

KIC 008553788

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})
008553788-01	OBS	7055.01	1.606171	131.632485	140942.1	4.624	9310.2	6921.6	2.31	8027	102.85	17767.54
008553788-02	OBS	No	0.803089	131.625577	5166.8	2.500	1350.3	-1.0	2.31	8027	16.86	44771.14

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008553788-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
008553788-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS

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

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

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

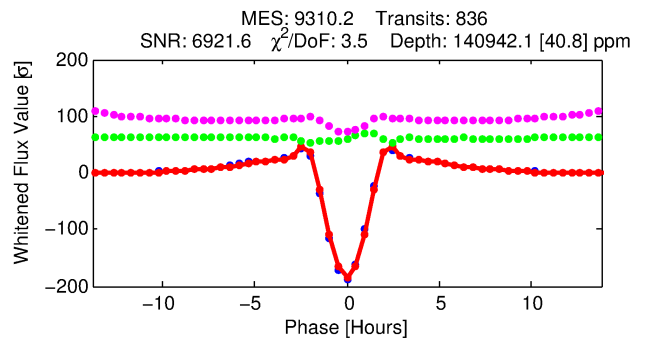
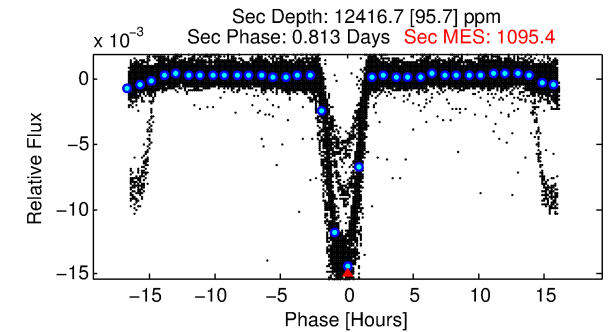
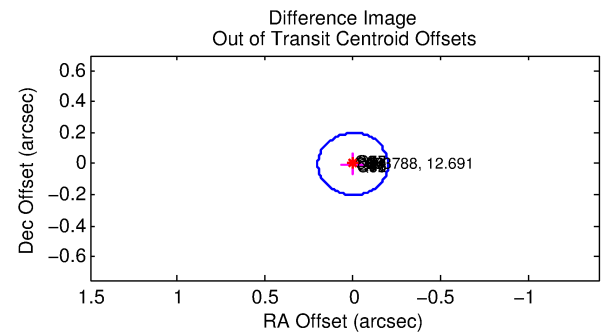
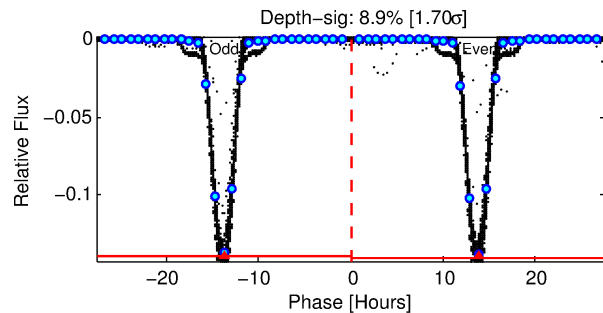
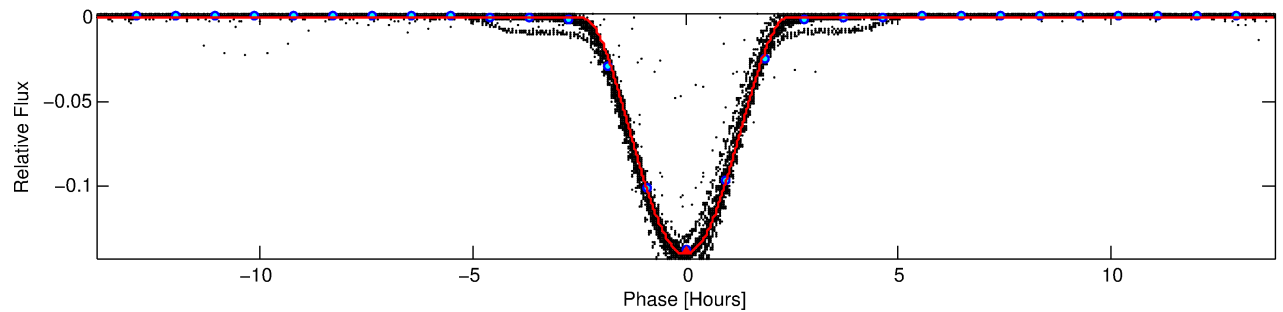
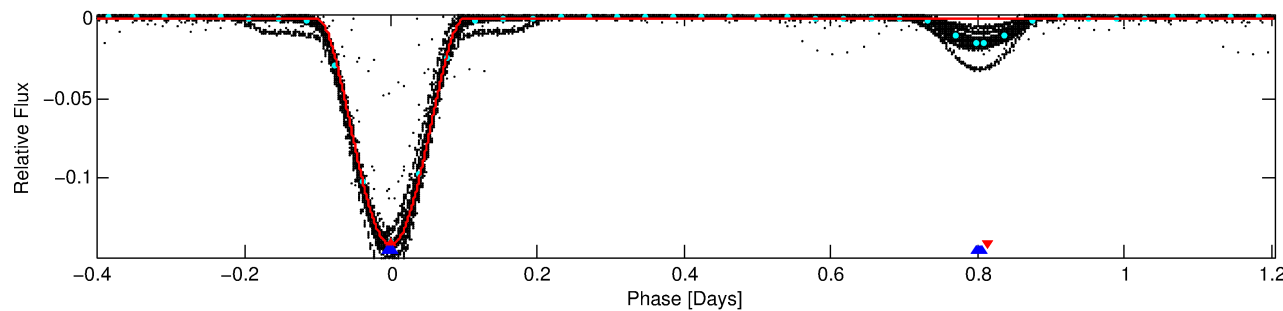
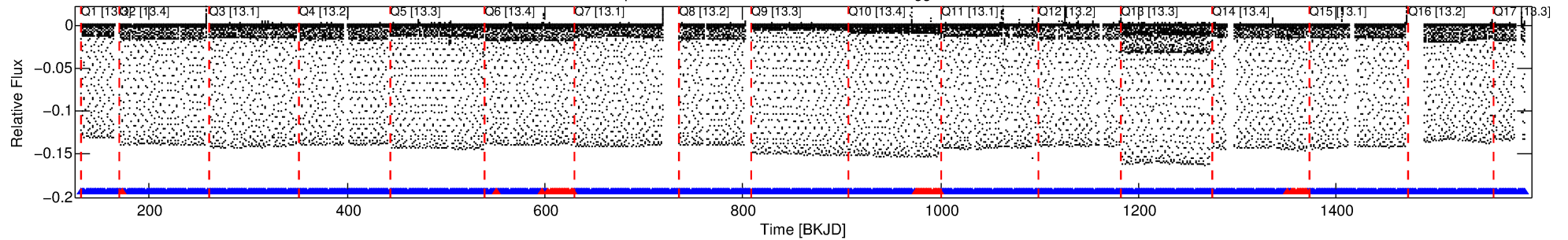
Ephemeris Match Information For 008553788-01

No Significant Match Found

DV One-Page Summary

KIC: 8553788 Candidate: 1 of 2 Period: 1.606 d
KOI: K07055.01 Corr: 0.970

Kp: 12.69 R*: 2.31 Rs Teff: 8027.0 K Logg: 4.00 Fe/H: 0.070



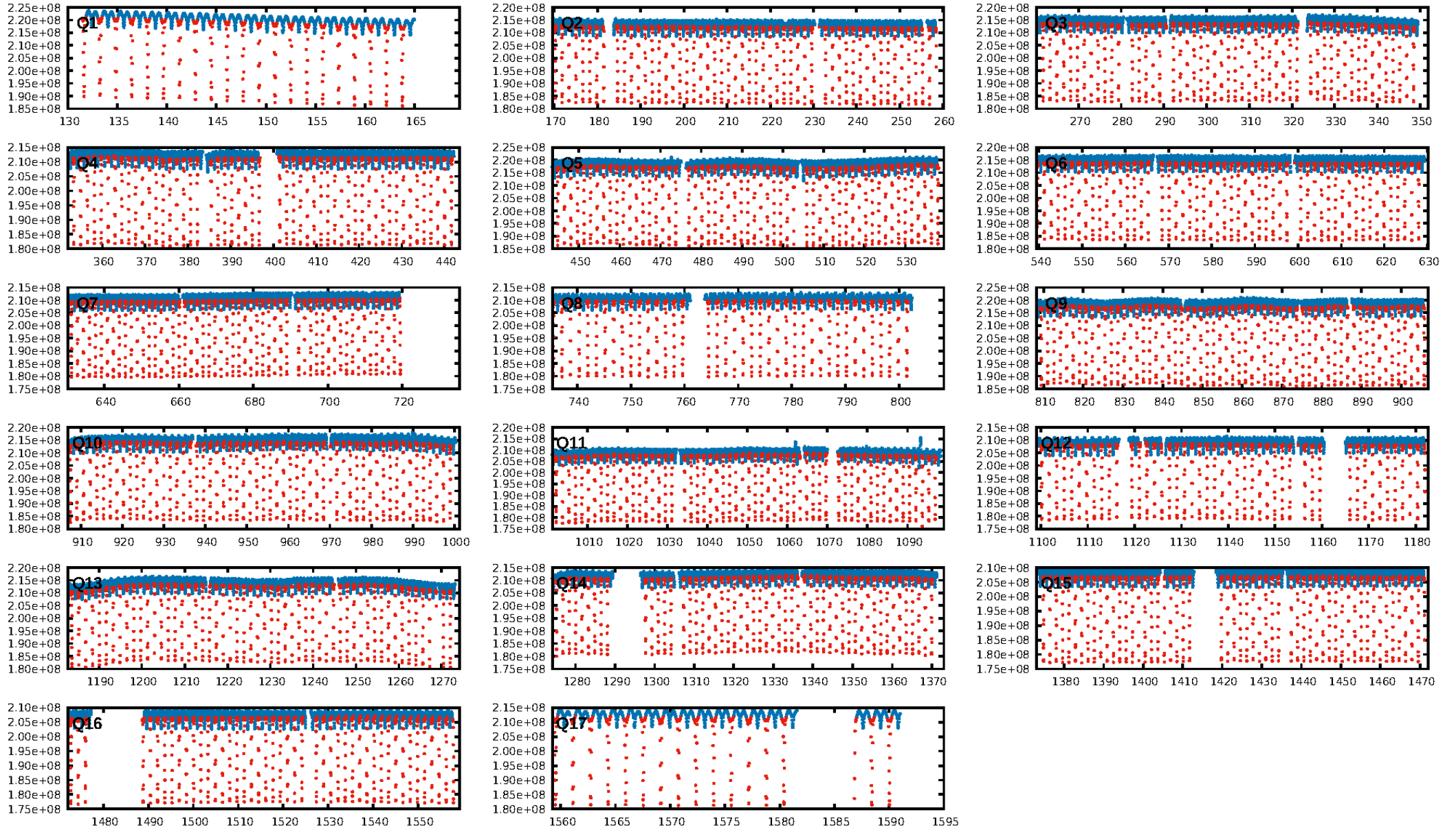
DV Fit Results:

Period = 1.60617 [0.00000] d
Epoch = 131.6325 [0.0000] BKJD
Rp/R* = 0.4073 [0.0006]
a/R* = 3.35 [0.00]
b = 0.73 [0.00]
Seff = 17767.54 [4156.02]
Teff = 2944 [172] K
Rp = 102.85 [18.93] Re
a = 0.0335 [0.0052] AU
Ag = 0.72 [0.17] [-1.66σ]
Teffp = 4199 [50] K [6.99σ]

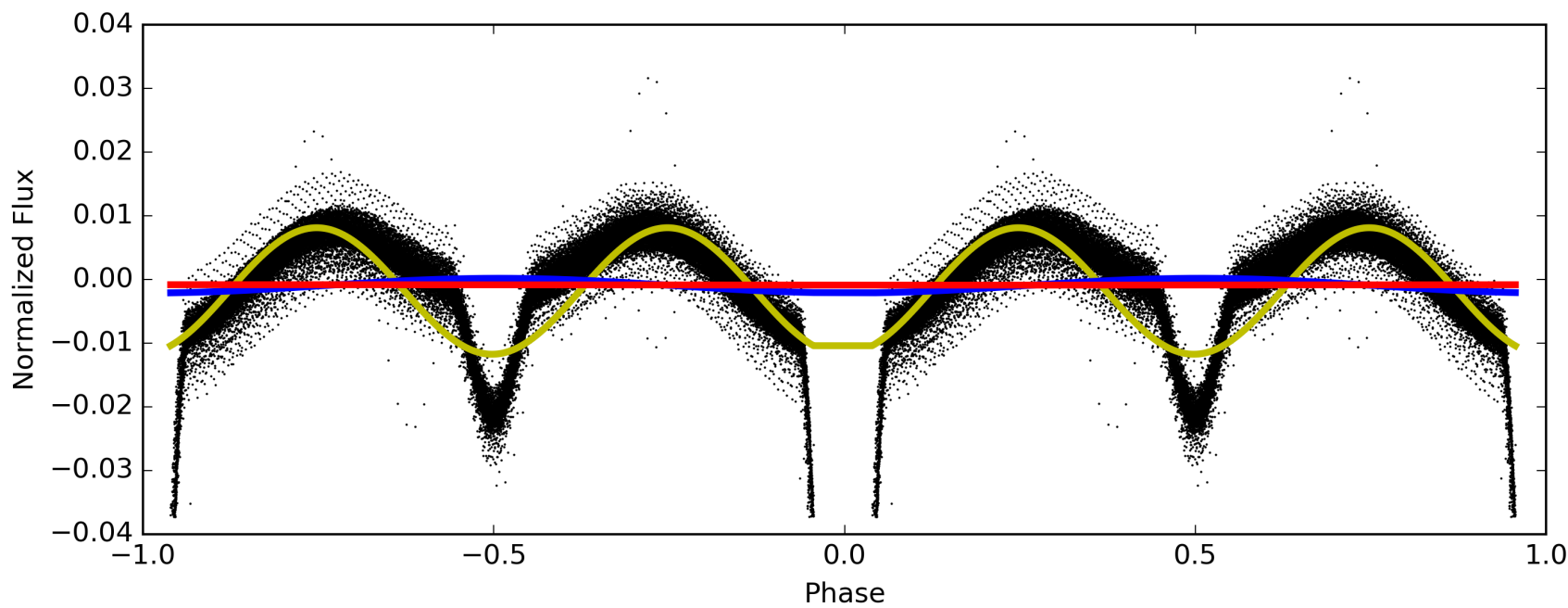
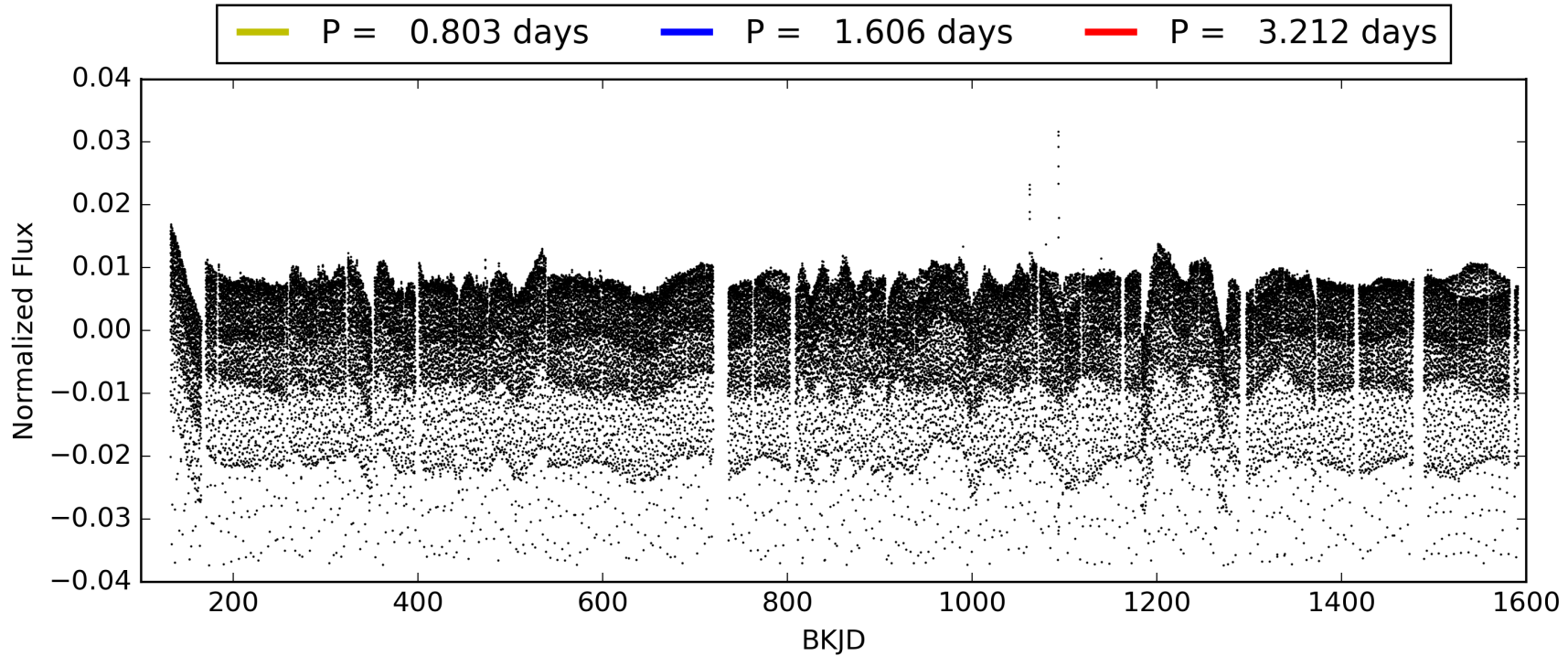
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [3.67σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.94 [752/798]
GhostDiagnostic-chr: 2.221
Centroid-sig: 0.0%
Centroid-so: 0.072 arcsec [219.55σ]
OotOffset-rm: 0.002 arcsec [0.04σ]
KicOffset-rm: 0.075 arcsec [1.10σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 008553788-01, PDC Light Curves

