

KIC 008175298

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})
008175298-01	OBS	No	556.387871	416.061029	1423.8	17.845	10.2	10.5	0.86	5492	5.17	0.35
008175298-02	OBS	No	558.061425	374.630209	1226.5	28.367	9.1	8.9	0.86	5492	3.89	0.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008175298-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
008175298-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

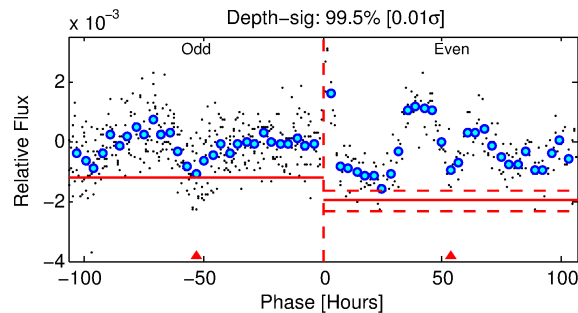
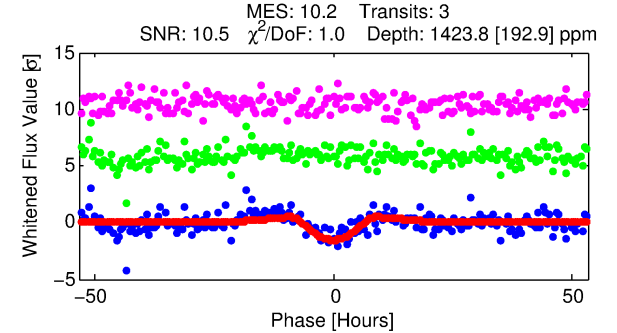
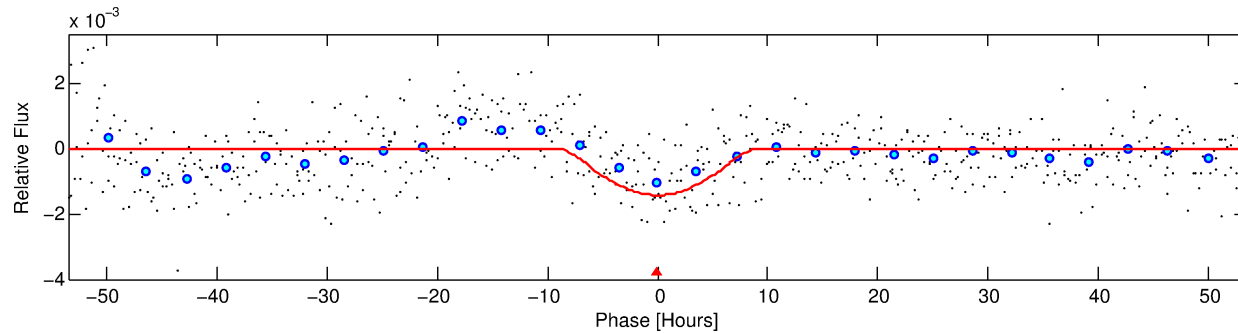
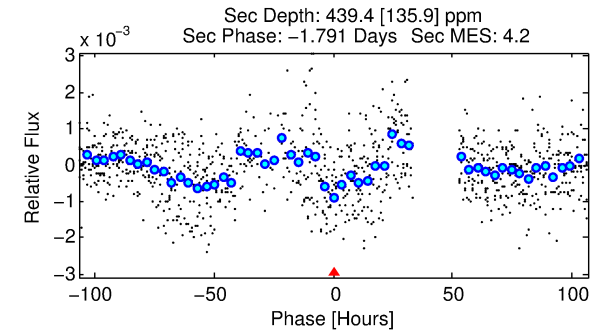
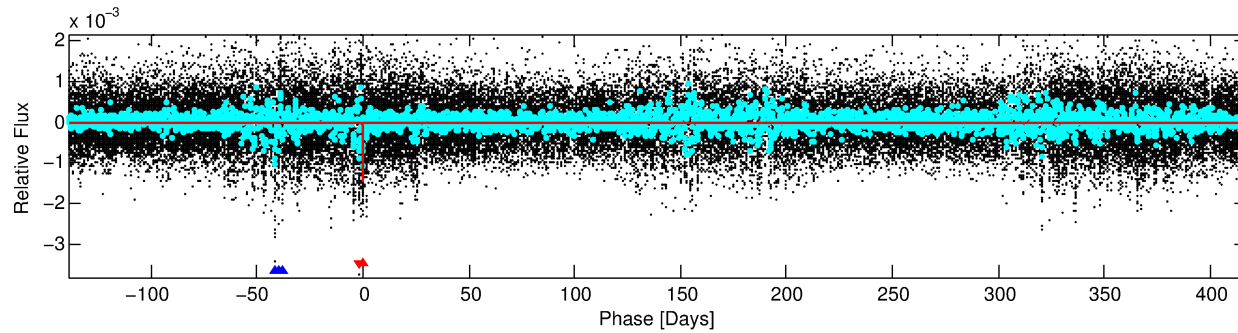
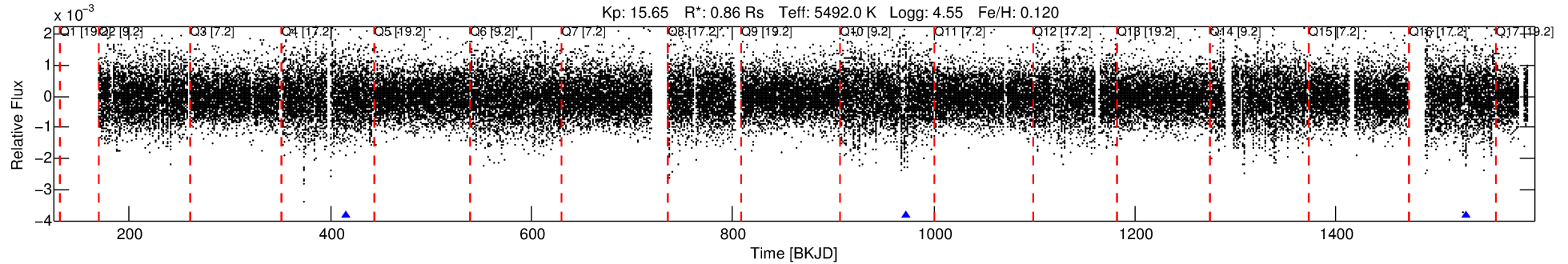
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008175298-01

No Significant Match Found

DV One-Page Summary

KIC: 8175298 Candidate: 1 of 2 Period: 556.388 d



DV Fit Results:

Period = 556.38787 [0.02152] d
Epoch = 416.0610 [0.0295] BKJD
Rp/R* = 0.0552 [0.0759]
a/R* = 93.40 [42.77]
b = 0.98 [0.14]
Seff = 0.35 [0.11]
Teq = 196 [15] K
Rp = 5.17 [7.20] Re
a = 1.3070 [0.2435] AU
Ag = 15457.18 [42996.35] [0.36σ]
Teffp = 3384 [2344] K [1.36σ]

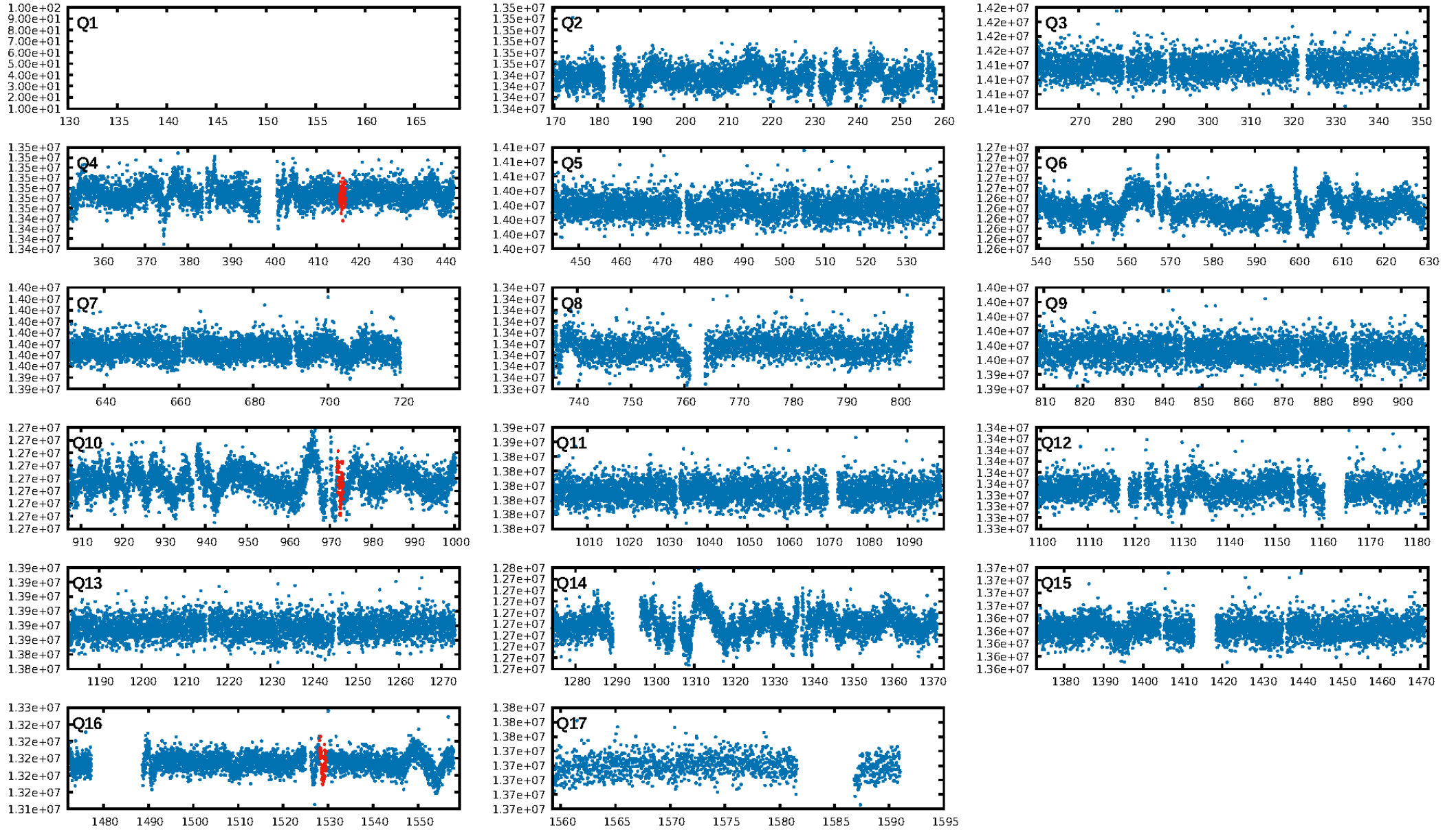
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 76.9% [1.20σ]
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 92.7%
Bootstrap-pfa: 7.16e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.086
Centroid-sig: 9.7%
Centroid-so: 2.970 arcsec [1.65σ]
OotOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-rm: N/A
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [3/3]

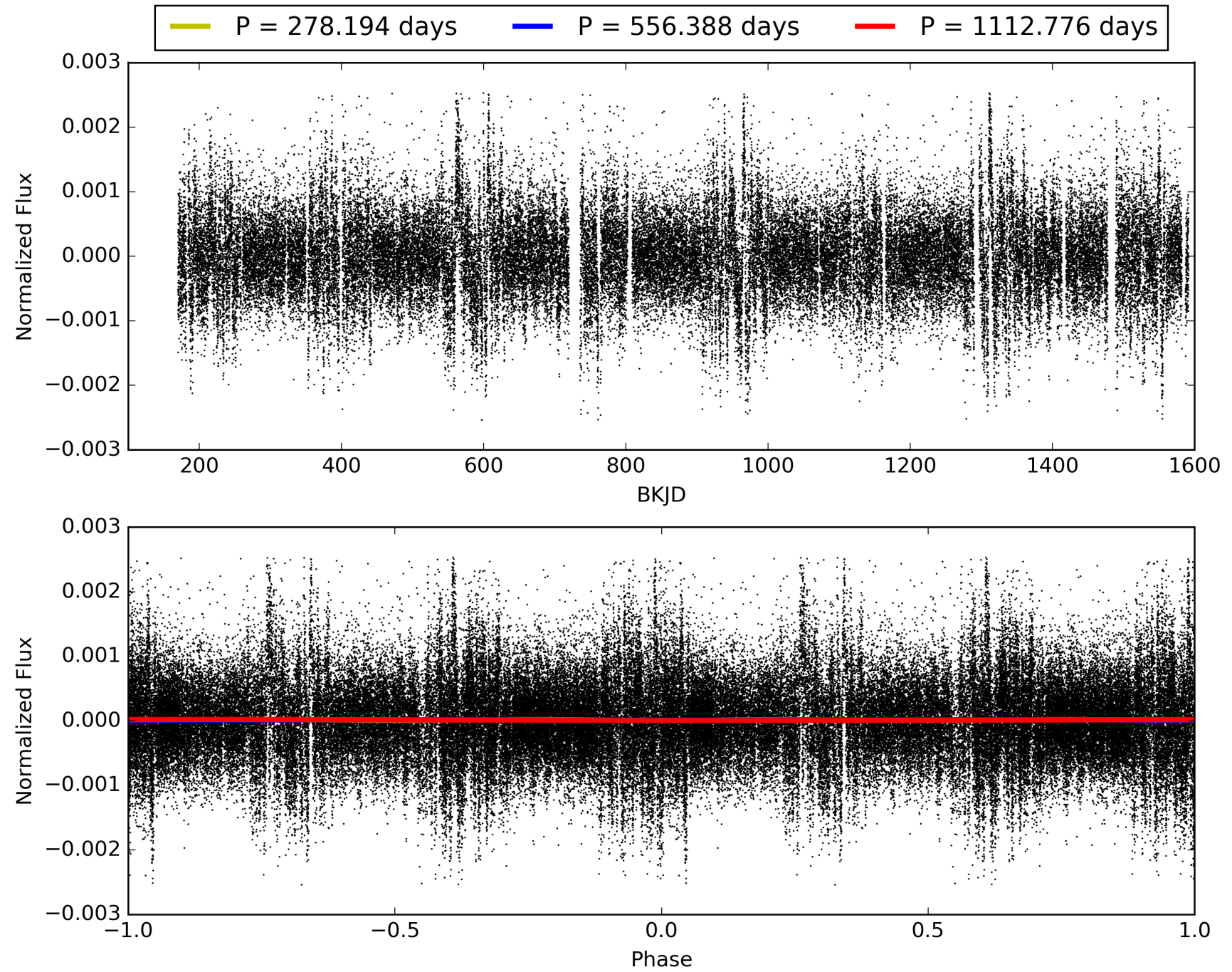
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:11:22 Z

