

KIC 012164751

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})
012164751-01	OBS	7515.01	2.629993	132.239791	579504.7	7.500	9995.0	-1.0	1.11	6315	31.53	1372.38
012164751-02	OBS	No	2.631427	131.534833	9470.8	6.000	313.4	-1.0	1.11	6315	10.85	1371.38
012164751-03	OBS	No	193.948540	147.323164	2973.3	12.000	67.6	-1.0	1.11	6315	6.08	4.44

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012164751-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_ALT—CENT_NOFITS
012164751-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS
012164751-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_ALT—INCONSISTENT_TRANS—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 012164751-01

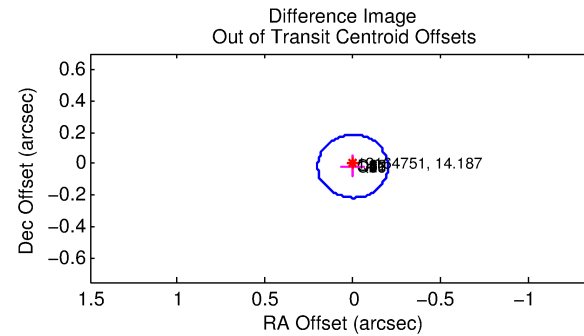
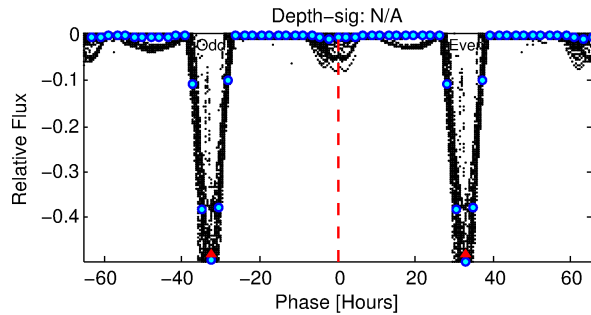
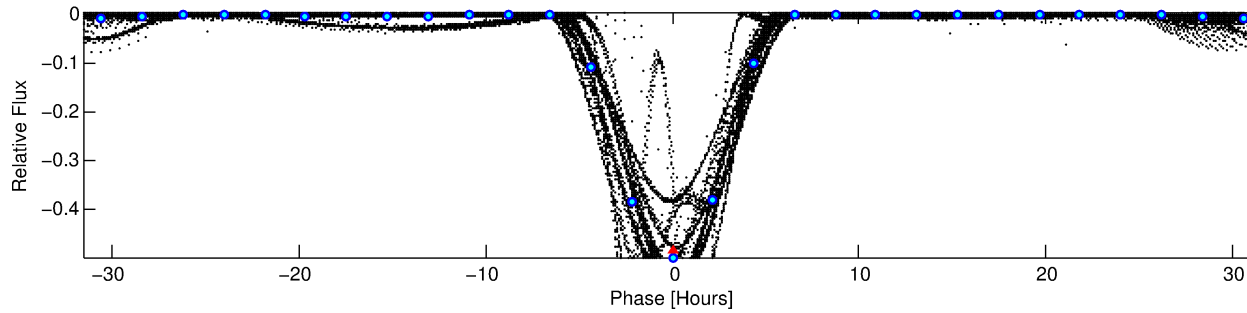
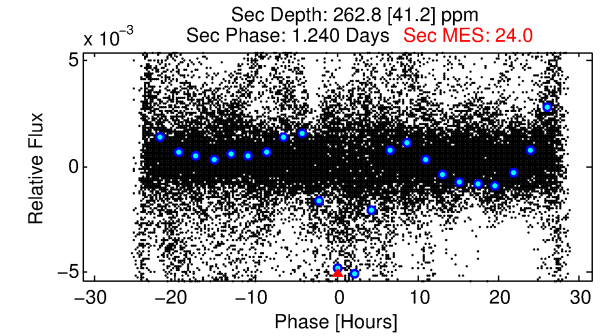
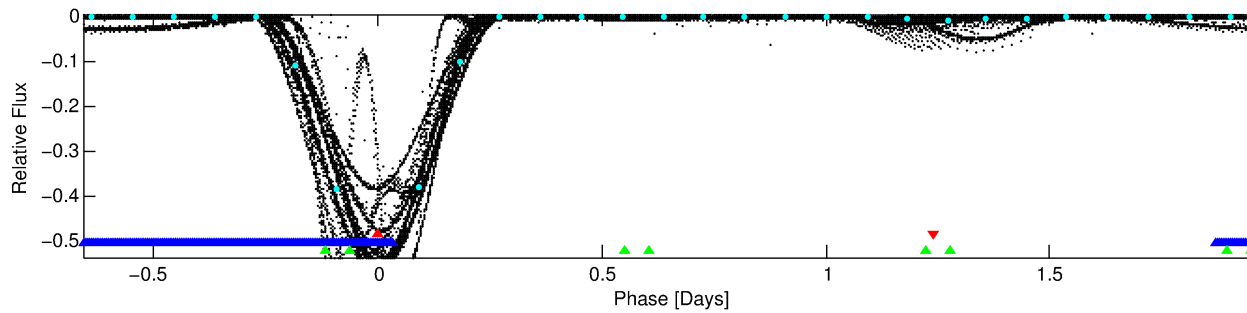
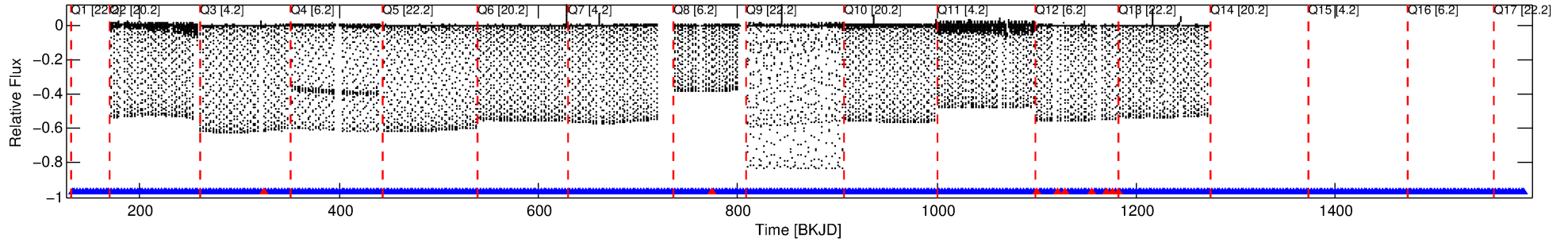
No Significant Match Found

DV One-Page Summary

KIC: 12164751 Candidate: 1 of 3 Period: 2.630 d

KOI: K07515 Corr: No Ephemeris Match

Kp: 14.19 R*: 1.11 Rs Teff: 6315.0 K Logg: 4.29 Fe/H: -0.760



TPS TCE Results:

Period = 2.62999 d
Epoch = 132.2398 BKJD

DV fit results are unavailable

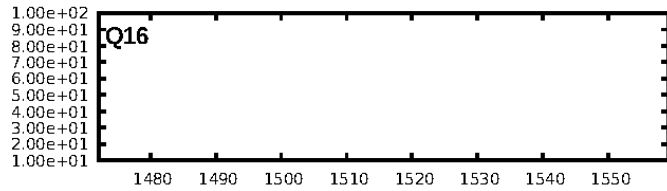
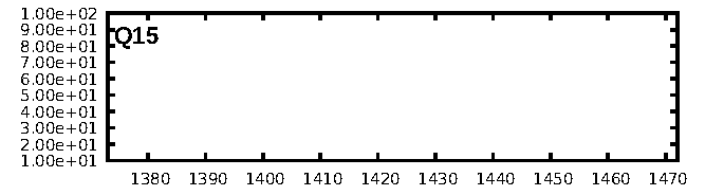
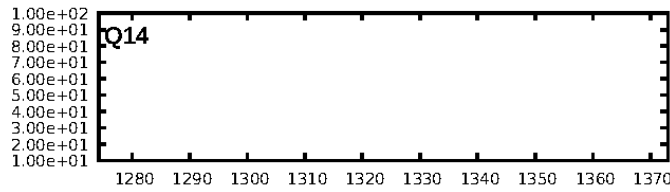
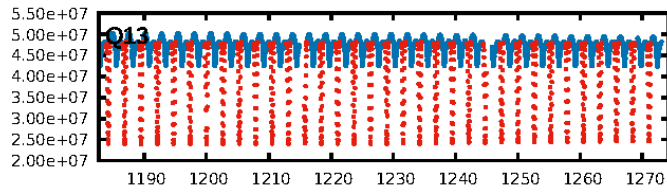
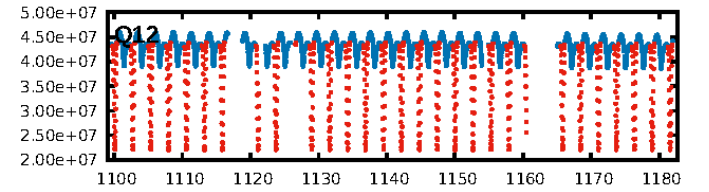
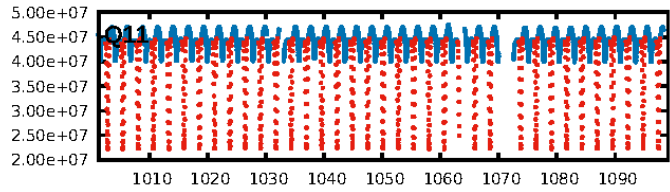
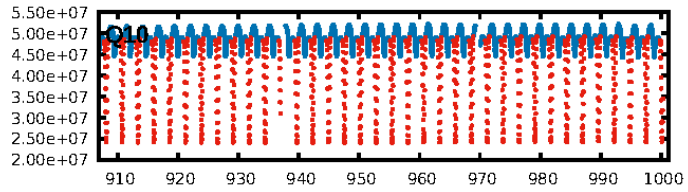
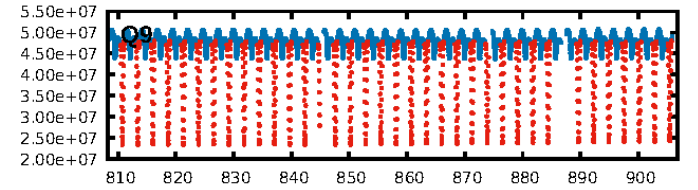
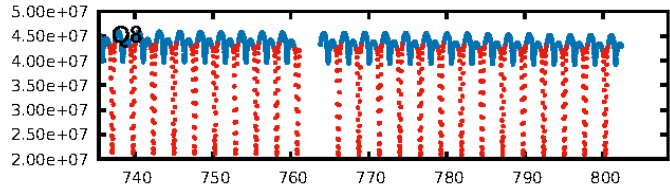
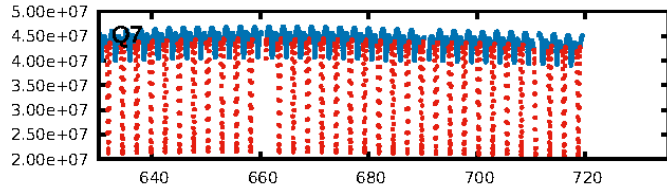
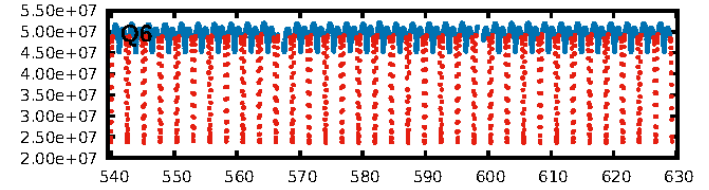
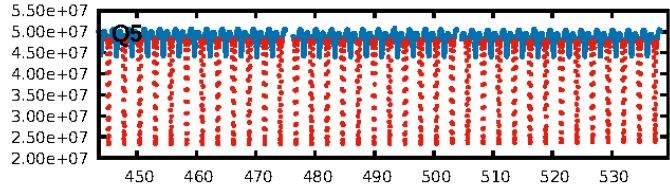
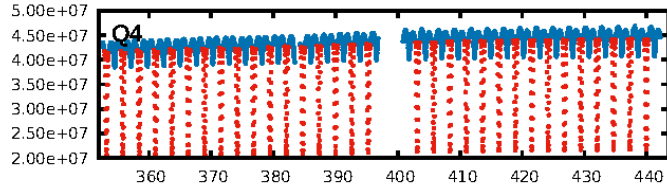
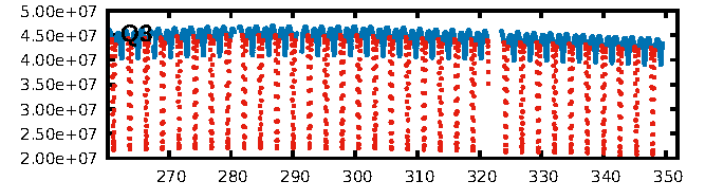
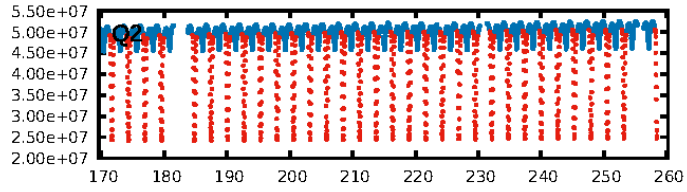
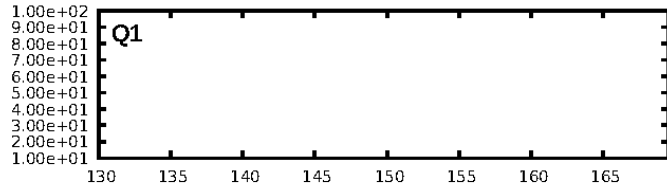
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.3% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.98 [389/398]
GhostDiagnostic-chr: 1.089
Centroid-sig: N/A
Centroid-so: 0.043 arcsec [105.21σ]
OotOffset-rm: 0.016 arcsec [0.23σ]
KicOffset-rm: 0.090 arcsec [1.22σ]
OotOffset-st: 3/3/3 [12]
KicOffset-st: 3/3/3 [12]
DiffImageQuality-fgm: 1.00 [12/12]
DiffImageOverlap-fno: 0.00 [0/12]

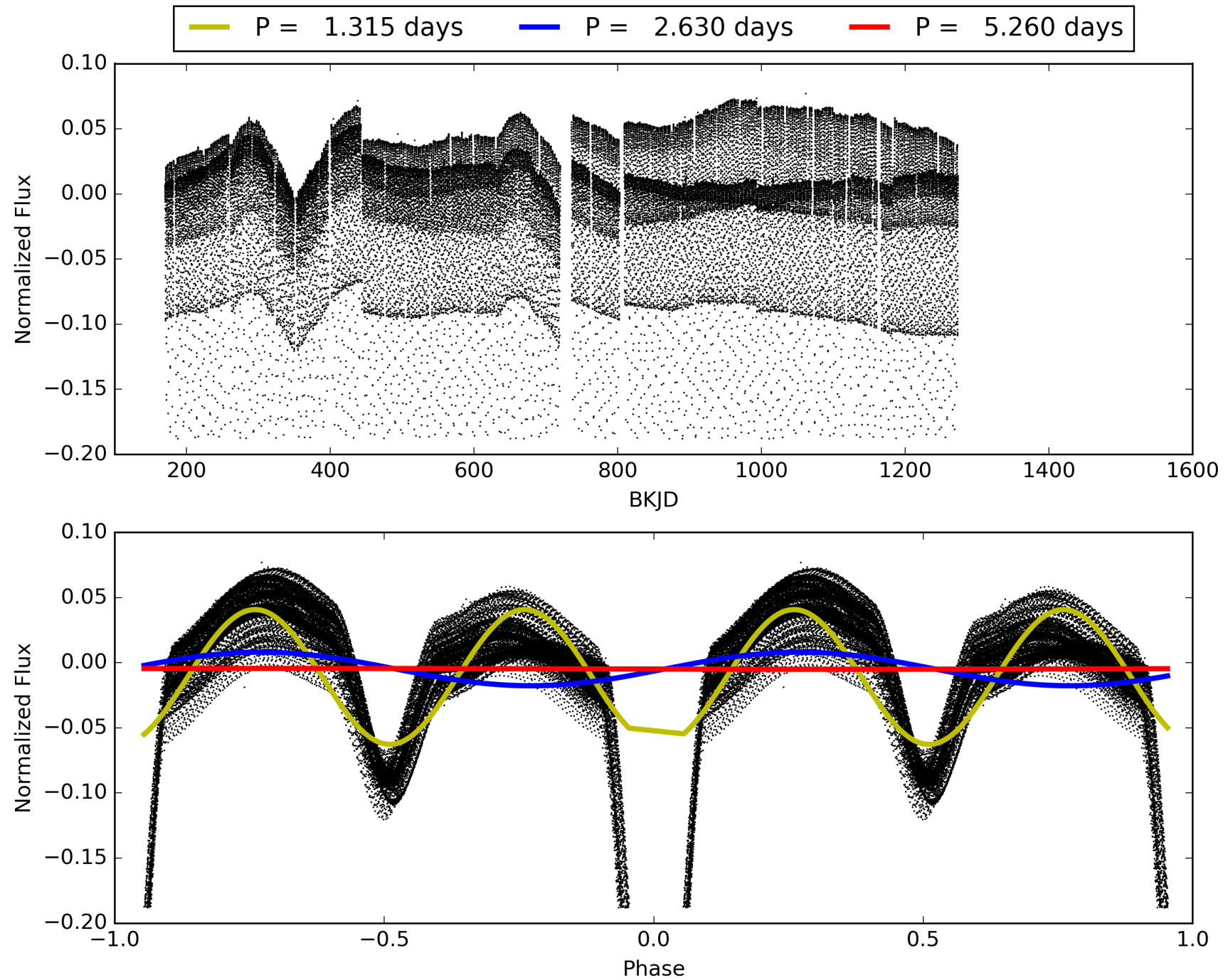
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:31:30 Z

