

KIC 006516874

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})
006516874-01	OBS	3824.01	0.916343	131.776619	36887.0	2.500	803.9	-1.0	0.97	6046	18.68	3199.88
006516874-02	OBS	No	0.916323	132.267244	50077.5	1.500	954.5	-1.0	0.97	6046	21.87	3199.97

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006516874-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
006516874-02	OBS	FP	0.00	1	0	0	0	SAME_NTL_PERIOD—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.

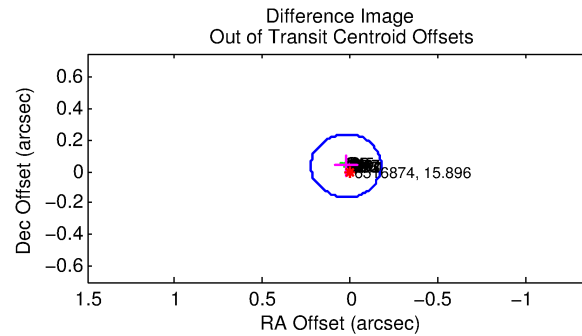
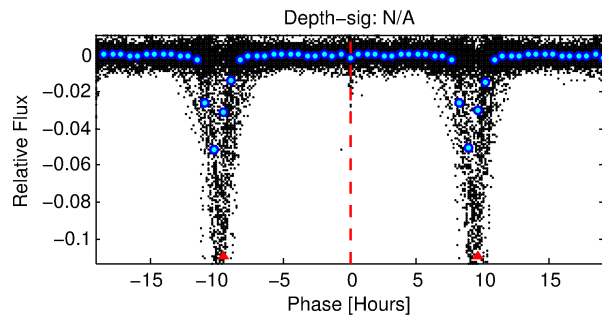
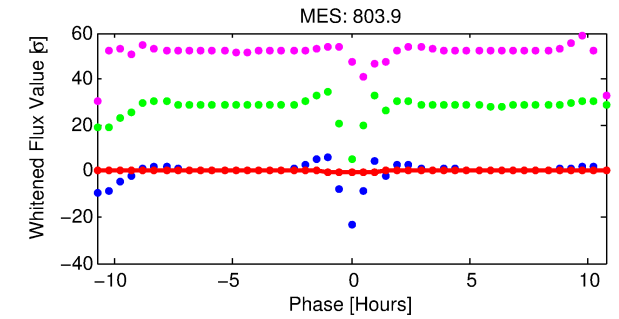
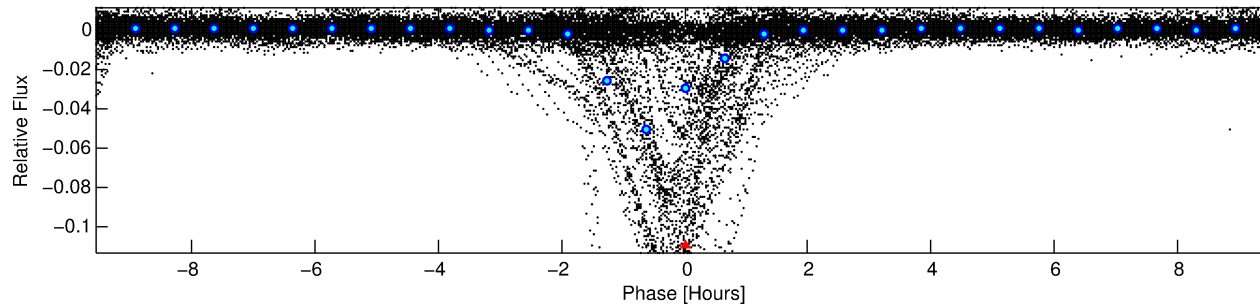
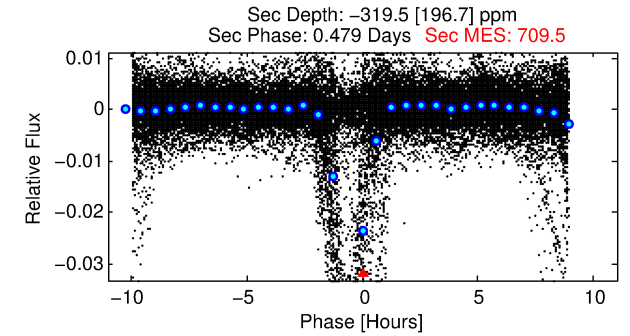
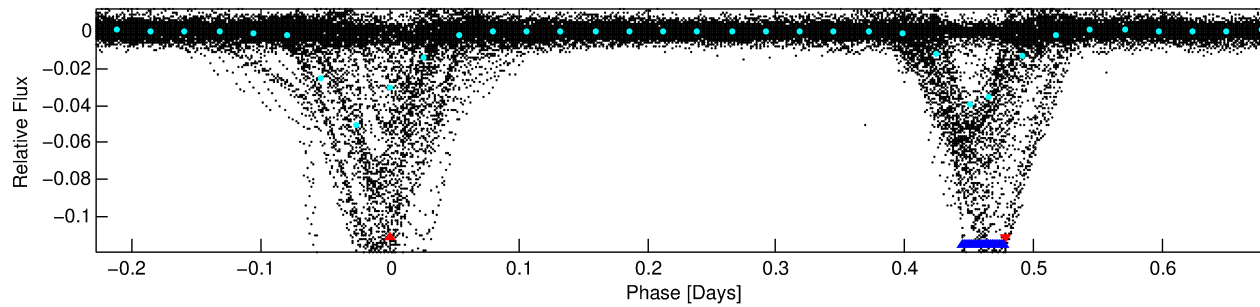
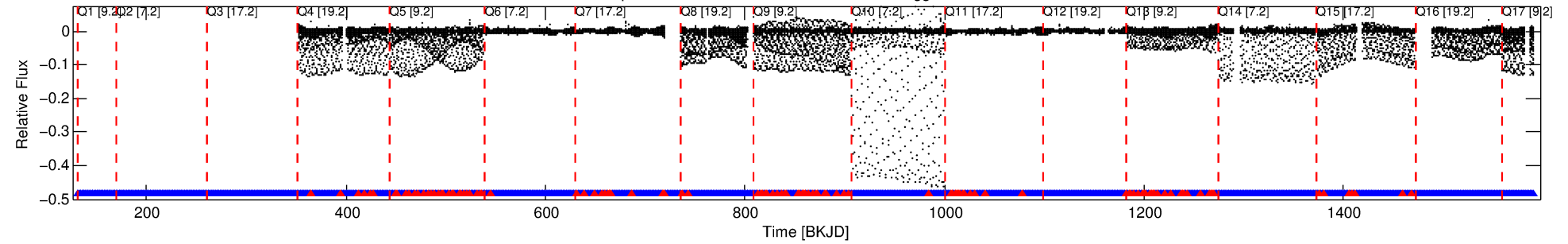
Ephemeris Match Information For 006516874-01

No Significant Match Found

DV One-Page Summary

KIC: 6516874 Candidate: 1 of 2 Period: 0.916 d
KOI: K03824.01 Corr: 0.835

Kp: 15.90 R*: 0.97 Rs Teff: 6046.0 K Logg: 4.49 Fe/H: -0.080



TPS TCE Results:

Period = 0.91634 d
Epoch = 131.7766 BKJD

DV fit results are unavailable

DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]

LongPeriod-sig: N/A

ModelChiSquare2-sig: N/A

ModelChiSquareGof-sig: N/A

Bootstrap-pfa: N/A

RollingBand-fgt: 0.89 [1079/1211]

GhostDiagnostic-chr: N/A

Centroid-sig: 0.0%

Centroid-so: 0.154 arcsec [75.88σ]

OotOffset-rm: 0.045 arcsec [0.67σ]

KicOffset-rm: 0.118 arcsec [1.75σ]

OotOffset-st: 3/3/4/4 [14]

KicOffset-st: 3/3/4/4 [14]

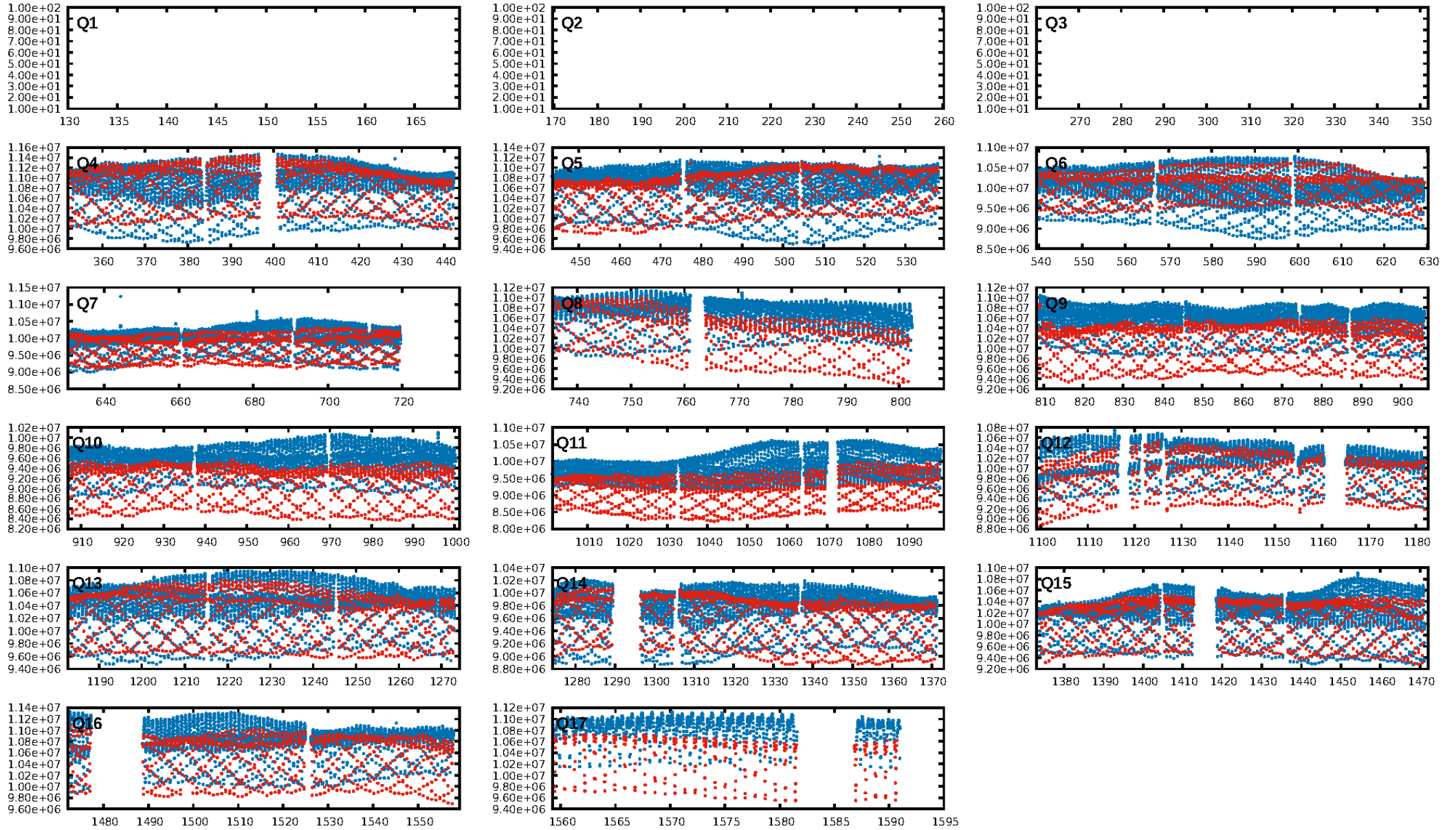
DiffImageQuality-fgm: 1.00 [14/14]

DiffImageOverlap-fno: 1.00 [14/14]

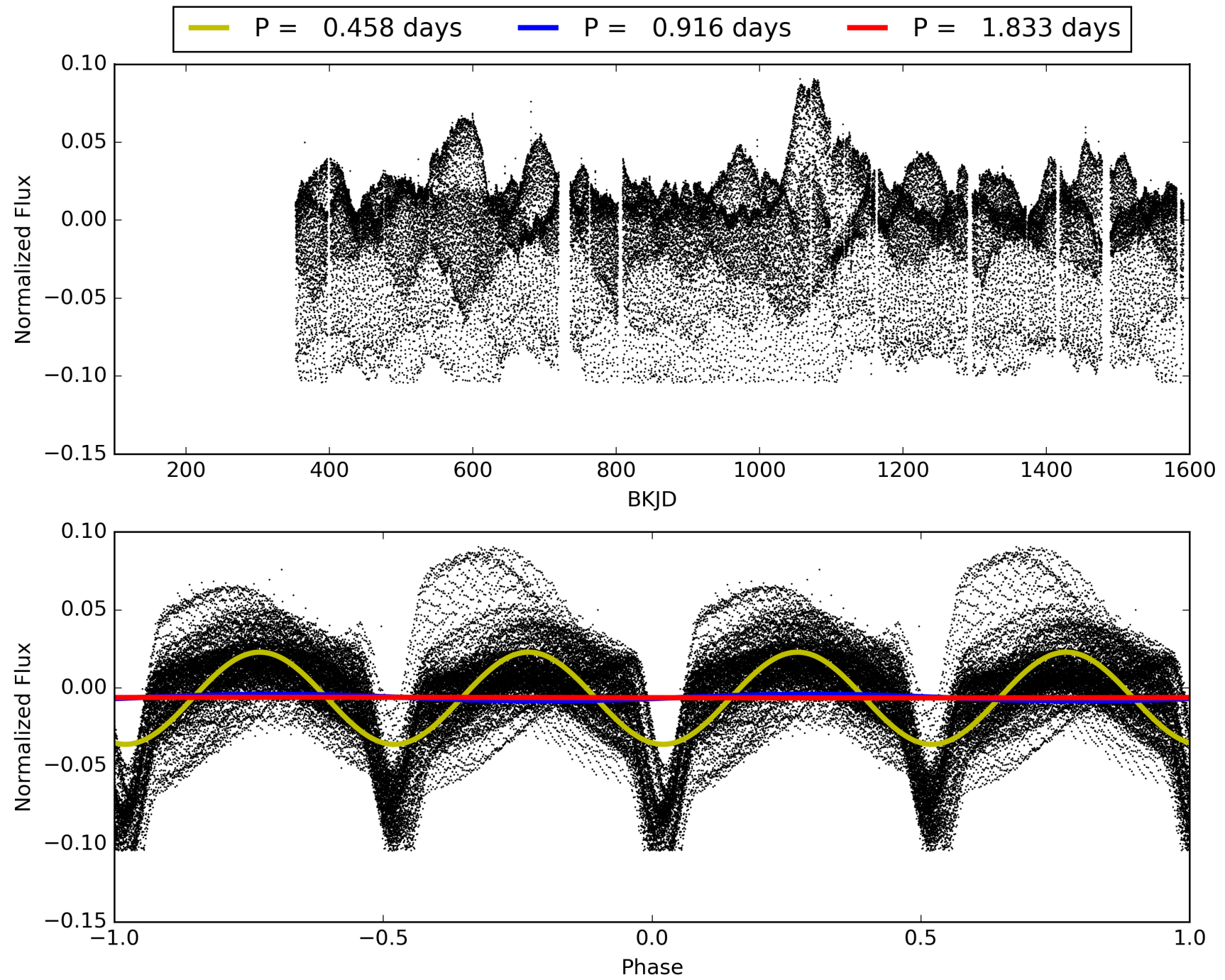
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:42:48 Z