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

TCE 008175298-01, PDC Light Curves

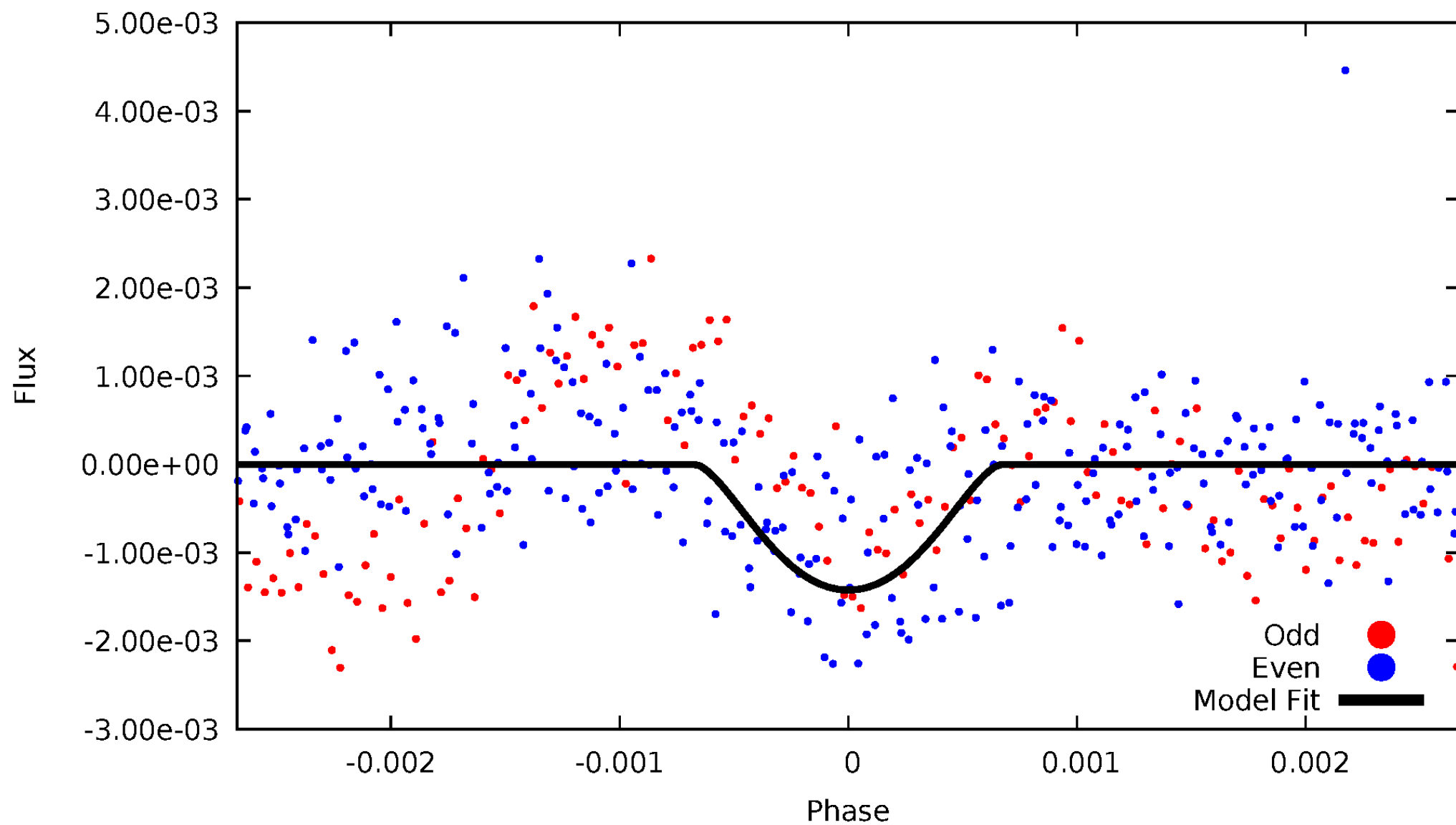


TCE 008175298-01



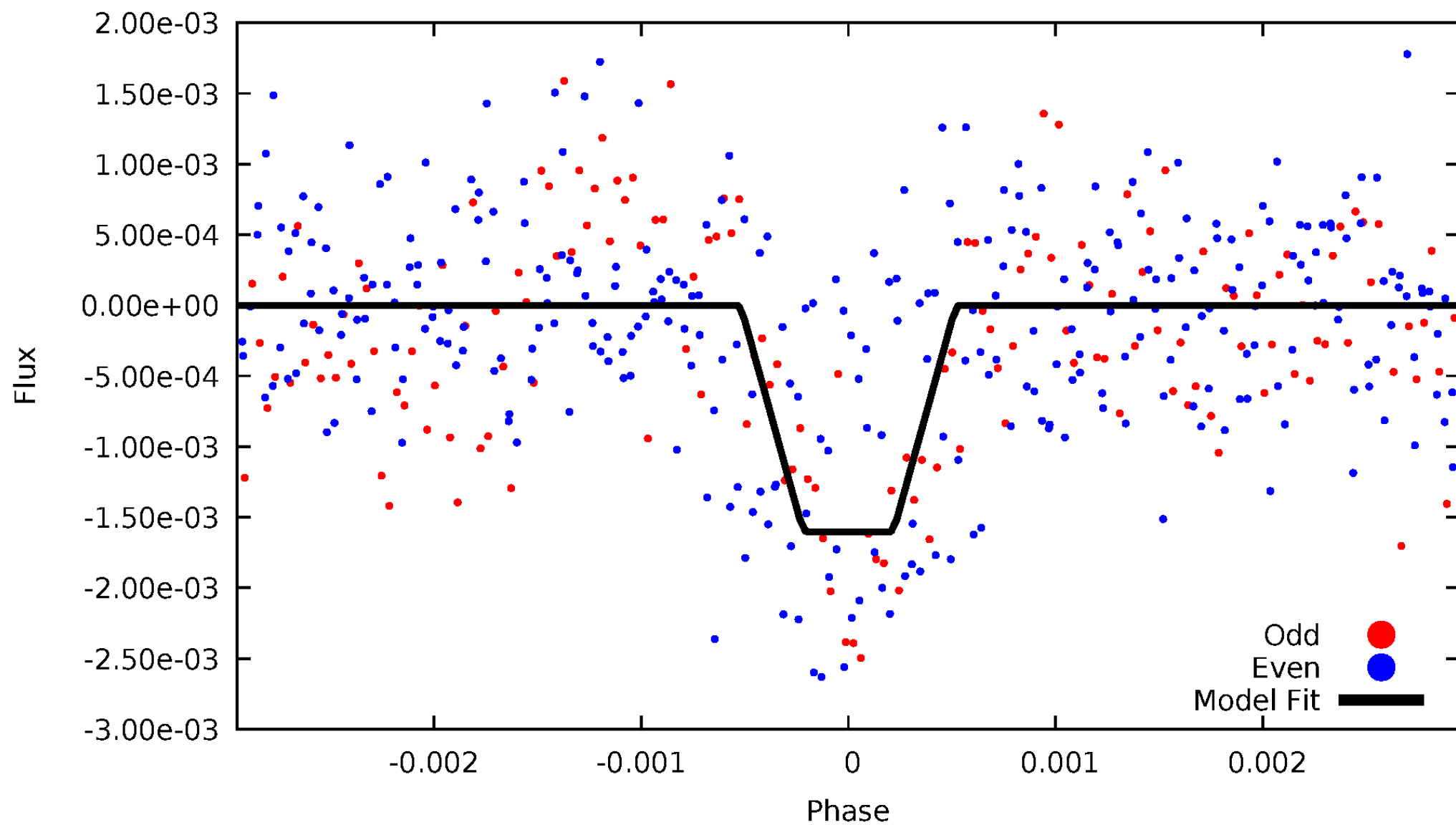
DV Odd/Even

TCE 008175298-01

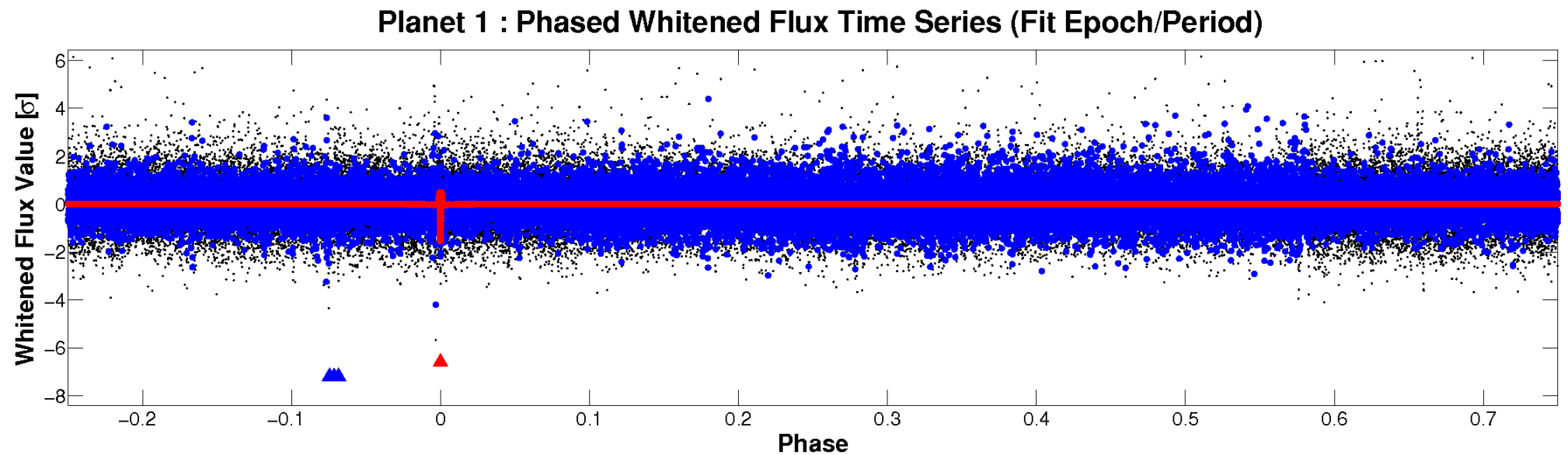
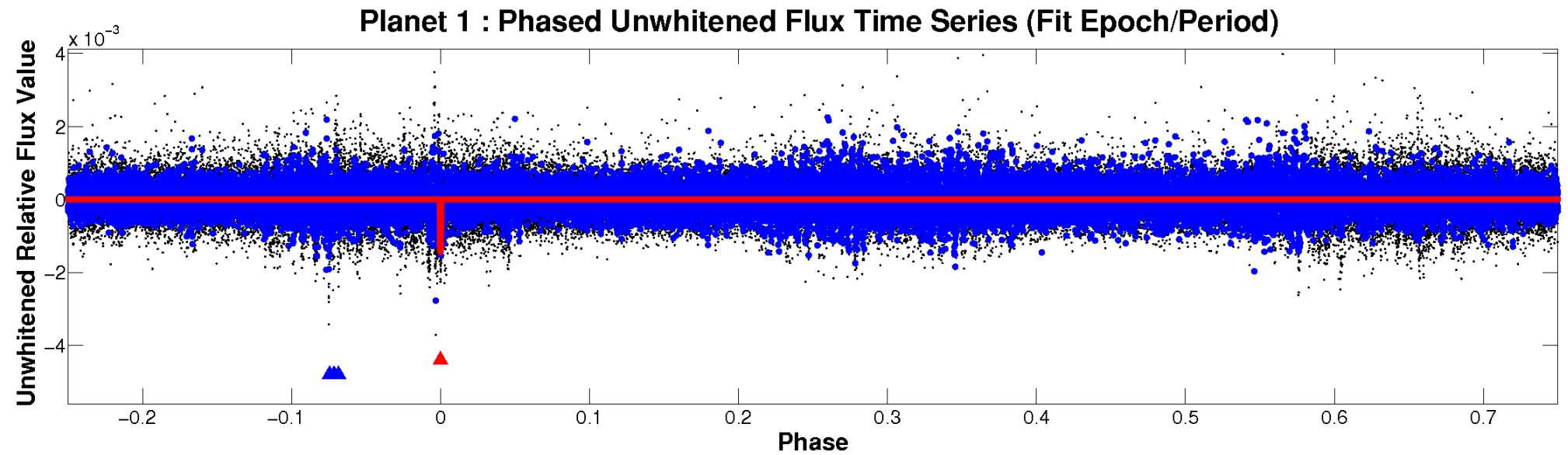


ALT Odd/Even

TCE 008175298-01

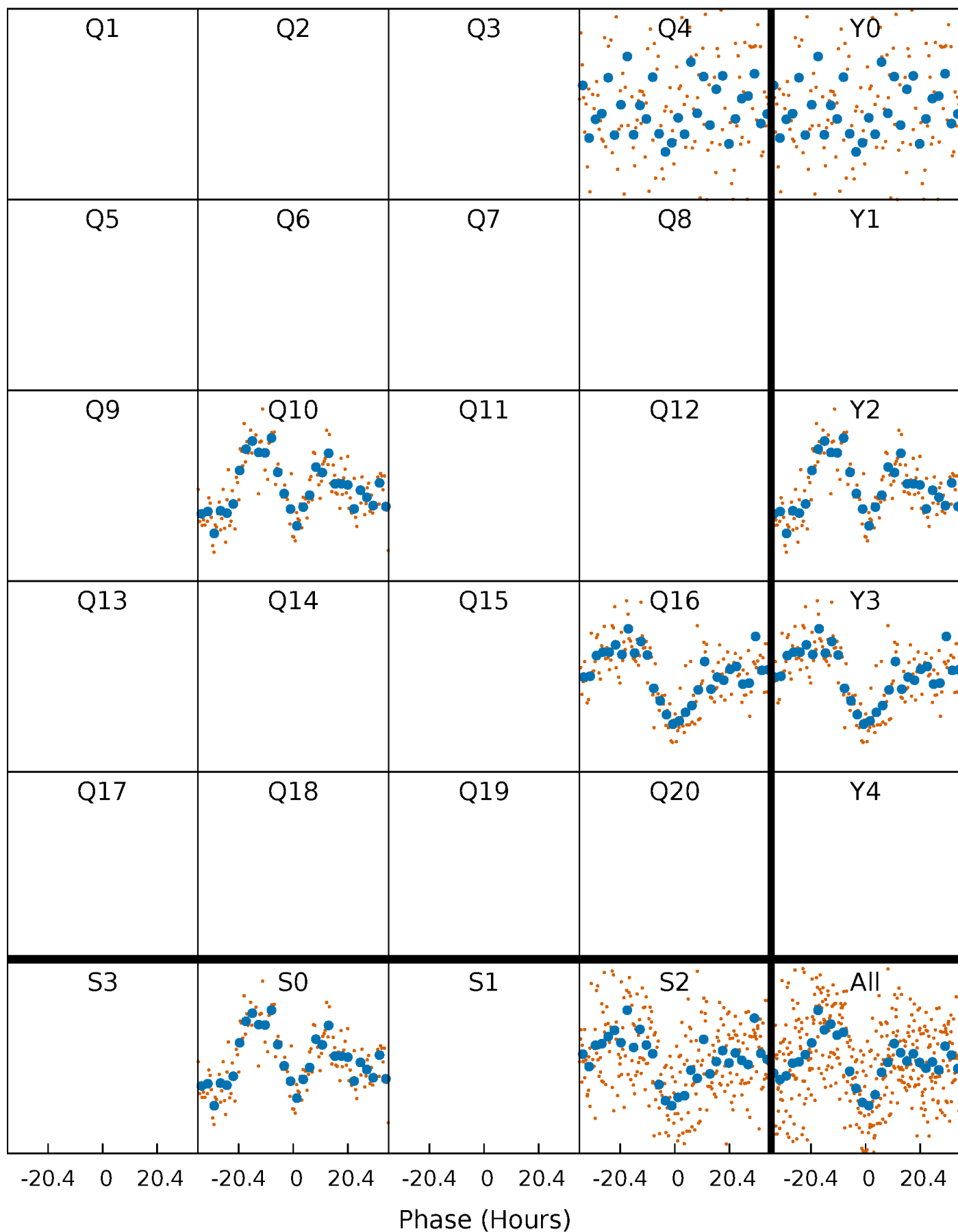


Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 008175298-01 P=556.387871 Days $T_0=416.061029$ (BKJD)



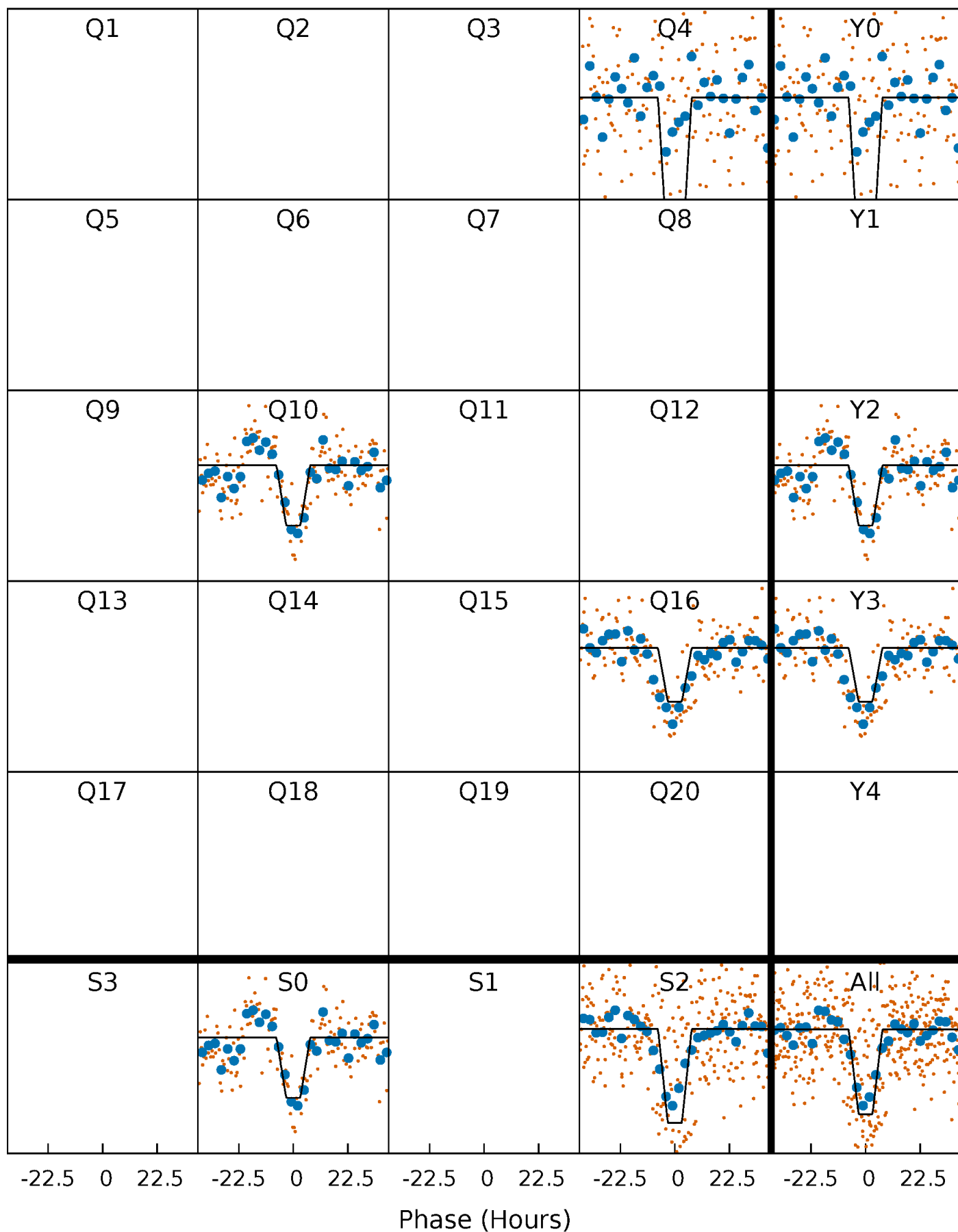
DV Quarter-Phased Transit Curves

TCE 008175298-01 P=556.387871 Days $T_0=416.061029$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

