

KIC 008327158

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})
008327158-01	OBS	No	544.244167	153.387165	74.3	12.128	14.9	14.7	3.99	10192	3.85	42.45
008327158-02	OBS	No	355.586932	478.455060	49.6	13.157	8.5	7.9	3.99	10192	3.22	74.88
008327158-03	OBS	No	524.792287	173.814898	41.8	13.458	8.3	8.4	3.99	10192	2.87	44.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008327158-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
008327158-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQU_DV—MOD_NONUNIQU_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008327158-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_TER_DV—CENT_SATURATED

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

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

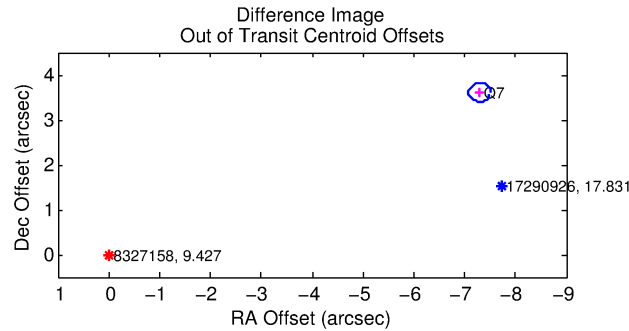
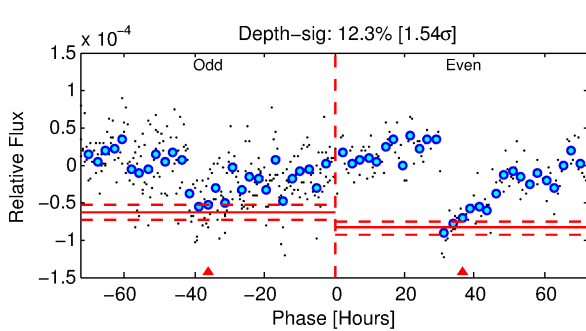
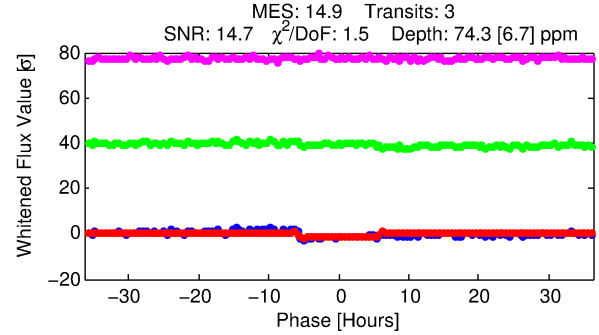
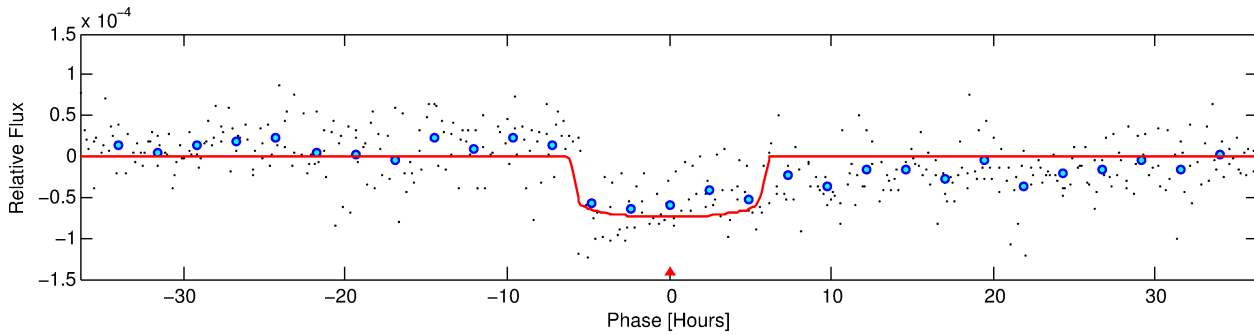
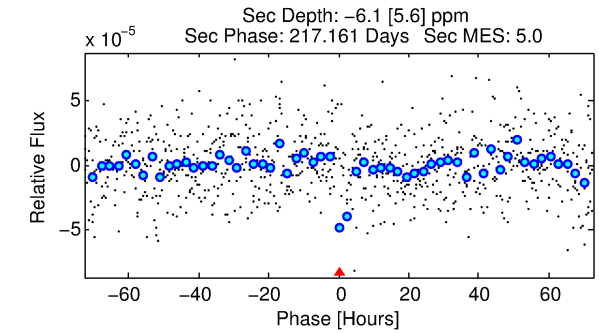
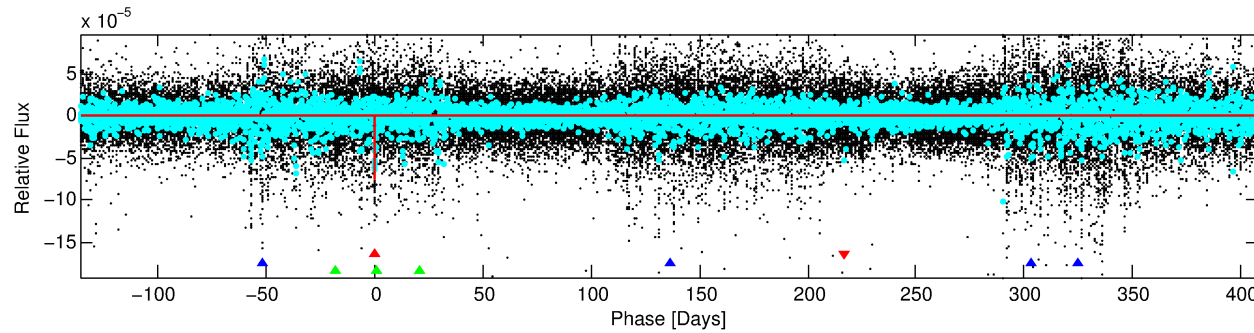
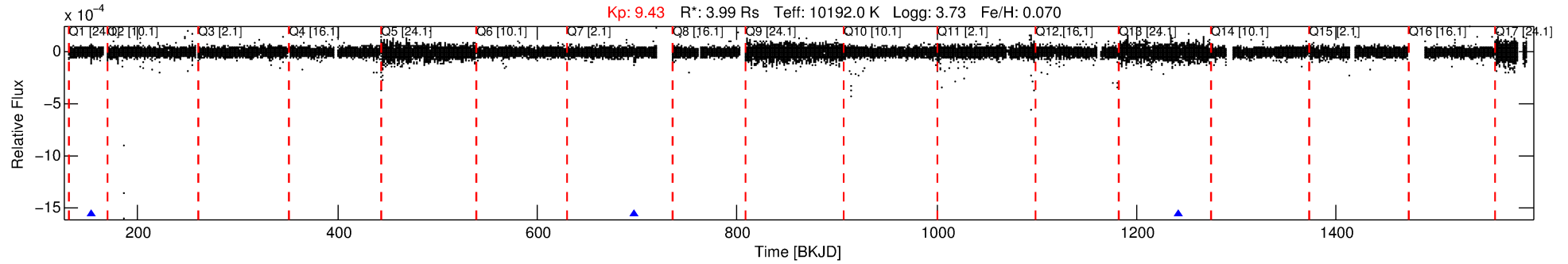
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008327158-01

No Significant Match Found

DV One-Page Summary

KIC: 8327158 Candidate: 1 of 3 Period: 544.244 d



DV Fit Results:

Period = 544.24417 [0.00694] d
Epoch = 153.3872 [0.0092] BKJD
Rp/R* = 0.0088 [0.0008]
a/R* = 184.39 [107.71]
b = 0.85 [0.19]
Seff = 42.45 [29.19]
Teff = 651 [112] K
Rp = 3.85 [1.74] Re
a = 1.9022 [0.8009] AU
Ag = N/A
Teffp = N/A

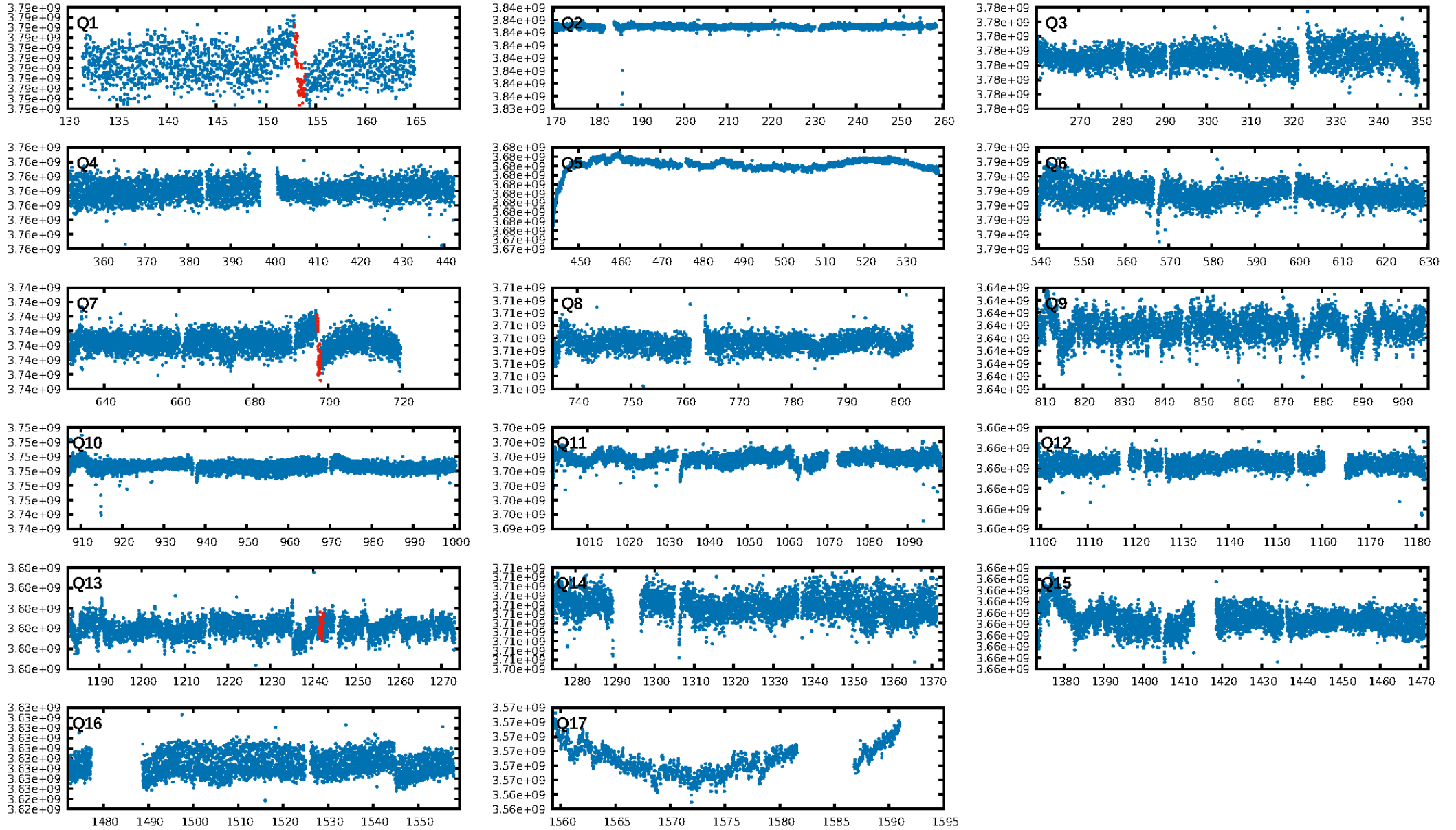
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [25.77σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 7.6%
ModelChiSquareGof-sig: 94.8%
Bootstrap-pfa: 9.95e-23
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.3%
Centroid-so: 3.545 arcsec [1.89σ]
OotOffset-rm: 8.137 arcsec [114.94σ]
KicOffset-rm: 9.025 arcsec [127.50σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 0.50 [1/2]

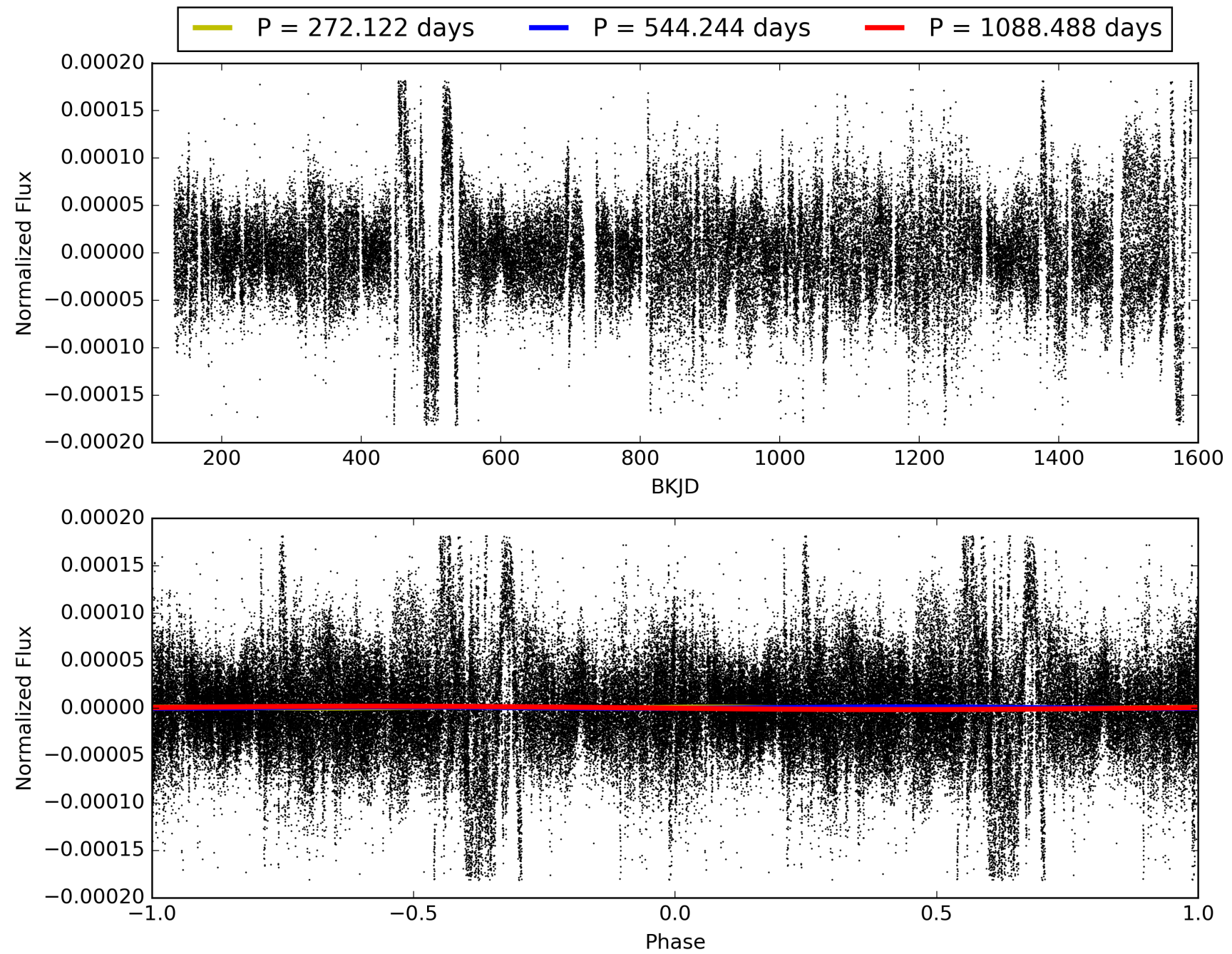
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:09:50 Z