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

TCE 006516874-01, PDC Light Curves

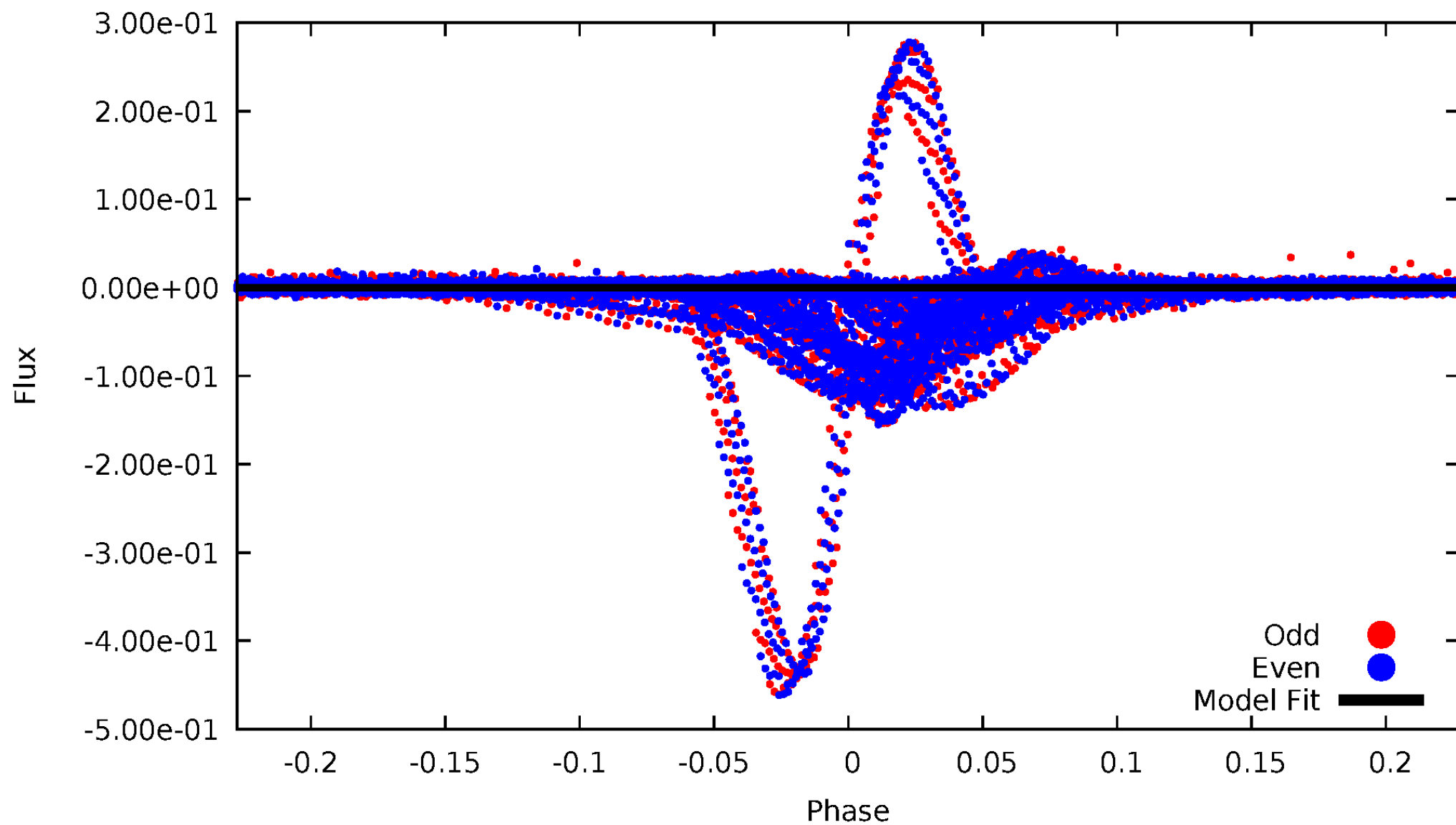


TCE 006516874-01



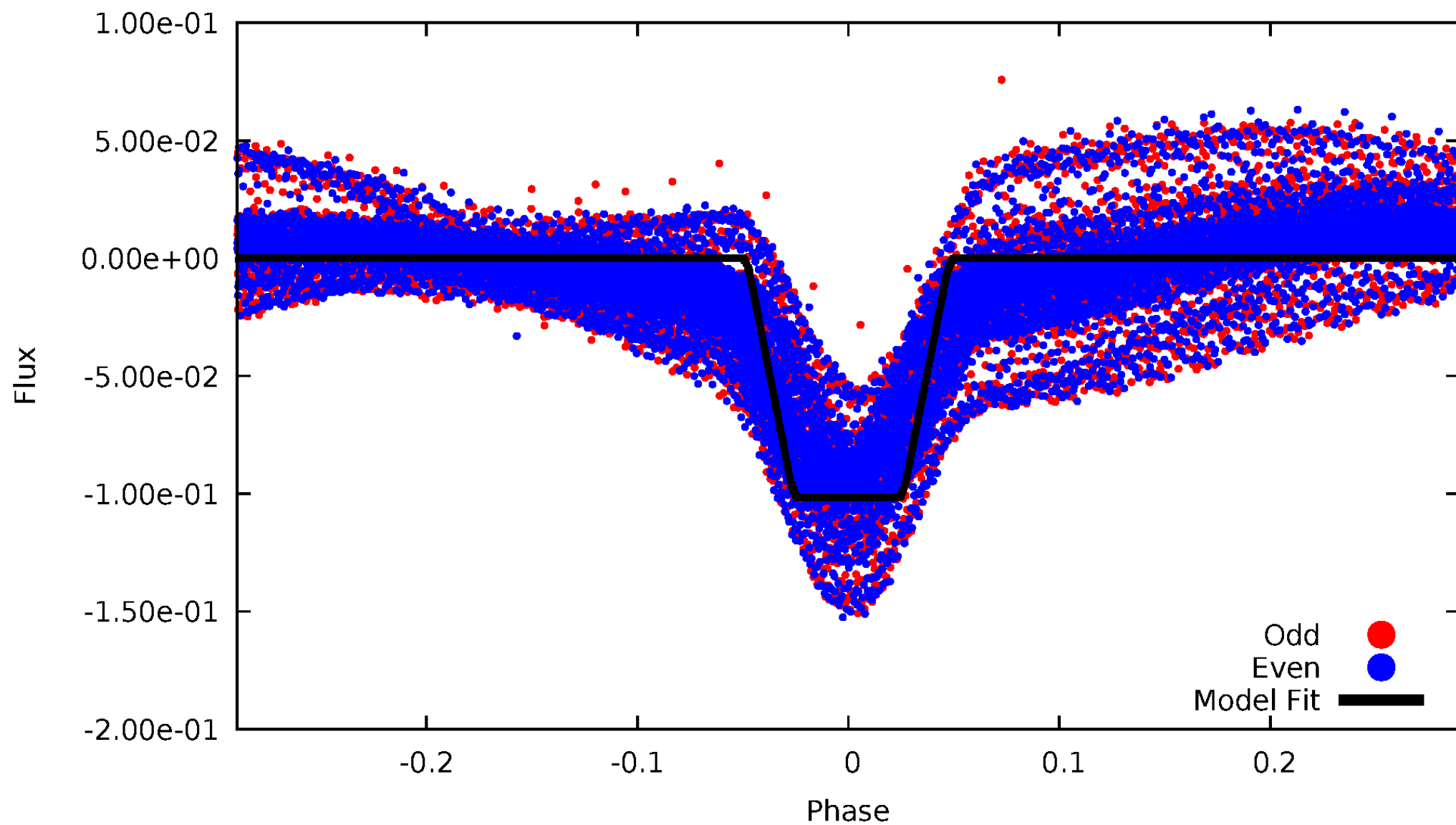
DV Odd/Even

TCE 006516874-01



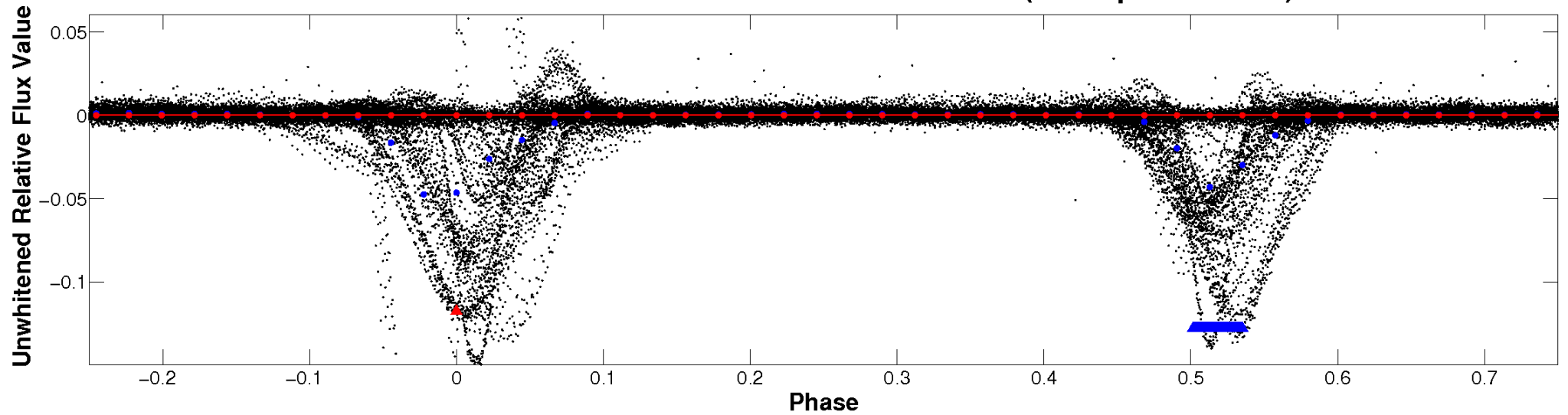
ALT Odd/Even

TCE 006516874-01

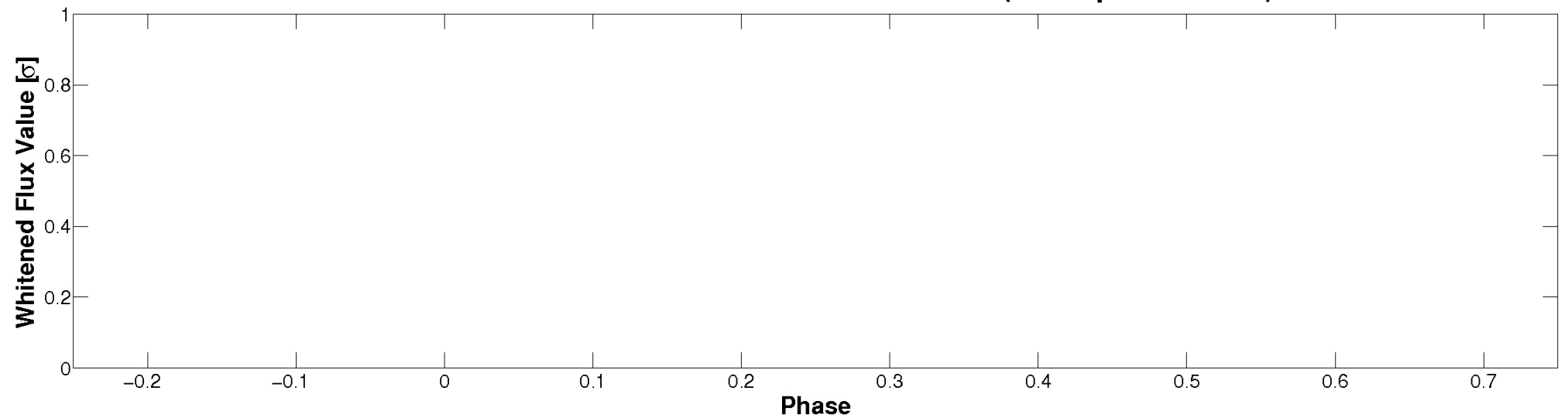


Non-Whitened Vs. Whitened Light Curve

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

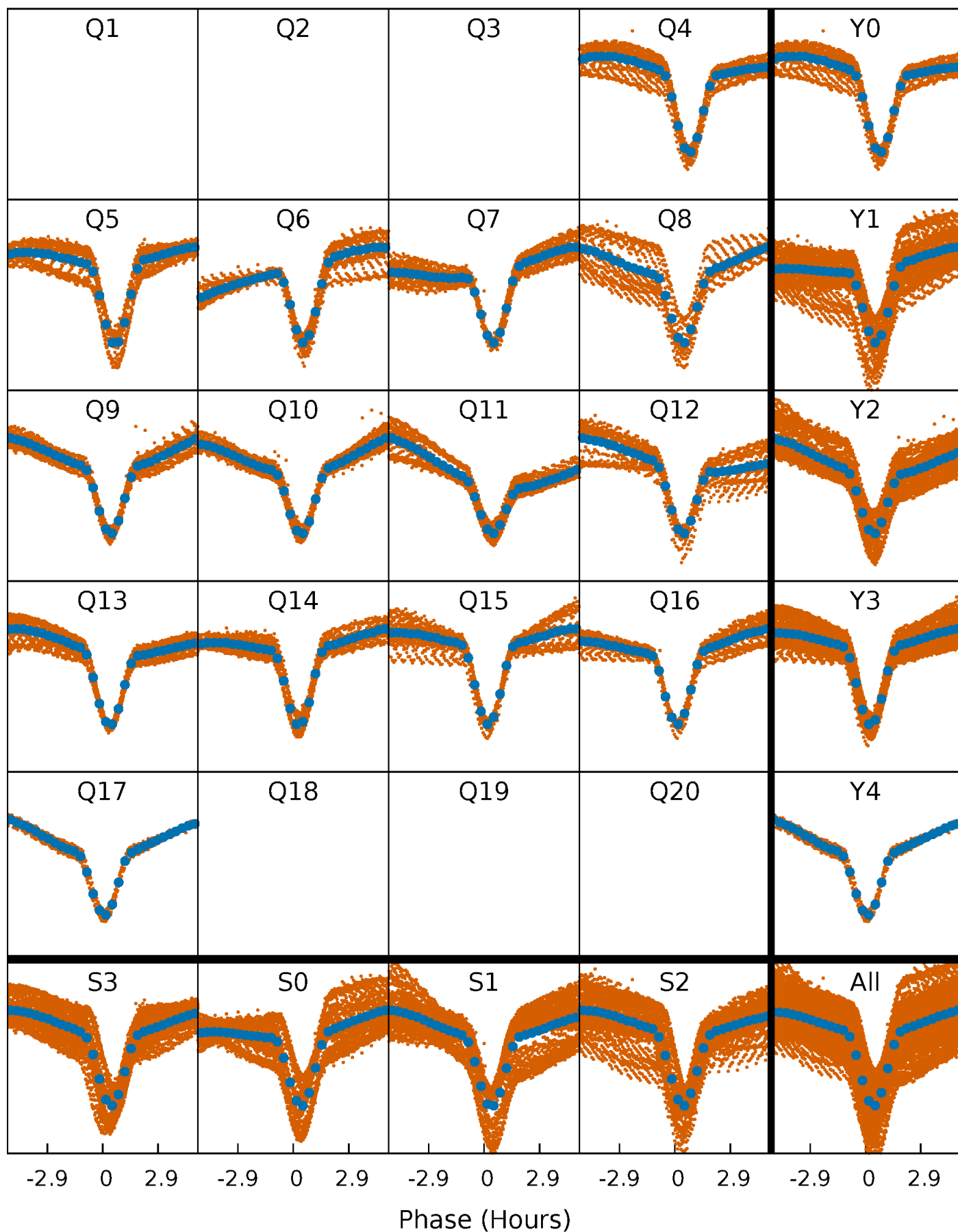


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



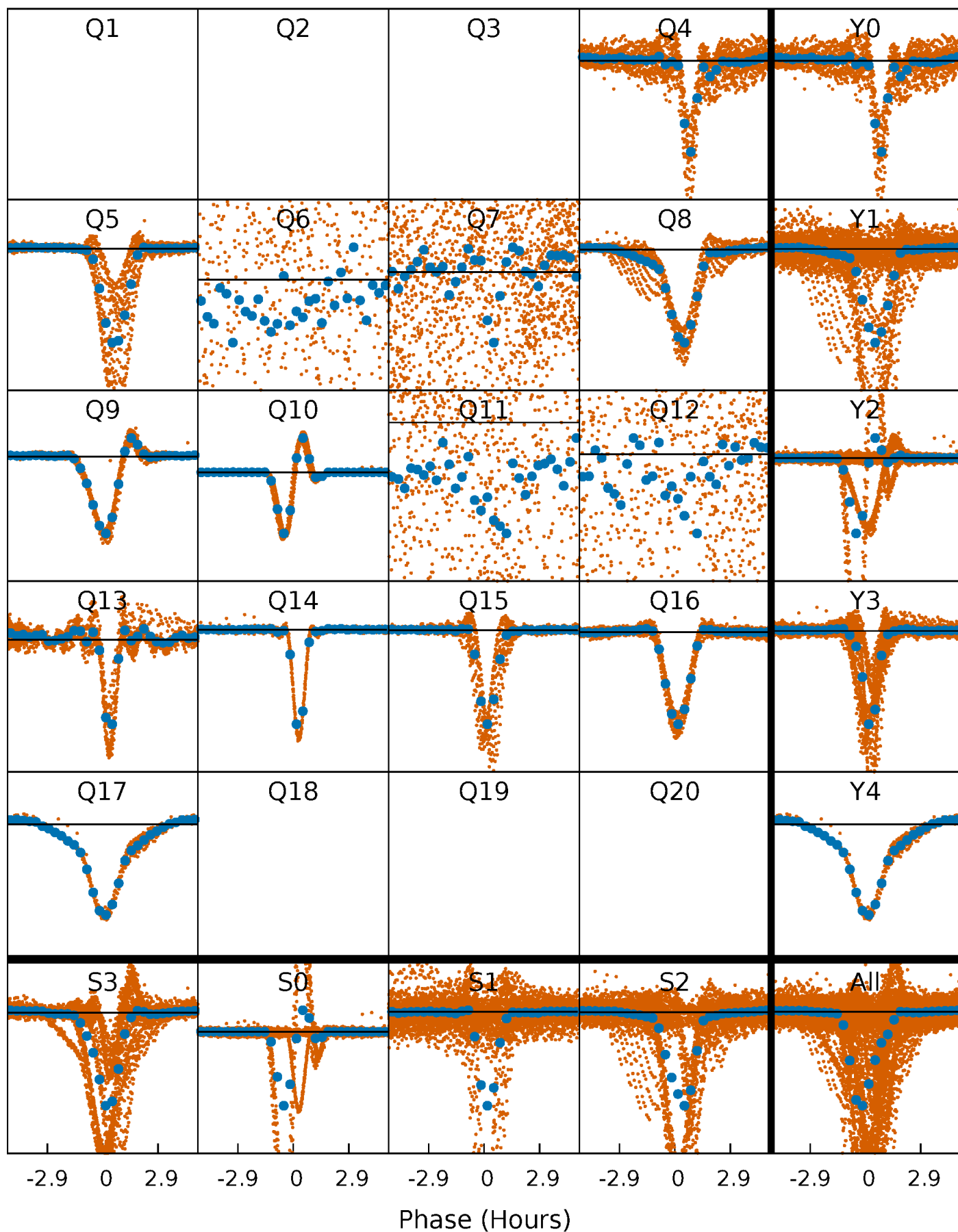
PDC Quarter-Phased Transit Curves

TCE 006516874-01 P= 0.916343 Days $T_0=131.776619$ (BKJD)



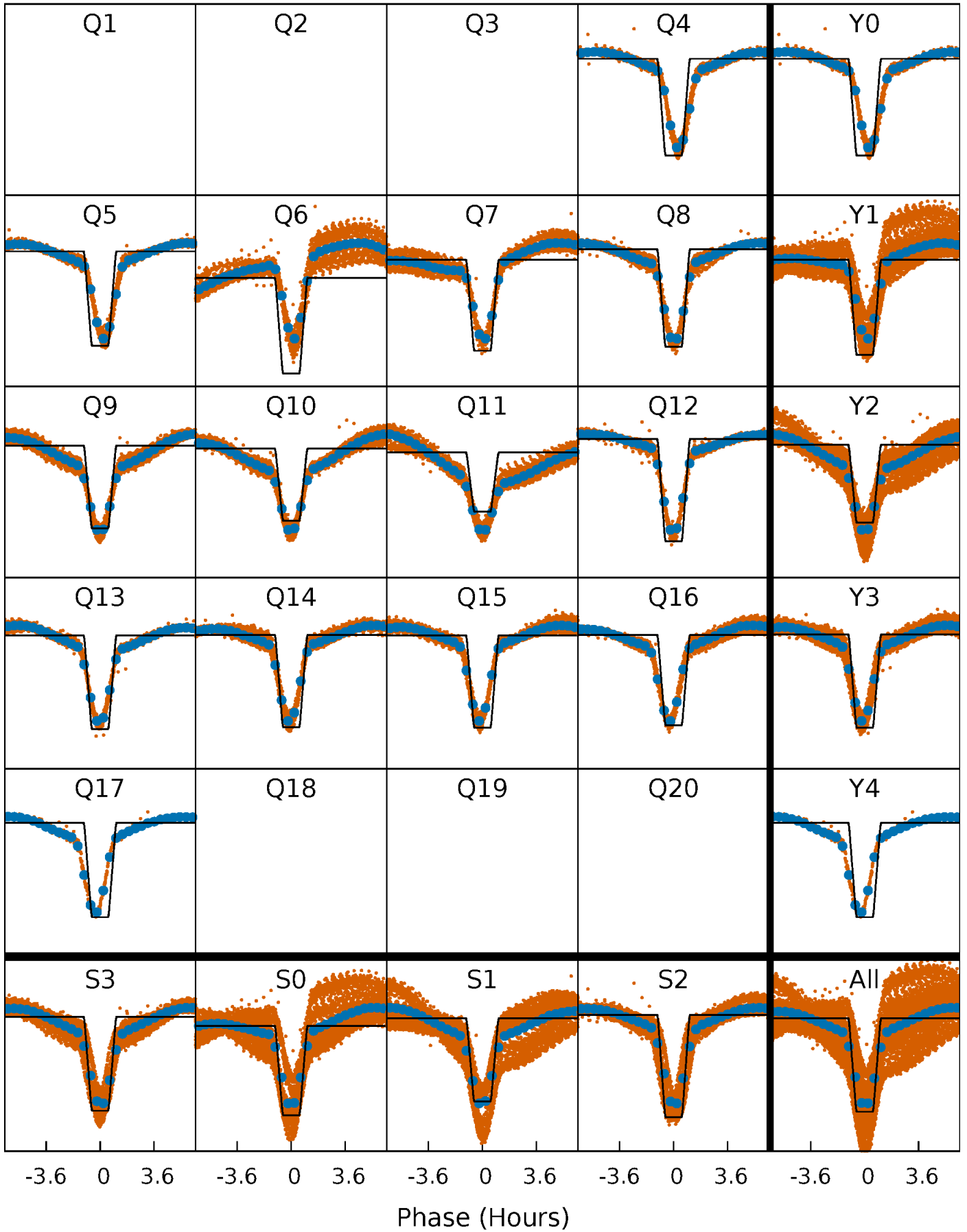
DV Quarter-Phased Transit Curves

TCE 006516874-01 P= 0.916343 Days $T_0=131.776619$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

