

KIC 007199397

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})
007199397-01	OBS	0075.01	105.880434	156.988511	1588.4	18.276	183.5	196.5	2.50	5903	10.41	29.69
007199397-02	OBS	No	328.508133	270.527187	136.4	14.361	7.5	7.7	2.50	5903	3.22	6.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007199397-01	OBS	PC	1.00	0	0	0	0	CENT_SATURATED
007199397-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—CENT_SATURATED

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

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

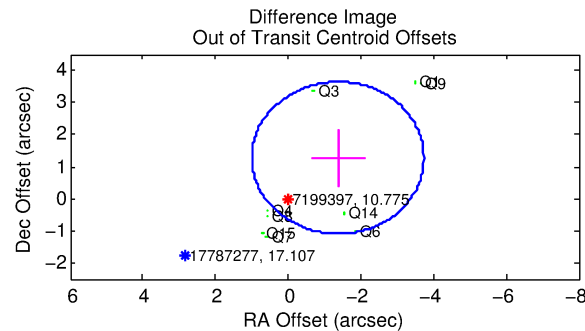
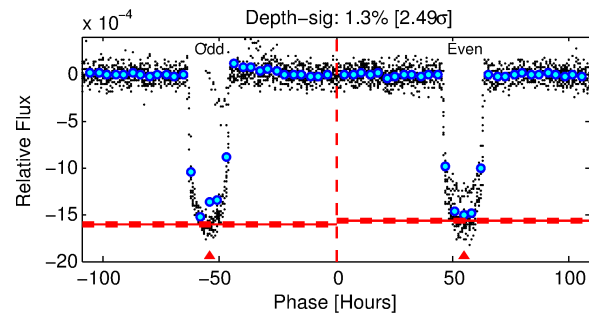
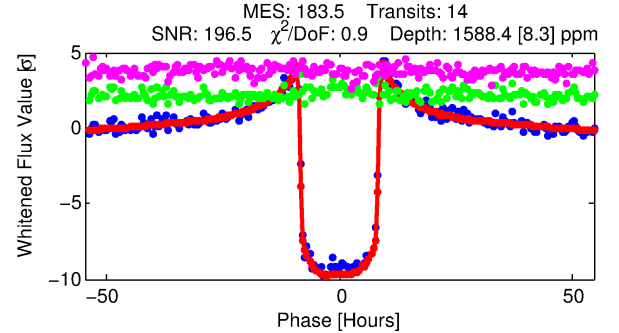
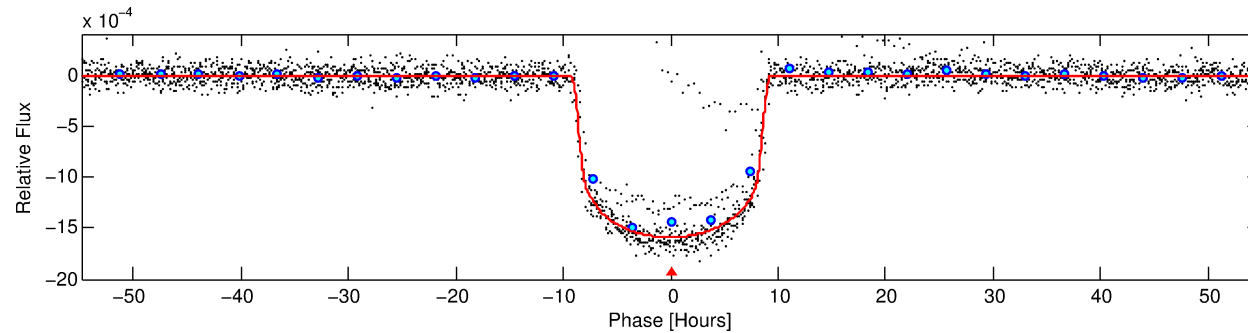
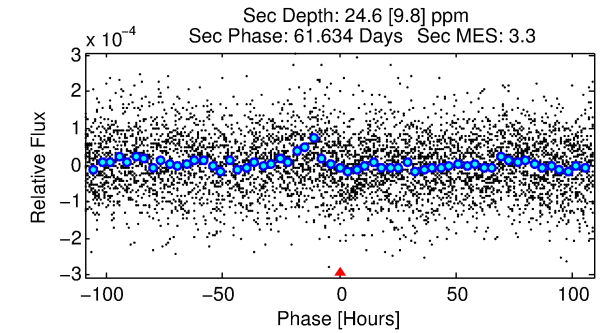
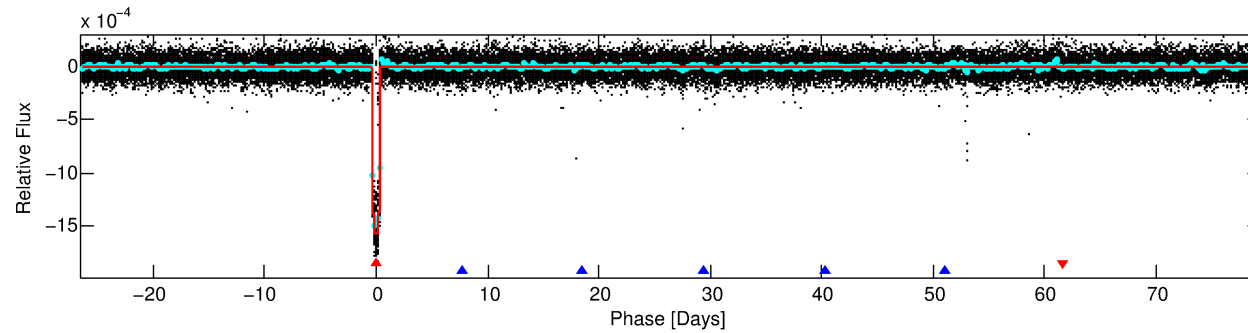
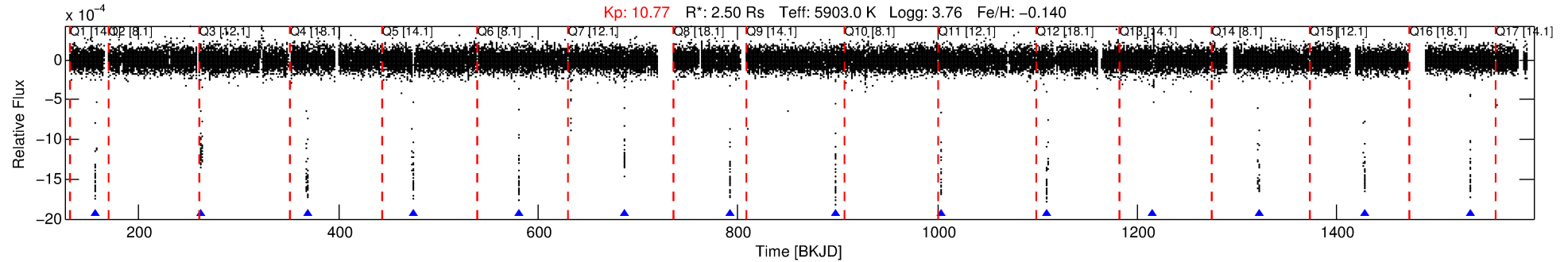
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007199397-01

No Significant Match Found

DV One-Page Summary

KIC: 7199397 Candidate: 1 of 2 Period: 105.880 d
KOI: K00075.01 Corr: 0.990



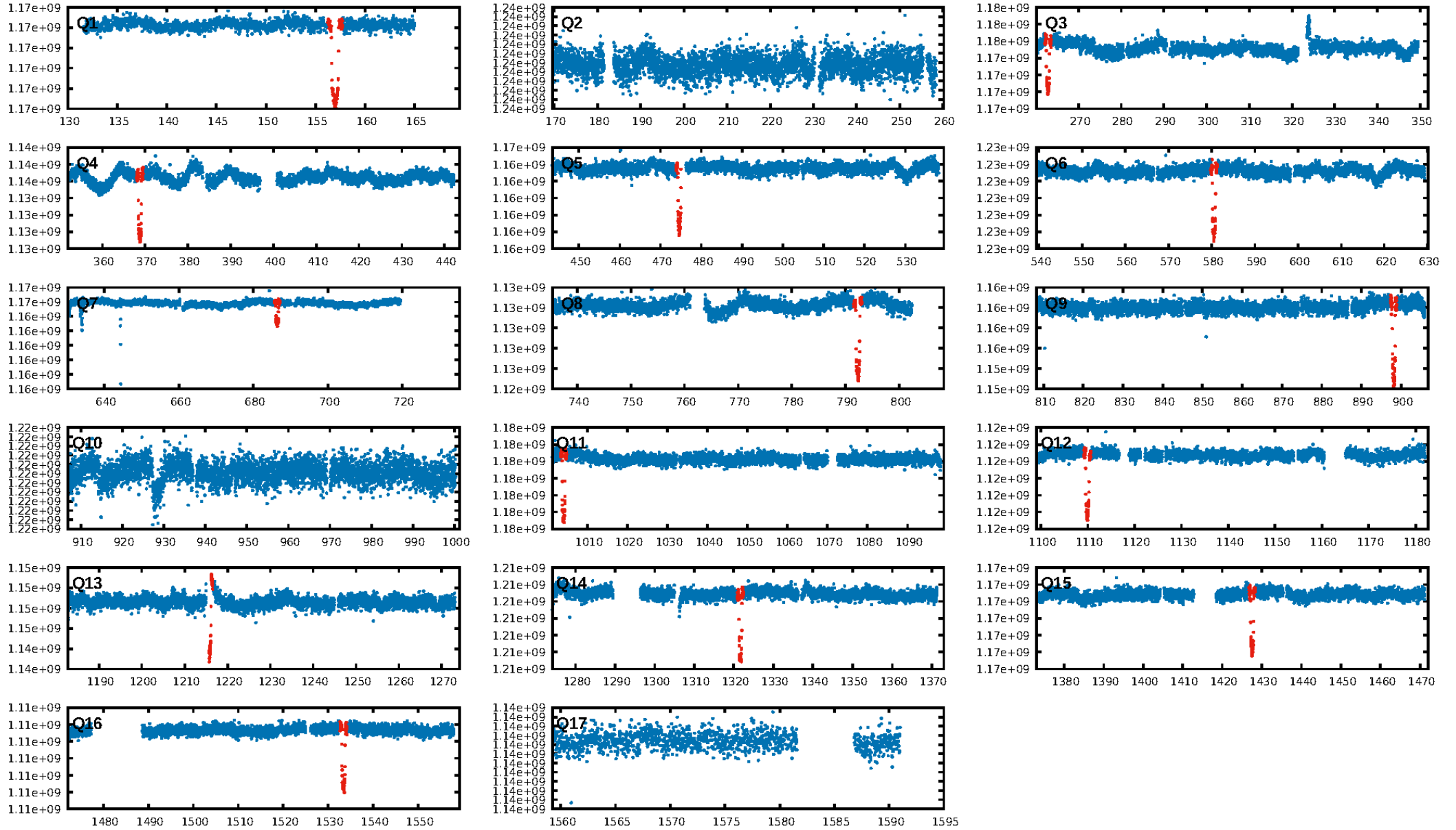
DV Fit Results:

Period = 105.88043 [0.00013] d
Epoch = 156.9885 [0.0010] BKJD
 $R_p/R^* = 0.0382$ [0.0002]
 $a/R^* = 37.24$ [1.00]
 $b = 0.61$ [0.03]
 $S_{\text{eff}} = 29.69$ [4.61]
 $T_{\text{eq}} = 595$ [23] K
 $R_p = 10.41$ [1.30] R_e
 $a = 0.4784$ [0.0489] AU
 $A_g = 28.54$ [12.12] [2.27 σ]
 $T_{\text{eff}} = 2127$ [214] K [7.12 σ]

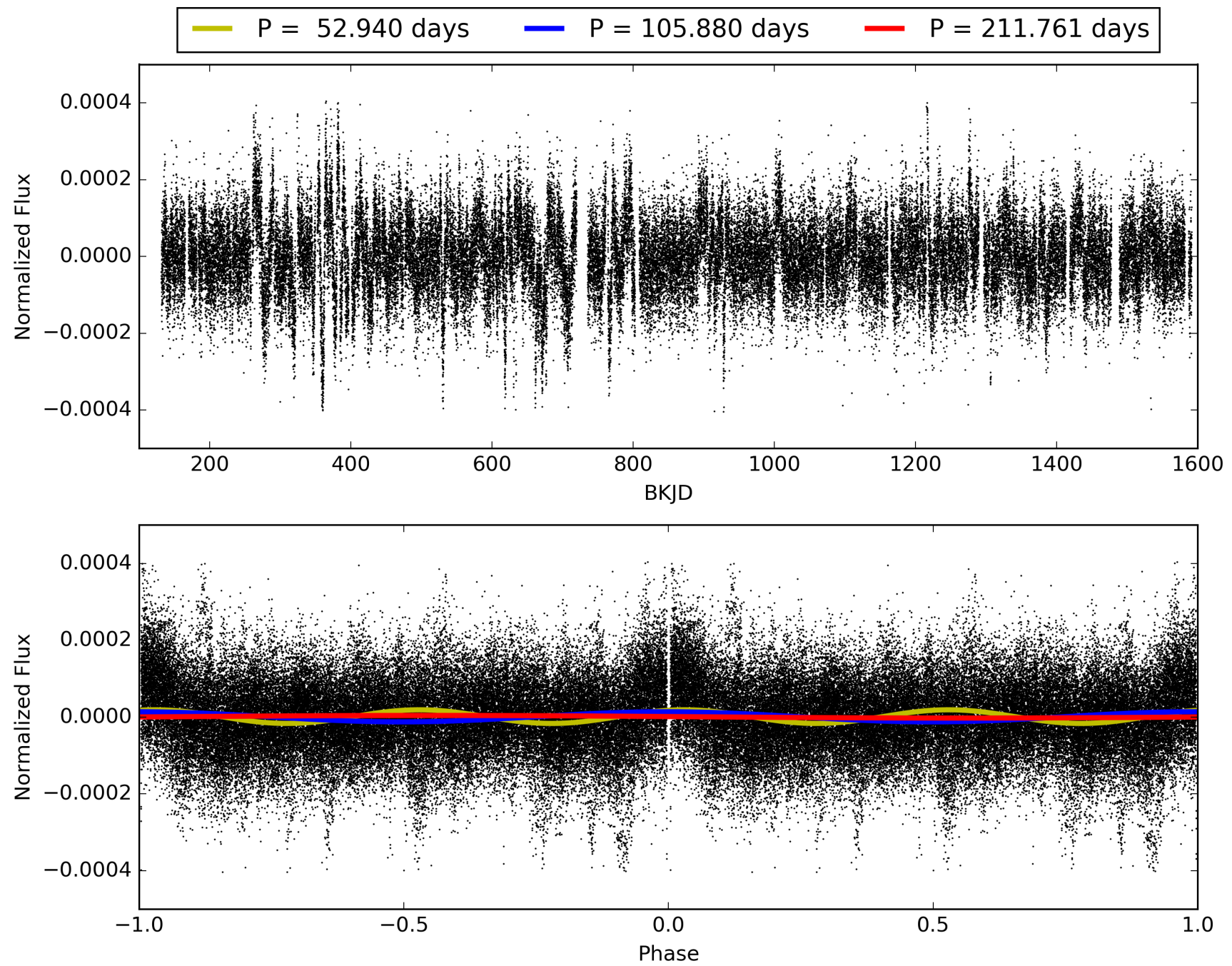
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [229.88 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [13/13]
GhostDiagnostic-chr: 11.46
Centroid-sig: 0.0%
Centroid-so: 1.044 arcsec [23.95 σ]
OotOffset-rm: 1.866 arcsec [2.36 σ]
KicOffset-rm: 2.161 arcsec [2.31 σ]
OotOffset-st: 2/3/2/2 [9]
KicOffset-st: 2/3/2/2 [9]
DiffImageQuality-fgm: 0.67 [6/9]
DiffImageOverlap-fno: 1.00 [9/9]

