

KIC 003850551

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})
003850551-01	OBS	No	3.865876	131.579106	107.7	12.500	7.9	-1.0	2.08	6404	2.17	2314.26
003850551-02	OBS	No	515.127569	438.005329	528.1	12.082	10.1	7.9	2.08	6404	6.01	3.40
003850551-03	OBS	No	3.865336	133.502190	65.1	18.760	9.6	11.5	2.08	6404	2.33	2314.69

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003850551-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
003850551-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS
003850551-03	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD

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

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

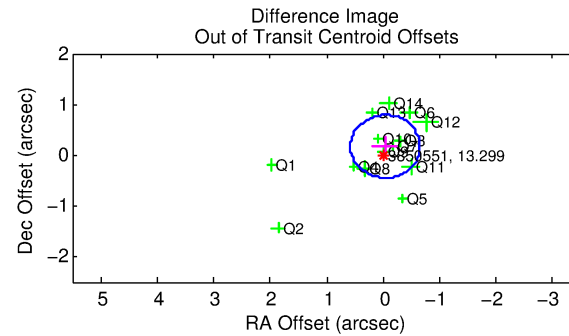
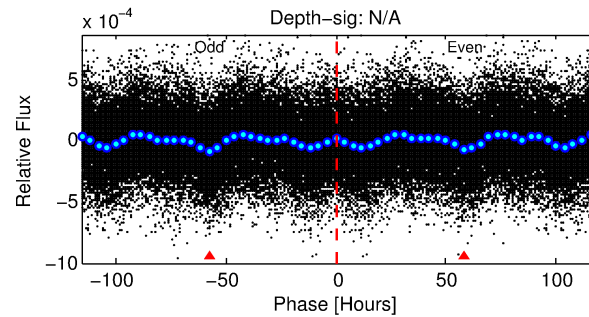
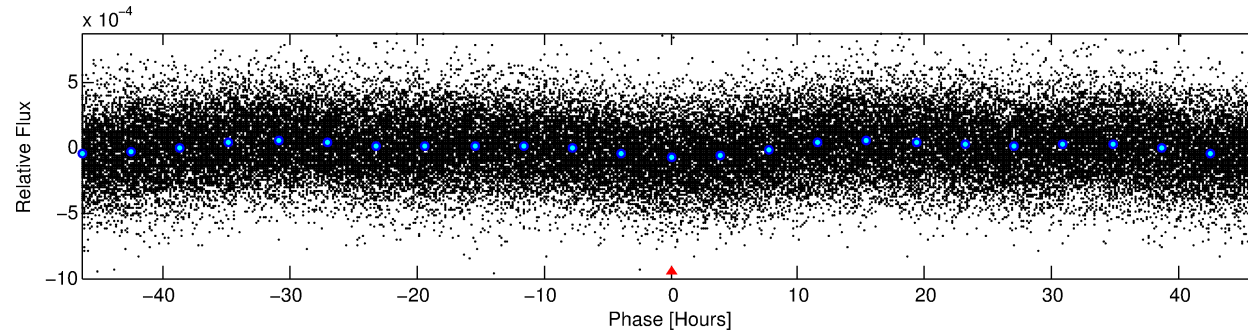
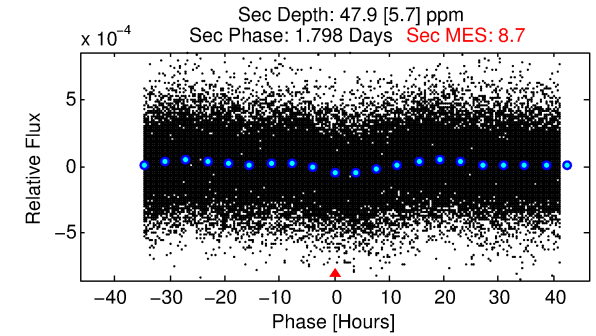
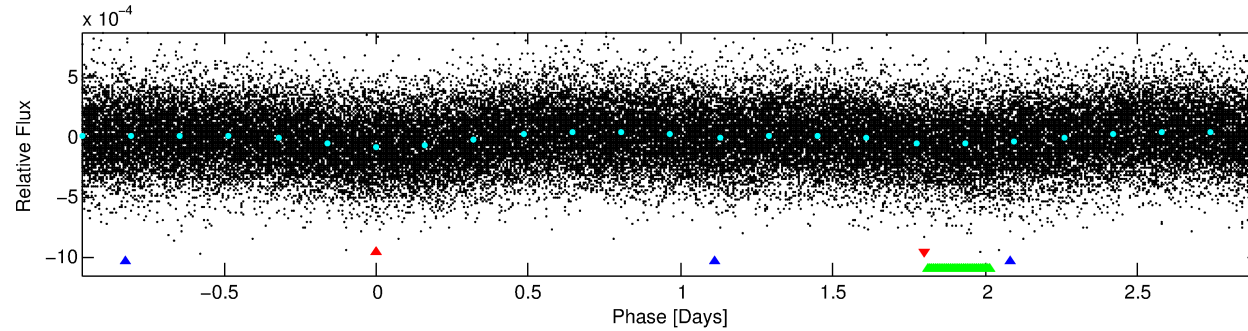
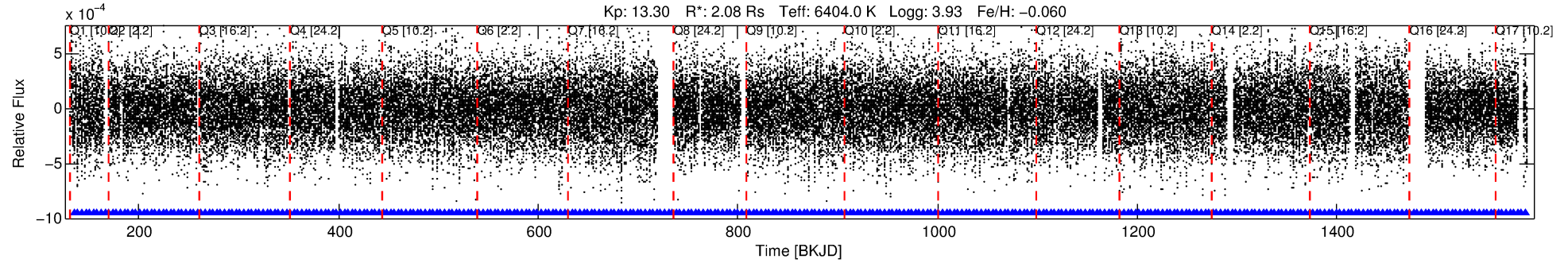
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003850551-01

No Significant Match Found

DV One-Page Summary

KIC: 3850551 Candidate: 1 of 3 Period: 3.866 d



TPS TCE Results:

Period = 3.86588 d
Epoch = 131.5791 BKJD

DV fit results are unavailable

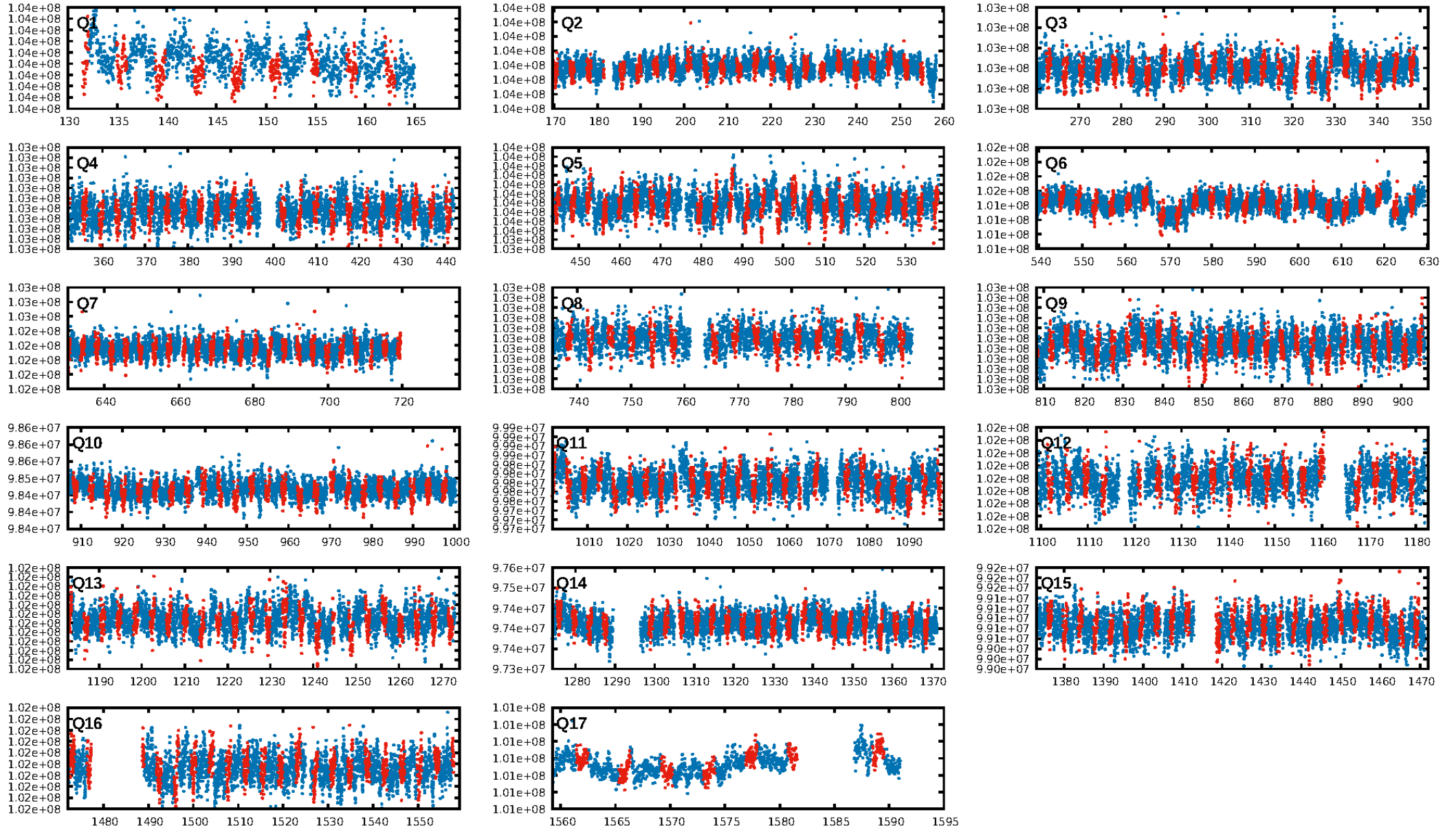
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: 100.0% [705.82 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [338/338]
GhostDiagnostic-chr: 1.135
Centroid-sig: 24.0%
Centroid-so: 0.199 arcsec [1.32 σ]
OotOffset-rm: 0.174 arcsec [0.84 σ]
KicOffset-rm: 0.292 arcsec [1.41 σ]
OotOffset-st: 4/3/3/4 [14]
KicOffset-st: 4/3/3/4 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [17/17]

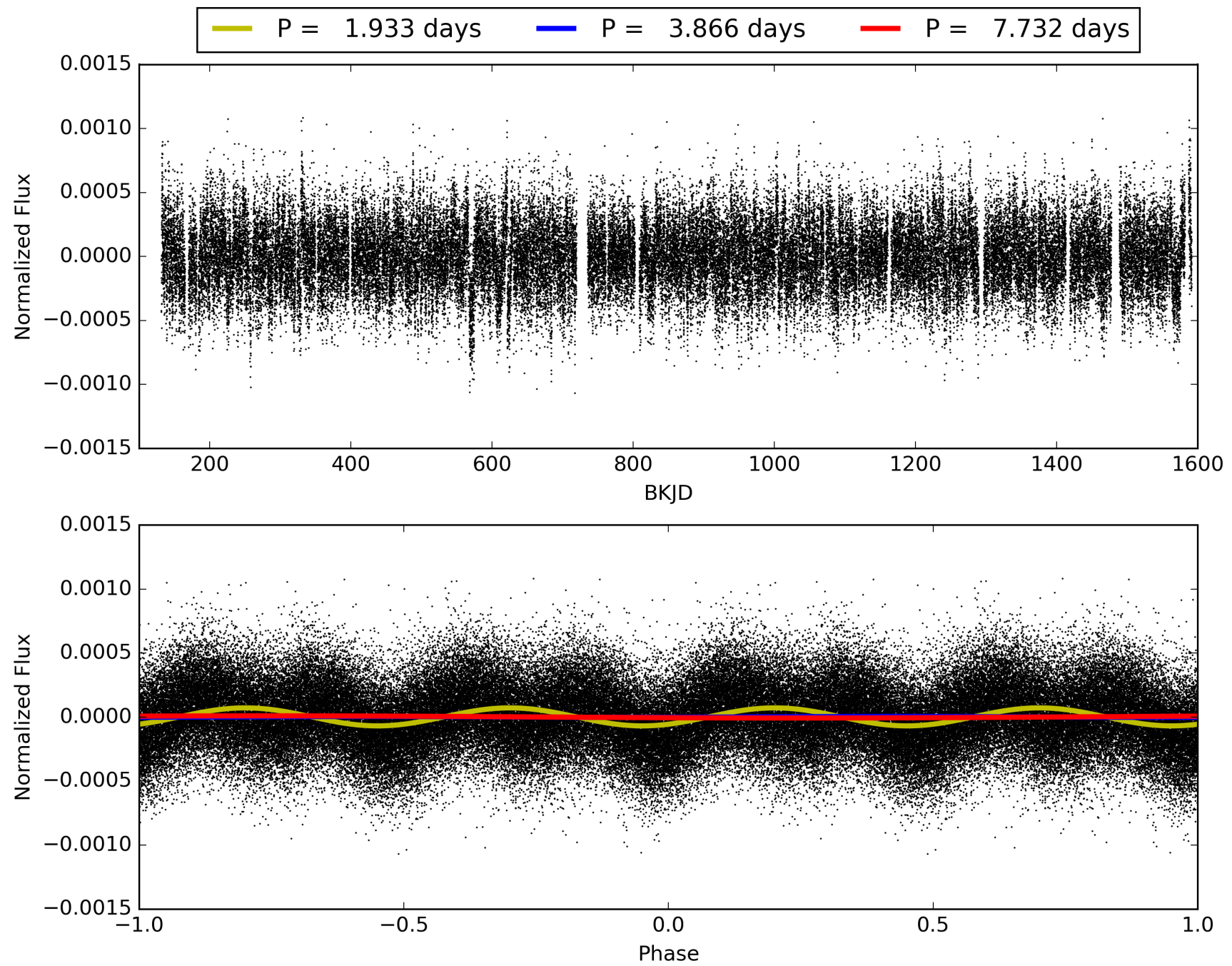
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:31:02 Z

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

TCE 003850551-01, PDC Light Curves

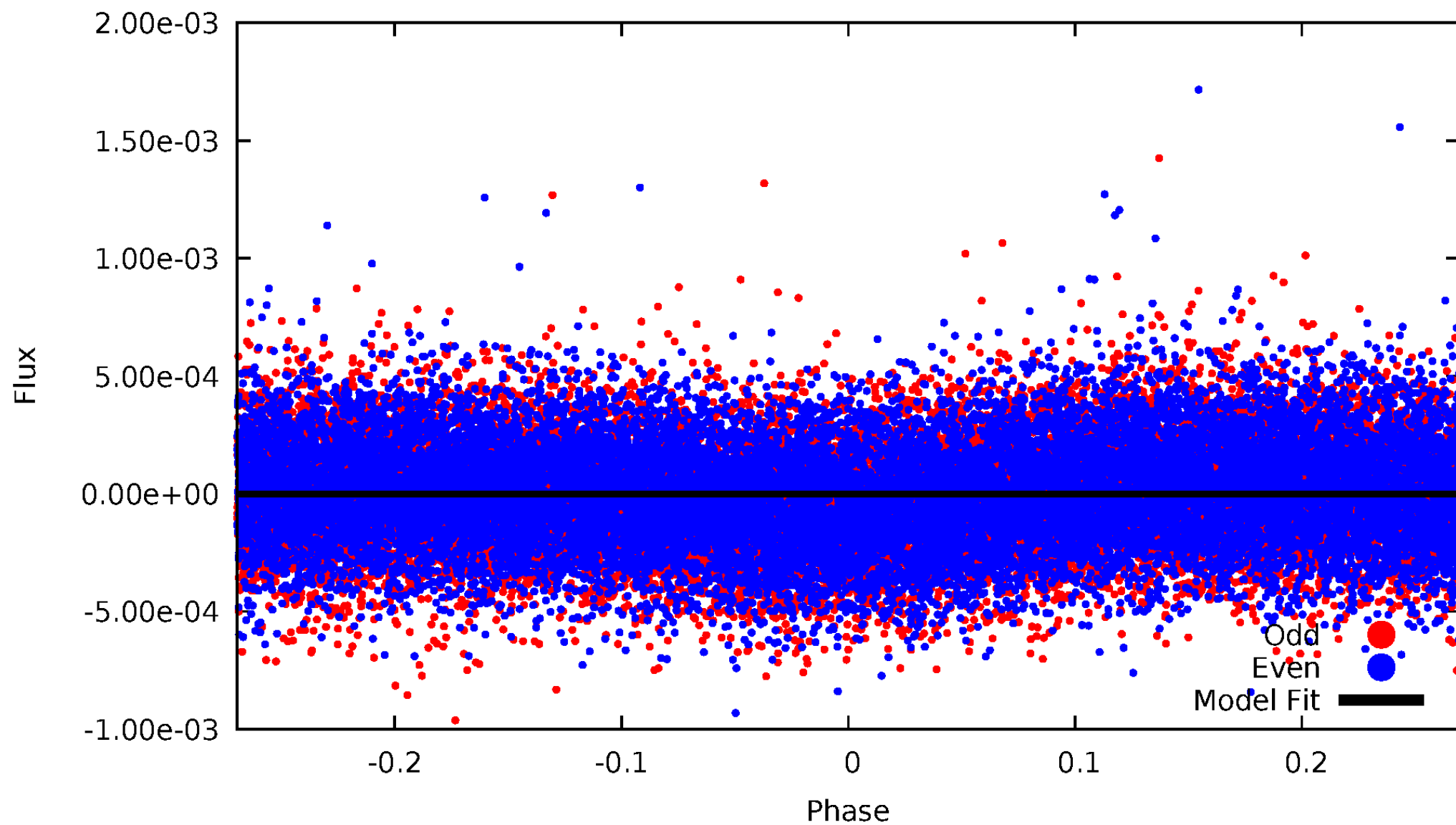


TCE 003850551-01



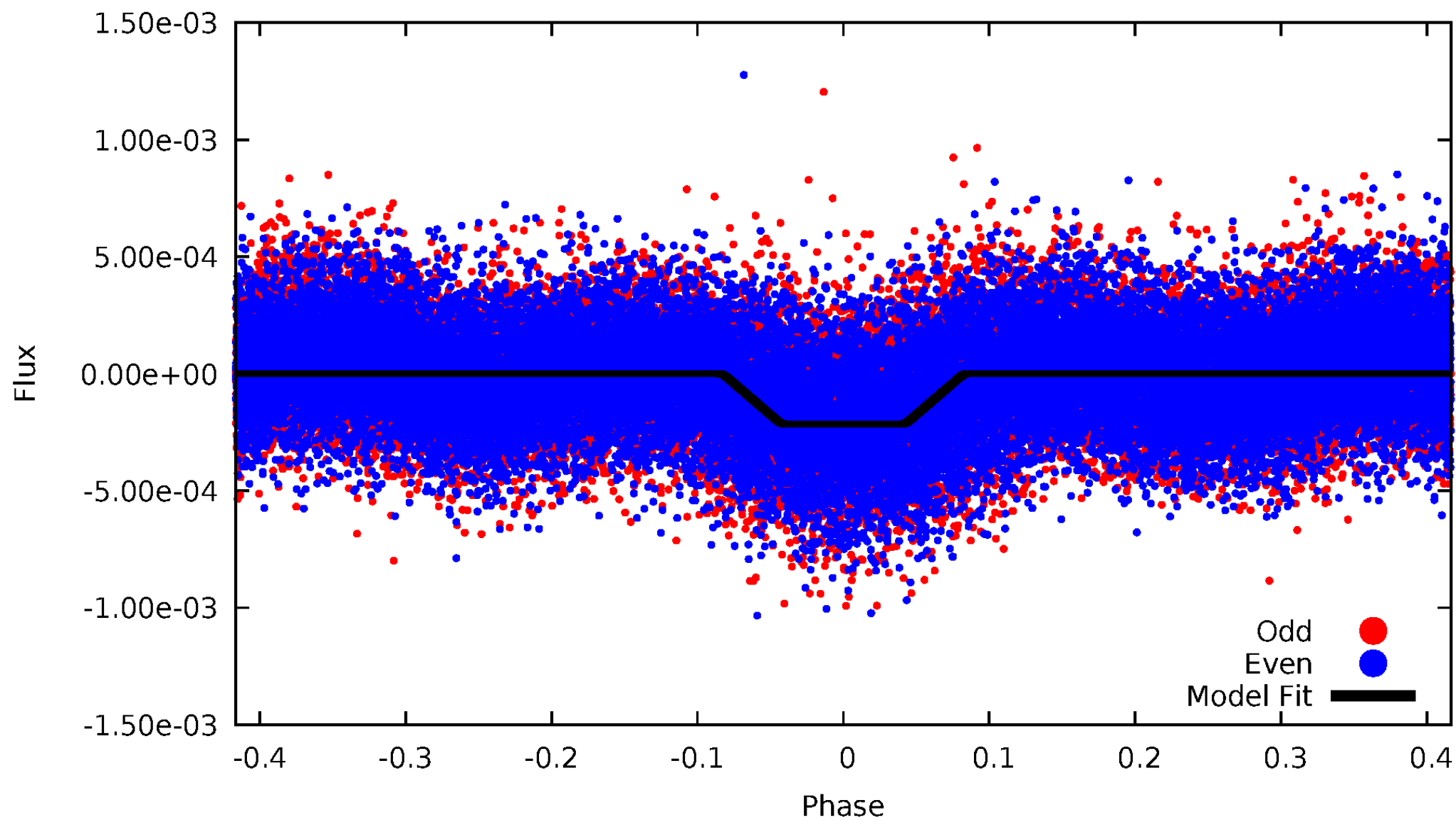
DV Odd/Even

TCE 003850551-01

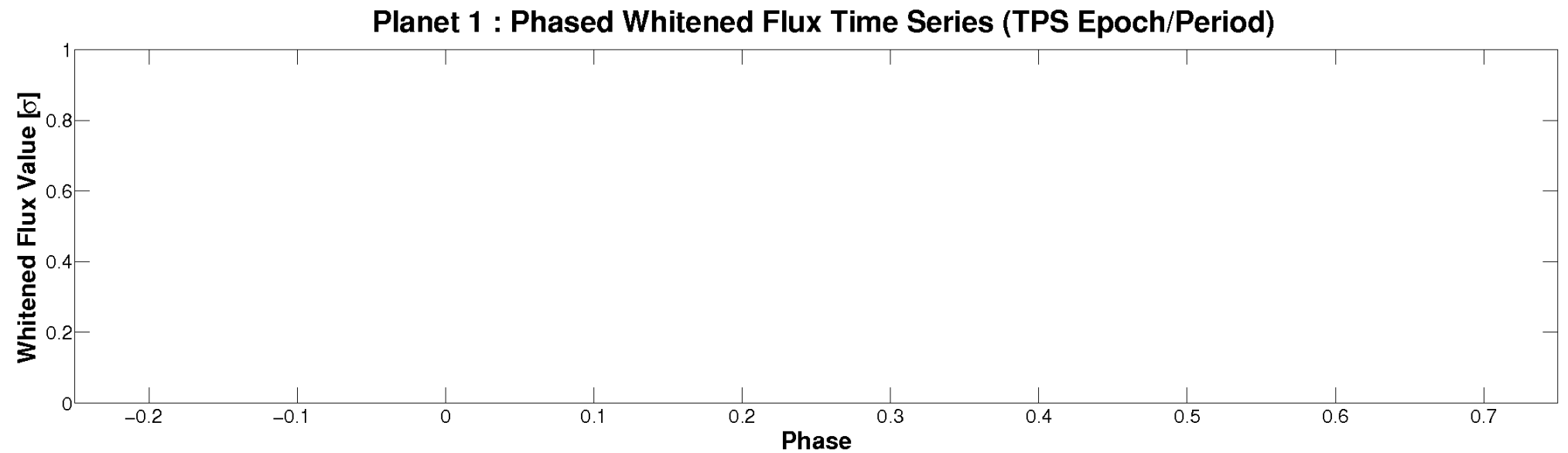
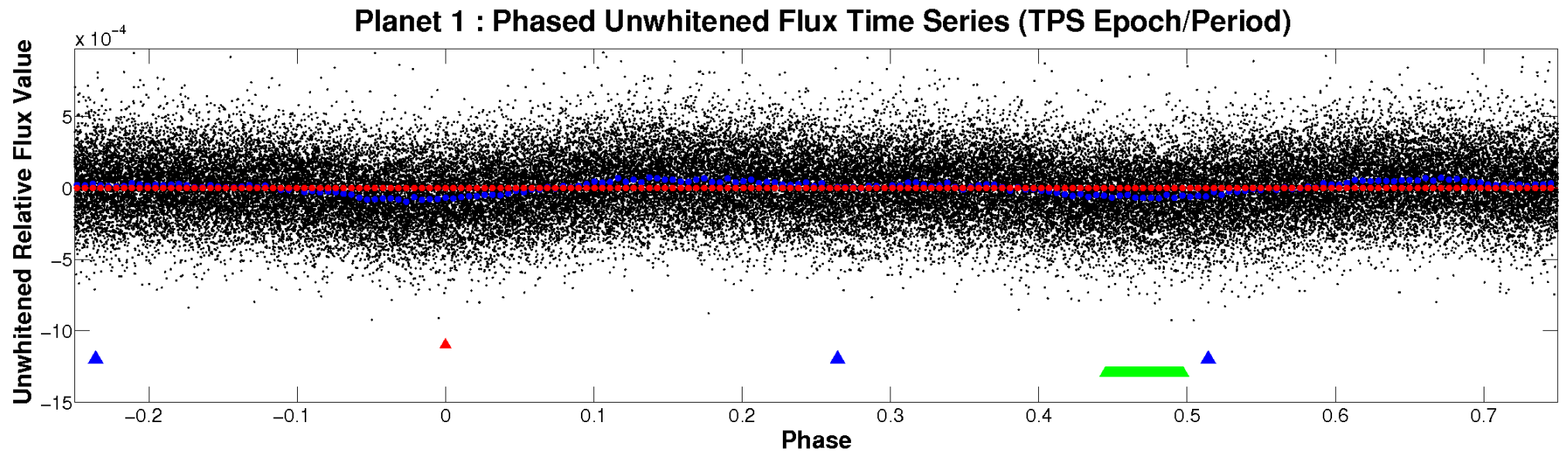