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

TCE 012164751-01, PDC Light Curves

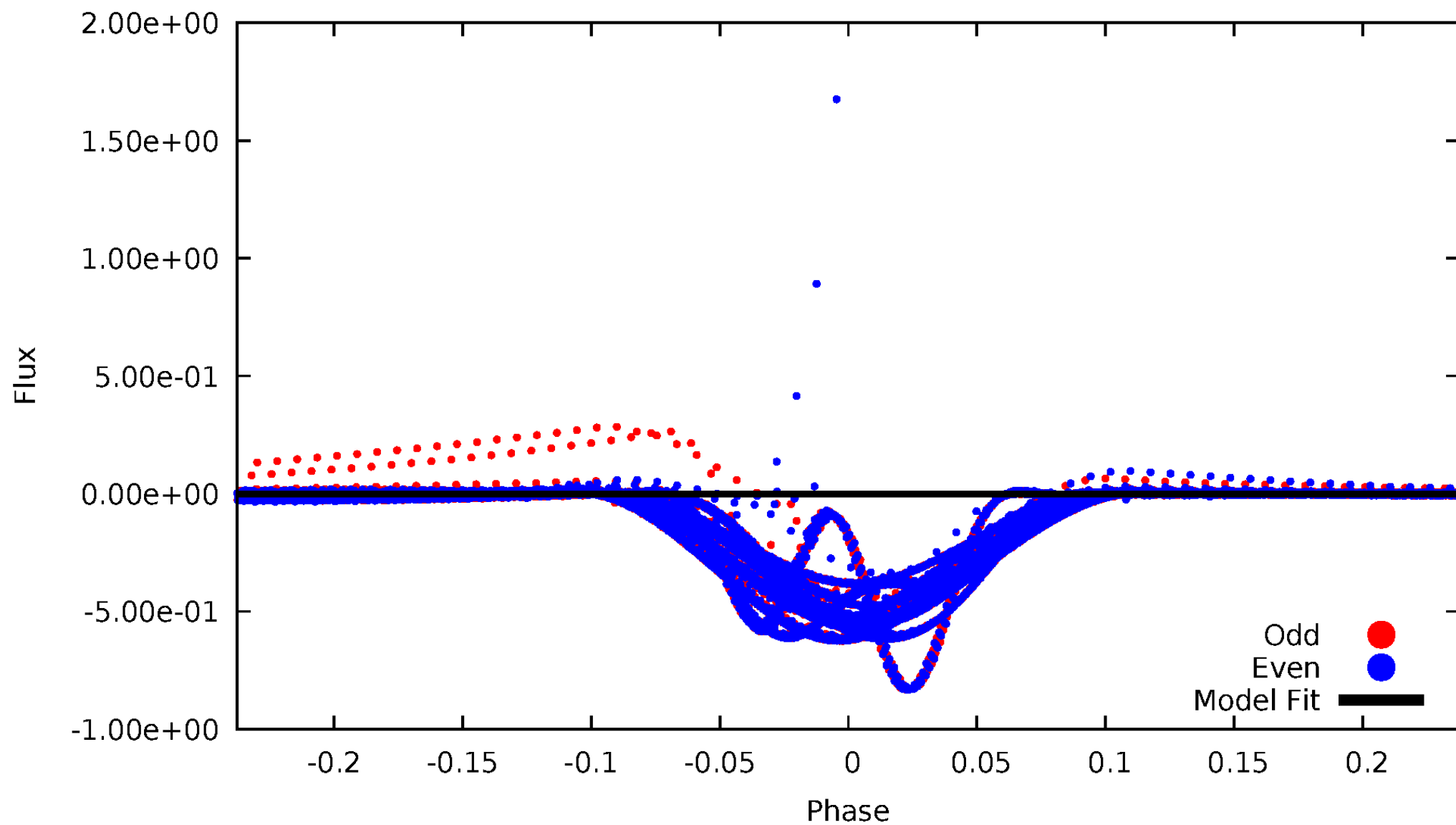


TCE 012164751-01



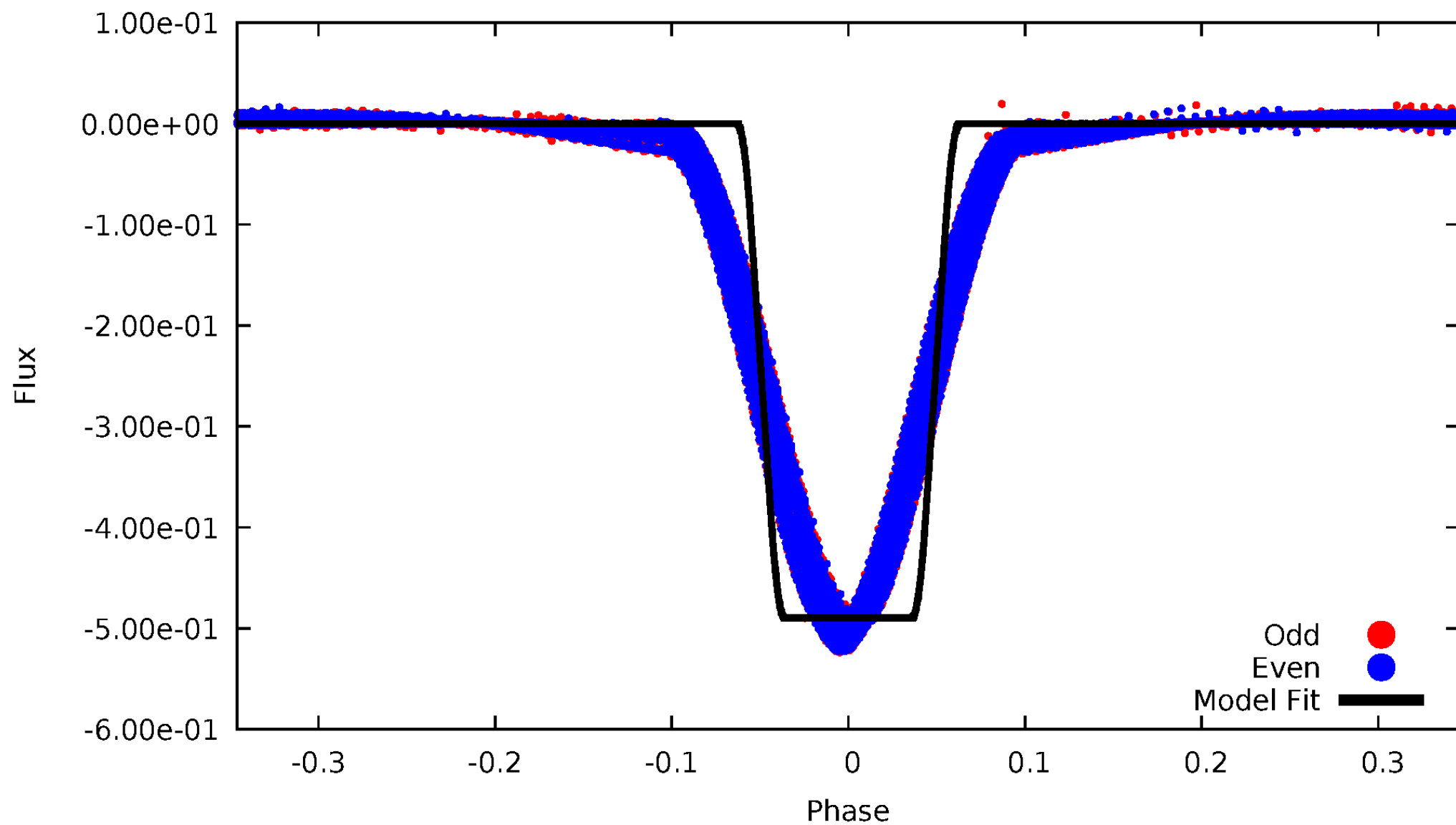
DV Odd/Even

TCE 012164751-01



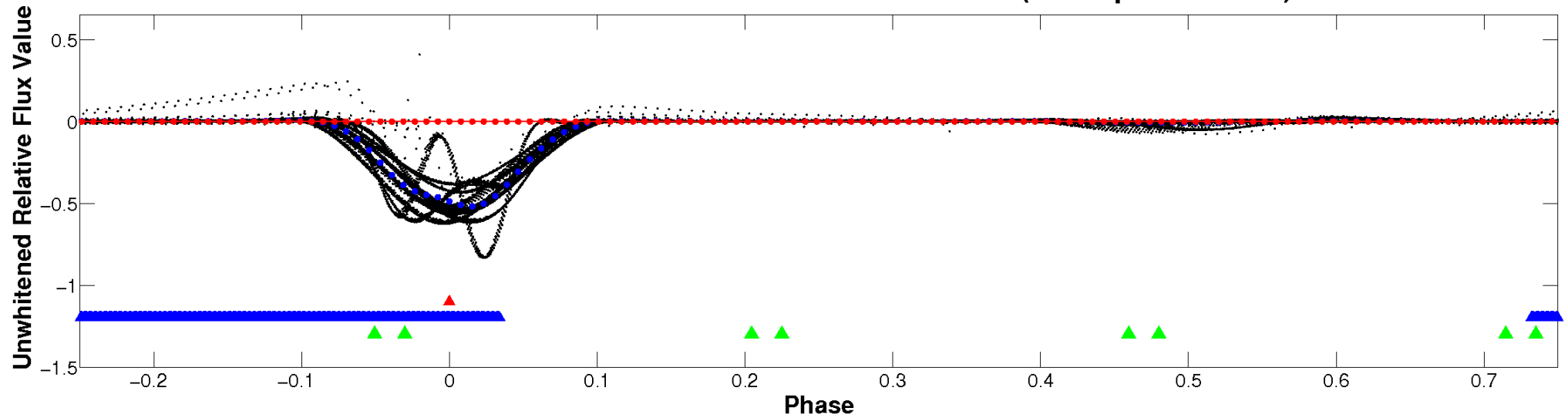
ALT Odd/Even

TCE 012164751-01



Non-Whitened Vs. Whitened Light Curve

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

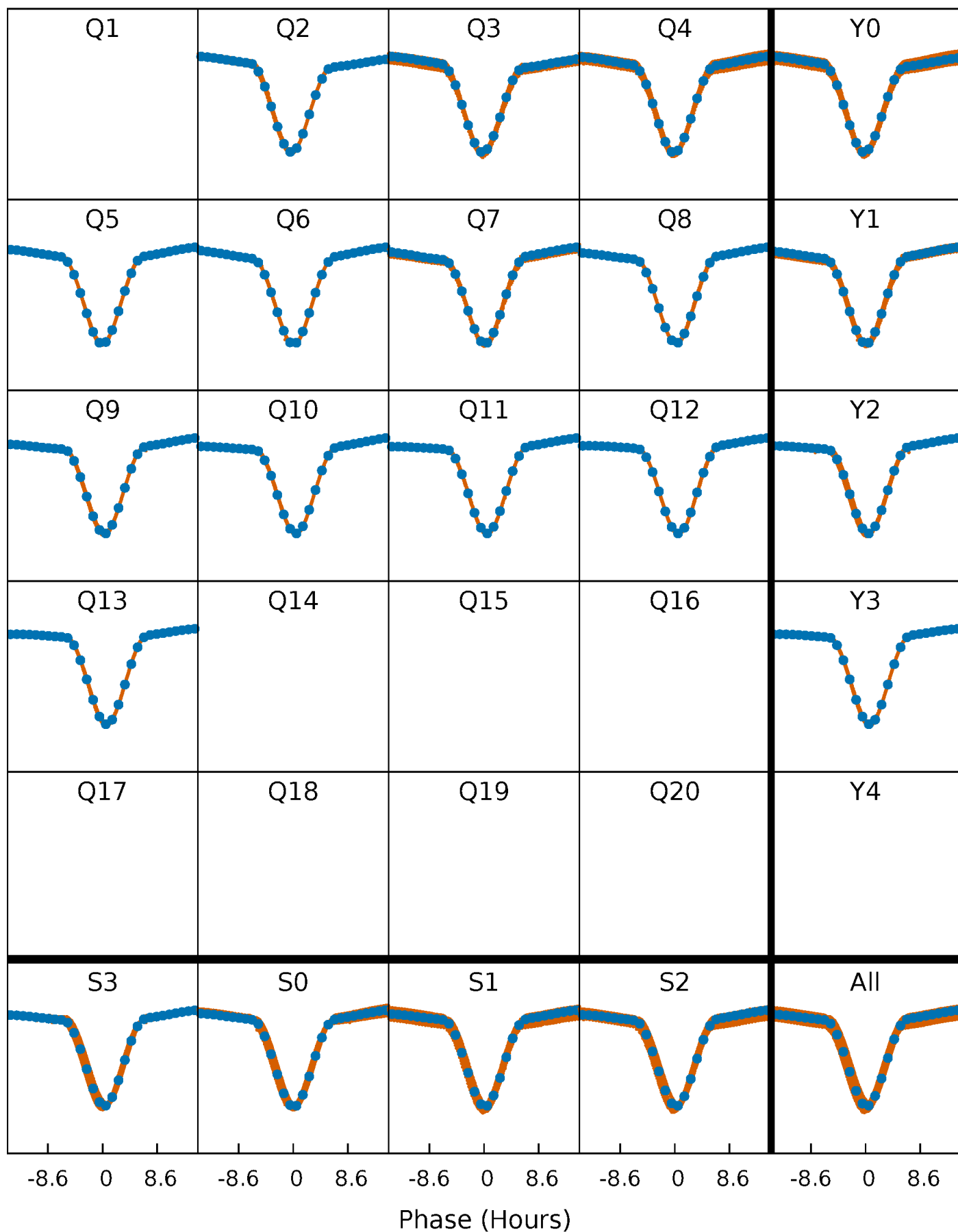


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



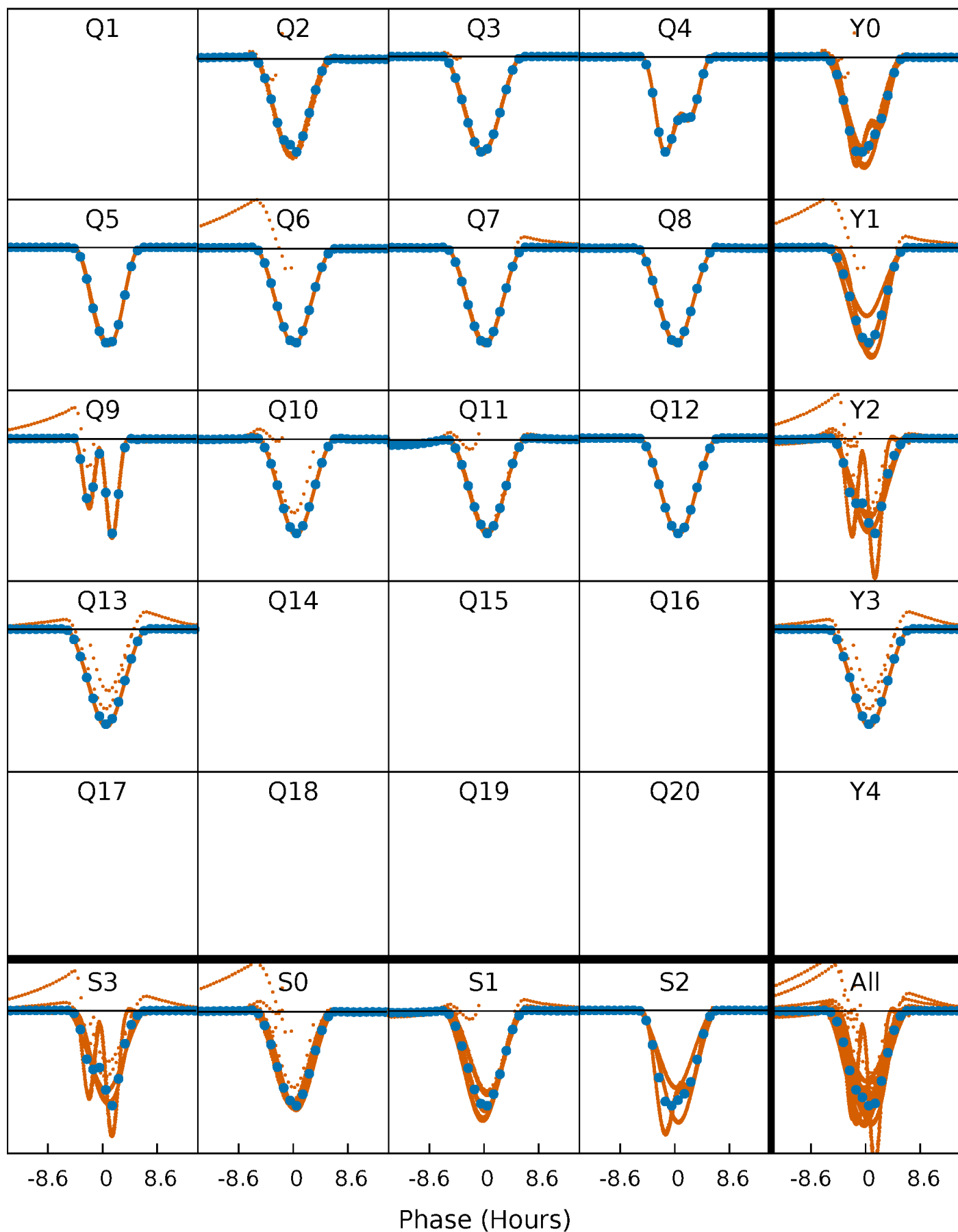
PDC Quarter-Phased Transit Curves

TCE 012164751-01 P= 2.629993 Days $T_0=132.239791$ (BKJD)



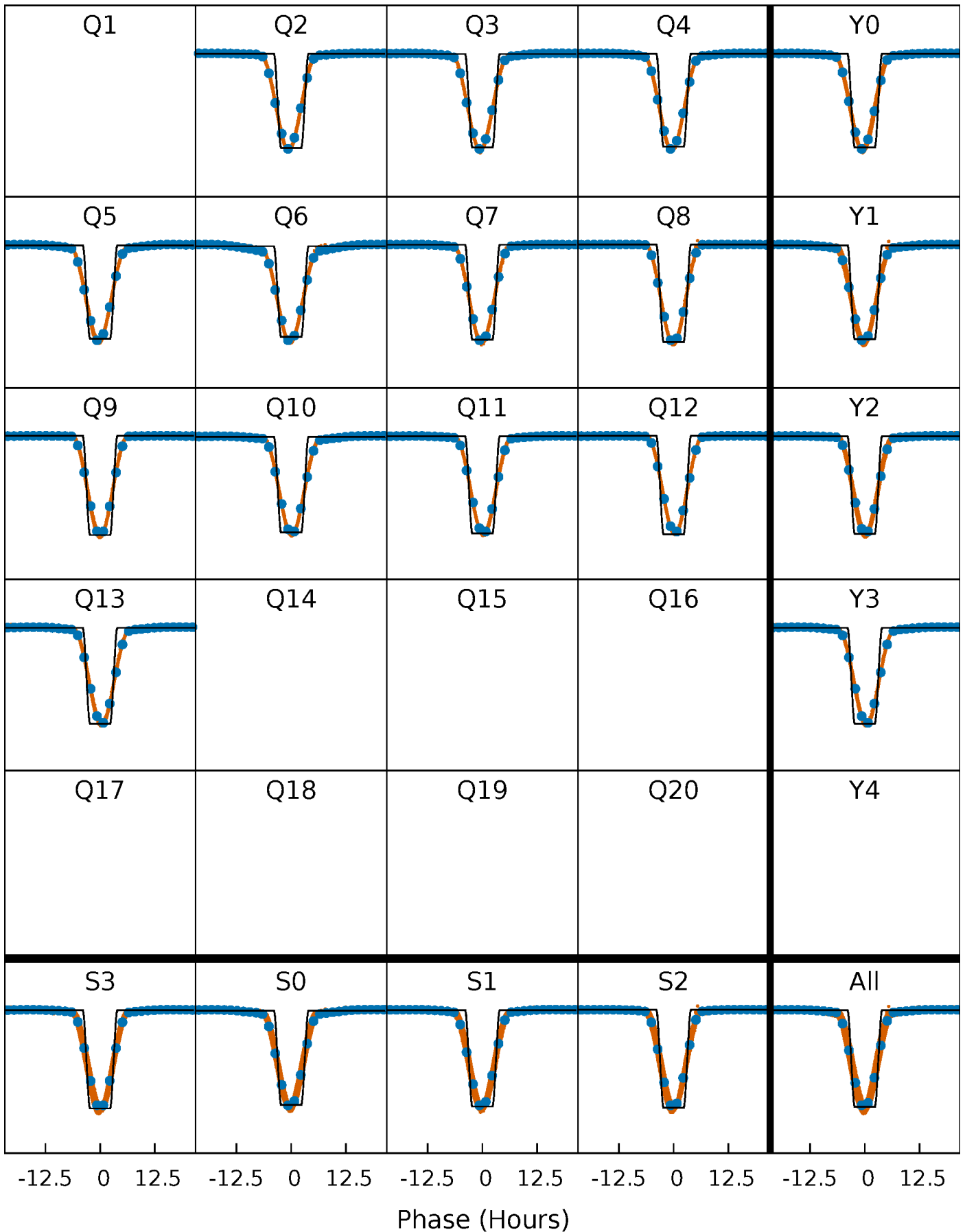
DV Quarter-Phased Transit Curves

TCE 012164751-01 P= 2.629993 Days $T_0=132.239791$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

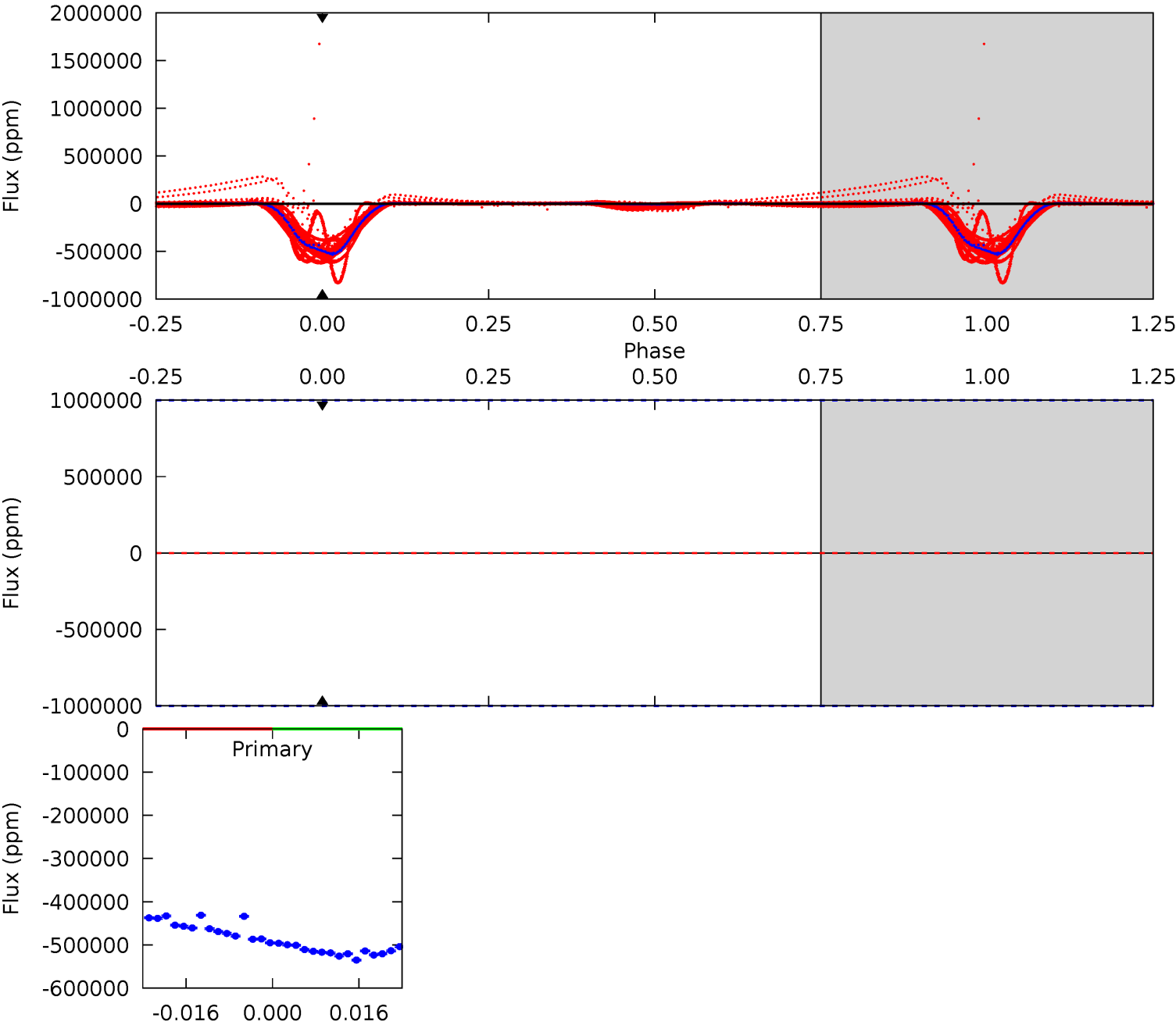
TCE 012164751-01 P= 2.629993 Days $T_0=132.251678$ (BKJD)



DV Model-Shift Uniqueness Test

012164751-01, P = 2.629993 Days, E = 132.239791 Days

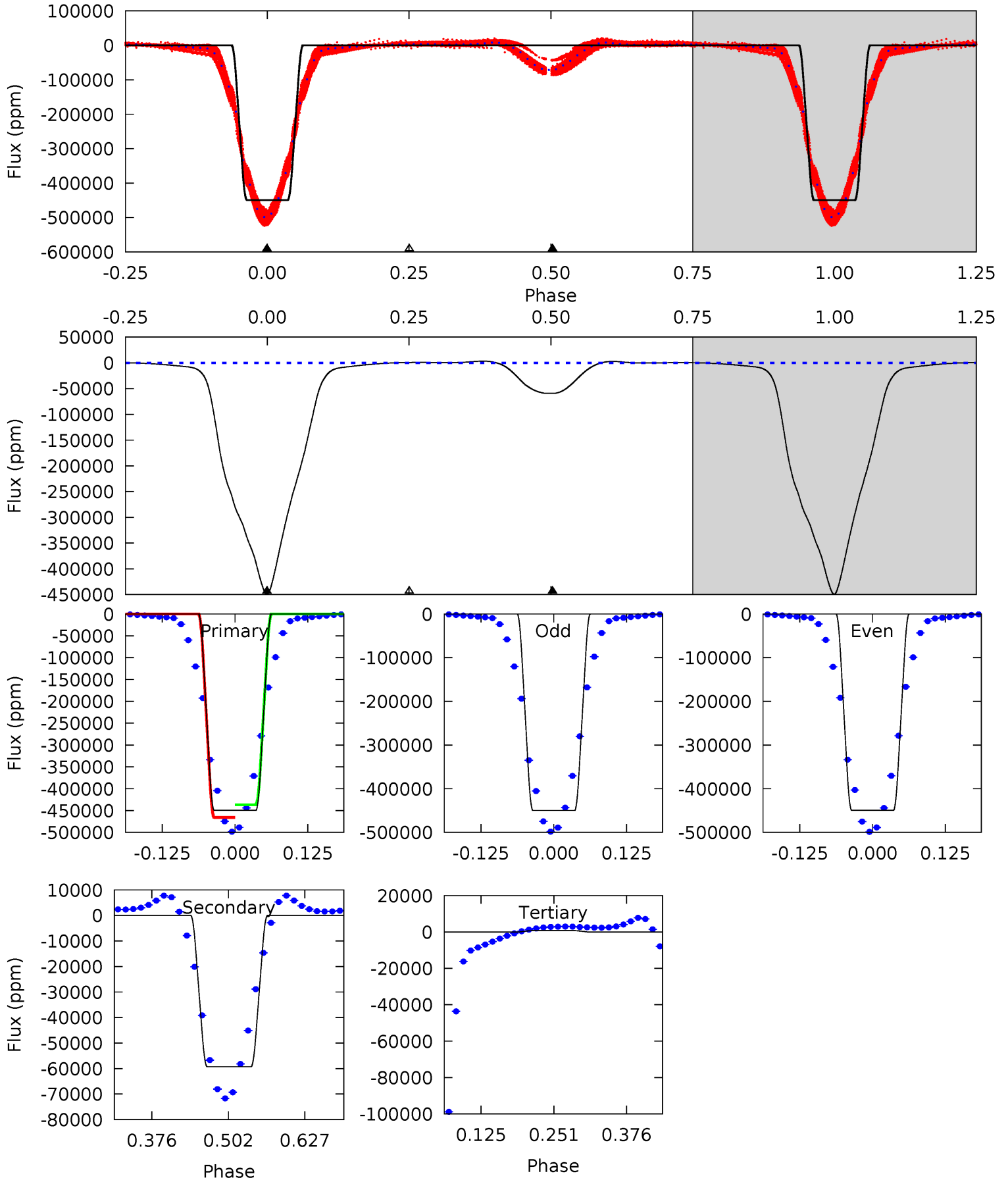
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

012164751-01, P = 2.629993 Days, E = 132.251678 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7318	965.0	-11.9	0	4.52	1.53	49.8	7330	7318	976.9	965.0	2.03	1.00	0.01	229.5



Stellar Parameters For KIC 012164751

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6315^{+170}_{-189}	$4.292^{+0.204}_{-0.167}$	$-0.760^{+0.300}_{-0.300}$	$1.108^{+0.290}_{-0.237}$	$0.875^{+0.104}_{-0.076}$	$0.907^{+0.957}_{-0.399}$
	+3%/-3%	+5%/-4%	+39%/-39%	+26%/-21%	+12%/-9%	+106%/-44%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 012164751-01 / KOI 7515.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$31.35^{+13.07}_{-13.22}$	2150^{+160}_{-146}	-3685^{+11061}_{-3535}	$-3.072^{+91.081}_{-82.799}$
Alt.	-59262 ± 61	$83.15^{+18.05}_{-16.09}$	2160^{+151}_{-150}	4047^{+277}_{-220}	$6.479^{+3.152}_{-2.117}$

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

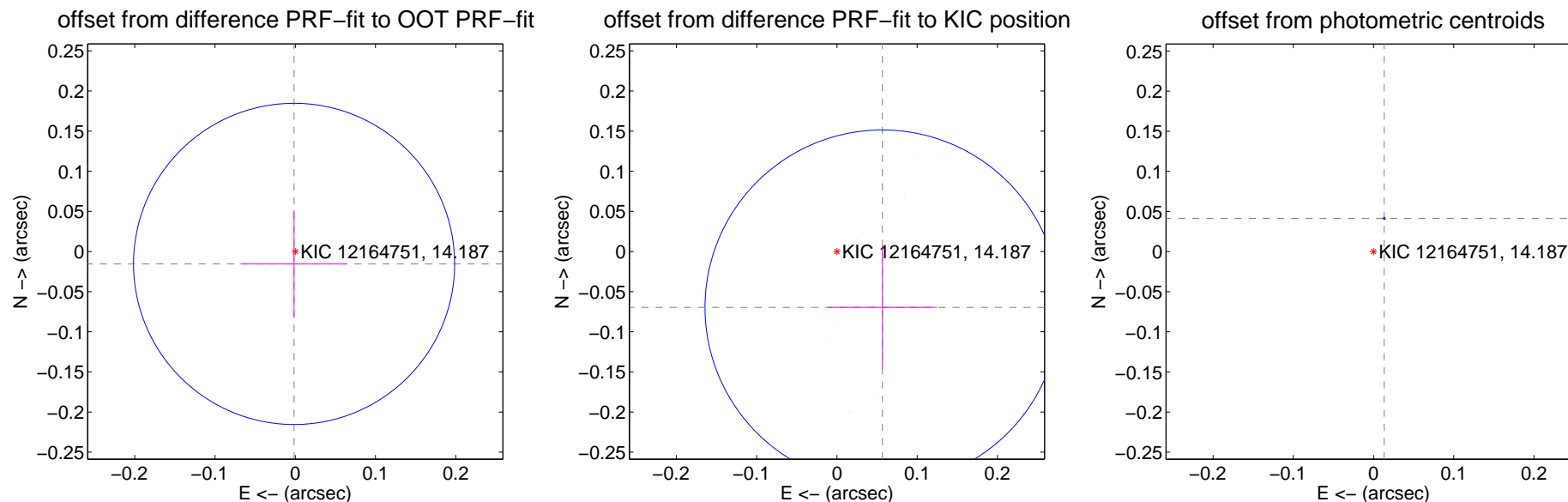
DV Centroid Data

Supplemental centroid analysis for 012164751-01. Kepler magnitude: 14.19. Transit SNR -1.00

