

KIC 007770471

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})
007770471-01	OBS	3706.01	1.157800	132.451619	777246.2	1.500	5796.8	-1.0	1.43	6510	48.10	6122.33
007770471-02	OBS	No	1.157854	131.842444	47353.9	2.000	1080.2	-1.0	1.43	6510	31.33	6121.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007770471-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
007770471-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—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 007770471-01

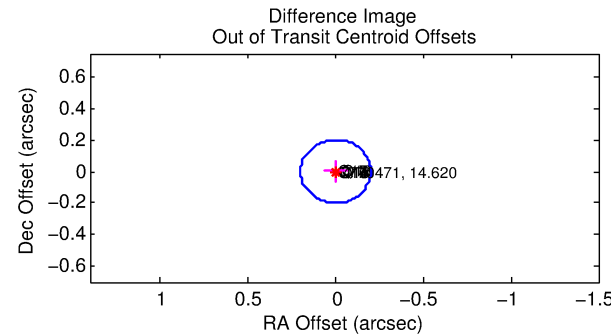
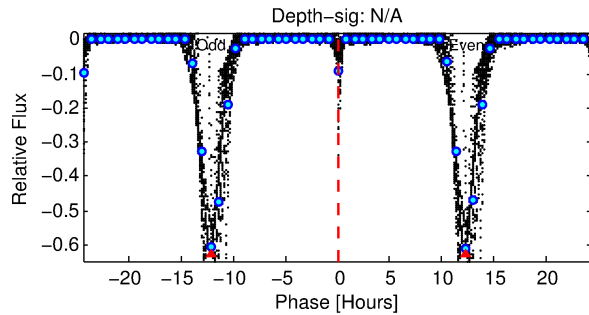
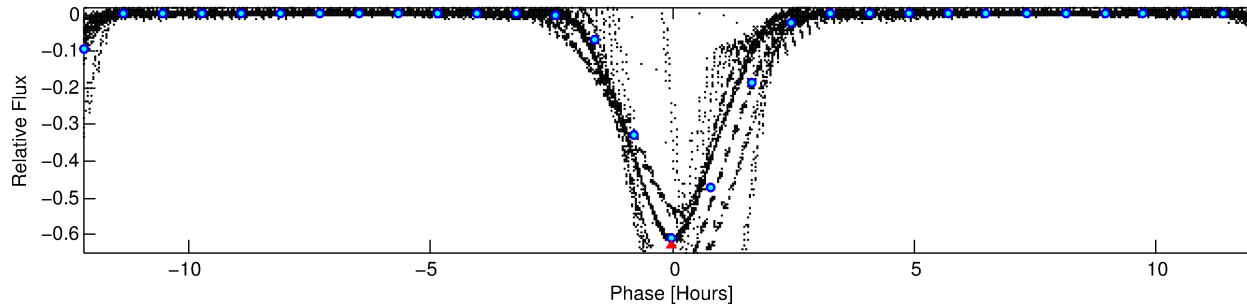
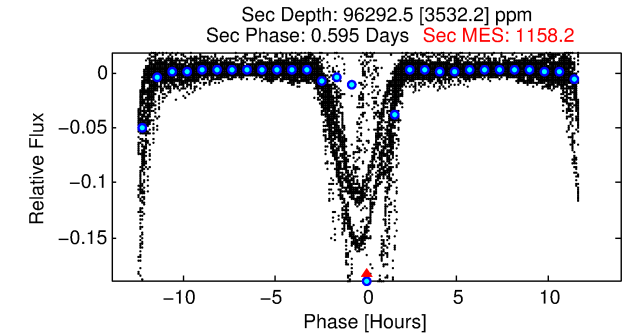
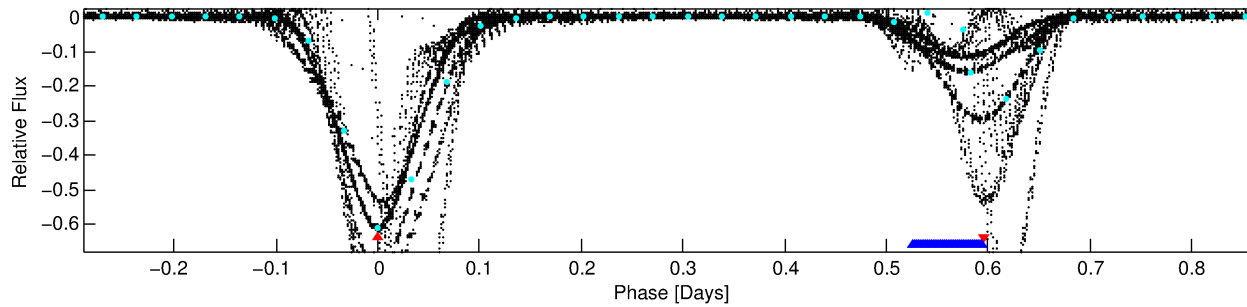
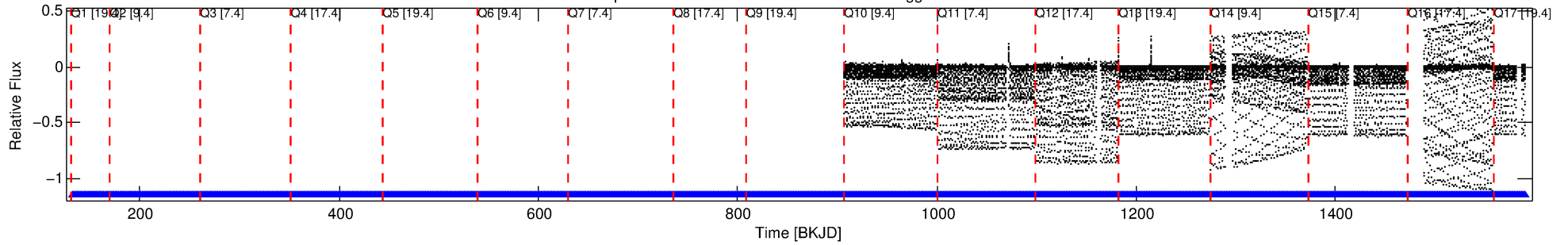
No Significant Match Found

DV One-Page Summary

KIC: 7770471 Candidate: 1 of 2 Period: 1.158 d

KOI: K03706 Corr: No Ephemeris Match

Kp: 14.62 R*: 1.43 Rs Teff: 6510.0 K Logg: 4.22 Fe/H: -0.120



TPS TCE Results:

Period = 1.15780 d
Epoch = 132.4516 BKJD

DV fit results are unavailable

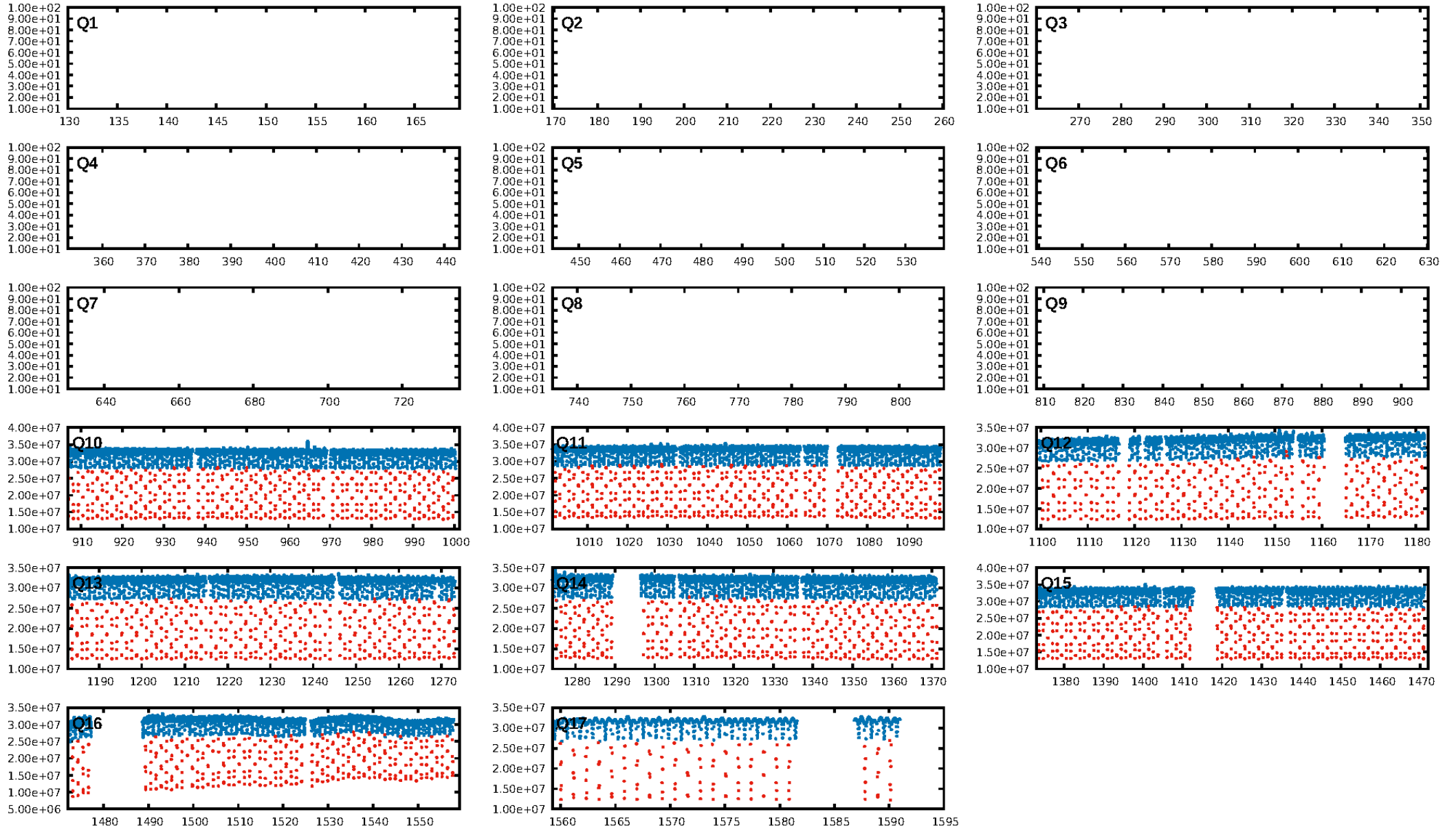
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [515/515]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: 0.111 arcsec [189.75σ]
OotOffset-rm: 0.002 arcsec [0.03σ]
KicOffset-rm: 0.072 arcsec [1.05σ]
OotOffset-st: 2/2/2/2 [8]
KicOffset-st: 2/2/2/2 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [8/8]

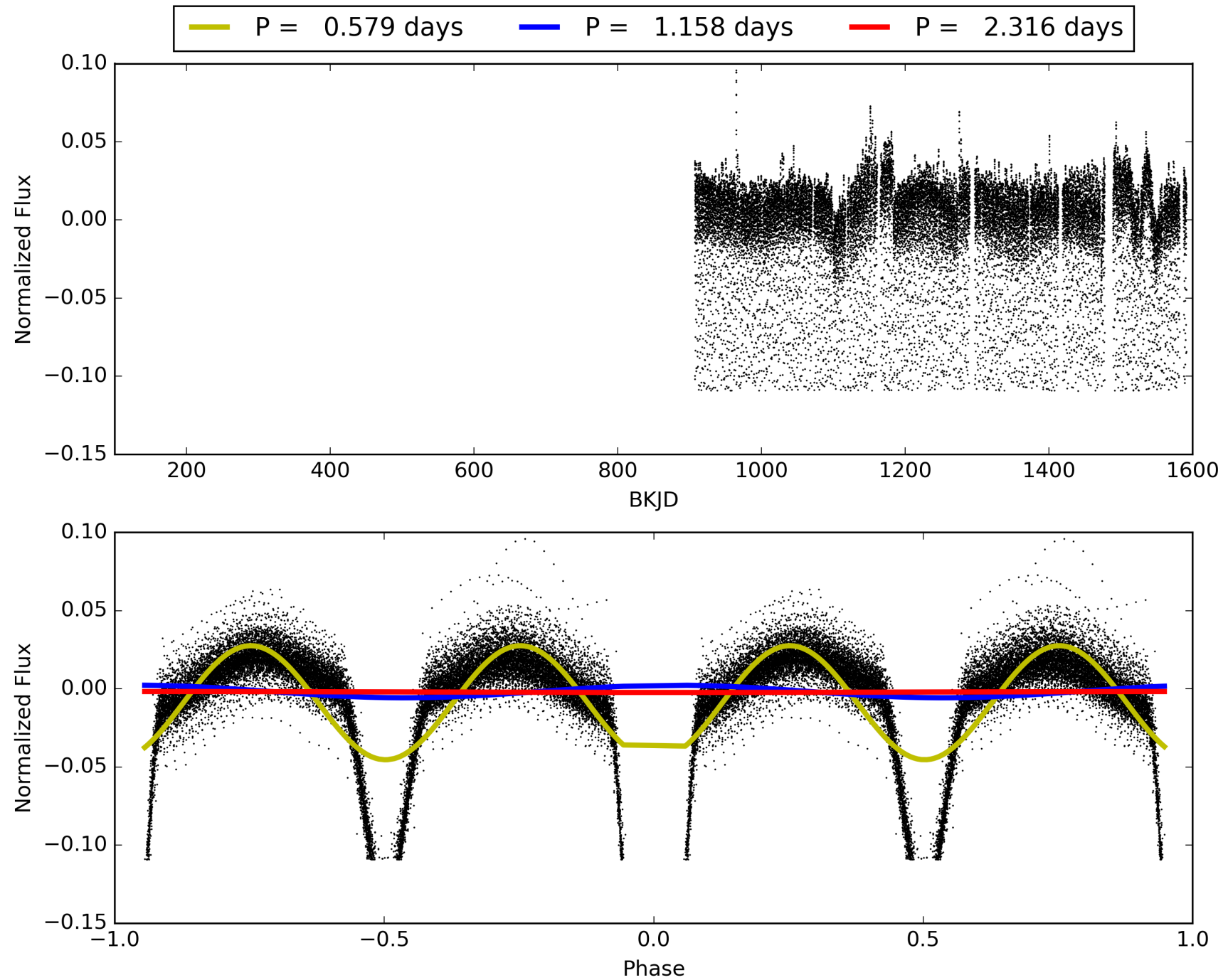
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 10:14:12 Z