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

TCE 008327158-01, PDC Light Curves

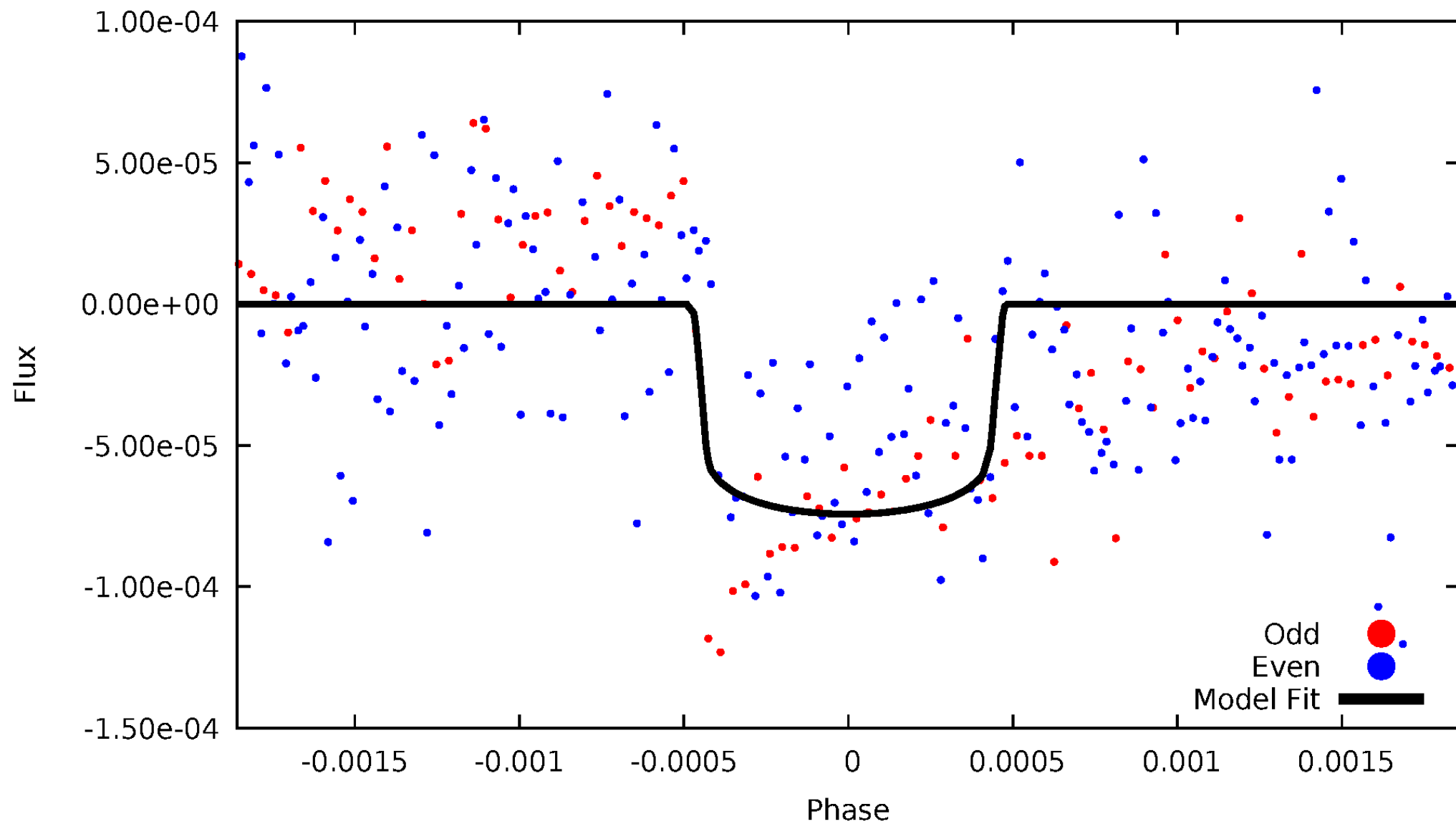


TCE 008327158-01



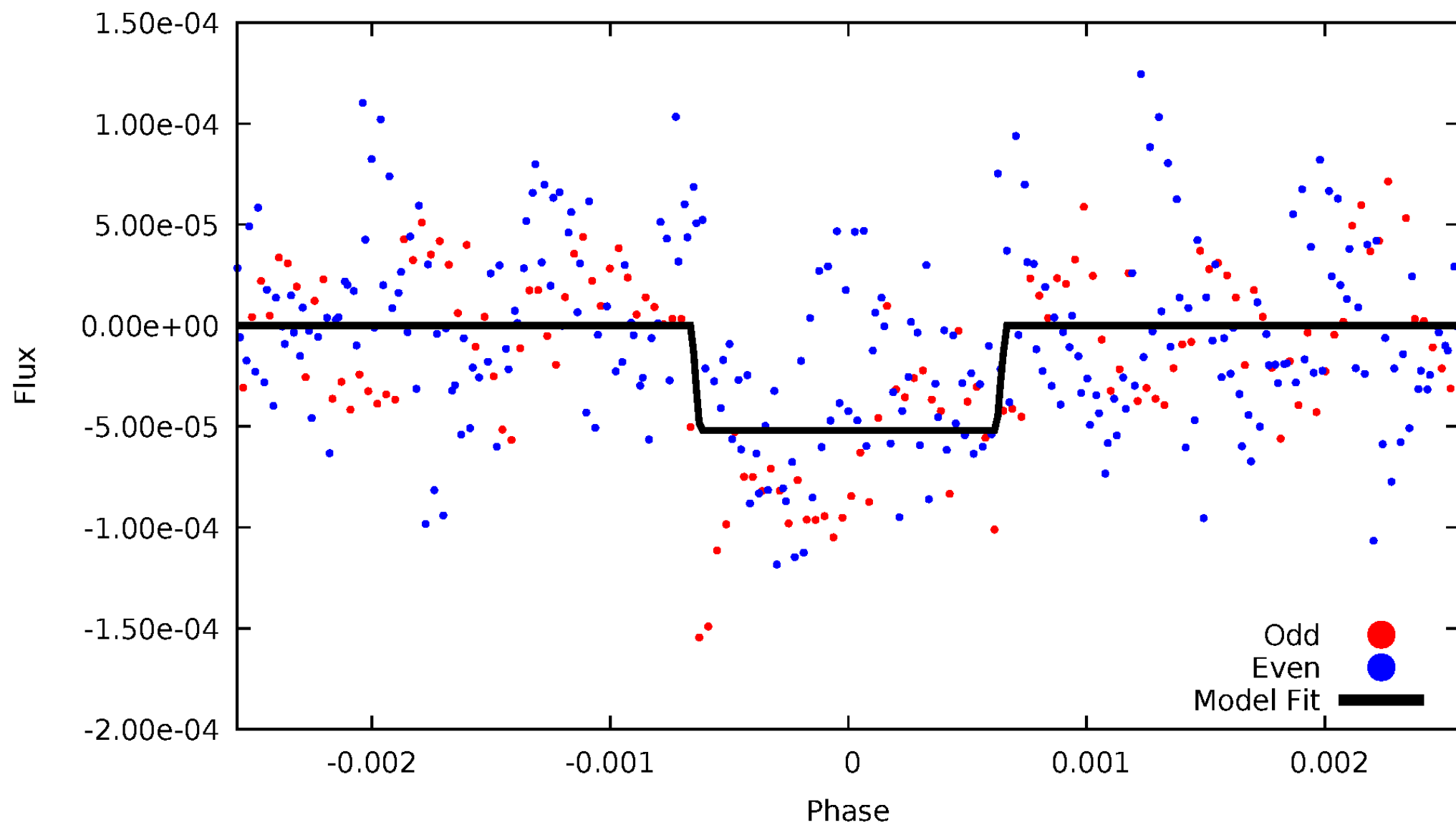
DV Odd/Even

TCE 008327158-01



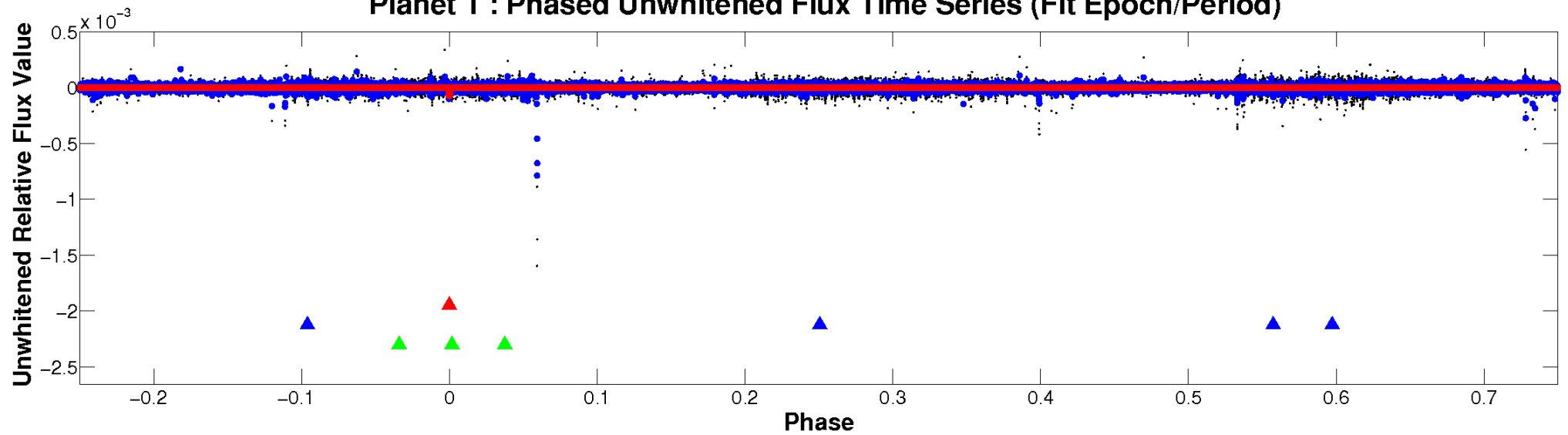
ALT Odd/Even

TCE 008327158-01

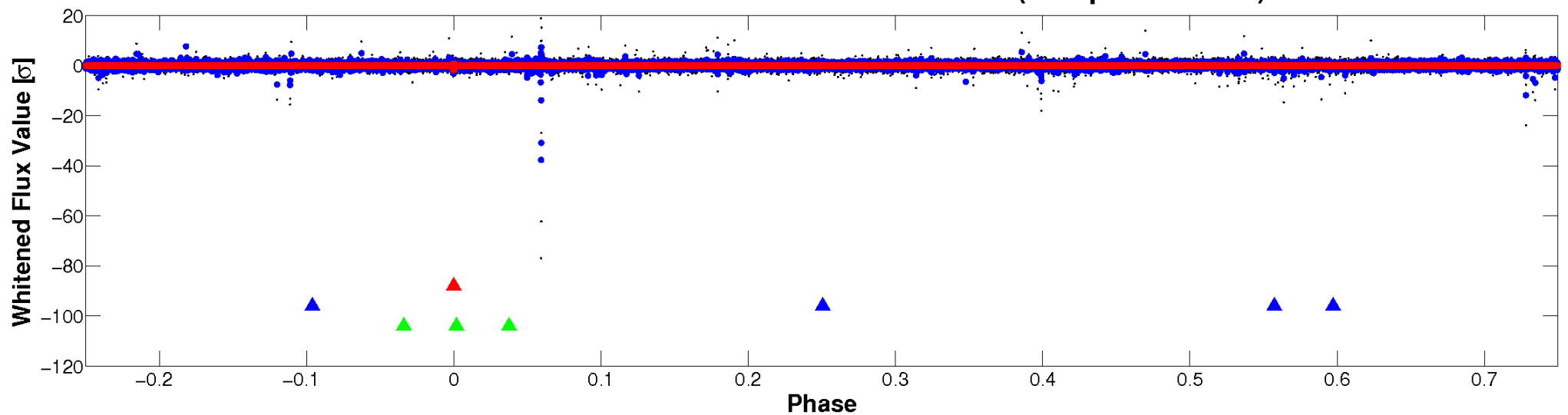


Non-Whitened Vs. Whitened Light Curve

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

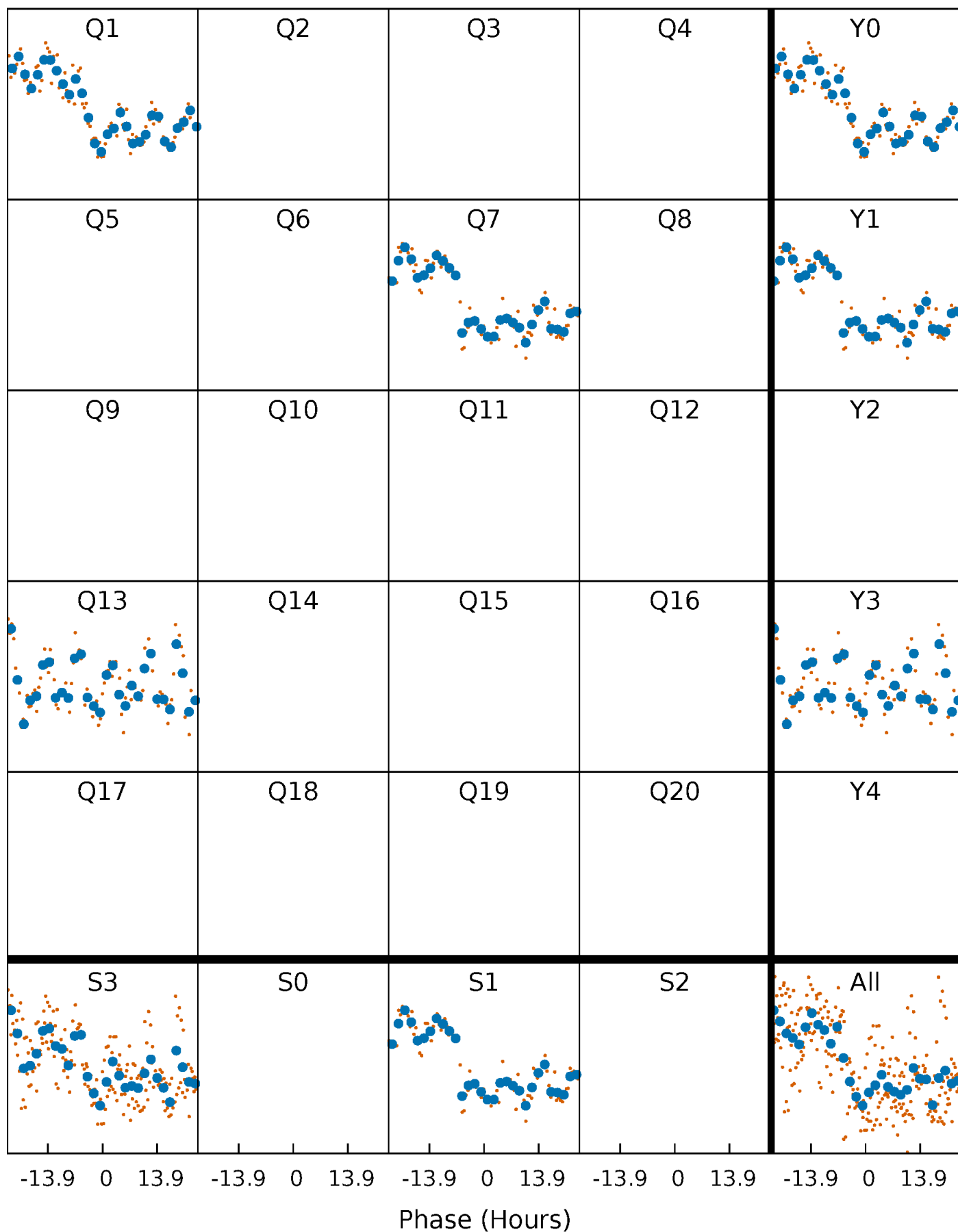


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



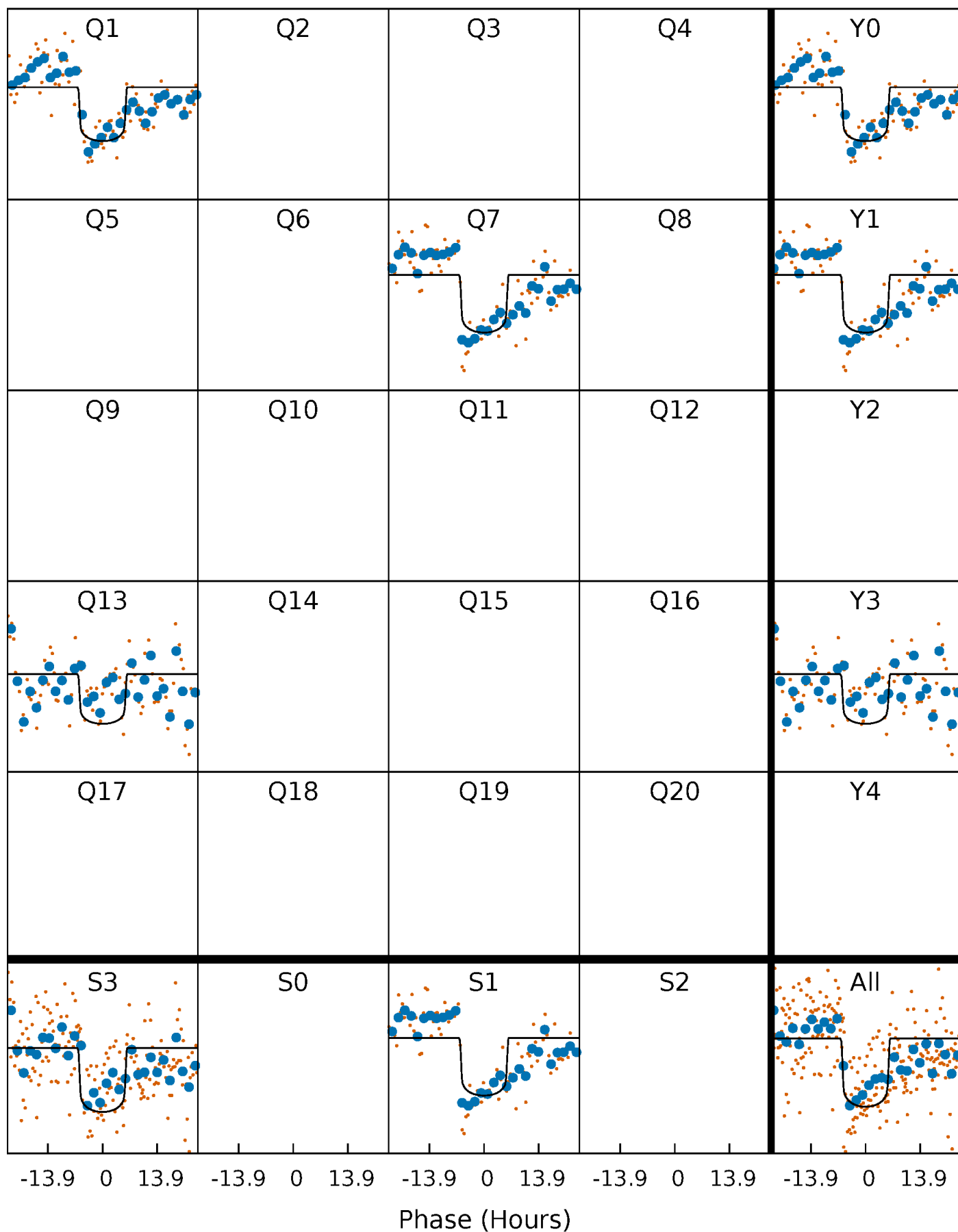
PDC Quarter-Phased Transit Curves

