

KIC 007918172

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})
007918172-01	OBS	No	383.624850	354.658454	1803.0	11.890	62.5	25.4	1.59	5209	8.75	1.65
007918172-02	OBS	1817.01	63.934466	162.852270	828.6	12.365	36.9	30.3	1.59	5209	9.28	18.04

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007918172-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_SKYE—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
007918172-02	OBS	FP	0.00	1	0	1	1	SAME_NTL_PERIOD—CENT_RESOLVED_OFFSET—EPHEM_MATCH

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.

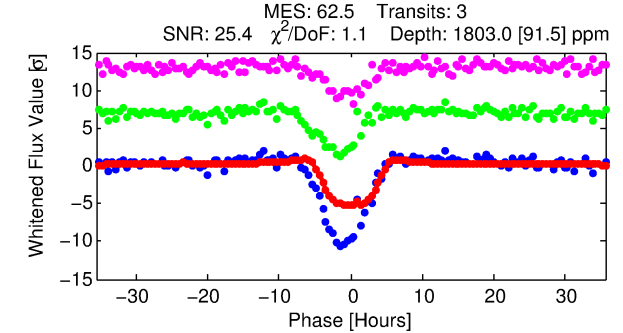
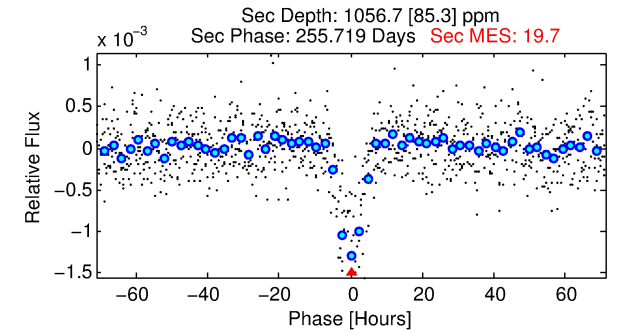
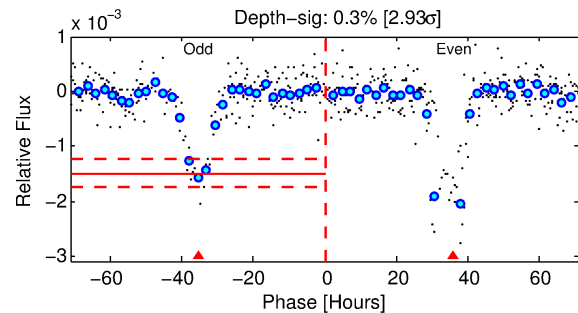
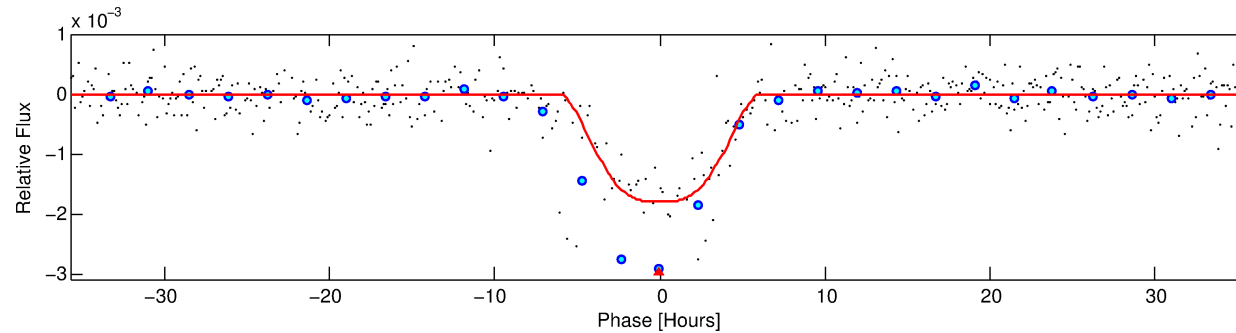
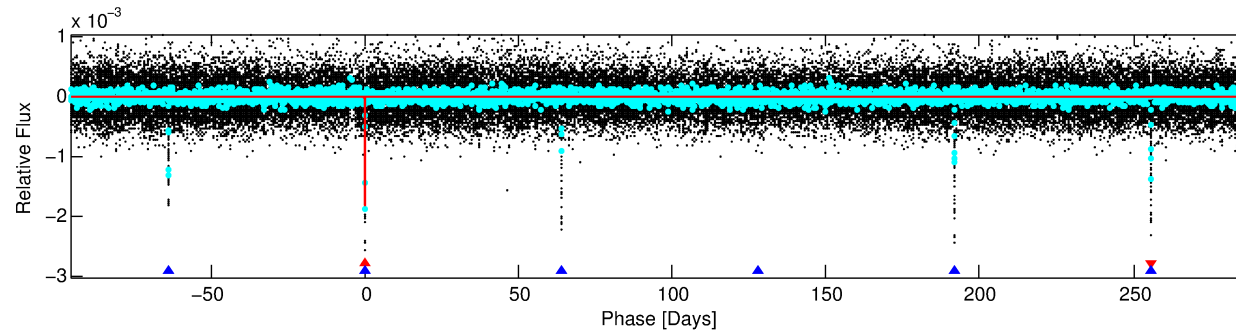
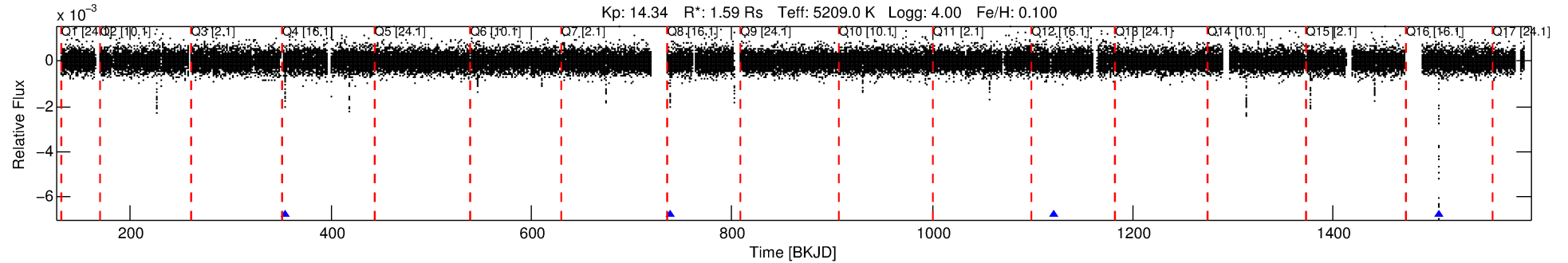
Ephemeris Match Information For 007918172-01

No Significant Match Found

DV One-Page Summary

KIC: 7918172 Candidate: 1 of 2 Period: 383.625 d
KOI: K01817 Corr: No Ephemeris Match

Kp: 14.34 R*: 1.59 Rs Teff: 5209.0 K Logg: 4.00 Fe/H: 0.100



DV Fit Results:

Period = 383.62485 [0.00393] d
Epoch = 354.6585 [0.0075] BKJD
Rp/R* = 0.0503 [0.0021]
a/R* = 114.62 [8.51]
b = 0.94 [0.01]
Seff = 1.65 [1.57]
Teq = 289 [68] K
Rp = 8.75 [4.29] Re
a = 1.0073 [0.5518] AU
Ag = 7698.72 [7287.20] [1.06σ]
Teff = 4188 [174] K [20.82σ]

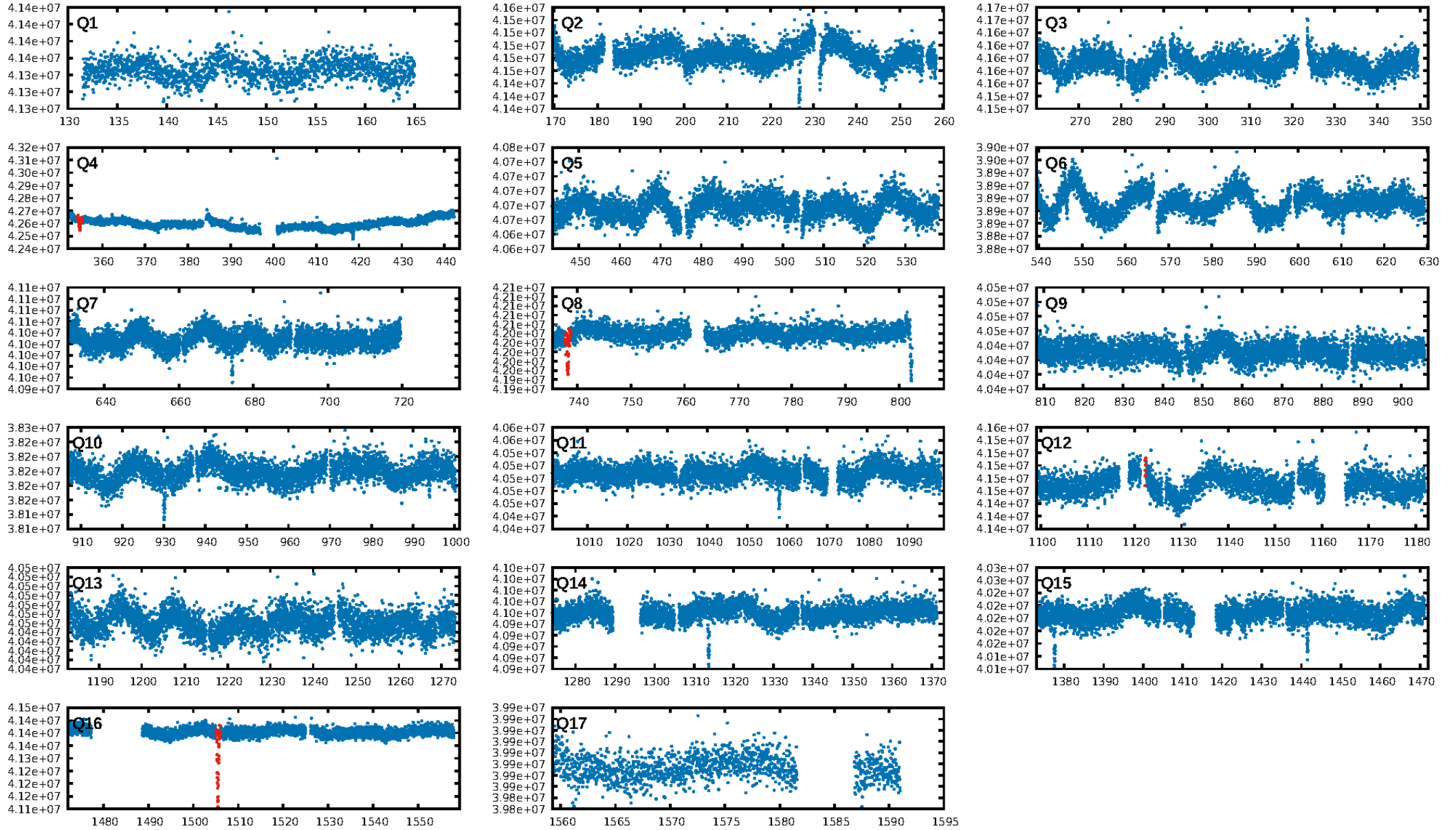
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [447.27σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.4%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.221
Centroid-sig: 0.0%
Centroid-so: 18.854 arcsec [35.23σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 0.00 [0/2]

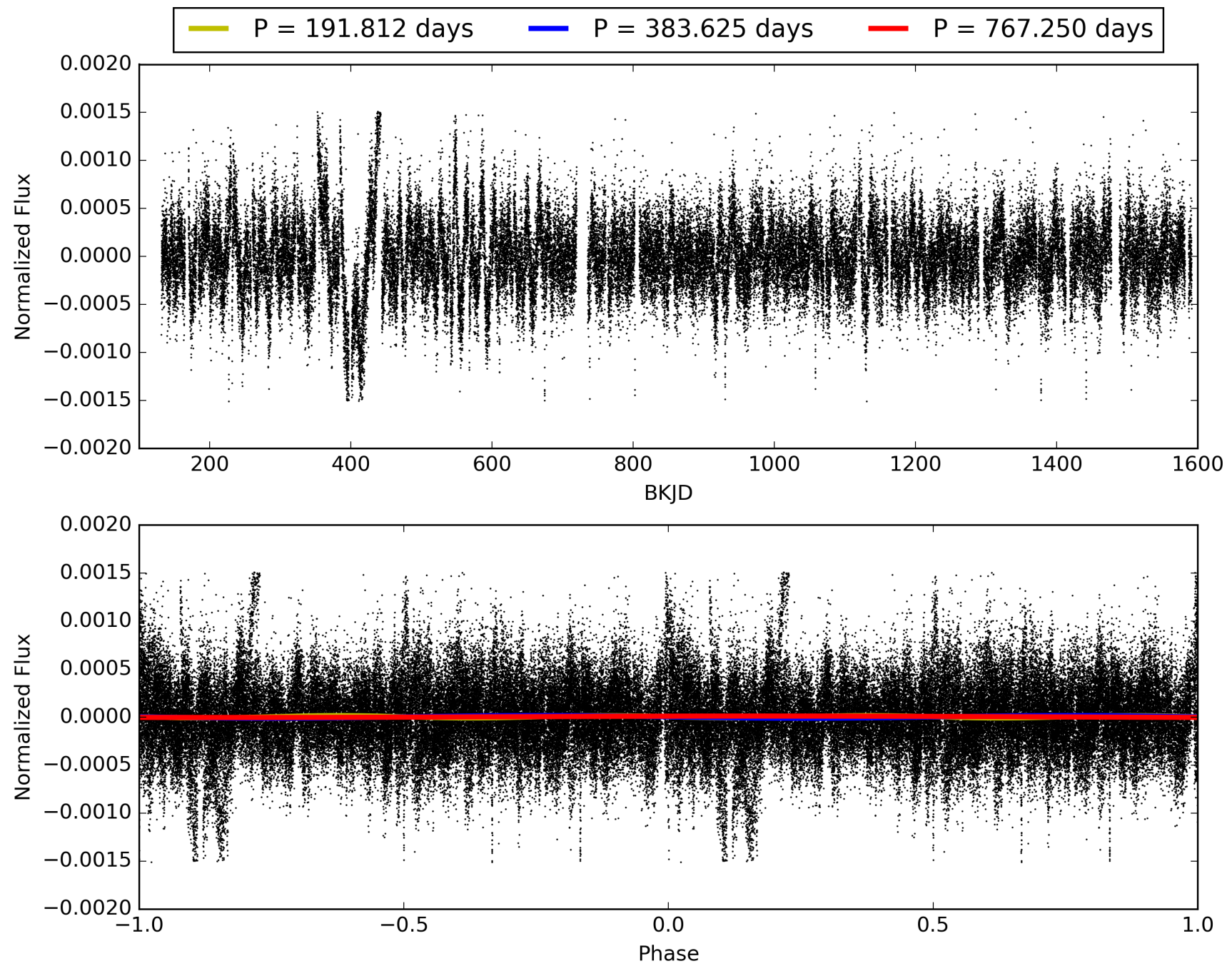
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 23:14:49 Z