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

TCE 007770471-01, PDC Light Curves

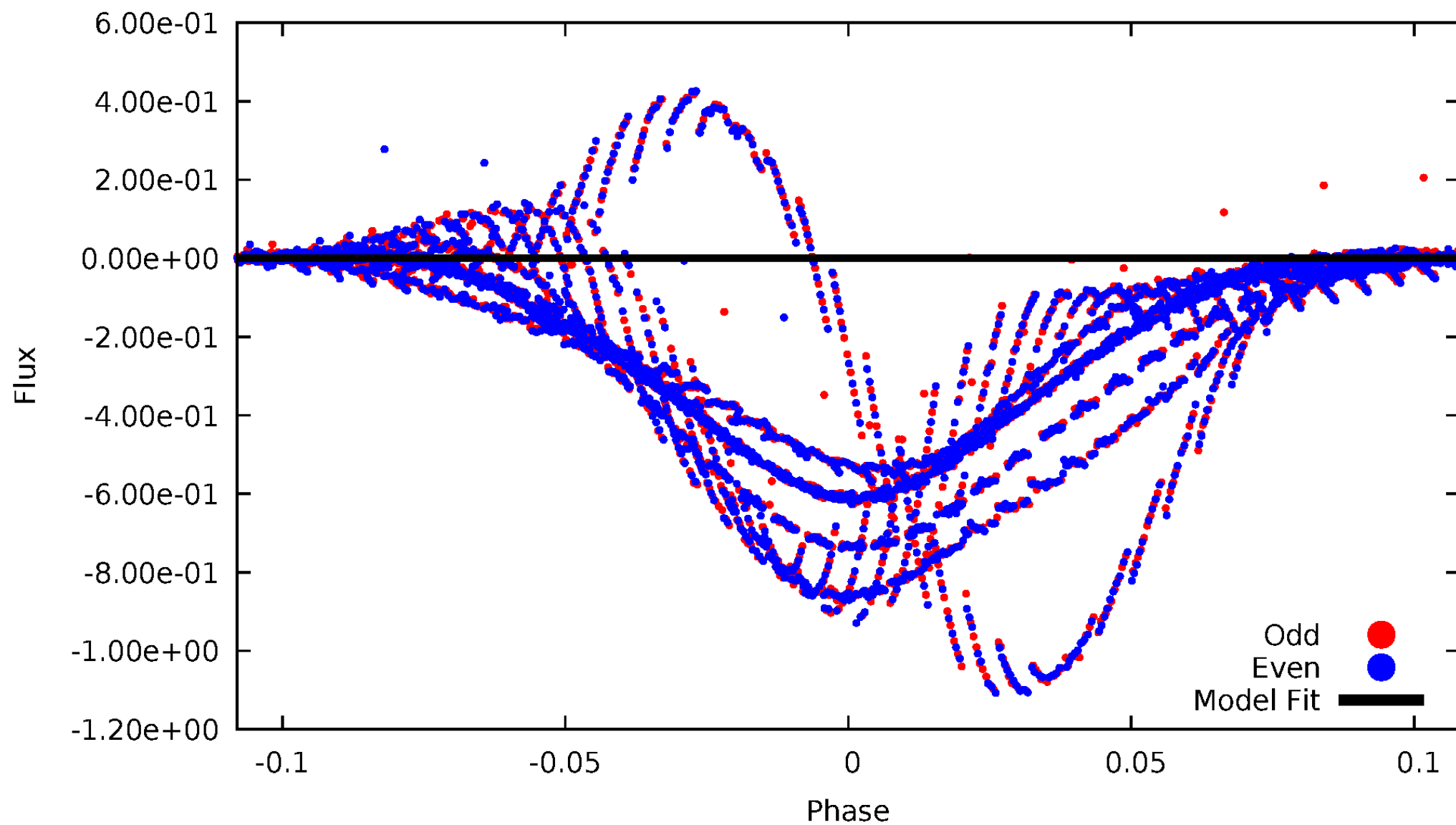


TCE 007770471-01



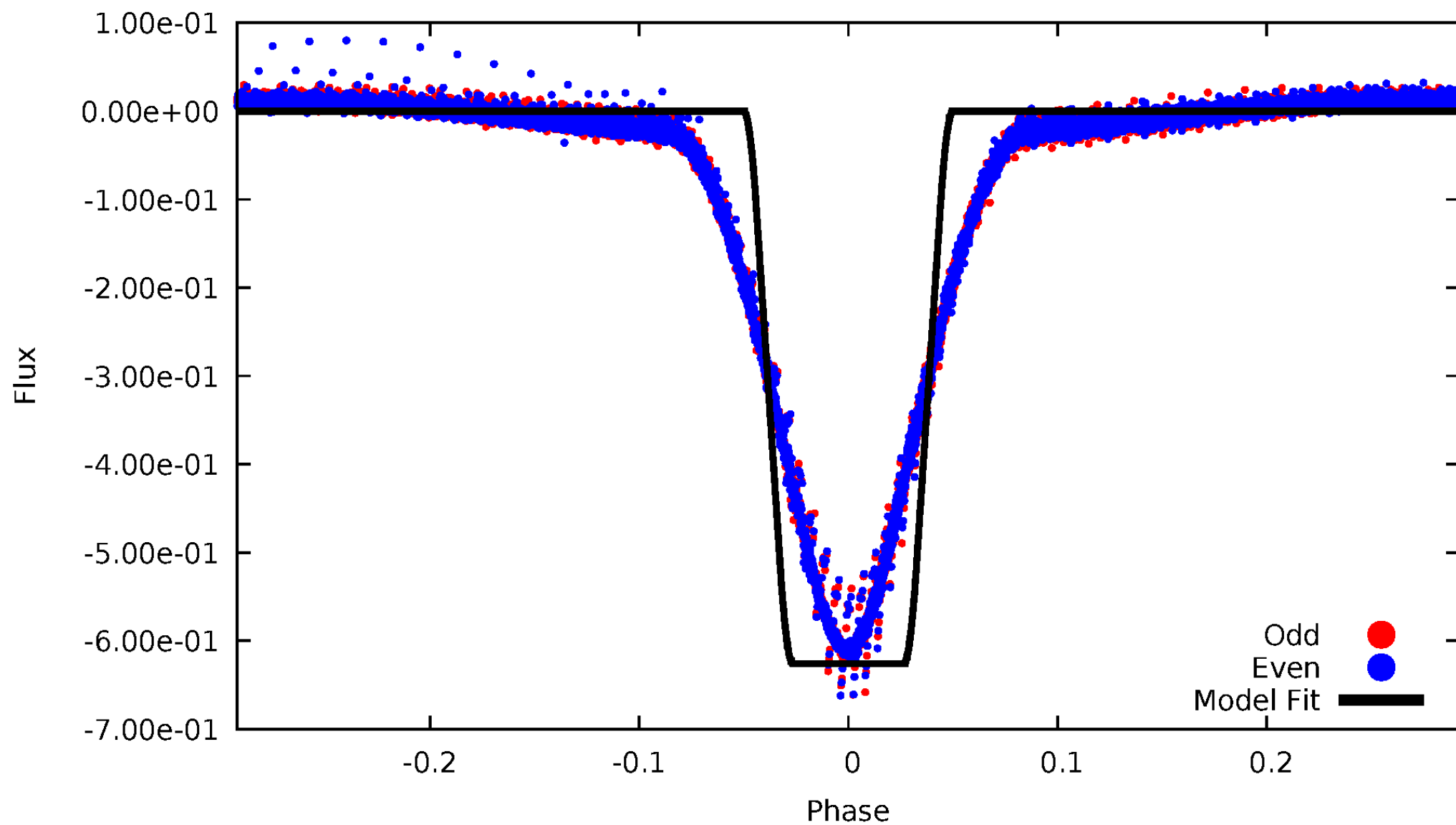
DV Odd/Even

TCE 007770471-01



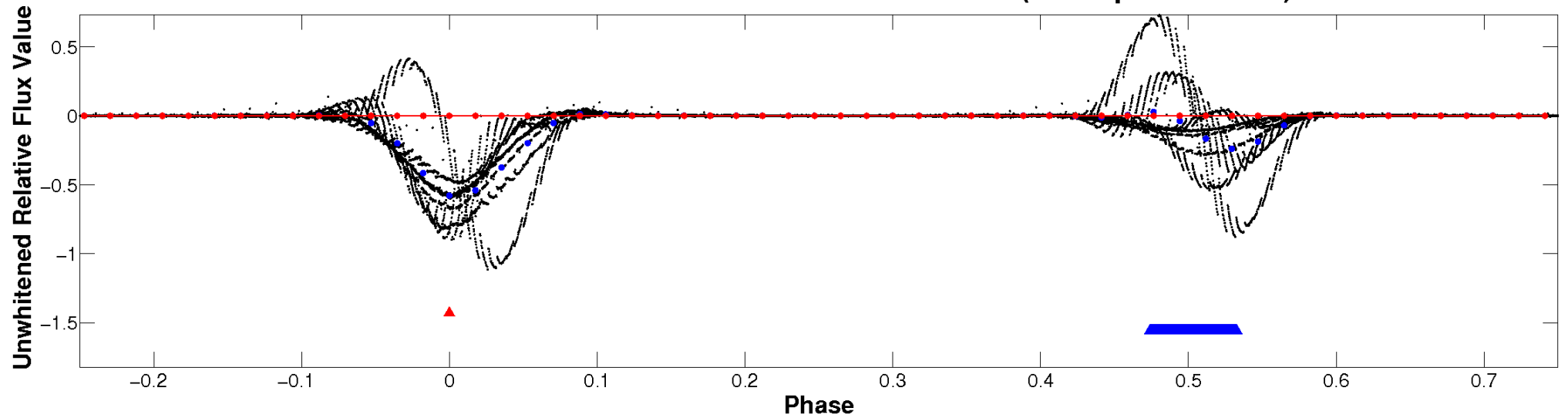
ALT Odd/Even

TCE 007770471-01

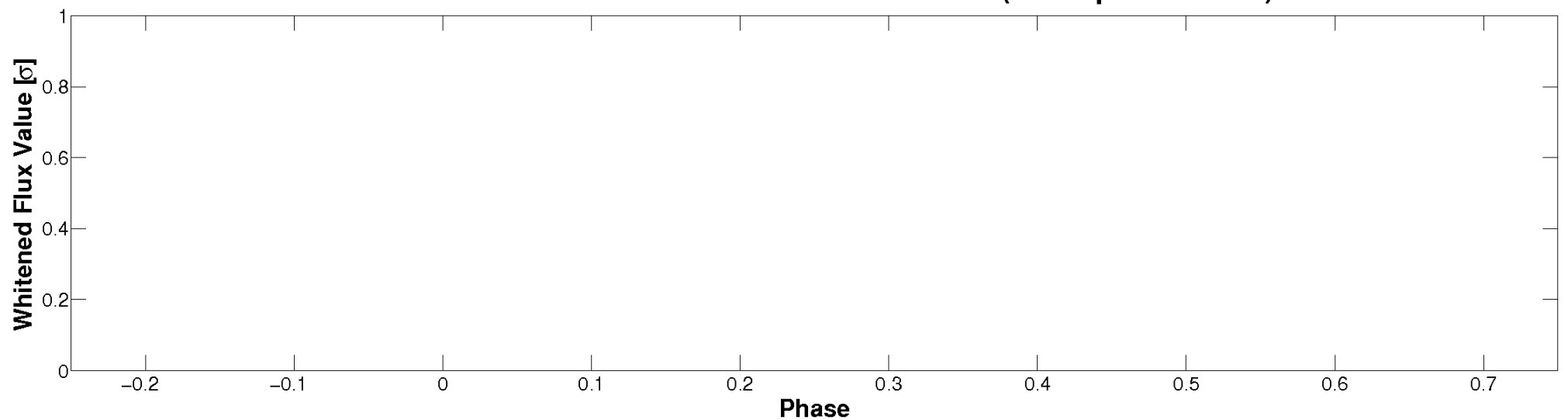


Non-Whitened Vs. Whitened Light Curve

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

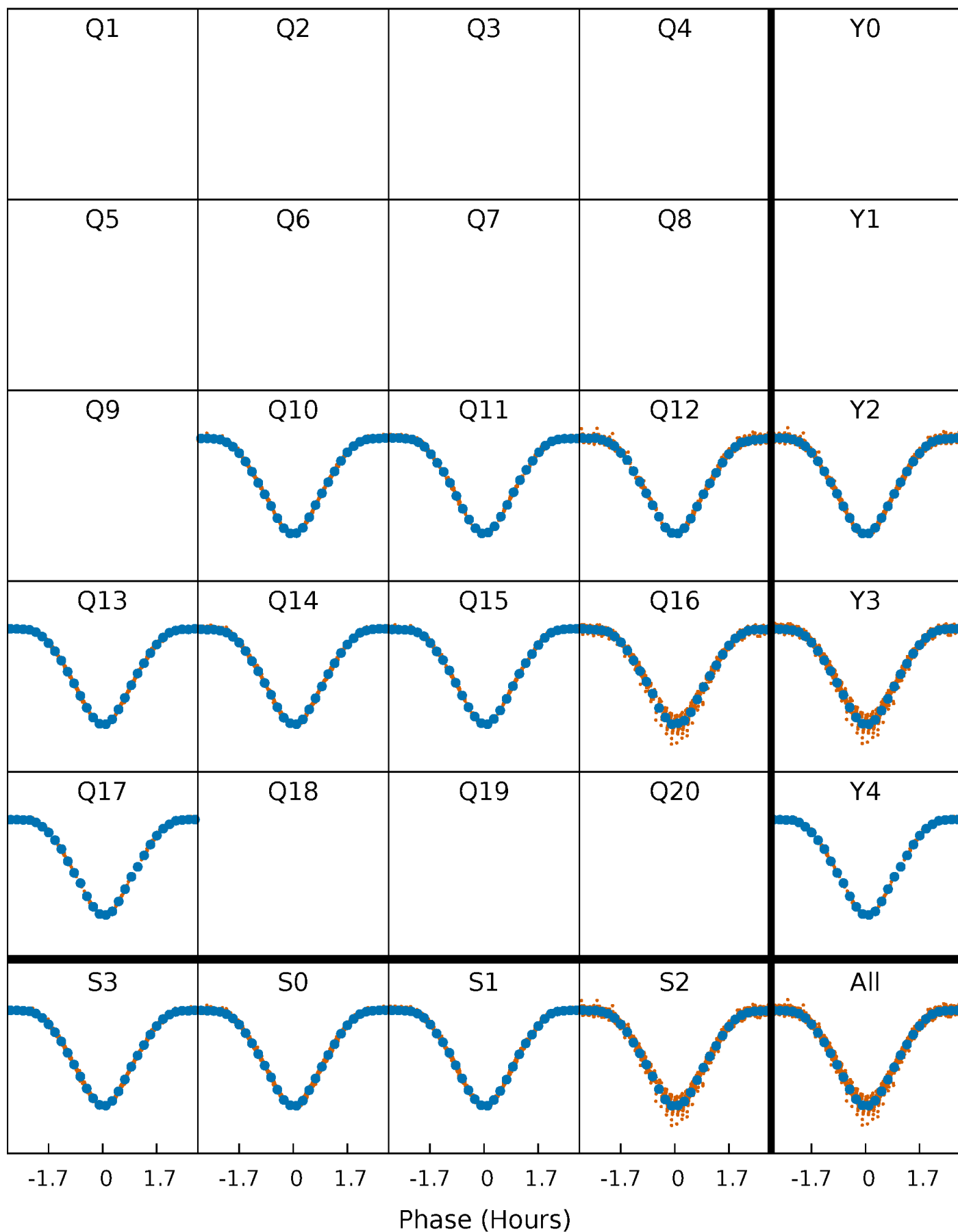


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



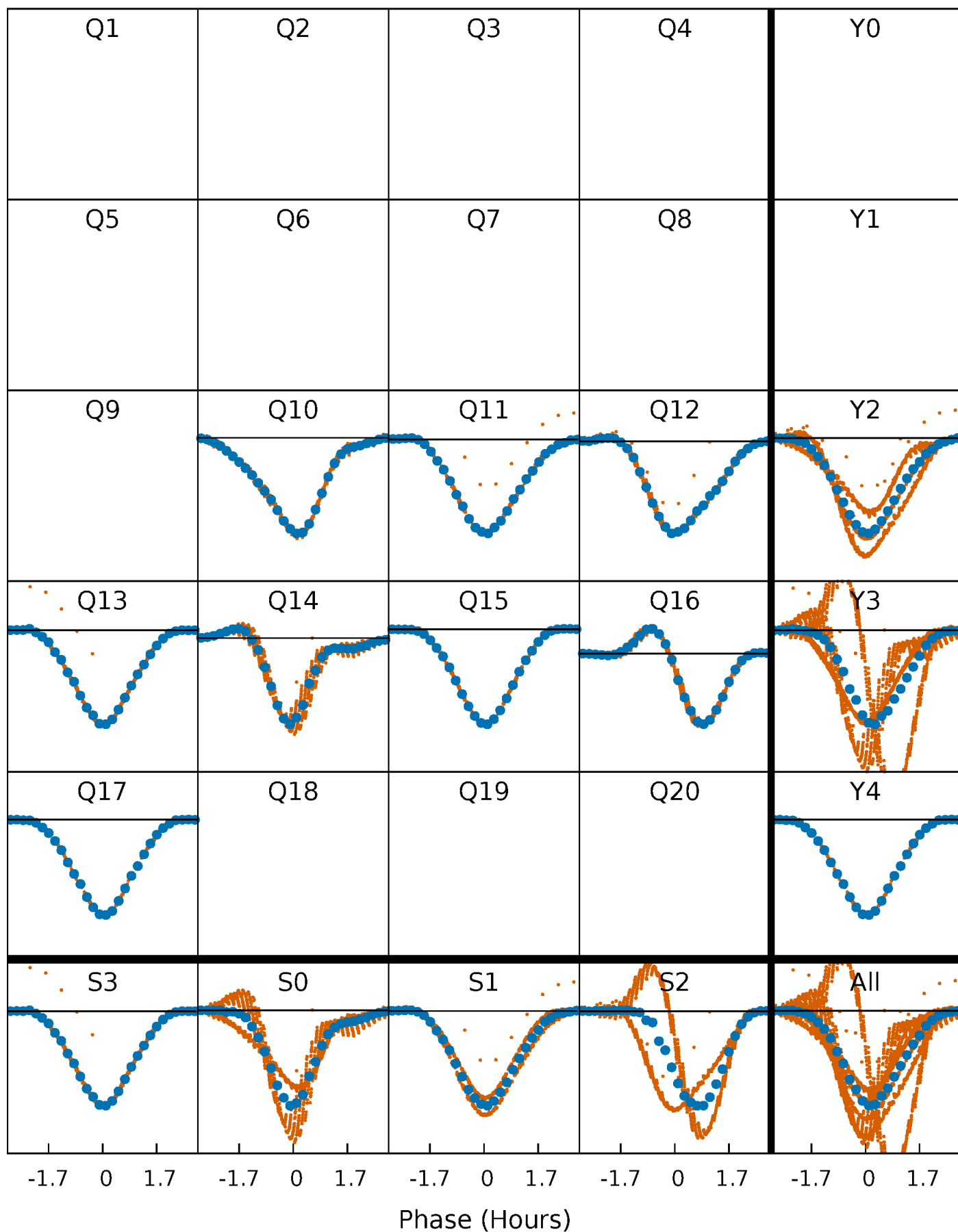
PDC Quarter-Phased Transit Curves

TCE 007770471-01 P= 1.157800 Days $T_0=132.451619$ (BKJD)



