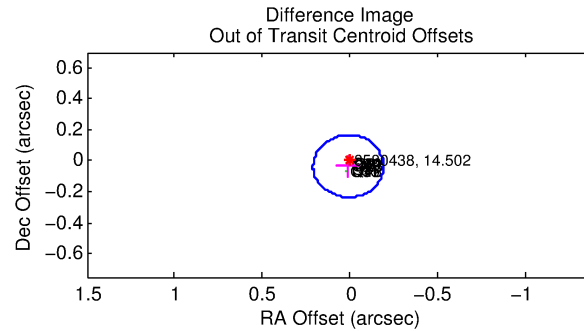
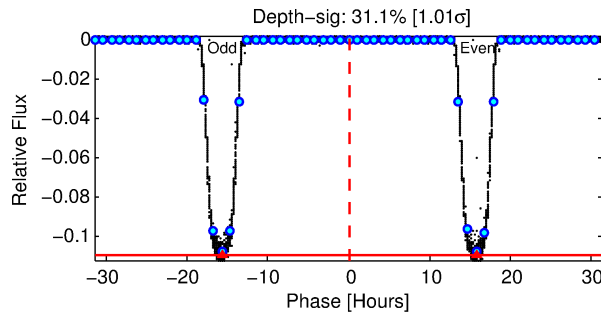
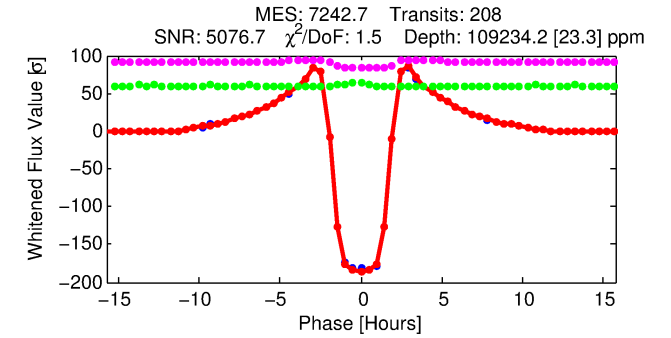
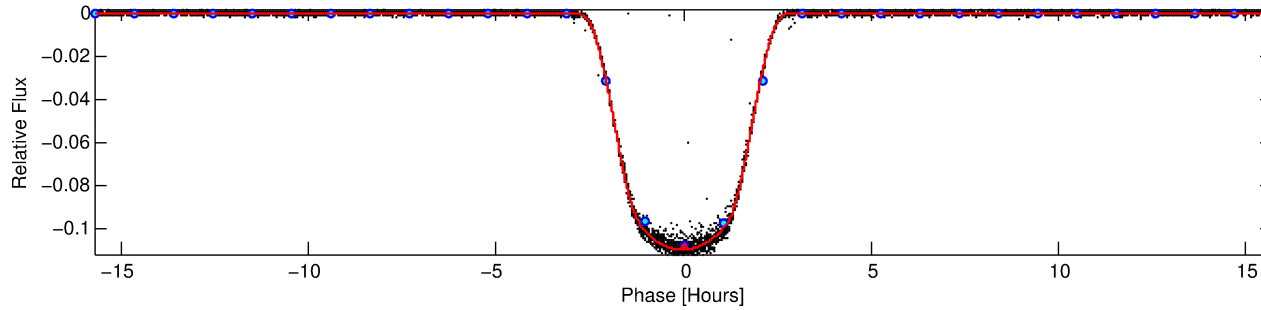
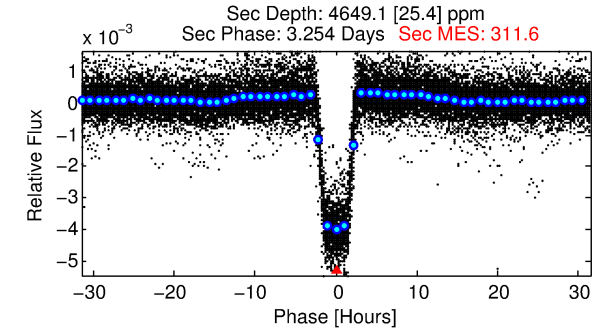
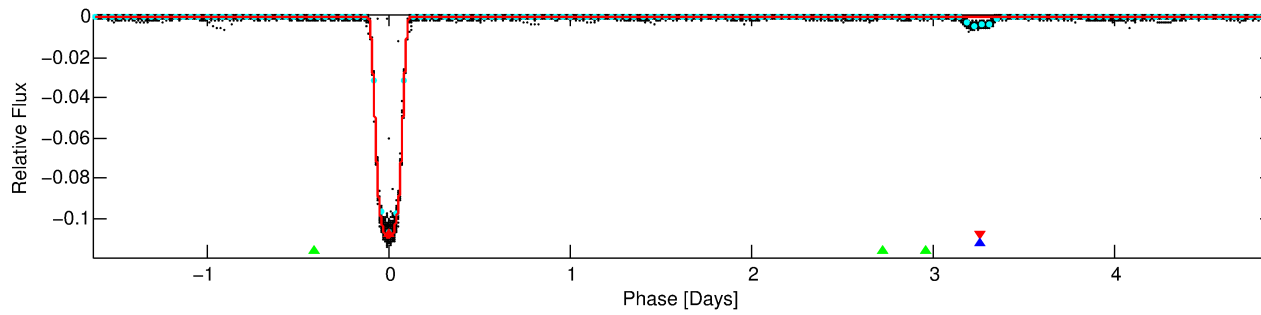
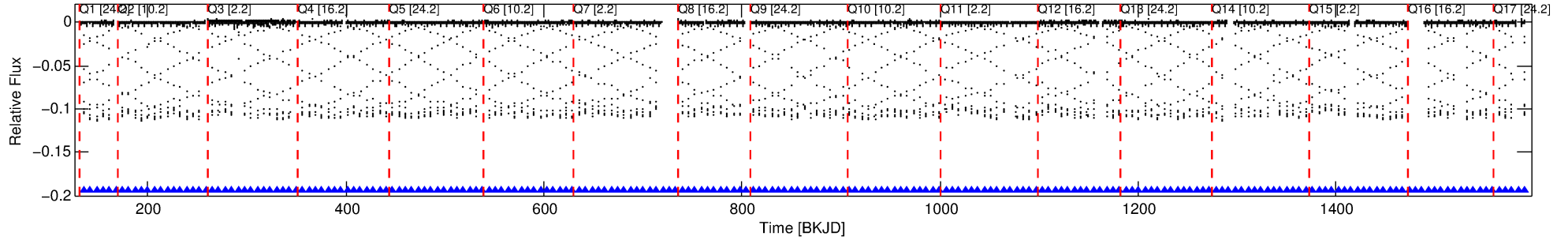
Ephemeris Match Information For 008580438-01

No Significant Match Found

DV One-Page Summary

KIC: 8580438 Candidate: 1 of 3 Period: 6.496 d
KOI: K06058.01 Corr: 0.997

Kp: 14.50 R*: 0.99 Rs Teff: 5516.0 K Logg: 4.36 Fe/H: -0.140



DV Fit Results:

Period = 6.49603 [0.00000] d
Epoch = 135.4688 [0.0000] BKJD
Rp/R* = 0.3008 [0.0001]
a/R* = 12.25 [0.01]
b = 0.16 [0.00]
Seff = 198.47 [77.73]
Teff = 957 [94] K
Rp = 32.43 [9.22] Re
a = 0.0639 [0.0159] AU
Ag = 9.92 [3.70] [2.41σ]
Teffp = 2626 [79] K [13.61σ]

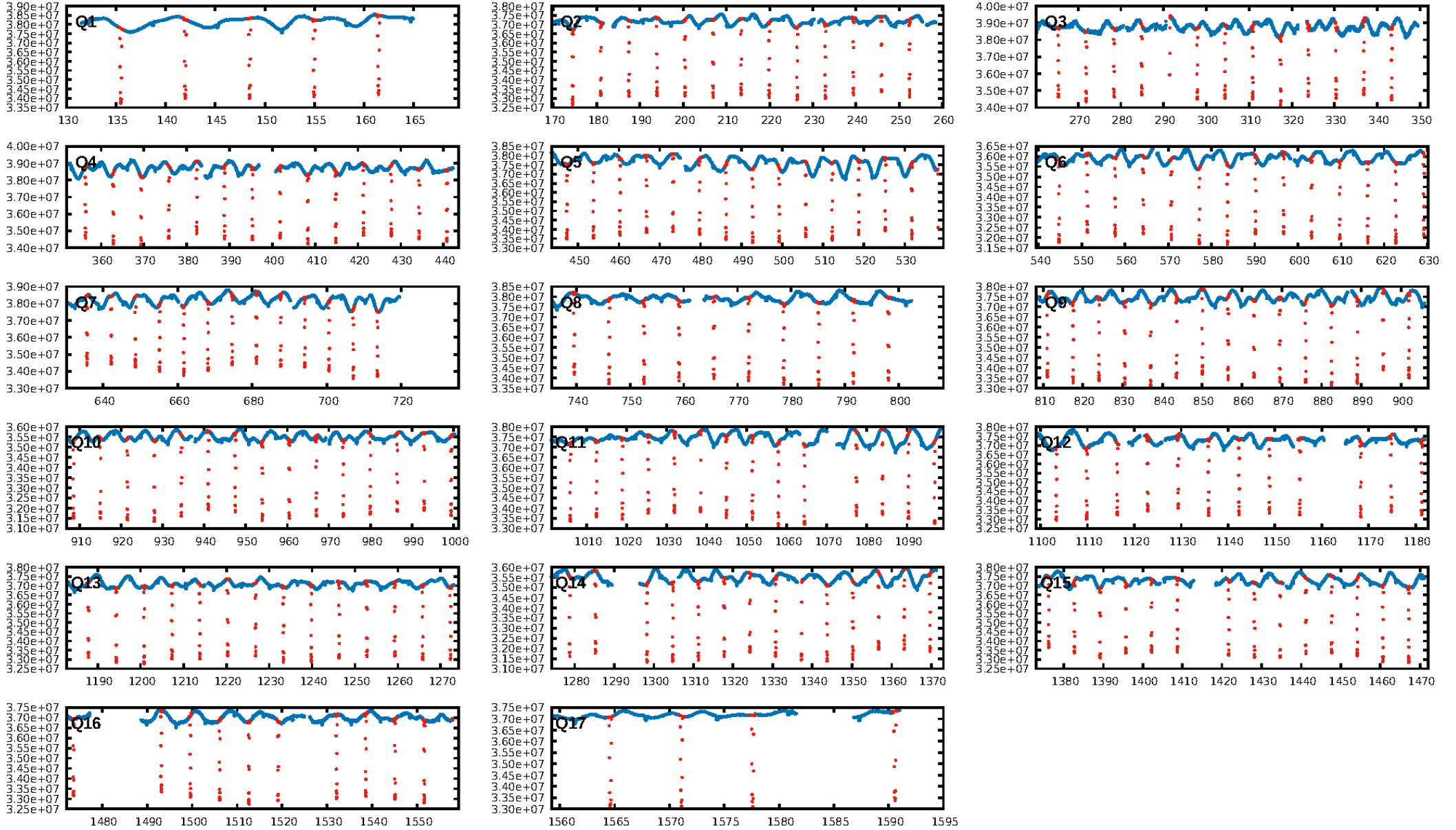
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [540.71σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [199/199]
GhostDiagnostic-chr: 2.11
Centroid-sig: 0.0%
Centroid-so: 0.195 arcsec [163.73σ]
OotOffset-rm: 0.036 arcsec [0.54σ]
KicOffset-rm: 0.052 arcsec [0.77σ]
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]

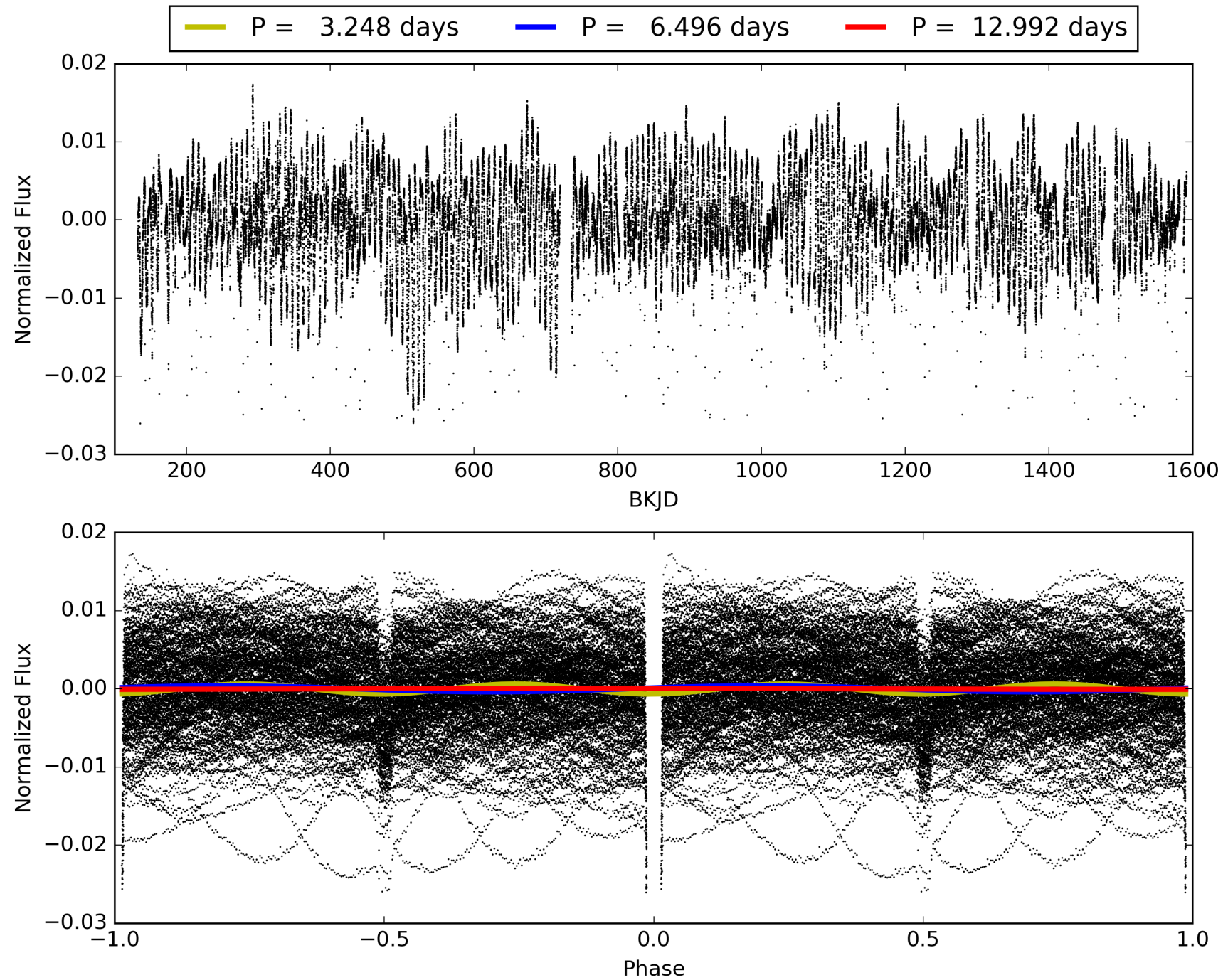
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:29:47 Z