TCE 008327158-01 P=544.244167 Days $T_0=153.387165$ (BKJD)



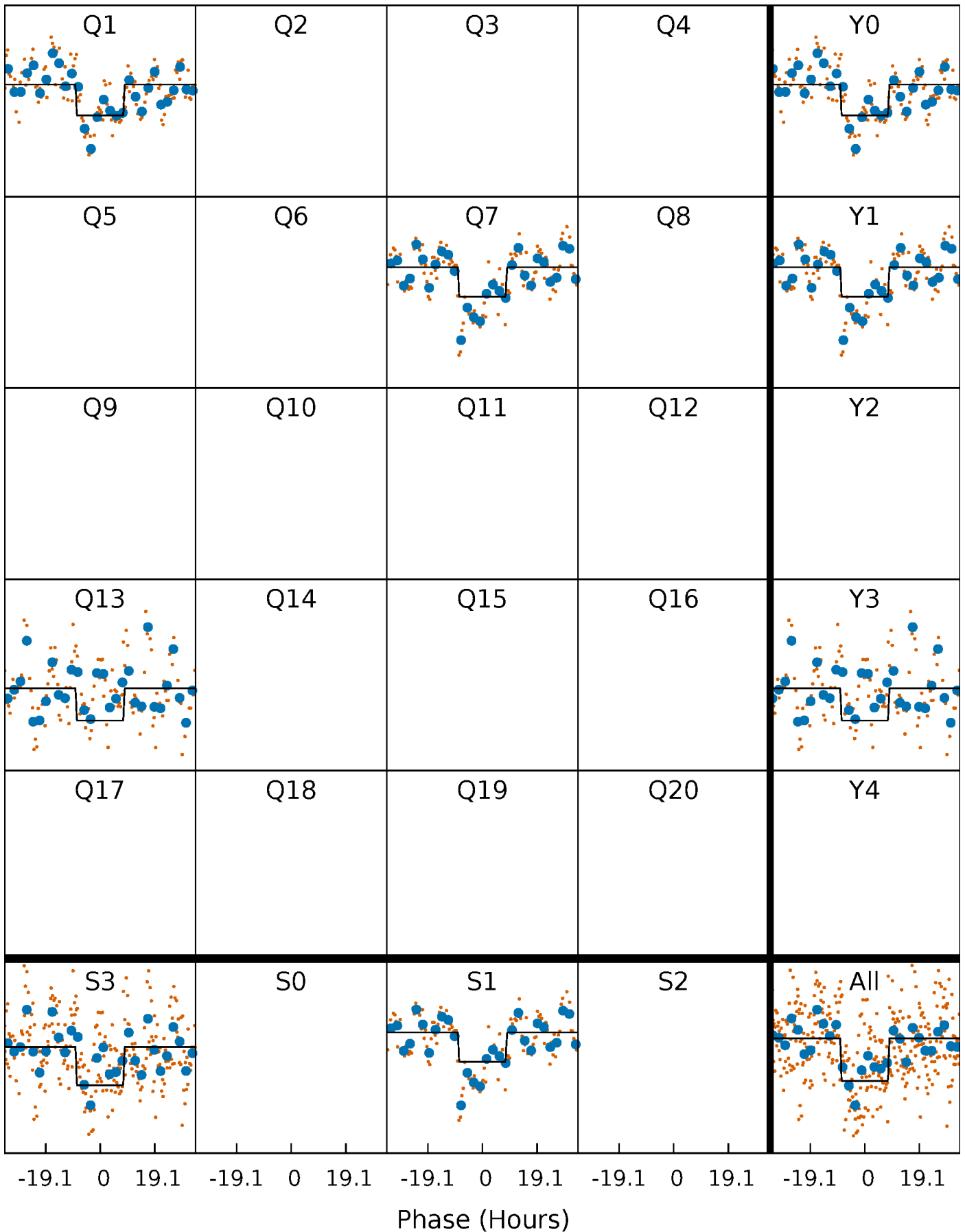
DV Quarter-Phased Transit Curves

TCE 008327158-01 P=544.244167 Days $T_0=153.387165$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

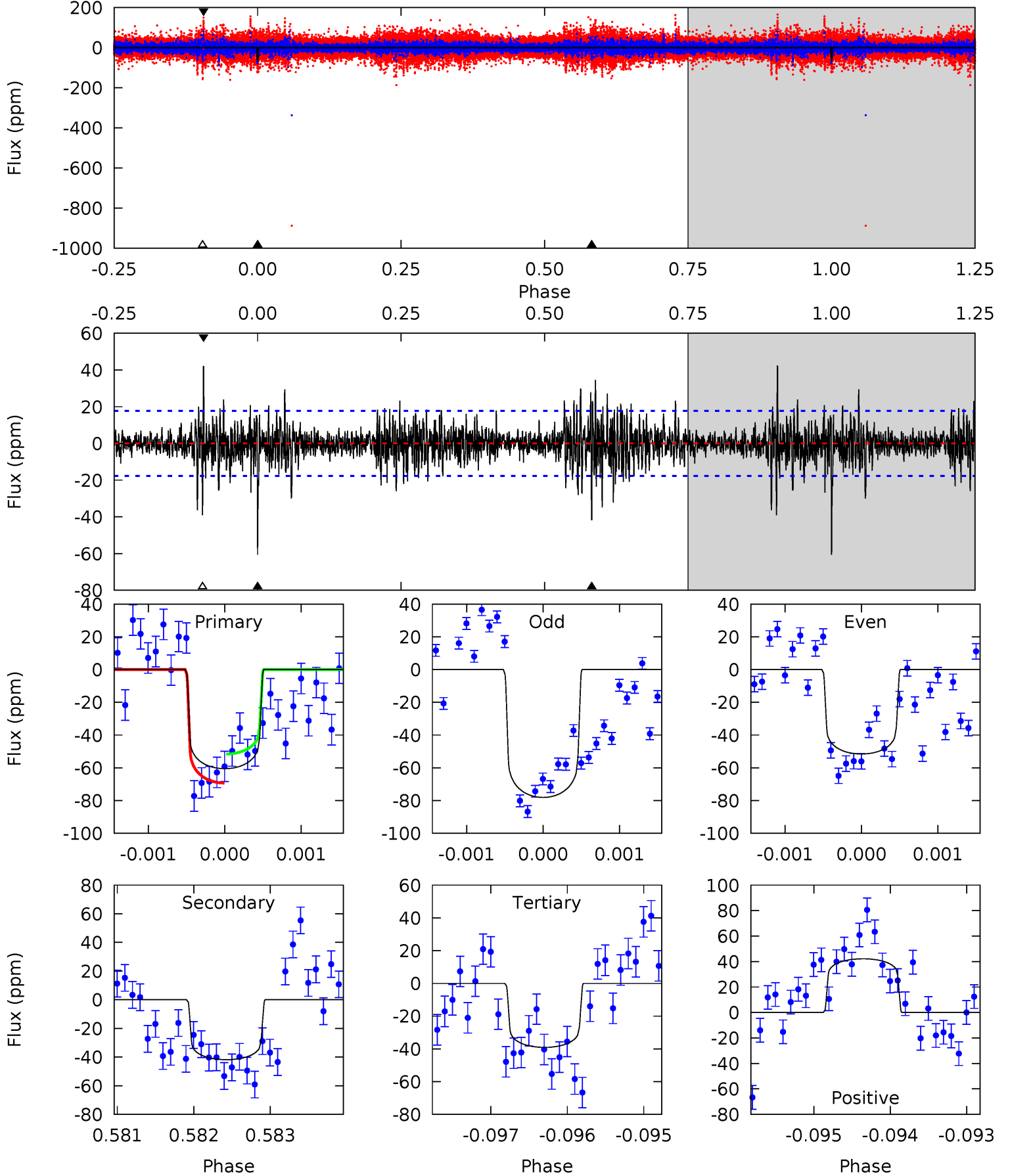
TCE 008327158-01 P=544.241059 Days $T_0=153.499030$ (BKJD)



DV Model-Shift Uniqueness Test

008327158-01, P = 544.244167 Days, E = 153.387165 Days

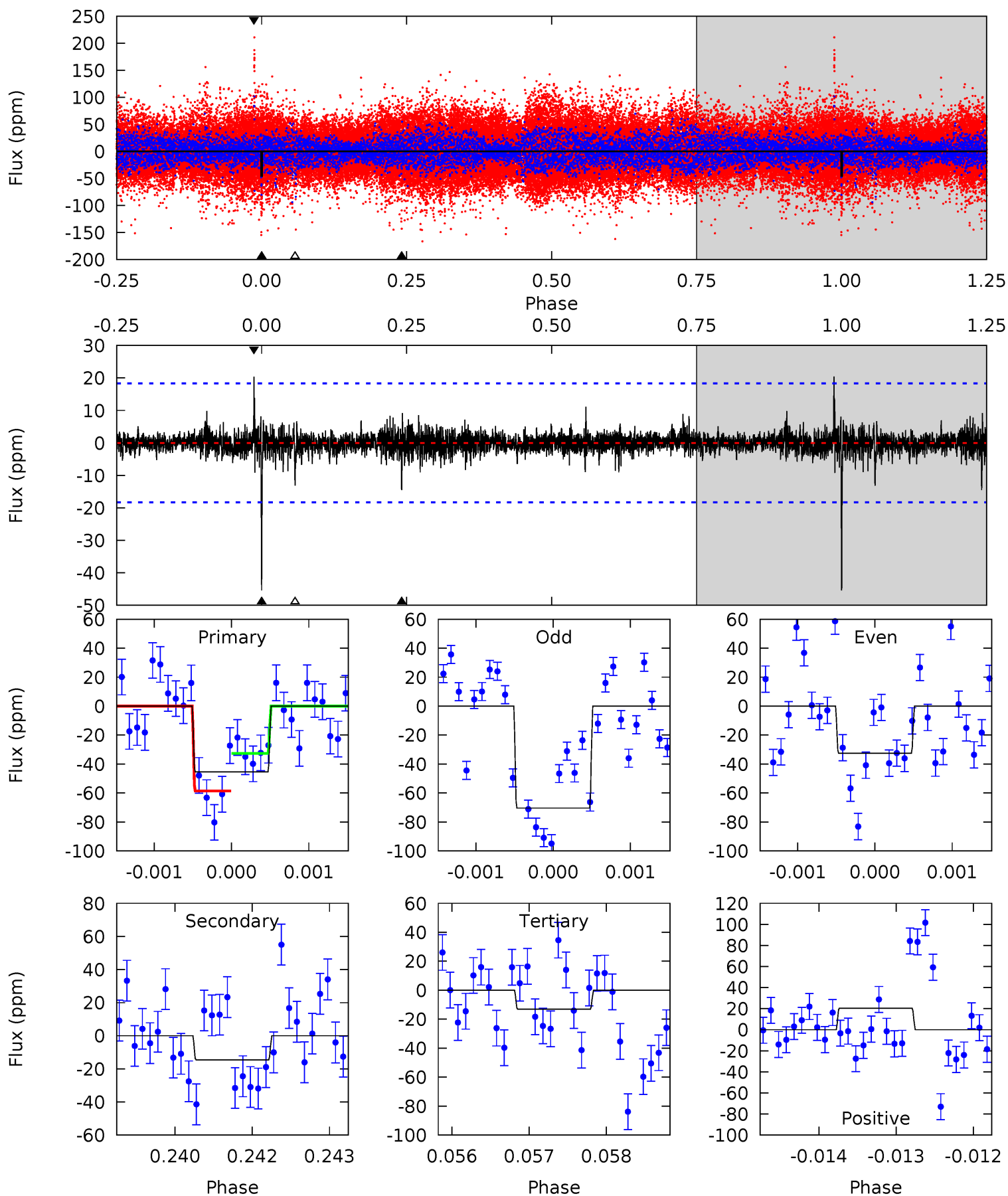
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.6	12.9	12.0	13.0	5.46	3.31	2.28	6.60	5.66	0.84	-0.10	3.65	0.86	0.41	2.70