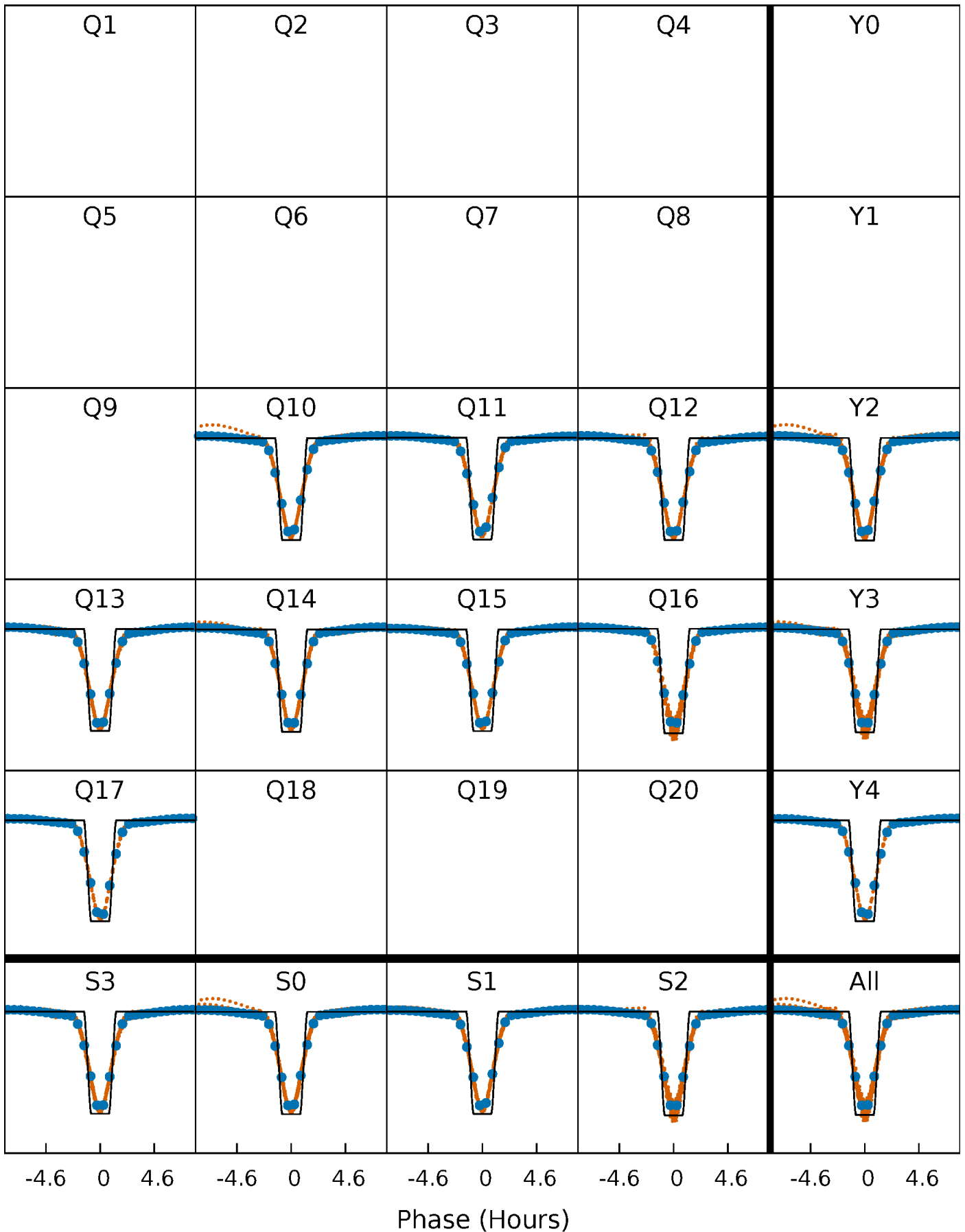
DV Quarter-Phased Transit Curves

TCE 007770471-01 P= 1.157800 Days $T_0=132.451619$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

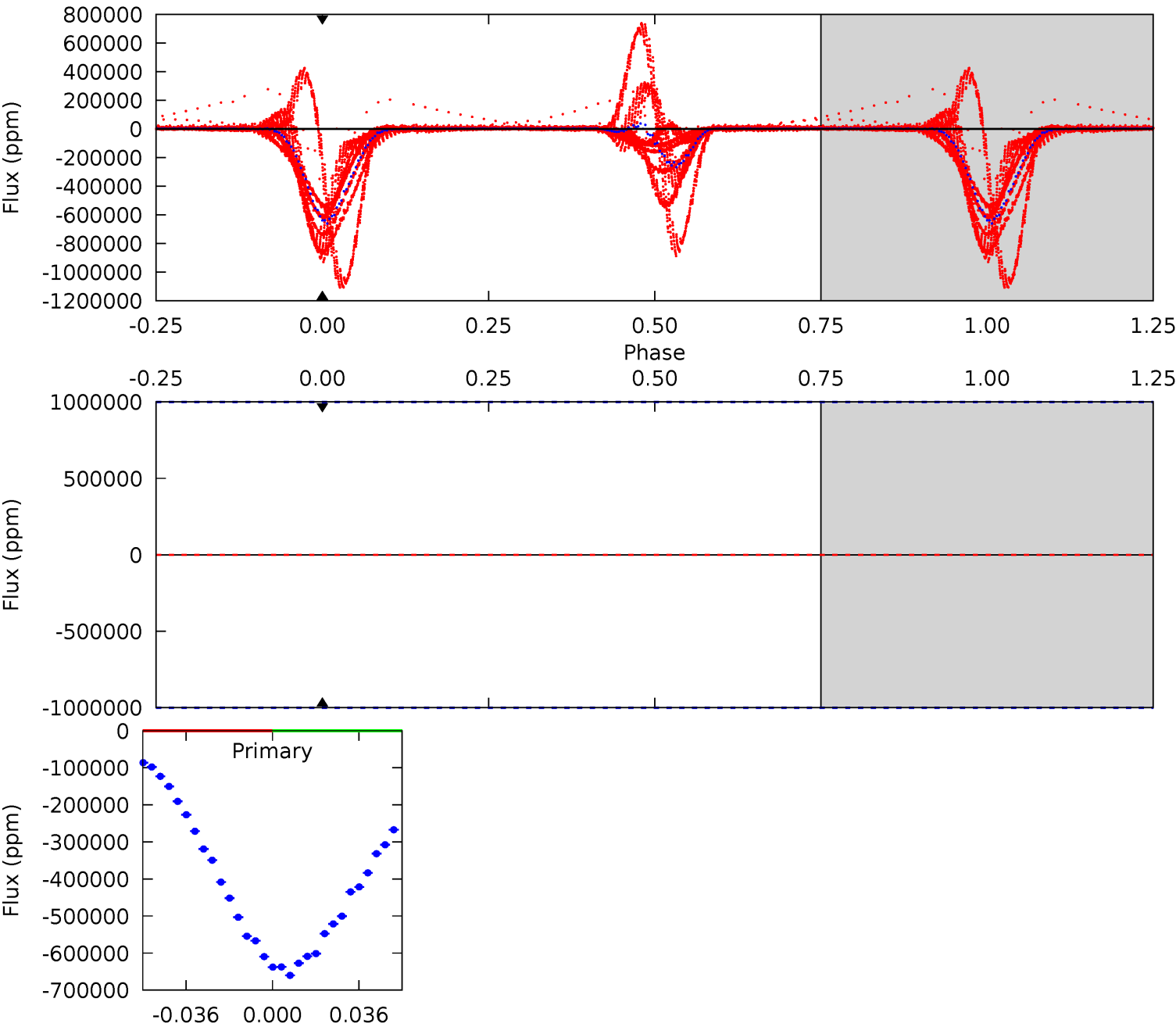
TCE 007770471-01 P= 1.157800 Days $T_0=132.452591$ (BKJD)



DV Model-Shift Uniqueness Test

007770471-01, P = 1.157800 Days, E = 132.451619 Days

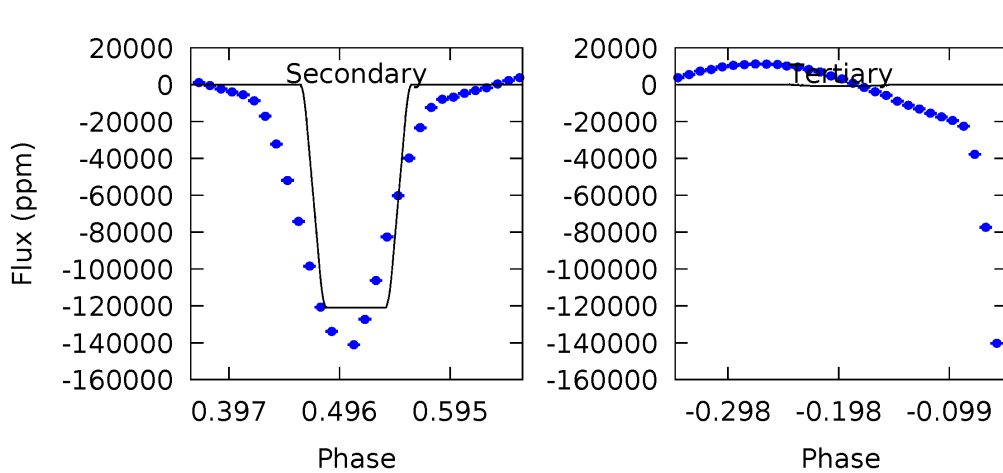
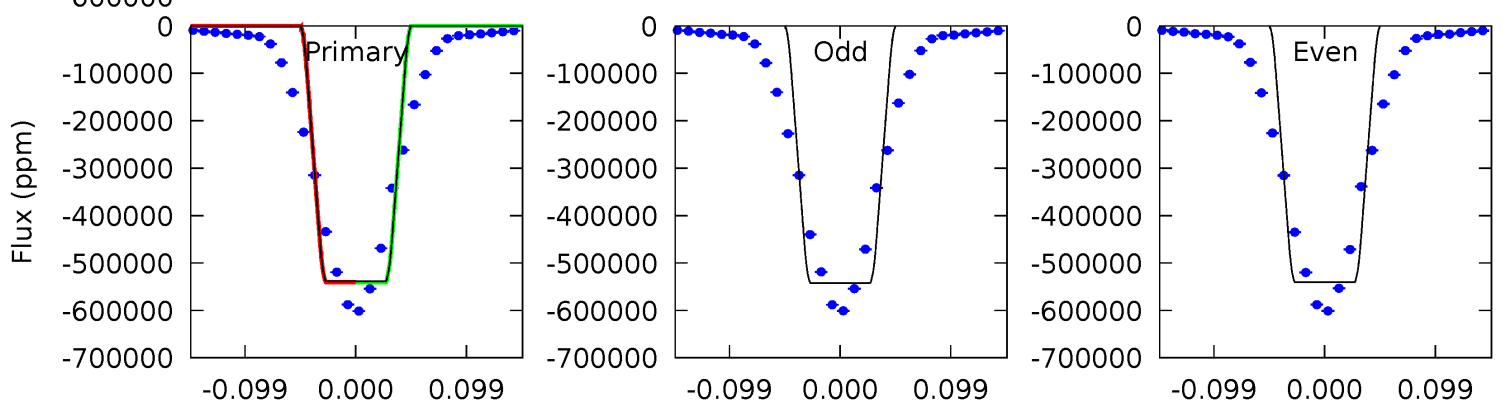
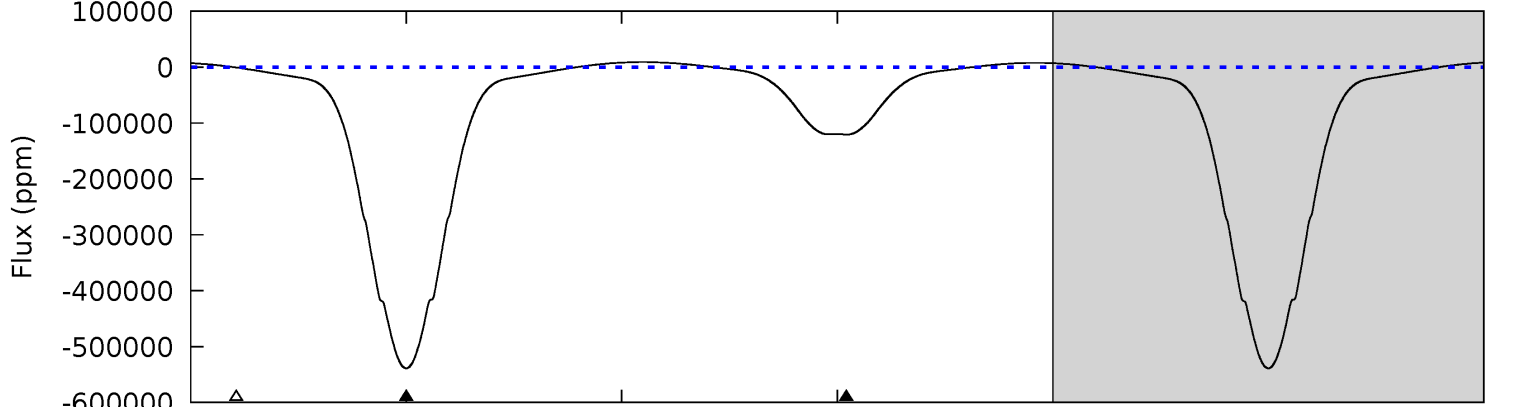
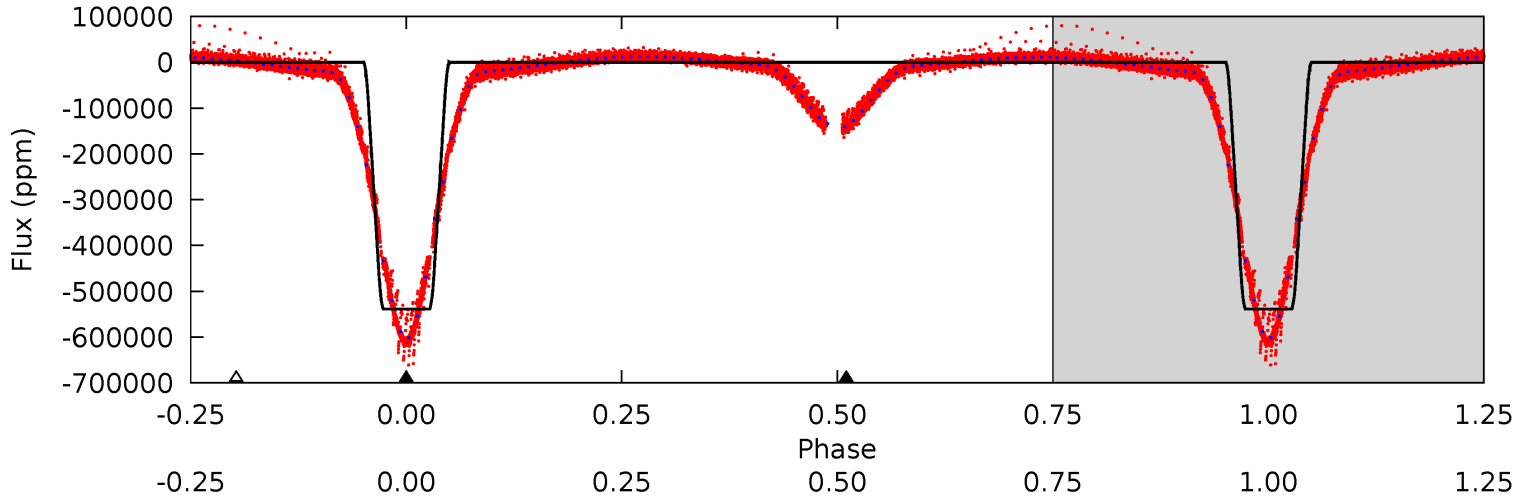
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

007770471-01, P = 1.157800 Days, E = 132.452591 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2619	587.3	2.98	0	4.57	1.65	47.4	2616	2619	584.4	587.3	4.11	1.00	0.02	1.27



Stellar Parameters For KIC 007770471

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6510^{+181}_{-250}	$4.219^{+0.153}_{-0.187}$	$-0.120^{+0.250}_{-0.300}$	$1.425^{+0.439}_{-0.293}$	$1.228^{+0.188}_{-0.188}$	$0.598^{+0.456}_{-0.298}$
	+3%/-4%	+4%/-4%	+208%/-250%	+31%/-21%	+15%/-15%	+76%/-50%
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 007770471-01 / KOI 3706.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$47.73^{+17.62}_{-15.59}$	3175^{+228}_{-218}	3289^{+3512}_{-9908}	$0.587^{+14.898}_{-12.775}$
Alt.	-120872 ± 206	$124.40^{+25.25}_{-21.52}$	3174^{+230}_{-232}	4480^{+331}_{-251}	$2.613^{+1.142}_{-0.791}$

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 $A_{obs} \gg 1.0$

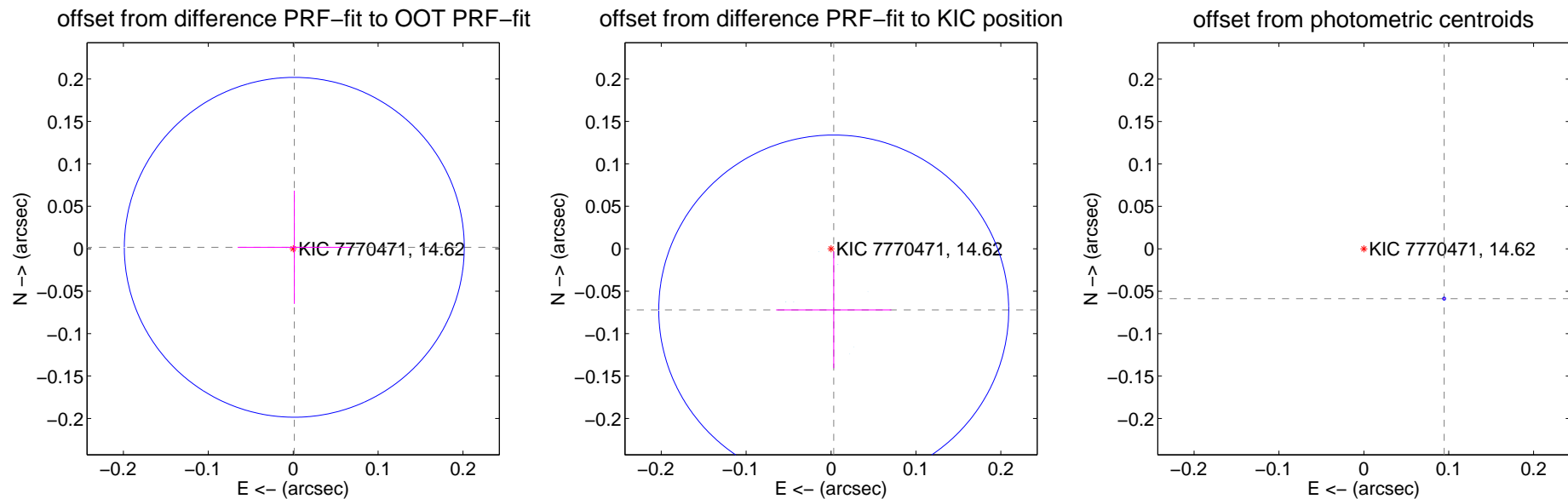
DV Centroid Data

Supplemental centroid analysis for 007770471-01. Kepler magnitude: 14.62. Transit SNR -1.00

There are 8 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.002 ± 0.067	0.03	-0.001 ± 0.067	0.002 ± 0.067
PRF-fit source offset from KIC position	0.072 ± 0.069	1.05	-0.003 ± 0.068	-0.072 ± 0.069
photometric centroid source offset	0.11 ± 0.00	189.75	-0.09 ± 0.00	-0.06 ± 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.