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

TCE 008580438-01, PDC Light Curves

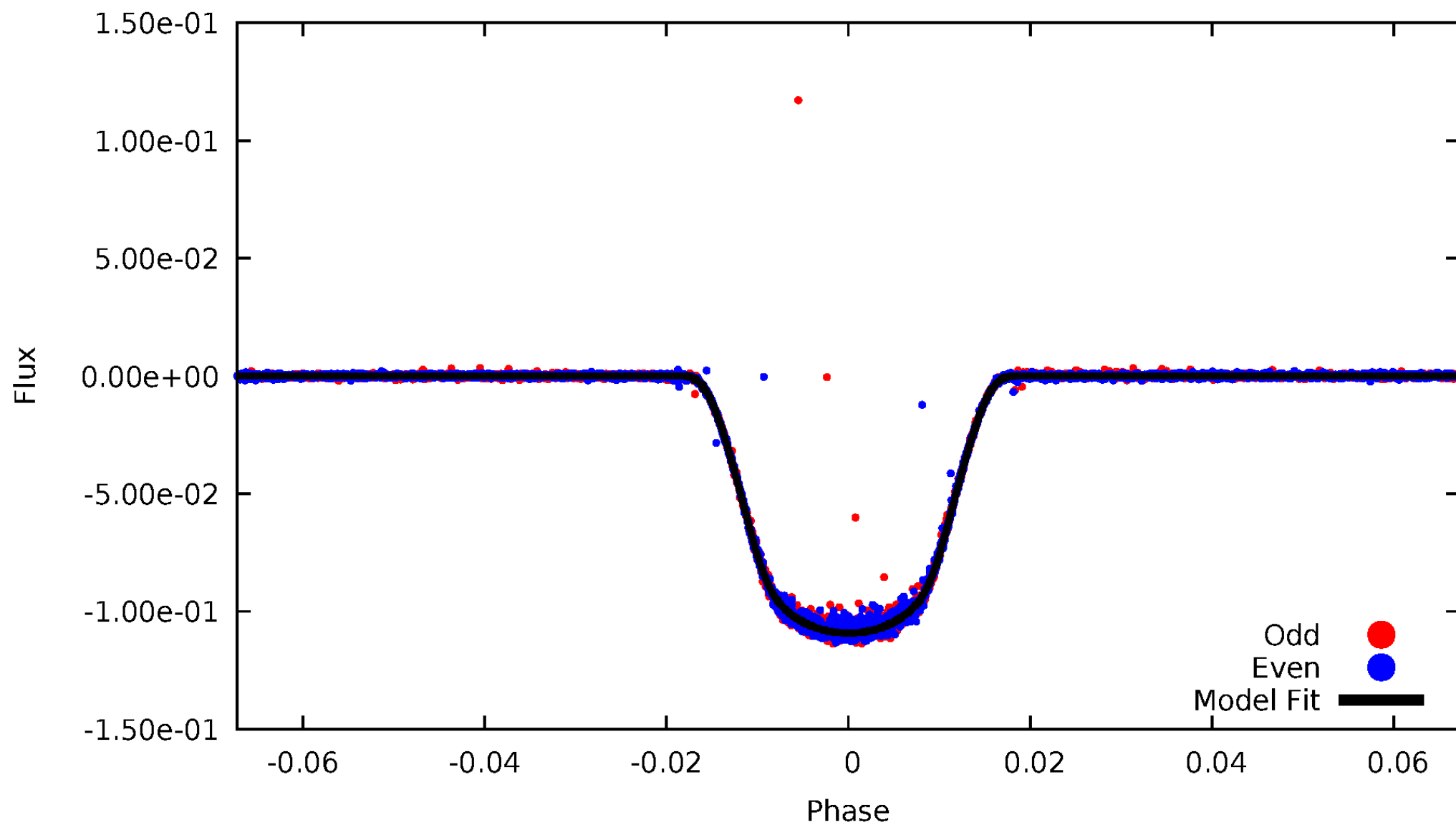


TCE 008580438-01



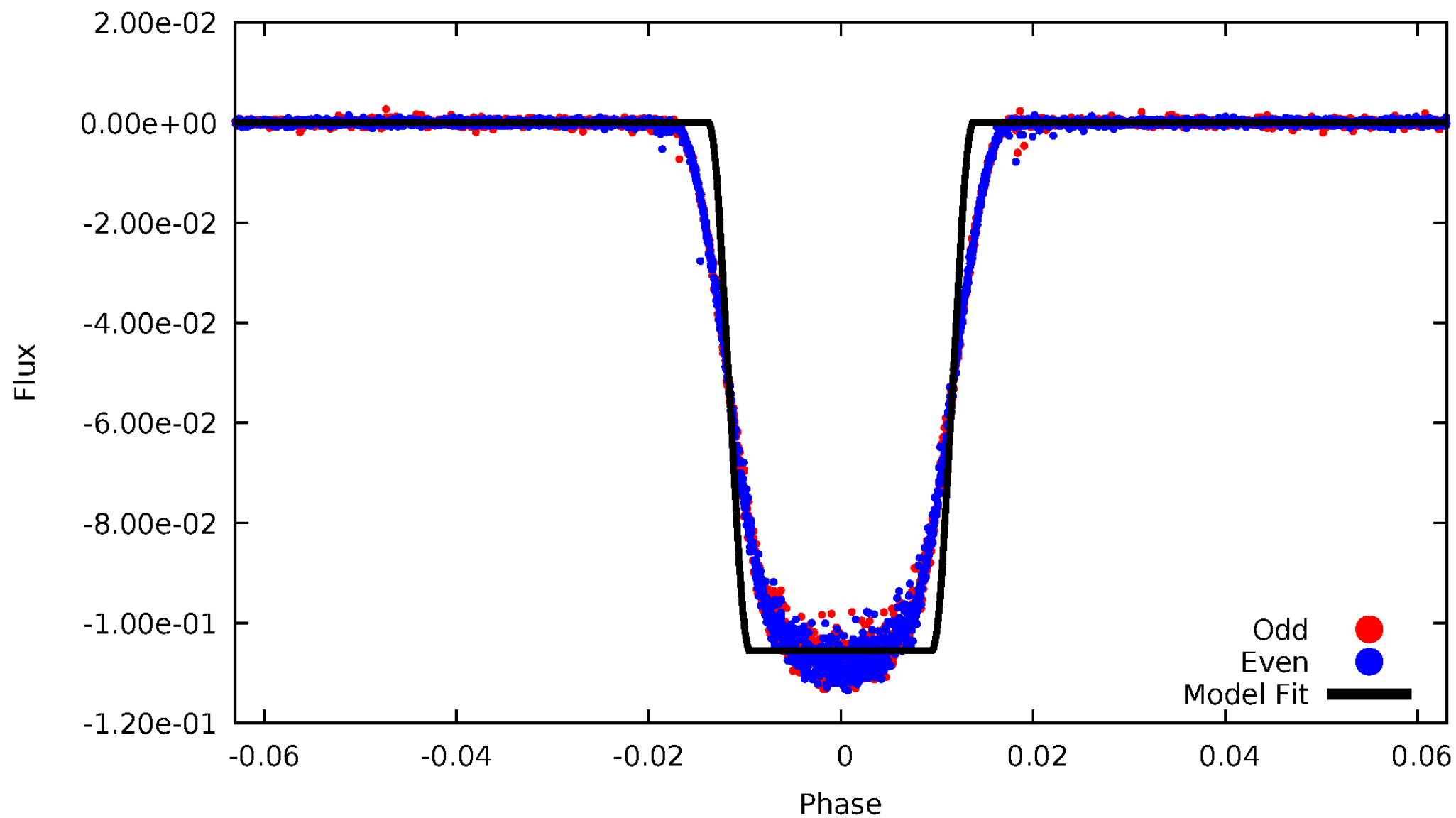
DV Odd/Even

TCE 008580438-01



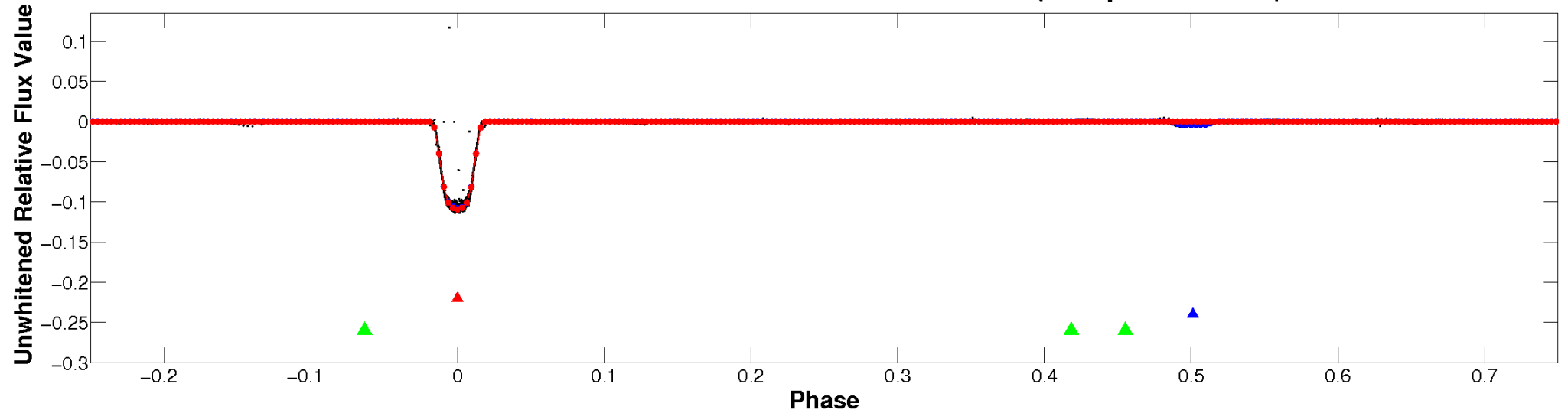
ALT Odd/Even

TCE 008580438-01

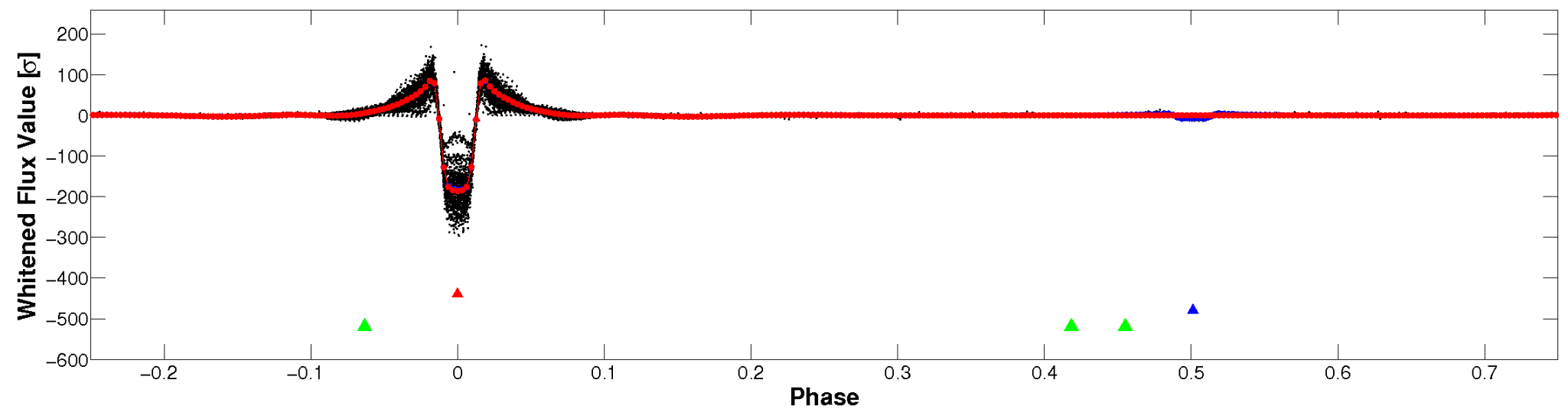


Non-Whitened Vs. Whitened Light Curve

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

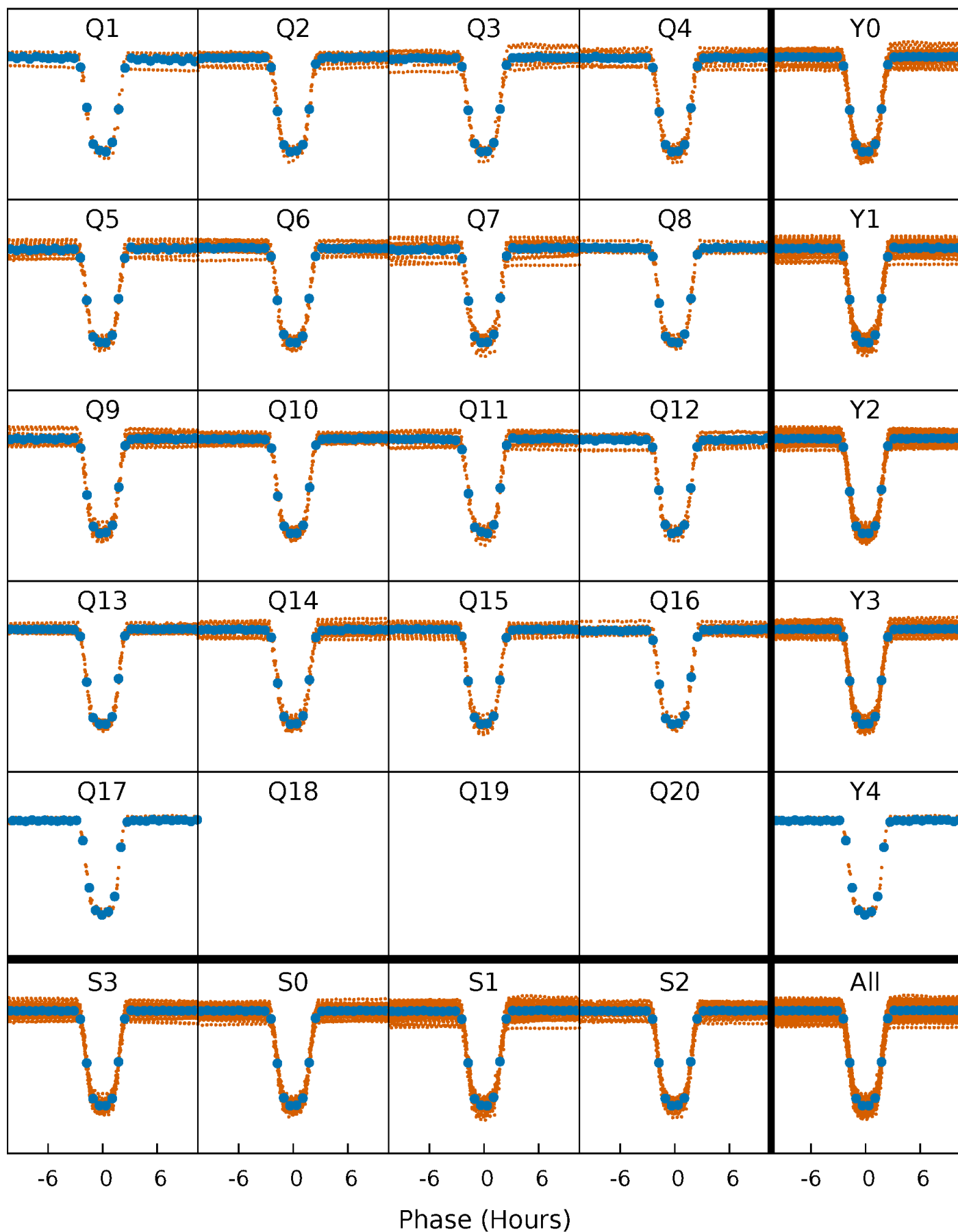


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



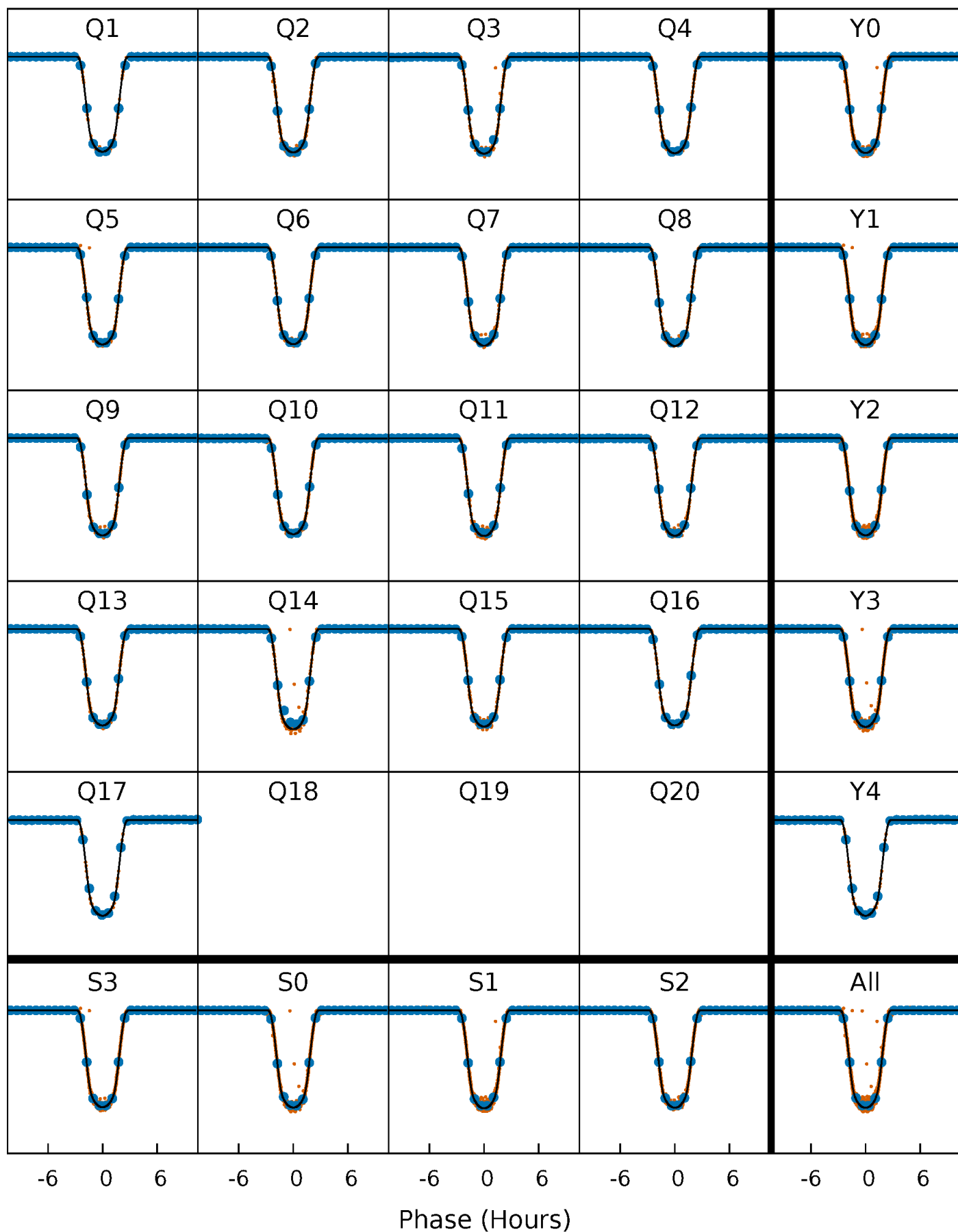
PDC Quarter-Phased Transit Curves

TCE 008580438-01 P= 6.496032 Days $T_0=135.468767$ (BKJD)



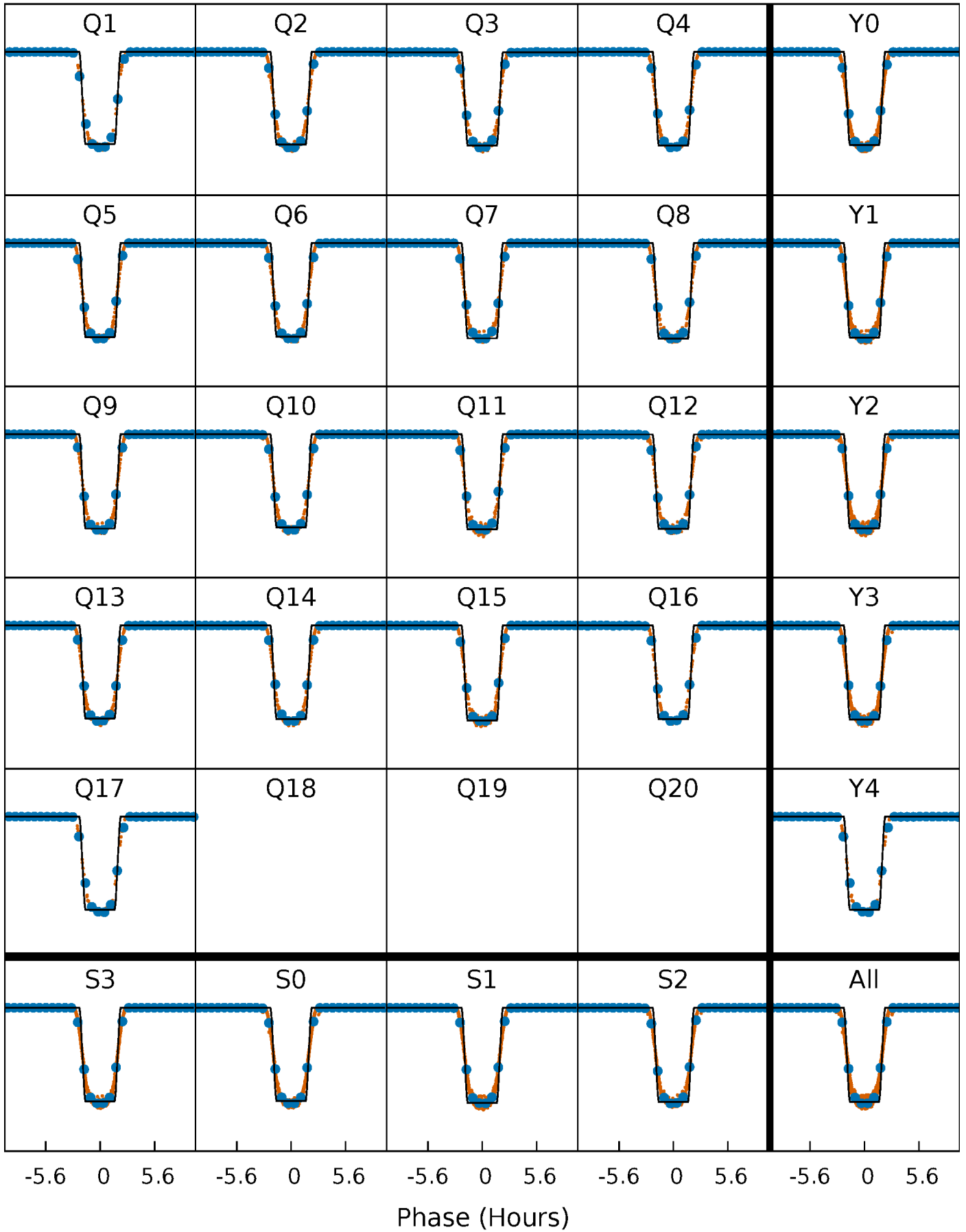
DV Quarter-Phased Transit Curves

TCE 008580438-01 P= 6.496032 Days $T_0=135.468767$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

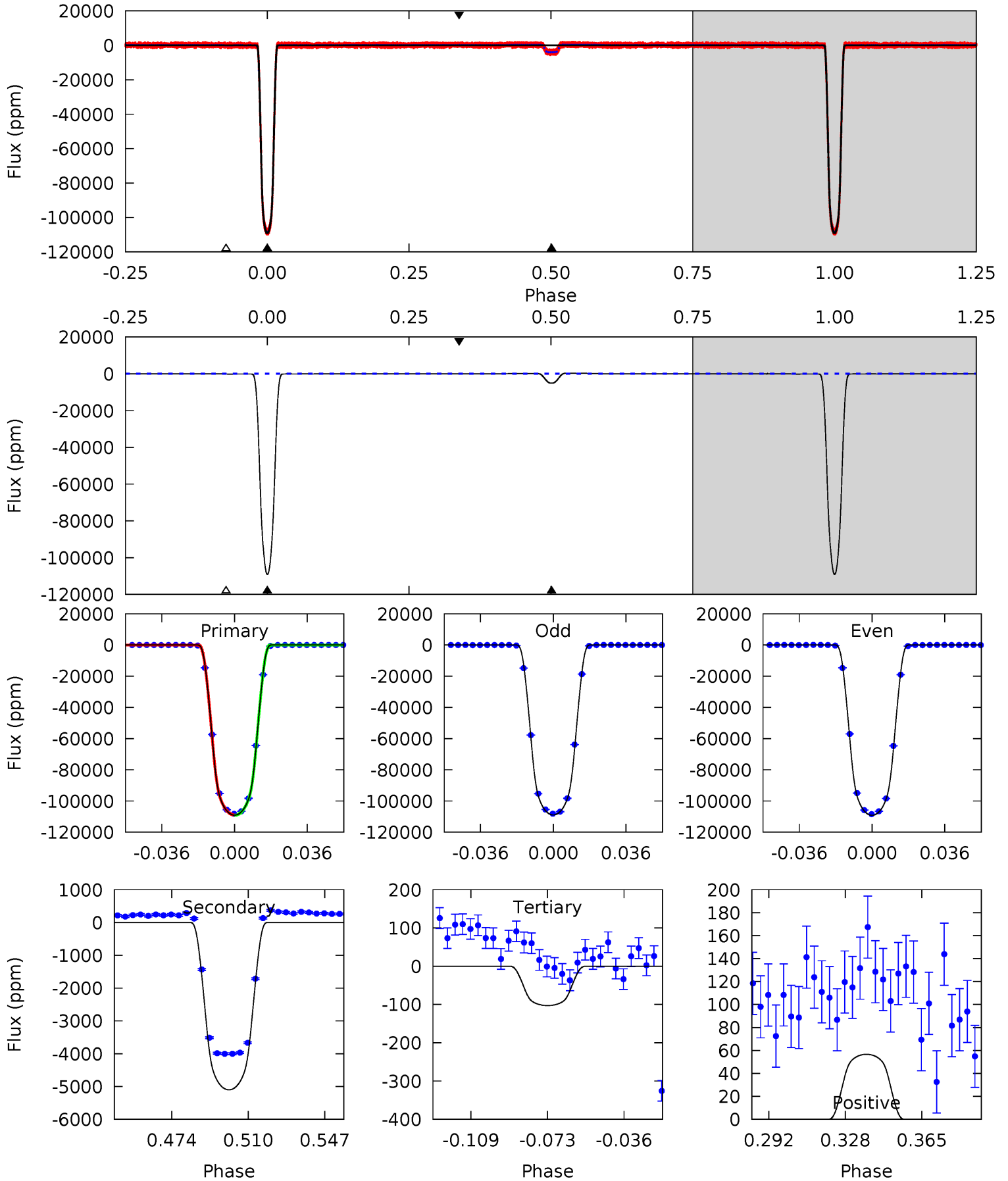
TCE 008580438-01 P= 6.496028 Days $T_0=135.469199$ (BKJD)



DV Model-Shift Uniqueness Test

008580438-01, P = 6.496032 Days, E = 128.972735 Days

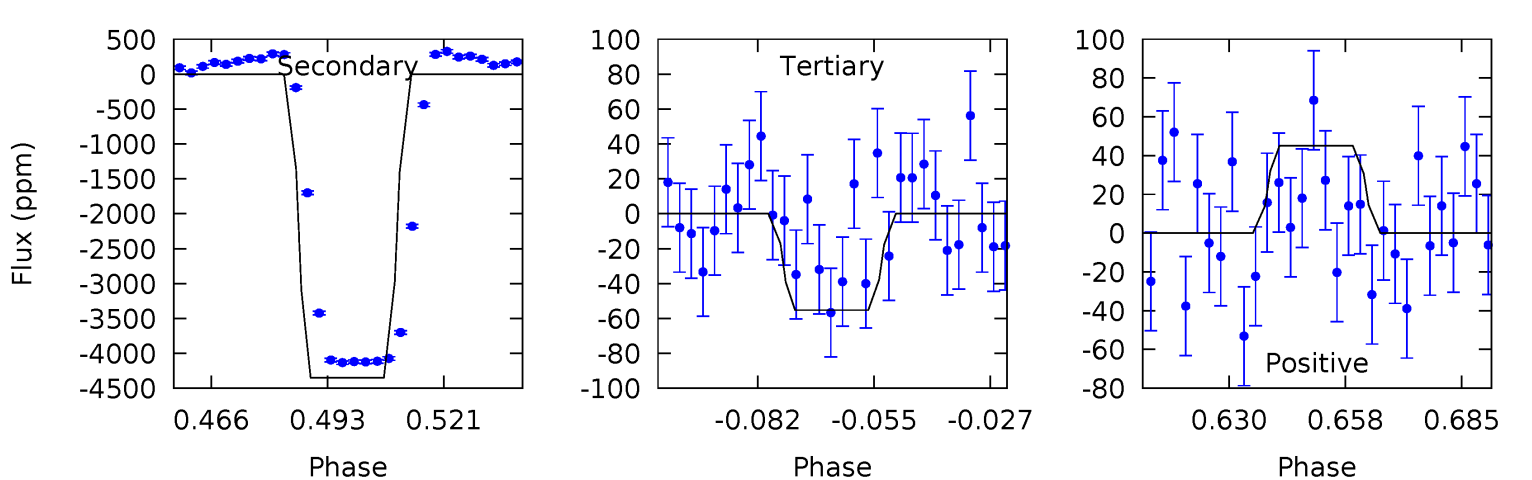
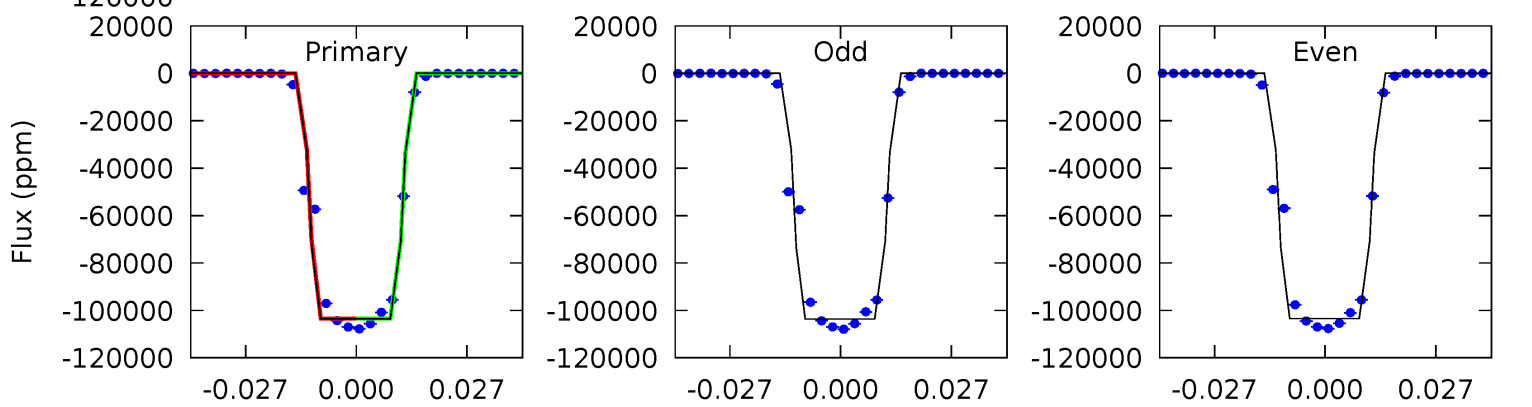
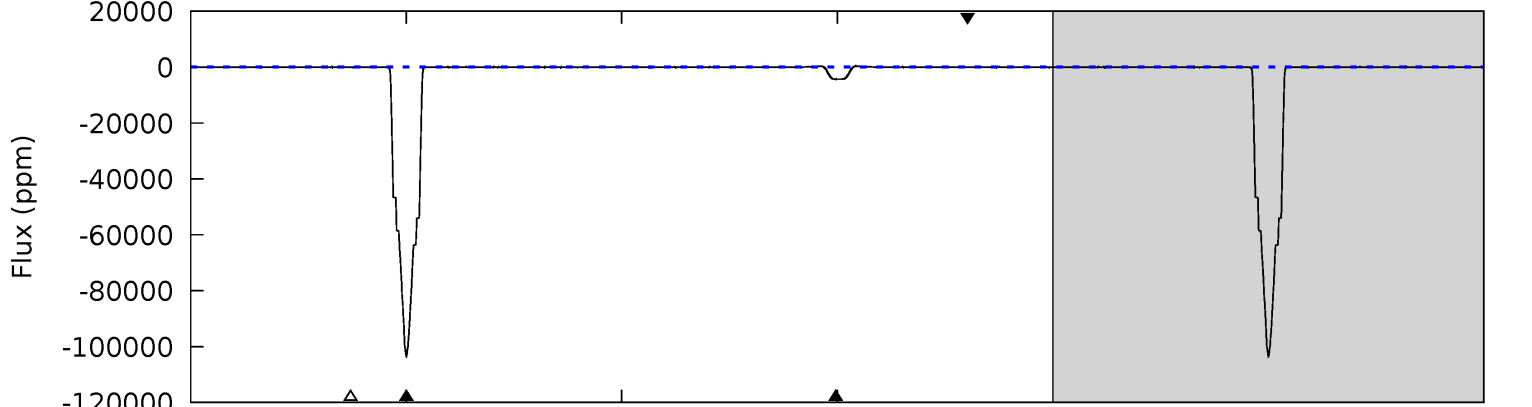
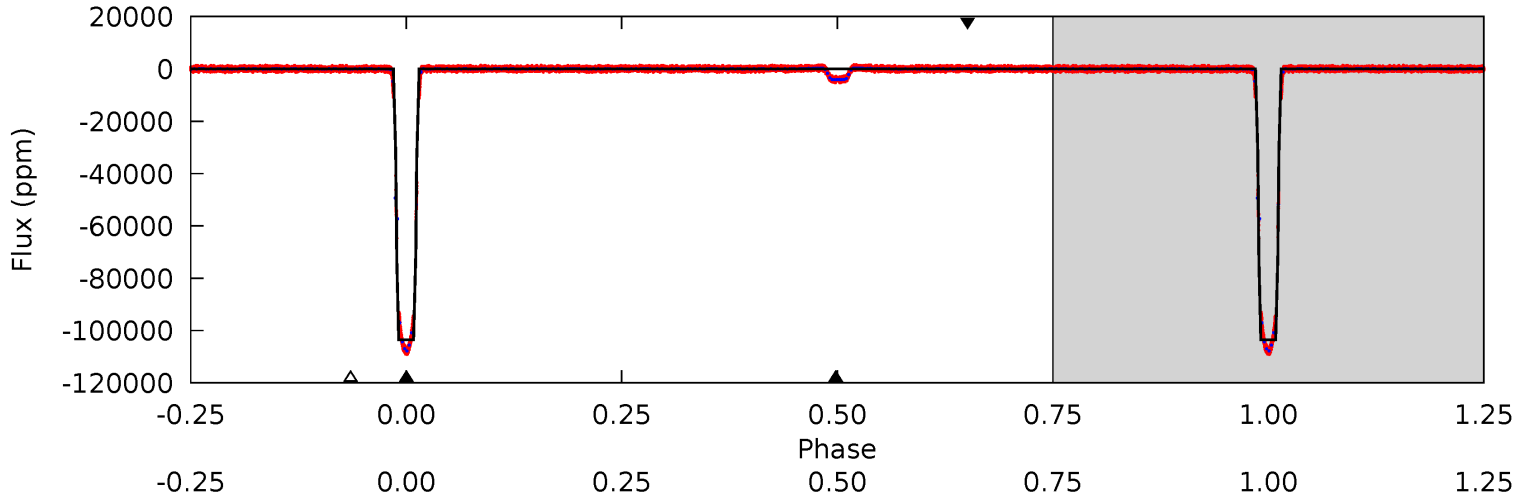
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10358	484.4	9.76	5.38	4.77	2.09	6.77	10348	10353	474.6	479.0	10.2	0.99	0.00	0



Alt Model-Shift Uniqueness Test

008580438-01, P = 6.496028 Days, E = 128.973171 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7226	303.5	3.85	3.14	4.83	2.21	2.22	7222	7223	299.6	300.3	4.92	1.00	0.00	0



Stellar Parameters For KIC 008580438

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5516^{+166}_{-149}	$4.364^{+0.171}_{-0.209}$	$-0.140^{+0.300}_{-0.300}$	$0.988^{+0.281}_{-0.187}$	$0.825^{+0.120}_{-0.065}$	$1.203^{+0.962}_{-0.608}$
	+3%/-3%	+4%/-5%	+214%/-214%	+28%/-19%	+15%/-8%	+80%/-51%
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 008580438-01 / KOI 6058.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-5101 ± 11	$32.81^{+5.14}_{-3.70}$	1346^{+100}_{-89}	3239^{+67}_{-62}	11^{+3}_{-3}
Alt.	-4349 ± 14	$35.41^{+6.00}_{-4.13}$	1348^{+108}_{-91}	3091^{+55}_{-58}	$7.870^{+2.250}_{-2.023}$

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 $A_{obs} \gg 1.0$

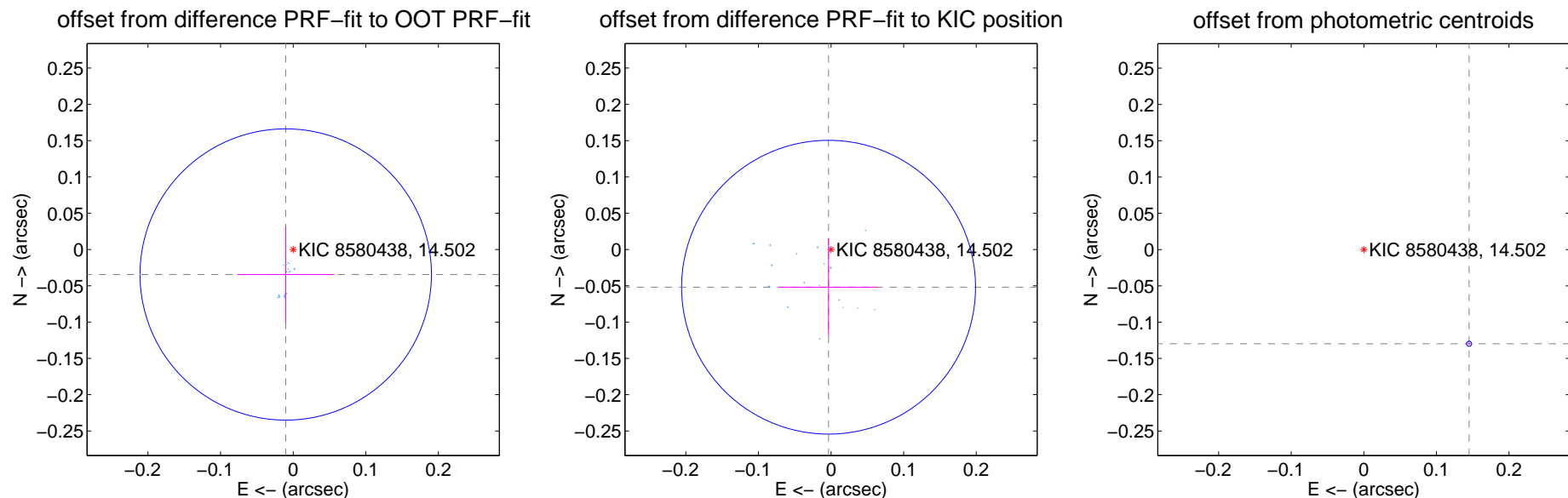
DV Centroid Data

Supplemental centroid analysis for 008580438-01. Kepler magnitude: 14.50. Transit SNR 5076.72