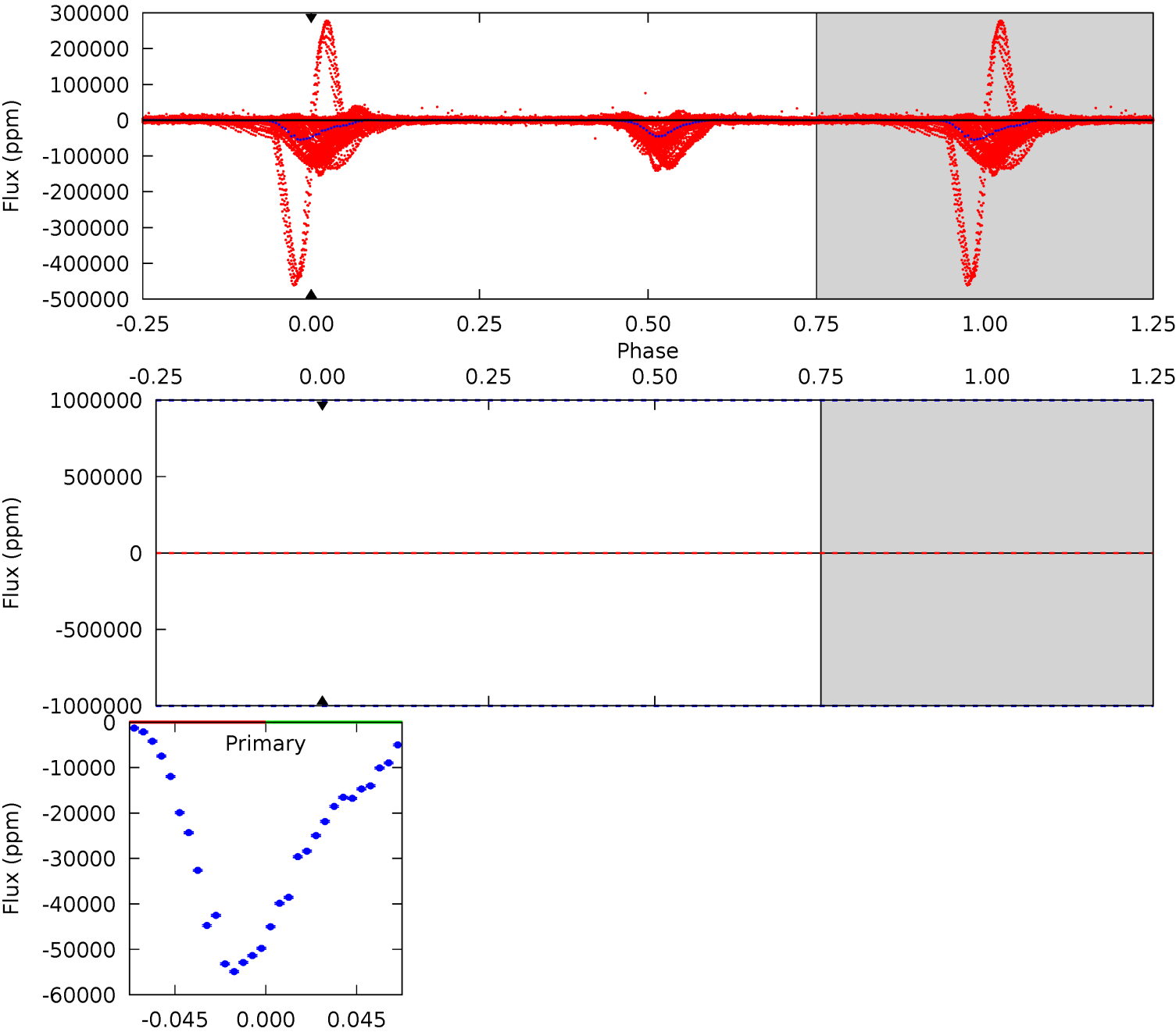
TCE 006516874-01 P= 0.916343 Days $T_0=131.793881$ (BKJD)



DV Model-Shift Uniqueness Test

006516874-01, P = 0.916343 Days, E = 131.776619 Days

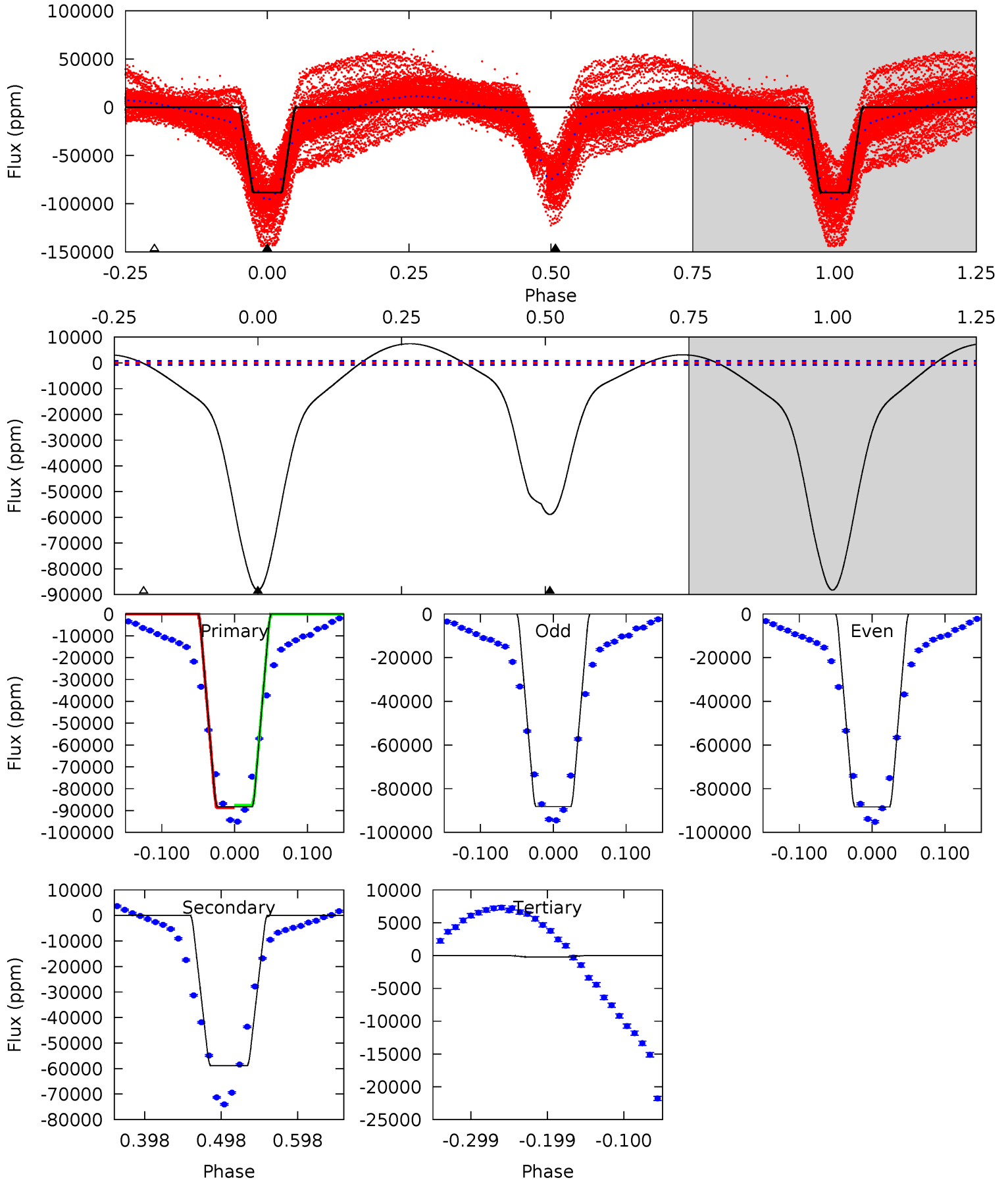
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

006516874-01, P = 0.916343 Days, E = 131.793881 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
503.2	335.7	1.31	0	4.57	1.65	32.4	501.9	503.2	334.4	335.7	0.30	1.04	0.08	3.10



Stellar Parameters For KIC 006516874

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6046^{+189}_{-232}	$4.486^{+0.052}_{-0.208}$	$-0.080^{+0.300}_{-0.300}$	$0.972^{+0.300}_{-0.100}$	$1.053^{+0.139}_{-0.139}$	$1.615^{+0.449}_{-0.837}$
	+3%/-4%	+1%/-5%	+375%/-375%	+31%/-10%	+13%/-13%	+28%/-52%
Source	KIC0	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 006516874-01 / KOI 3824.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$20.22^{+11.33}_{-10.84}$	2741^{+190}_{-129}	-3580^{+12571}_{-5375}	$-0.698^{+61.062}_{-51.007}$
Alt.	-58867 ± 175	$35.74^{+12.45}_{-11.39}$	2730^{+210}_{-131}	5344^{+1035}_{-652}	$9.462^{+10.694}_{-4.222}$

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 $A_{obs} \gg 1.0$

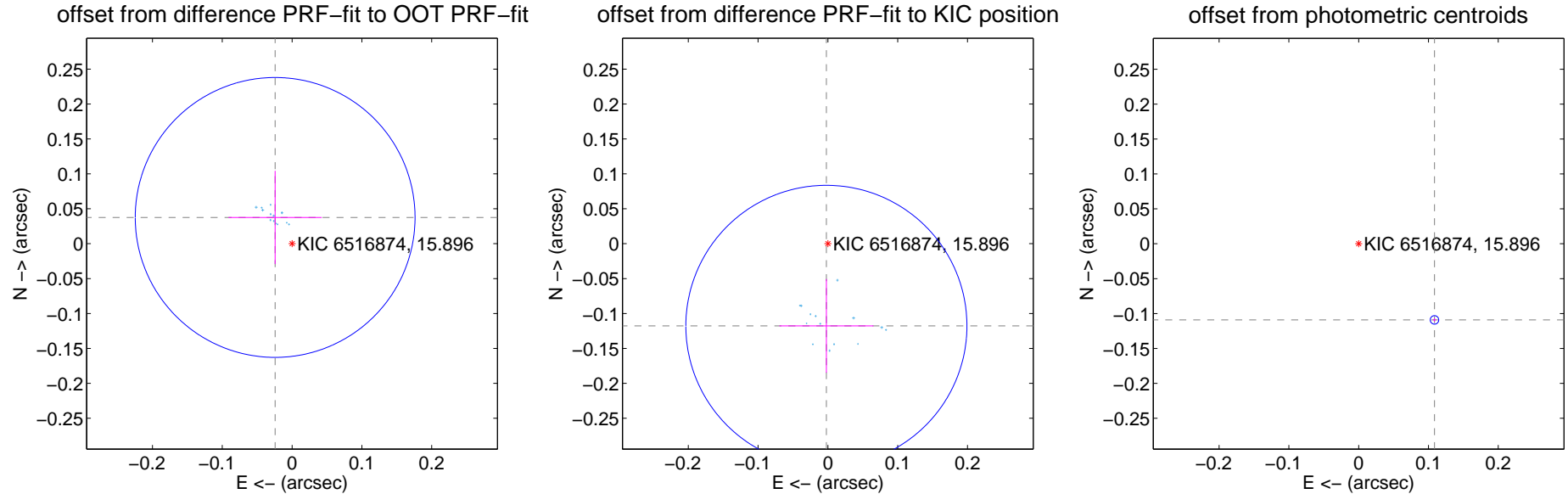
DV Centroid Data

Supplemental centroid analysis for 006516874-01. Kepler magnitude: 15.90. Transit SNR -1.00

There are 14 quarters with good PRF difference image offsets

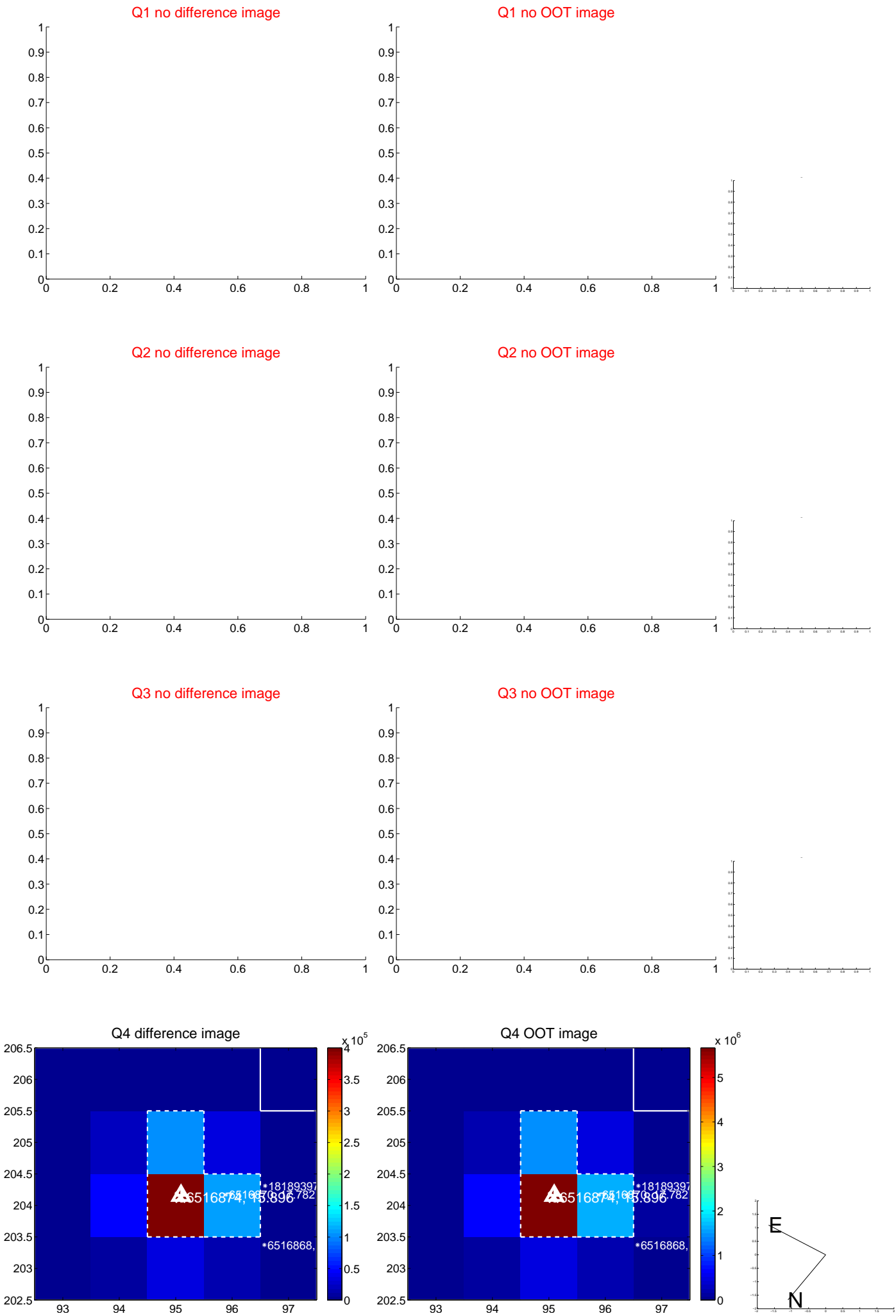
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.045 ± 0.067	0.67	0.024 ± 0.067	0.038 ± 0.067
PRF-fit source offset from KIC position	0.118 ± 0.067	1.75	0.002 ± 0.067	-0.118 ± 0.067
photometric centroid source offset	0.15 ± 0.00	75.88	-0.11 ± 0.00	-0.11 ± 0.00