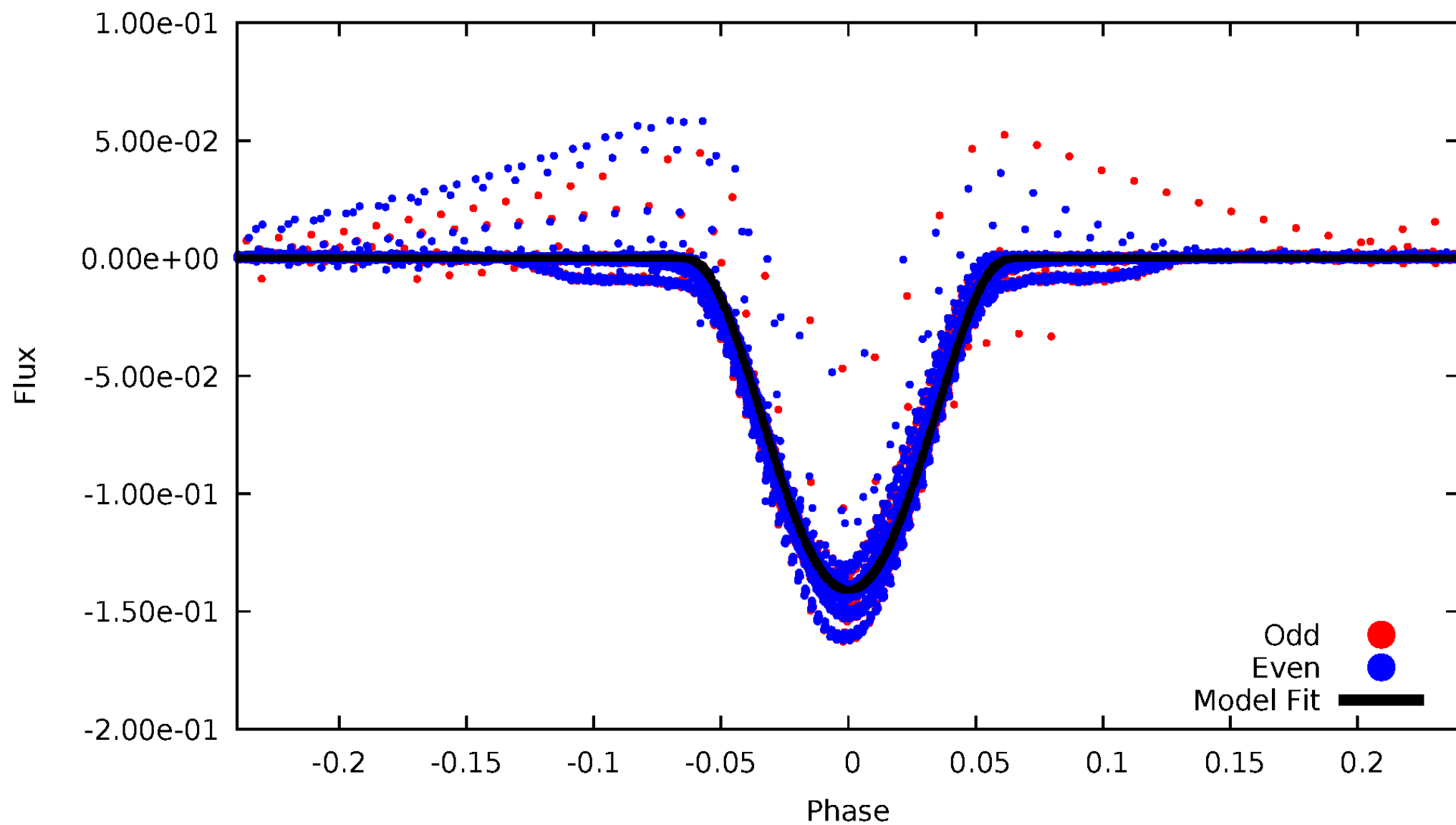


TCE 008553788-01



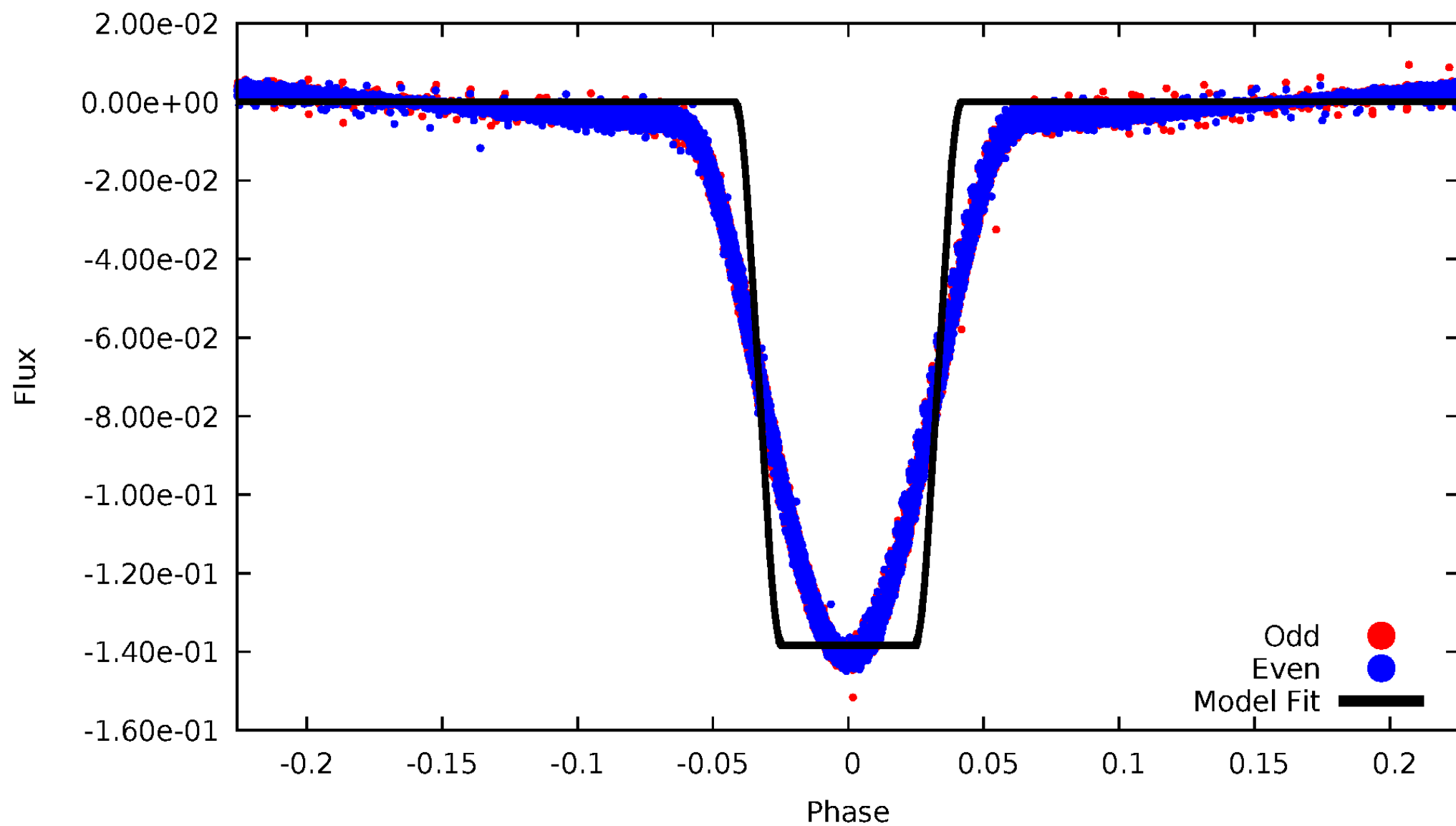
DV Odd/Even

TCE 008553788-01



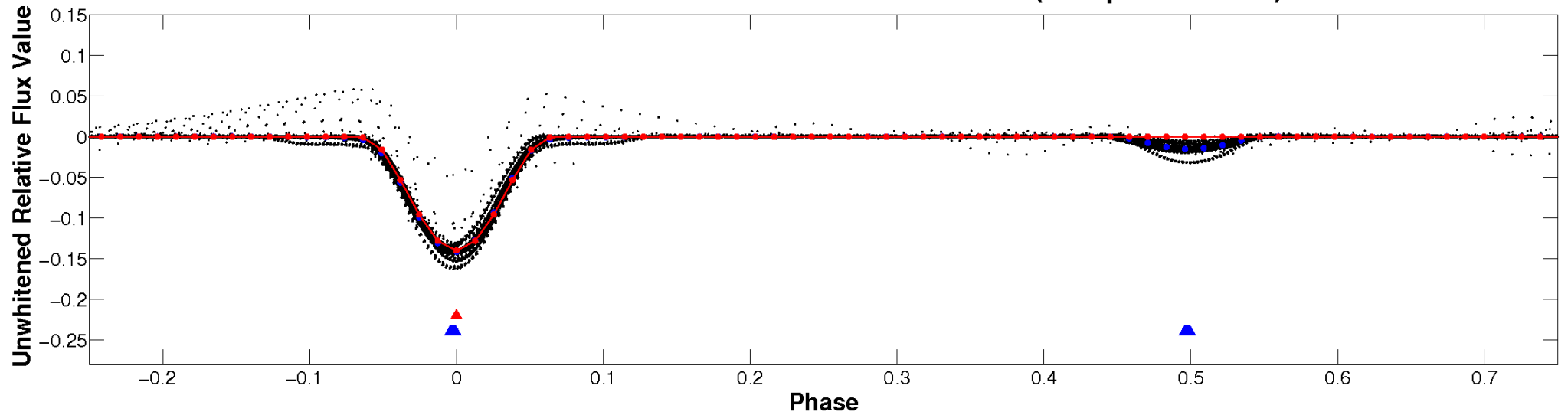
ALT Odd/Even

TCE 008553788-01

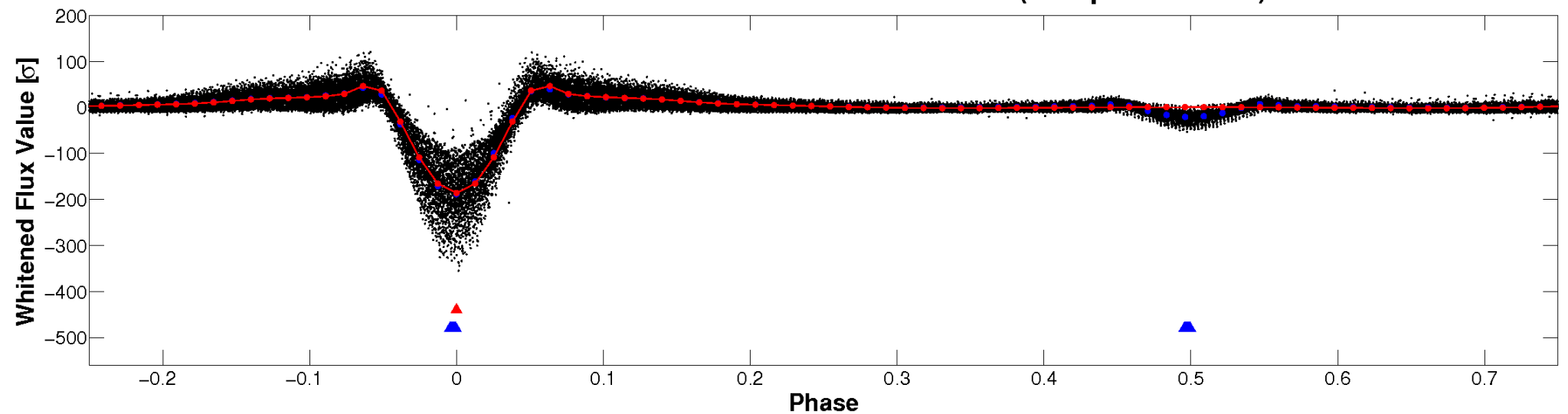


Non-Whitened Vs. Whitened Light Curve

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

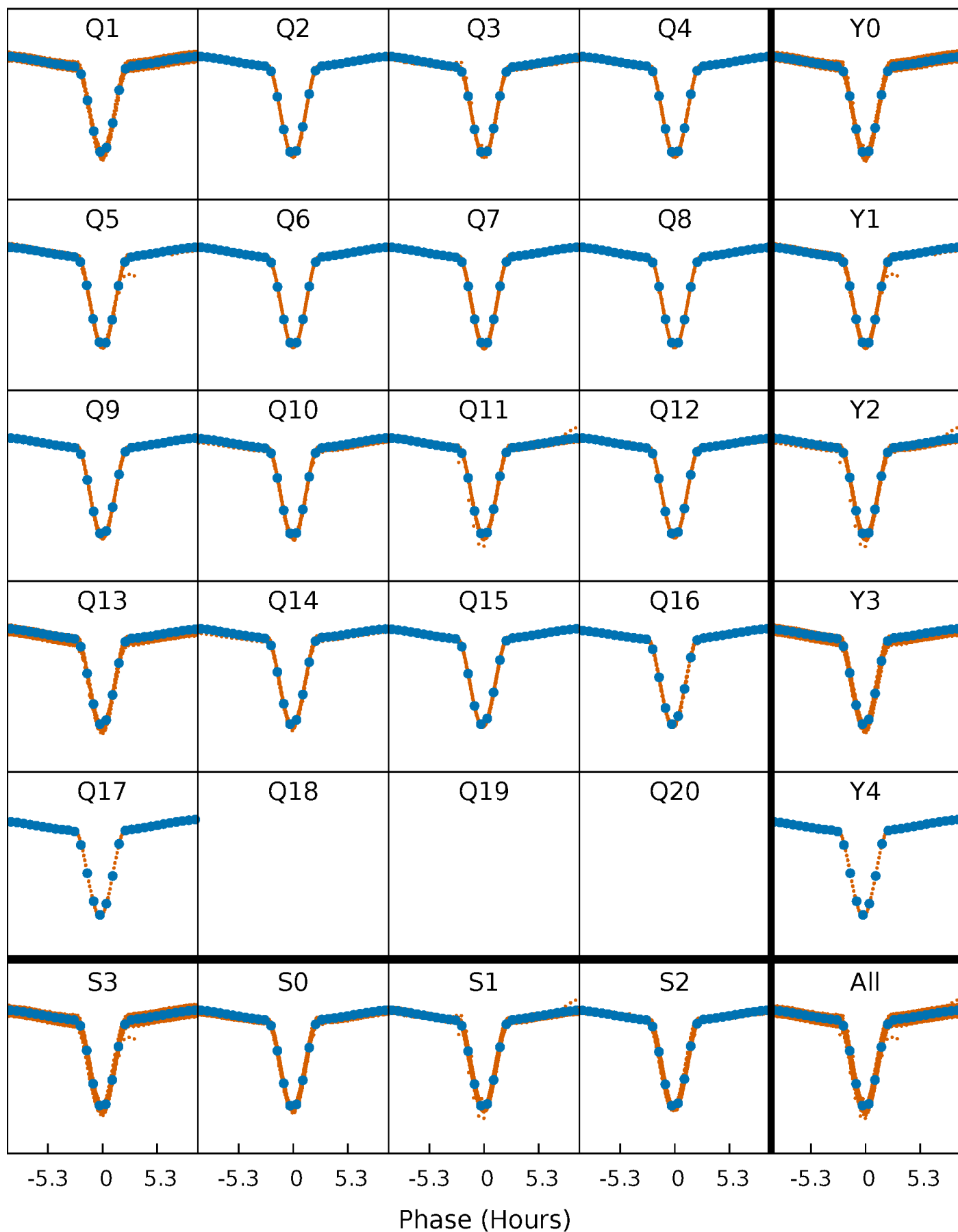


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



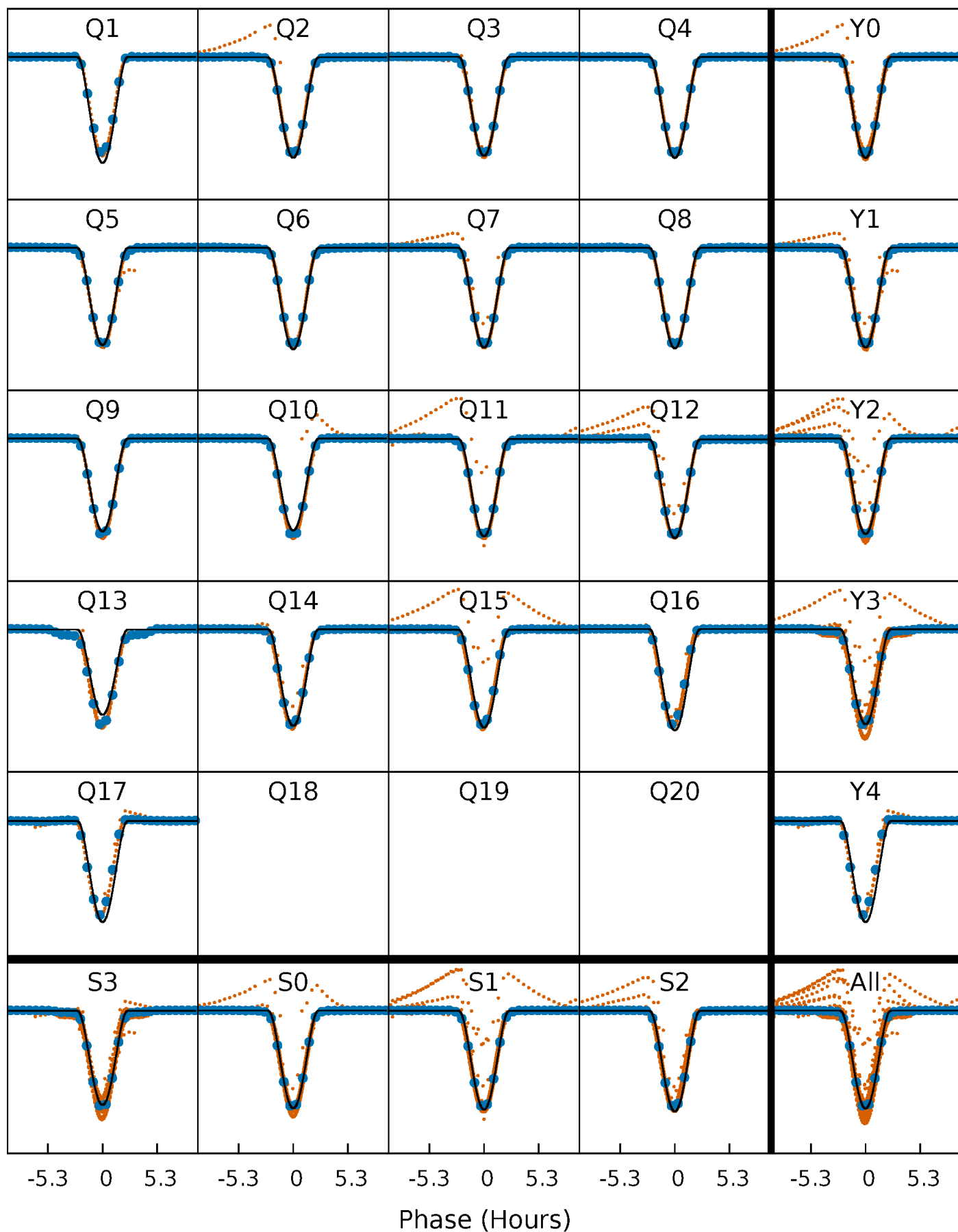
PDC Quarter-Phased Transit Curves

TCE 008553788-01 P= 1.606171 Days $T_0=131.632485$ (BKJD)