There are 17 quarters with good PRF difference image offsets

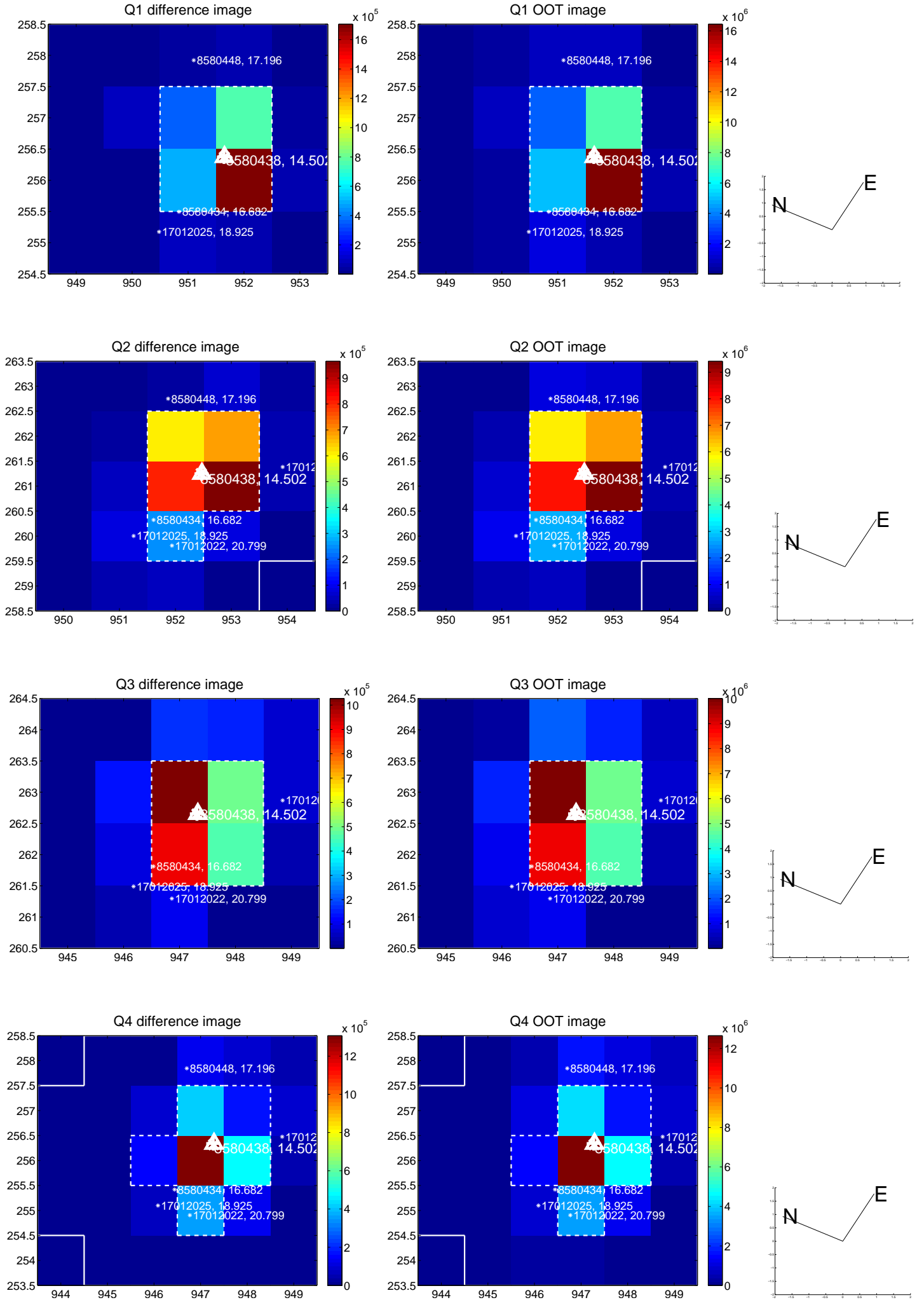
The direct PRF centroid is offset from the target star catalog position by about 0.00 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.036 ± 0.067	0.54	0.010 ± 0.067	-0.034 ± 0.067
PRF-fit source offset from KIC position	0.052 ± 0.067	0.77	0.003 ± 0.068	-0.052 ± 0.067
photometric centroid source offset	0.19 ± 0.00	163.73	-0.14 ± 0.00	-0.13 ± 0.00

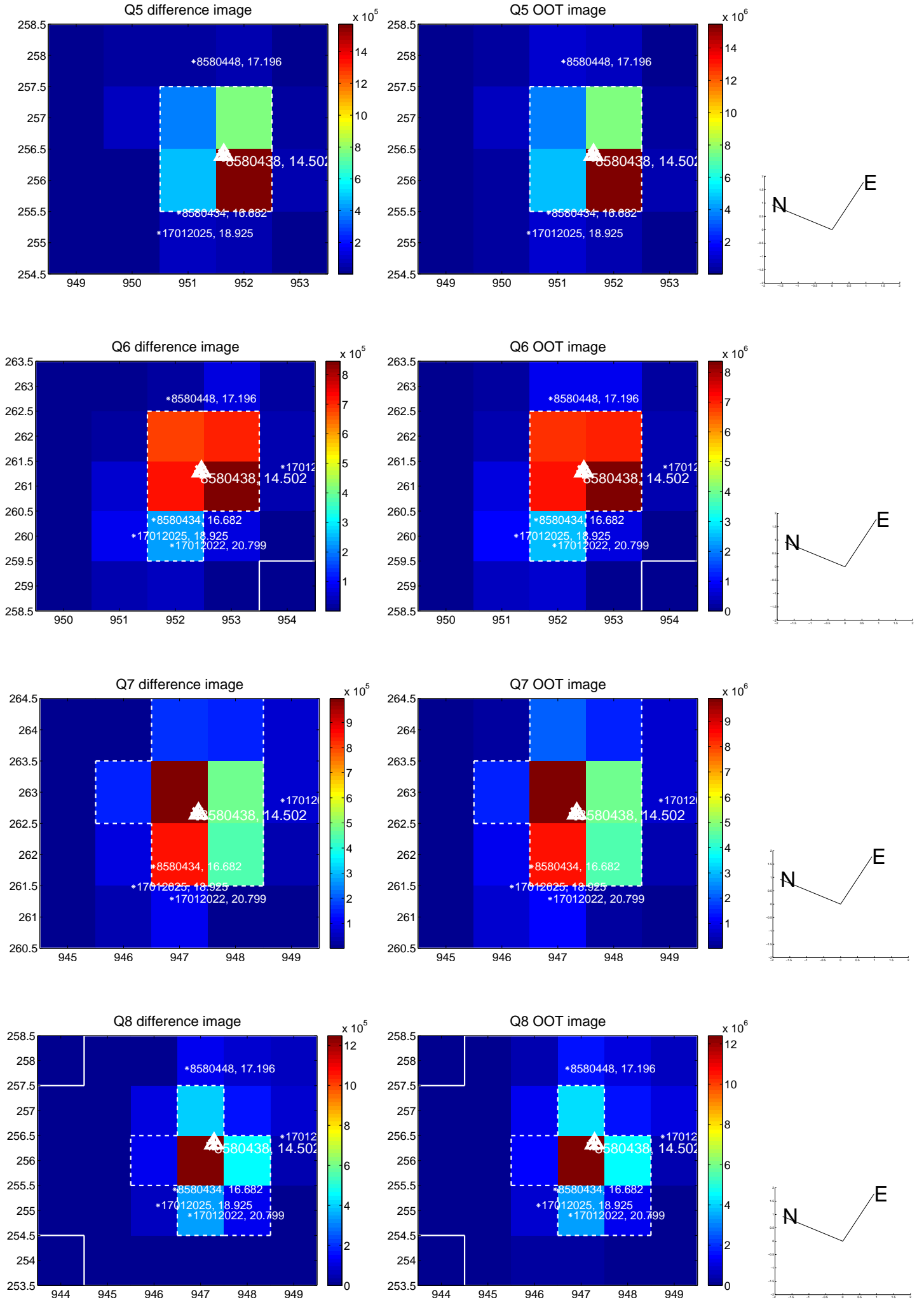


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

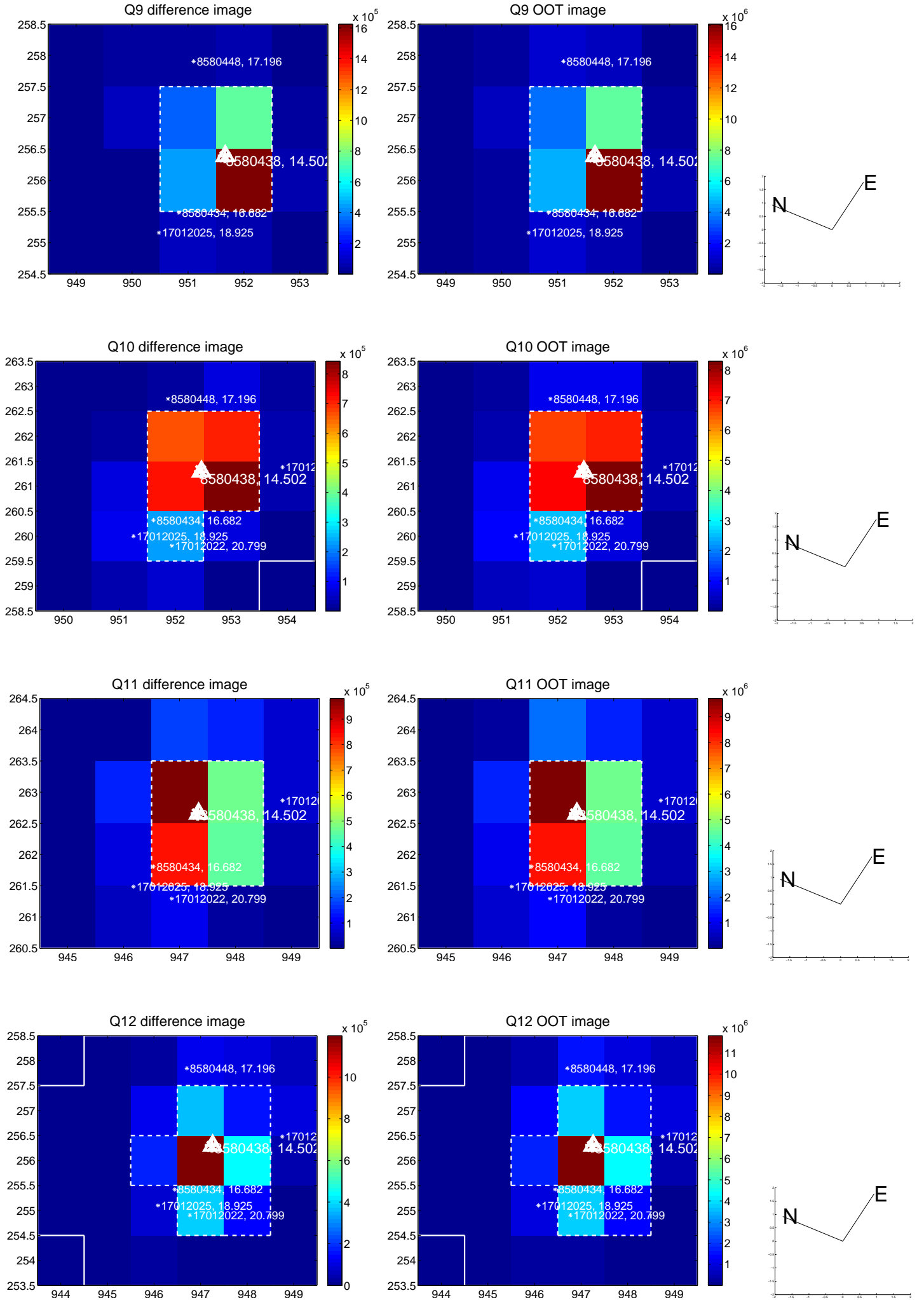
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



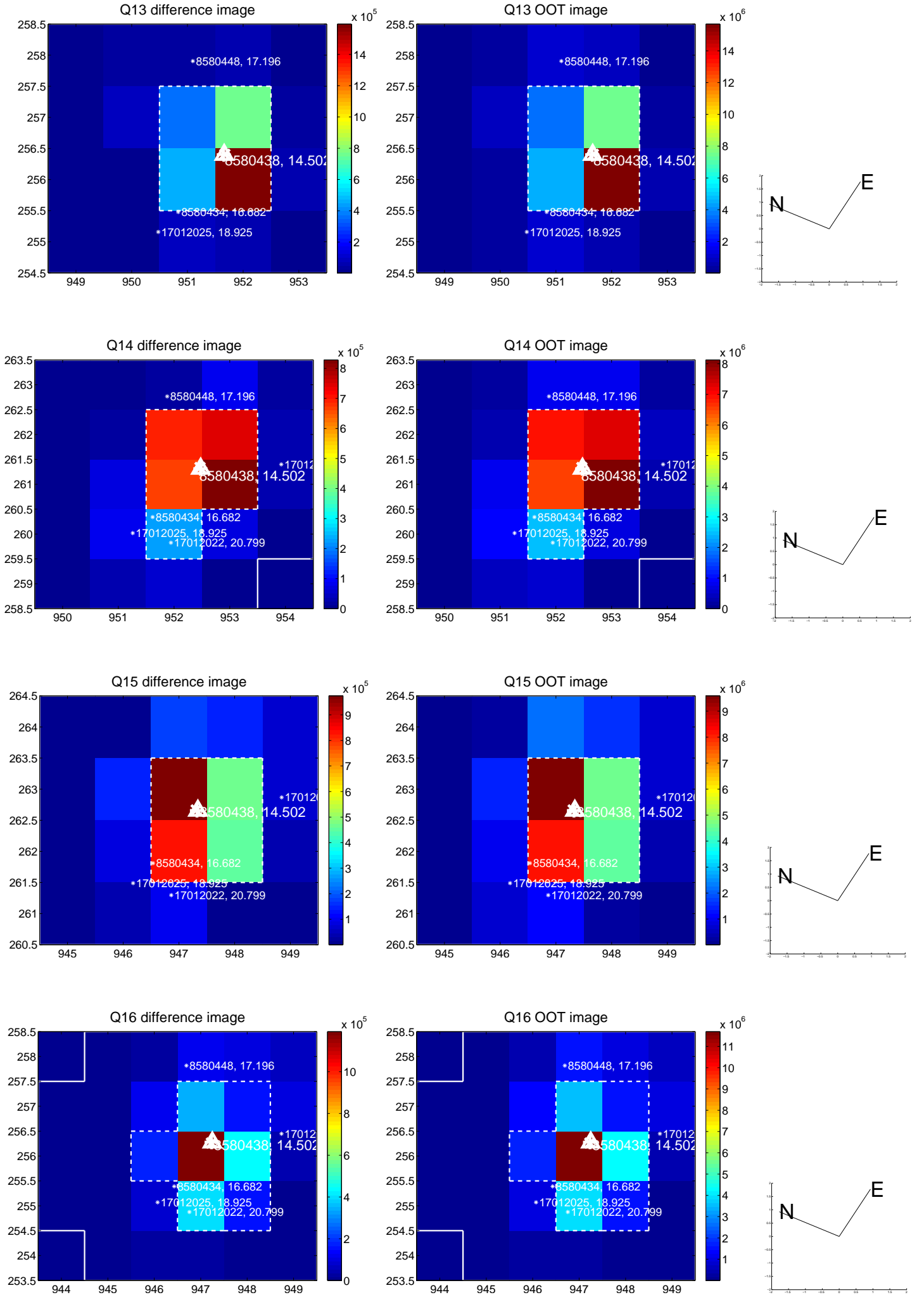
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



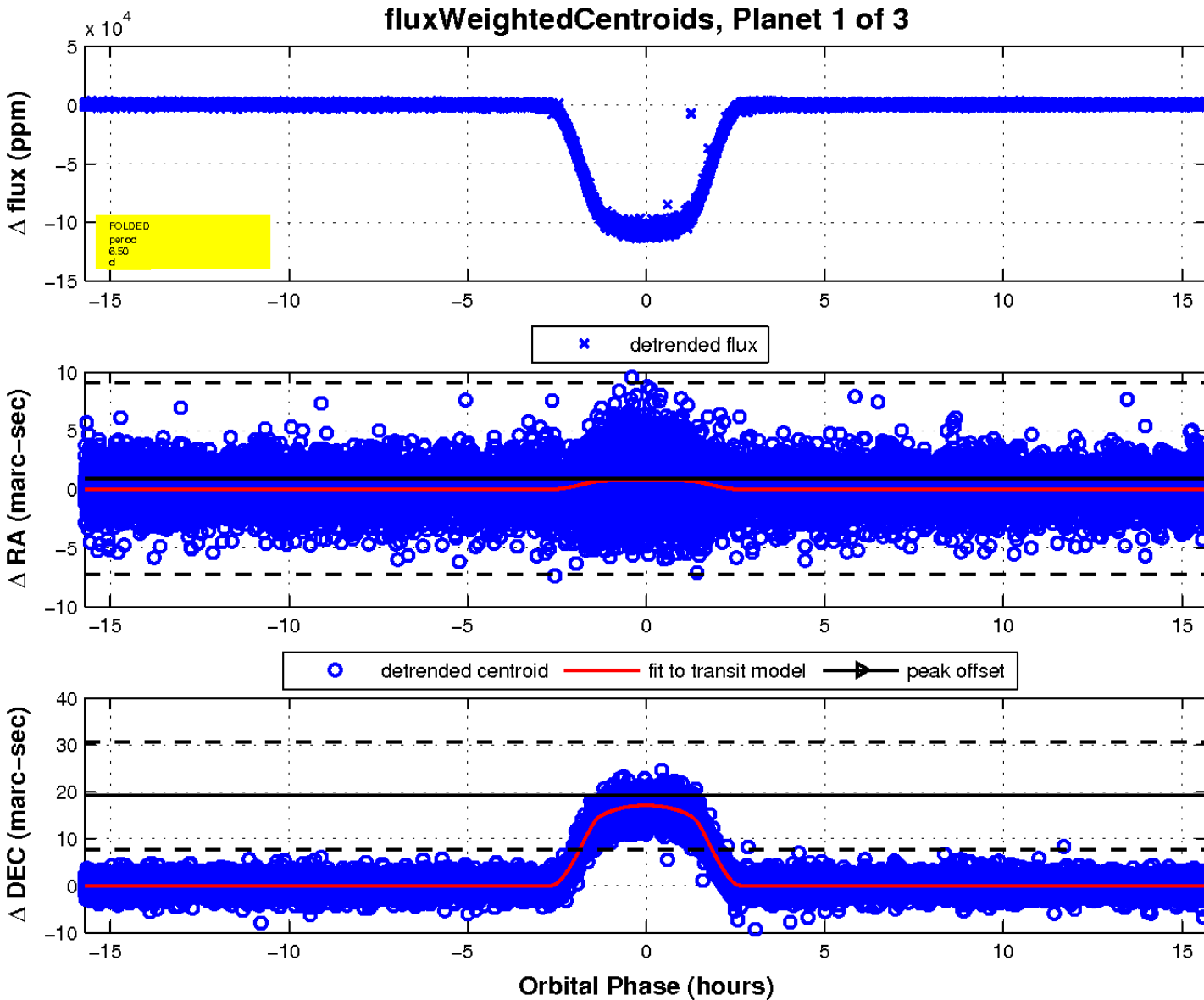
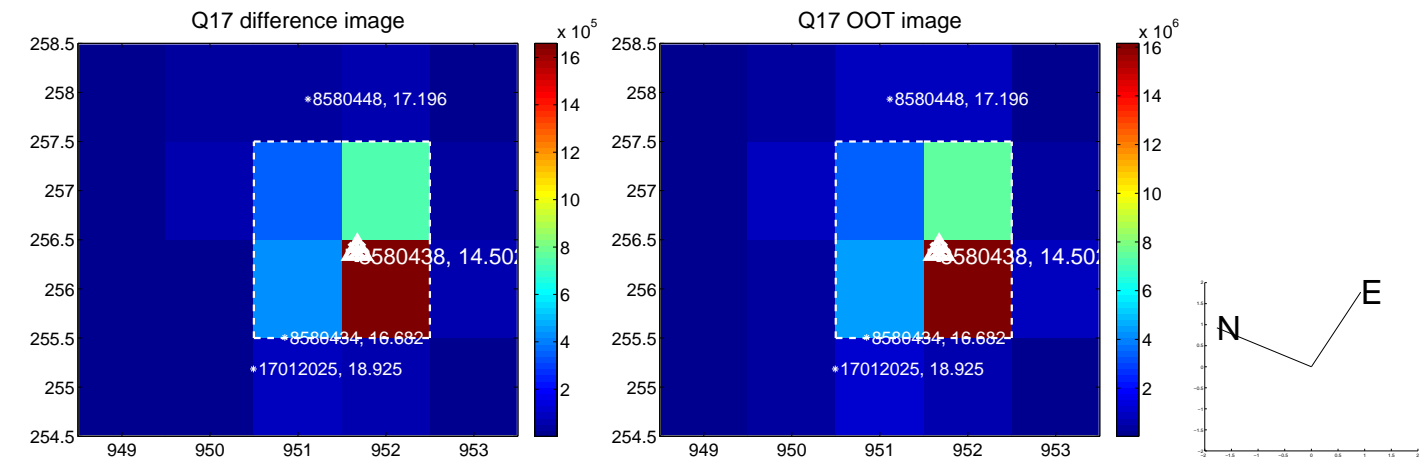
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

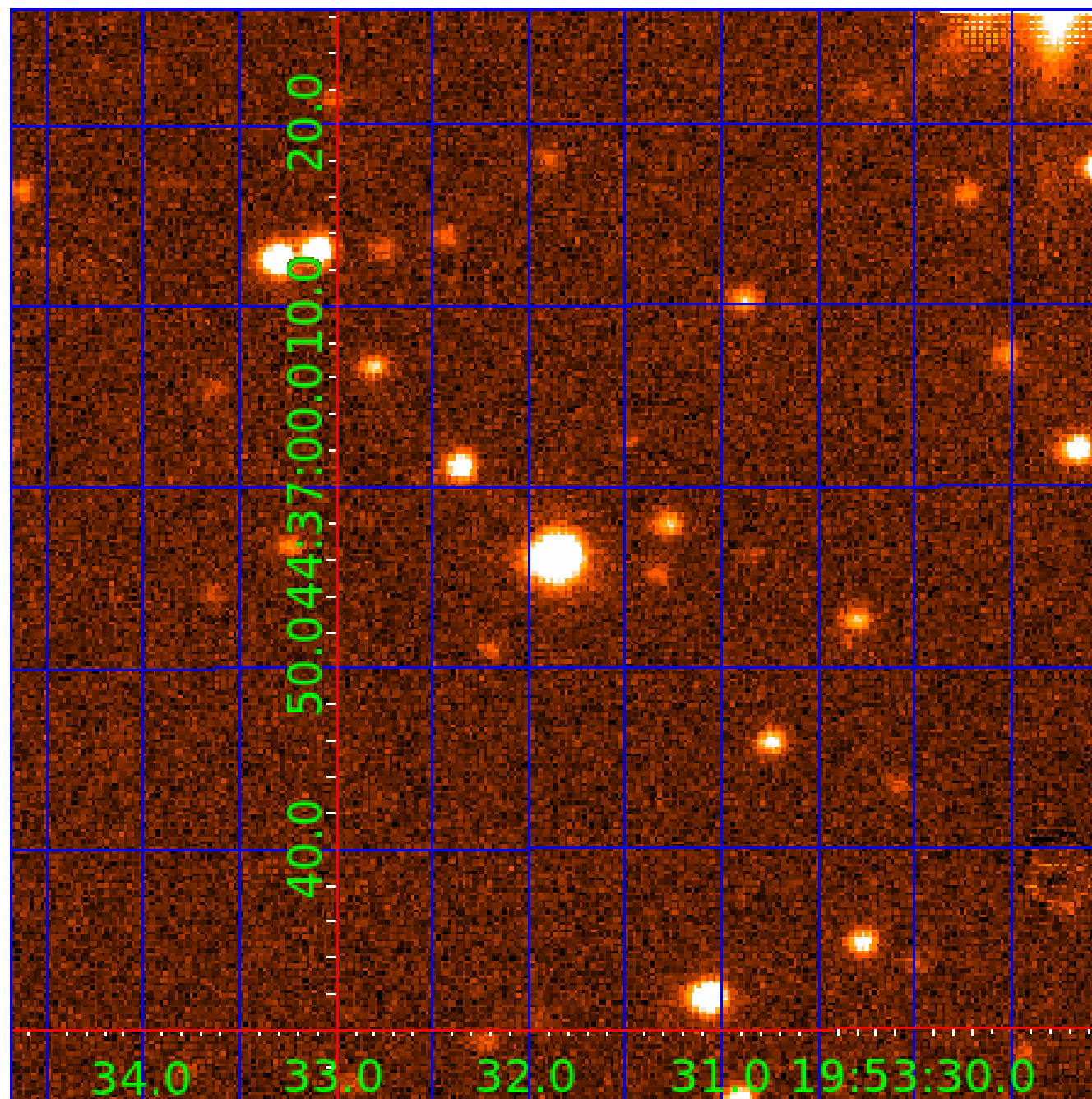


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008580438

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})
008580438-01	OBS	6058.01	6.496032	135.468767	109234.2	5.241	7242.7	5076.7	0.99	5516	32.43	198.47
008580438-02	OBS	No	6.496032	132.228807	4646.8	5.062	326.8	326.0	0.99	5516	7.65	198.47
008580438-03	OBS	No	412.617459	424.011655	1376.1	17.248	18.3	5.1	0.99	5516	7.14	0.78

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008580438-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
008580438-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
008580438-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—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.