Alt Model-Shift Uniqueness Test

008327158-01, P = 544.241059 Days, E = 153.499030 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.4	4.29	3.87	6.02	5.40	3.22	0.64	9.54	7.38	0.43	-1.73	5.30	0.83	0.31	3.83



Stellar Parameters For KIC 008327158

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	10192^{+321}_{-393}	$3.728^{+0.392}_{-0.098}$	$0.070^{+0.150}_{-0.550}$	$3.986^{+0.755}_{-1.761}$	$3.100^{+0.212}_{-0.850}$	$0.069^{+0.238}_{-0.025}$
	+3%/-4%	+11%/-3%	+214%/-786%	+19%/-44%	+7%/-27%	+345%/-37%
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 008327158-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-42 ± 3	$3.61^{+0.65}_{-0.87}$	881^{+66}_{-93}	8171^{+667}_{-504}	6293^{+4157}_{-1706}
Alt.	-15 ± 3	$2.93^{+0.59}_{-0.73}$	884^{+62}_{-105}	6749^{+717}_{-584}	3304^{+2351}_{-1184}

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 $A_{obs} \gg 1.0$

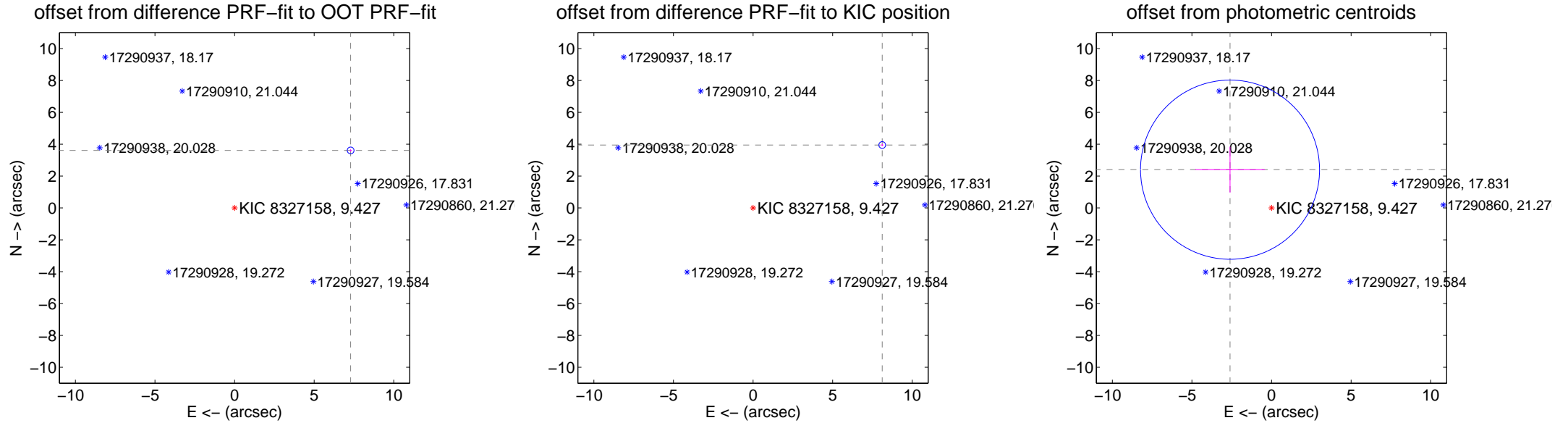
DV Centroid Data

Supplemental centroid analysis for 008327158-01. **Kepler magnitude: 9.43.** Transit SNR 14.70

There are 0 quarters with good PRF difference image offsets

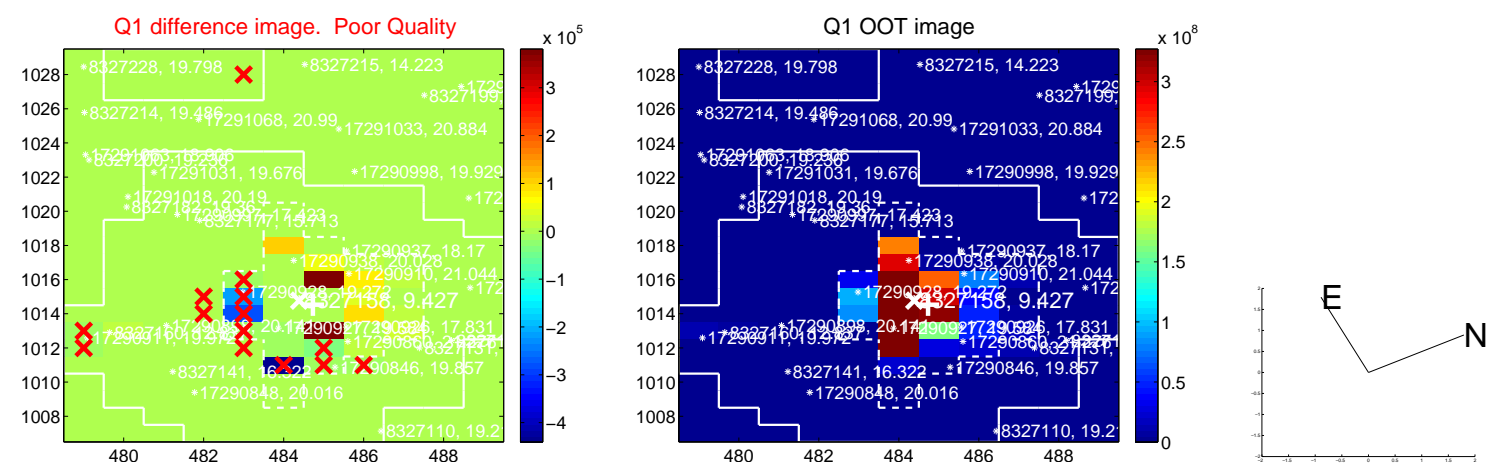
The direct PRF centroid is offset from the target star catalog position by about 0.89 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.137 ± 0.071	114.94	-7.291 ± 0.071	3.611 ± 0.072
PRF-fit source offset from KIC position	9.025 ± 0.071	127.50	-8.115 ± 0.071	3.949 ± 0.072
photometric centroid source offset	3.54 ± 1.87	1.89	2.61 ± 2.18	2.40 ± 1.44



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 ×: 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.

Q5 no difference image



Q5 no OOT image



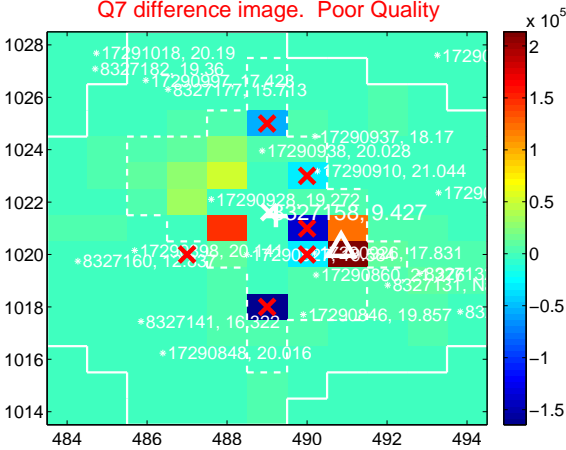
Q6 no difference image



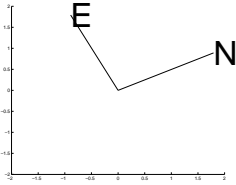
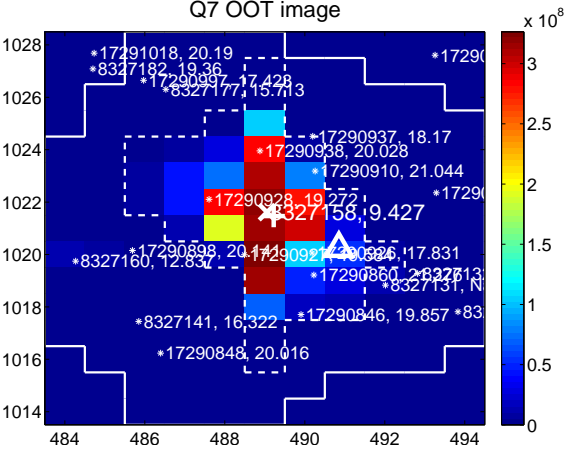
Q6 no OOT image



Q7 difference image. Poor Quality



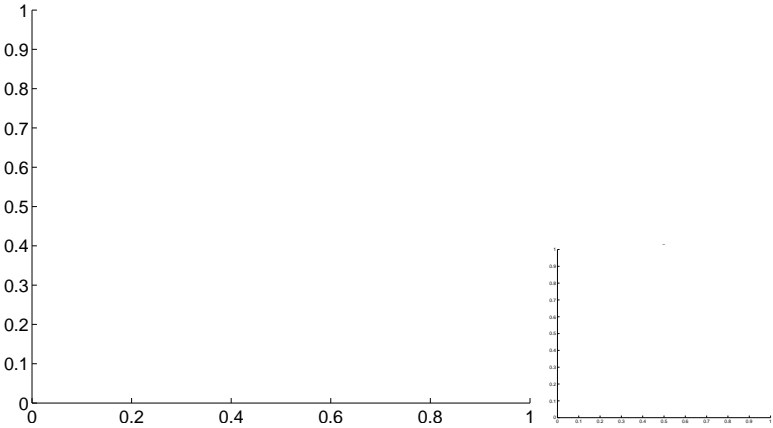
Q7 OOT image



Q8 no difference image



Q8 no OOT image



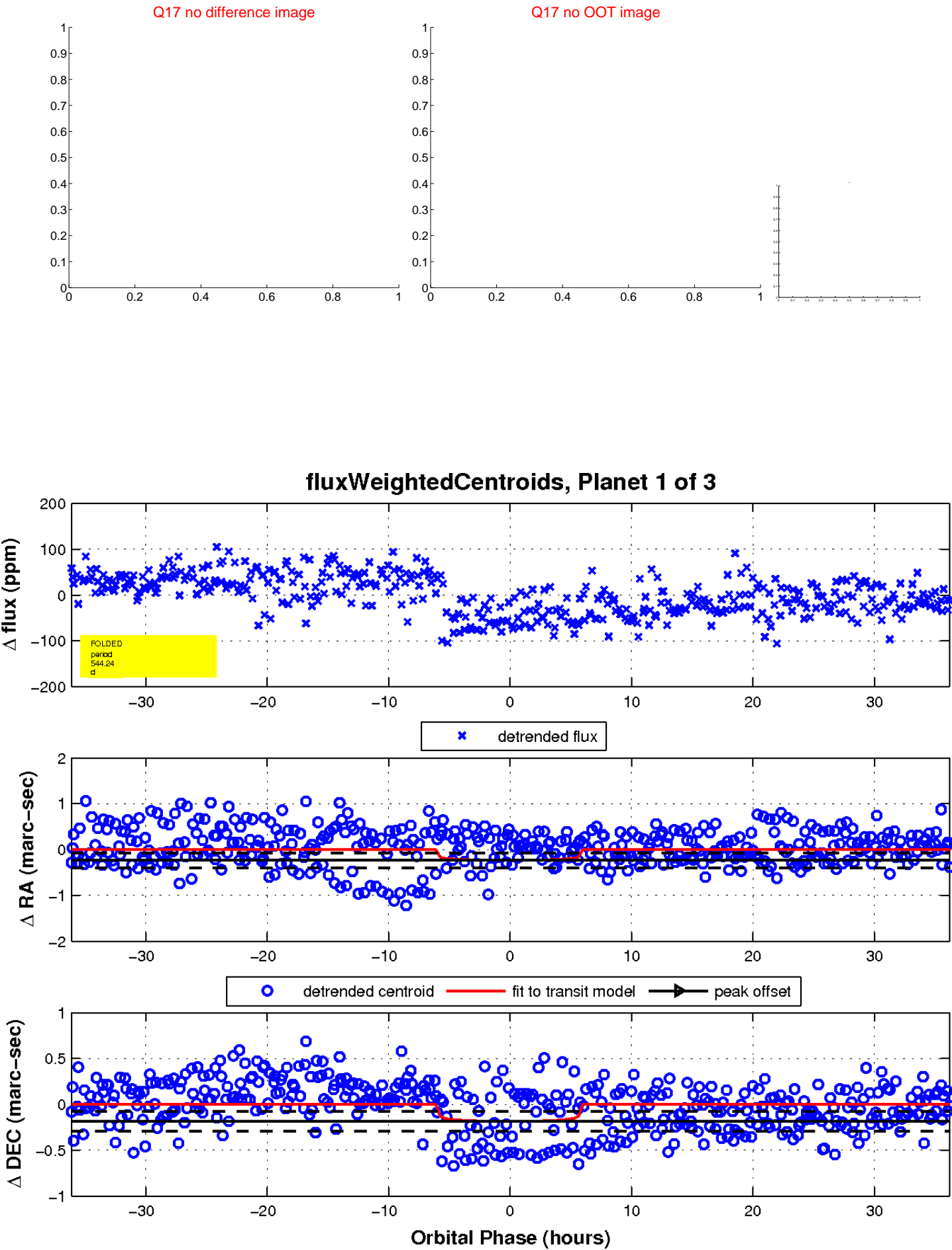
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