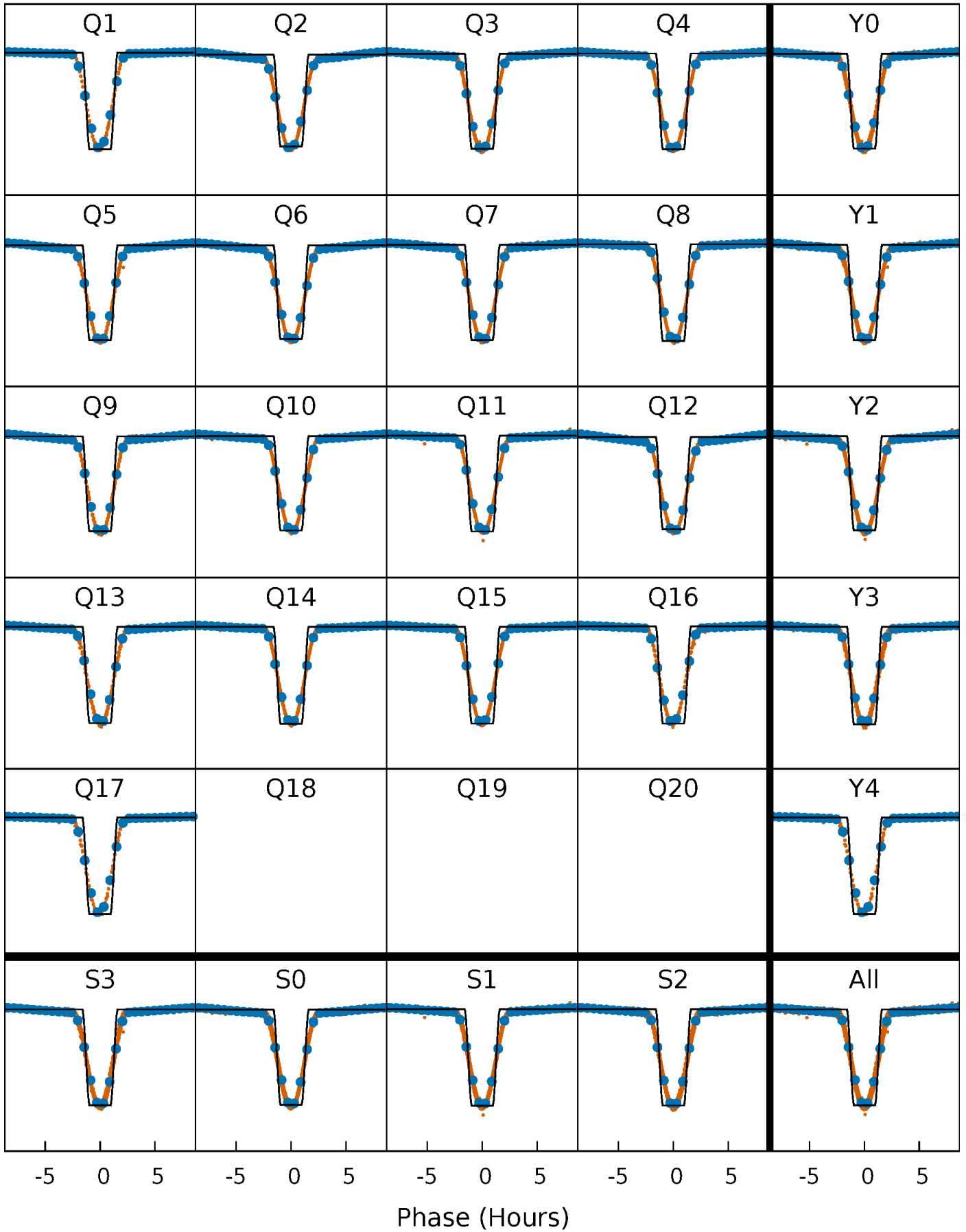
DV Quarter-Phased Transit Curves

TCE 008553788-01 P= 1.606171 Days $T_0=131.632485$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

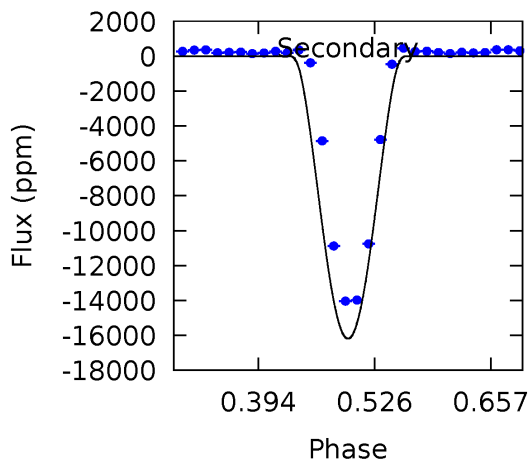
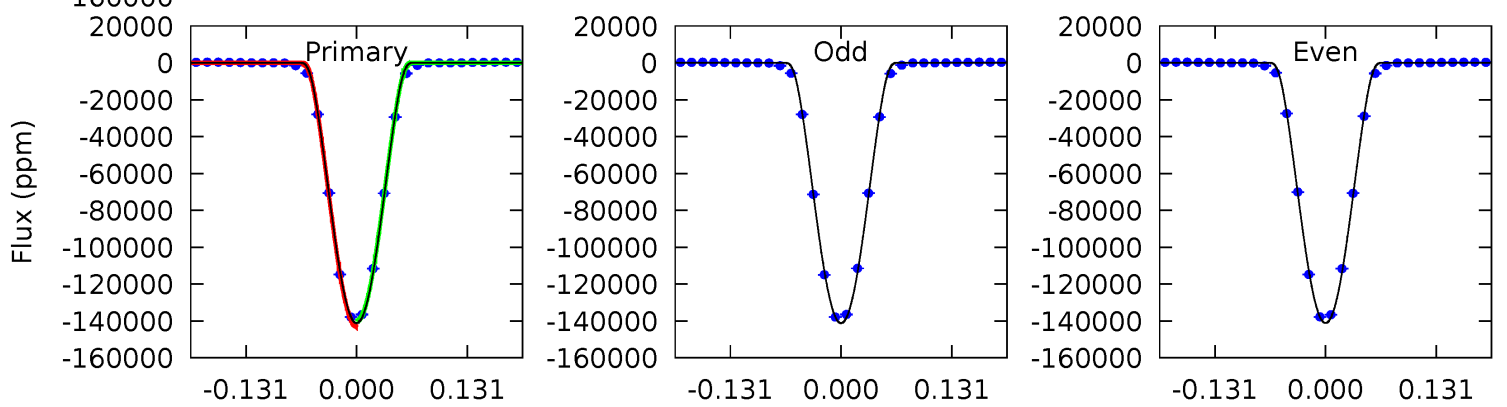
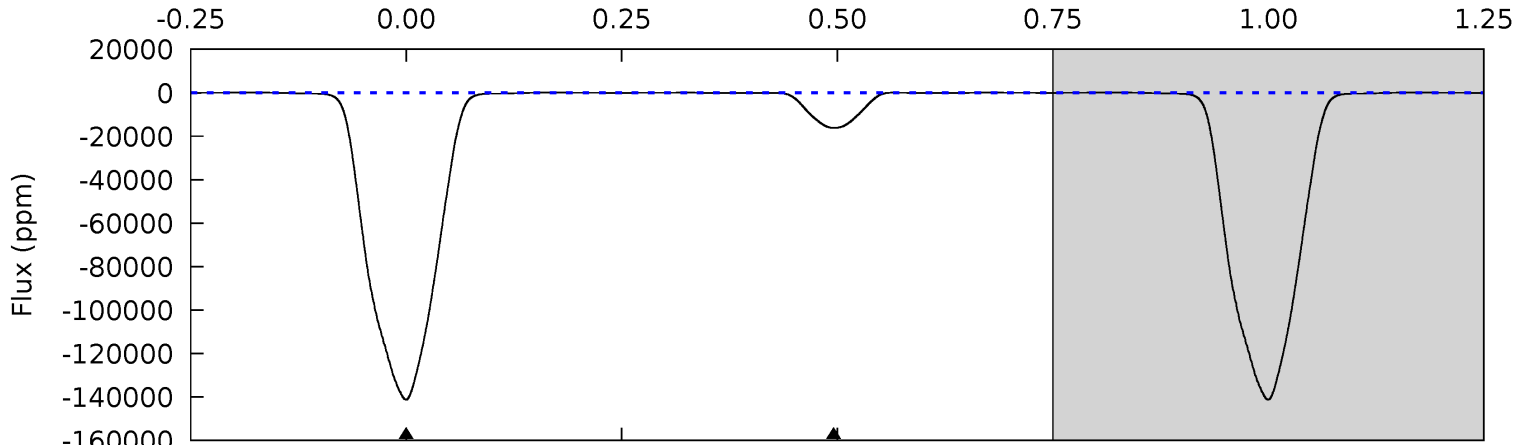
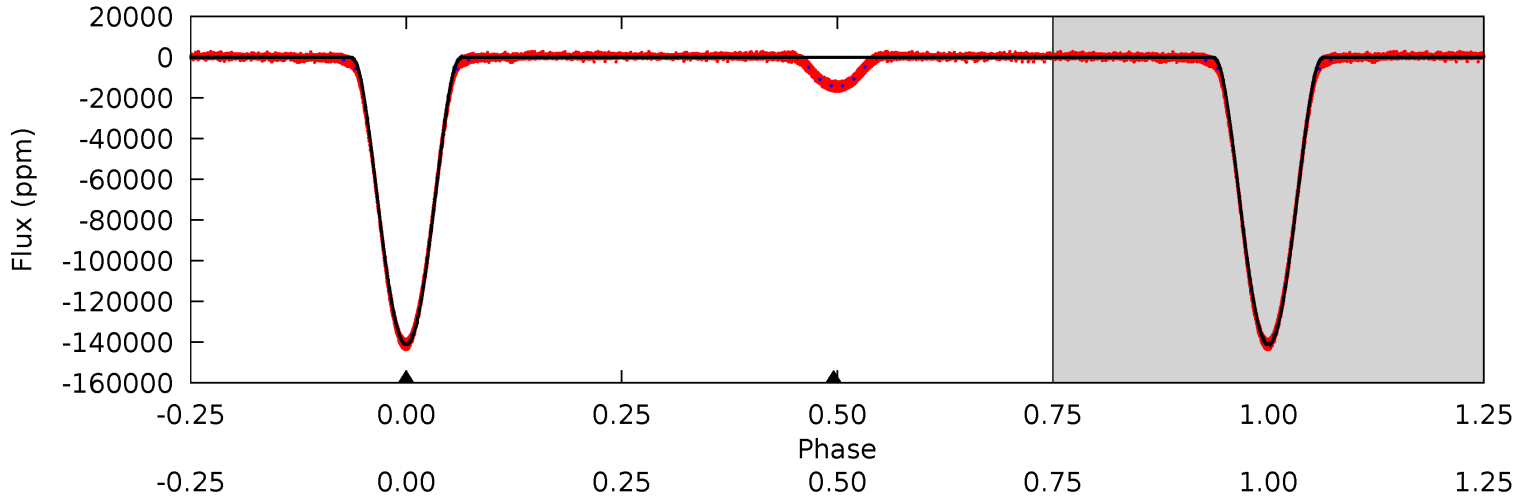
TCE 008553788-01 P= 1.606162 Days $T_0=131.634139$ (BKJD)



DV Model-Shift Uniqueness Test

008553788-01, P = 1.606171 Days, E = 130.026314 Days

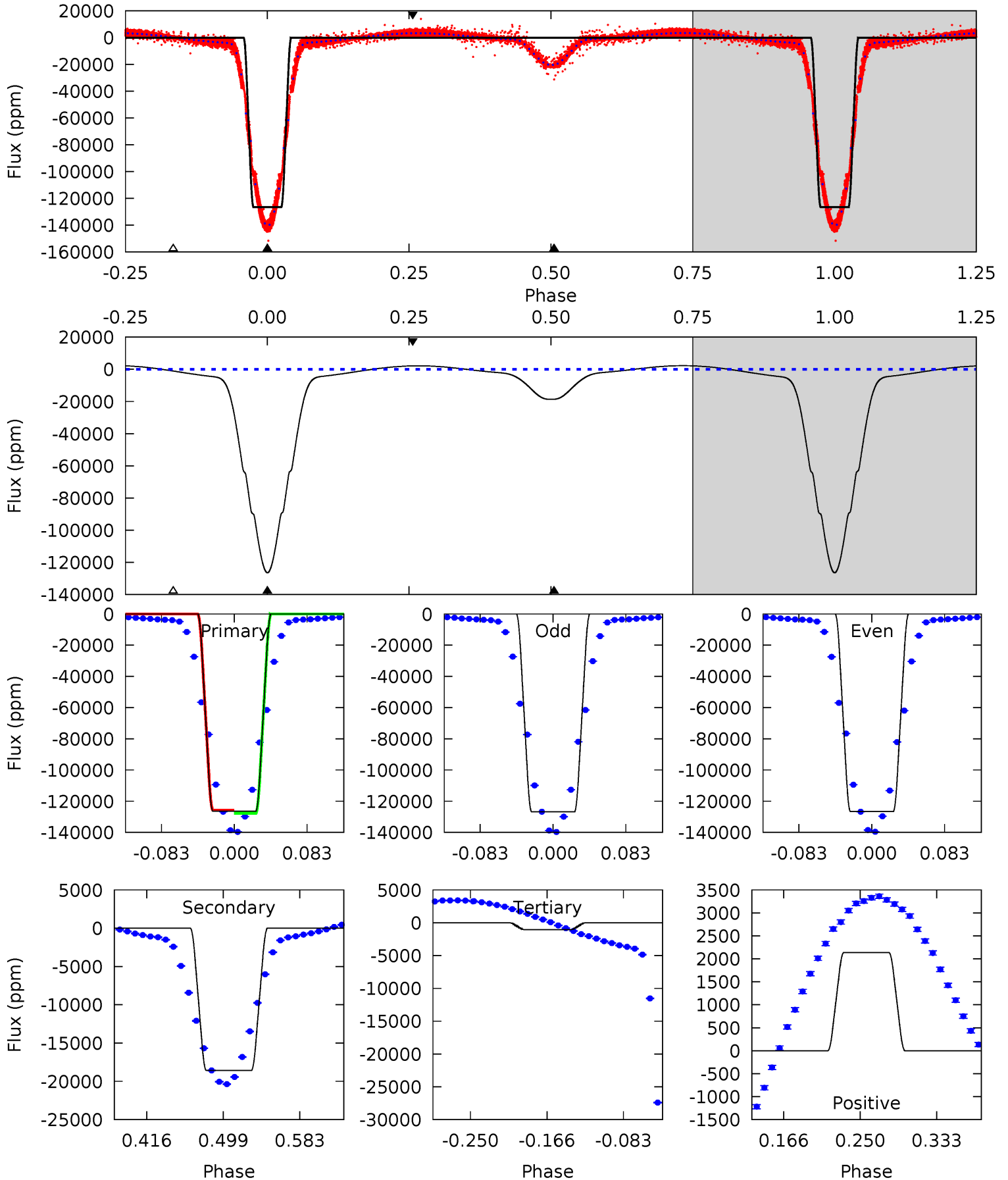
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17704	2030	0	0	4.51	1.51	7.40	17704	17704	2030	2030	4.16	1.00	0.00	183.4



Alt Model-Shift Uniqueness Test

008553788-01, P = 1.606162 Days, E = 130.027977 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3488	512.5	29.3	59.0	4.60	1.73	57.8	3459	3429	483.2	453.6	2.93	1.00	0.02	26.6



Stellar Parameters For KIC 008553788

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8027^{+63}_{-95}	$3.997^{+0.126}_{-0.073}$	$0.070^{+0.150}_{-0.250}$	$2.314^{+0.229}_{-0.426}$	$1.940^{+0.163}_{-0.218}$	$0.220^{+0.140}_{-0.051}$
	+1%/-1%	+3%/-2%	+214%/-357%	+10%/-18%	+8%/-11%	+63%/-23%
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 008553788-01 / KOI 7055.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-16195 ± 8	$102.55^{+6.78}_{-8.78}$	4096^{+125}_{-179}	4250^{+56}_{-58}	$0.974^{+0.174}_{-0.111}$
Alt.	-18585 ± 36	$94.59^{+5.33}_{-9.37}$	4105^{+131}_{-177}	4617^{+49}_{-48}	$1.325^{+0.239}_{-0.145}$

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 $A_{obs} \gg 1.0$

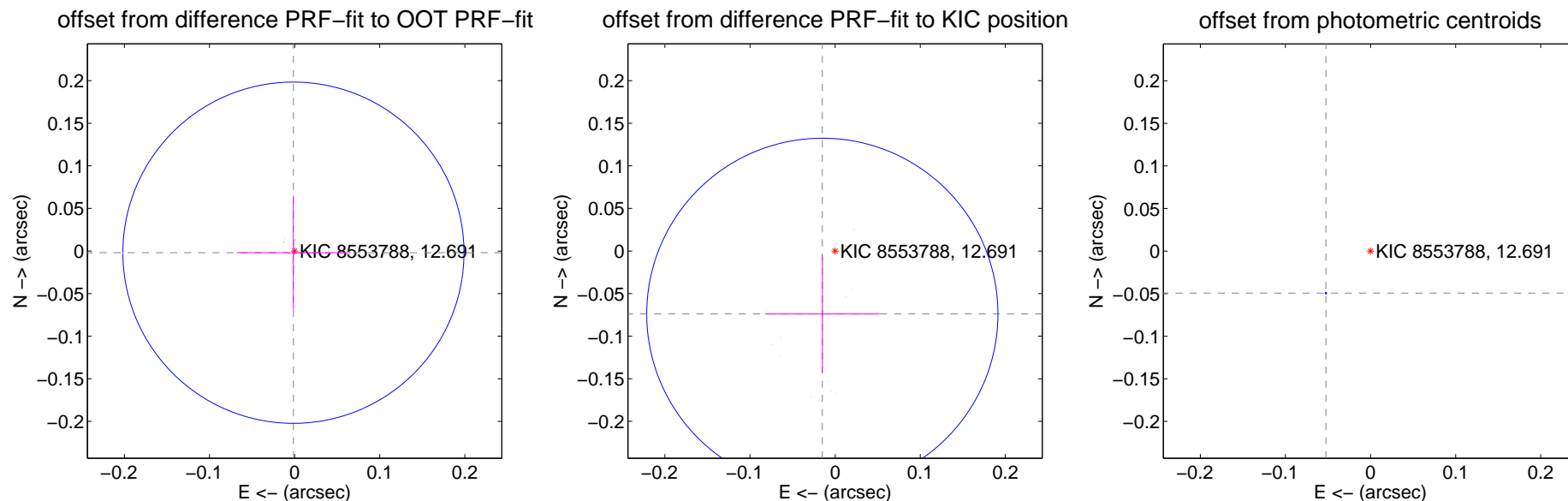
DV Centroid Data

Supplemental centroid analysis for 008553788-01. Kepler magnitude: 12.69. Transit SNR 6921.56