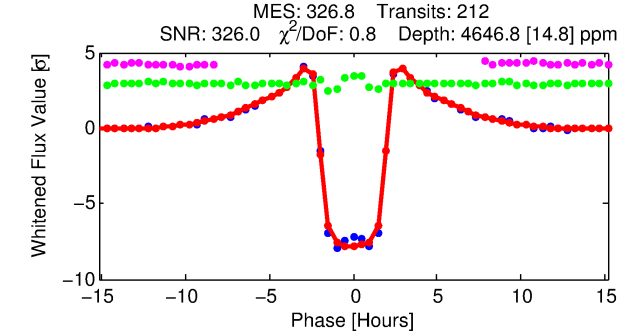
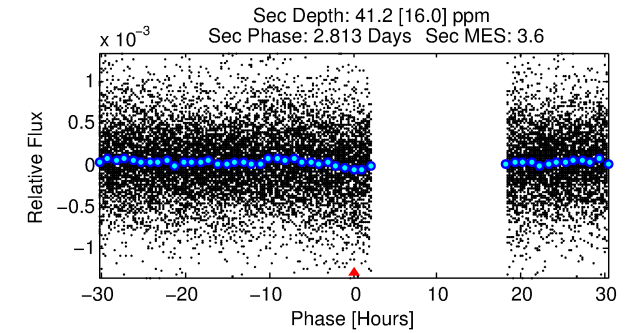
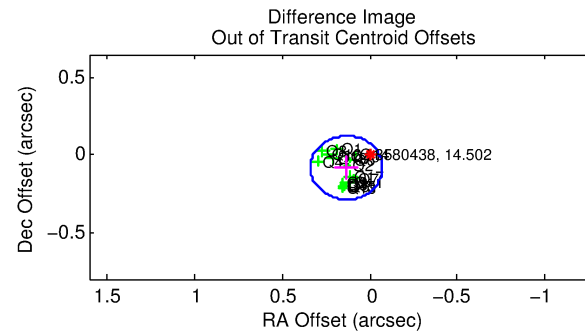
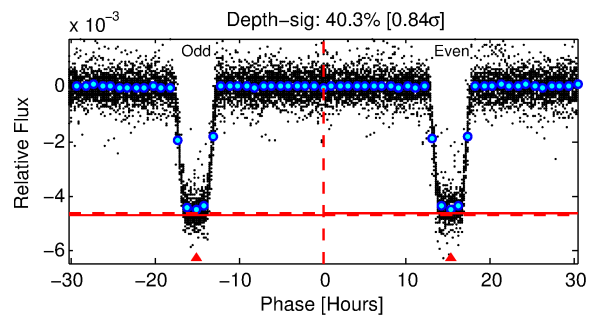
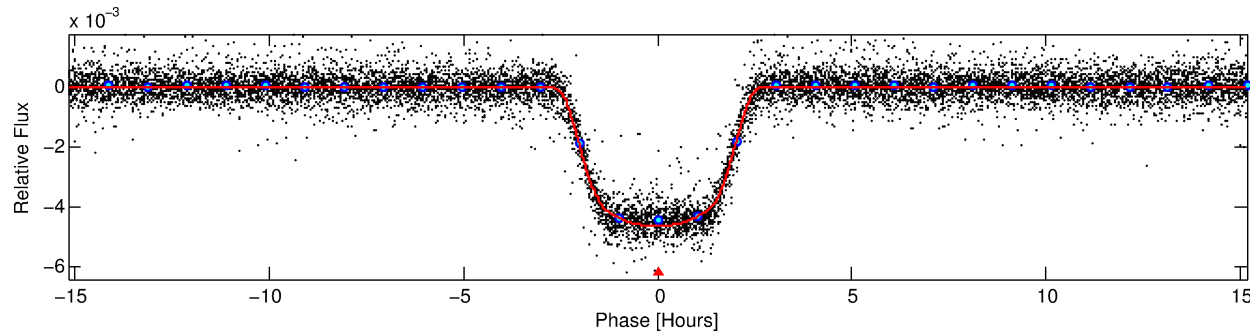
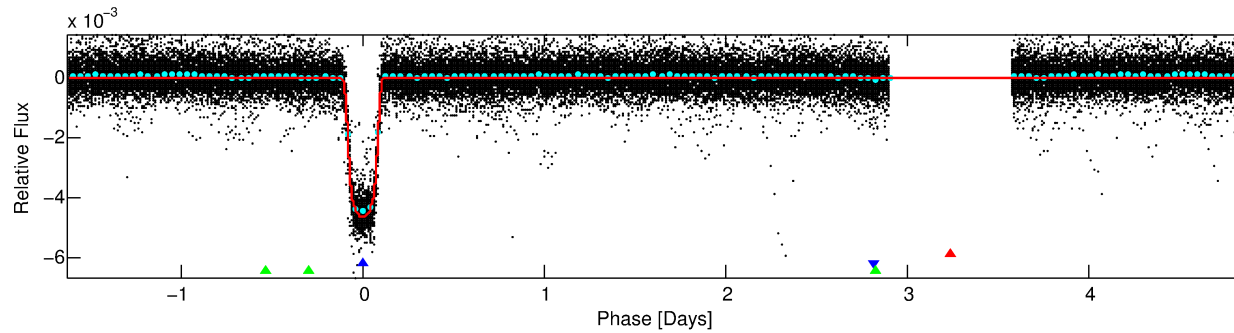
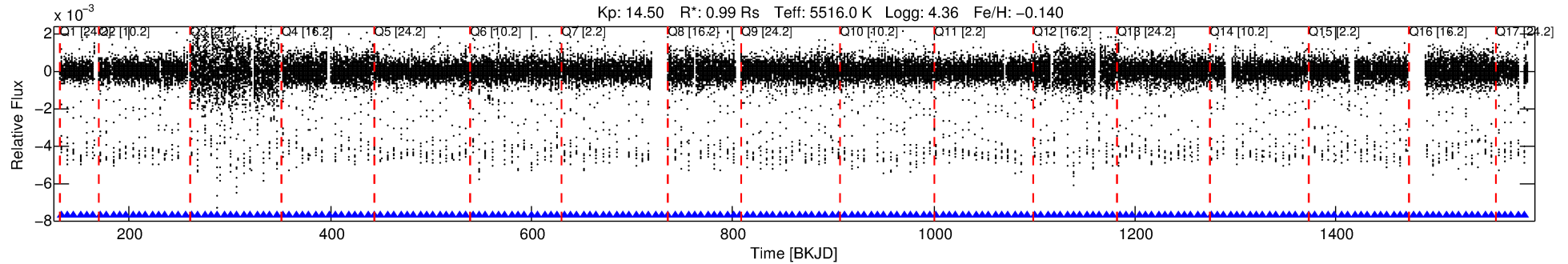
Ephemeris Match Information For 008580438-02

No Significant Match Found

DV One-Page Summary

KIC: 8580438 Candidate: 2 of 3 Period: 6.496 d
KOI: K06058 Corr: No Ephemeris Match

Kp: 14.50 R*: 0.99 Rs Teff: 5516.0 K Logg: 4.36 Fe/H: -0.140



DV Fit Results:

Period = 6.49603 [0.00000] d
Epoch = 132.2288 [0.0002] BKJD
Rp/R* = 0.0710 [0.0002]
a/R* = 6.66 [0.06]
b = 0.83 [0.00]
Seff = 198.47 [77.73]
Teff = 957 [94] K
Rp = 7.65 [2.18] Re
a = 0.0639 [0.0159] AU
Ag = 1.58 [0.85] [0.68σ]
Teffp = 1659 [169] K [3.64σ]

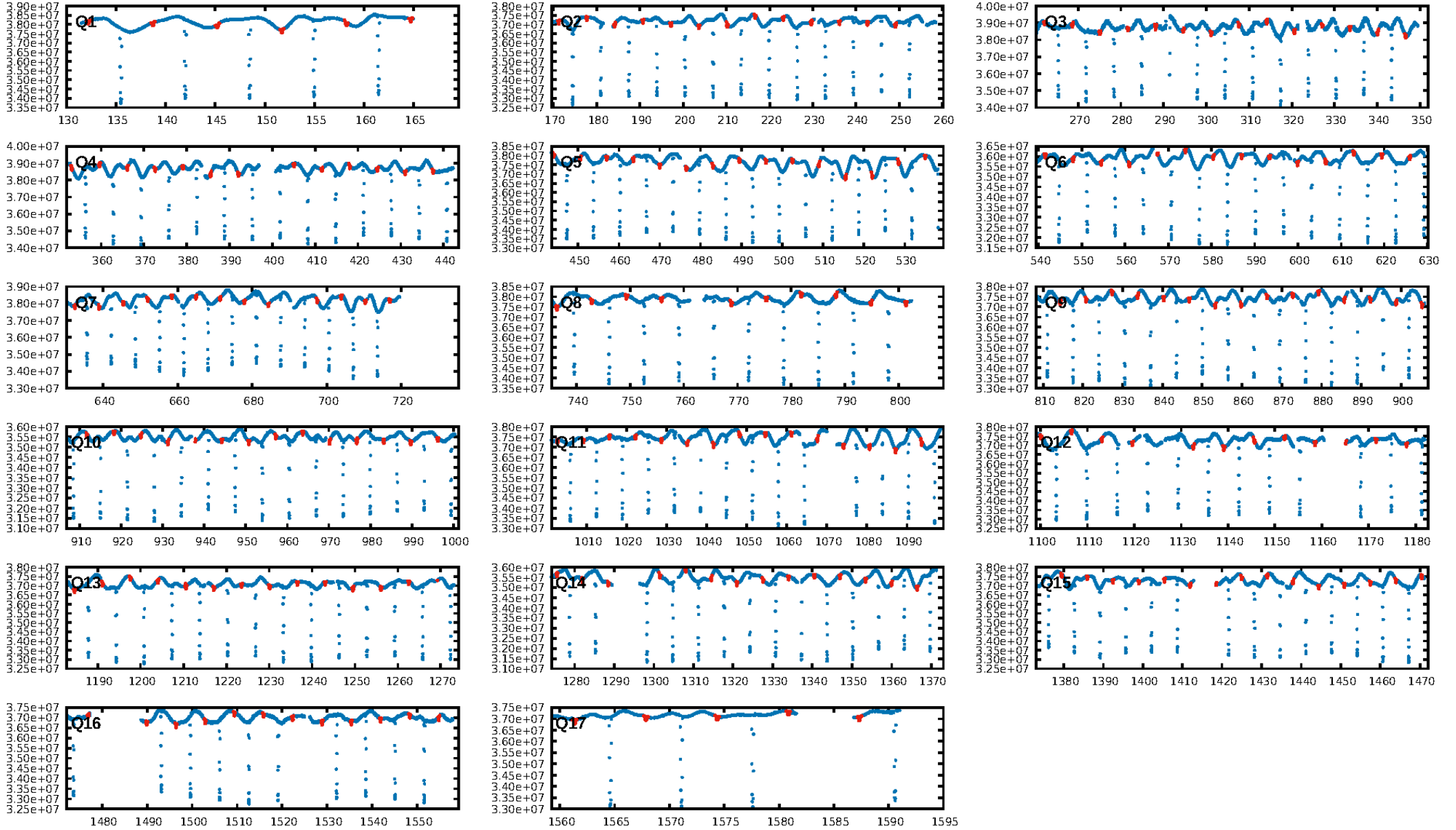
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [201/201]
GhostDiagnostic-chr: 2.239
Centroid-sig: 0.0%
Centroid-so: 0.138 arcsec [5.26σ]
OotOffset-rm: 0.158 arcsec [2.30σ]
KicOffset-rm: 0.165 arcsec [2.37σ]
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]

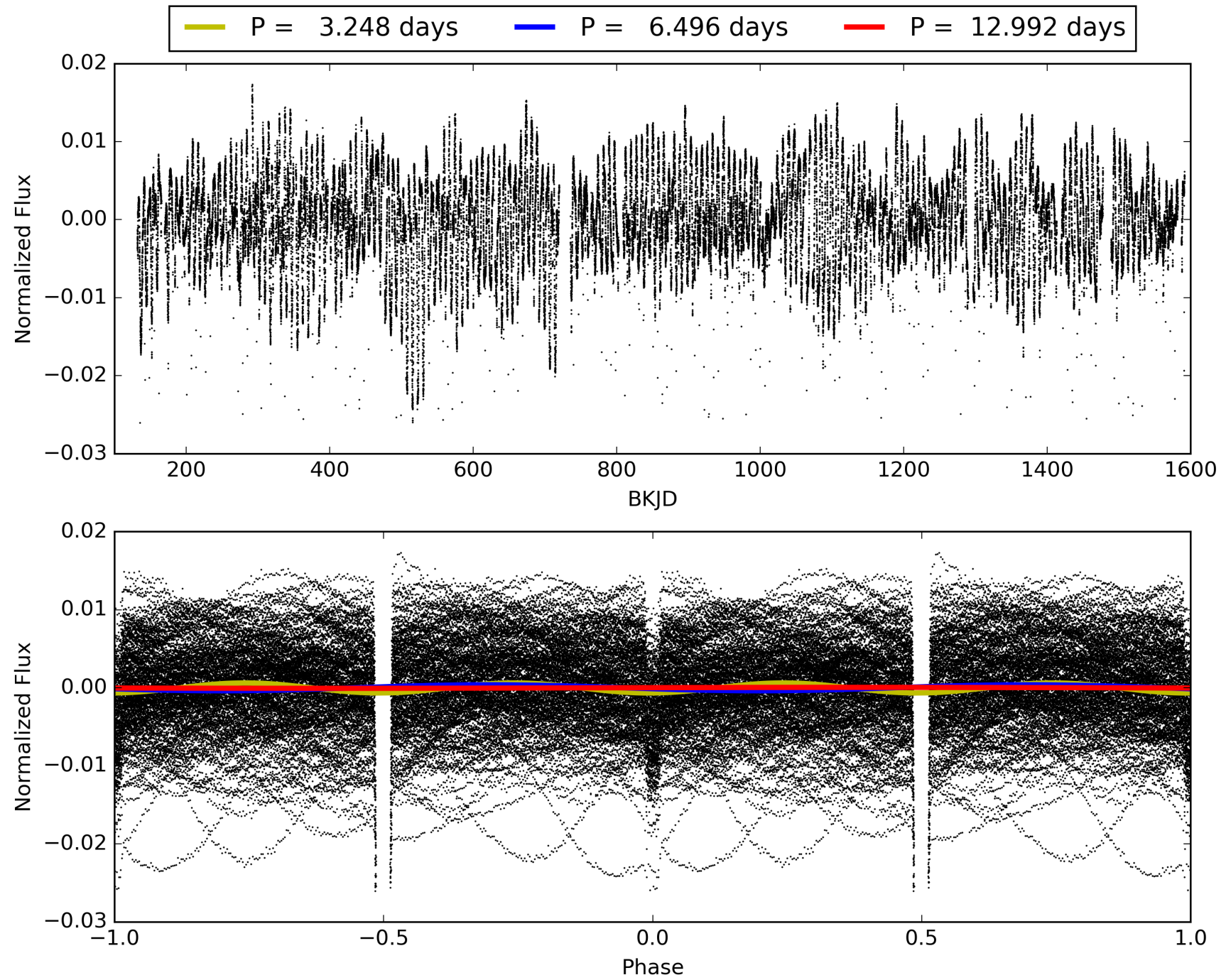
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:29:53 Z