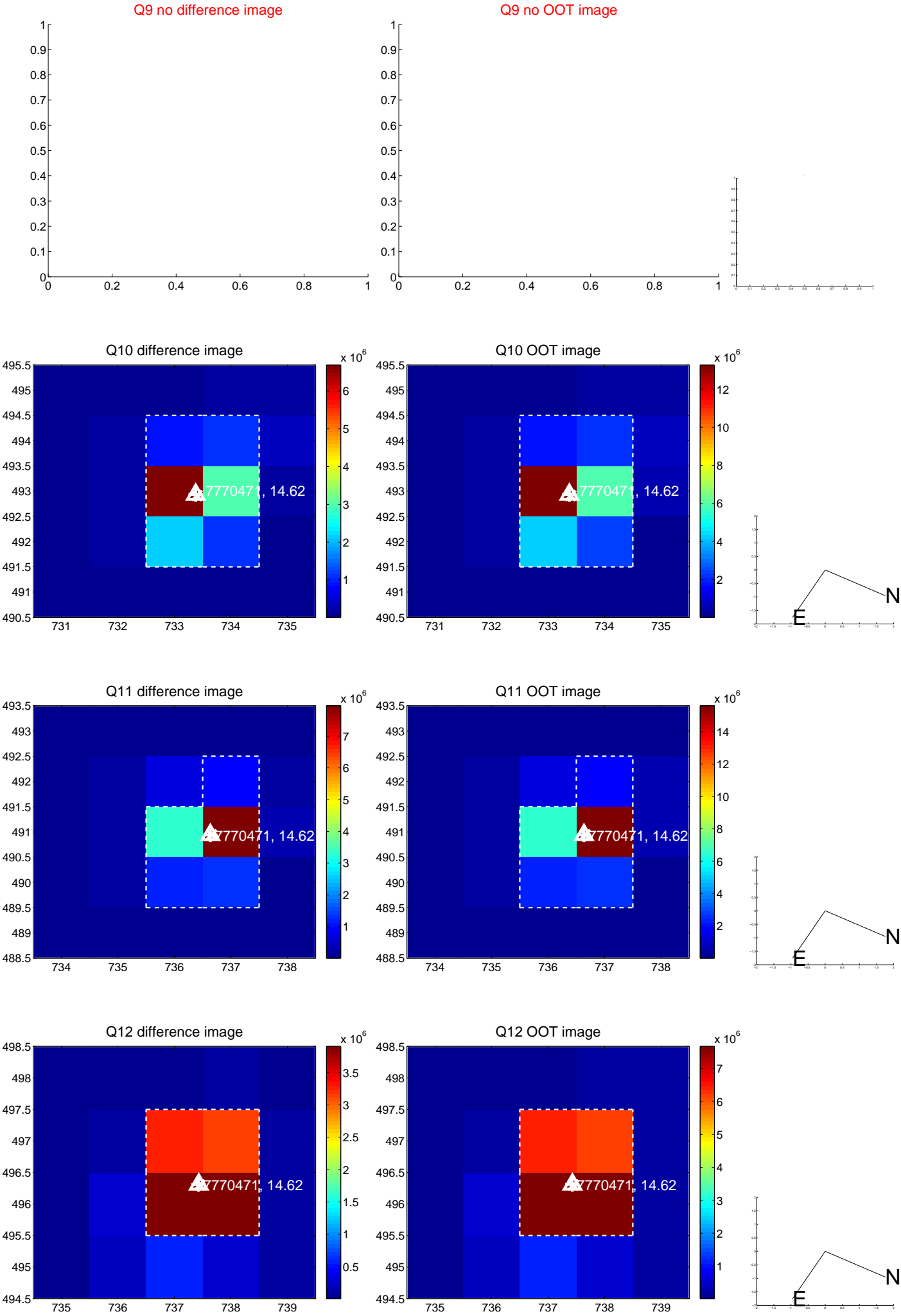
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



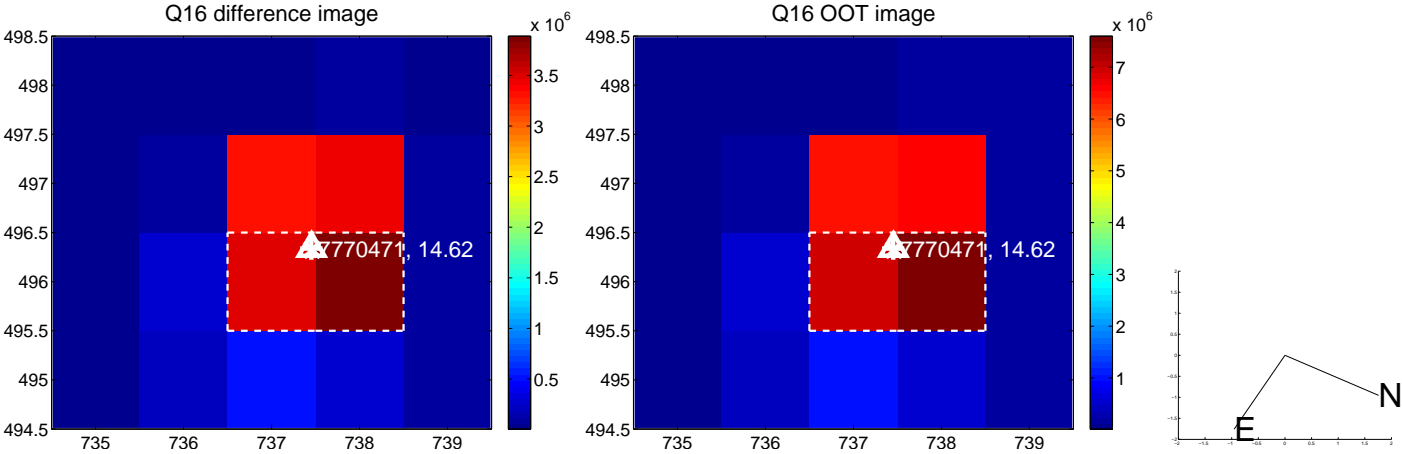
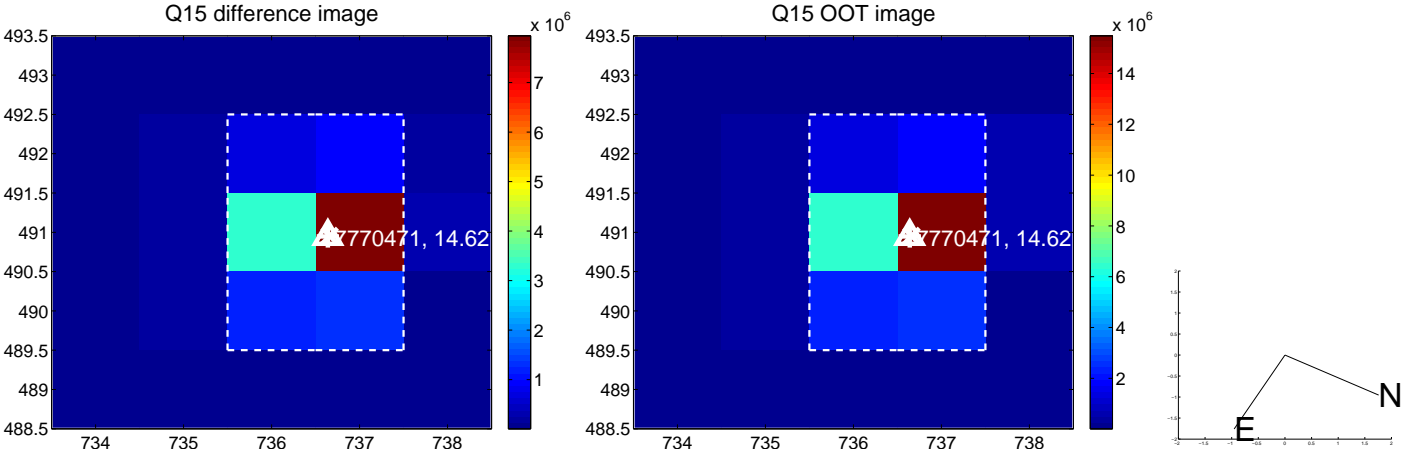
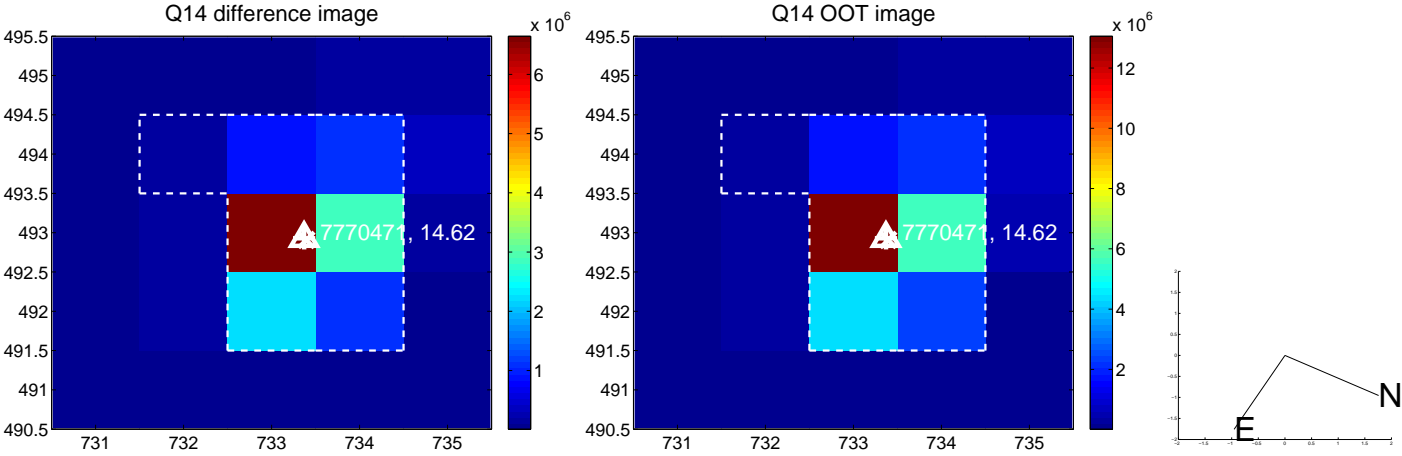
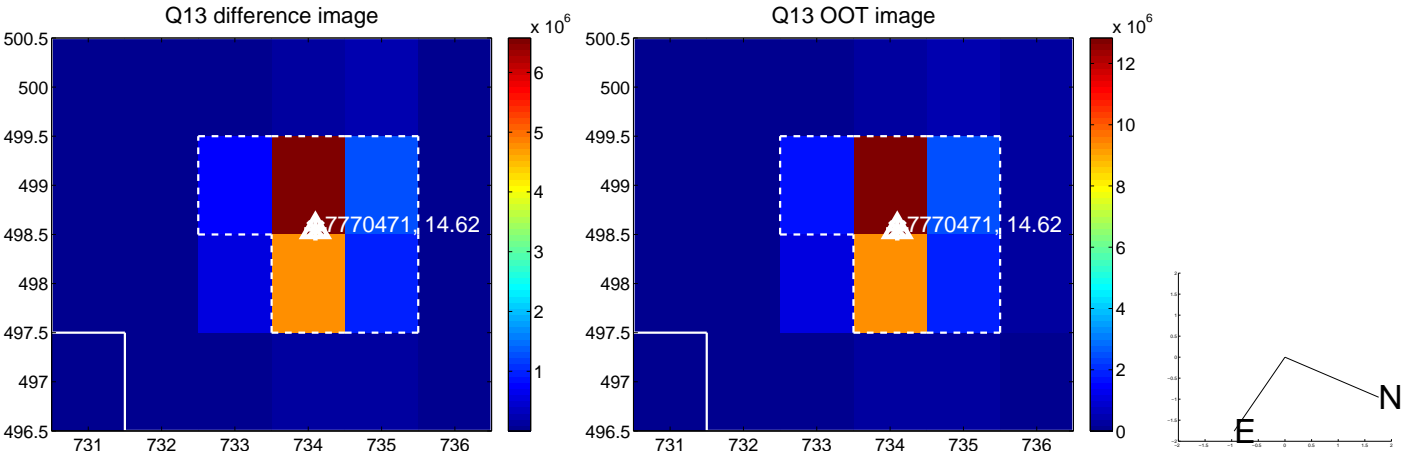
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