There are 17 quarters with good PRF difference image offsets

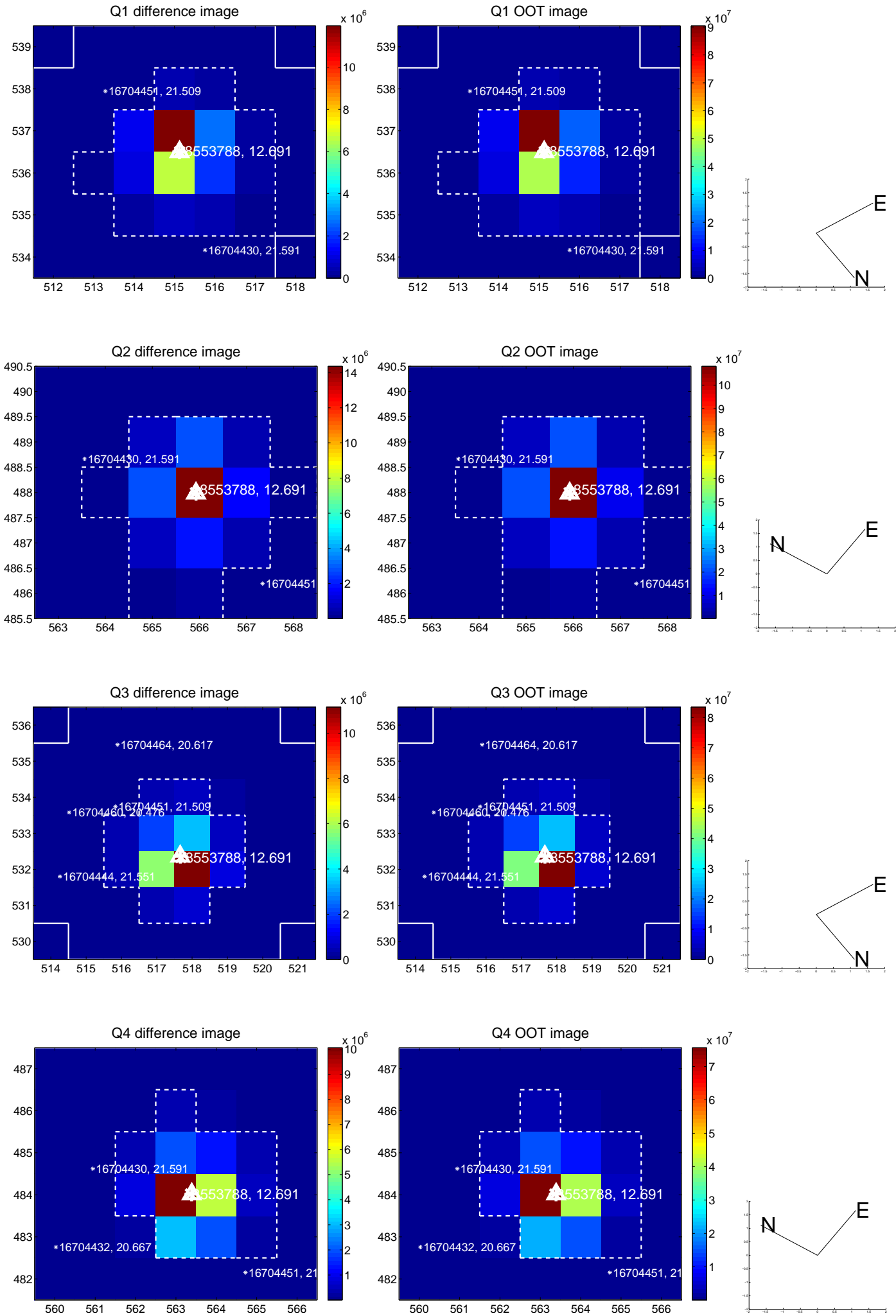
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.002 ± 0.067	0.04	0.001 ± 0.067	-0.002 ± 0.067
PRF-fit source offset from KIC position	0.075 ± 0.069	1.10	0.015 ± 0.067	-0.074 ± 0.069
photometric centroid source offset	0.07 ± 0.00	219.55	0.05 ± 0.00	-0.05 ± 0.00

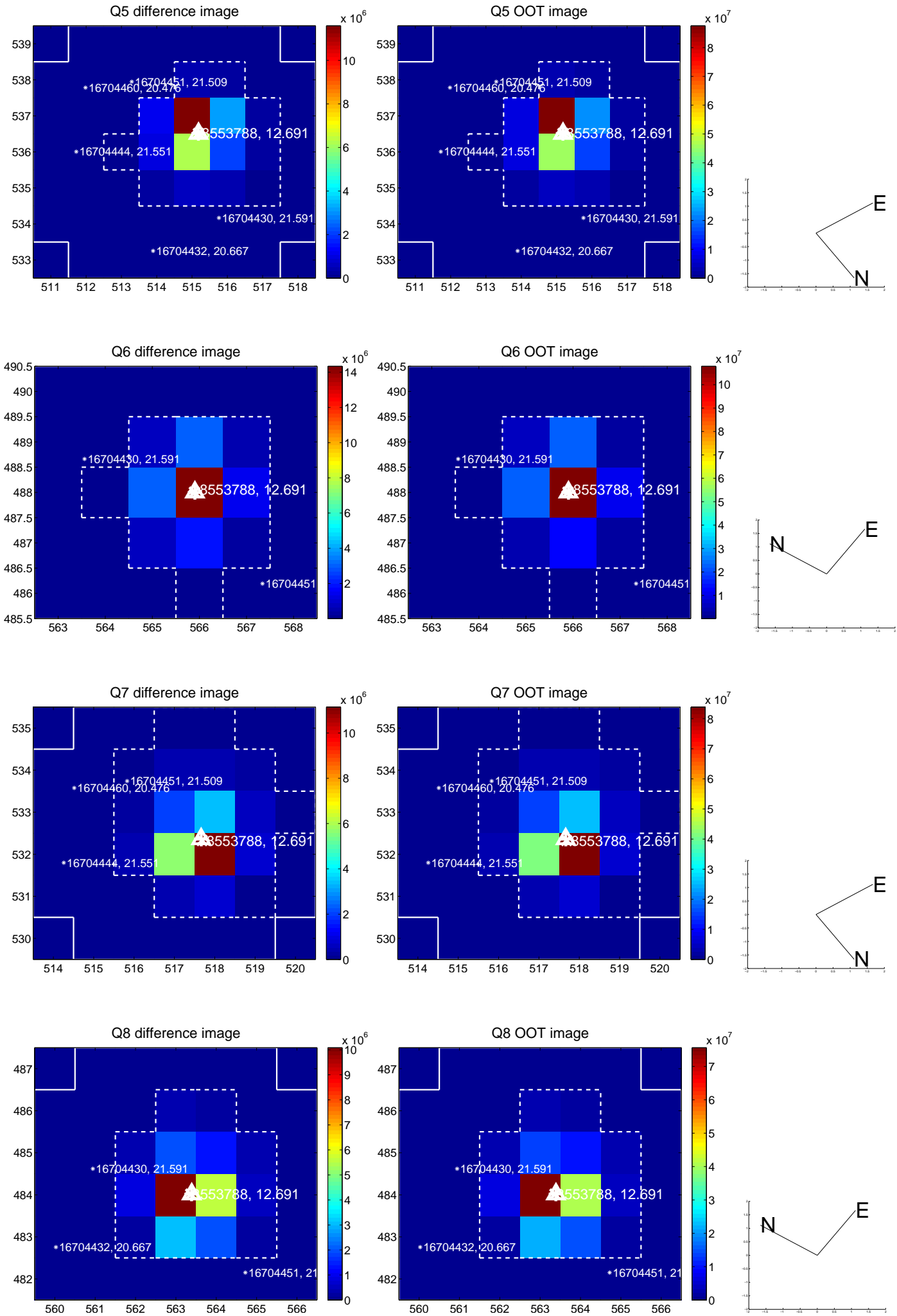


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

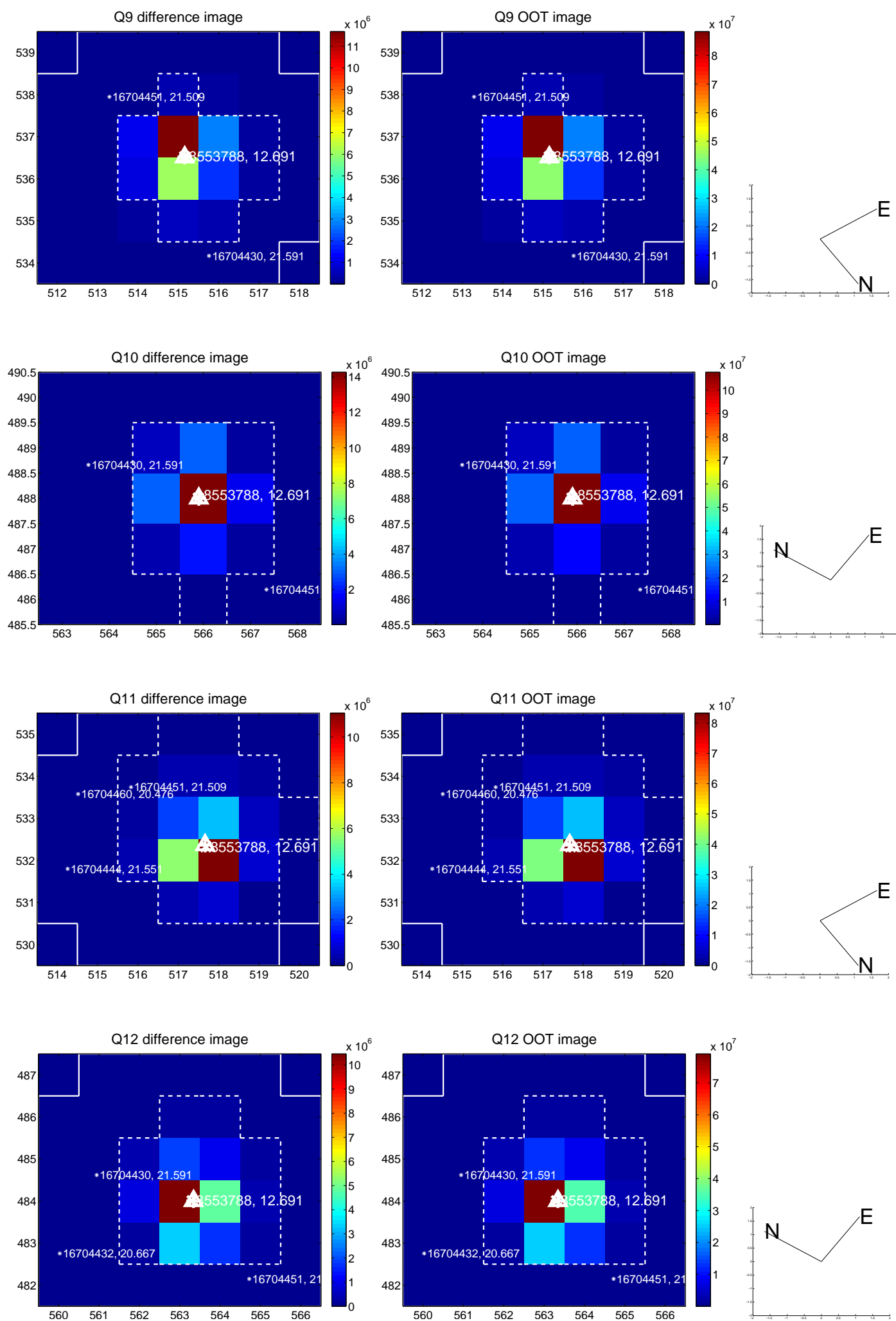
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



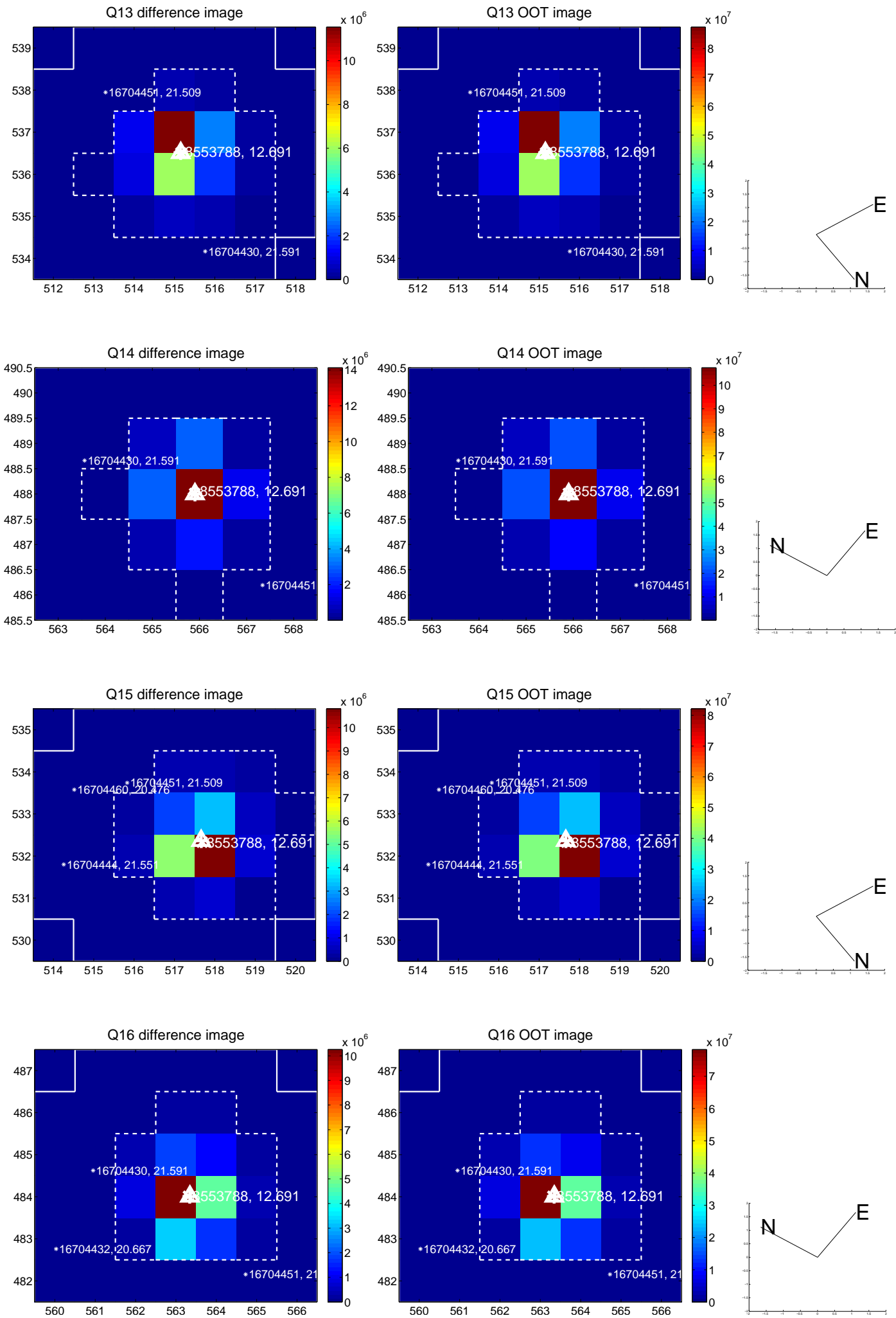
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



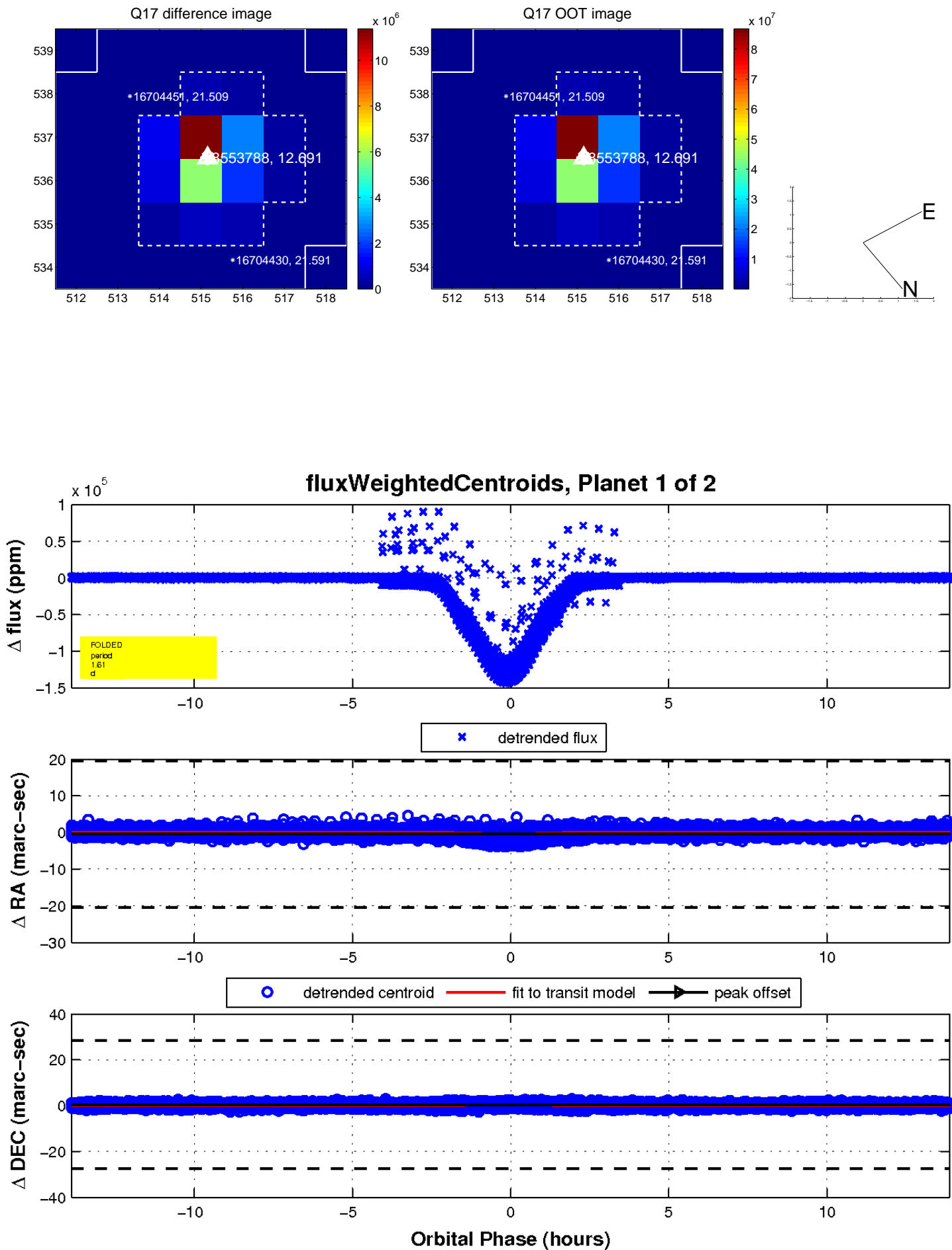
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