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

TCE 007918172-01, PDC Light Curves

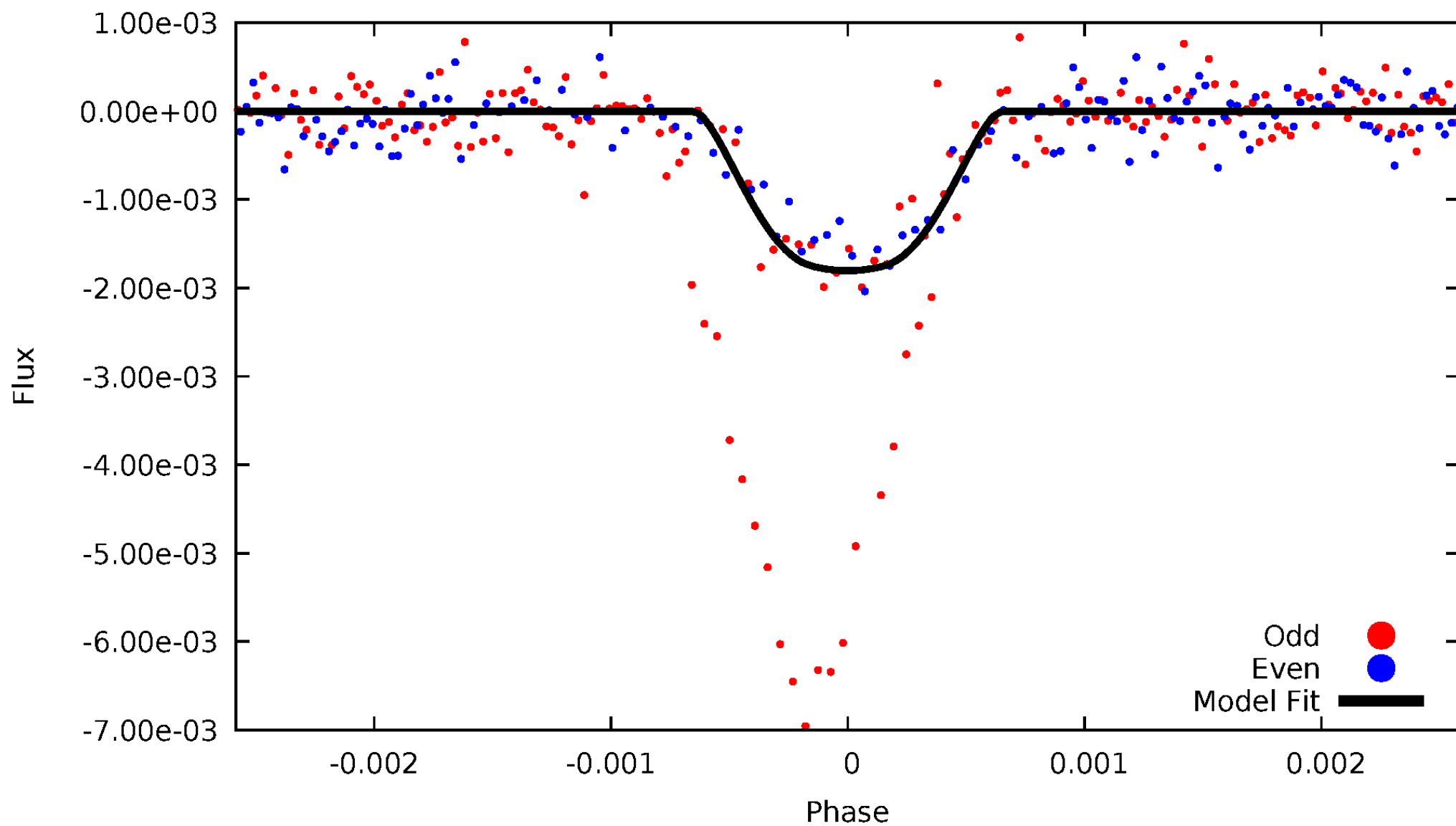


TCE 007918172-01



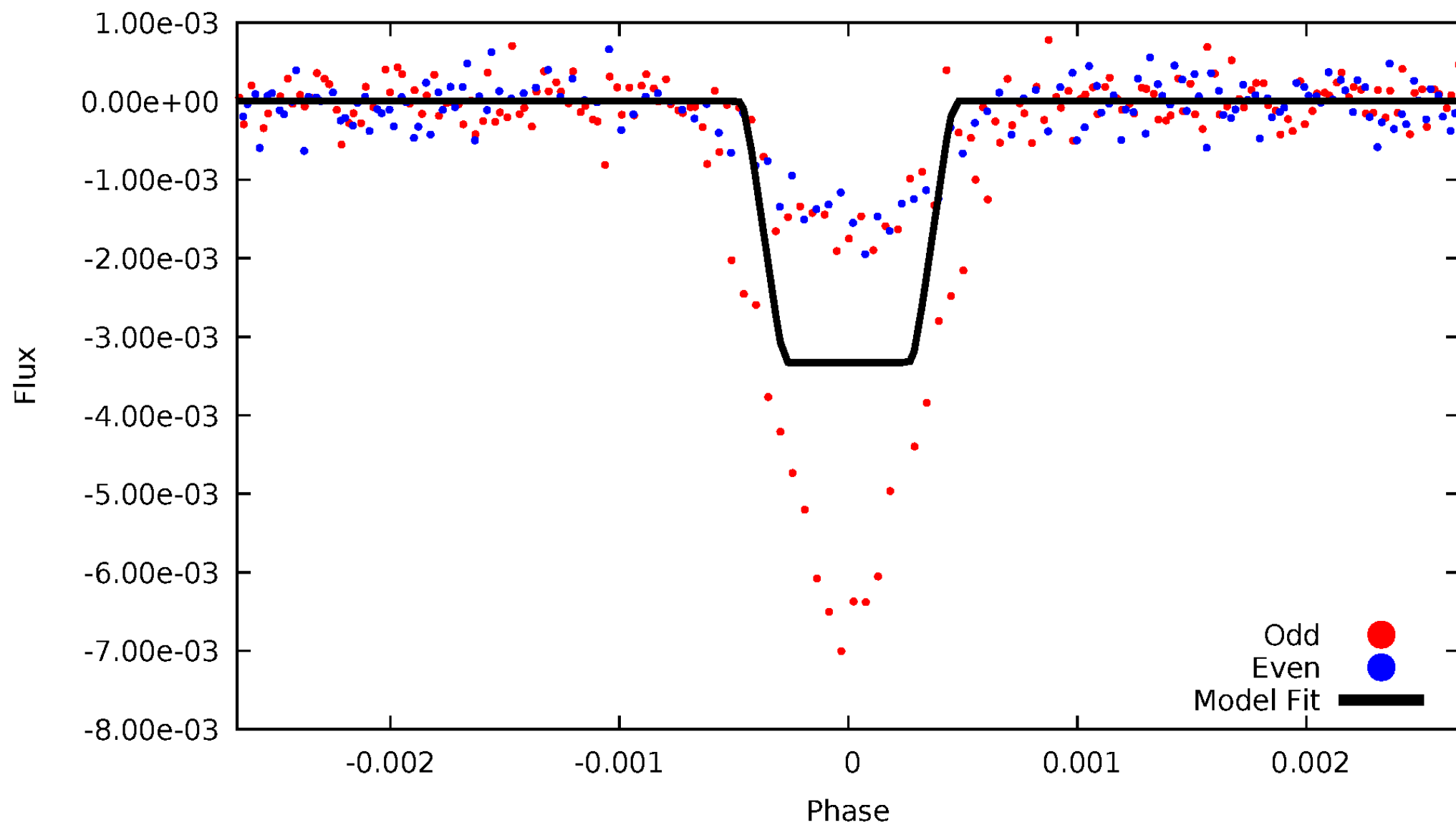
DV Odd/Even

TCE 007918172-01

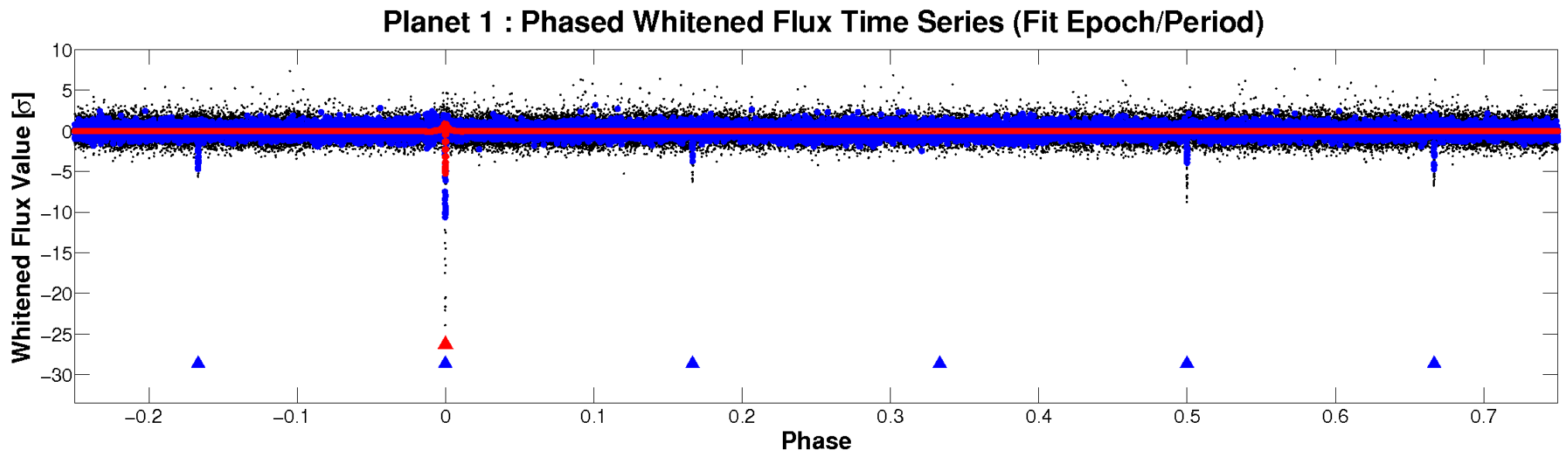
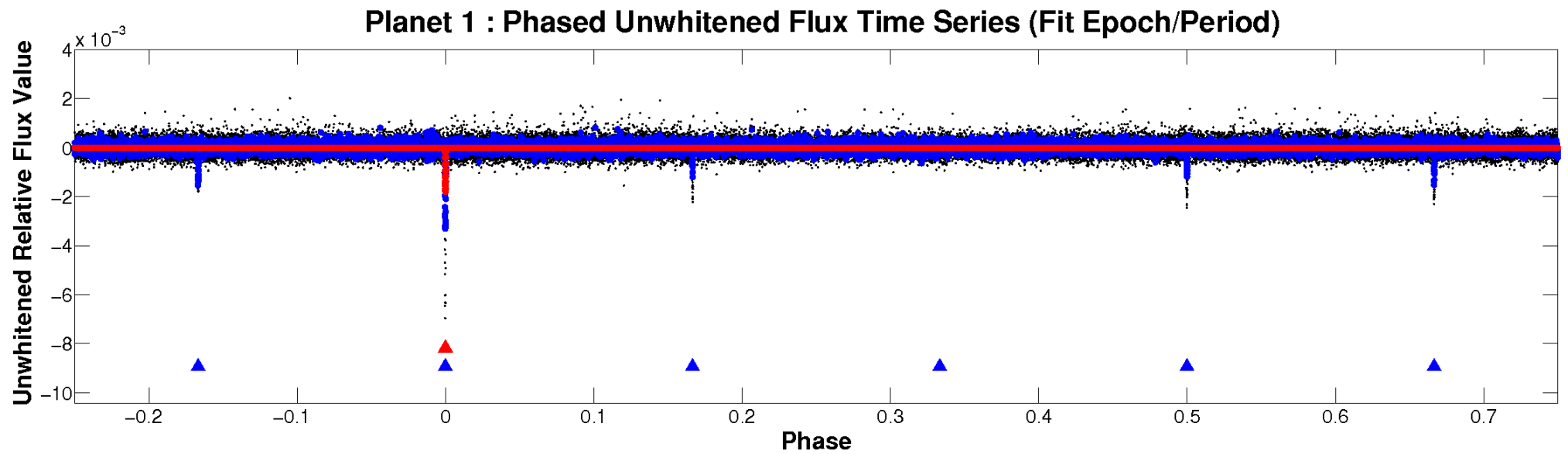


ALT Odd/Even

TCE 007918172-01

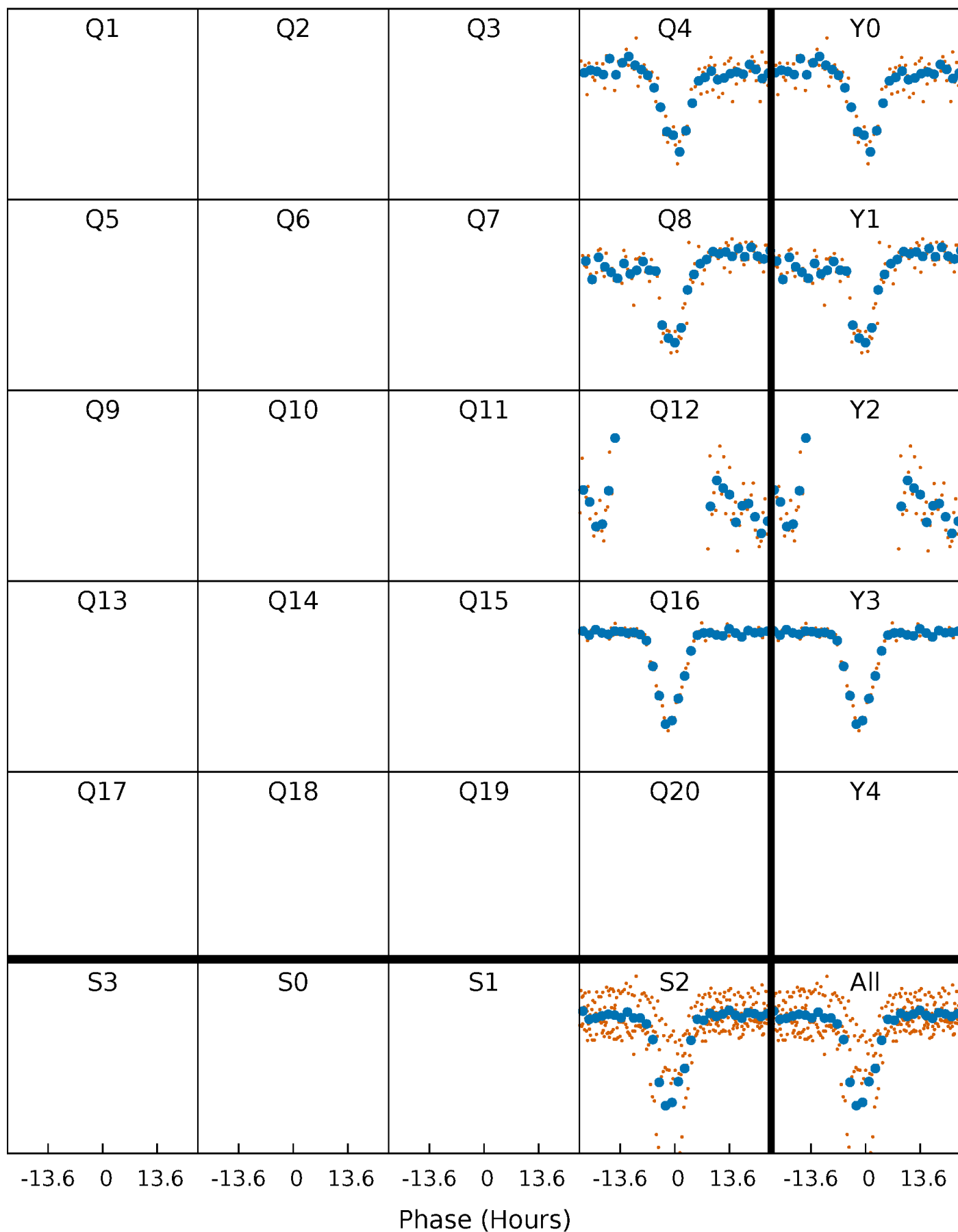


Non-Whitened Vs. Whitened Light Curve



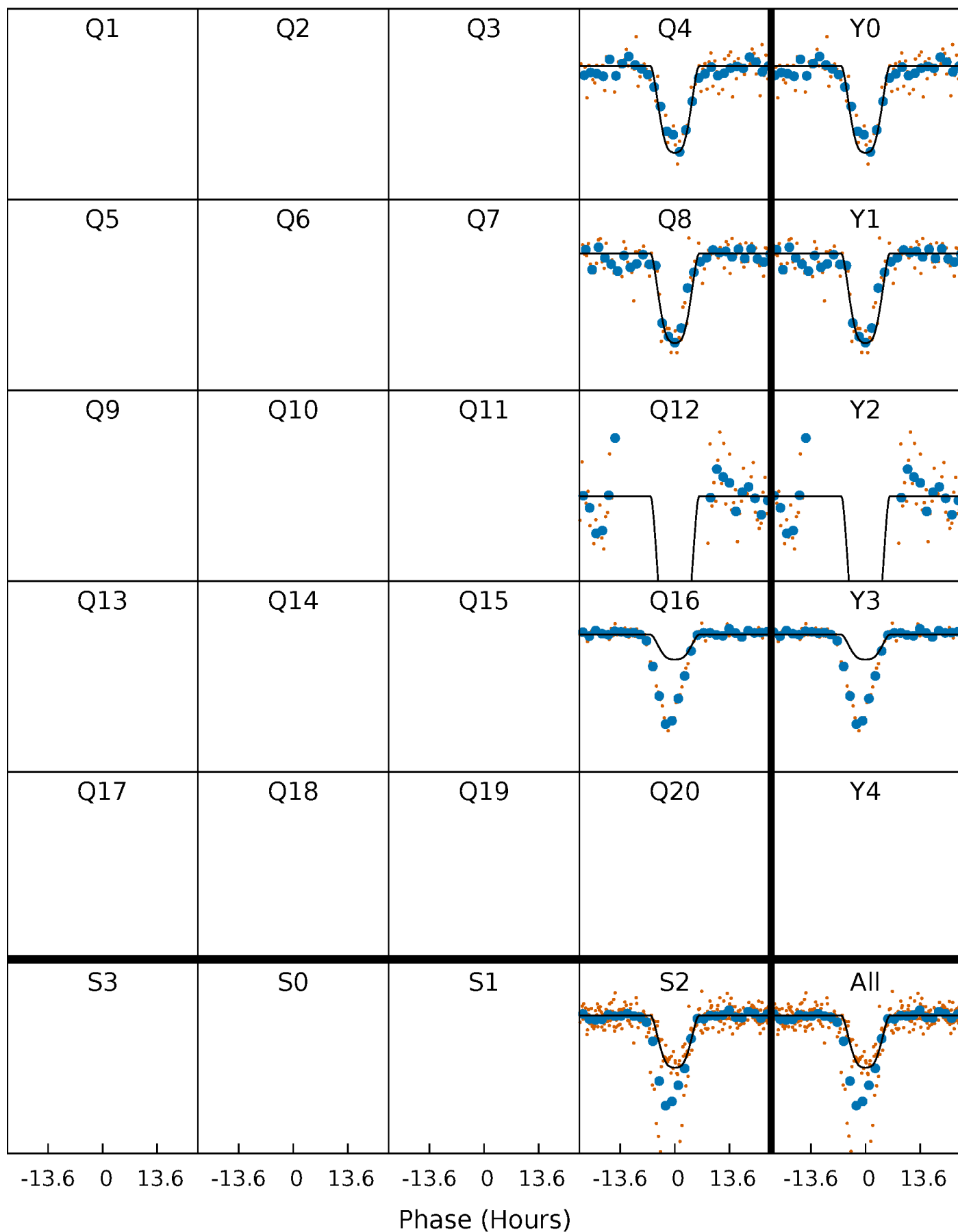
PDC Quarter-Phased Transit Curves

TCE 007918172-01 P=383.624850 Days $T_0=354.658454$ (BKJD)