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

TCE 00580438-02, PDC Light Curves

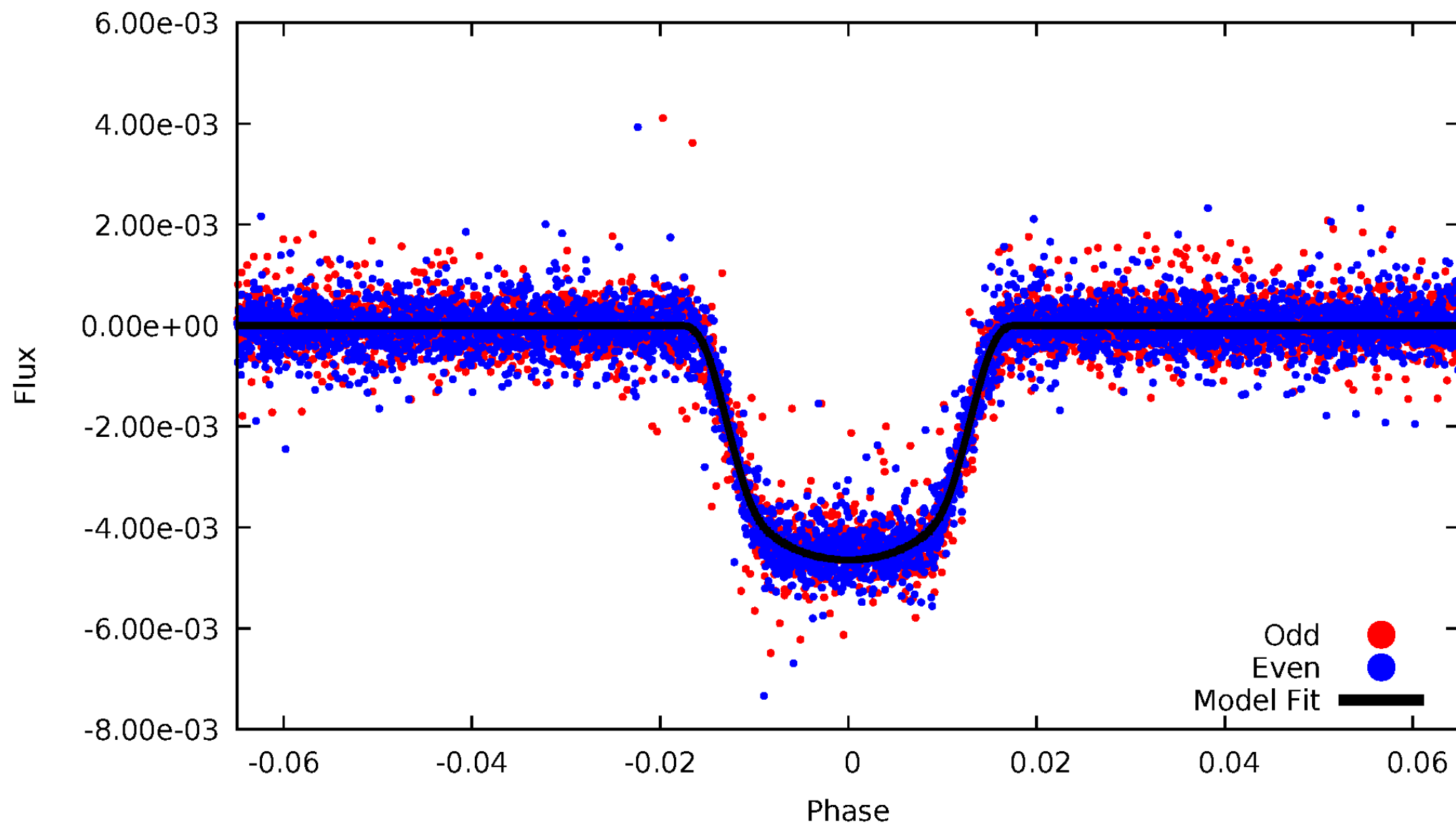


TCE 008580438-02



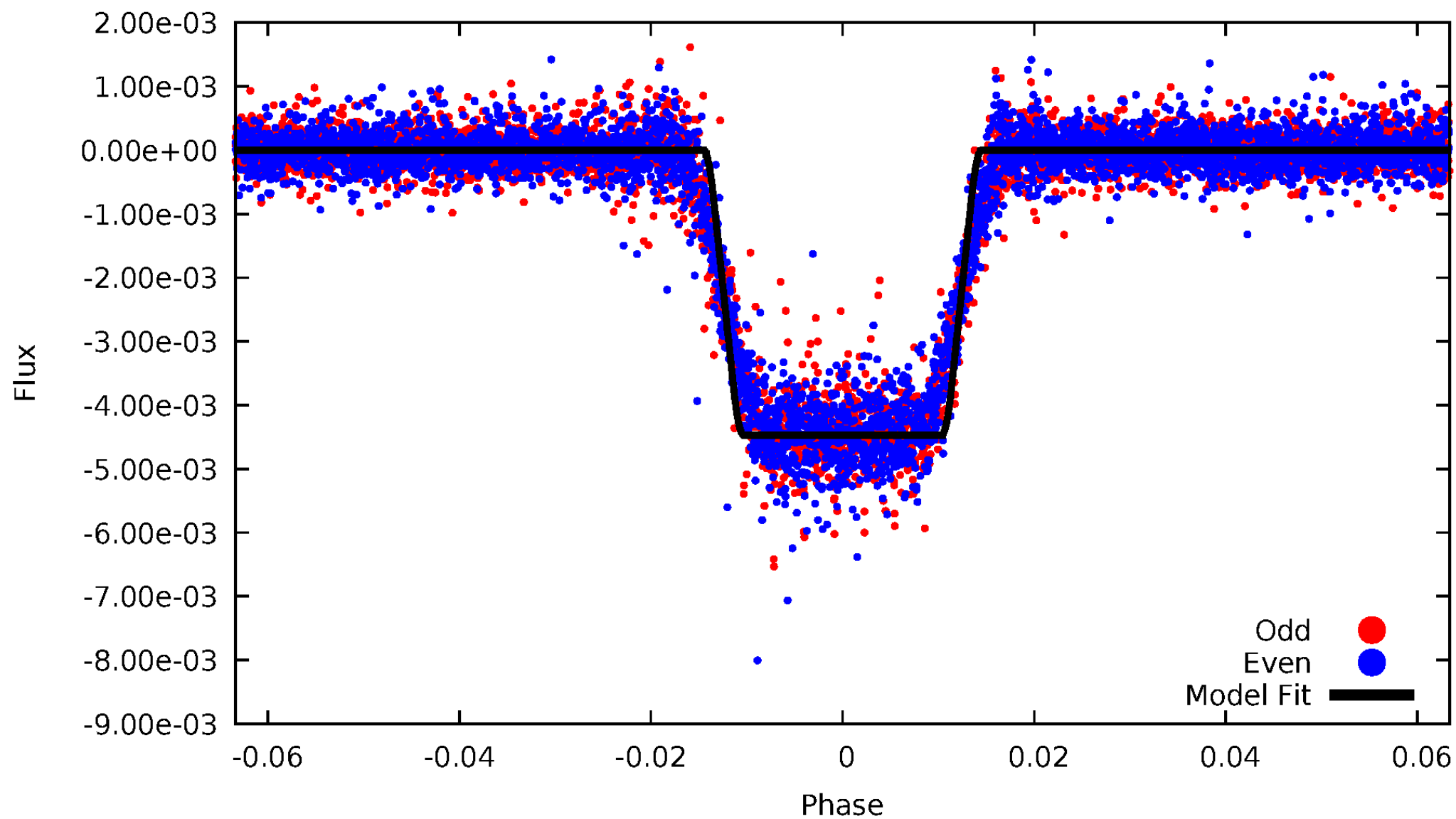
DV Odd/Even

TCE 008580438-02



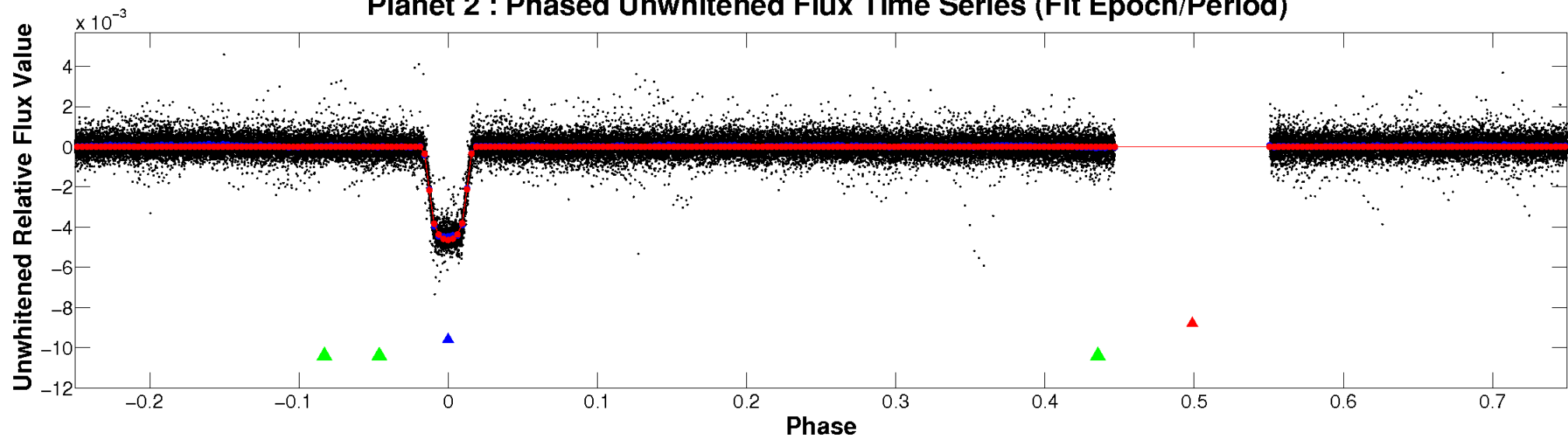
ALT Odd/Even

TCE 008580438-02

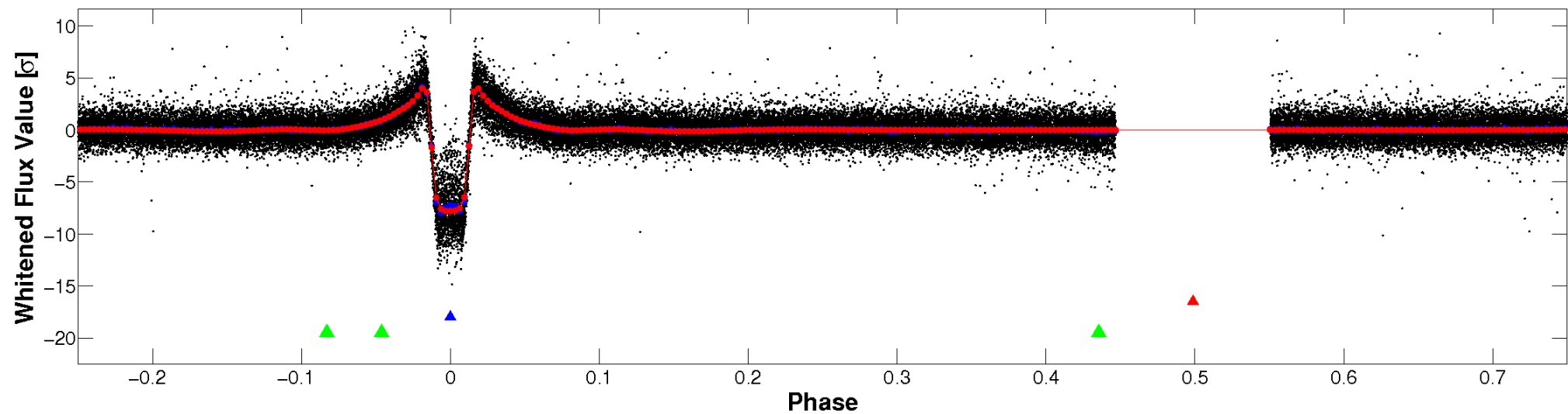


Non-Whitened Vs. Whitened Light Curve

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

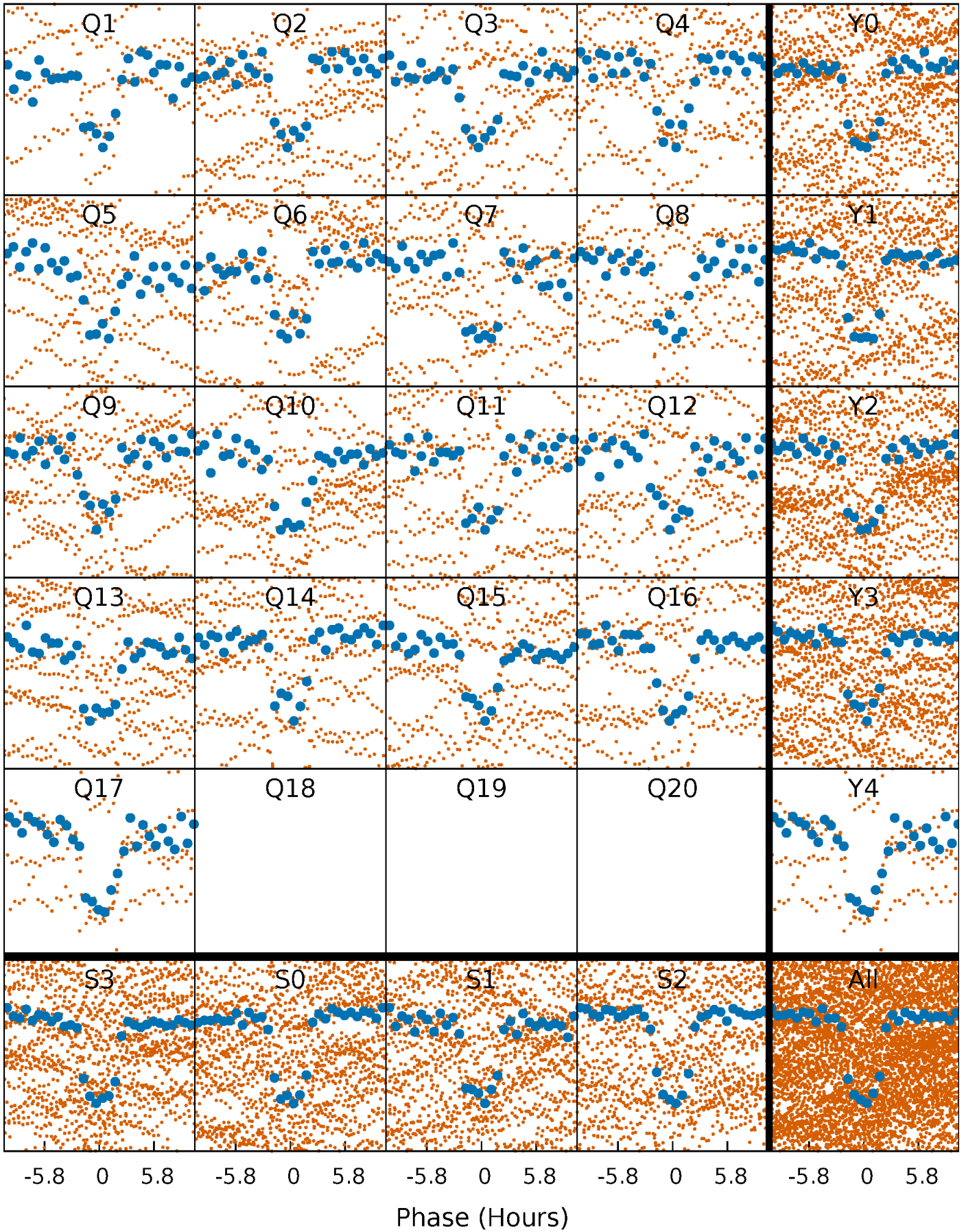


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



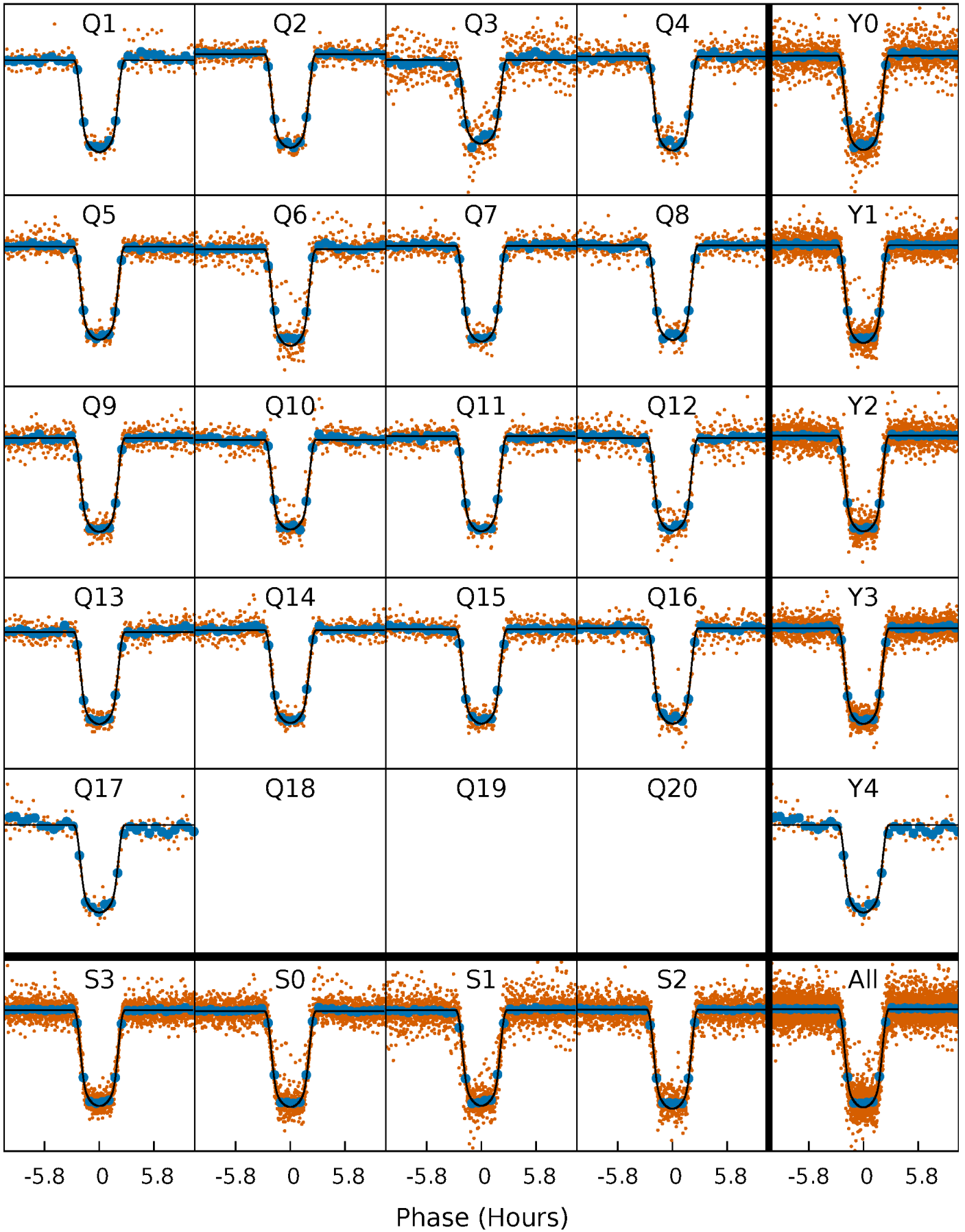
PDC Quarter-Phased Transit Curves

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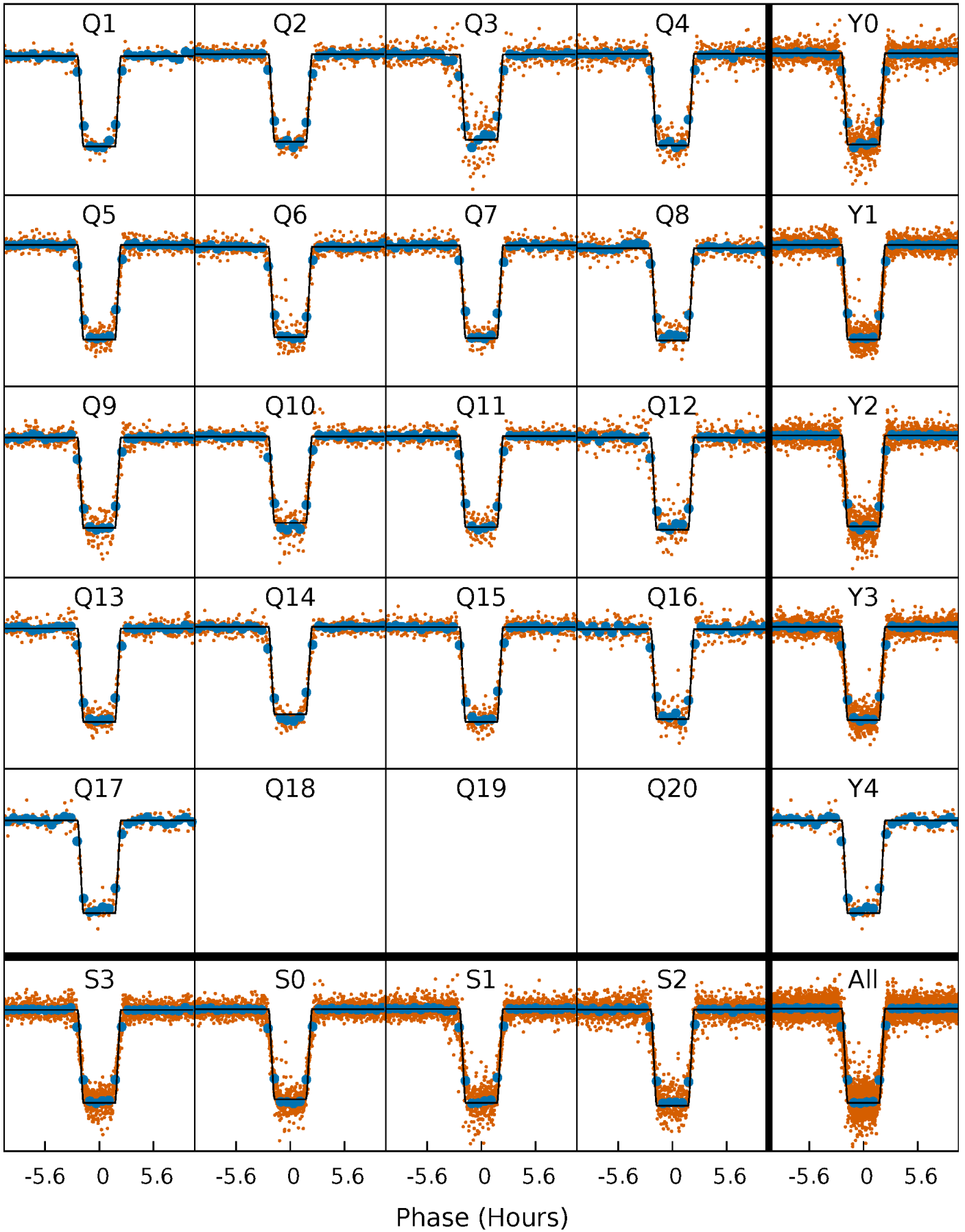
DV Quarter-Phased Transit Curves

TCE 008580438-02 P= 6.496032 Days $T_0=132.228807$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

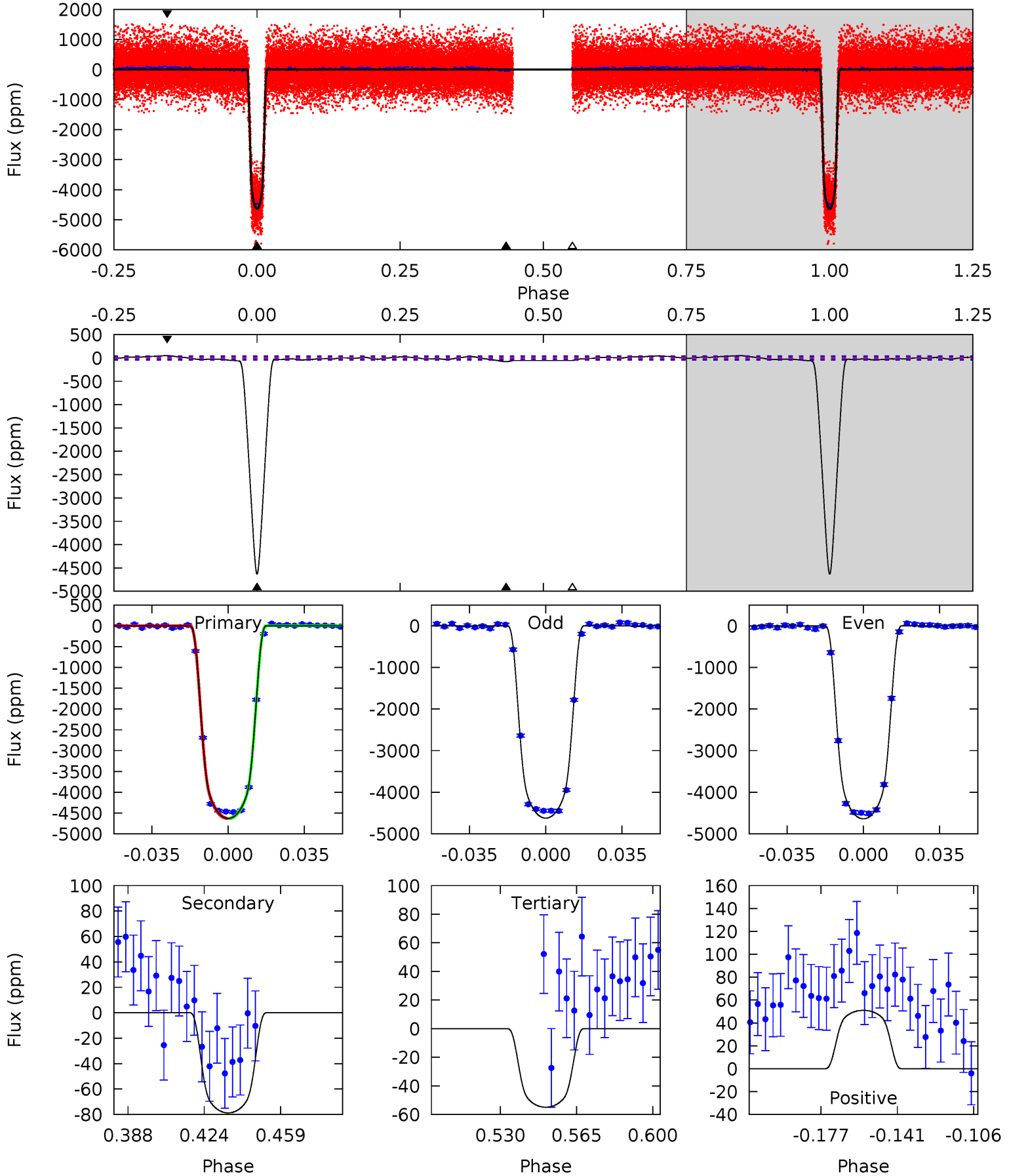
TCE 008580438-02 $P = 6.496039$ Days $T_0 = 132.228003$ (BKJD)



DV Model-Shift Uniqueness Test

008580438-02, P = 6.496032 Days, E = 125.732775 Days

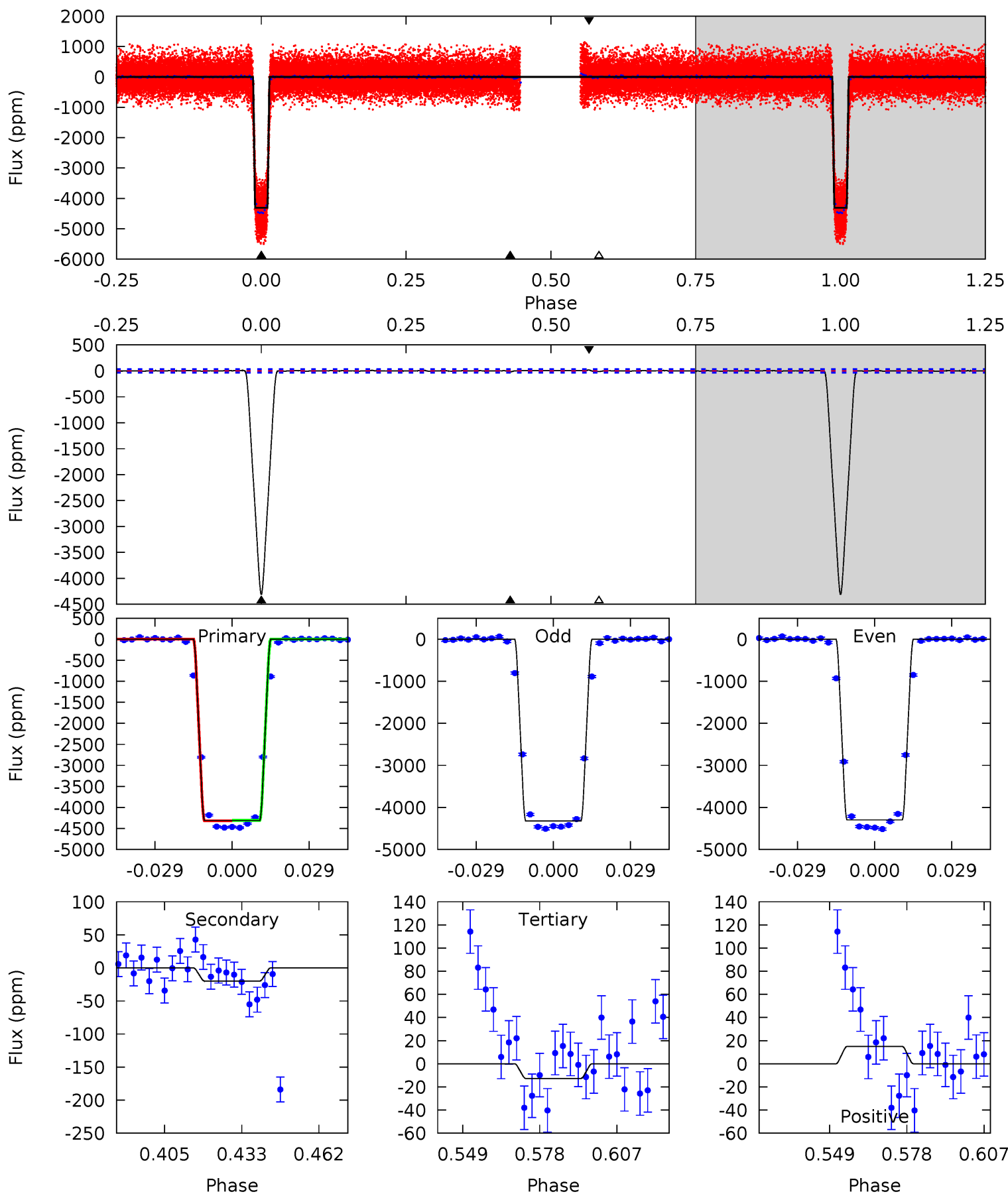
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
561.2	9.54	6.65	6.18	4.78	2.10	2.97	554.5	555.0	2.89	3.36	1.01	0.99	0.01	0.11



Alt Model-Shift Uniqueness Test

008580438-02, P = 6.496039 Days, E = 125.731964 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
660.5	3.05	1.94	2.29	4.82	2.18	0.59	658.6	658.2	1.10	0.76	1.96	1.00	0.00	0.83



Stellar Parameters For KIC 008580438

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5516^{+166}_{-149}	$4.364^{+0.171}_{-0.209}$	$-0.140^{+0.300}_{-0.300}$	$0.988^{+0.281}_{-0.187}$	$0.825^{+0.120}_{-0.065}$	$1.203^{+0.962}_{-0.608}$
	+3%/-3%	+4%/-5%	+214%/-214%	+28%/-19%	+15%/-8%	+80%/-51%
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 008580438-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-79 ± 8	$7.78^{+1.22}_{-0.95}$	1348^{+96}_{-91}	2679^{+57}_{-62}	$2.910^{+0.911}_{-0.720}$
Alt.	-20 ± 7	$7.24^{+1.17}_{-0.77}$	1343^{+100}_{-94}	2218^{+115}_{-182}	$0.836^{+0.408}_{-0.327}$

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

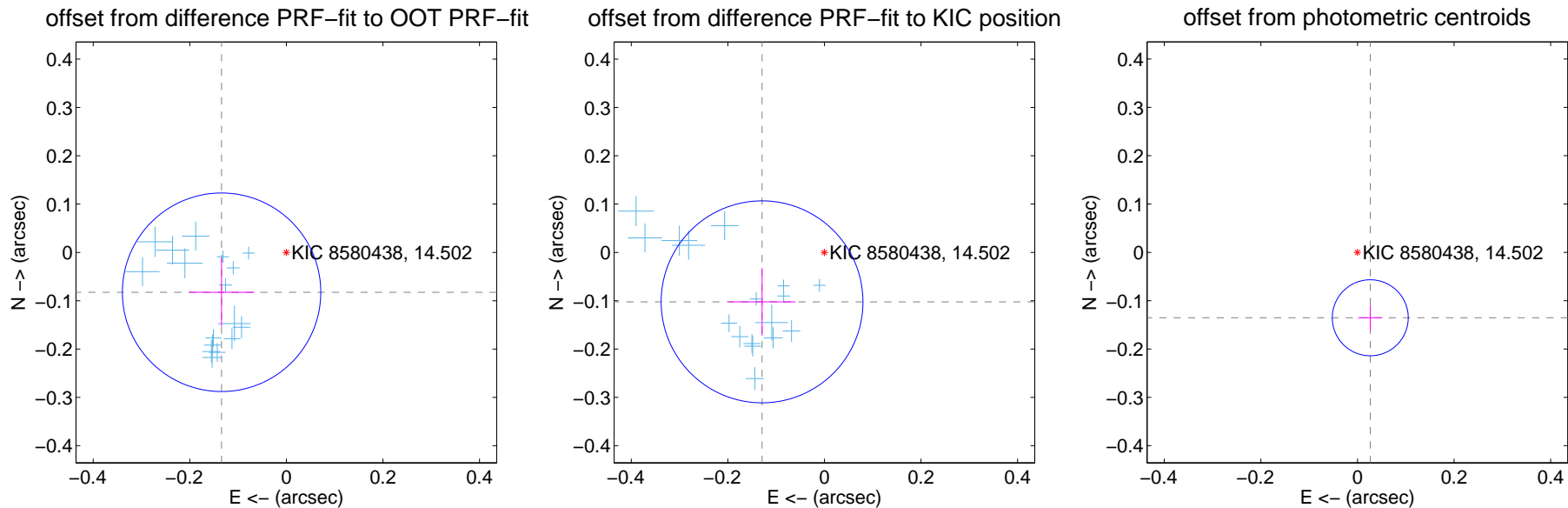
DV Centroid Data

Supplemental centroid analysis for 008580438-02. Kepler magnitude: 14.50. Transit SNR 325.97

There are 17 quarters with good PRF difference image offsets

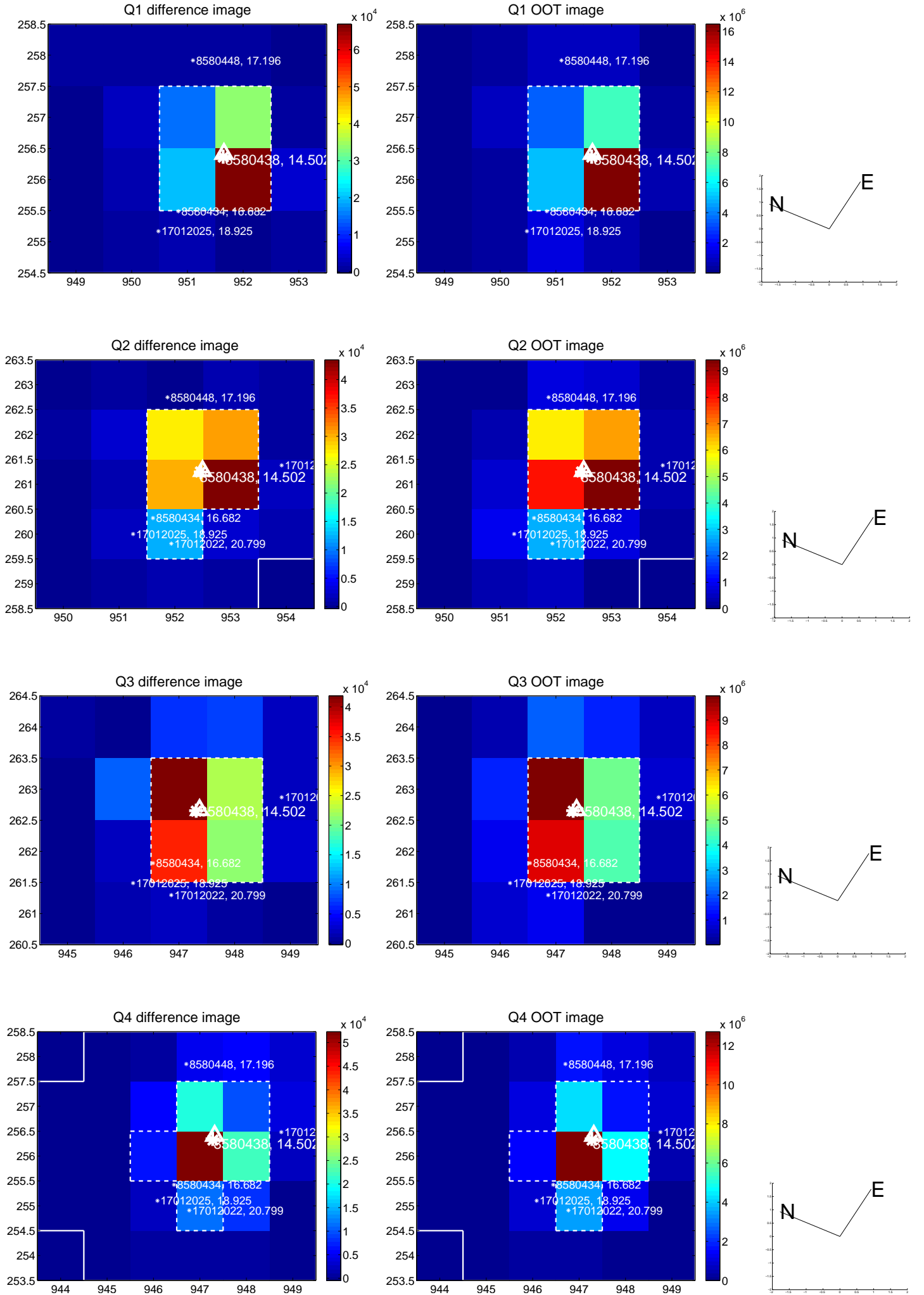
The direct PRF centroid is offset from the target star catalog position by about 0.00 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.158 ± 0.068	2.30	0.134 ± 0.068	-0.082 ± 0.071
PRF-fit source offset from KIC position	0.165 ± 0.070	2.37	0.129 ± 0.070	-0.102 ± 0.070
photometric centroid source offset	0.14 ± 0.03	5.26	-0.03 ± 0.03	-0.14 ± 0.03