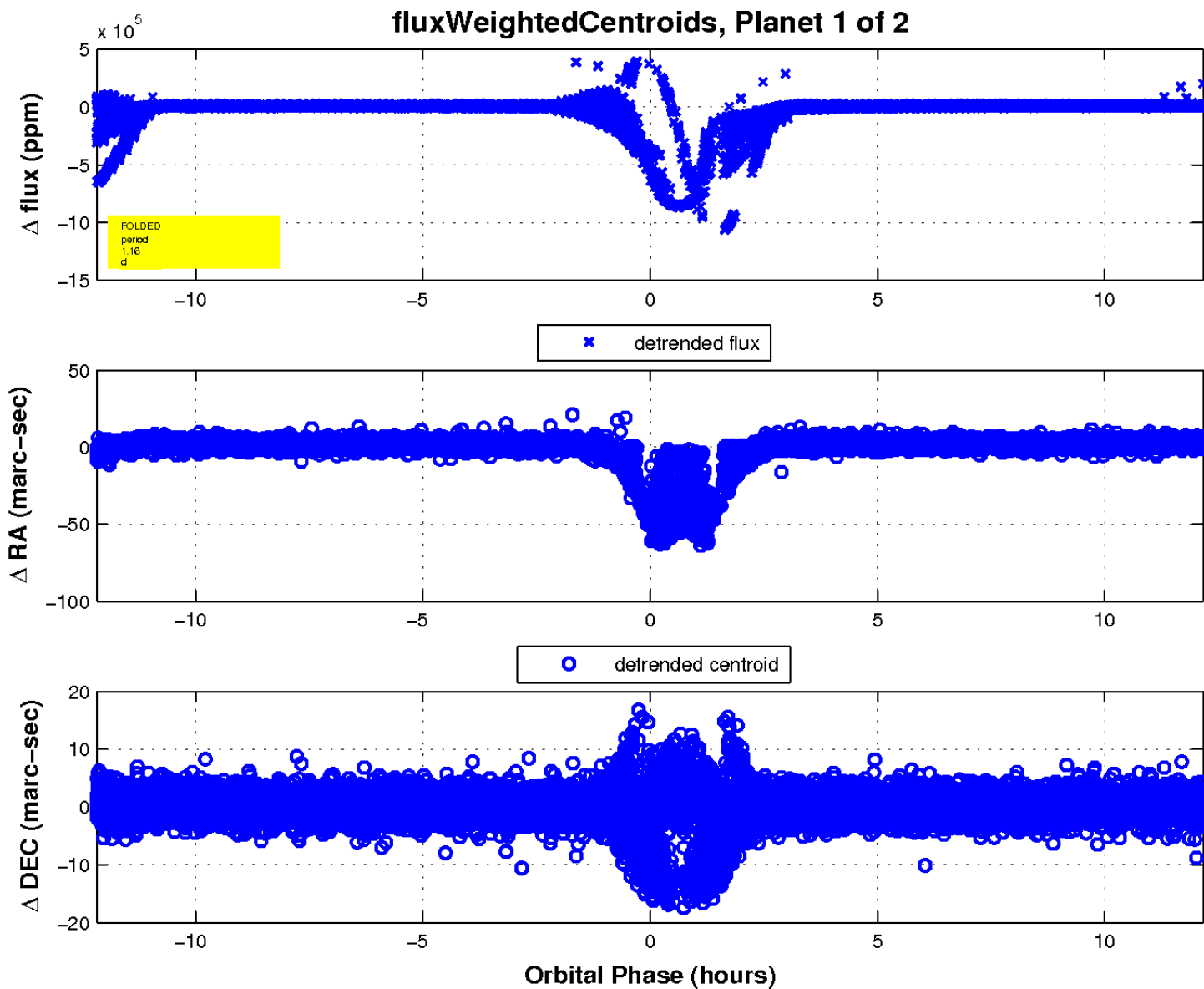
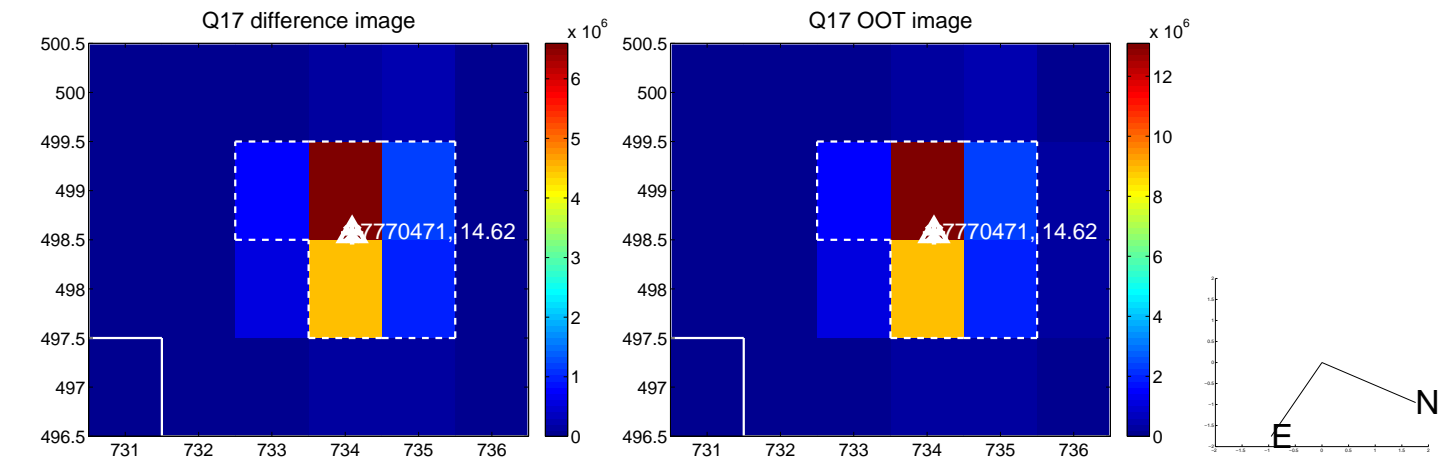
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

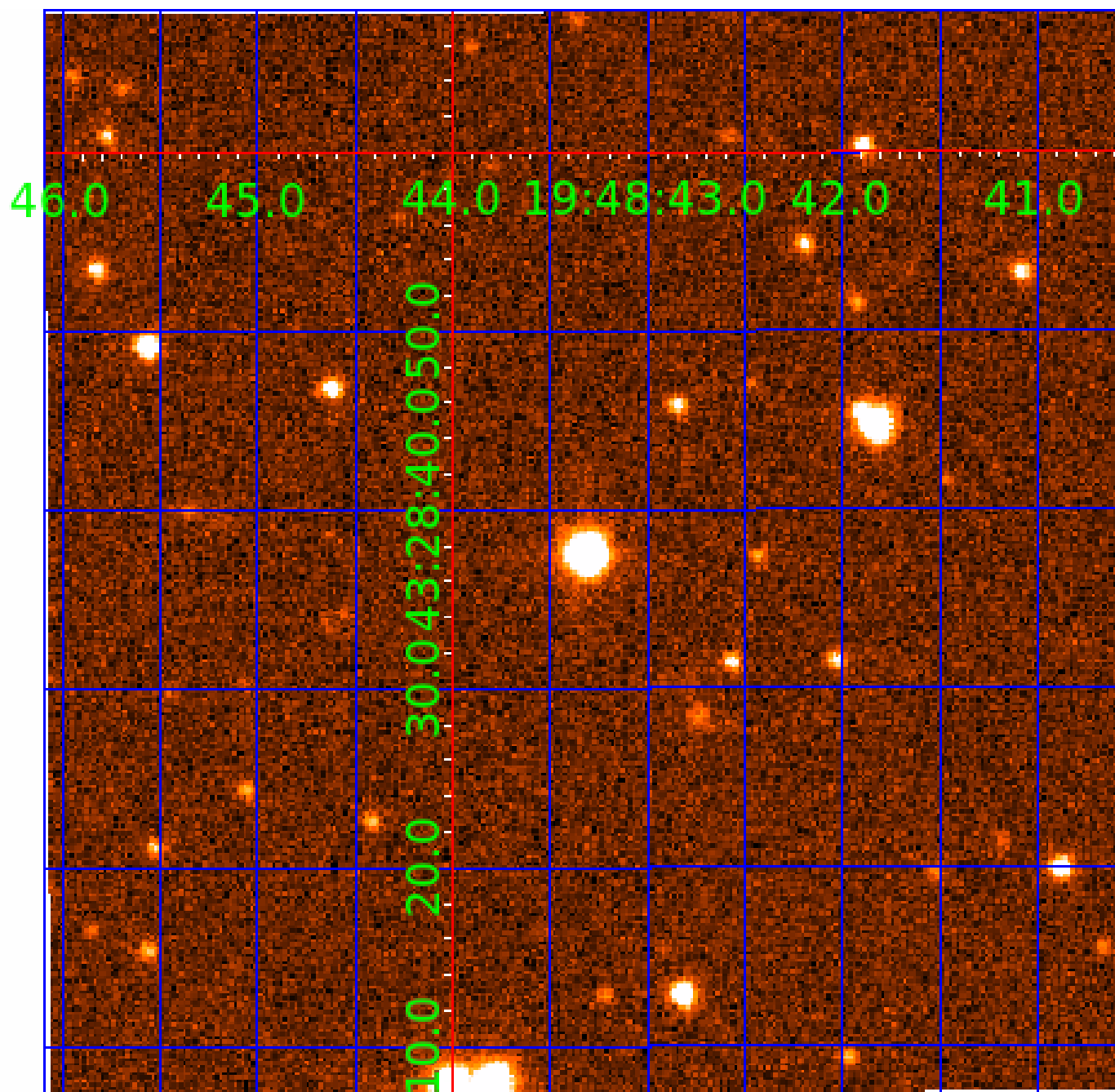


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007770471

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})
007770471-01	OBS	3706.01	1.157800	132.451619	777246.2	1.500	5796.8	-1.0	1.43	6510	48.10	6122.33
007770471-02	OBS	No	1.157854	131.842444	47353.9	2.000	1080.2	-1.0	1.43	6510	31.33	6121.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007770471-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
007770471-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—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.

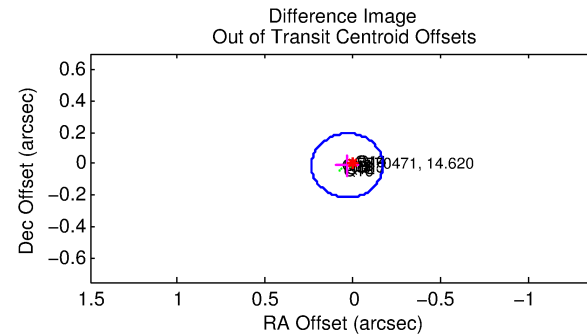
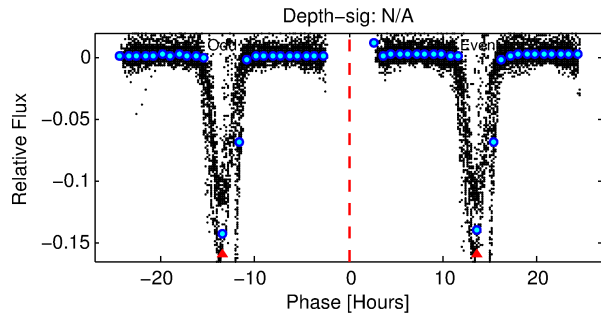
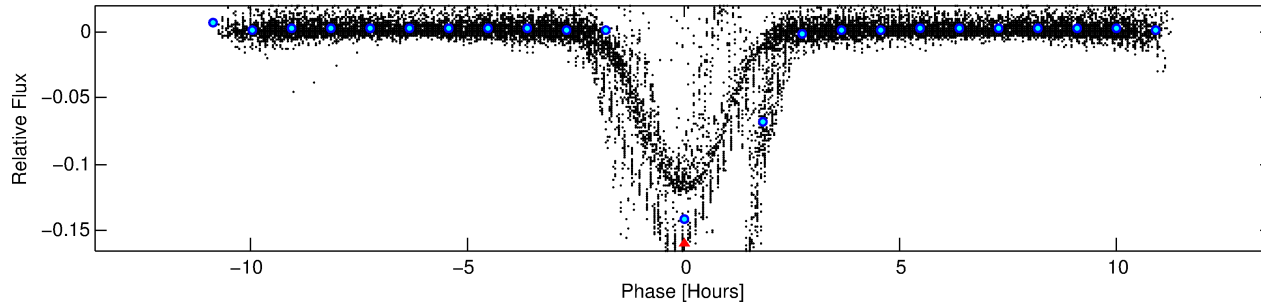
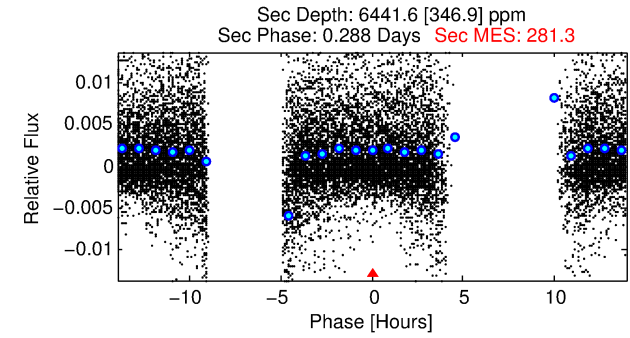
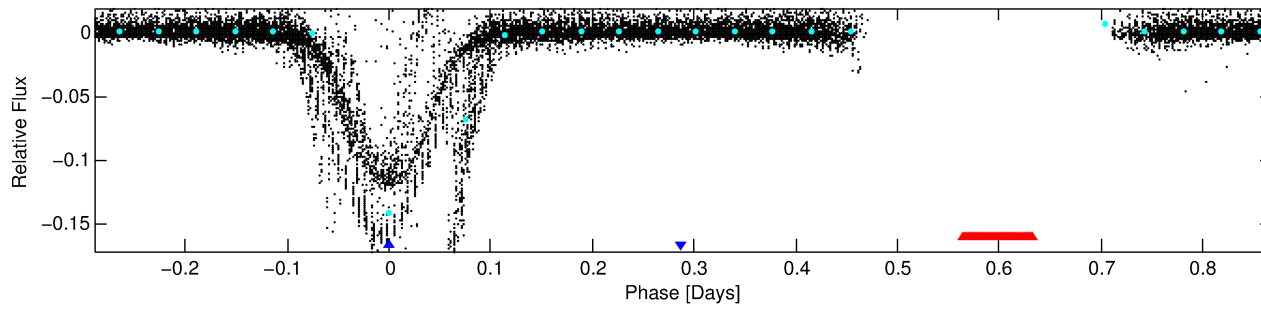
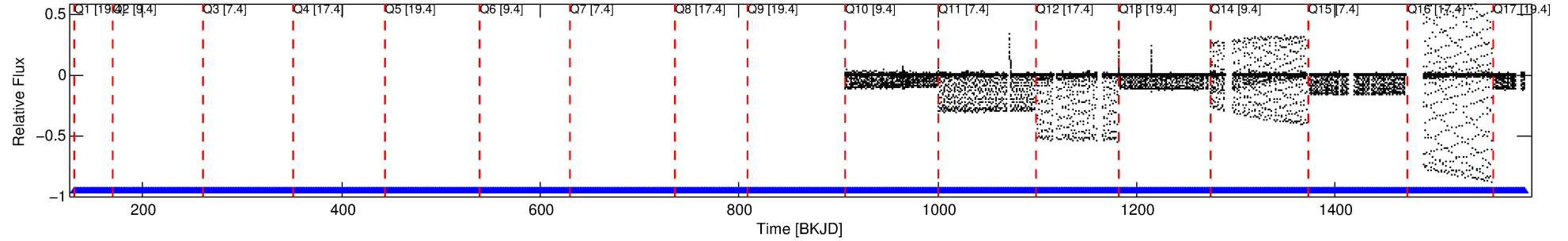
Ephemeris Match Information For 007770471-02

No Significant Match Found

DV One-Page Summary

KIC: 7770471 Candidate: 2 of 2 Period: 1.158 d
KOI: K03706 Corr: No Ephemeris Match

Kp: 14.62 R*: 1.43 Rs Teff: 6510.0 K Logg: 4.22 Fe/H: -0.120



TPS TCE Results:

Period = 1.15785 d
Epoch = 131.8424 BKJD

DV fit results are unavailable

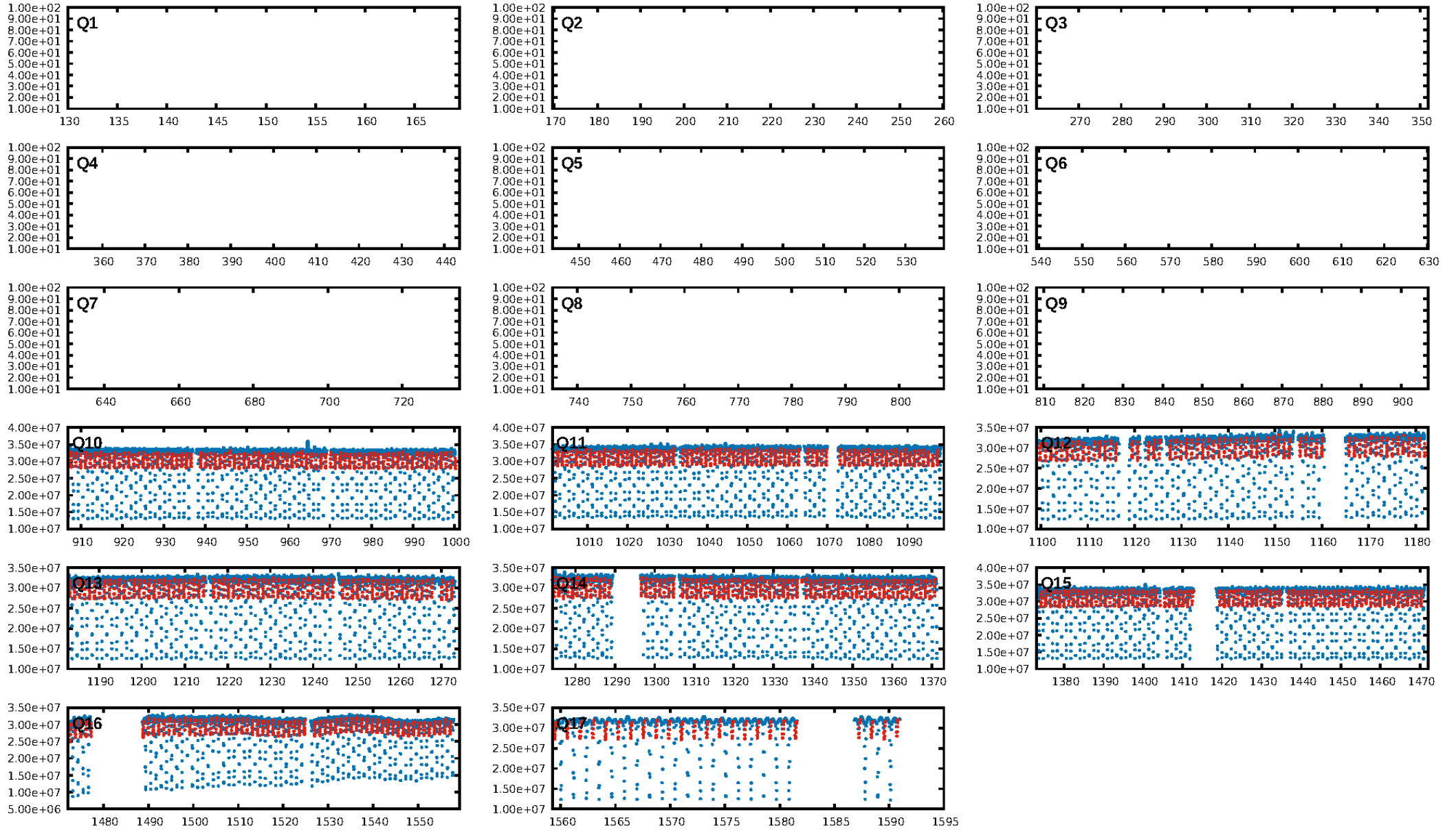
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [511/511]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: 0.136 arcsec [138.46 σ]
OotOffset-rm: 0.036 arcsec [0.52 σ]
KicOffset-rm: 0.093 arcsec [1.37 σ]
OotOffset-st: 2/2/2/2 [8]
KicOffset-st: 2/2/2/2 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [8/8]