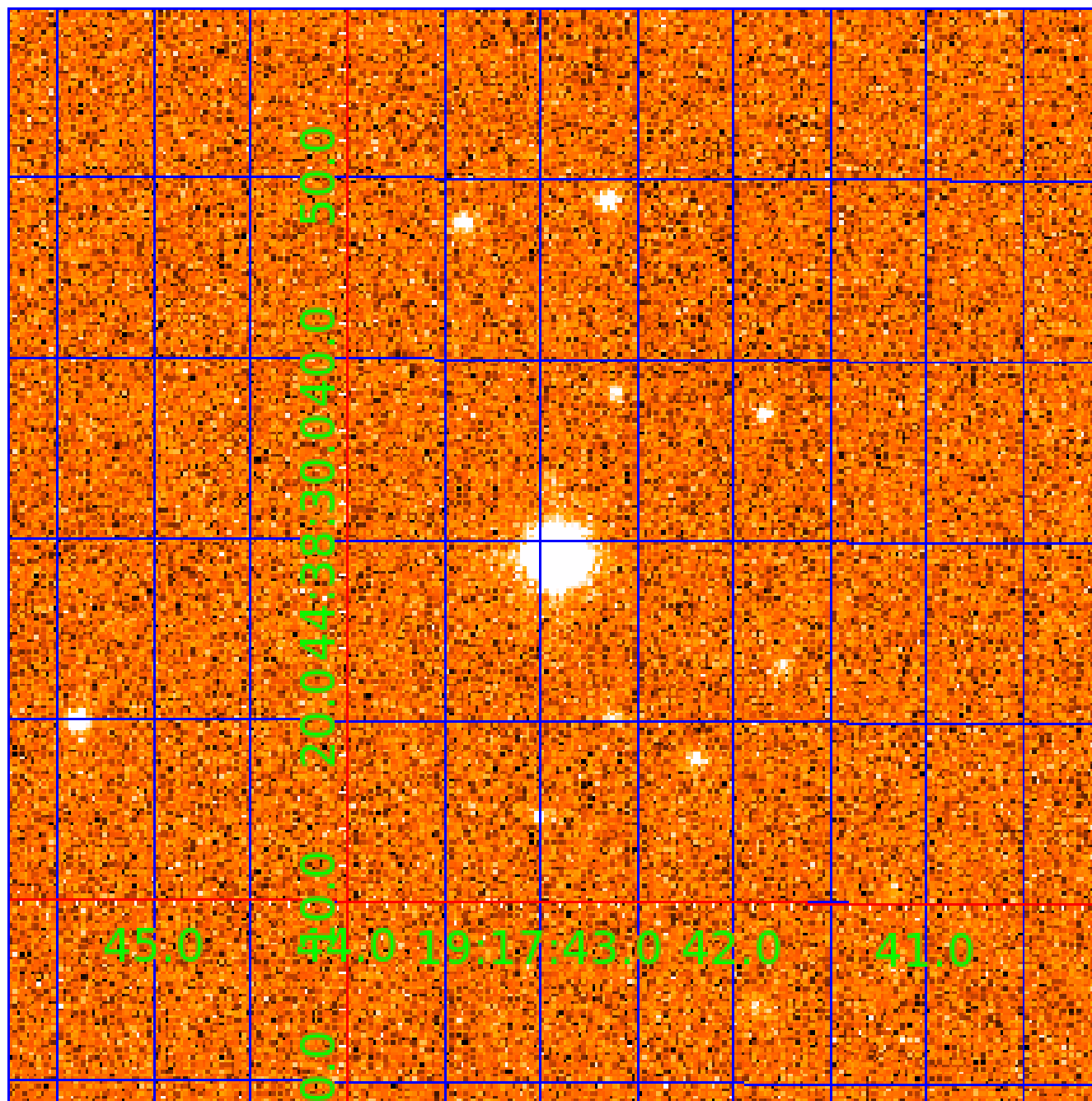


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008553788

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})
008553788-01	OBS	7055.01	1.606171	131.632485	140942.1	4.624	9310.2	6921.6	2.31	8027	102.85	17767.54
008553788-02	OBS	No	0.803089	131.625577	5166.8	2.500	1350.3	-1.0	2.31	8027	16.86	44771.14

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008553788-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
008553788-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS

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

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

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

Ephemeris Match Information For 008553788-02

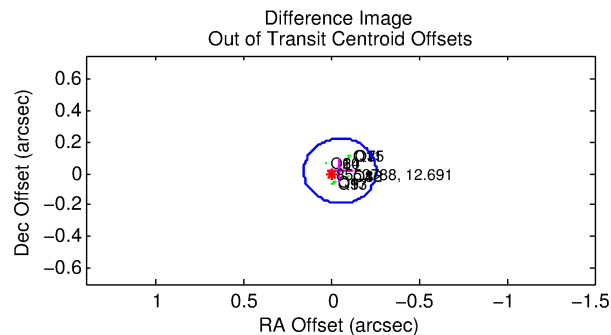
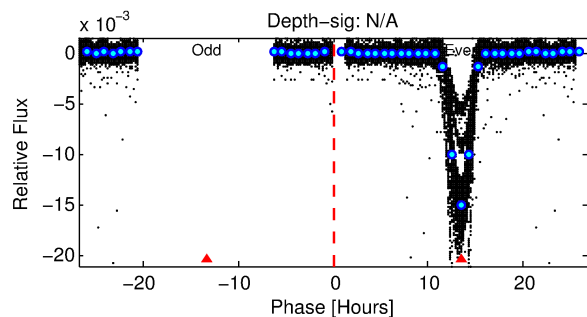
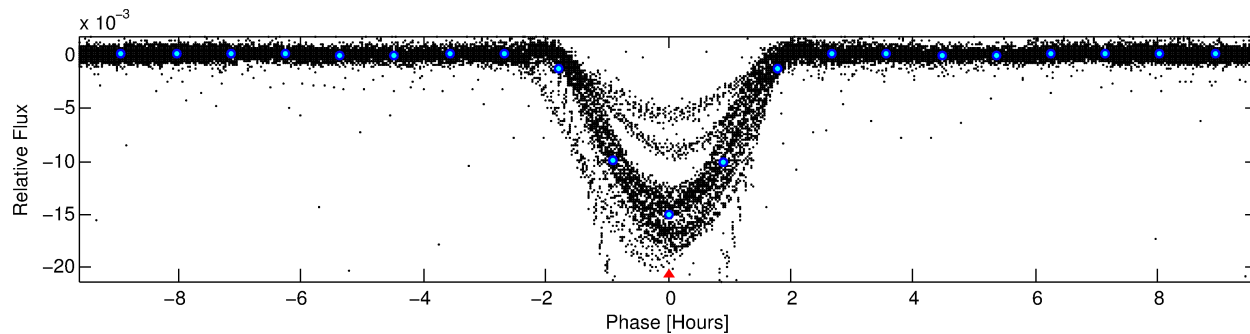
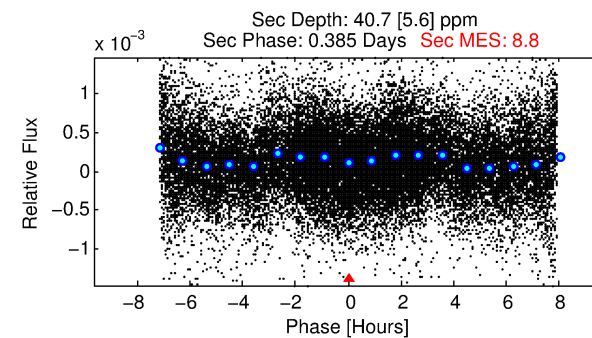
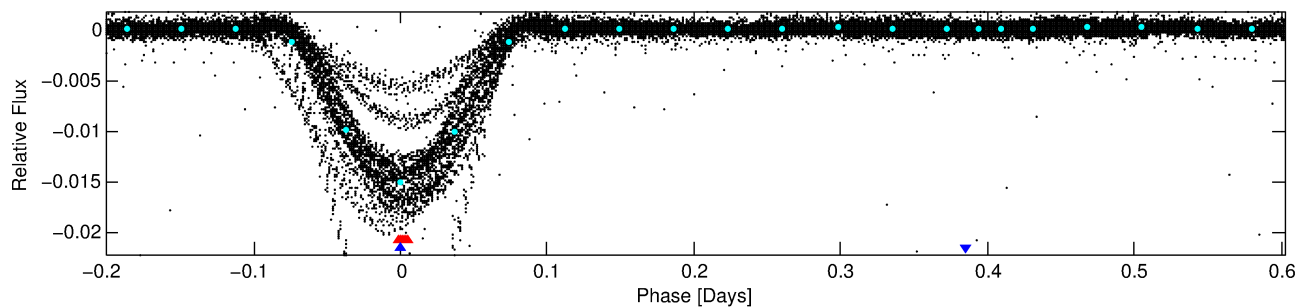
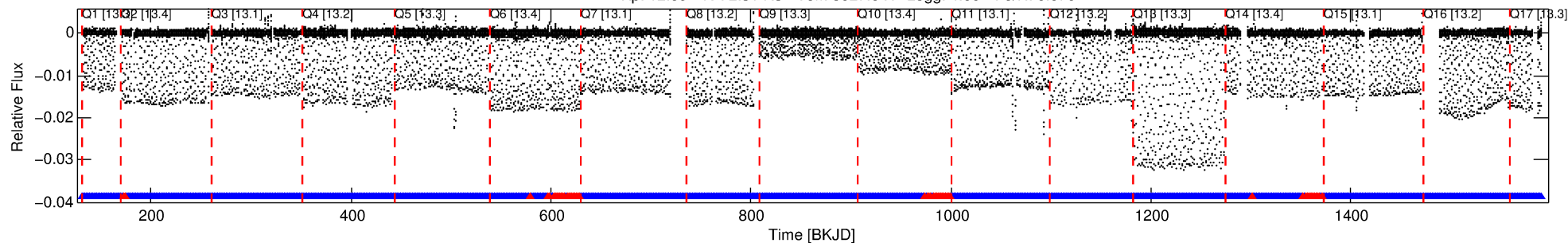
No Significant Match Found

DV One-Page Summary

KIC: 8553788 Candidate: 2 of 2 Period: 0.803 d

KOI: K07055 Corr: No Ephemeris Match

Kp: 12.69 R*: 2.31 Rs Teff: 8027.0 K Logg: 4.00 Fe/H: 0.070



TPS TCE Results:

Period = 0.80309 d
Epoch = 131.6256 BKJD

DV fit results are unavailable

DV Diagnostic Results:

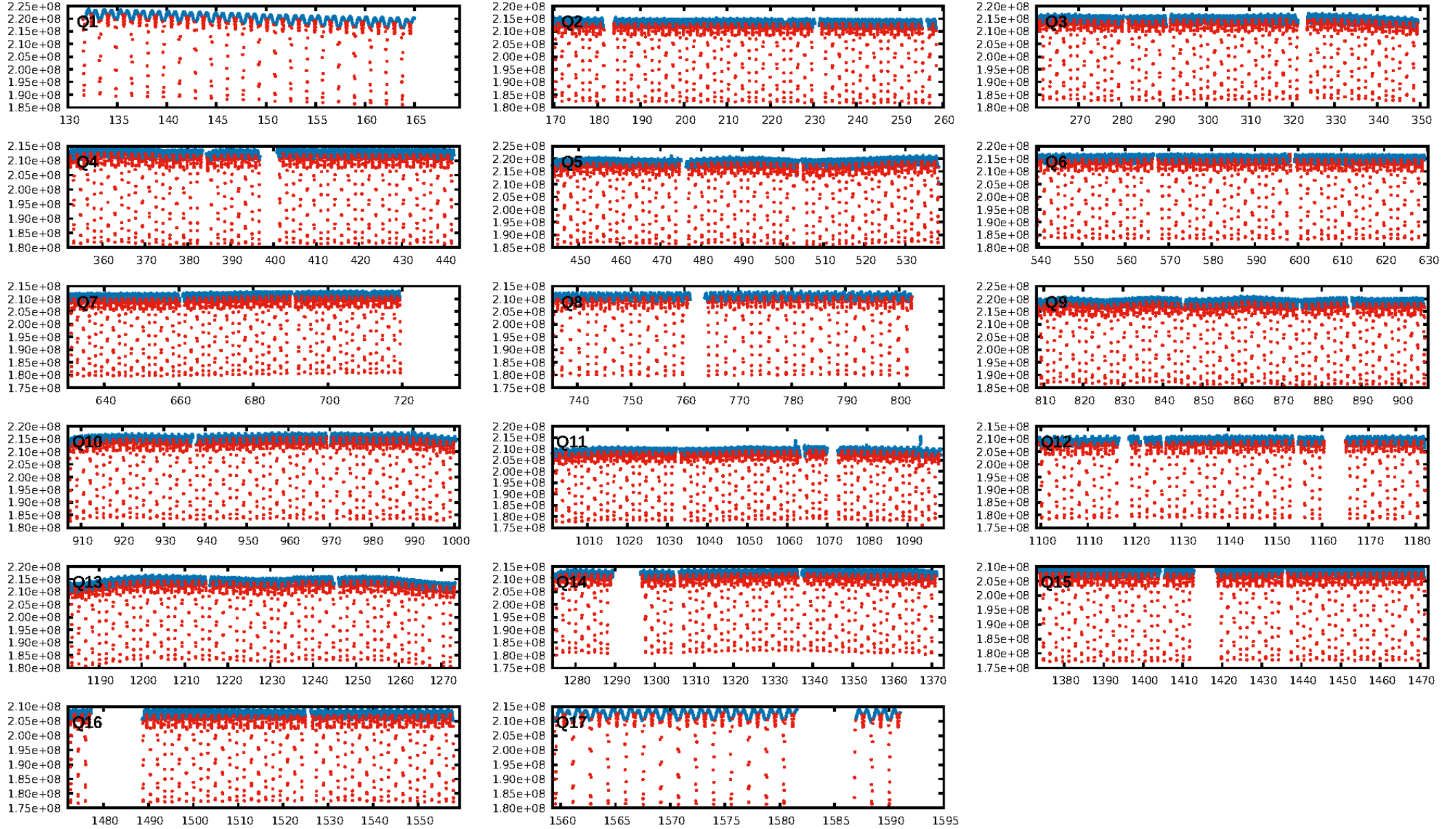
ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [3.67σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.94 [751/802]
GhostDiagnostic-chr: 1.167

Centroid-sig: 0.0%
Centroid-so: 0.066 arcsec [56.93σ]
OotOffset-rm: 0.052 arcsec [0.75σ]
KicOffset-rm: 0.064 arcsec [0.94σ]
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]

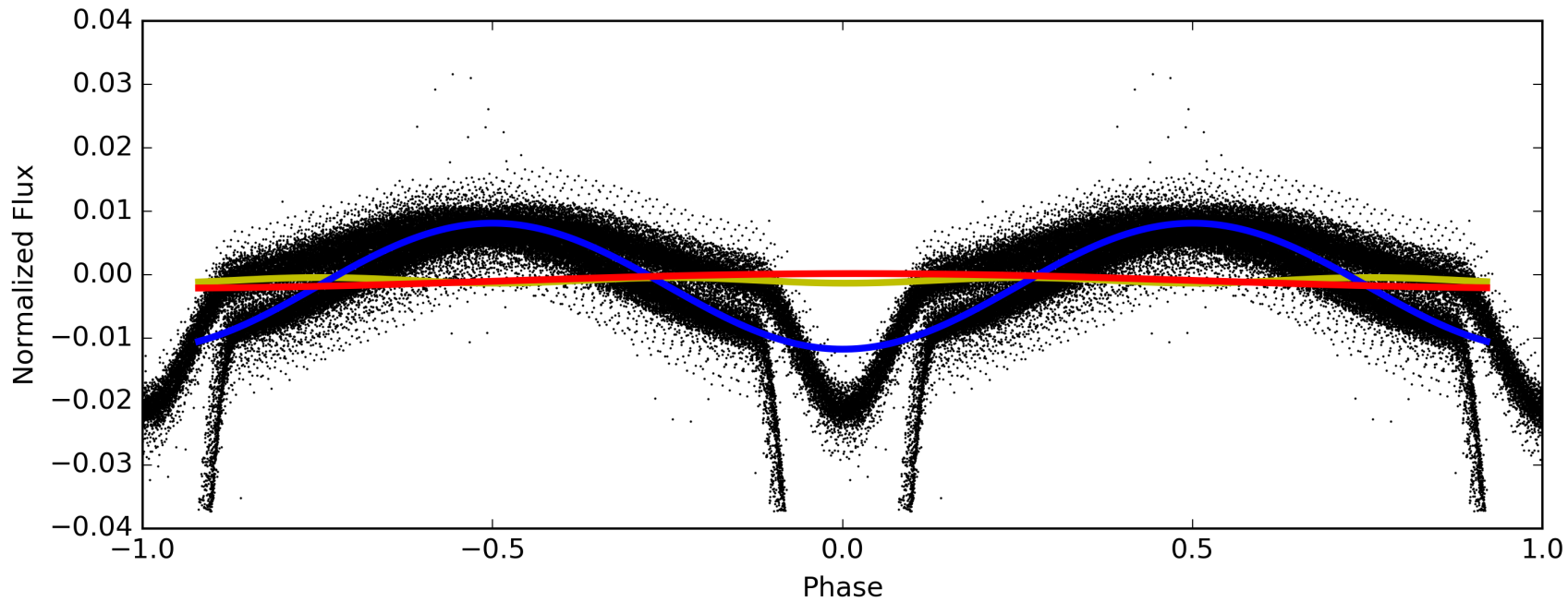
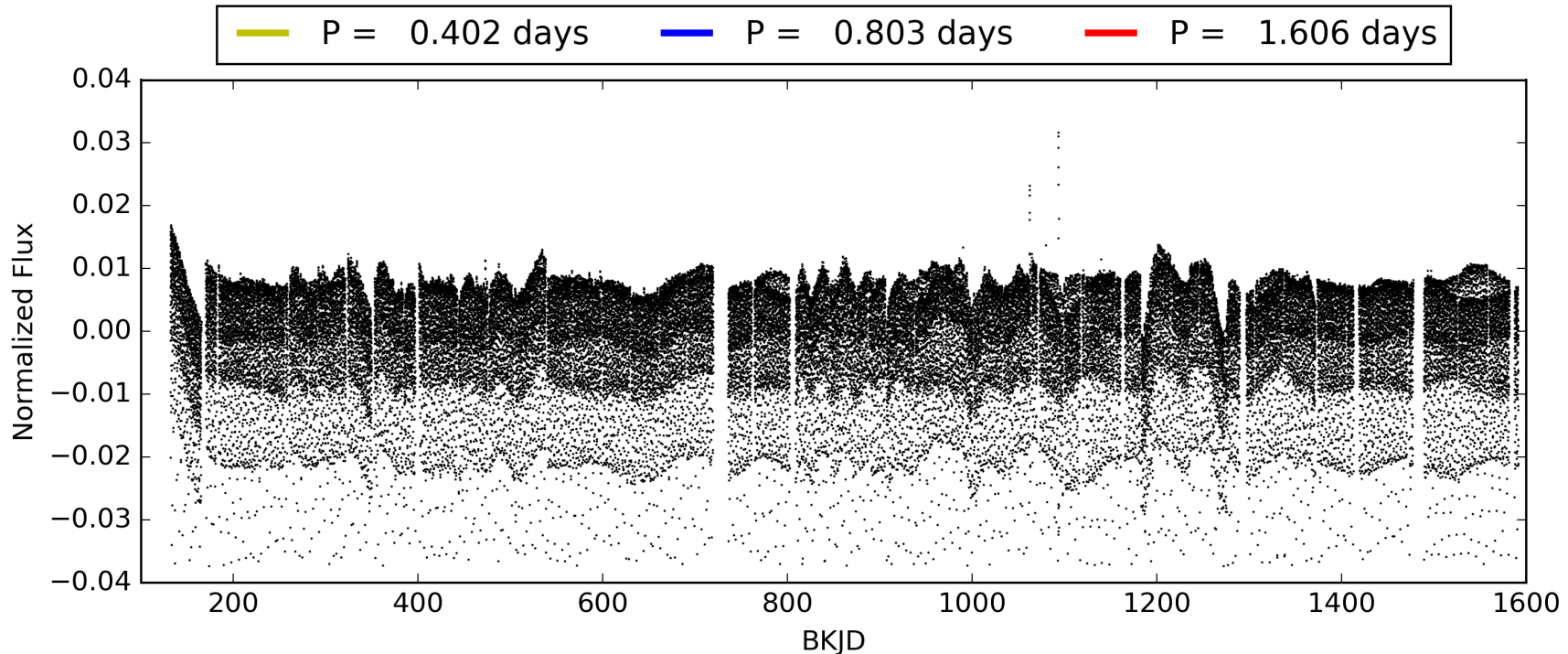
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:07:30 Z