TCE 007199397-01, PDC Light Curves

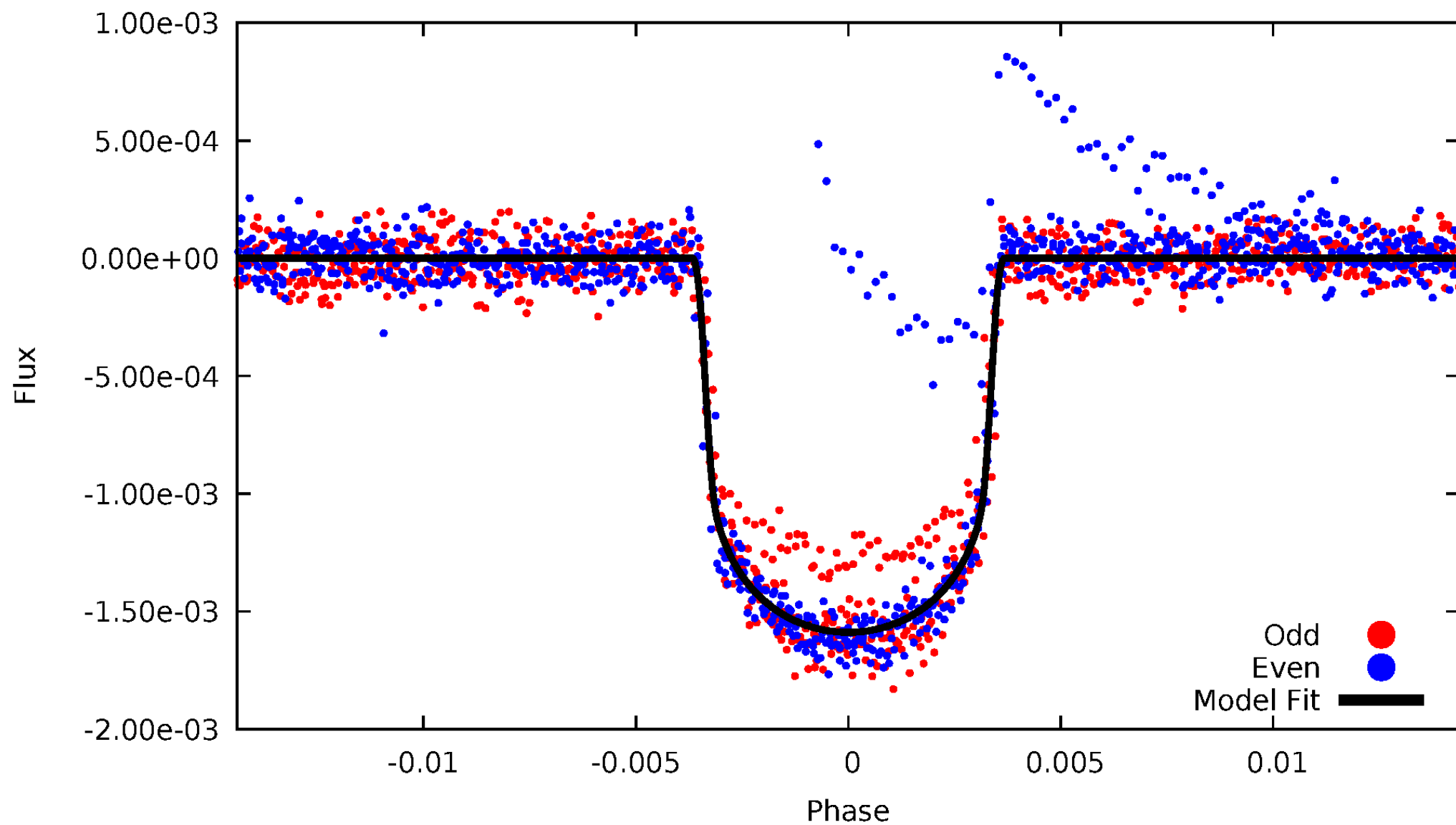


TCE 007199397-01



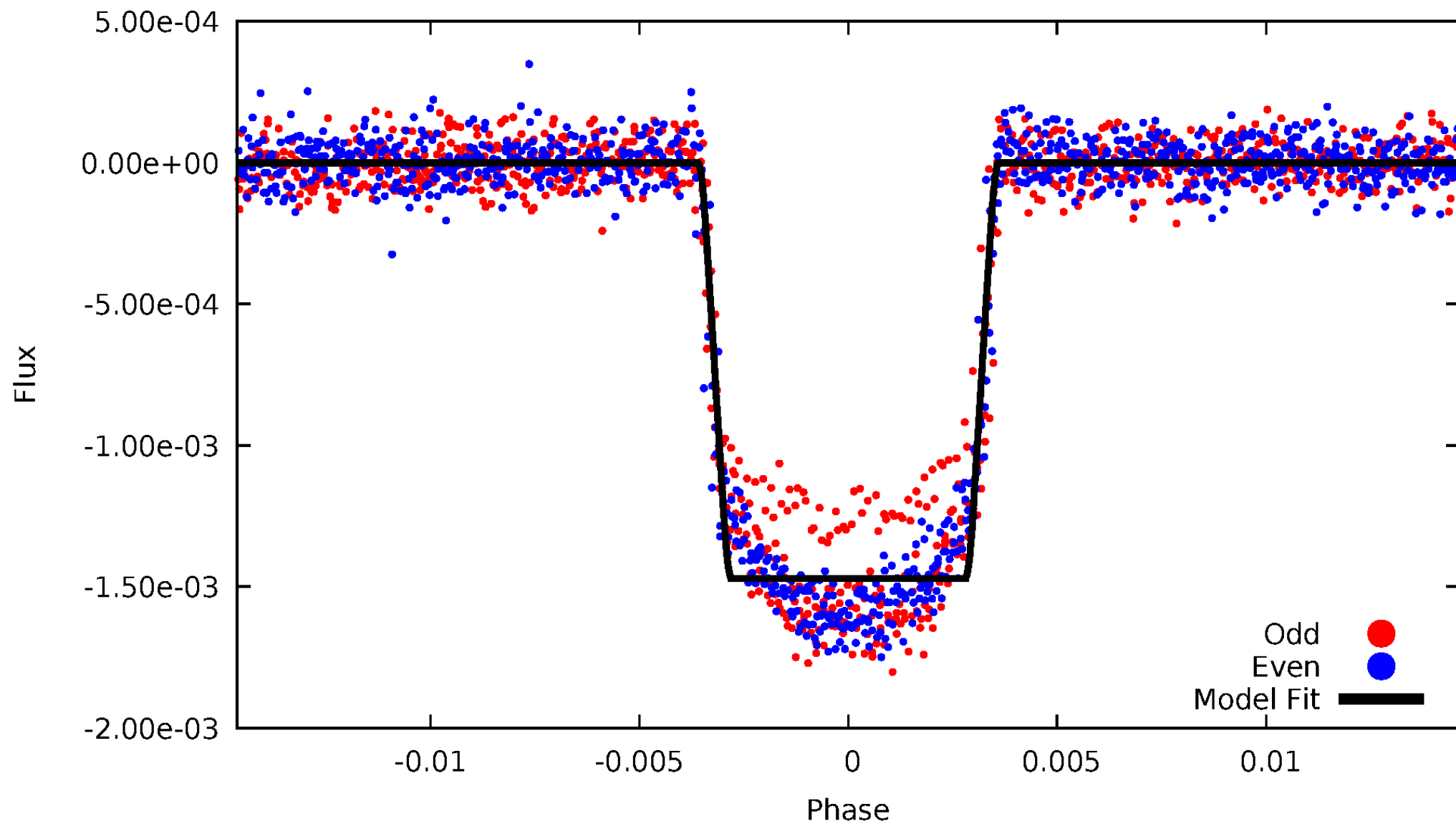
DV Odd/Even

TCE 007199397-01



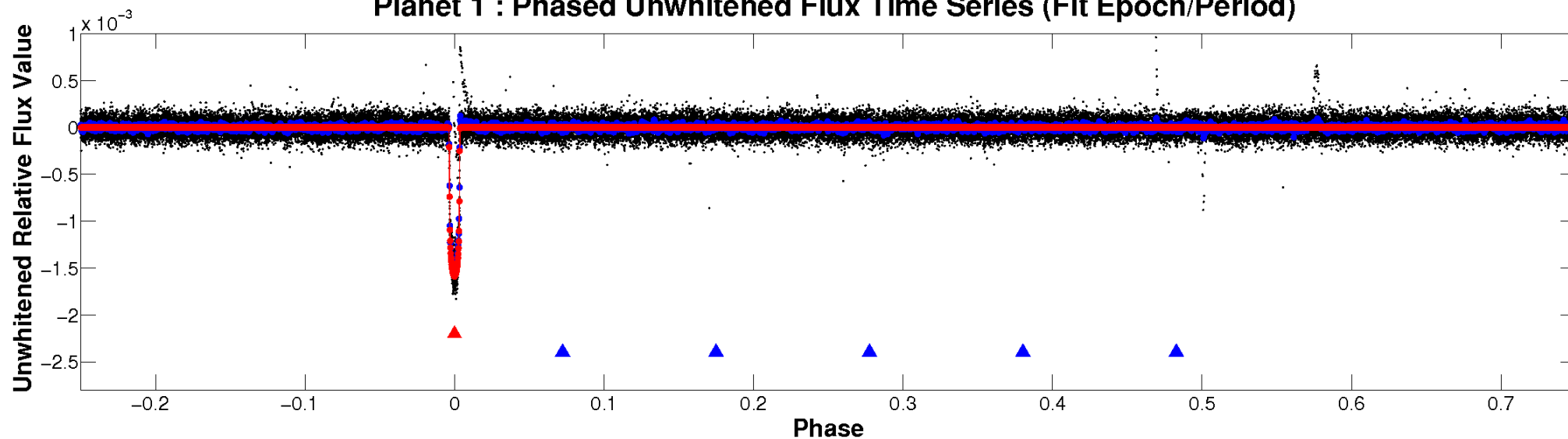
ALT Odd/Even

TCE 007199397-01

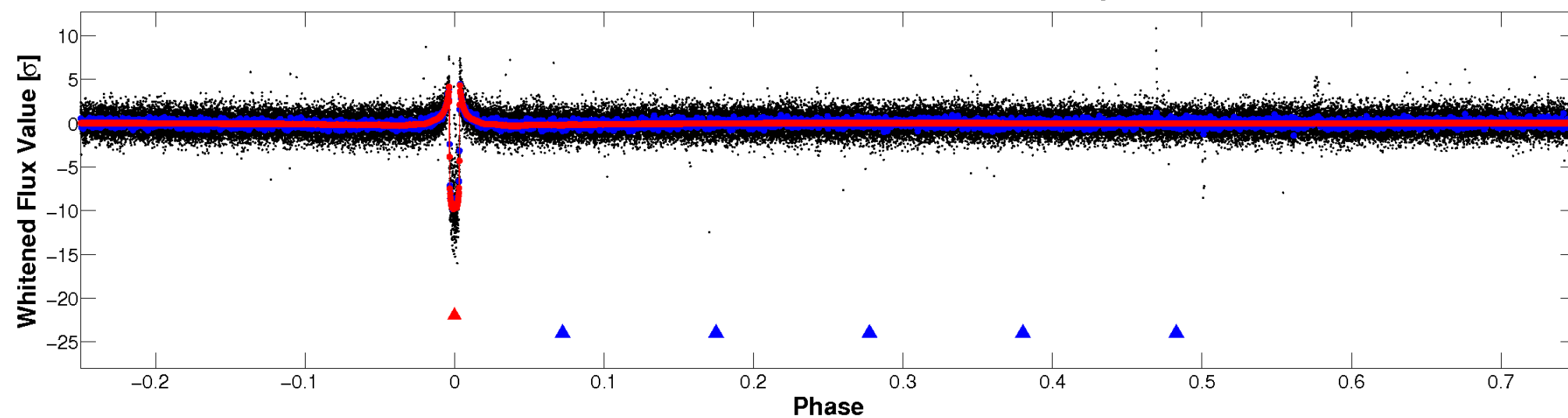


Non-Whitened Vs. Whitened Light Curve

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

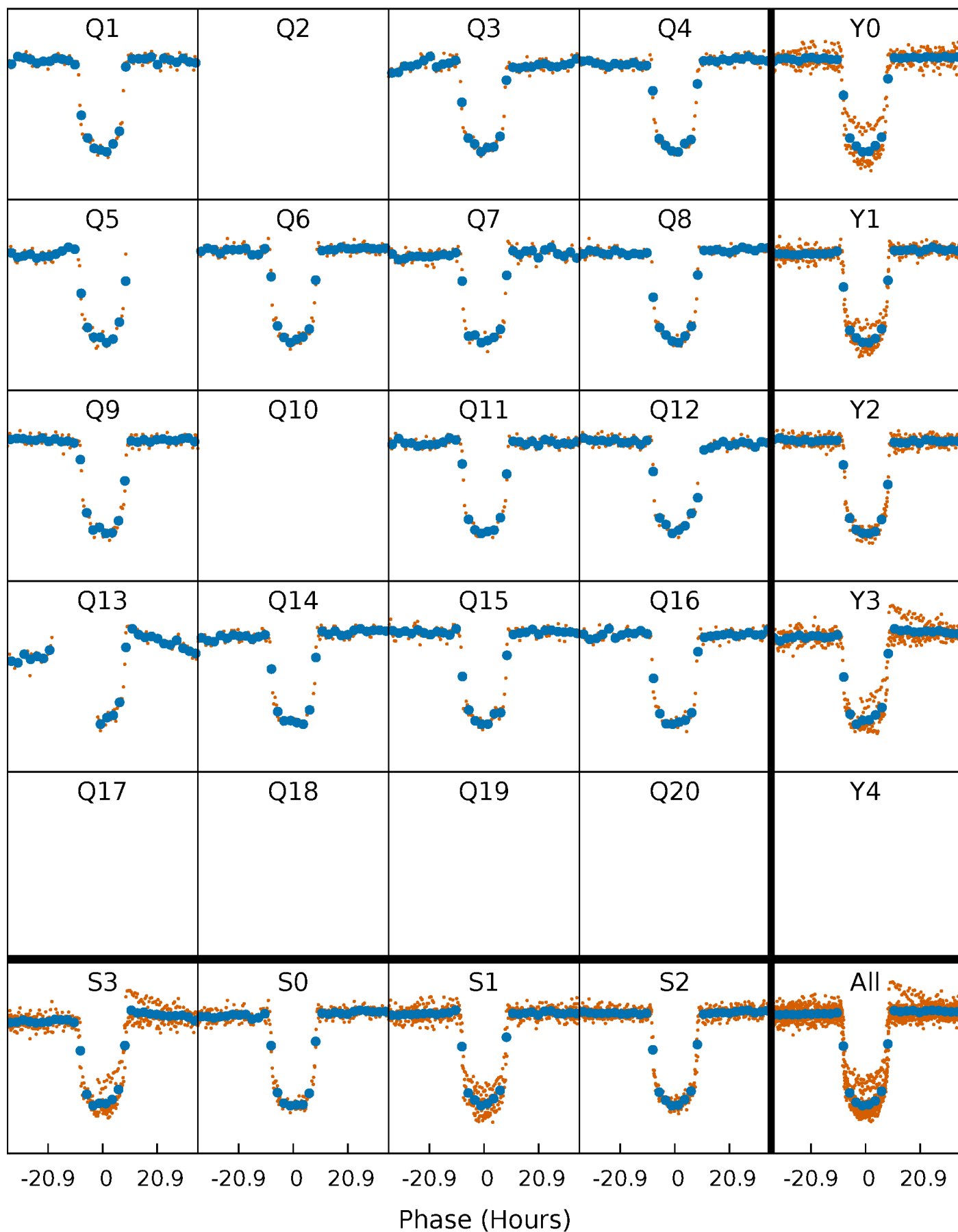


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



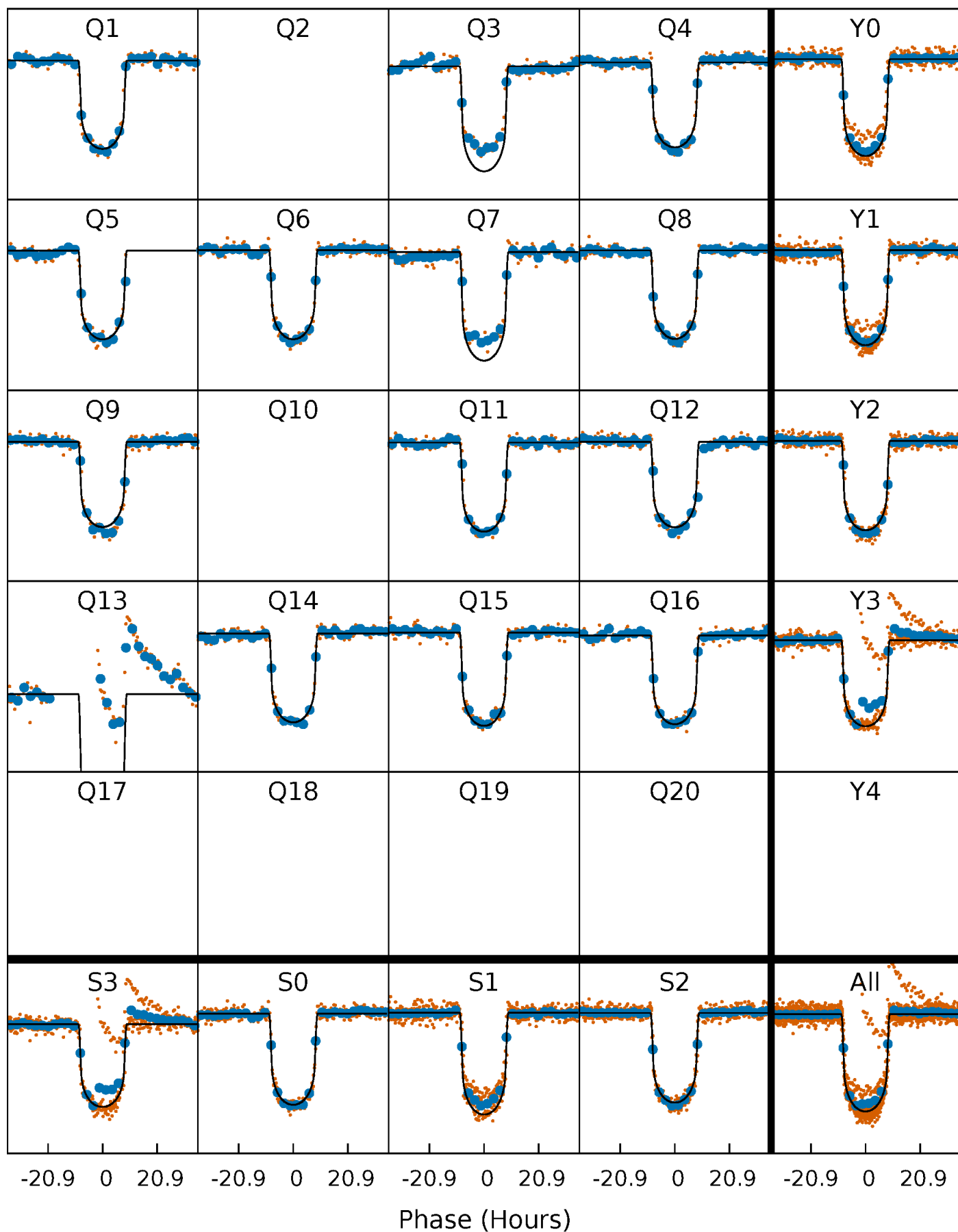
PDC Quarter-Phased Transit Curves

TCE 007199397-01 P=105.880435 Days $T_0=156.988511$ (BKJD)