ALT Odd/Even

TCE 003850551-01

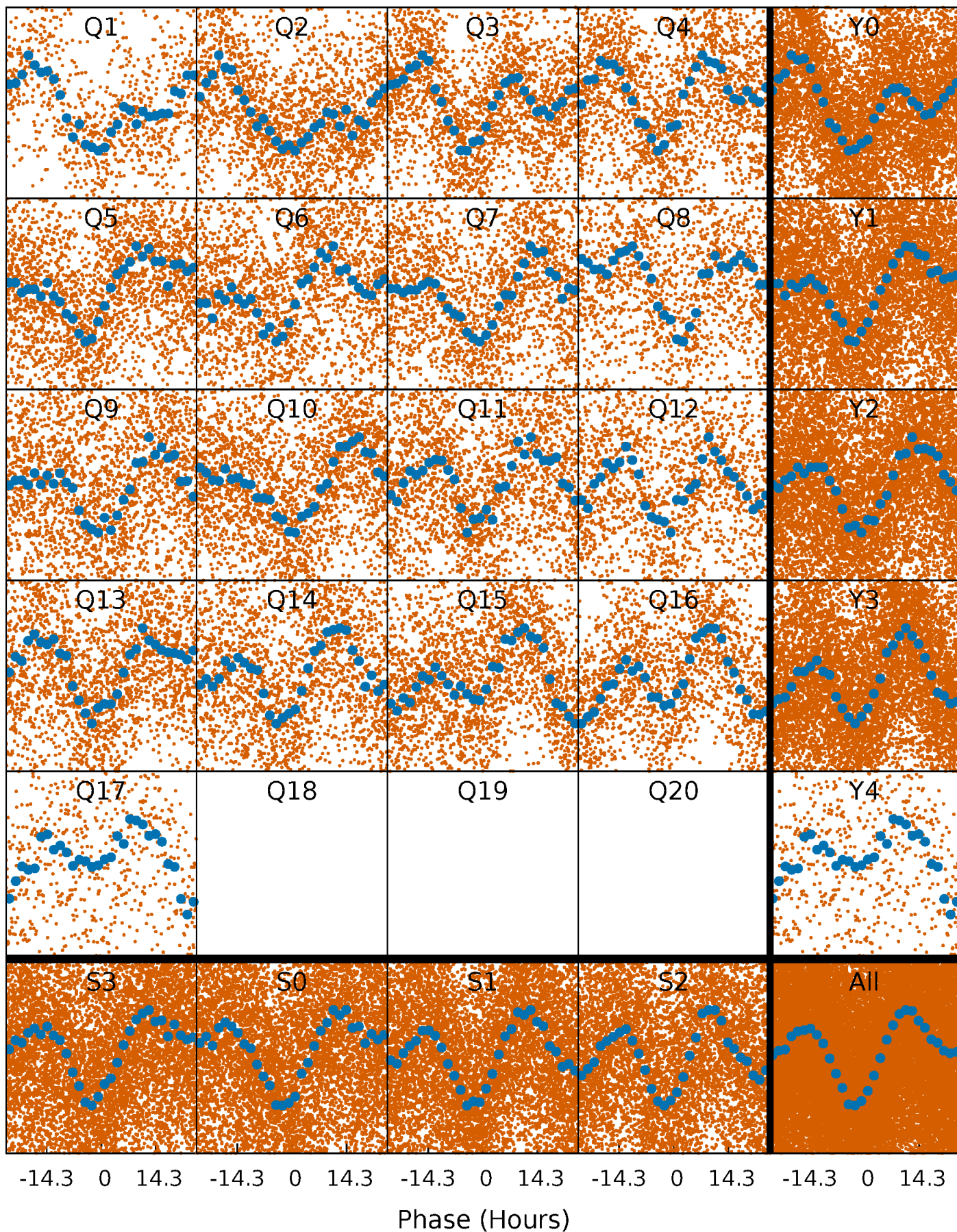


Non-Whitened Vs. Whitened Light Curve



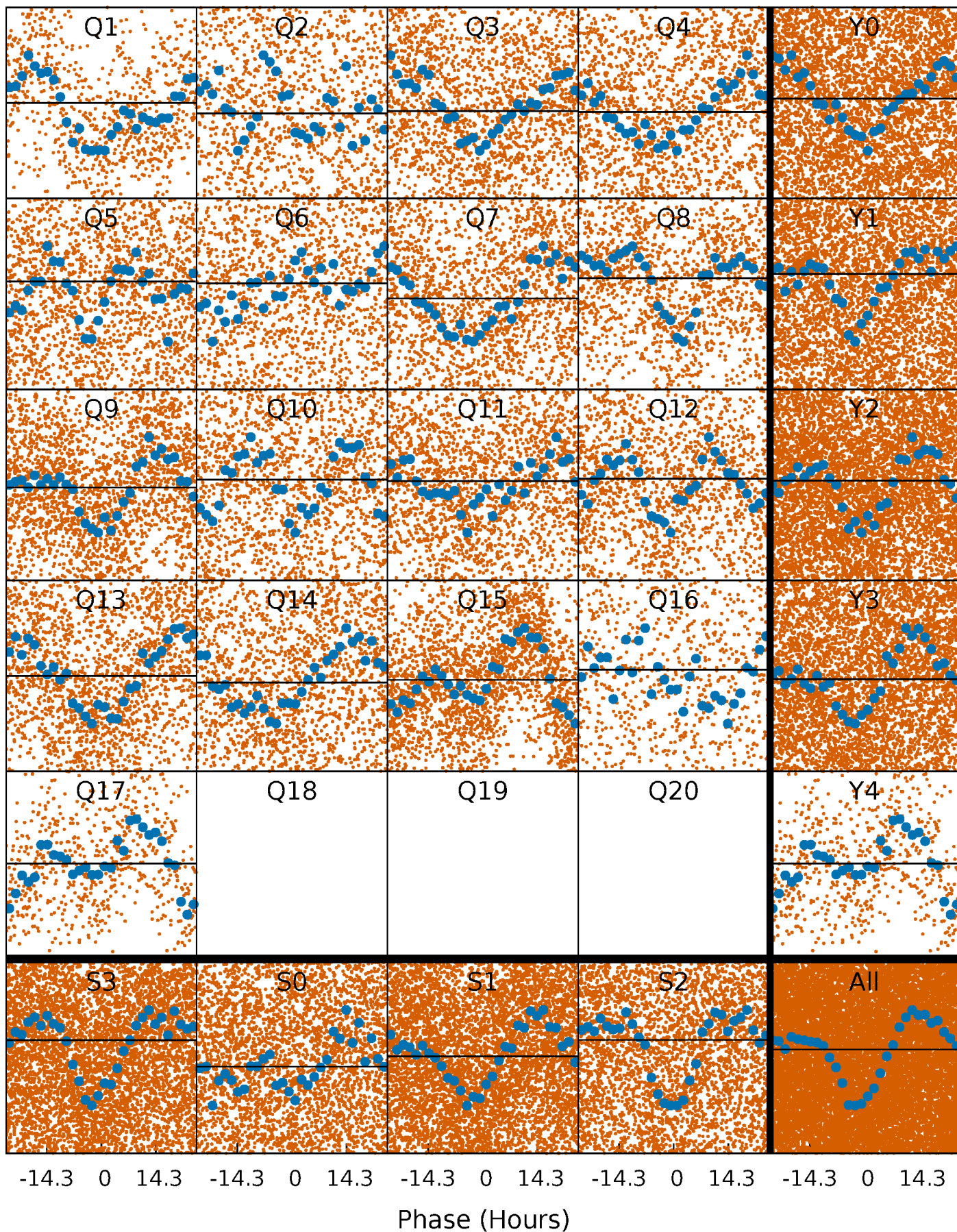
PDC Quarter-Phased Transit Curves

TCE 003850551-01 P= 3.865876 Days $T_0=131.579106$ (BKJD)



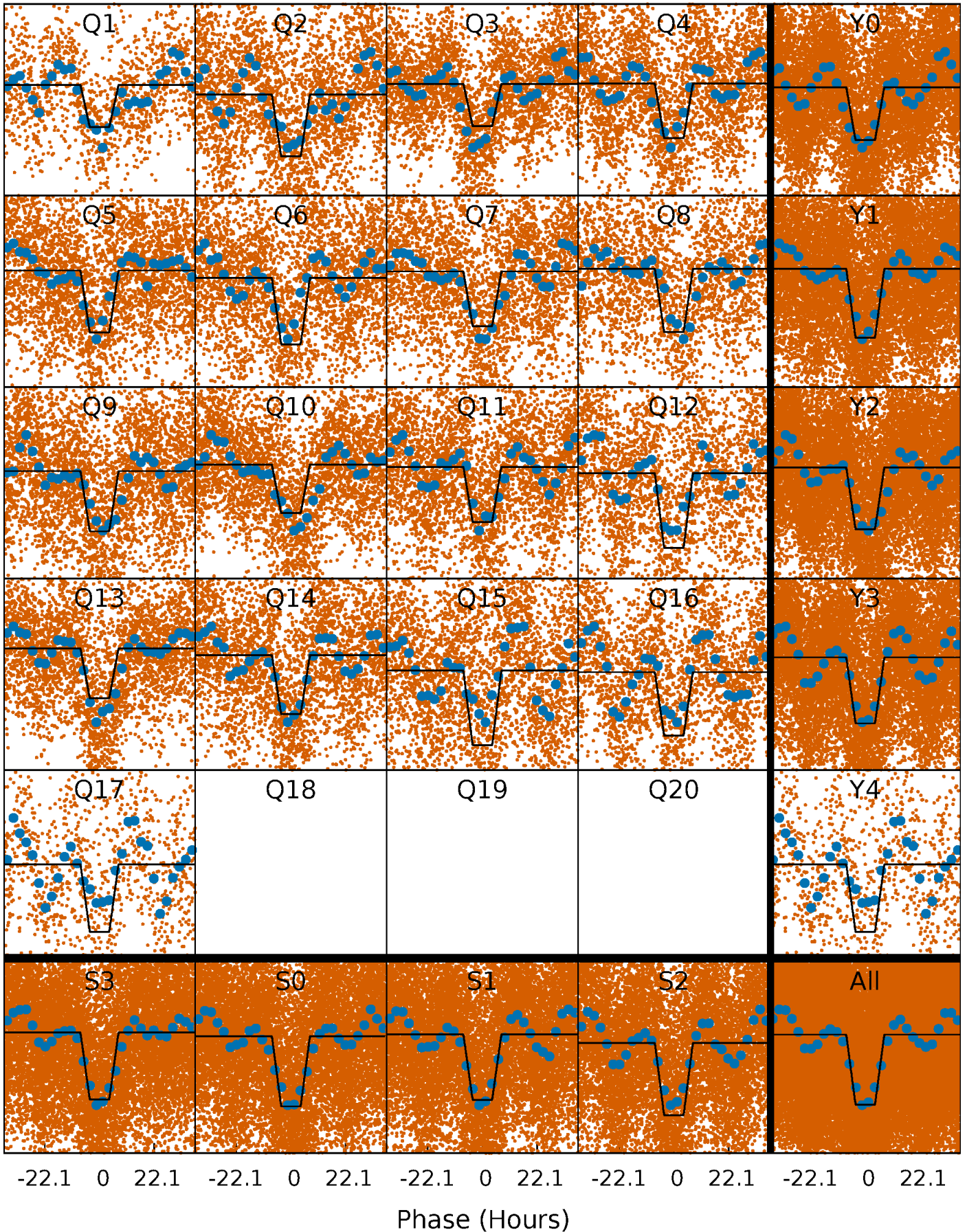
DV Quarter-Phased Transit Curves

TCE 003850551-01 P= 3.865876 Days $T_0=131.579106$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

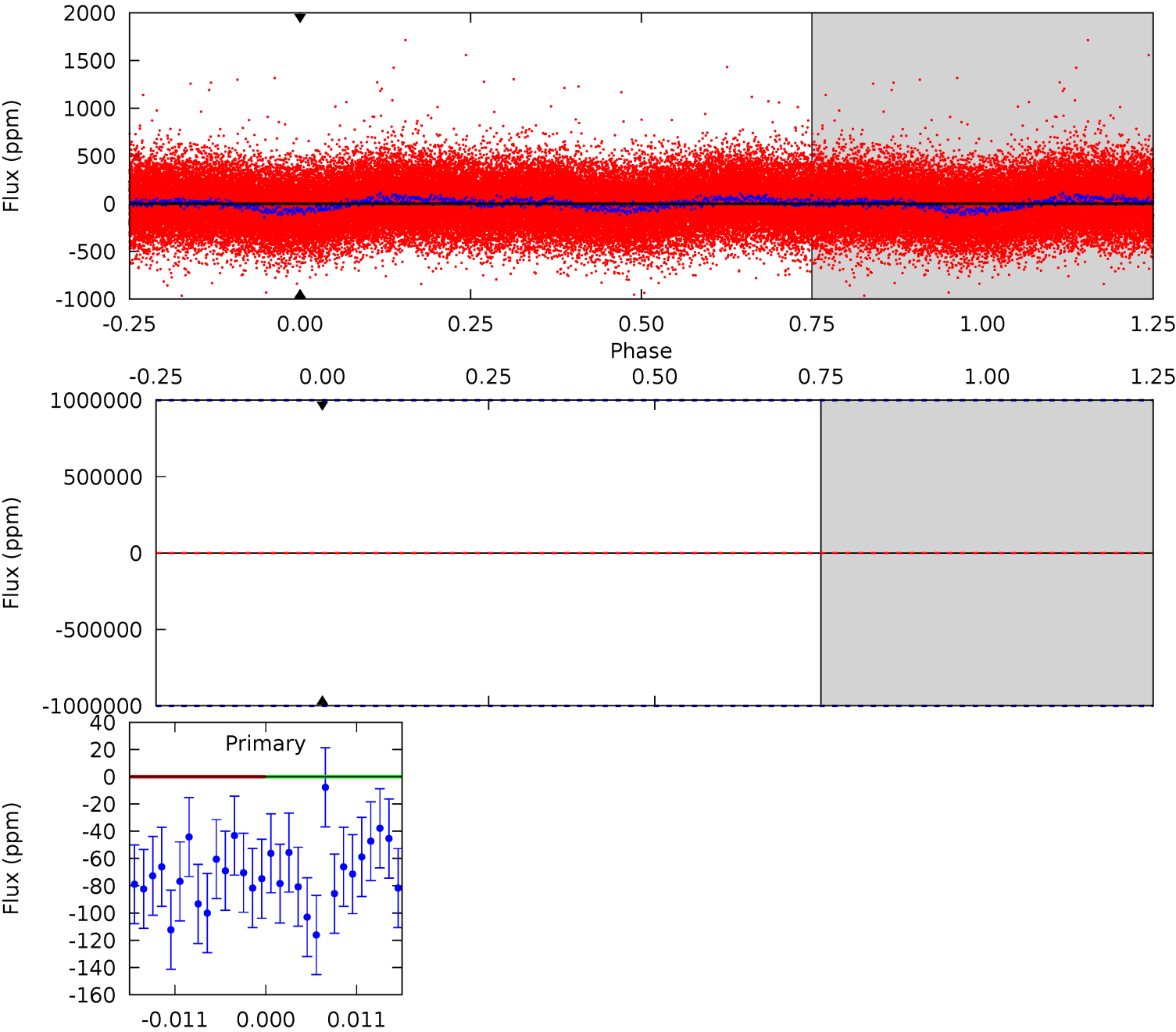
TCE 003850551-01 P= 3.865876 Days $T_0=135.353362$ (BKJD)



DV Model-Shift Uniqueness Test

003850551-01, P = 3.865876 Days, E = 127.713230 Days

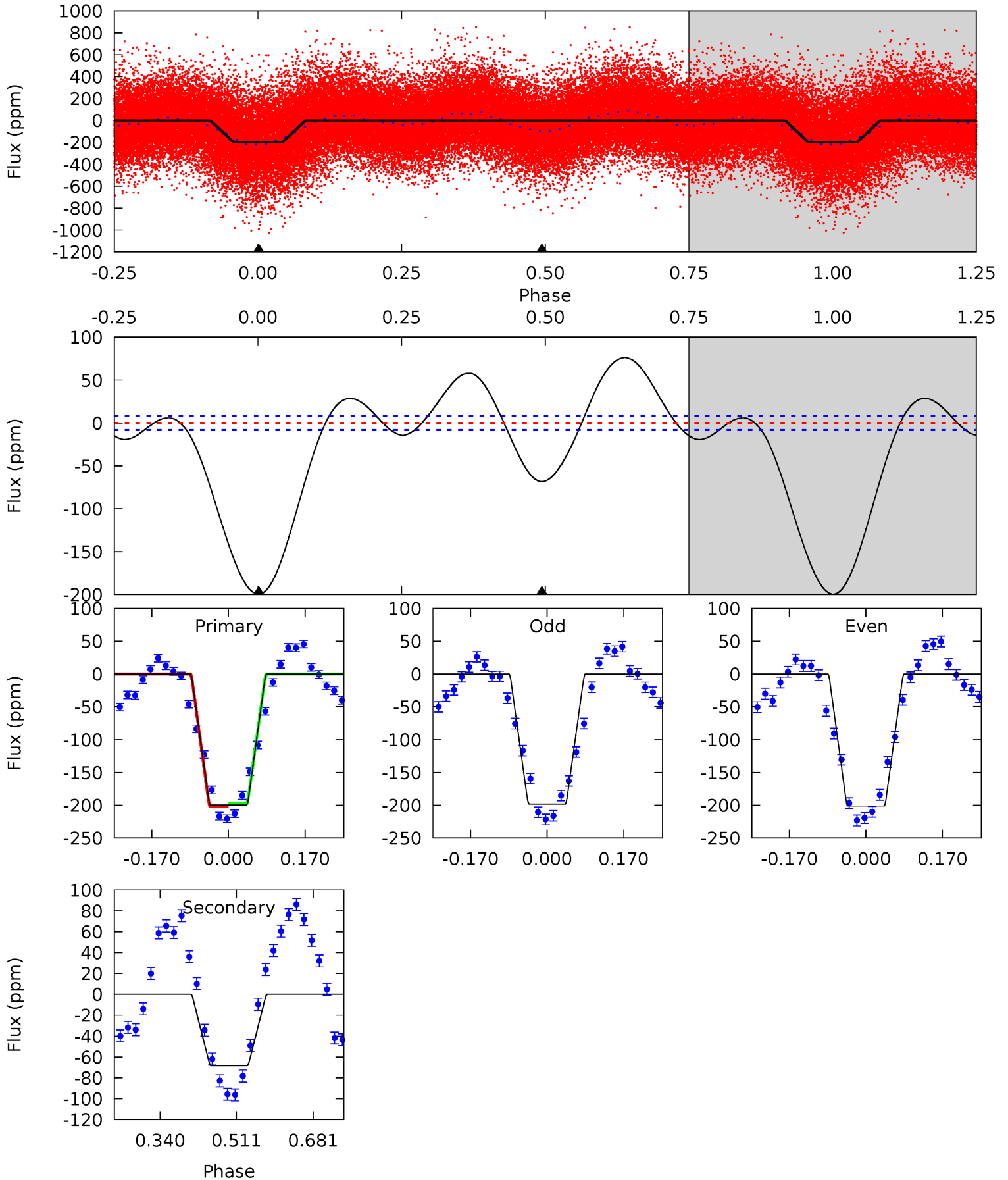
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

003850551-01, P = 3.865876 Days, E = 131.487486 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
107.0	36.6	0	0	4.45	1.37	11.1	107.0	107.0	36.6	36.6	0.86	1.01	0.28	1.19



Stellar Parameters For KIC 003850551

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6404^{+83}_{-77}	$3.927^{+0.195}_{-0.105}$	$-0.060^{+0.150}_{-0.150}$	$2.080^{+0.408}_{-0.498}$	$1.336^{+0.169}_{-0.152}$	$0.209^{+0.225}_{-0.068}$
	+1%/-1%	+5%/-3%	+250%/-250%	+20%/-24%	+13%/-11%	+108%/-32%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 003850551-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$15.45^{+16.86}_{-10.11}$	2455^{+138}_{-148}	-5329^{+36543}_{-21094}	$-10.535^{+1283.409}_{-1055.372}$
Alt.	-68 ± 2	$16.38^{+17.30}_{-11.12}$	2457^{+121}_{-154}	2395^{+1619}_{-5031}	$0.398^{+3.371}_{-0.303}$

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

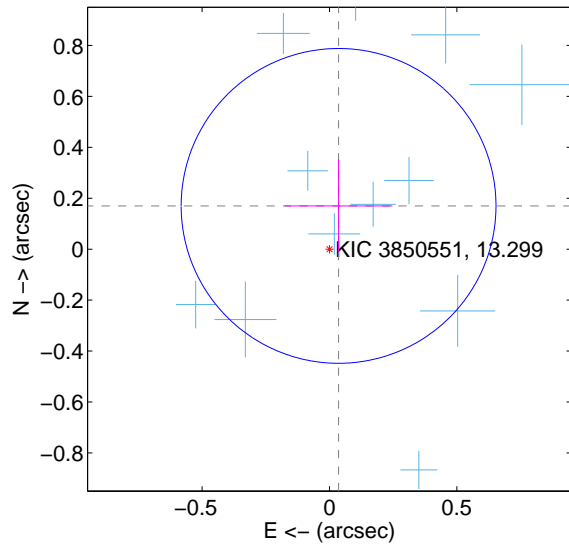
Supplemental centroid analysis for 003850551-01. Kepler magnitude: 13.30. Transit SNR -1.00

There are 14 quarters with good PRF difference image offsets

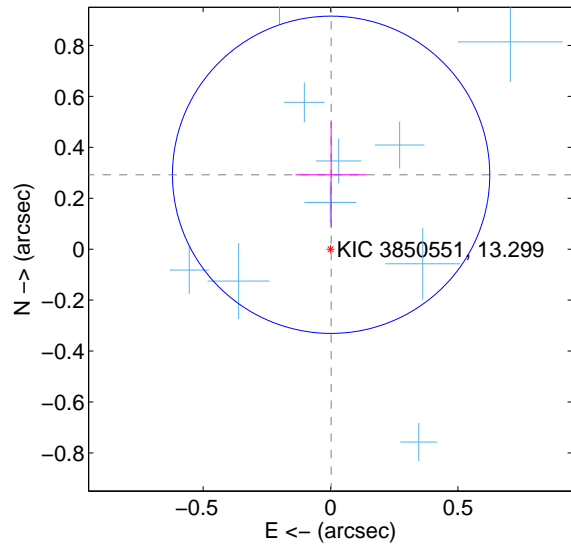
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.174 ± 0.206	0.84	-0.036 ± 0.211	0.170 ± 0.183
PRF-fit source offset from KIC position	0.292 ± 0.208	1.41	-0.002 ± 0.139	0.292 ± 0.208
photometric centroid source offset	0.20 ± 0.15	1.32	0.10 ± 0.14	0.17 ± 0.16

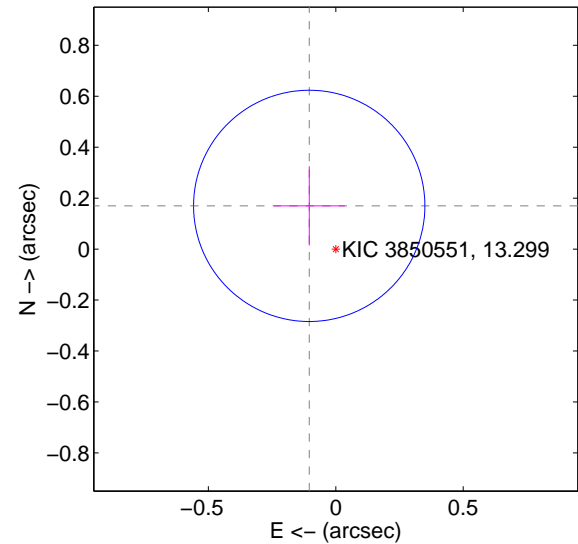
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