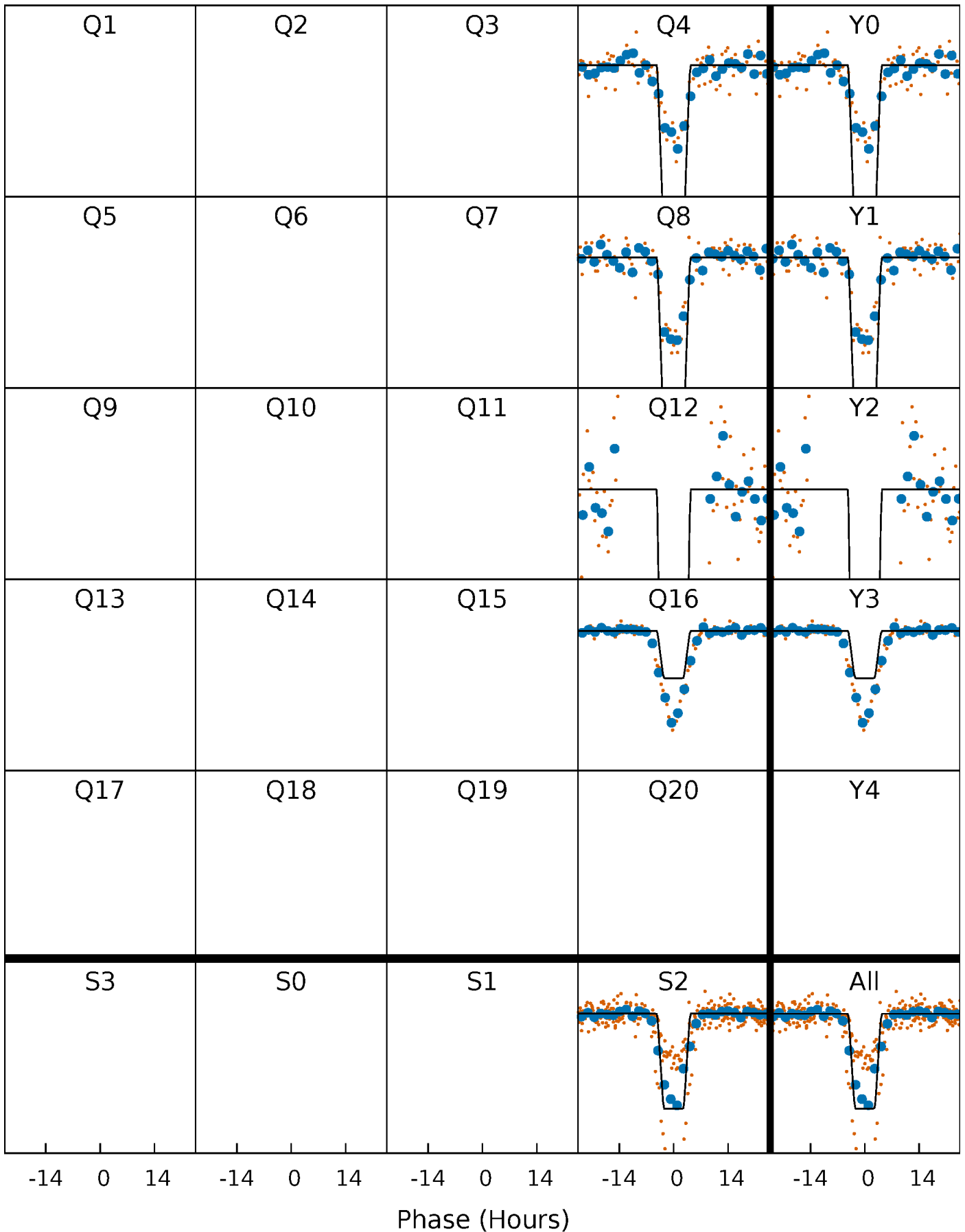
DV Quarter-Phased Transit Curves

TCE 007918172-01 P=383.624850 Days $T_0=354.658454$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

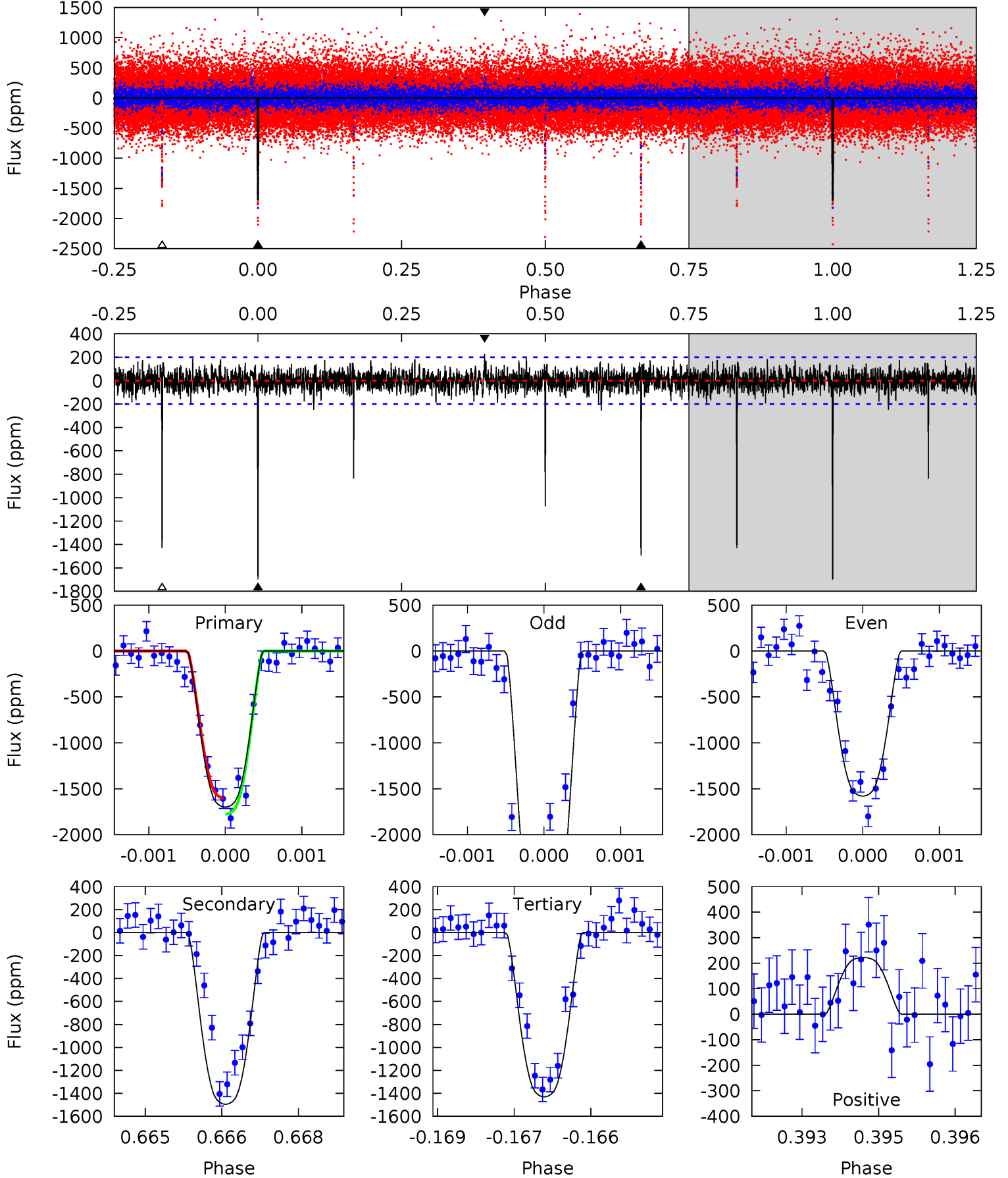
TCE 007918172-01 P=383.606033 Days $T_0=354.657799$ (BKJD)



DV Model-Shift Uniqueness Test

007918172-01, P = 383.624850 Days, E = 354.658454 Days

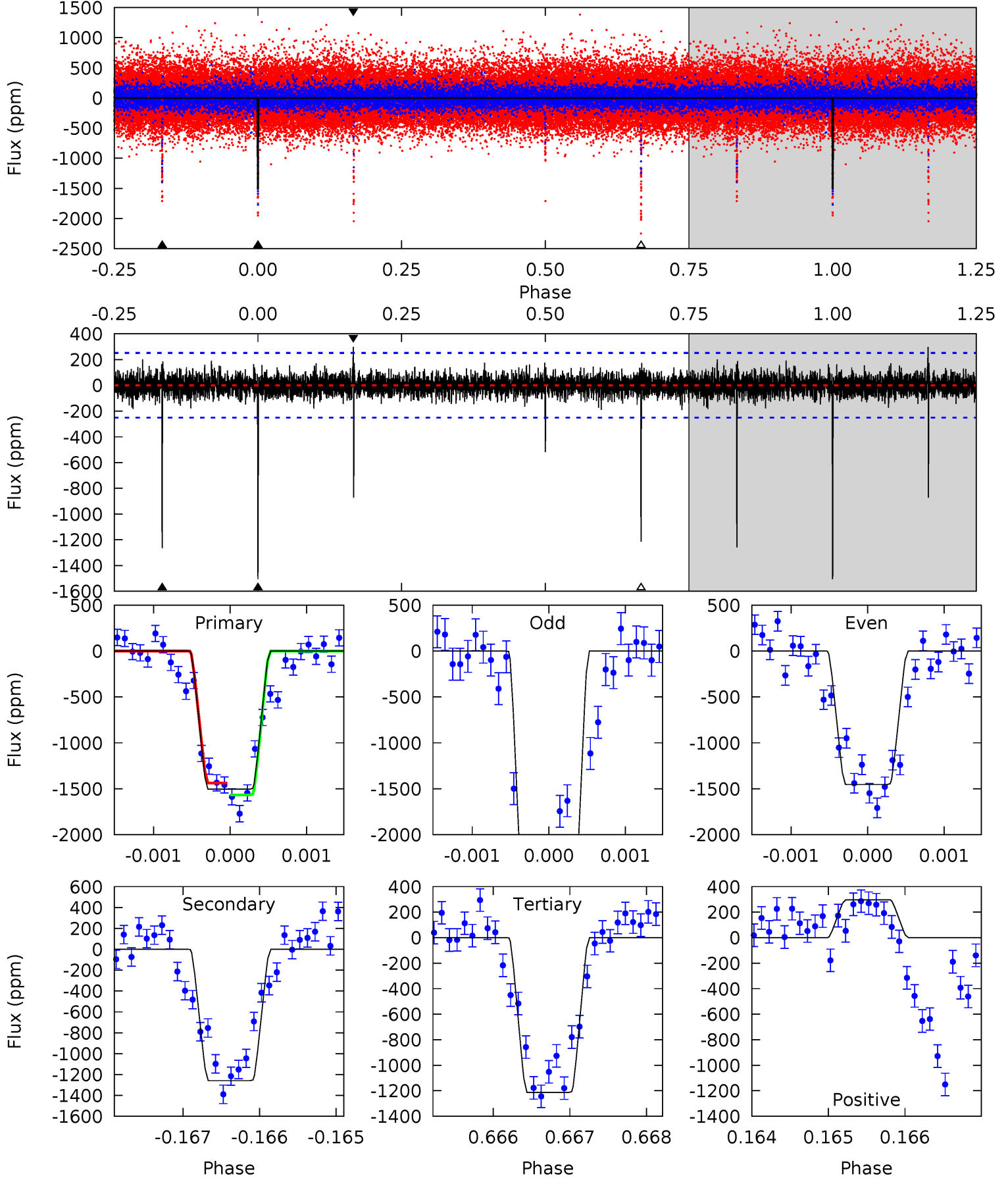
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
45.9	40.4	38.7	6.01	5.40	3.21	2.03	7.27	39.9	1.76	34.4	27.2	1.79	0.12	0



Alt Model-Shift Uniqueness Test

007918172-01, P = 383.606033 Days, E = 354.657799 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.7	27.4	26.4	6.46	5.47	3.32	1.39	6.34	26.3	0.99	20.9	24.1	1.88	0.16	0



Stellar Parameters For KIC 007918172

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5209^{+155}_{-155}	$3.999^{+0.574}_{-0.246}$	$0.100^{+0.250}_{-0.250}$	$1.595^{+0.779}_{-0.779}$	$0.927^{+0.080}_{-0.124}$	$0.322^{+1.994}_{-0.222}$
	+3%/-3%	+14%/-6%	+250%/-250%	+49%/-49%	+9%/-13%	+620%/-69%
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 007918172-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1496 ± 37	$8.40^{+2.01}_{-2.24}$	397^{+44}_{-57}	4664^{+161}_{-141}	11644^{+9963}_{-3923}
Alt.	-1259 ± 46	$9.37^{+2.51}_{-2.36}$	393^{+50}_{-53}	4286^{+141}_{-123}	7934^{+5896}_{-2998}

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

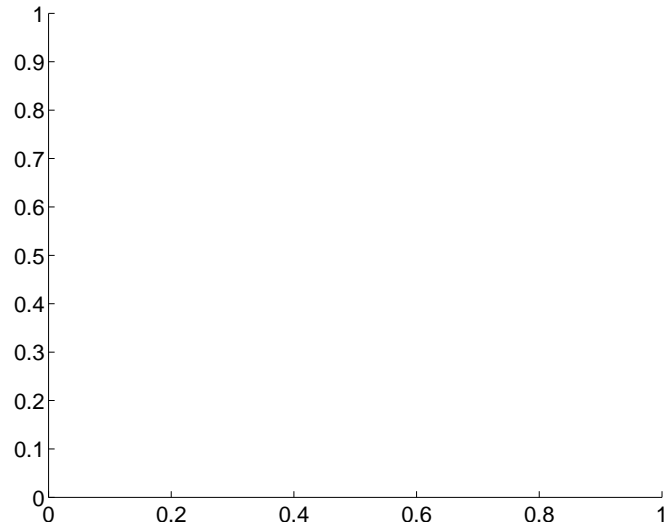
Supplemental centroid analysis for 007918172-01. Kepler magnitude: 14.34. Transit SNR 25.37

There are 0 quarters with good PRF difference image offsets

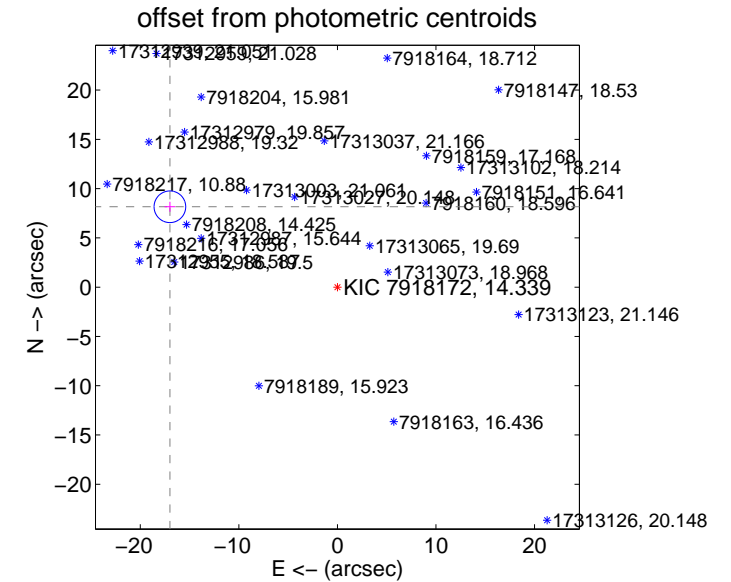
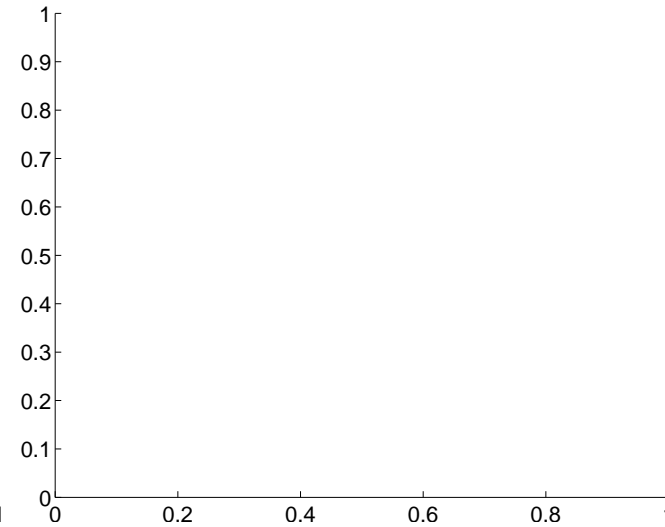
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	18.85 ± 0.54	35.23	17.00 ± 0.54	8.16 ± 0.51