There are 12 quarters with good PRF difference image offsets

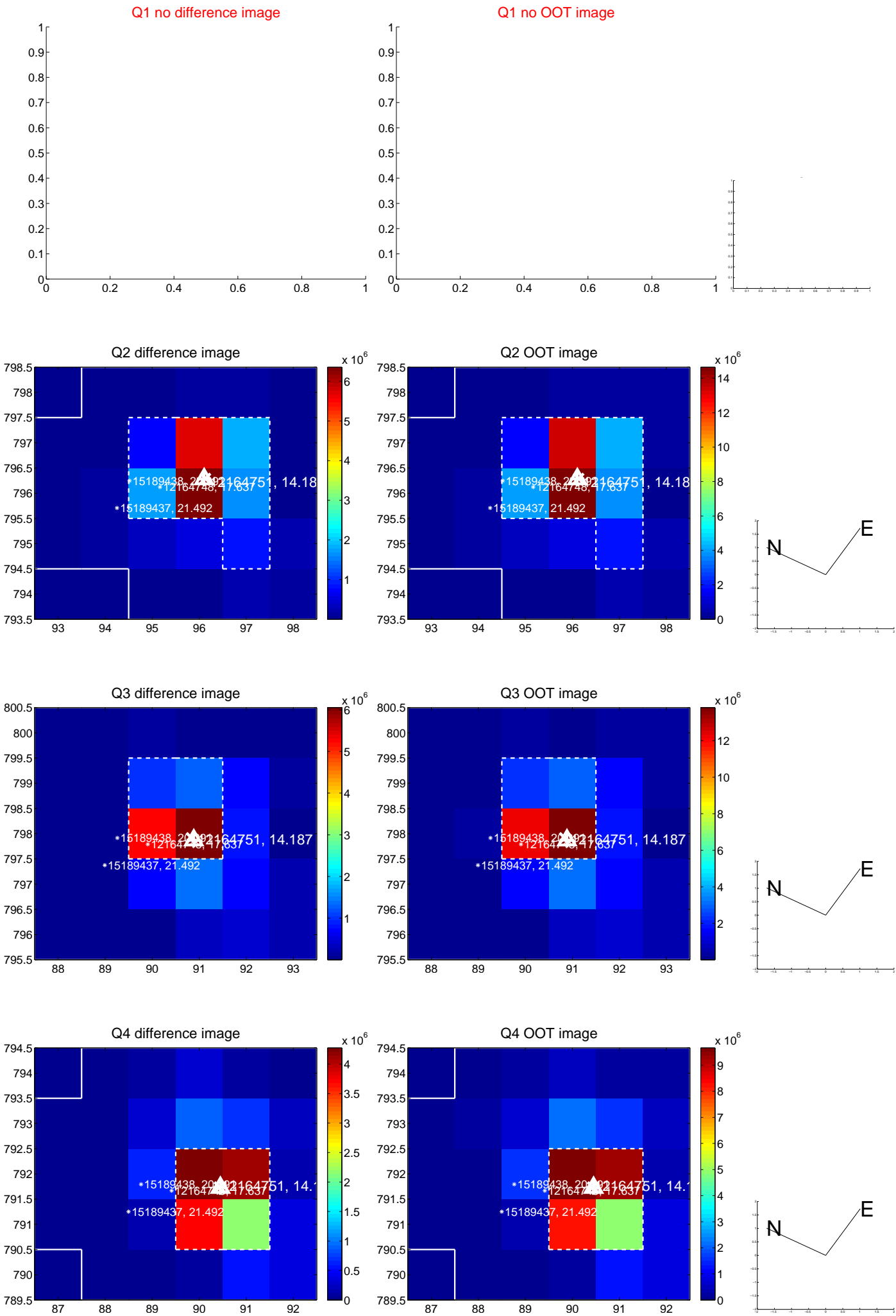
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.016 ± 0.067	0.23	0.001 ± 0.067	-0.015 ± 0.067
PRF-fit source offset from KIC position	0.090 ± 0.074	1.22	-0.057 ± 0.068	-0.070 ± 0.077
photometric centroid source offset	0.04 ± 0.00	105.21	-0.01 ± 0.00	0.04 ± 0.00

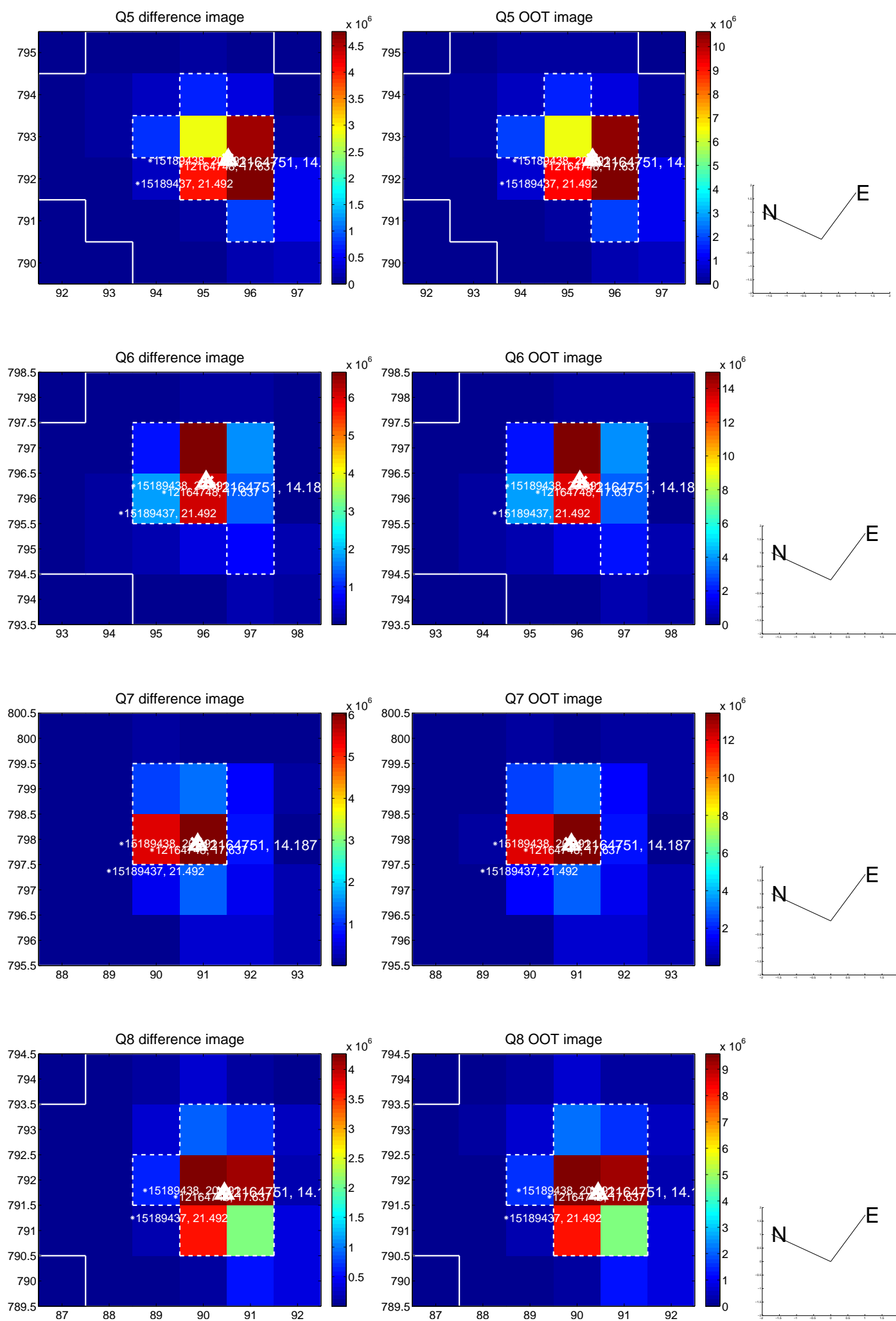


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

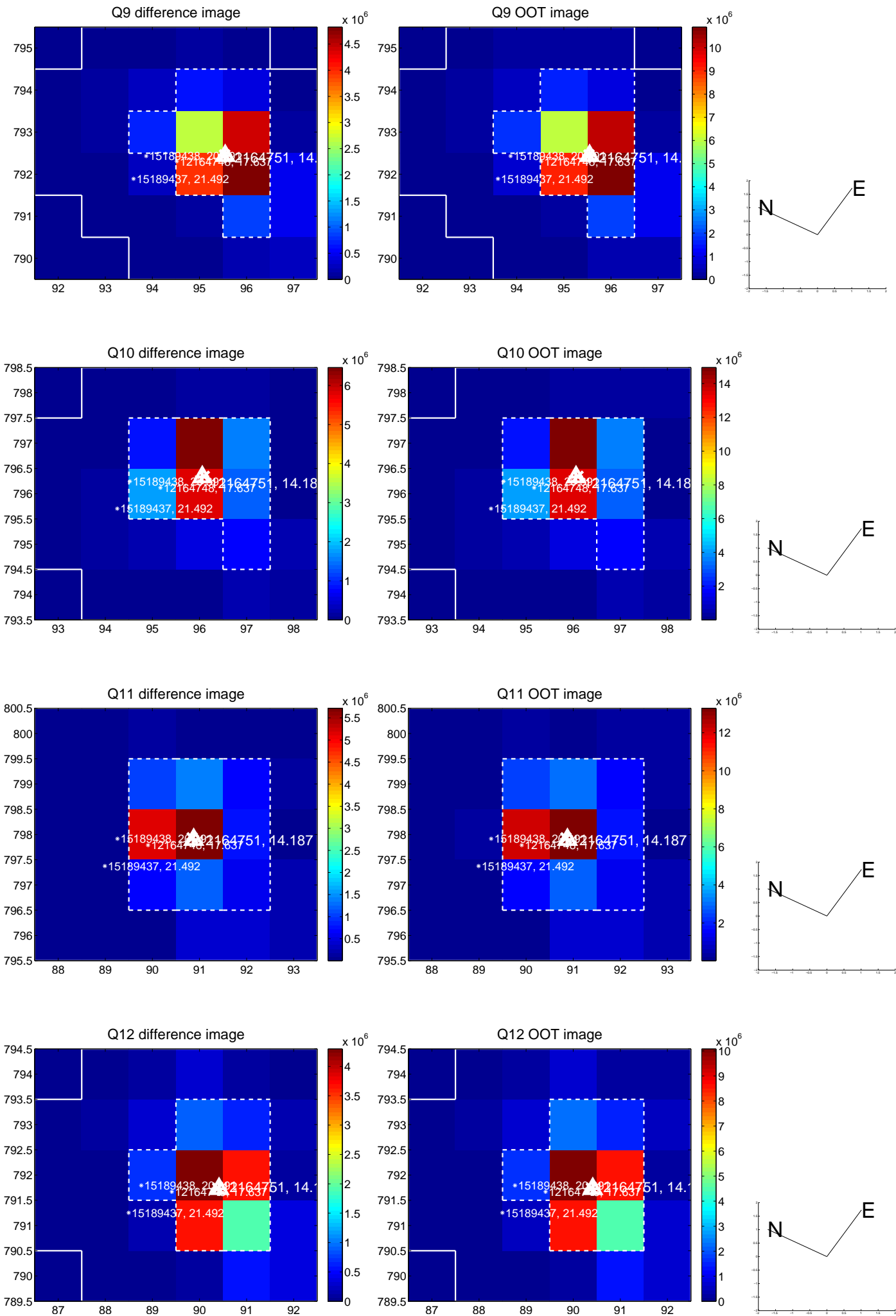
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



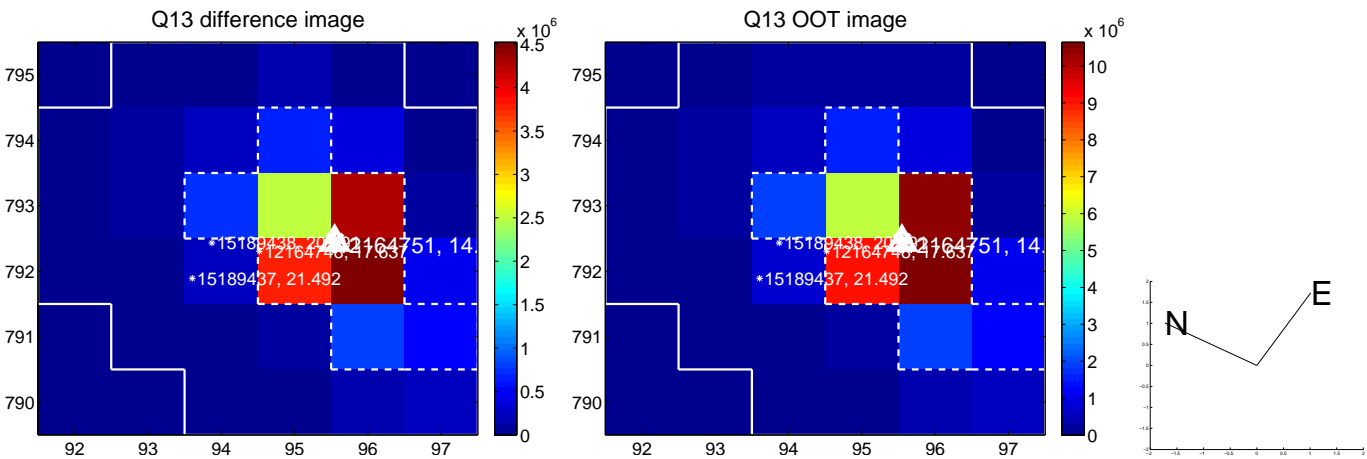
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



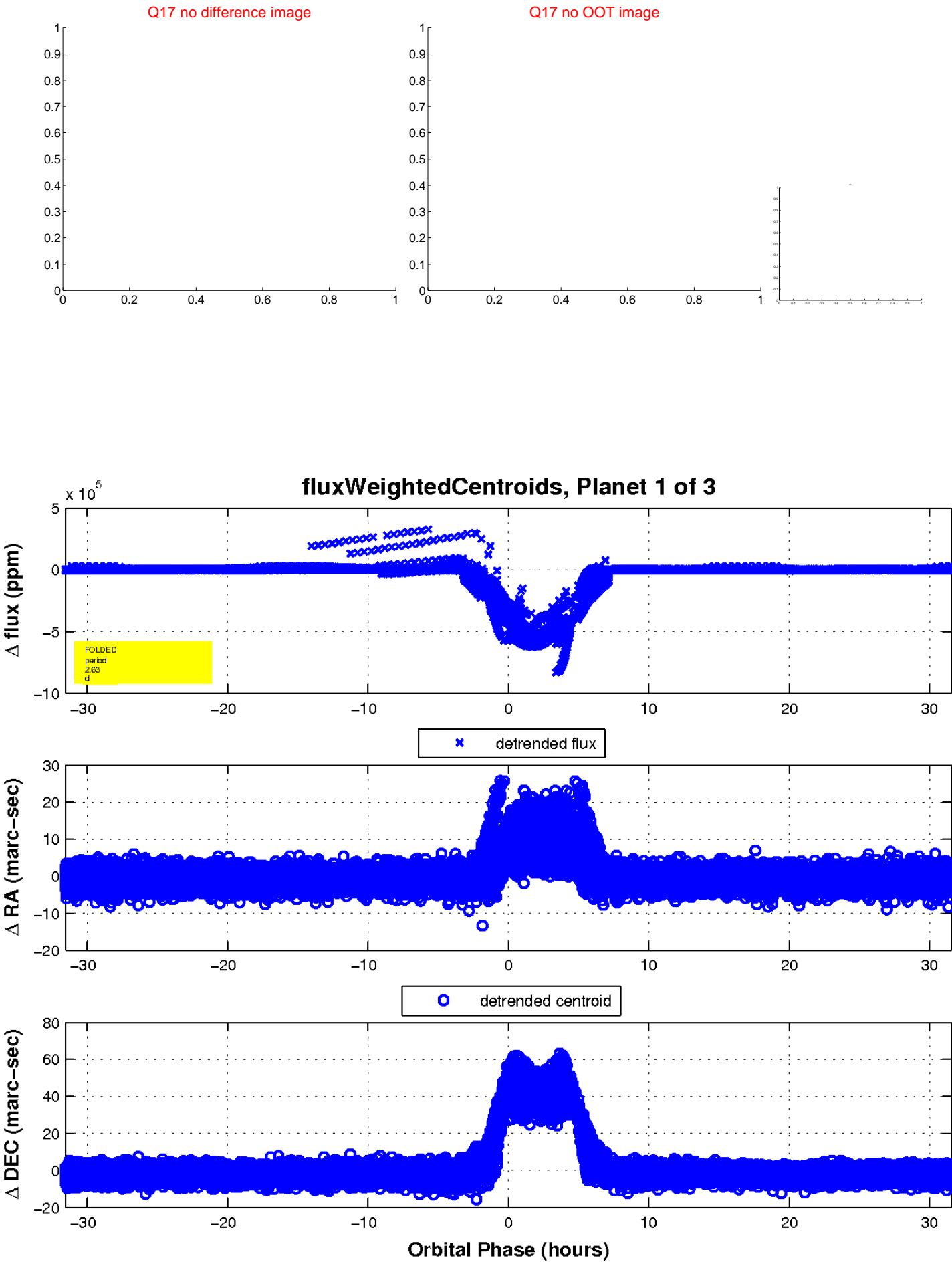
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

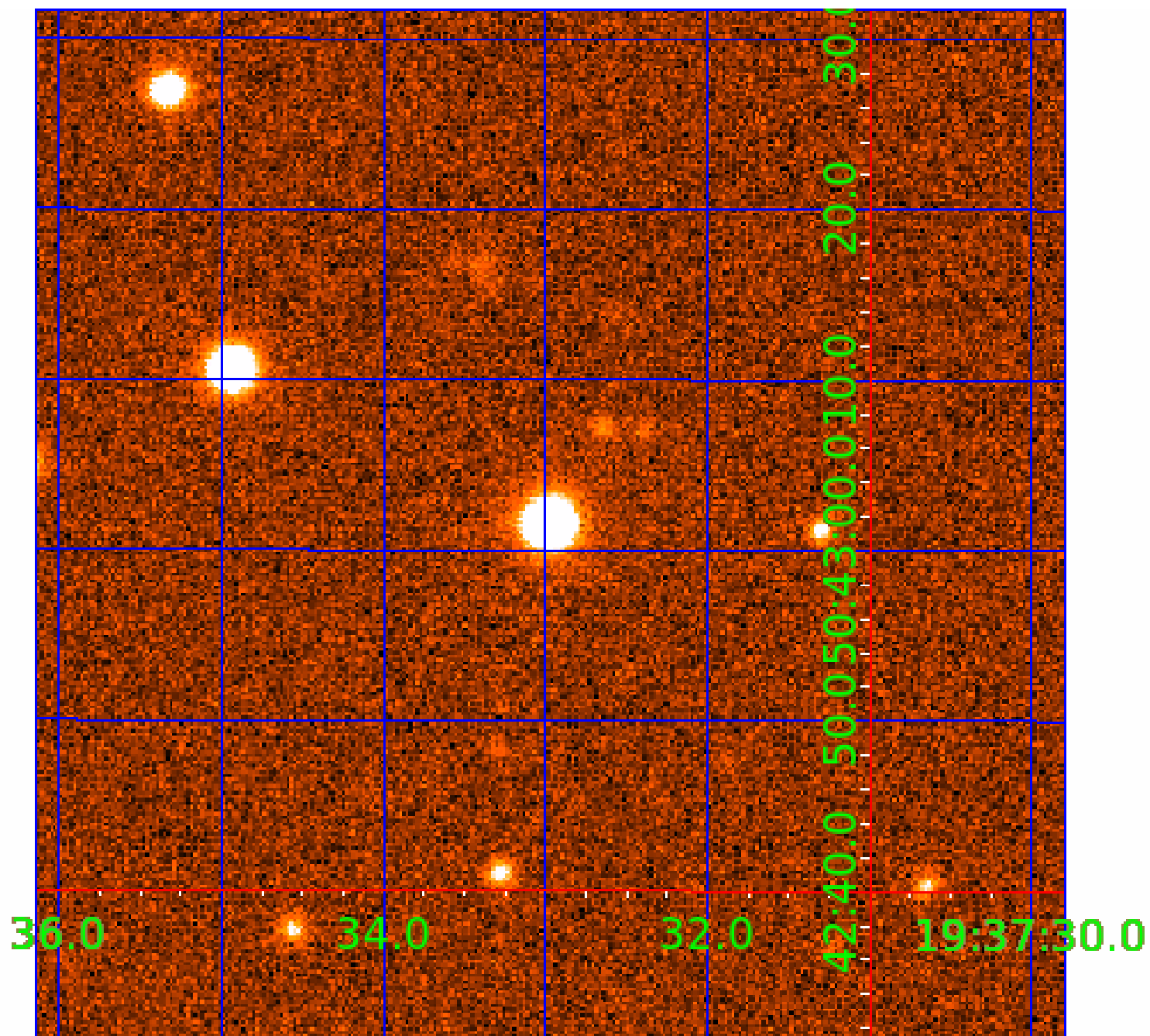


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 012164751

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})
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Robovetter Results

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012164751-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_ALT—INCONSISTENT_TRANS—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.

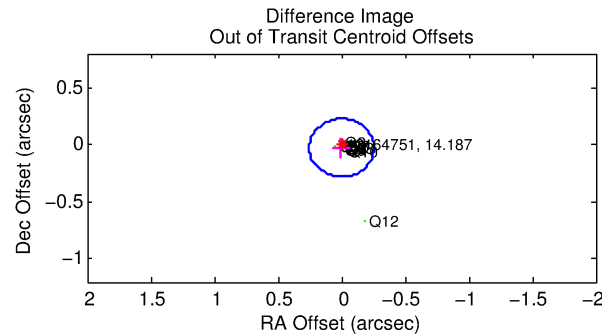
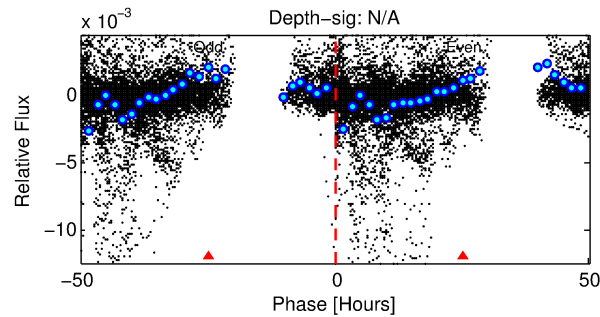
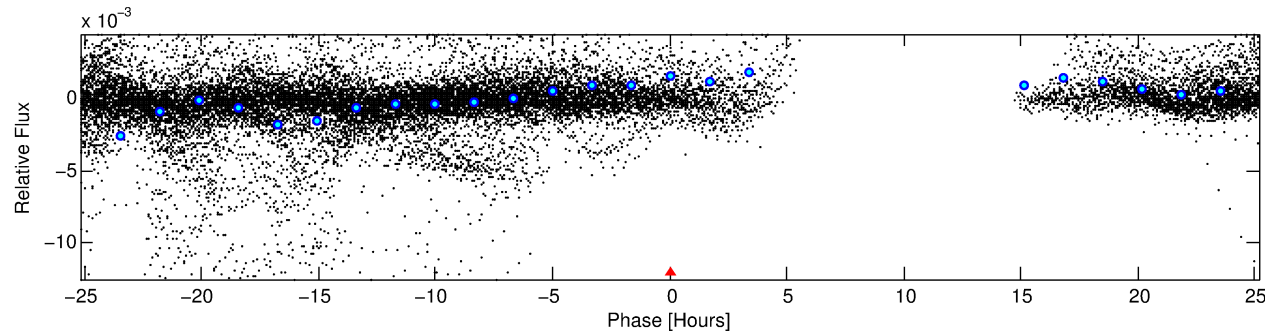
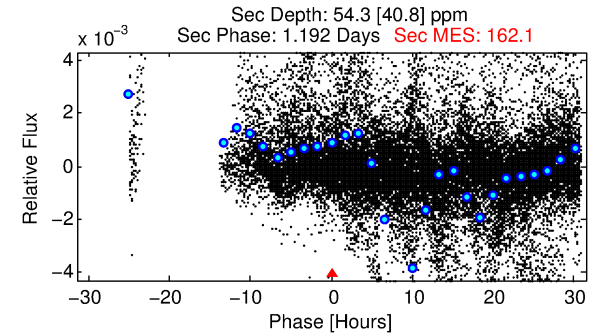
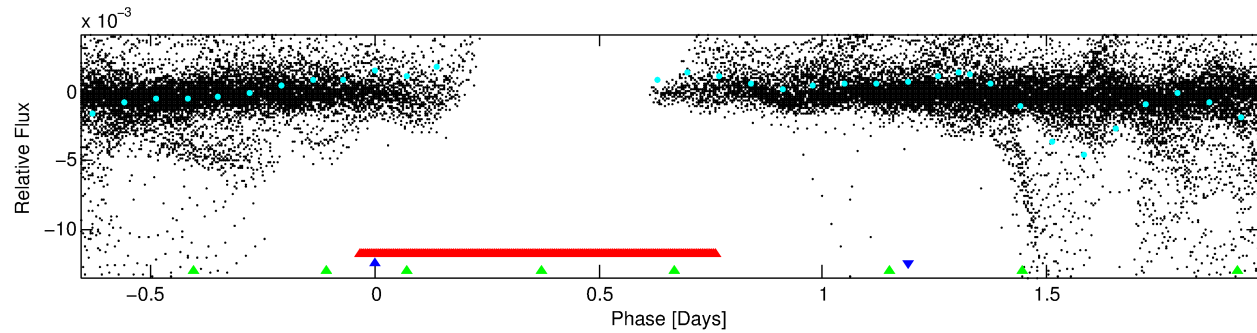
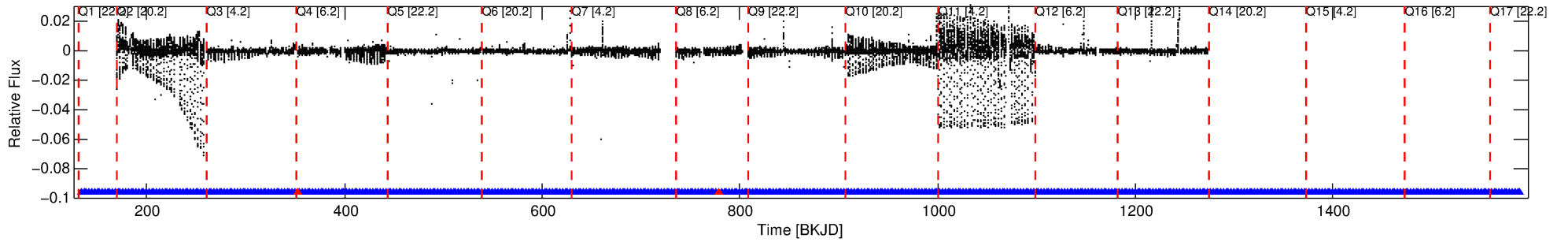
Ephemeris Match Information For 012164751-02