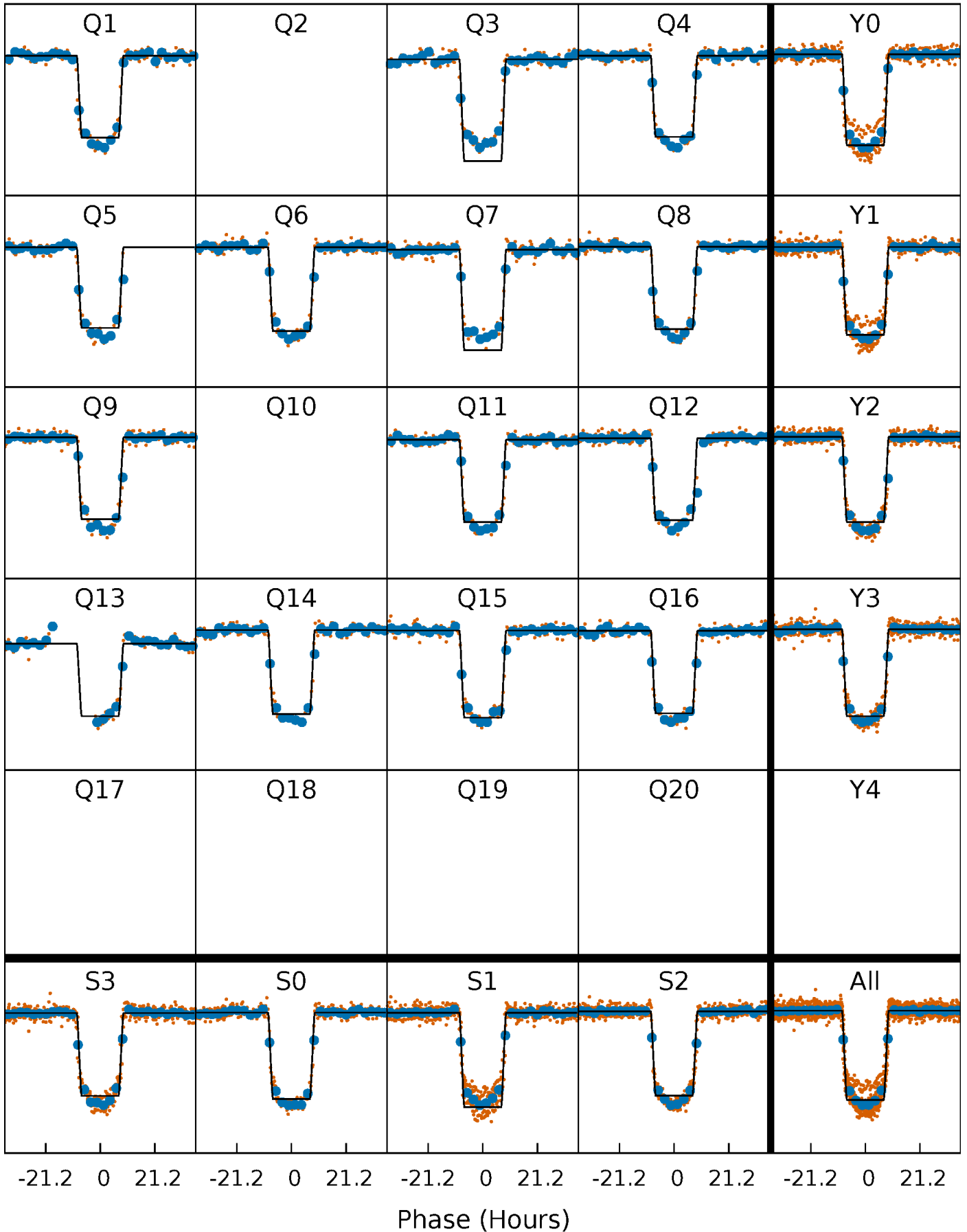
DV Quarter-Phased Transit Curves

TCE 007199397-01 P=105.880435 Days $T_0=156.988511$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

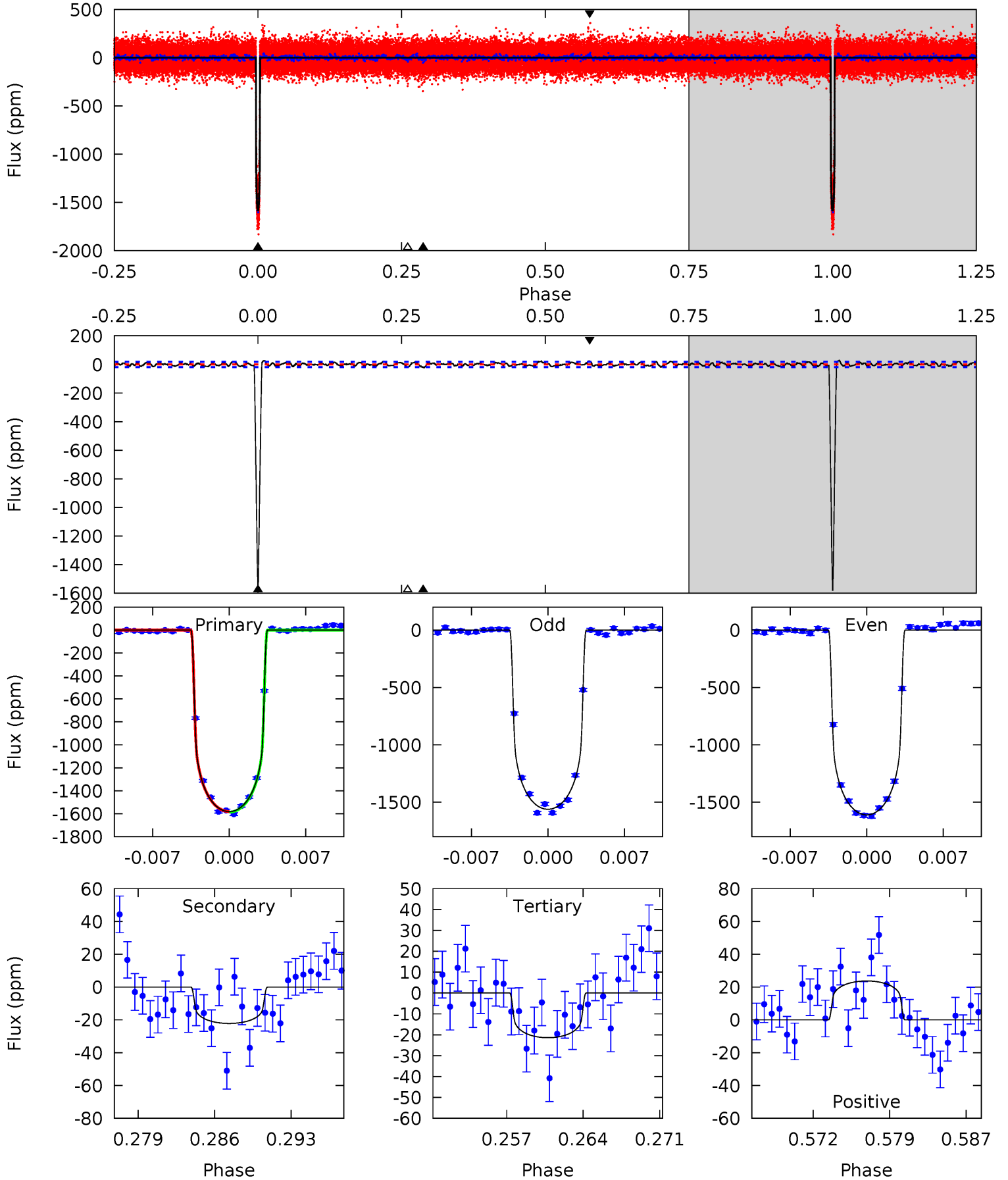
TCE 007199397-01 P=105.879897 Days $T_0=156.992296$ (BKJD)



DV Model-Shift Uniqueness Test

007199397-01, P = 105.880435 Days, E = 51.108076 Days

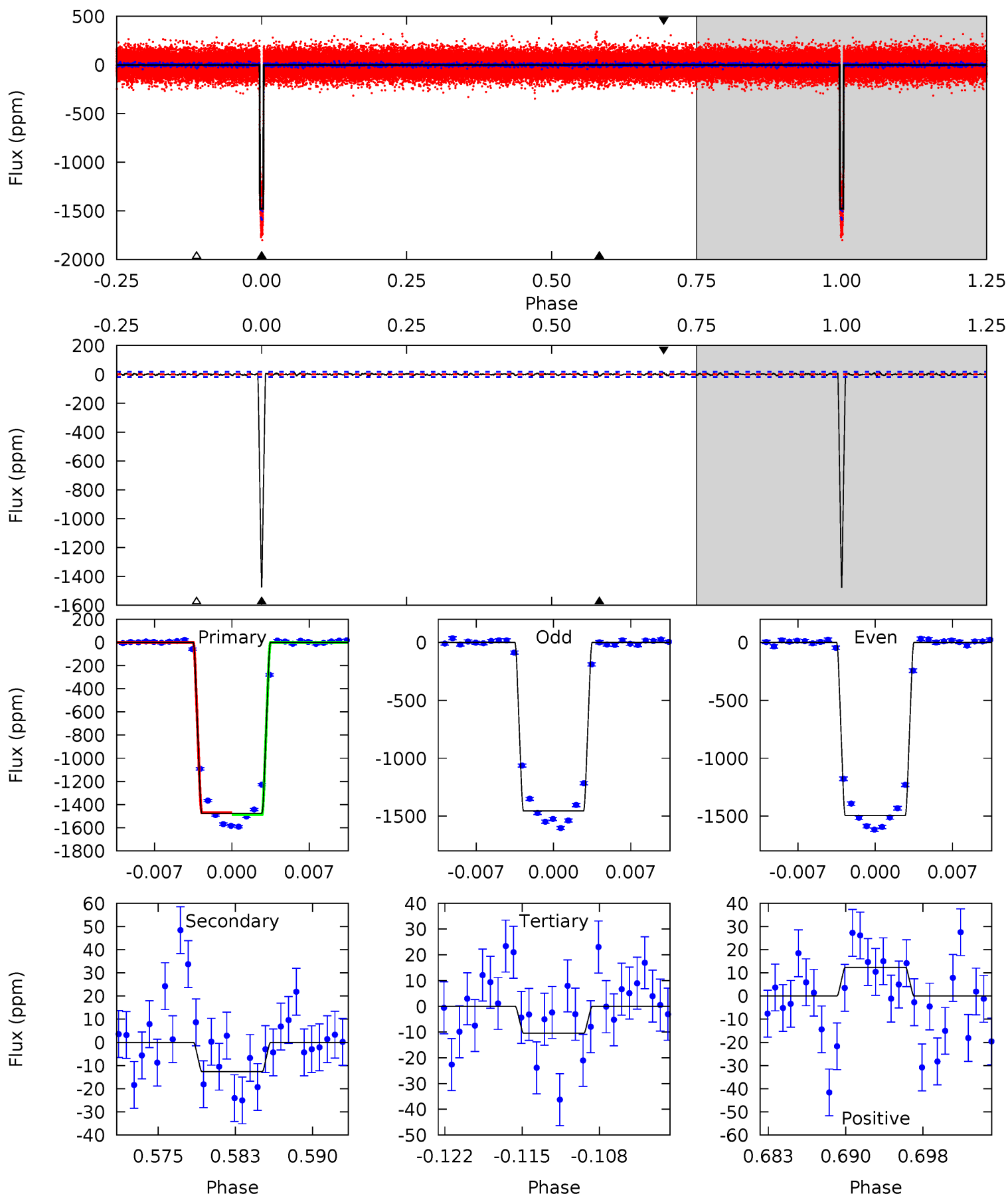
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
434.9	6.10	5.89	6.52	5.09	2.68	2.26	429.0	428.4	0.21	-0.42	6.67	0.91	0.02	0.67



Alt Model-Shift Uniqueness Test

007199397-01, $P = 105.879897$ Days, $E = 51.112399$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
437.8	3.75	3.10	3.67	5.09	2.69	0.95	434.7	434.1	0.65	0.08	5.68	0.97	0.01	2.61



Stellar Parameters For KIC 007199397

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5903^{+79}_{-79}	$3.757^{+0.078}_{-0.052}$	$-0.140^{+0.150}_{-0.150}$	$2.499^{+0.233}_{-0.311}$	$1.301^{+0.091}_{-0.122}$	$0.117^{+0.042}_{-0.022}$
	+1%/-1%	+2%/-1%	+107%/-107%	+9%/-12%	+7%/-9%	+36%/-18%
Source	SPE72	AST8	SPE72	DSEP		

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

Secondary Eclipse Parameters for KIC 007199397-01 / KOI 0075.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-22 ± 4	$10.38^{+0.52}_{-0.64}$	829^{+23}_{-25}	2804^{+69}_{-69}	26^{+5}_{-5}
Alt.	-13 ± 3	$10.41^{+0.55}_{-0.69}$	828^{+24}_{-24}	2601^{+86}_{-100}	15^{+4}_{-4}

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

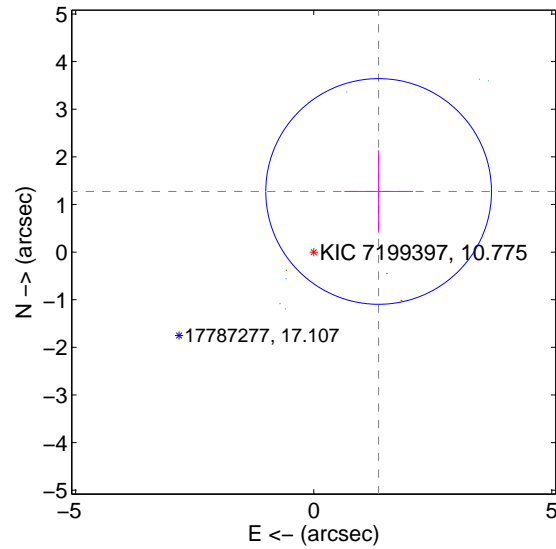
Supplemental centroid analysis for 007199397-01. **Kepler magnitude: 10.78.** Transit SNR 196.54

There are 6 quarters with good PRF difference image offsets

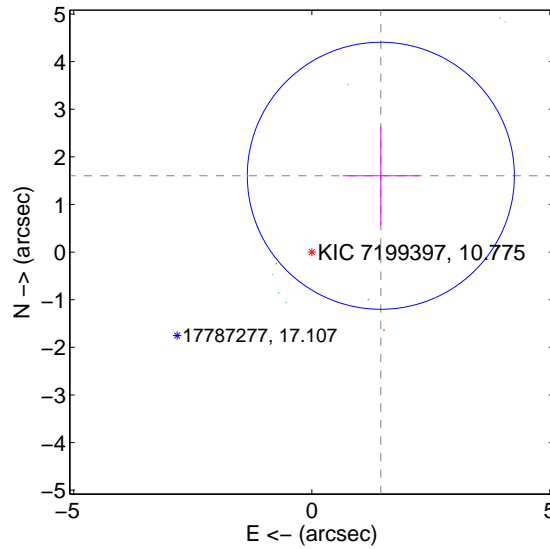
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.866 ± 0.790	2.36	-1.363 ± 0.720	1.273 ± 0.863
PRF-fit source offset from KIC position	2.161 ± 0.935	2.31	-1.450 ± 0.799	1.603 ± 1.032
photometric centroid source offset	1.04 ± 0.04	23.95	-0.57 ± 0.04	0.87 ± 0.04

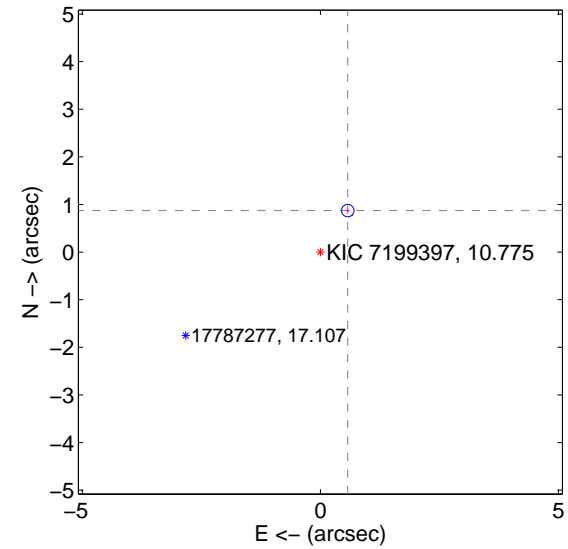
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