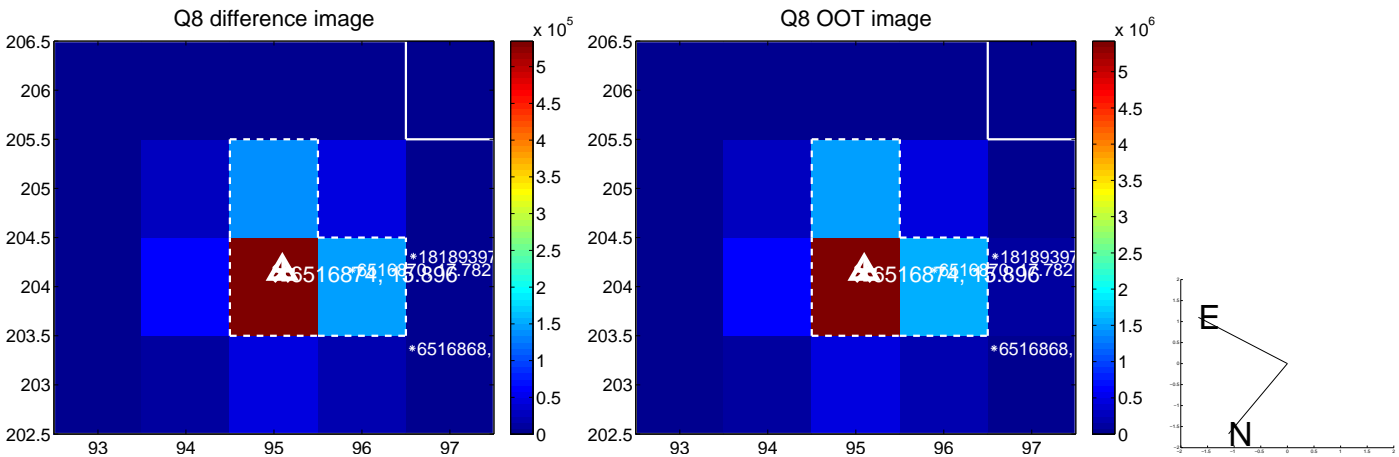
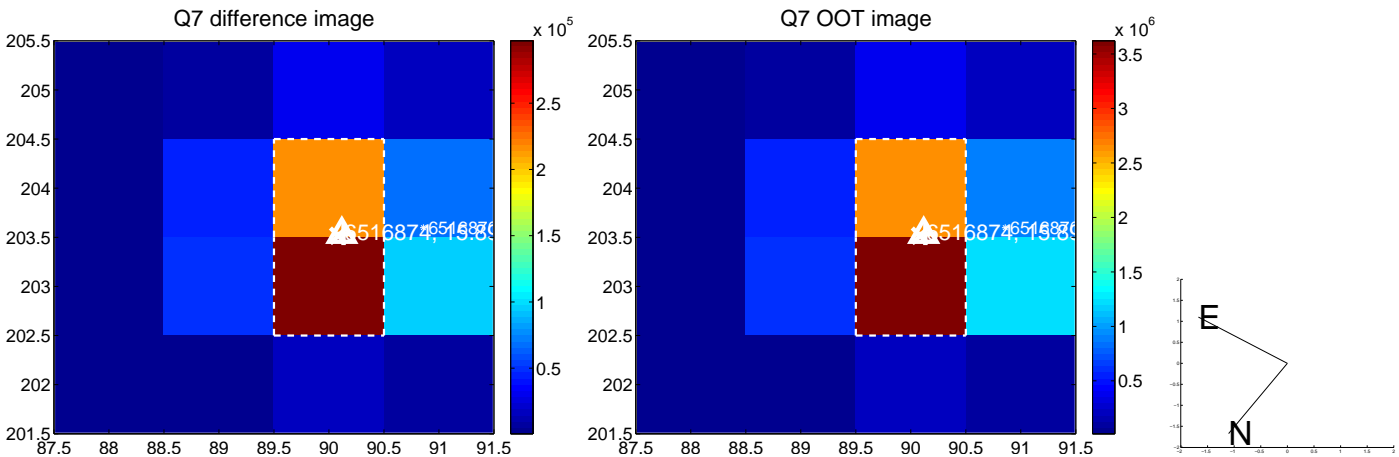
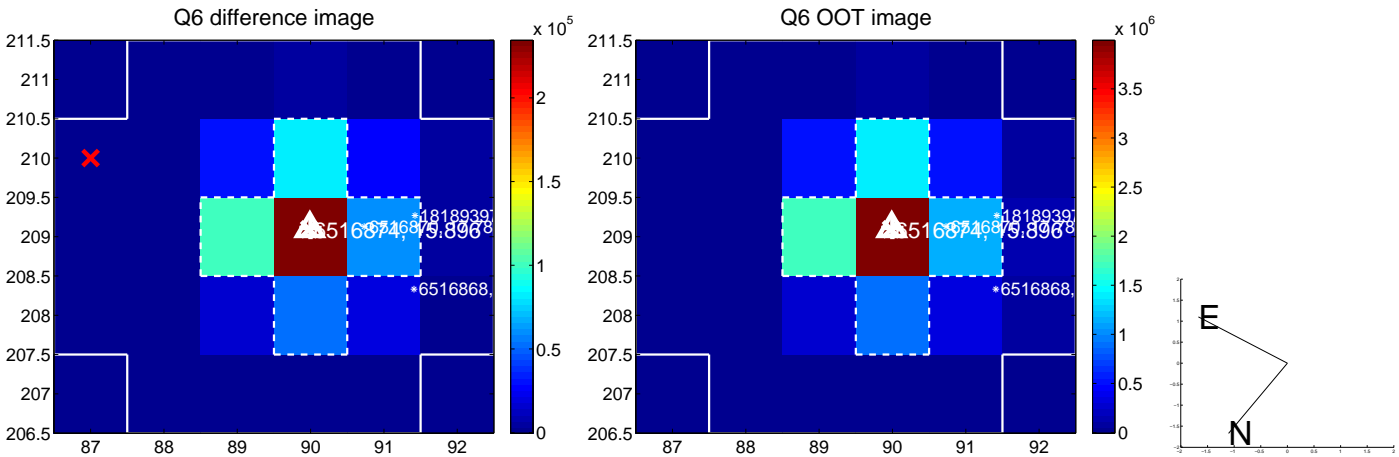
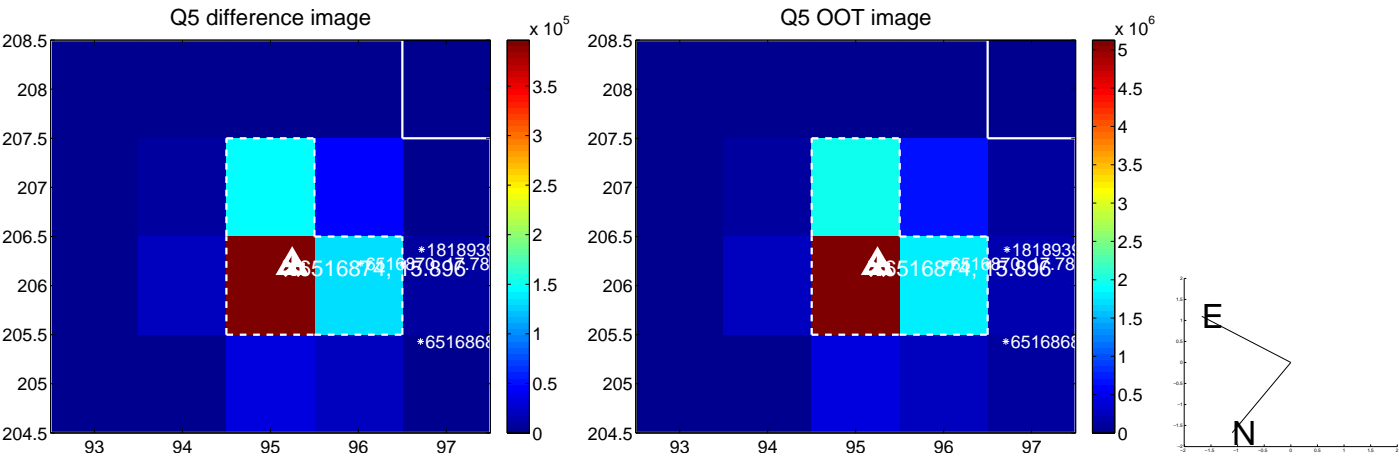


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

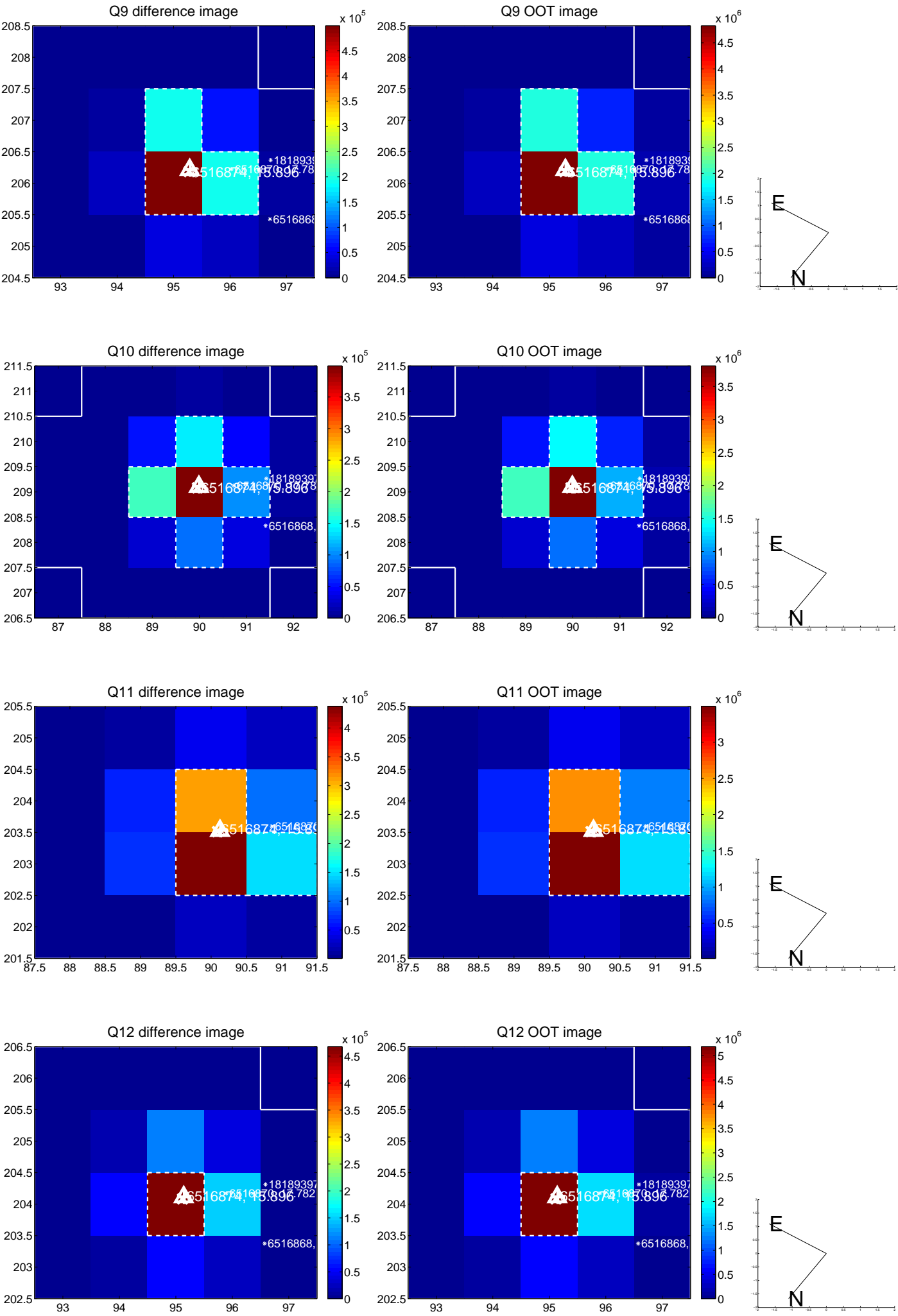
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



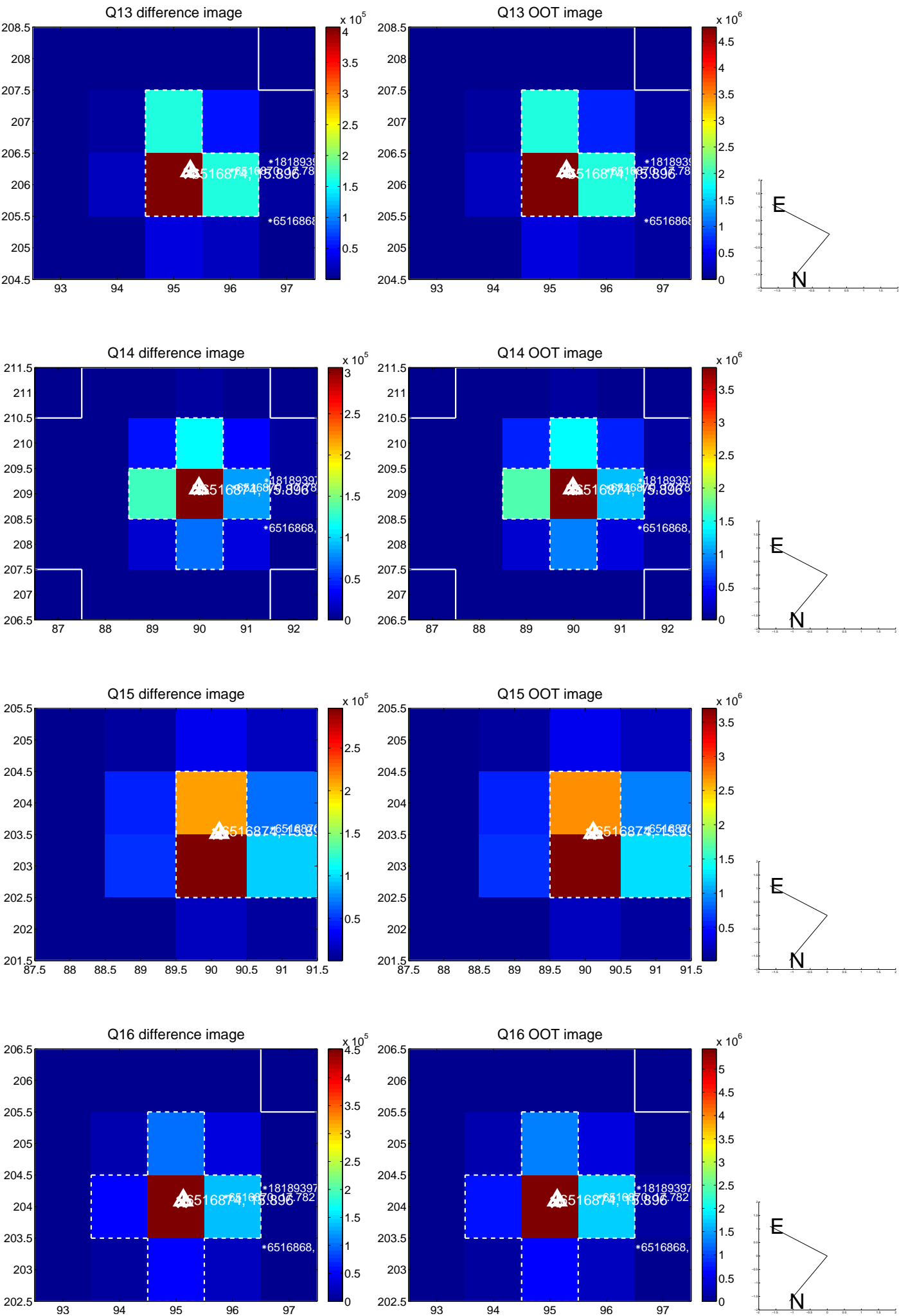
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



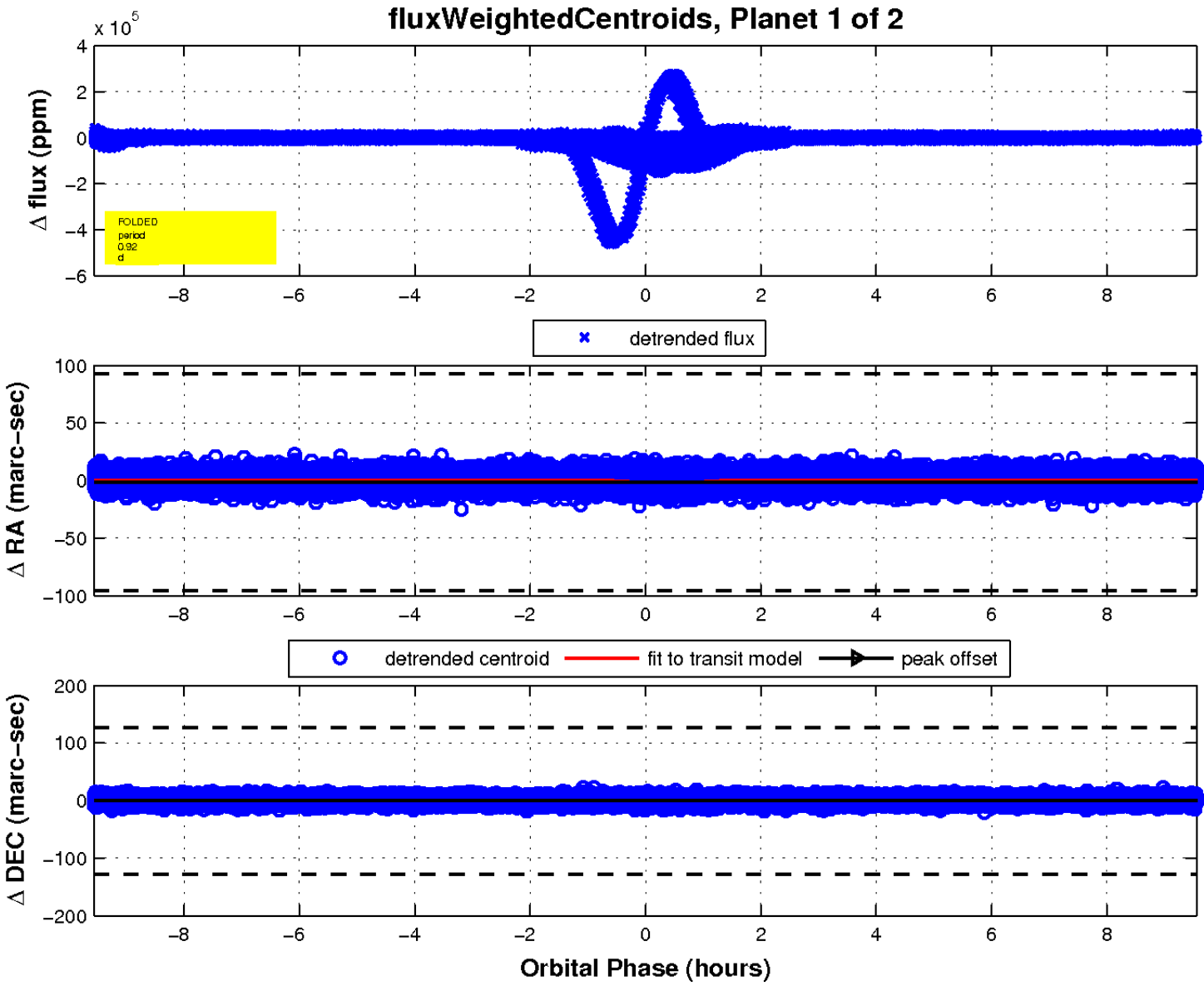
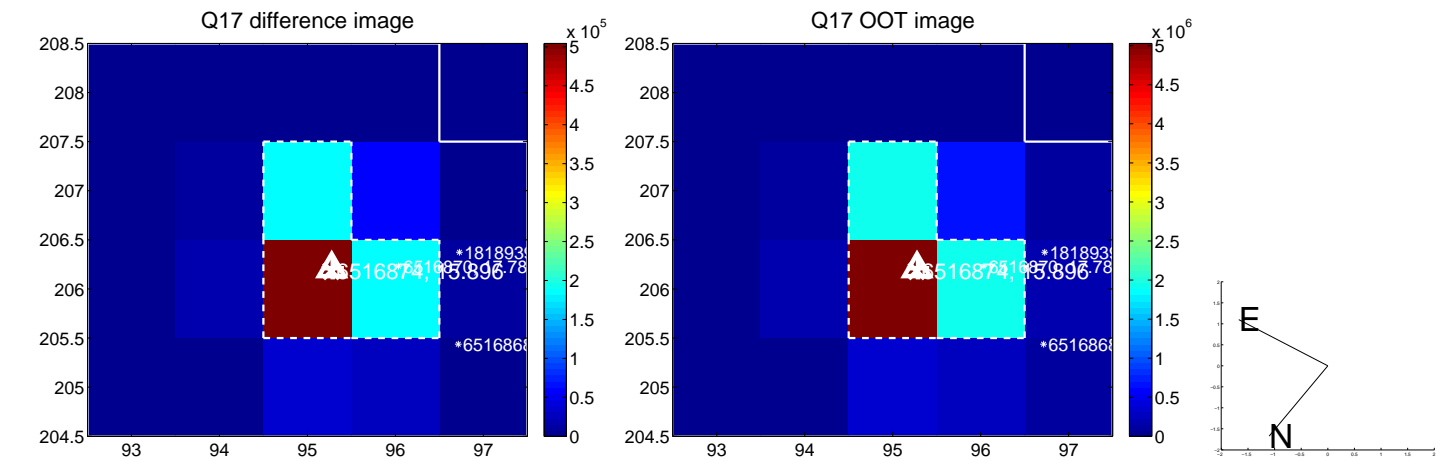
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