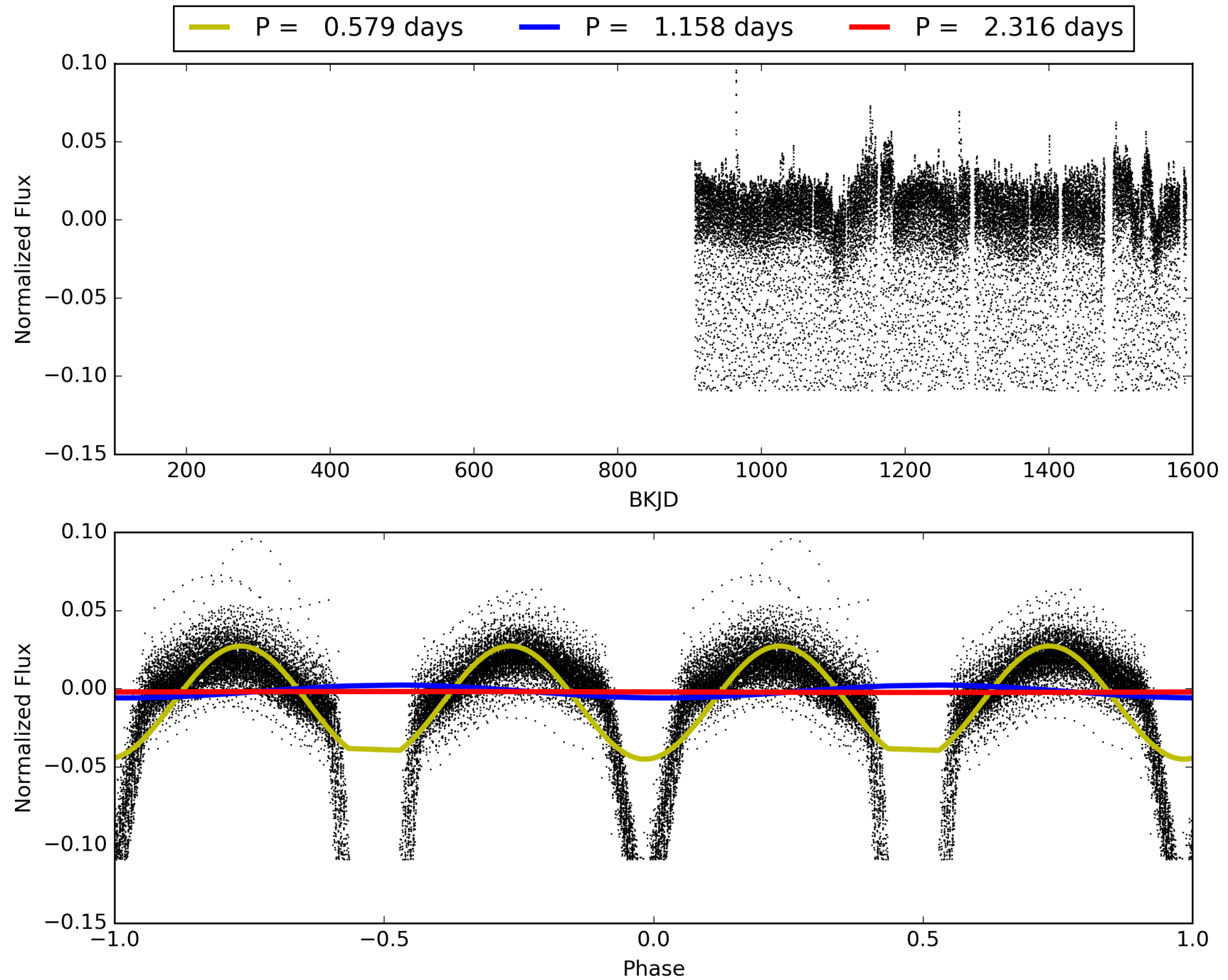
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 10:14:19 Z