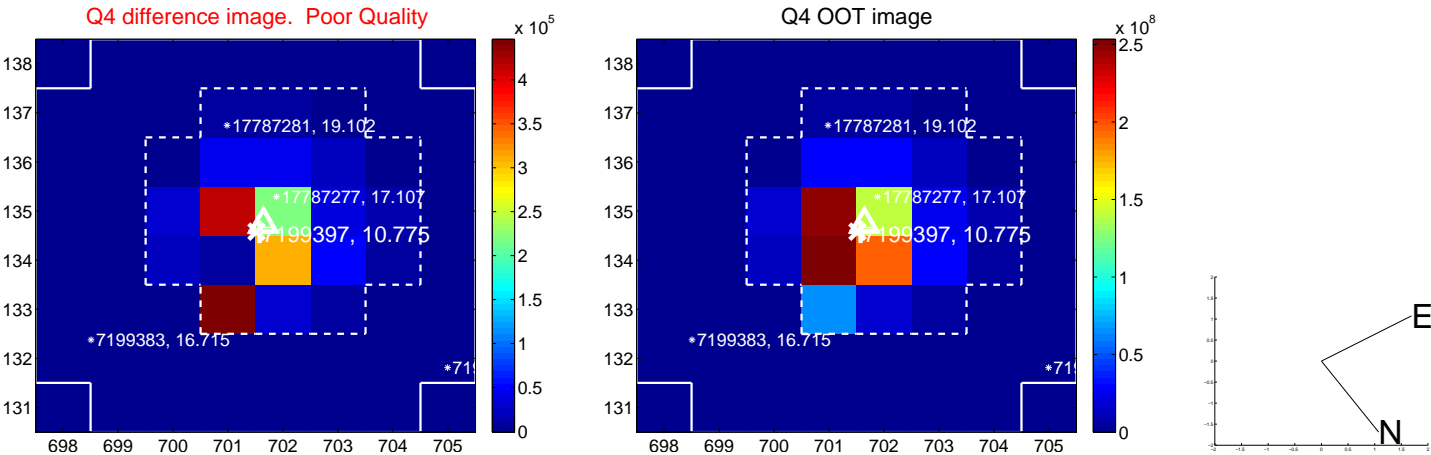
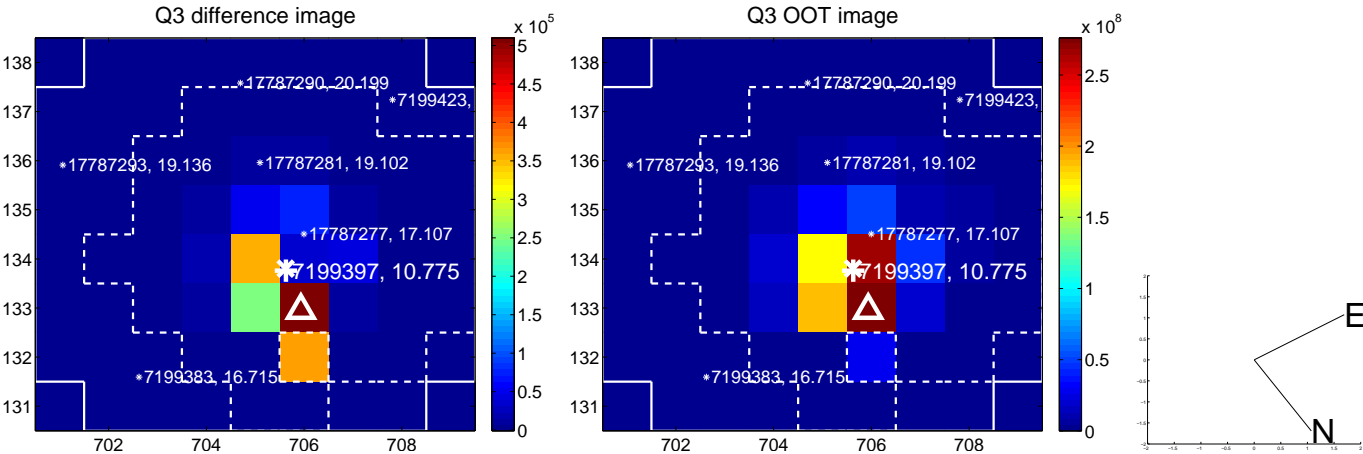
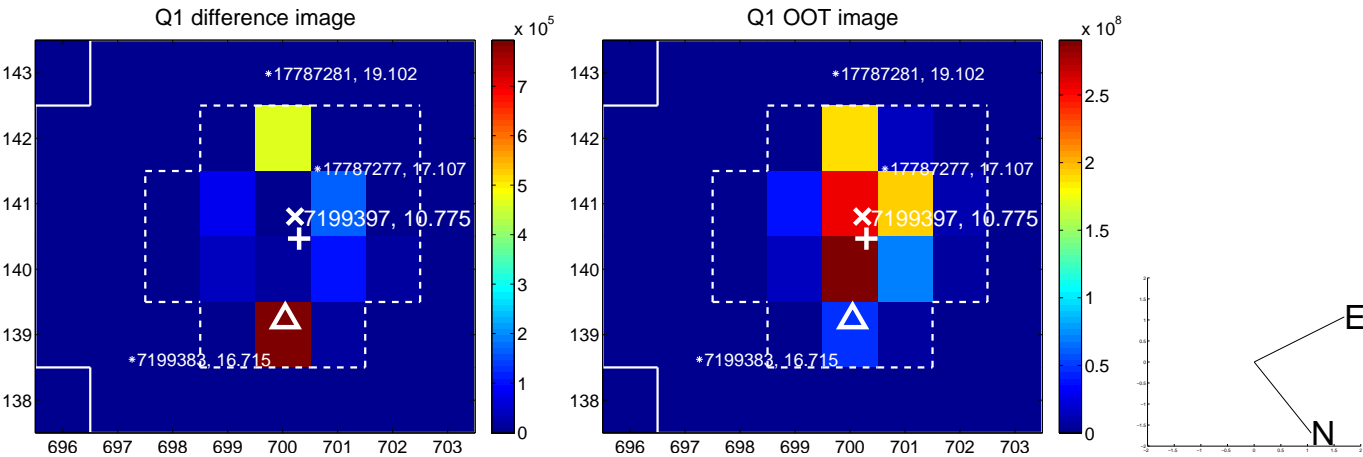


offset from photometric centroids

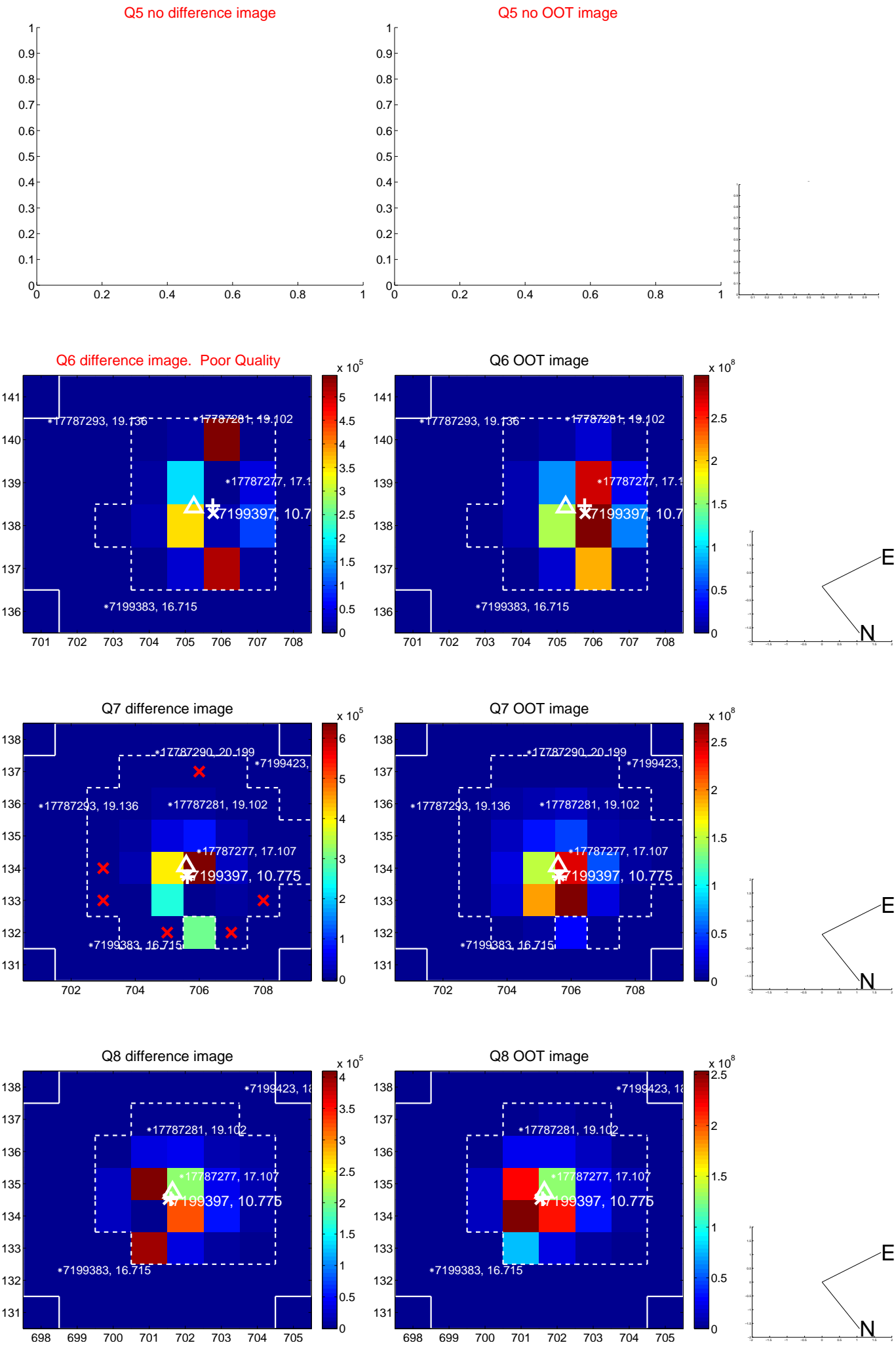


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

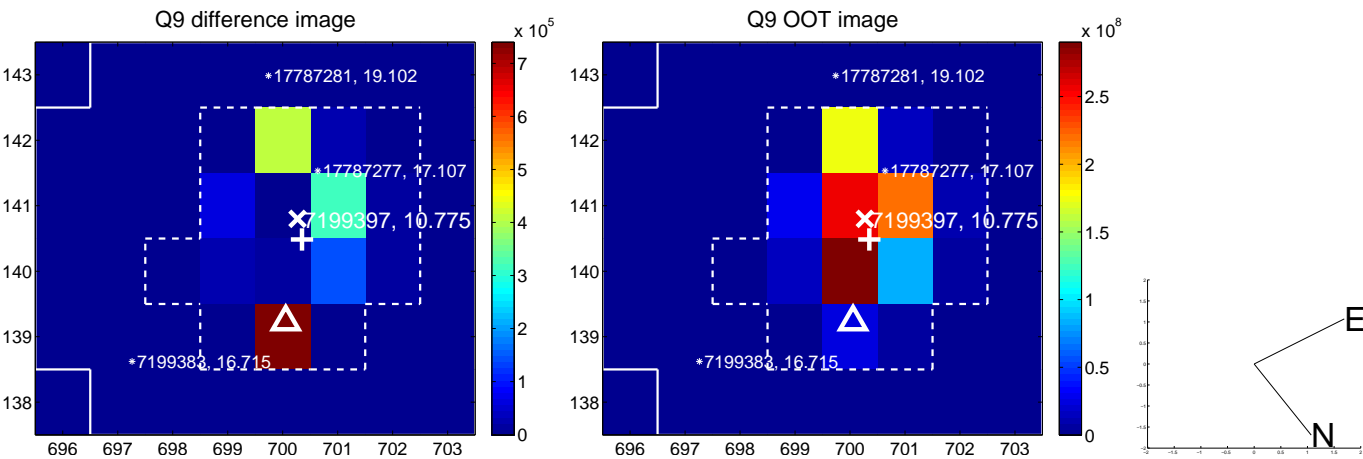
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



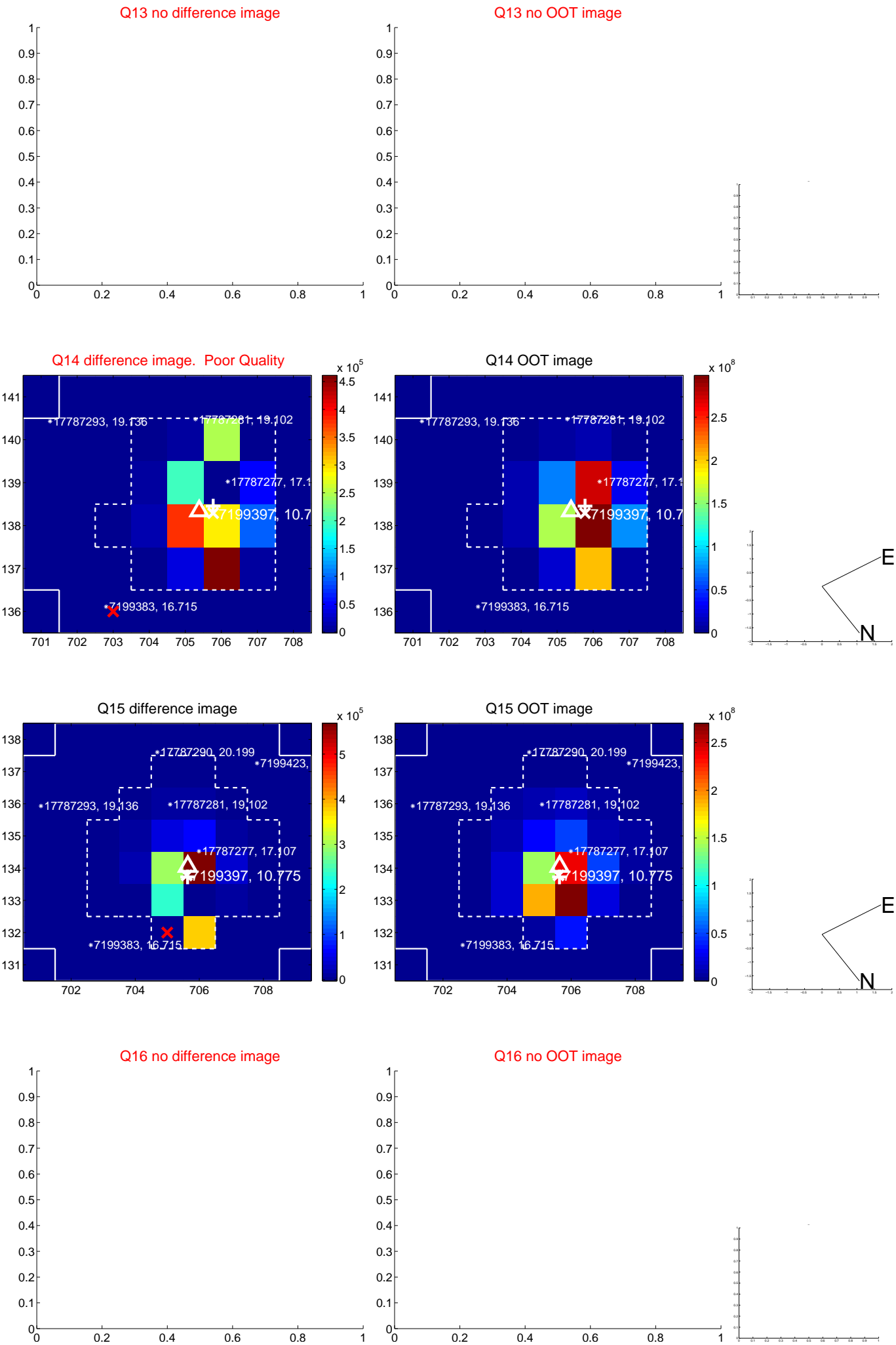
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