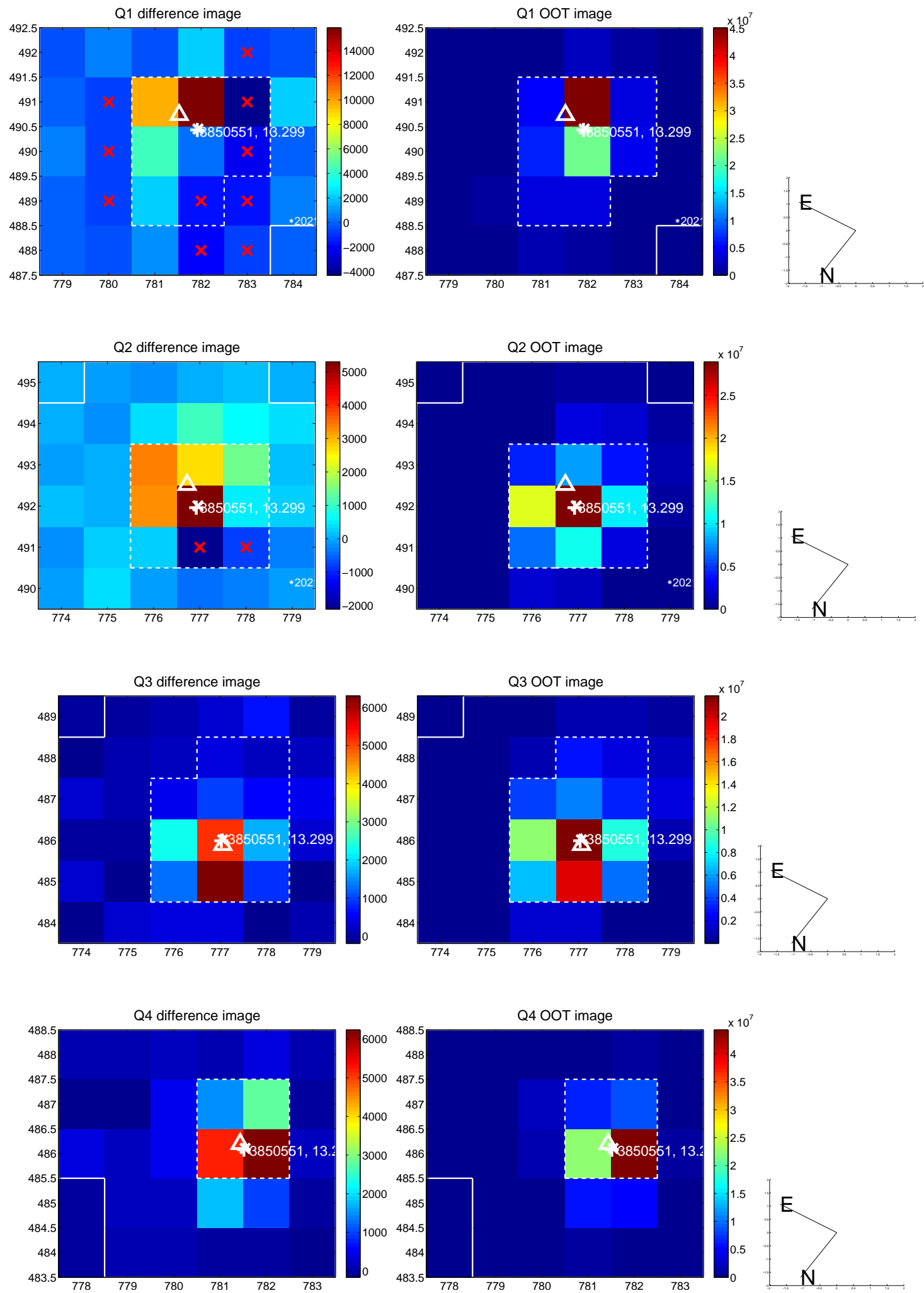


offset from photometric centroids

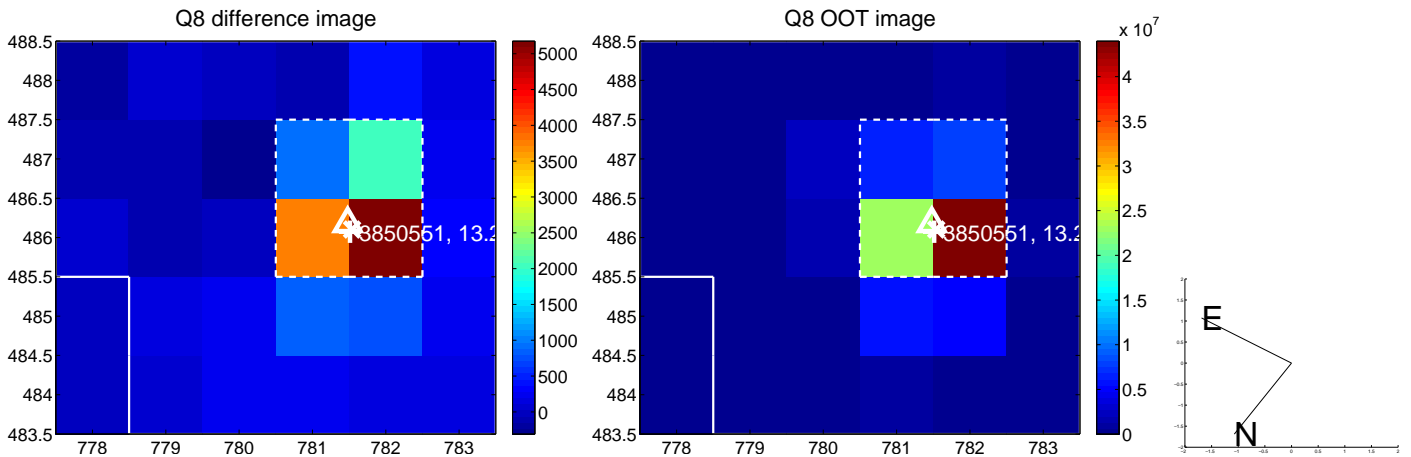
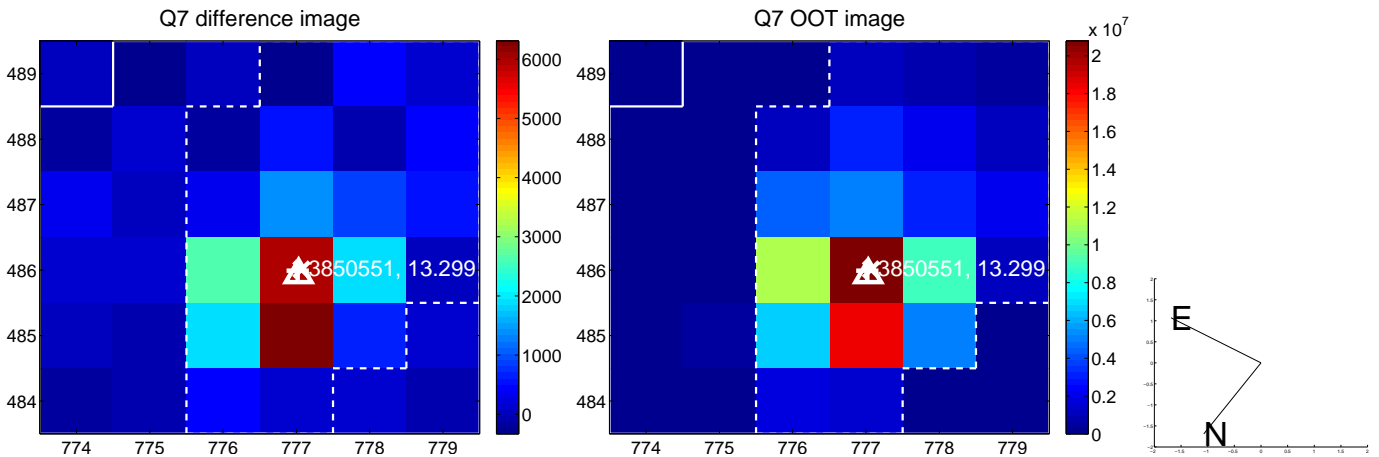
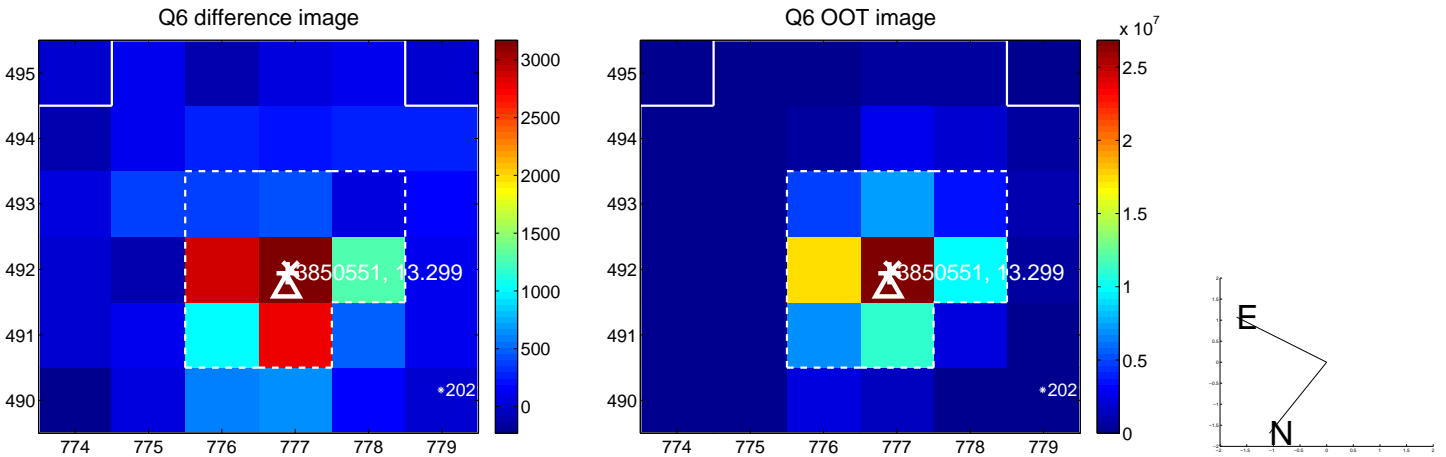
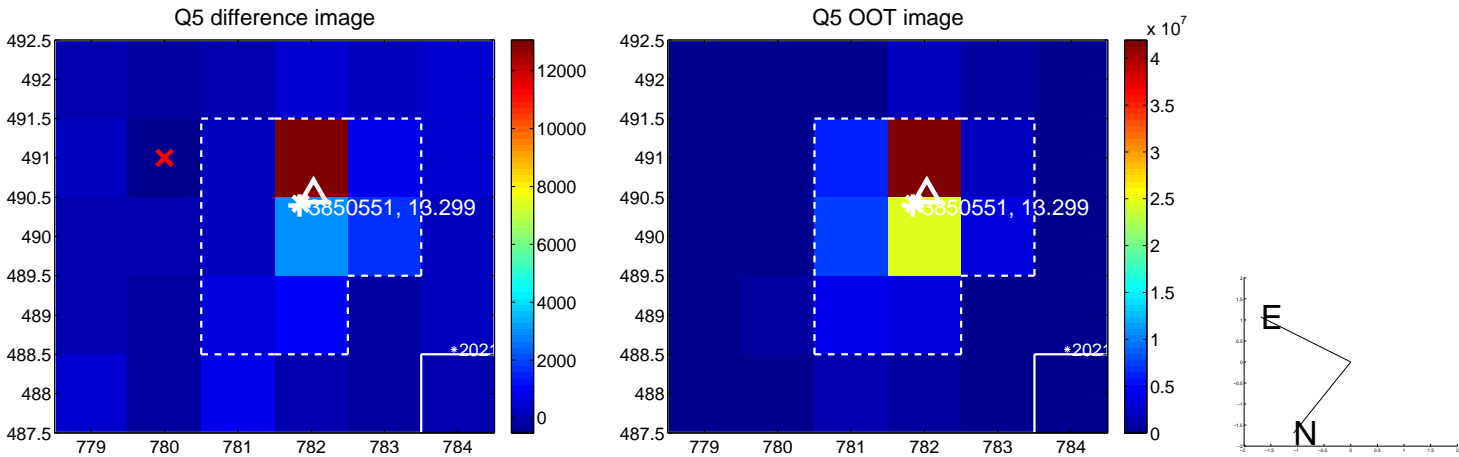


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

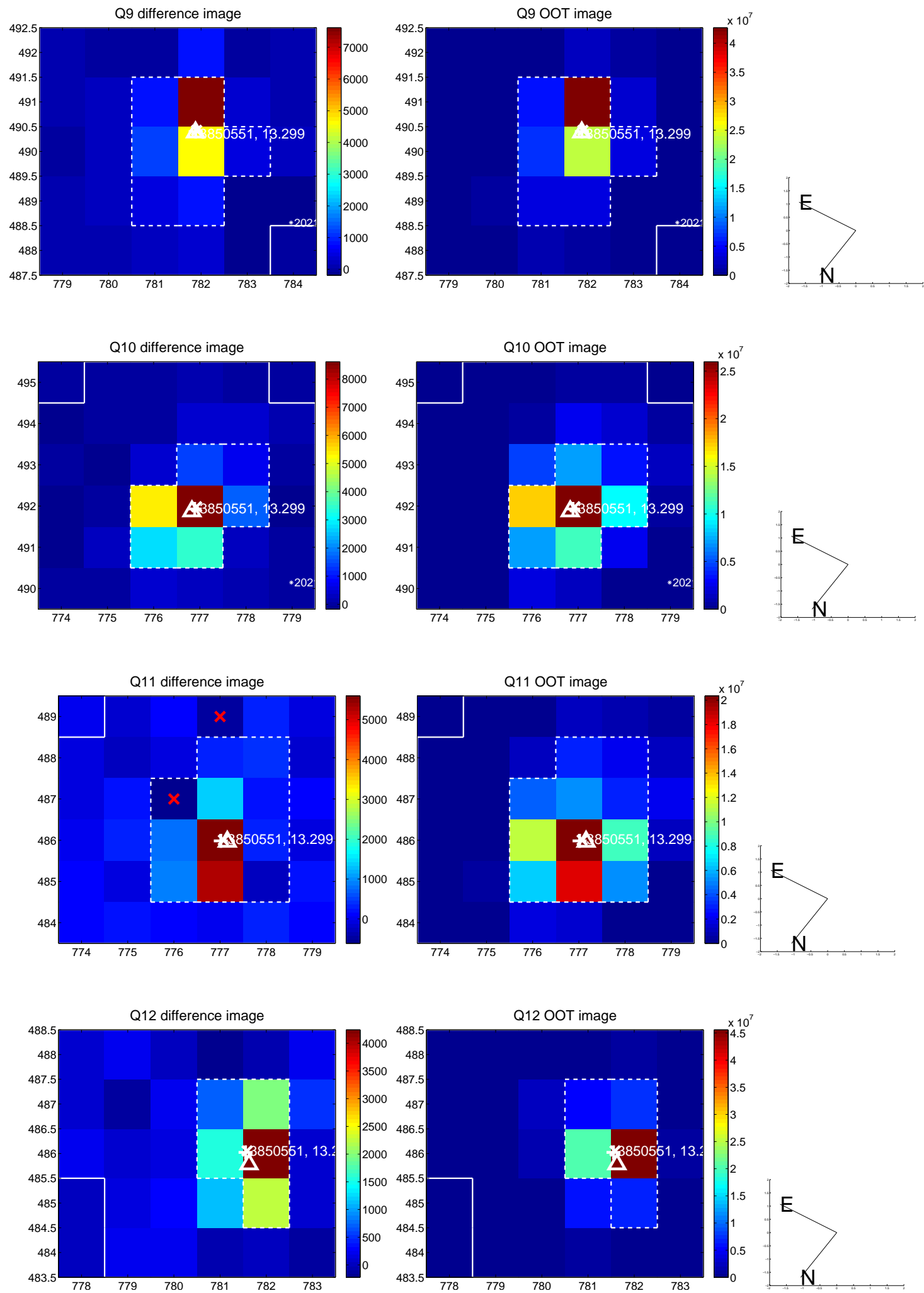
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



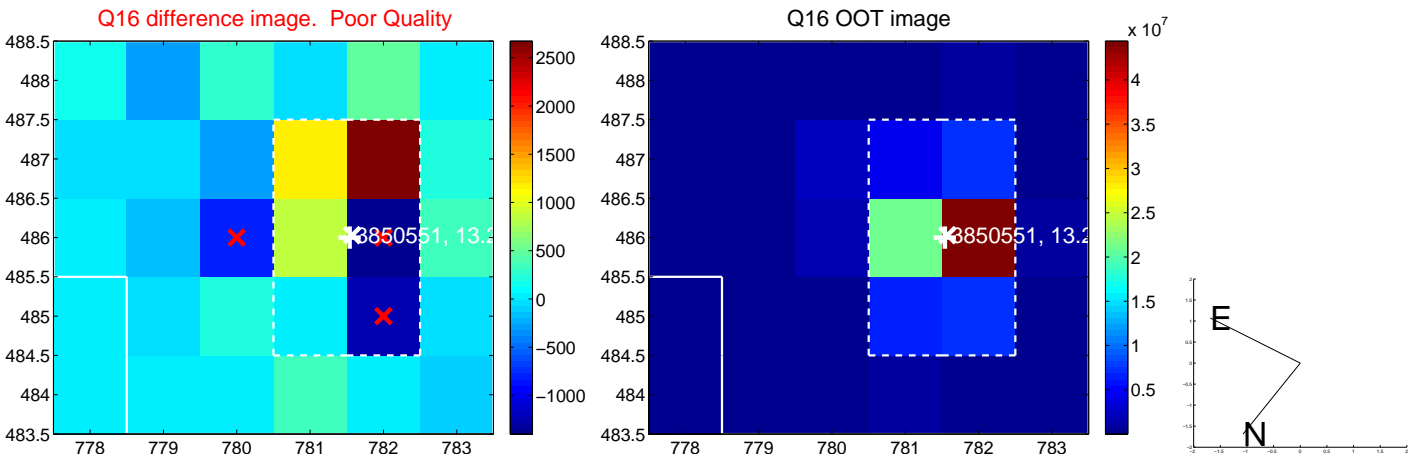
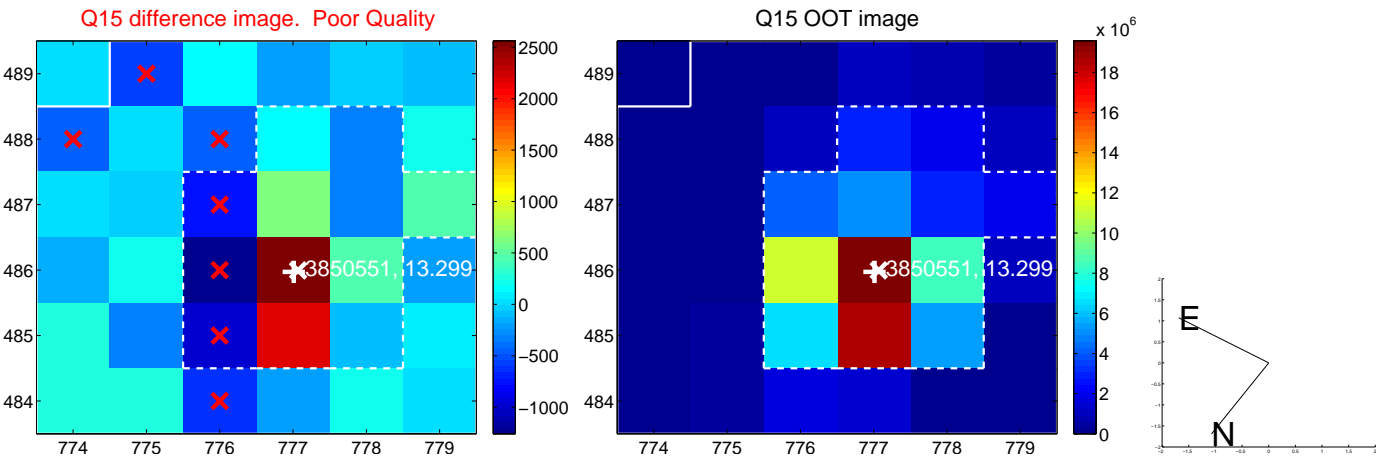
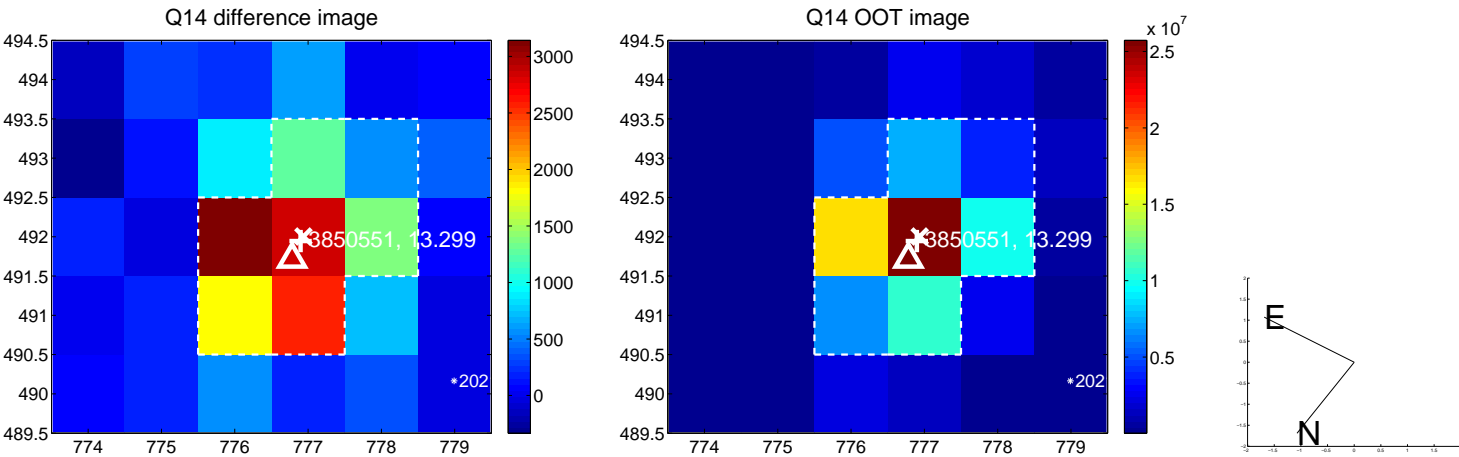
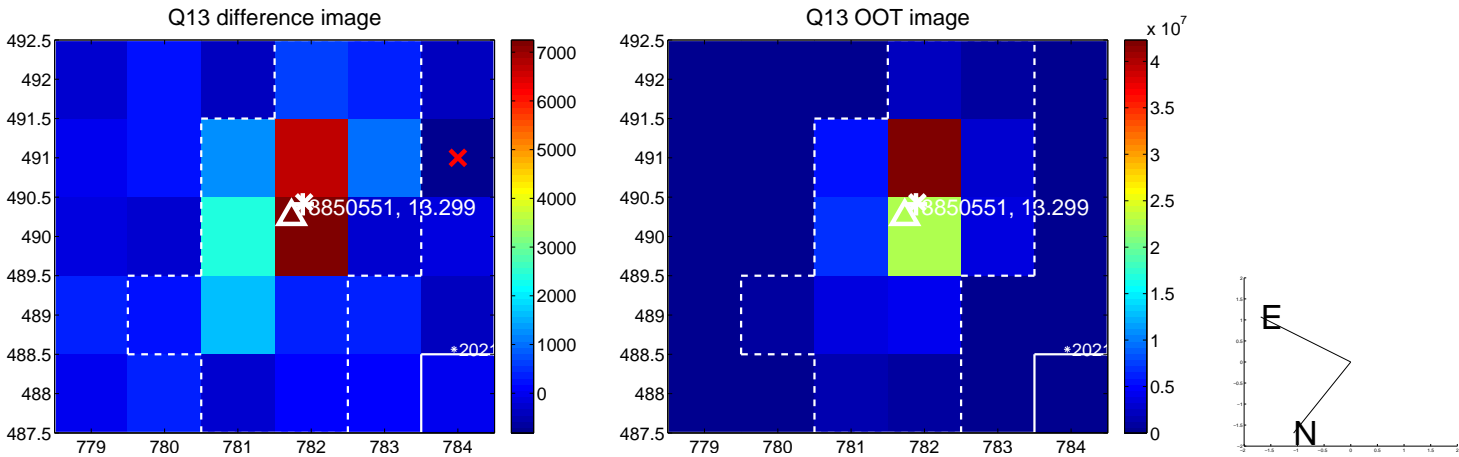
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



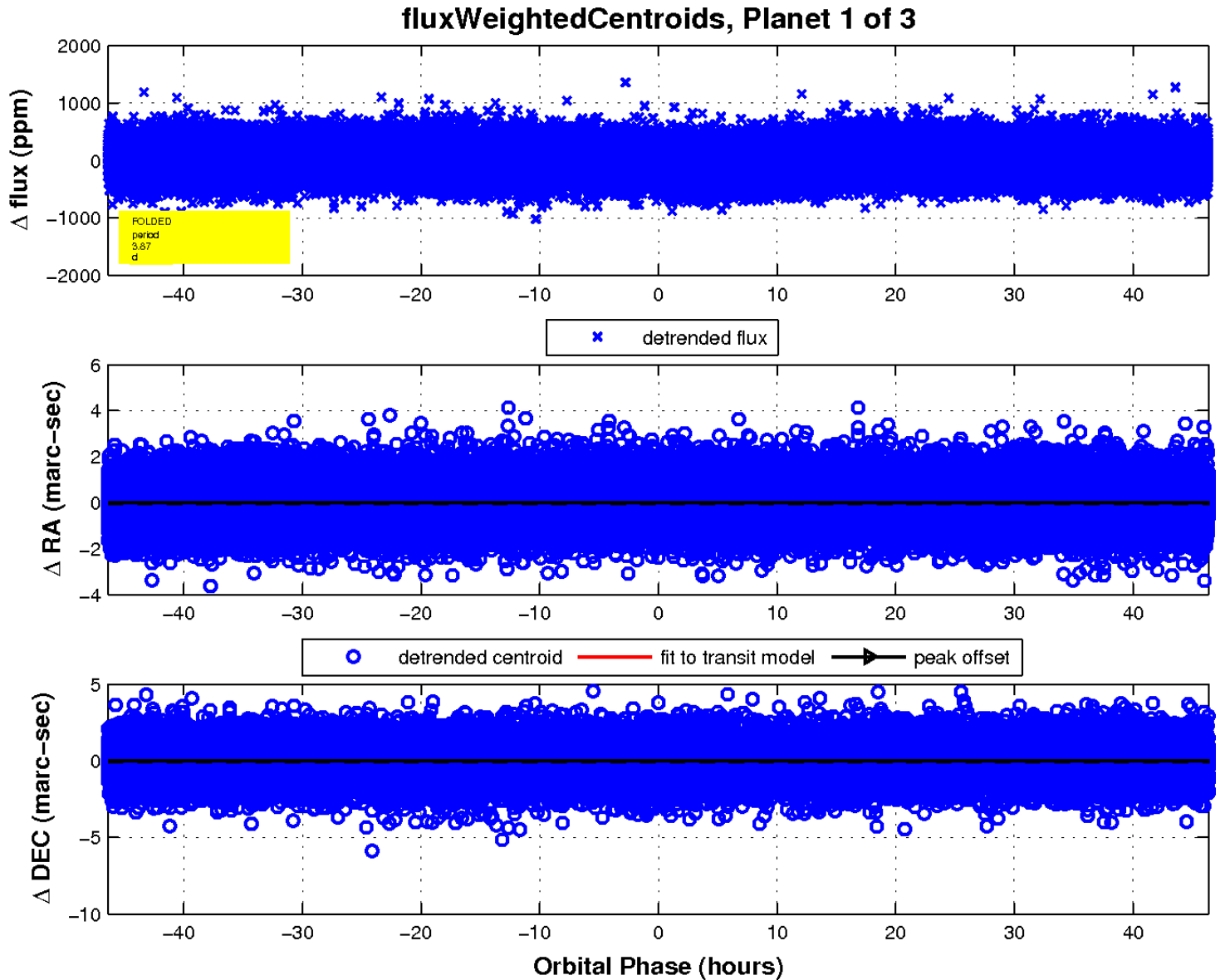
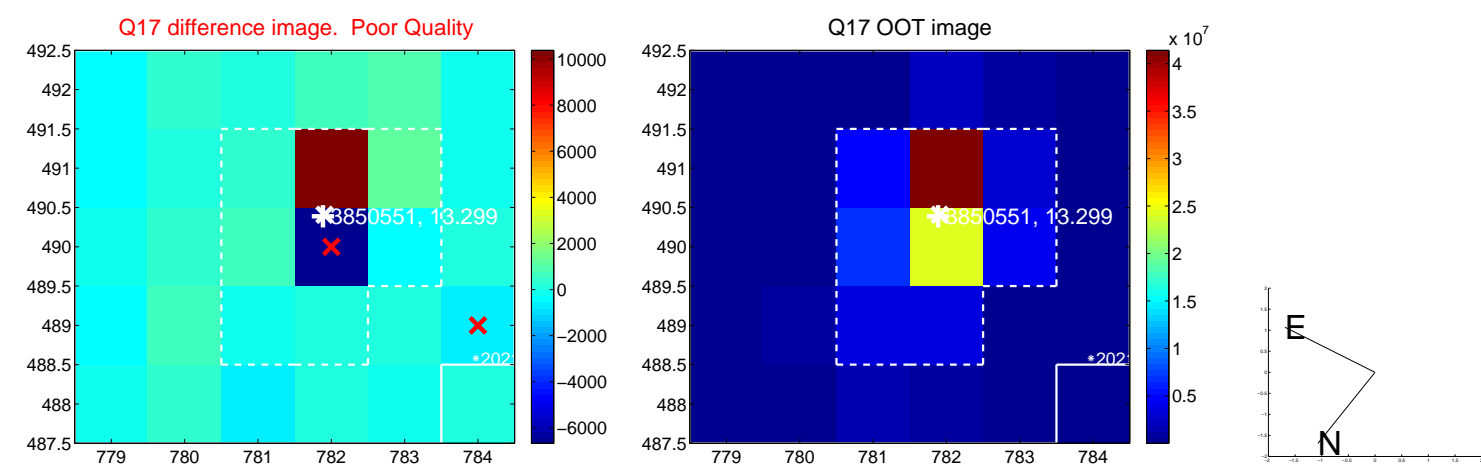
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

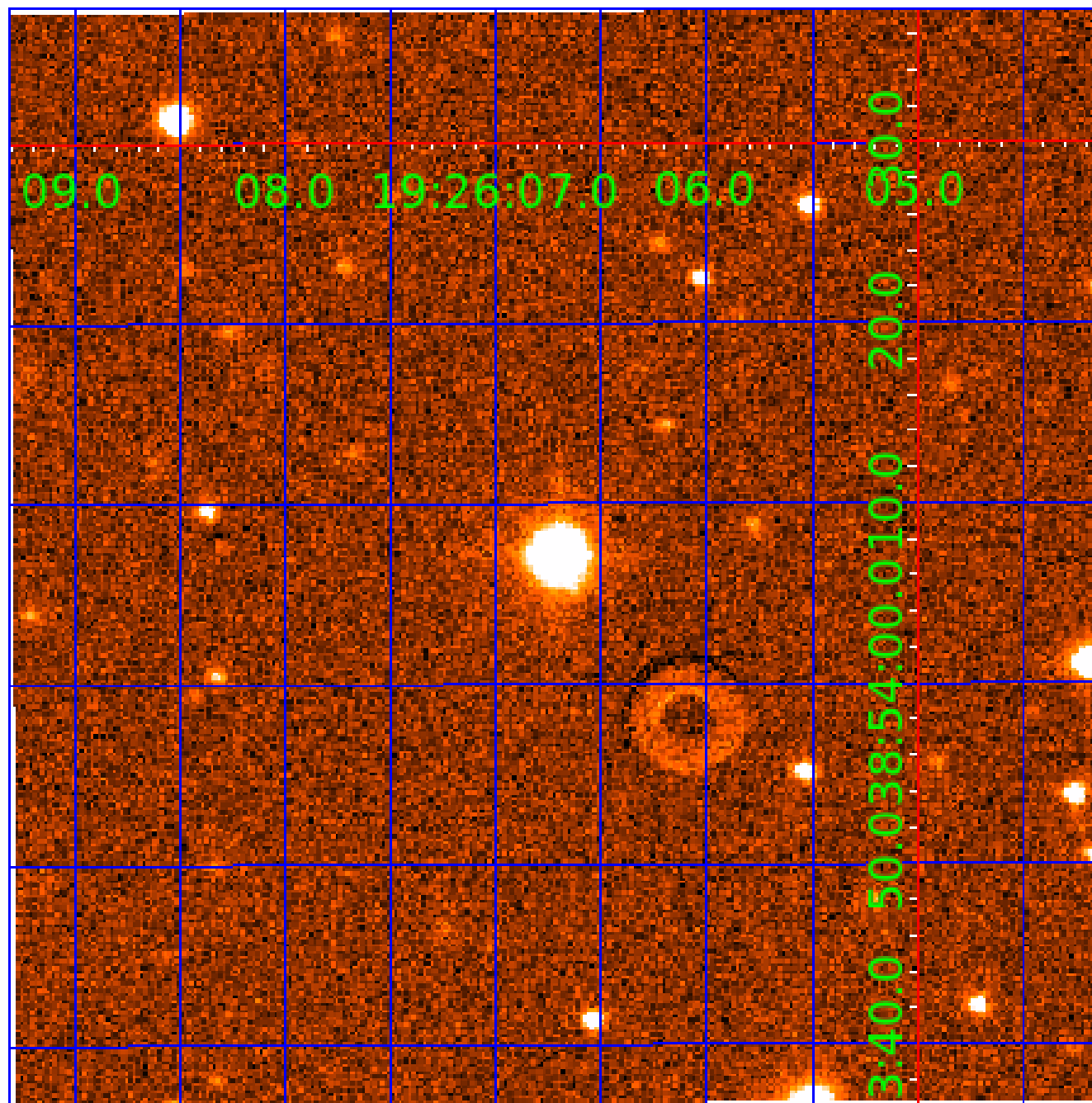


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003850551

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})
003850551-01	OBS	No	3.865876	131.579106	107.7	12.500	7.9	-1.0	2.08	6404	2.17	2314.26
003850551-02	OBS	No	515.127569	438.005329	528.1	12.082	10.1	7.9	2.08	6404	6.01	3.40
003850551-03	OBS	No	3.865336	133.502190	65.1	18.760	9.6	11.5	2.08	6404	2.33	2314.69

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003850551-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
003850551-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS
003850551-03	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD