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

TCE 008553788-02, PDC Light Curves

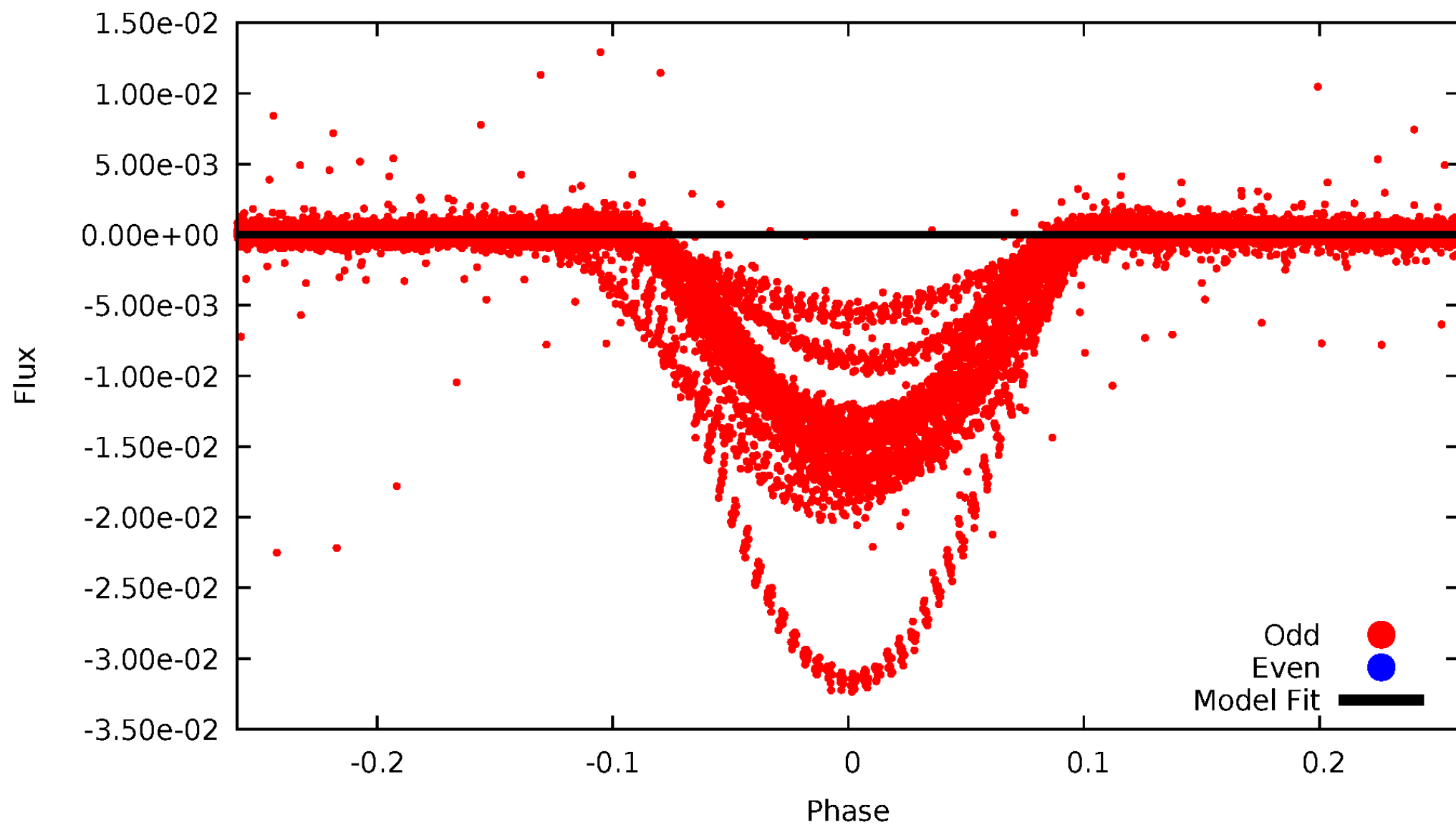


TCE 008553788-02



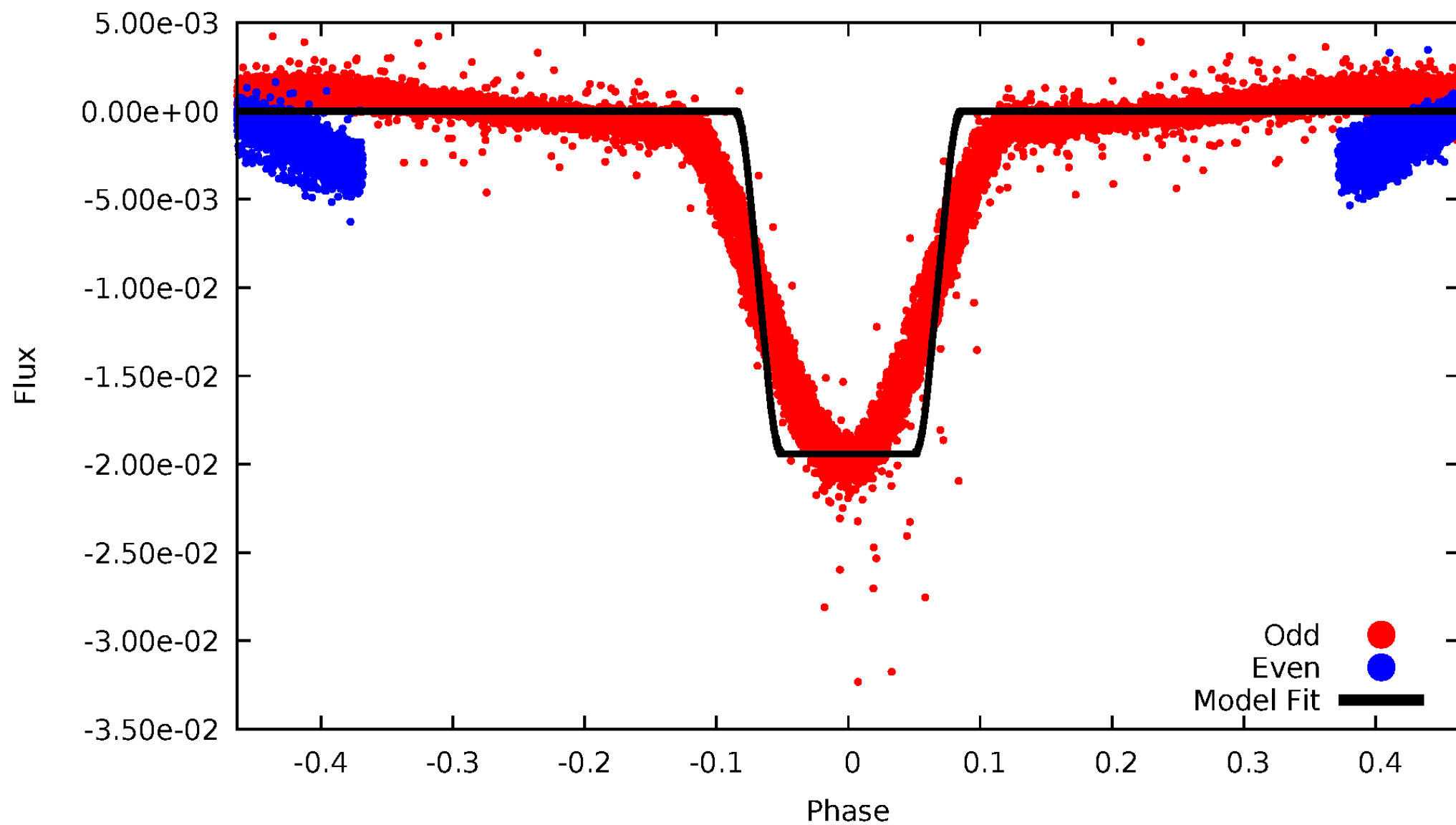
DV Odd/Even

TCE 008553788-02



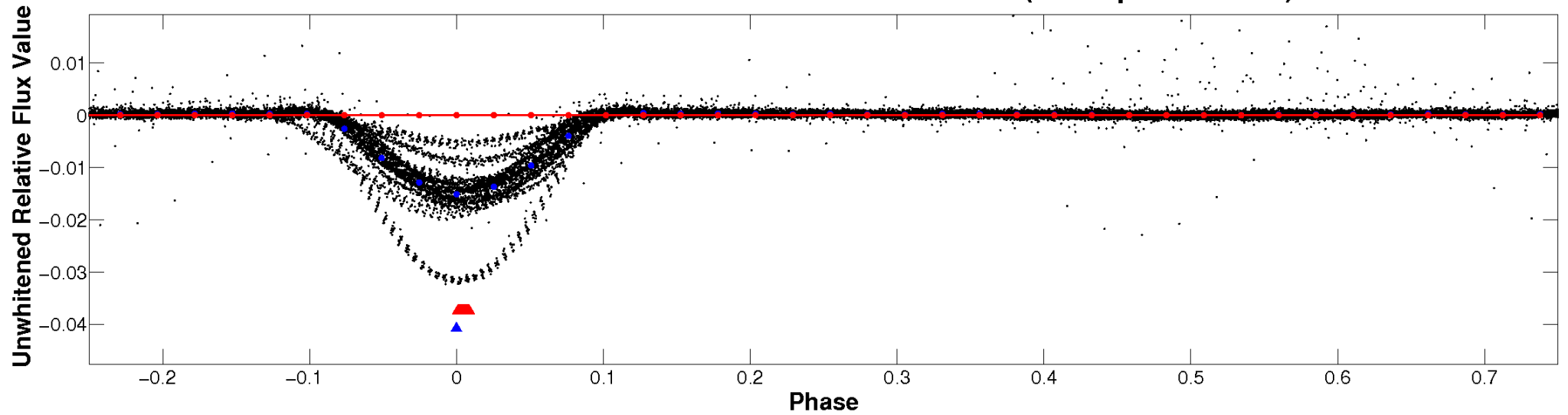
ALT Odd/Even

TCE 008553788-02



Non-Whitened Vs. Whitened Light Curve

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

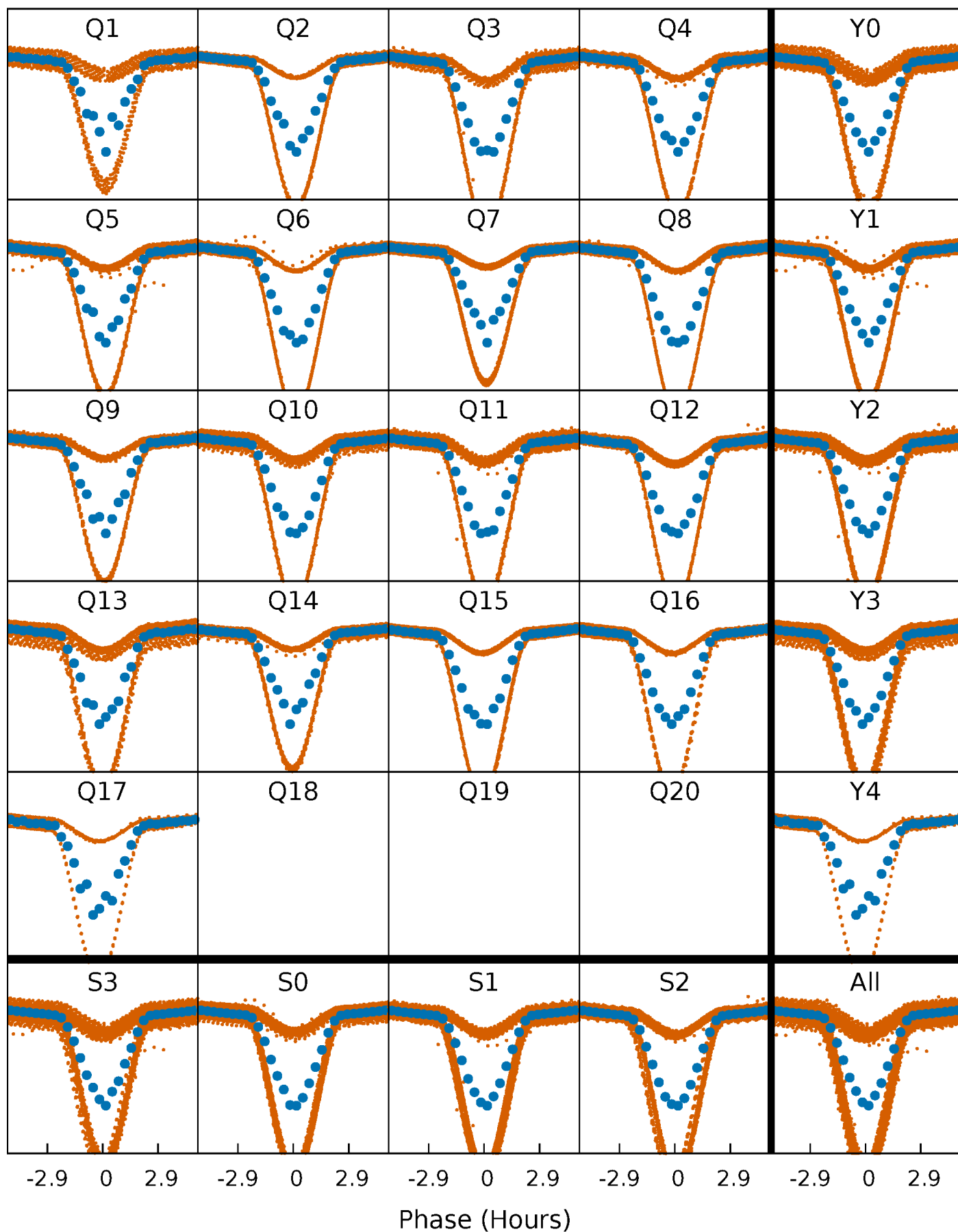


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



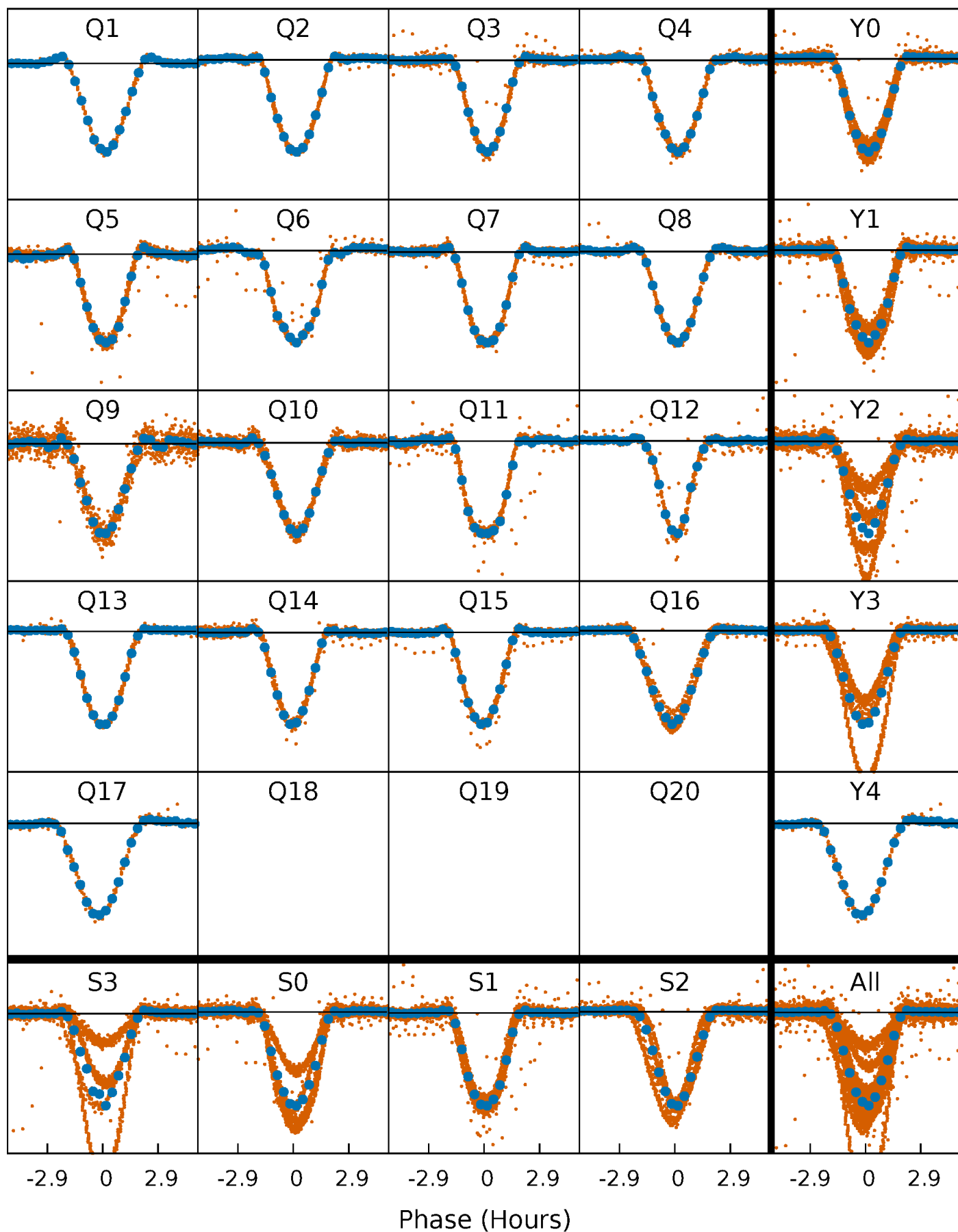
PDC Quarter-Phased Transit Curves

TCE 008553788-02 P= 0.803089 Days $T_0=131.625577$ (BKJD)