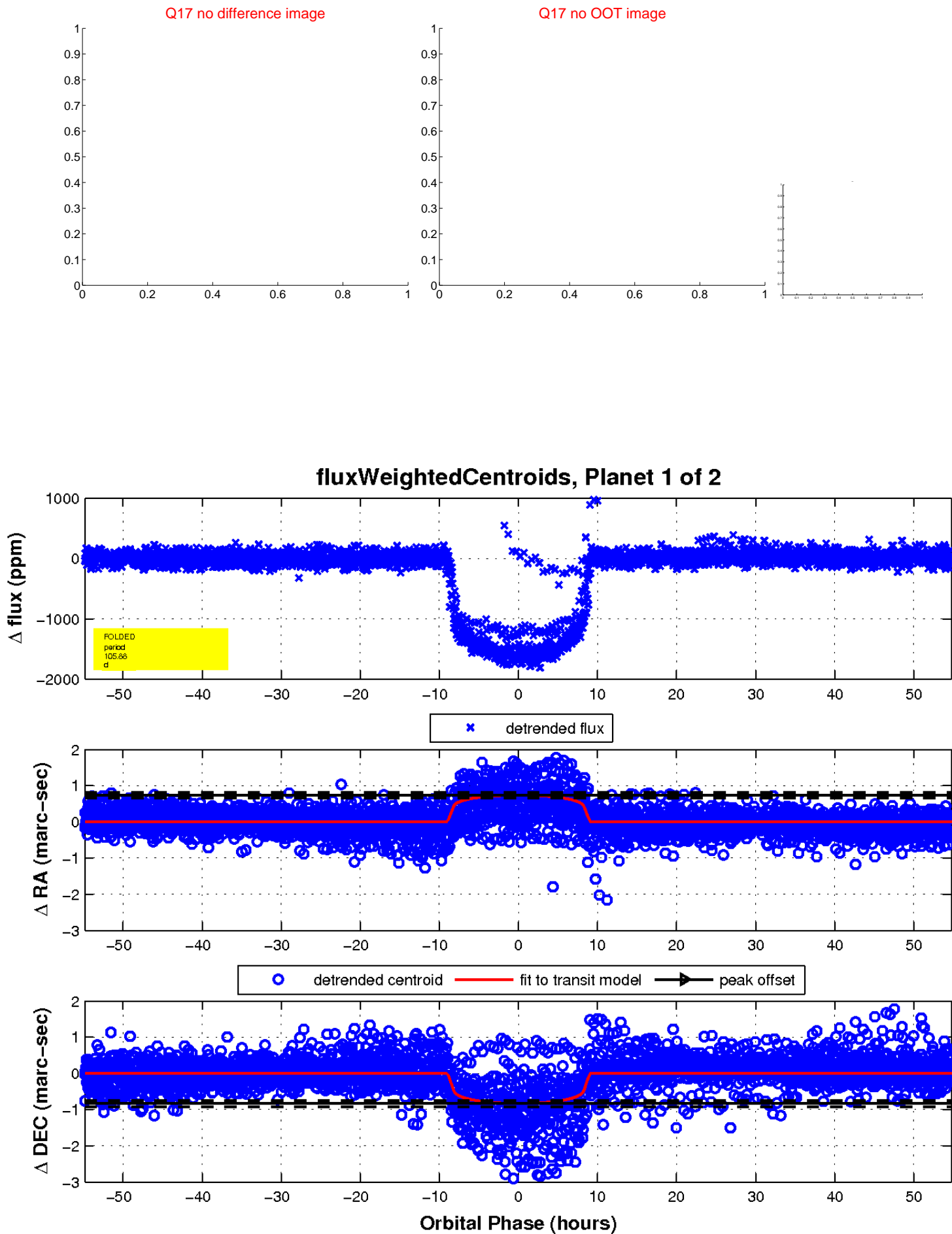
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



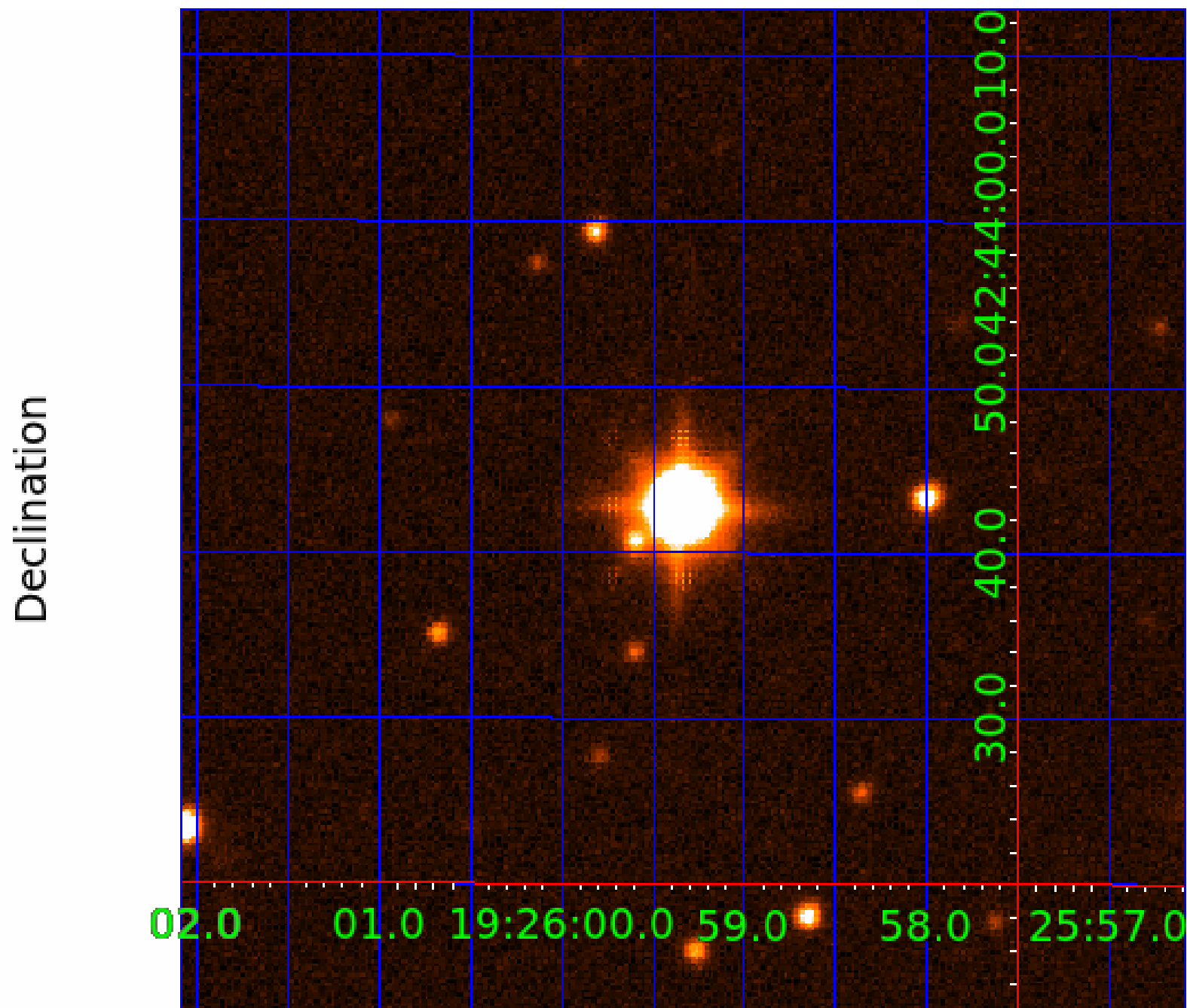
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 007199397

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})
007199397-01	OBS	0075.01	105.880434	156.988511	1588.4	18.276	183.5	196.5	2.50	5903	10.41	29.69
007199397-02	OBS	No	328.508133	270.527187	136.4	14.361	7.5	7.7	2.50	5903	3.22	6.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007199397-01	OBS	PC	1.00	0	0	0	0	CENT_SATURATED
007199397-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—CENT_SATURATED

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

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

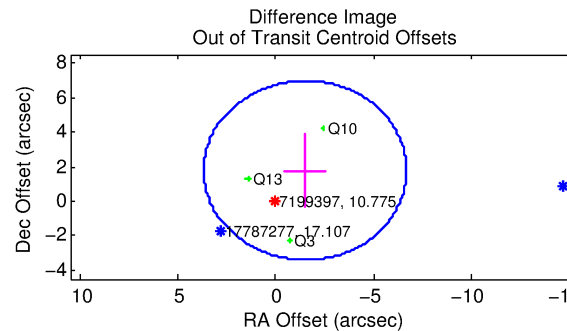
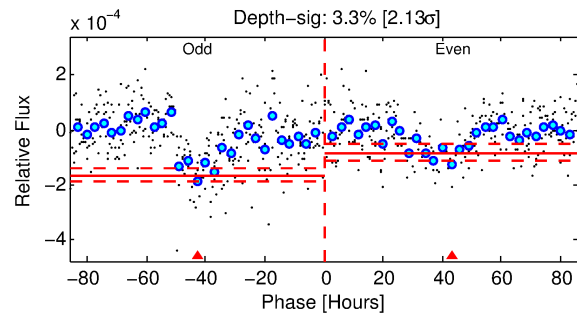
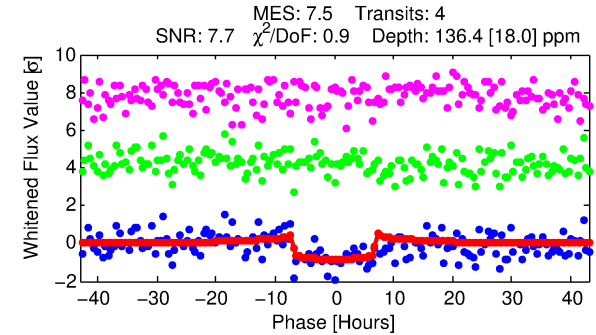
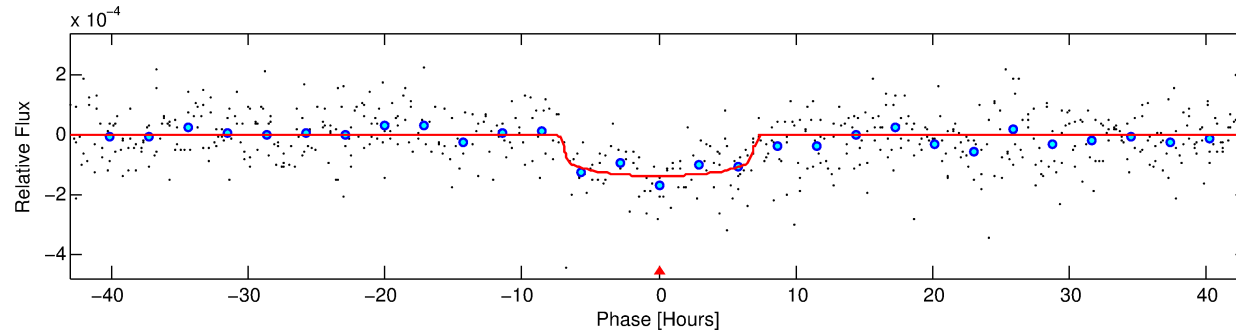
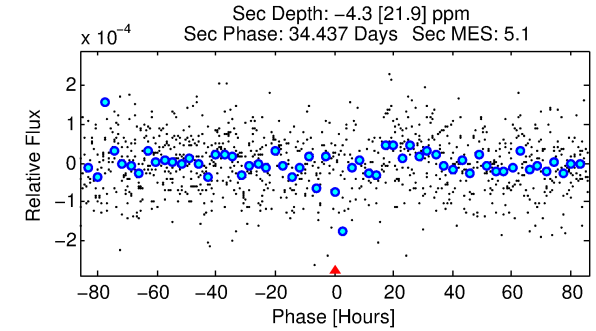
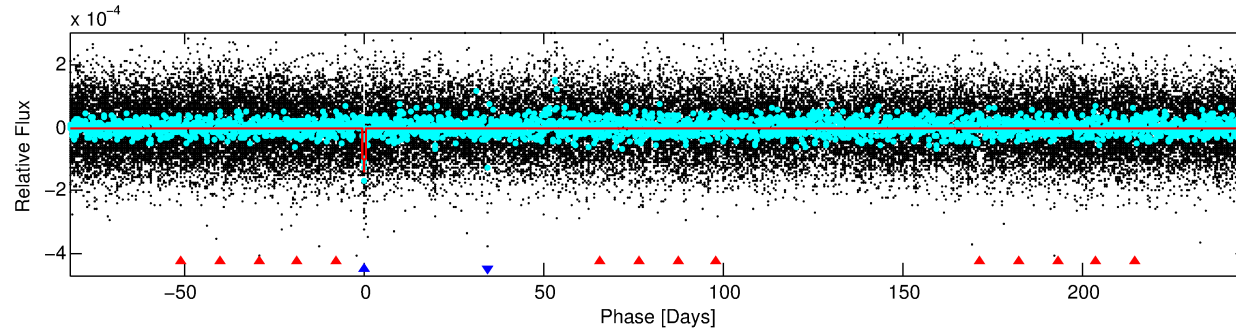
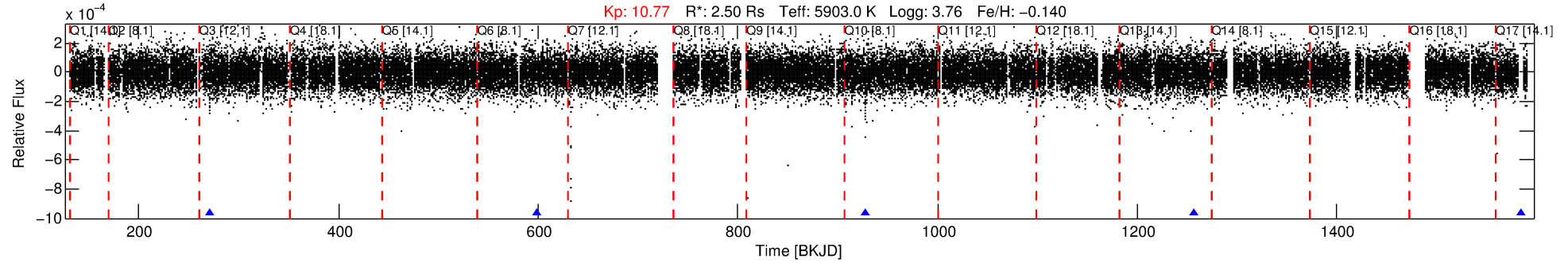
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007199397-02

No Significant Match Found

DV One-Page Summary

KIC: 7199397 Candidate: 2 of 2 Period: 328.508 d
KOI: K00075 Corr: No Ephemeris Match



DV Fit Results:

Period = 328.50813 [0.00711] d
Epoch = 270.5272 [0.0139] BKJD
Rp/R* = 0.0118 [0.0032]
a/R* = 110.05 [141.85]
b = 0.79 [0.61]
Seff = 6.56 [1.02]
Teq = 408 [16] K
Rp = 3.22 [0.96] Re
a = 1.0176 [0.1041] AU
Ag = N/A
Teffp = N/A

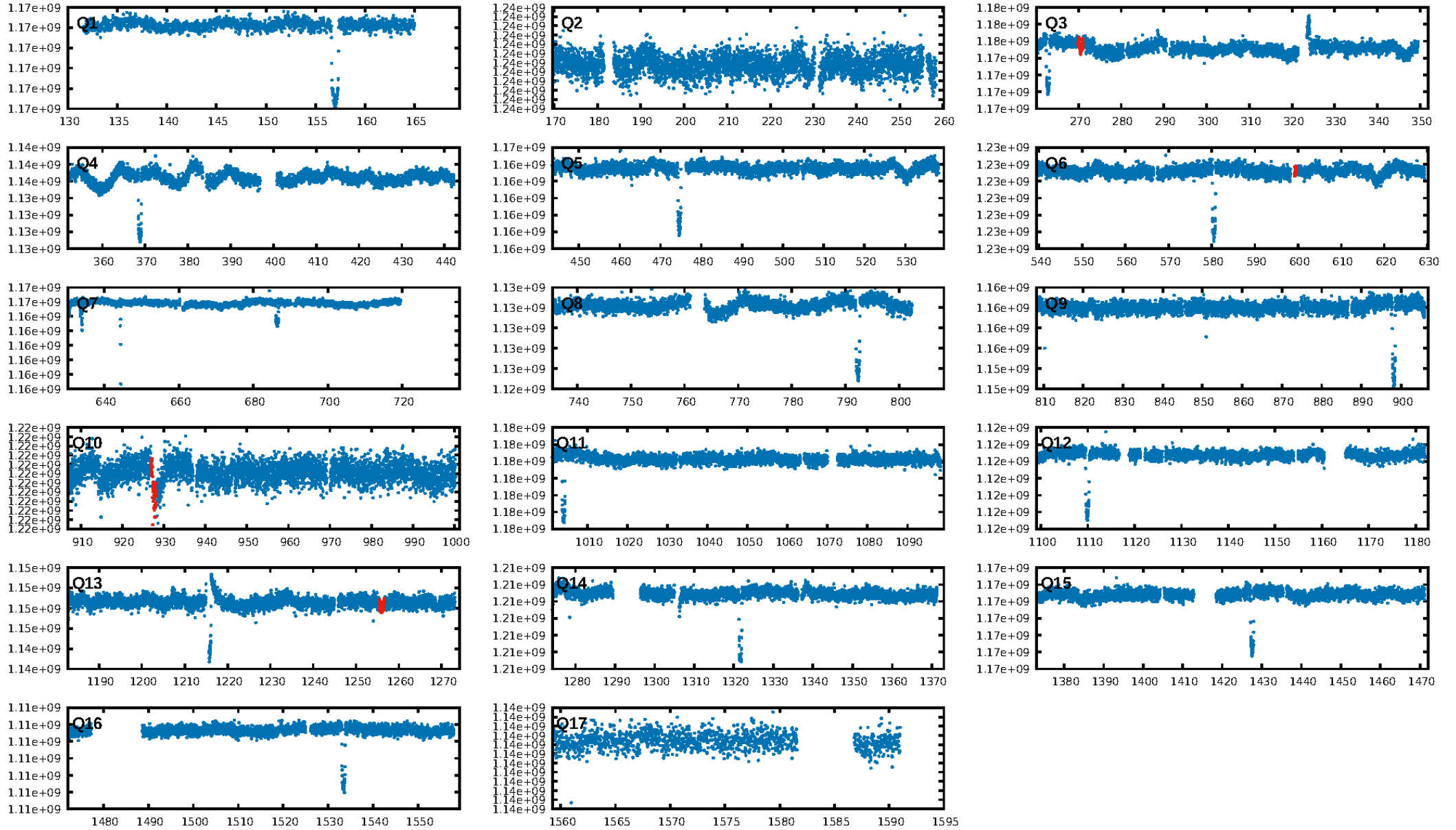
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [229.88σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 53.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.42e-12
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 4.227
Centroid-sig: 0.0%
Centroid-so: 3.004 arcsec [2.96σ]
OotOffset-rm: 2.329 arcsec [1.35σ]
KicOffset-rm: 2.291 arcsec [1.41σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

