

KIC 007955301

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})
007955301-01	OBS	6938.01	15.327570	134.929766	16542.5	6.864	715.1	233.4	6.78	4830	159.99	1110.99
007955301-02	OBS	No	15.328524	142.798461	15817.8	5.968	567.9	238.9	6.78	4830	156.79	1110.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007955301-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—DEEP_V_SHAPED—HAS_SEC_TCE
007955301-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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.

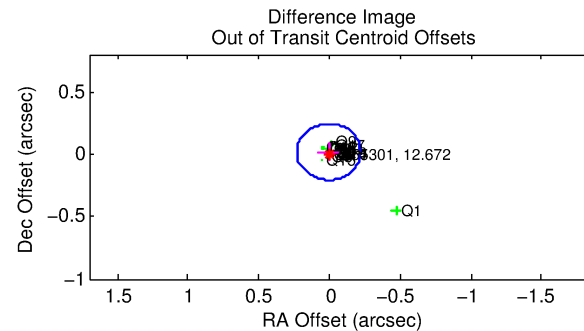
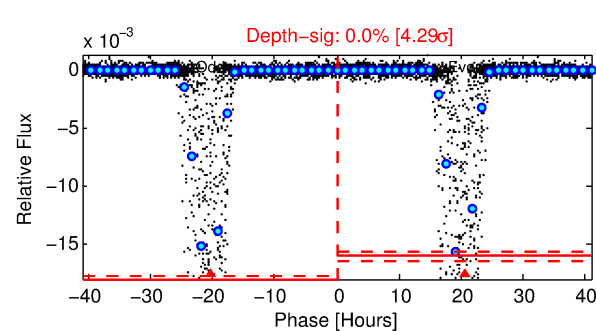
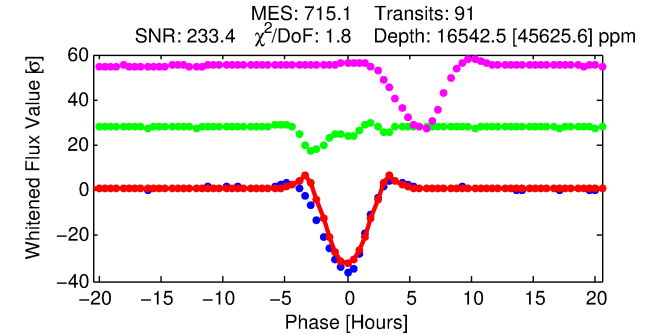
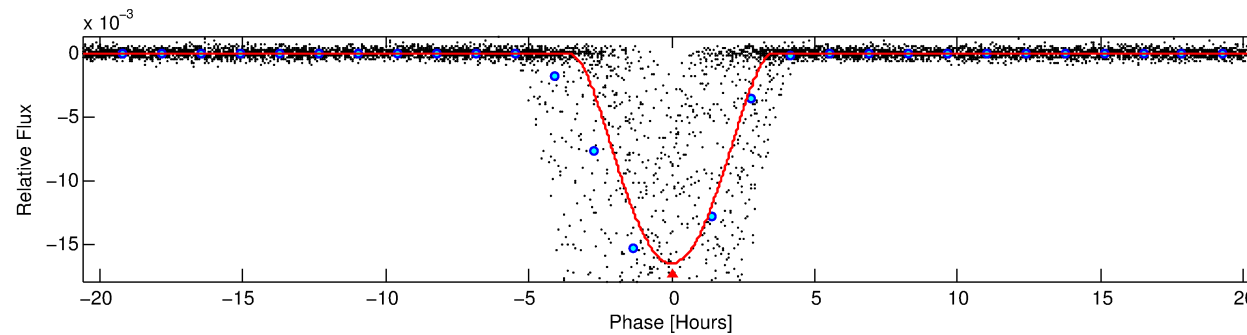
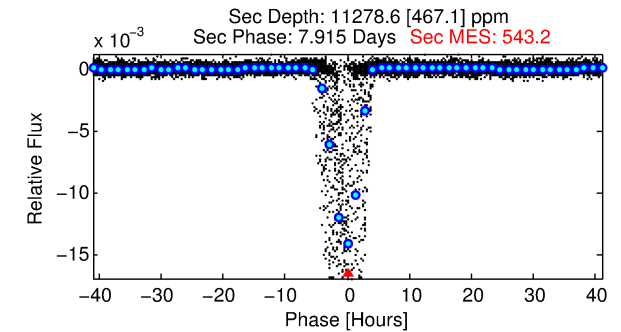
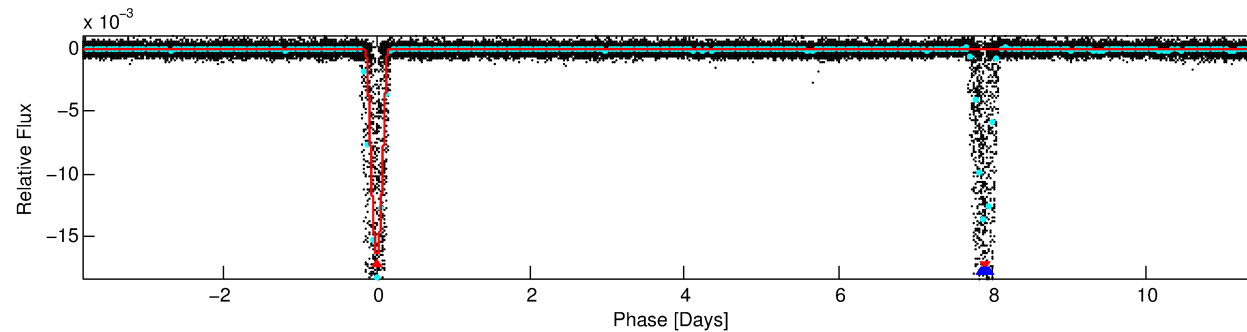
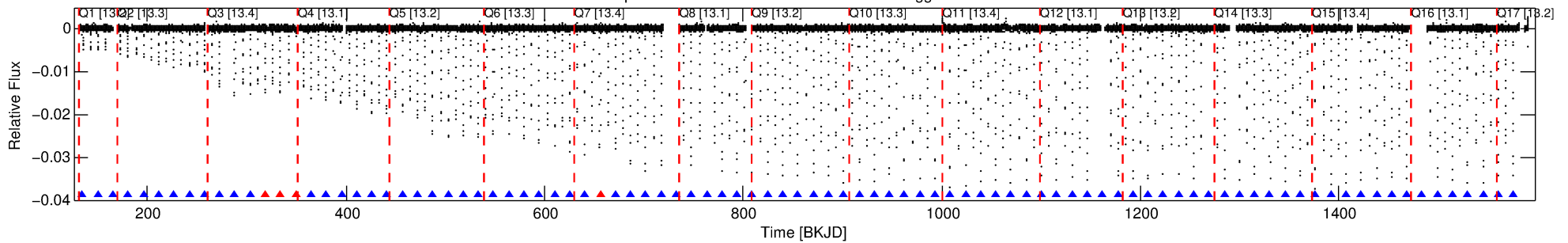
Ephemeris Match Information For 007955301-01

No Significant Match Found

DV One-Page Summary

KIC: 7955301 Candidate: 1 of 2 Period: 15.328 d
KOI: K06938.01 Corr: 0.953

Kp: 12.67 R*: 6.78 Rs Teff: 4830.0 K Logg: 2.99 Fe/H: 0.120



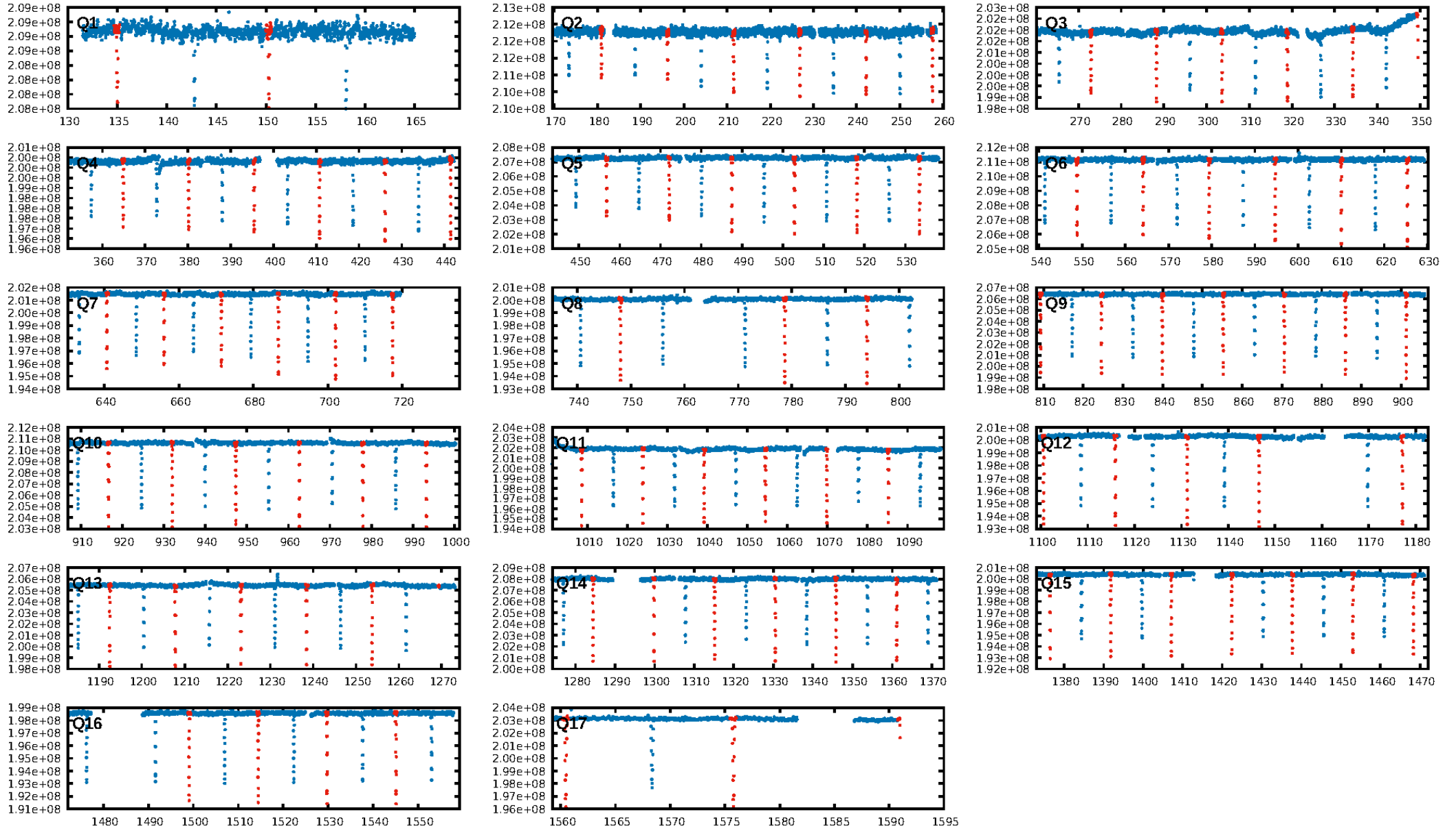
DV Fit Results:

Period = 15.32757 [0.00001] d
Epoch = 134.9298 [0.0003] BKJD
Rp/R* = 0.2161 [0.0197]
a/R* = 11.86 [0.10]
b = 1.00 [0.40]
Seff = 1110.99 [391.26]
Teq = 1472 [130] K
Rp = 159.99 [48.16] Re
a = 0.1421 [0.0340] AU
Ag = 4.90 [1.93] [2.02σ]
Teffp = 3386 [168] K [9.03σ]

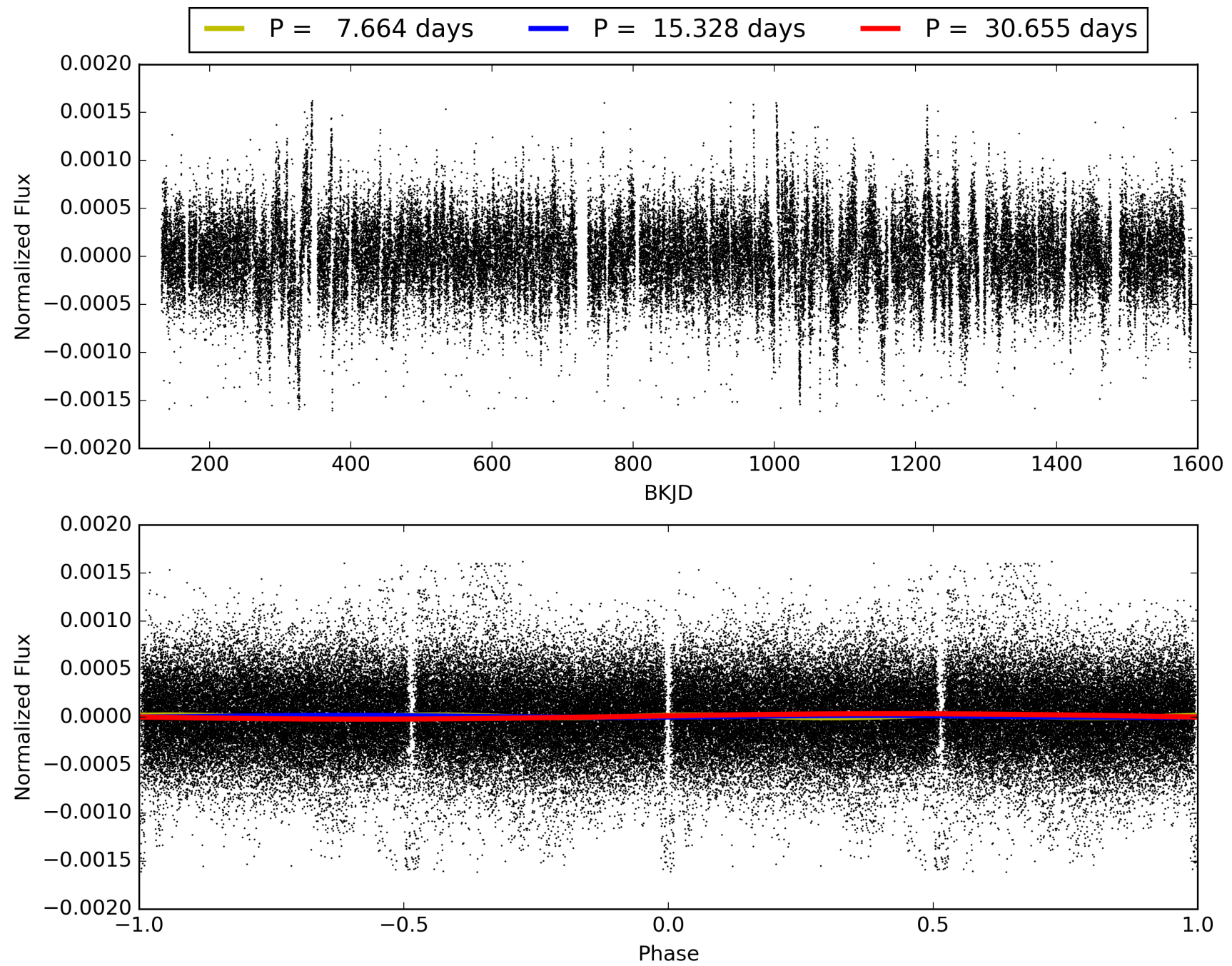
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.2% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.95 [82/86]
GhostDiagnostic-chr: 1.477
Centroid-sig: 0.0%
Centroid-so: 0.117 arcsec [29.76σ]
OotOffset-rm: 0.019 arcsec [0.25σ]
KicOffset-rm: 0.087 arcsec [1.29σ]
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]