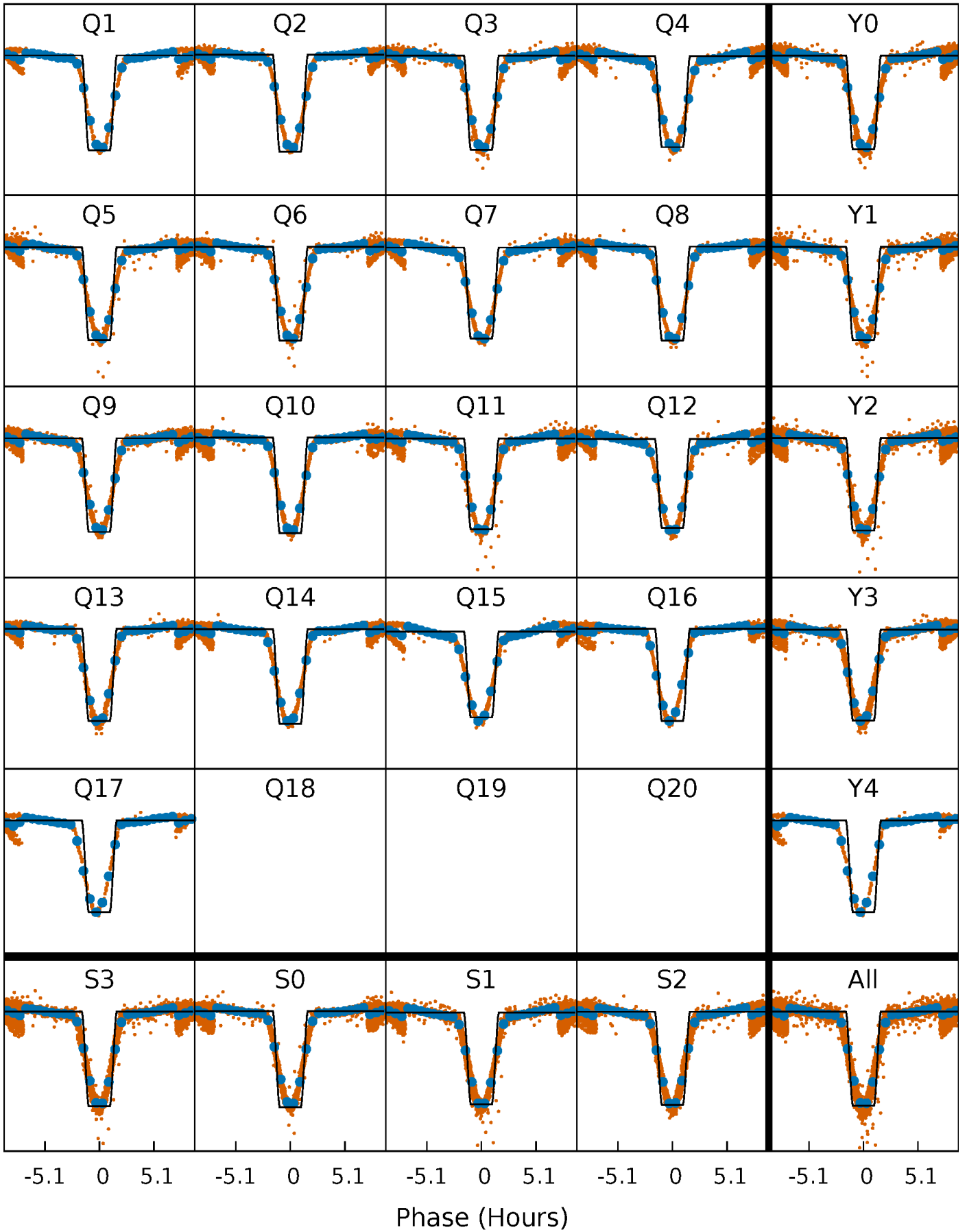
DV Quarter-Phased Transit Curves

TCE 008553788-02 P= 0.803089 Days $T_0=131.625577$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

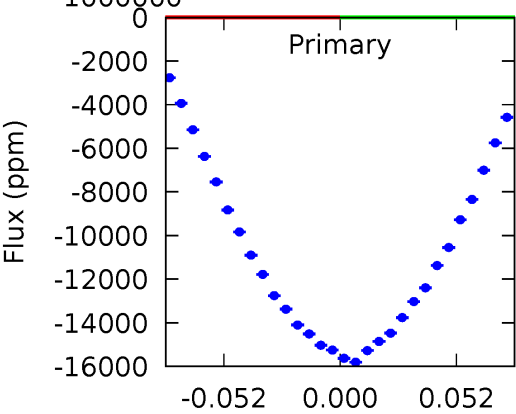
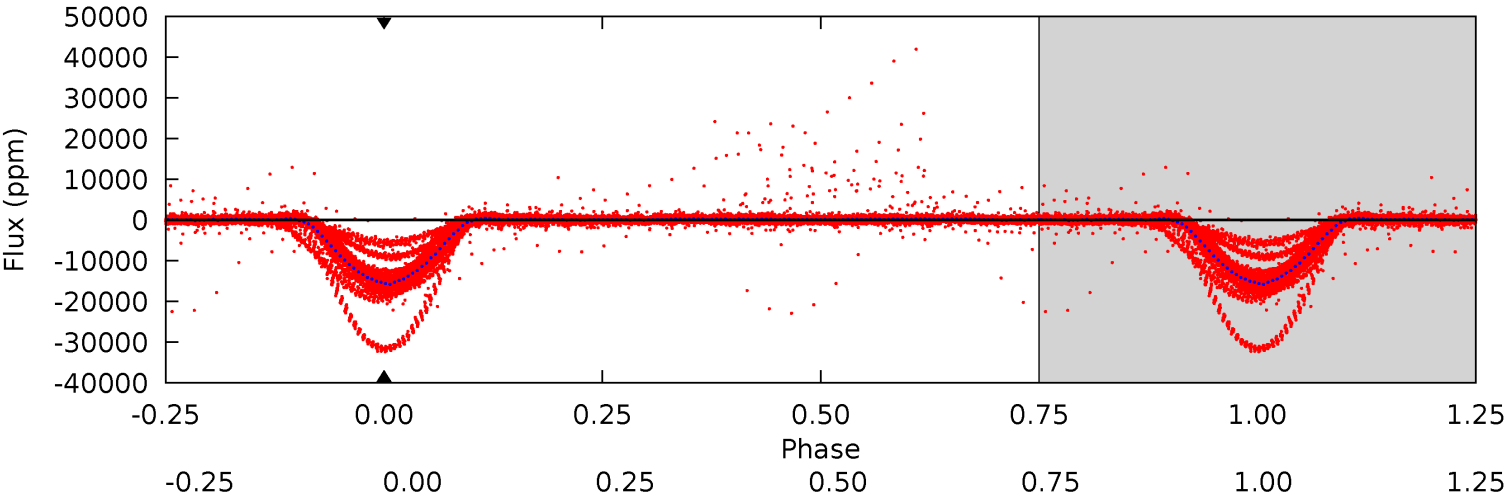
TCE 008553788-02 P= 0.803089 Days $T_0=131.627962$ (BKJD)



DV Model-Shift Uniqueness Test

008553788-02, P = 0.803089 Days, E = 131.625577 Days

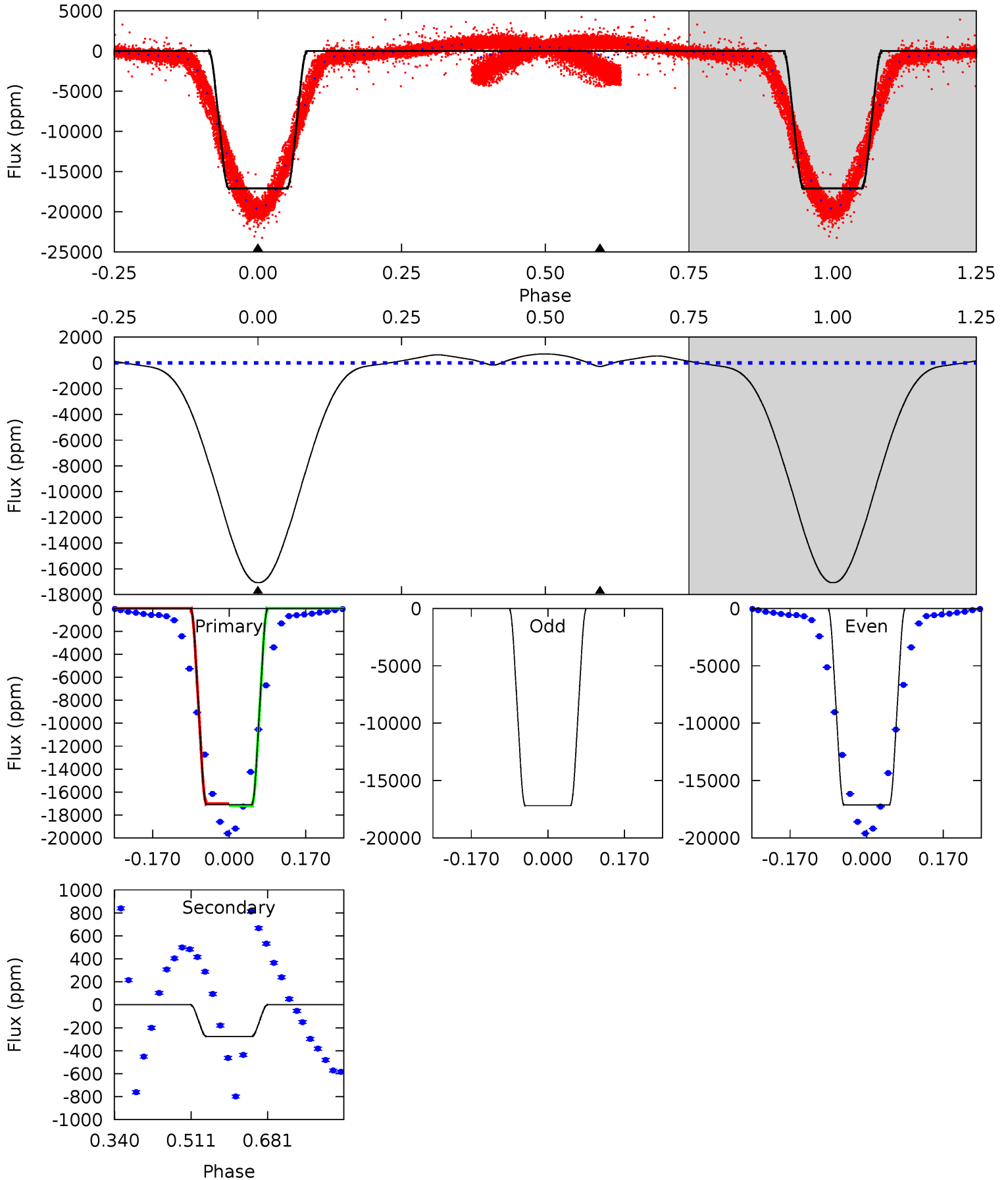
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008553788-02, P = 0.803089 Days, E = 131.627962 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1161	18.7	0	0	4.45	1.37	20.6	1161	1161	18.7	18.7	4.22	1.01	0.04	13.1



Stellar Parameters For KIC 008553788

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	8027^{+63}_{-95}	$3.997^{+0.126}_{-0.073}$	$0.070^{+0.150}_{-0.250}$	$2.314^{+0.229}_{-0.426}$	$1.940^{+0.163}_{-0.218}$	$0.220^{+0.140}_{-0.051}$
	+1%/-1%	+3%/-2%	+214%/-357%	+10%/-18%	+8%/-11%	+63%/-23%
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 008553788-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$24.59^{+22.61}_{-15.30}$	5153^{+166}_{-221}	4223^{+31175}_{-28791}	$0.545^{+93.509}_{-54.193}$
Alt.	-276 ± 15	$37.04^{+24.39}_{-20.91}$	5155^{+161}_{-228}	-4131^{+1095}_{-207}	$0.049^{+0.208}_{-0.031}$

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 $A_{obs} \gg 1.0$

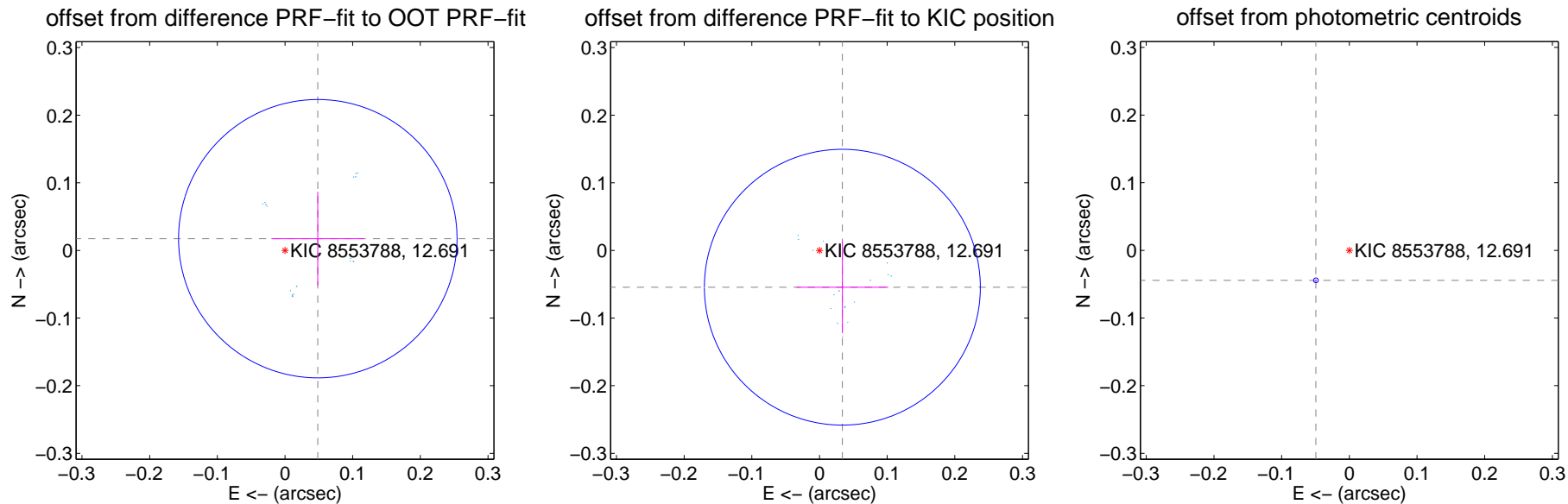
DV Centroid Data

Supplemental centroid analysis for 008553788-02. Kepler magnitude: 12.69. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

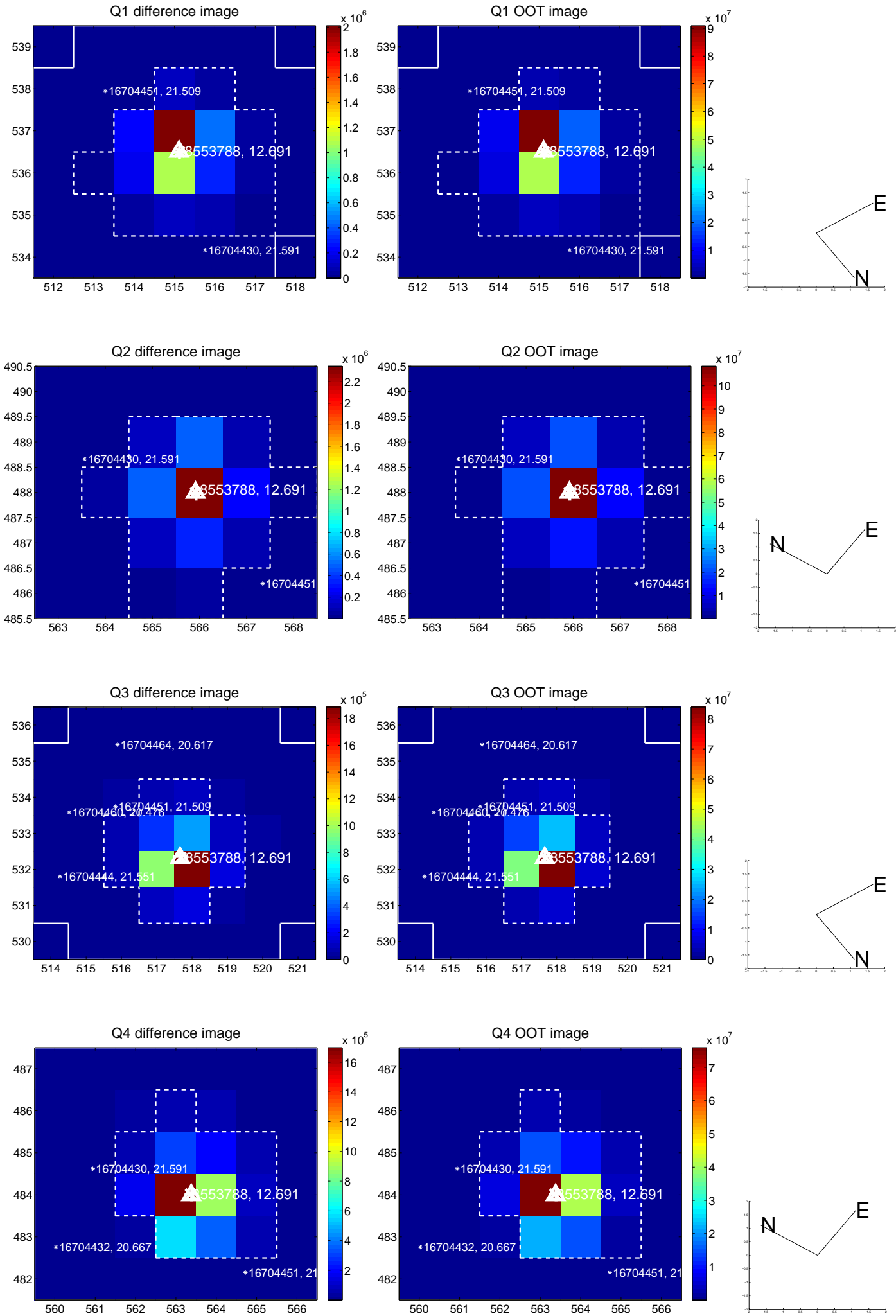
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.052 ± 0.069	0.75	-0.048 ± 0.069	0.017 ± 0.069
PRF-fit source offset from KIC position	0.064 ± 0.068	0.94	-0.034 ± 0.068	-0.054 ± 0.068
photometric centroid source offset	0.07 ± 0.00	56.93	0.05 ± 0.00	-0.04 ± 0.00