No Significant Match Found

DV One-Page Summary

KIC: 12164751 Candidate: 2 of 3 Period: 2.631 d
KOI: K07515 Corr: No Ephemeris Match

Kp: 14.19 R*: 1.11 Rs Teff: 6315.0 K Logg: 4.29 Fe/H: -0.760



TPS TCE Results:

Period = 2.63143 d
Epoch = 131.5348 BKJD

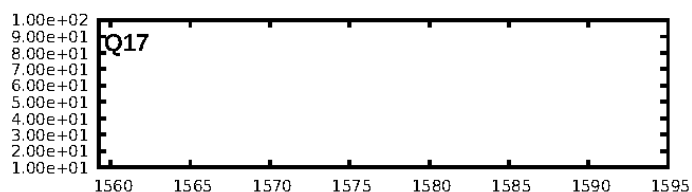
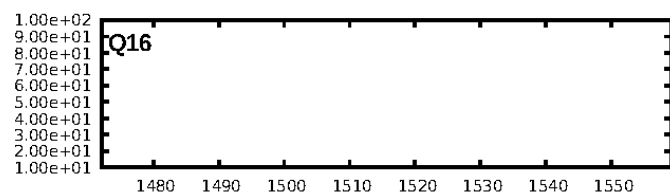
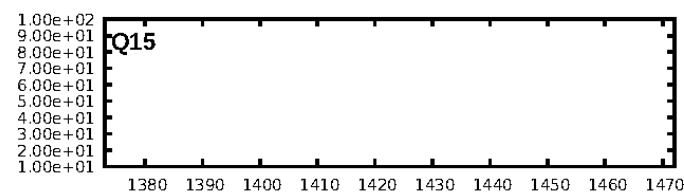
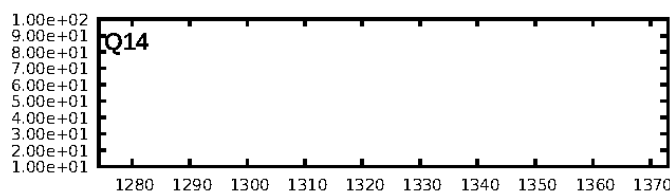
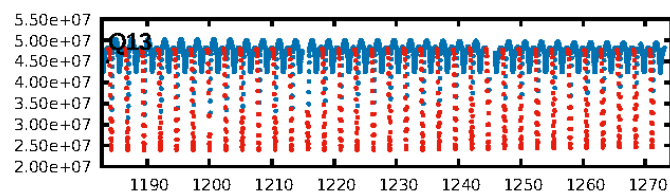
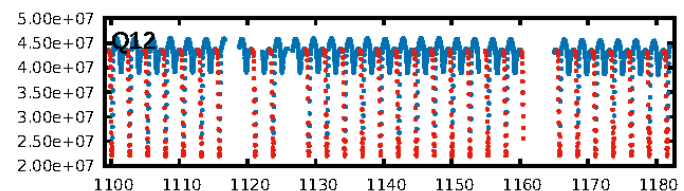
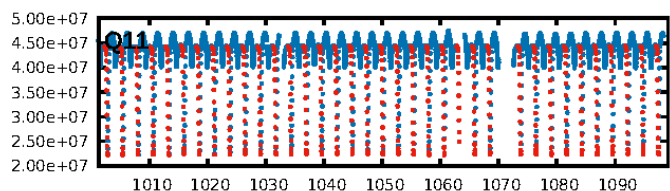
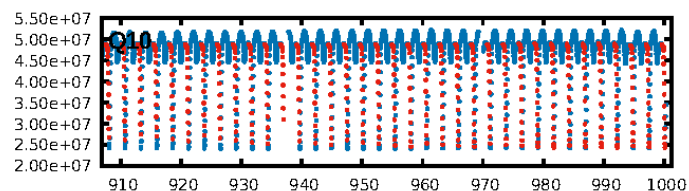
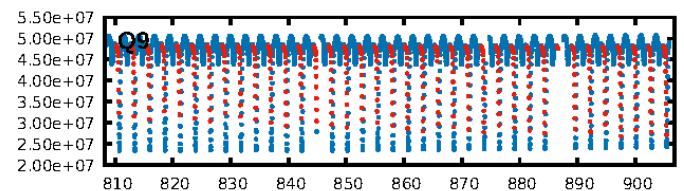
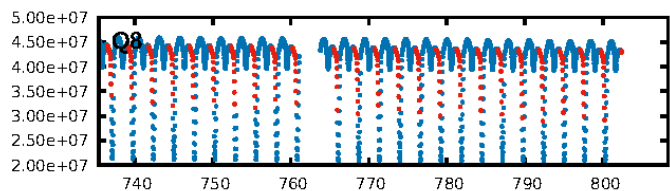
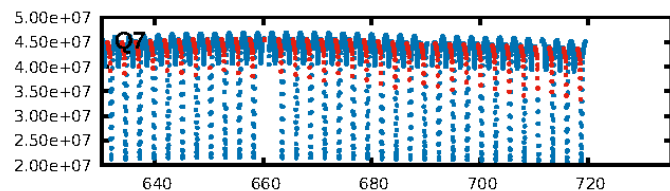
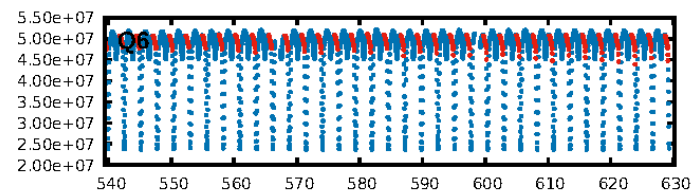
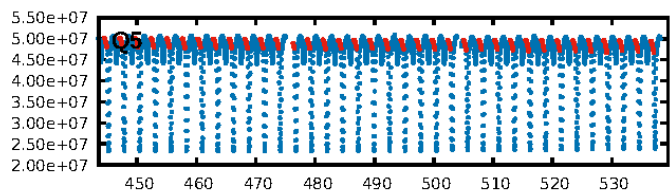
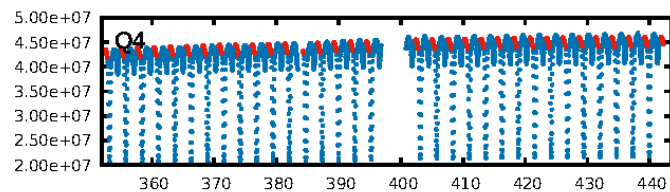
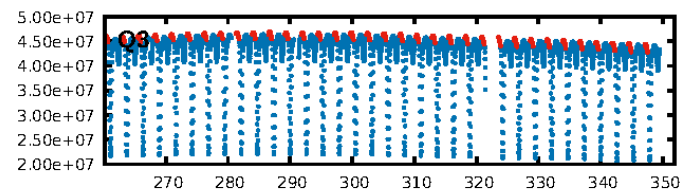
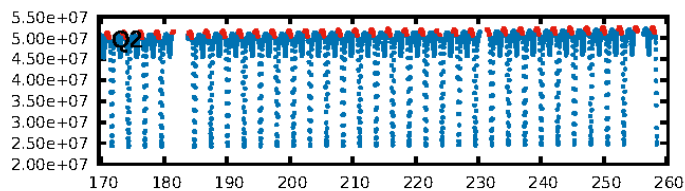
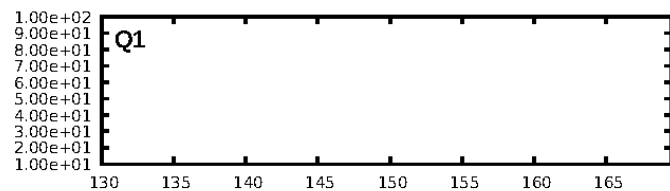
DV fit results are unavailable

DV Diagnostic Results:

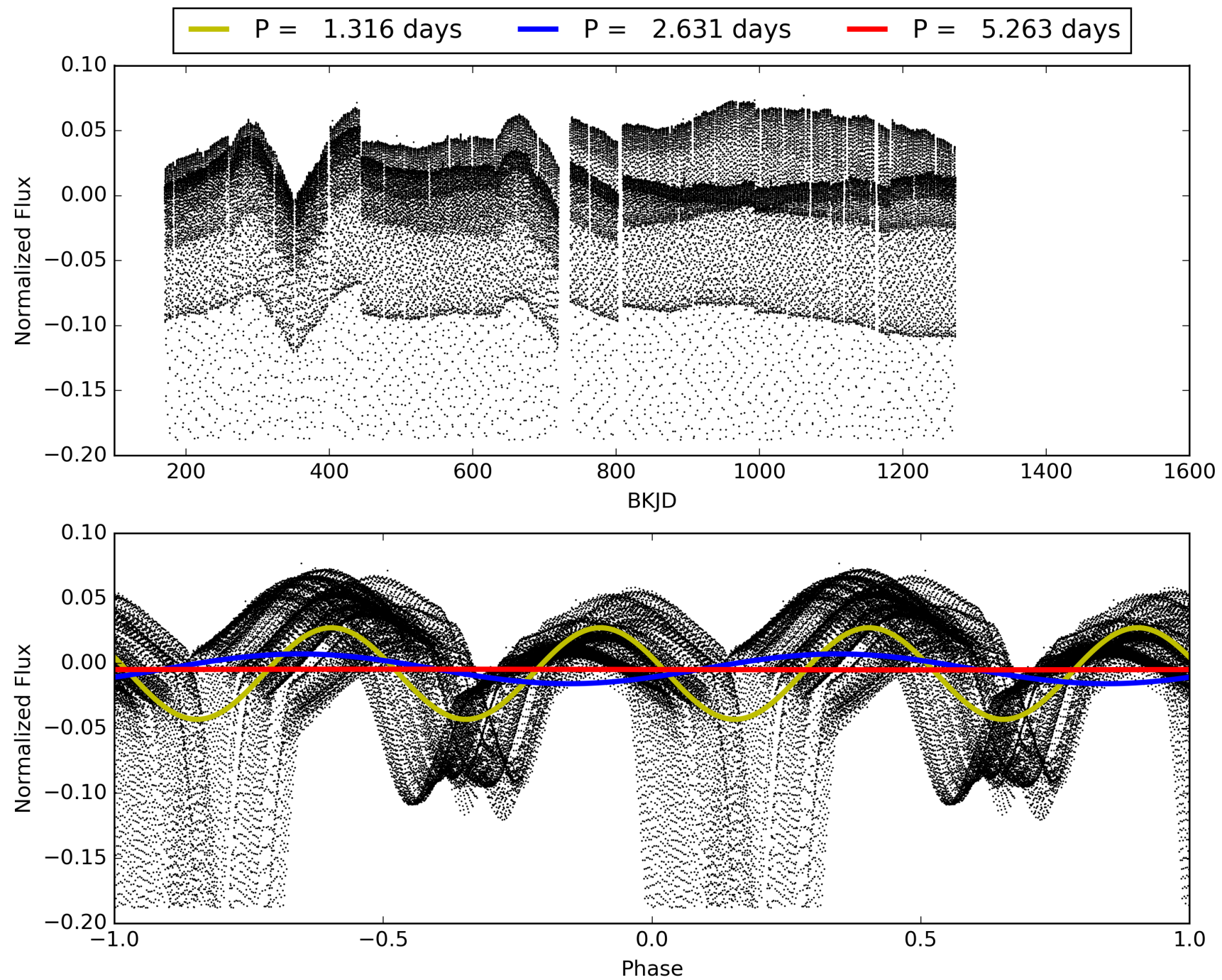
ShortPeriod-sig: 0.3% [0.00σ]
LongPeriod-sig: 100.0% [342.24σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [278/280]
GhostDiagnostic-chr: 3.078

Centroid-sig: N/A
Centroid-so: 0.110 arcsec [9.43σ]
OotOffset-rm: 0.024 arcsec [0.29σ]
KicOffset-rm: 0.106 arcsec [1.18σ]
OotOffset-st: 3/3/3/3 [12]
KicOffset-st: 3/3/3/3 [12]
DiffImageQuality-fgm: 0.17 [2/12]
DiffImageOverlap-fno: 0.00 [0/12]