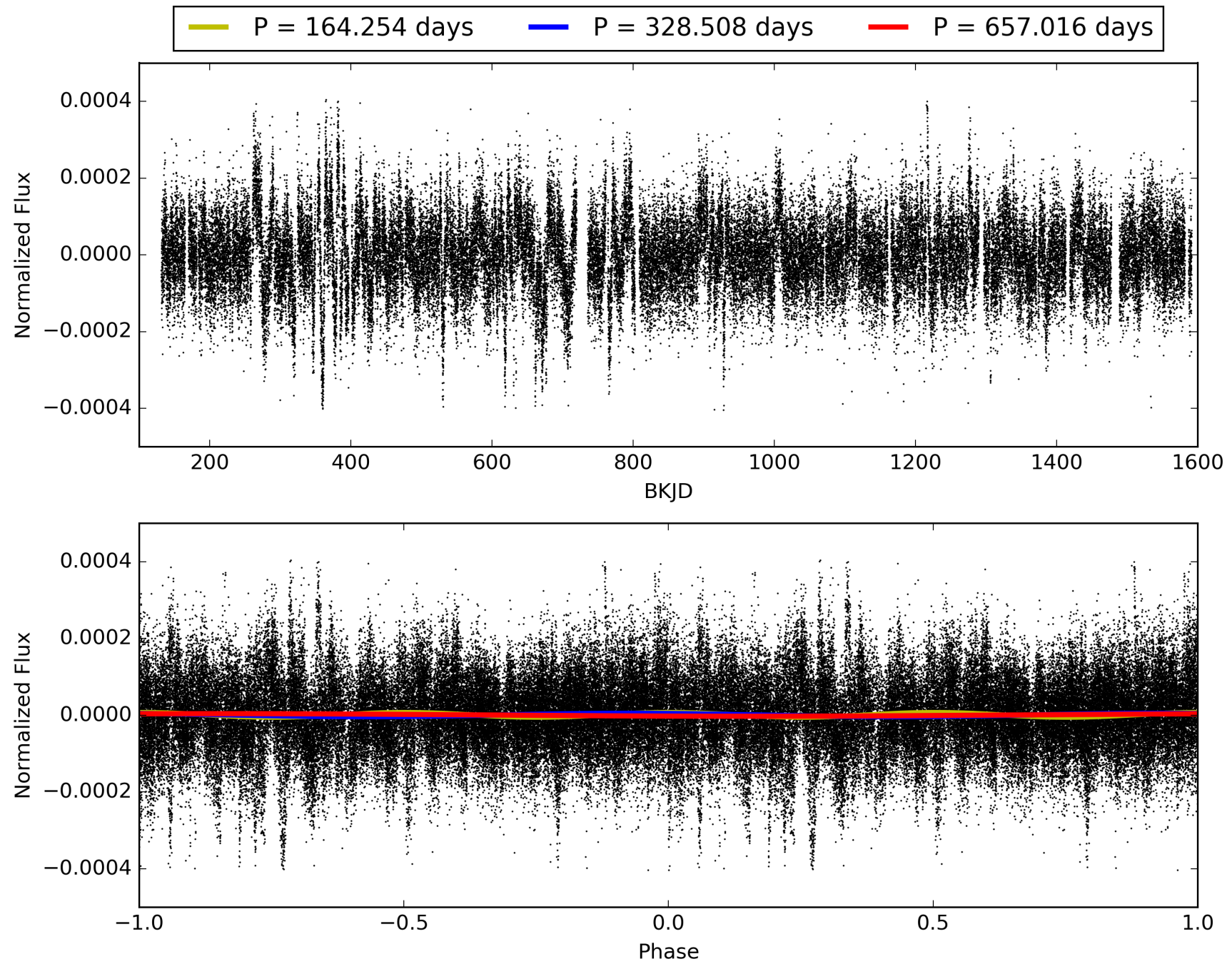
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 13:11:50 Z