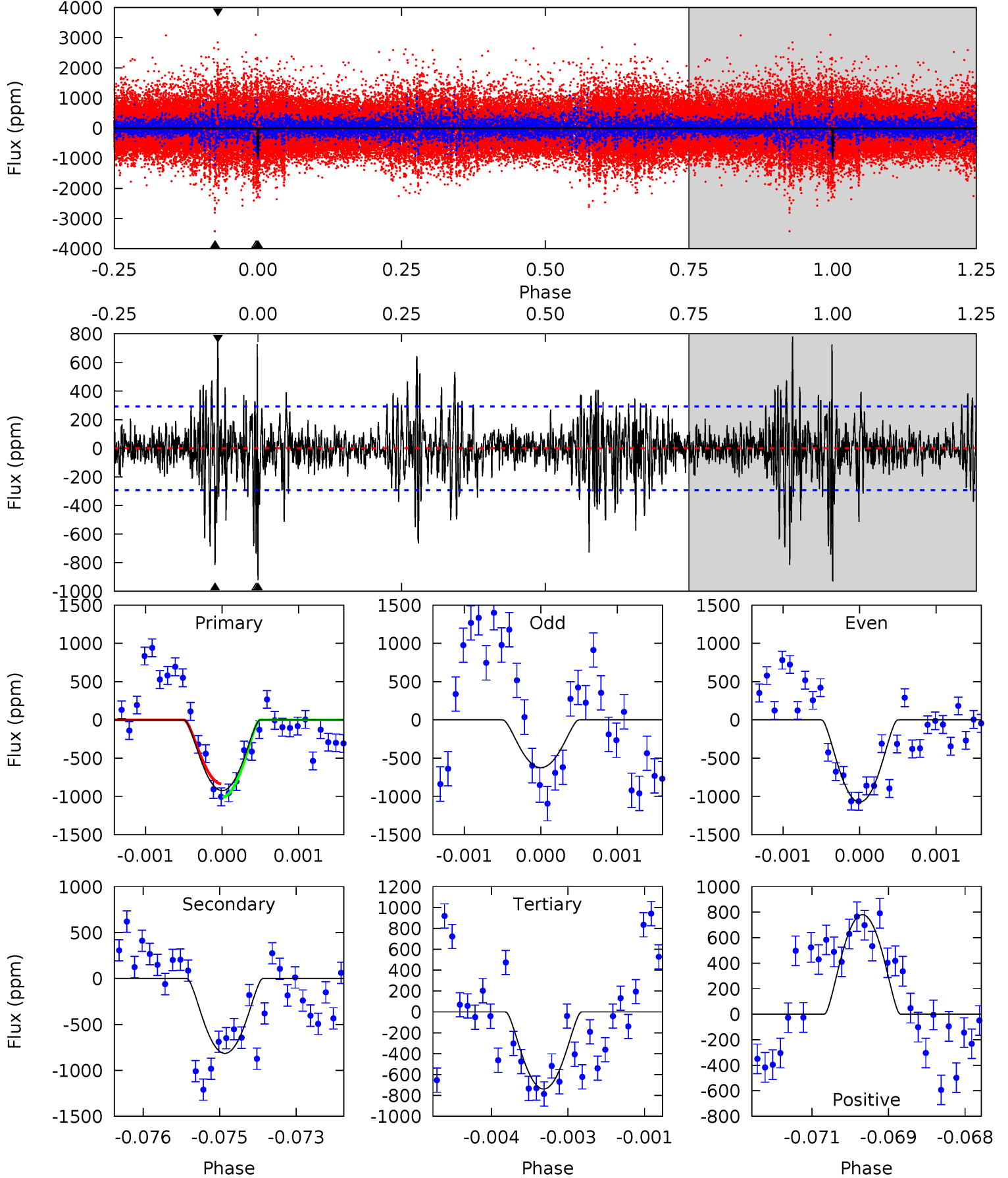
TCE 008175298-01 P=556.426272 Days $T_0=416.019348$ (BKJD)



DV Model-Shift Uniqueness Test

008175298-01, P = 556.387871 Days, E = 416.061029 Days

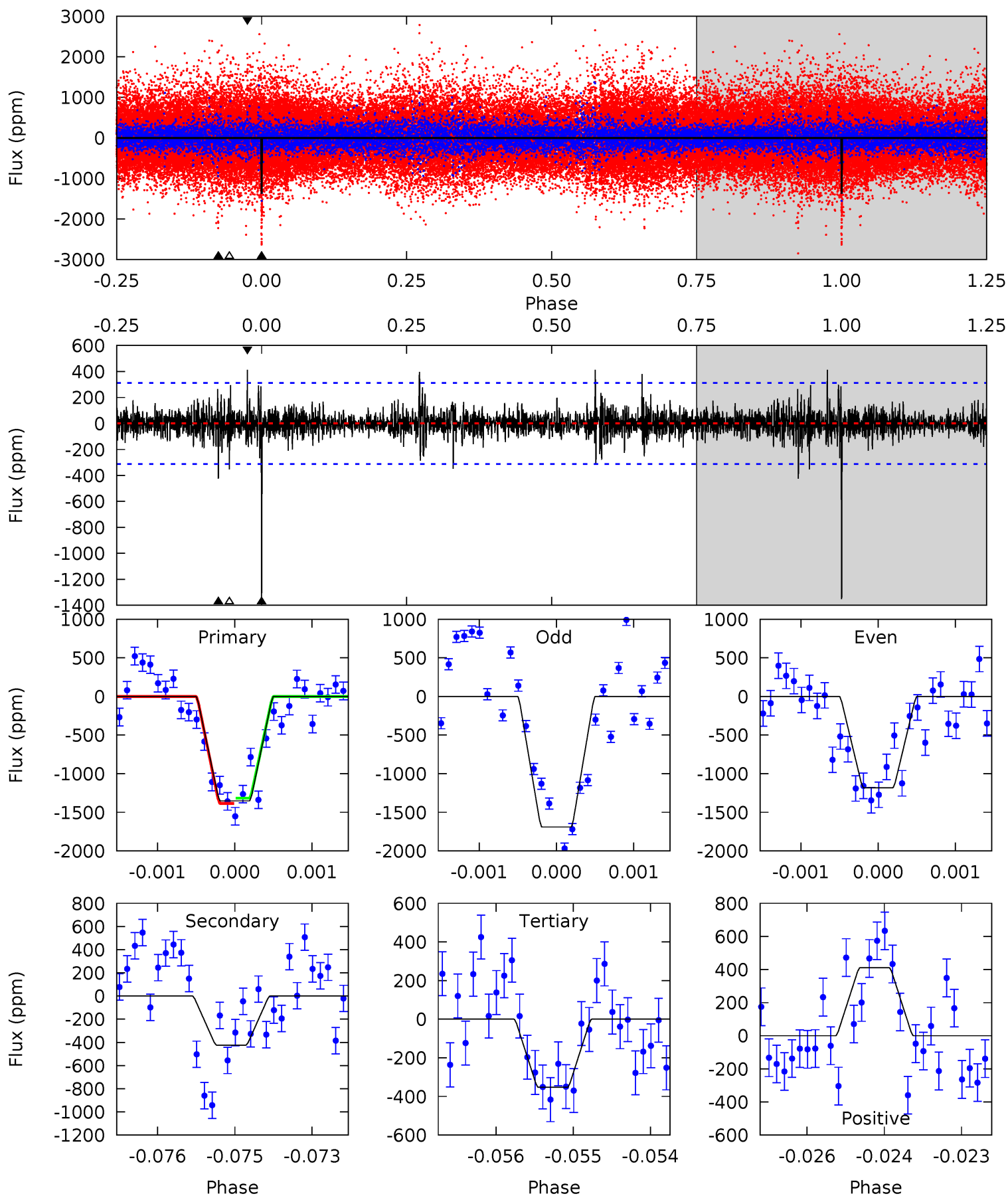
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.1	15.0	13.6	14.4	5.40	3.20	2.82	3.42	2.66	1.40	0.64	4.00	1.48	0.46	1.59



Alt Model-Shift Uniqueness Test

008175298-01, P = 556.426272 Days, E = 416.019348 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.5	7.38	6.14	7.15	5.44	3.27	1.20	17.4	16.4	1.24	0.23	4.18	0.80	0.23	0.60



Stellar Parameters For KIC 008175298

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5492^{+164}_{-164}	$4.554^{+0.029}_{-0.152}$	$0.120^{+0.250}_{-0.300}$	$0.858^{+0.187}_{-0.067}$	$0.960^{+0.074}_{-0.101}$	$2.144^{+0.334}_{-0.901}$
	+3%/-3%	+1%/-3%	+208%/-250%	+22%/-8%	+8%/-11%	+16%/-42%
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 008175298-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-815 ± 54	$7.70^{+6.49}_{-4.89}$	282^{+15}_{-13}	3704^{+1740}_{-634}	12829^{+78128}_{-9102}
Alt.	-424 ± 57	$6.96^{+6.54}_{-4.76}$	280^{+14}_{-12}	3469^{+1761}_{-626}	8367^{+70067}_{-6164}

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

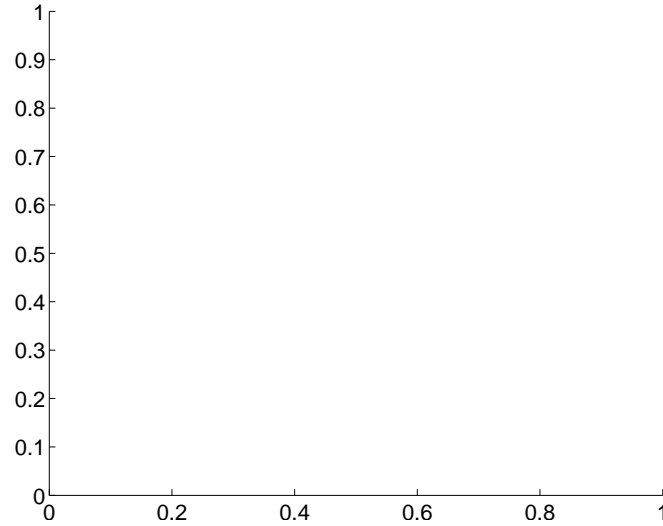
Supplemental centroid analysis for 008175298-01. Kepler magnitude: 15.65. Transit SNR 10.51

There are 0 quarters with good PRF difference image offsets

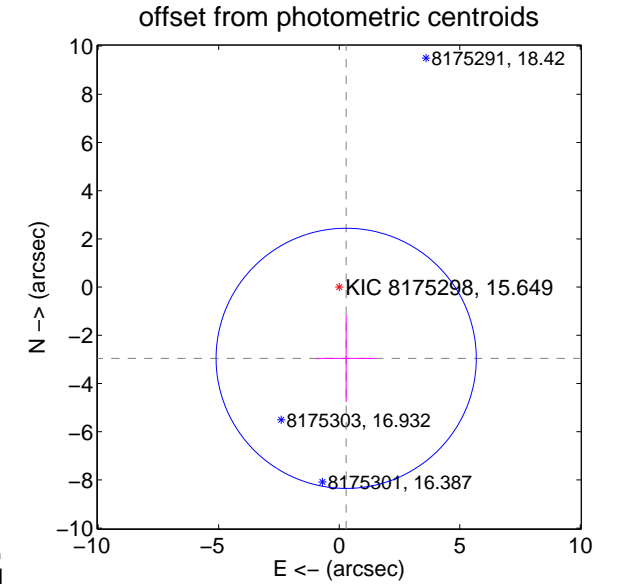
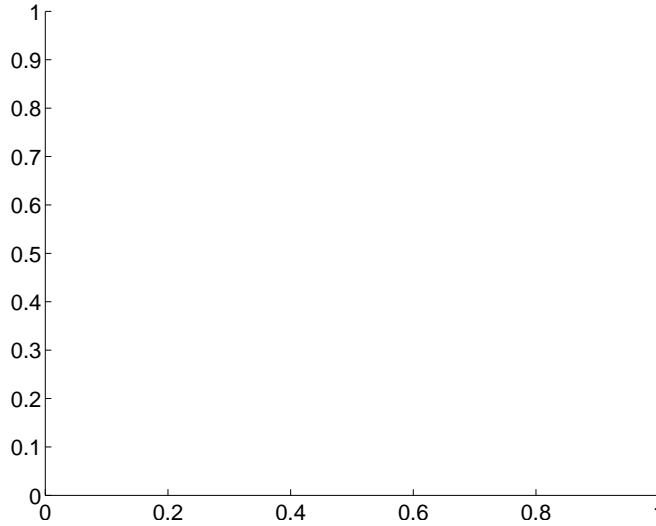
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	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	2.97 ± 1.80	1.65	-0.29 ± 1.25	-2.96 ± 1.80

There is no PRF-fit offset from OOT-fit

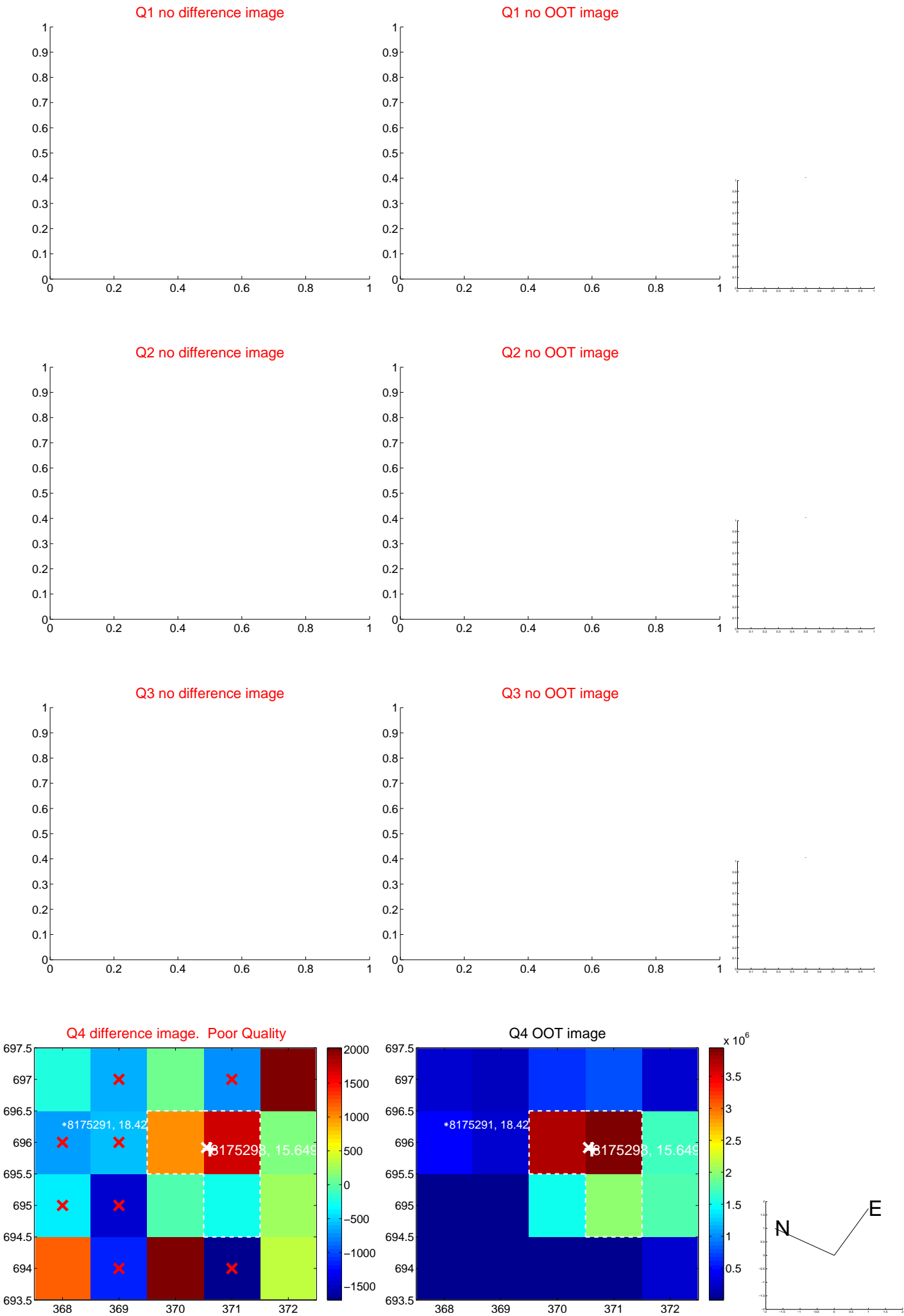


There is no PRF-fit offset from KIC



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 > 15,000,000 are from the UKIRT catalog.