TCE 007955301-01, PDC Light Curves

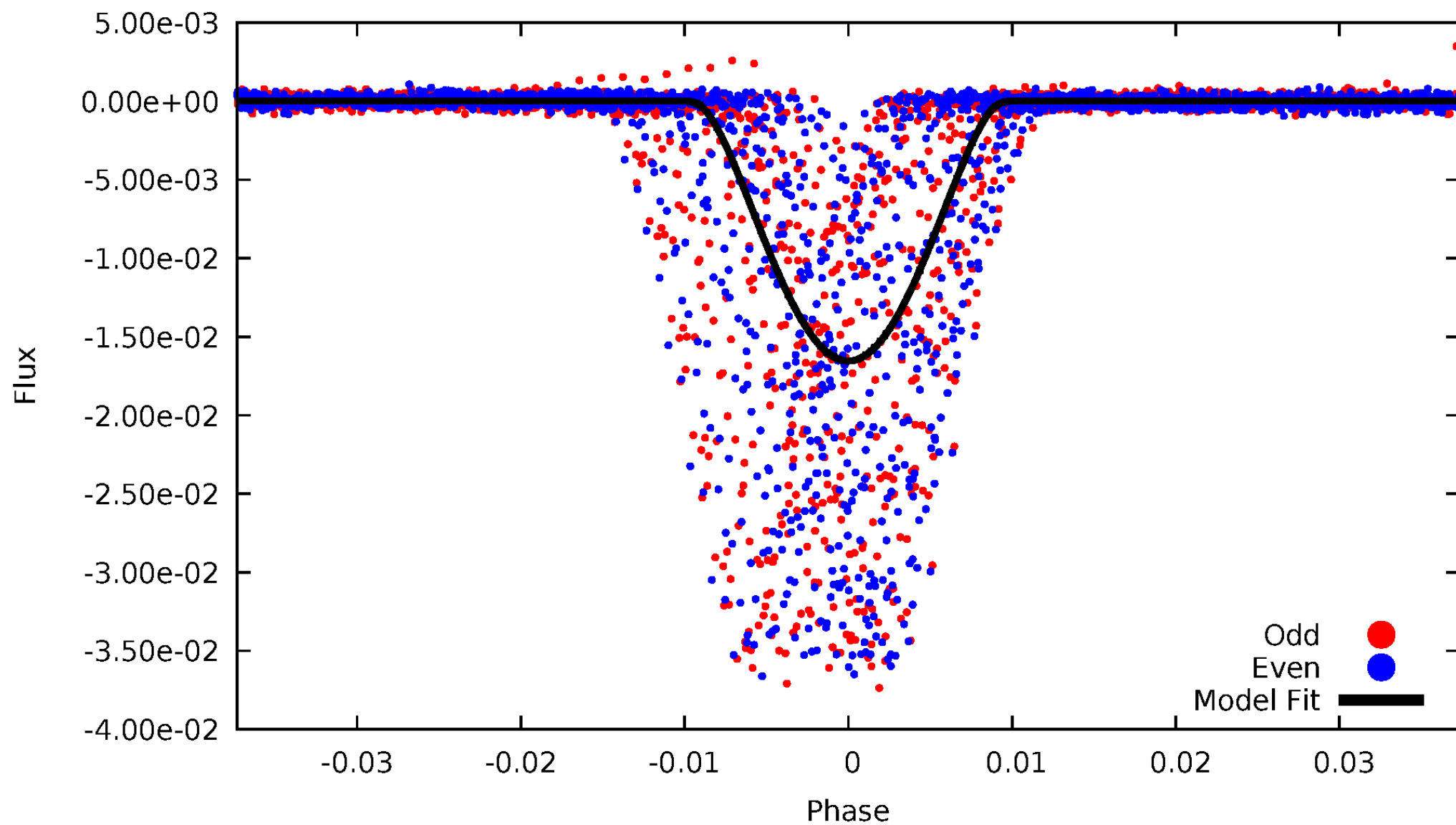


TCE 007955301-01



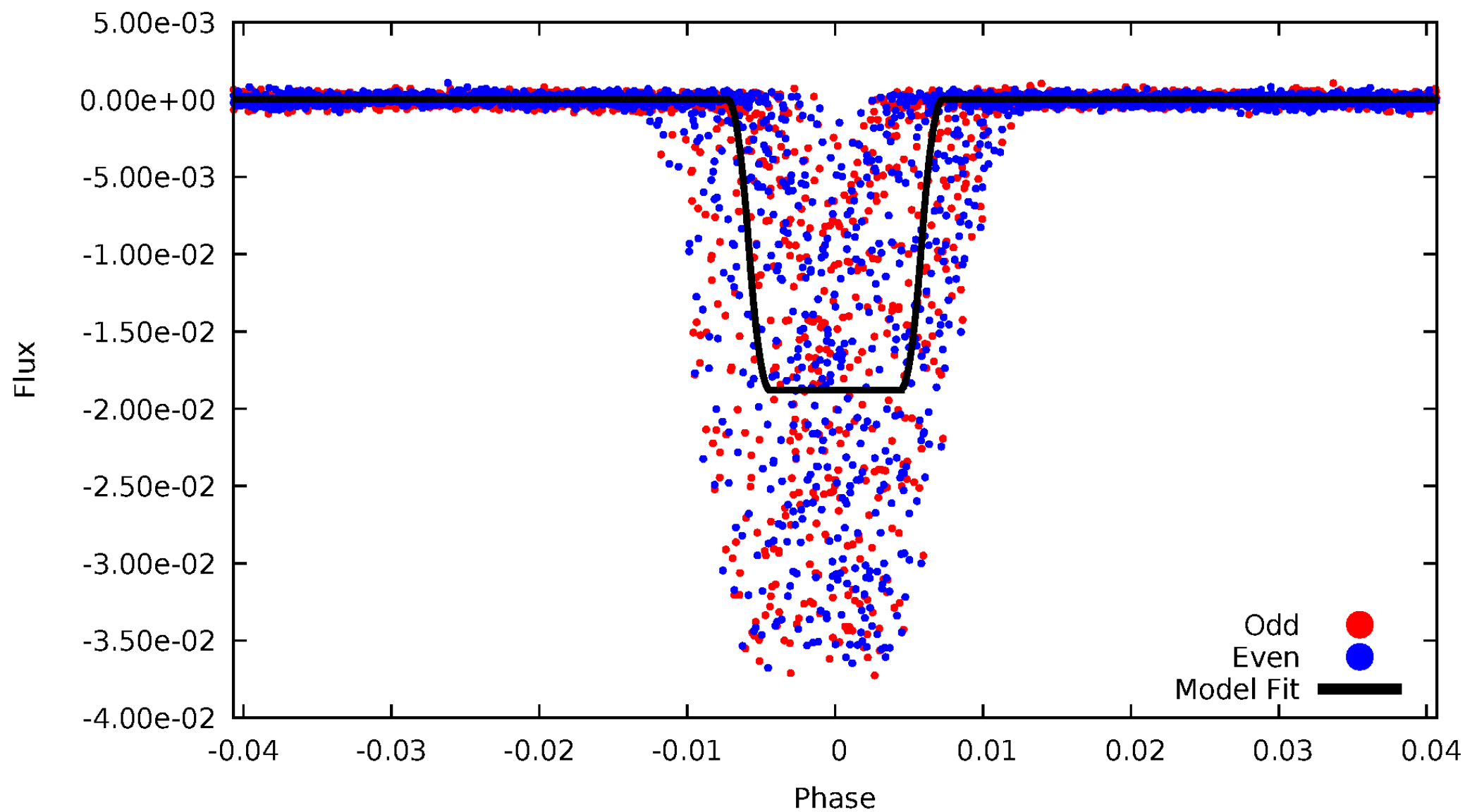
DV Odd/Even

TCE 007955301-01



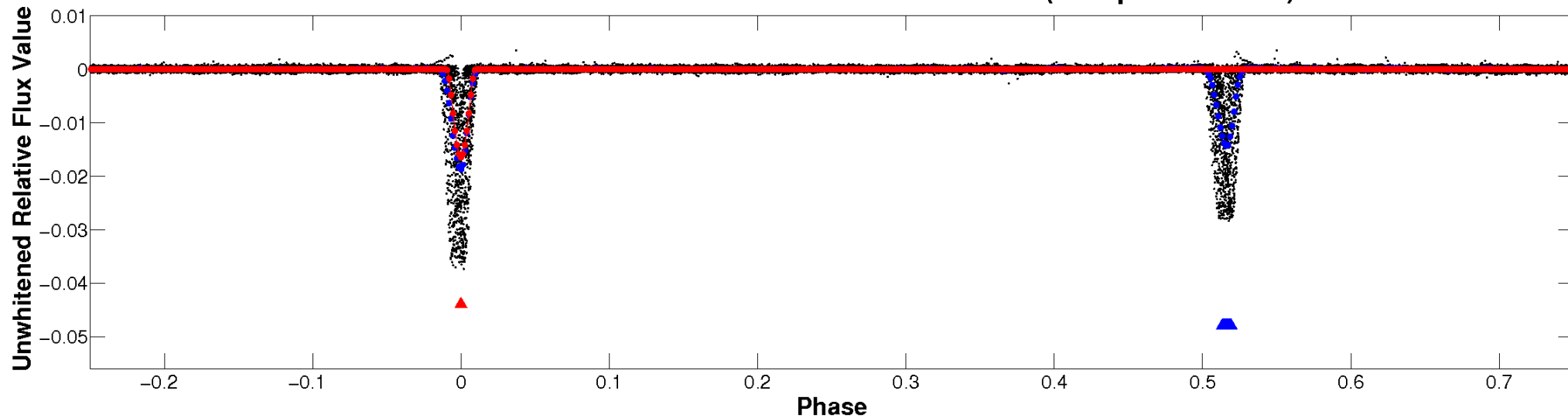
ALT Odd/Even

TCE 007955301-01

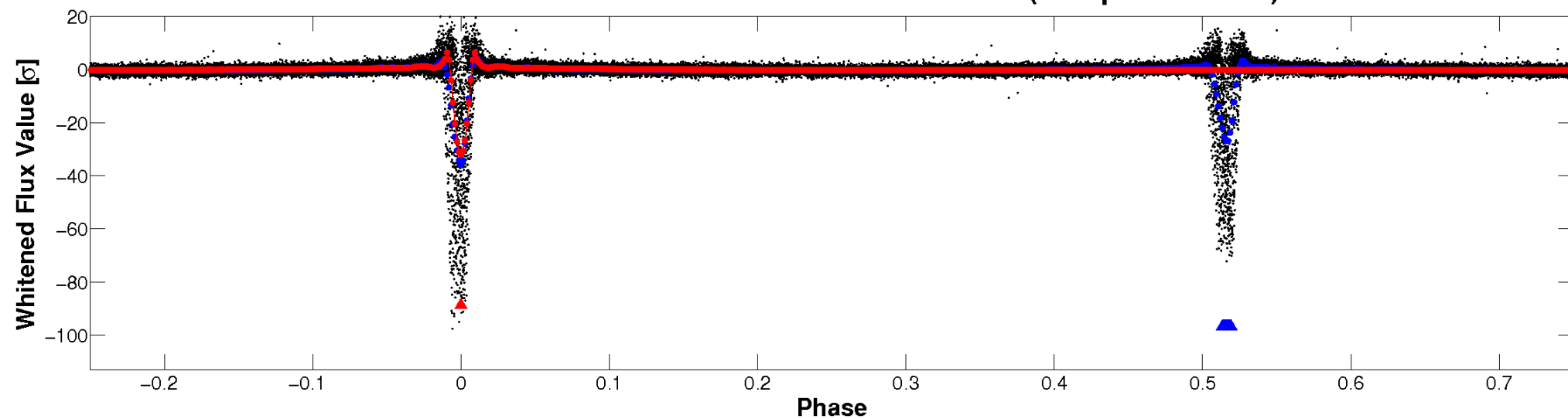


Non-Whitened Vs. Whitened Light Curve

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

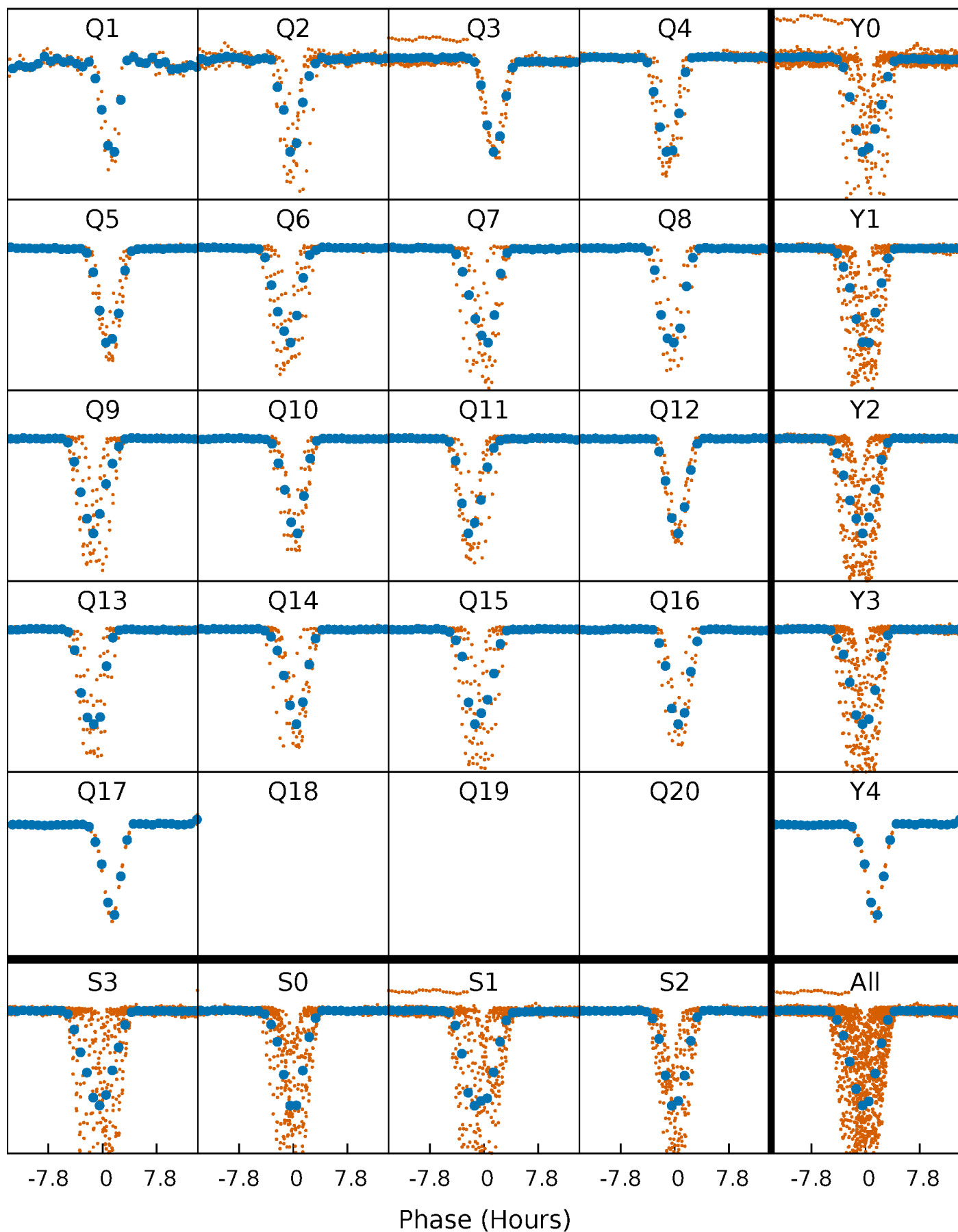


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



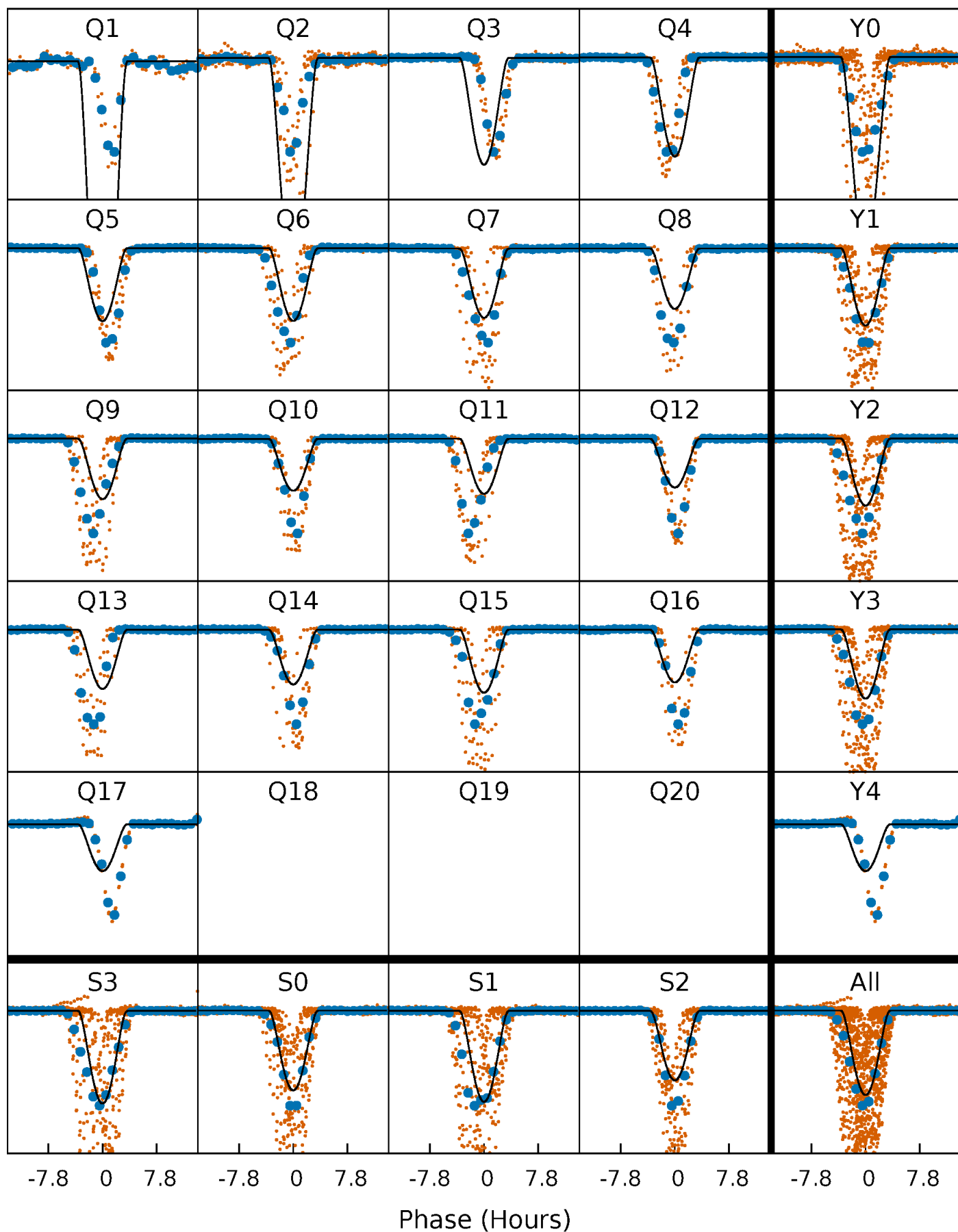
PDC Quarter-Phased Transit Curves

TCE 007955301-01 P= 15.327570 Days $T_0=134.929766$ (BKJD)