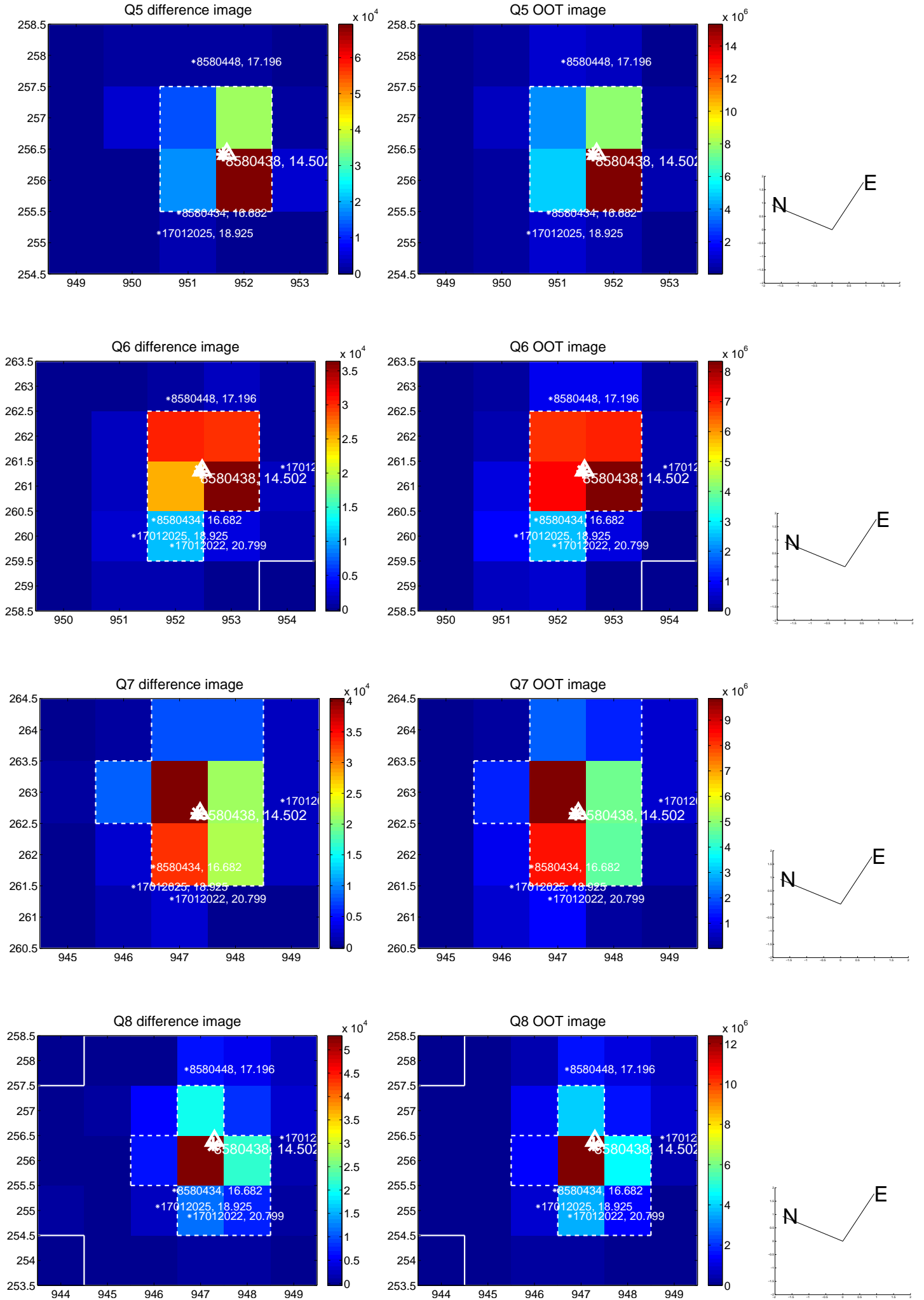


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

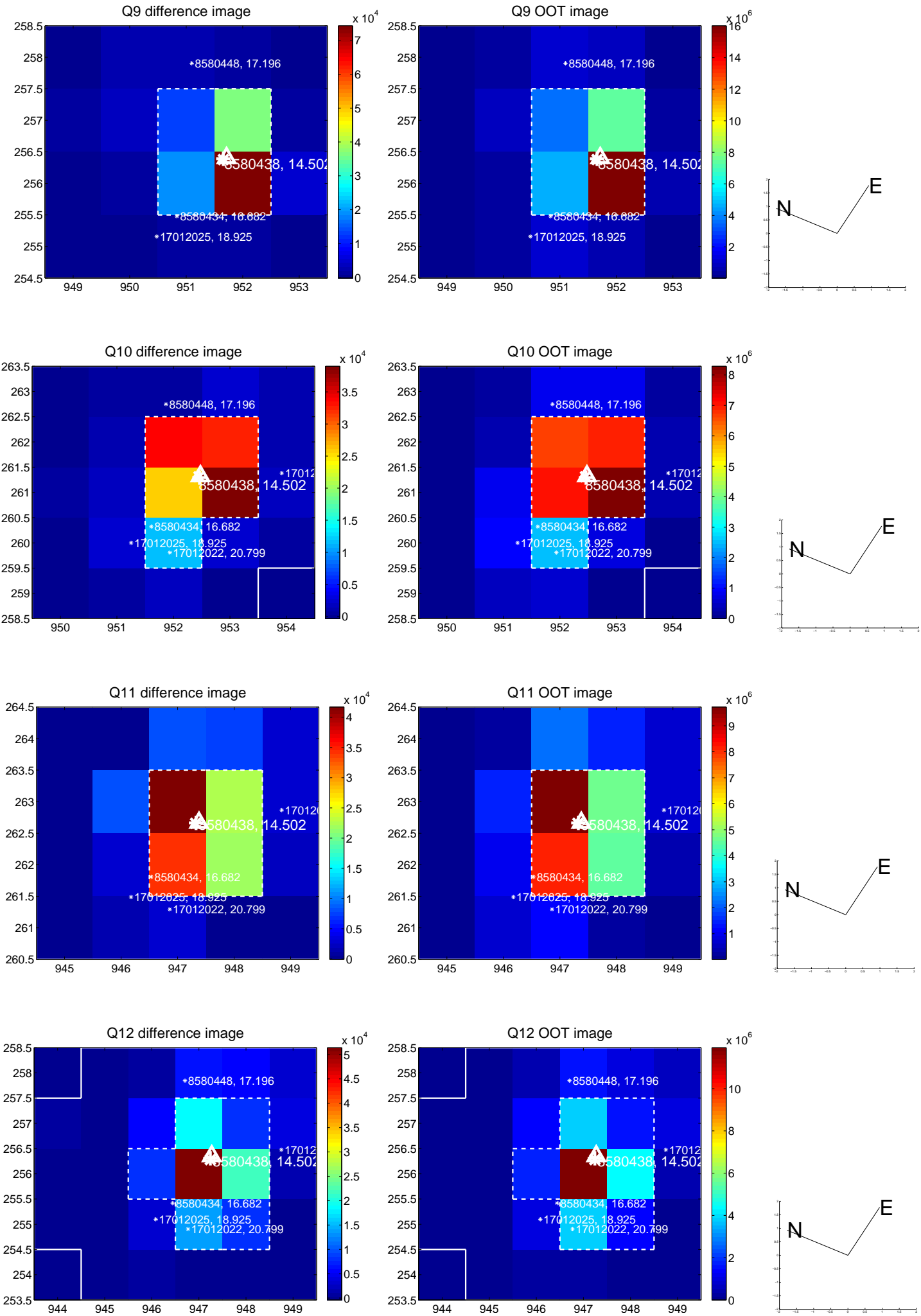
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



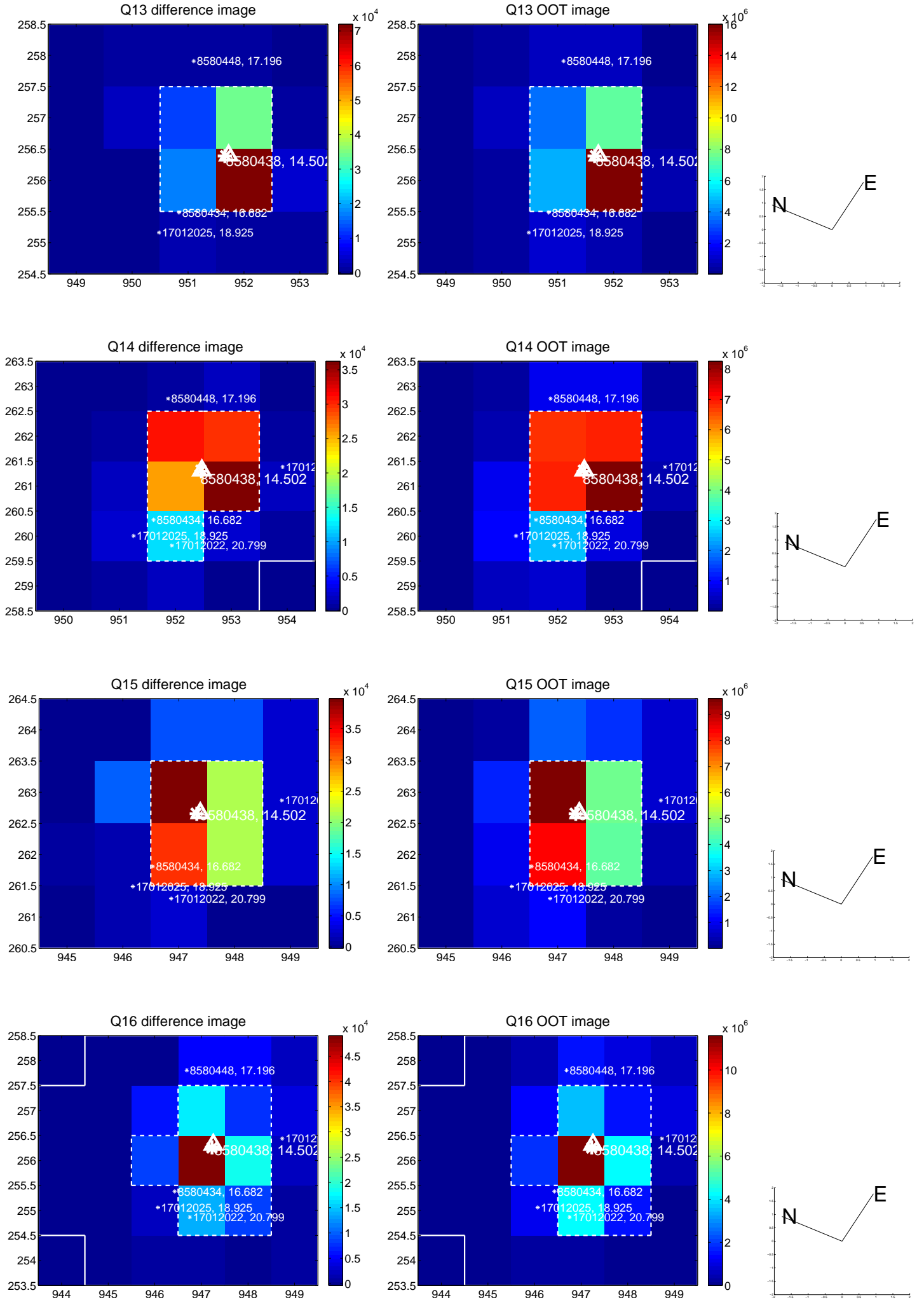
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



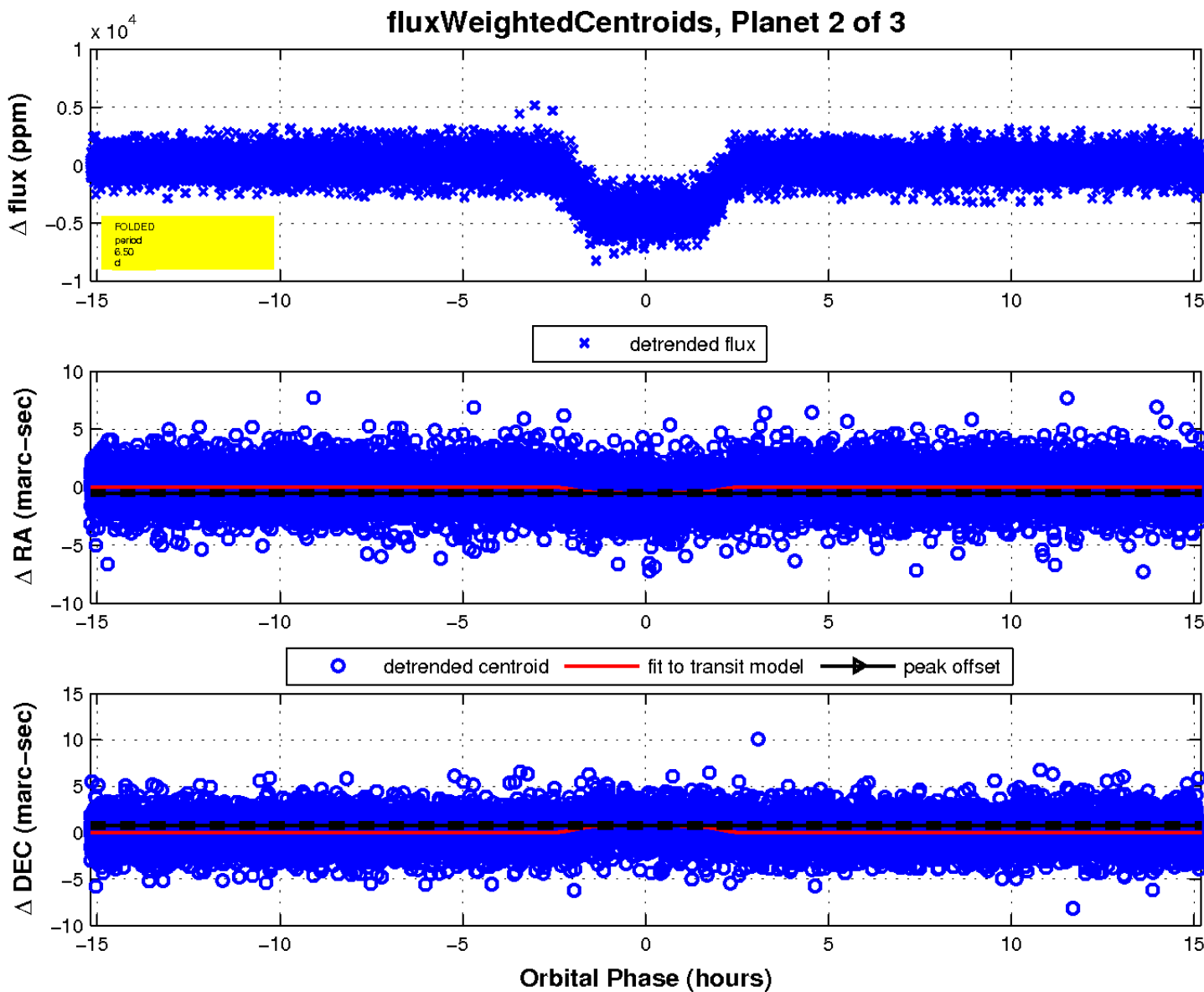
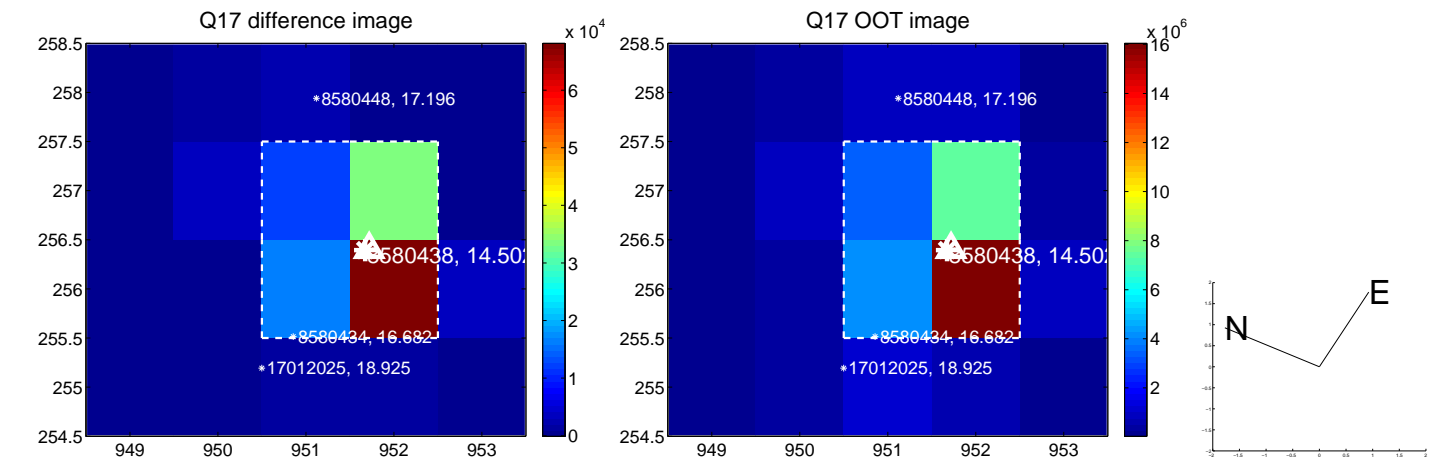
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

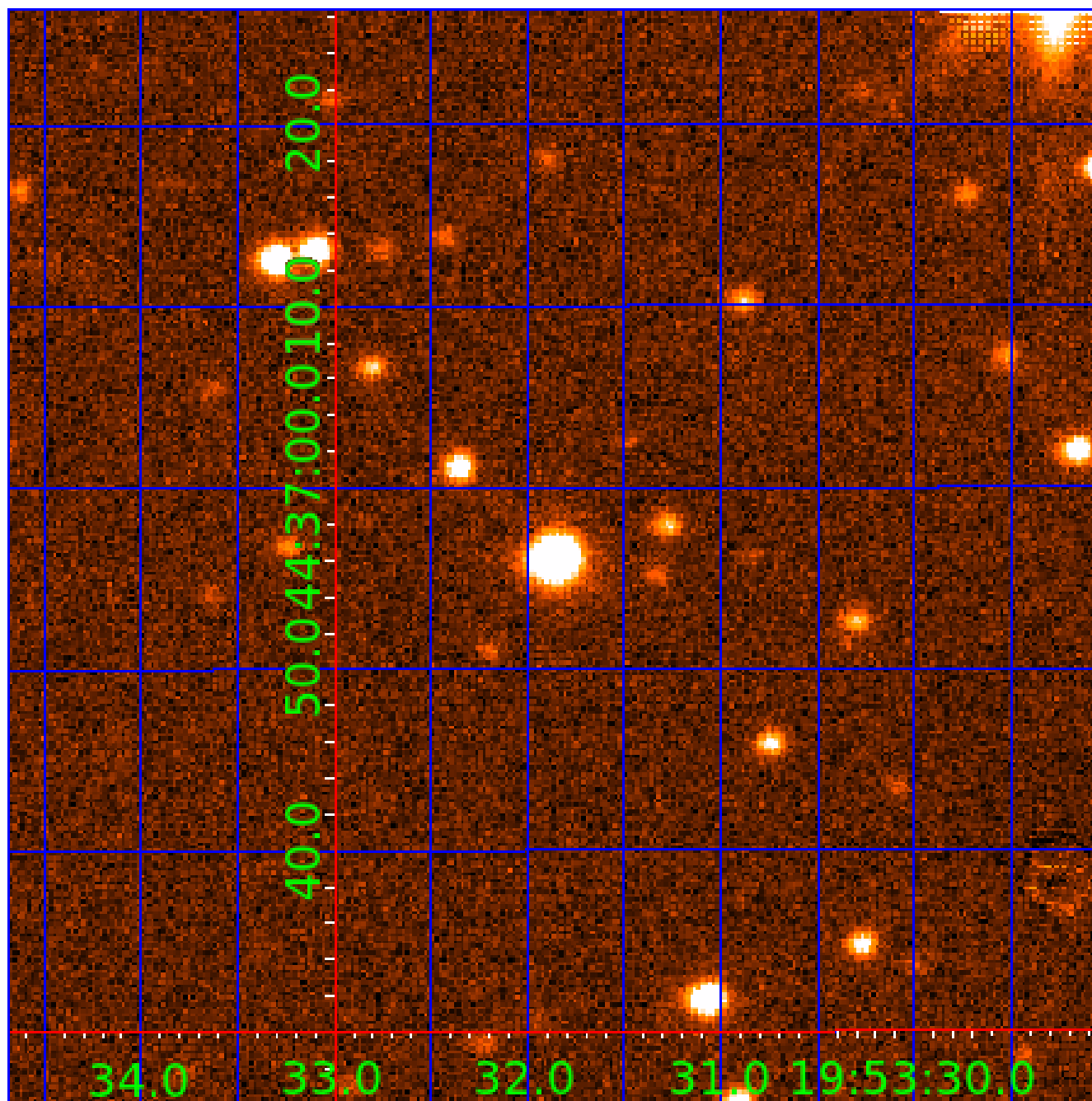


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008580438

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})
008580438-01	OBS	6058.01	6.496032	135.468767	109234.2	5.241	7242.7	5076.7	0.99	5516	32.43	198.47
008580438-02	OBS	No	6.496032	132.228807	4646.8	5.062	326.8	326.0	0.99	5516	7.65	198.47
008580438-03	OBS	No	412.617459	424.011655	1376.1	17.248	18.3	5.1	0.99	5516	7.14	0.78

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008580438-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
008580438-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
008580438-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—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 008580438-03

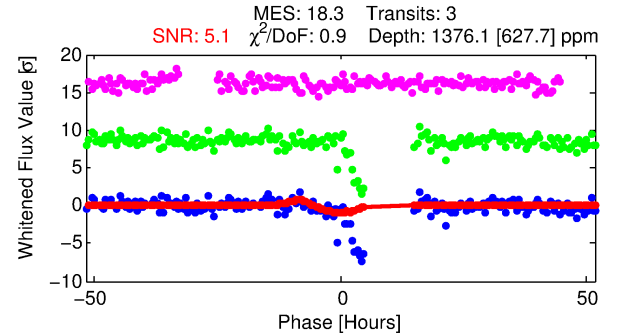
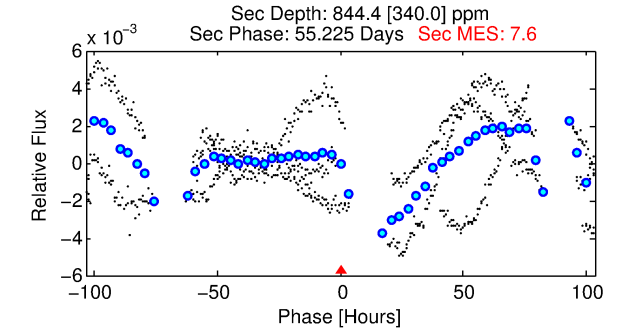
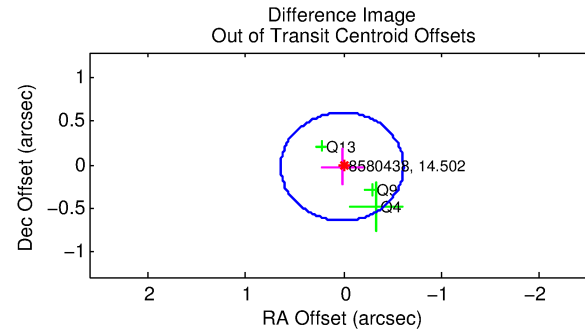
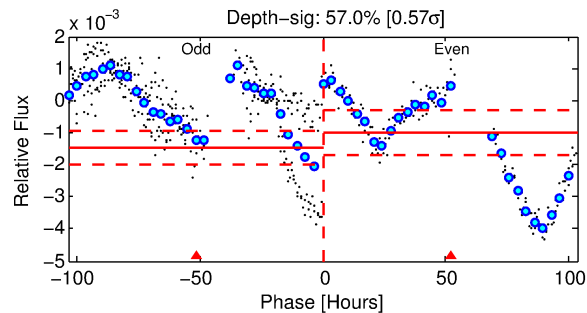
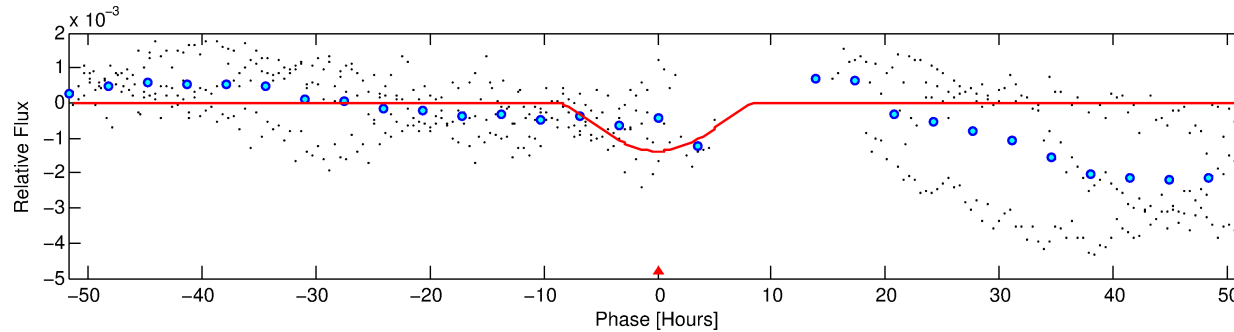
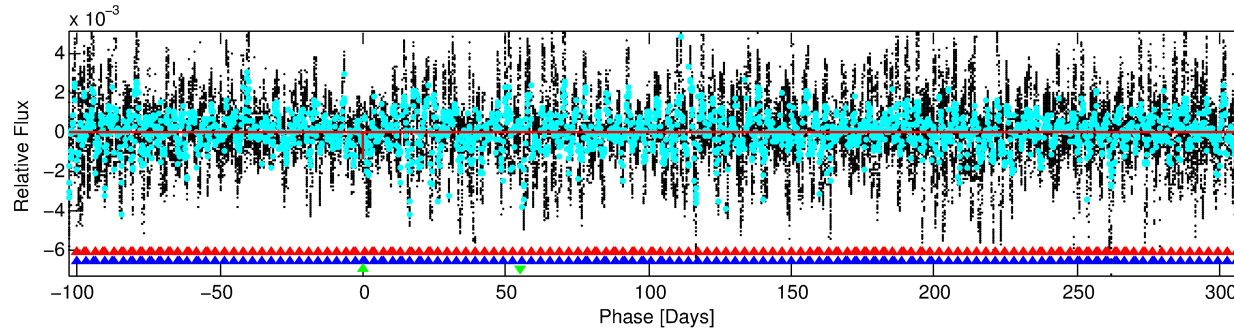
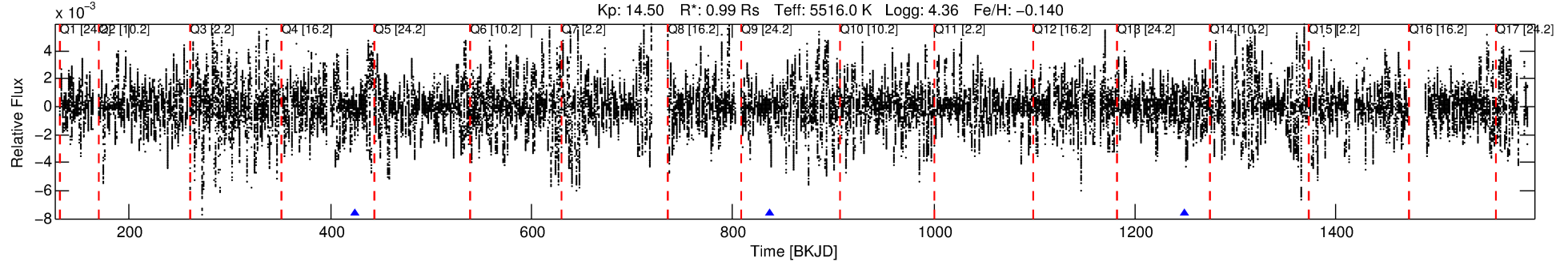
No Significant Match Found

DV One-Page Summary

KIC: 8580438 Candidate: 3 of 3 Period: 412.617 d

KOI: K06058 Corr: No Ephemeris Match

Kp: 14.50 R*: 0.99 Rs Teff: 5516.0 K Logg: 4.36 Fe/H: -0.140



DV Fit Results:

Period = 412.61746 [0.03040] d
Epoch = 424.0117 [0.0385] BKJD
Rp/R* = 0.0662 [0.1784]
a/R* = 67.64 [42.35]
b = 1.00 [0.24]
Seff = 0.78 [0.31]
Teq = 240 [23] K
Rp = 7.14 [19.34] Re
a = 1.0168 [0.2525] AU
Ag = 9418.77 [51012.97] [0.18σ]
Teffp = 3654 [4937] K [0.69σ]