TCE 012164751-02, PDC Light Curves

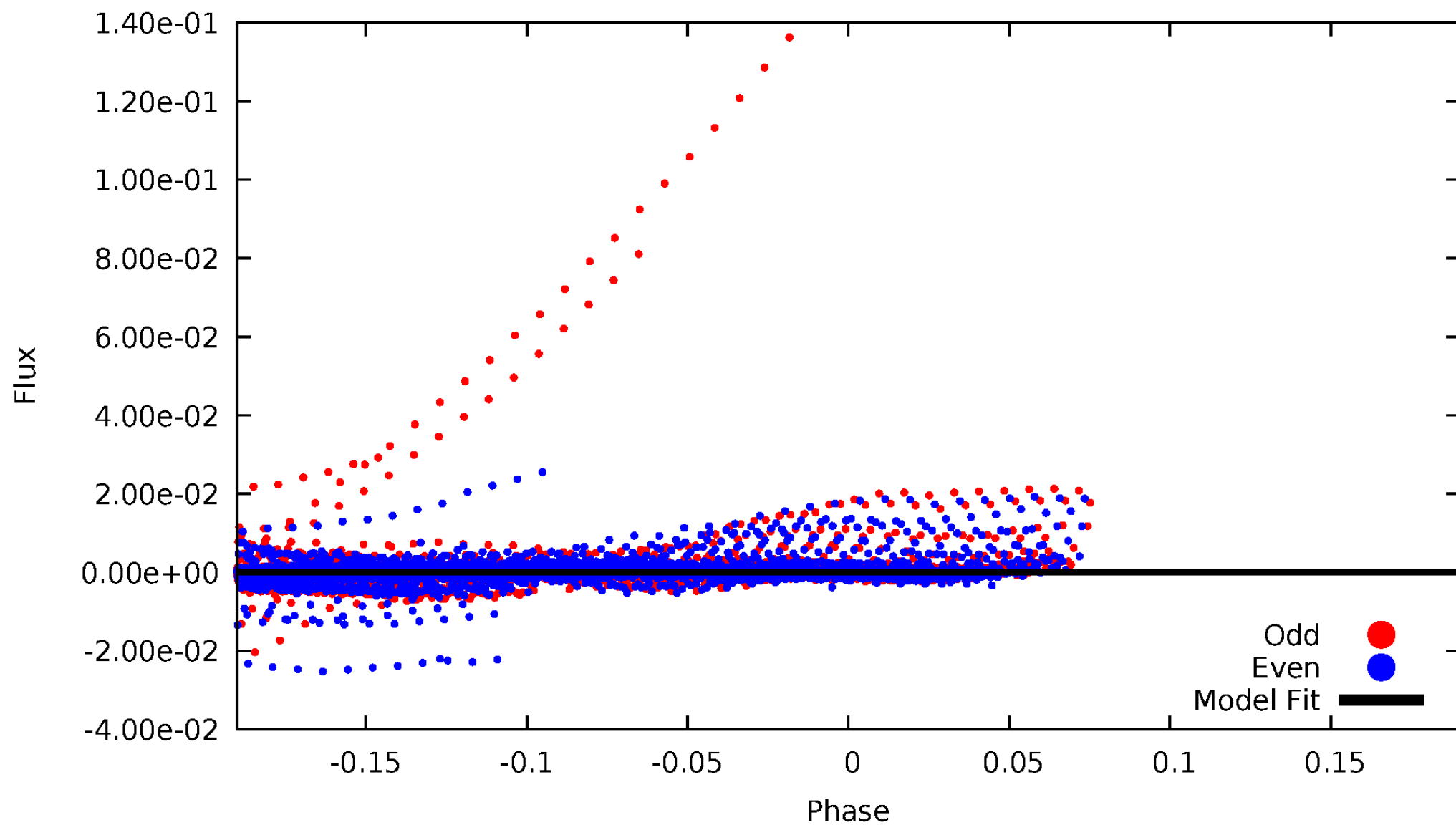


TCE 012164751-02



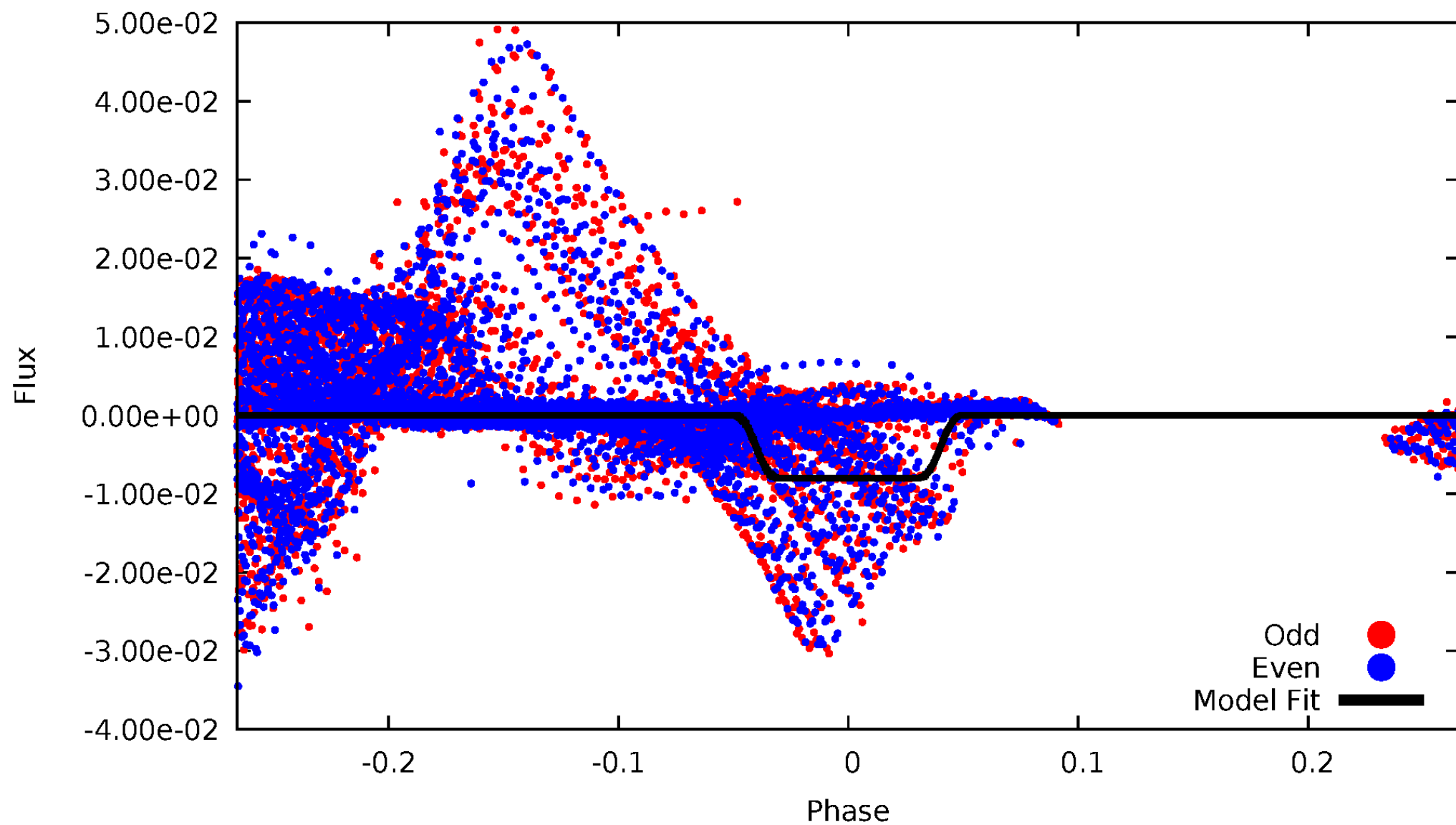
DV Odd/Even

TCE 012164751-02



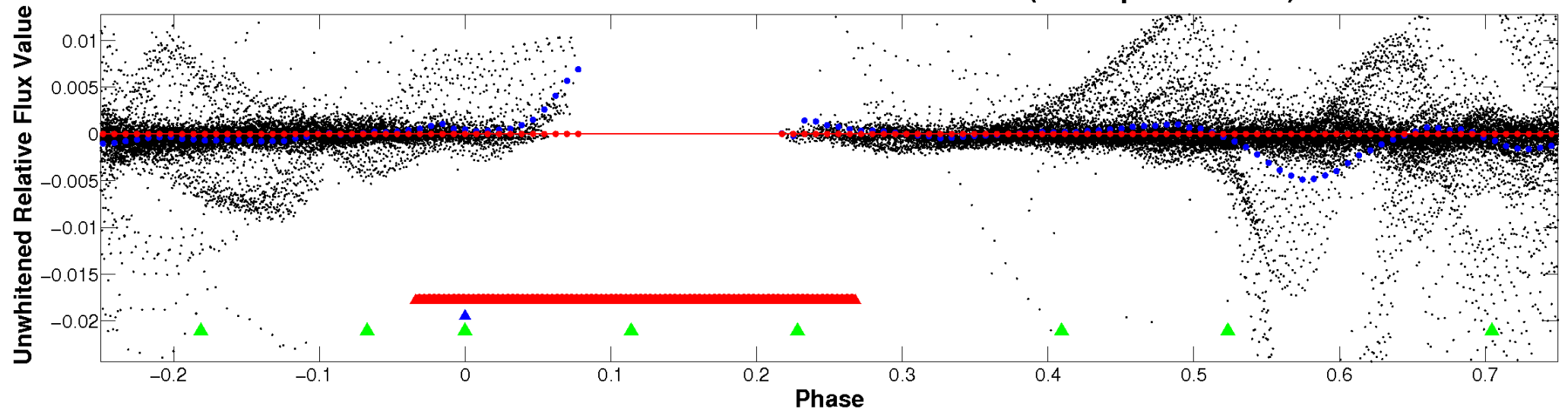
ALT Odd/Even

TCE 012164751-02



Non-Whitened Vs. Whitened Light Curve

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

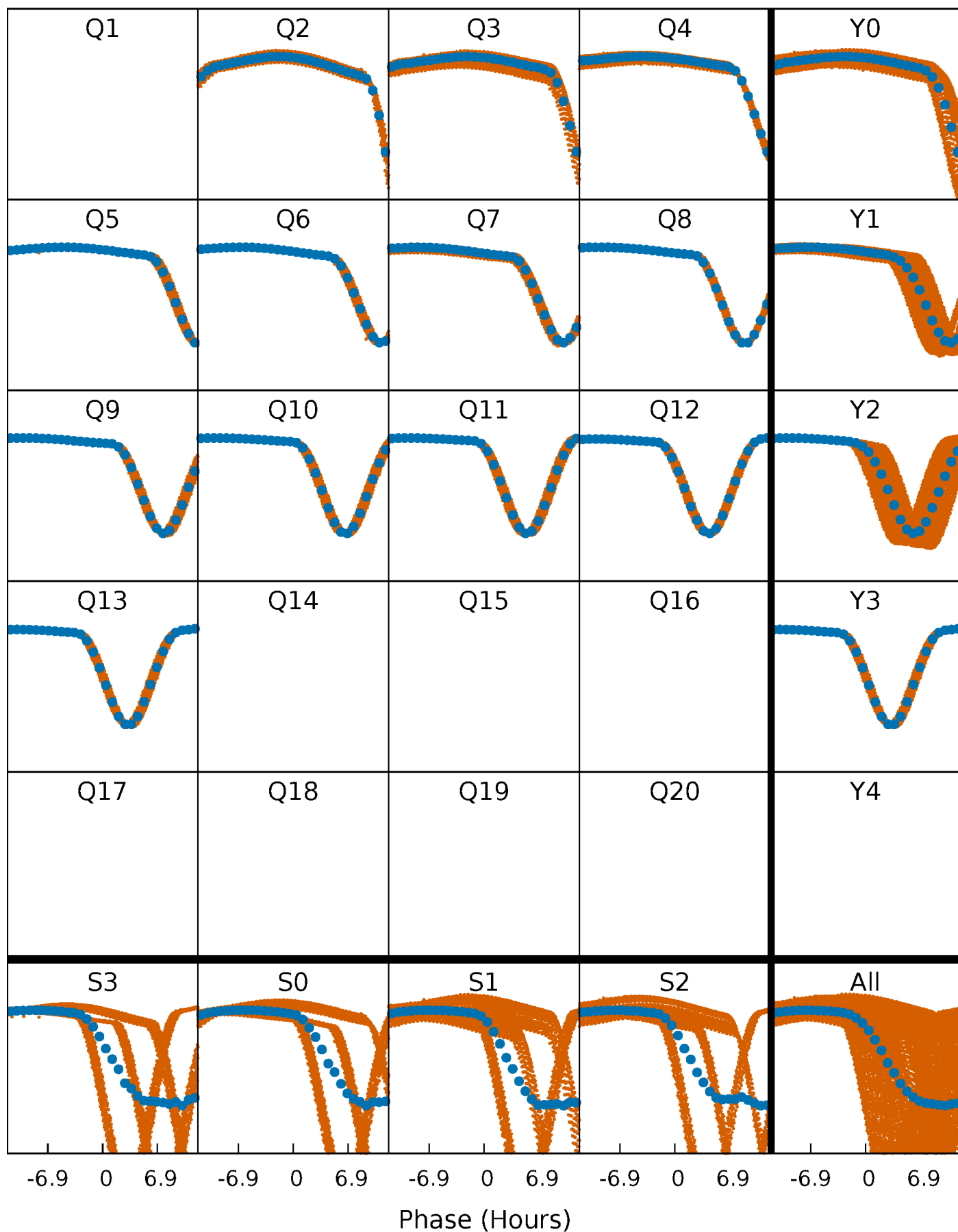


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



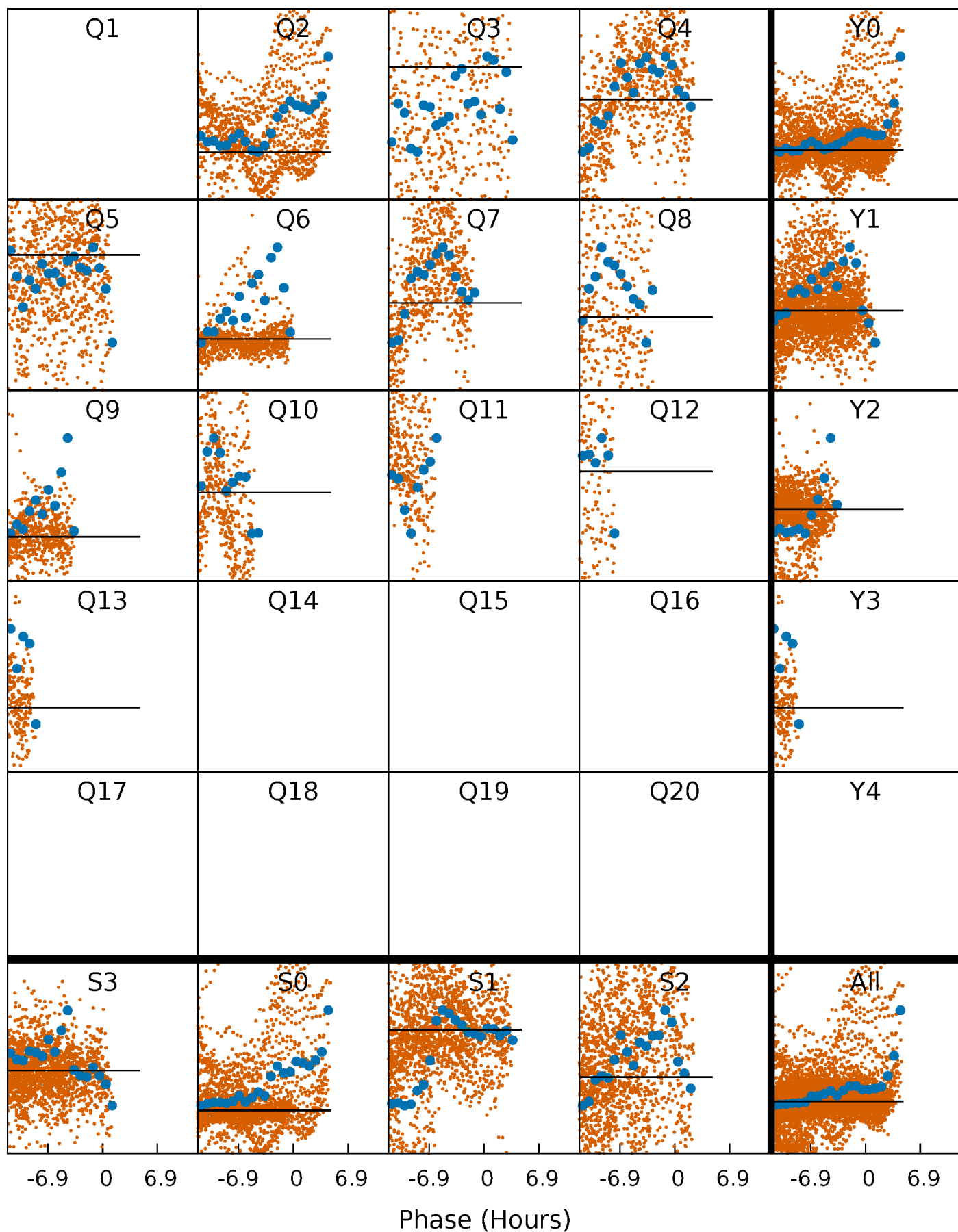
PDC Quarter-Phased Transit Curves

TCE 012164751-02 P= 2.631427 Days $T_0=131.534833$ (BKJD)



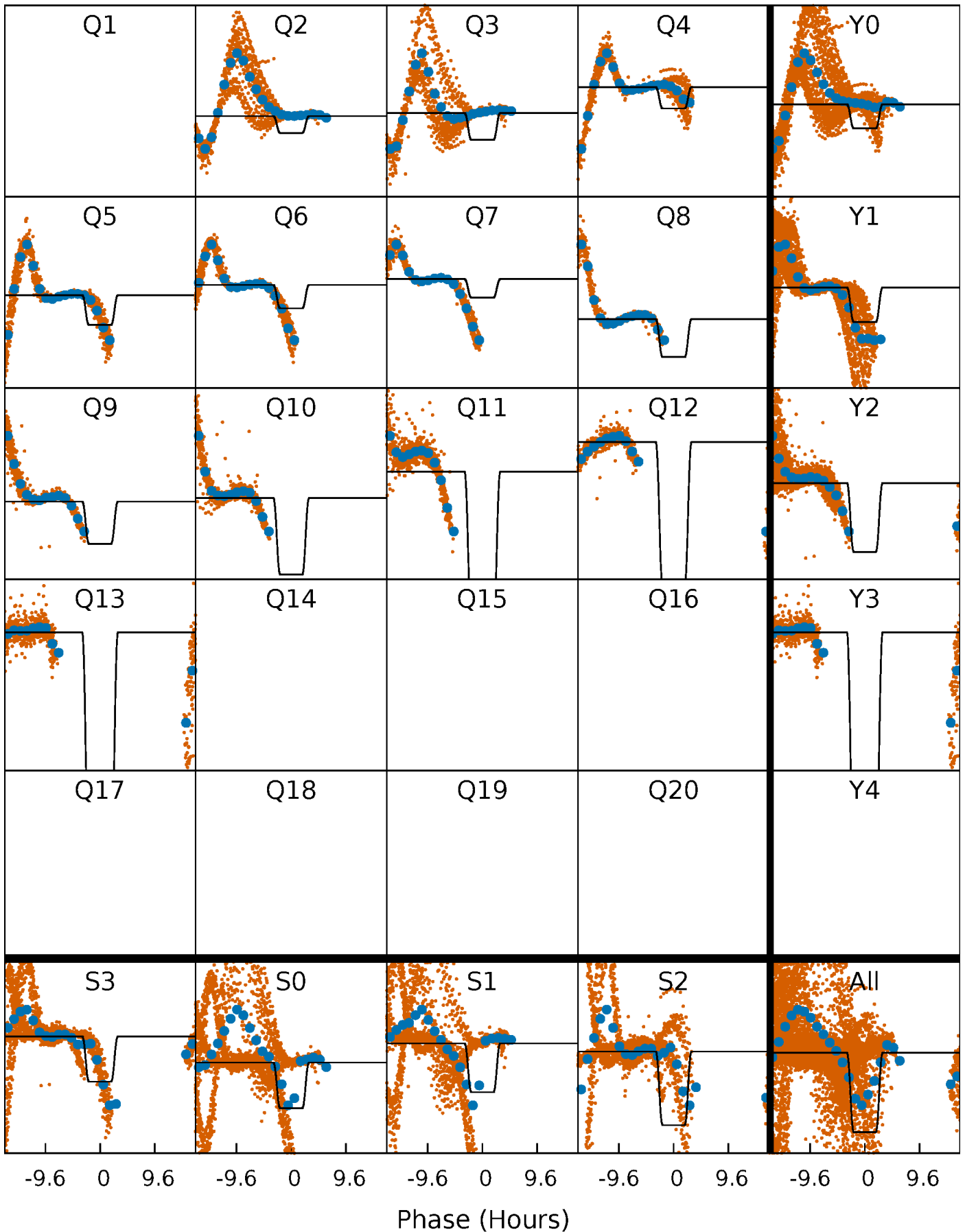
DV Quarter-Phased Transit Curves

TCE 012164751-02 P= 2.631427 Days $T_0=131.534833$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

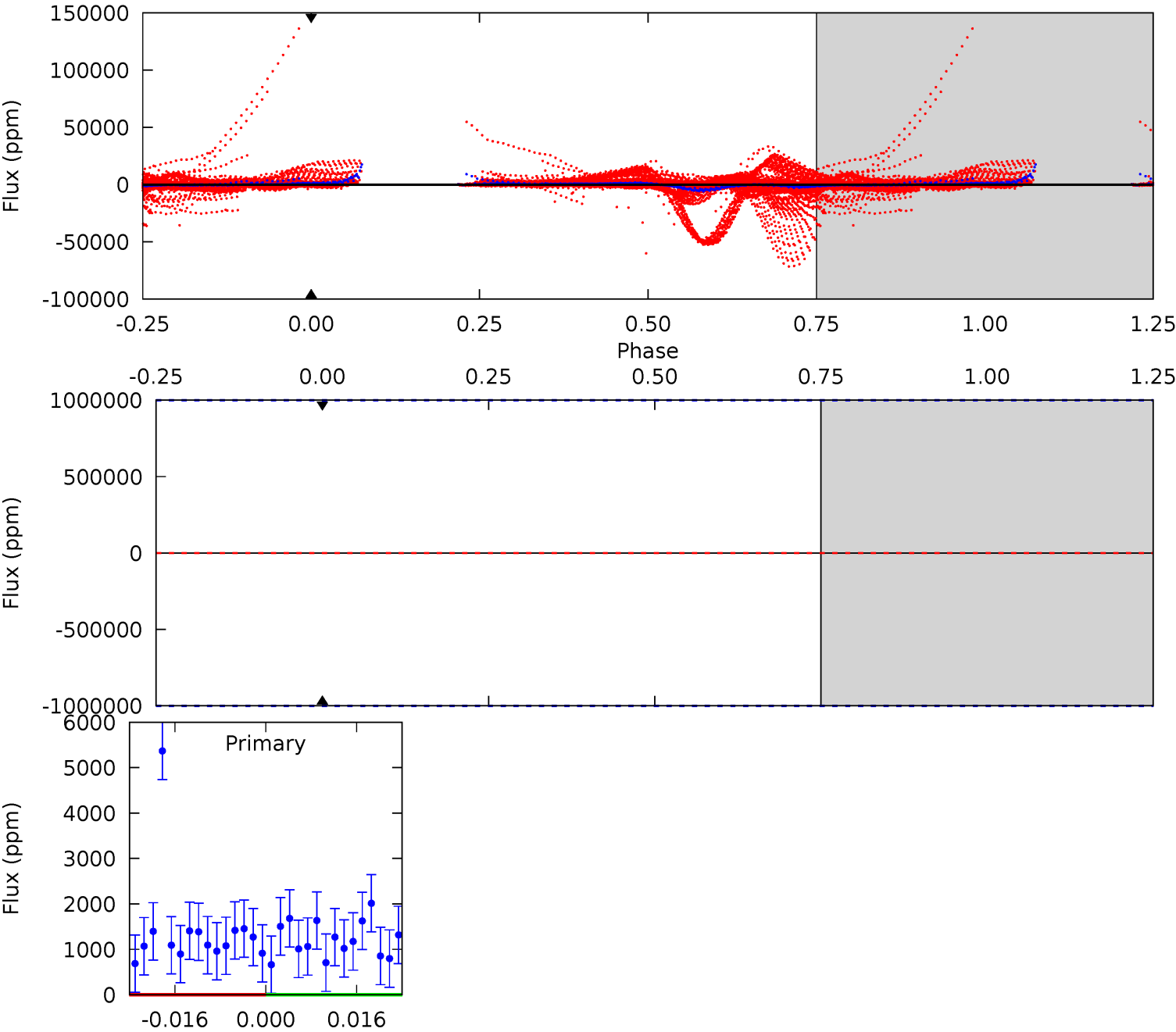
TCE 012164751-02 P= 2.631427 Days $T_0=134.123421$ (BKJD)



DV Model-Shift Uniqueness Test

012164751-02, P = 2.631427 Days, E = 131.534833 Days

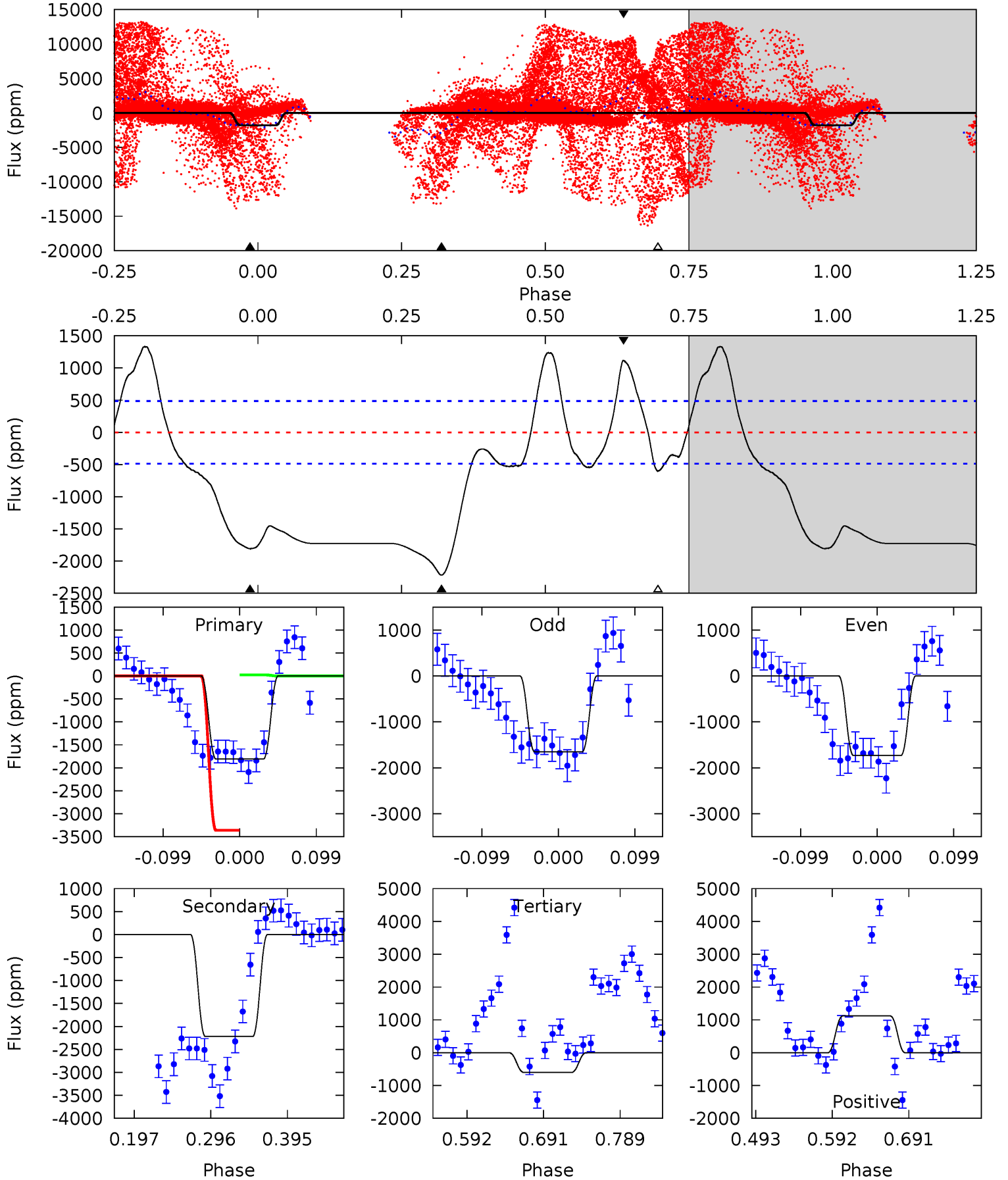
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

012164751-02, P = 2.631427 Days, E = 134.123421 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.0	20.8	5.67	10.5	4.57	1.65	6.10	11.3	6.47	15.2	10.3	0.39	1.44	0.38	14.7



Stellar Parameters For KIC 012164751

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6315^{+170}_{-189}	$4.292^{+0.204}_{-0.167}$	$-0.760^{+0.300}_{-0.300}$	$1.108^{+0.290}_{-0.237}$	$0.875^{+0.104}_{-0.076}$	$0.907^{+0.957}_{-0.399}$
	+3%/-3%	+5%/-4%	+39%/-39%	+26%/-21%	+12%/-9%	+106%/-44%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 012164751-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$13.68^{+11.19}_{-9.01}$	2161^{+166}_{-155}	4800^{+12465}_{-17732}	13^{+786}_{-474}
Alt.	-2217 ± 106	$14.62^{+10.43}_{-9.03}$	2159^{+159}_{-132}	4198^{+2193}_{-740}	$7.234^{+45.184}_{-4.655}$

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

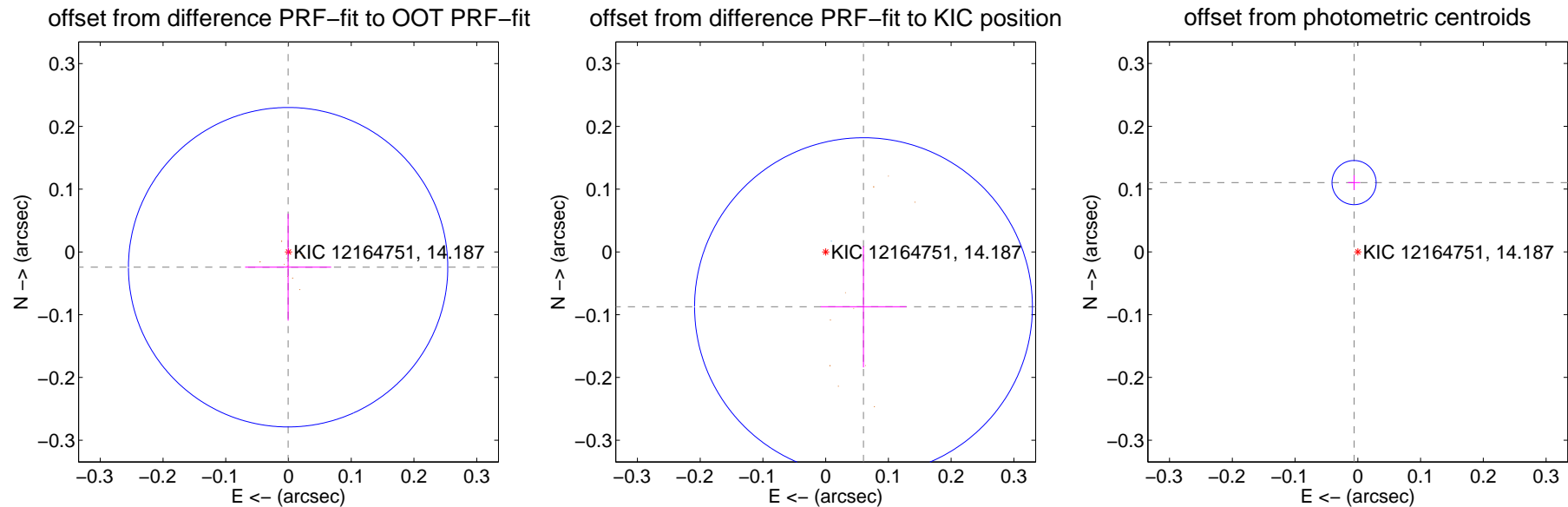
DV Centroid Data

Supplemental centroid analysis for 012164751-02. Kepler magnitude: 14.19. Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

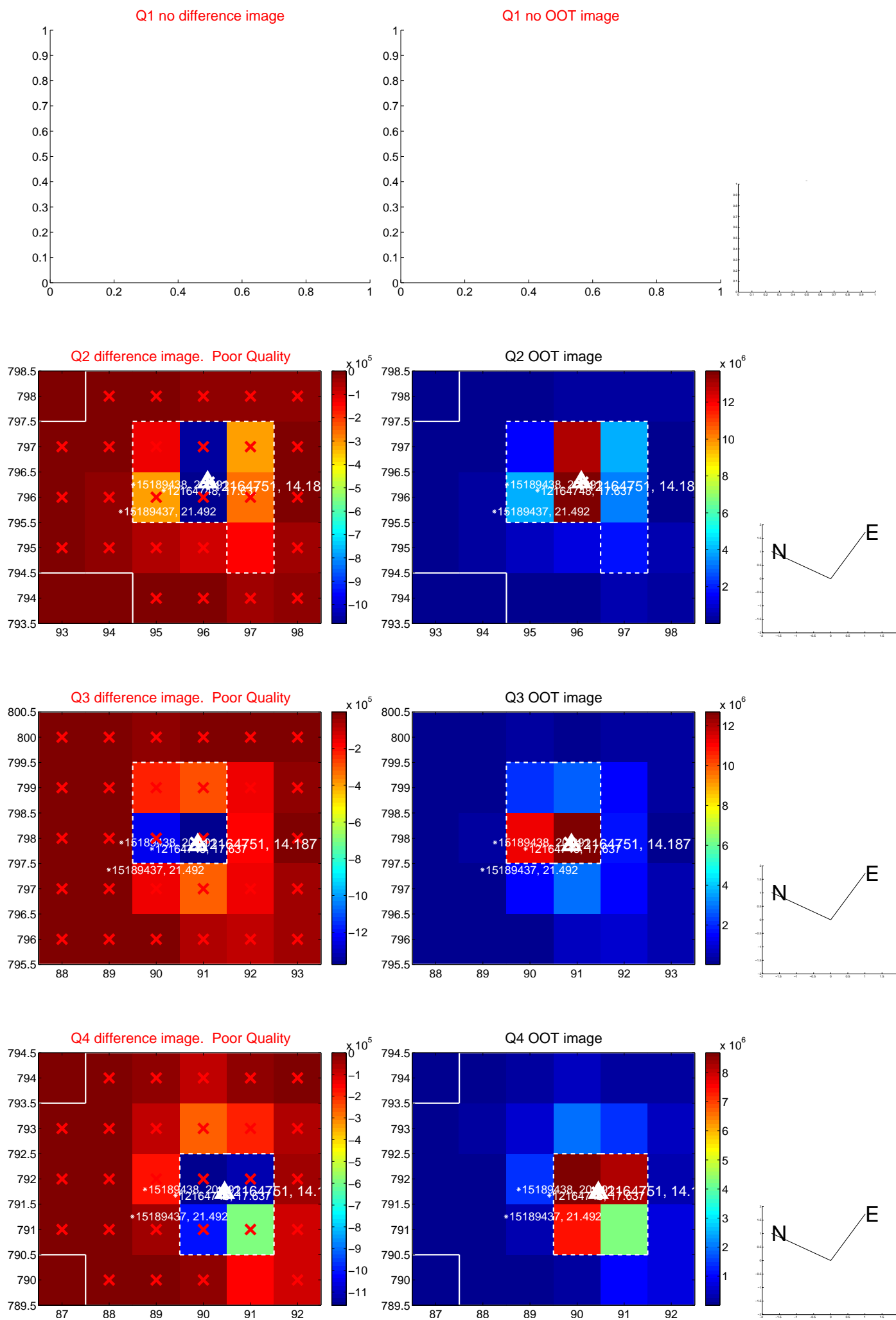
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.024 ± 0.085	0.29	0.001 ± 0.069	-0.024 ± 0.085
PRF-fit source offset from KIC position	0.106 ± 0.090	1.18	-0.060 ± 0.068	-0.087 ± 0.097
photometric centroid source offset	0.11 ± 0.01	9.43	0.01 ± 0.01	0.11 ± 0.01