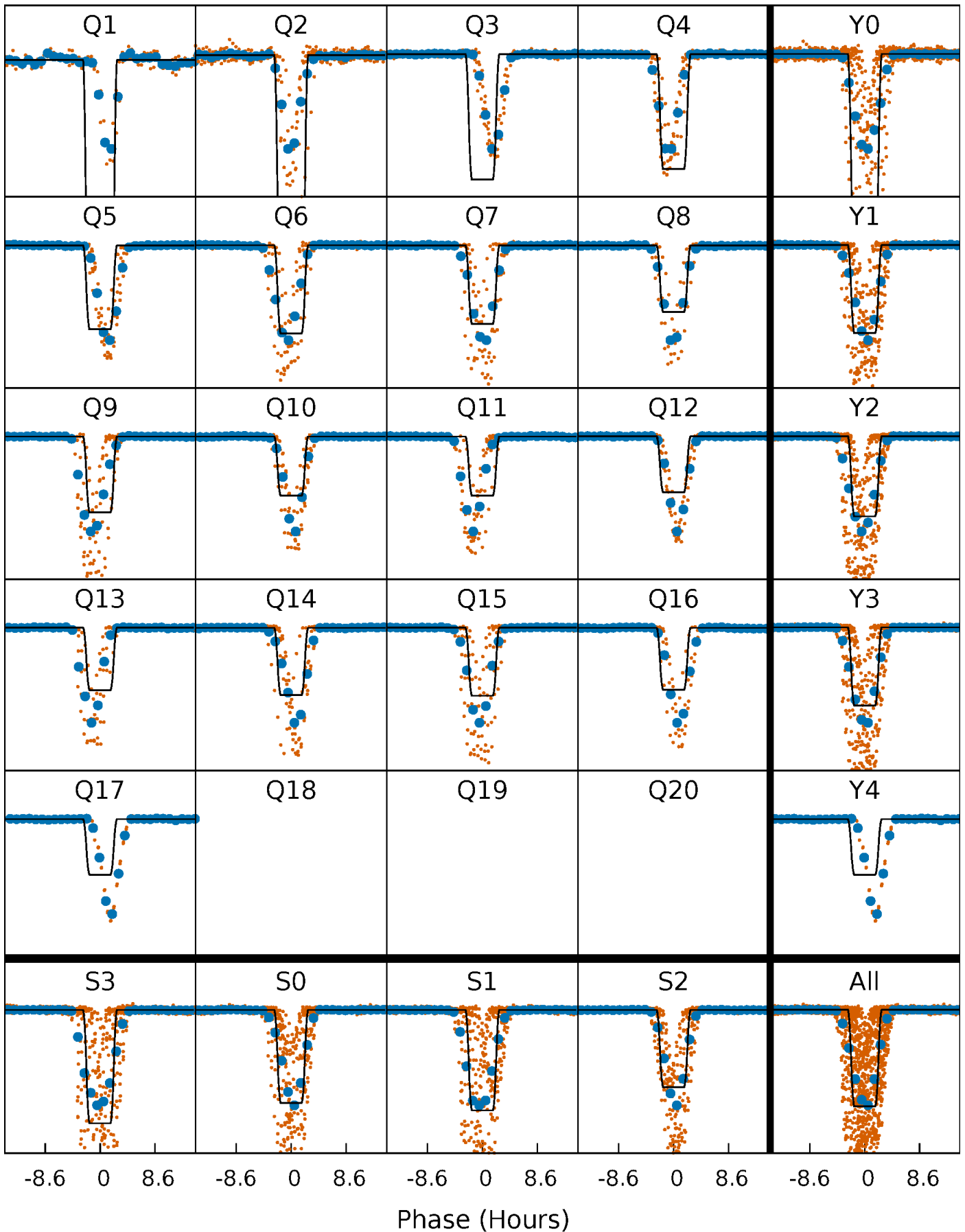
DV Quarter-Phased Transit Curves

TCE 007955301-01 P= 15.327570 Days $T_0=134.929766$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

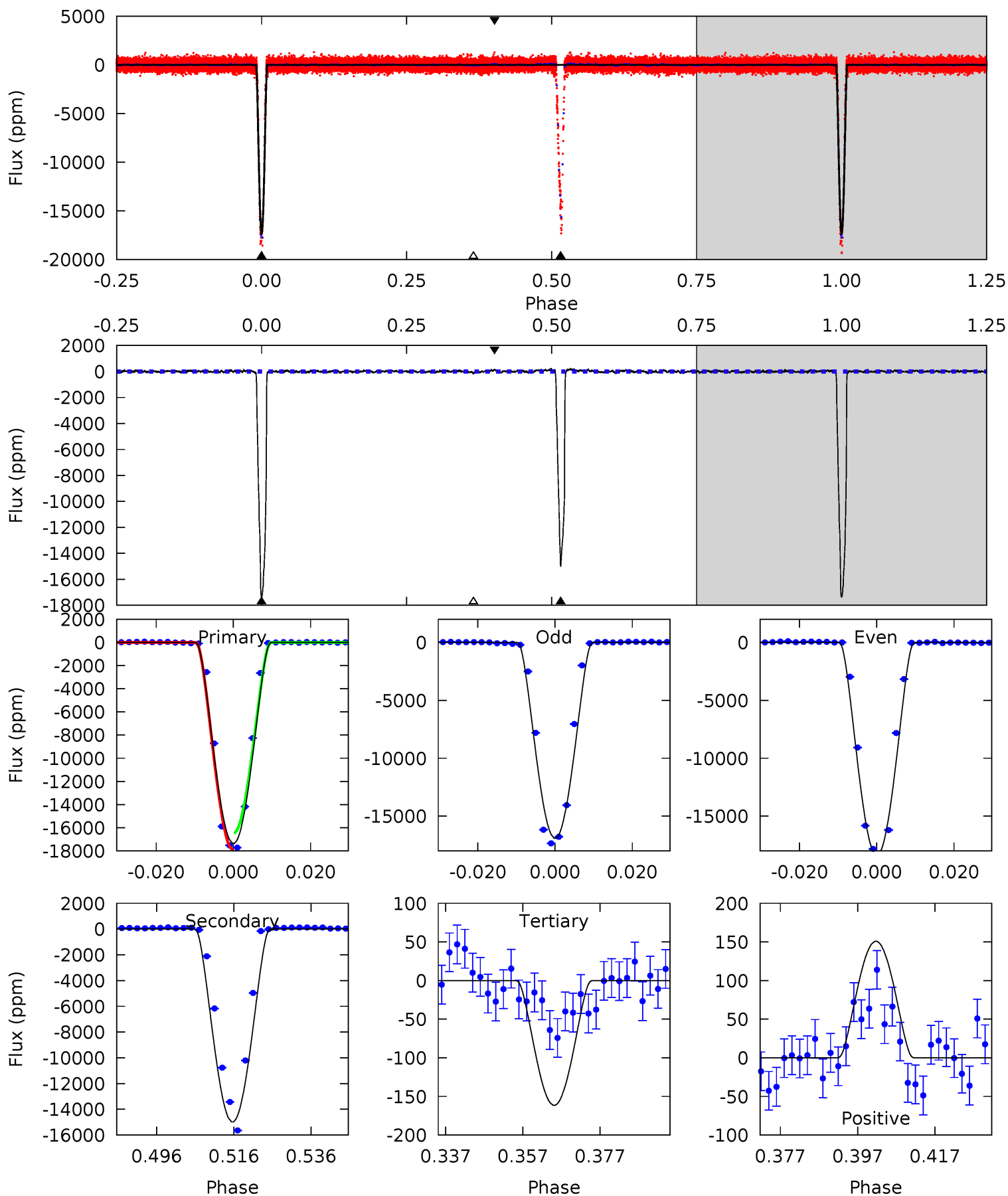
TCE 007955301-01 P= 15.327535 Days $T_0=134.920481$ (BKJD)



DV Model-Shift Uniqueness Test

007955301-01, P = 15.327570 Days, E = 119.602196 Days

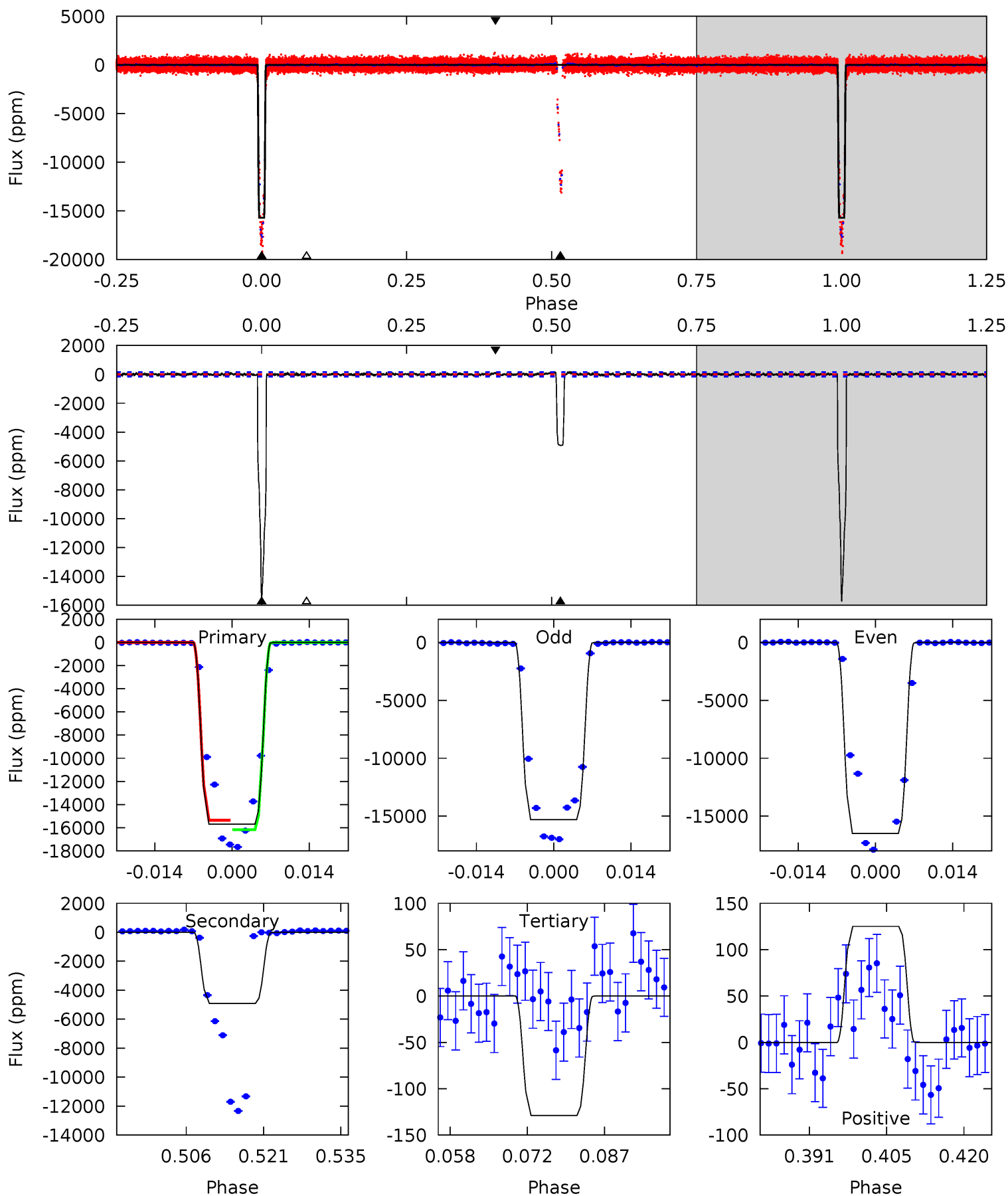
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
965.6	833.4	8.99	8.39	4.89	2.33	2.78	956.7	957.3	824.4	825.0	40.2	0.94	0.01	0



Alt Model-Shift Uniqueness Test

007955301-01, P = 15.327535 Days, E = 119.592946 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
523.3	164.0	4.29	4.17	4.95	2.45	1.29	519.0	519.1	159.7	159.8	19.4	0.91	0.01	0



Stellar Parameters For KIC 007955301

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4830^{+57}_{-78}	$2.987^{+0.188}_{-0.101}$	$0.120^{+0.100}_{-0.150}$	$6.784^{+1.048}_{-1.946}$	$1.628^{+0.260}_{-0.483}$	$0.007^{+0.008}_{-0.002}$
	+1%/-2%	+6%/-3%	+83%/-125%	+15%/-29%	+16%/-30%	+109%/-33%
Source	SPE74	SPE74	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 007955301-01 / KOI 6938.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-14982 ± 18	$156.89^{+24.81}_{-27.62}$	2035^{+104}_{-126}	3868^{+153}_{-133}	$6.877^{+2.695}_{-1.573}$
Alt.	-4920 ± 30	$99.90^{+19.53}_{-21.46}$	2047^{+91}_{-140}	3737^{+219}_{-175}	$5.662^{+2.847}_{-1.659}$

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 $A_{obs} \gg 1.0$

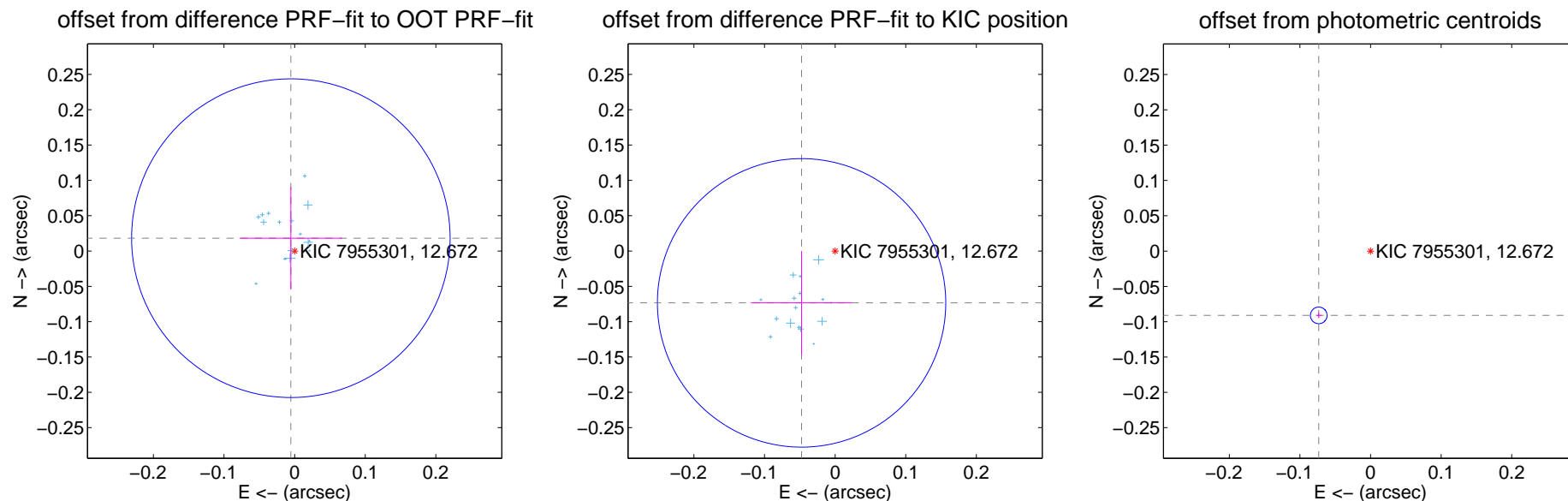
DV Centroid Data

Supplemental centroid analysis for 007955301-01. Kepler magnitude: 12.67. Transit SNR 233.35

There are 17 quarters with good PRF difference image offsets

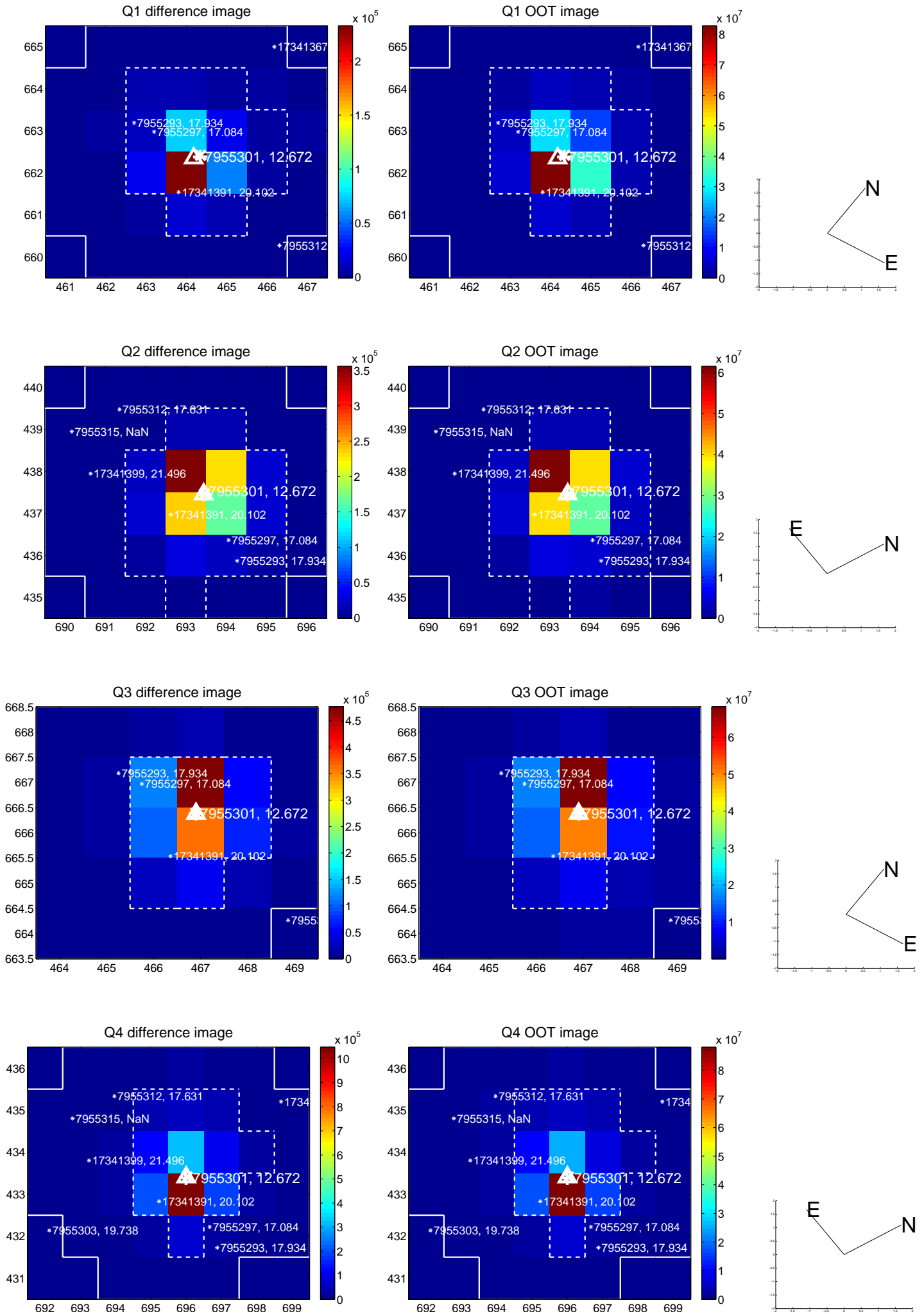
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.019 ± 0.075	0.25	0.005 ± 0.073	0.018 ± 0.072
PRF-fit source offset from KIC position	0.087 ± 0.068	1.29	0.048 ± 0.072	-0.073 ± 0.073
photometric centroid source offset	0.12 ± 0.00	29.76	0.07 ± 0.00	-0.09 ± 0.00