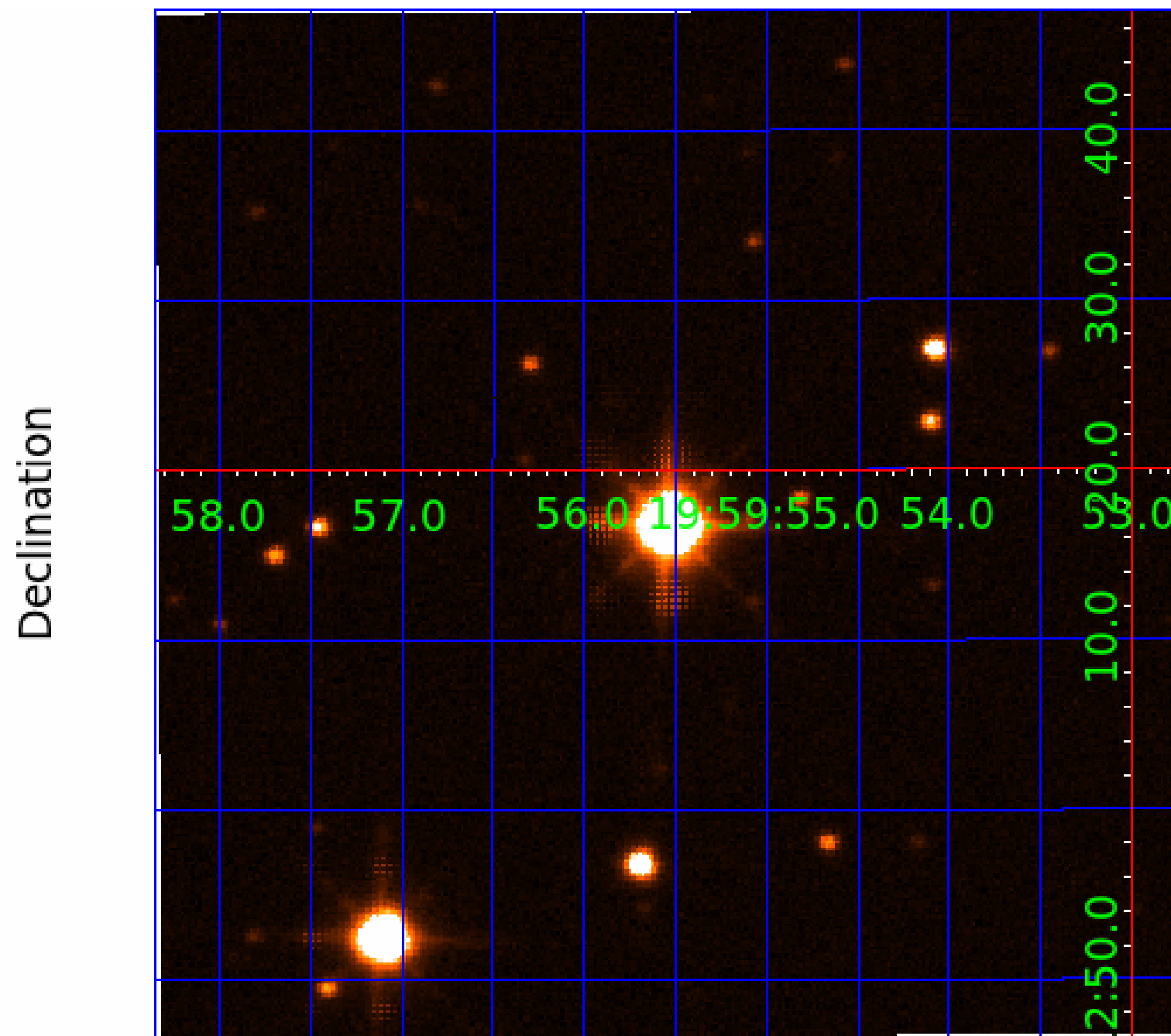
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 008327158

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})
008327158-01	OBS	No	544.244167	153.387165	74.3	12.128	14.9	14.7	3.99	10192	3.85	42.45
008327158-02	OBS	No	355.586932	478.455060	49.6	13.157	8.5	7.9	3.99	10192	3.22	74.88
008327158-03	OBS	No	524.792287	173.814898	41.8	13.458	8.3	8.4	3.99	10192	2.87	44.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008327158-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
008327158-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008327158-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_TER_DV—CENT_SATURATED

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

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

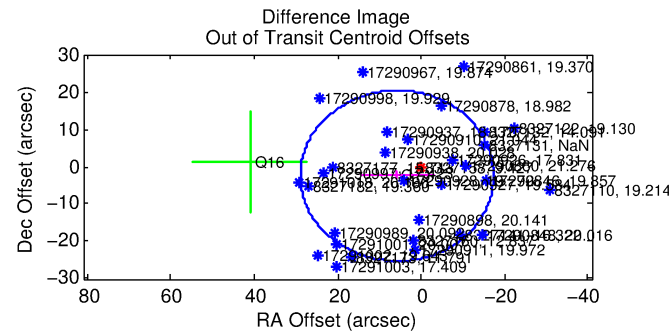
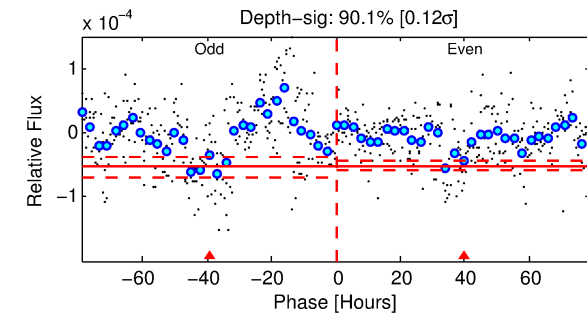
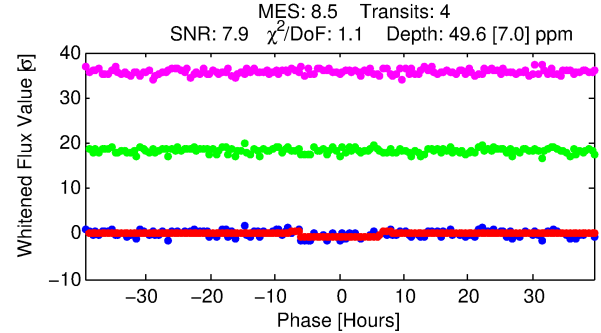
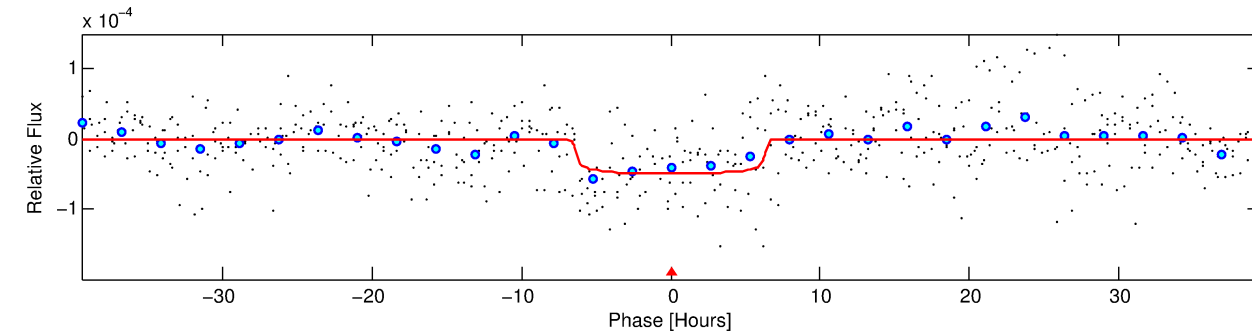
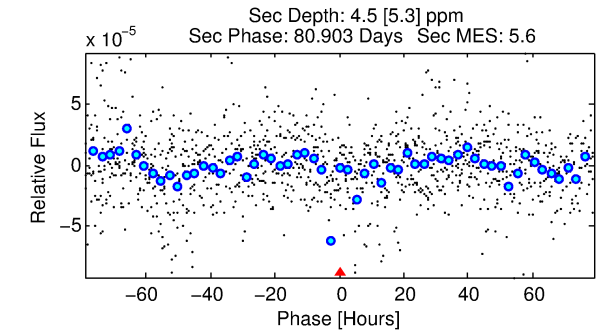
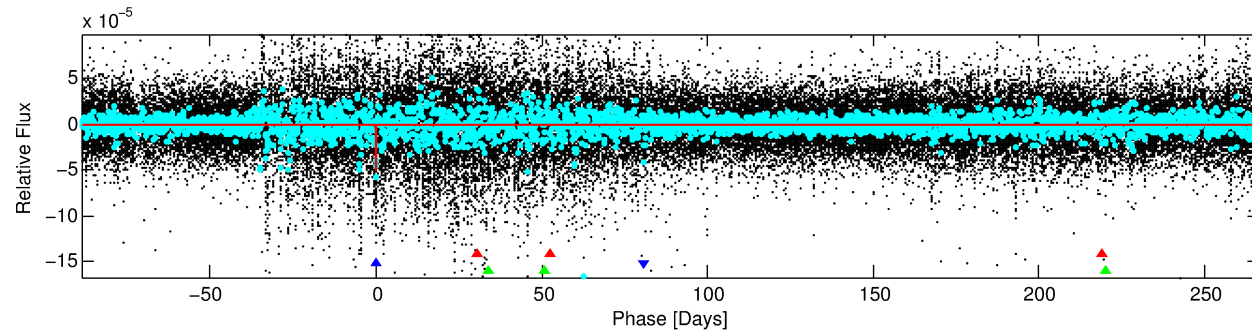
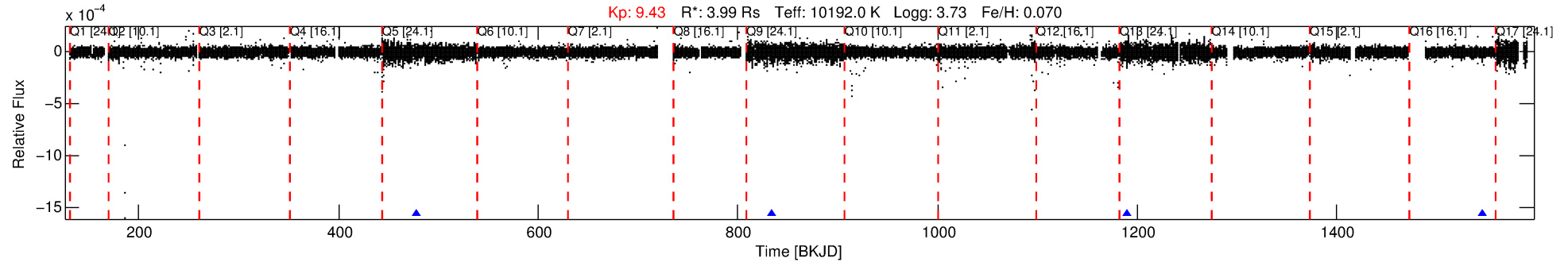
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008327158-02

No Significant Match Found

DV One-Page Summary

KIC: 8327158 Candidate: 2 of 3 Period: 355.587 d



DV Fit Results:

Period = 355.58693 [0.00603] d
Epoch = 478.4551 [0.0130] BKJD
Rp/R* = 0.0074 [0.0008]
a/R* = 93.38 [54.07]
b = 0.90 [0.12]
Seff = 74.88 [51.48]
Teq = 750 [129] K
Rp = 3.22 [1.46] Re
a = 1.4323 [0.6030] AU
Ag = 485.65 [674.64] [0.72 σ]
Teffp = 5444 [1670] K [2.80 σ]

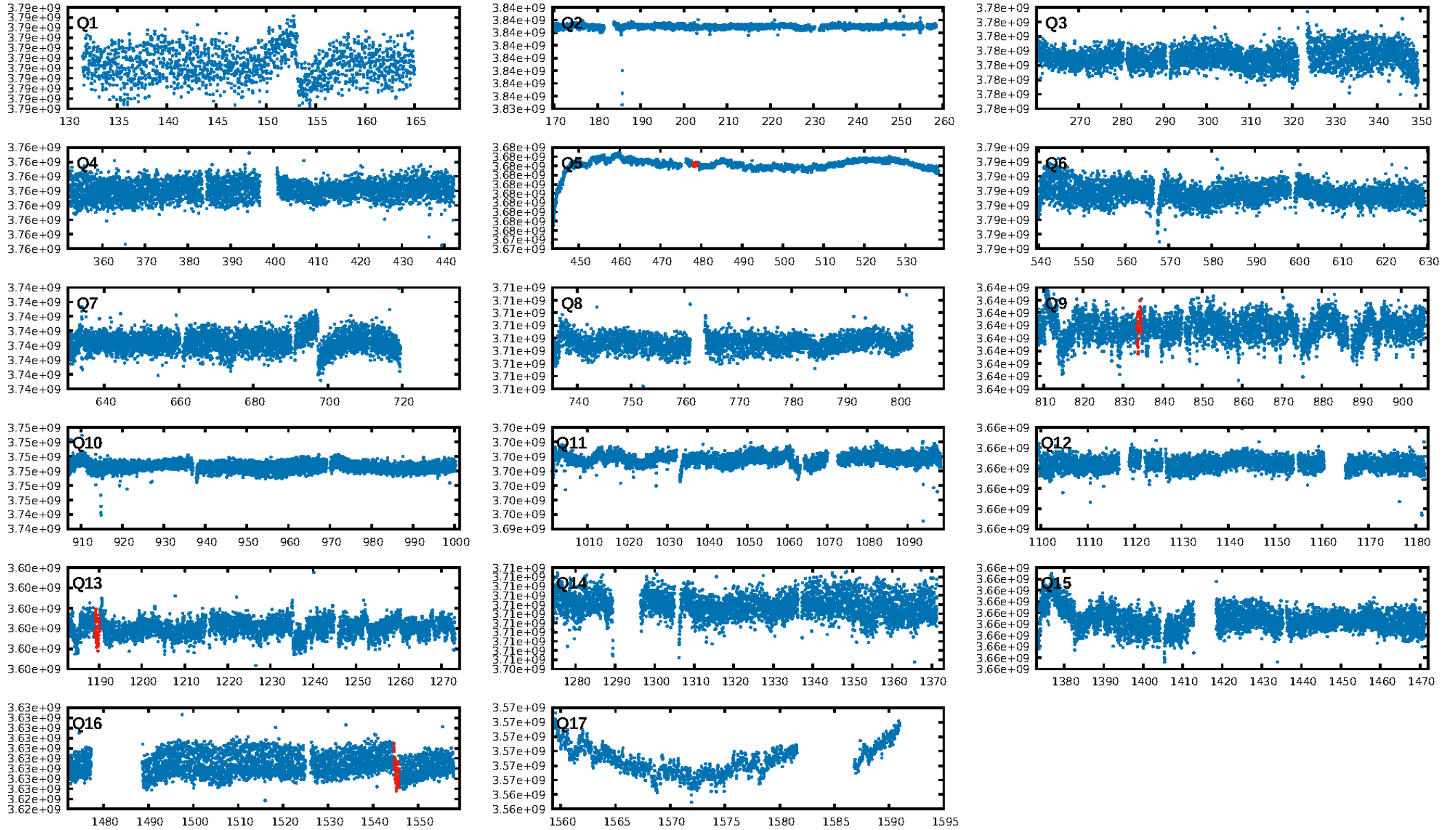
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [215.76 σ]
ModelChiSquare2-sig: 40.8%
ModelChiSquareGof-sig: 93.7%
Bootstrap-pfa: 2.09e-11
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: N/A
Centroid-sig: 1.0%
Centroid-so: 8.577 arcsec [2.48 σ]
OotOffset-rm: 6.294 arcsec [0.82 σ]
KicOffset-rm: 4.507 arcsec [0.55 σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
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DiffImageOverlap-fno: 1.00 [4/4]