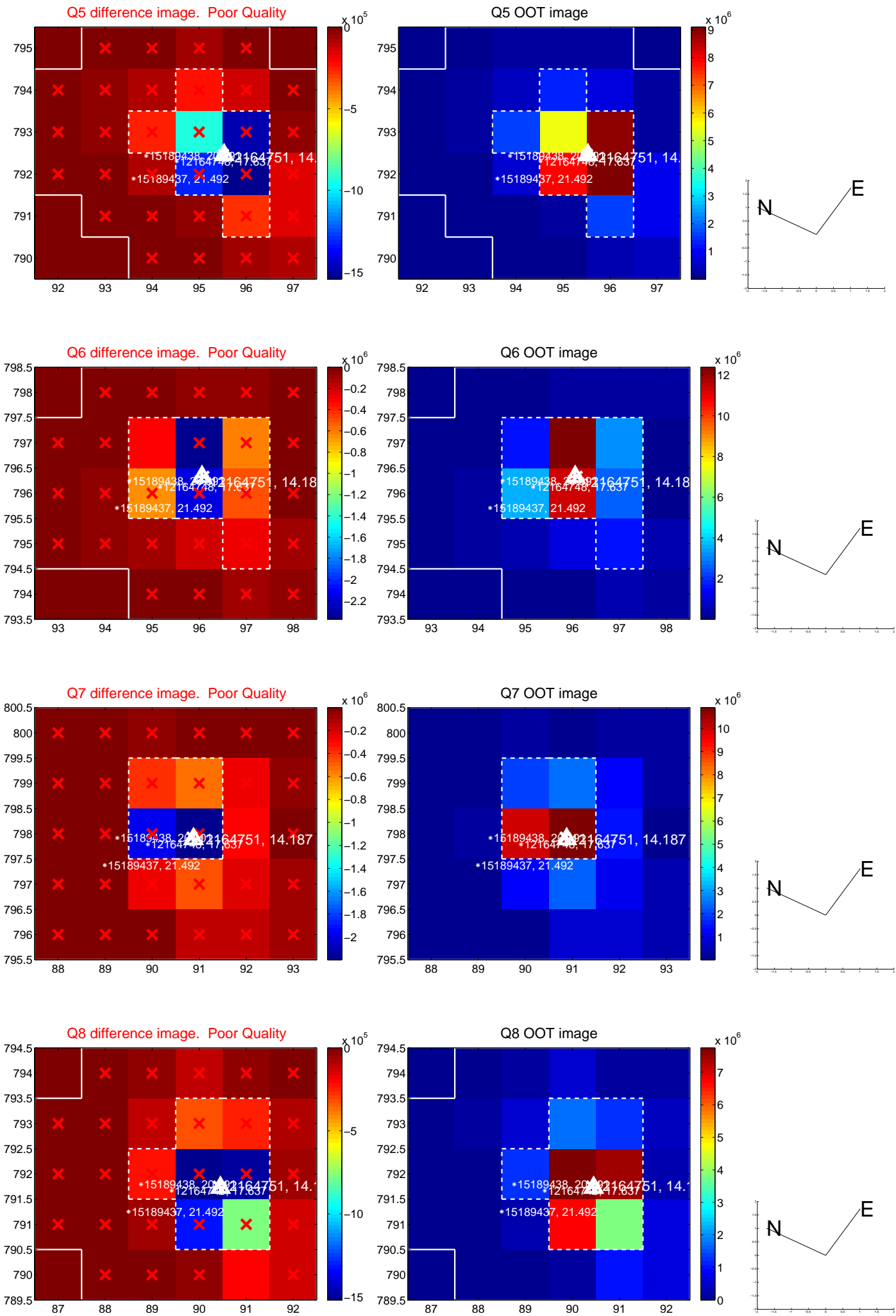


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

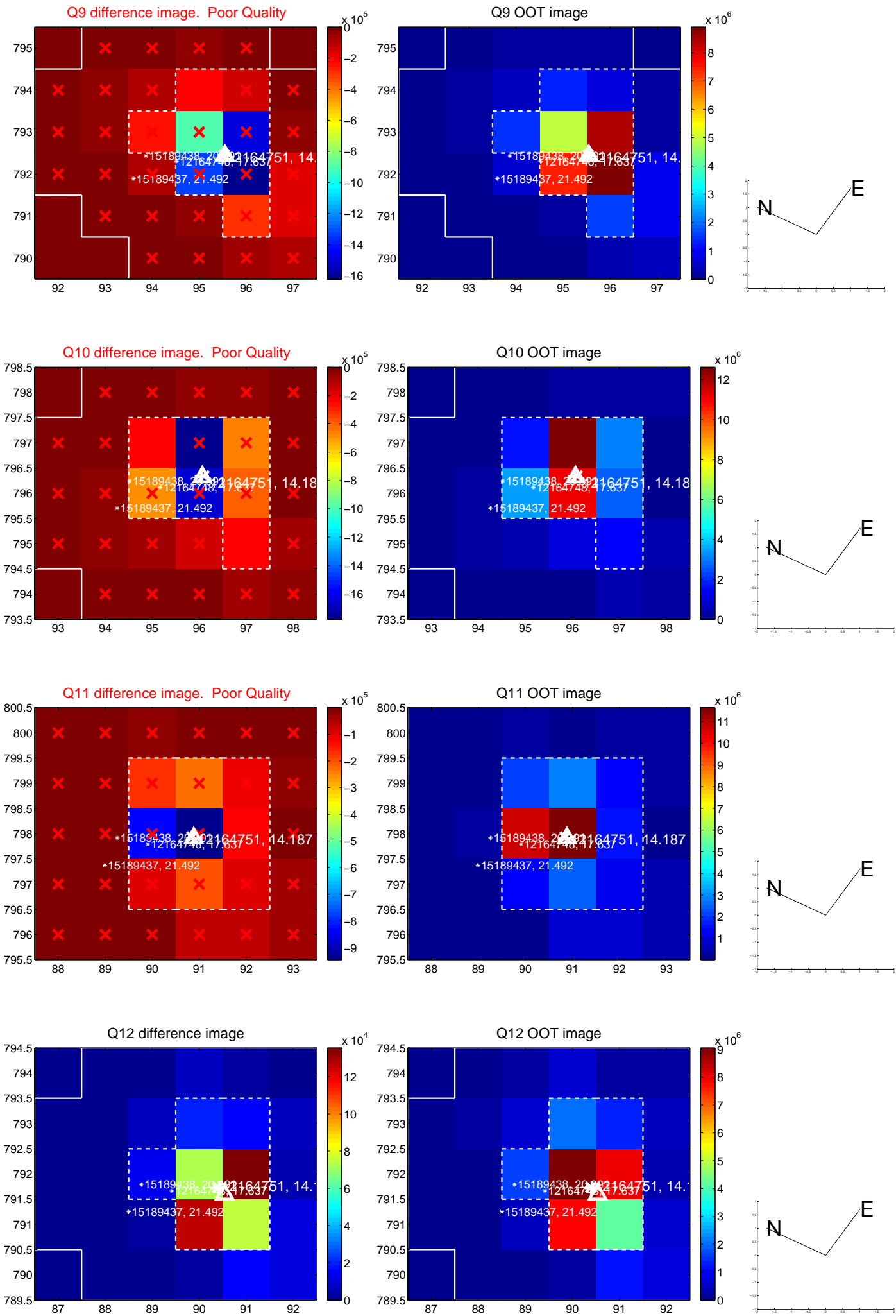
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



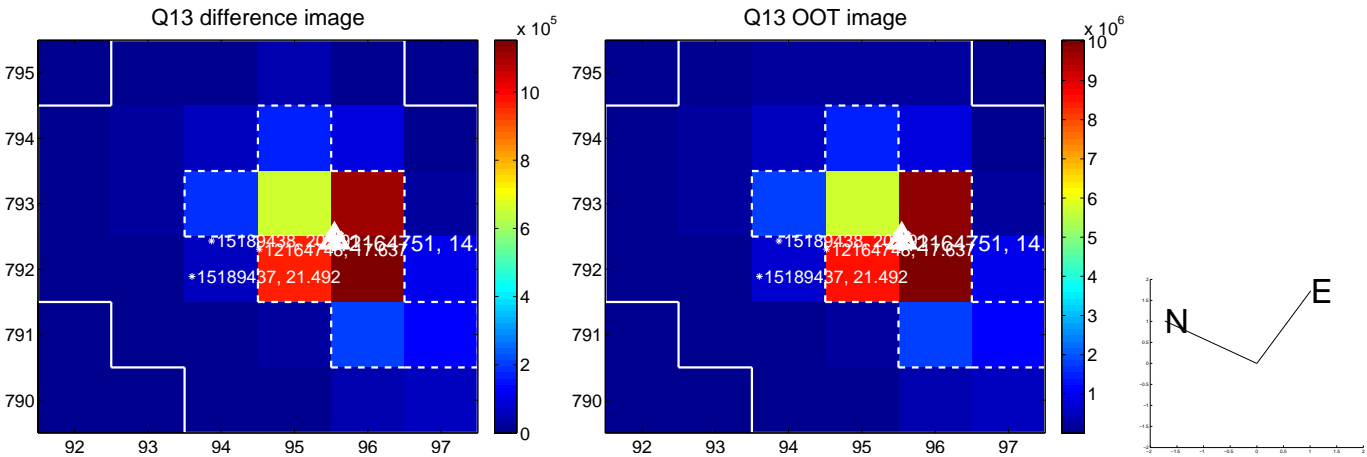
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



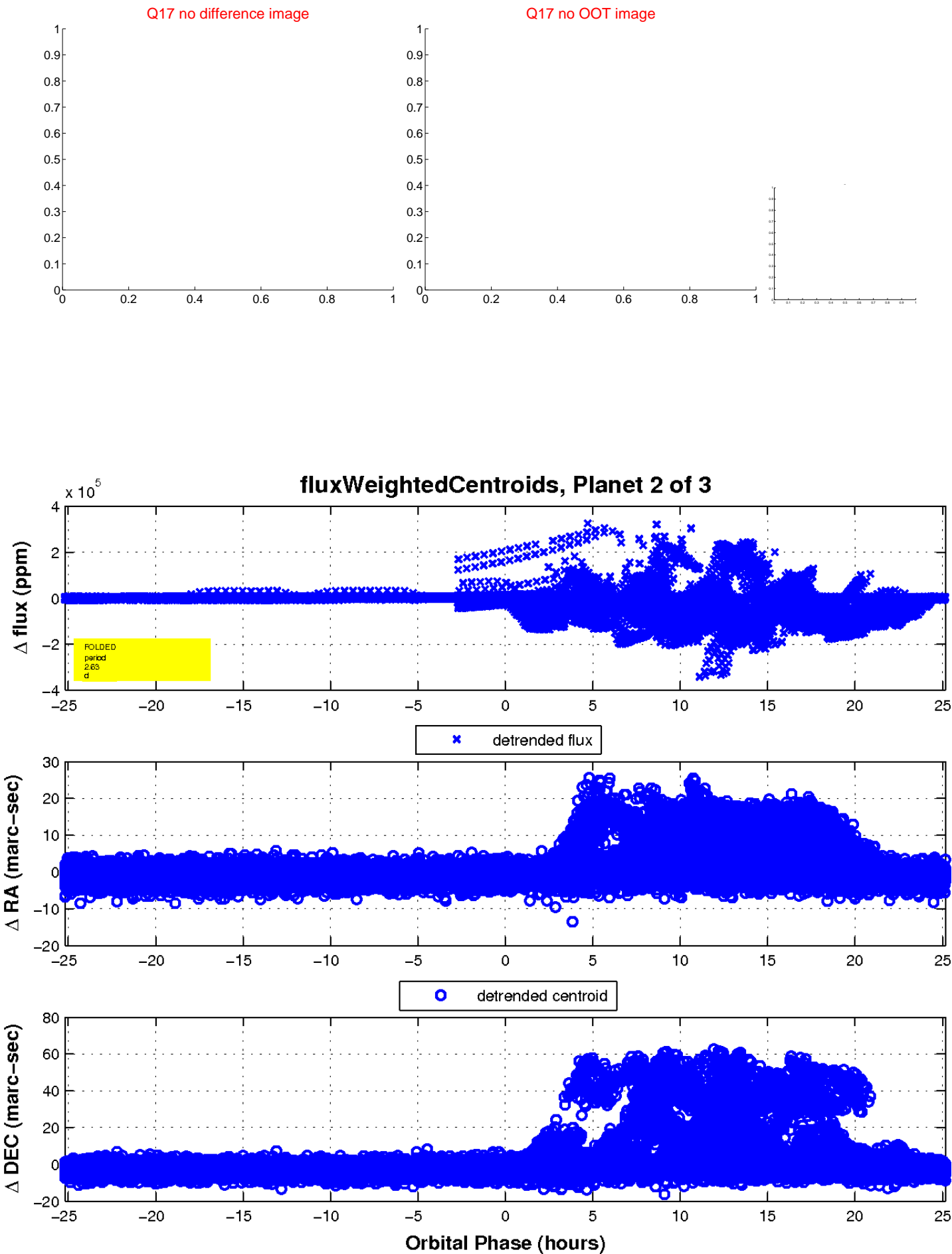
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

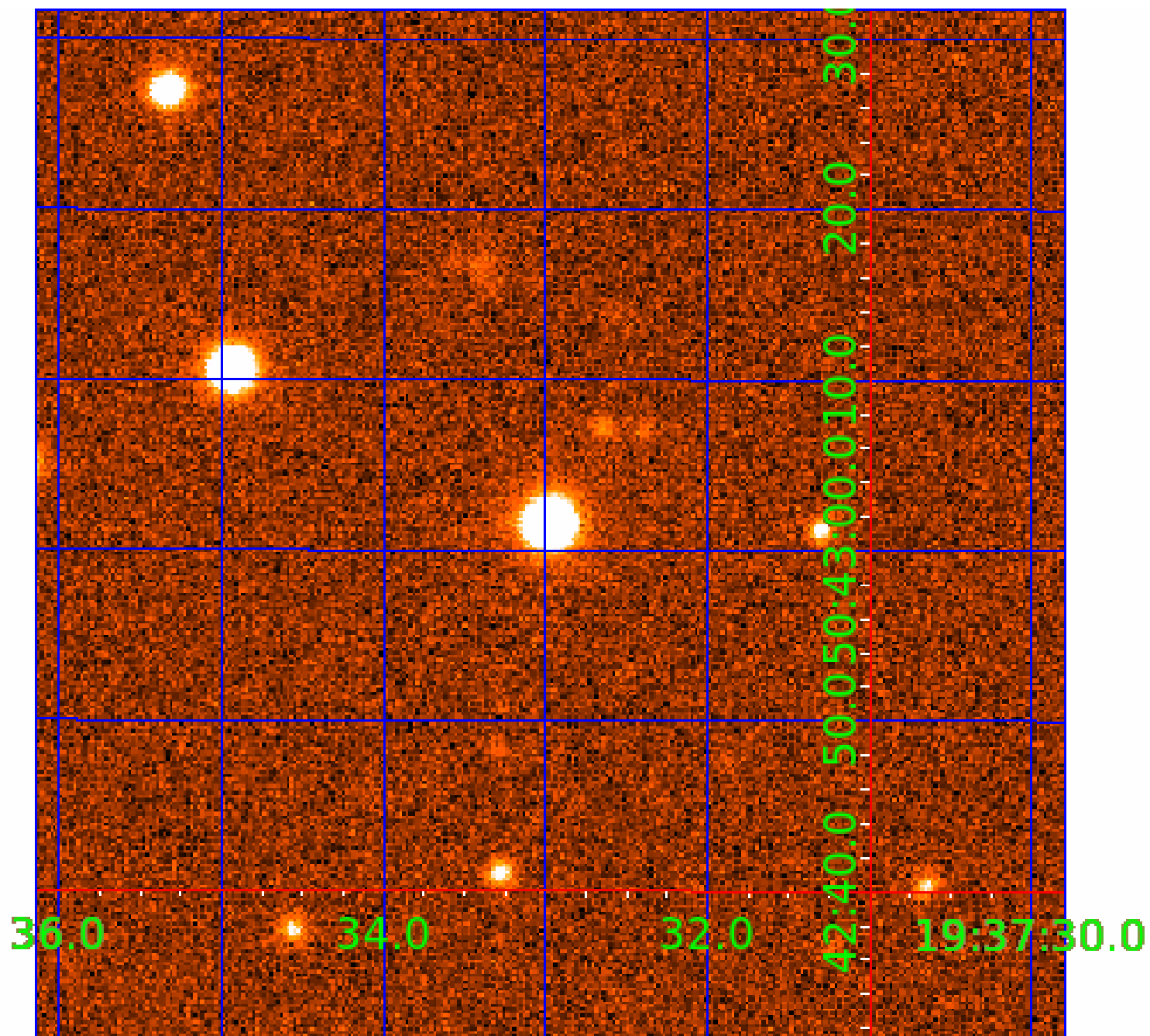


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 012164751

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})
012164751-01	OBS	7515.01	2.629993	132.239791	579504.7	7.500	9995.0	-1.0	1.11	6315	31.53	1372.38
012164751-02	OBS	No	2.631427	131.534833	9470.8	6.000	313.4	-1.0	1.11	6315	10.85	1371.38
012164751-03	OBS	No	193.948540	147.323164	2973.3	12.000	67.6	-1.0	1.11	6315	6.08	4.44

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012164751-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_ALT—CENT_NOFITS
012164751-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS
012164751-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_ALT—INCONSISTENT_TRANS—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.

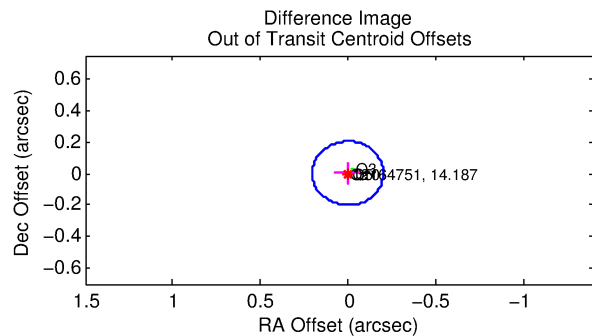
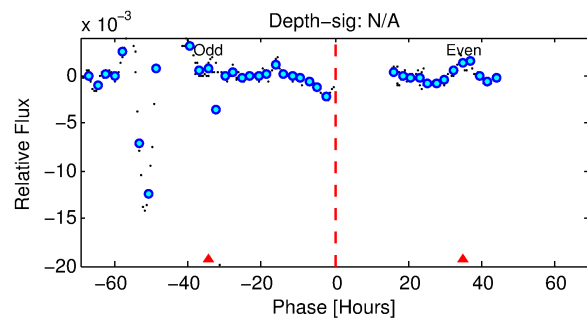
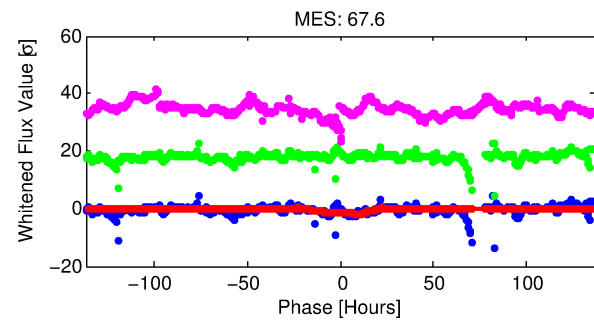
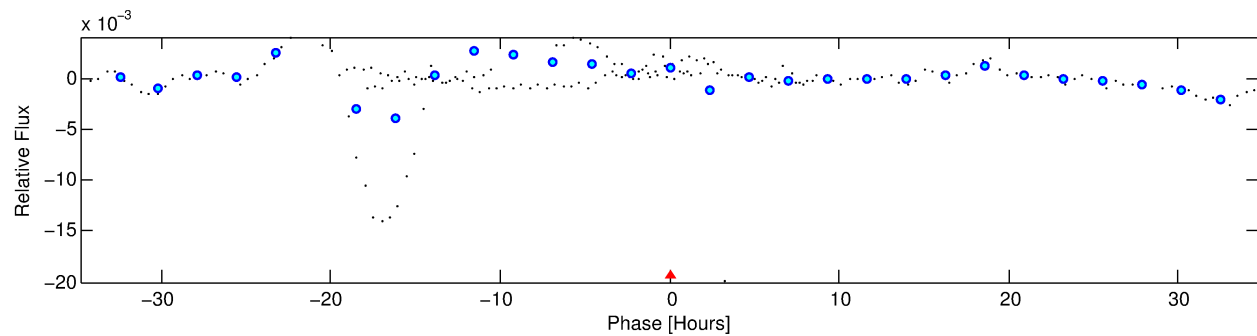
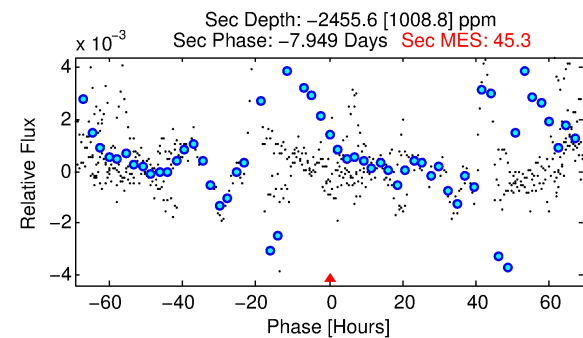
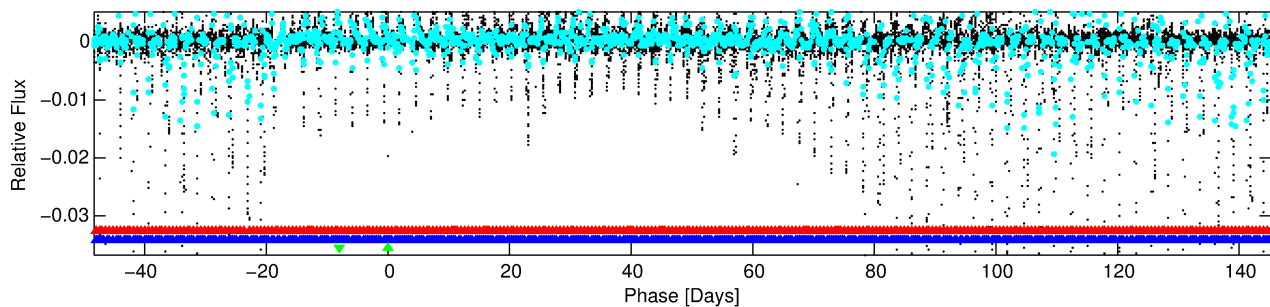
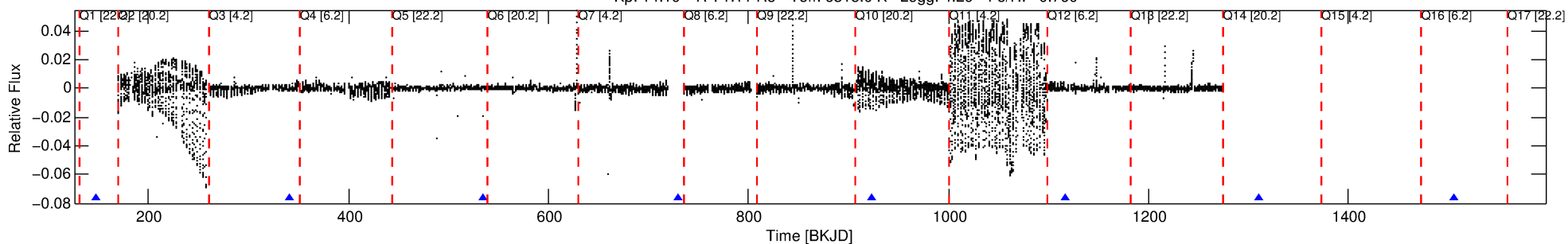
Ephemeris Match Information For 012164751-03

No Significant Match Found

DV One-Page Summary

KIC: 12164751 Candidate: 3 of 3 Period: 193.949 d
KOI: K07515 Corr: No Ephemeris Match

Kp: 14.19 R*: 1.11 Rs Teff: 6315.0 K Logg: 4.29 Fe/H: -0.760



TPS TCE Results:

Period = 193.94854 d
Epoch = 147.3232 BKJD

DV fit results are unavailable

DV Diagnostic Results:

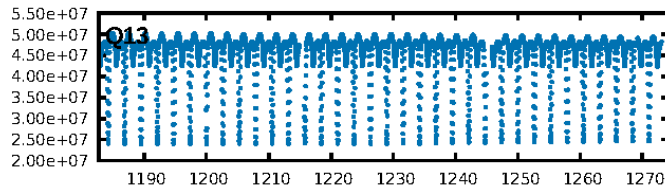
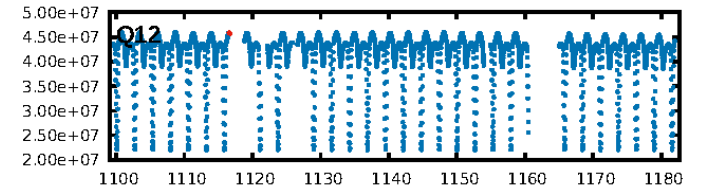
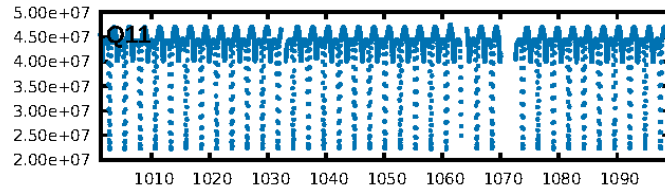
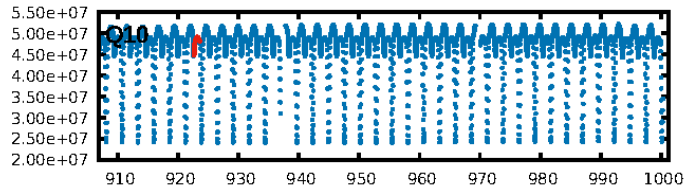
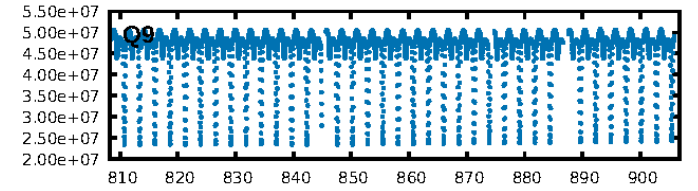
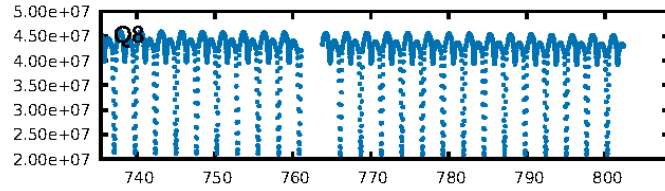
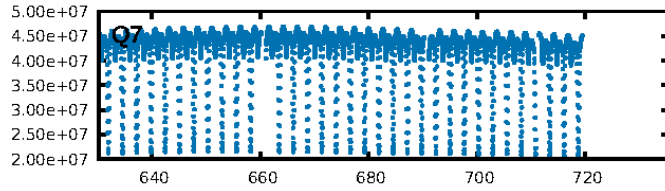
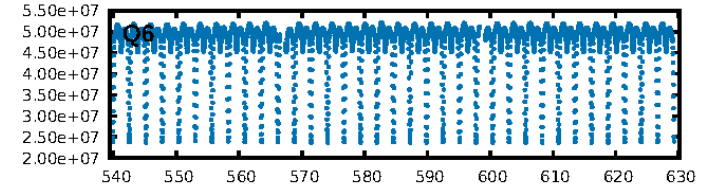
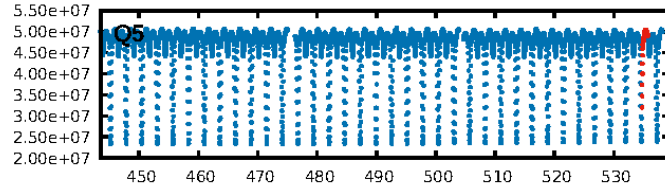
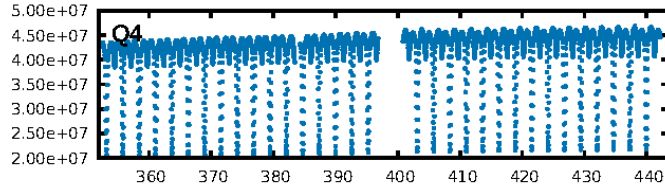
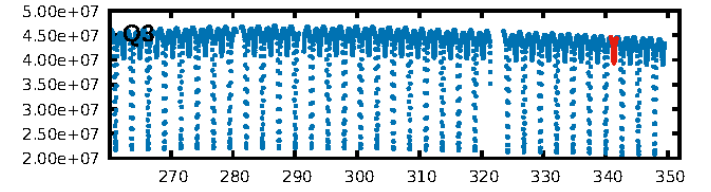
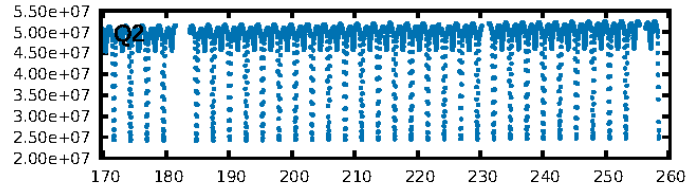
ShortPeriod-sig: 100.0% [342.24σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.661