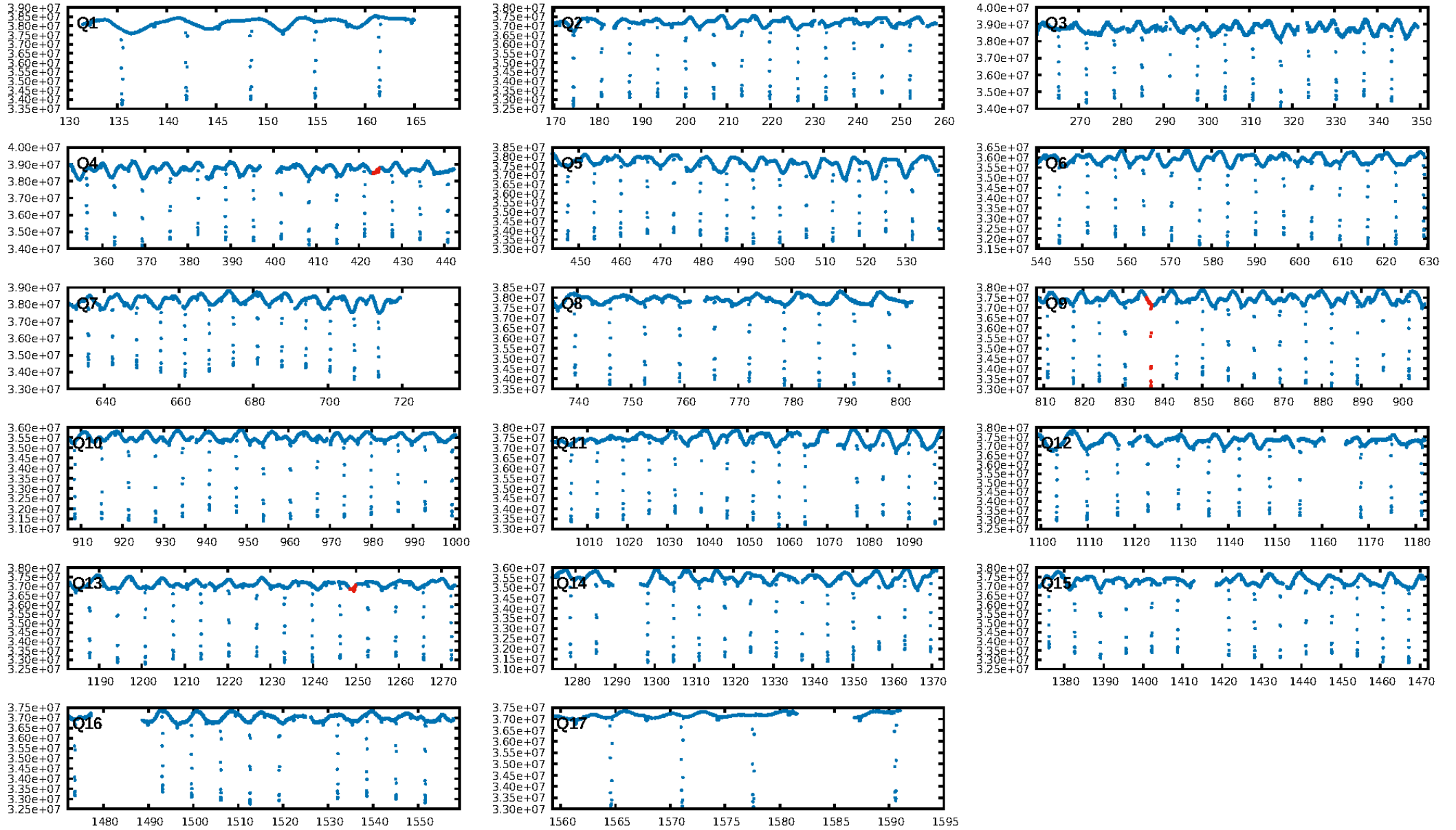
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [540.71σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 41.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.32e-14
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -3.477
Centroid-sig: 54.1%
Centroid-so: 0.391 arcsec [0.74σ]
OotOffset-rm: 0.026 arcsec [0.13σ]
OotOffset-st: 0/0/1/2 [3]
KicOffset-rm: 0.008 arcsec [0.04σ]
KicOffset-st: 0/0/1/2 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.00 [0/3]

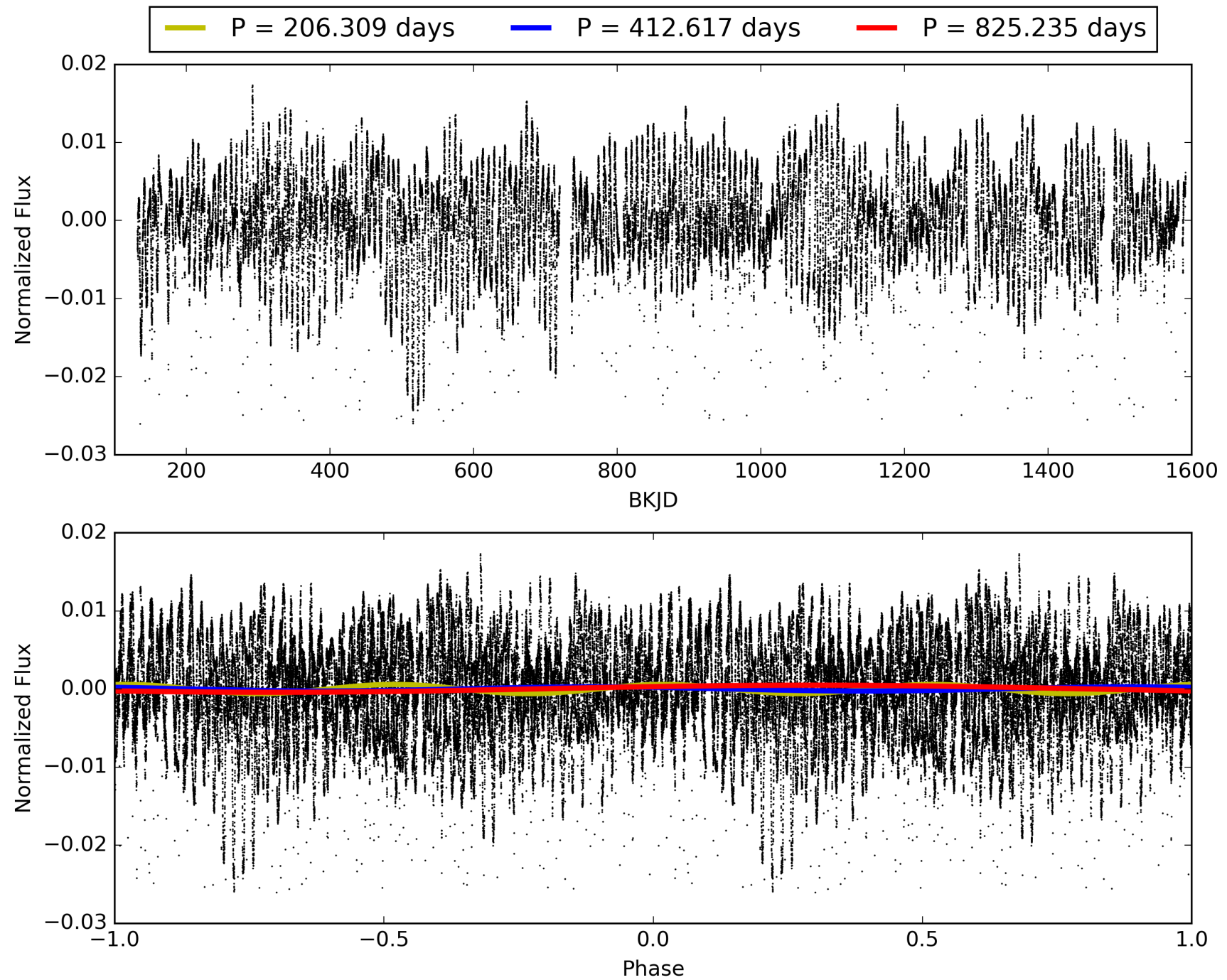
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:30:01 Z

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

TCE 00580438-03, PDC Light Curves

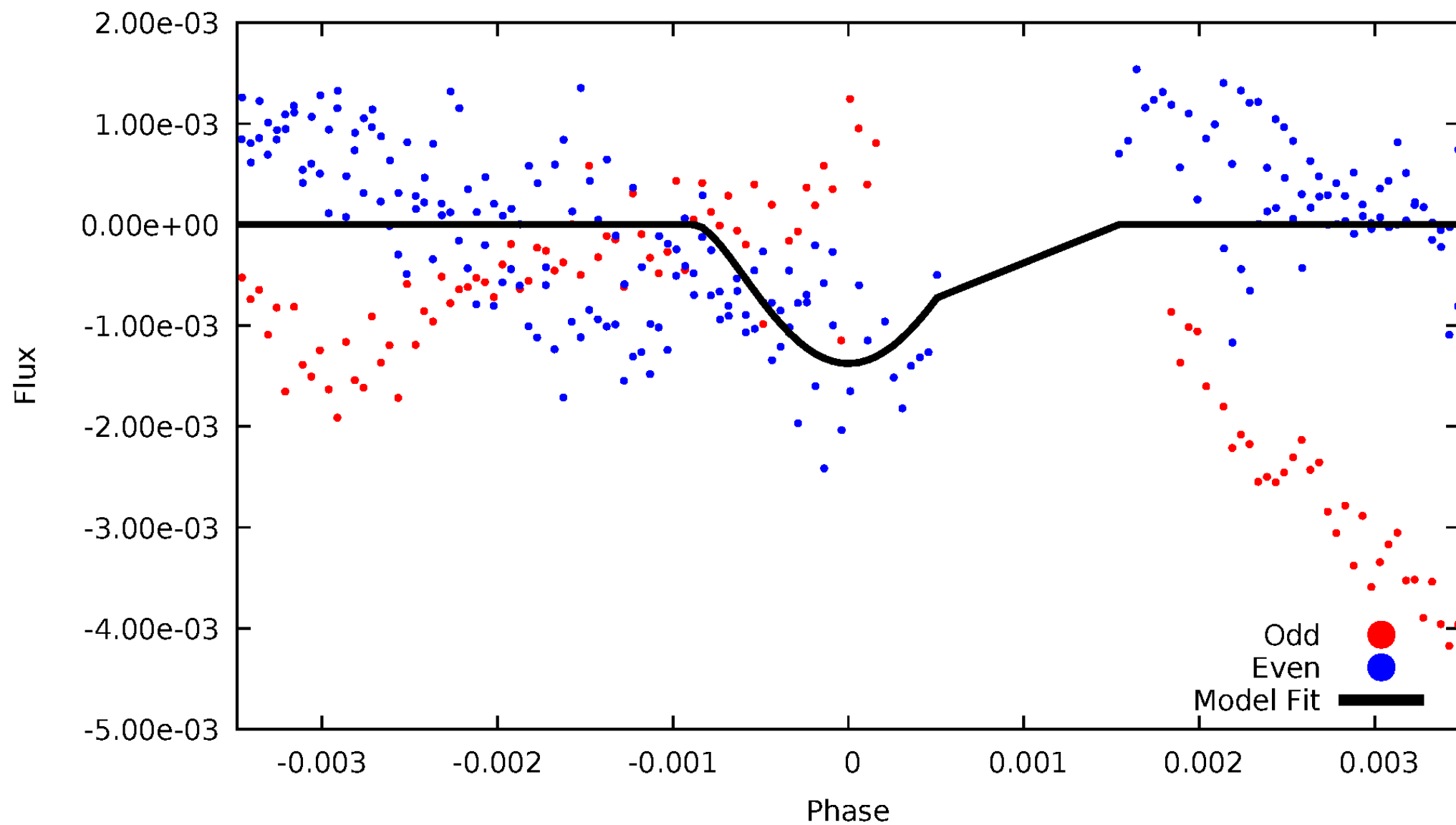


TCE 008580438-03



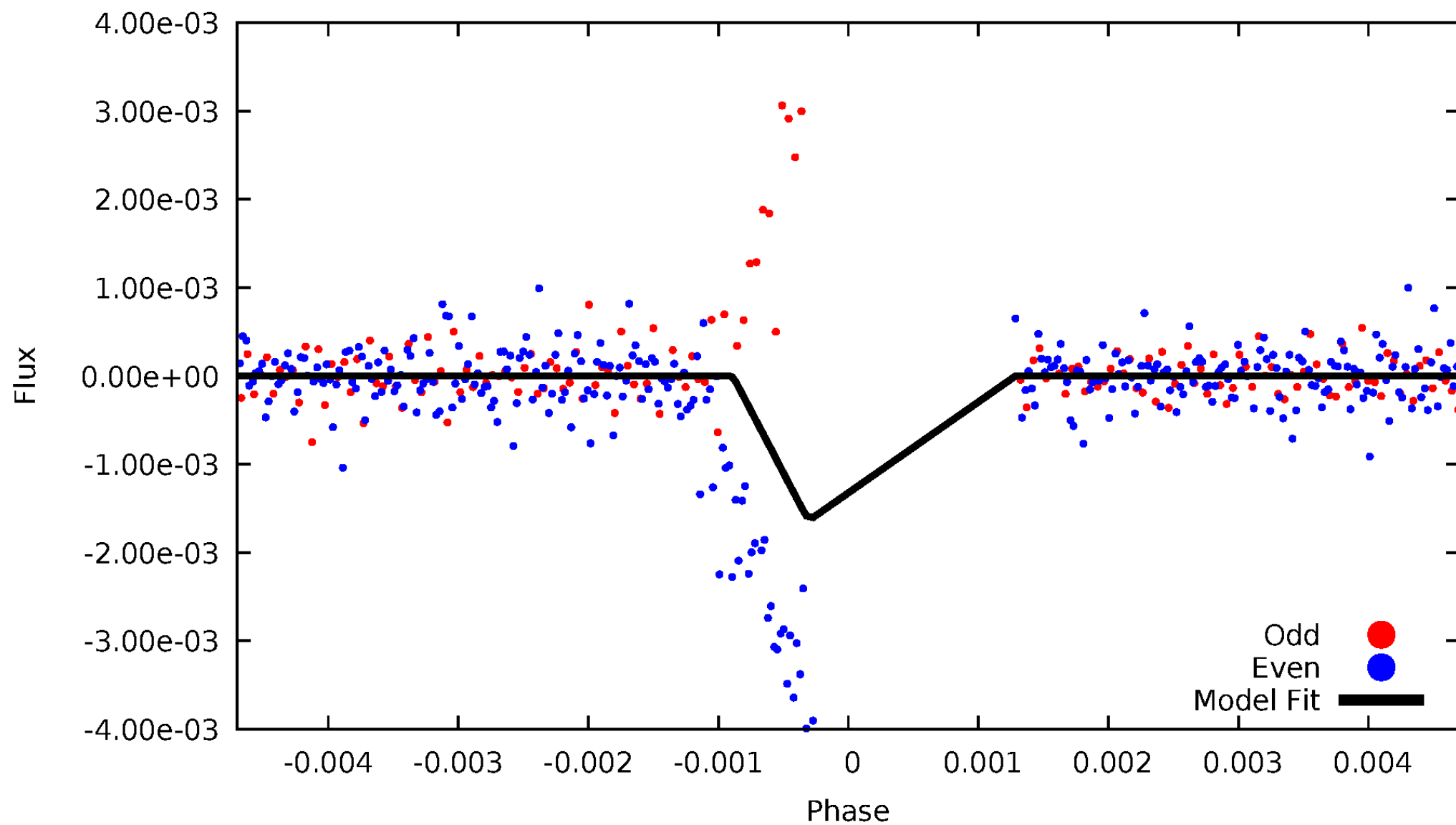
DV Odd/Even

TCE 008580438-03



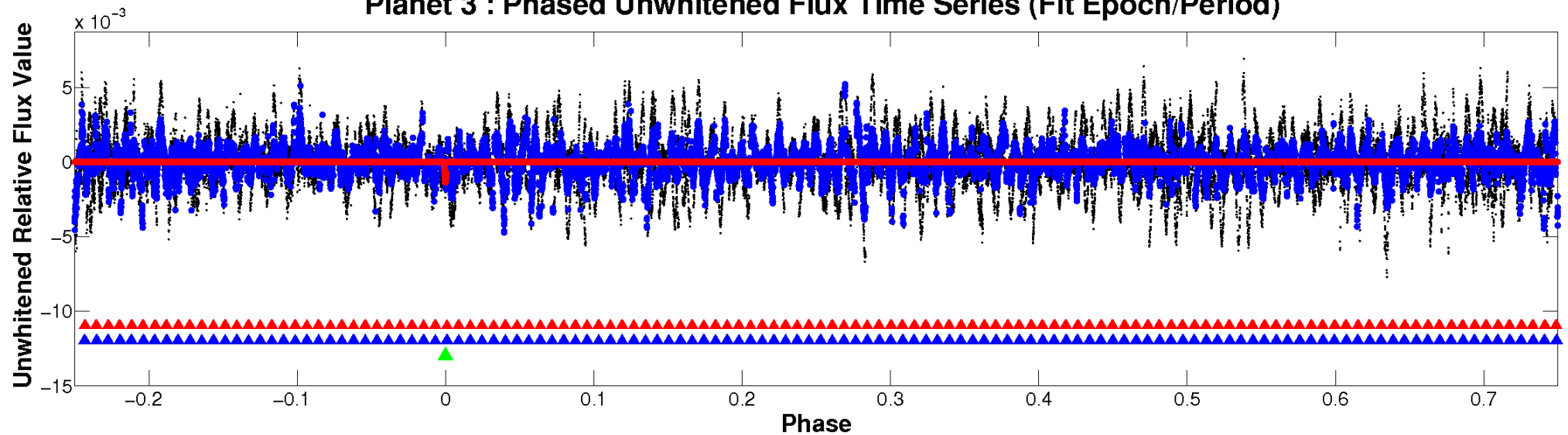
ALT Odd/Even

TCE 008580438-03

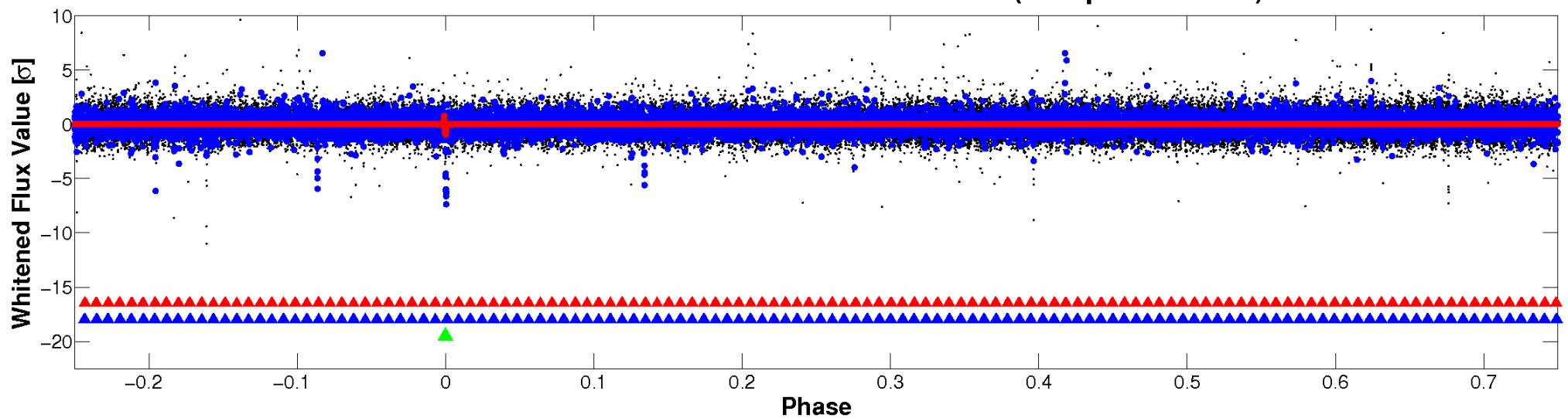


Non-Whitened Vs. Whitened Light Curve

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

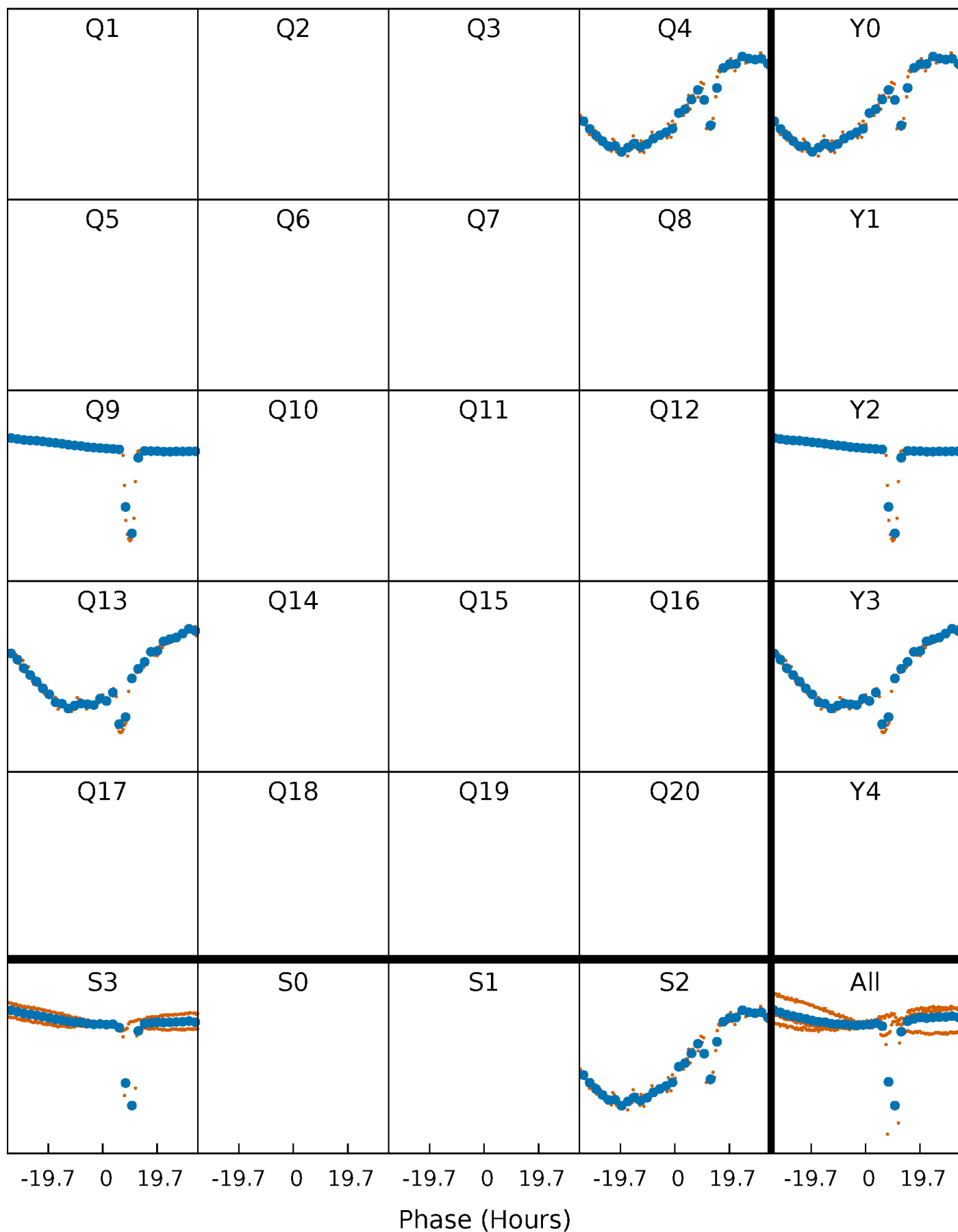


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 008580438-03 $P=412.617459$ Days $T_0=424.011655$ (BKJD)



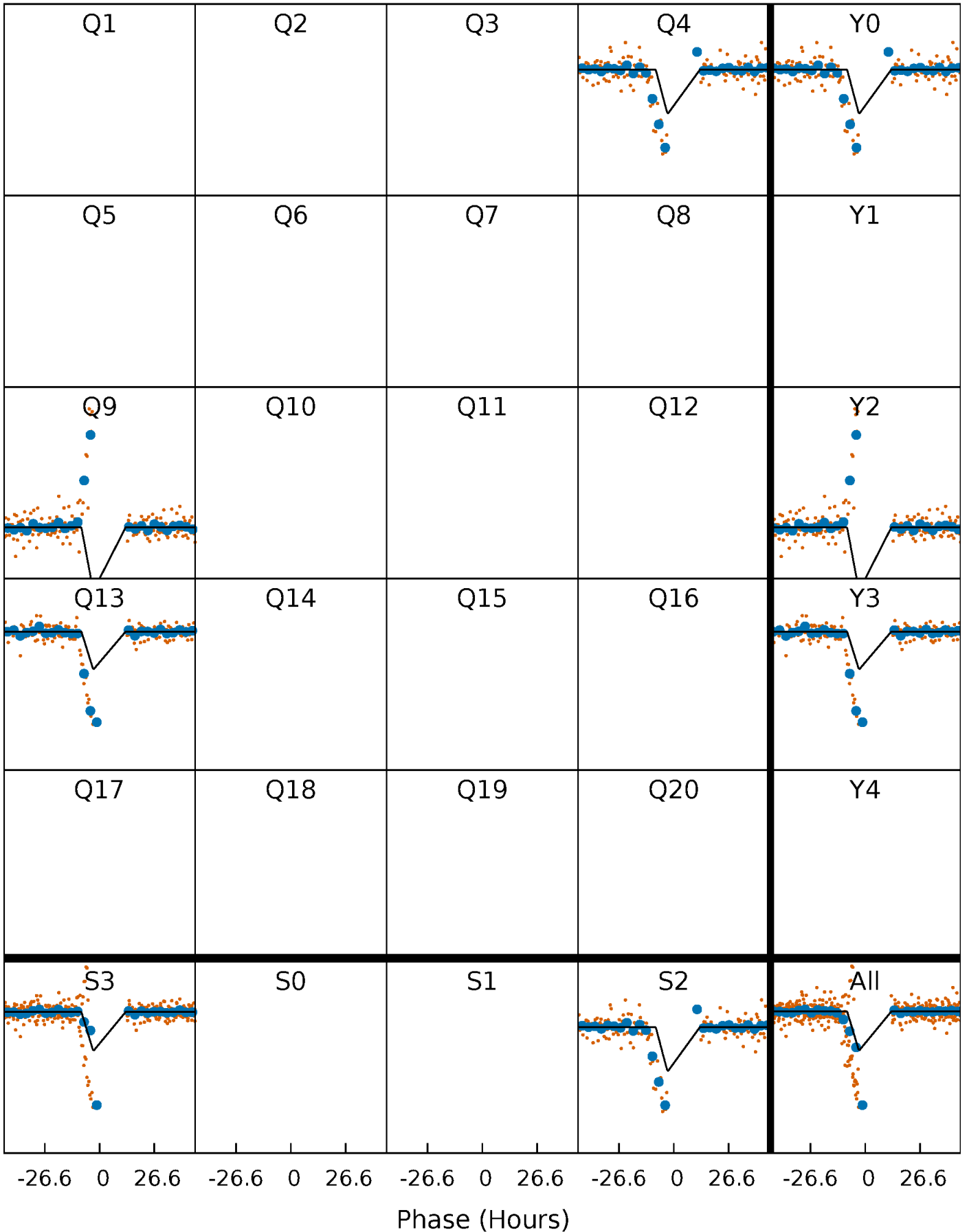
DV Quarter-Phased Transit Curves

TCE 008580438-03 $P=412.617459$ Days $T_0=424.011655$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