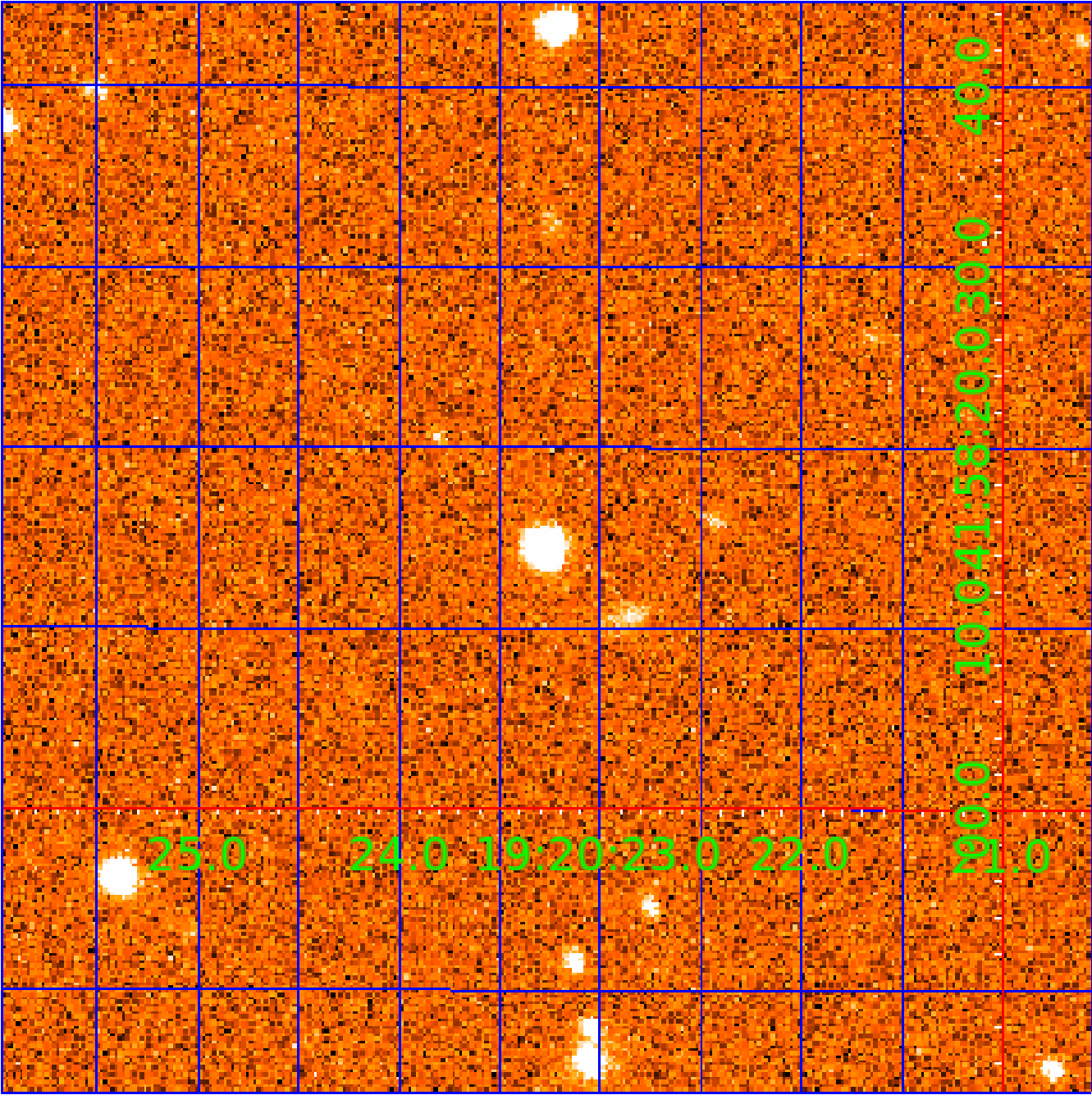


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006516874

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})
006516874-01	OBS	3824.01	0.916343	131.776619	36887.0	2.500	803.9	-1.0	0.97	6046	18.68	3199.88
006516874-02	OBS	No	0.916323	132.267244	50077.5	1.500	954.5	-1.0	0.97	6046	21.87	3199.97

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006516874-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
006516874-02	OBS	FP	0.00	1	0	0	0	SAME_NTL_PERIOD—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.

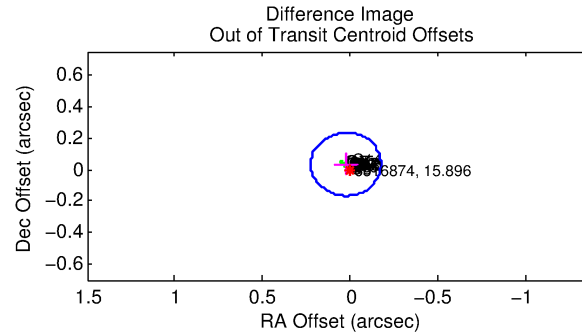
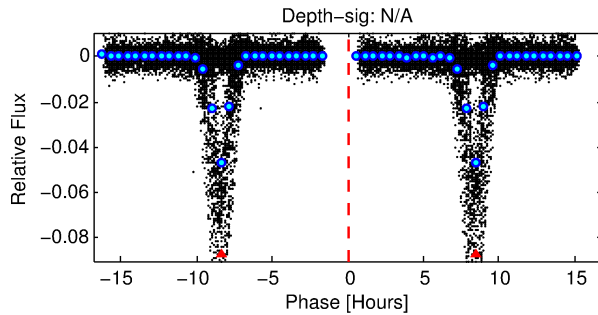
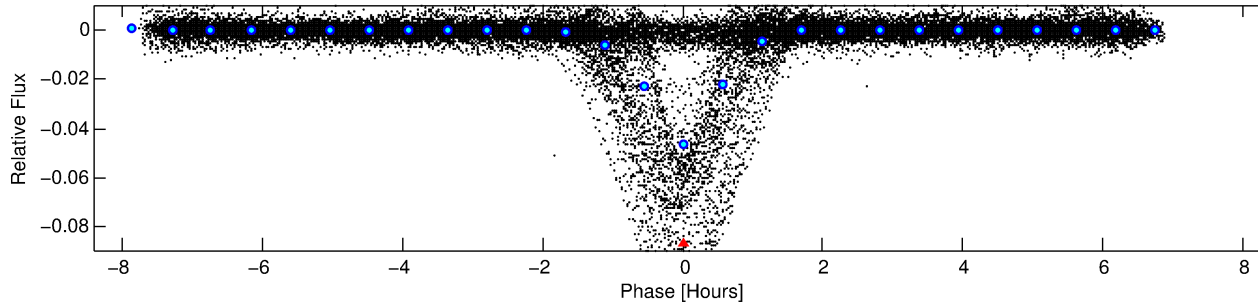
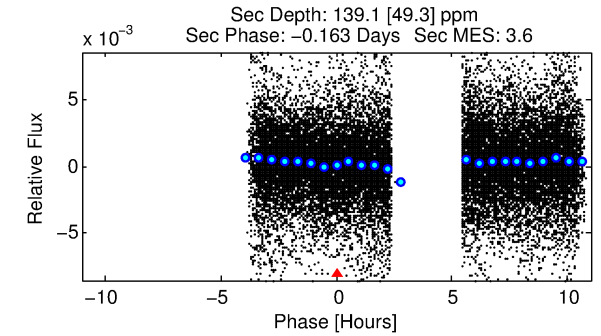
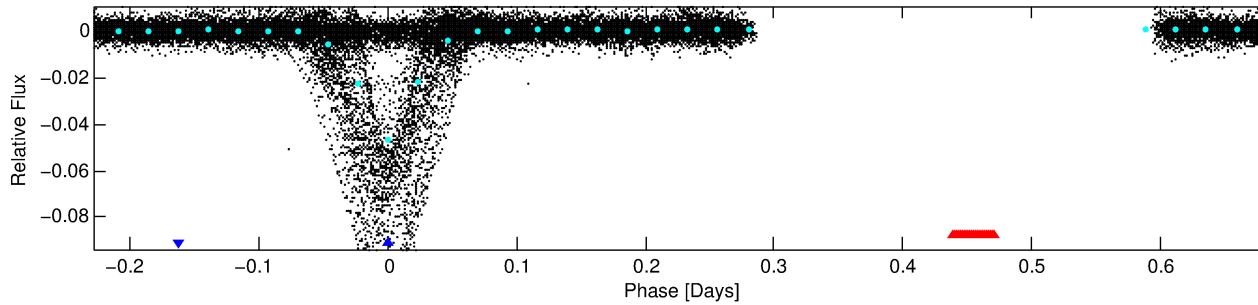
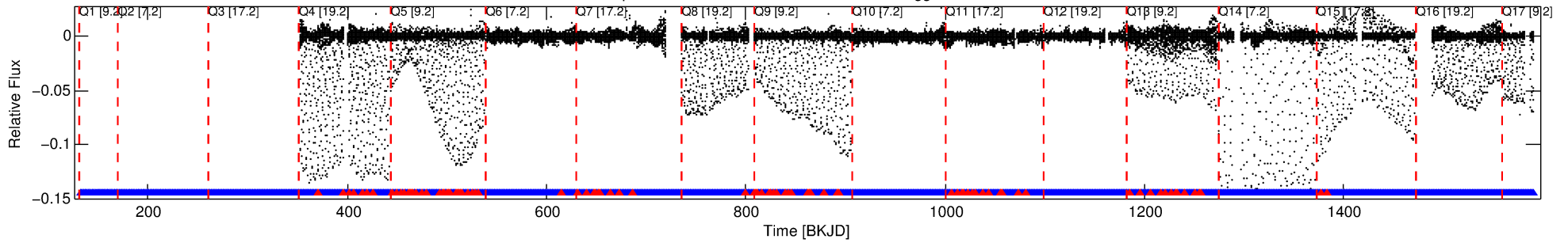
Ephemeris Match Information For 006516874-02

No Significant Match Found

DV One-Page Summary

KIC: 6516874 Candidate: 2 of 2 Period: 0.916 d
KOI: K03824 Corr: No Ephemeris Match

Kp: 15.90 R*: 0.97 Rs Teff: 6046.0 K Logg: 4.49 Fe/H: -0.080



TPS TCE Results:

Period = 0.91632 d
Epoch = 132.2672 BKJD

DV fit results are unavailable

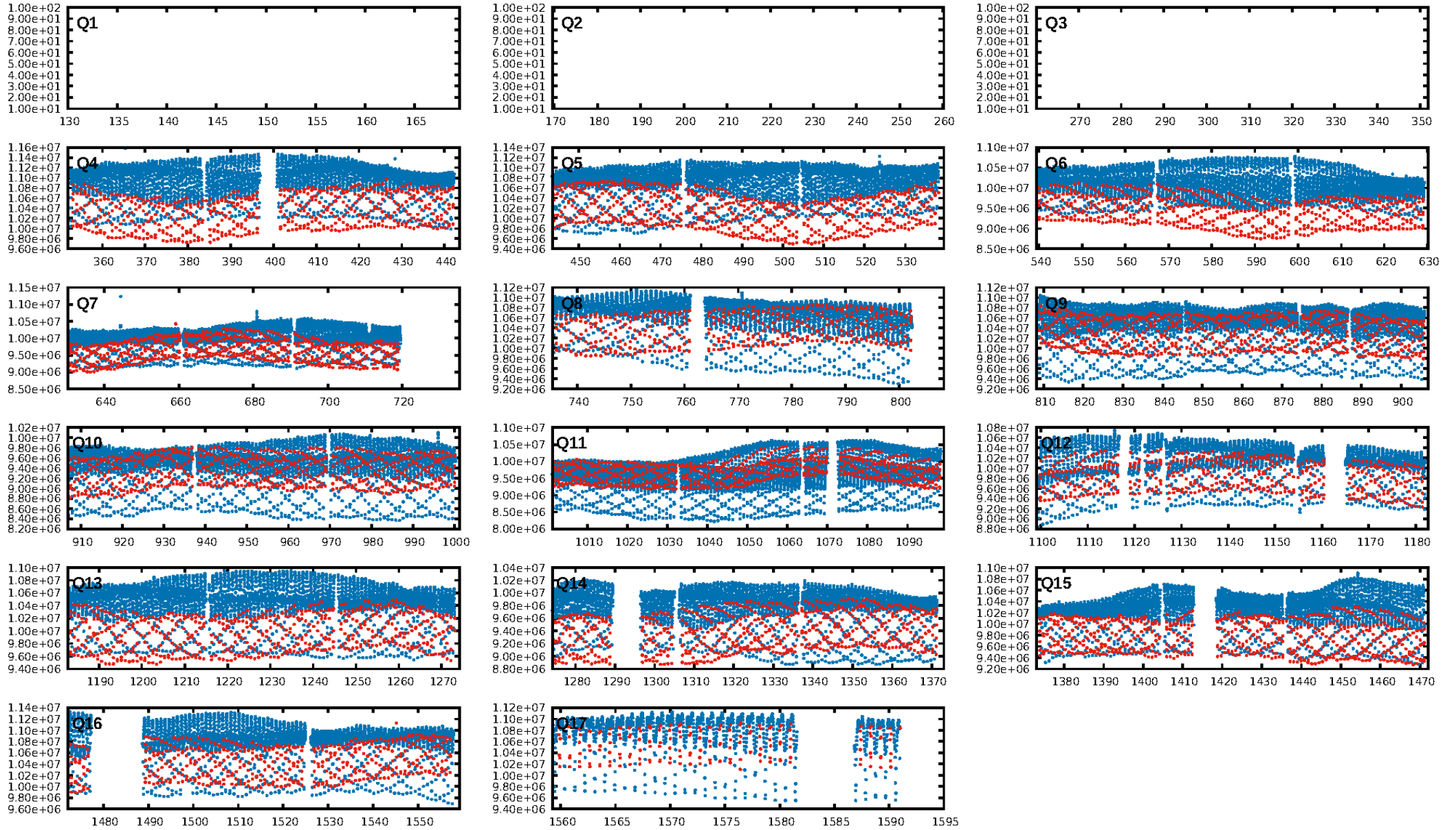
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.92 [1111/1208]
GhostDiagnostic-chr: N/A
Centroid-sig: 53.6%
Centroid-so: 0.167 arcsec [64.42σ]
OotOffset-rm: 0.043 arcsec [0.64σ]
KicOffset-rm: 0.118 arcsec [1.75σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 1.00 [14/14]
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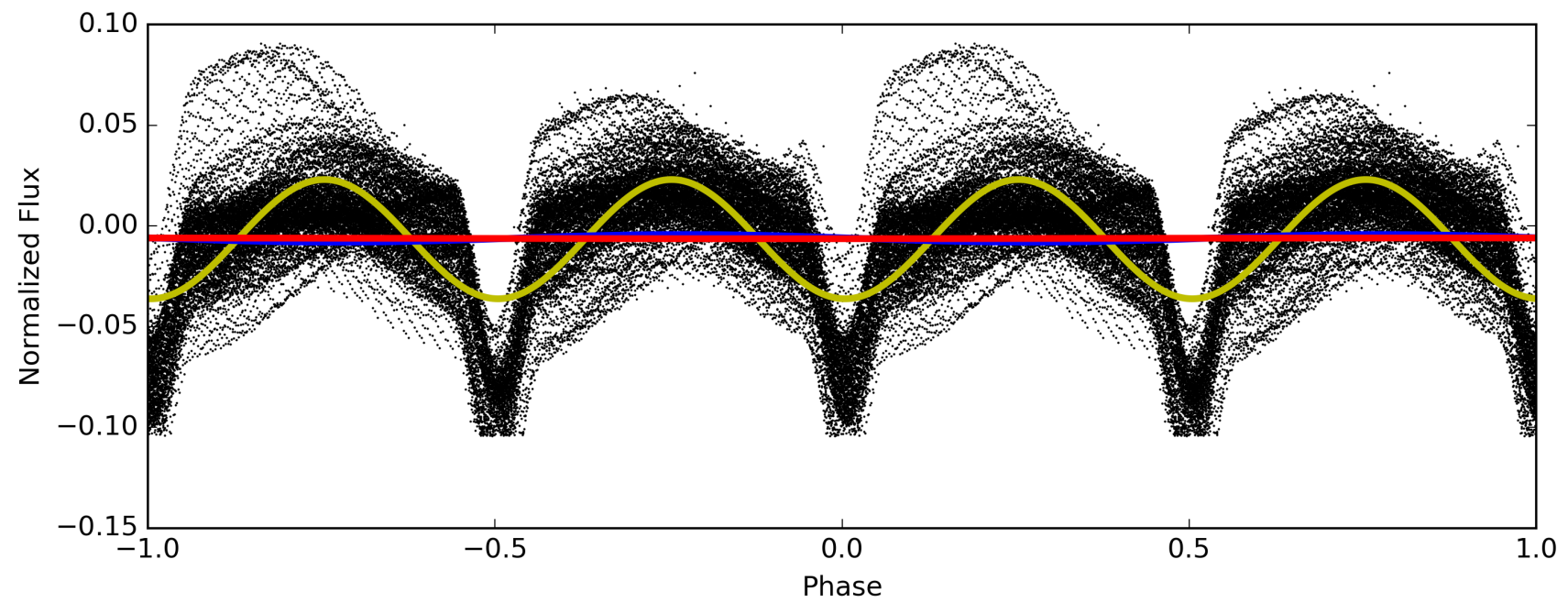
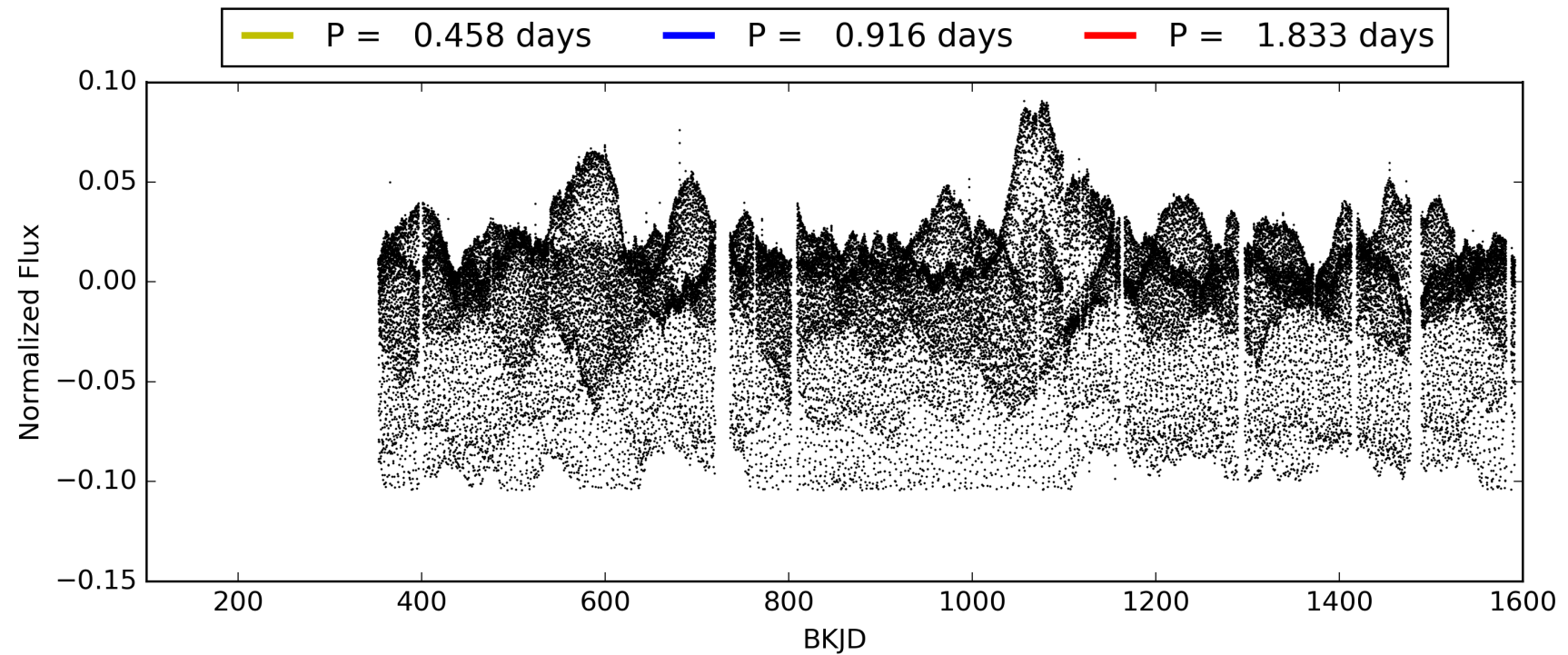
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:42:56 Z