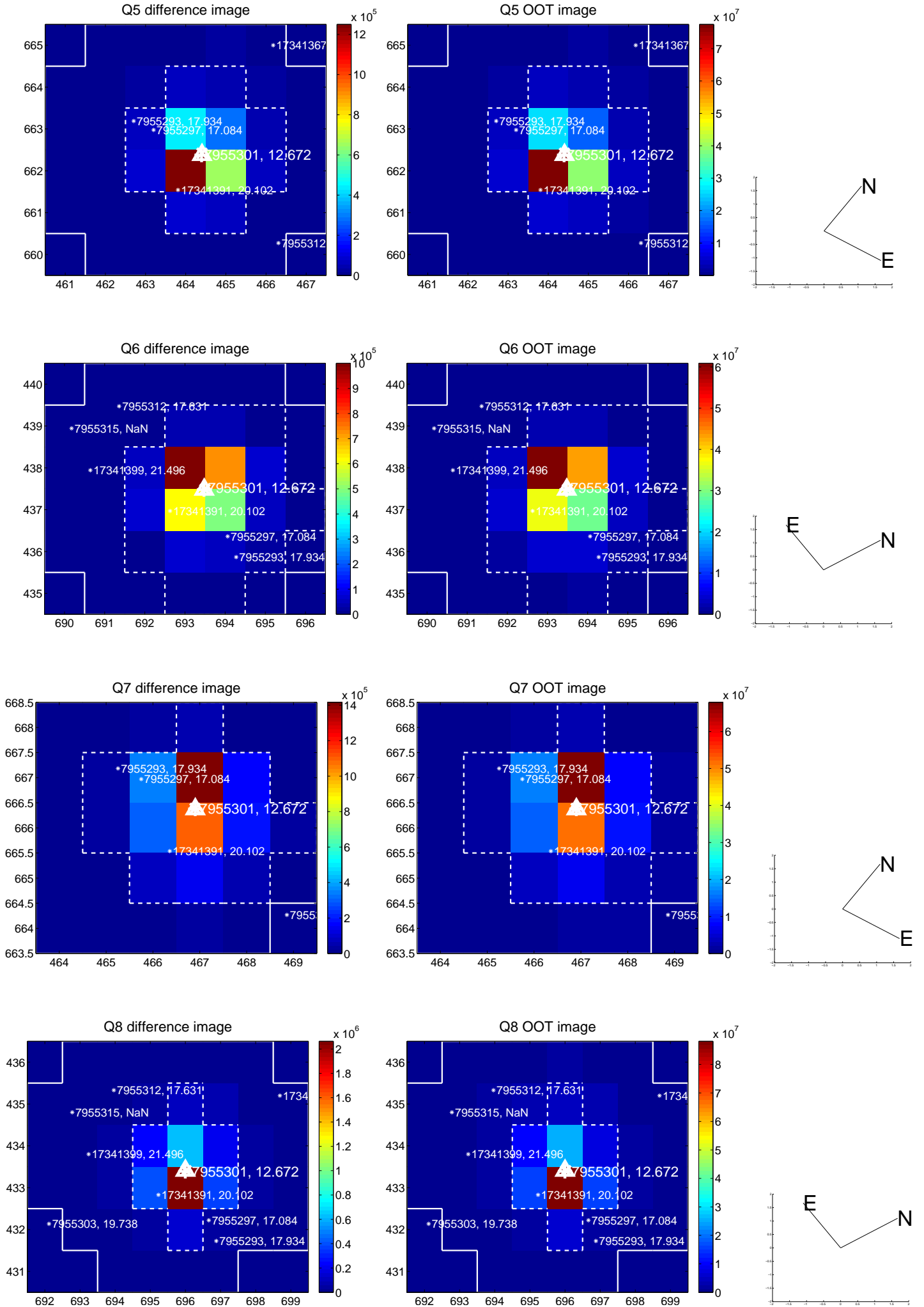


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

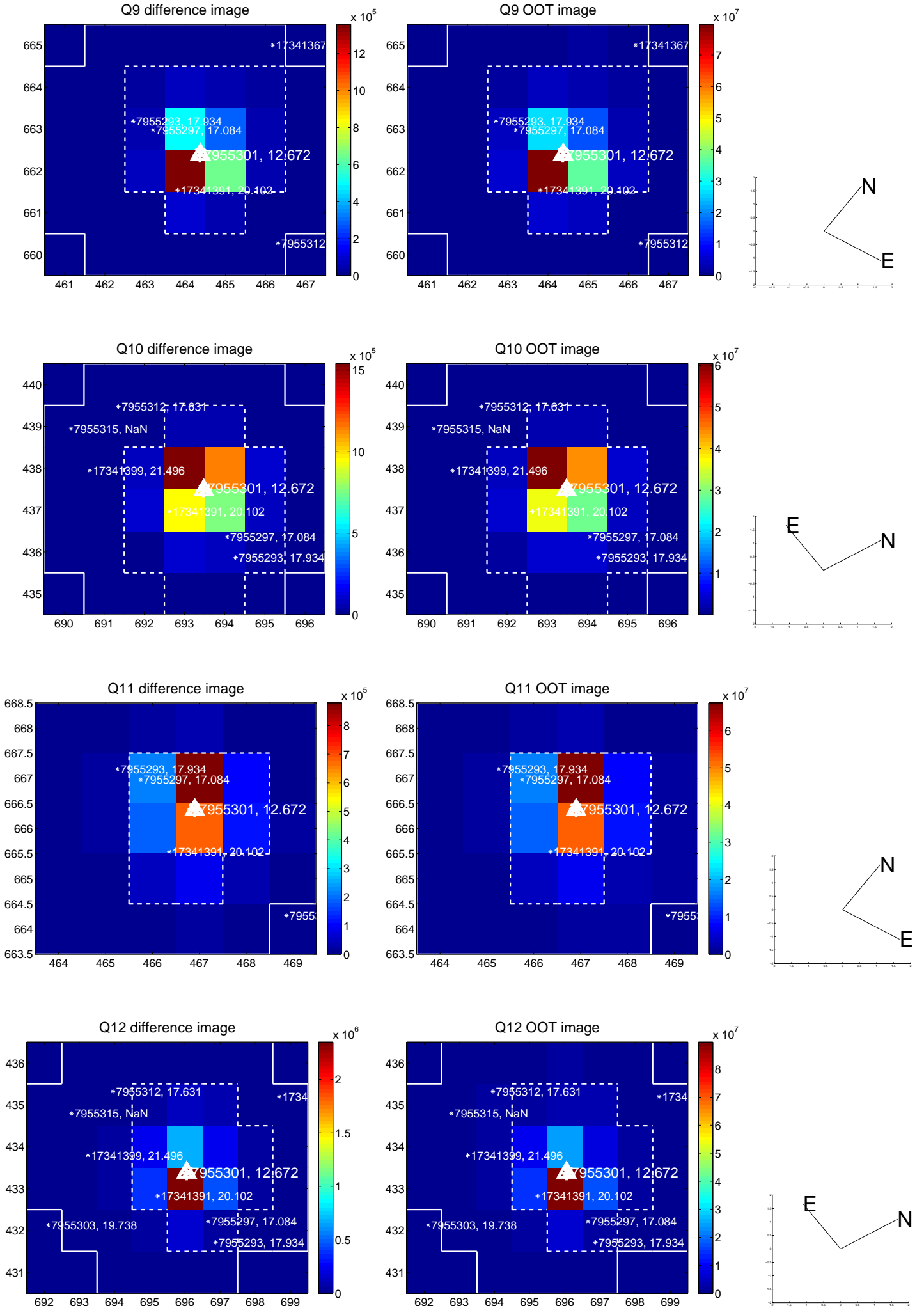
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



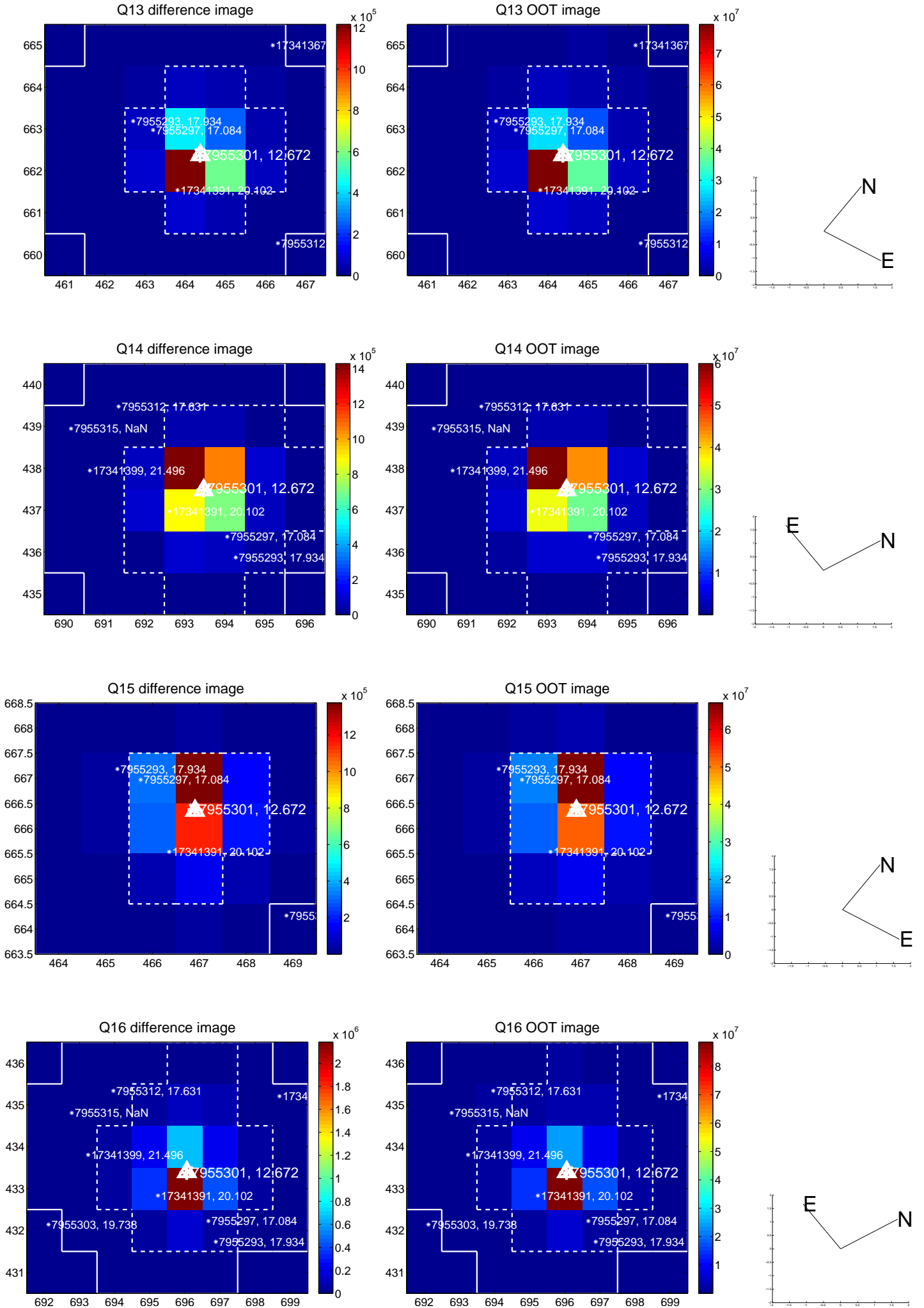
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



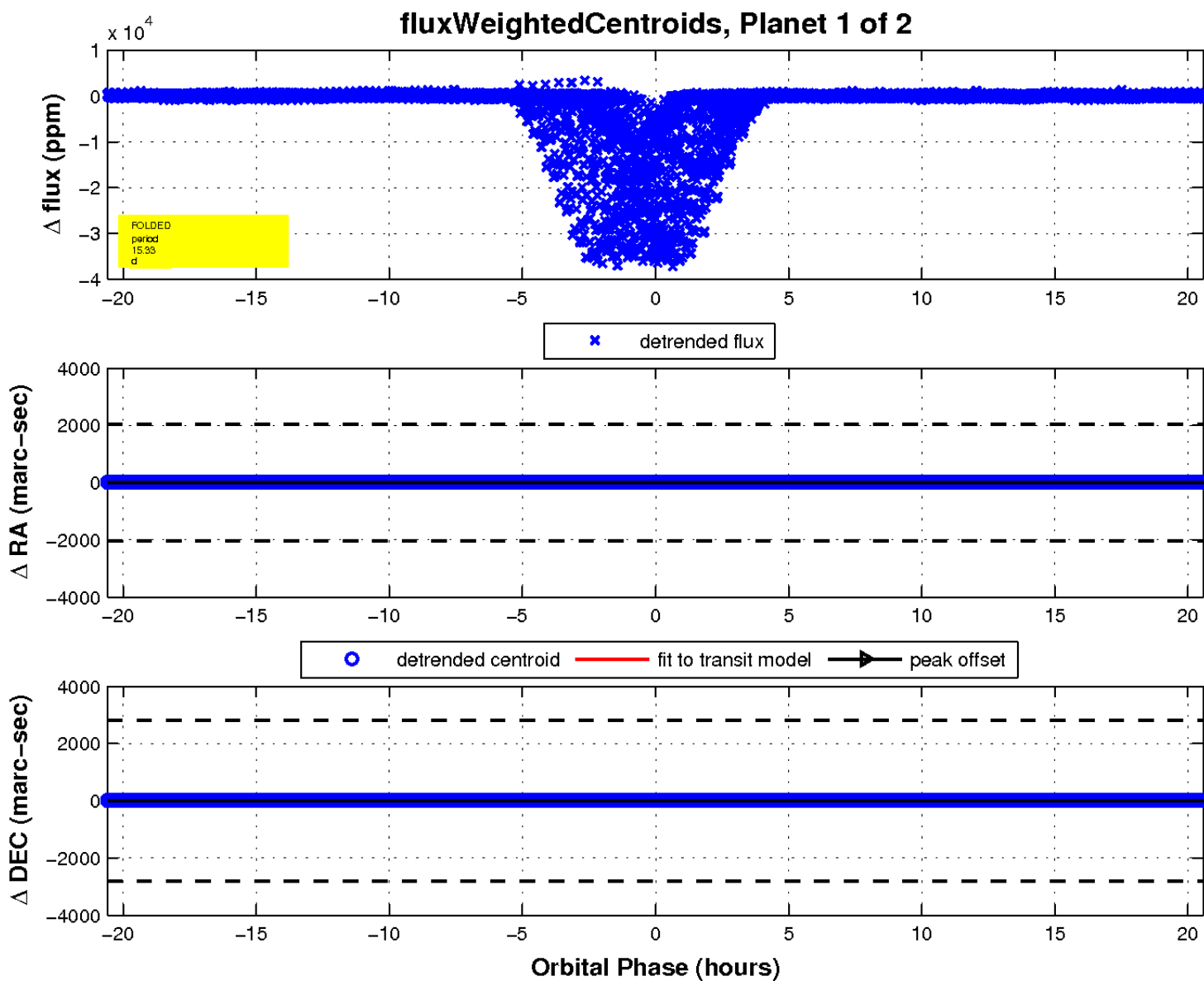
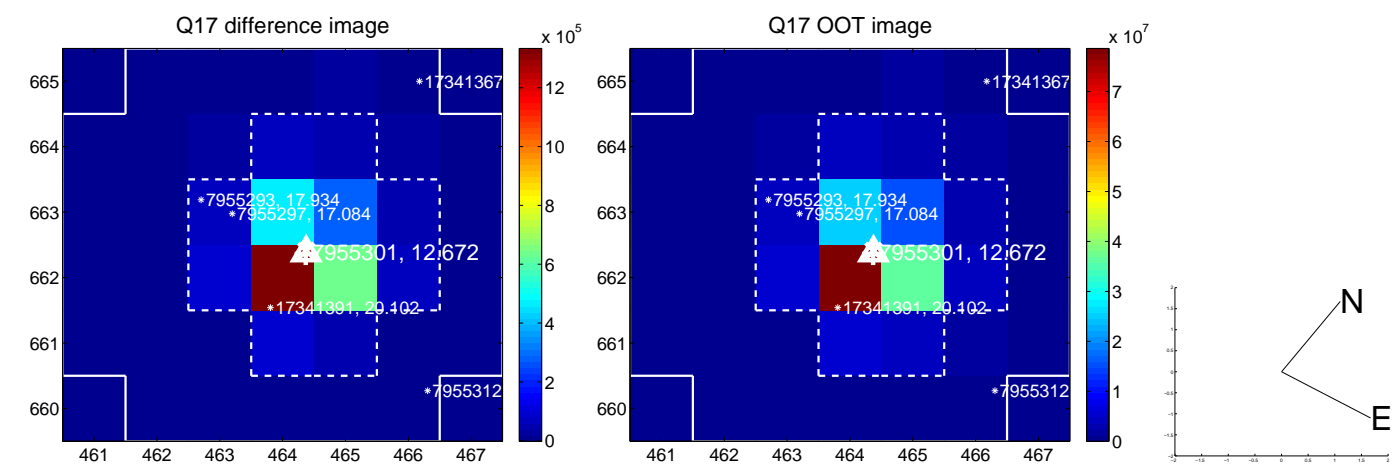
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