Centroid-sig: N/A
Centroid-so: 0.158 arcsec [4.12σ]
OotOffset-rm: 0.005 arcsec [0.07σ]
KicOffset-rm: 0.071 arcsec [0.86σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.00 [0/3]

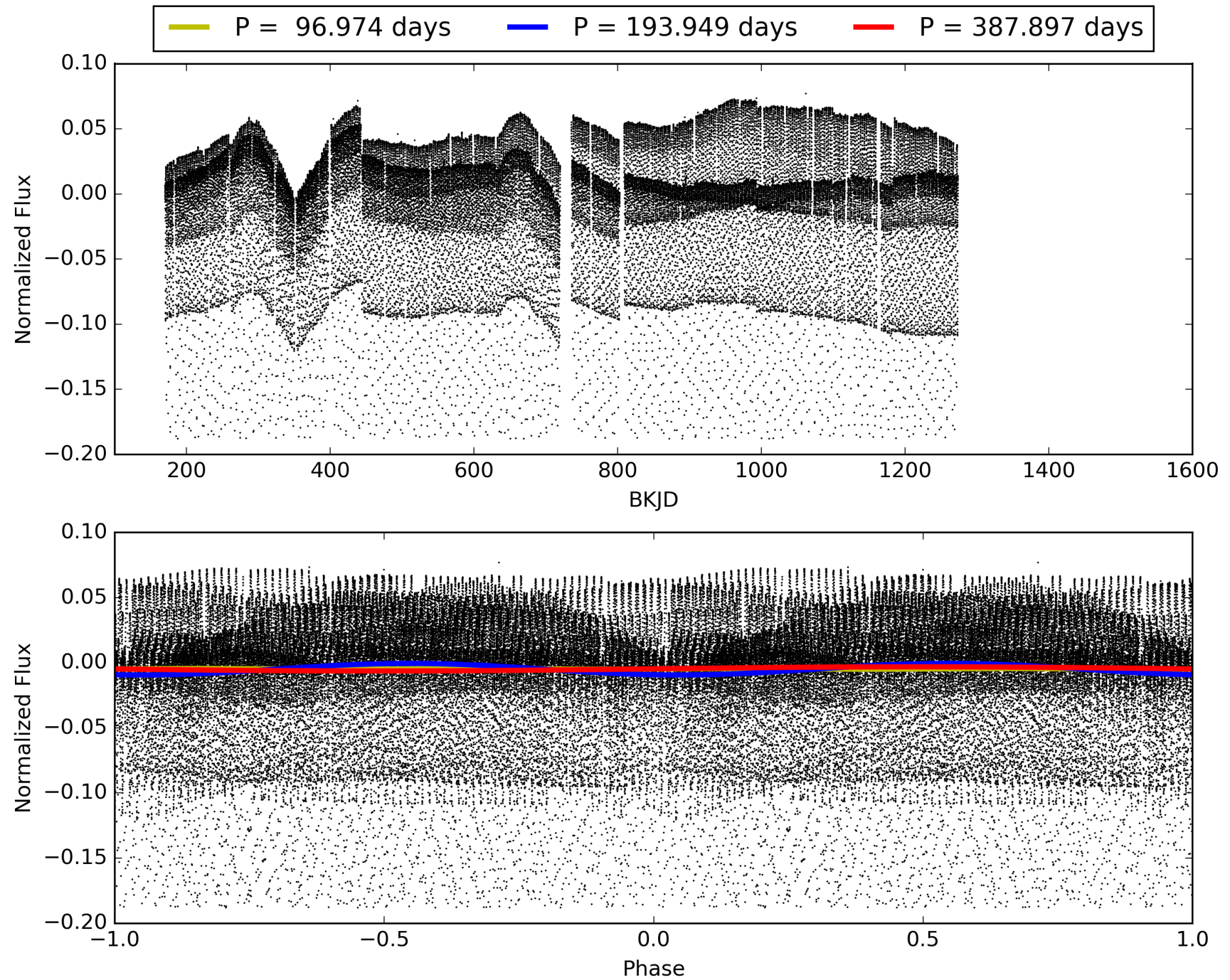
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:31:44 Z

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

TCE 012164751-03, PDC Light Curves

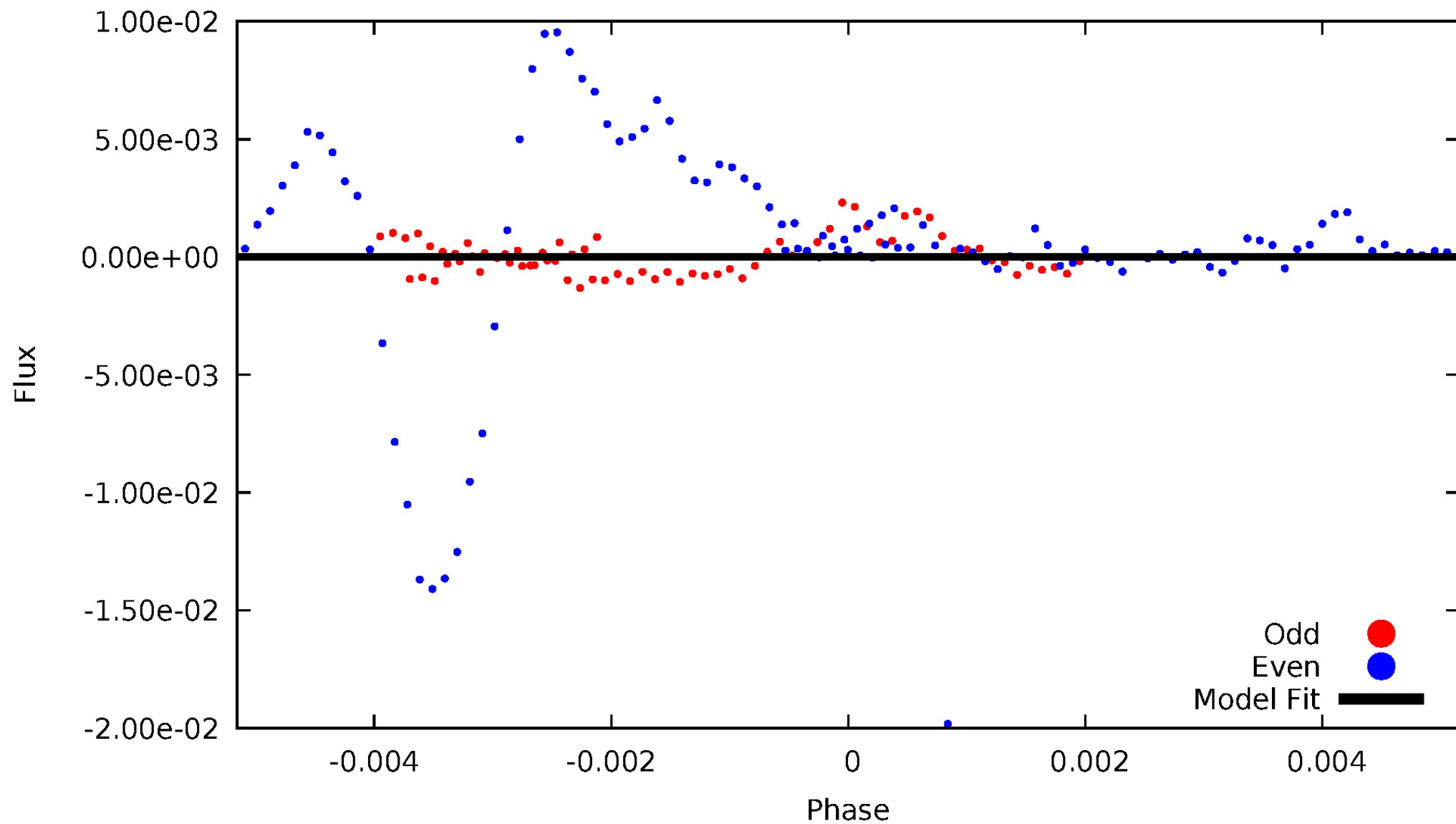


TCE 012164751-03



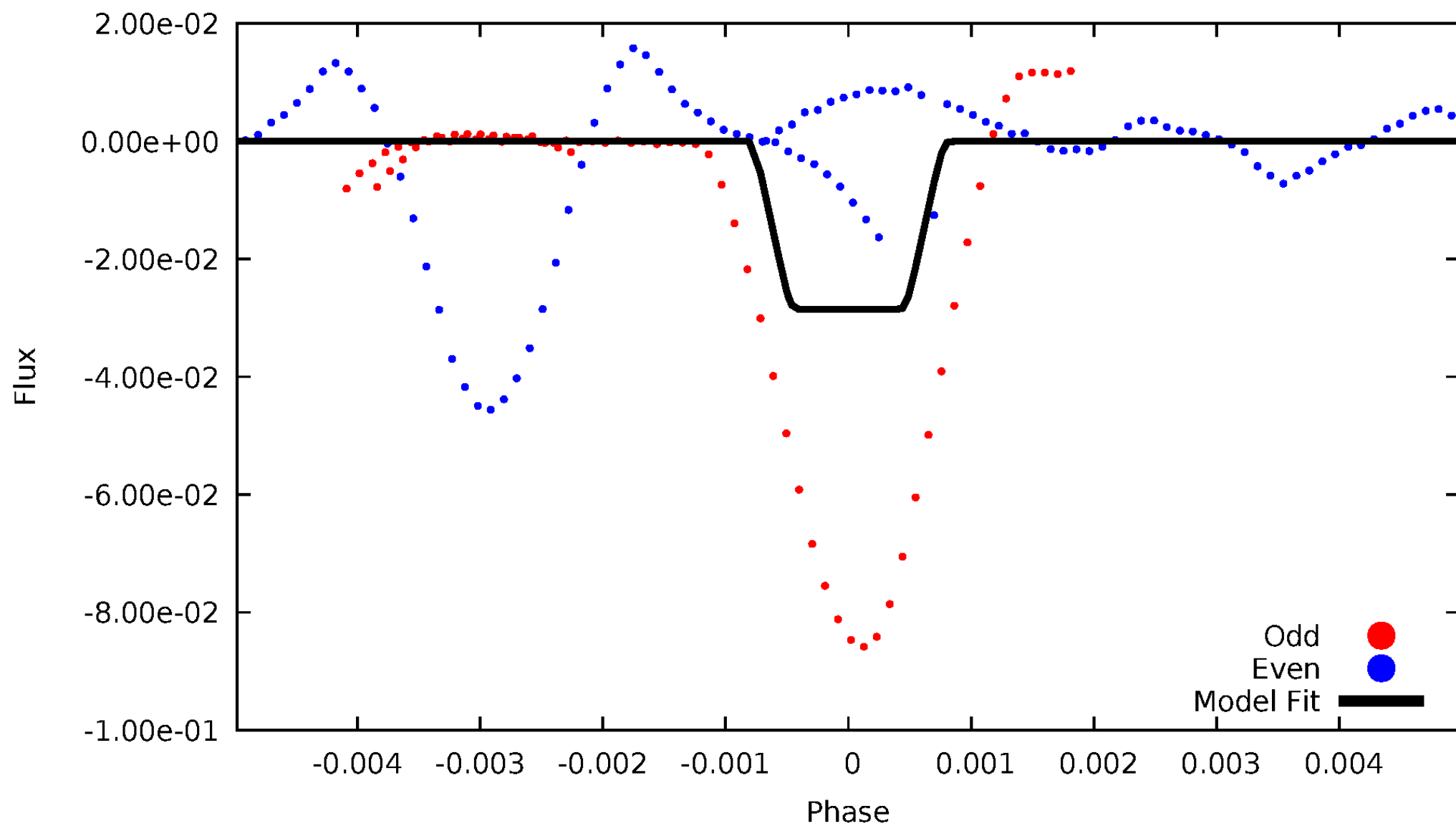
DV Odd/Even

TCE 012164751-03



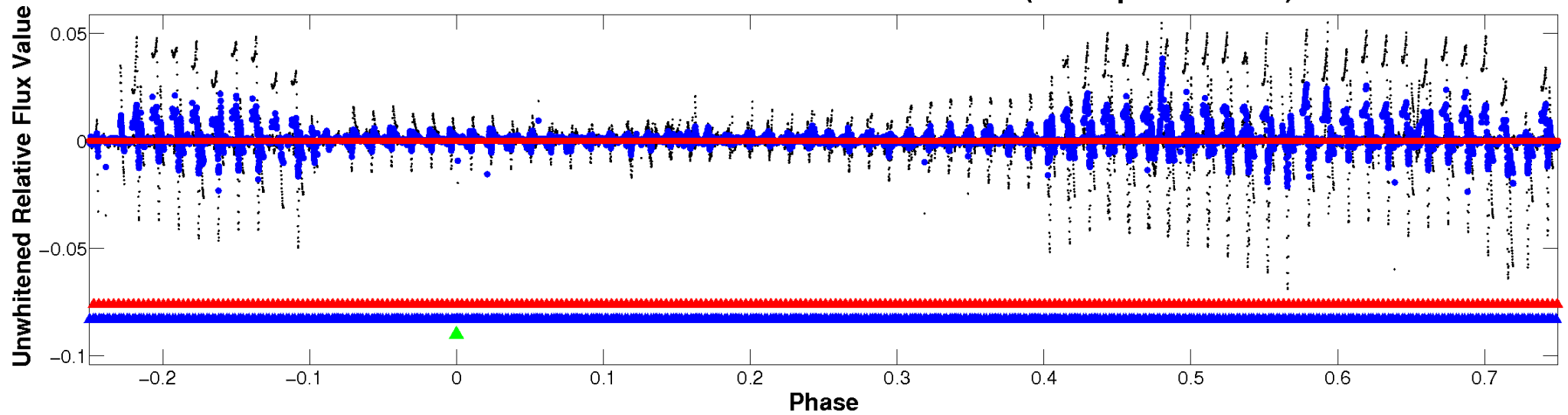
ALT Odd/Even

TCE 012164751-03



Non-Whitened Vs. Whitened Light Curve

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

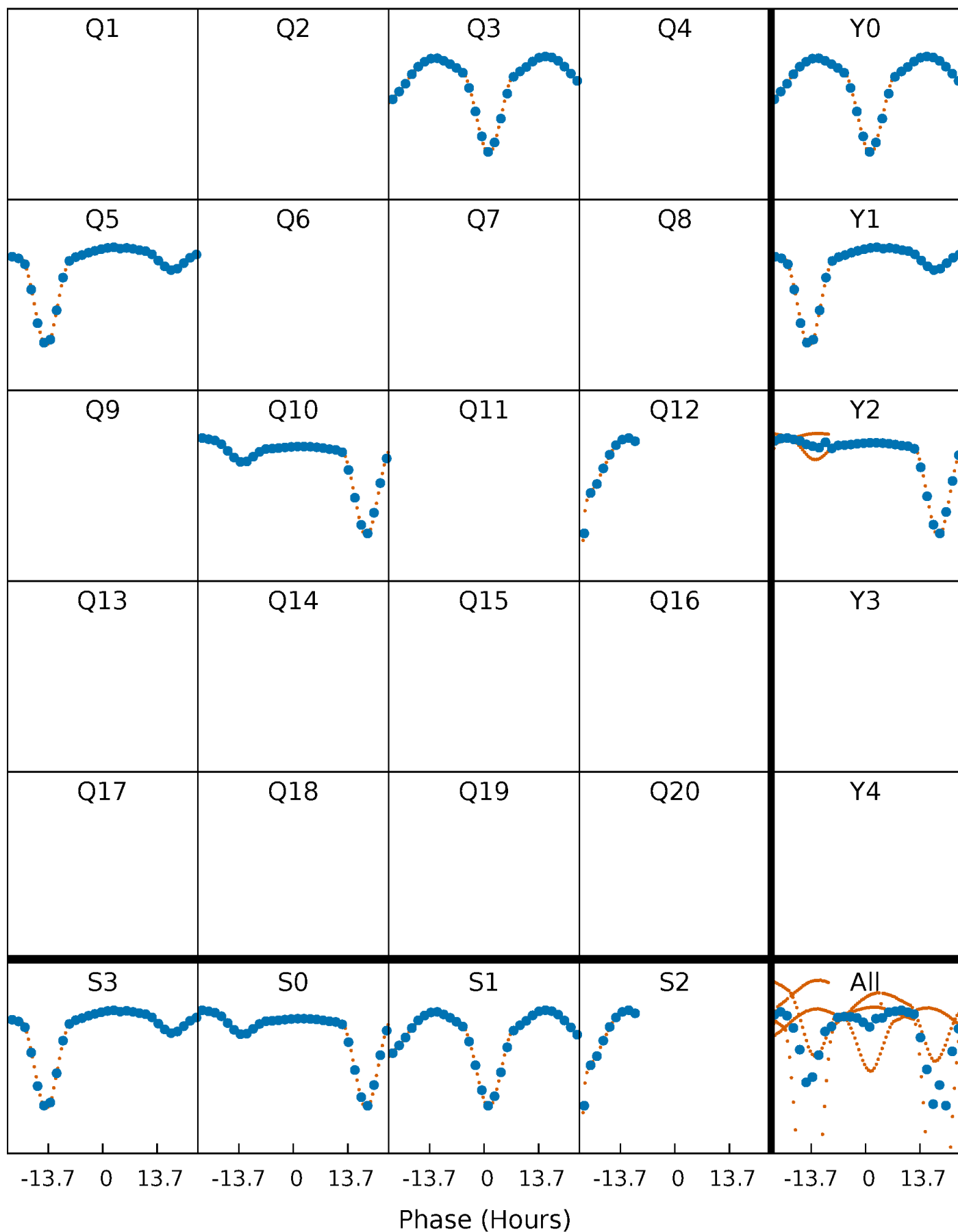


Planet 3 : Phased Whitened Flux Time Series (TPS Epoch/Period)



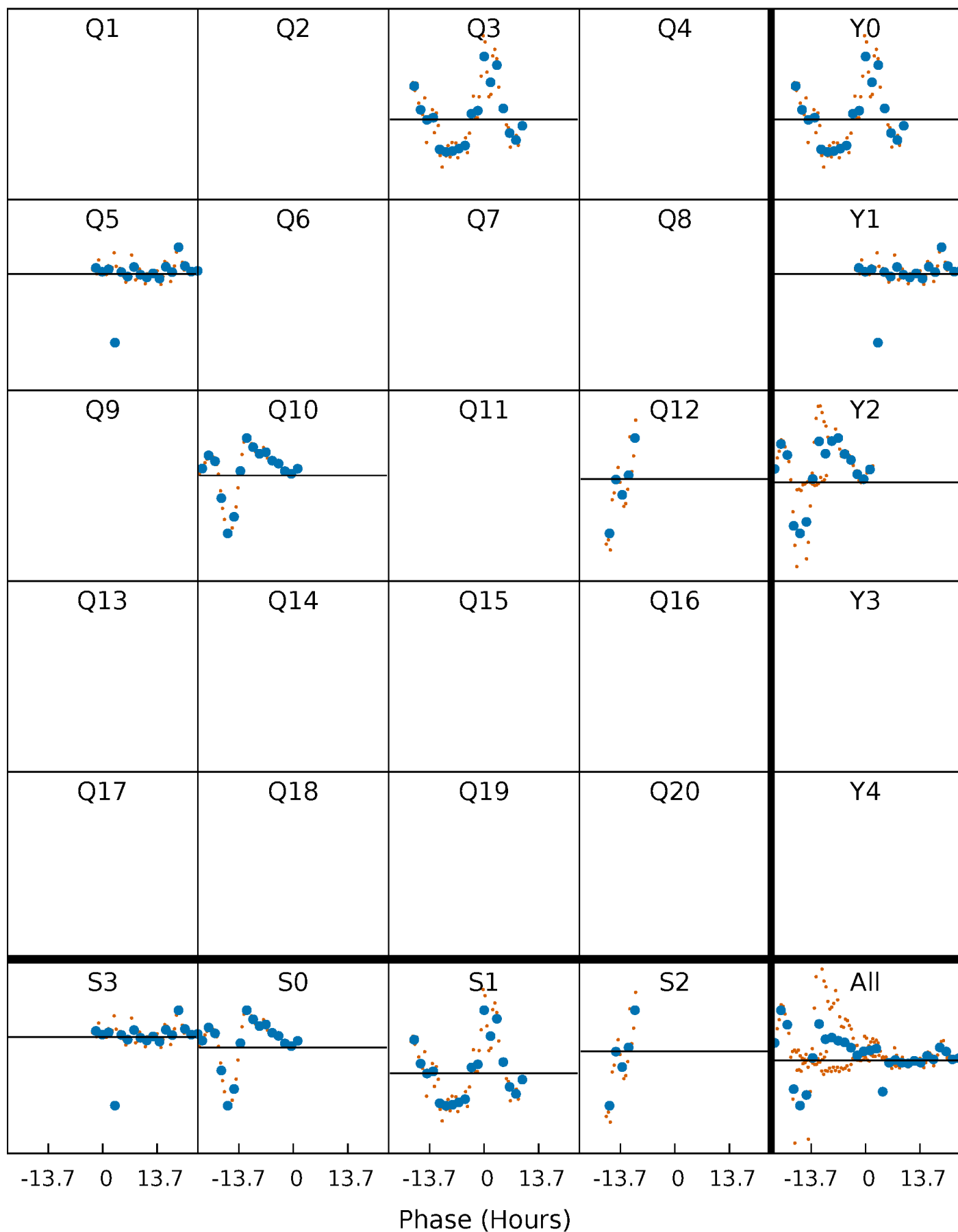
PDC Quarter-Phased Transit Curves

TCE 012164751-03 $P=193.948540$ Days $T_0=147.323164$ (BKJD)



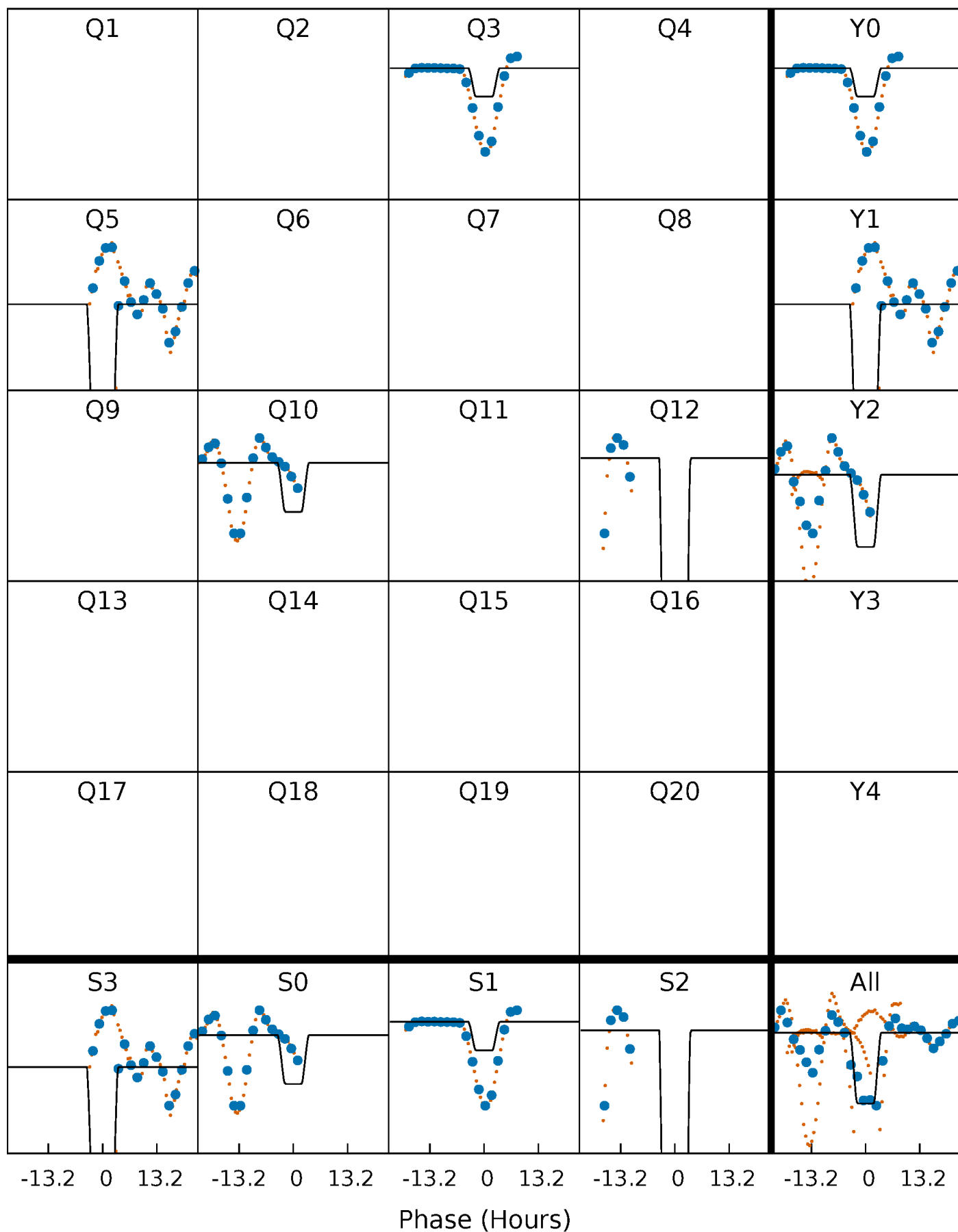
DV Quarter-Phased Transit Curves

TCE 012164751-03 P=193.948540 Days $T_0=147.323164$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