There is no PRF-fit offset from OOT-fit

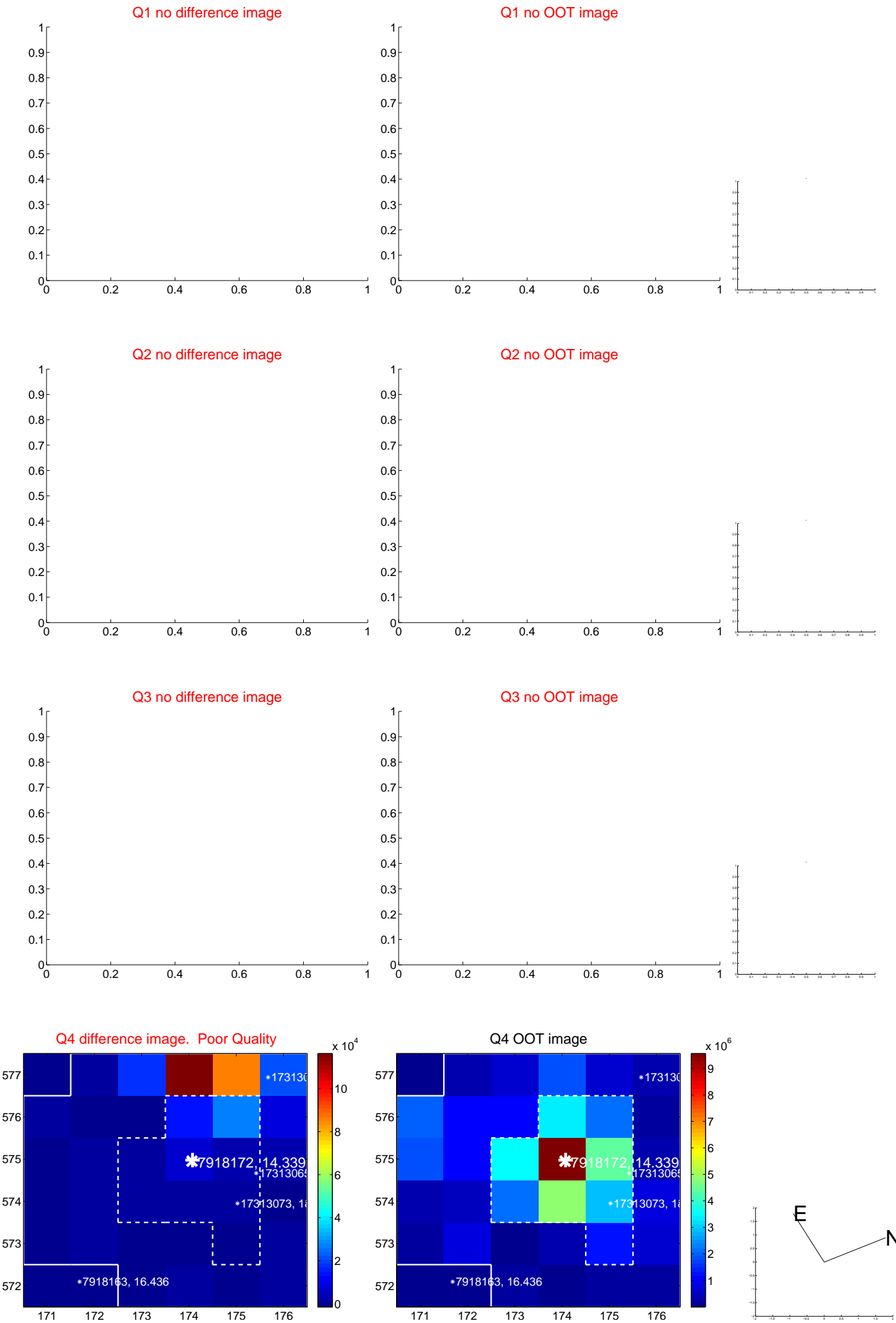


There is no PRF-fit offset from KIC

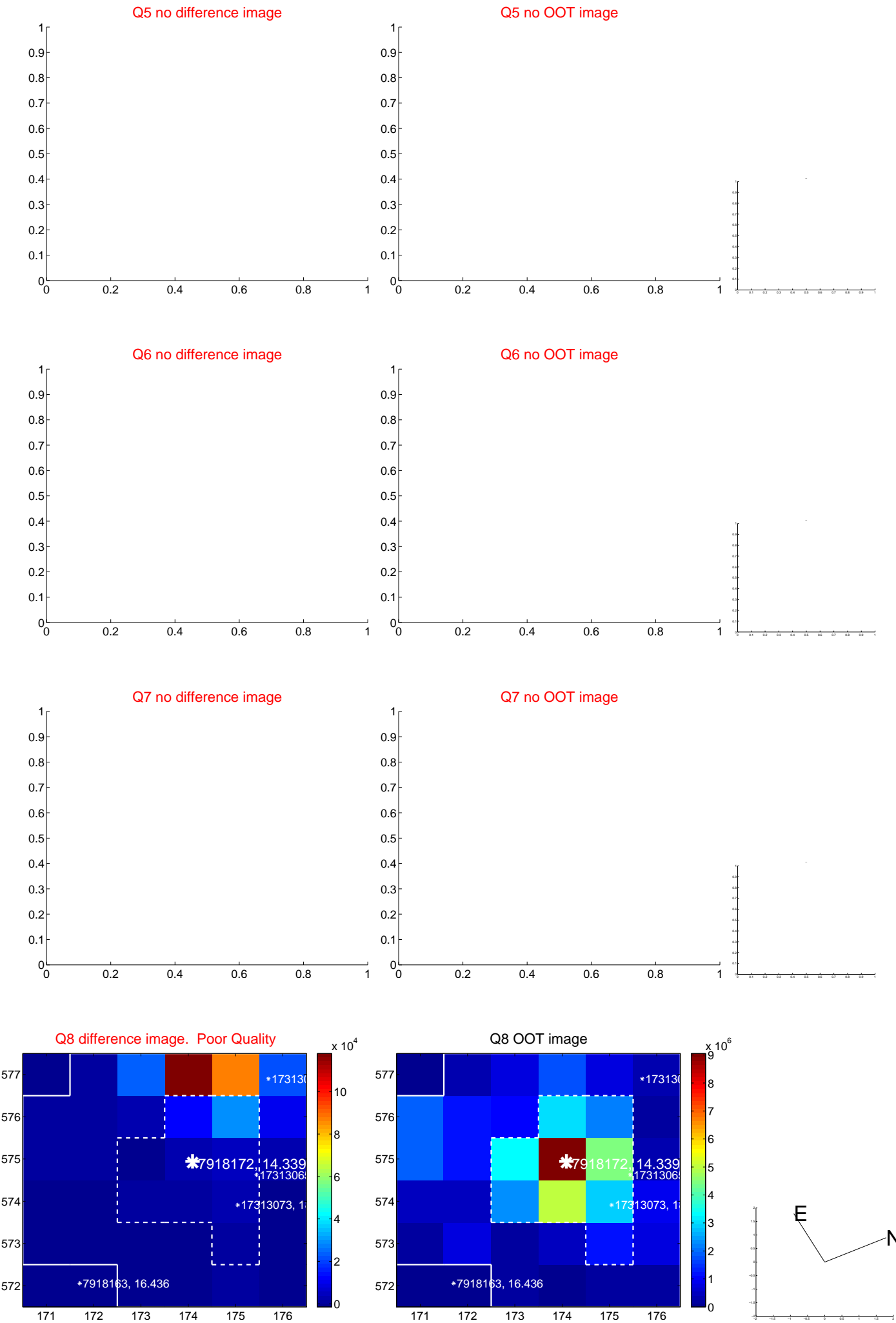


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000 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.



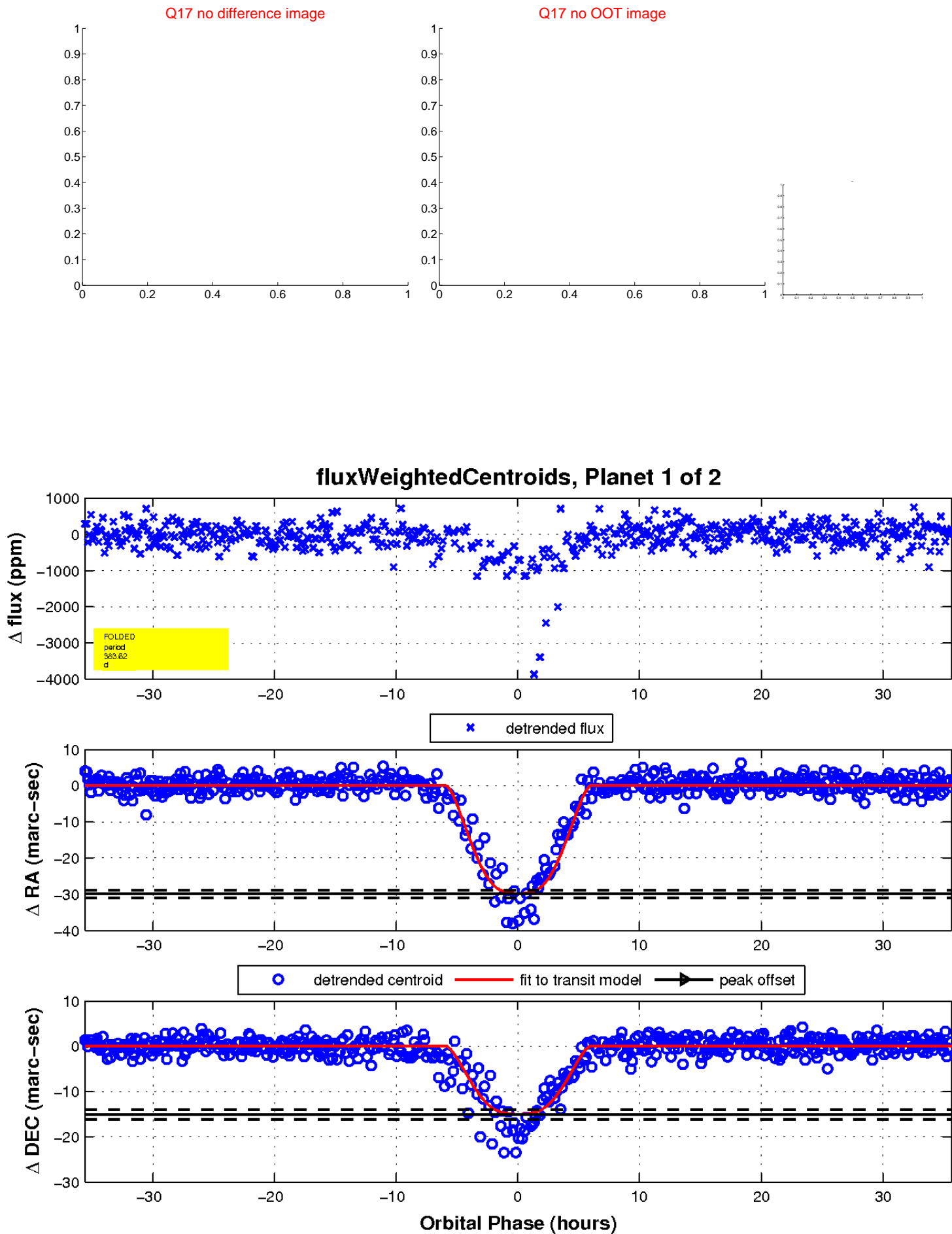
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



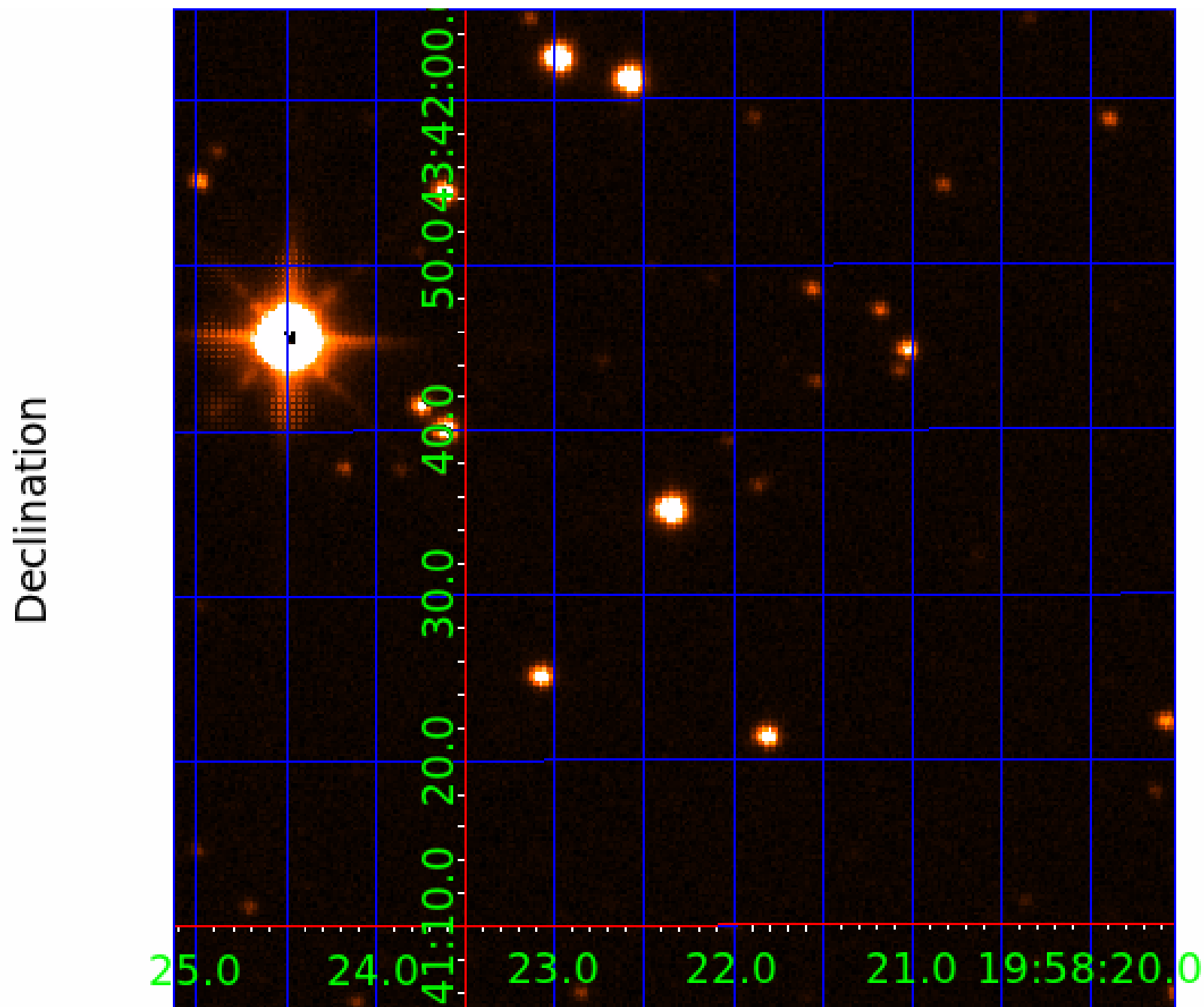
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 007918172

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})
007918172-01	OBS	No	383.624850	354.658454	1803.0	11.890	62.5	25.4	1.59	5209	8.75	1.65
007918172-02	OBS	1817.01	63.934466	162.852270	828.6	12.365	36.9	30.3	1.59	5209	9.28	18.04

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007918172-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_SKYE—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
007918172-02	OBS	FP	0.00	1	0	1	1	SAME_NTL_PERIOD—CENT_RESOLVED_OFFSET—EPHEM_MATCH

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.

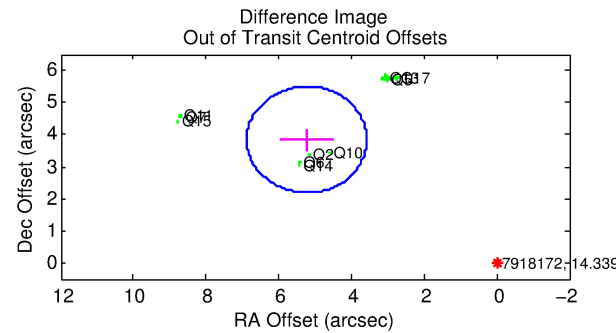
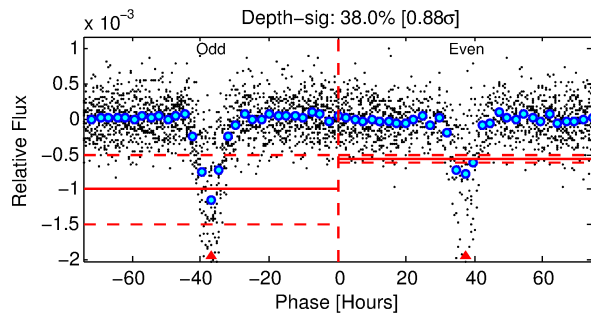
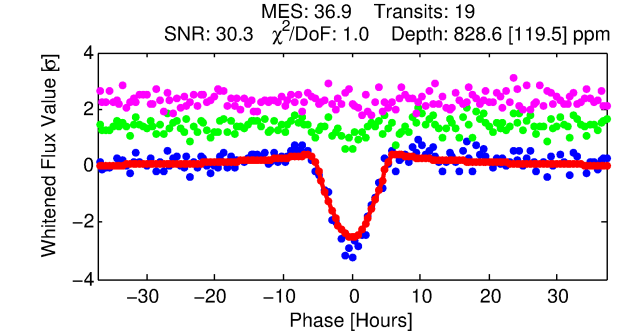
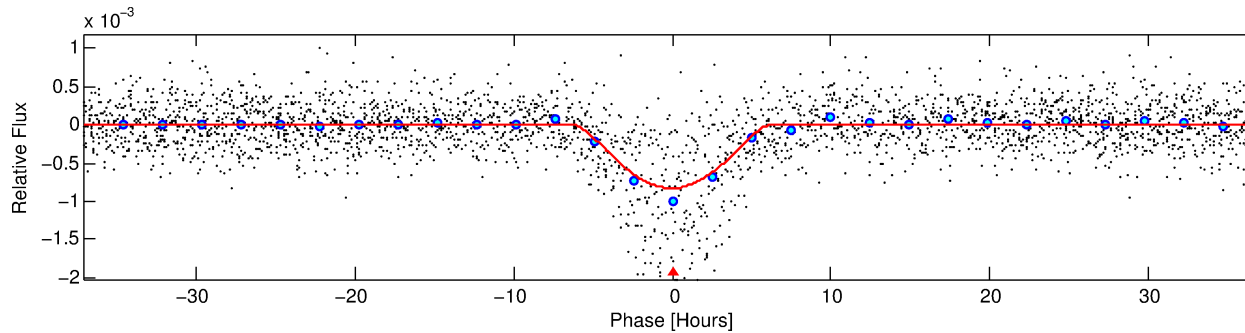
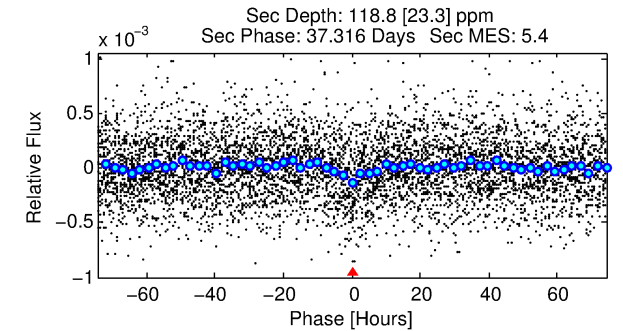
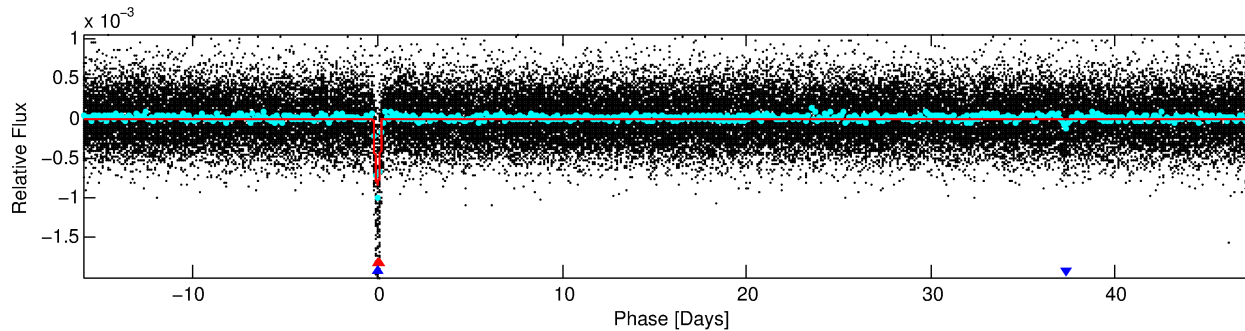
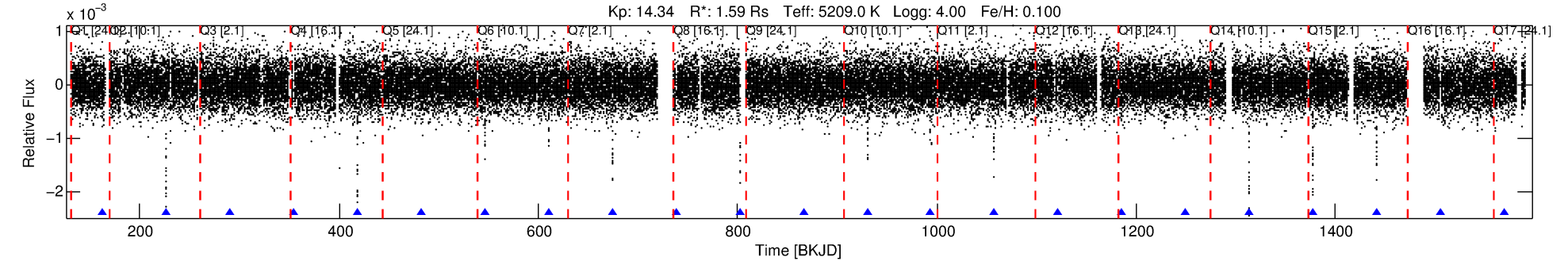
Ephemeris Match Information For 007918172-02