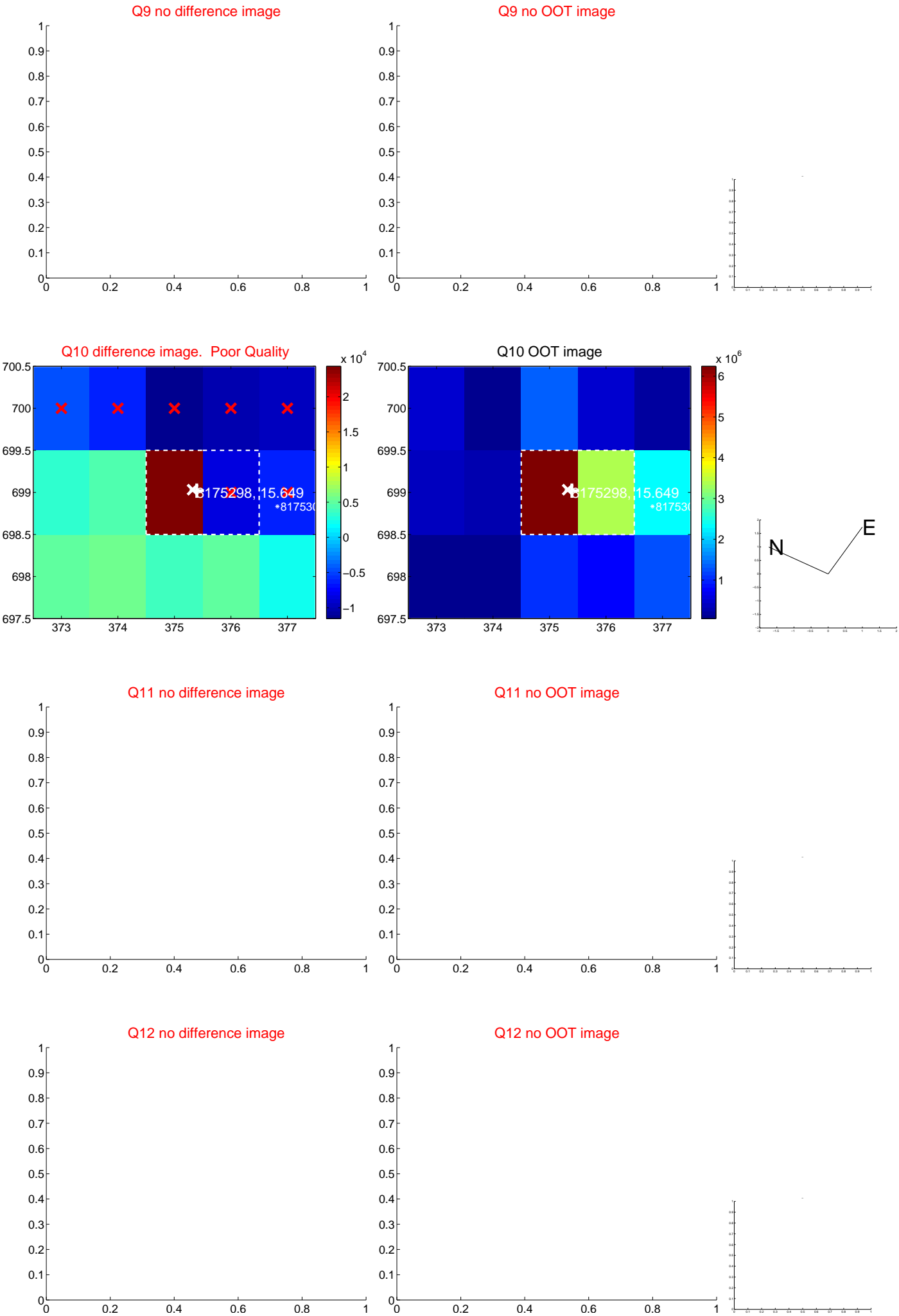
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



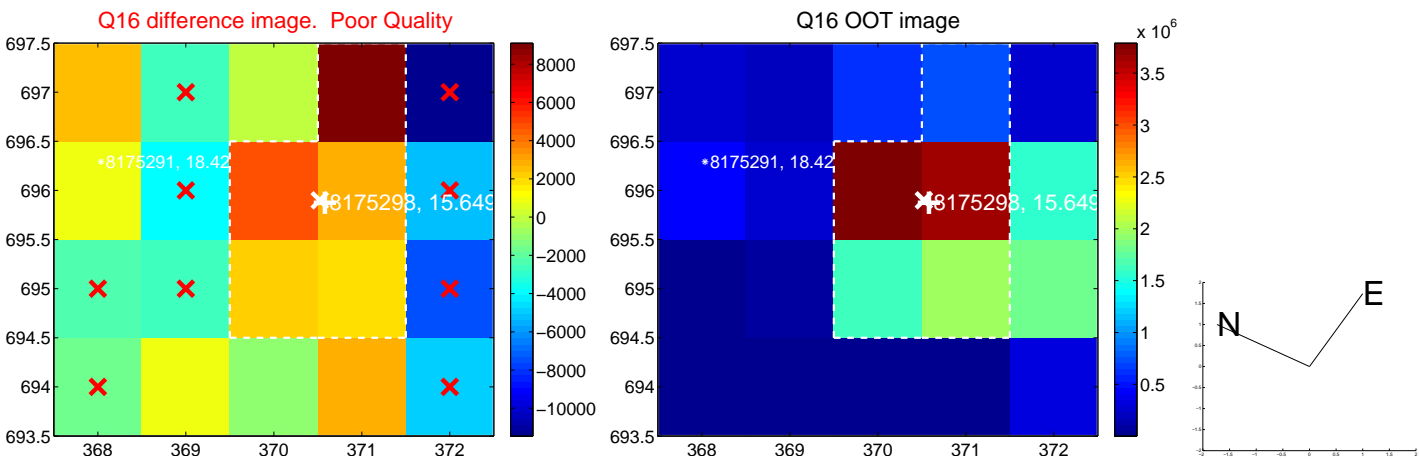
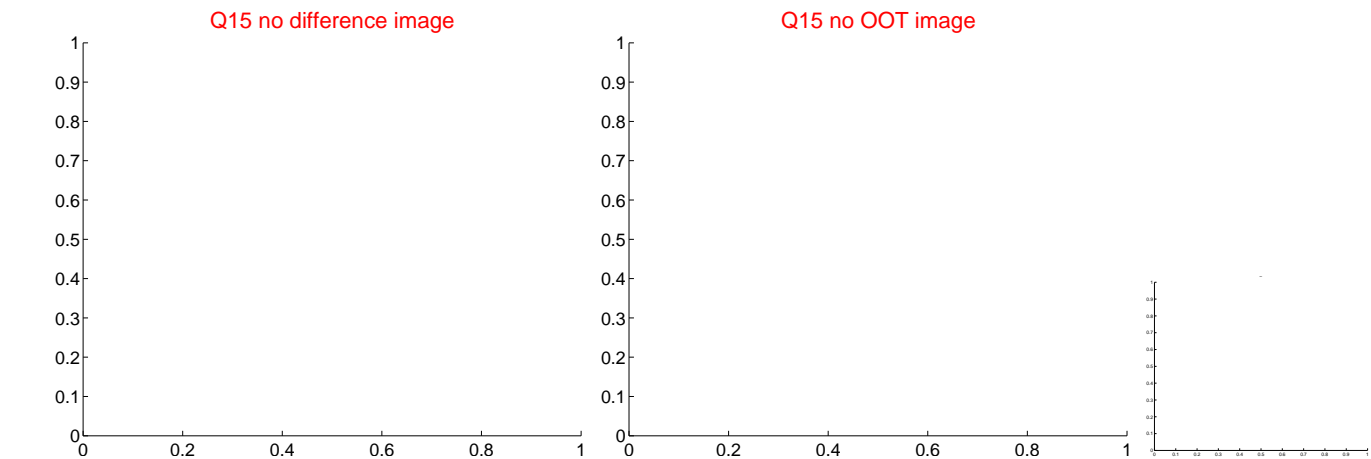
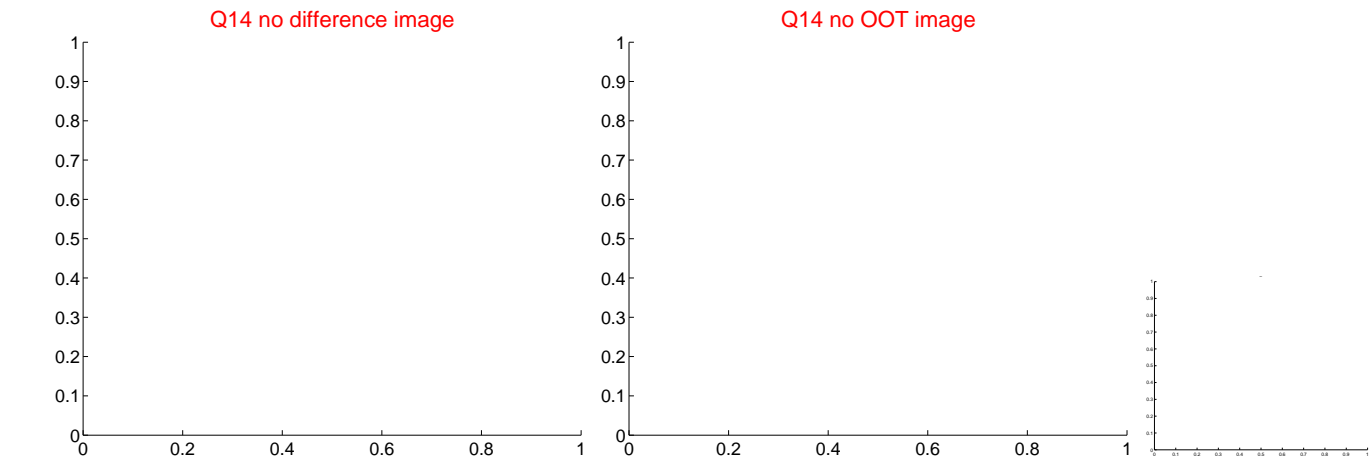
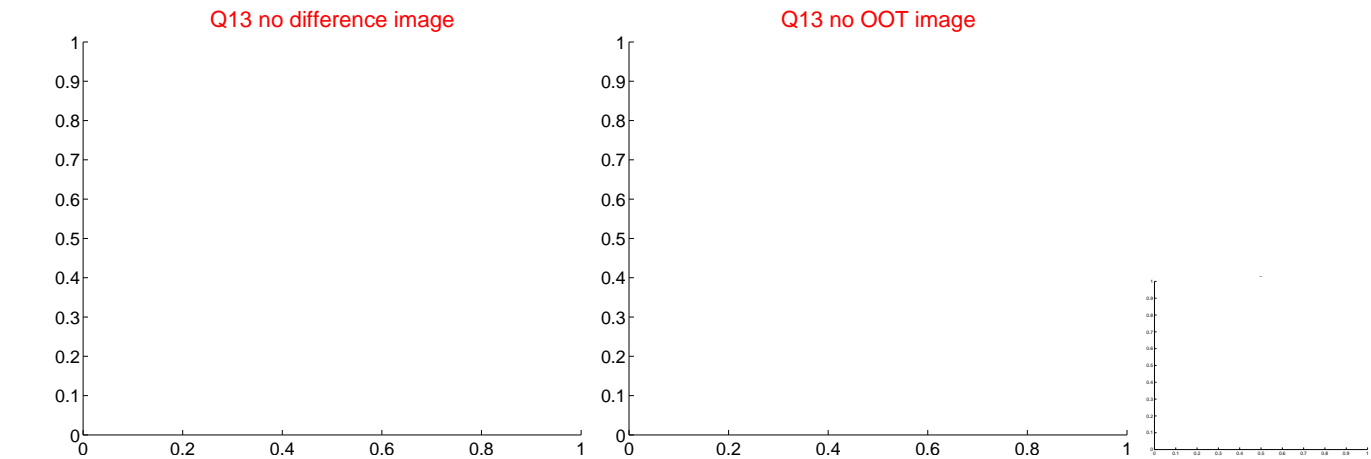
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



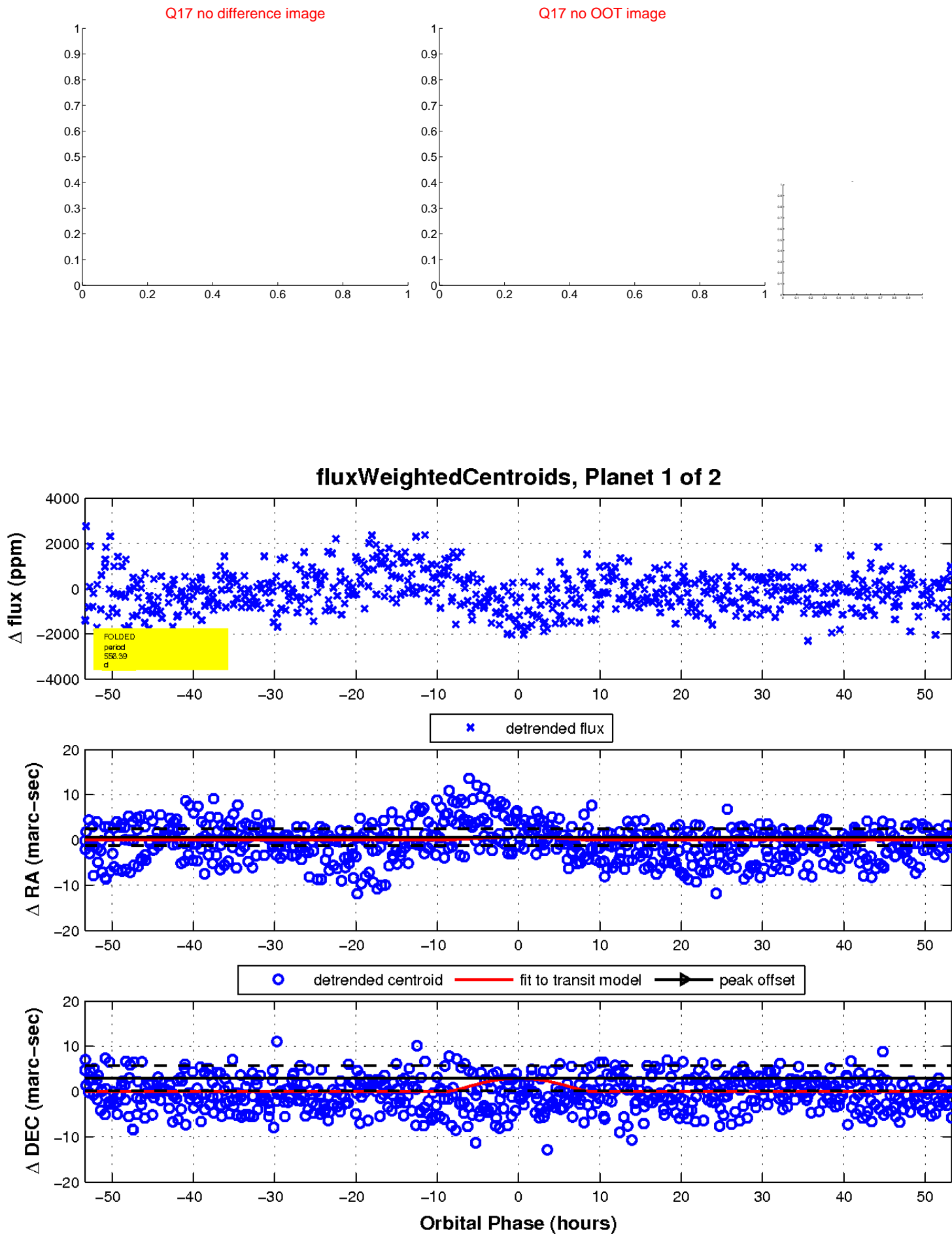
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