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

TCE 007199397-02, PDC Light Curves

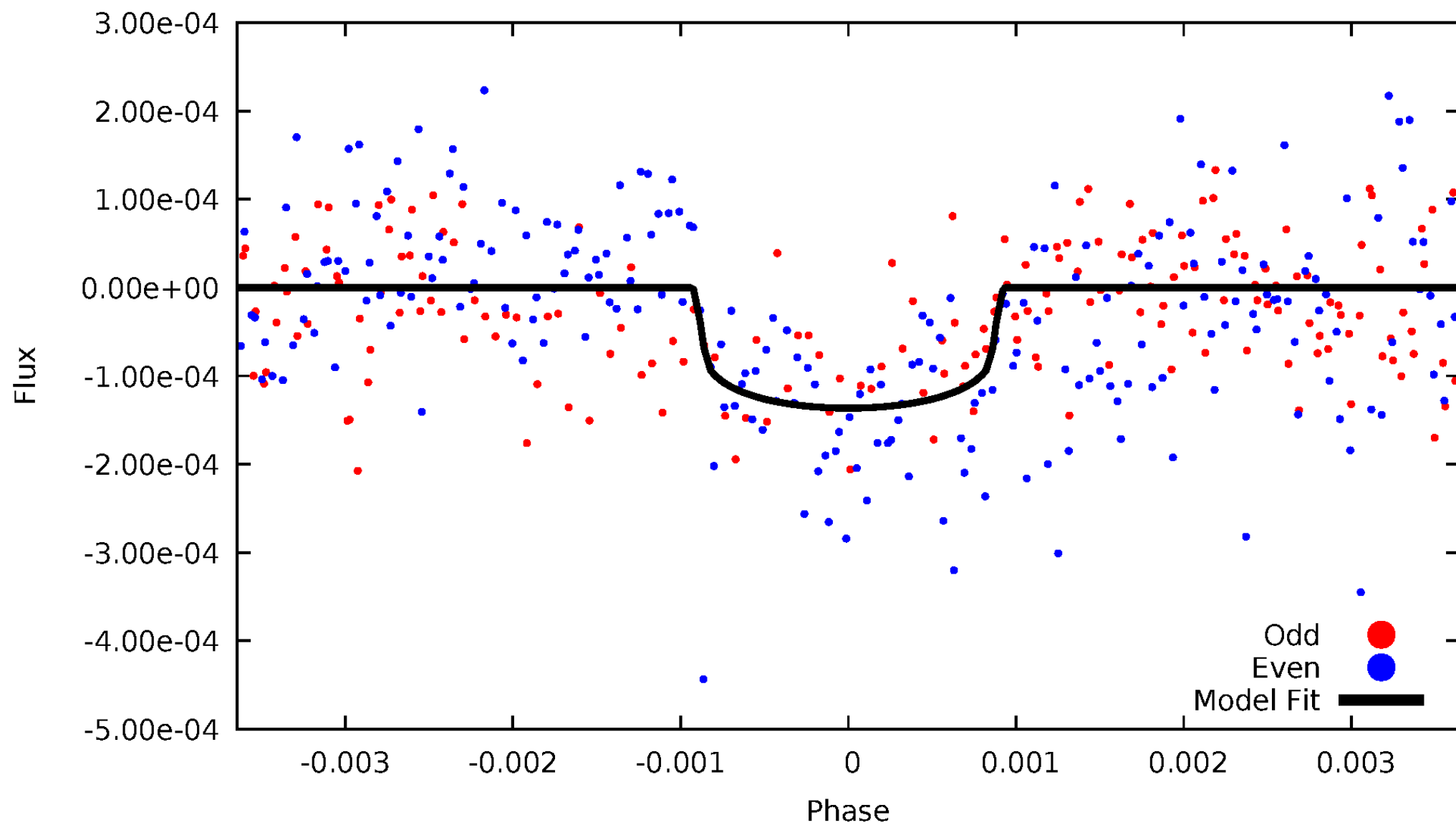


TCE 007199397-02



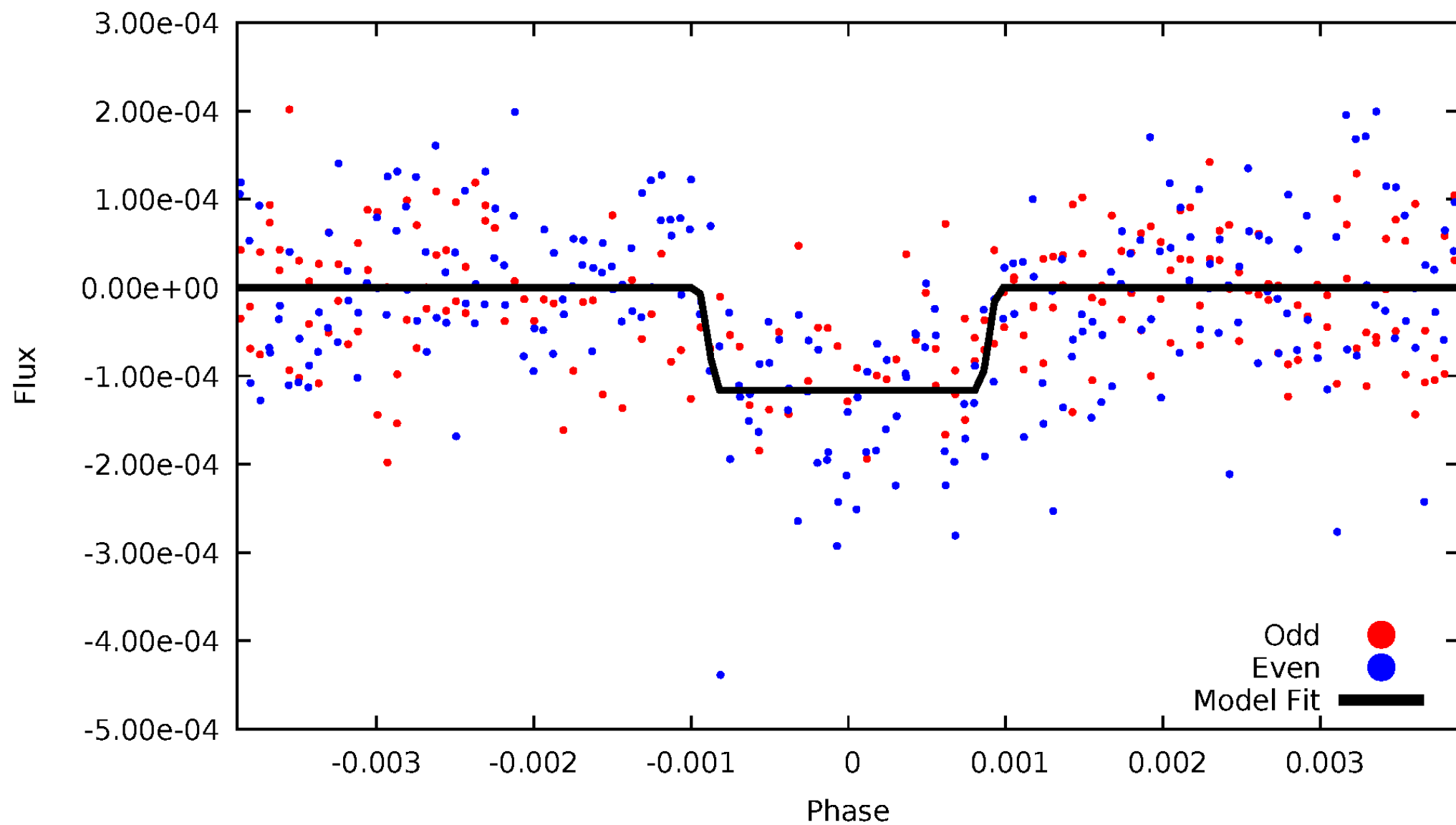
DV Odd/Even

TCE 007199397-02



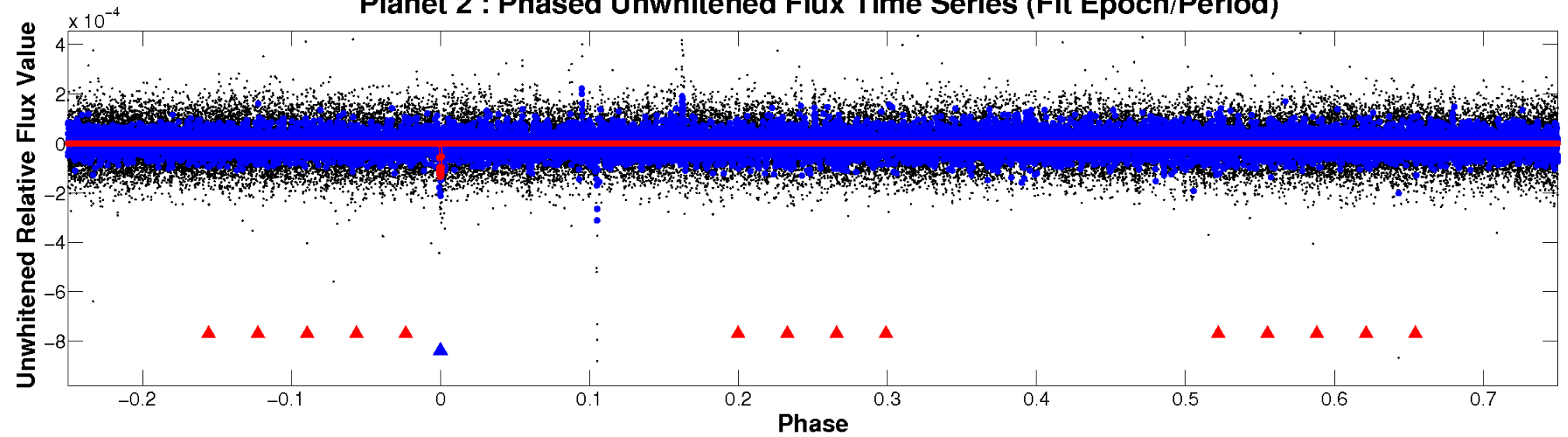
ALT Odd/Even

TCE 007199397-02

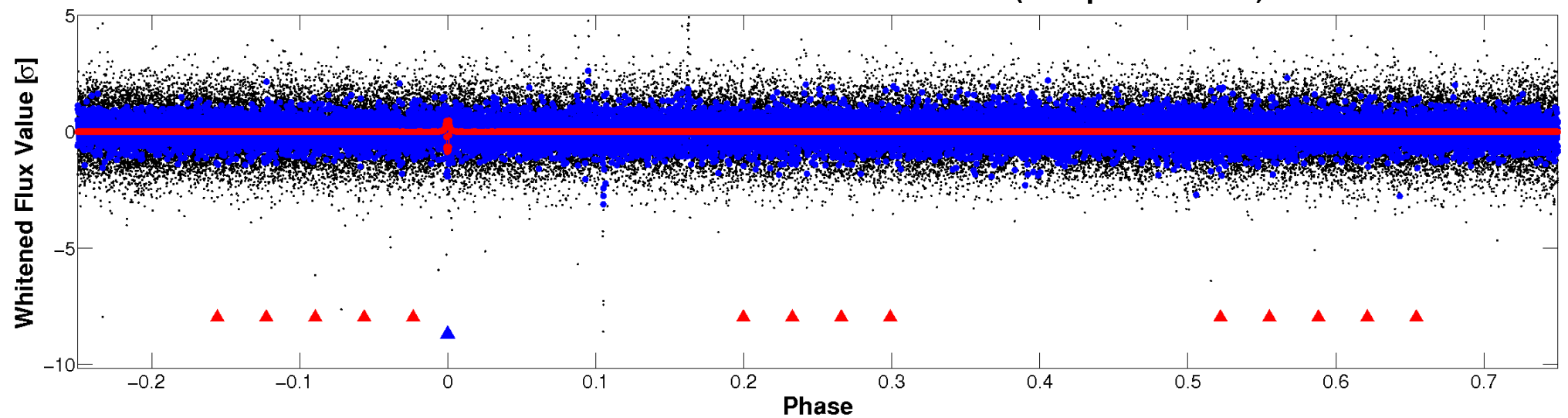


Non-Whitened Vs. Whitened Light Curve

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

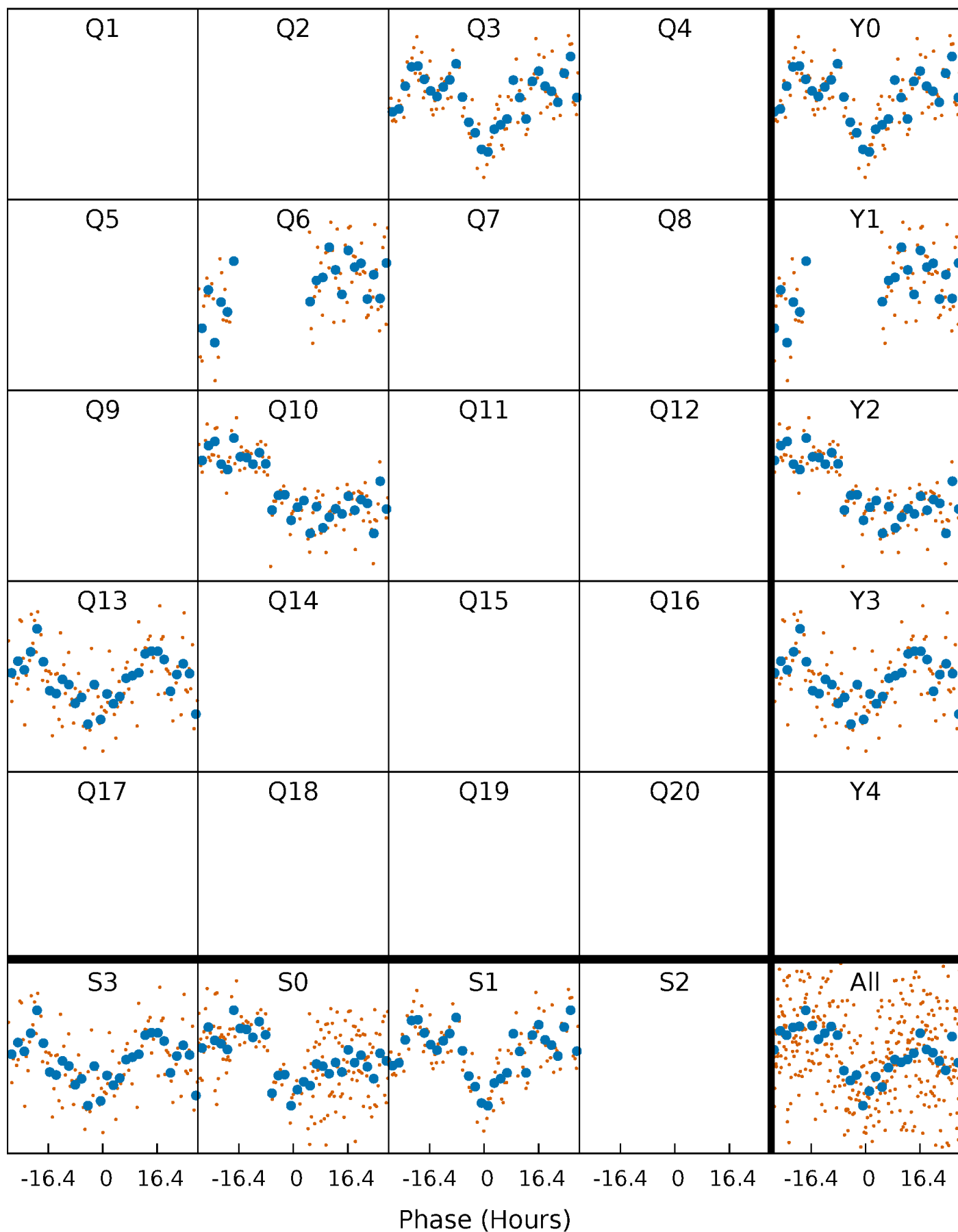


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



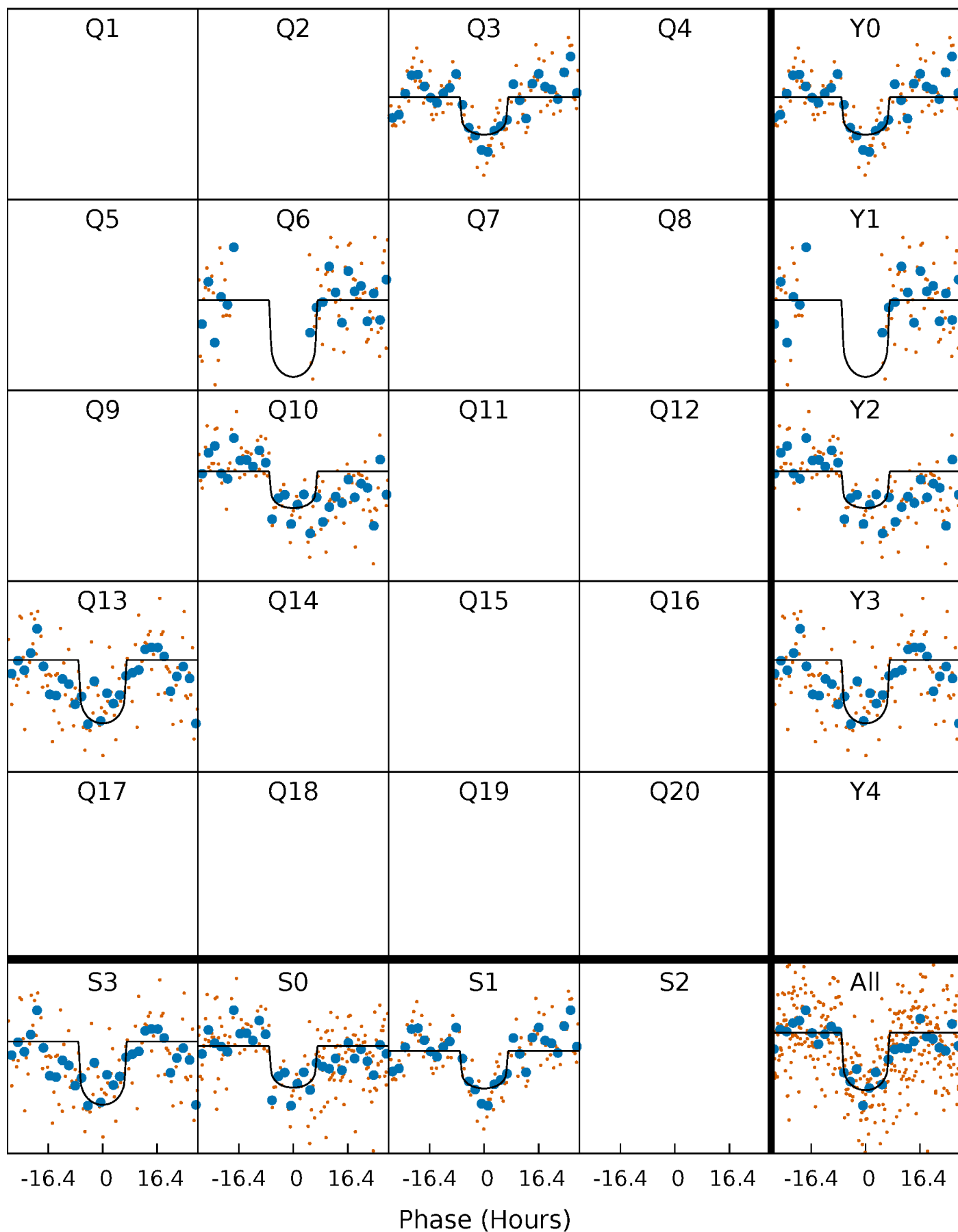
PDC Quarter-Phased Transit Curves

TCE 007199397-02 $P=328.508133$ Days $T_0=270.527187$ (BKJD)



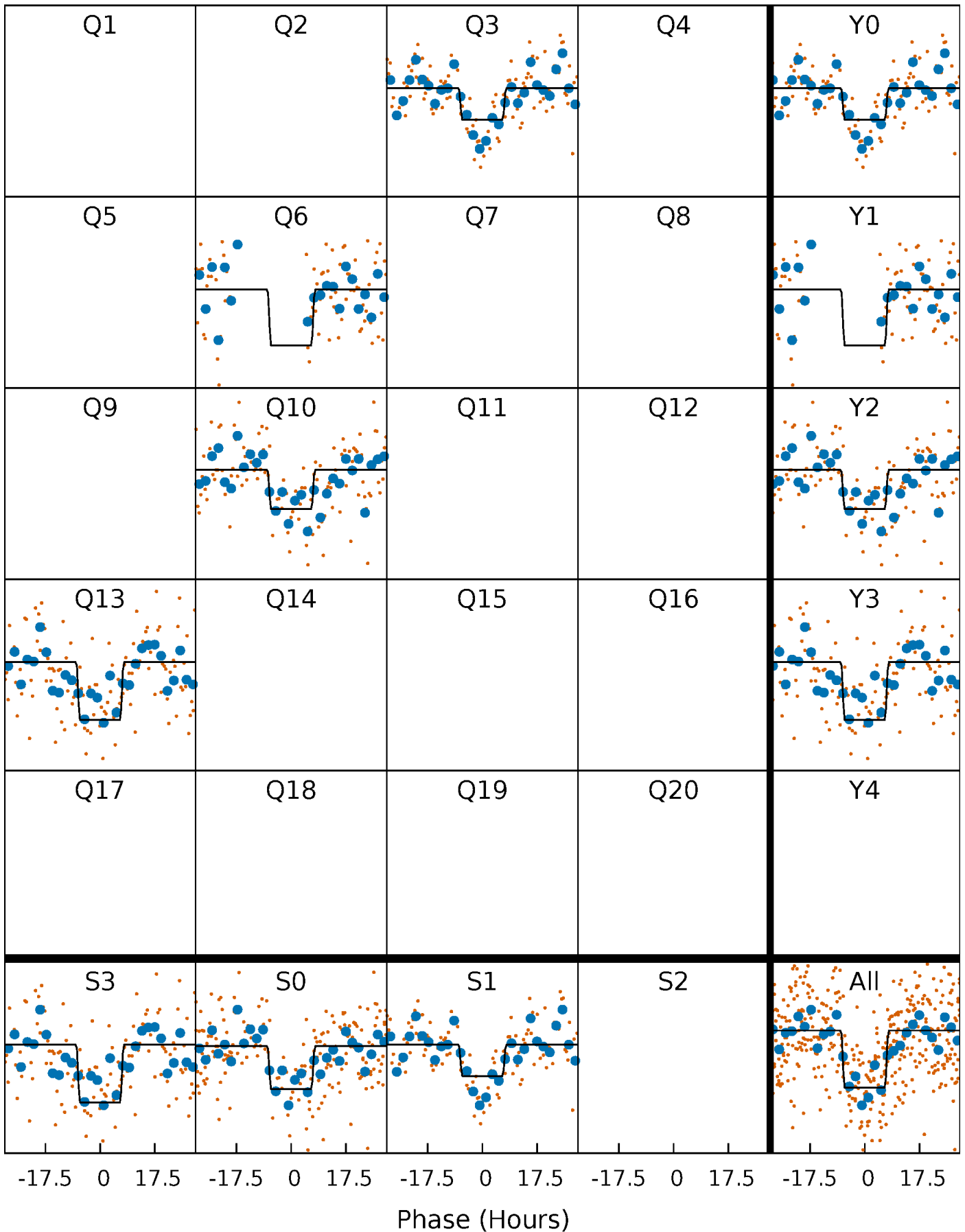
DV Quarter-Phased Transit Curves

TCE 007199397-02 P=328.508133 Days $T_0=270.527187$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

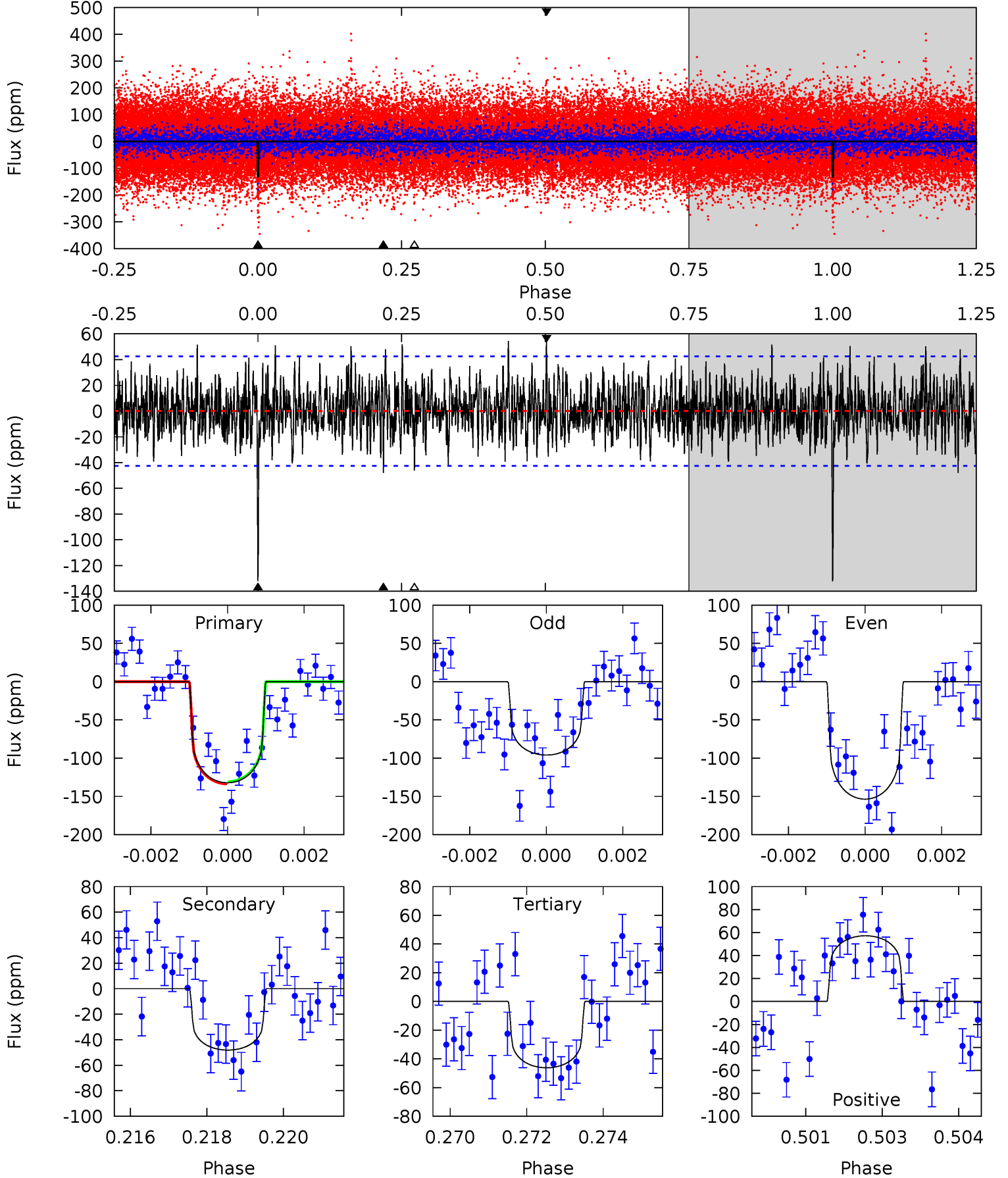
TCE 007199397-02 $P=328.489911$ Days $T_0=270.546861$ (BKJD)



DV Model-Shift Uniqueness Test

007199397-02, $P = 328.508133$ Days, $E = 270.527187$ Days

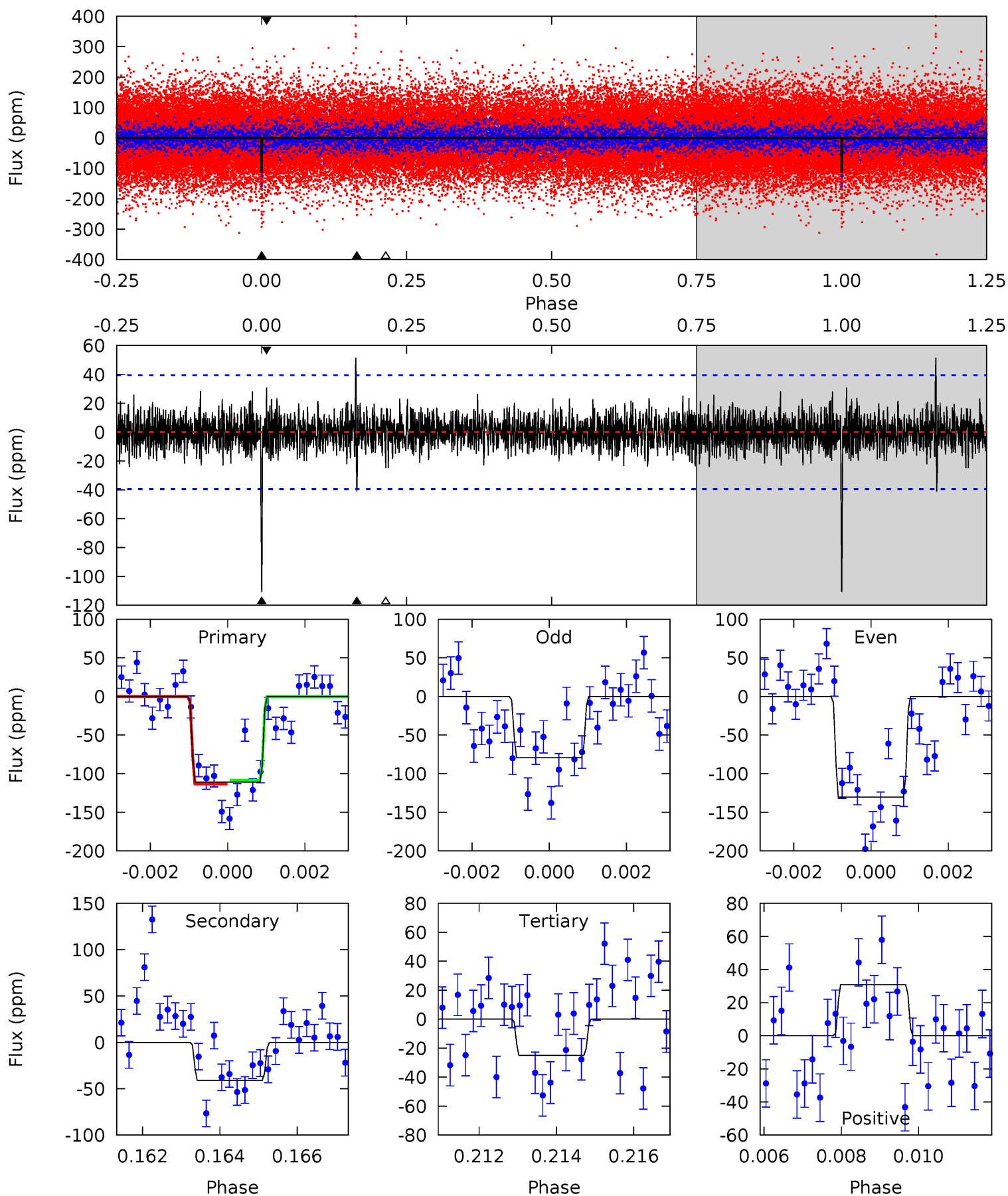
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.6	6.04	5.80	7.18	5.34	3.11	1.86	10.8	9.41	0.24	-1.14	3.49	0.94	0.30	0.18