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
007918172-02	7918172	007918217-01	7918217	1:1	25.6	-7	1	10.88	14.34	1.30	Direct-PRF	0	0.17	0.12

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 7918172 Candidate: 2 of 2 Period: 63.934 d
KOI: K01817.01 Corr: 0.911



DV Fit Results:

Period = 63.93447 [0.00066] d
Epoch = 162.8523 [0.0089] BKJD
Rp/R* = 0.0533 [0.0623]
a/R* = 13.14 [3.59]
b = 1.00 [0.09]
Seff = 18.03 [17.08]
Teff = 525 [124] K
Rp = 9.28 [11.76] Re
a = 0.3050 [0.1671] AU
Ag = 70.56 [178.31] [0.39σ]
Teffp = 2355 [1383] K [1.32σ]

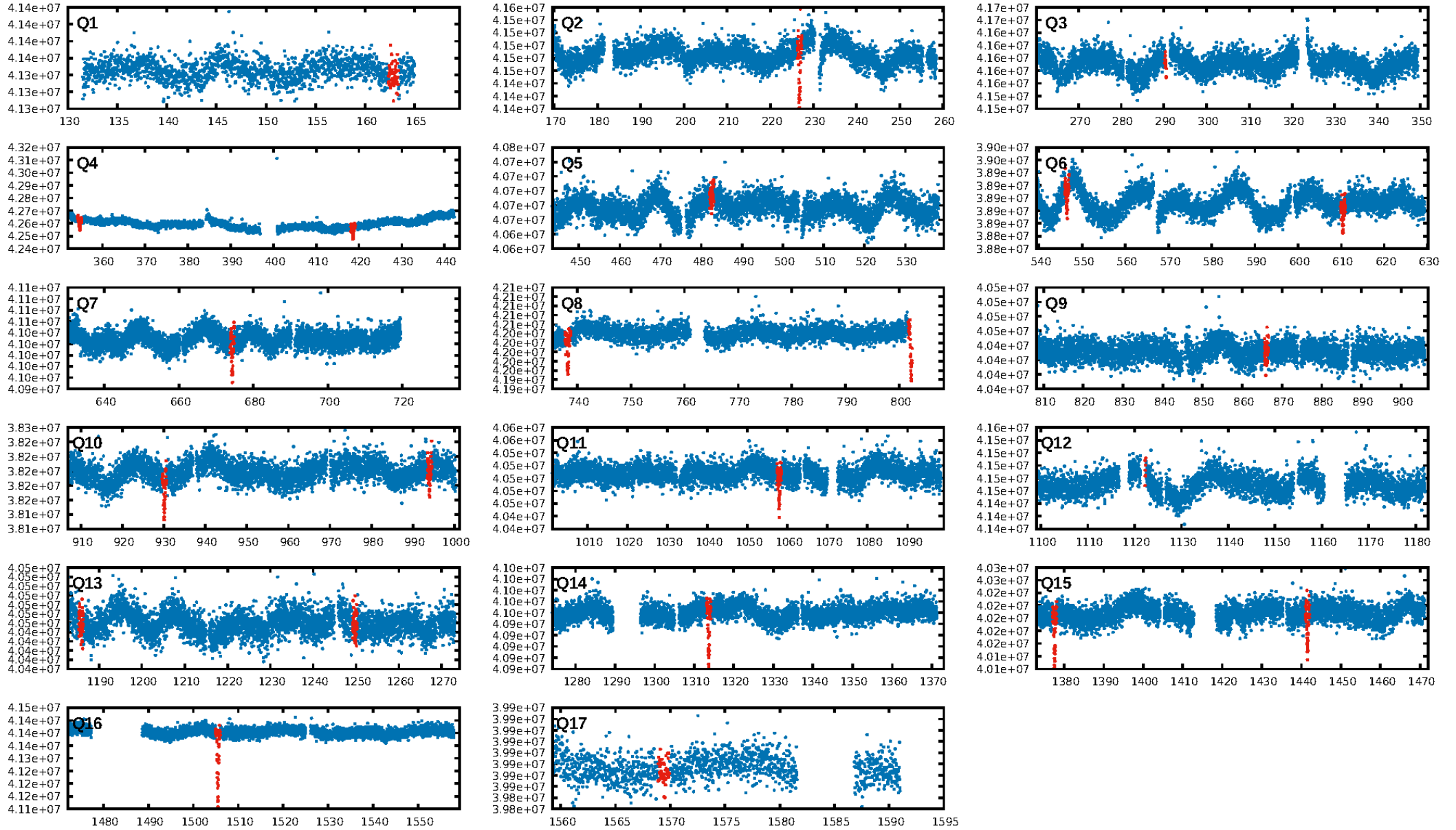
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [447.27σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 98.9%
Bootstrap-pfa: 1.28e-256
RollingBand-fgt: 1.00 [17/17]
GhostDiagnostic-chr: -0.3296
Centroid-sig: 0.0%
Centroid-so: 31.104 arcsec [84.98σ]
OotOffset-rm: 6.493 arcsec [11.76σ]
KicOffset-rm: 6.803 arcsec [12.15σ]
OotOffset-st: 4/3/0/3 [10]
KicOffset-st: 4/3/0/3 [10]
DiffImageQuality-fgm: 1.00 [10/10]
DiffImageOverlap-fno: 0.93 [13/14]

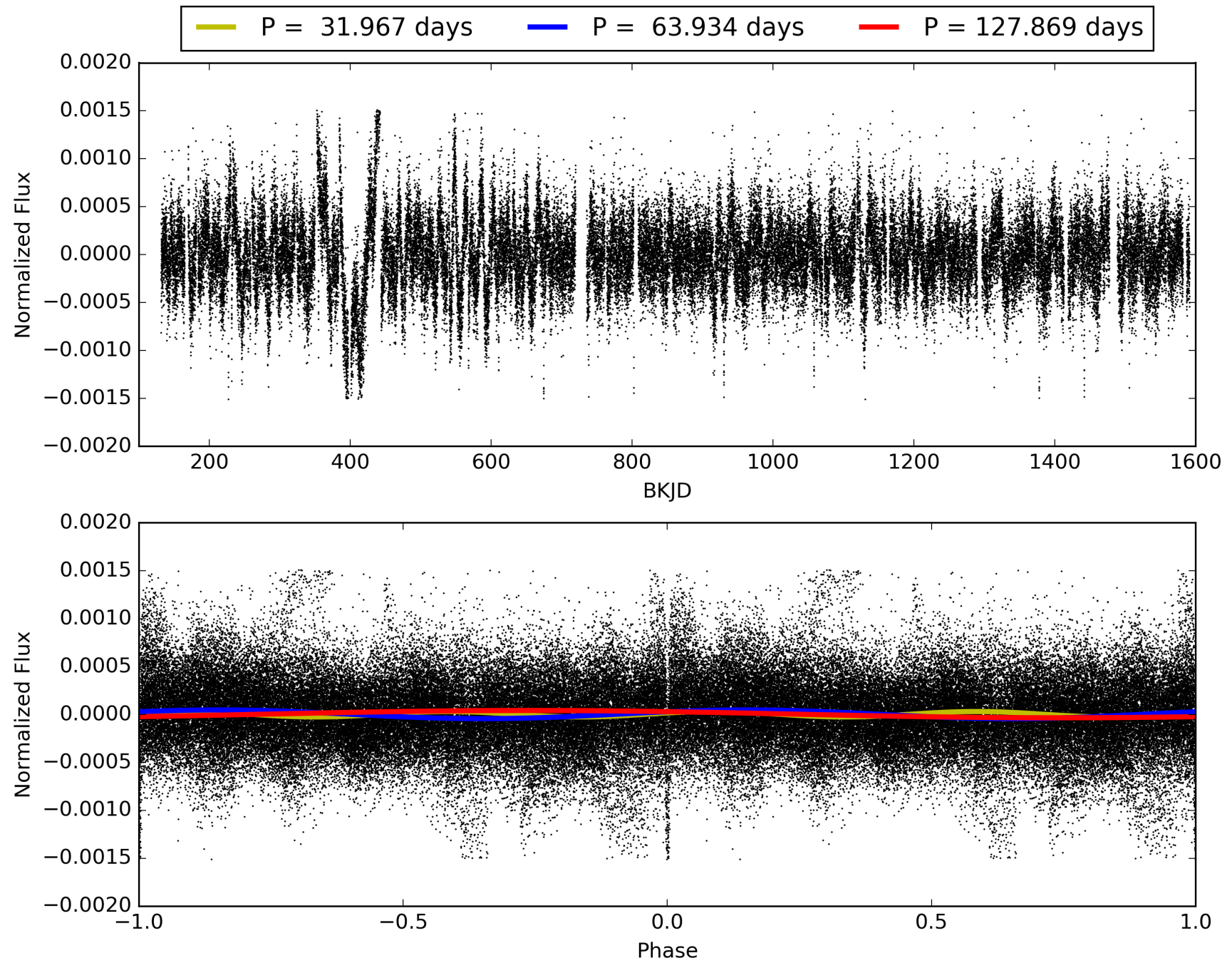
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 23:14:55 Z