KIC 007955301

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})
007955301-01	OBS	6938.01	15.327570	134.929766	16542.5	6.864	715.1	233.4	6.78	4830	159.99	1110.99
007955301-02	OBS	No	15.328524	142.798461	15817.8	5.968	567.9	238.9	6.78	4830	156.79	1110.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007955301-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—DEEP_V_SHAPED—HAS_SEC_TCE
007955301-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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 007955301-02

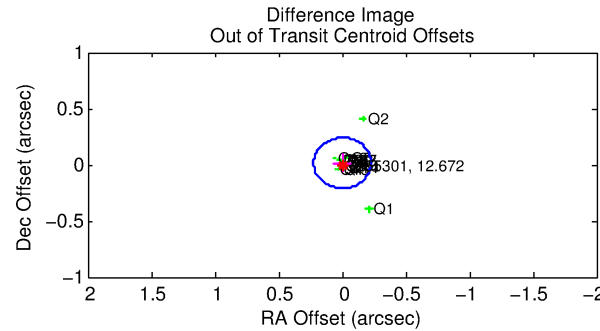
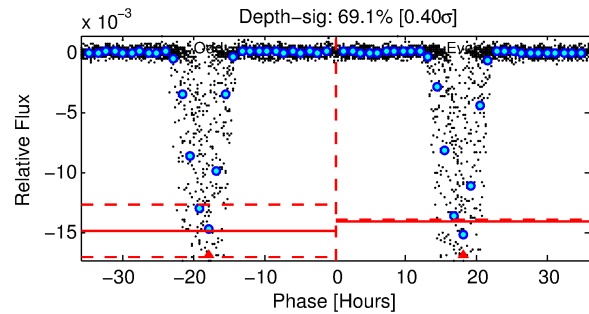
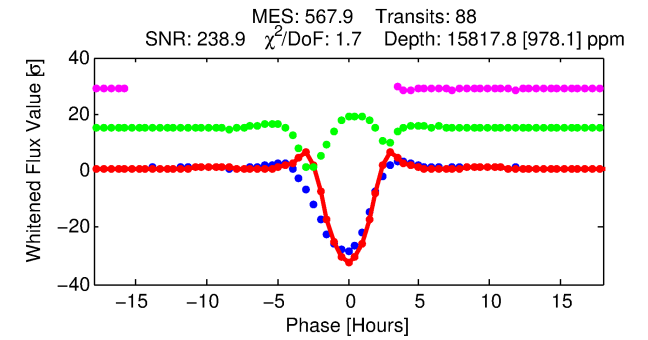
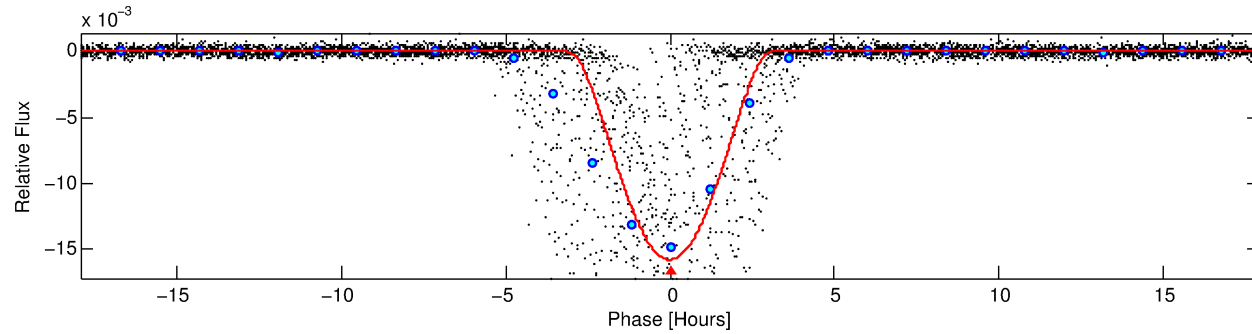
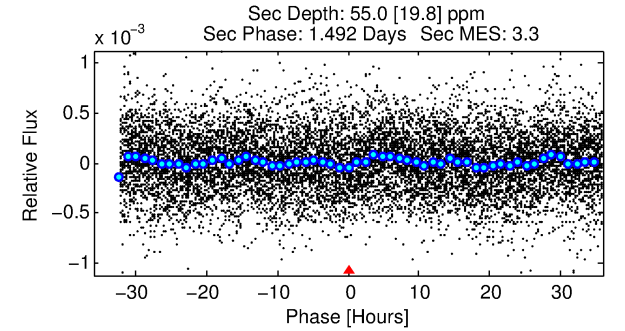
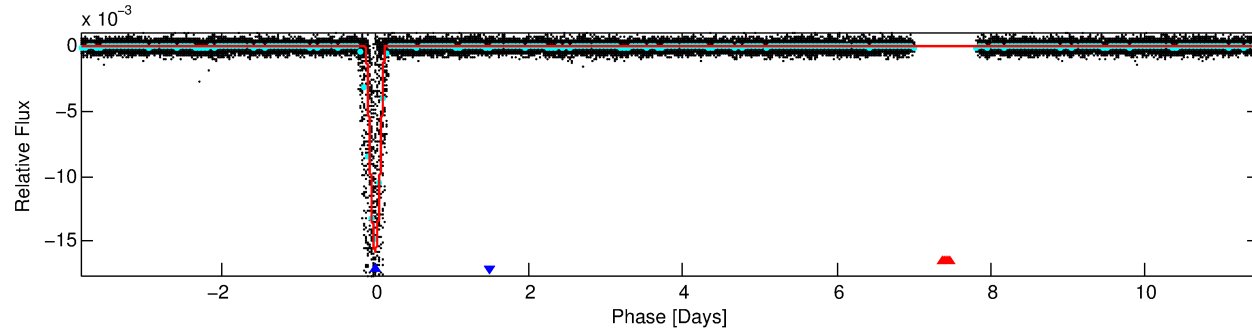
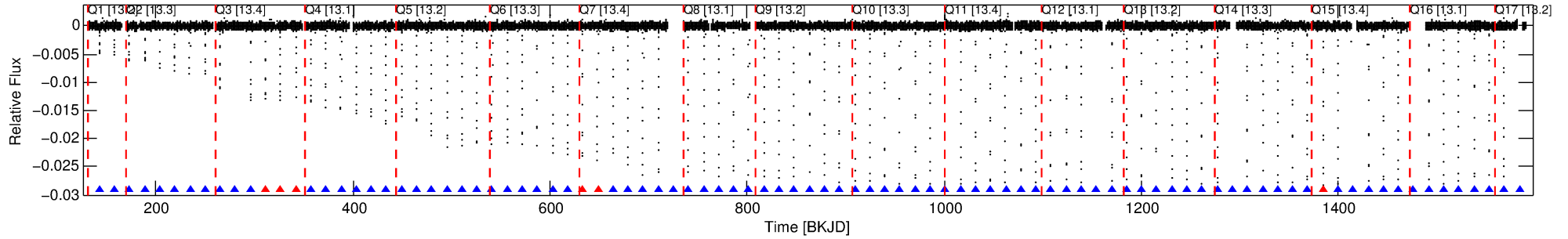
No Significant Match Found

DV One-Page Summary

KIC: 7955301 Candidate: 2 of 2 Period: 15.329 d

KOI: K06938 Corr: No Ephemeris Match

Kp: 12.67 R*: 6.78 Rs Teff: 4830.0 K Logg: 2.99 Fe/H: 0.120



DV Fit Results:

Period = 15.32852 [0.00001] d
Epoch = 142.7985 [0.0003] BKJD
Rp/R* = 0.2118 [0.0194]
a/R* = 13.47 [0.12]
b = 1.00 [0.02]
Seff = 1110.89 [391.23]
Teq = 1472 [130] K
Rp = 156.79 [47.21] Re
a = 0.1421 [0.0340] AU
Ag = 0.02 [0.01] [-73.82σ]
Teff = 904 [92] K [-3.57σ]

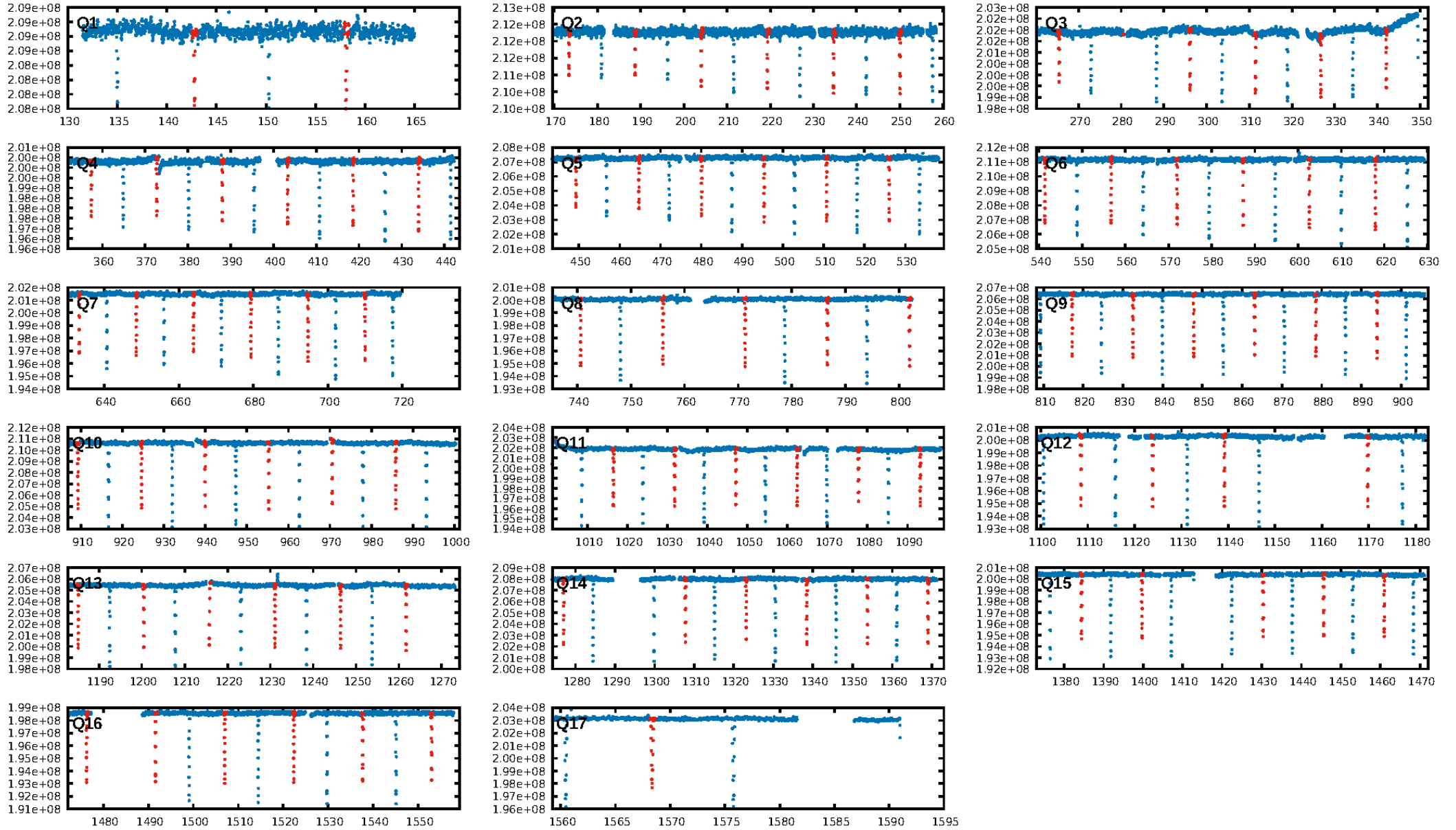
DV Diagnostic Results:

ShortPeriod-sig: 0.2% [0.00α]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.93 [79/85]
GhostDiagnostic-chr: 1.597
Centroid-sig: 0.0%
Centroid-so: 0.116 arcsec [26.72σ]
OotOffset-rm: 0.015 arcsec [0.19σ]
KicOffset-rm: 0.090 arcsec [1.22σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

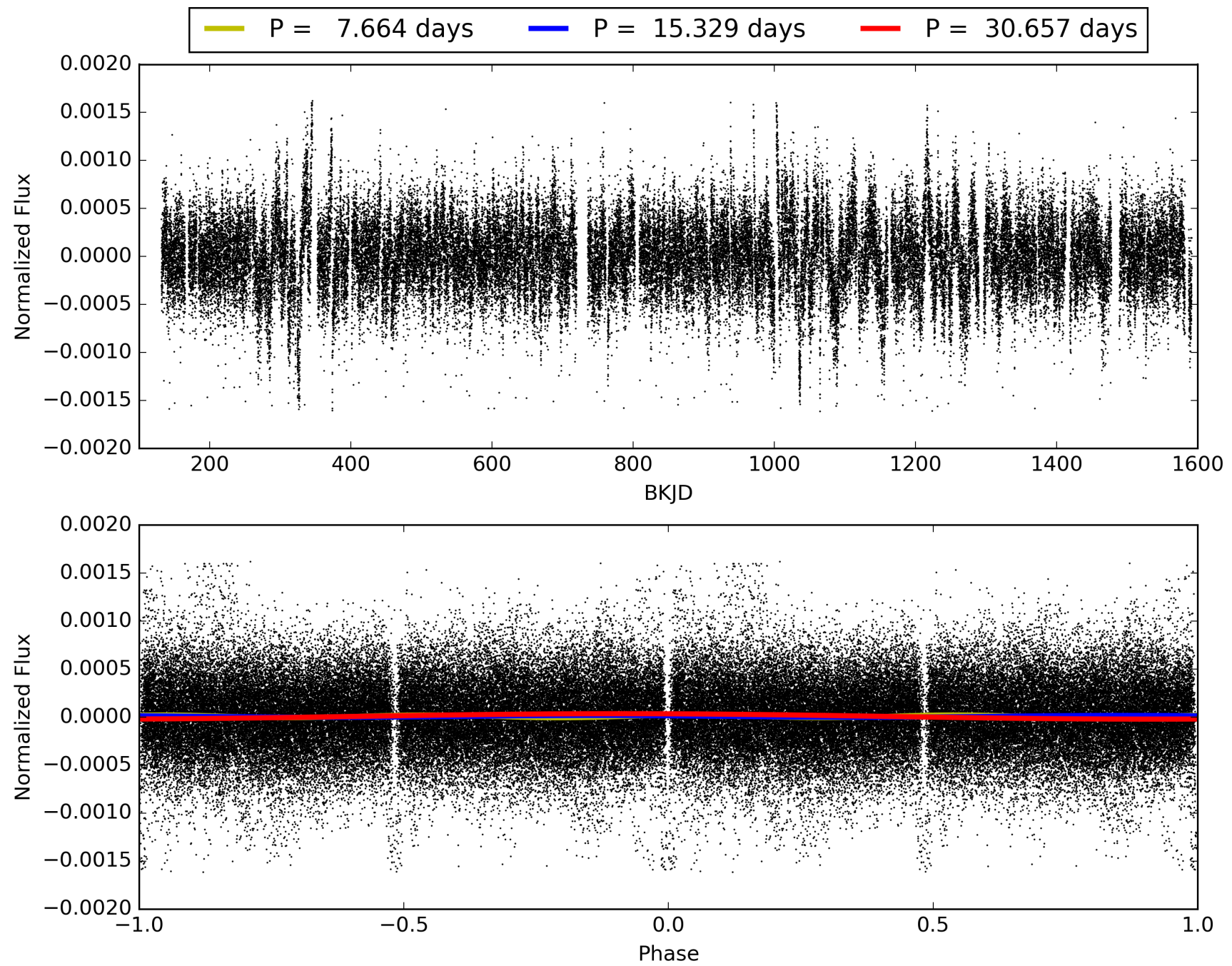
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:51:28 Z