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

TCE 006516874-02, PDC Light Curves

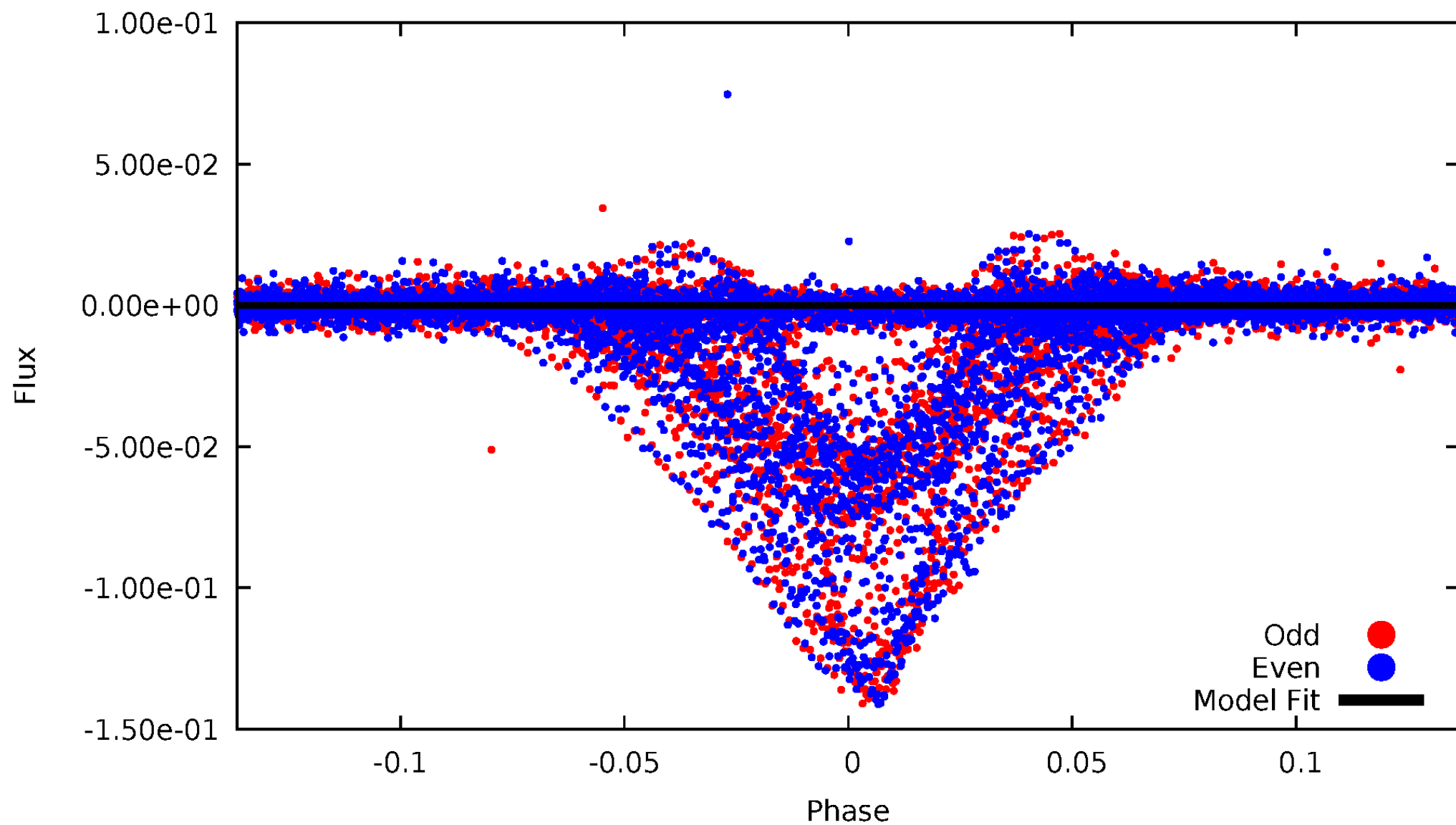


TCE 006516874-02



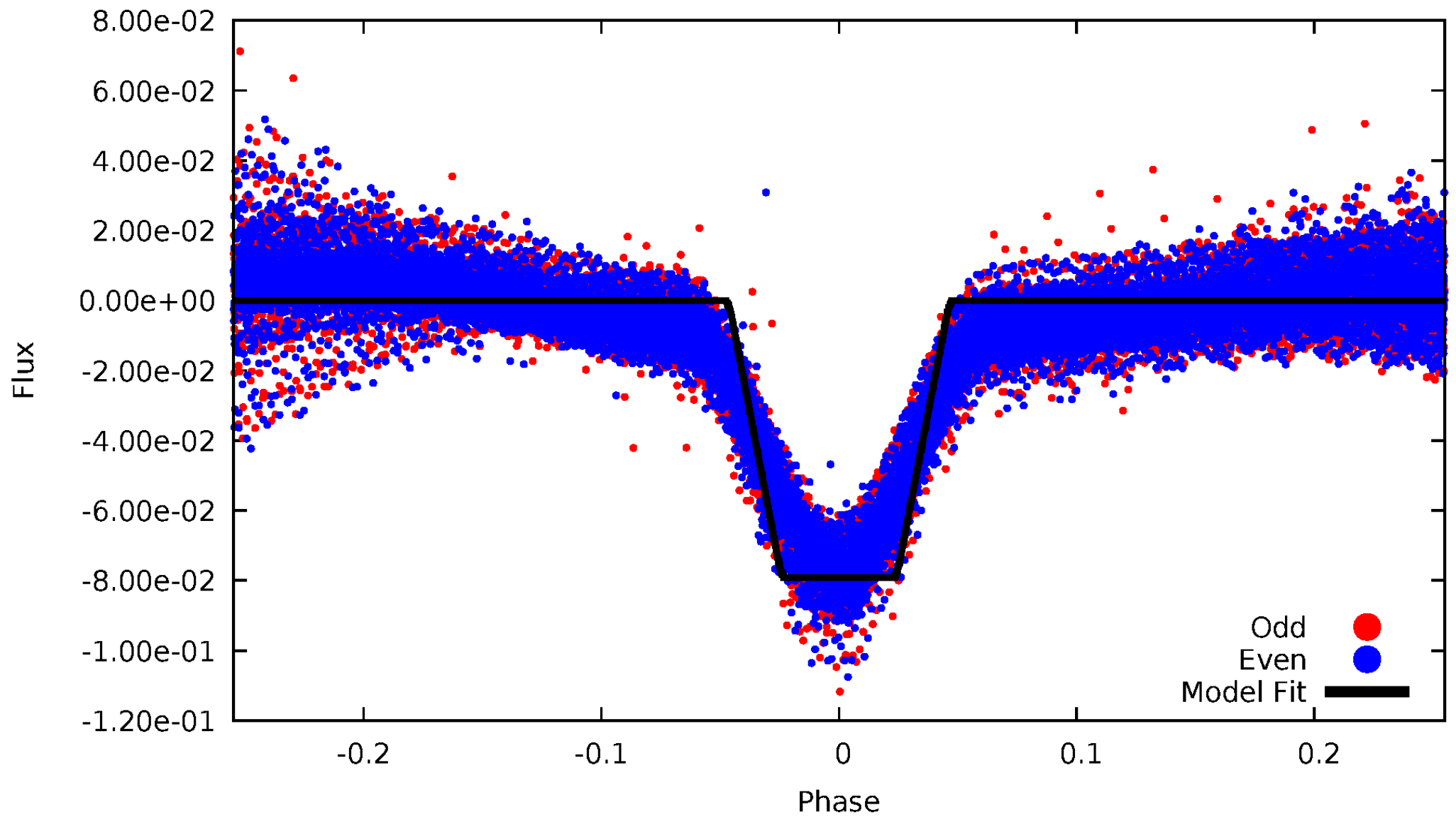
DV Odd/Even

TCE 006516874-02



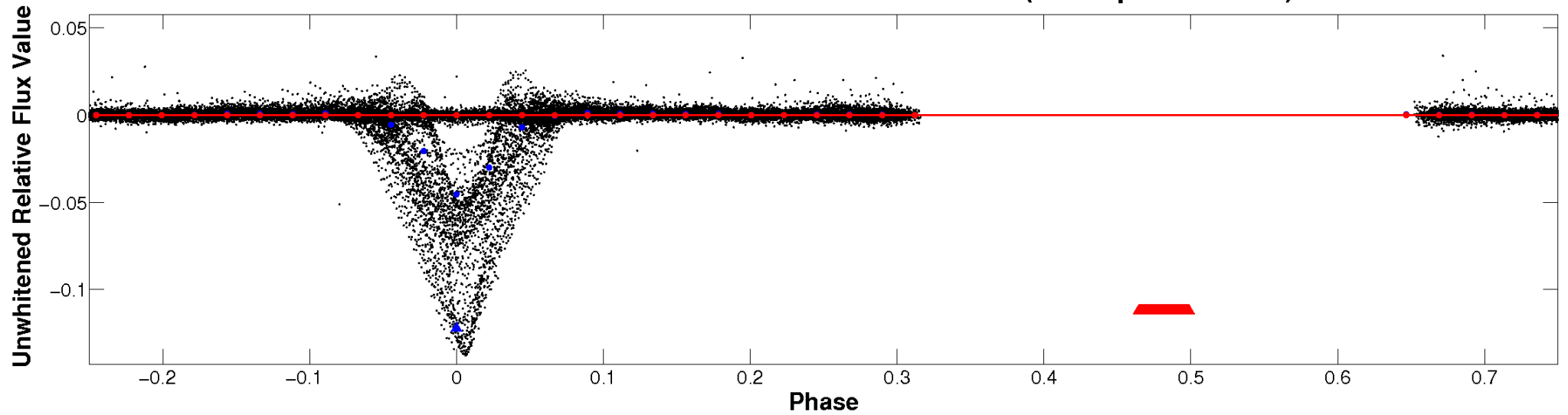
ALT Odd/Even

TCE 006516874-02



Non-Whitened Vs. Whitened Light Curve

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

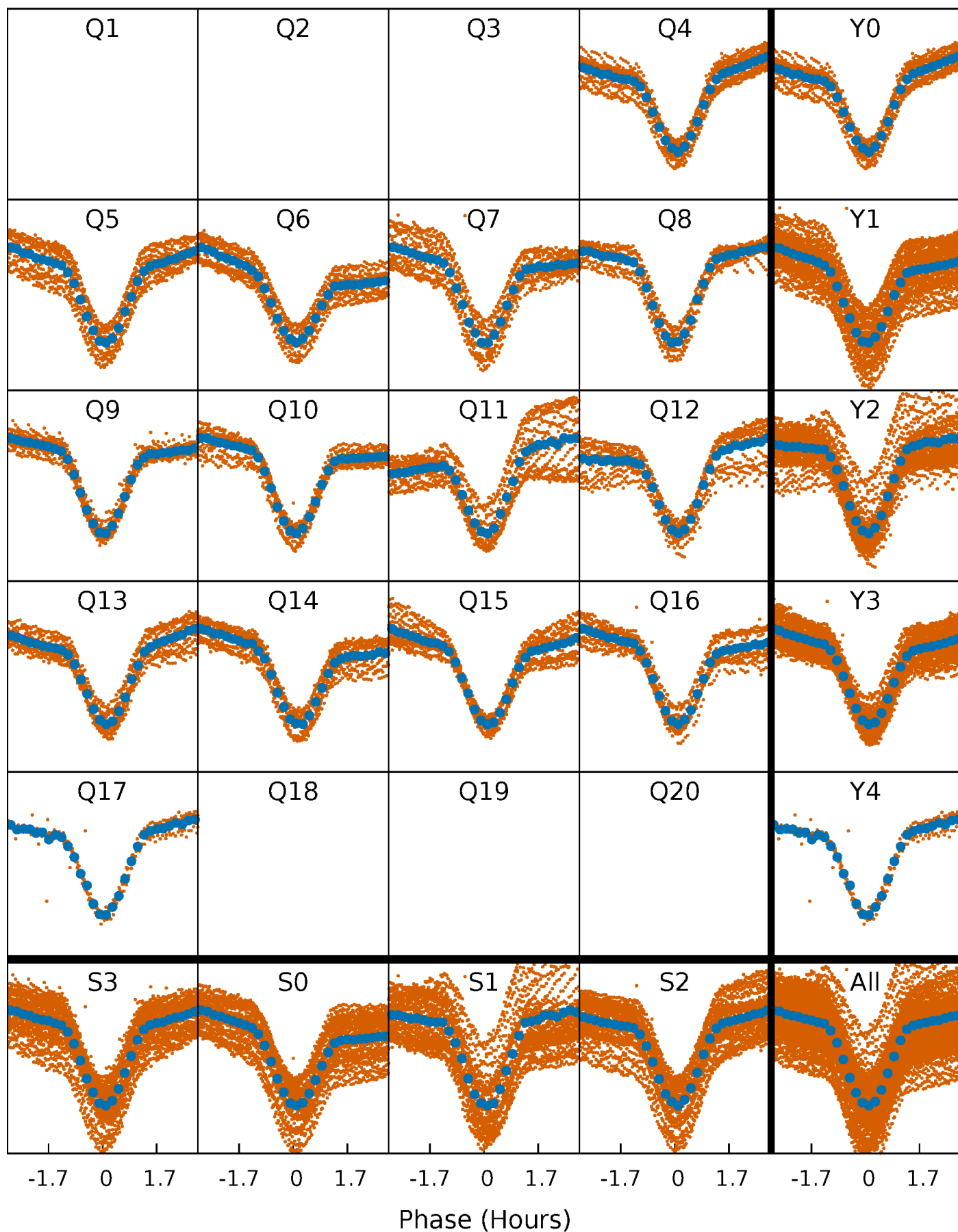


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



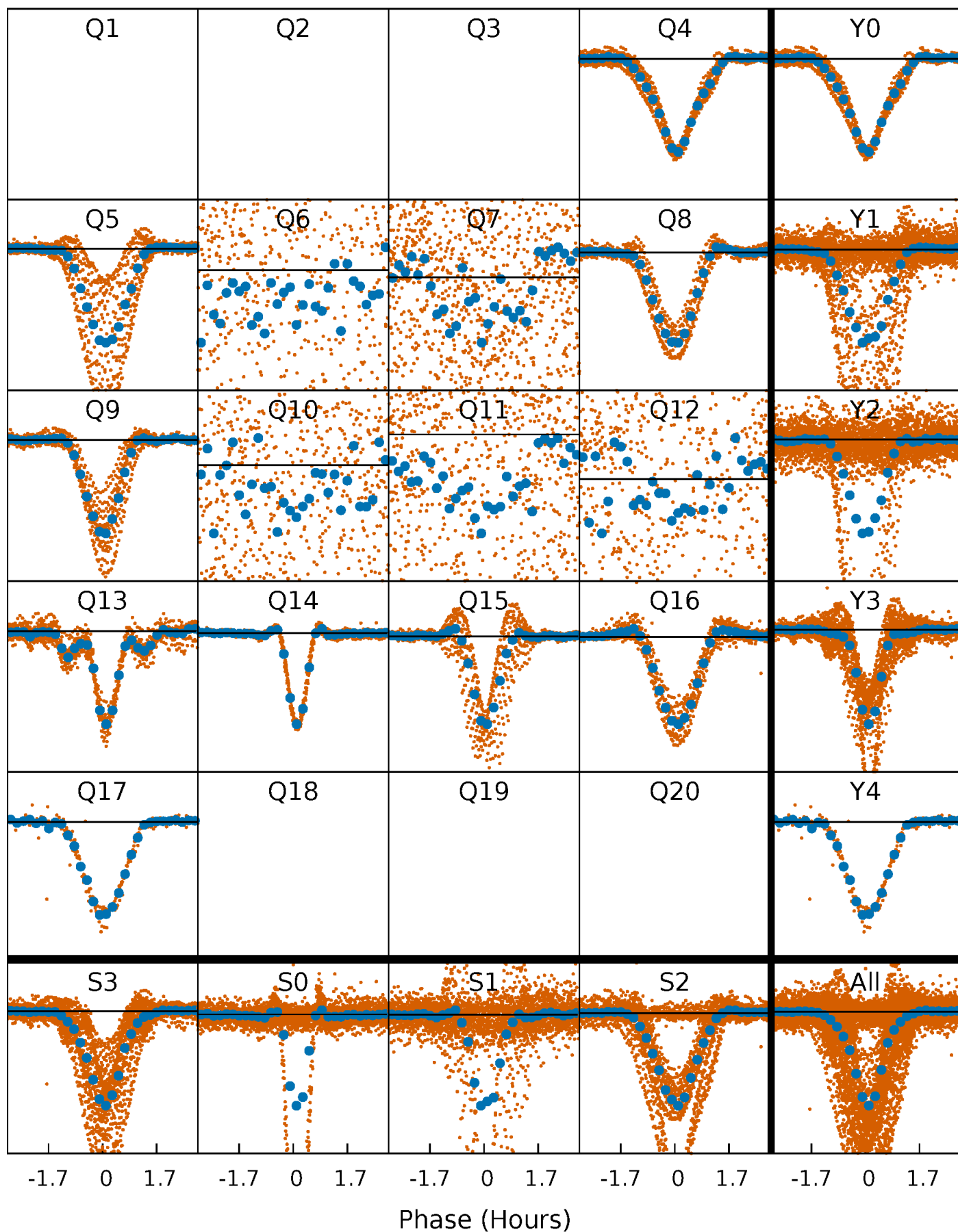
PDC Quarter-Phased Transit Curves

TCE 006516874-02 P= 0.916323 Days $T_0=132.267244$ (BKJD)