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

TCE 007918172-02, PDC Light Curves

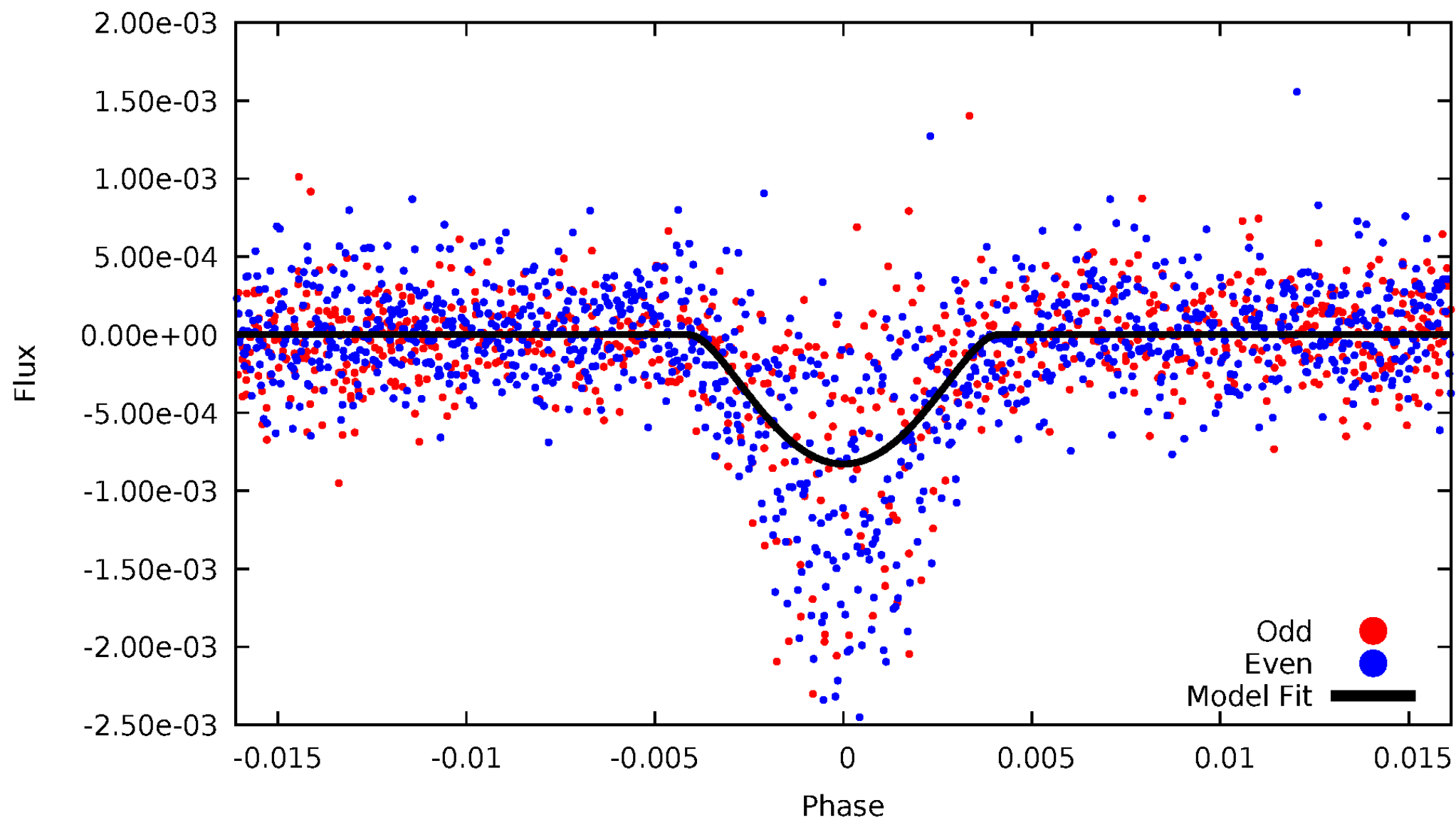


TCE 007918172-02



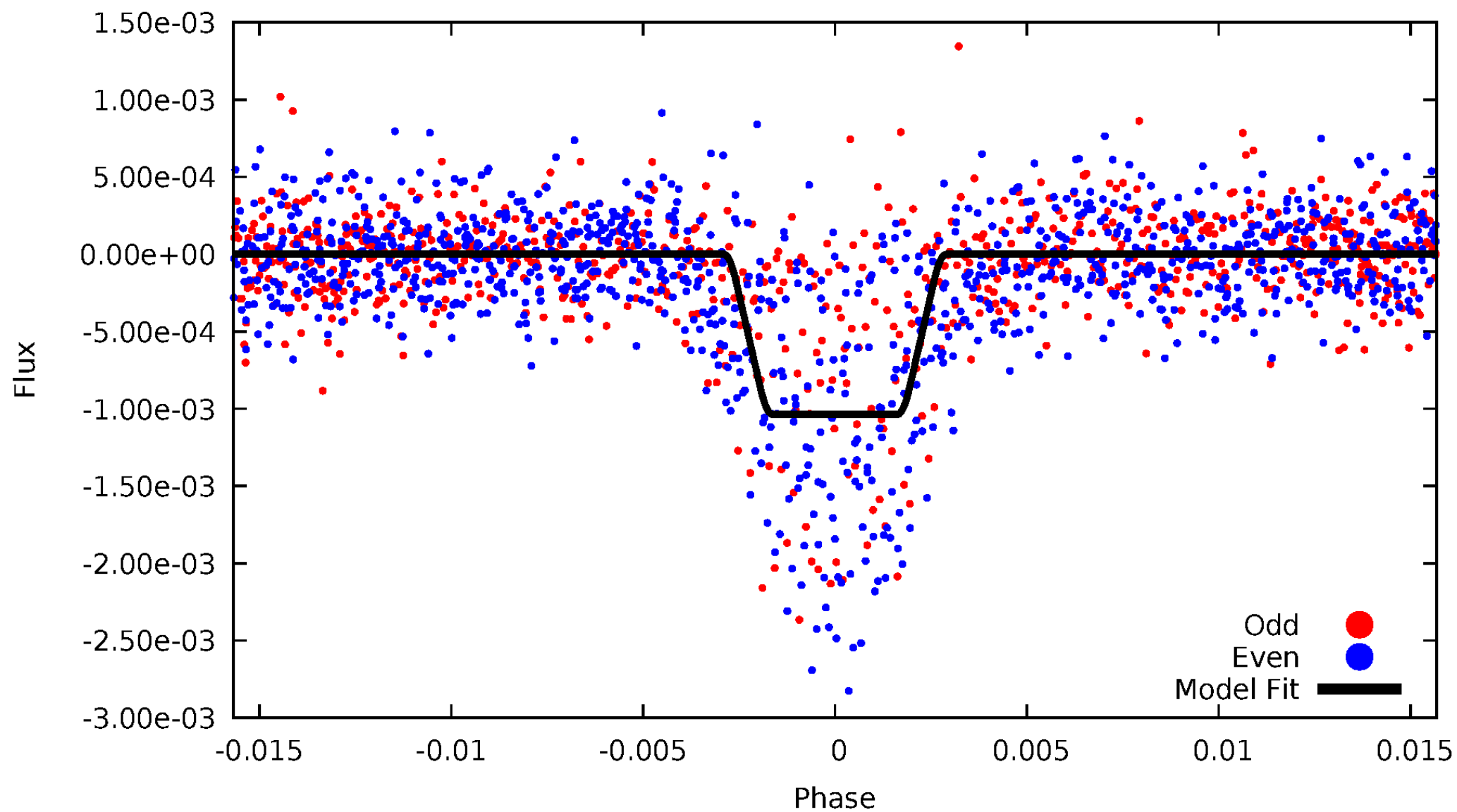
DV Odd/Even

TCE 007918172-02



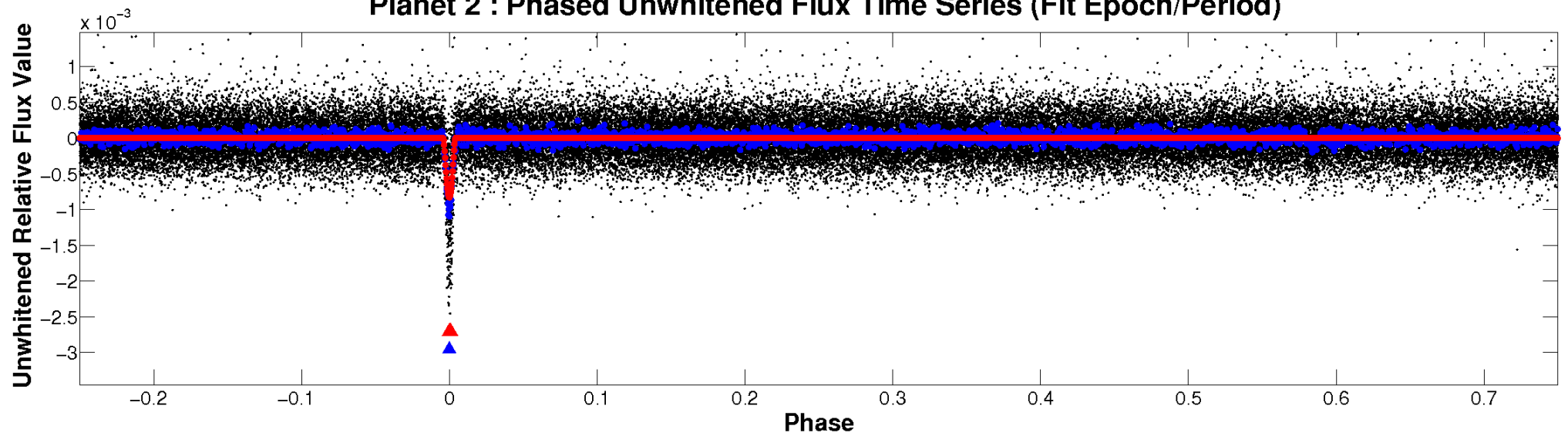
ALT Odd/Even

TCE 007918172-02

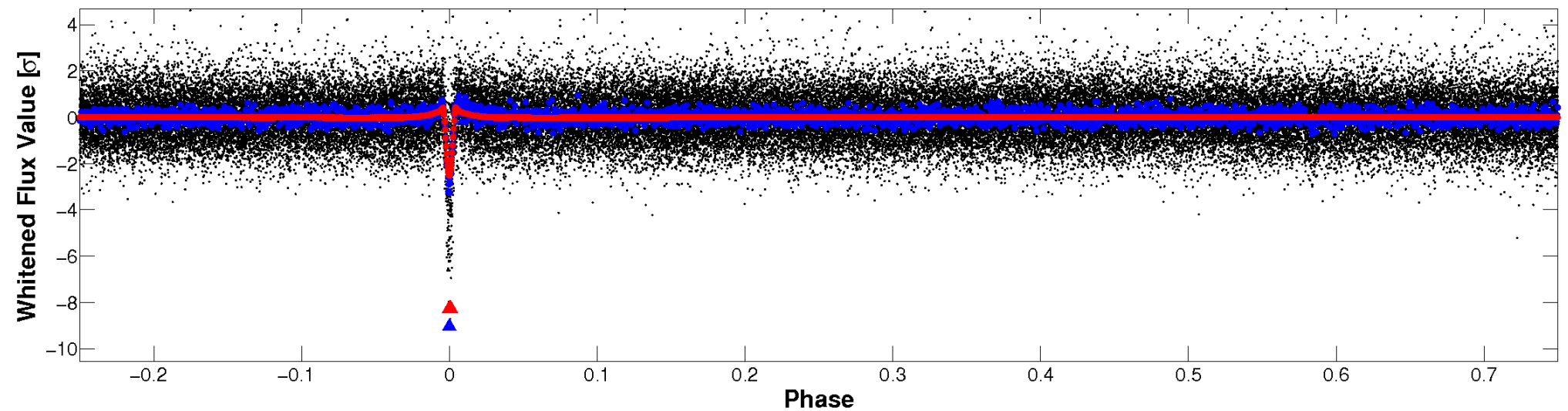


Non-Whitened Vs. Whitened Light Curve

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

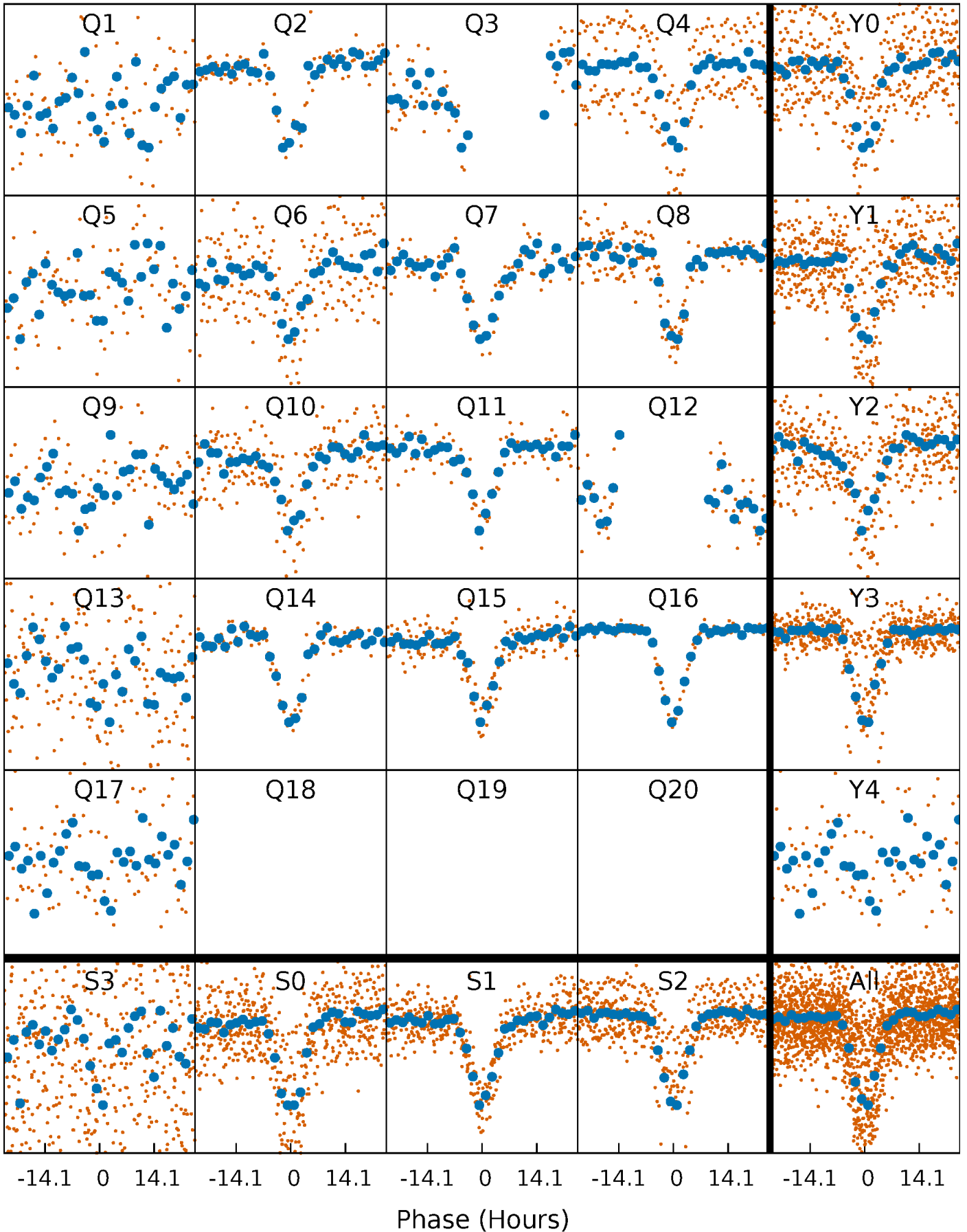


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



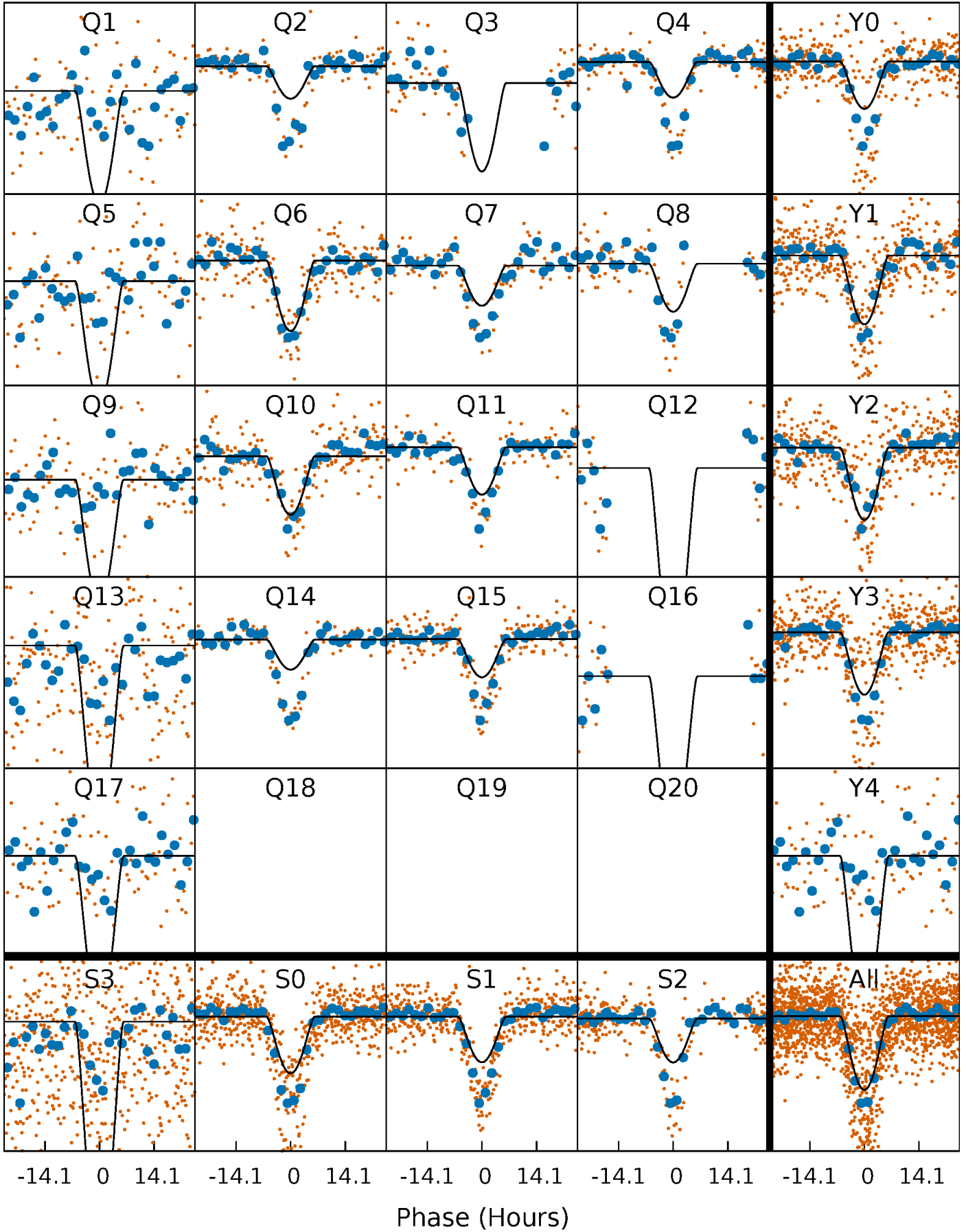
PDC Quarter-Phased Transit Curves

TCE 007918172-02 P= 63.934466 Days $T_0=162.852270$ (BKJD)



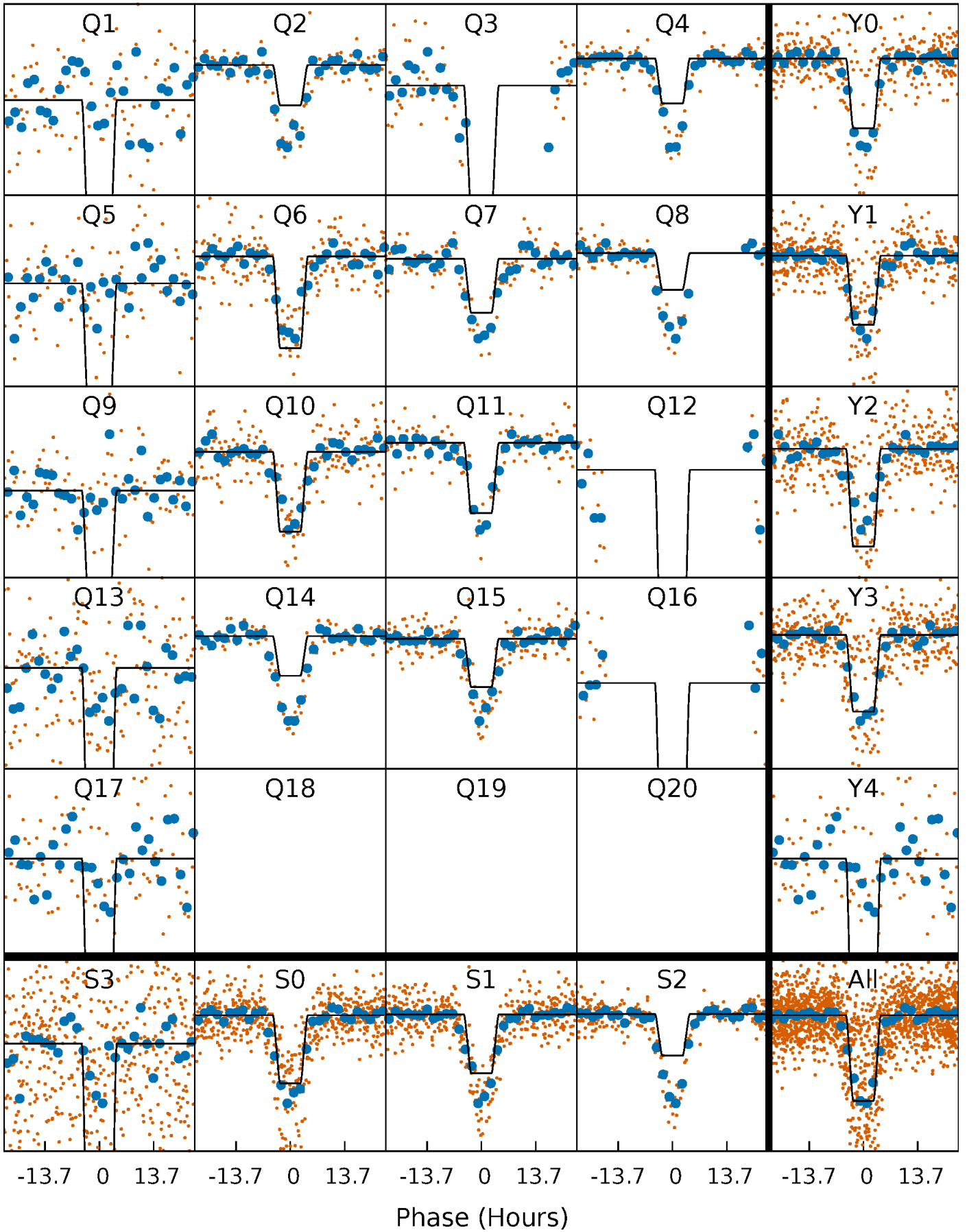
DV Quarter-Phased Transit Curves

TCE 007918172-02 P= 63.934466 Days $T_0=162.852270$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

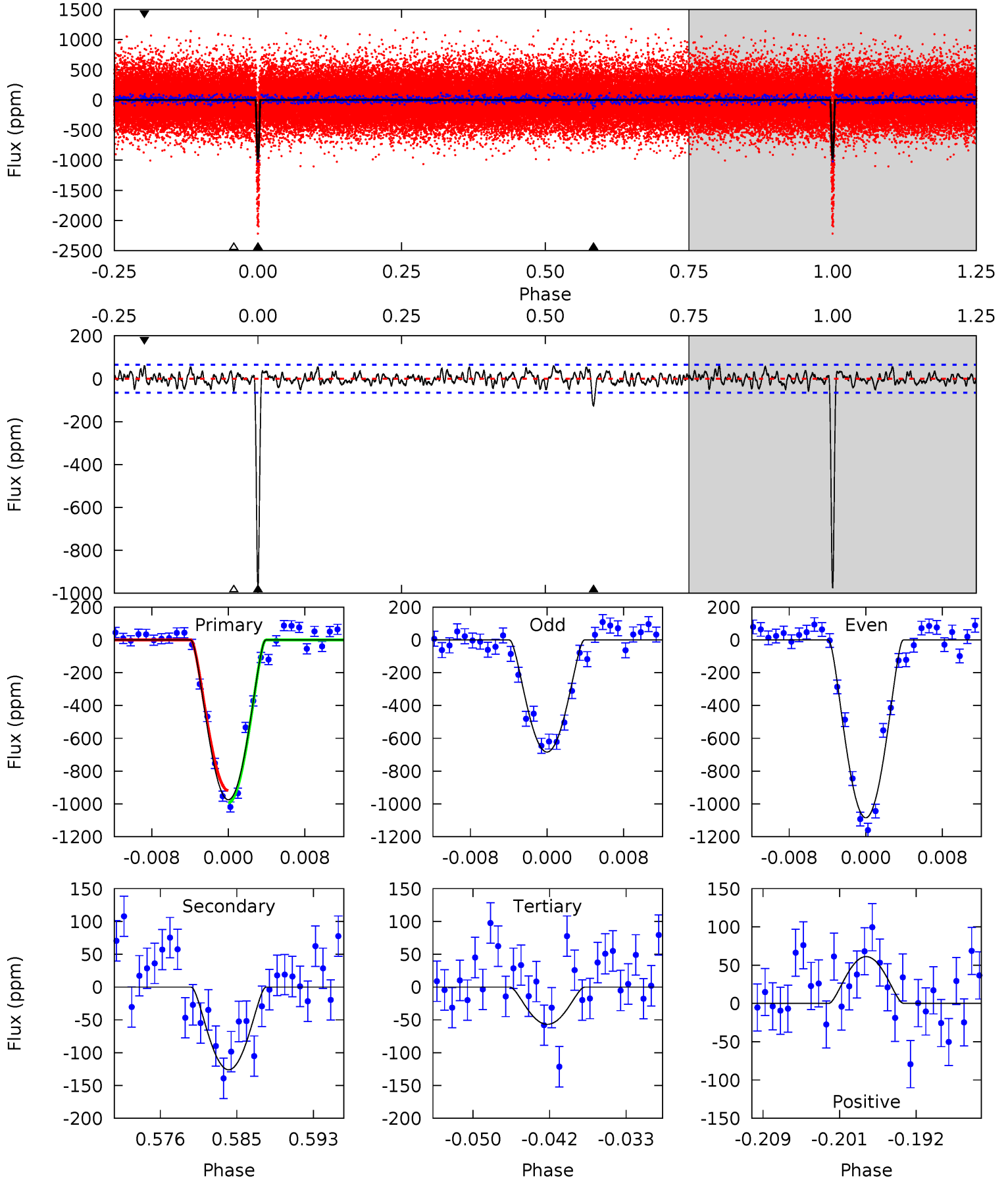
TCE 007918172-02 P= 63.933822 Days $T_0=162.860546$ (BKJD)