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

TCE 007770471-02, PDC Light Curves

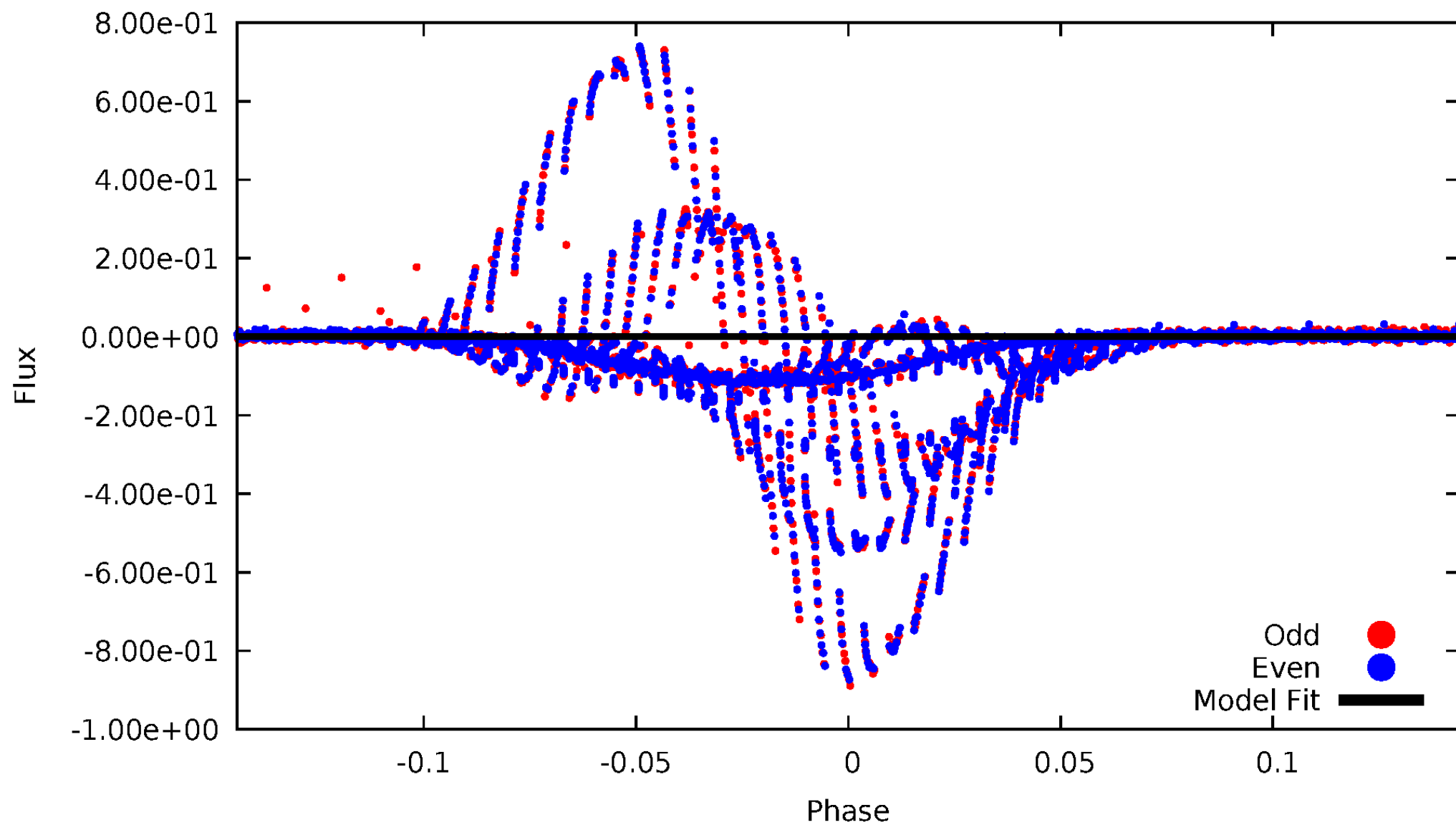


TCE 007770471-02



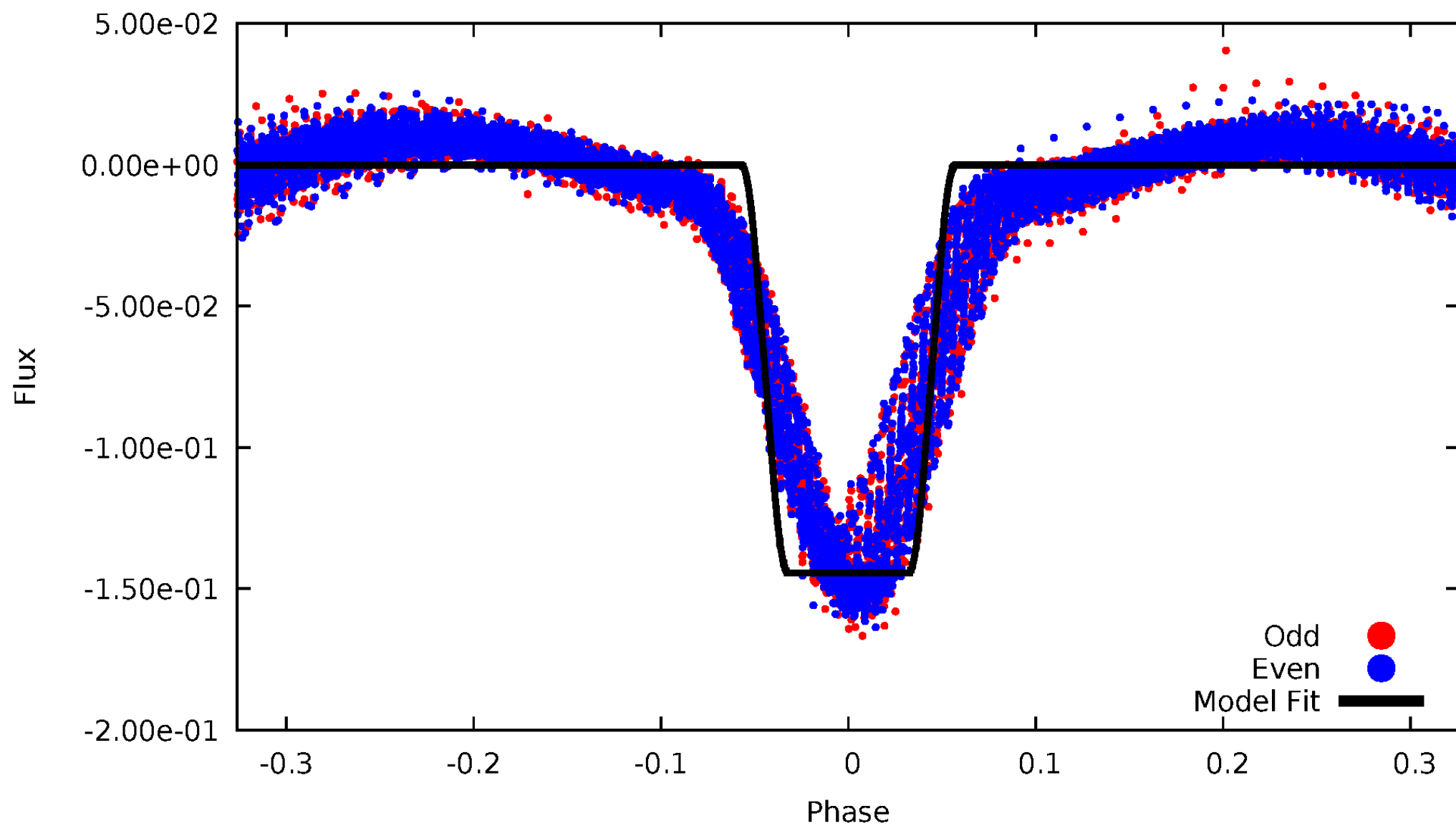
DV Odd/Even

TCE 007770471-02



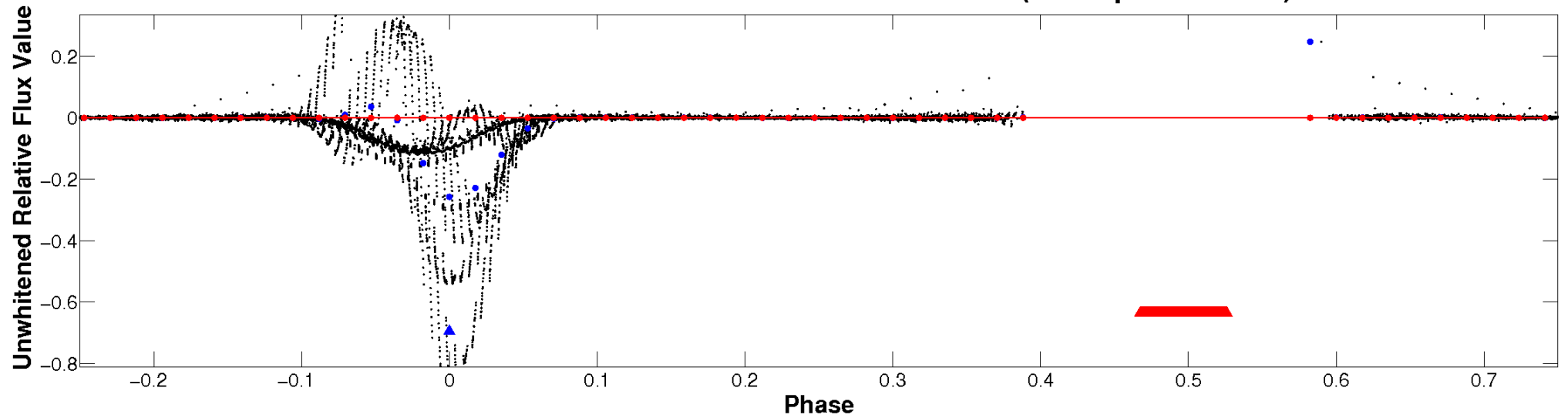
ALT Odd/Even

TCE 007770471-02



Non-Whitened Vs. Whitened Light Curve

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

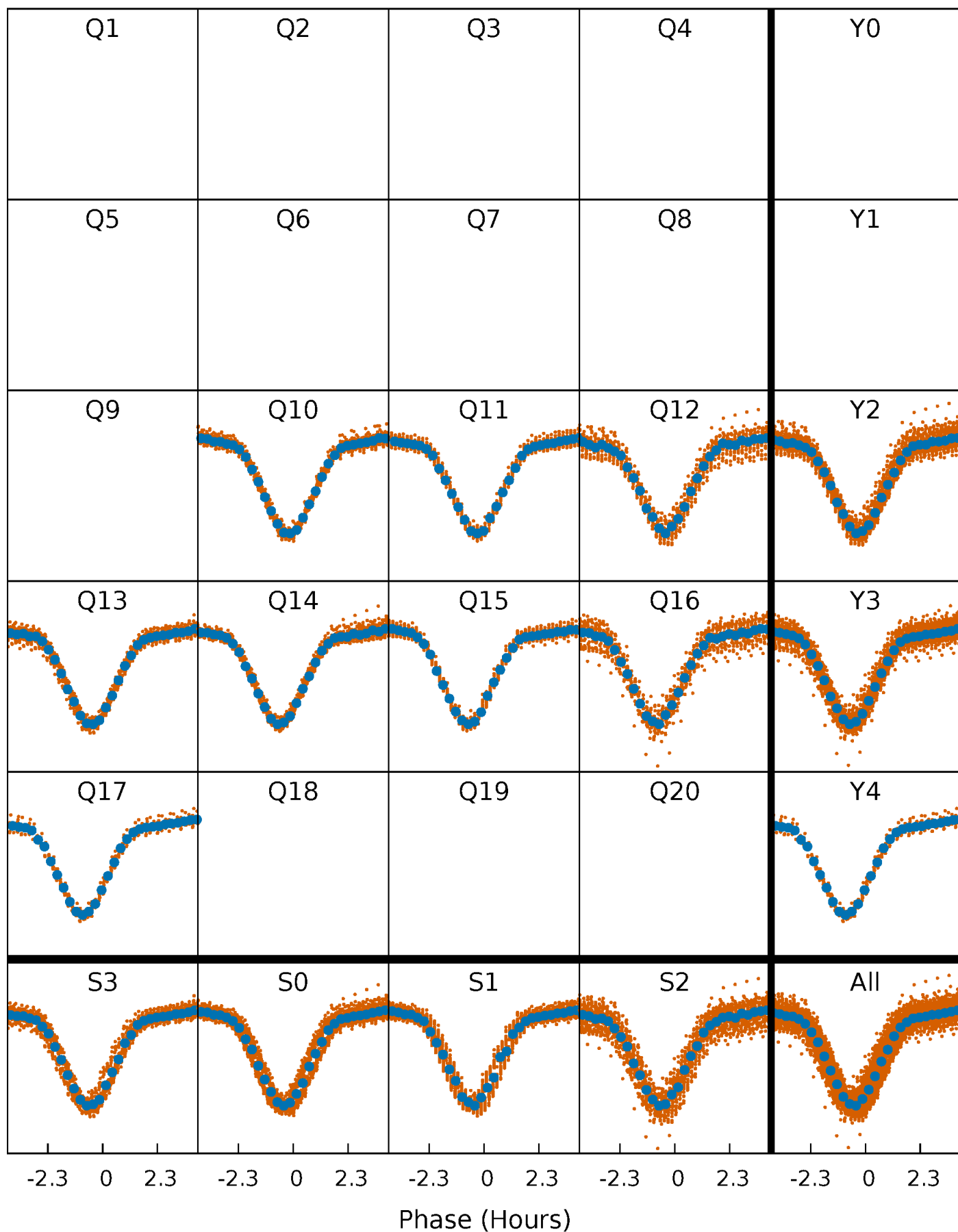


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



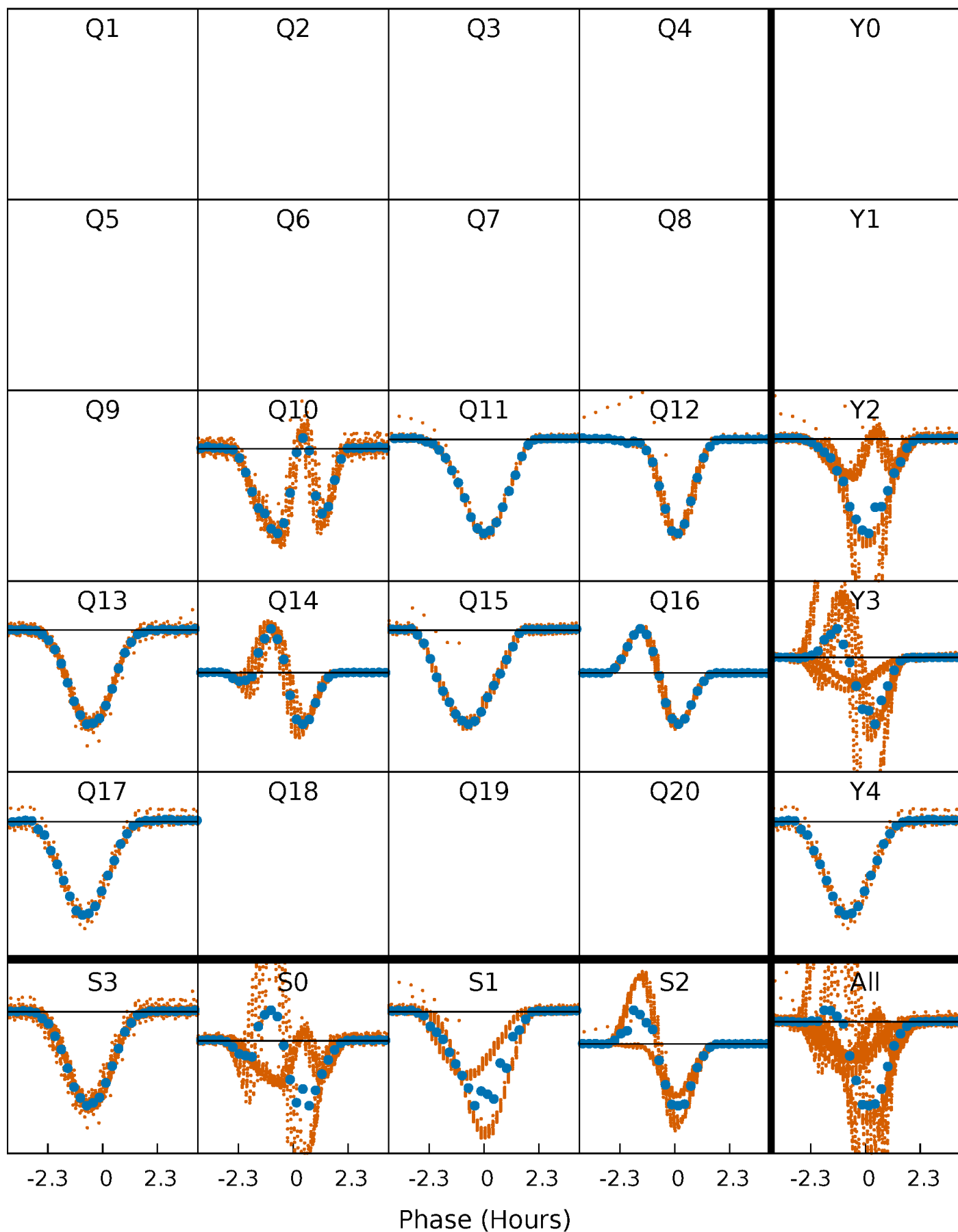
PDC Quarter-Phased Transit Curves

TCE 007770471-02 P= 1.157854 Days $T_0=131.842444$ (BKJD)



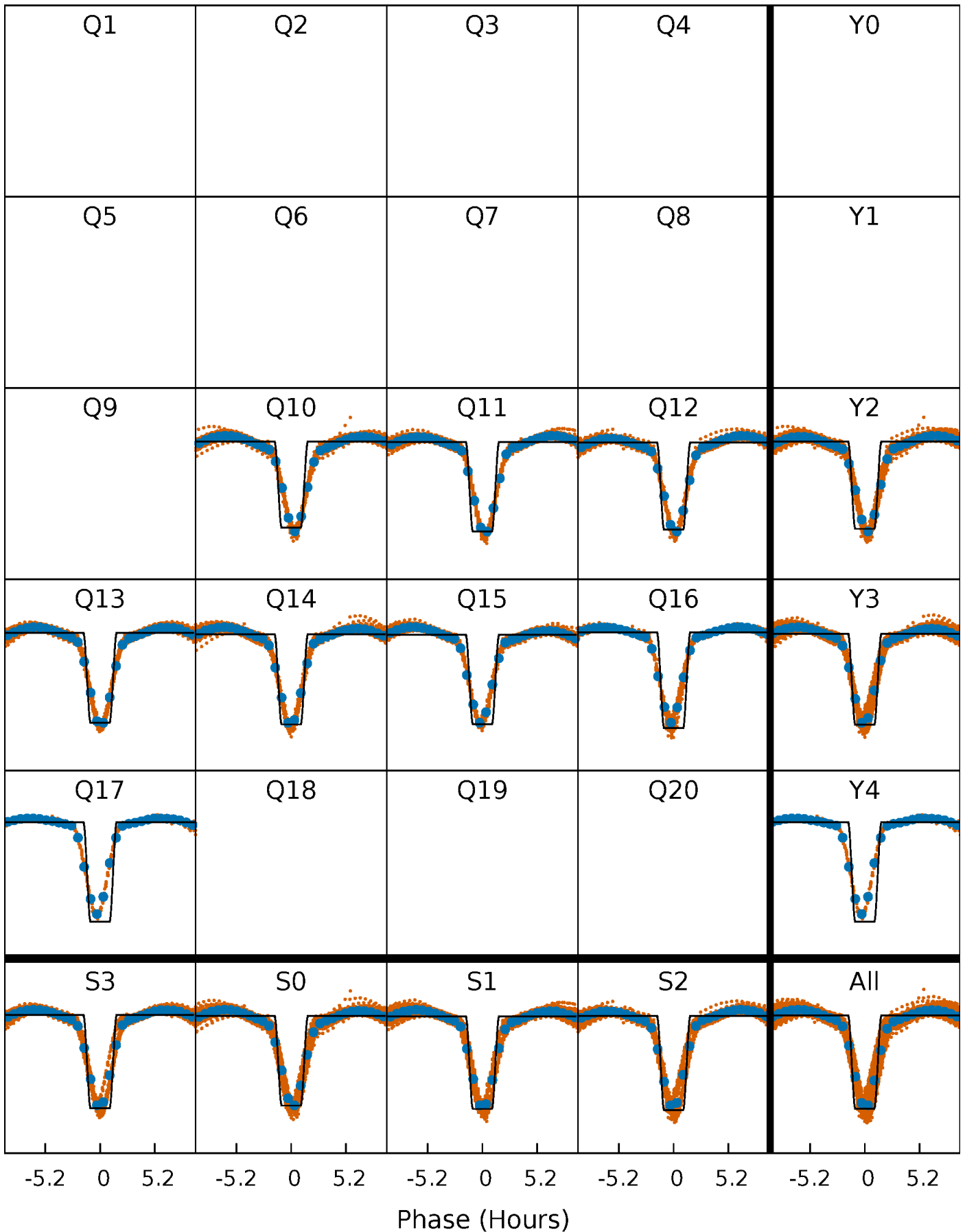
DV Quarter-Phased Transit Curves

TCE 007770471-02 P= 1.157854 Days $T_0=131.842444$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

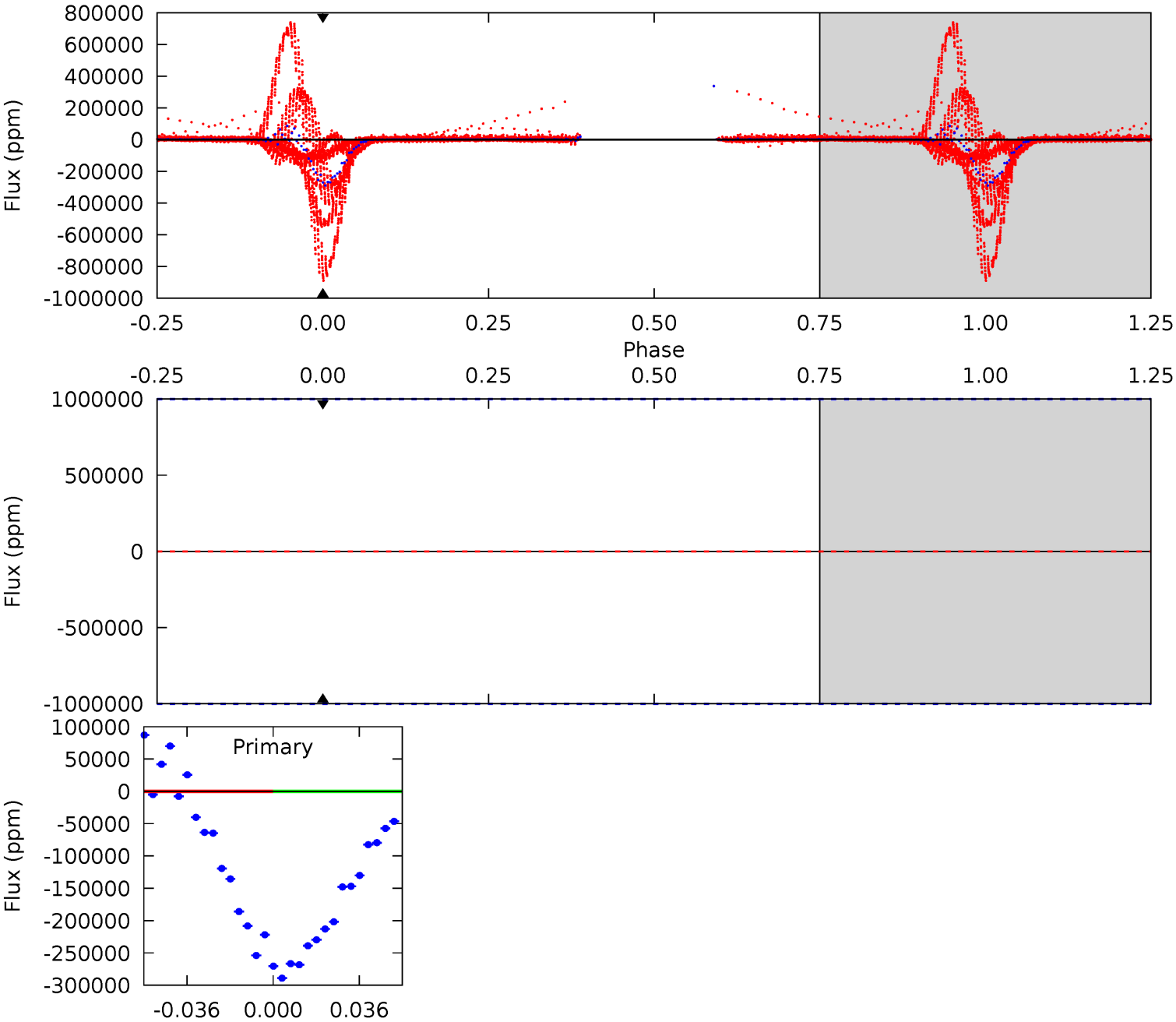
TCE 007770471-02 $P = 1.157854$ Days $T_0 = 131.820698$ (BKJD)



DV Model-Shift Uniqueness Test

007770471-02, P = 1.157854 Days, E = 131.842444 Days

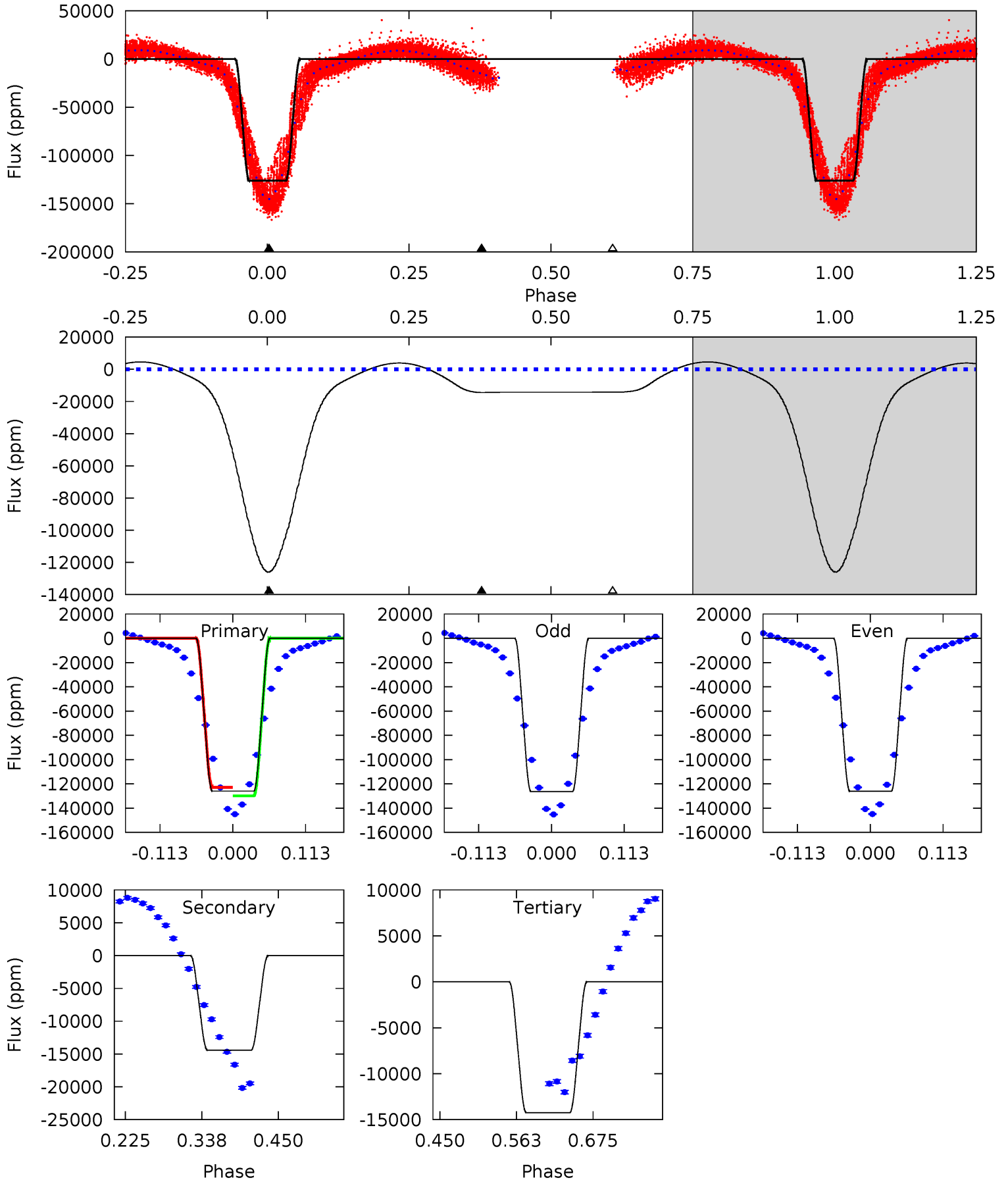
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

007770471-02, P = 1.157854 Days, E = 131.820698 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
942.1	107.9	106.5	0	4.54	1.59	40.5	835.6	942.1	1.39	107.9	0.85	0.99	0.04	26.7