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

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

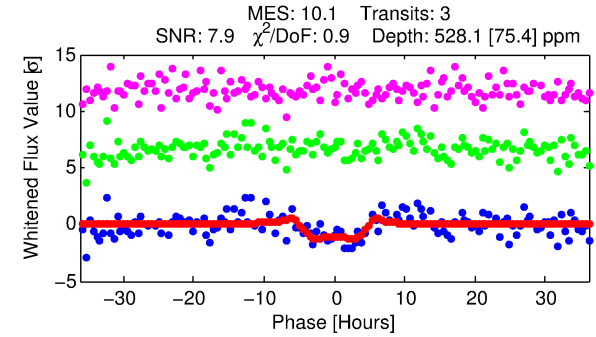
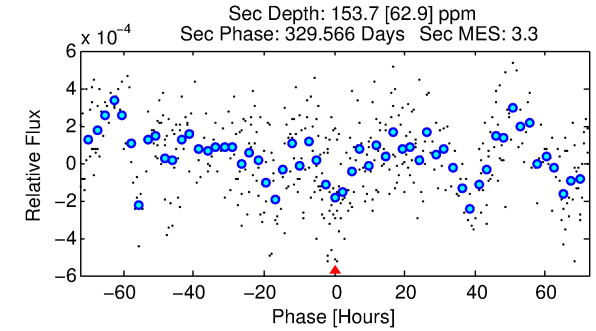
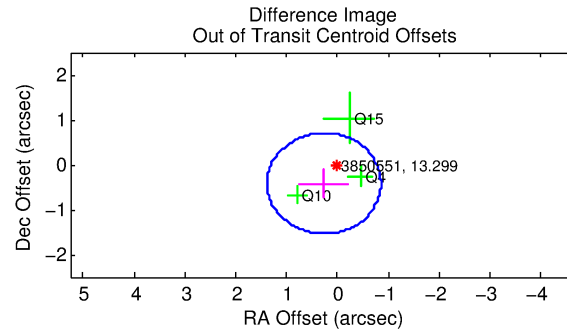
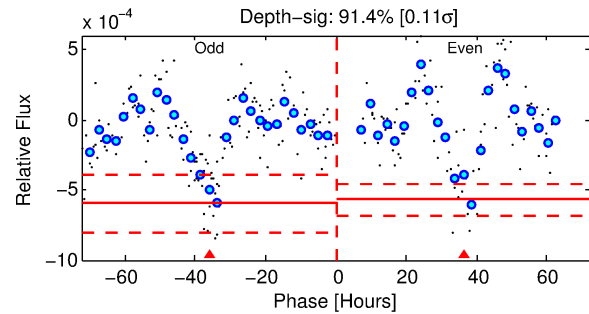
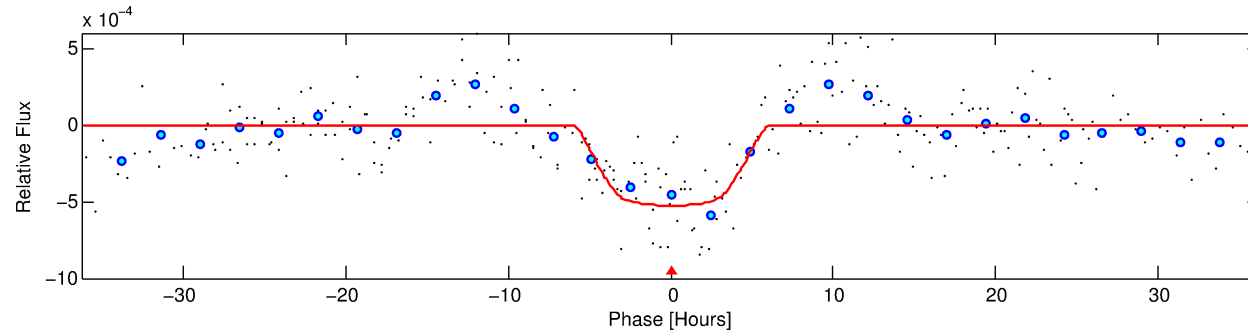
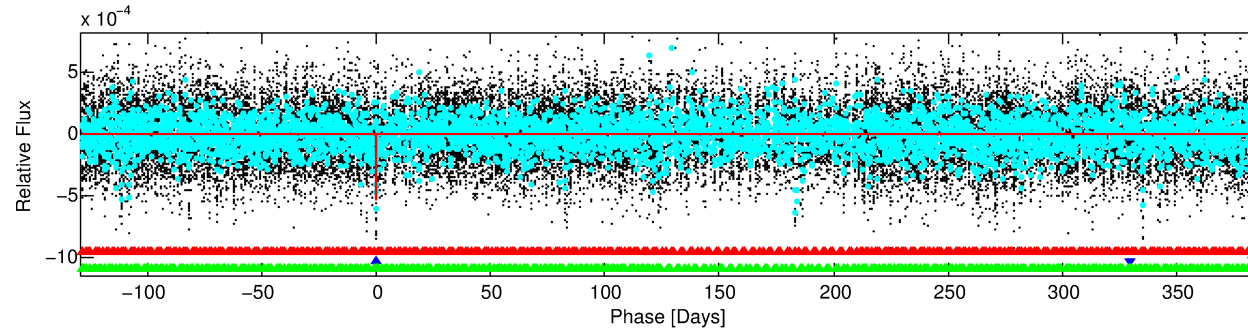
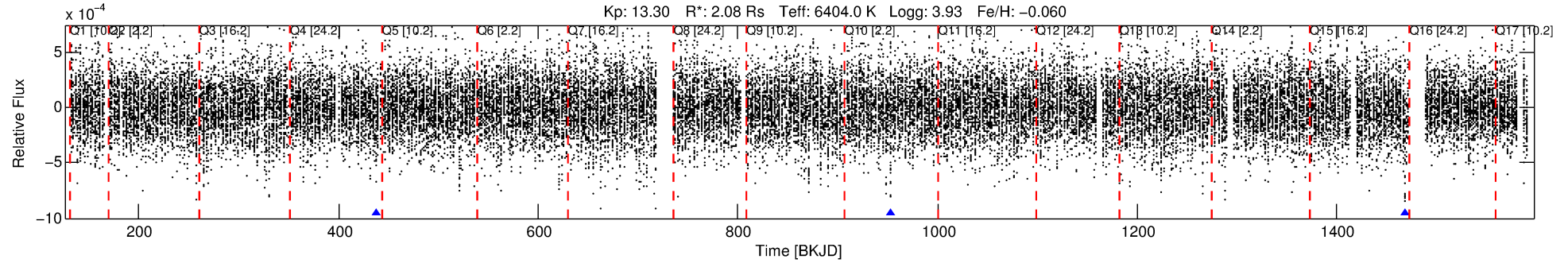
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003850551-02

No Significant Match Found

DV One-Page Summary

KIC: 3850551 Candidate: 2 of 3 Period: 515.128 d



DV Fit Results:

Period = 515.12757 [0.01841] d
Epoch = 438.0053 [0.0185] BKJD
Rp/R* = 0.0265 [0.0023]
a/R* = 120.96 [22.50]
b = 0.96 [0.02]
Seff = 3.40 [1.17]
Teq = 346 [30] K
Rp = 6.01 [1.53] Re
a = 1.3847 [0.3030] AU
Ag = 4495.08 [2507.91] [1.79σ]
Teffp = 4384 [489] K [8.25σ]

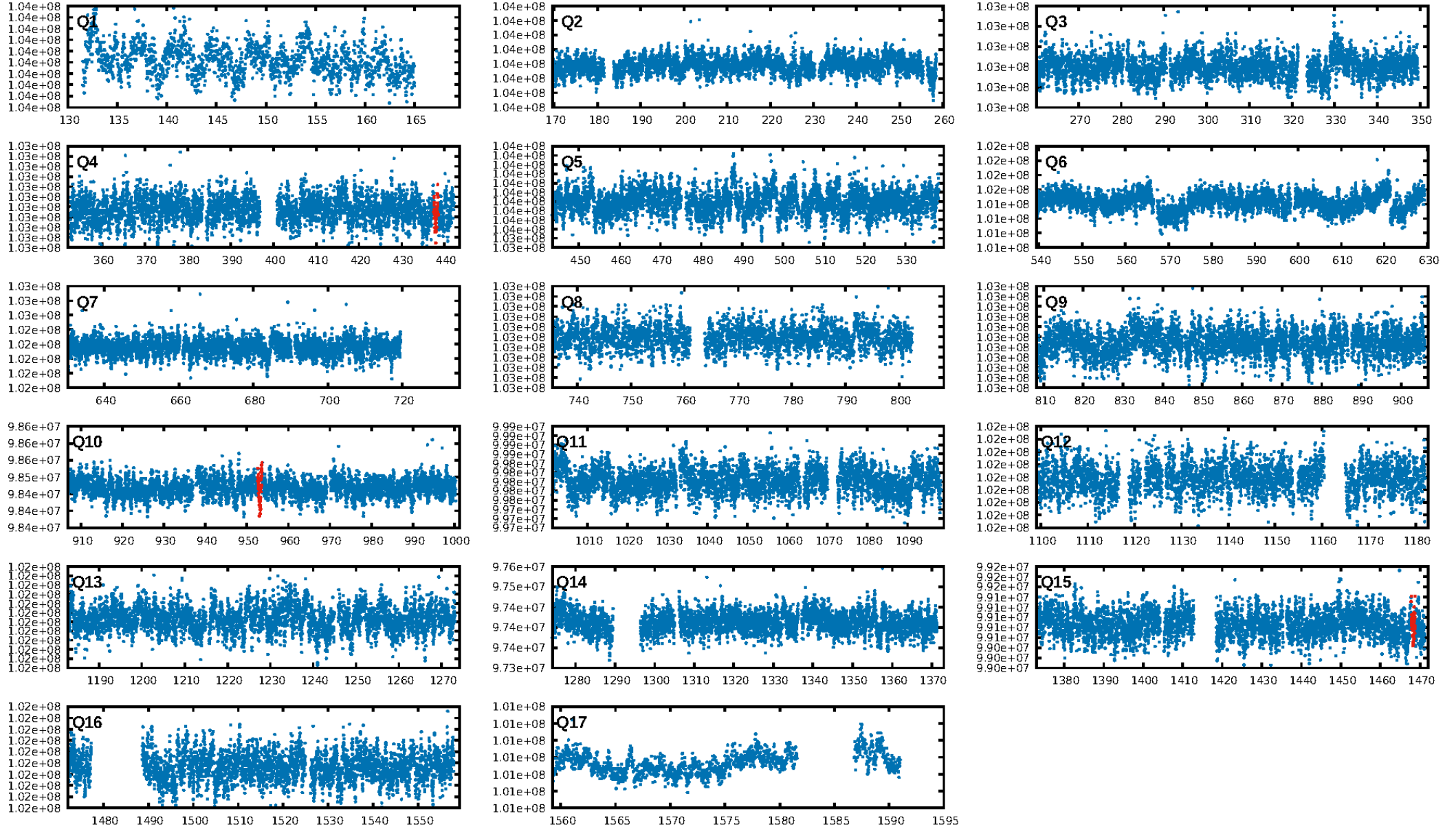
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [705.82σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 4.0%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.387
Centroid-sig: 3.8%
Centroid-so: 1.168 arcsec [1.82σ]
OotOffset-rm: 0.495 arcsec [1.32σ]
KicOffset-rm: 0.378 arcsec [0.90σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.00 [0/3]

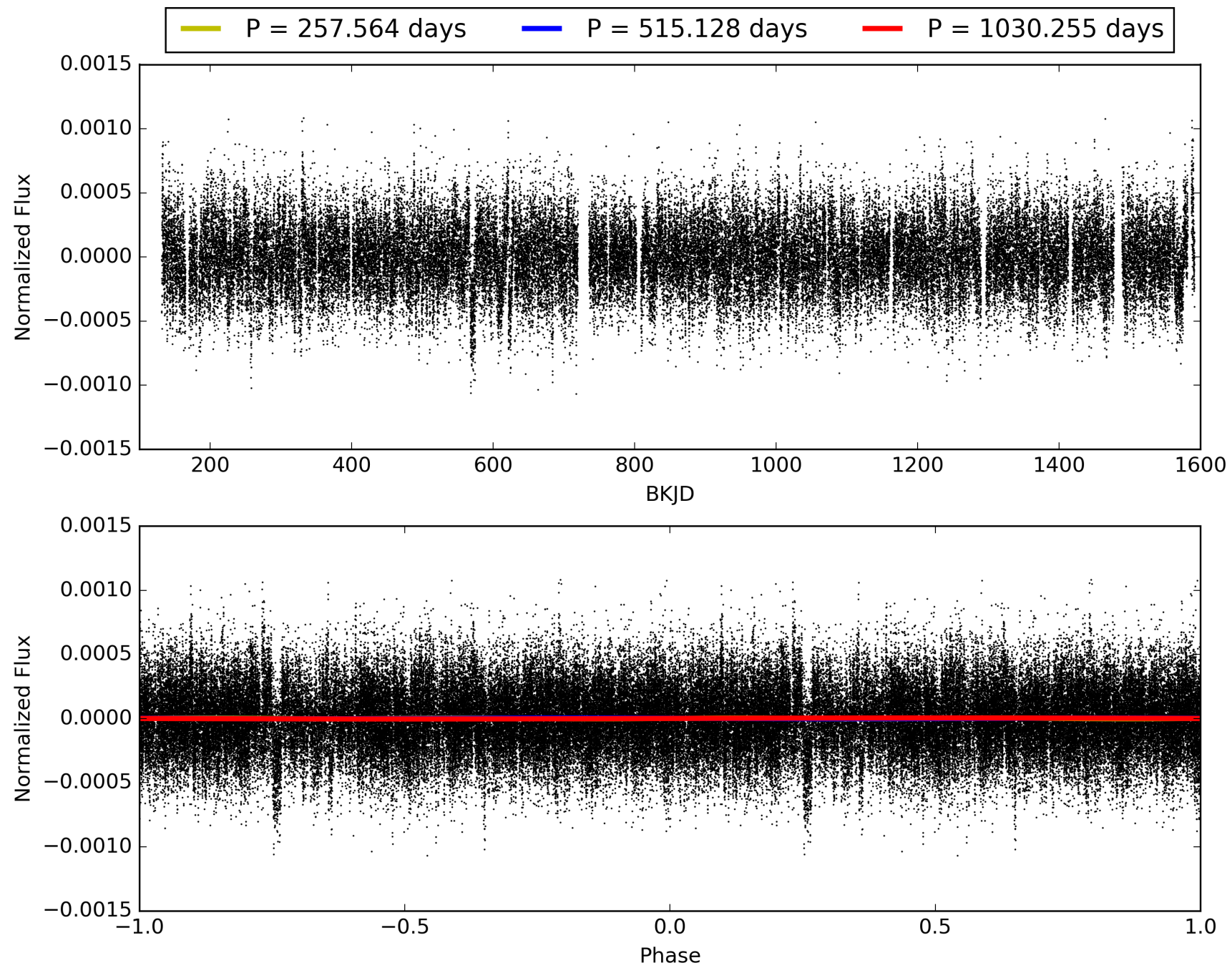
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:31:15 Z

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

TCE 003850551-02, PDC Light Curves

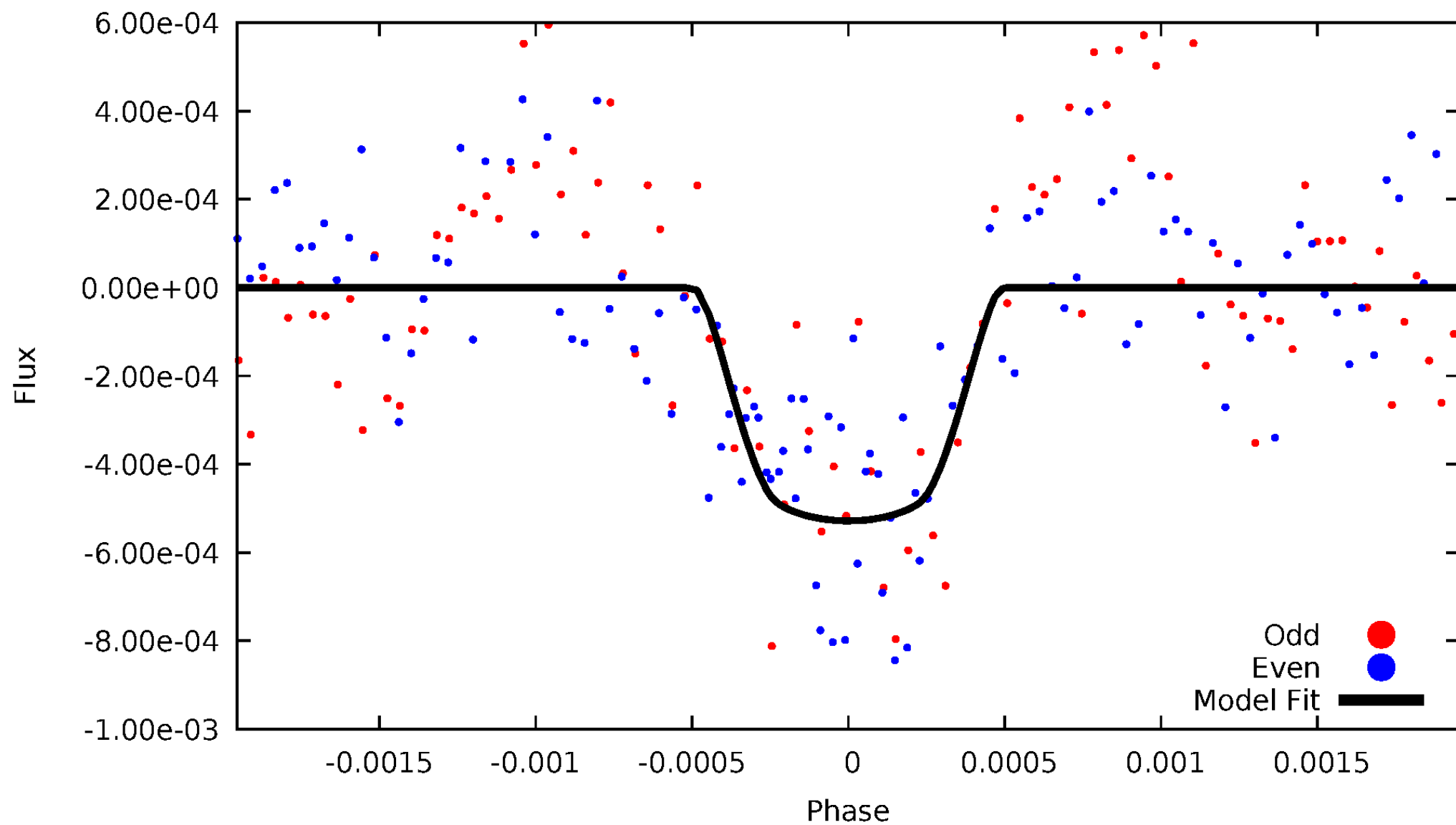


TCE 003850551-02



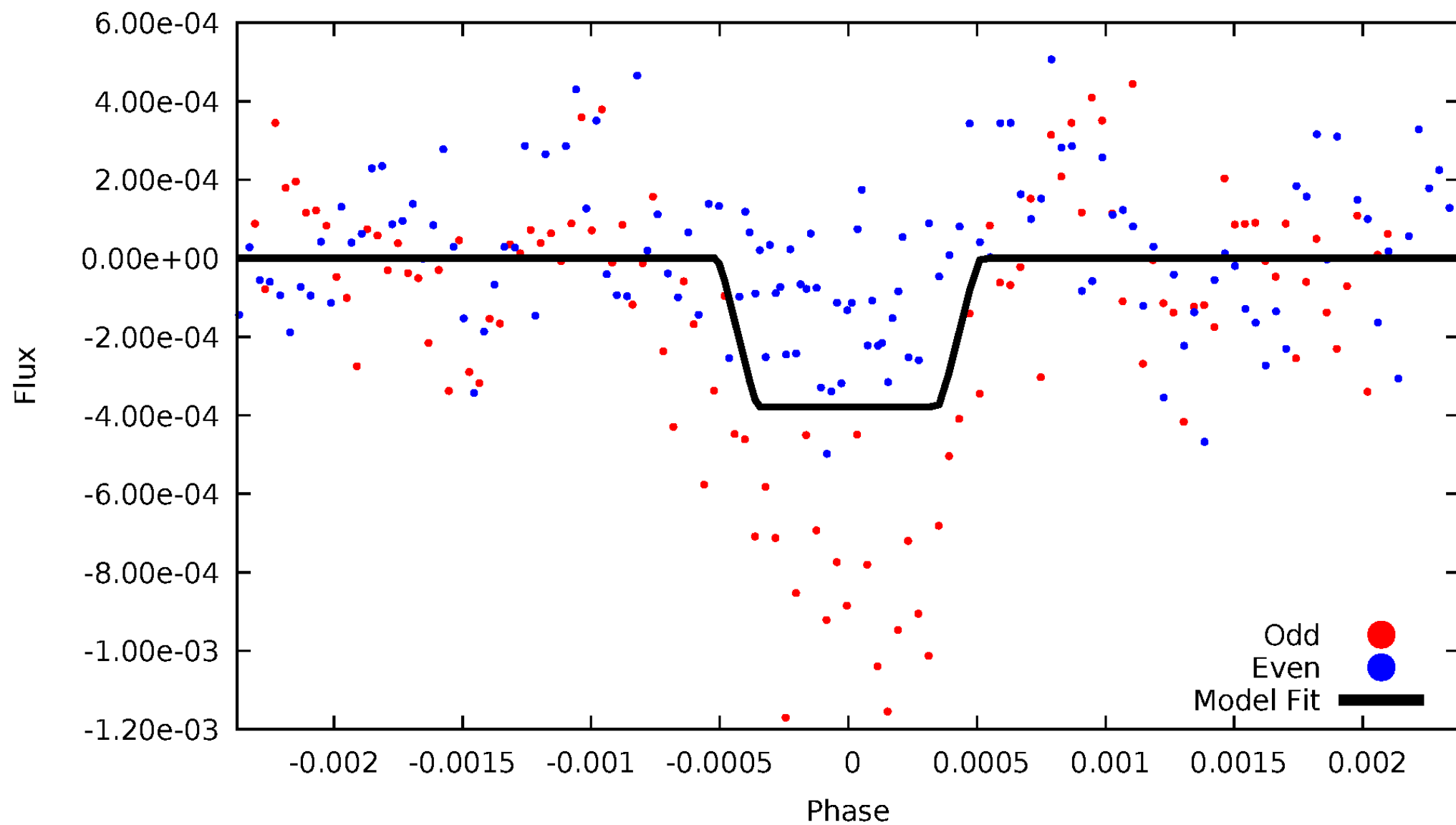
DV Odd/Even

TCE 003850551-02



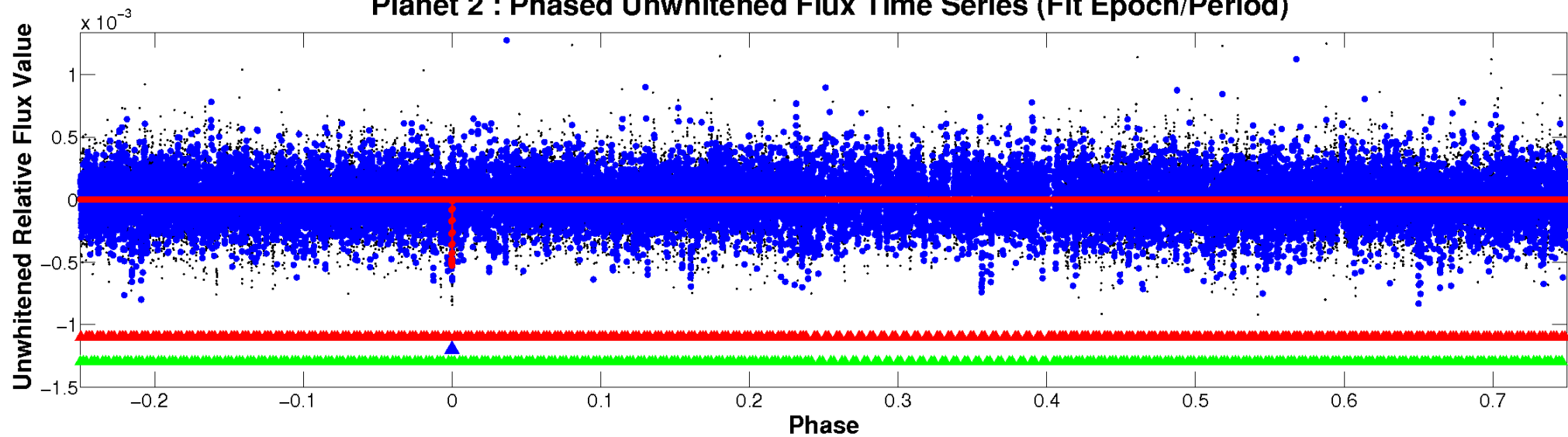
ALT Odd/Even

TCE 003850551-02

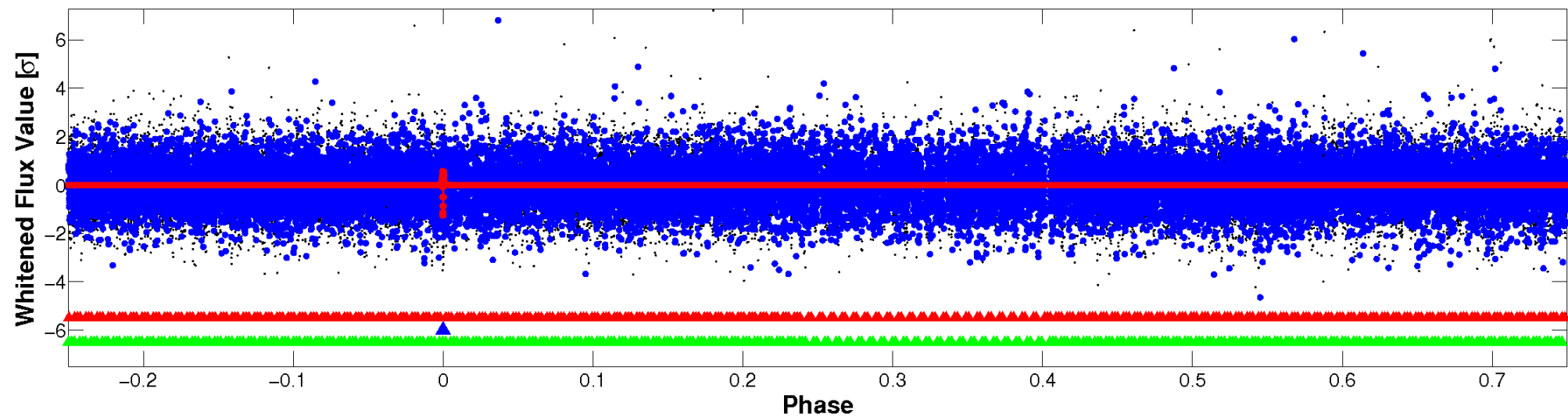


Non-Whitened Vs. Whitened Light Curve

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



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



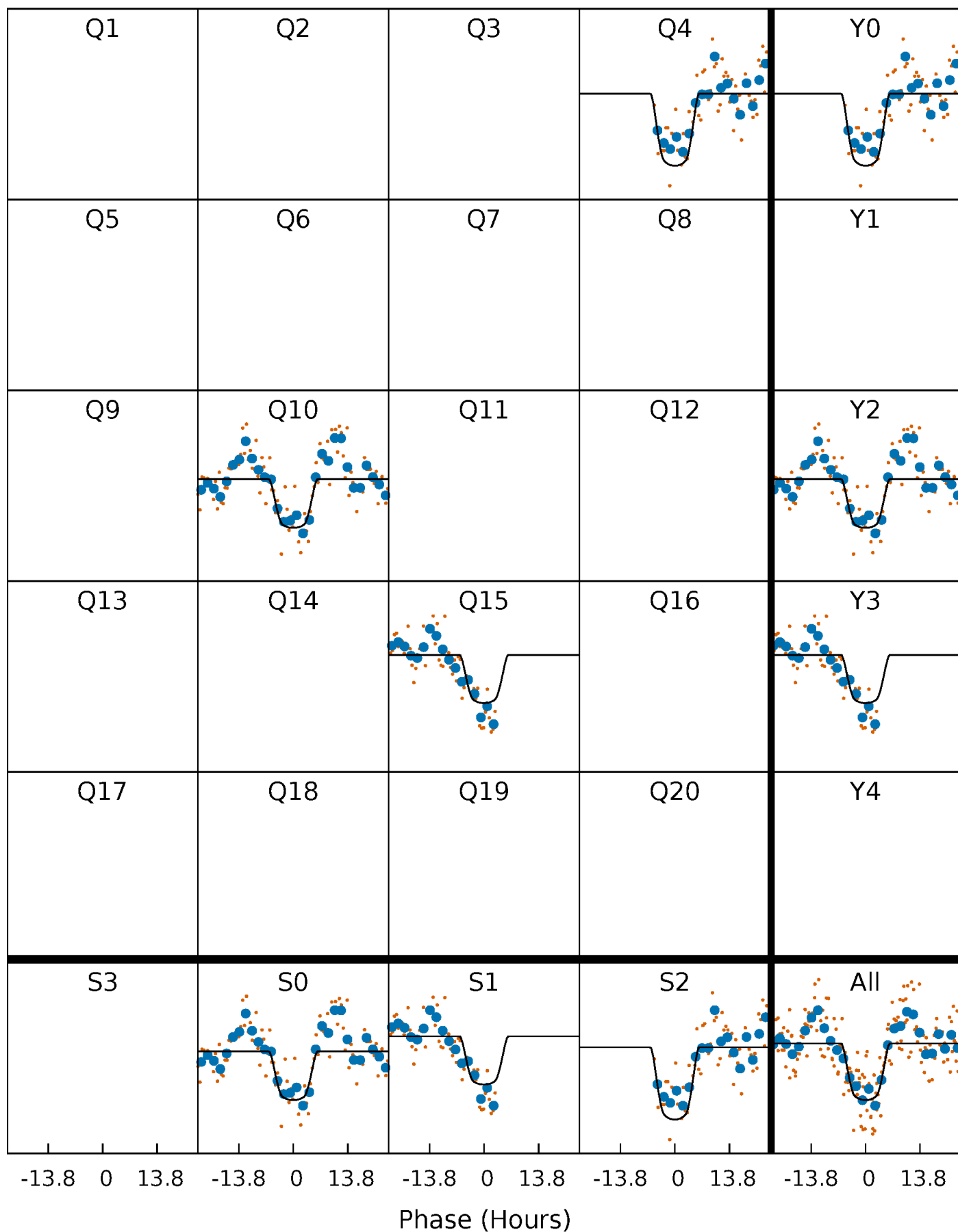
PDC Quarter-Phased Transit Curves

TCE 003850551-02 P=515.127569 Days $T_0=438.005329$ (BKJD)