DV Model-Shift Uniqueness Test

007918172-02, P = 63.934466 Days, E = 98.917804 Days

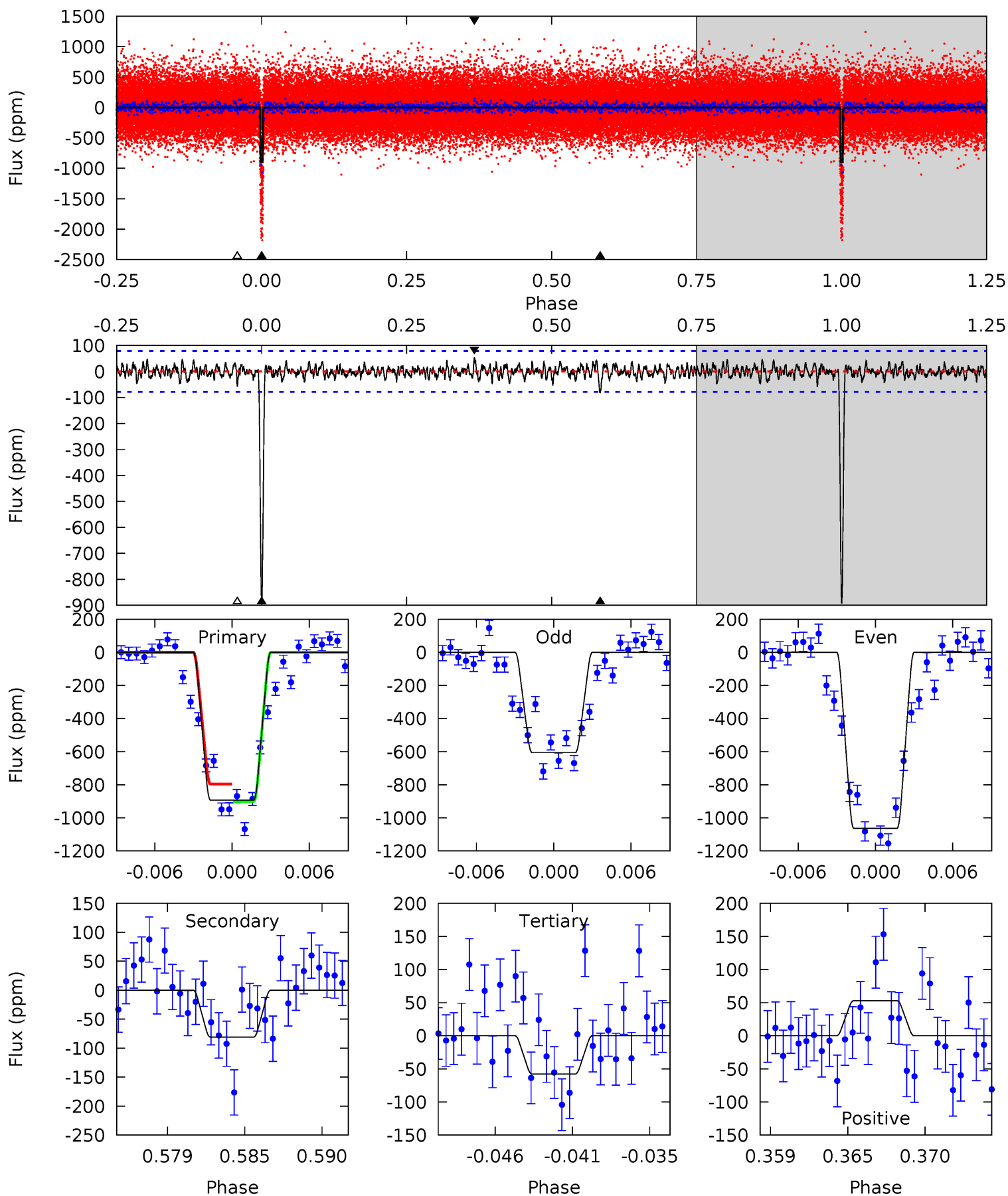
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
75.7	9.79	4.41	4.75	5.06	2.64	1.59	71.3	71.0	5.38	5.04	15.1	1.01	0.06	2.88



Alt Model-Shift Uniqueness Test

007918172-02, P = 63.933822 Days, E = 98.926724 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
58.0	5.25	3.76	3.44	5.13	2.76	1.08	54.2	54.5	1.50	1.82	14.4	1.04	0.06	3.38



Stellar Parameters For KIC 007918172

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5209^{+155}_{-155}	$3.999^{+0.574}_{-0.246}$	$0.100^{+0.250}_{-0.250}$	$1.595^{+0.779}_{-0.779}$	$0.927^{+0.080}_{-0.124}$	$0.322^{+1.994}_{-0.222}$
	+3%/-3%	+14%/-6%	+250%/-250%	+49%/-49%	+9%/-13%	+620%/-69%
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 007918172-02 / KOI 1817.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-126 ± 13	$11.18^{+9.81}_{-7.26}$	720^{+90}_{-104}	2795^{+1025}_{-391}	51^{+355}_{-37}
Alt.	-81 ± 15	$8.76^{+9.10}_{-5.85}$	715^{+90}_{-97}	2821^{+1077}_{-449}	53^{+417}_{-41}

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 $A_{obs} \gg 1.0$

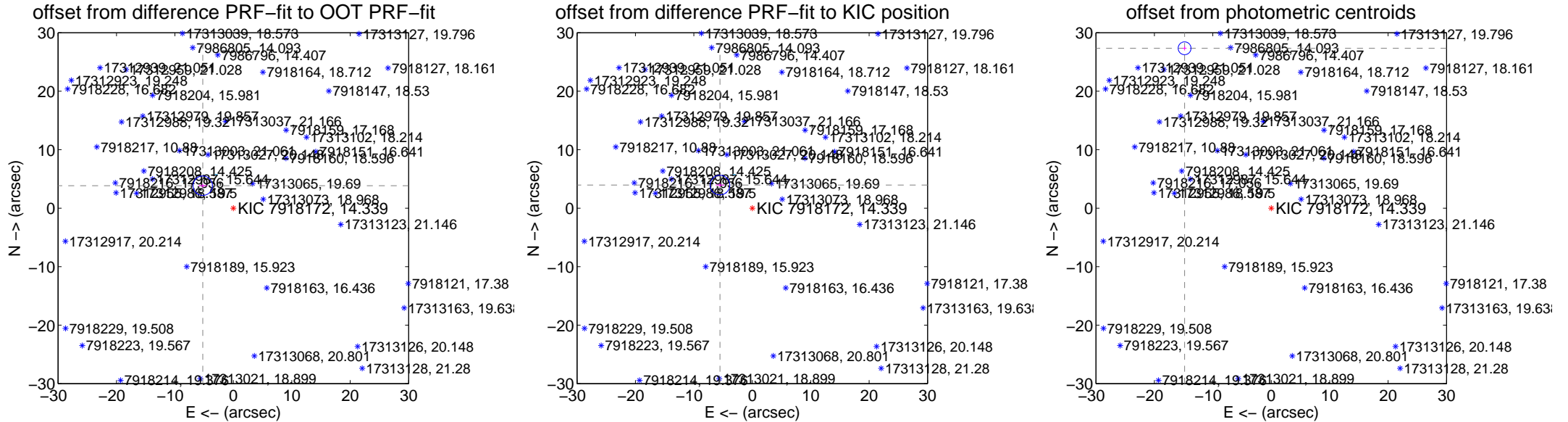
DV Centroid Data

Supplemental centroid analysis for 007918172-02. Kepler magnitude: 14.34. Transit SNR 30.26

There are 10 quarters with good PRF difference image offsets

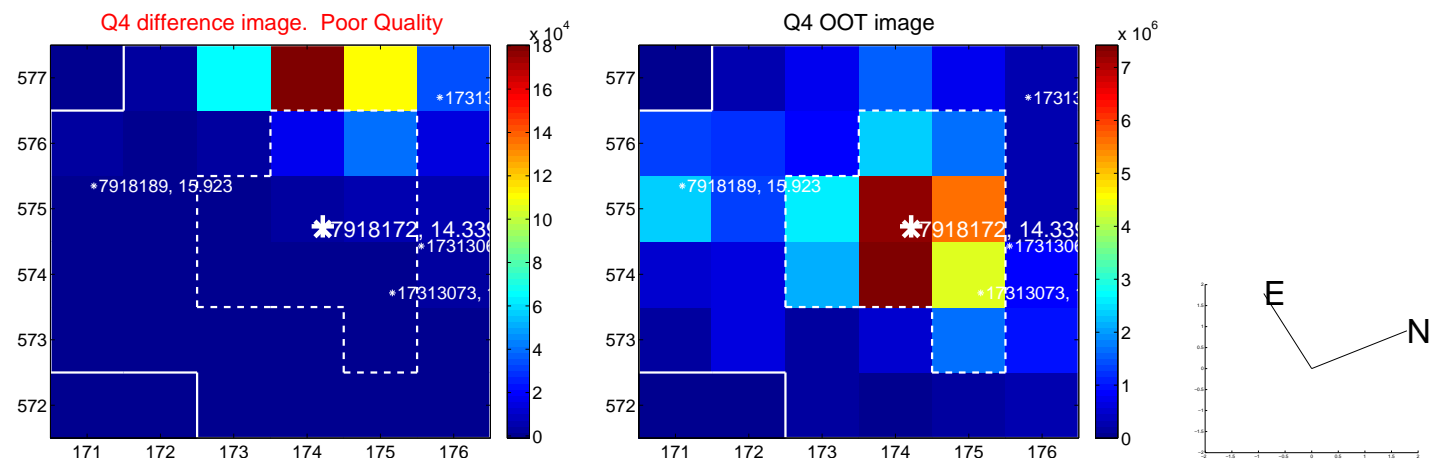
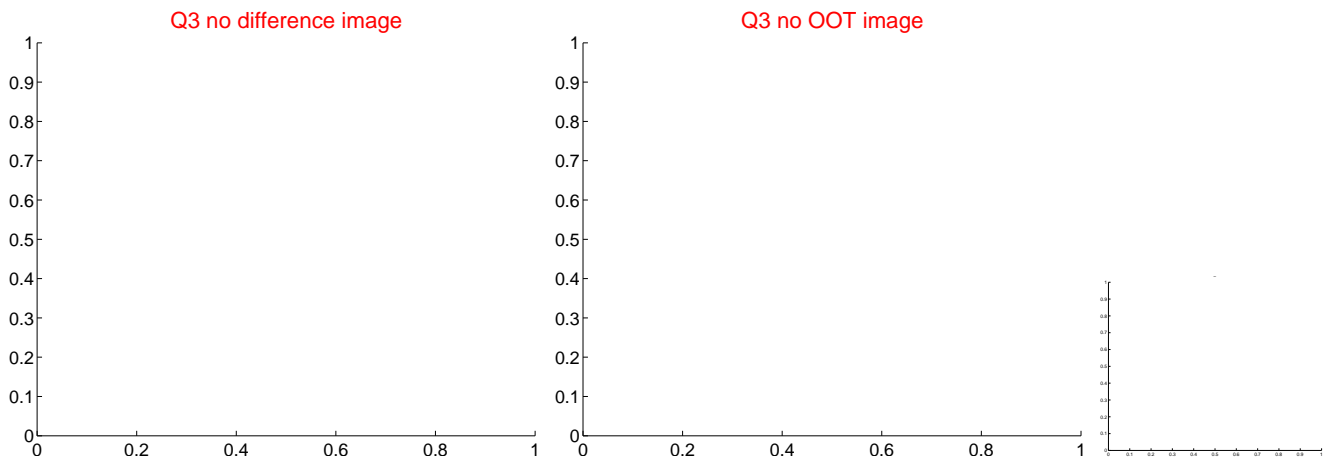
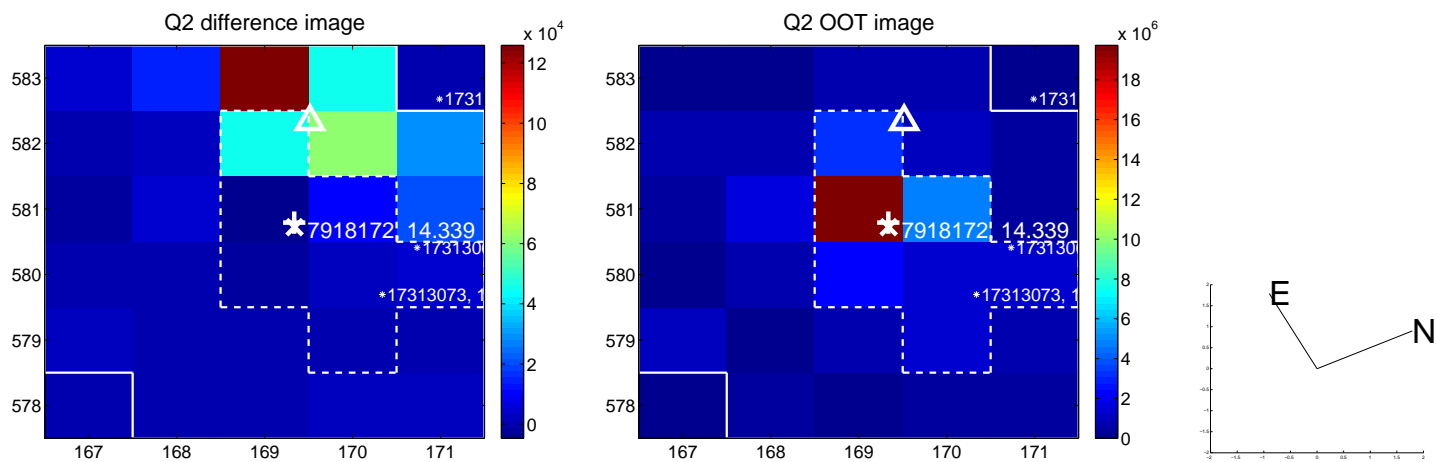
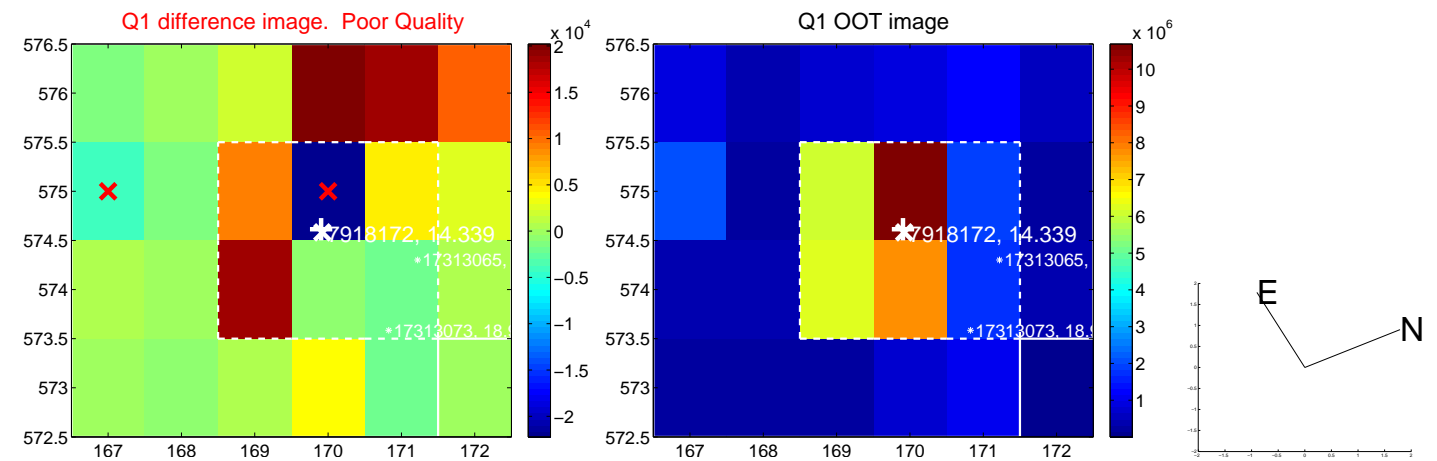
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.493 \pm 0.552	11.76	5.235 \pm 0.718	3.841 \pm 0.325
PRF-fit source offset from KIC position	6.803 \pm 0.560	12.15	5.535 \pm 0.719	3.956 \pm 0.320
photometric centroid source offset	31.10 \pm 0.37	84.97	14.83 \pm 0.34	27.34 \pm 0.37