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

TCE 007955301-02, PDC Light Curves

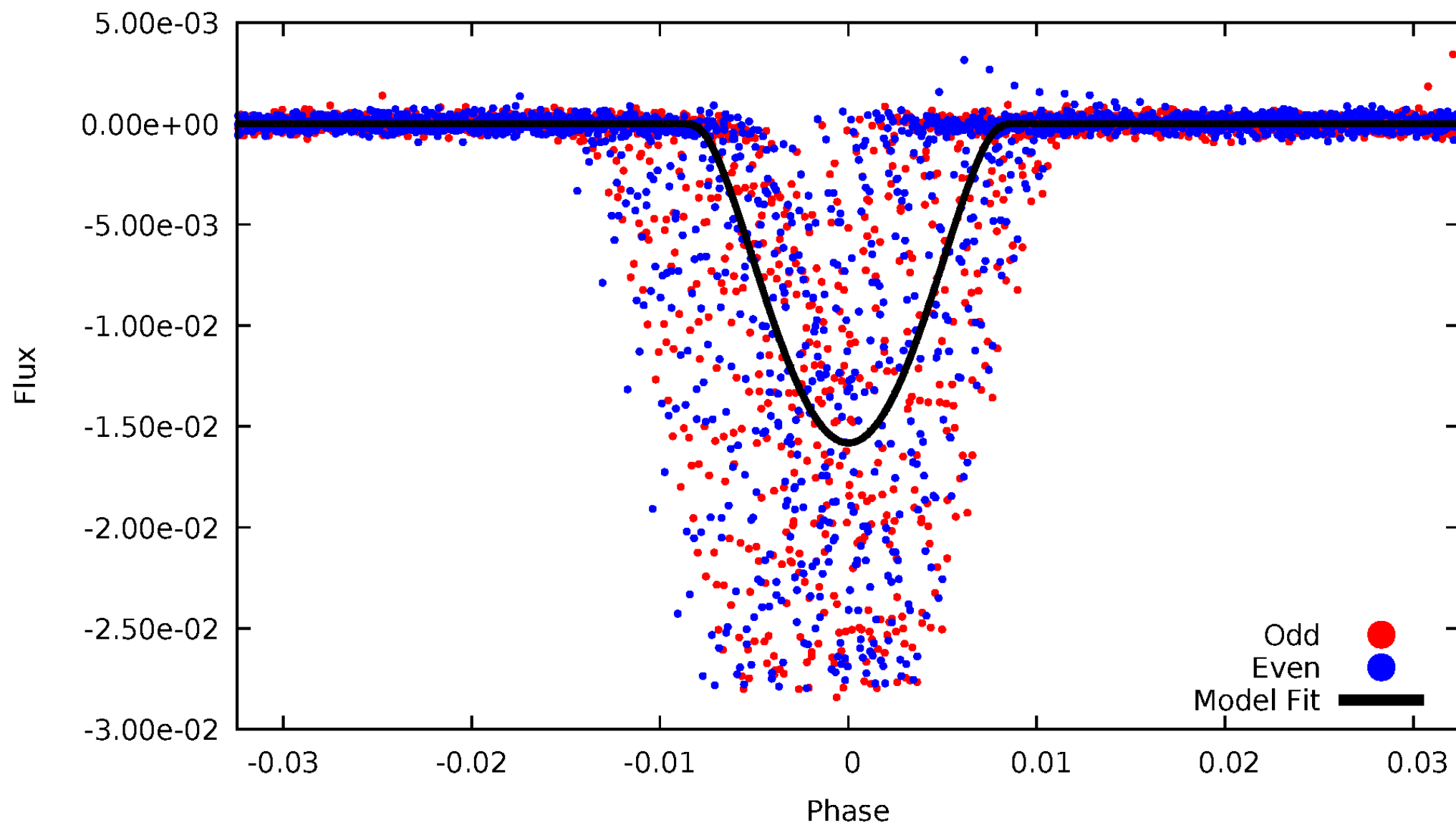


TCE 007955301-02



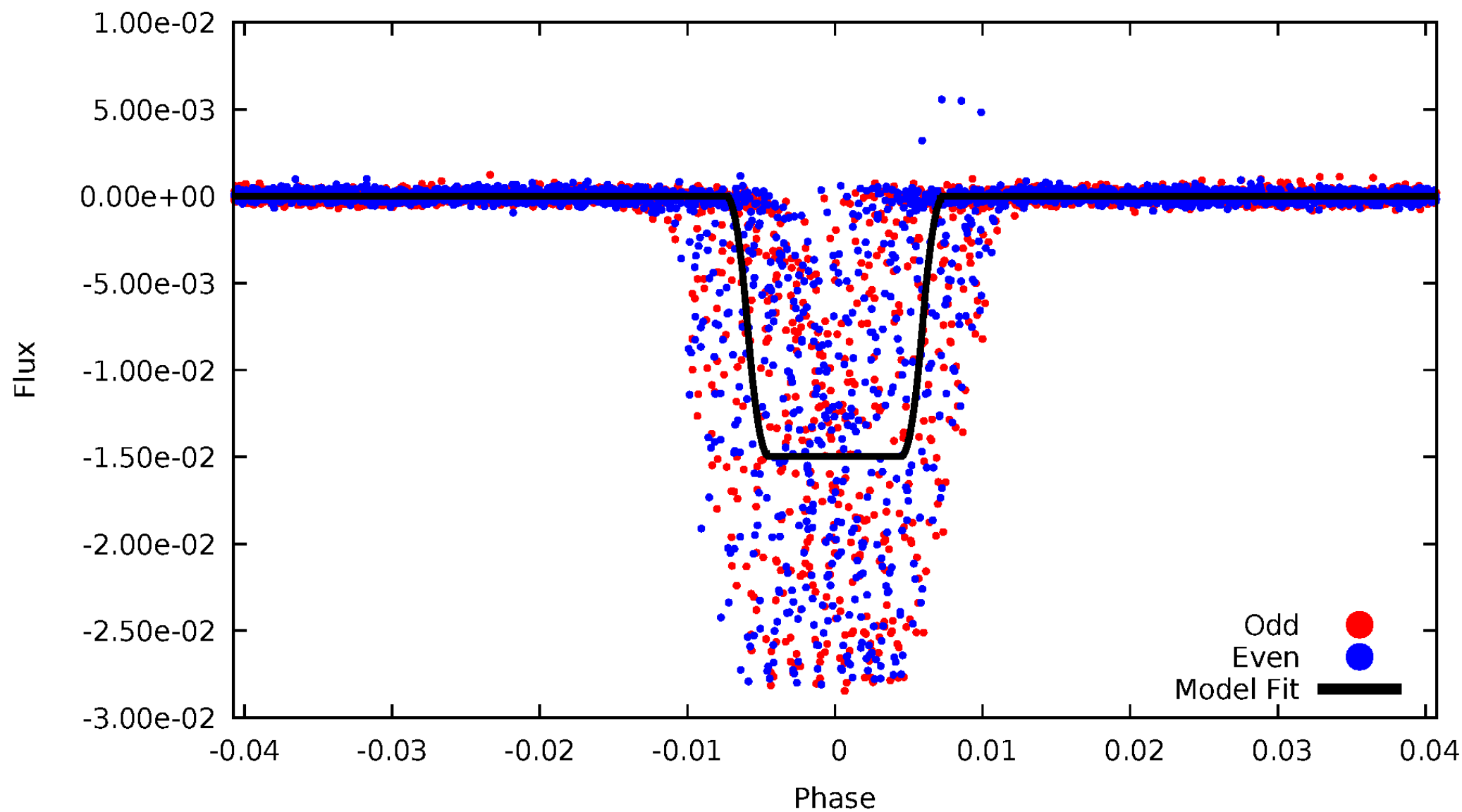
DV Odd/Even

TCE 007955301-02



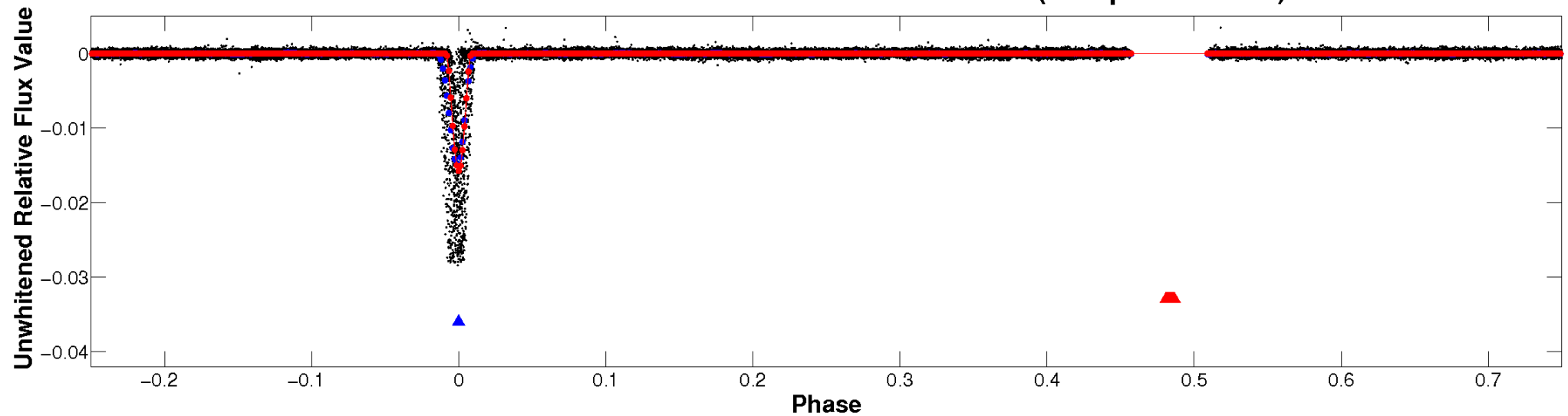
ALT Odd/Even

TCE 007955301-02

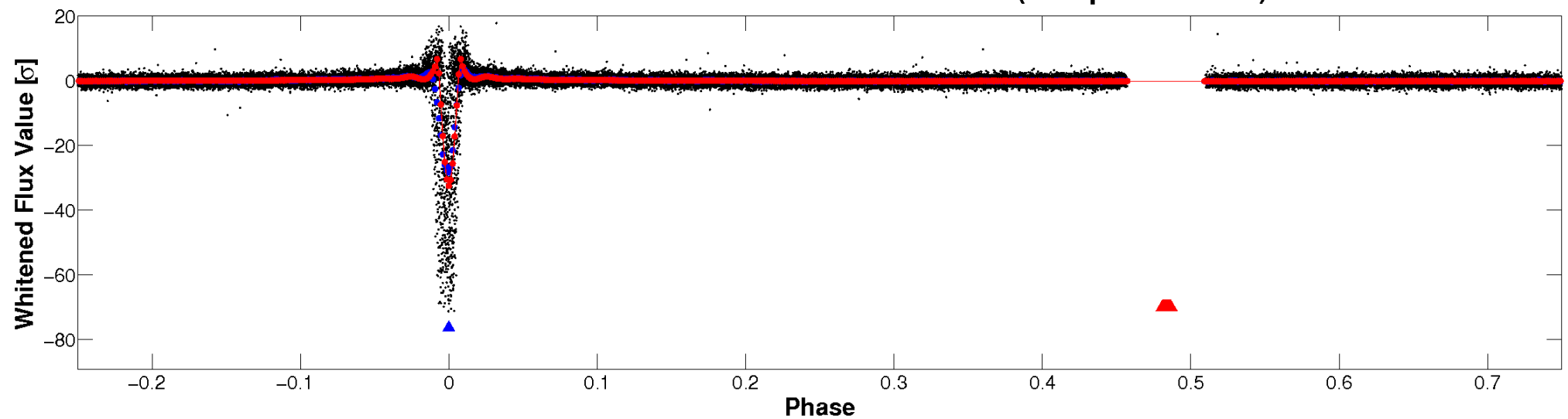


Non-Whitened Vs. Whitened Light Curve

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

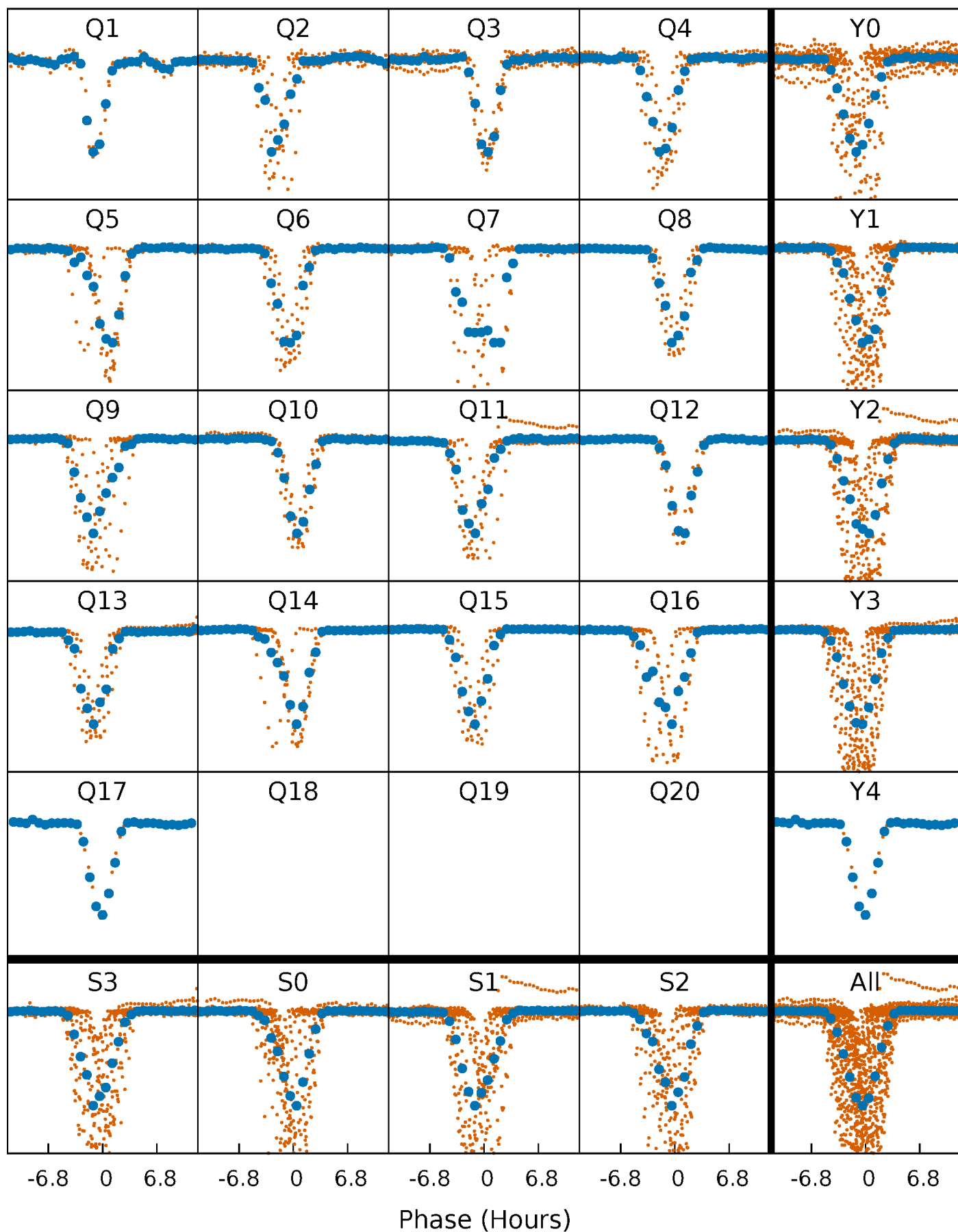


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



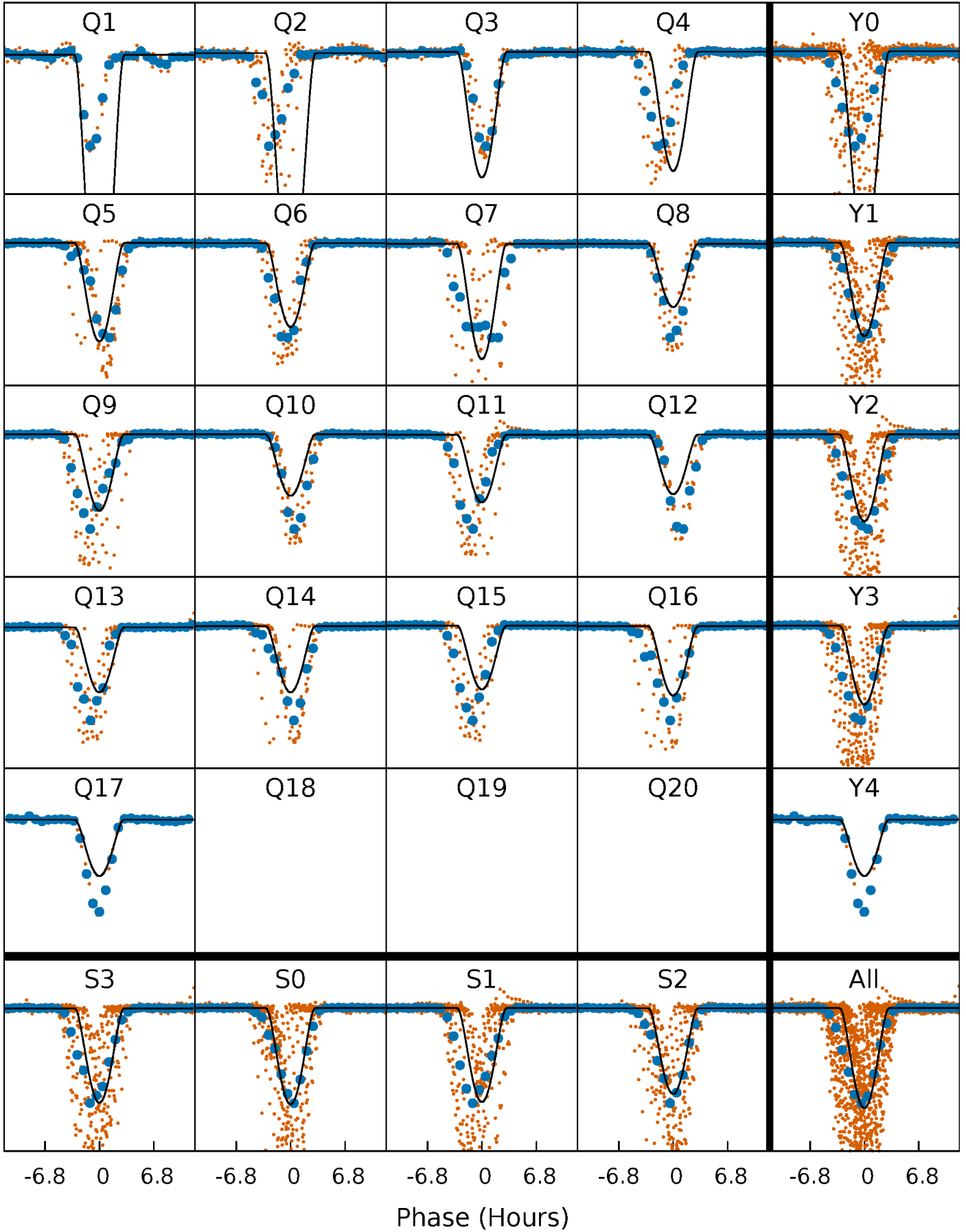
PDC Quarter-Phased Transit Curves

TCE 007955301-02 P= 15.328524 Days $T_0=142.798461$ (BKJD)