Stellar Parameters For KIC 007770471

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6510^{+181}_{-250}	$4.219^{+0.153}_{-0.187}$	$-0.120^{+0.250}_{-0.300}$	$1.425^{+0.439}_{-0.293}$	$1.228^{+0.188}_{-0.188}$	$0.598^{+0.456}_{-0.298}$
	+3%/-4%	+4%/-4%	+208%/-250%	+31%/-21%	+15%/-15%	+76%/-50%
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 007770471-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$31.84^{+16.76}_{-14.24}$	3170^{+238}_{-218}	-4261^{+13114}_{-4839}	$-1.554^{+36.311}_{-33.062}$
Alt.	-14430 ± 134	$58.47^{+19.13}_{-16.69}$	3154^{+262}_{-209}	3808^{+571}_{-439}	$1.246^{+1.132}_{-0.534}$

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 $A_{obs} \gg 1.0$

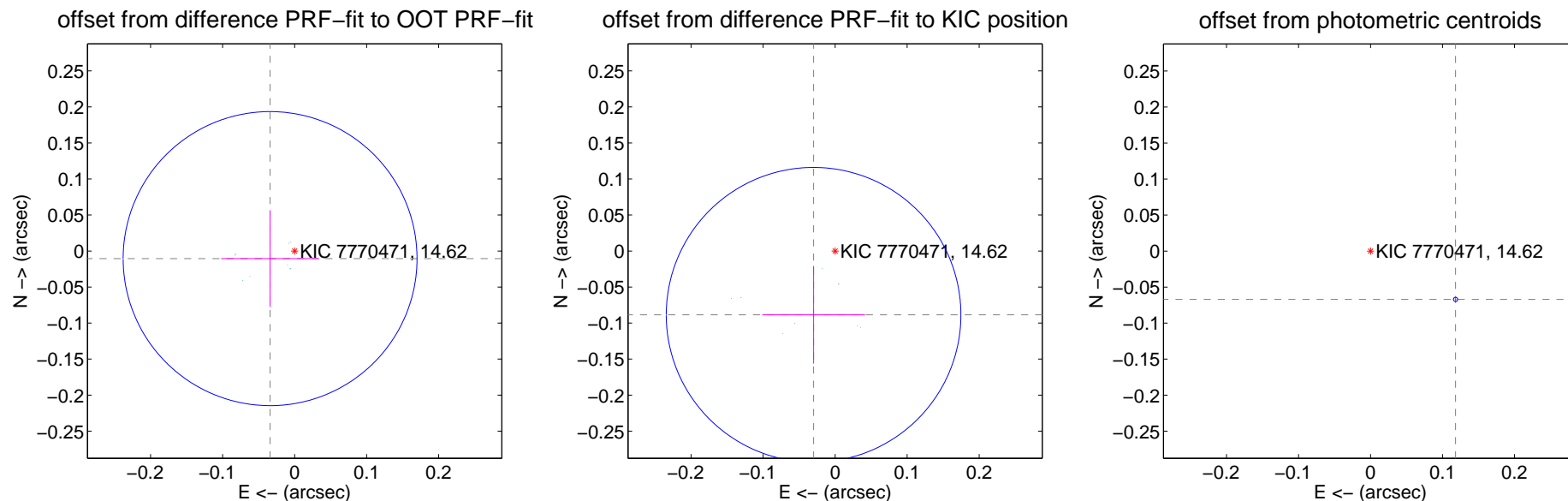
DV Centroid Data

Supplemental centroid analysis for 007770471-02. Kepler magnitude: 14.62. Transit SNR -1.00

There are 8 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.036 ± 0.068	0.52	0.034 ± 0.068	-0.011 ± 0.067
PRF-fit source offset from KIC position	0.093 ± 0.068	1.37	0.030 ± 0.071	-0.089 ± 0.068
photometric centroid source offset	0.14 ± 0.00	138.46	-0.12 ± 0.00	-0.07 ± 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.

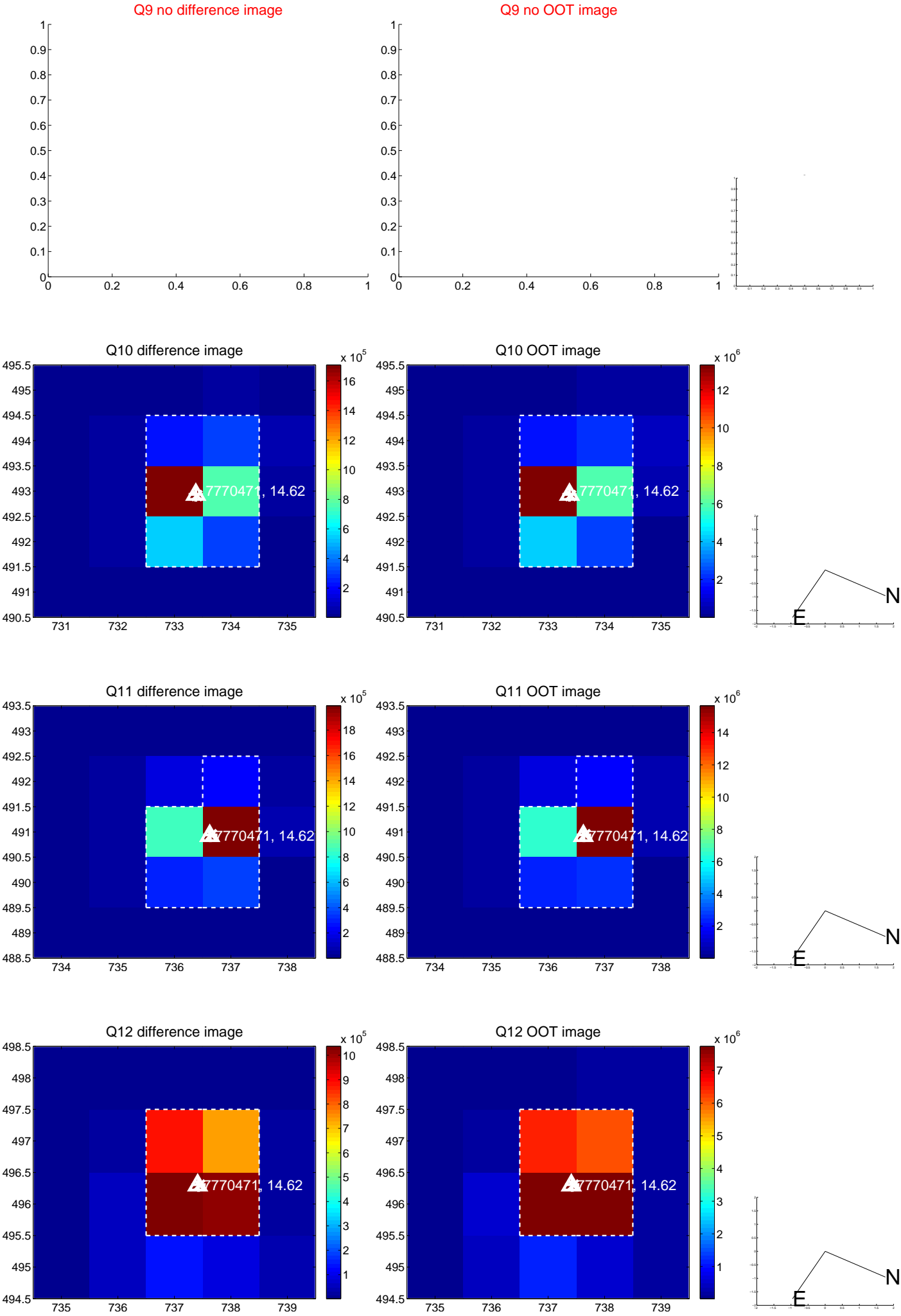
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



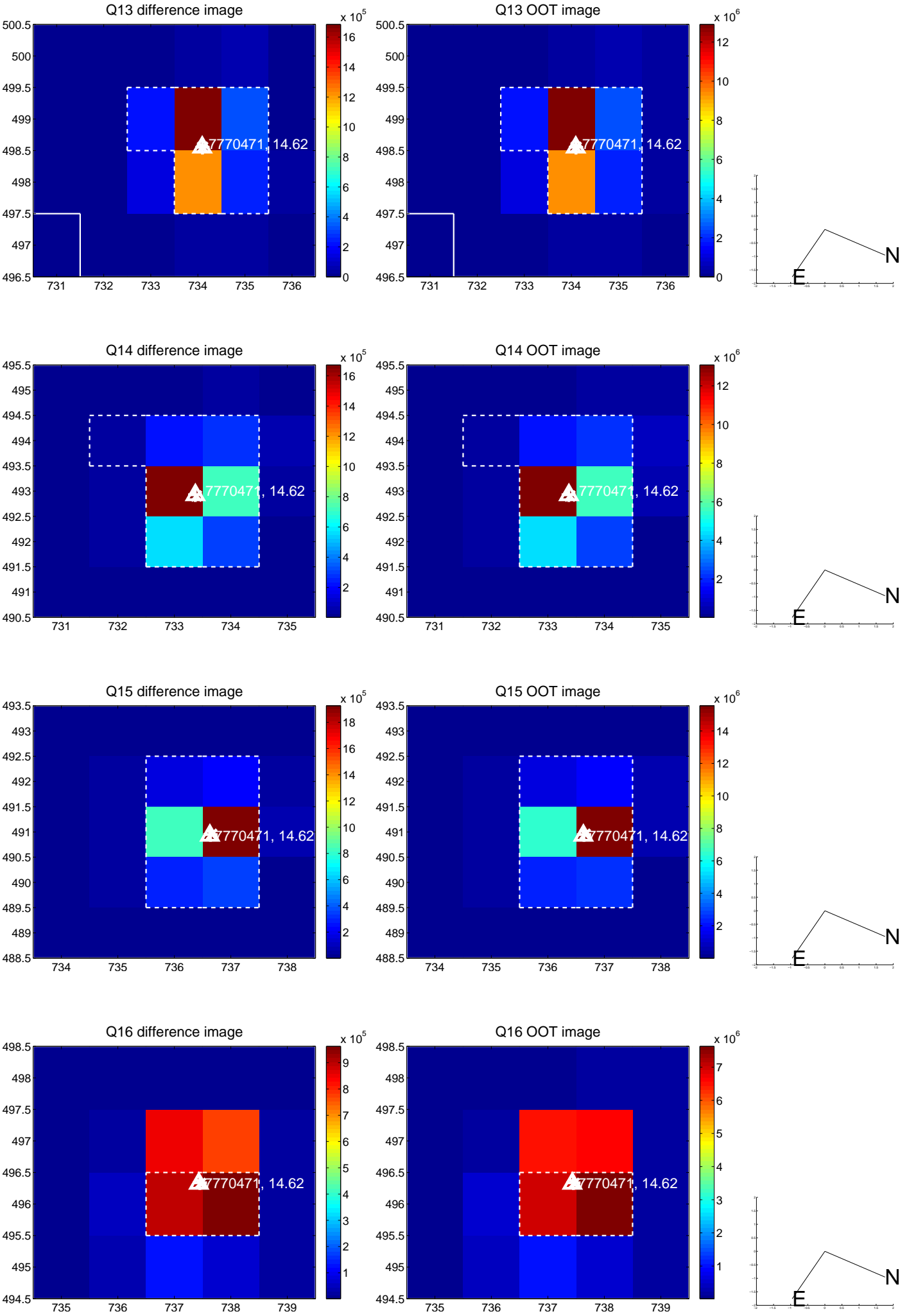
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



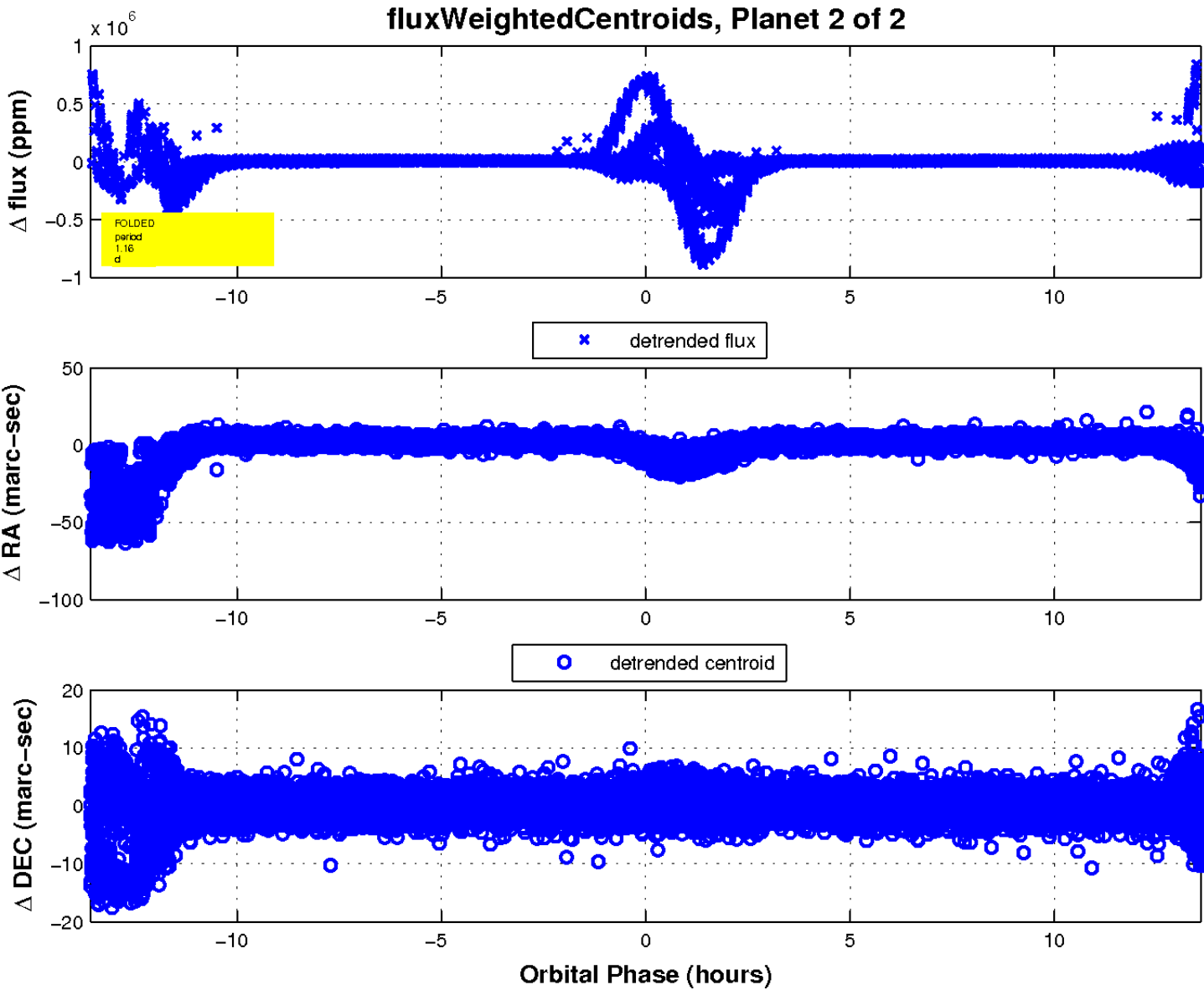
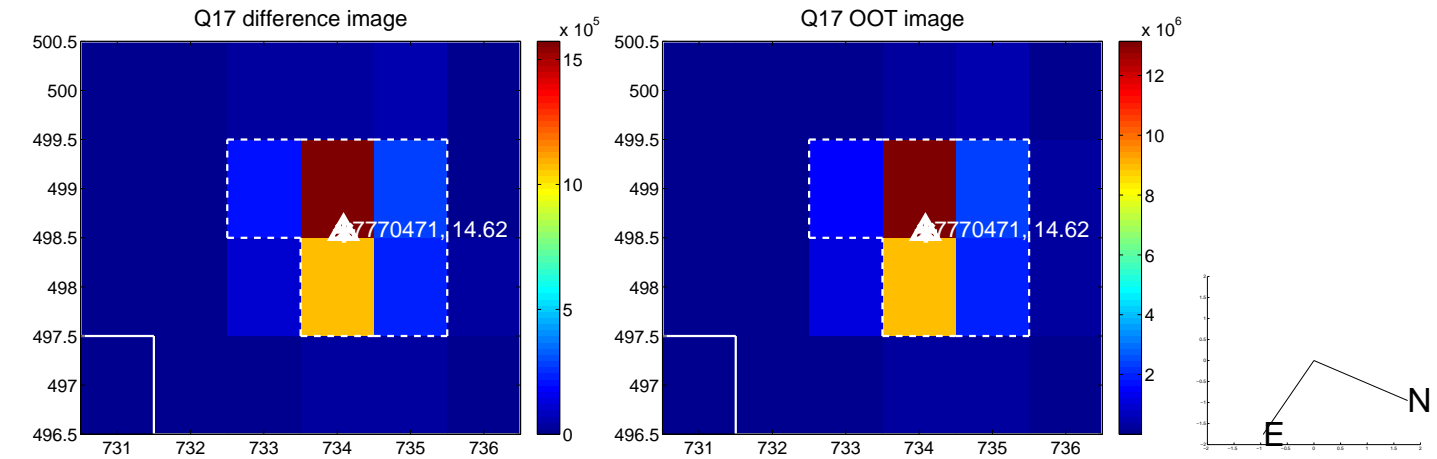
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