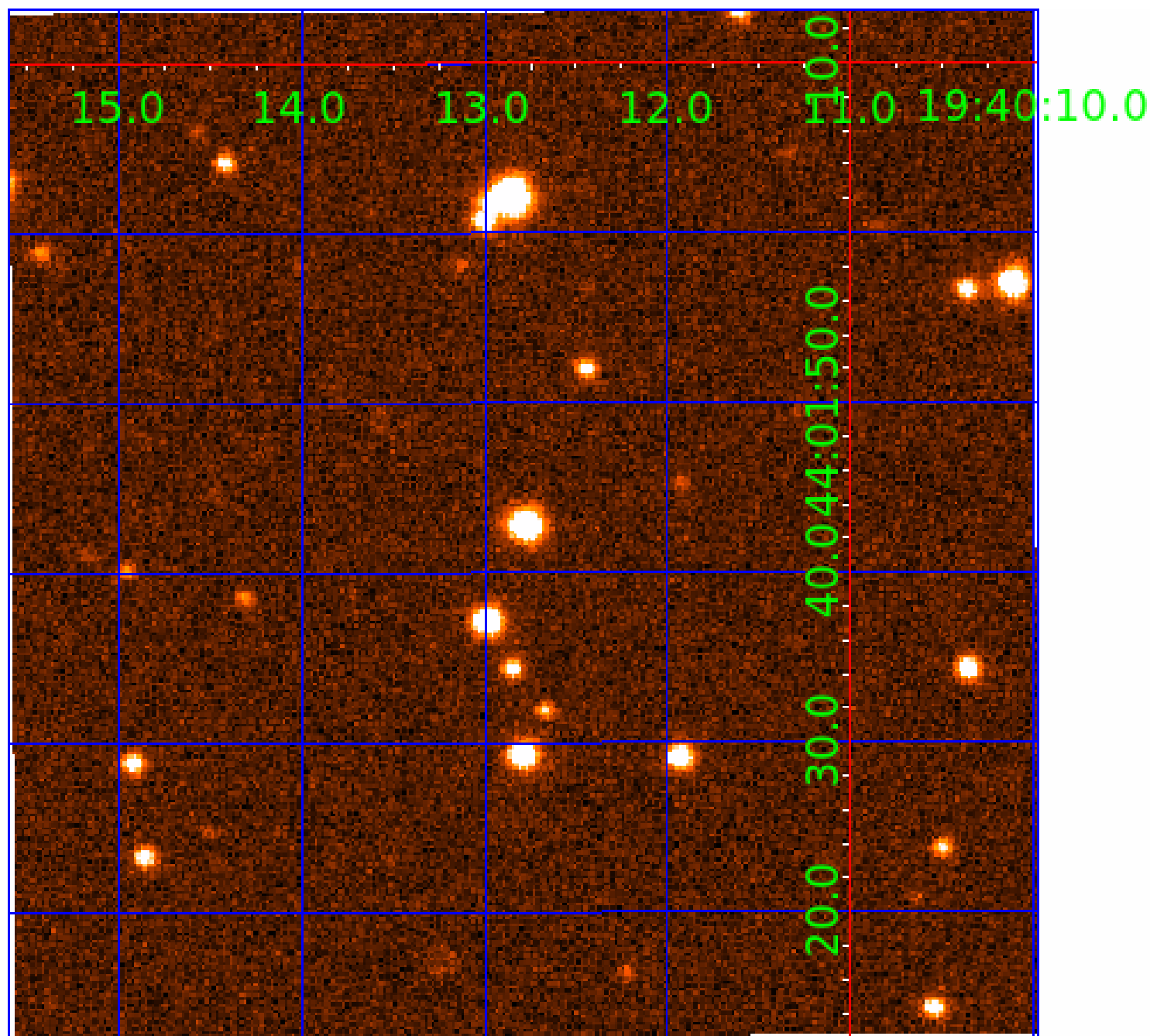


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008175298

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})
008175298-01	OBS	No	556.387871	416.061029	1423.8	17.845	10.2	10.5	0.86	5492	5.17	0.35
008175298-02	OBS	No	558.061425	374.630209	1226.5	28.367	9.1	8.9	0.86	5492	3.89	0.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008175298-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
008175298-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

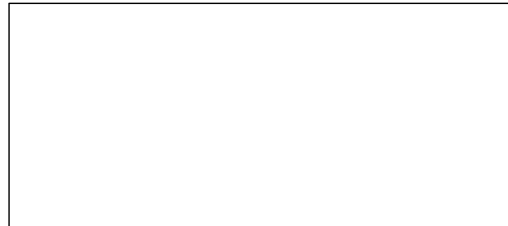
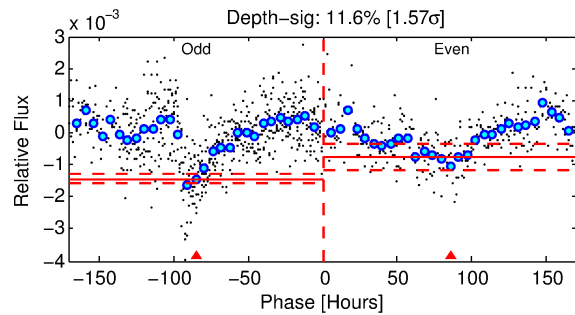
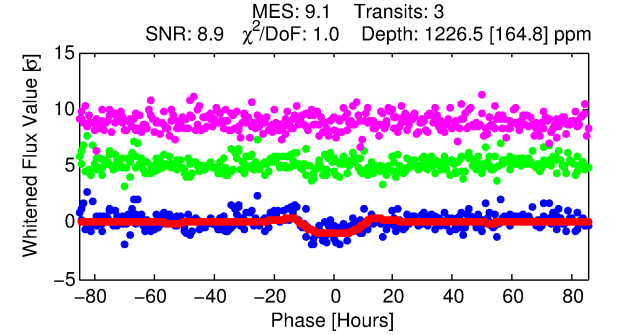
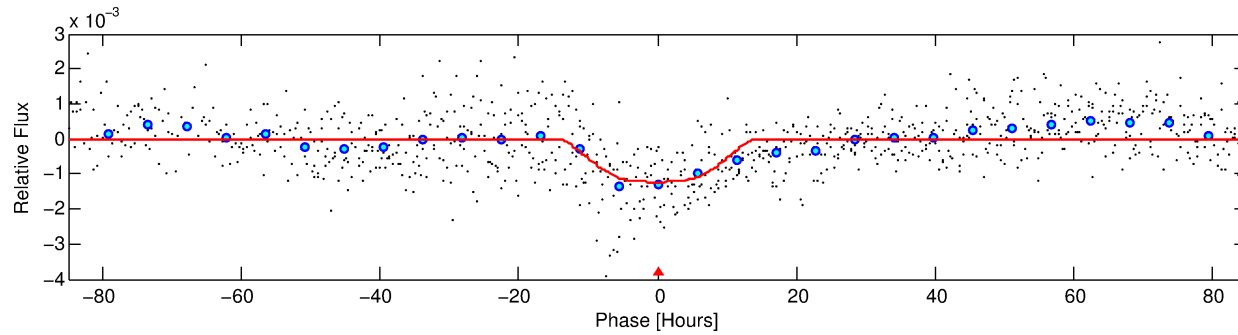
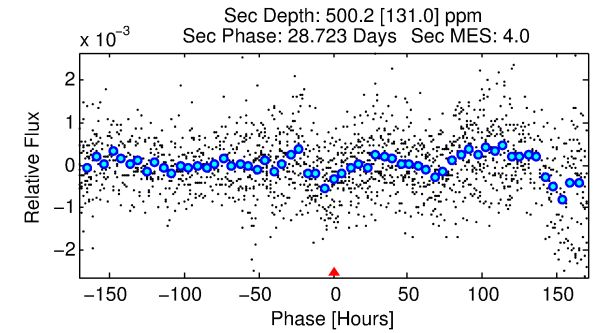
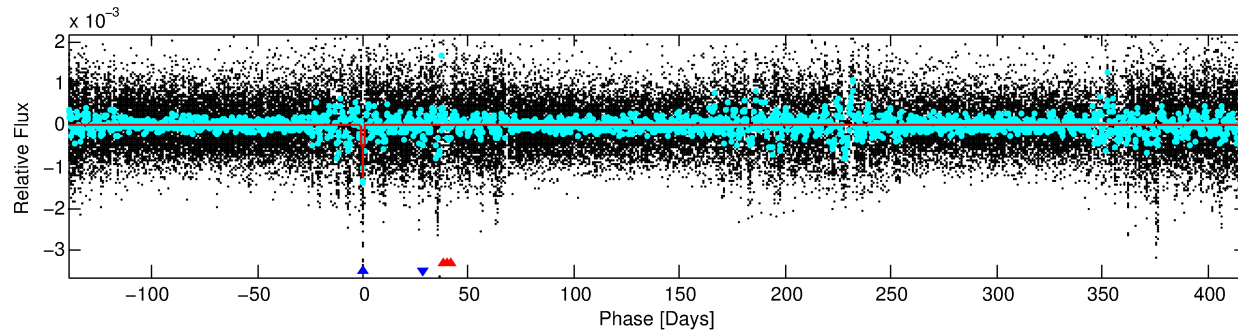
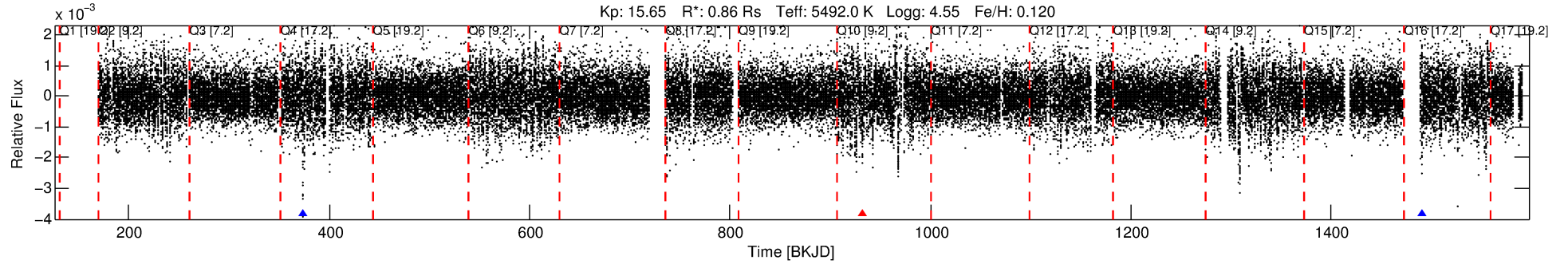
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008175298-02

No Significant Match Found

DV One-Page Summary

KIC: 8175298 Candidate: 2 of 2 Period: 558.061 d



DV Fit Results:

Period = 558.06142 [0.03286] d
Epoch = 374.6302 [0.0456] BKJD
Rp/R* = 0.0416 [0.0036]
a/R* = 64.34 [9.07]
b = 0.95 [0.02]
Seff = 0.35 [0.10]
Teq = 196 [15] K
Rp = 3.89 [0.91] Re
a = 1.3096 [0.2440] AU
Ag = 31182.33 [13038.91] [2.39σ]
Teffp = 4029 [339] K [11.28σ]

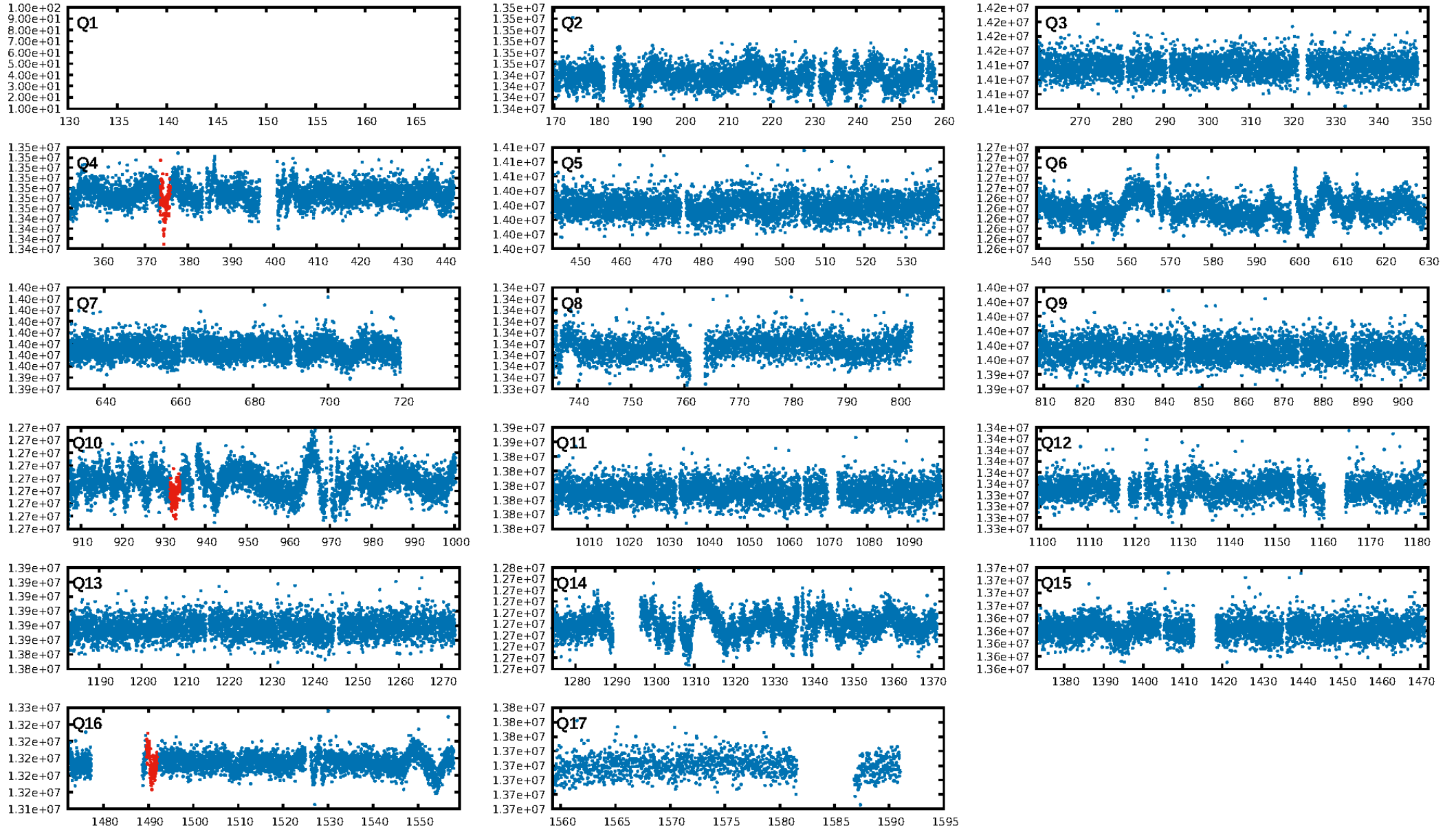
DV Diagnostic Results:

ShortPeriod-sig: 76.9% [1.20σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 16.6%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: 3.09e-10
RollingBand-fgt: 0.67 [2/3]
GhostDiagnostic-chr: -16.94
Centroid-sig: 56.0%
Centroid-so: 0.234 arcsec [0.14σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [1/1]

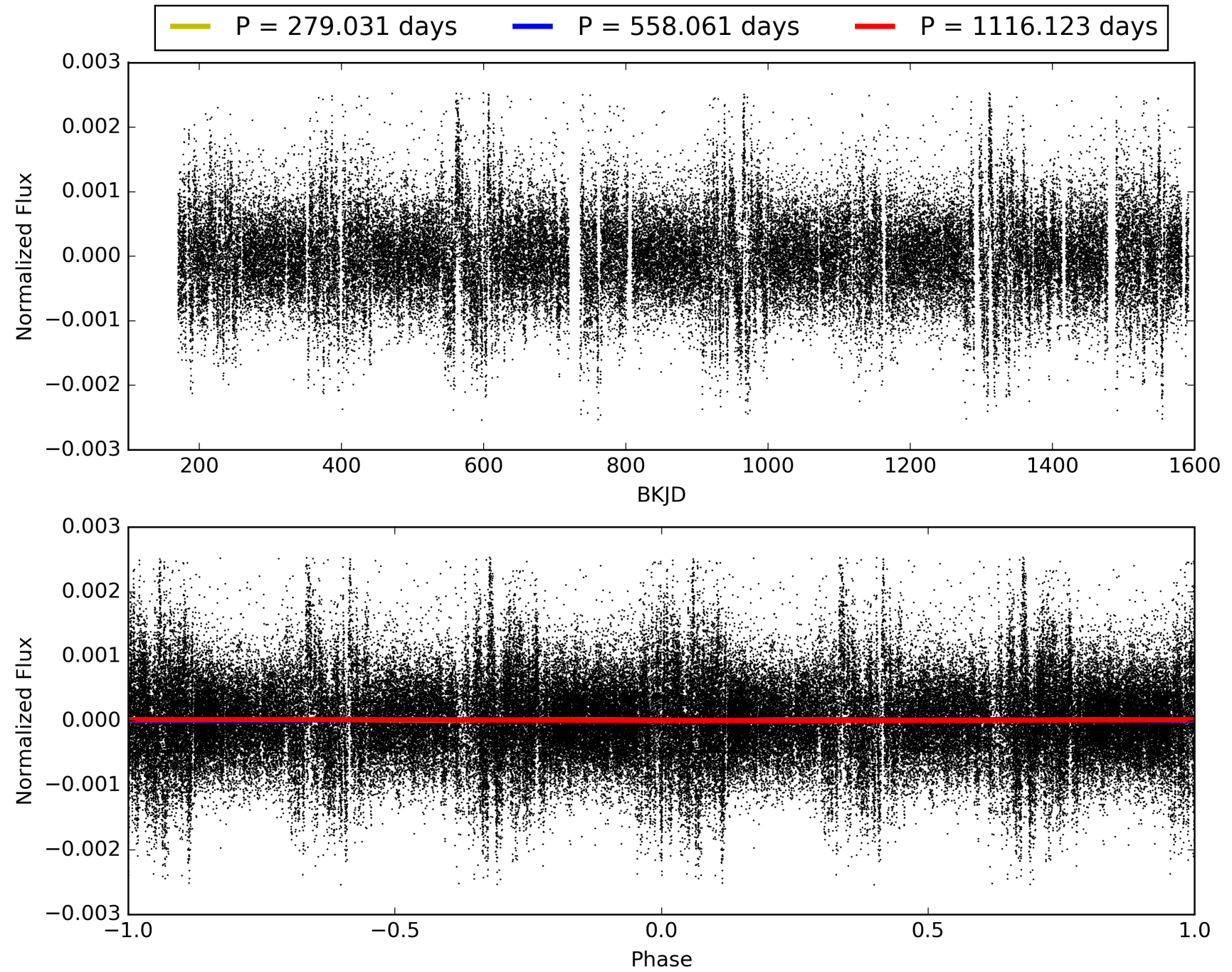
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:11:31 Z