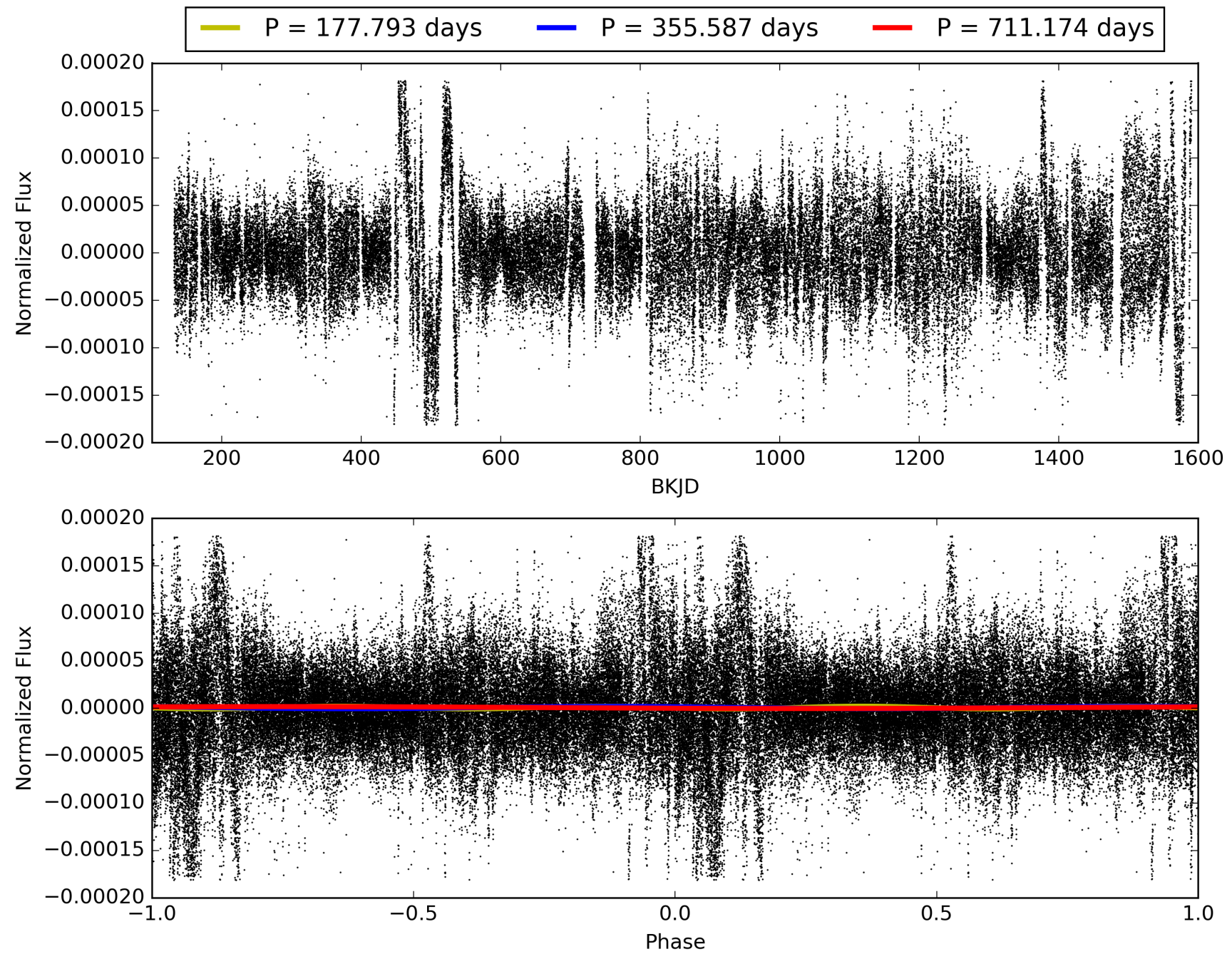
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:09:58 Z