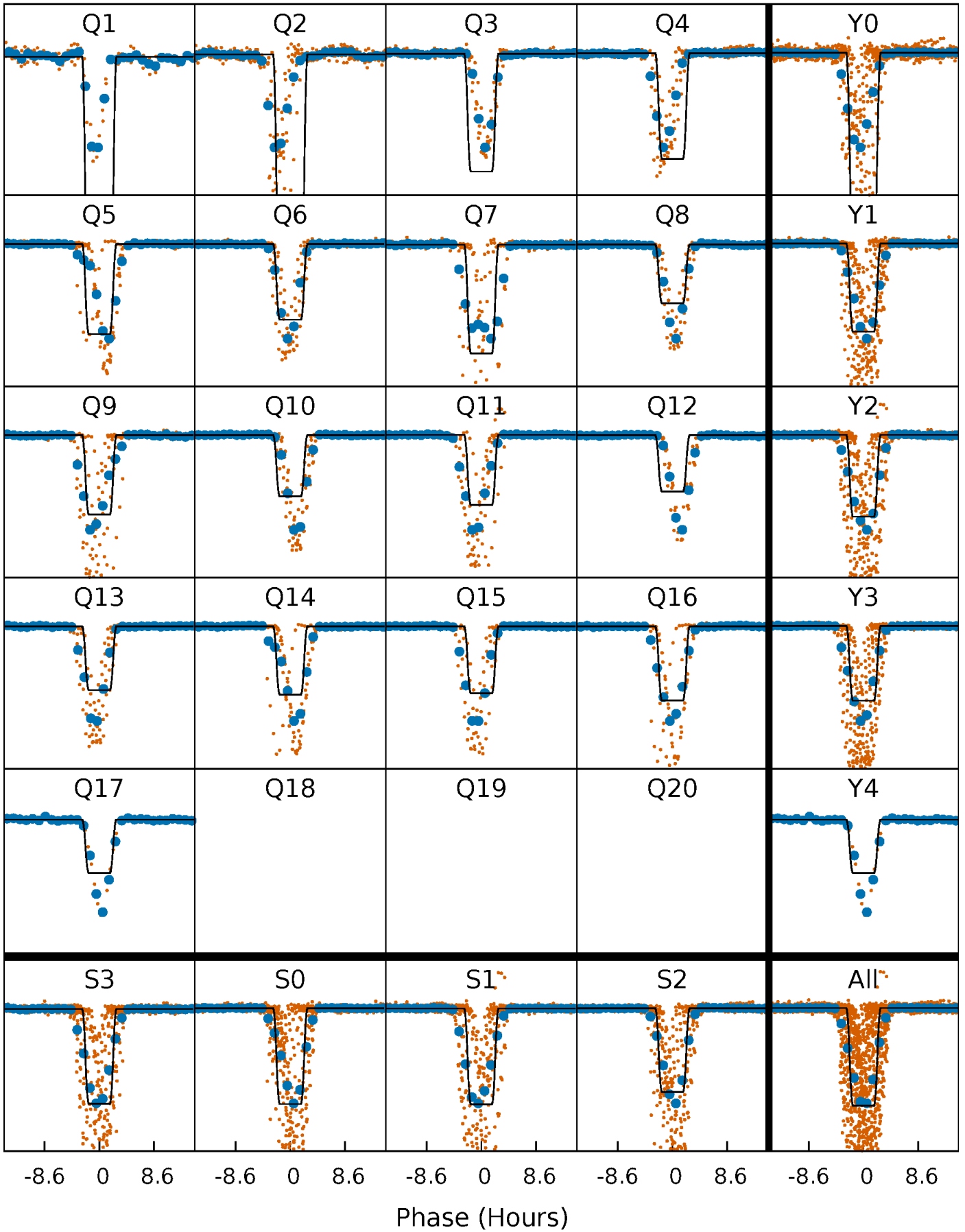
DV Quarter-Phased Transit Curves

TCE 007955301-02 P= 15.328524 Days $T_0=142.798461$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

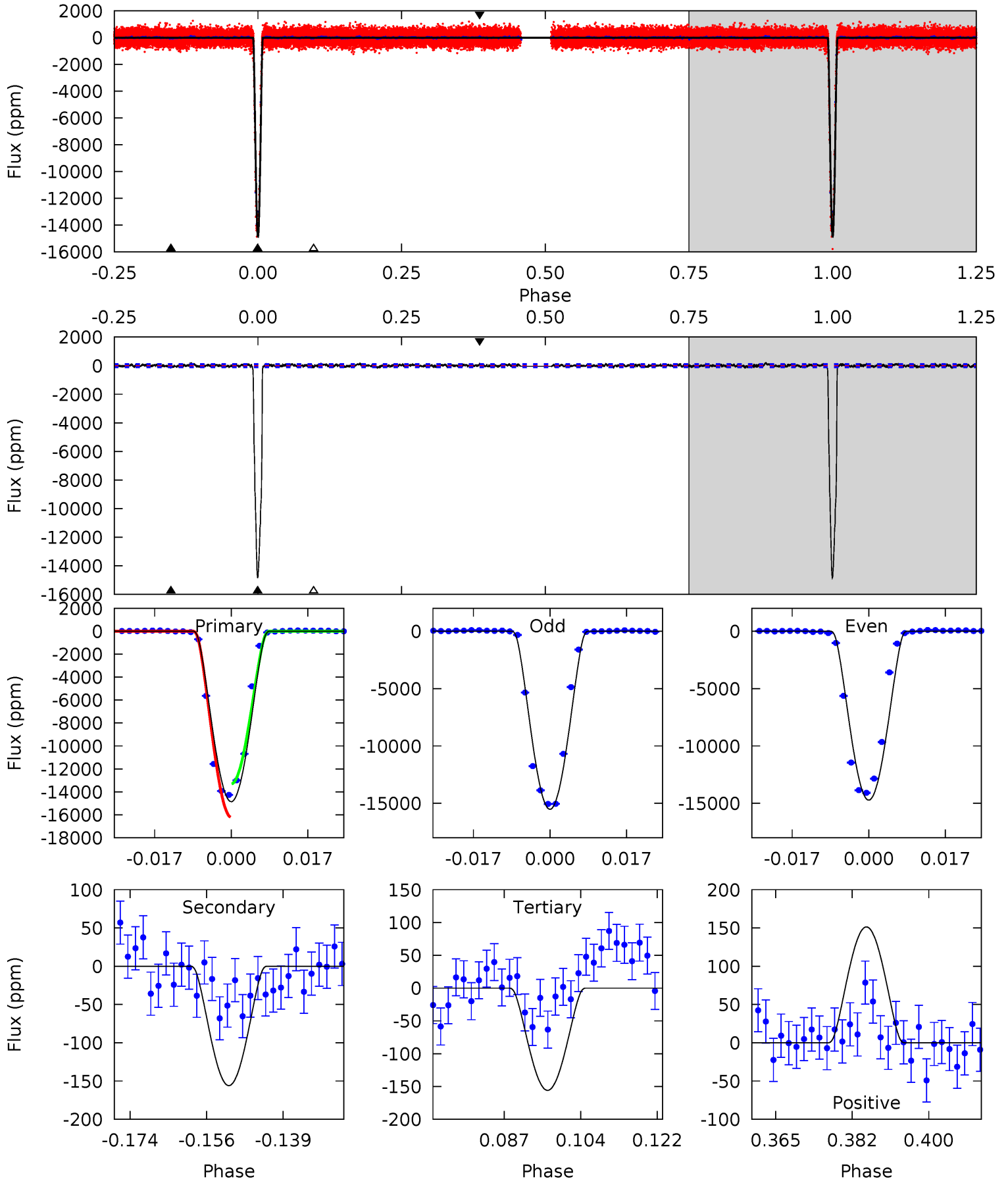
TCE 007955301-02 P= 15.328403 Days $T_0=142.788691$ (BKJD)



DV Model-Shift Uniqueness Test

007955301-02, P = 15.328524 Days, E = 127.469937 Days

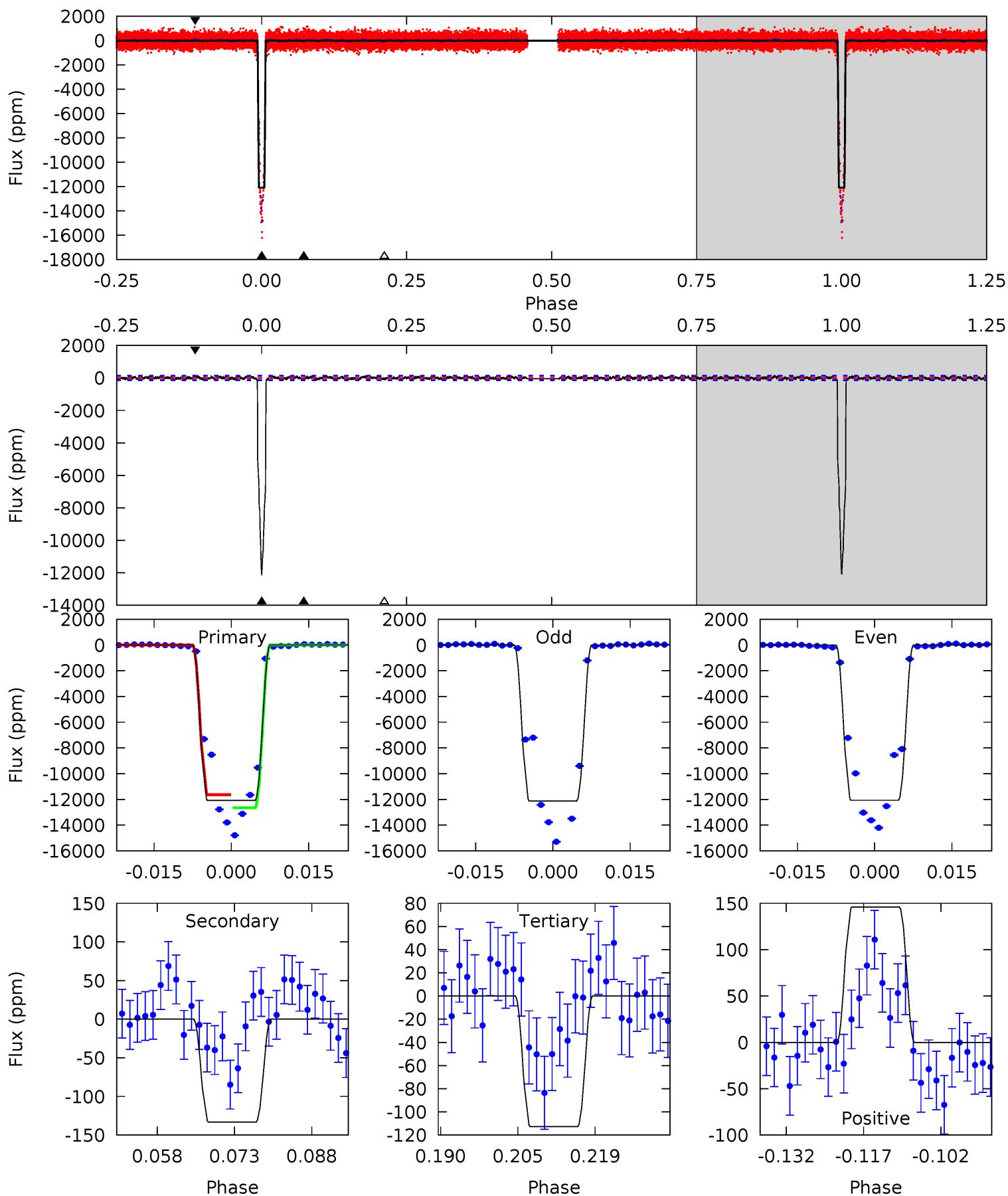
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
720.0	7.56	7.55	7.34	4.92	2.38	2.31	712.4	712.7	0.01	0.22	19.2	0.91	0.01	0



Alt Model-Shift Uniqueness Test

007955301-02, P = 15.328403 Days, E = 127.460288 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
432.9	4.78	4.04	5.23	4.95	2.44	1.33	428.9	427.7	0.74	-0.45	0.91	0.92	0.01	0



Stellar Parameters For KIC 007955301

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4830^{+57}_{-78}	$2.987^{+0.188}_{-0.101}$	$0.120^{+0.100}_{-0.150}$	$6.784^{+1.048}_{-1.946}$	$1.628^{+0.260}_{-0.483}$	$0.007^{+0.008}_{-0.002}$
	+1%/-2%	+6%/-3%	+83%/-125%	+15%/-29%	+16%/-30%	+109%/-33%
Source	SPE74	SPE74	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 007955301-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-156 ± 21	$152.75^{+26.43}_{-26.64}$	2042^{+95}_{-128}	-2405^{+106}_{-74}	$0.074^{+0.031}_{-0.018}$
Alt.	-133 ± 28	$88.31^{+19.82}_{-18.37}$	2043^{+94}_{-136}	-2212^{+605}_{-160}	$0.188^{+0.107}_{-0.068}$

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 $A_{obs} \gg 1.0$

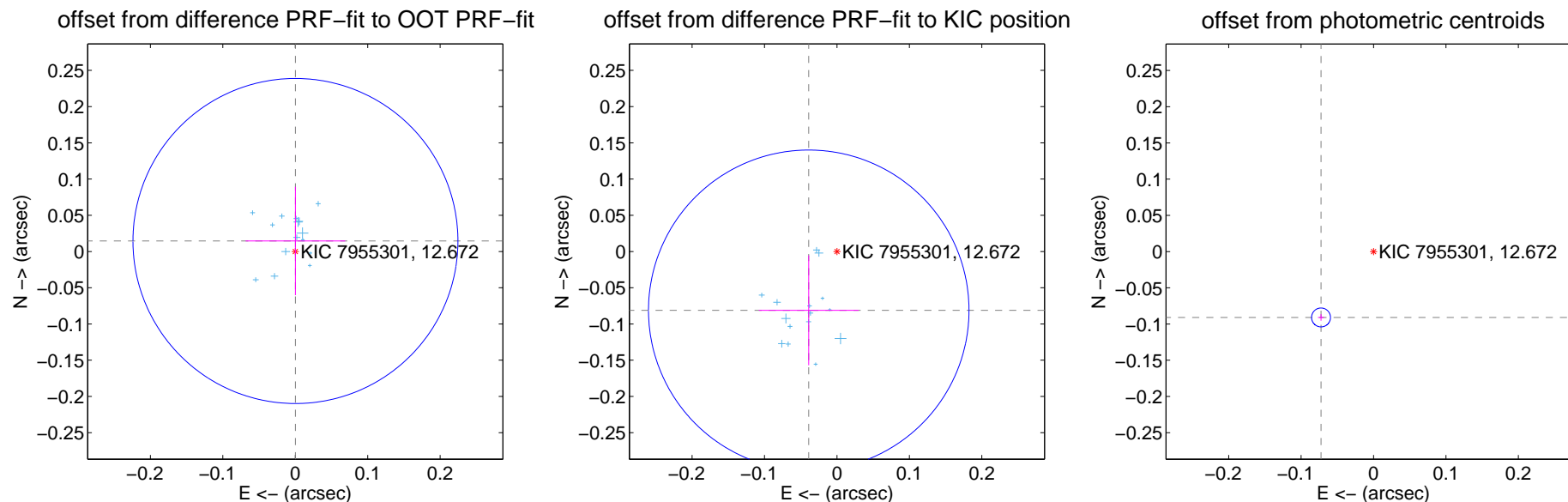
DV Centroid Data

Supplemental centroid analysis for 007955301-02. Kepler magnitude: 12.67. Transit SNR 238.92