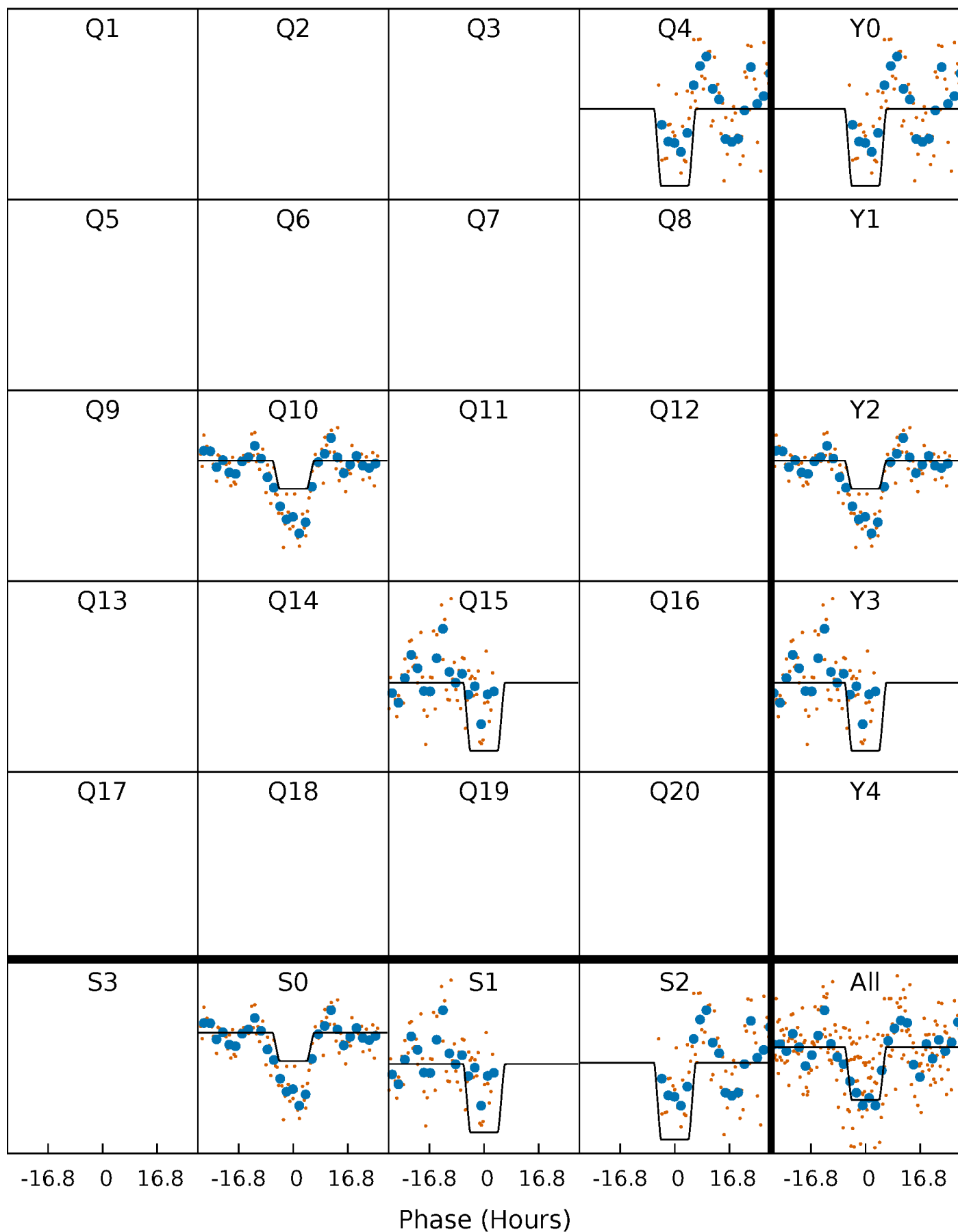
DV Quarter-Phased Transit Curves

TCE 003850551-02 P=515.127569 Days $T_0=438.005329$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

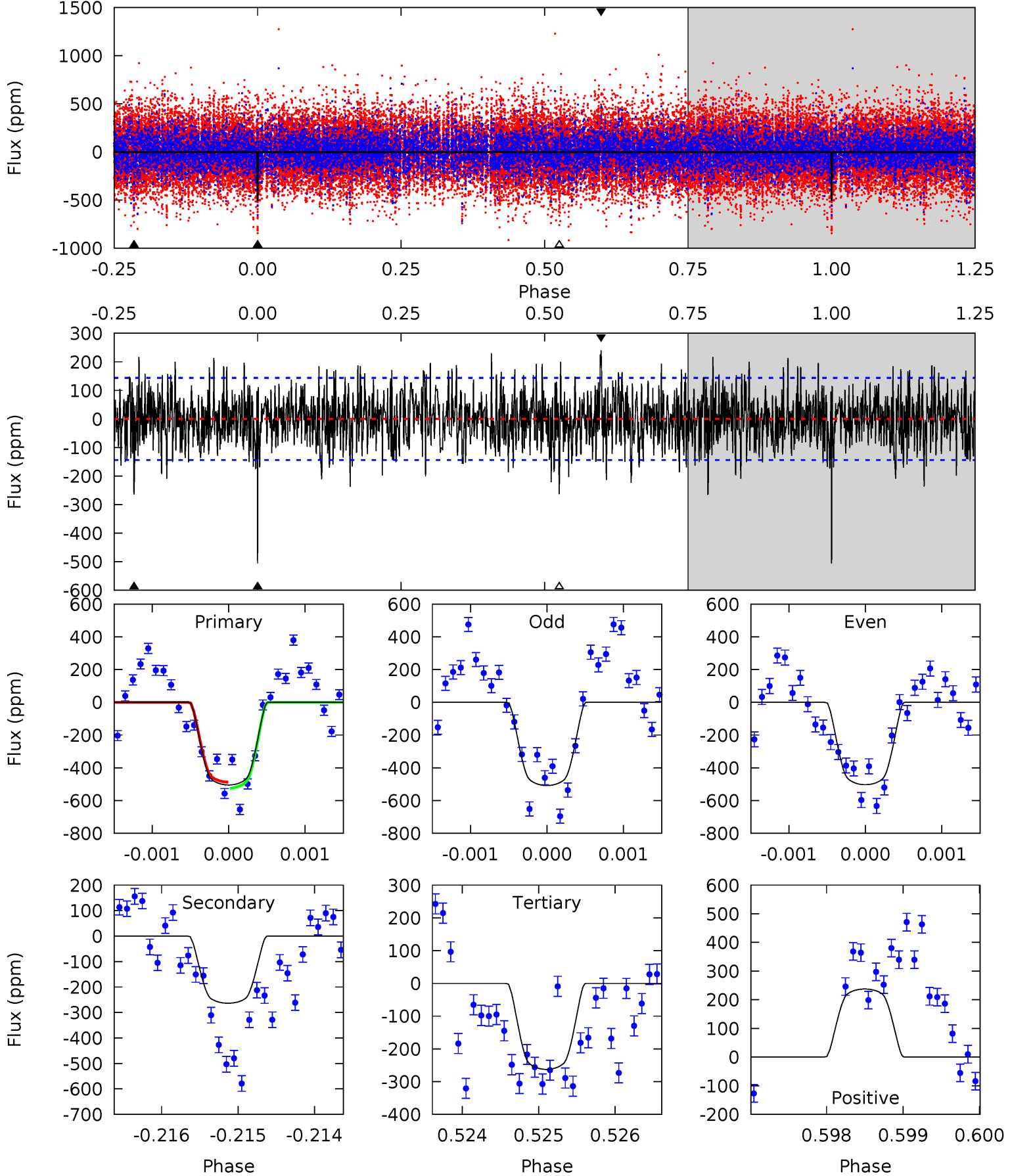
TCE 003850551-02 P=515.136859 Days $T_0=437.995326$ (BKJD)



DV Model-Shift Uniqueness Test

003850551-02, P = 515.127569 Days, E = 438.005329 Days

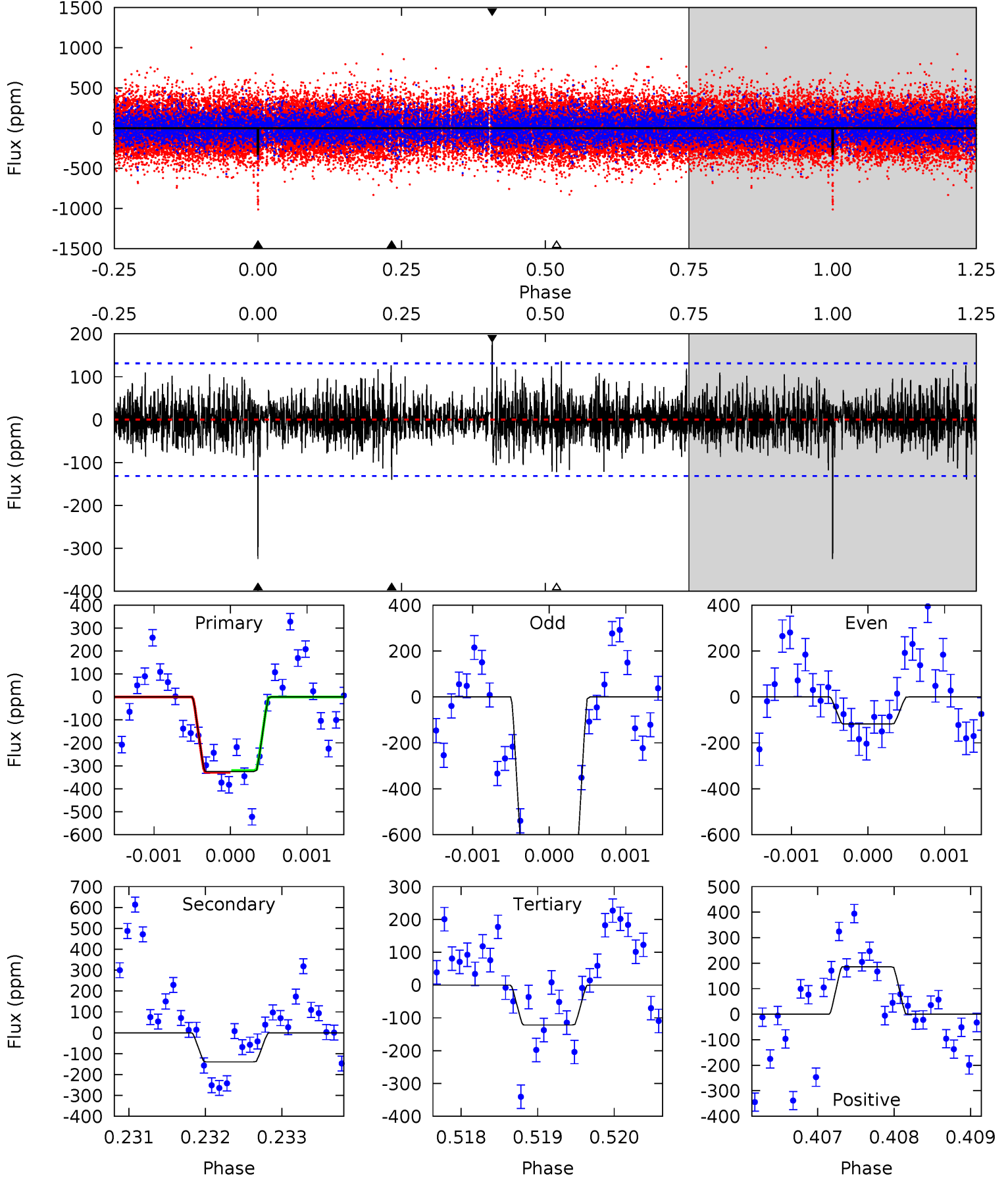
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.2	10.0	9.96	9.01	5.46	3.30	2.75	9.20	10.2	0.04	1.00	0.09	1.00	0.32	0.69



Alt Model-Shift Uniqueness Test

003850551-02, P = 515.136859 Days, E = 437.995326 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	5.79	5.06	7.73	5.45	3.28	1.48	8.42	5.75	0.73	-1.94	14.3	2.46	0.36	0.15



Stellar Parameters For KIC 003850551

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6404^{+83}_{-77}	$3.927^{+0.195}_{-0.105}$	$-0.060^{+0.150}_{-0.150}$	$2.080^{+0.408}_{-0.498}$	$1.336^{+0.169}_{-0.152}$	$0.209^{+0.225}_{-0.068}$
	+1%/-1%	+5%/-3%	+250%/-250%	+20%/-24%	+13%/-11%	+108%/-32%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 003850551-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-264 ± 26	$5.89^{+0.82}_{-0.87}$	481^{+24}_{-30}	5098^{+232}_{-218}	7927^{+3255}_{-1800}
Alt.	-140 ± 24	$4.33^{+0.73}_{-0.68}$	480^{+23}_{-31}	5045^{+374}_{-280}	7748^{+4026}_{-2266}

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 $A_{obs} \gg 1.0$

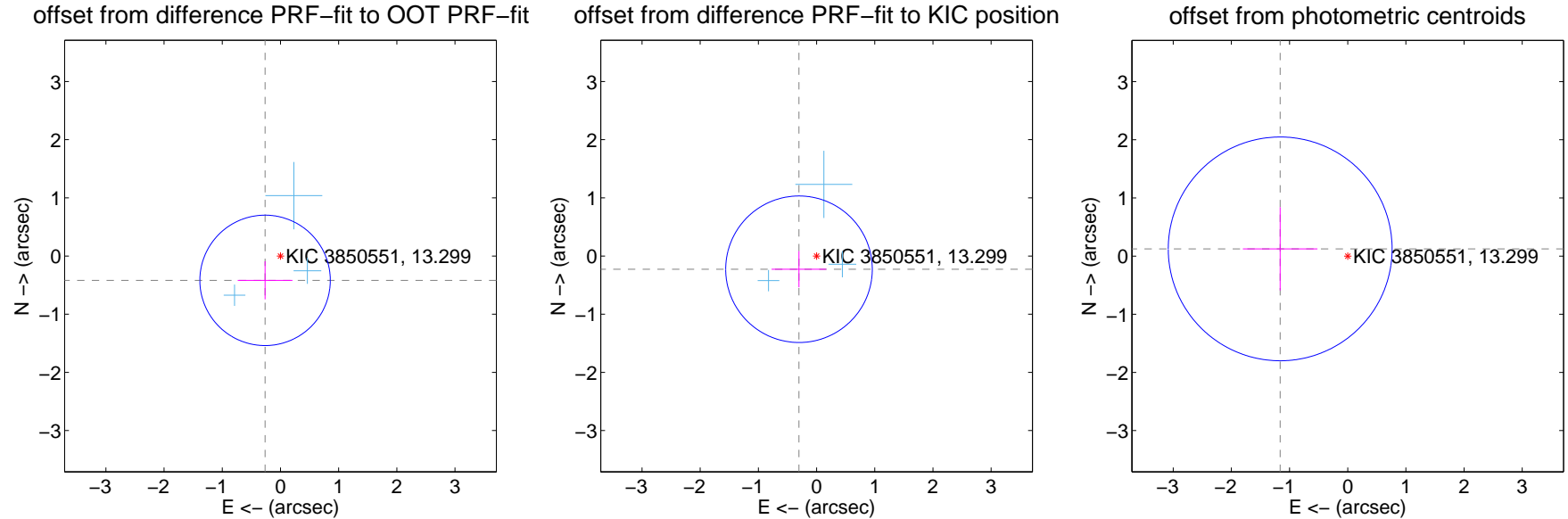
DV Centroid Data

Supplemental centroid analysis for 003850551-02. Kepler magnitude: 13.30. Transit SNR 7.93

There are 3 quarters with good PRF difference image offsets

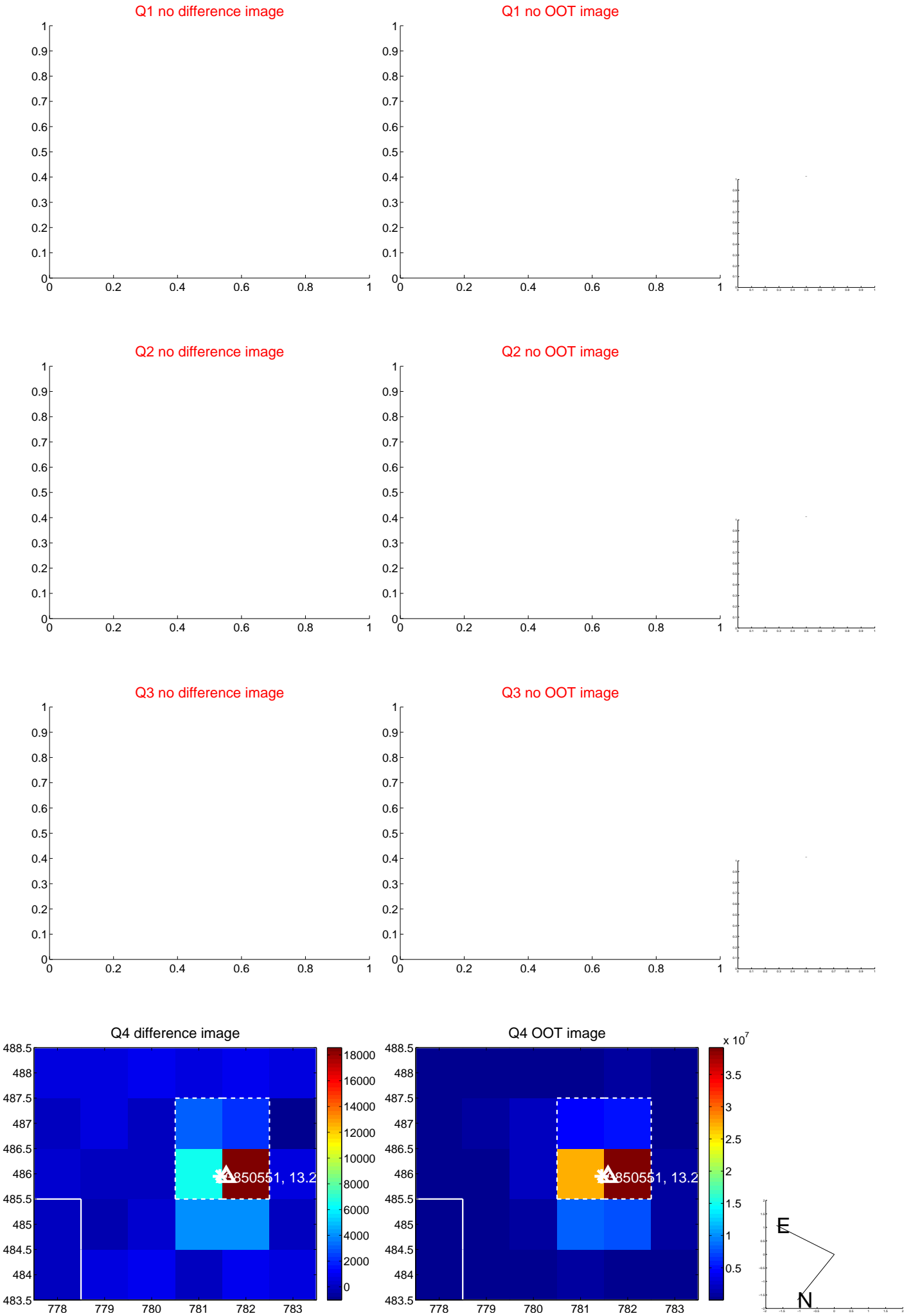
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.495 ± 0.374	1.32	0.264 ± 0.470	-0.418 ± 0.327
PRF-fit source offset from KIC position	0.378 ± 0.420	0.90	0.302 ± 0.471	-0.227 ± 0.310
photometric centroid source offset	1.17 ± 0.64	1.82	1.16 ± 0.64	0.12 ± 0.72



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.

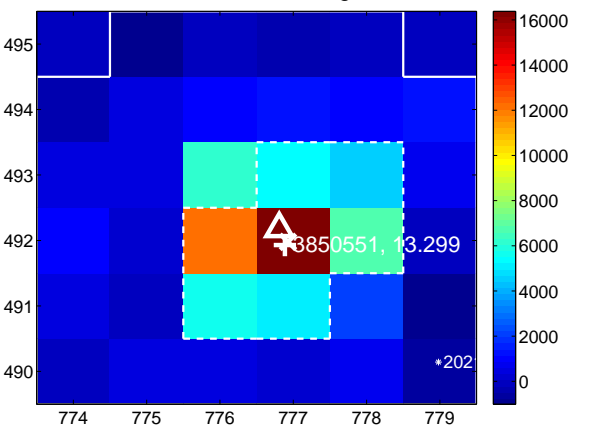
Q9 no difference image



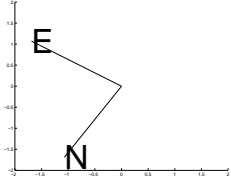
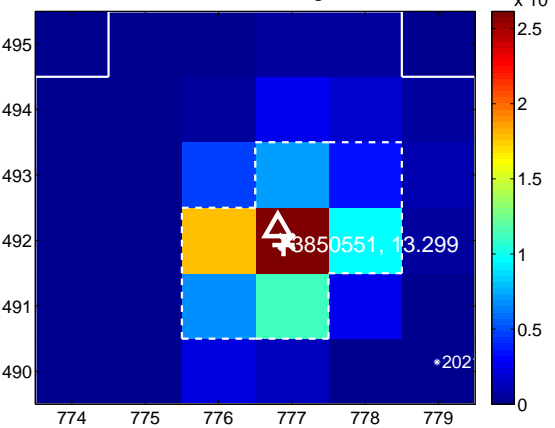
Q9 no OOT image