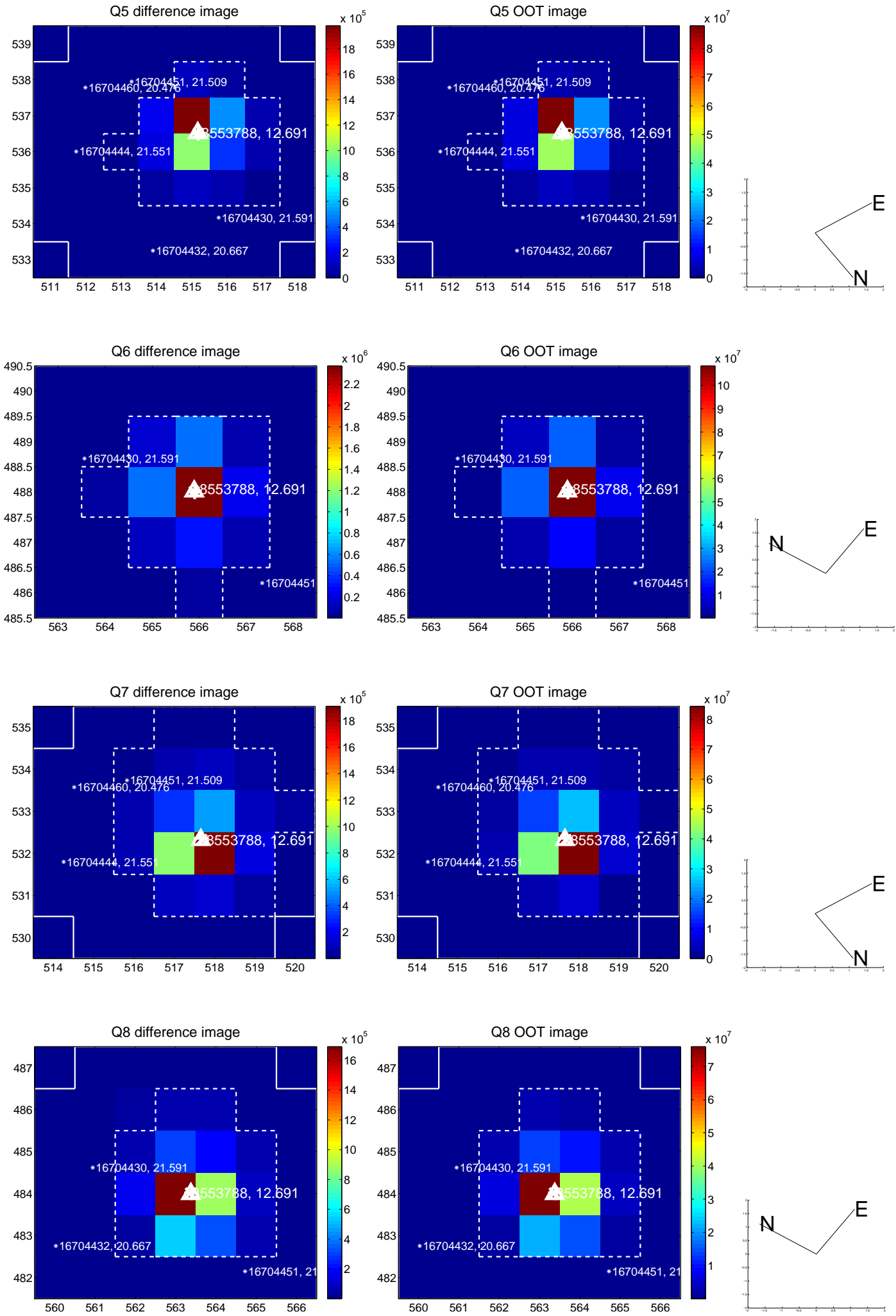


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

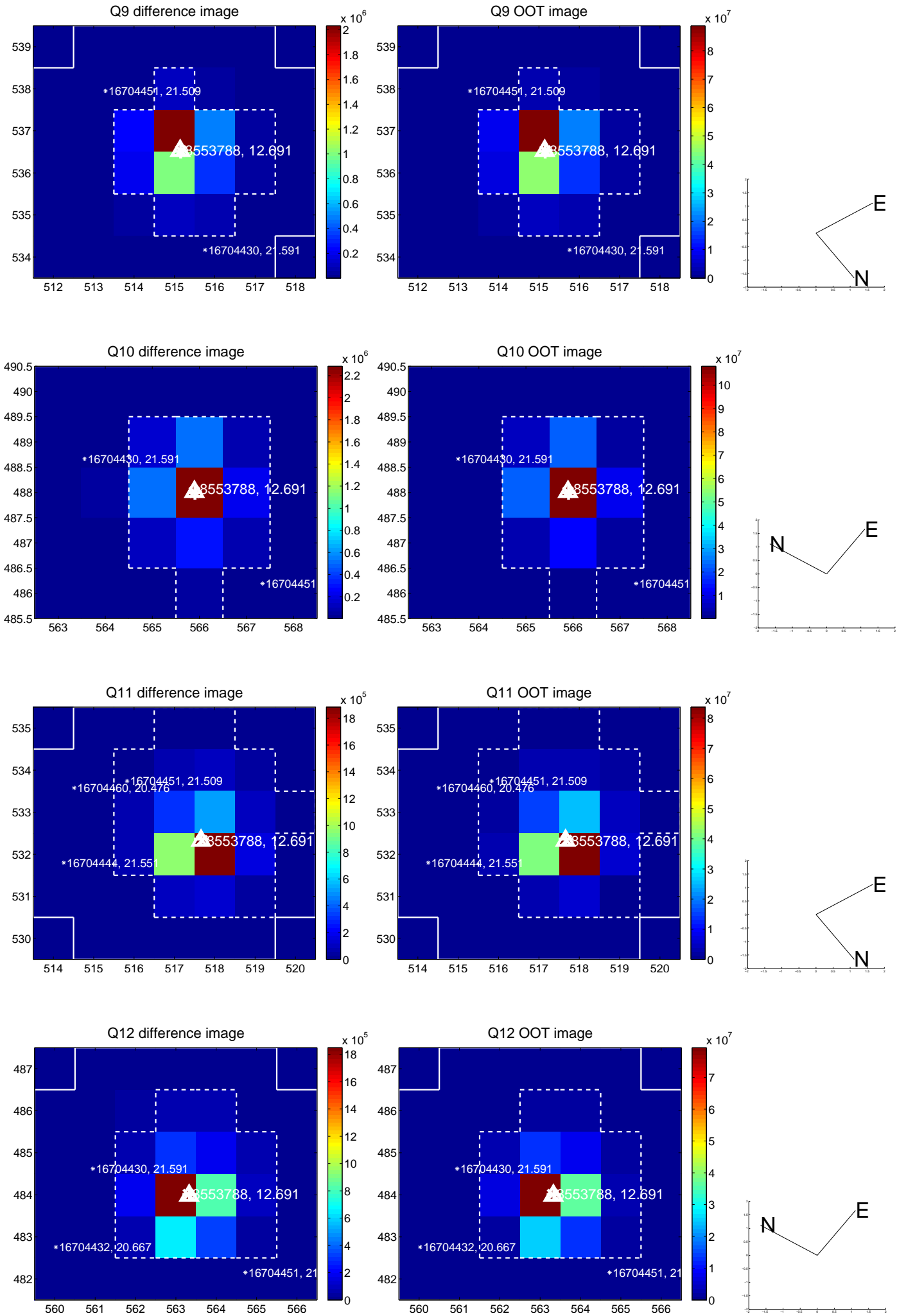
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



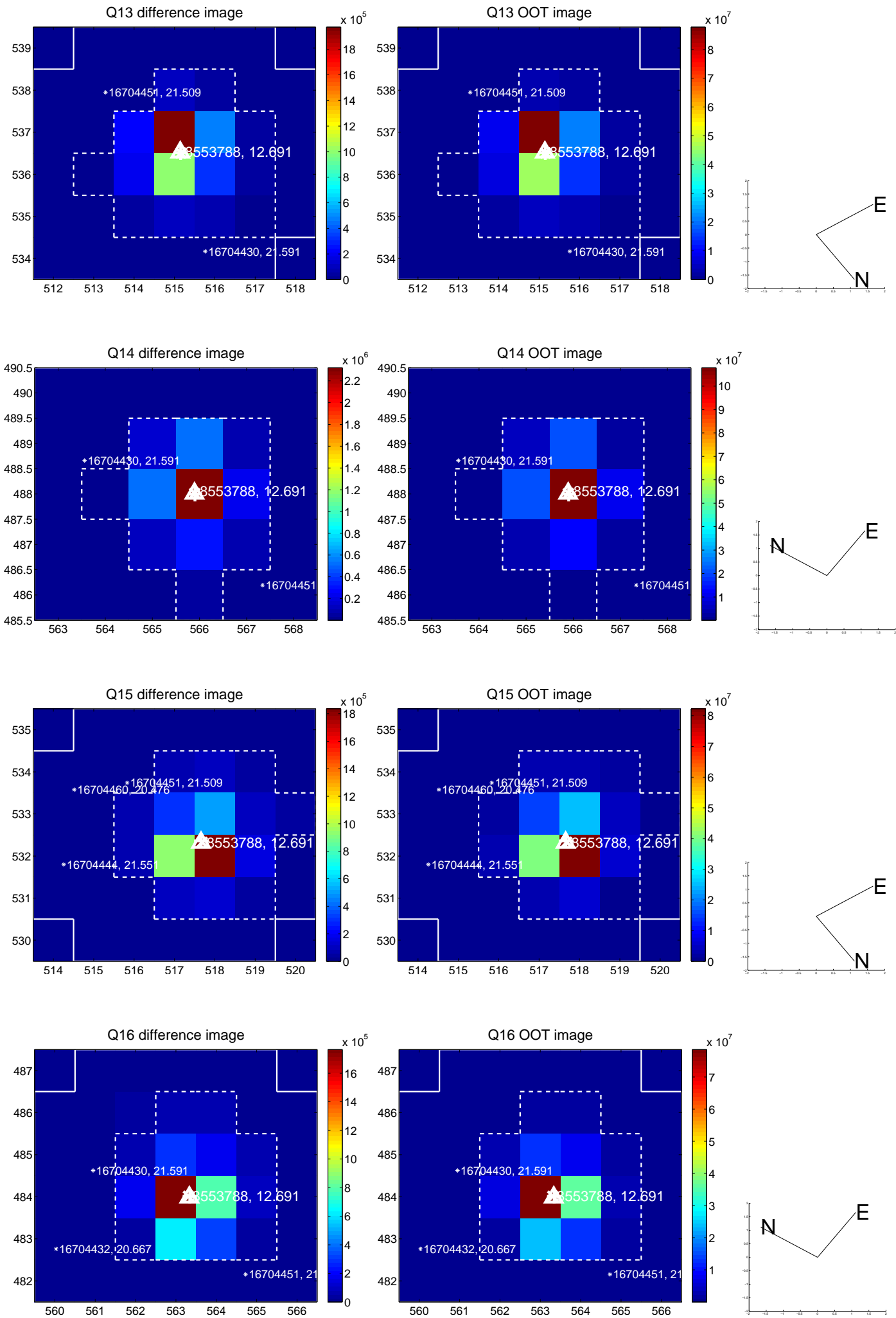
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



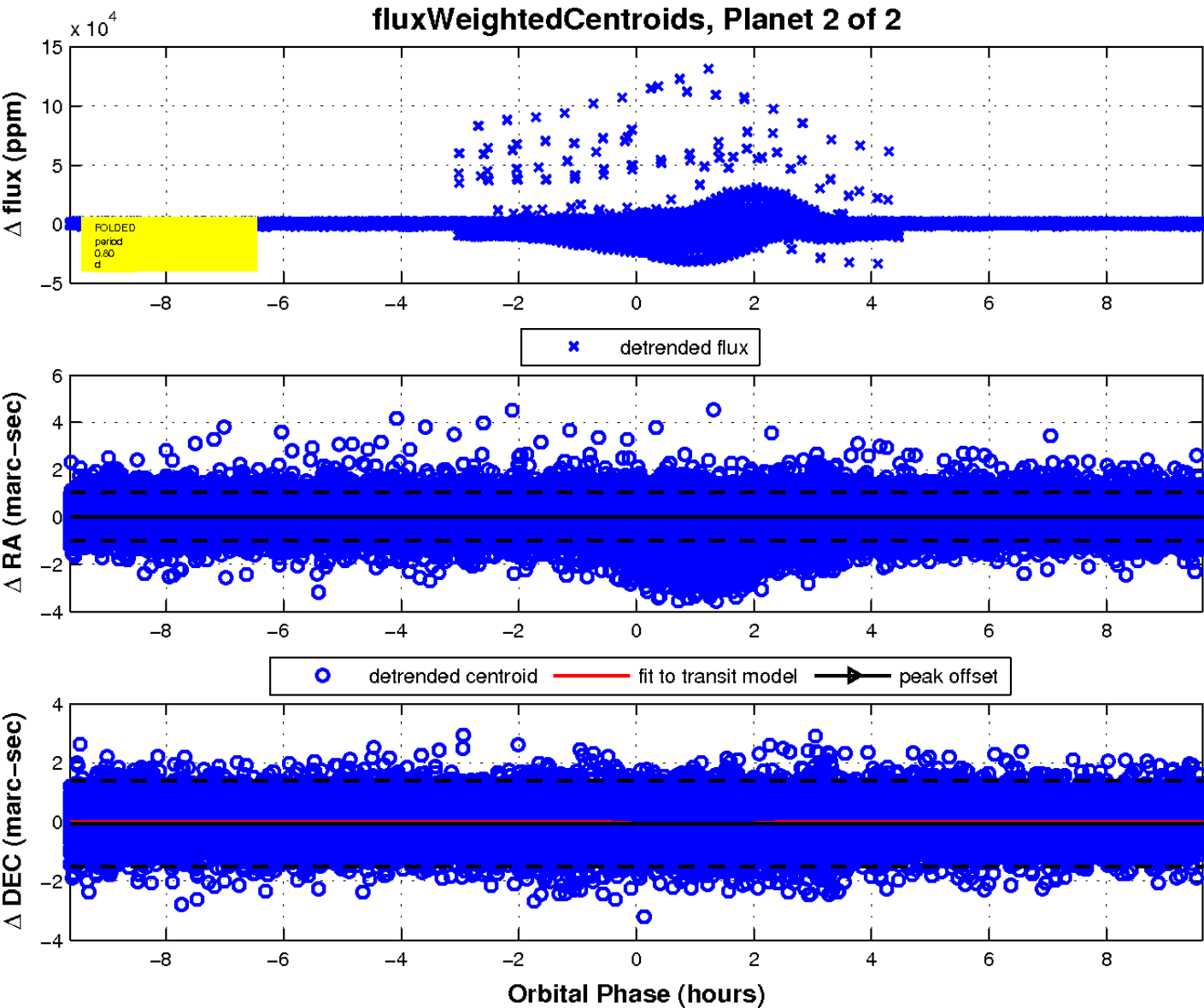
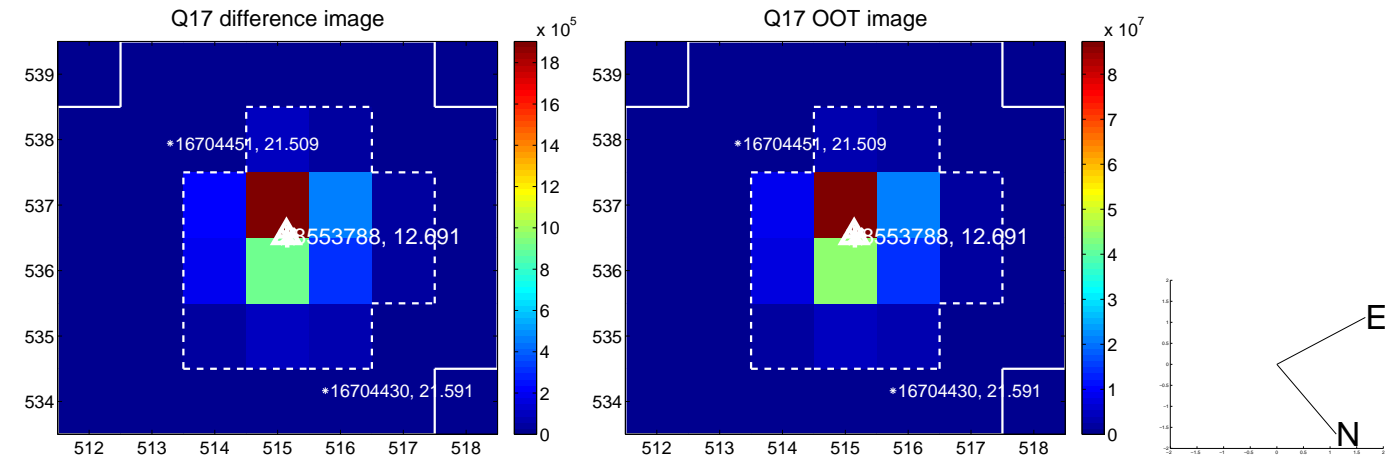
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