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

TCE 008175298-02, PDC Light Curves

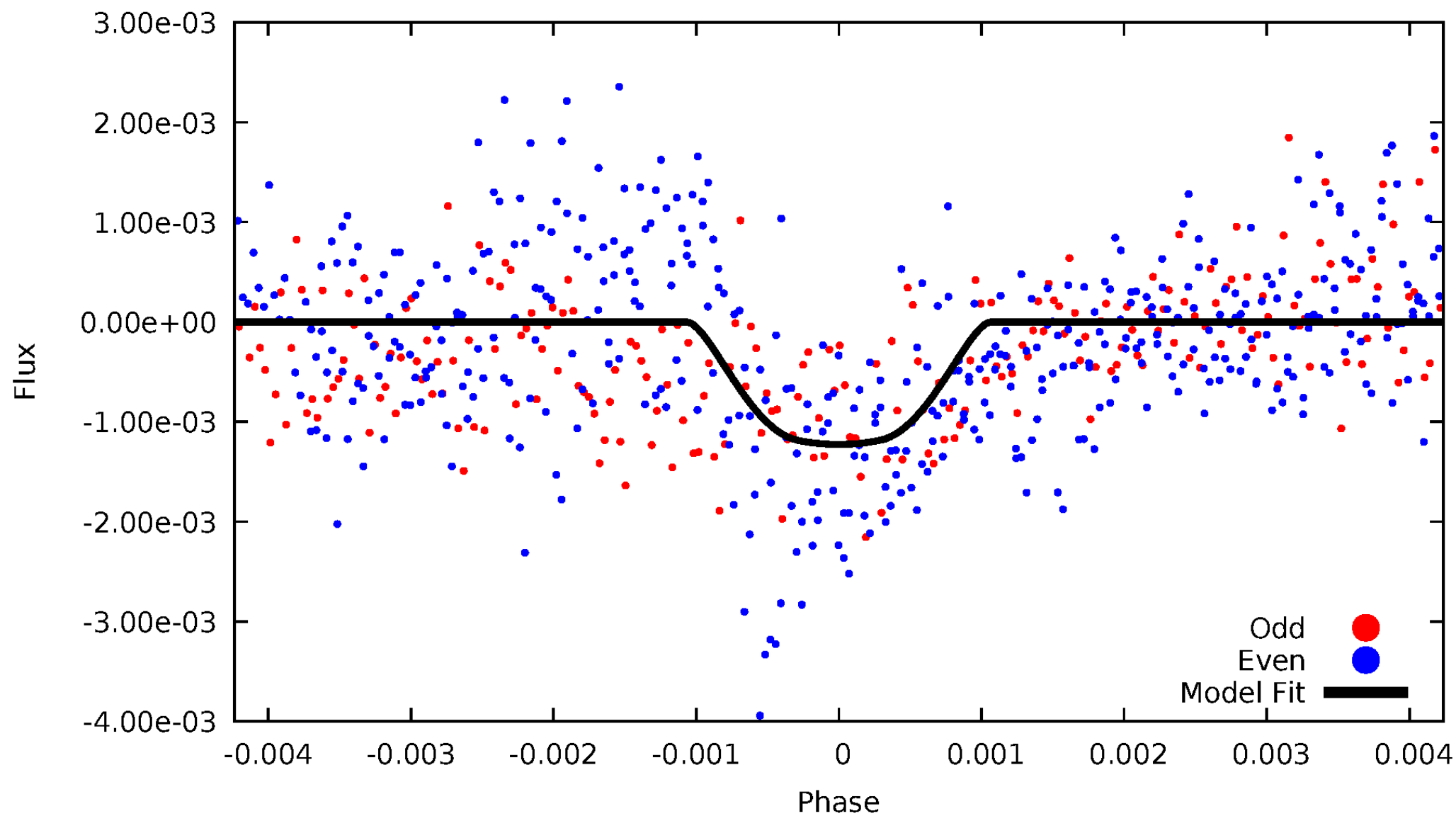


TCE 008175298-02



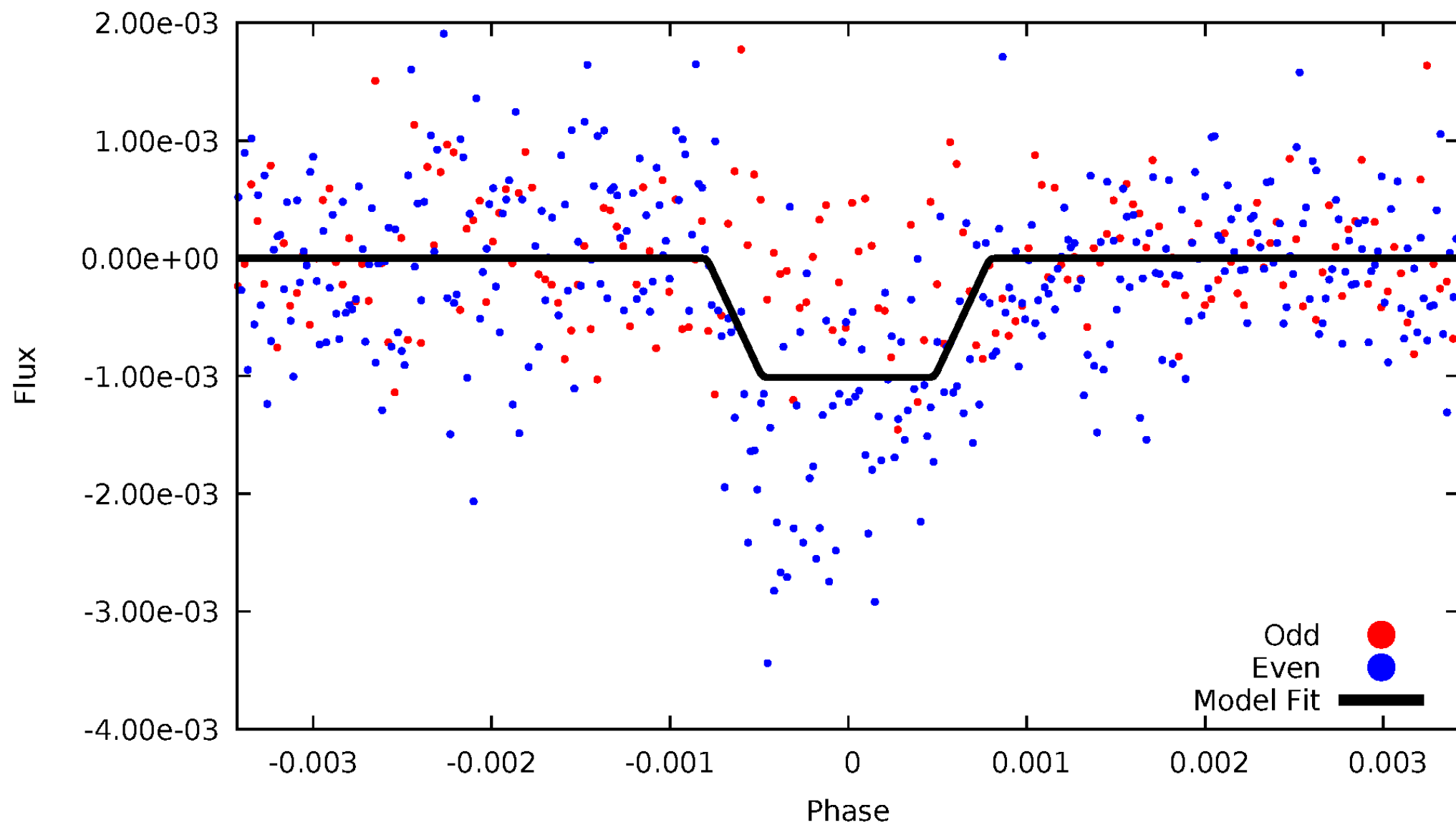
DV Odd/Even

TCE 008175298-02



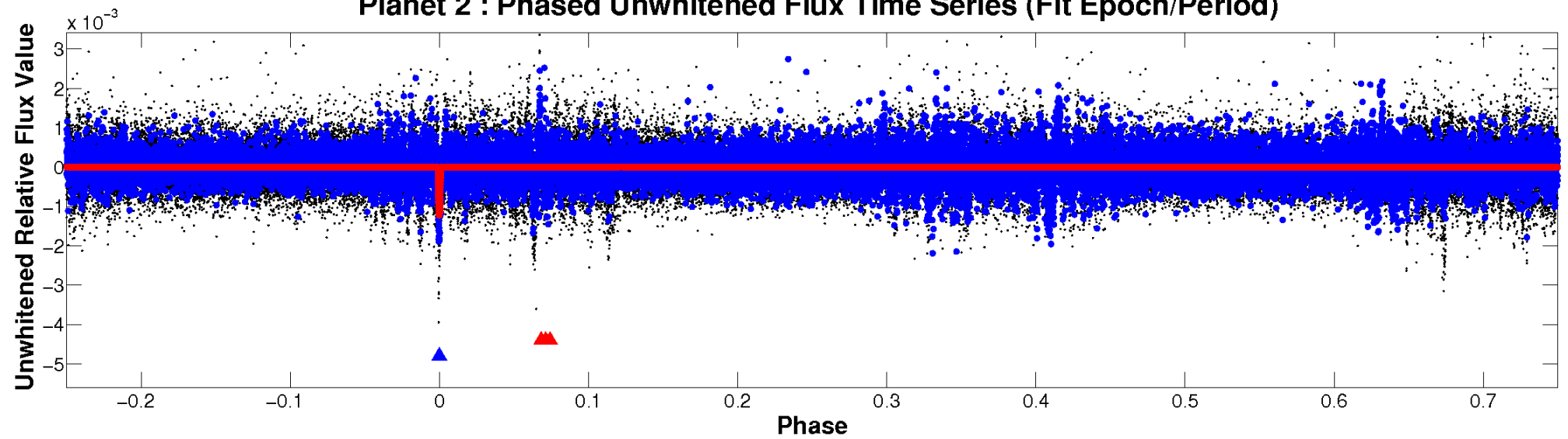
ALT Odd/Even

TCE 008175298-02

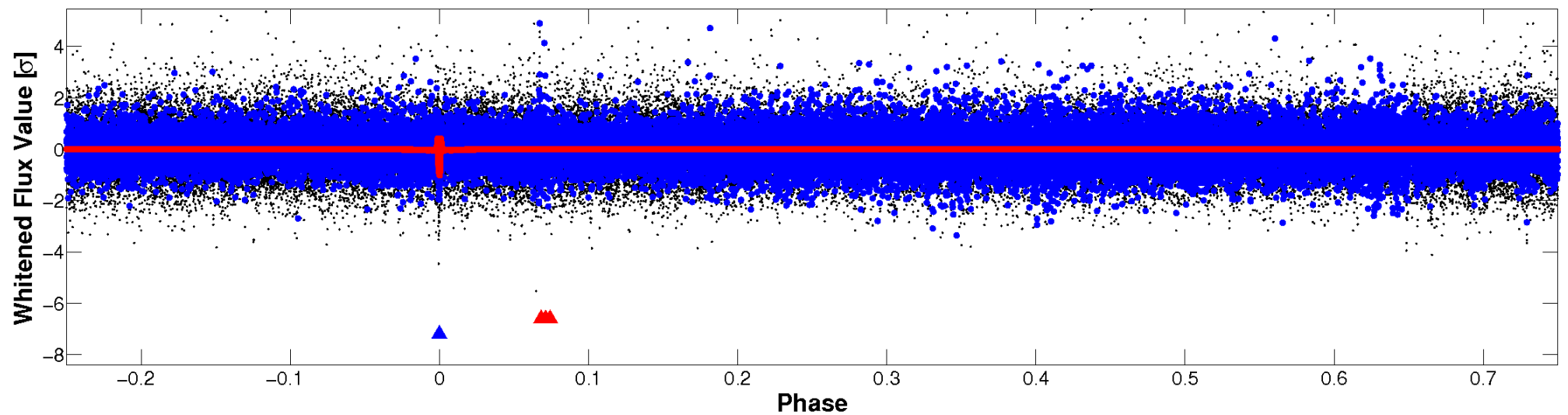


Non-Whitened Vs. Whitened Light Curve

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

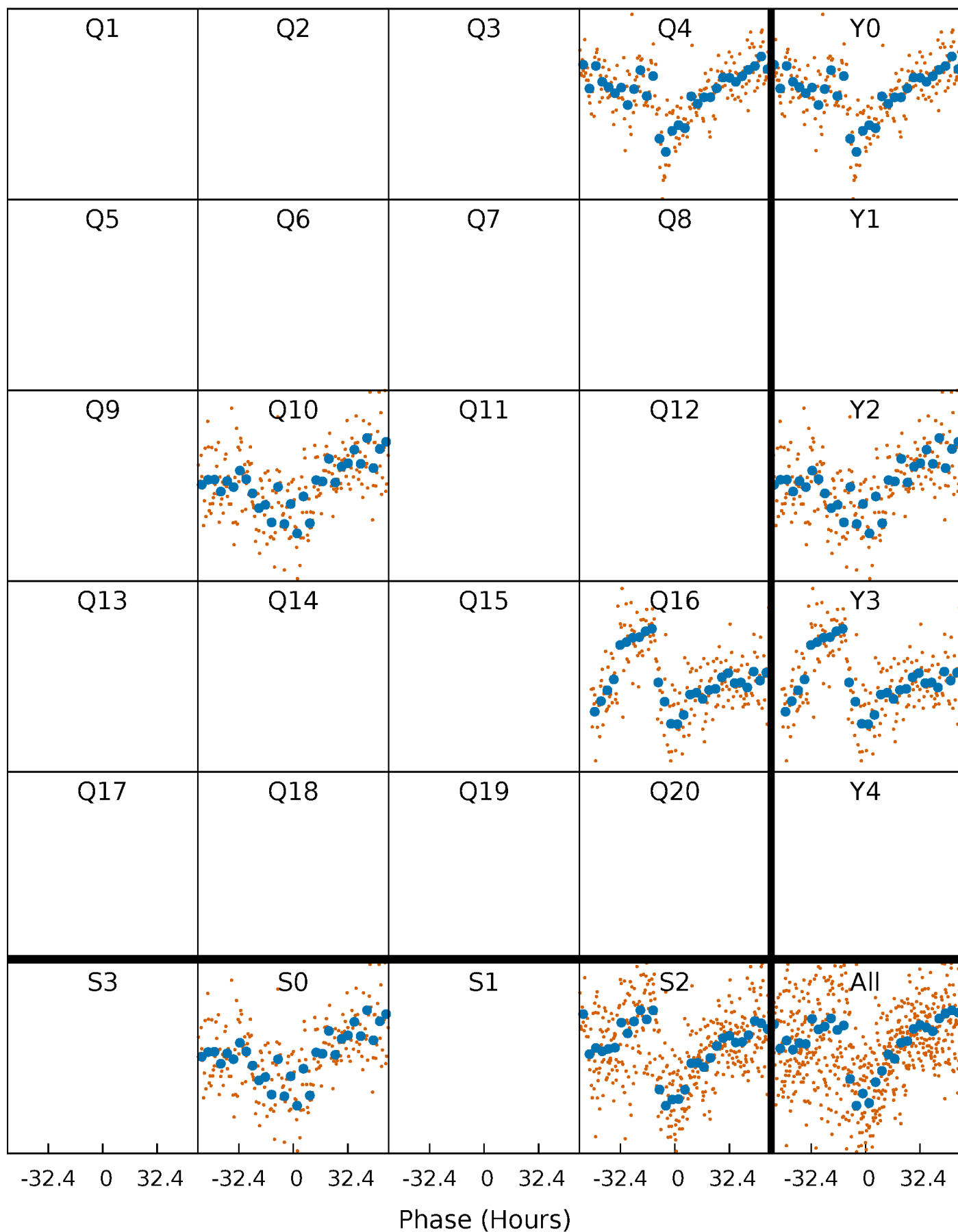


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



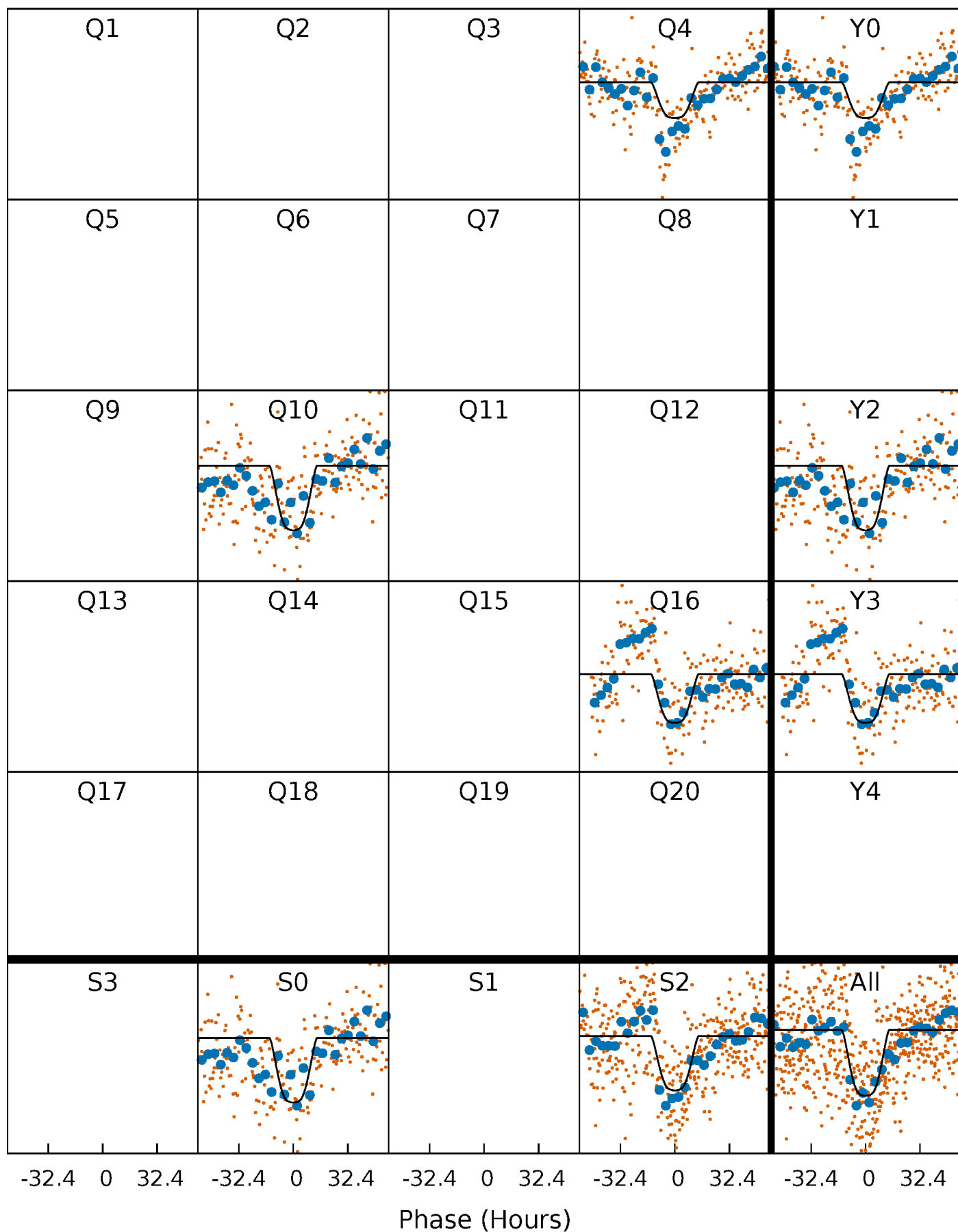
PDC Quarter-Phased Transit Curves

TCE 008175298-02 $P=558.061425$ Days $T_0=374.630209$ (BKJD)



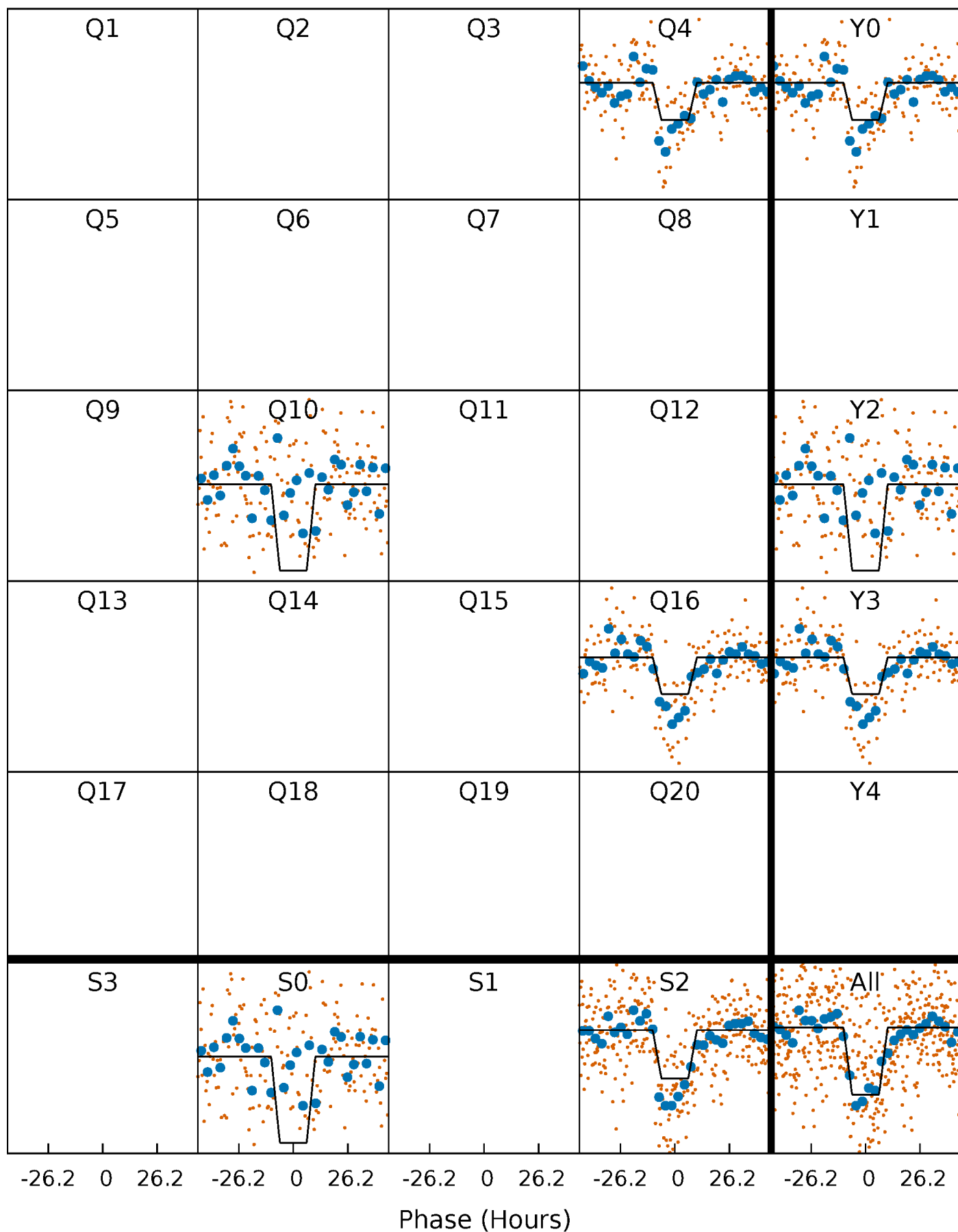
DV Quarter-Phased Transit Curves

TCE 008175298-02 $P=558.061425$ Days $T_0=374.630209$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

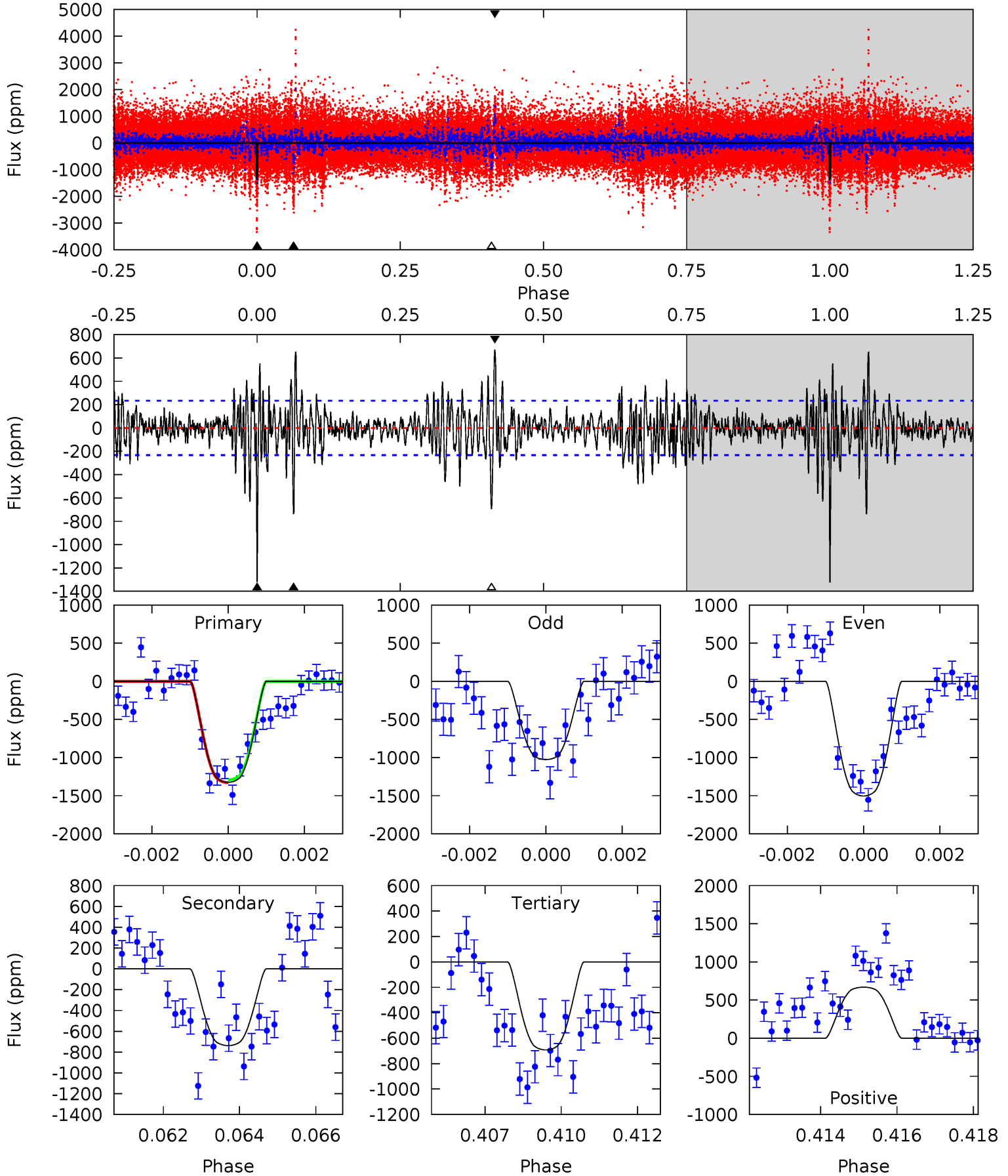
TCE 008175298-02 P=558.067768 Days $T_0=374.574672$ (BKJD)



DV Model-Shift Uniqueness Test

008175298-02, P = 558.061425 Days, E = 374.630209 Days

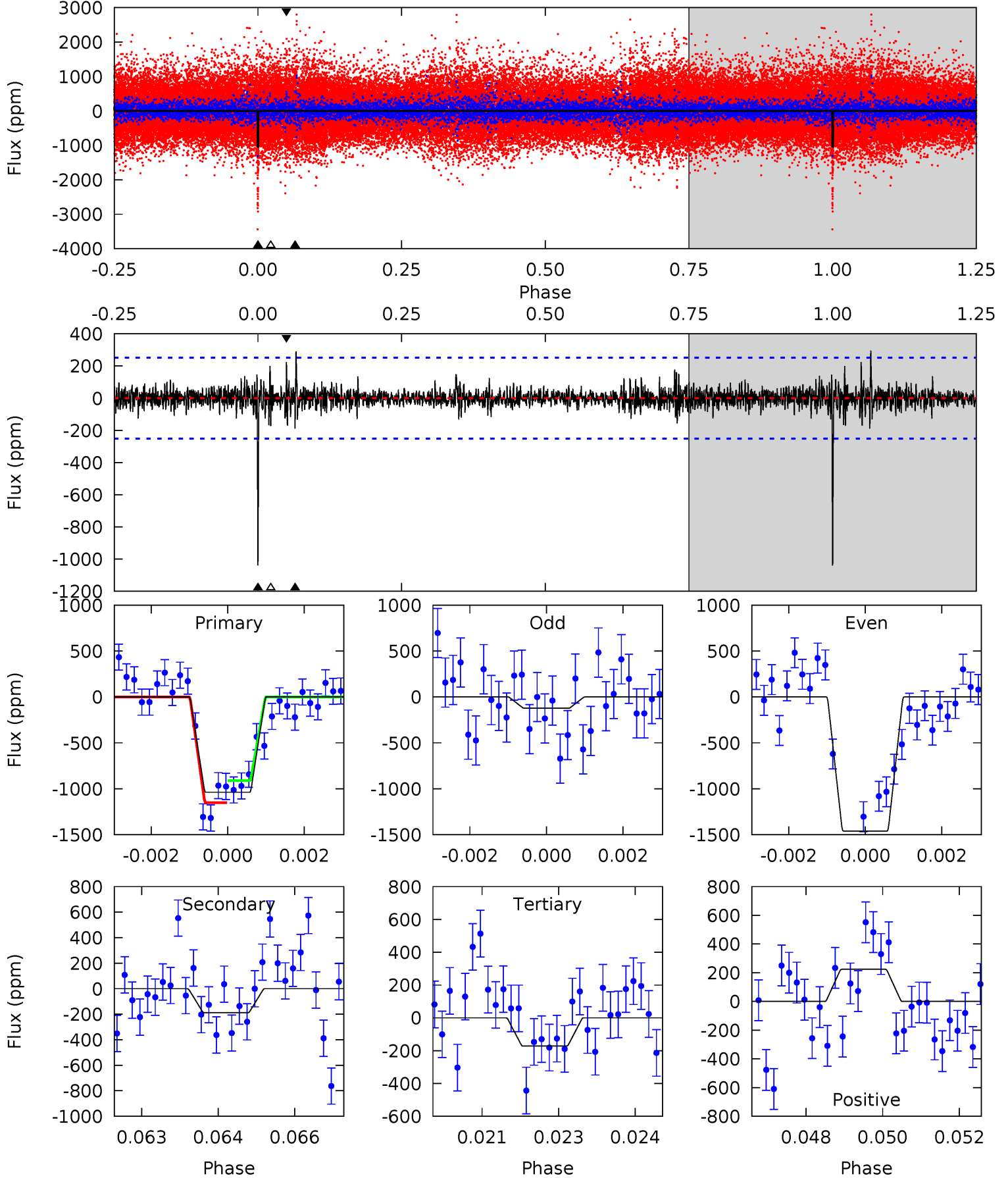