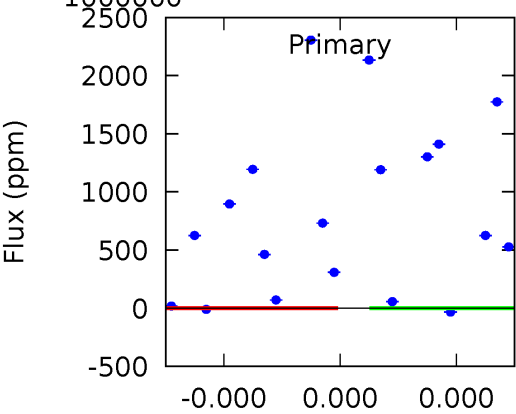
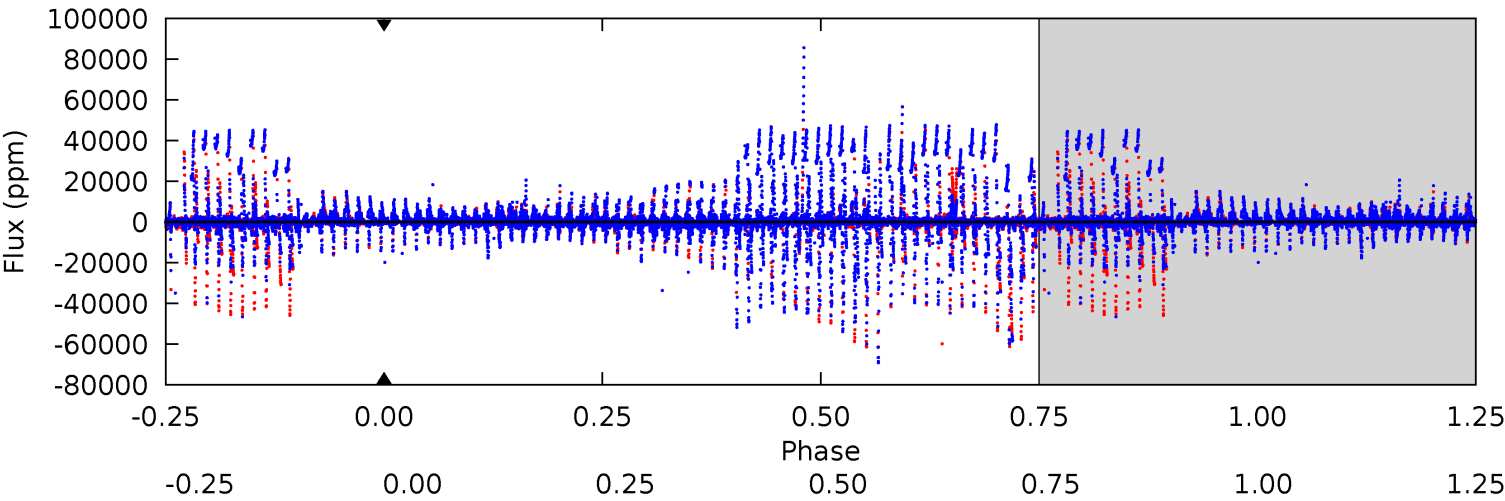
TCE 012164751-03 $P=193.948540$ Days $T_0=147.350142$ (BKJD)



DV Model-Shift Uniqueness Test

012164751-03, P = 193.948540 Days, E = 147.323164 Days

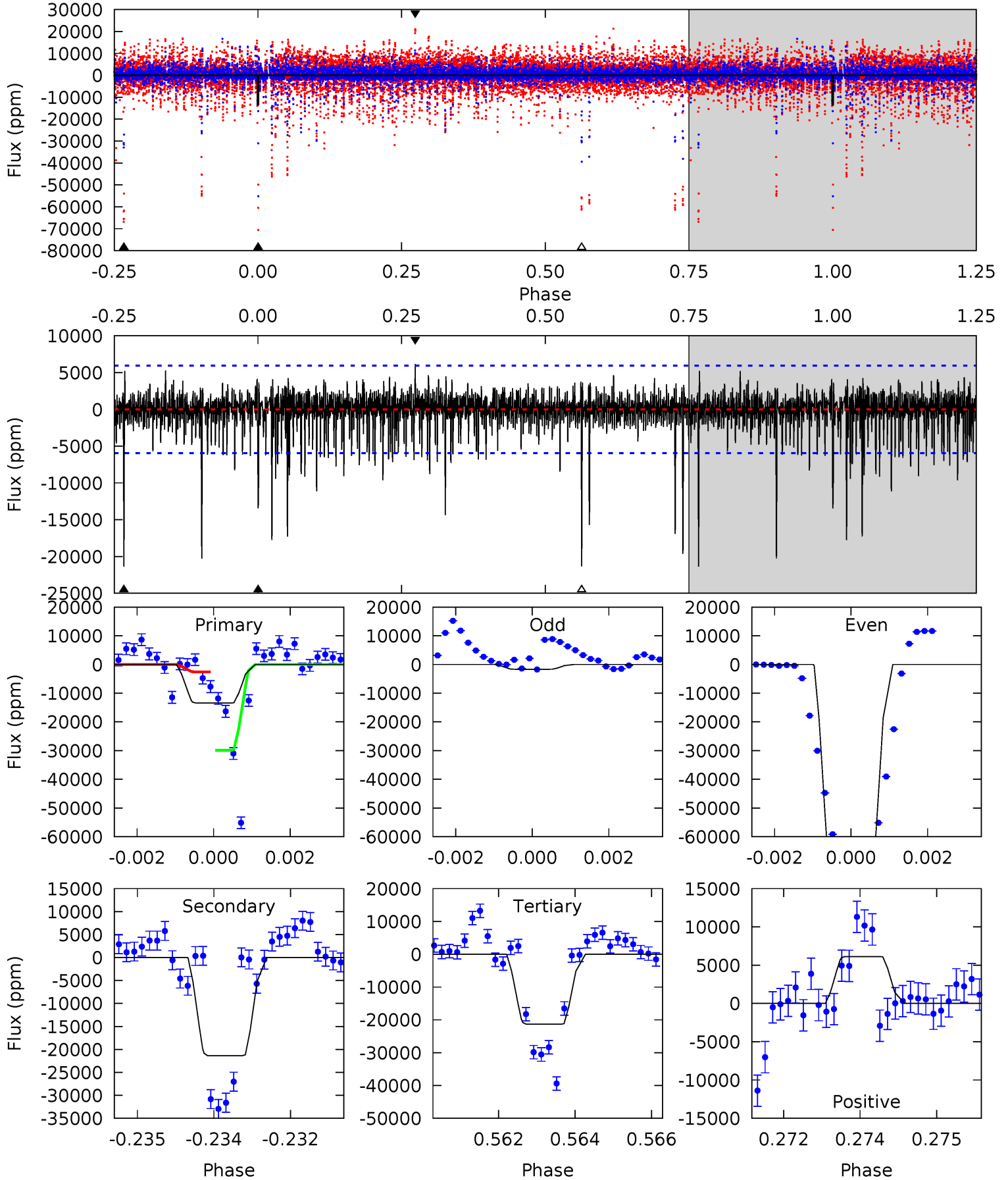
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

012164751-03, P = 193.948540 Days, E = 147.350142 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	19.3	19.2	5.53	5.36	3.14	1.97	-7.11	6.59	0.04	13.7	24.7	3.44	0.22	0



Stellar Parameters For KIC 012164751

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6315^{+170}_{-189}	$4.292^{+0.204}_{-0.167}$	$-0.760^{+0.300}_{-0.300}$	$1.108^{+0.290}_{-0.237}$	$0.875^{+0.104}_{-0.076}$	$0.907^{+0.957}_{-0.399}$
	+3%/-3%	+5%/-4%	+39%/-39%	+26%/-21%	+12%/-9%	+106%/-44%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 012164751-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$11.04^{+9.69}_{-7.86}$	514^{+36}_{-35}	4042^{+17996}_{-22746}	$2167^{+394966}_{-285190}$
Alt.	-21360 ± 1108	$19.88^{+13.05}_{-10.69}$	515^{+36}_{-36}	5949^{+3216}_{-1150}	12035^{+43651}_{-7593}

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

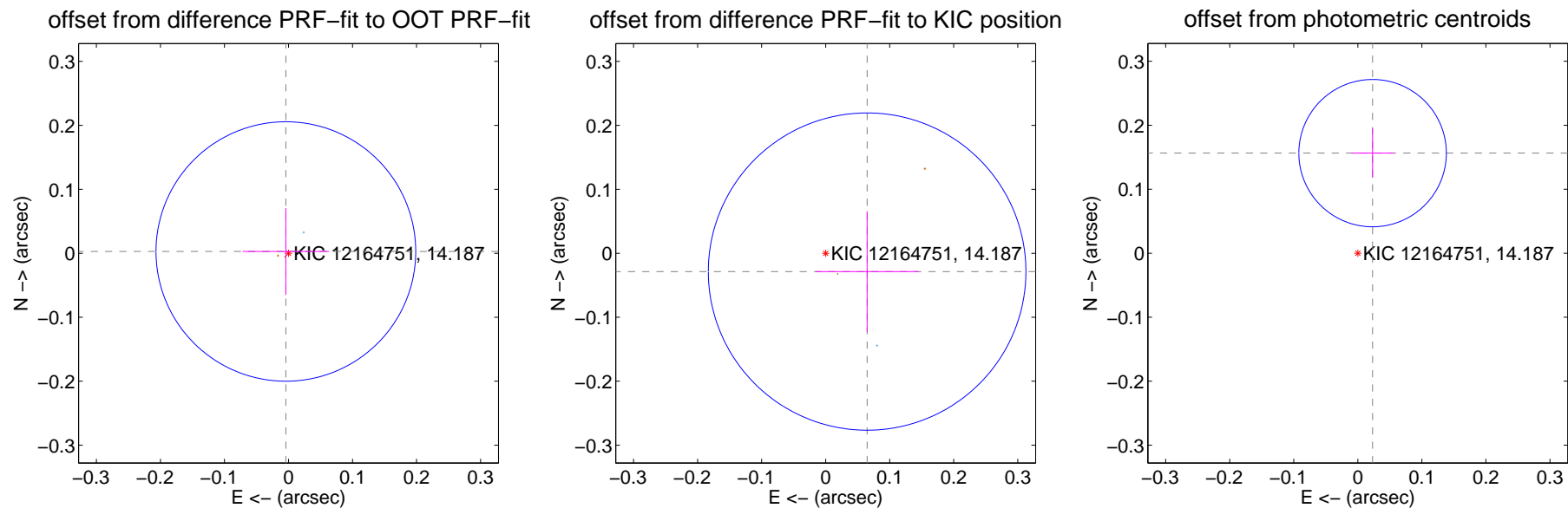
DV Centroid Data

Supplemental centroid analysis for 012164751-03. Kepler magnitude: 14.19. Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

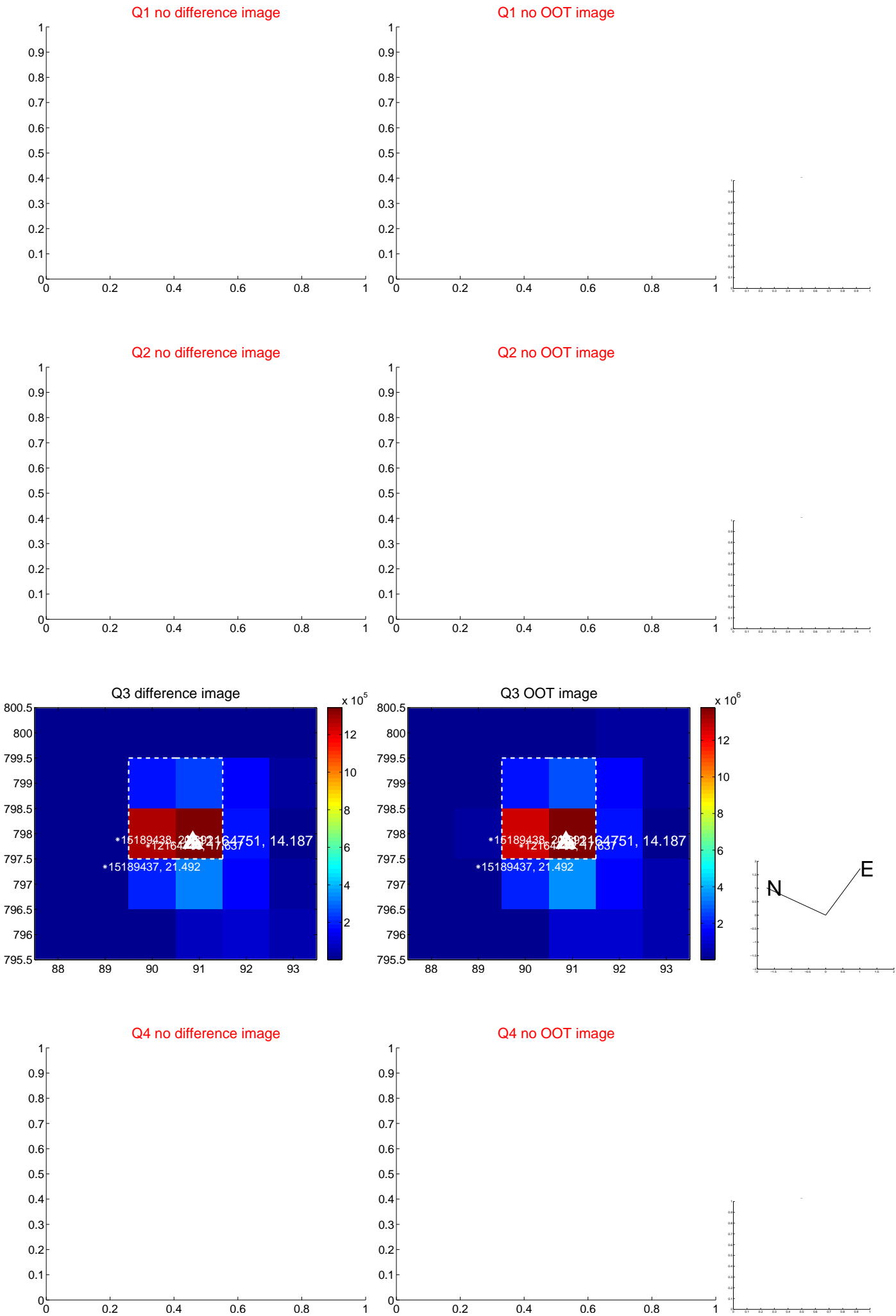
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.005 ± 0.068	0.07	0.004 ± 0.067	0.003 ± 0.068
PRF-fit source offset from KIC position	0.071 ± 0.083	0.86	-0.065 ± 0.080	-0.029 ± 0.094
photometric centroid source offset	0.16 ± 0.04	4.12	-0.02 ± 0.03	0.16 ± 0.04

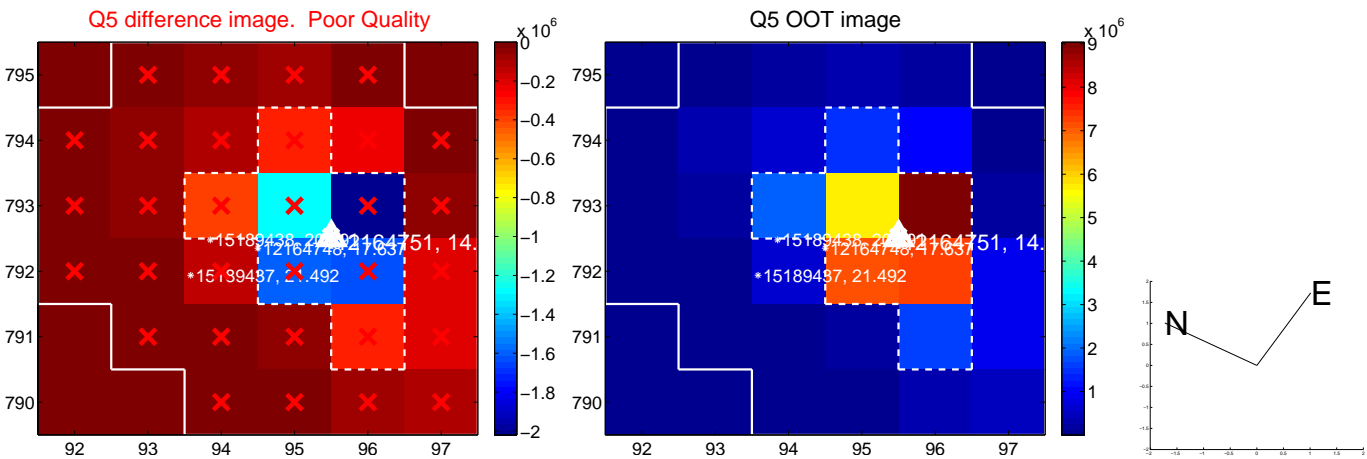


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

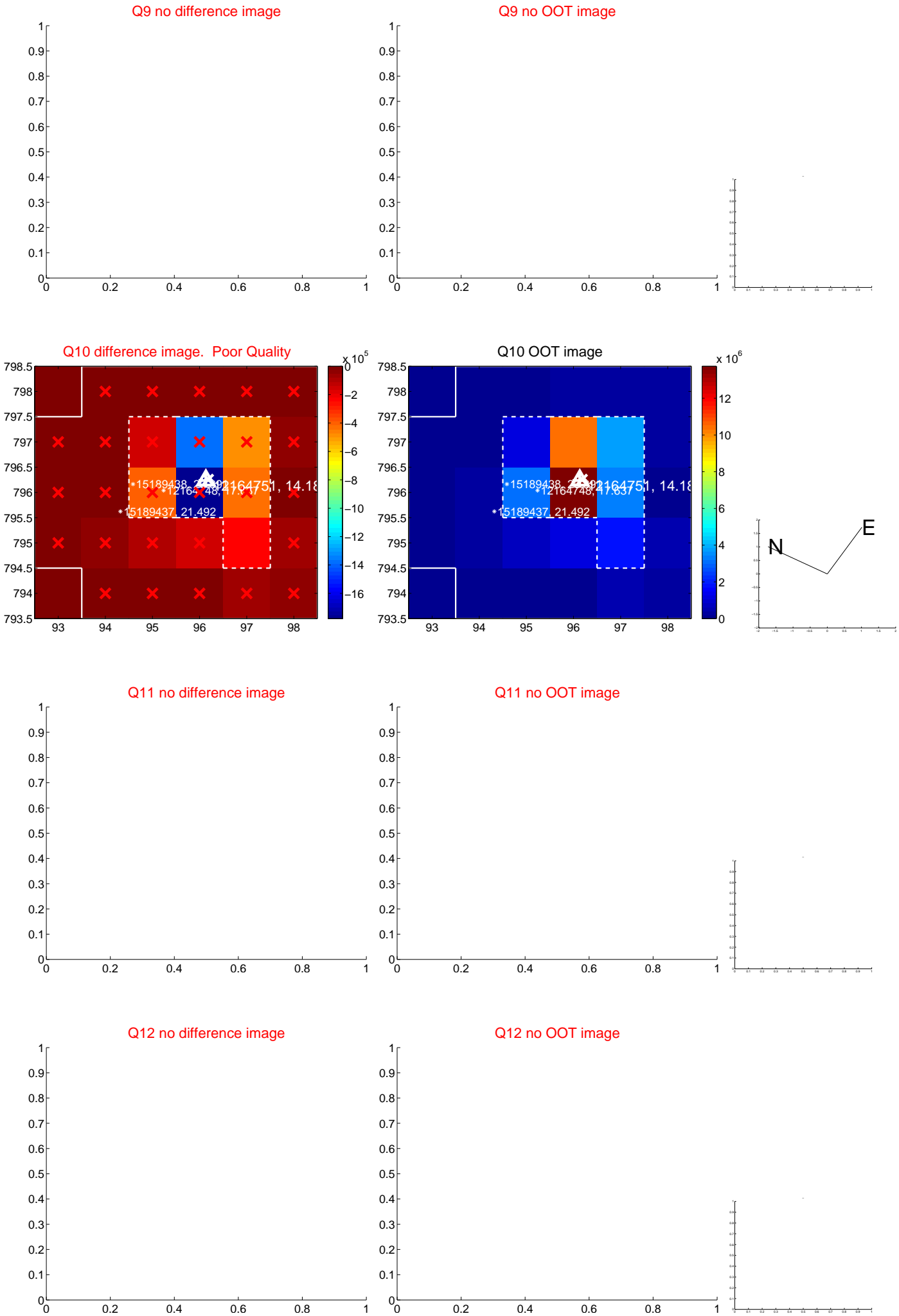
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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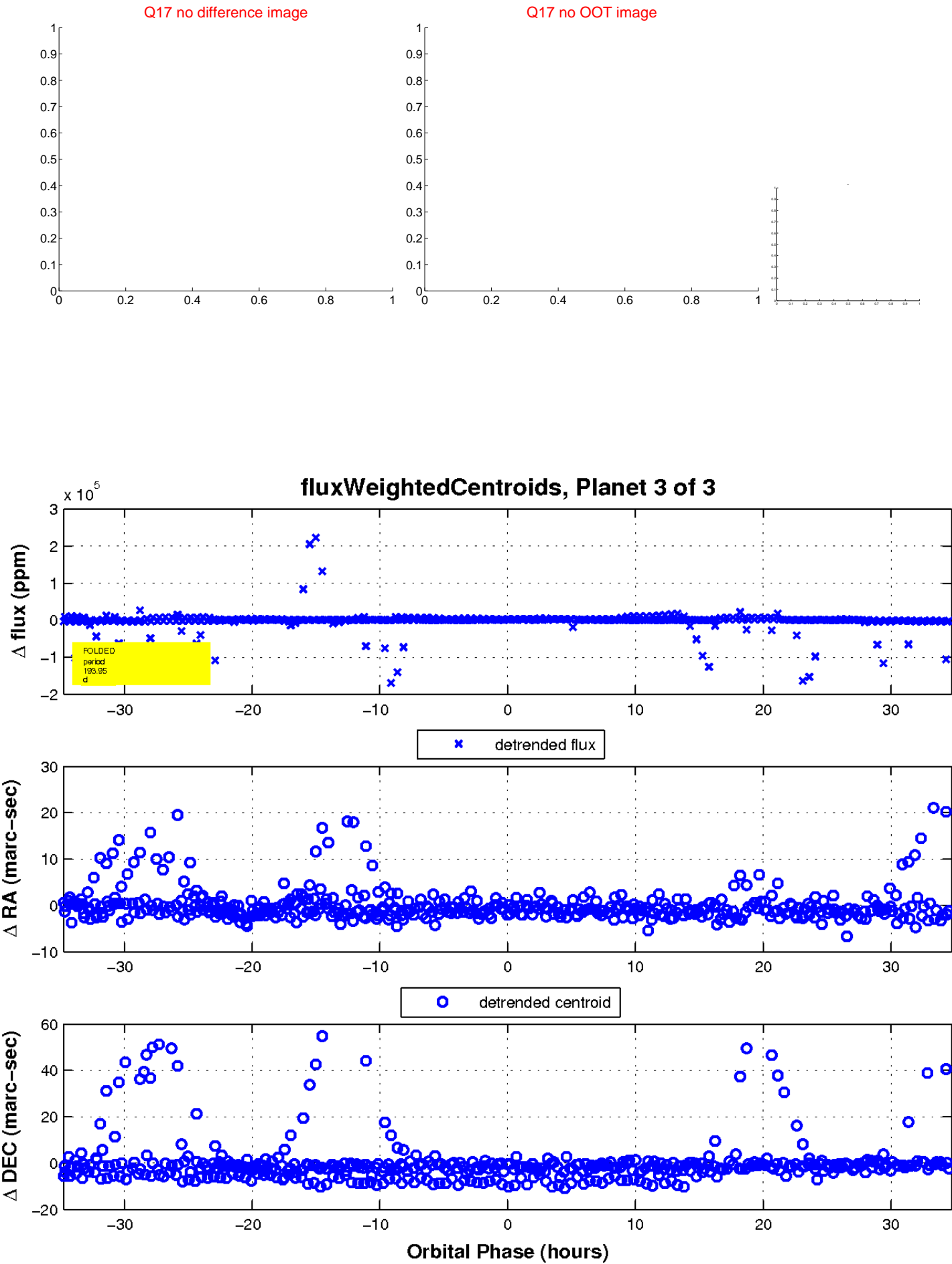
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