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

TCE 008327158-02, PDC Light Curves

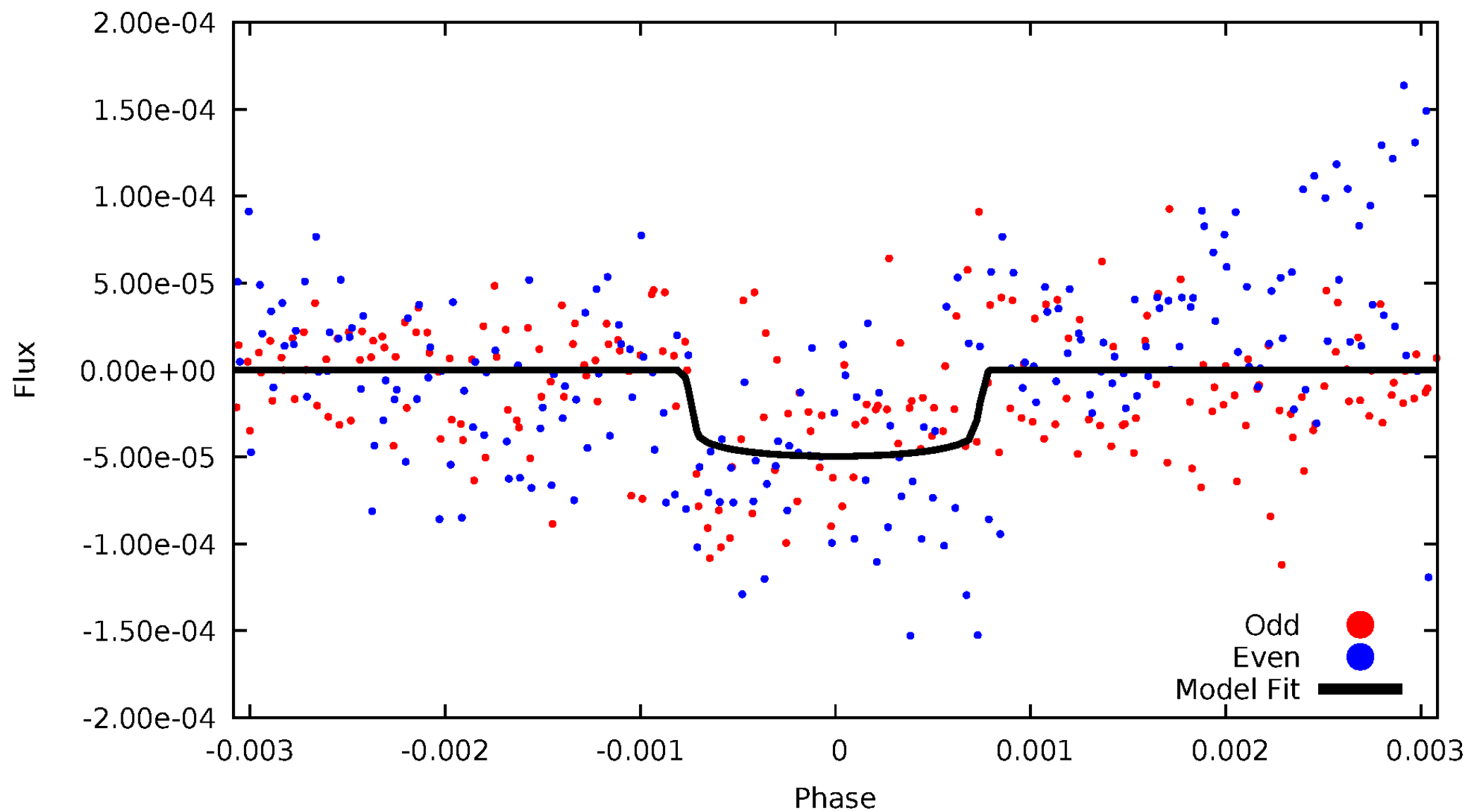


TCE 008327158-02



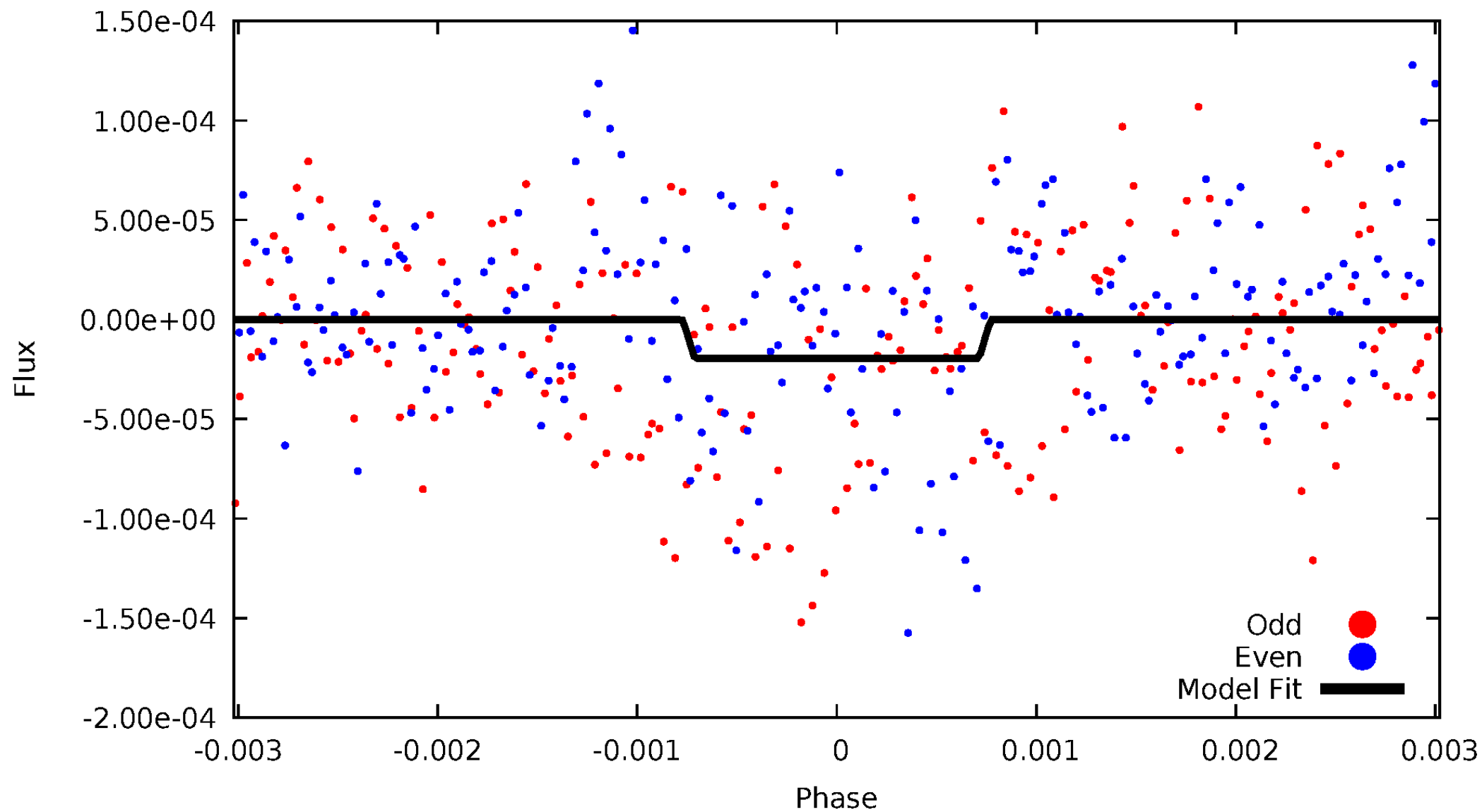
DV Odd/Even

TCE 008327158-02



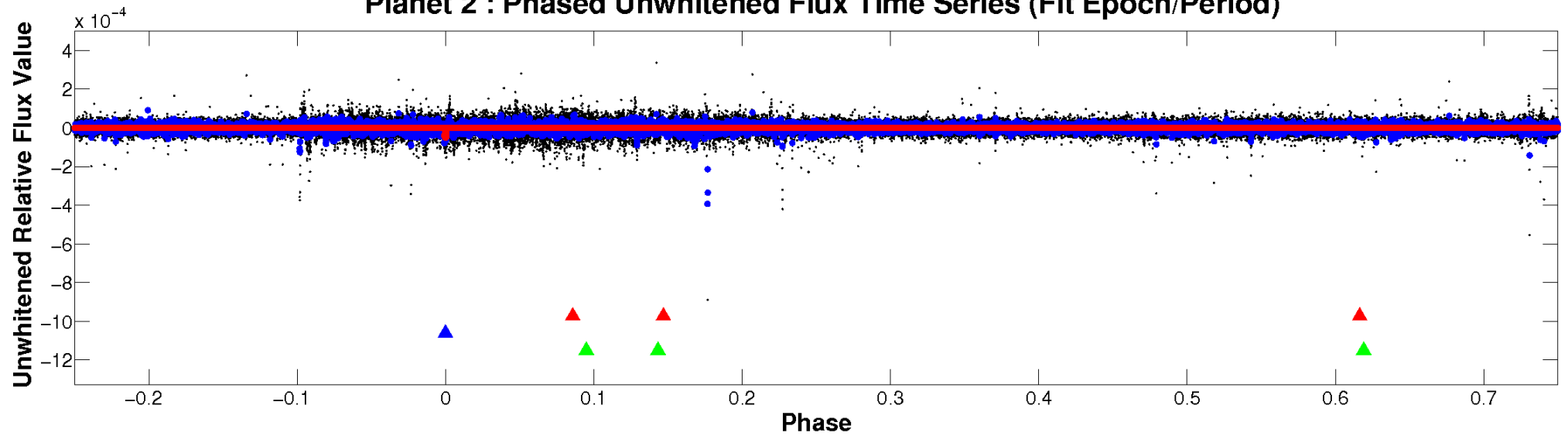
ALT Odd/Even

TCE 008327158-02

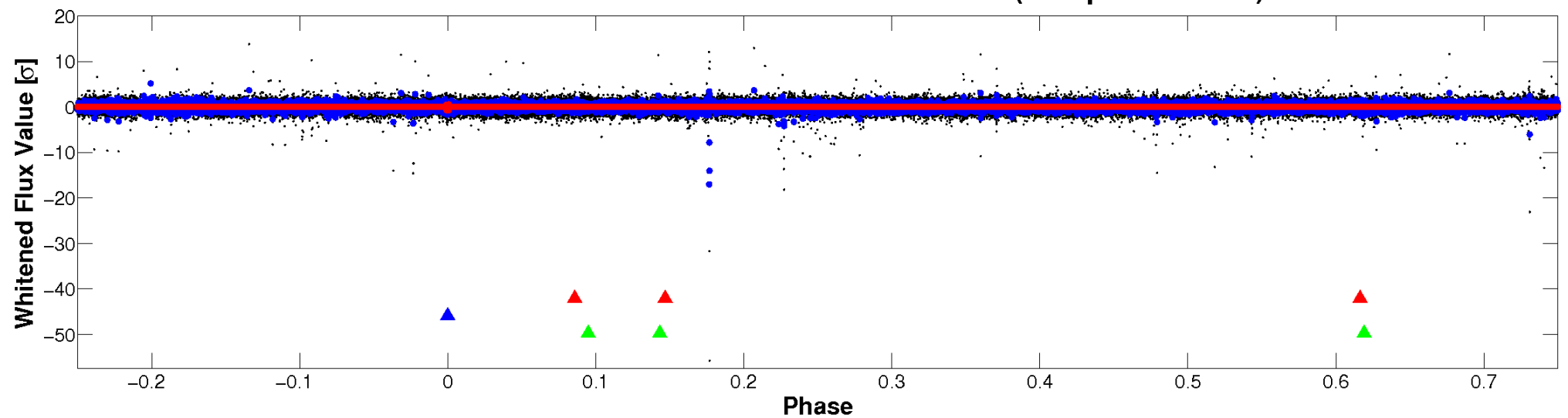


Non-Whitened Vs. Whitened Light Curve

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

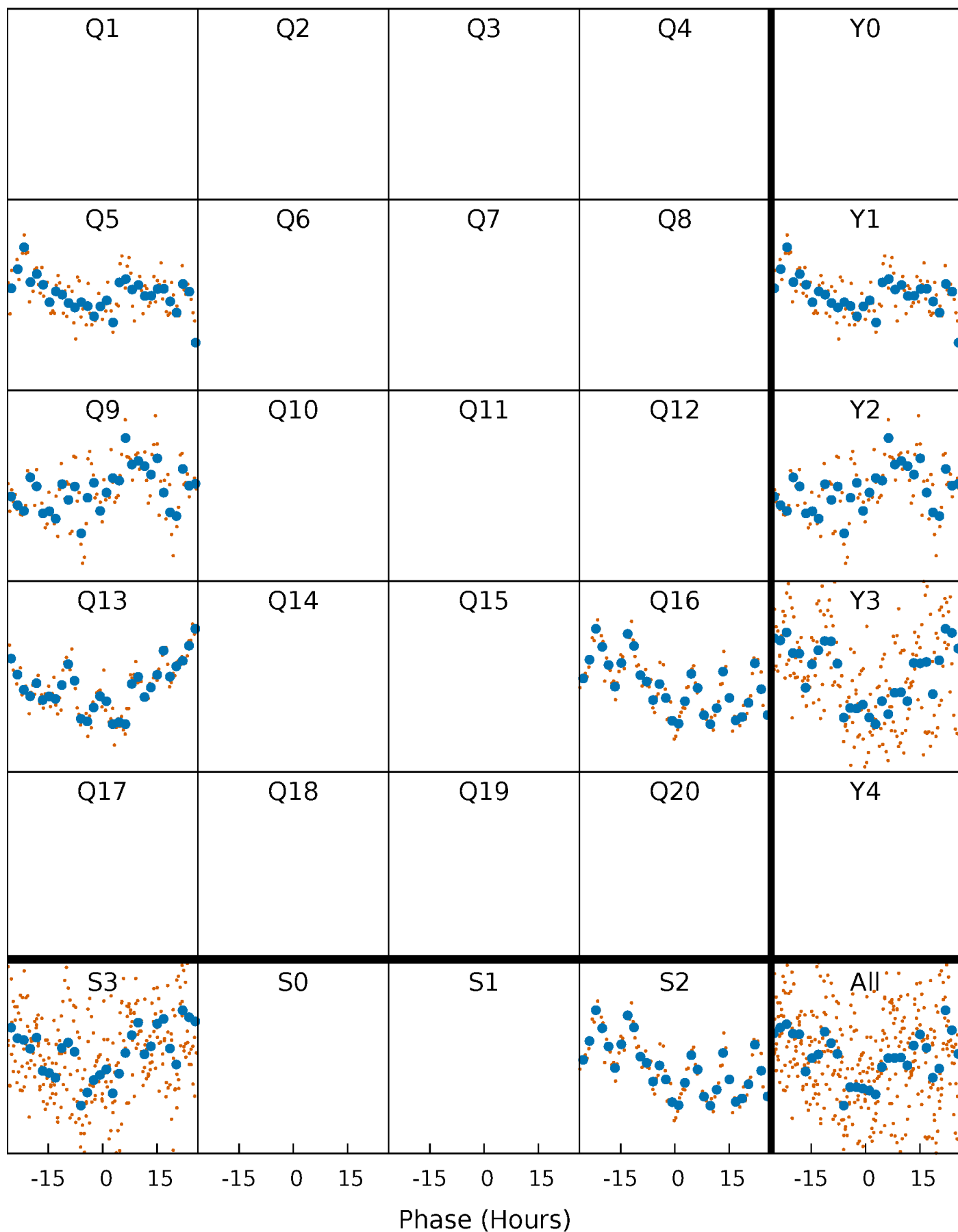


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



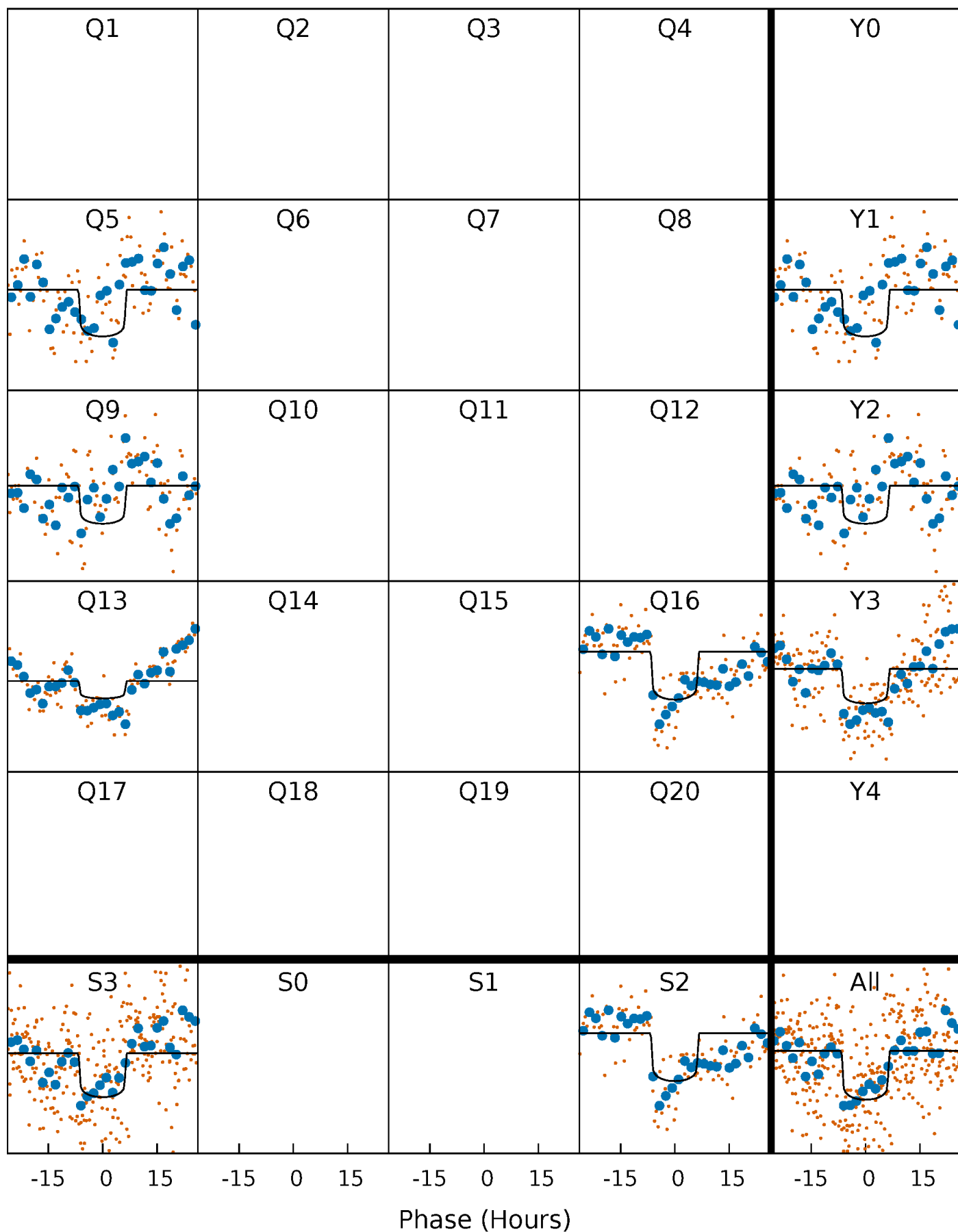
PDC Quarter-Phased Transit Curves

TCE 008327158-02 P=355.586932 Days $T_0=478.455060$ (BKJD)



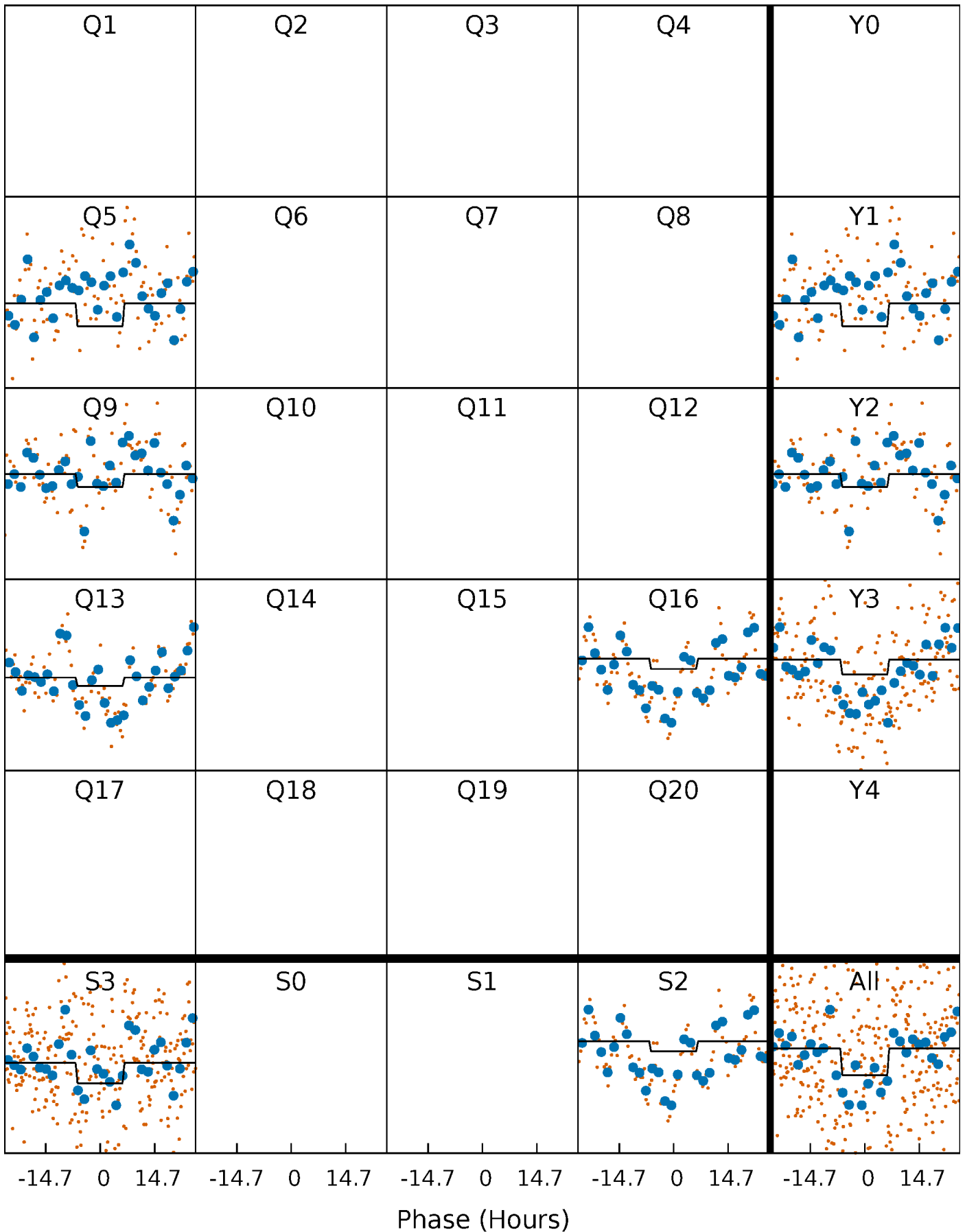
DV Quarter-Phased Transit Curves

TCE 008327158-02 P=355.586932 Days $T_0=478.455060$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

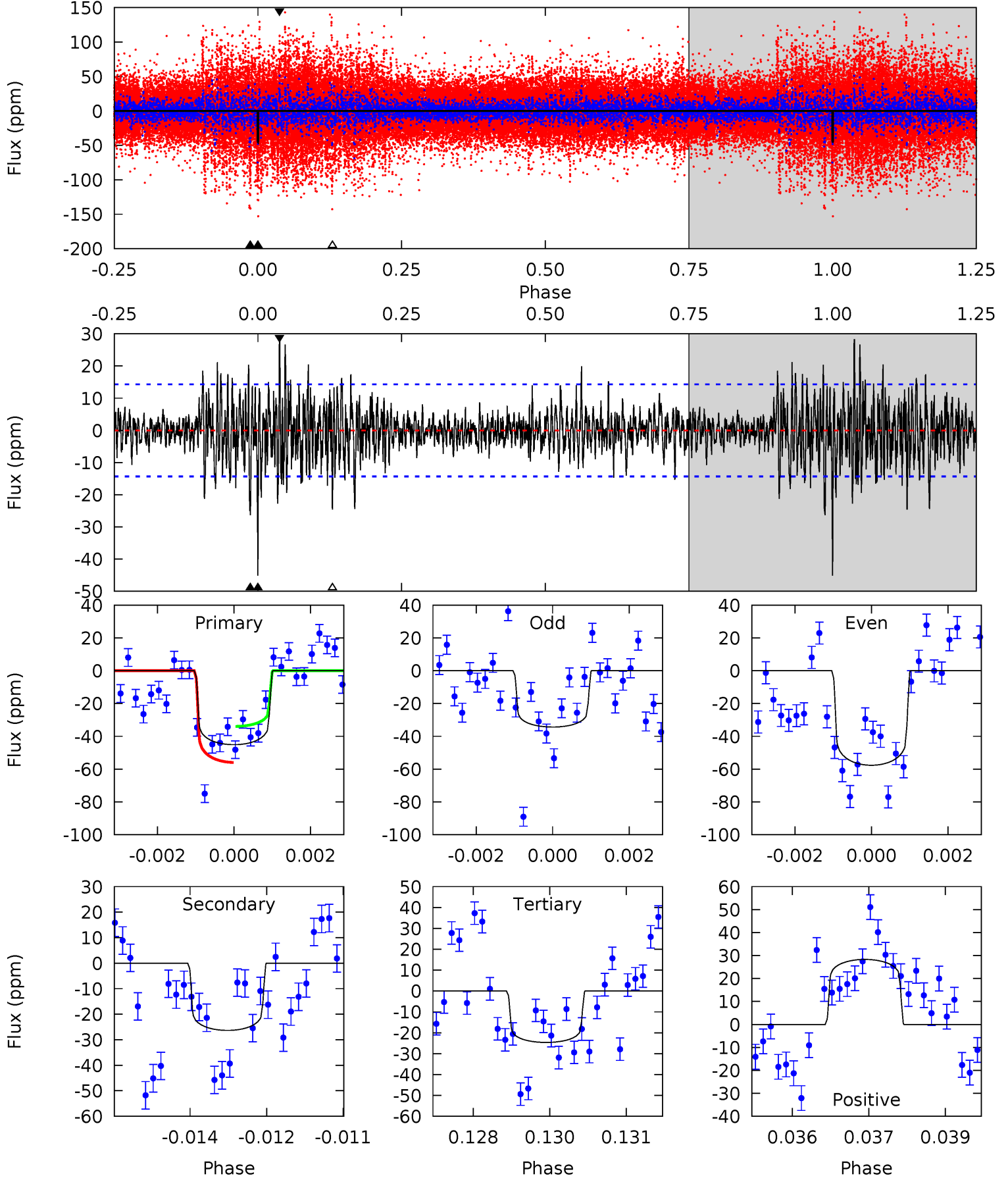
TCE 008327158-02 $P=355.632489$ Days $T_0=478.373513$ (BKJD)