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.1	16.8	15.7	15.2	5.32	3.07	3.35	14.4	14.9	1.04	1.56	5.18	1.29	0.34	0.41



Alt Model-Shift Uniqueness Test

008175298-02, P = 558.067768 Days, E = 374.574672 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.2	4.01	3.66	4.78	5.37	3.15	0.89	18.5	17.4	0.35	-0.76	13.5	0.73	0.22	2.53



Stellar Parameters For KIC 008175298

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5492^{+164}_{-164}	$4.554^{+0.029}_{-0.152}$	$0.120^{+0.250}_{-0.300}$	$0.858^{+0.187}_{-0.067}$	$0.960^{+0.074}_{-0.101}$	$2.144^{+0.334}_{-0.901}$
	+3%/-3%	+1%/-3%	+208%/-250%	+22%/-8%	+8%/-11%	+16%/-42%
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 008175298-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-738 ± 44	$4.02^{+0.56}_{-0.44}$	279^{+17}_{-12}	4588^{+223}_{-198}	42170^{+10521}_{-9594}
Alt.	-188 ± 47	$3.08^{+0.46}_{-0.44}$	280^{+15}_{-12}	3940^{+250}_{-253}	18331^{+7657}_{-5831}

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

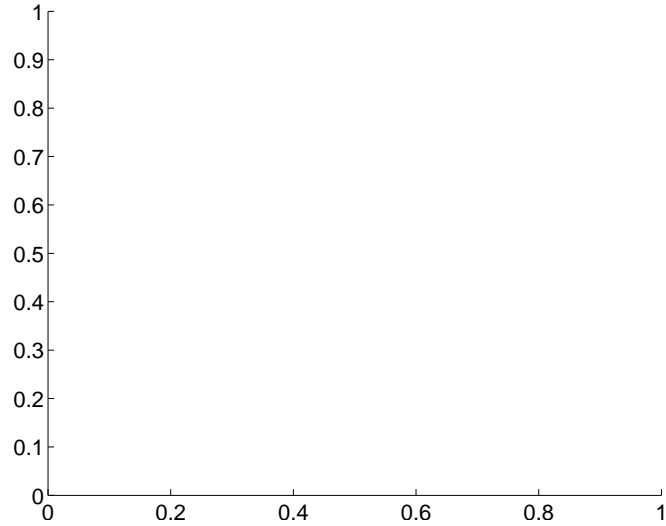
Supplemental centroid analysis for 008175298-02. Kepler magnitude: 15.65. Transit SNR 8.95