There are 17 quarters with good PRF difference image offsets

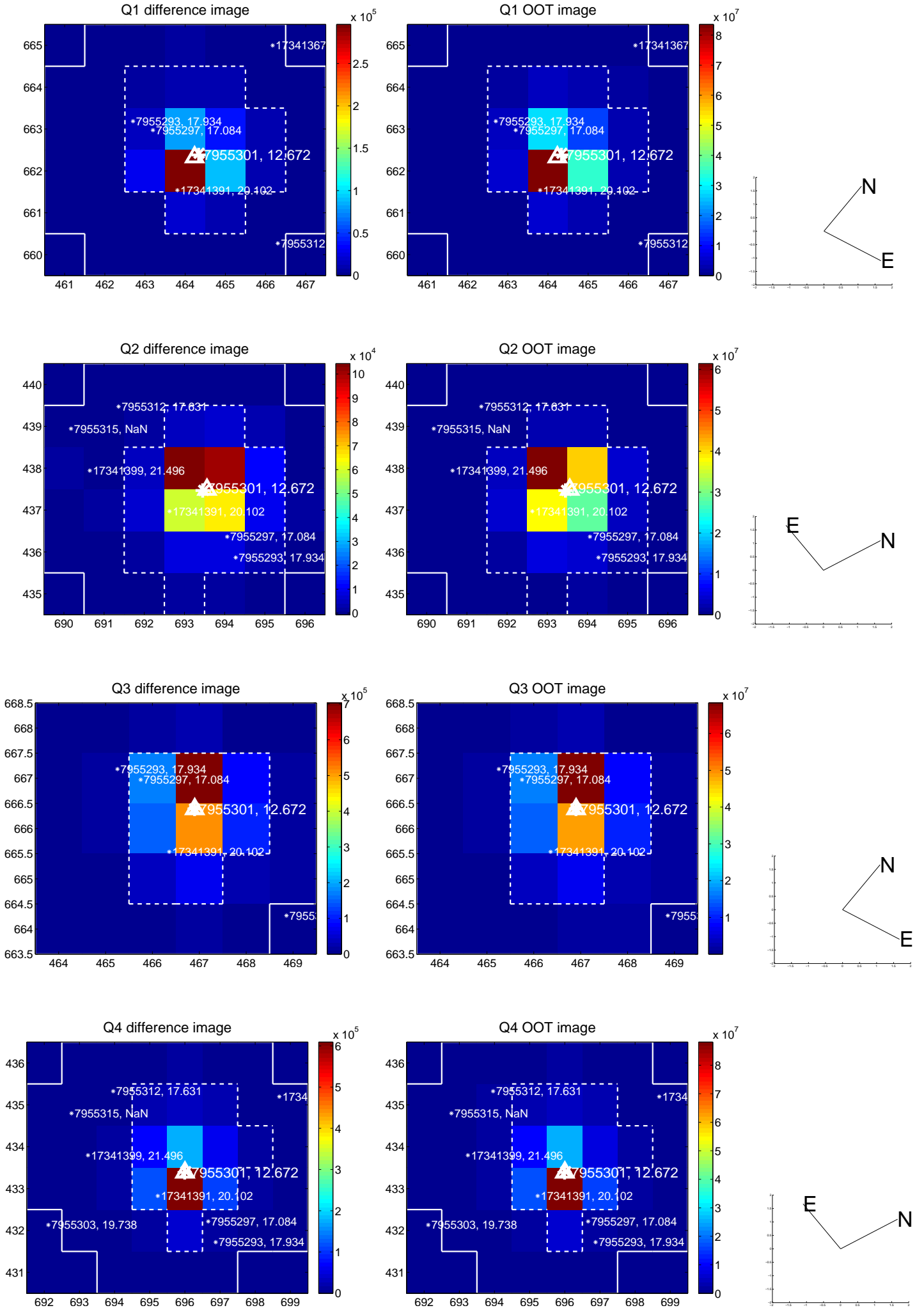
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.015 ± 0.075	0.19	-0.000 ± 0.069	0.015 ± 0.075
PRF-fit source offset from KIC position	0.090 ± 0.074	1.22	0.039 ± 0.069	-0.081 ± 0.076
photometric centroid source offset	0.12 ± 0.00	26.72	0.07 ± 0.00	-0.09 ± 0.00

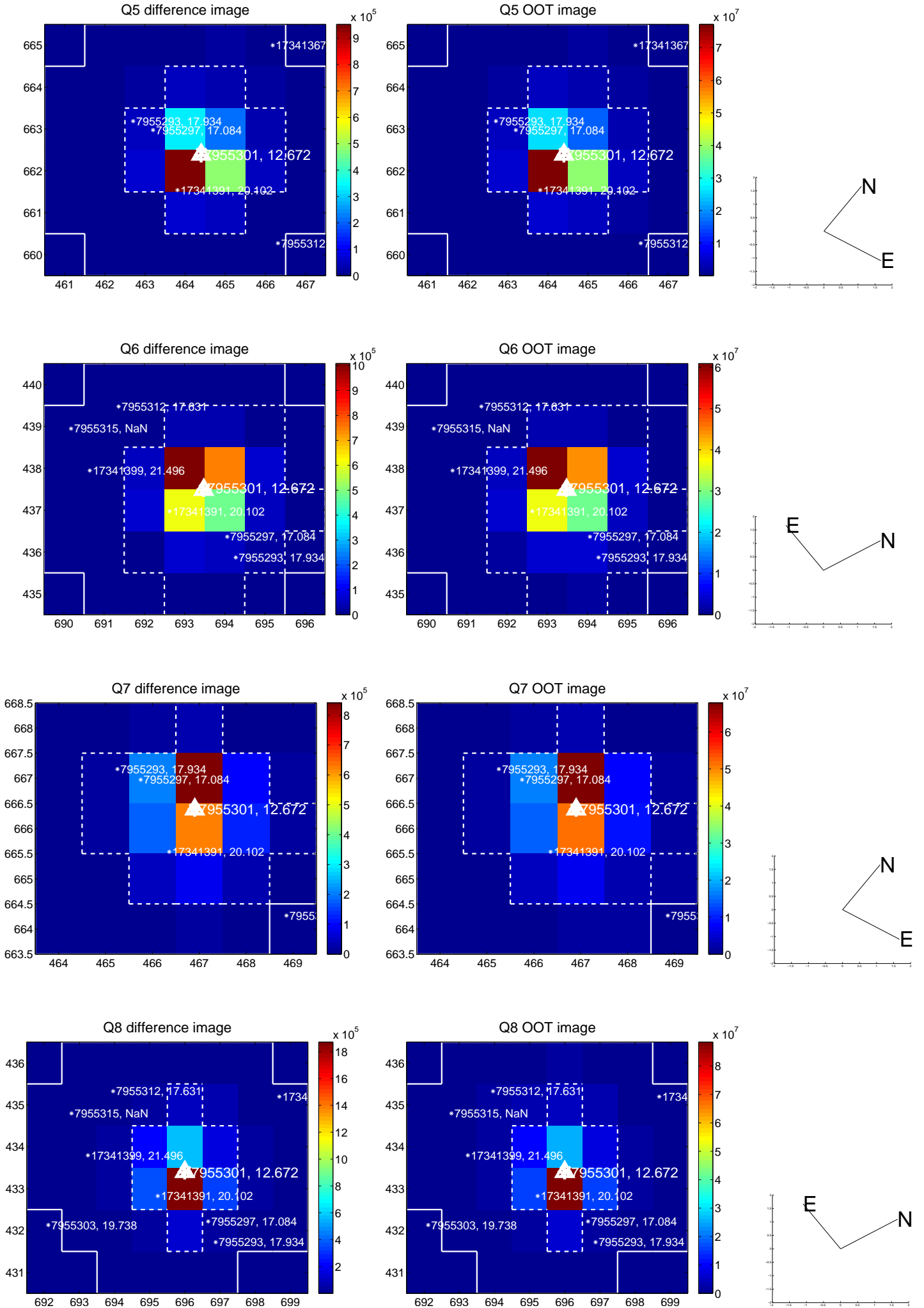


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

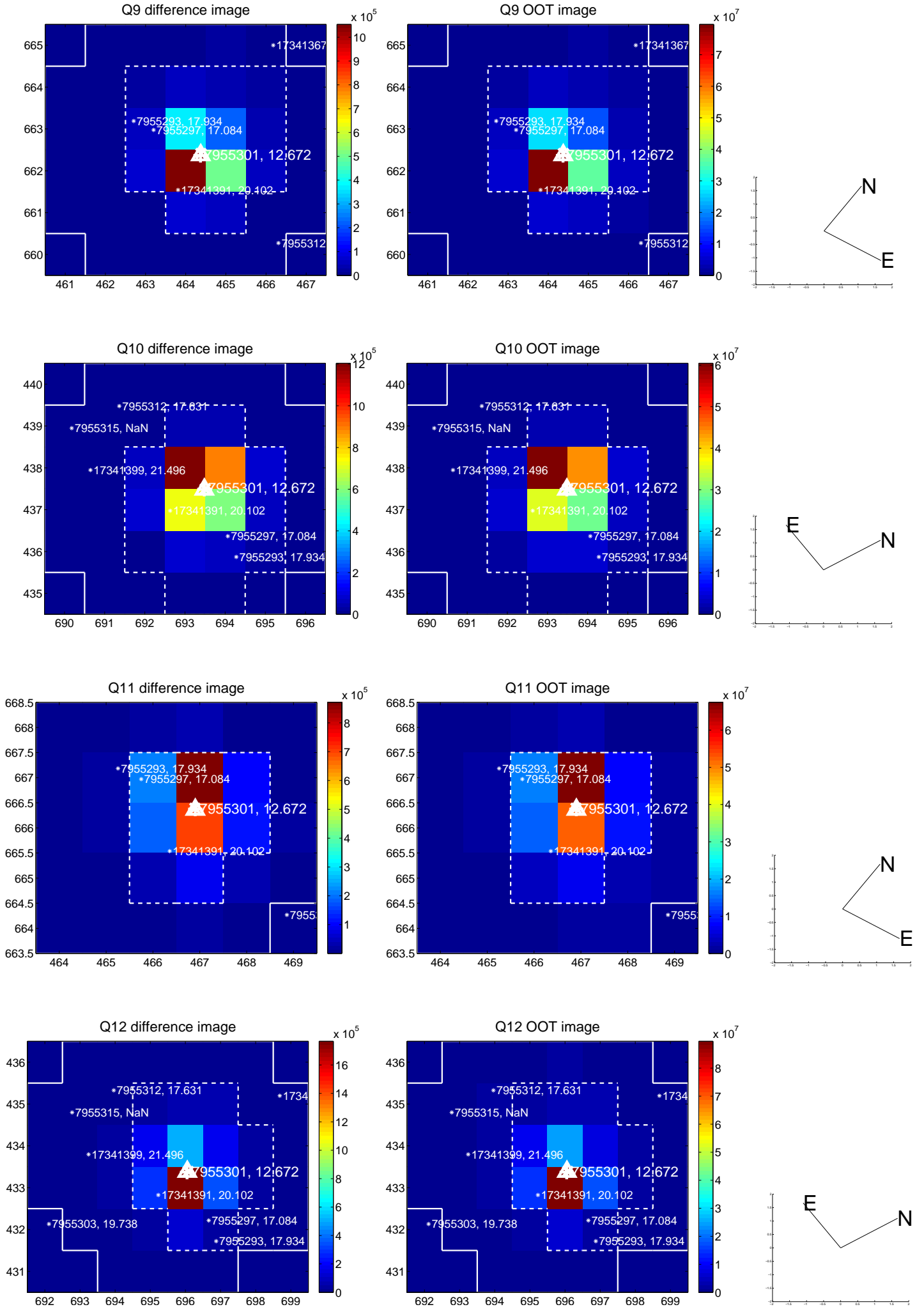
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



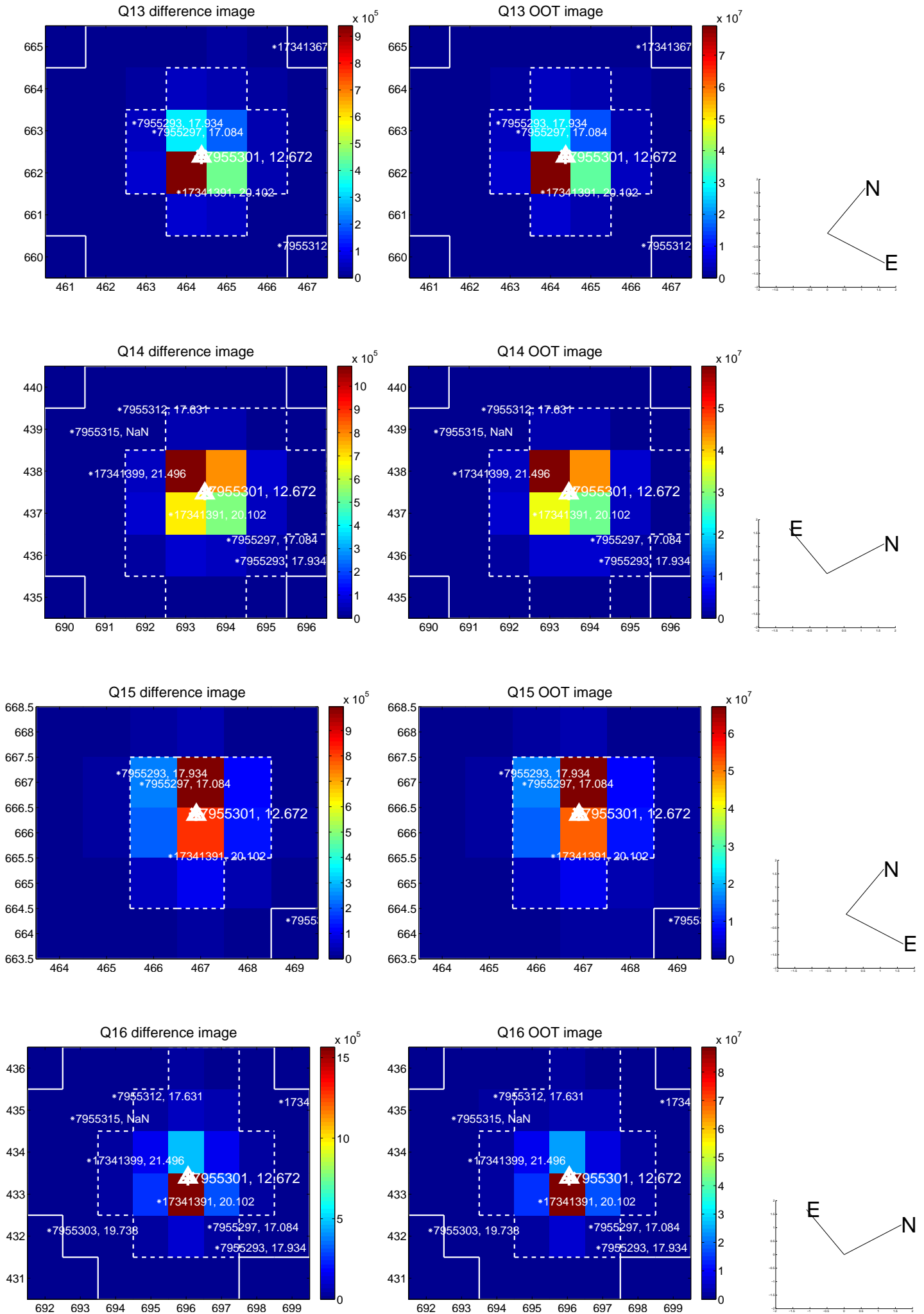
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



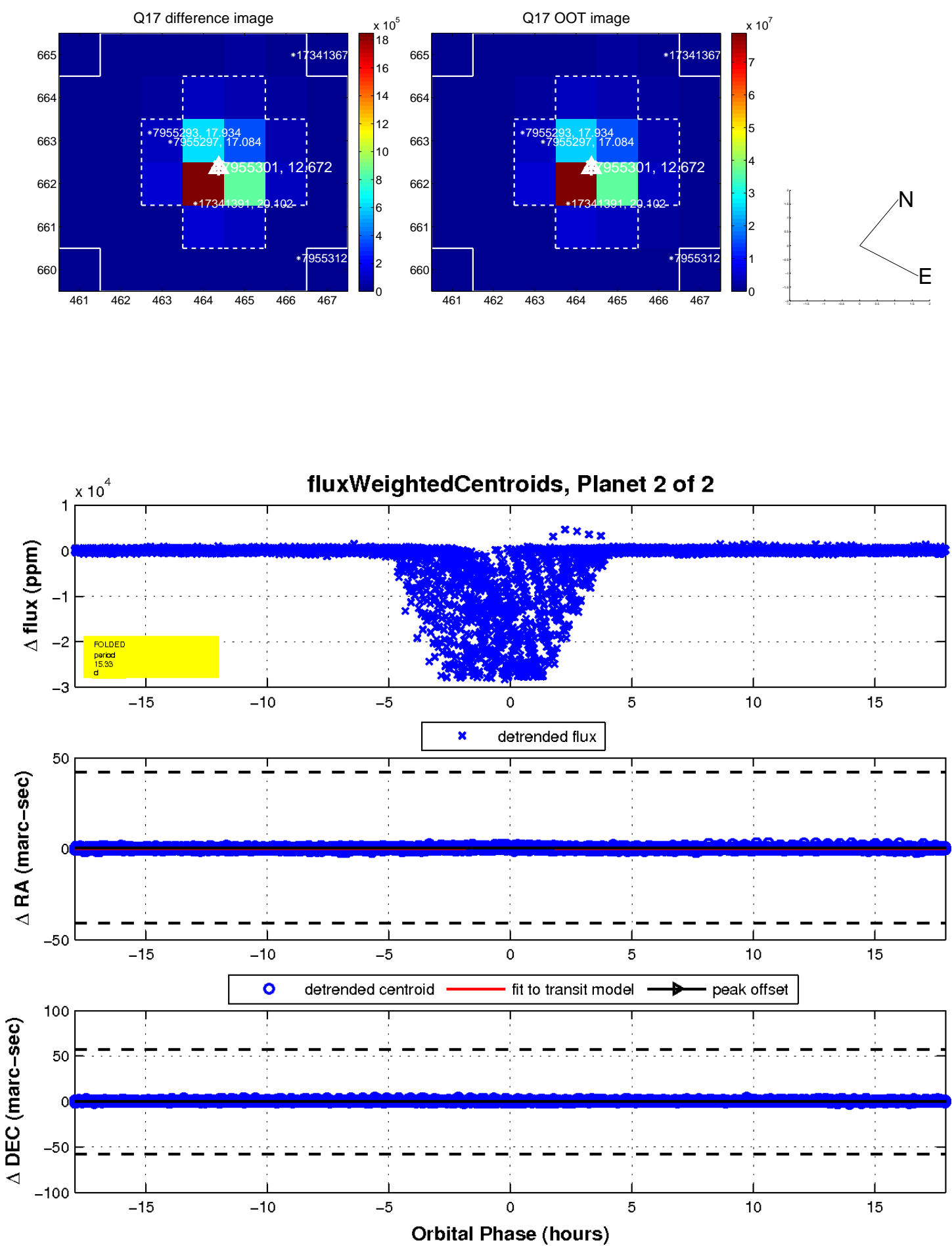
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