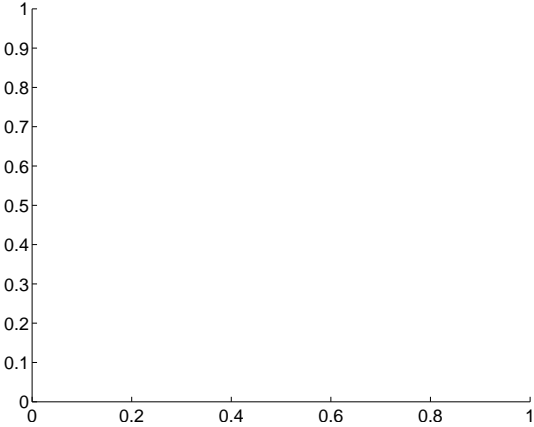
Q10 difference image



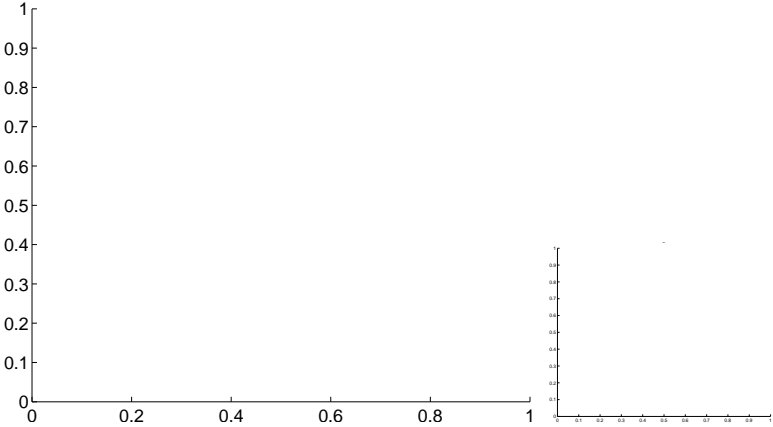
Q10 OOT image



Q11 no difference image



Q11 no OOT image



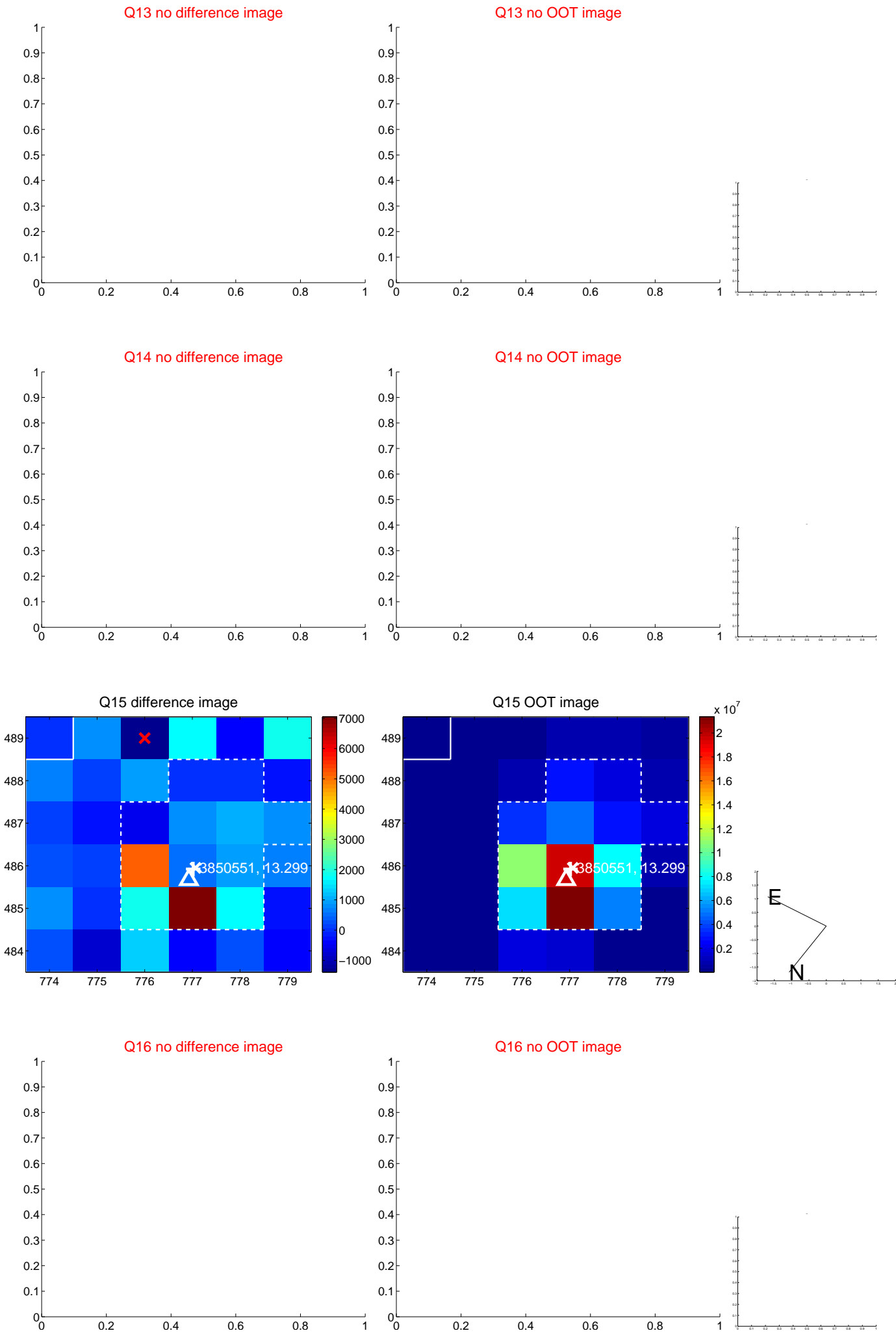
Q12 no difference image



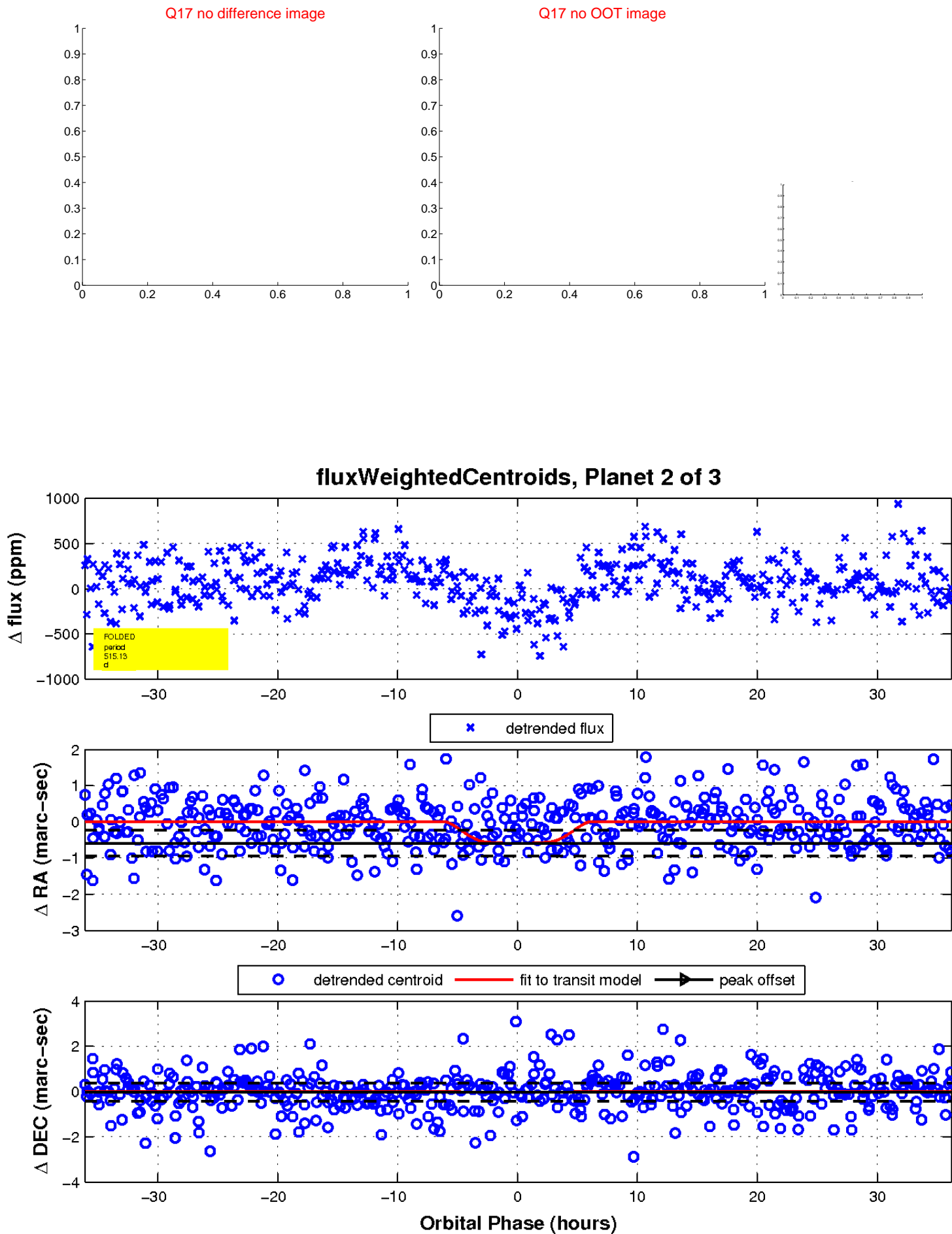
Q12 no OOT image



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

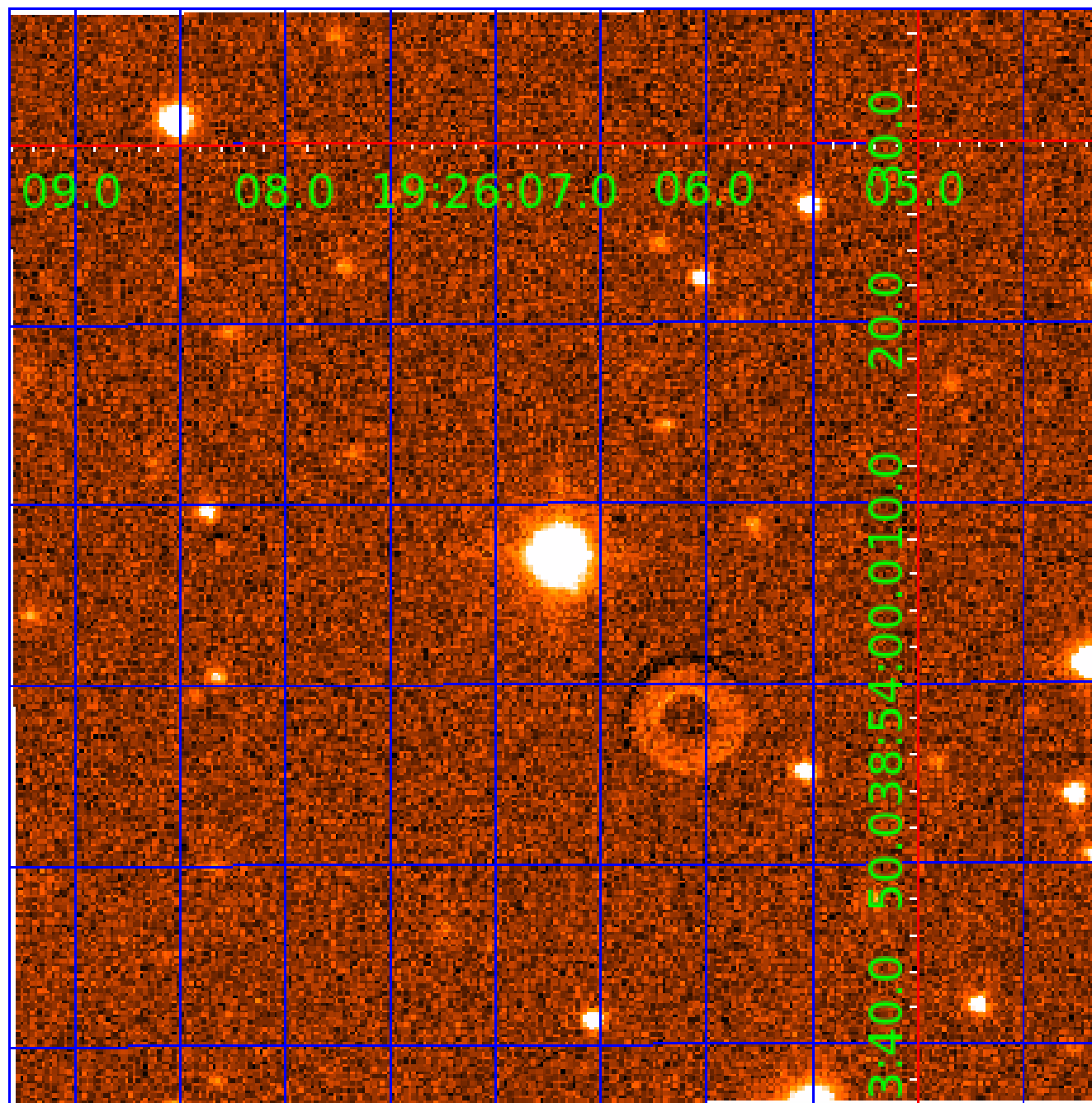


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003850551

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})
003850551-01	OBS	No	3.865876	131.579106	107.7	12.500	7.9	-1.0	2.08	6404	2.17	2314.26
003850551-02	OBS	No	515.127569	438.005329	528.1	12.082	10.1	7.9	2.08	6404	6.01	3.40
003850551-03	OBS	No	3.865336	133.502190	65.1	18.760	9.6	11.5	2.08	6404	2.33	2314.69

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003850551-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
003850551-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS
003850551-03	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD

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

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

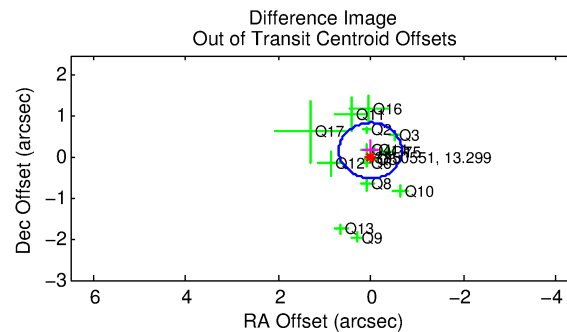
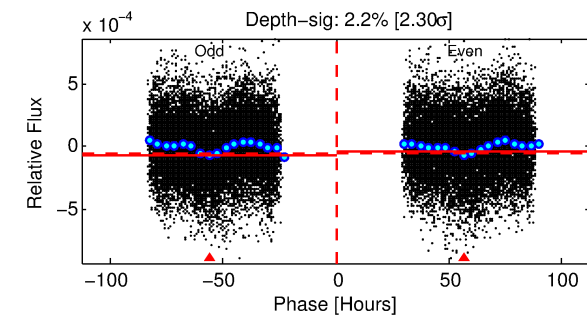
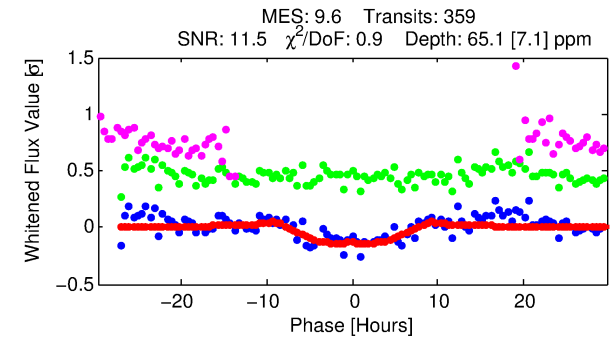
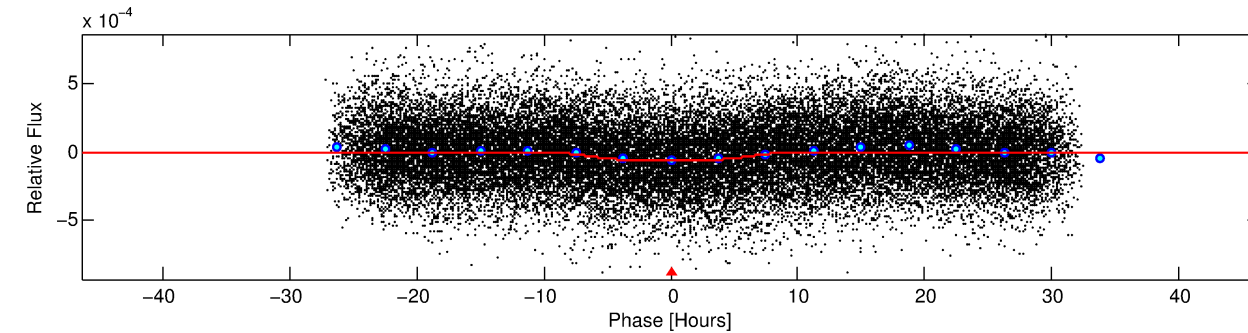
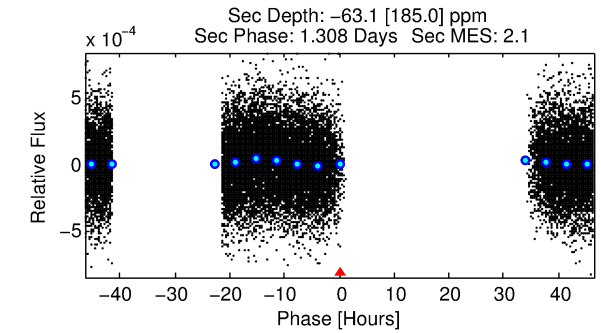
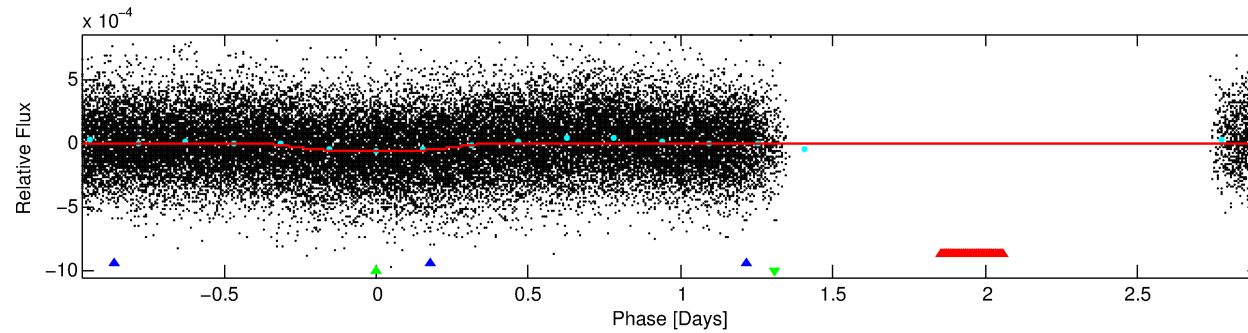
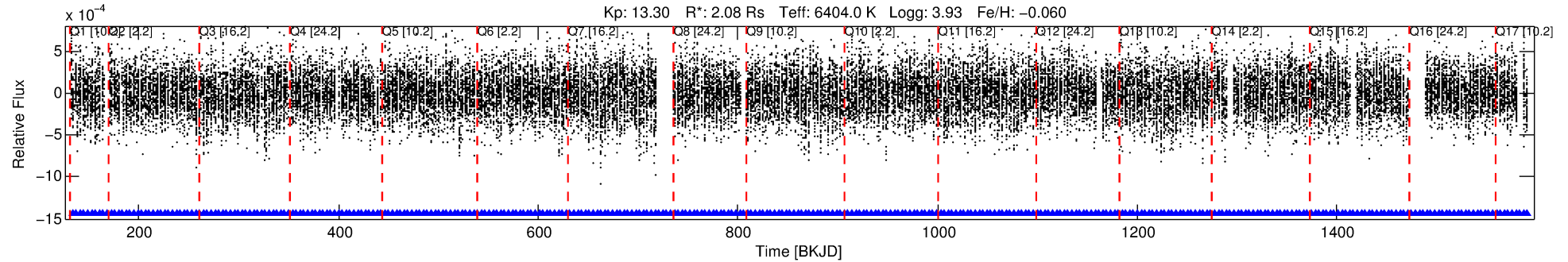
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003850551-03

No Significant Match Found

DV One-Page Summary

KIC: 3850551 Candidate: 3 of 3 Period: 3.865 d



DV Fit Results:

Period = 3.86534 [0.00013] d
Epoch = 133.5022 [0.0280] BKJD
Rp/R* = 0.0103 [0.0006]
a/R* = 1.05 [0.01]
b = 0.99 [0.00]
Seff = 2314.69 [794.33]
Teq = 1769 [152] K
Rp = 2.33 [0.58] Re
a = 0.0531 [0.0116] AU
Ag = N/A
Teffp = N/A

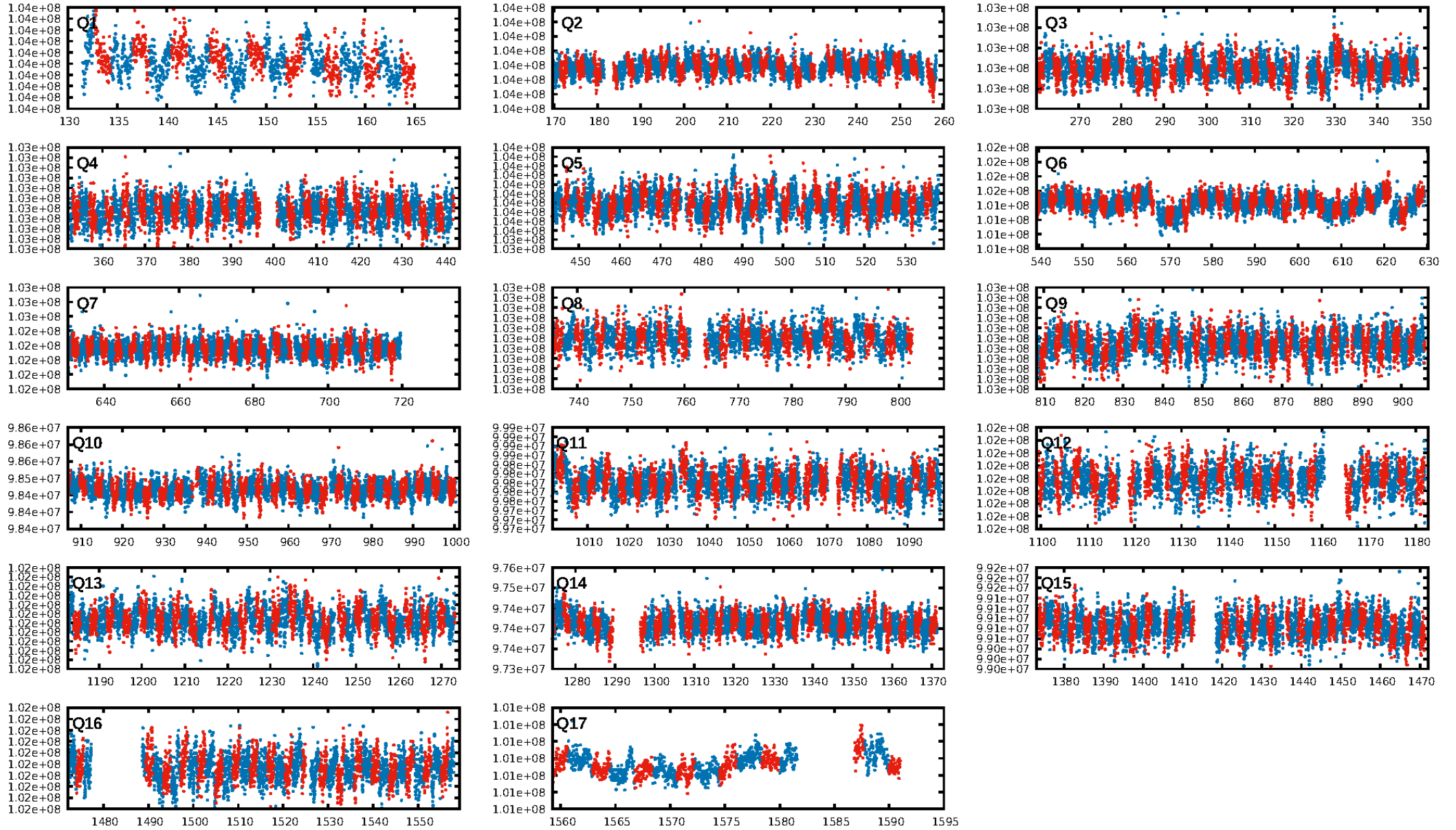
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [342/342]
GhostDiagnostic-chr: 3.564
Centroid-sig: 0.5%
Centroid-so: 1.025 arcsec [2.09σ]
OotOffset-rm: 0.169 arcsec [0.74σ]
KicOffset-rm: 0.369 arcsec [1.59σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.81 [13/16]
DiffImageOverlap-fno: 1.00 [17/17]

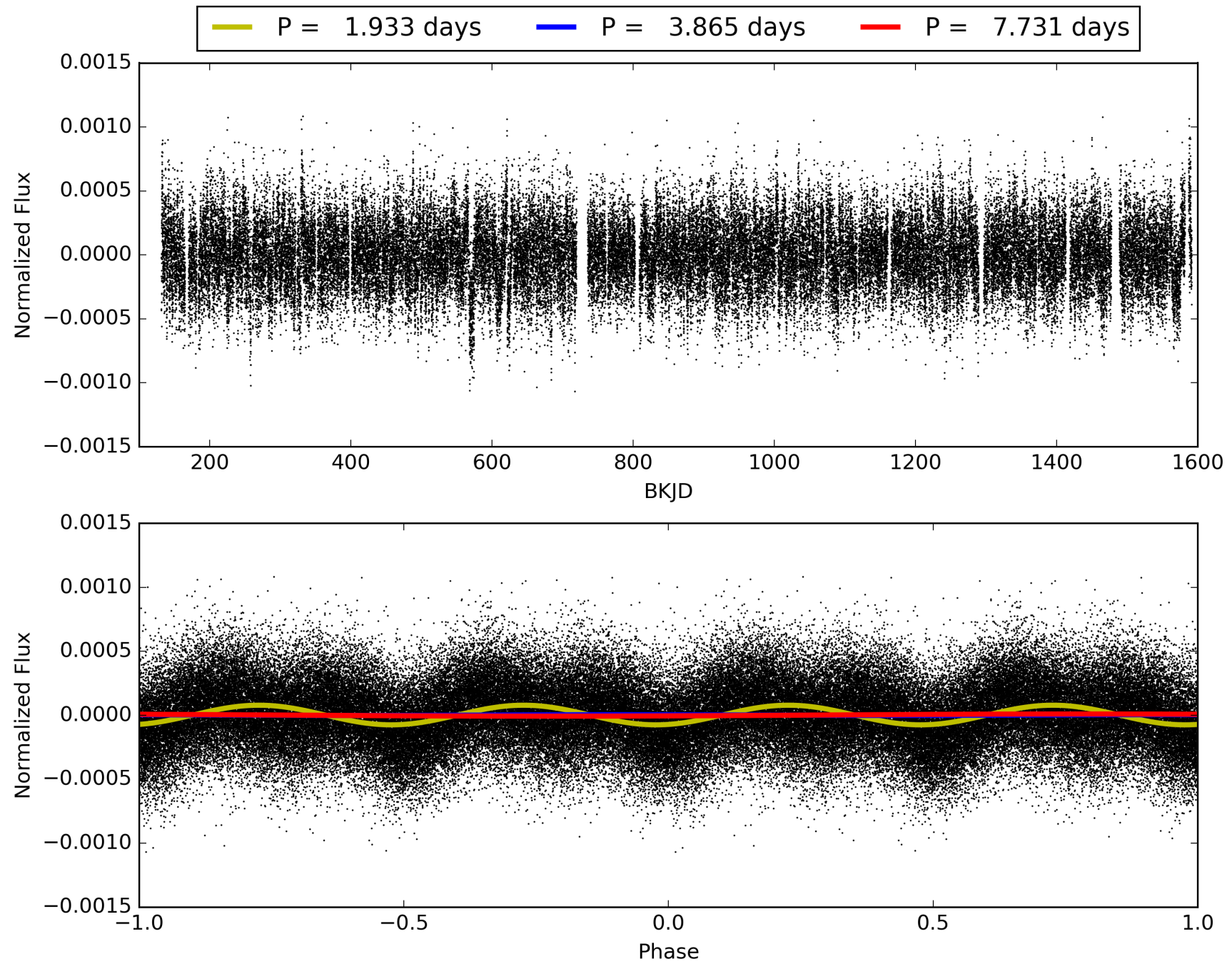
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:31:24 Z