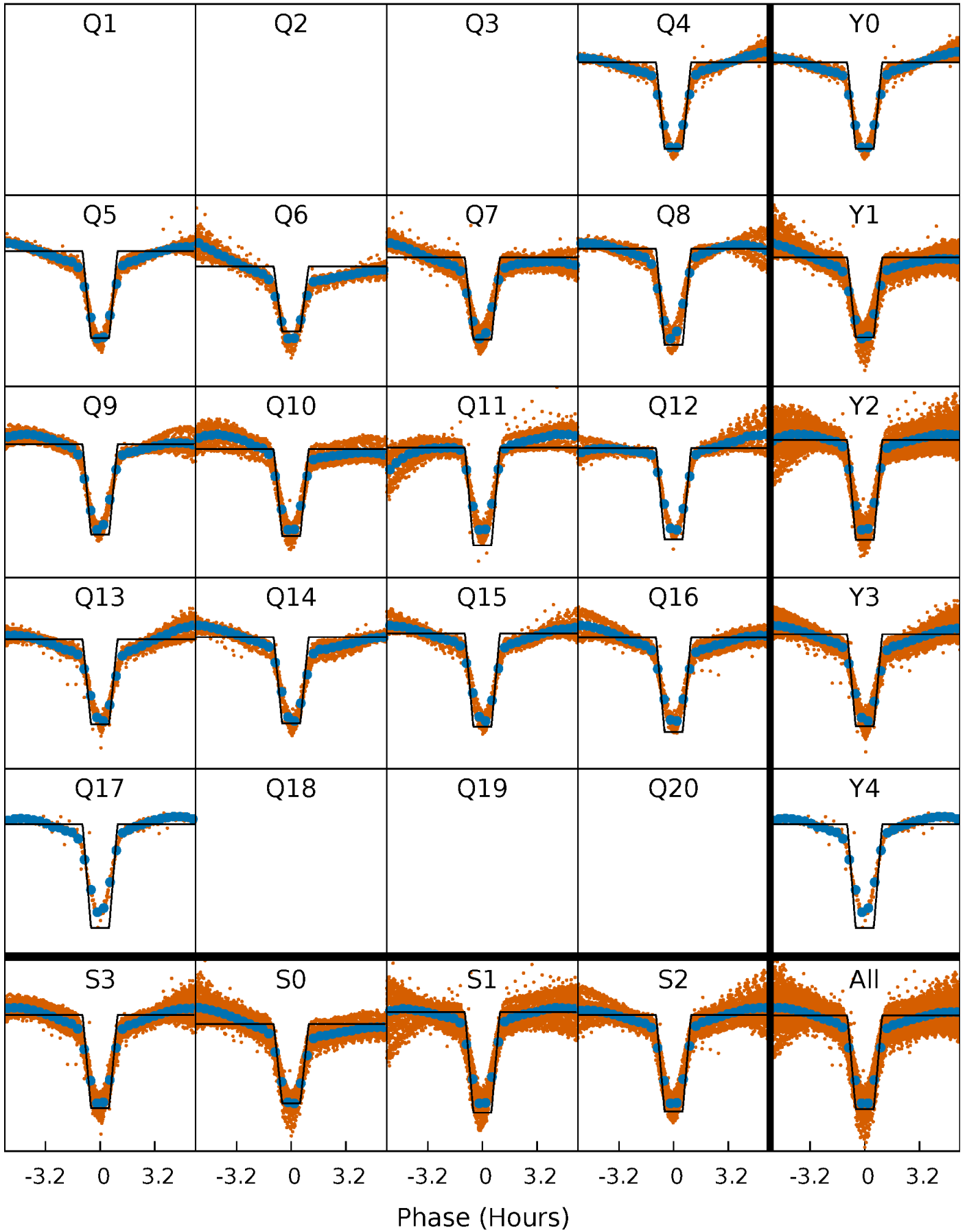
DV Quarter-Phased Transit Curves

TCE 006516874-02 P= 0.916323 Days $T_0=132.267244$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

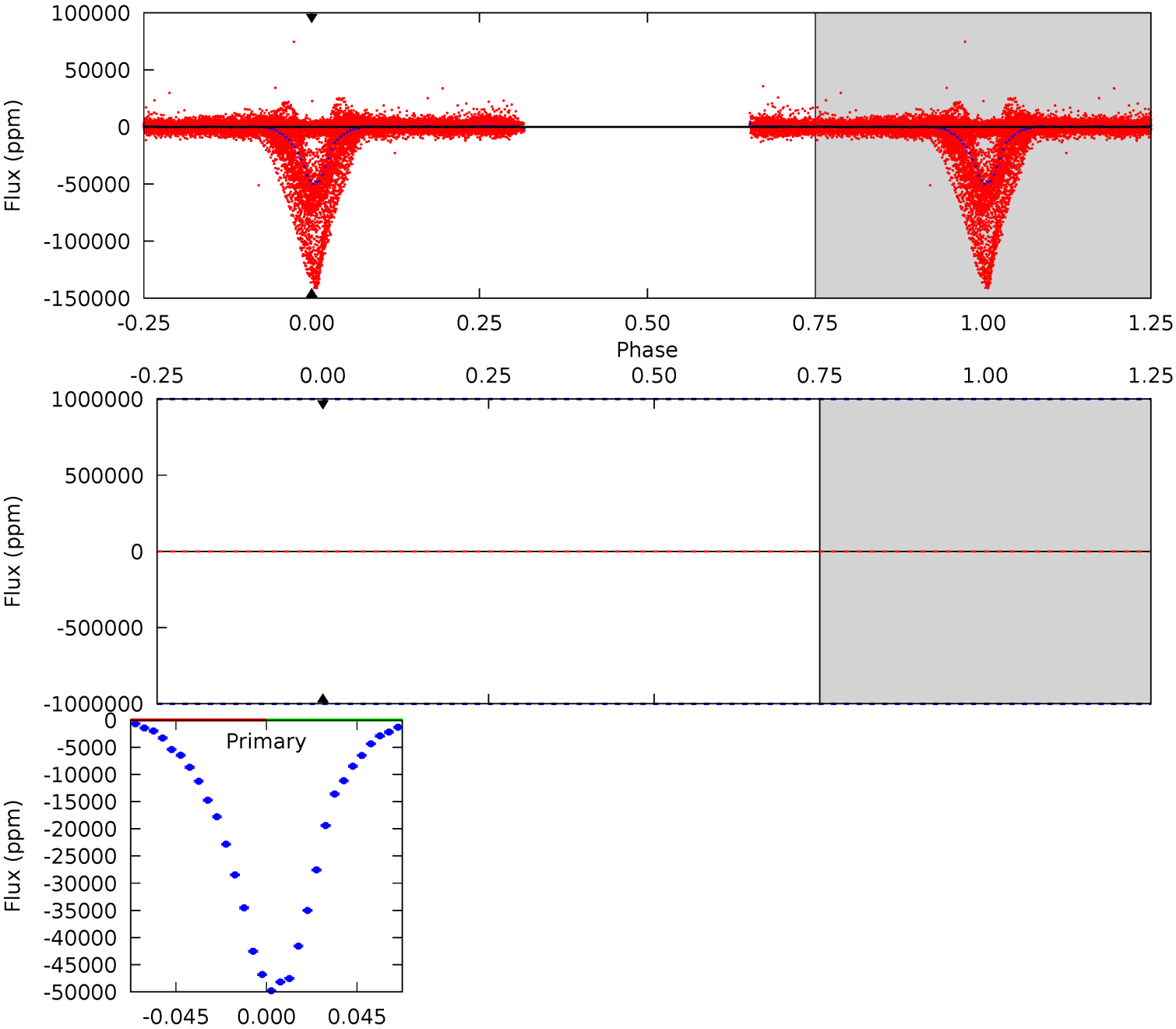
TCE 006516874-02 $P = 0.916323$ Days $T_0 = 132.270656$ (BKJD)



DV Model-Shift Uniqueness Test

006516874-02, P = 0.916323 Days, E = 132.267244 Days

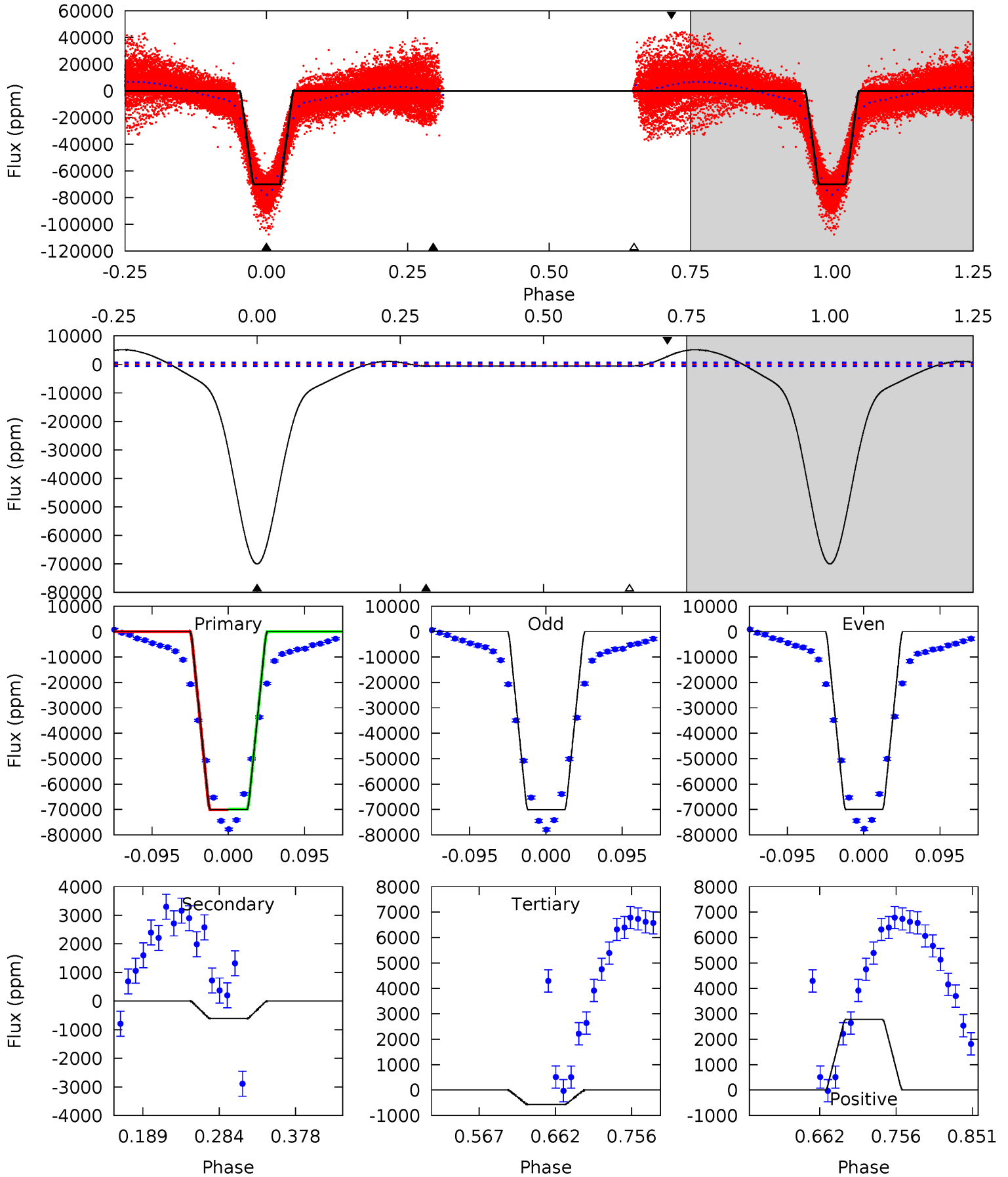
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

006516874-02, P = 0.916323 Days, E = 132.270656 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
531.7	4.62	4.26	21.1	4.58	1.67	29.8	527.5	510.6	0.36	-16.5	0.37	1.00	0.07	1.18



Stellar Parameters For KIC 006516874

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6046^{+189}_{-232}	$4.486^{+0.052}_{-0.208}$	$-0.080^{+0.300}_{-0.300}$	$0.972^{+0.300}_{-0.100}$	$1.053^{+0.139}_{-0.139}$	$1.615^{+0.449}_{-0.837}$
	+3%/-4%	+1%/-5%	+375%/-375%	+31%/-10%	+13%/-13%	+28%/-52%
Source	KIC0	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 006516874-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$23.49^{+12.79}_{-11.68}$	2733^{+199}_{-146}	-3584^{+12201}_{-4102}	$-0.792^{+54.785}_{-38.085}$
Alt.	-608 ± 132	$30.23^{+12.04}_{-10.51}$	2735^{+184}_{-140}	-2715^{+711}_{-166}	$0.125^{+0.160}_{-0.063}$

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 $A_{obs} \gg 1.0$

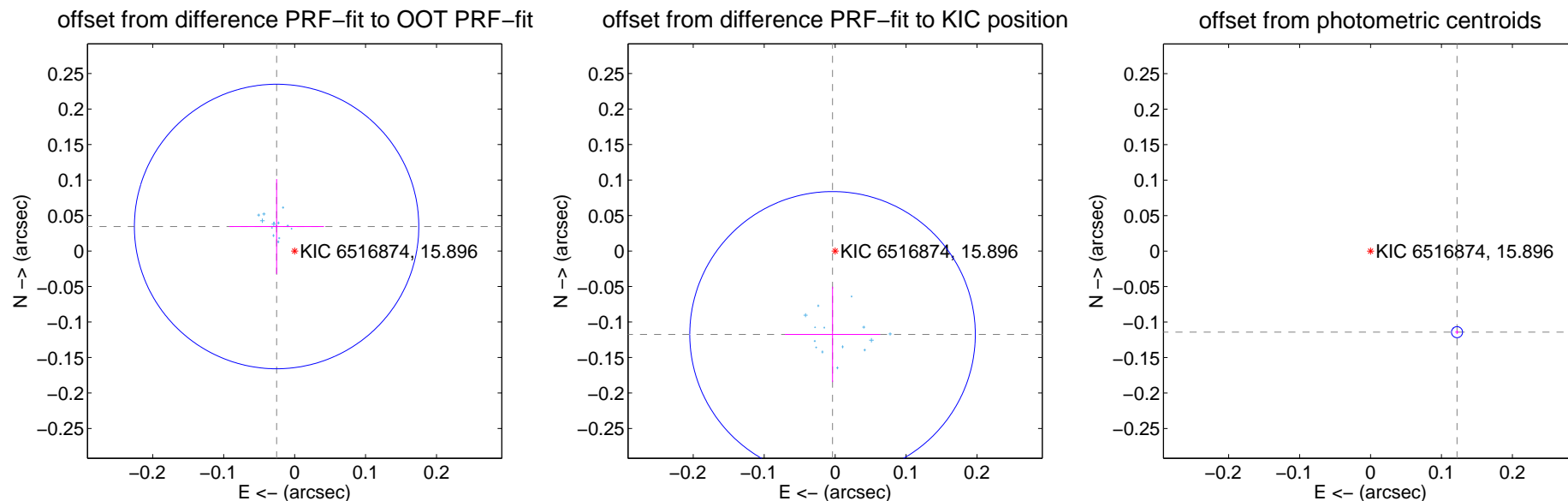
DV Centroid Data

Supplemental centroid analysis for 006516874-02. Kepler magnitude: 15.90. Transit SNR -1.00

There are 14 quarters with good PRF difference image offsets

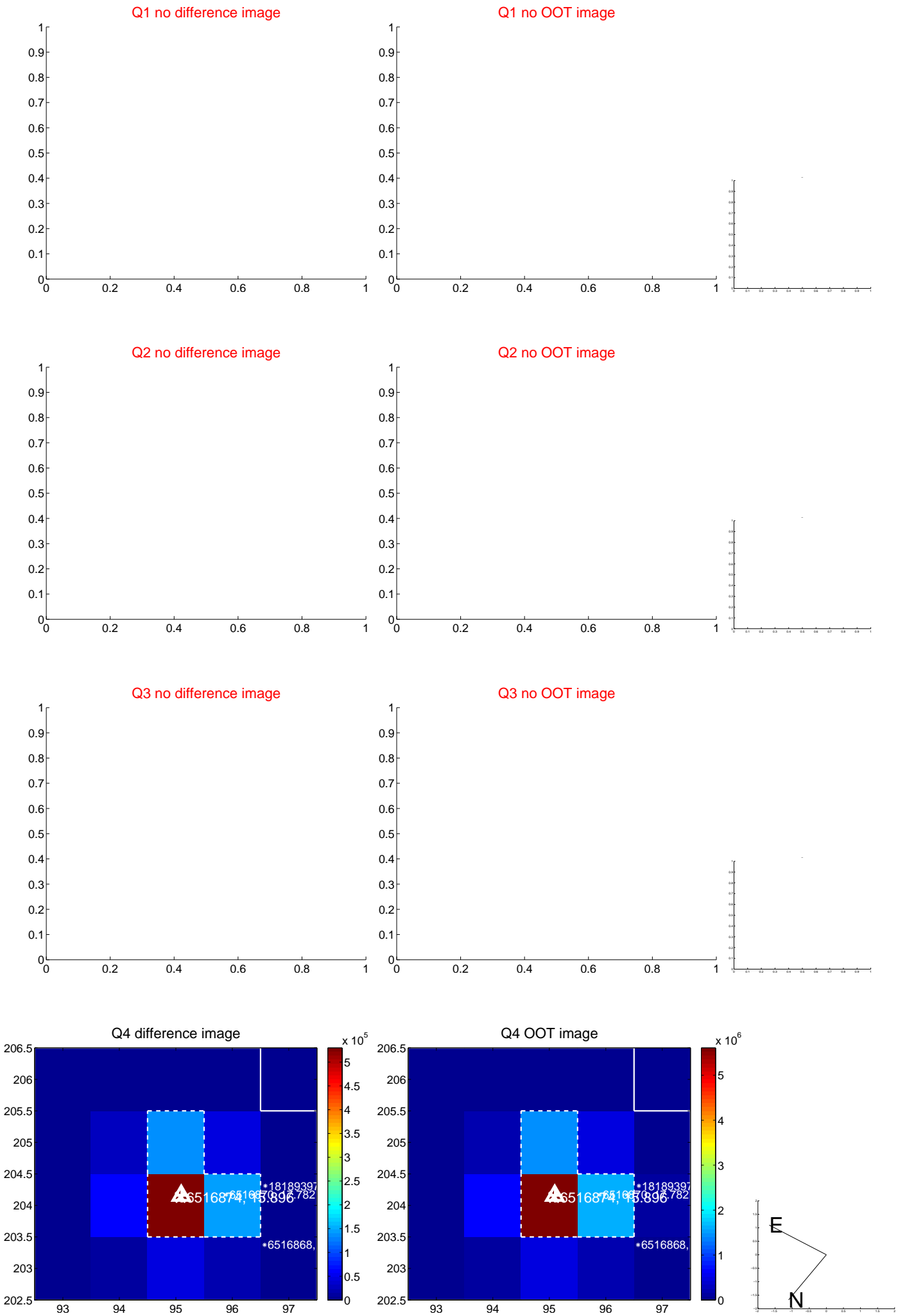
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.043 ± 0.067	0.64	0.025 ± 0.067	0.035 ± 0.067
PRF-fit source offset from KIC position	0.118 ± 0.067	1.75	0.004 ± 0.067	-0.118 ± 0.067
photometric centroid source offset	0.17 ± 0.00	64.42	-0.12 ± 0.00	-0.11 ± 0.00