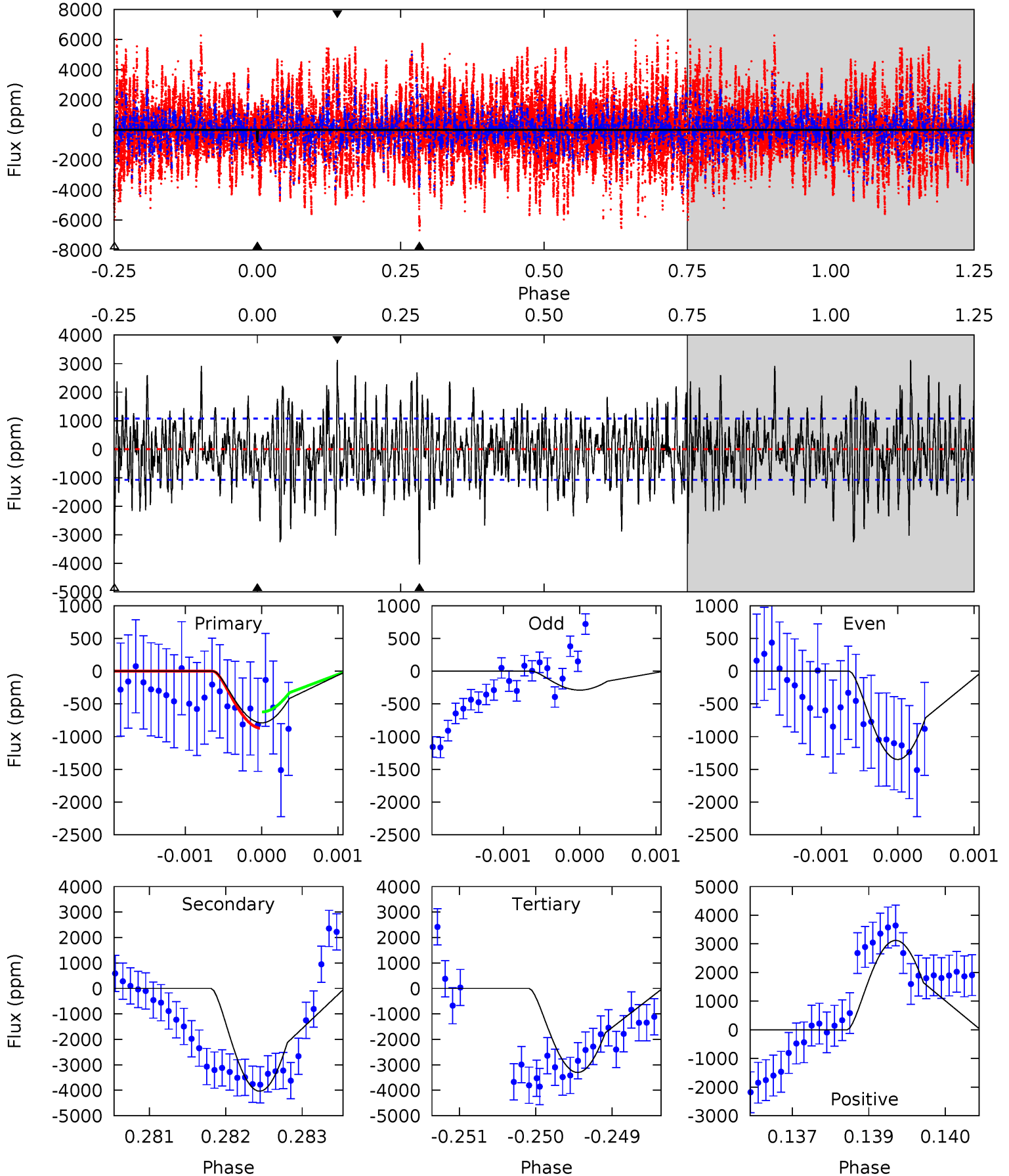
TCE 008580438-03 $P=412.478653$ Days $T_0=424.364183$ (BKJD)



DV Model-Shift Uniqueness Test

008580438-03, P = 412.617459 Days, E = 11.394196 Days

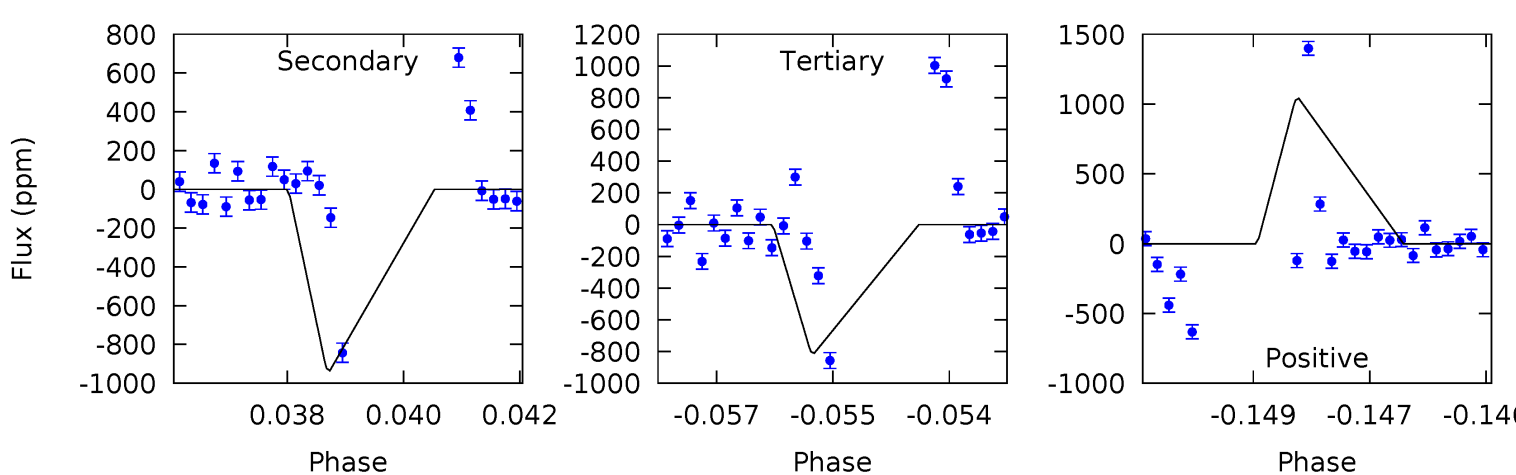
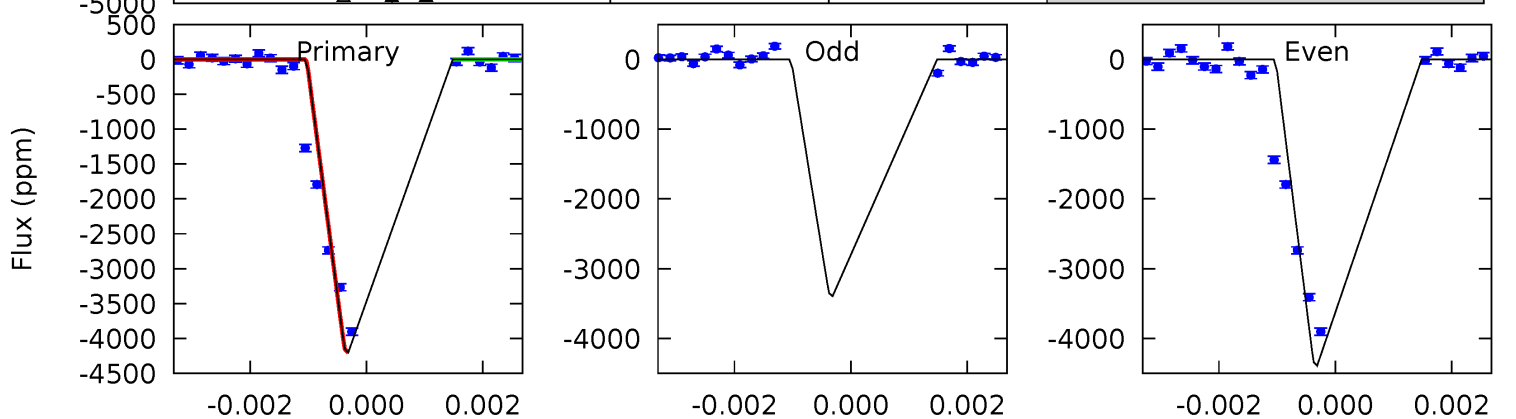
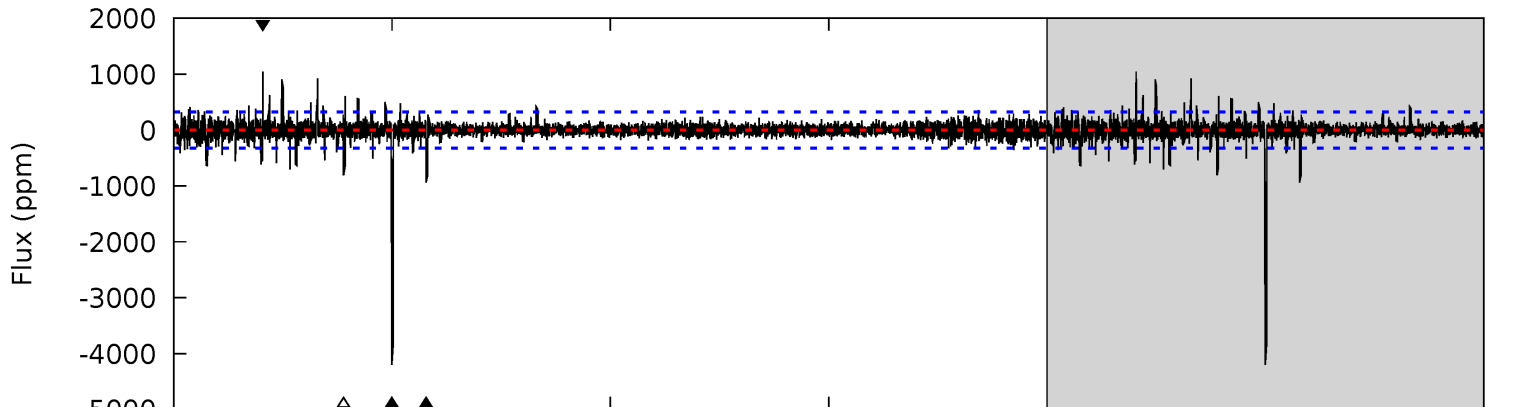
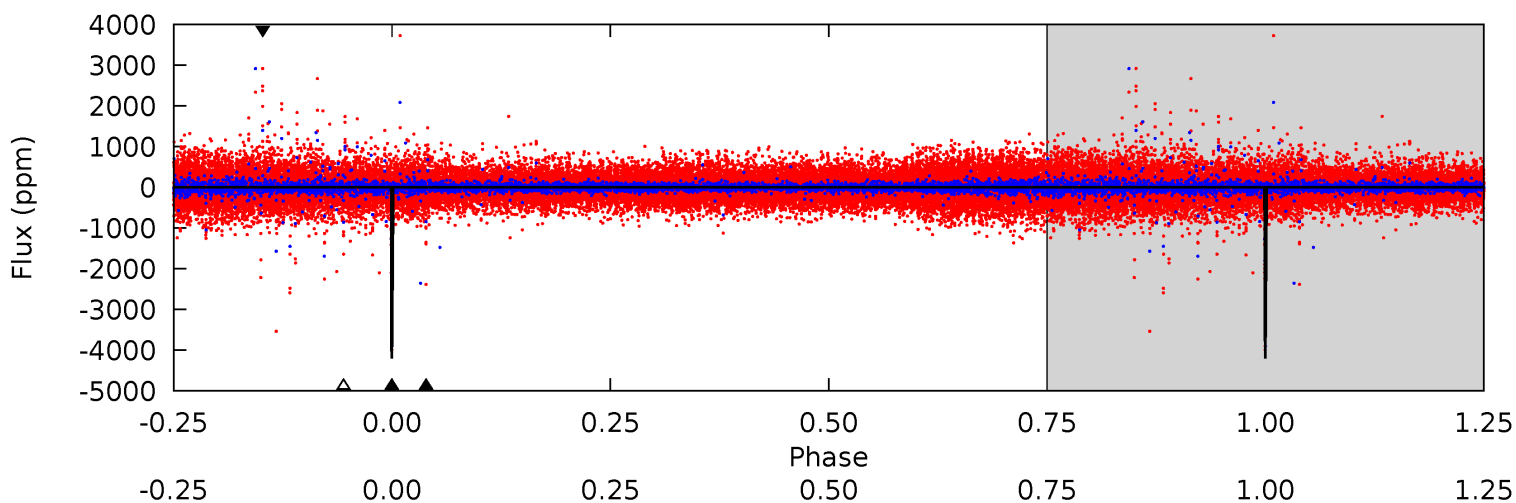
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.97	20.3	16.6	15.7	5.39	3.20	4.58	-12.6	-11.7	3.68	4.59	2.51	0.92	0.44	0.49



Alt Model-Shift Uniqueness Test

008580438-03, P = 412.478653 Days, E = 11.885530 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
69.5	15.5	13.4	17.2	5.35	3.13	1.34	56.1	52.3	2.05	-1.74	9.06	0	0.20	0



Stellar Parameters For KIC 008580438

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5516^{+166}_{-149}	$4.364^{+0.171}_{-0.209}$	$-0.140^{+0.300}_{-0.300}$	$0.988^{+0.281}_{-0.187}$	$0.825^{+0.120}_{-0.065}$	$1.203^{+0.962}_{-0.608}$
	+3%/-3%	+4%/-5%	+214%/-214%	+28%/-19%	+15%/-8%	+80%/-51%
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 008580438-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-4036 ± 199	$15.18^{+17.58}_{-10.98}$	337^{+27}_{-22}	4042^{+3107}_{-850}	$10331^{+119613}_{-8206}$
Alt.	-935 ± 60	$15.06^{+16.17}_{-10.11}$	338^{+25}_{-22}	3187^{+1558}_{-553}	2354^{+20449}_{-1794}

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

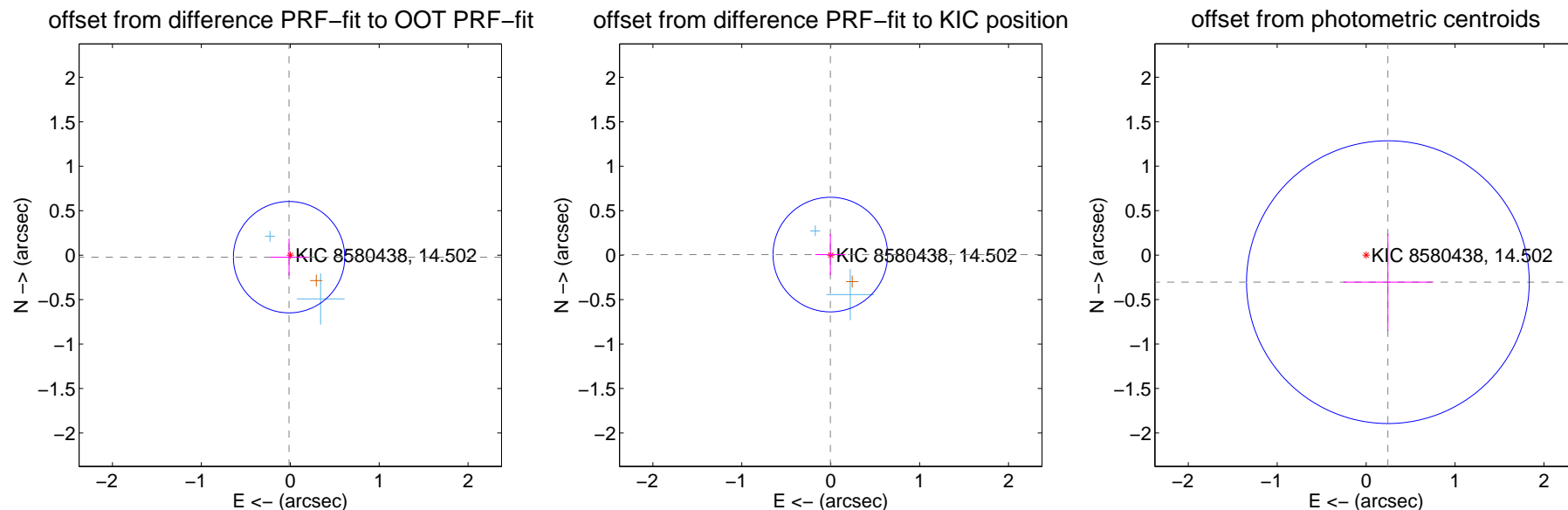
DV Centroid Data

Supplemental centroid analysis for 008580438-03. Kepler magnitude: 14.50. Transit SNR 5.13

There are 2 quarters with good PRF difference image offsets

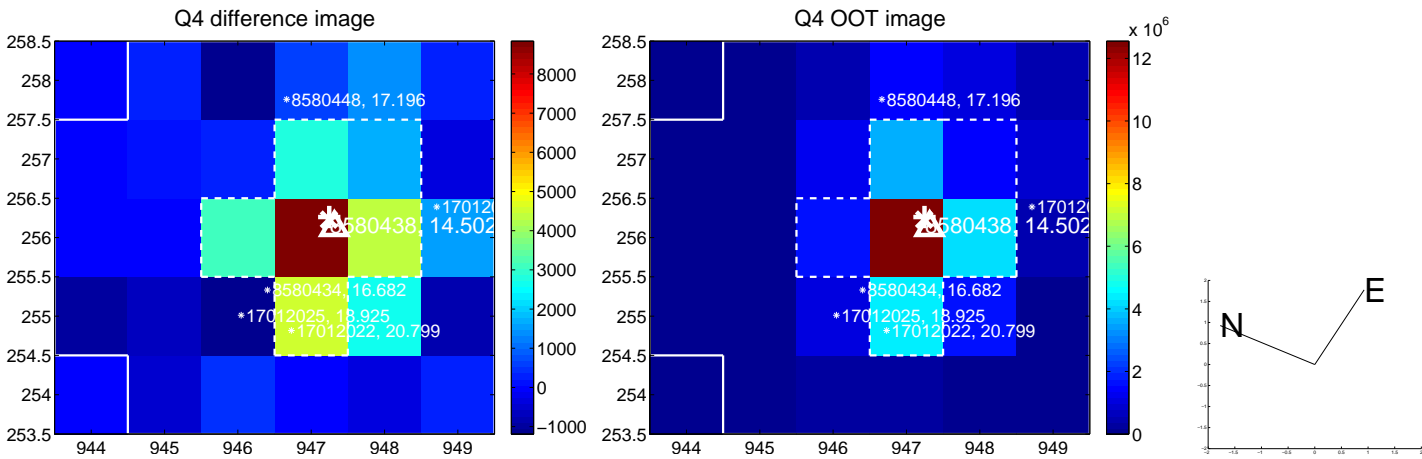
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.026 ± 0.209	0.13	0.014 ± 0.209	-0.023 ± 0.209
PRF-fit source offset from KIC position	0.008 ± 0.215	0.04	0.004 ± 0.170	0.006 ± 0.232
photometric centroid source offset	0.39 ± 0.53	0.74	-0.24 ± 0.50	-0.30 ± 0.55



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.

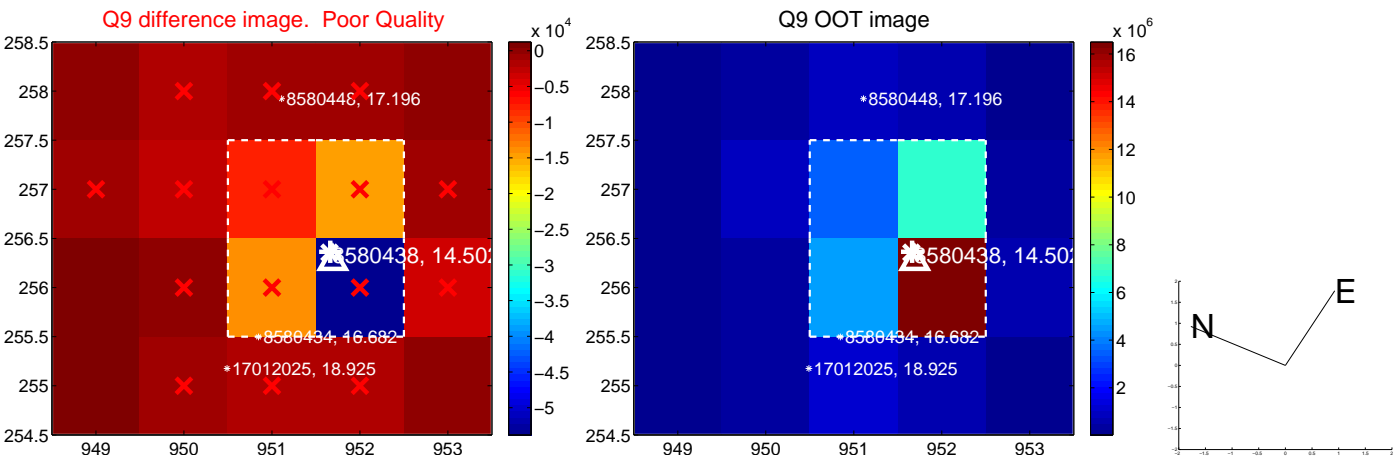
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



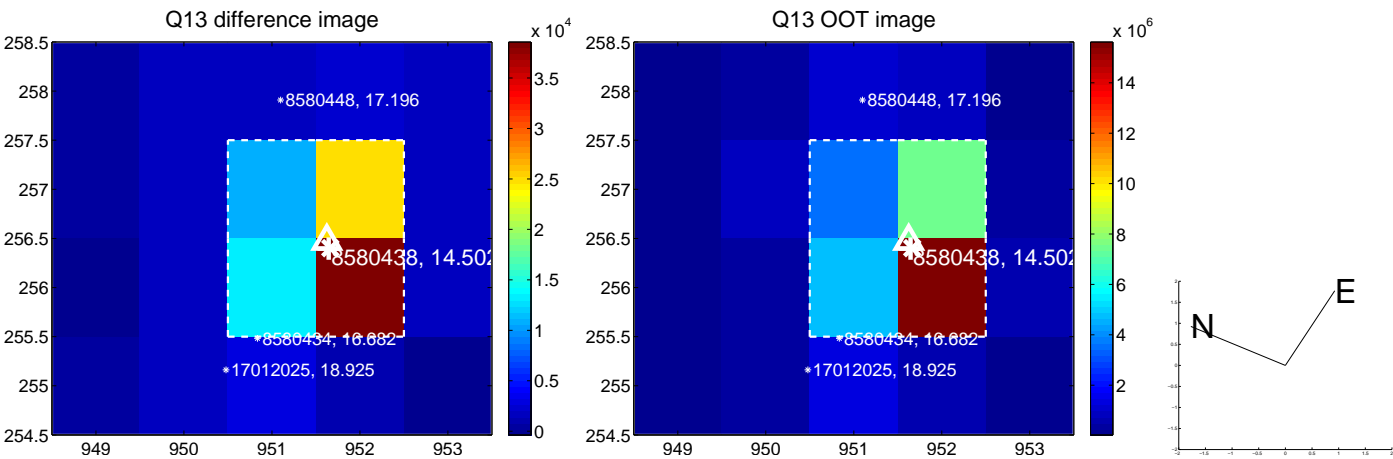
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



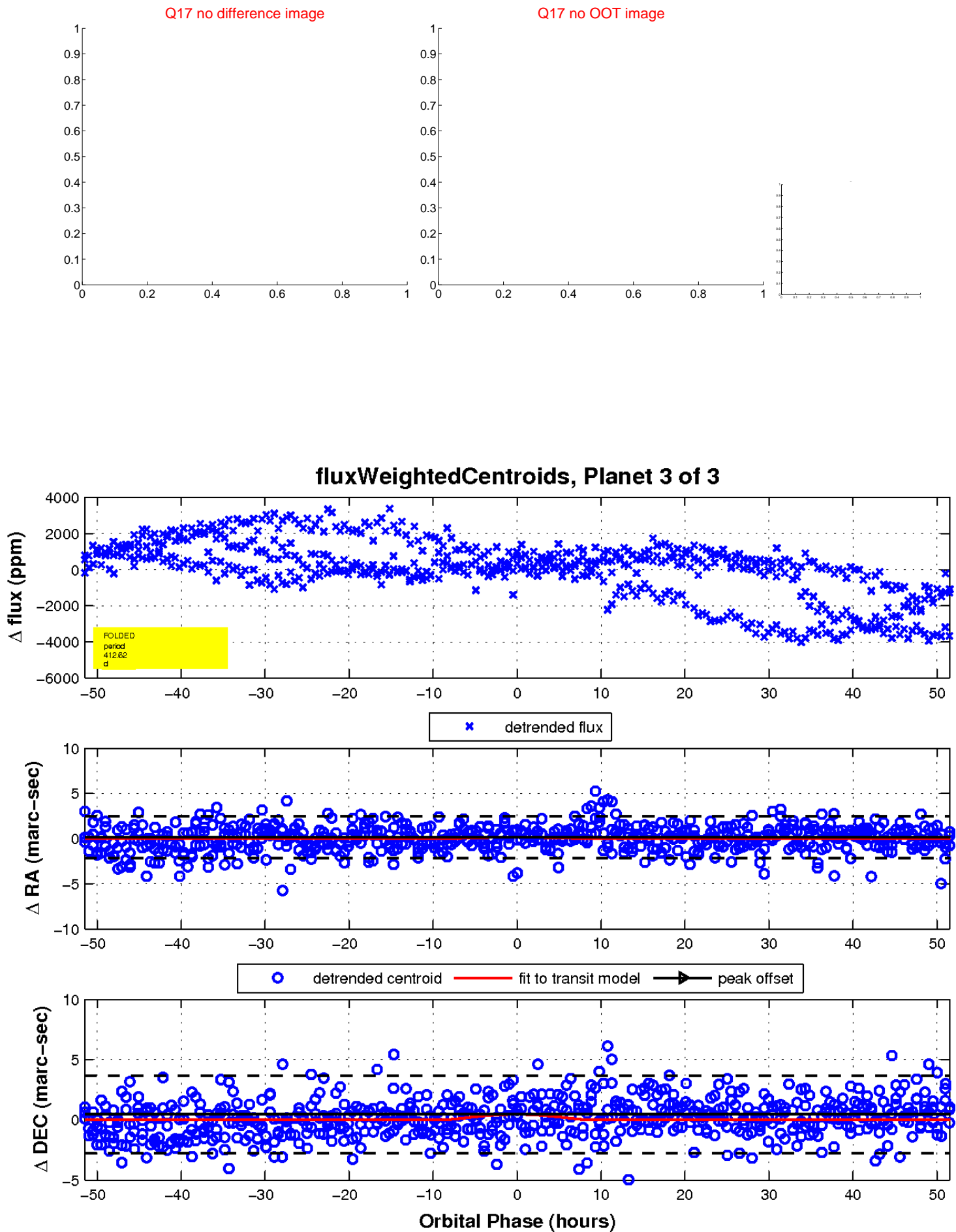
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