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

TCE 003850551-03, PDC Light Curves

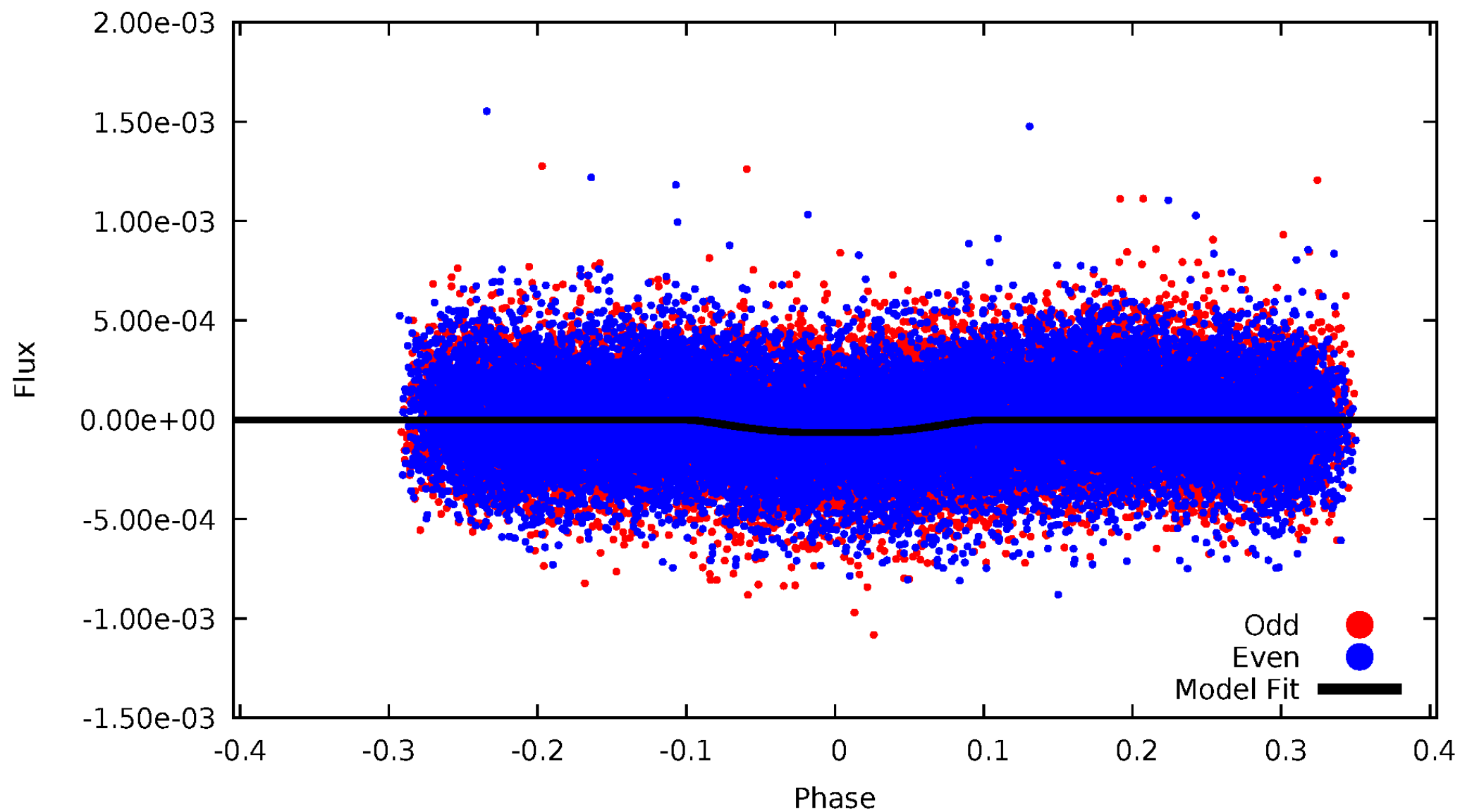


TCE 003850551-03



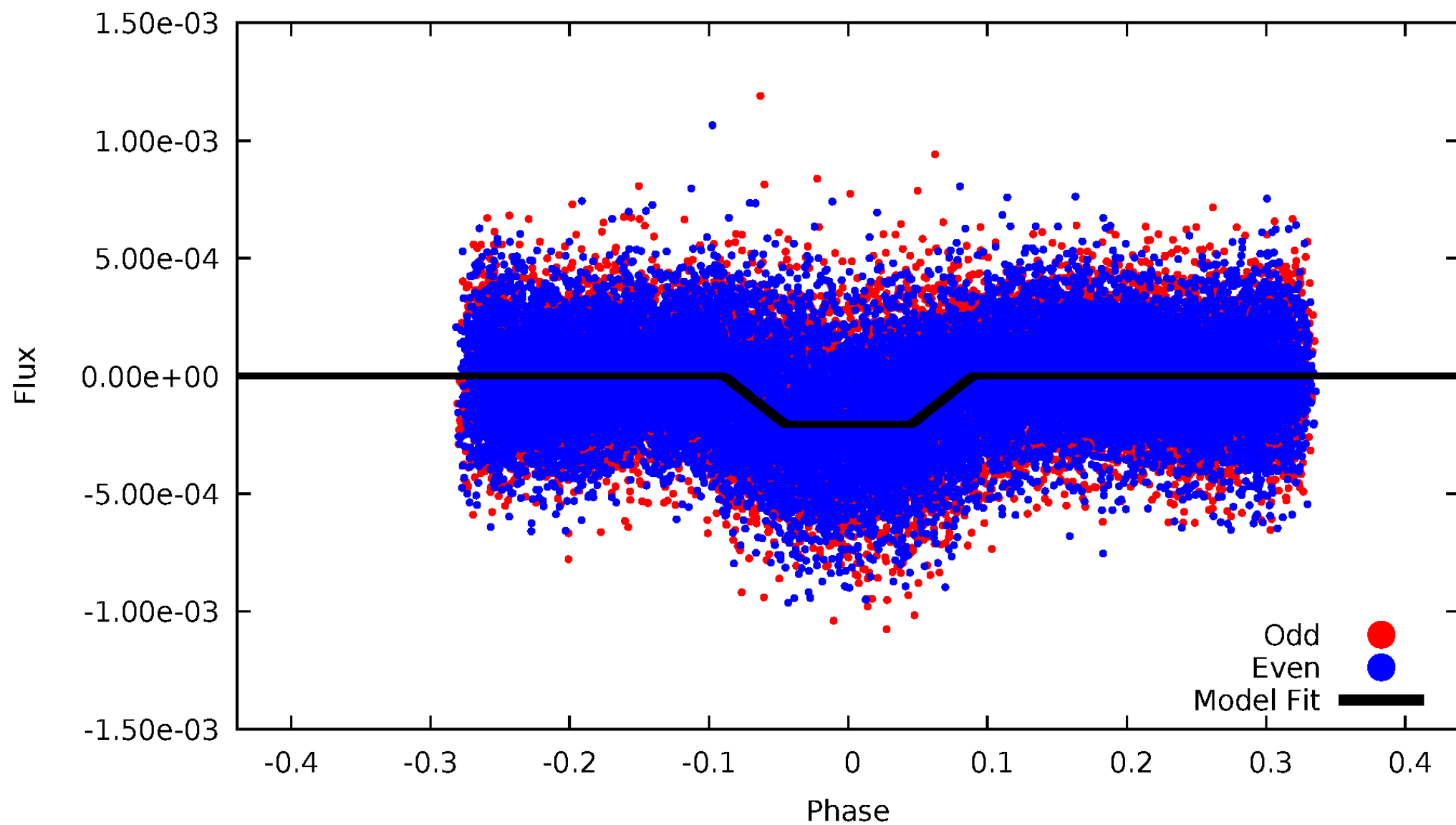
DV Odd/Even

TCE 003850551-03



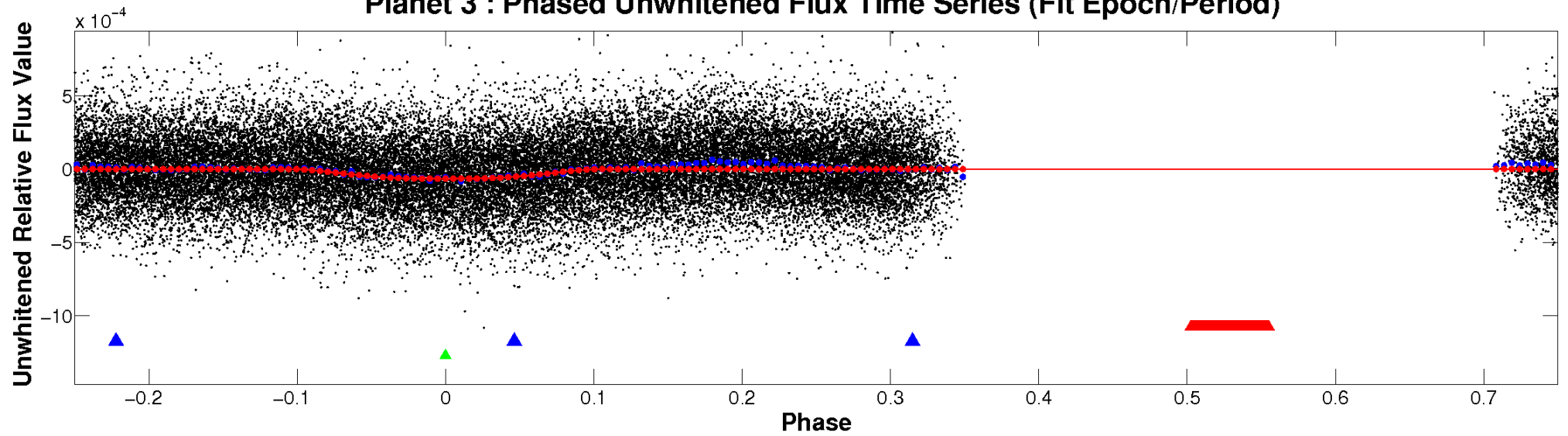
ALT Odd/Even

TCE 003850551-03

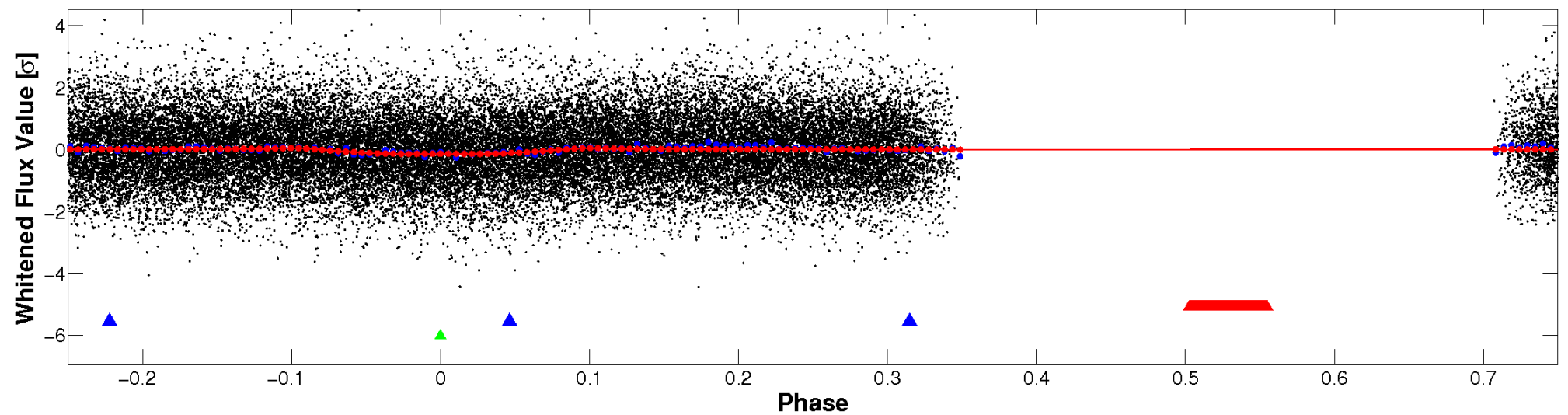


Non-Whitened Vs. Whitened Light Curve

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

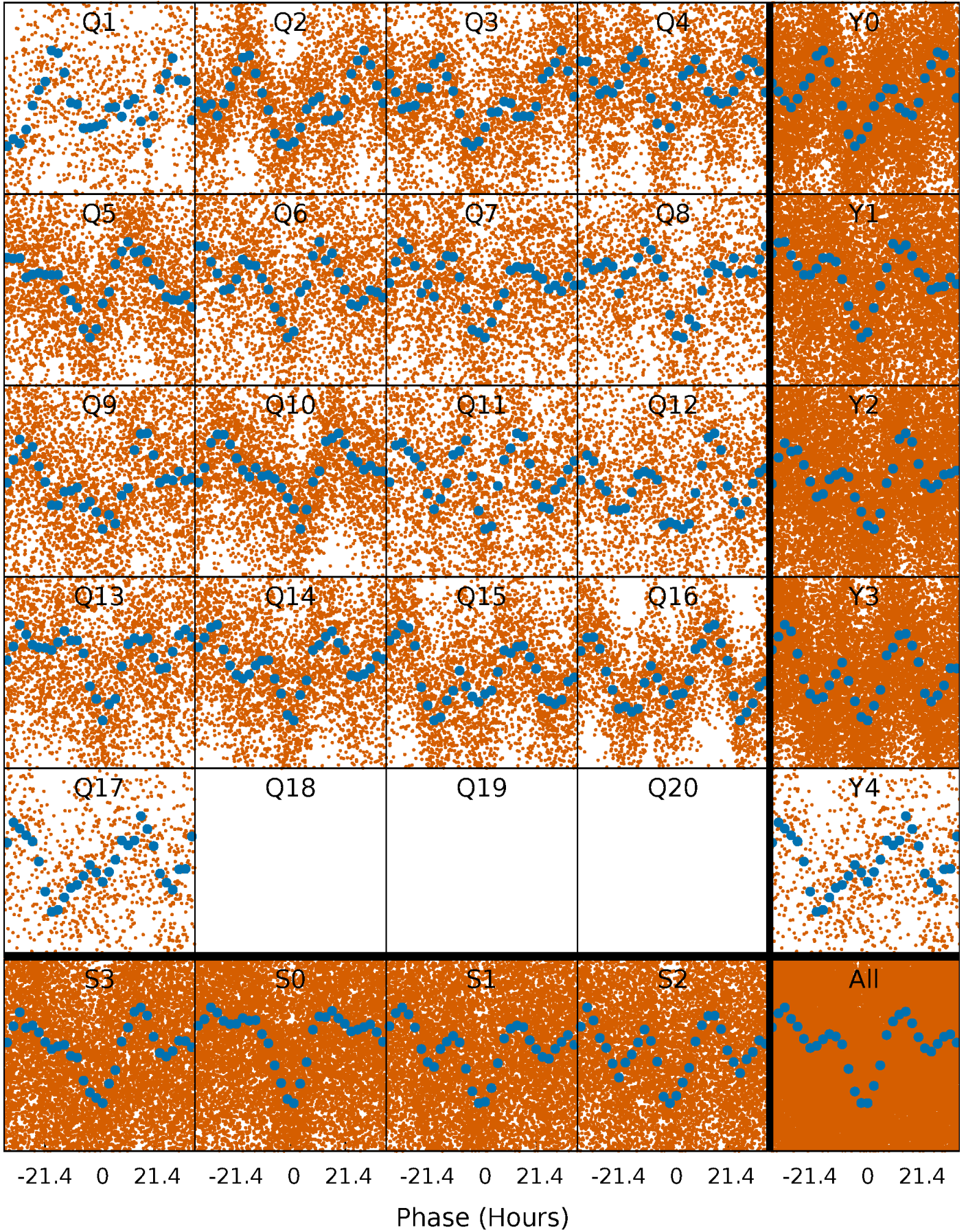


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



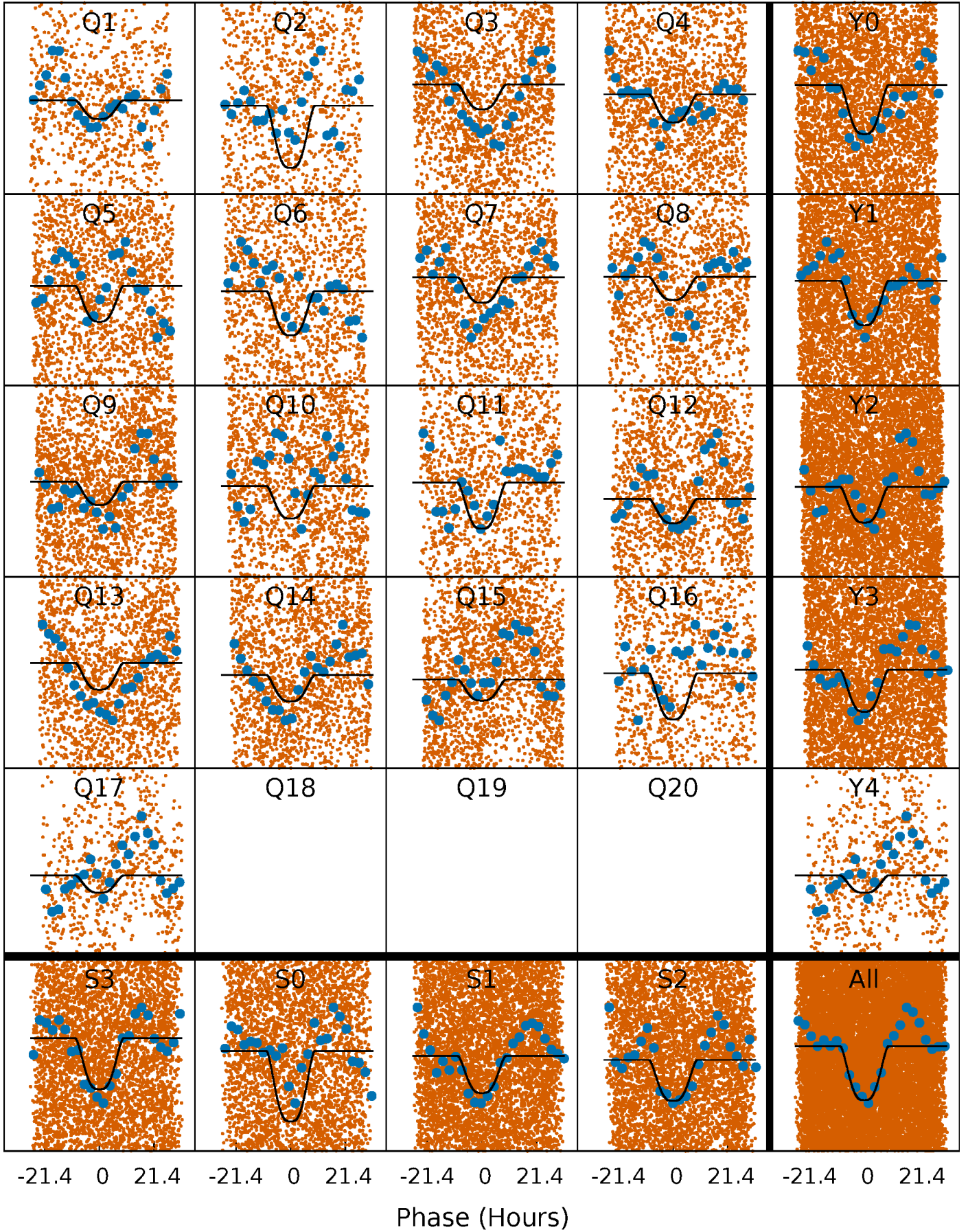
PDC Quarter-Phased Transit Curves

TCE 003850551-03 P= 3.865336 Days $T_0=133.502190$ (BKJD)



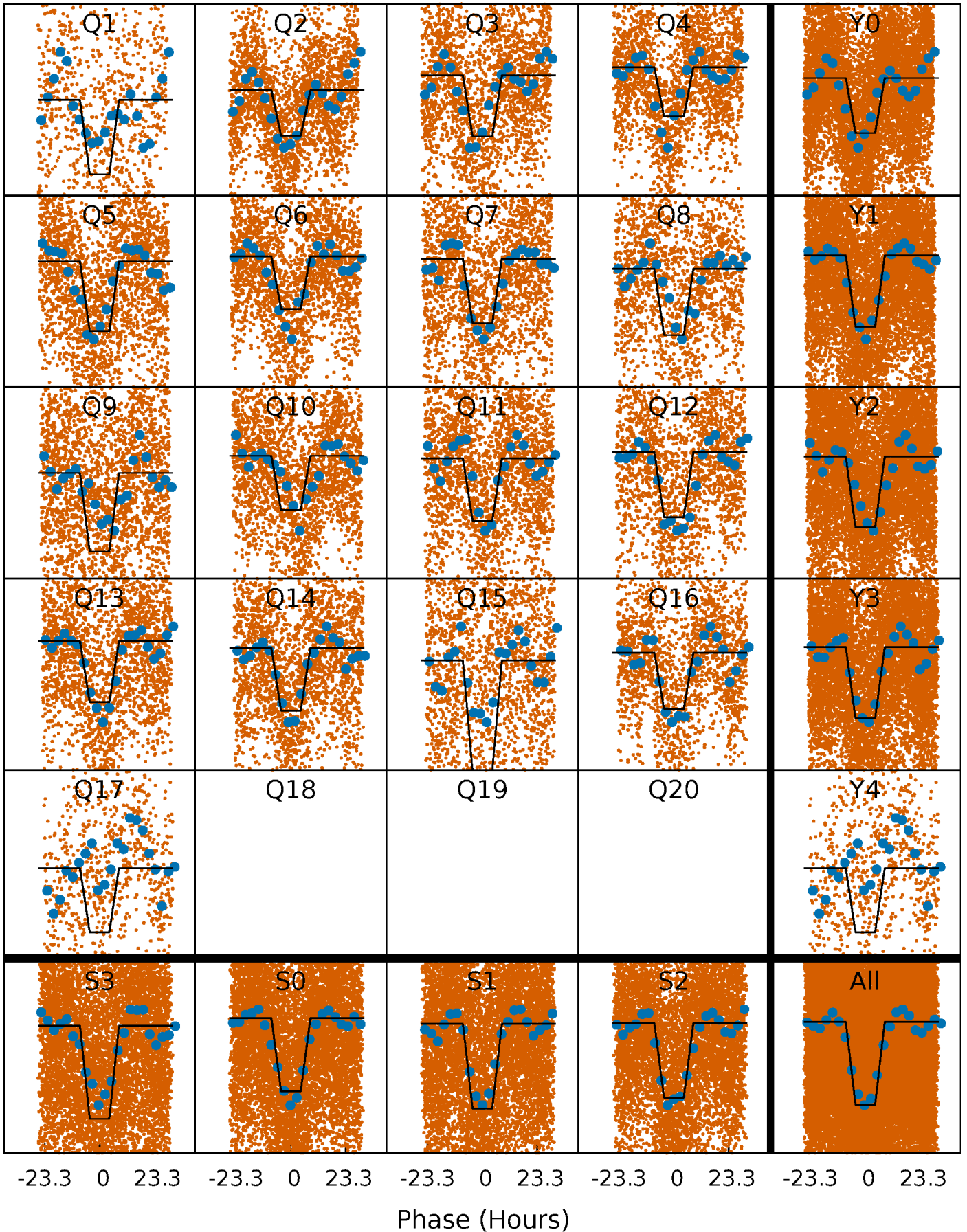
DV Quarter-Phased Transit Curves

TCE 003850551-03 $P = 3.865336$ Days $T_0 = 133.502190$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

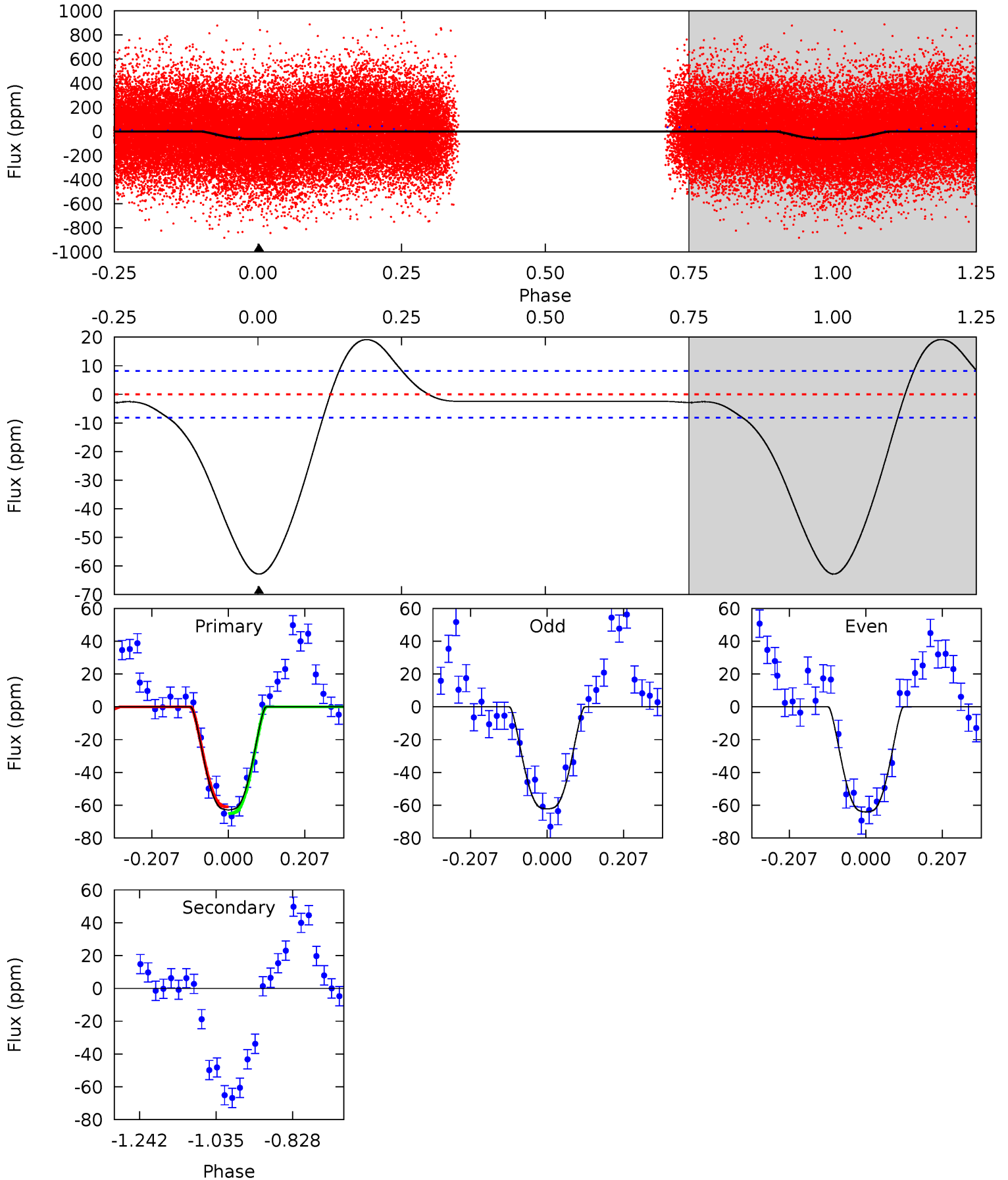
TCE 003850551-03 P= 3.865600 Days $T_0=133.459451$ (BKJD)



DV Model-Shift Uniqueness Test

003850551-03, P = 3.865336 Days, E = 129.636854 Days

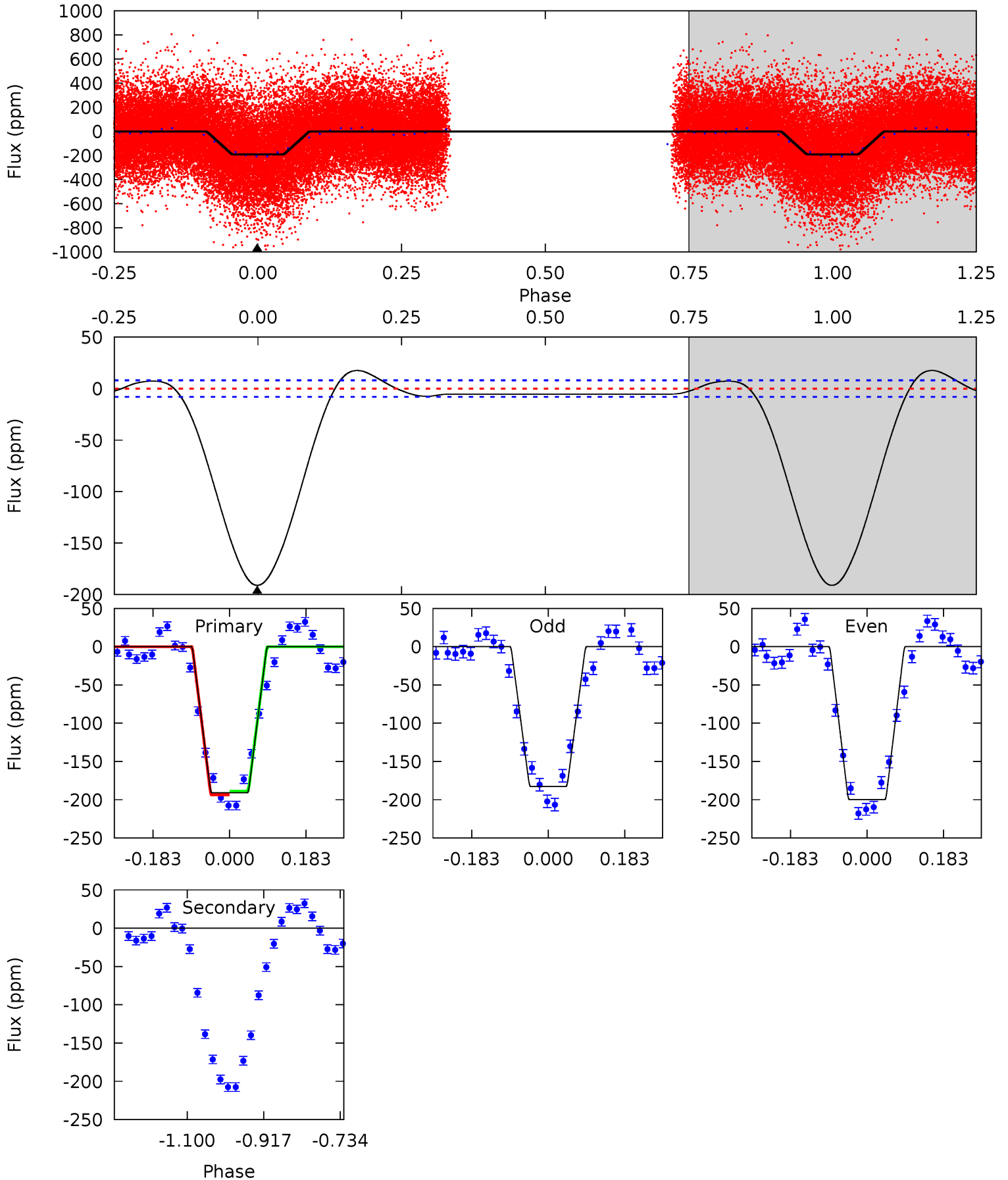
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.0	0	0	0	4.41	1.26	3.54	34.0	34.0	0	0	0.51	1.04	0.23	1.06



Alt Model-Shift Uniqueness Test

003850551-03, P = 3.865600 Days, E = 129.593851 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
105.9	0	0	0	4.44	1.33	3.79	105.9	105.9	0	0	4.80	0.98	0.08	1.22



Stellar Parameters For KIC 003850551

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6404^{+83}_{-77}	$3.927^{+0.195}_{-0.105}$	$-0.060^{+0.150}_{-0.150}$	$2.080^{+0.408}_{-0.498}$	$1.336^{+0.169}_{-0.152}$	$0.209^{+0.225}_{-0.068}$
	+1%/-1%	+5%/-3%	+250%/-250%	+20%/-24%	+13%/-11%	+108%/-32%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 003850551-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 2	$2.30^{+0.30}_{-0.33}$	2454^{+131}_{-156}	-2772^{+5438}_{-435}	$0.003^{+0.516}_{-0.556}$
Alt.	0 ± 2	$3.19^{+0.40}_{-0.43}$	2449^{+121}_{-159}	-2776^{+689}_{-256}	$-0.016^{+0.289}_{-0.264}$

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

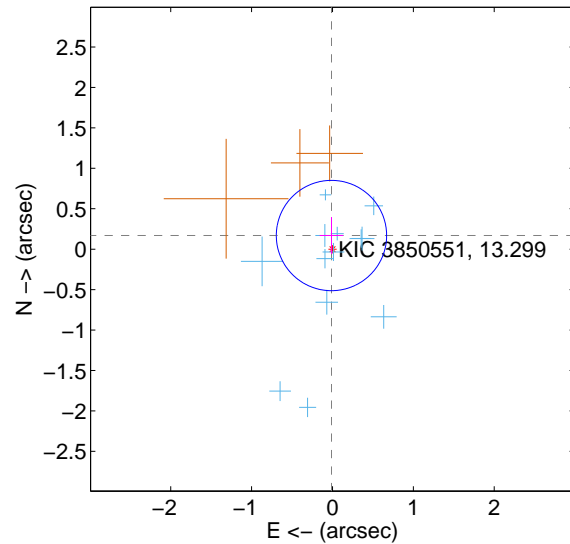
Supplemental centroid analysis for 003850551-03. Kepler magnitude: 13.30. Transit SNR 11.52