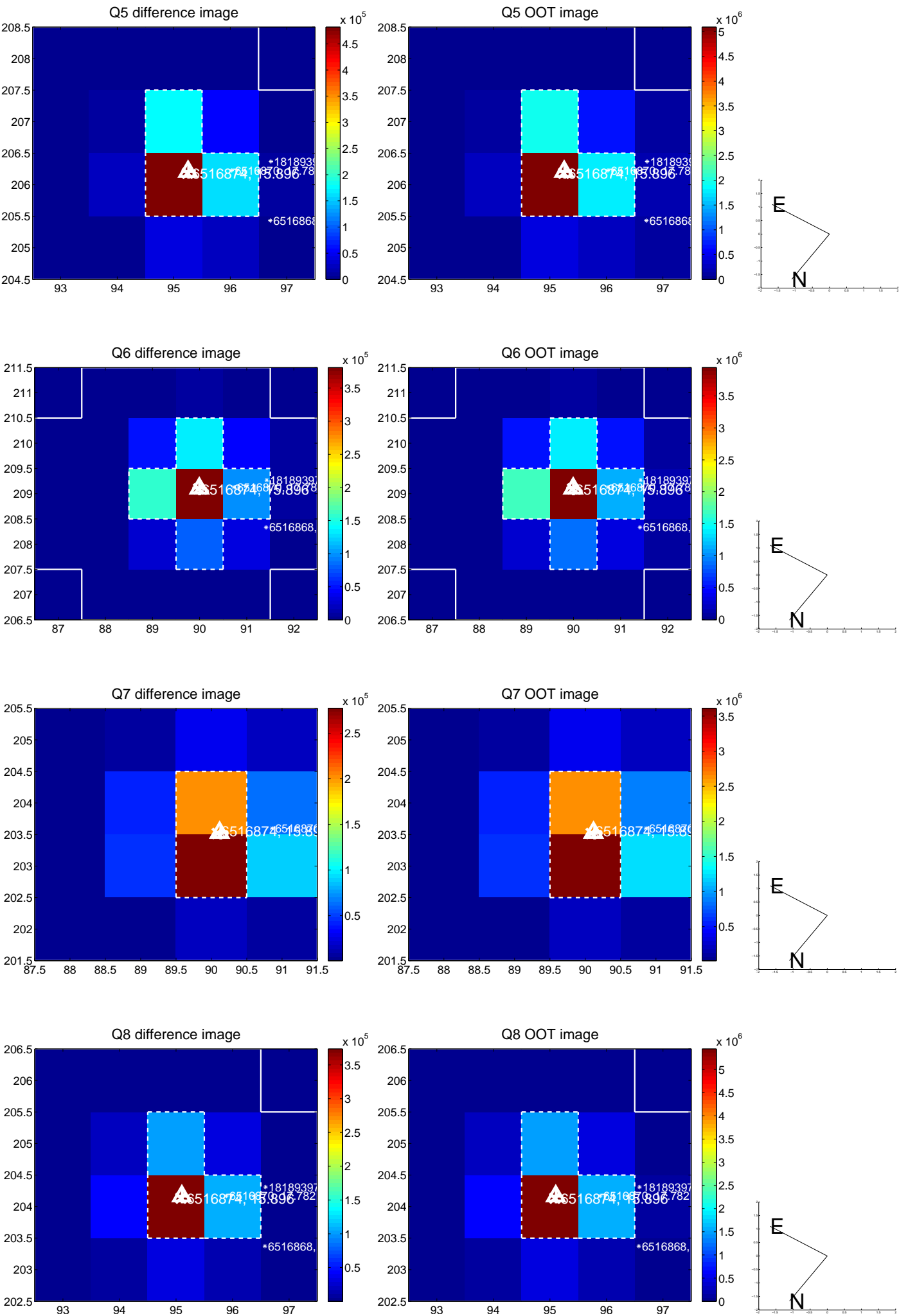


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

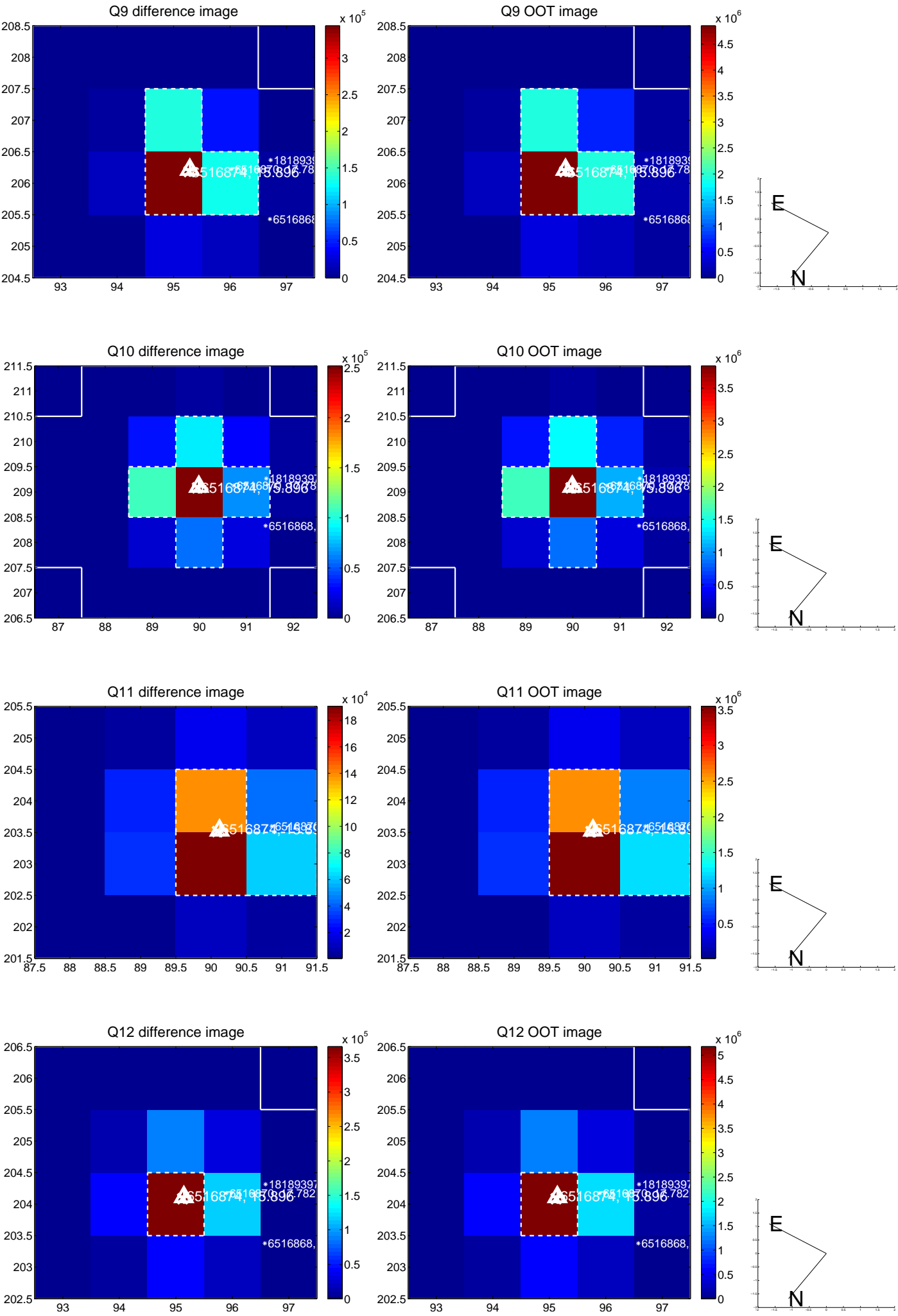
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



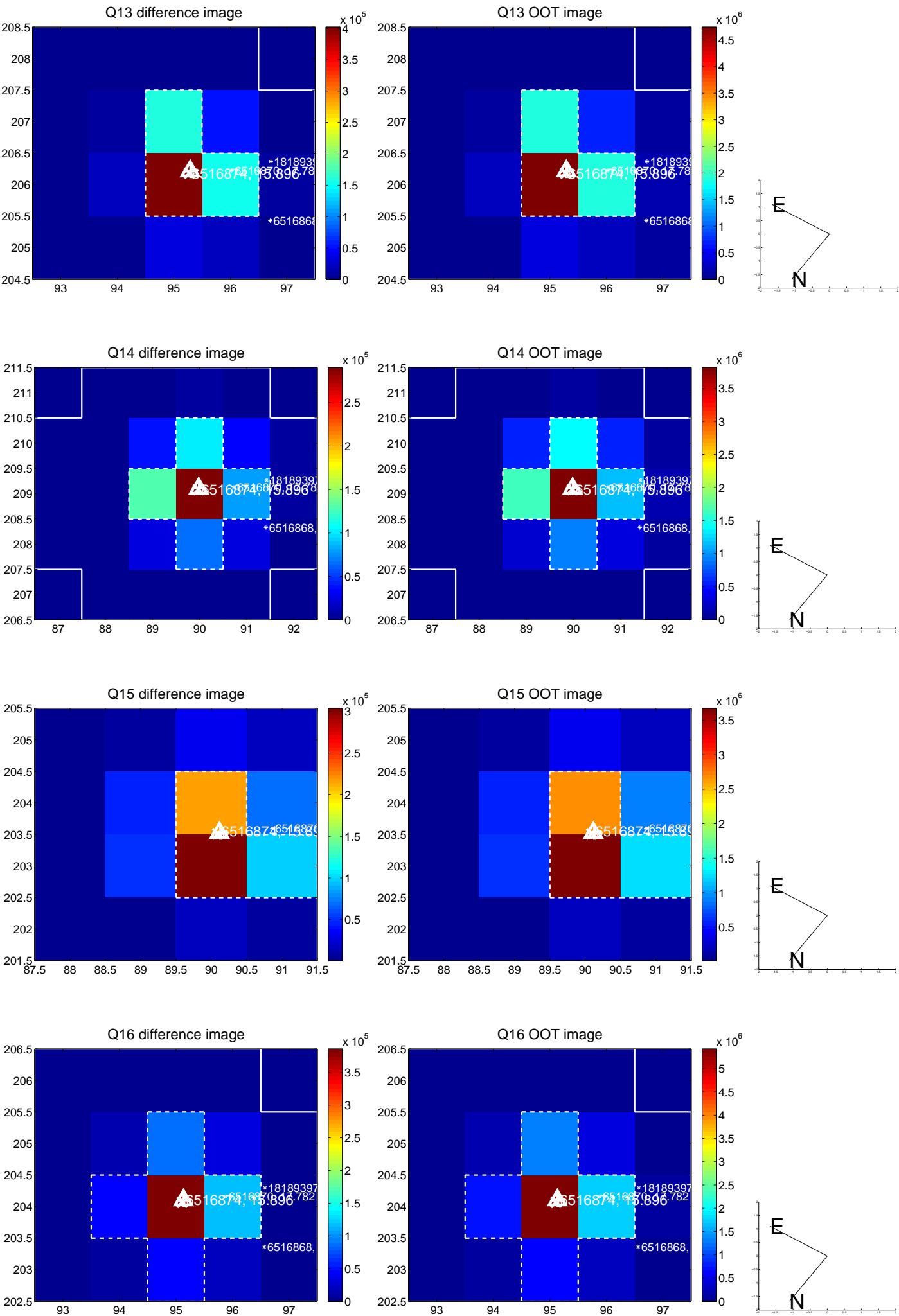
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



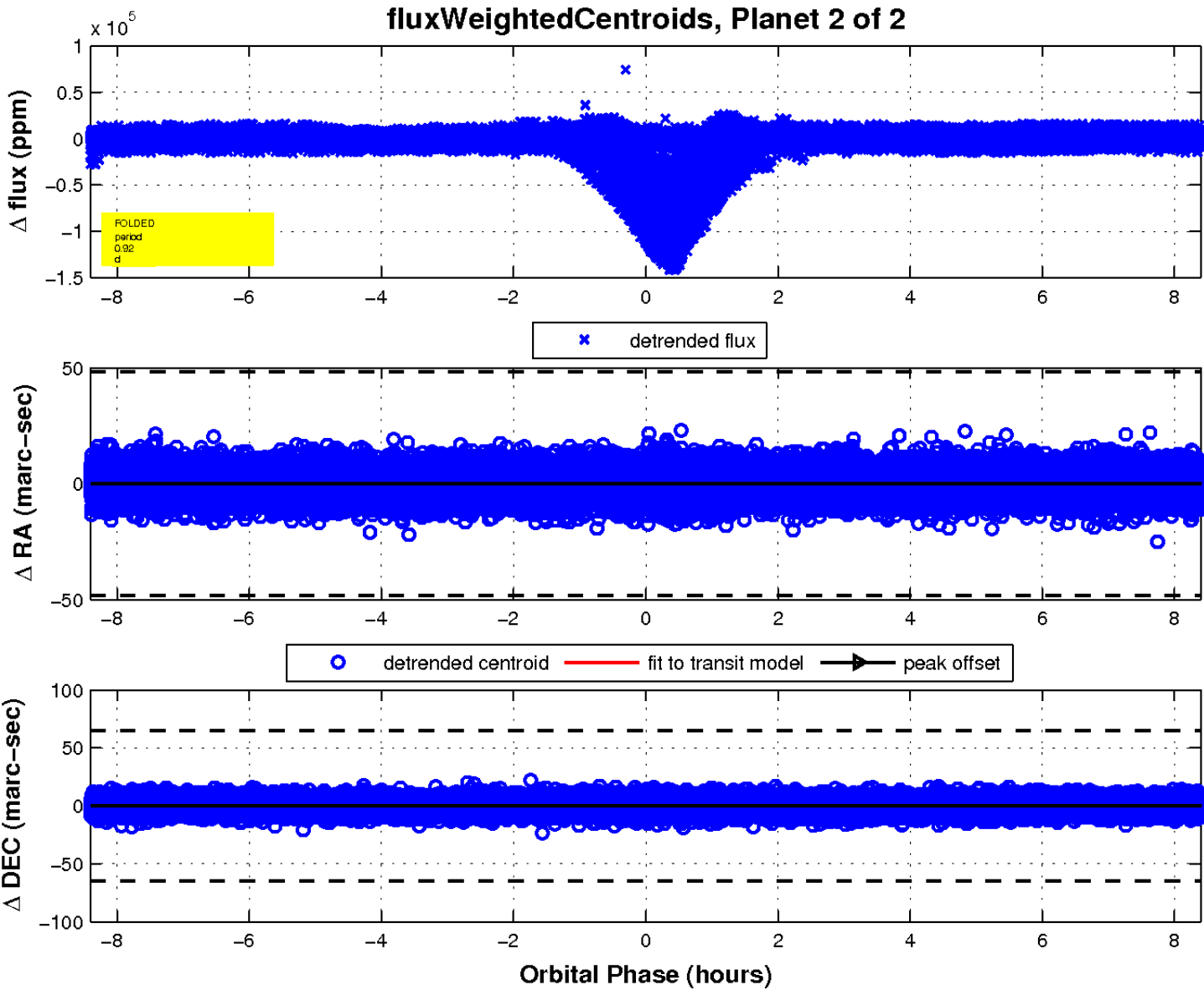
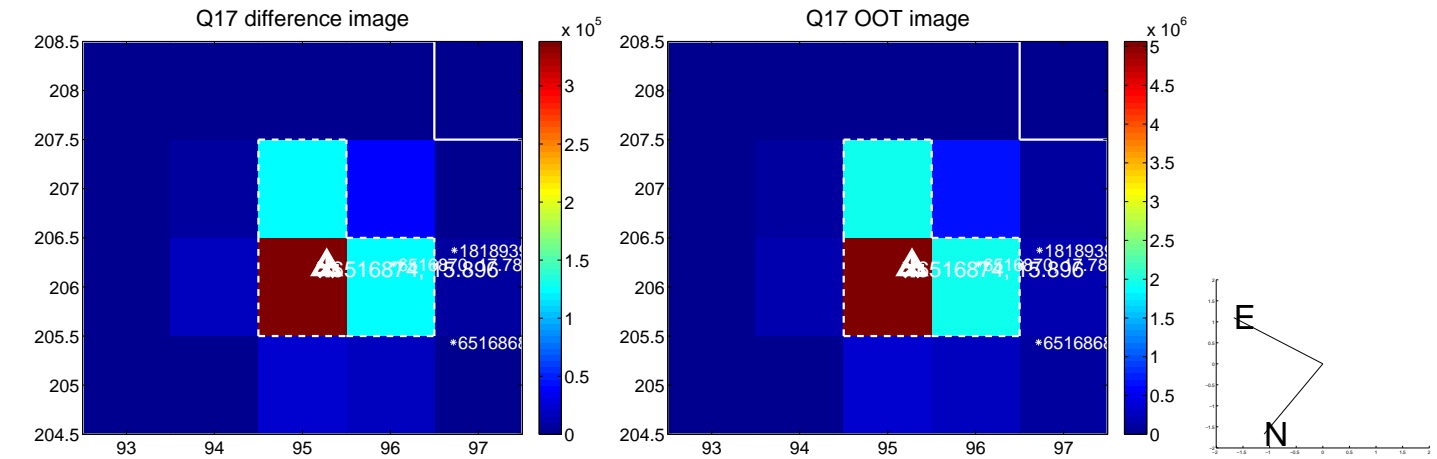
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