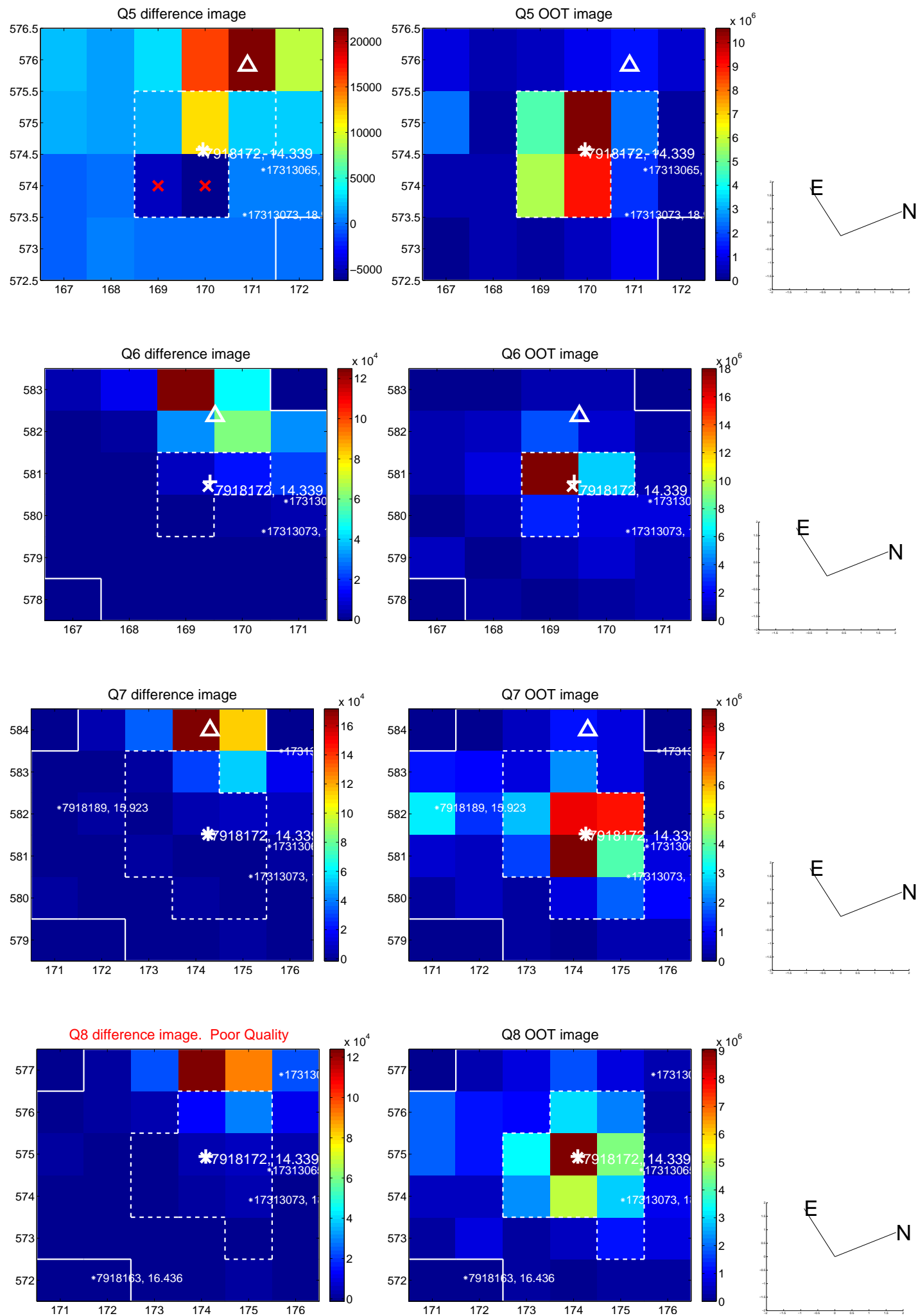


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

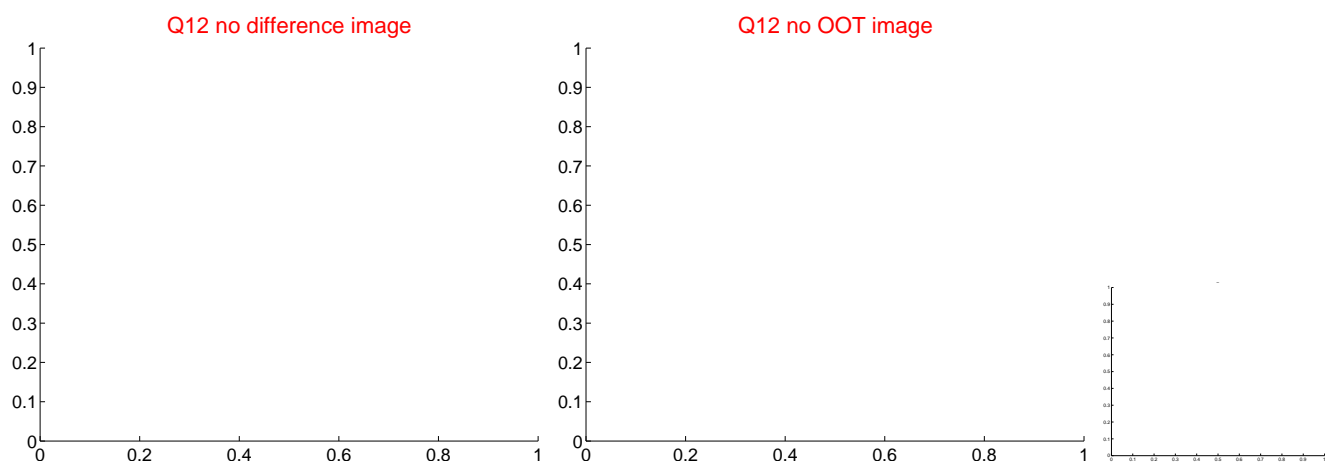
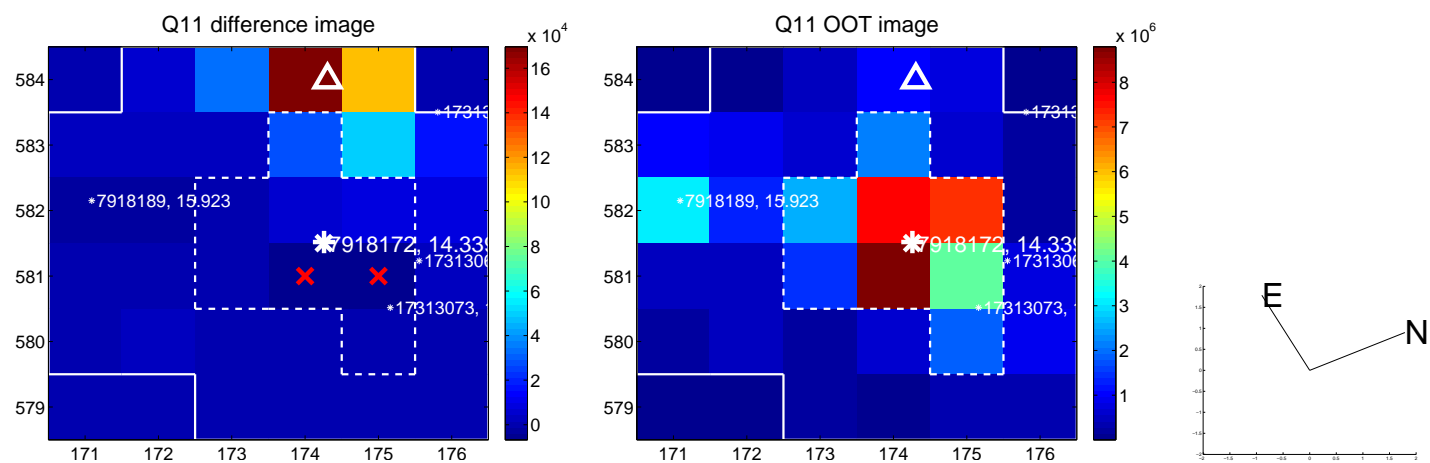
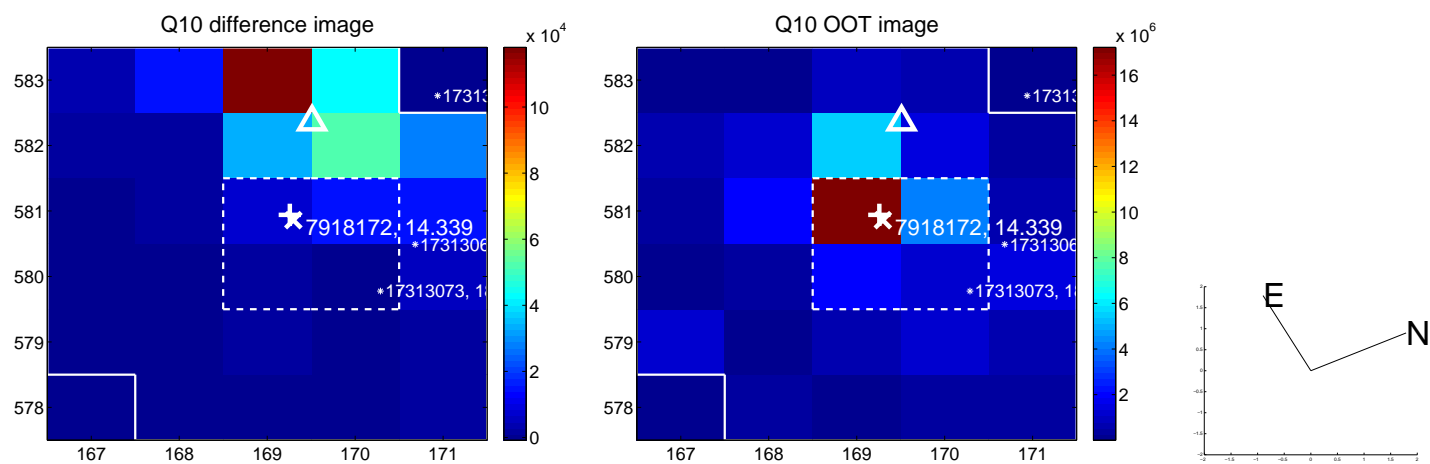
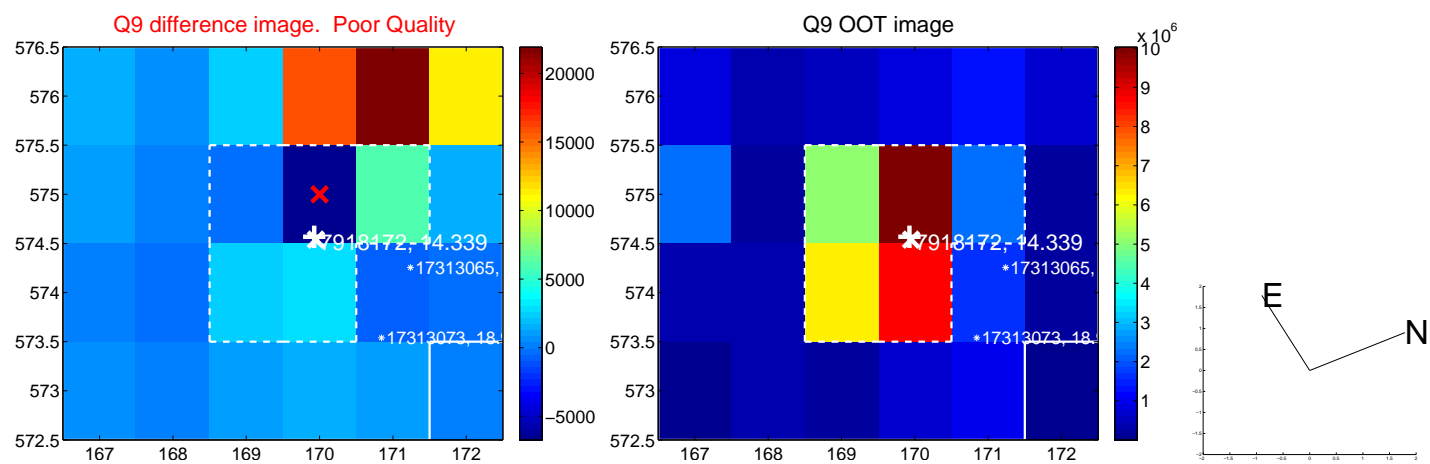
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



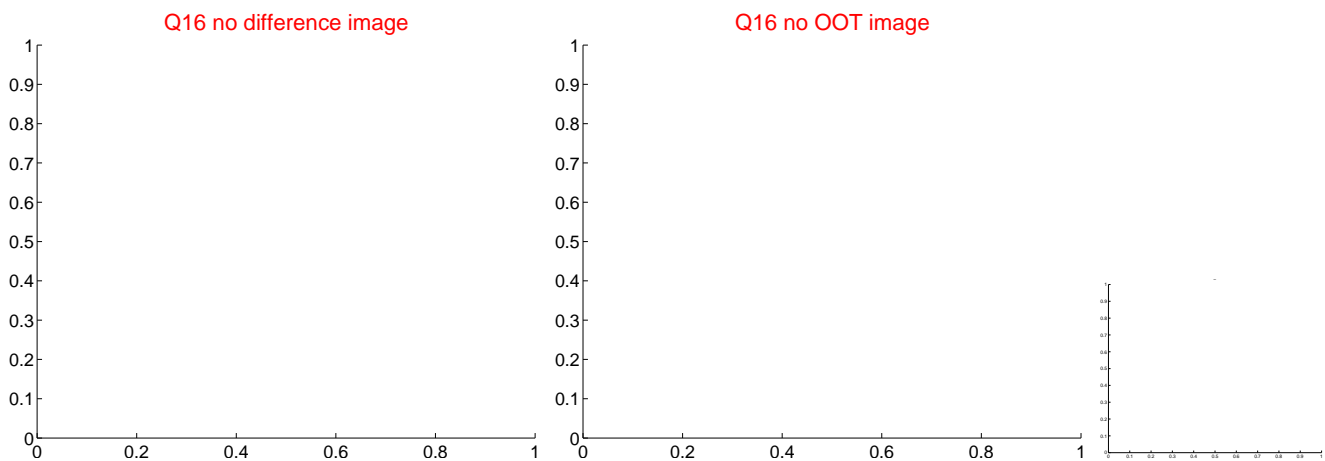
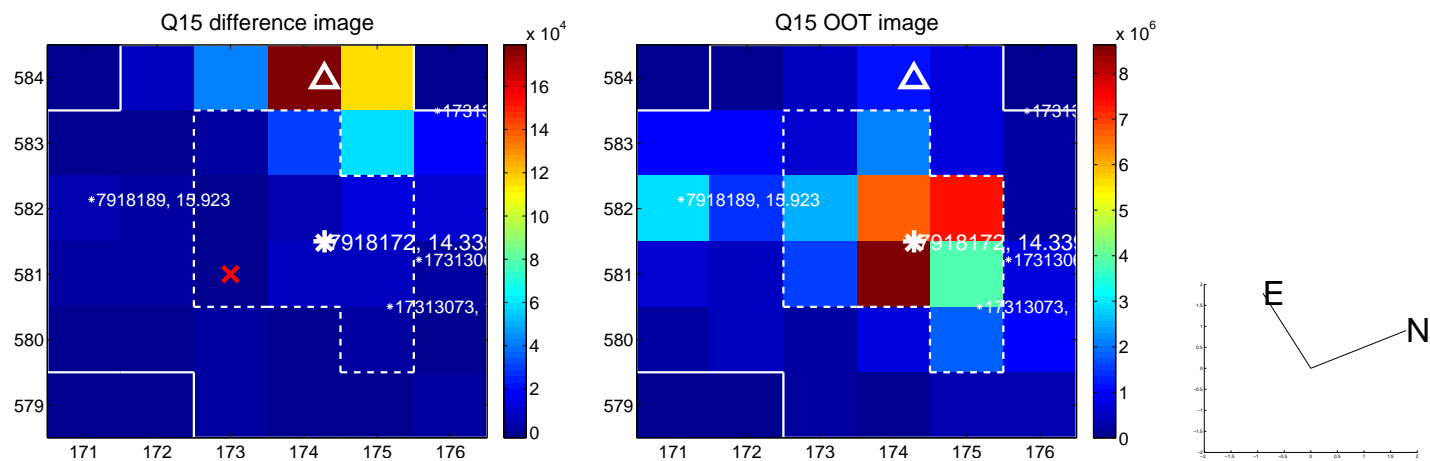
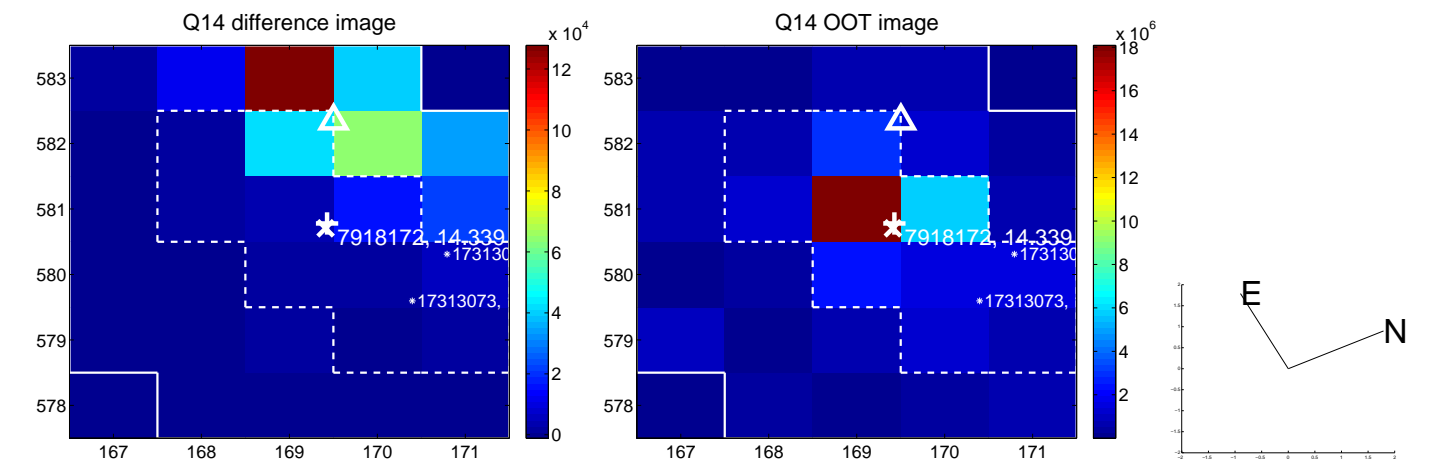
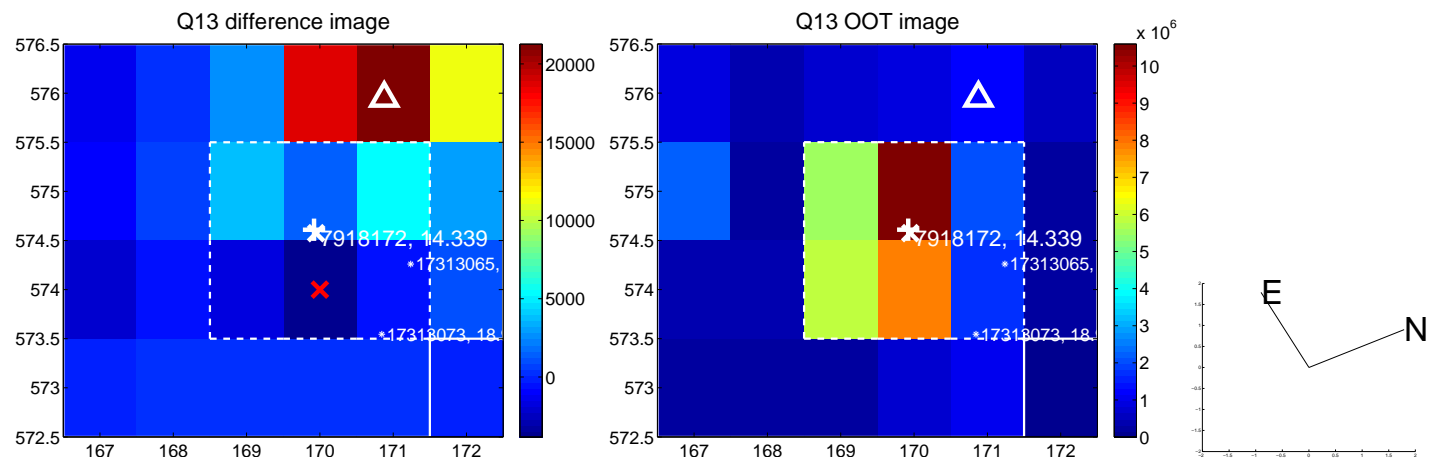
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