There are 13 quarters with good PRF difference image offsets

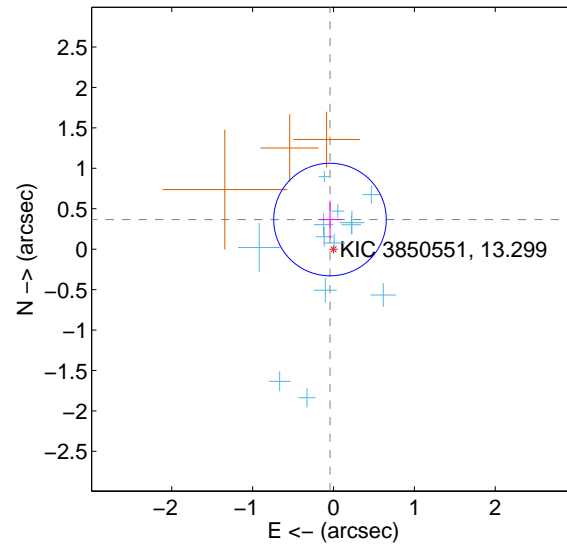
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.169 ± 0.227	0.74	0.012 ± 0.145	0.169 ± 0.228
PRF-fit source offset from KIC position	0.369 ± 0.232	1.59	0.043 ± 0.145	0.367 ± 0.233
photometric centroid source offset	1.03 ± 0.49	2.09	-0.95 ± 0.48	0.40 ± 0.54

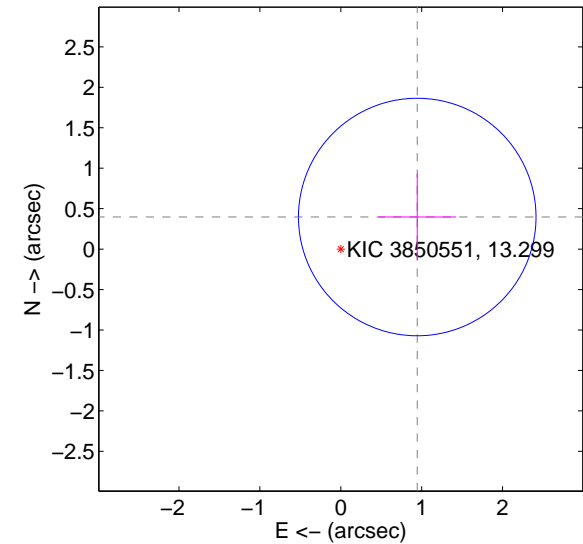
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

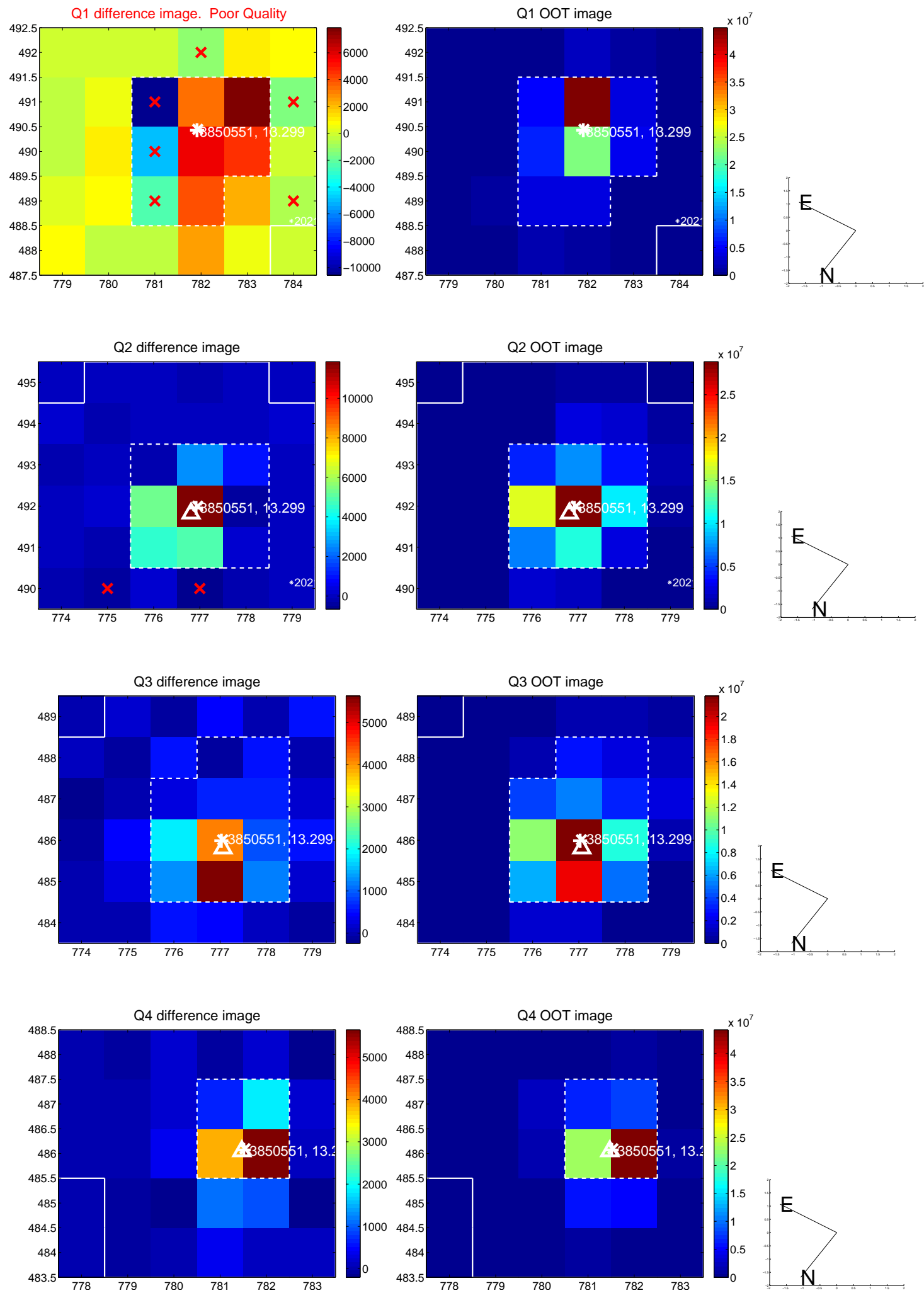


offset from photometric centroids

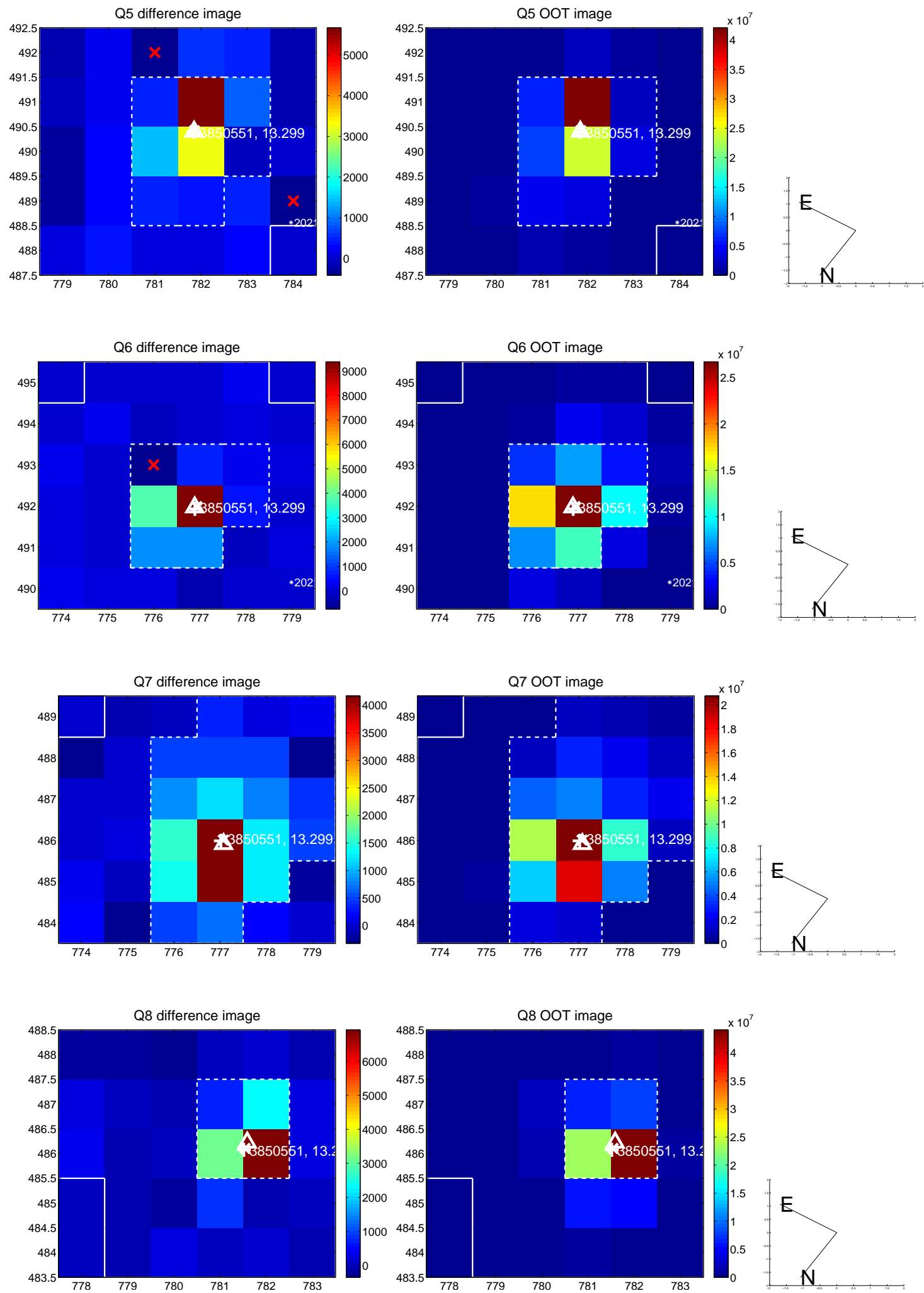


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

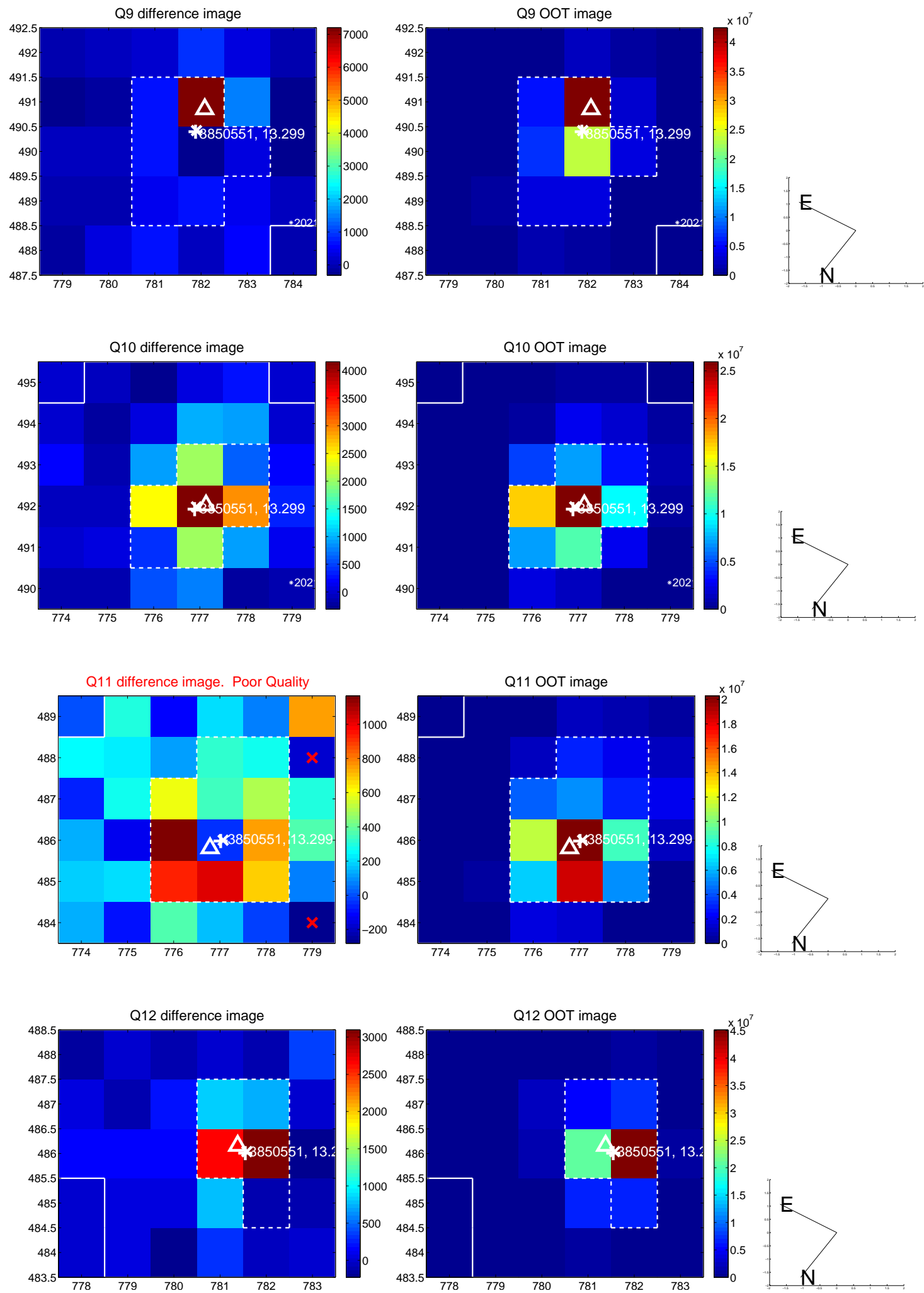
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



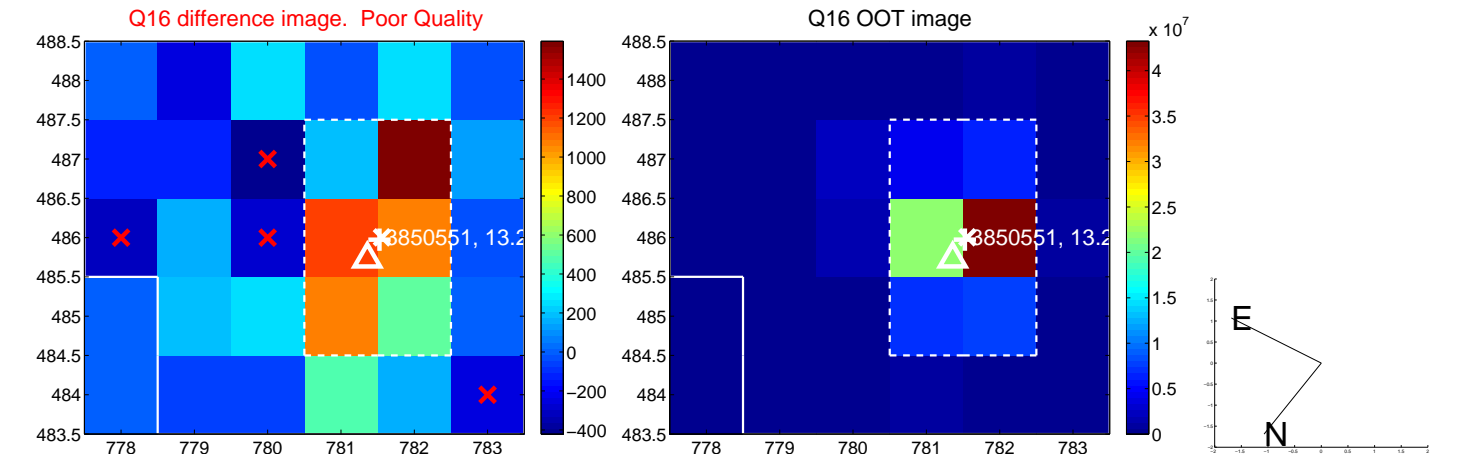
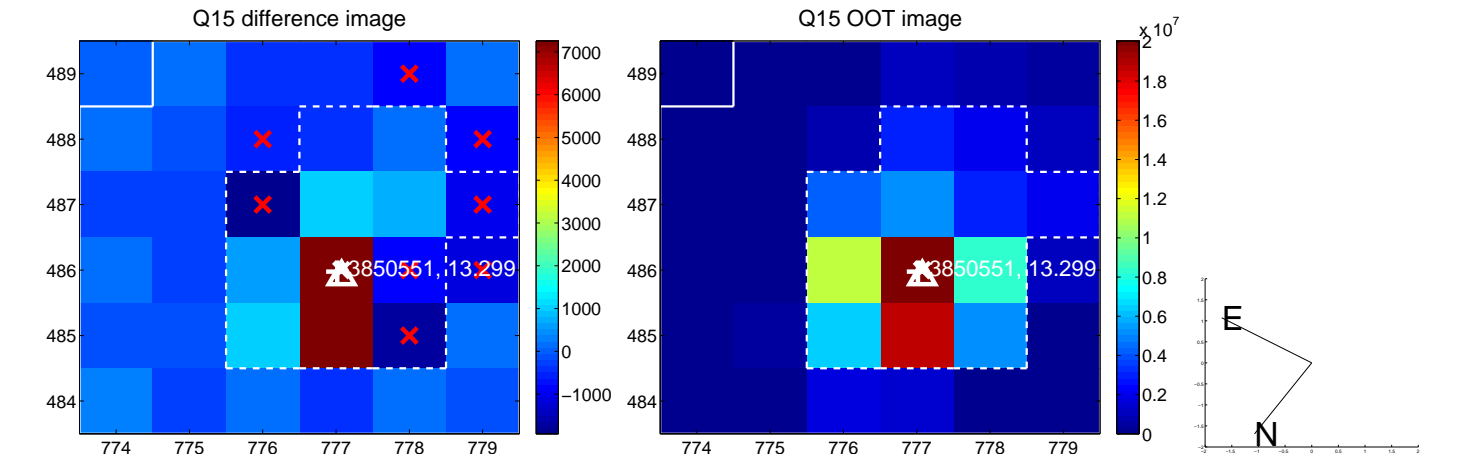
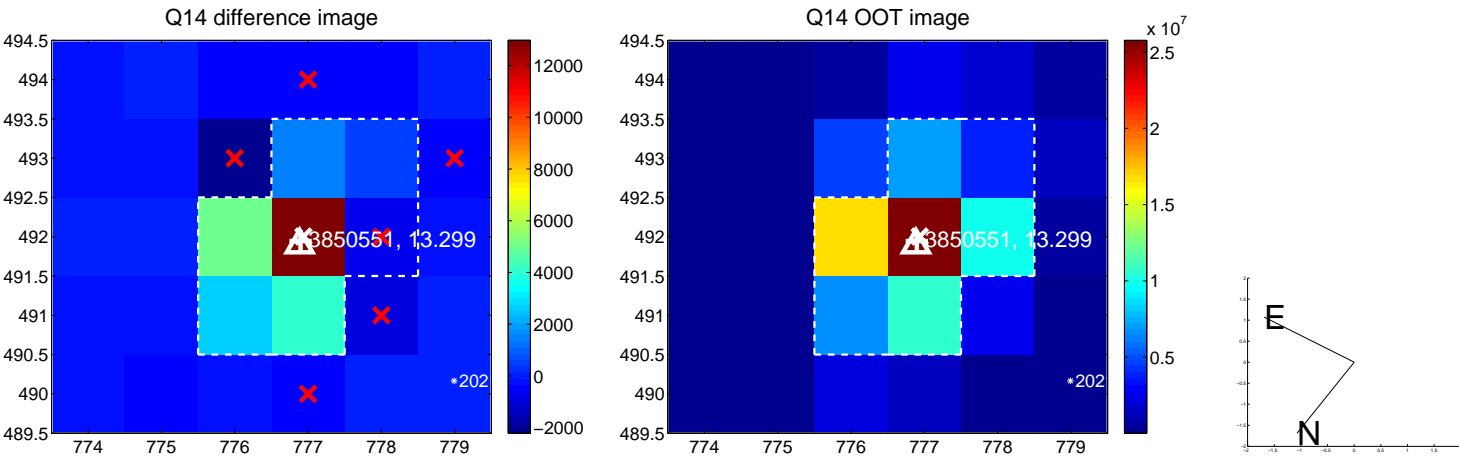
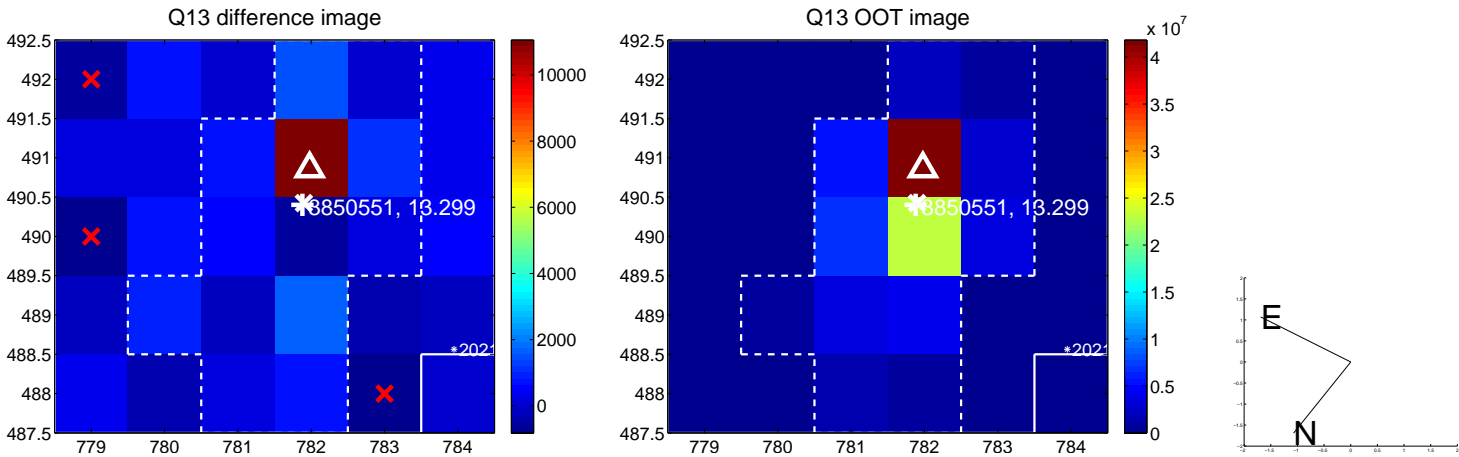
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



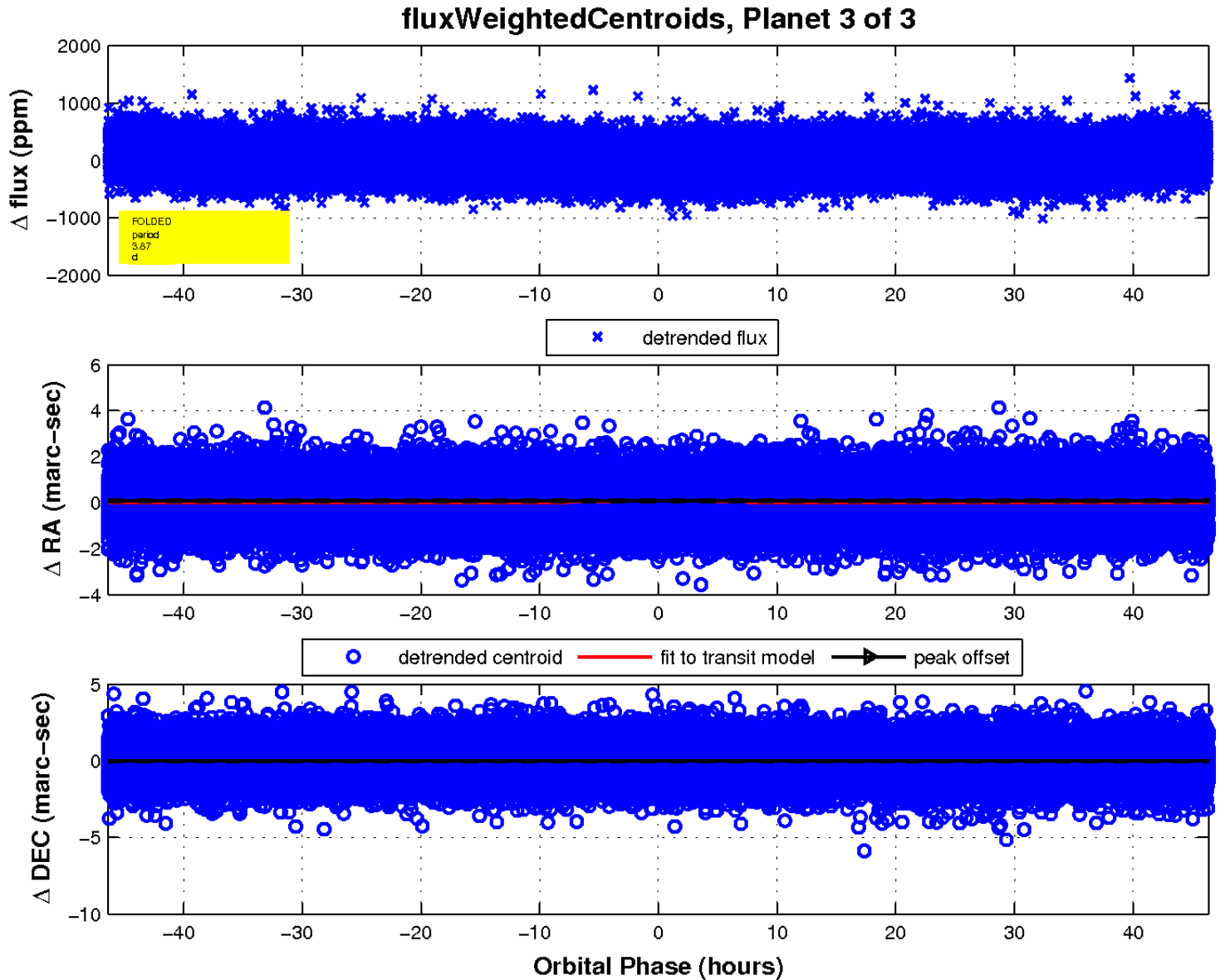
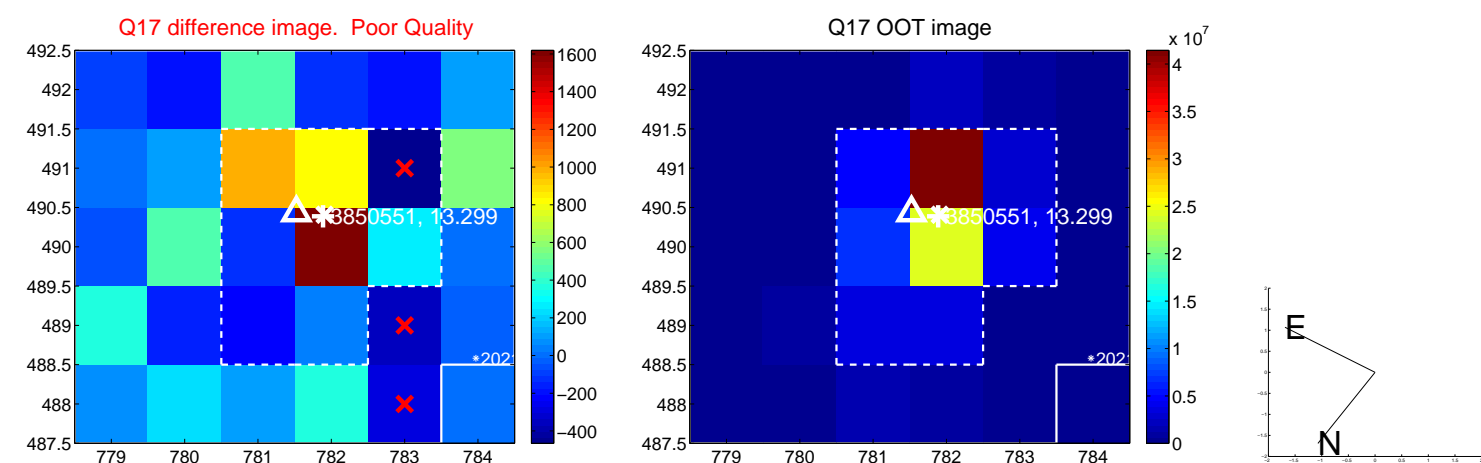
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

Declination