Alt Model-Shift Uniqueness Test

007199397-02, P = 328.489911 Days, E = 270.546861 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.0	5.55	3.38	4.17	5.33	3.10	1.09	11.6	10.8	2.17	1.38	3.38	1.00	0.32	0.32



Stellar Parameters For KIC 007199397

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5903^{+79}_{-79}	$3.757^{+0.078}_{-0.052}$	$-0.140^{+0.150}_{-0.150}$	$2.499^{+0.233}_{-0.311}$	$1.301^{+0.091}_{-0.122}$	$0.117^{+0.042}_{-0.022}$
	+1%/-1%	+2%/-1%	+107%/-107%	+9%/-12%	+7%/-9%	+36%/-18%
Source	SPE72	AST8	SPE72	DSEP		

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

Secondary Eclipse Parameters for KIC 007199397-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-48 ± 8	$3.17^{+0.93}_{-0.85}$	568^{+16}_{-18}	4678^{+657}_{-445}	2695^{+2349}_{-1067}
Alt.	-41 ± 7	$2.84^{+0.95}_{-0.86}$	568^{+15}_{-16}	4733^{+800}_{-530}	2853^{+3091}_{-1311}

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

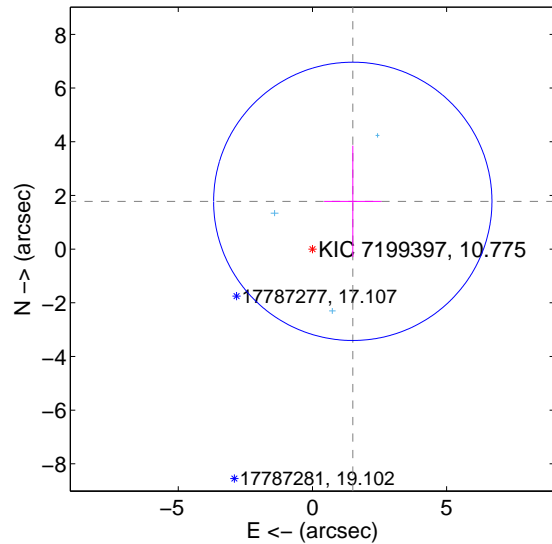
Supplemental centroid analysis for 007199397-02. **Kepler magnitude: 10.78.** Transit SNR 7.67

There are 3 quarters with good PRF difference image offsets

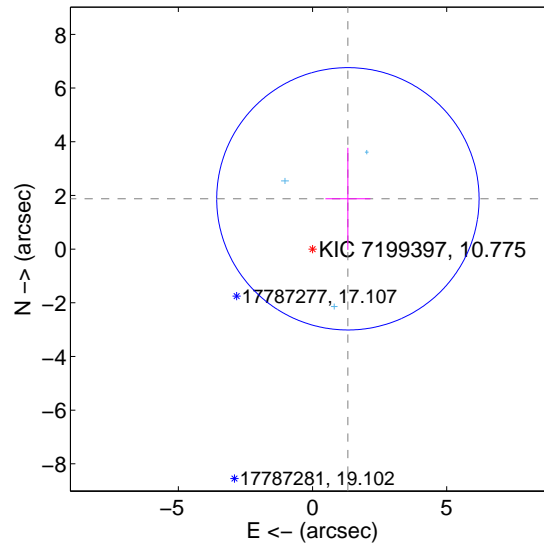
The direct PRF centroid is offset from the target star catalog position by about 1.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.329 ± 1.728	1.35	-1.503 ± 1.070	1.779 ± 2.074
PRF-fit source offset from KIC position	2.291 ± 1.629	1.41	-1.318 ± 0.839	1.874 ± 1.902
photometric centroid source offset	3.00 ± 1.02	2.96	2.49 ± 0.98	1.67 ± 1.09

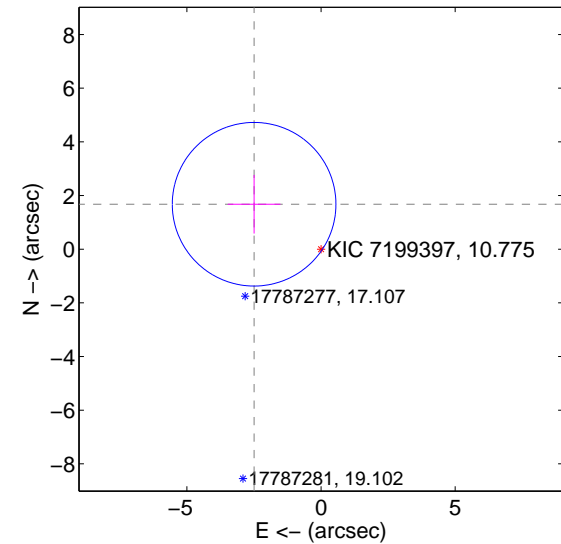
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

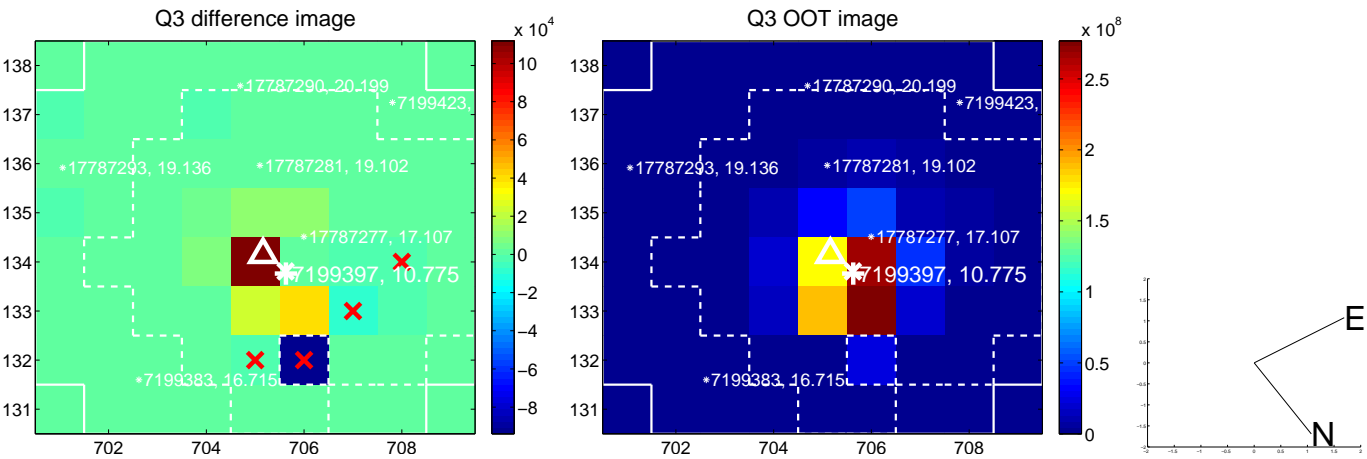


offset from photometric centroids



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.

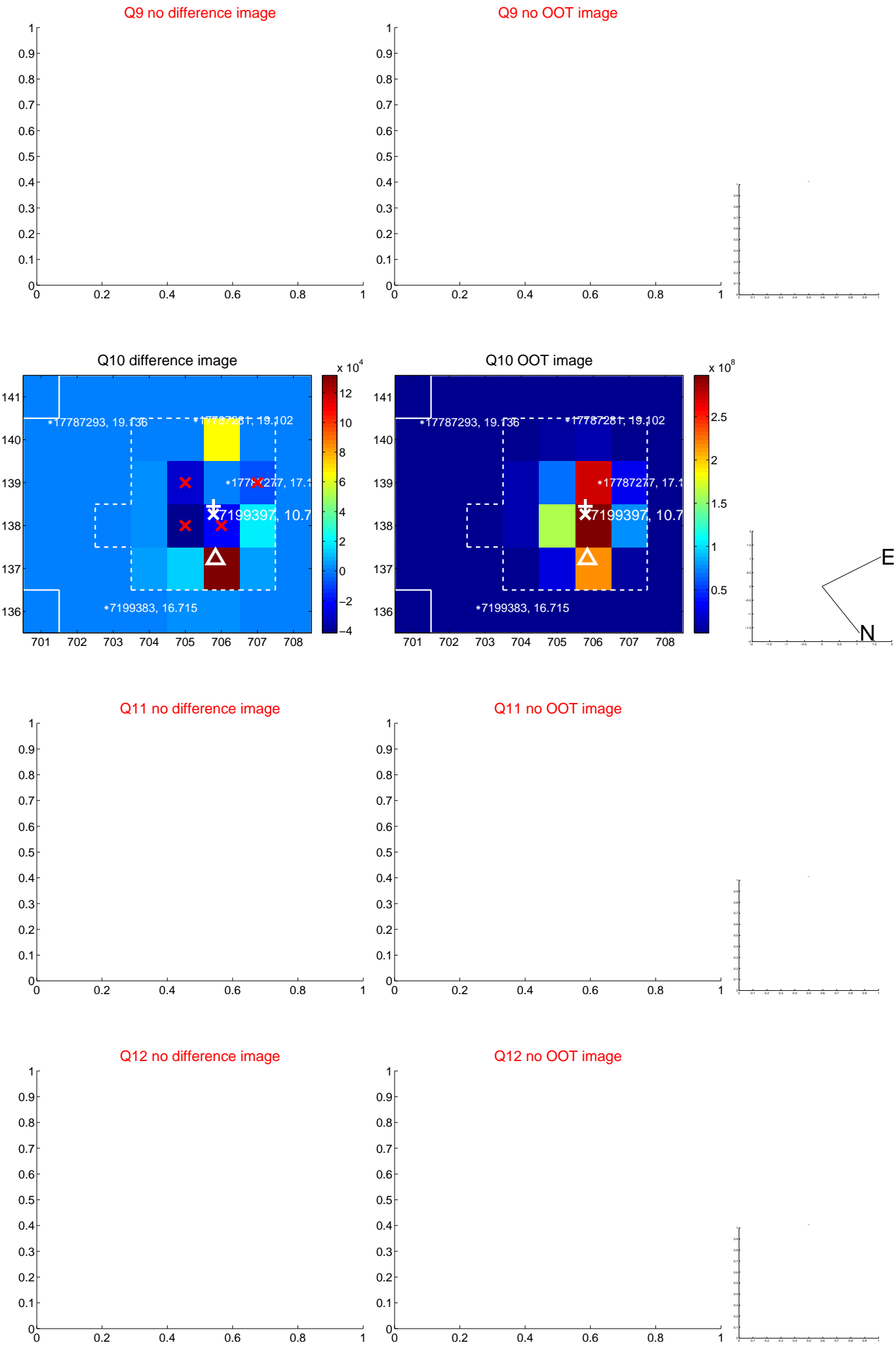
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



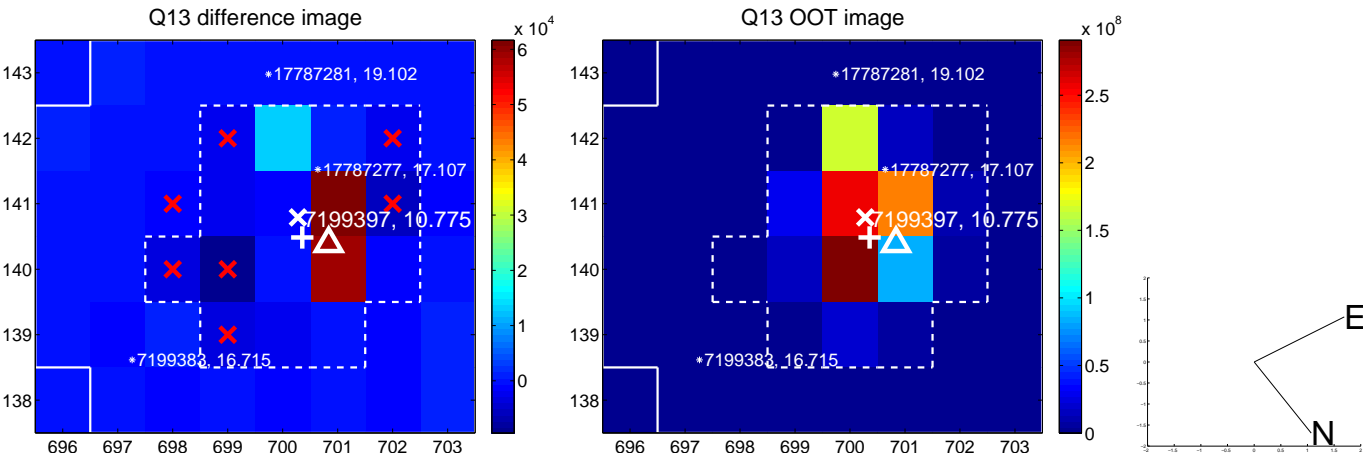
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



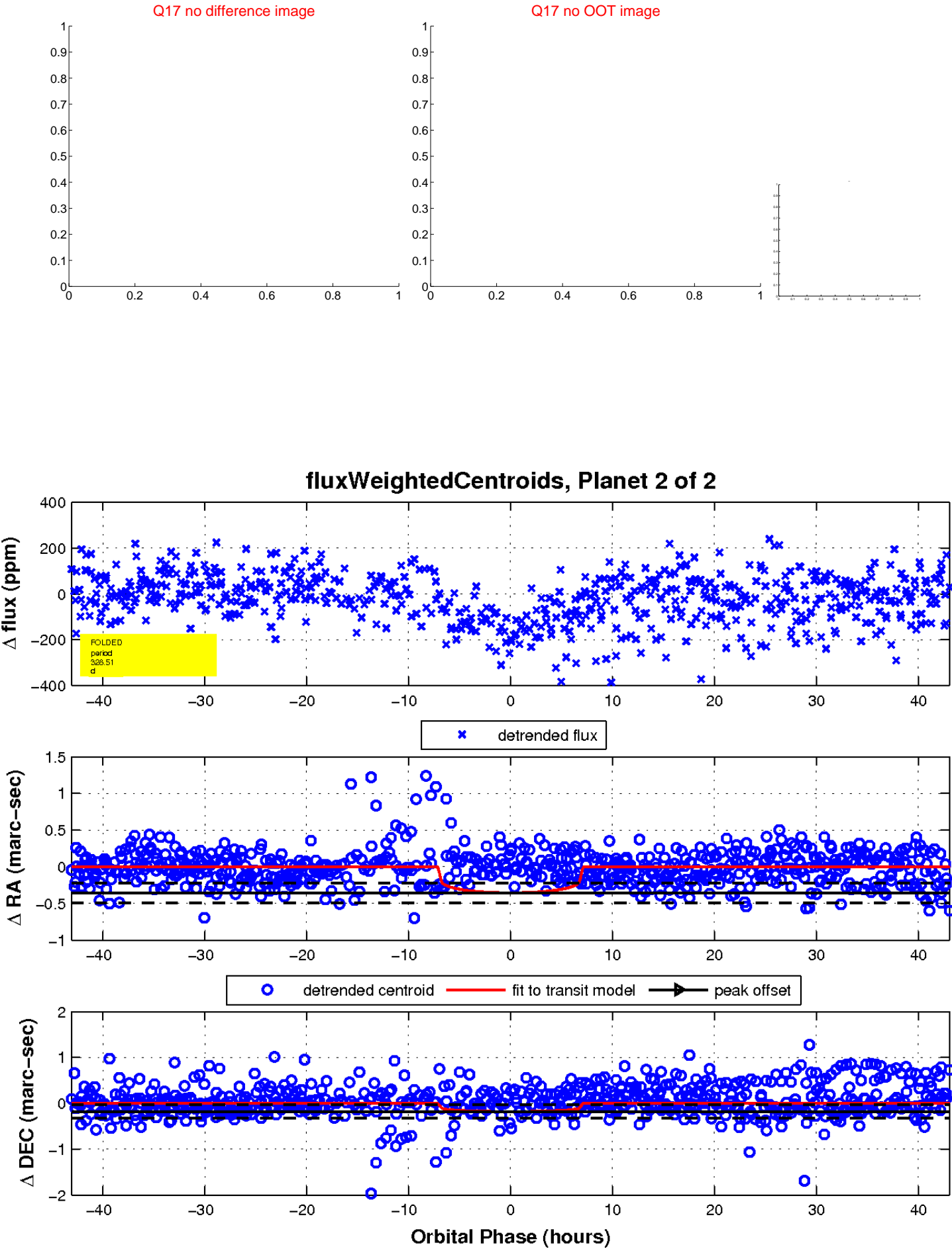
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