There are 0 quarters with good PRF difference image offsets

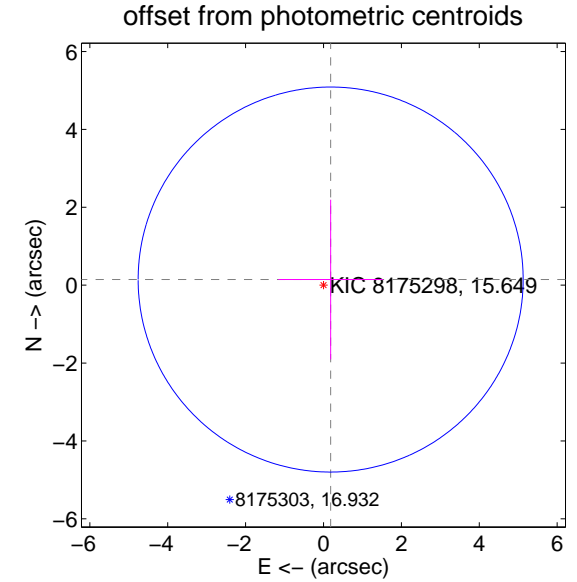
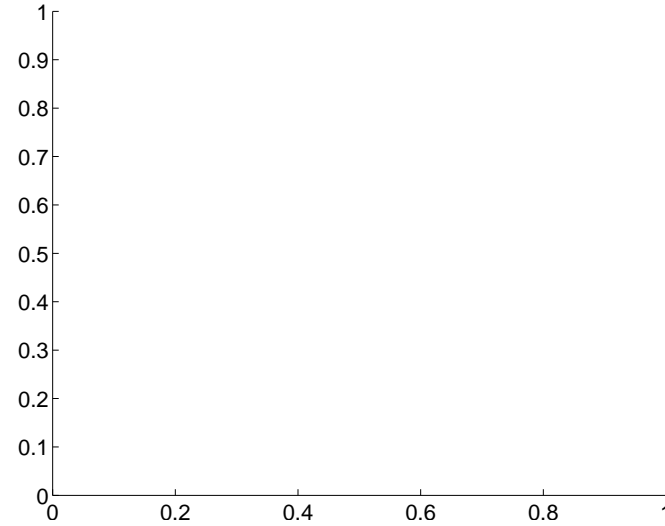
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	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	0.23 ± 1.65	0.14	-0.18 ± 1.34	0.14 ± 2.05

There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC

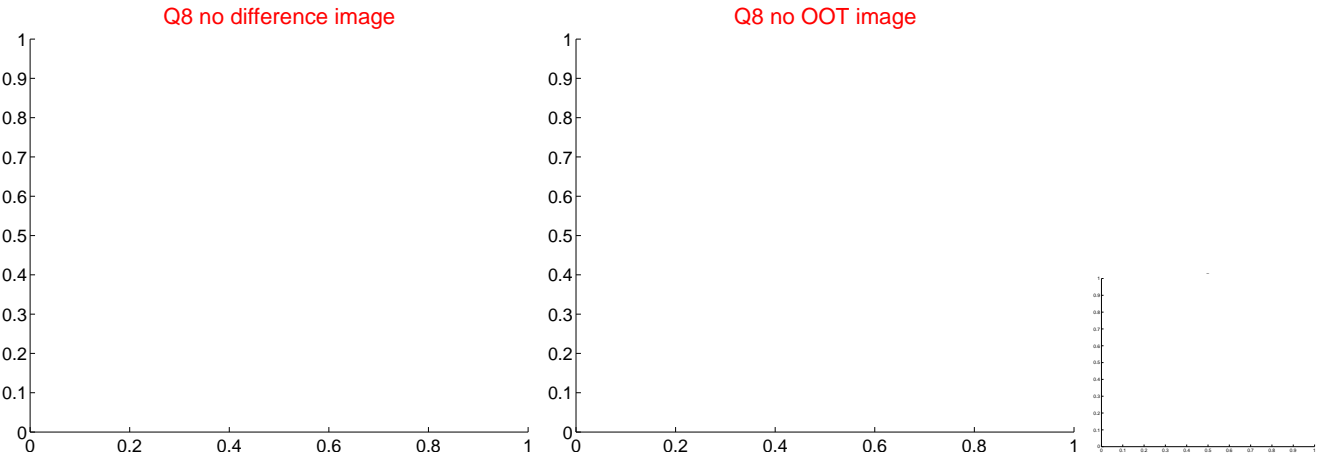
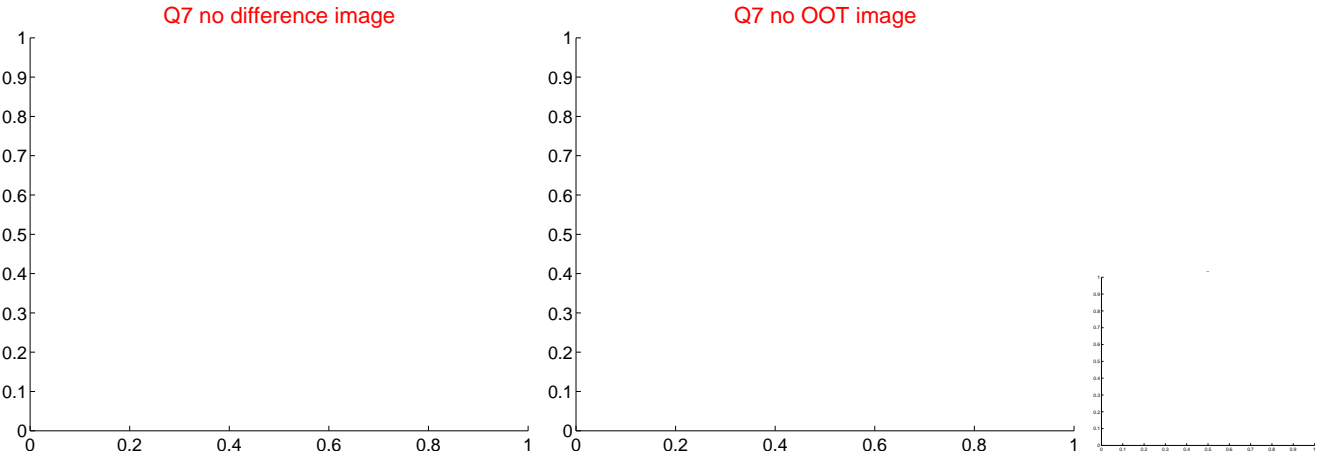
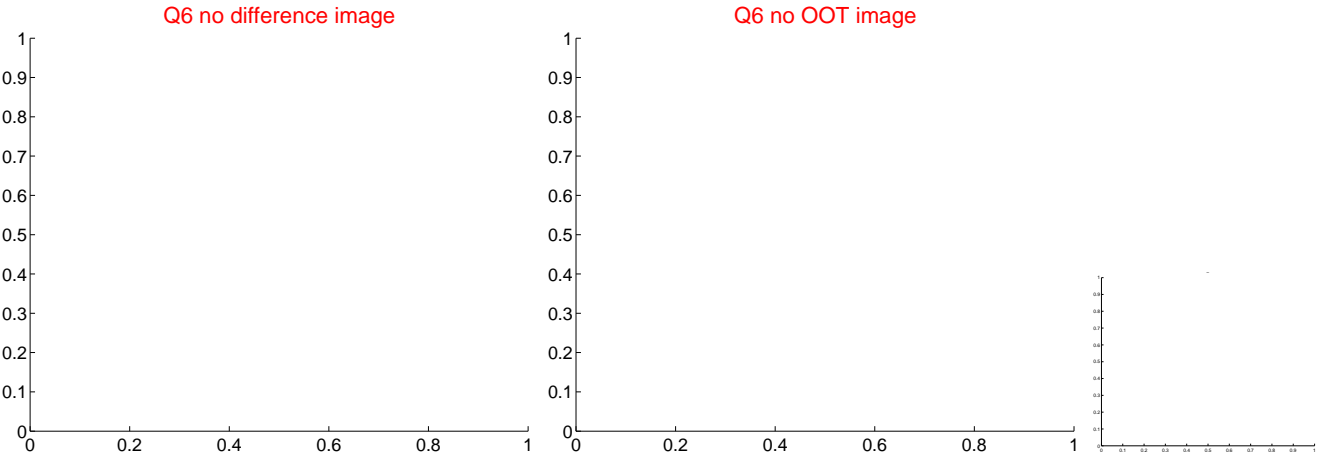
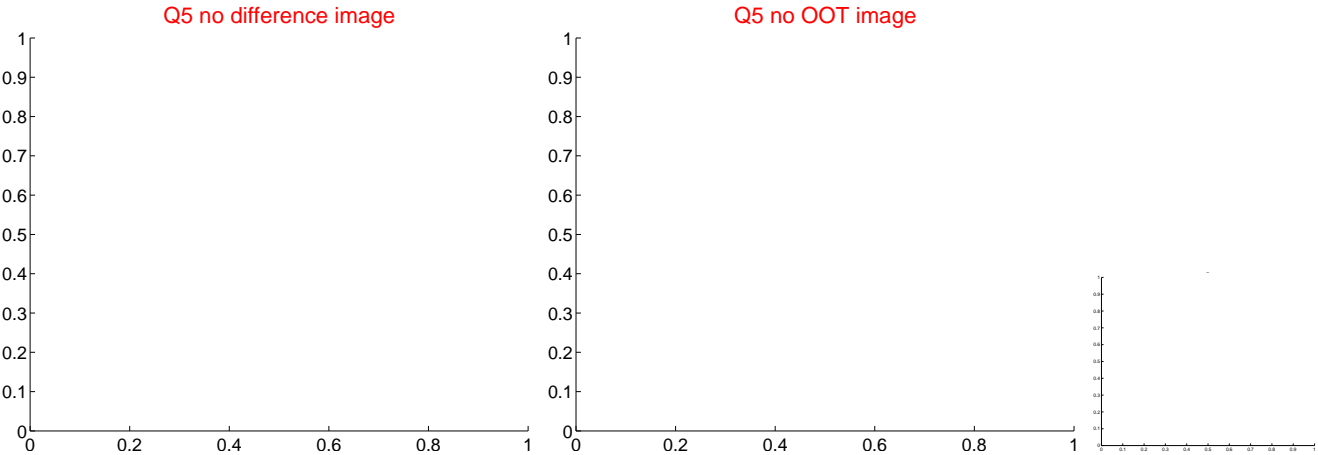


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

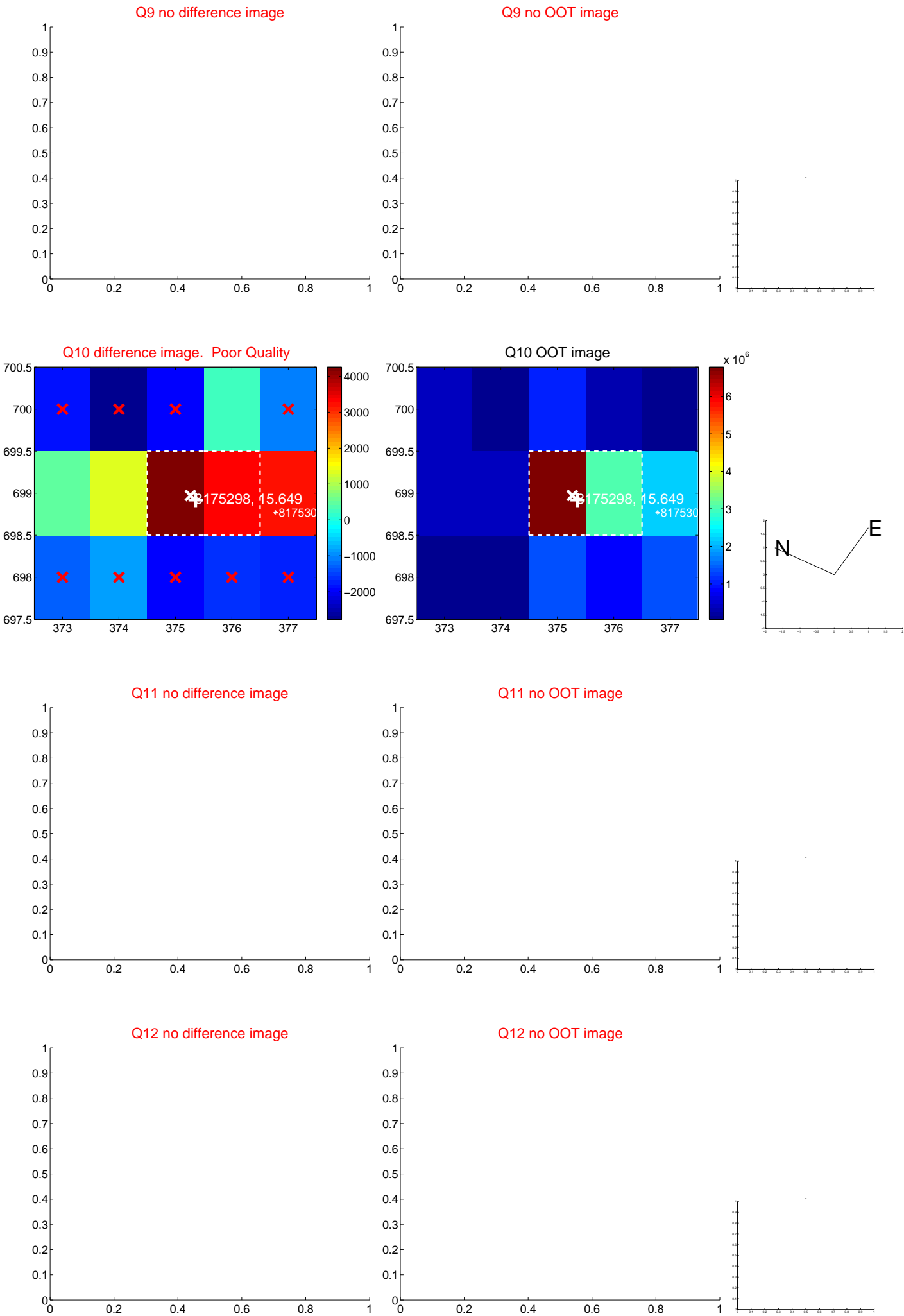
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



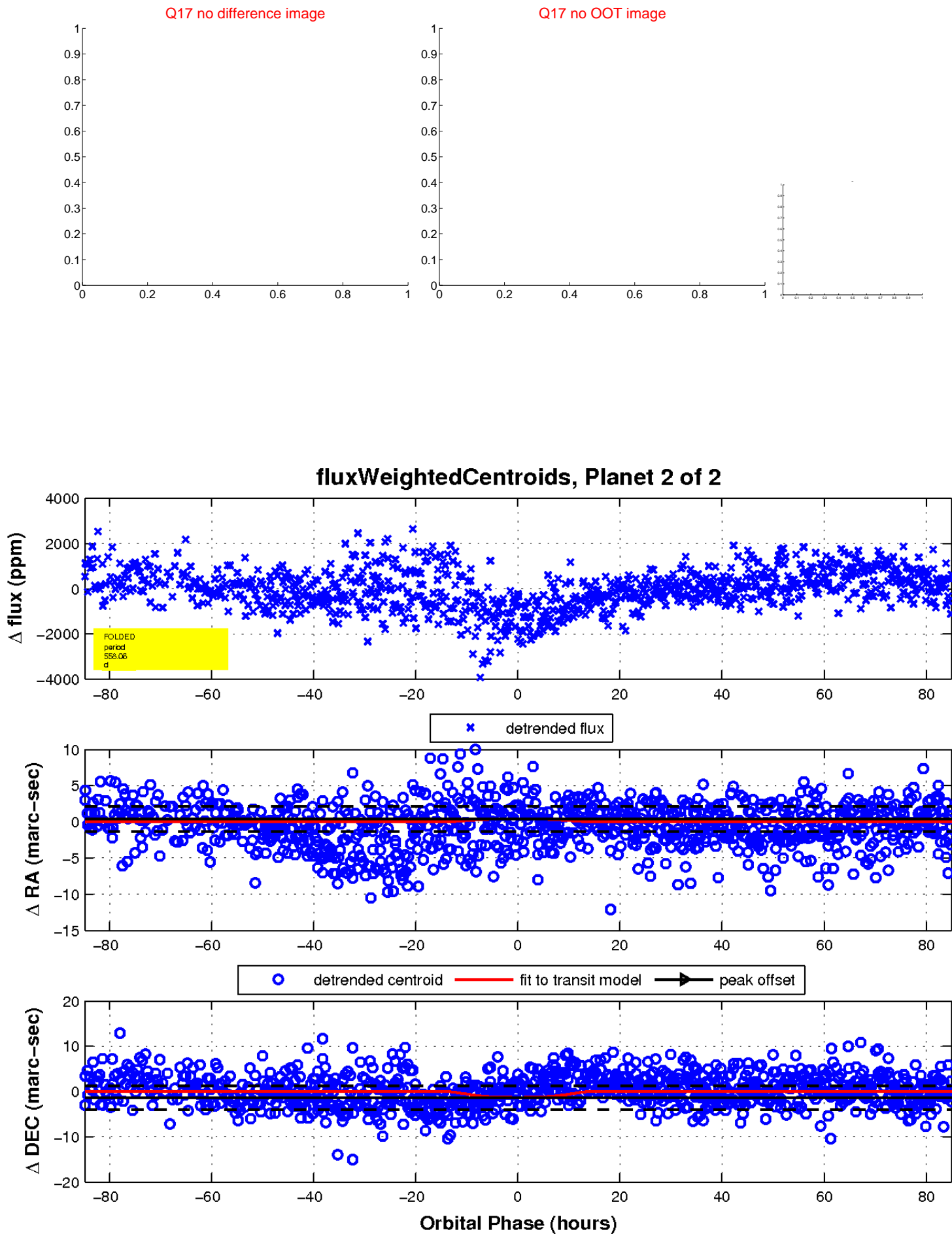
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