DV Model-Shift Uniqueness Test

008327158-02, $P = 355.586932$ Days, $E = 122.868128$ Days

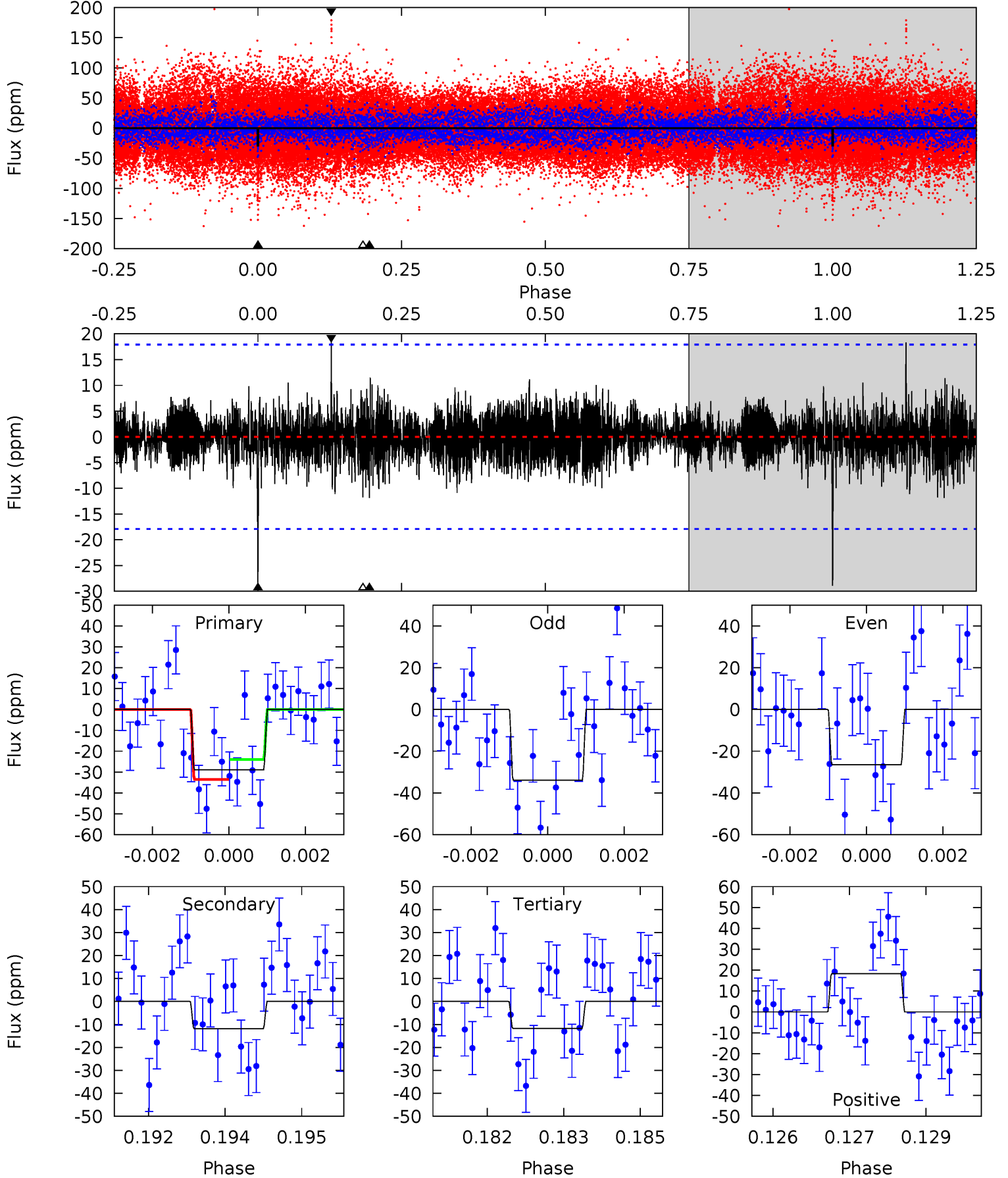
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.9	9.88	9.24	10.6	5.37	3.16	2.21	7.69	6.31	0.64	-0.73	4.27	1.11	0.39	4.13



Alt Model-Shift Uniqueness Test

008327158-02, P = 355.632489 Days, E = 122.741024 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.68	3.56	3.52	5.50	5.37	3.16	1.01	5.16	3.18	0.04	-1.94	1.11	0.88	0.39	1.43



Stellar Parameters For KIC 008327158

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	10192^{+321}_{-393}	$3.728^{+0.392}_{-0.098}$	$0.070^{+0.150}_{-0.550}$	$3.986^{+0.755}_{-1.761}$	$3.100^{+0.212}_{-0.850}$	$0.069^{+0.238}_{-0.025}$
	+3%/-4%	+11%/-3%	+214%/-786%	+19%/-44%	+7%/-27%	+345%/-37%
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 008327158-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-26 ± 3	$2.99^{+0.57}_{-0.69}$	1014^{+79}_{-108}	7938^{+692}_{-576}	3310^{+2034}_{-994}
Alt.	-12 ± 3	$1.75^{+0.47}_{-0.45}$	1014^{+77}_{-106}	8540^{+1718}_{-1155}	4271^{+3724}_{-1867}

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

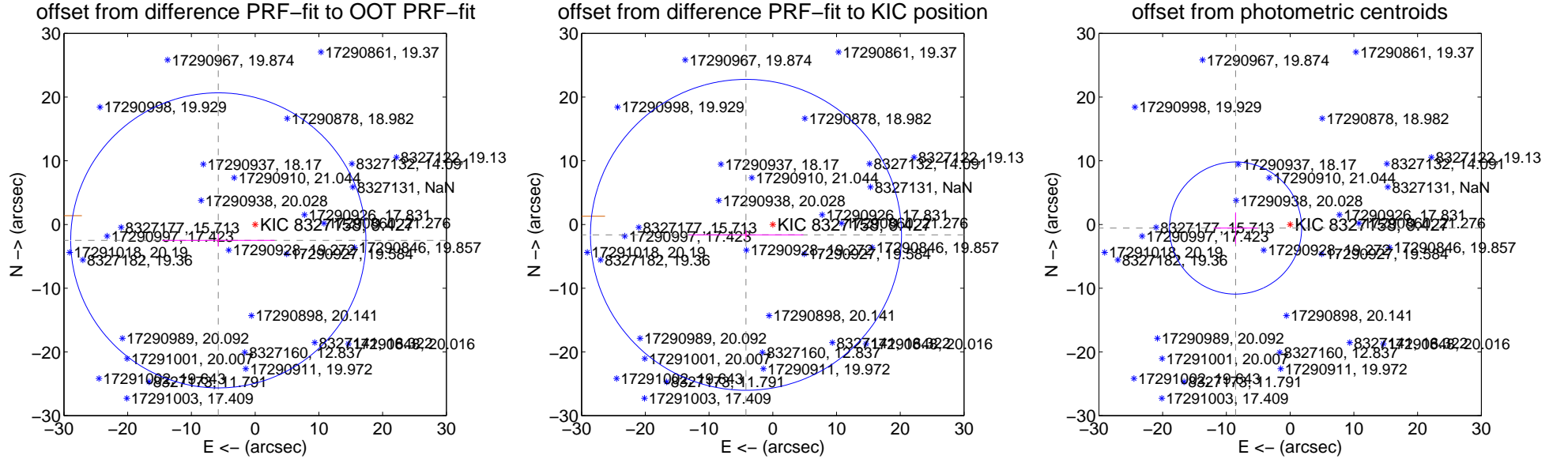
DV Centroid Data

Supplemental centroid analysis for 008327158-02. **Kepler magnitude: 9.43.** Transit SNR 7.87

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.87 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.294 ± 7.719	0.82	5.780 ± 8.822	-2.490 ± 0.972
PRF-fit source offset from KIC position	4.507 ± 8.133	0.55	4.204 ± 9.000	-1.624 ± 0.733
photometric centroid source offset	8.58 ± 3.46	2.48	8.56 ± 3.46	-0.55 ± 2.47

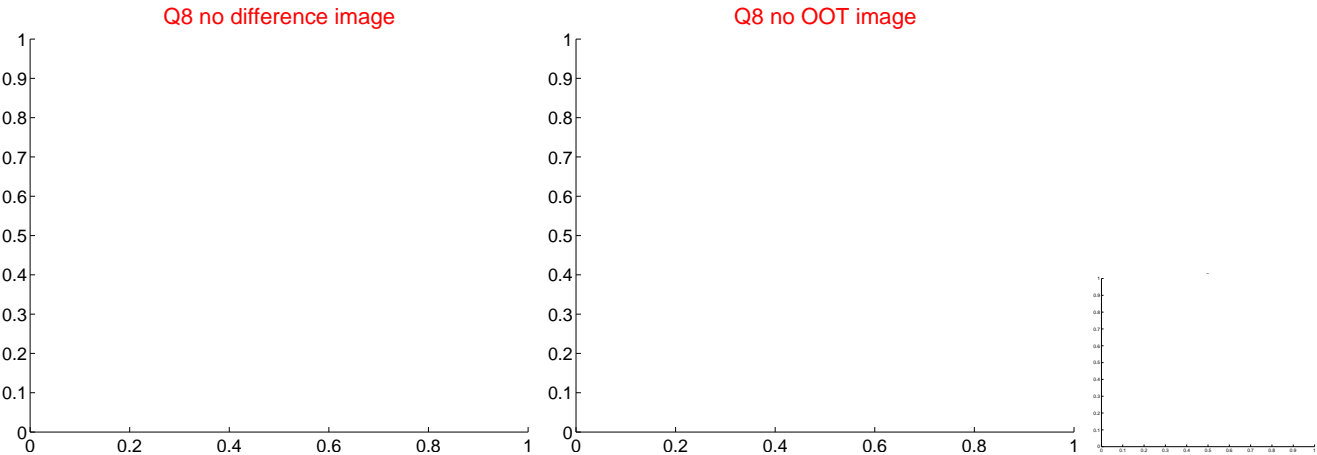
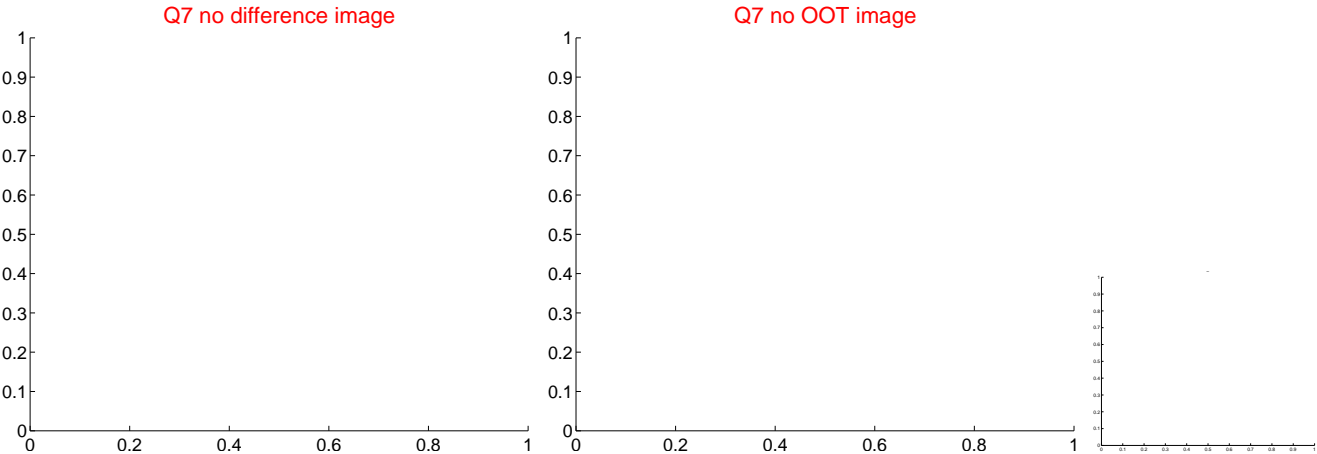
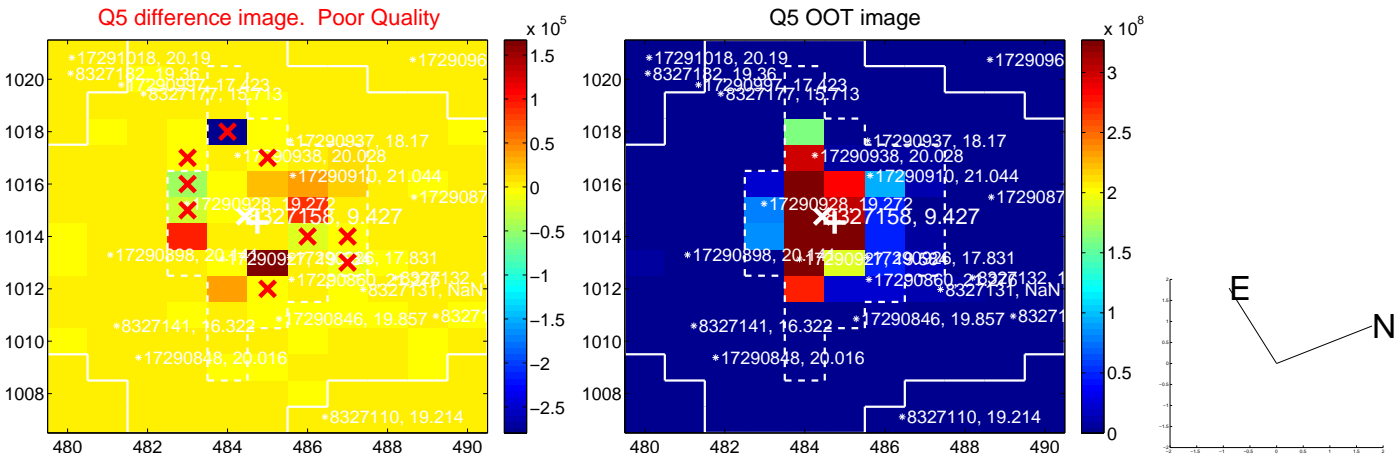


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

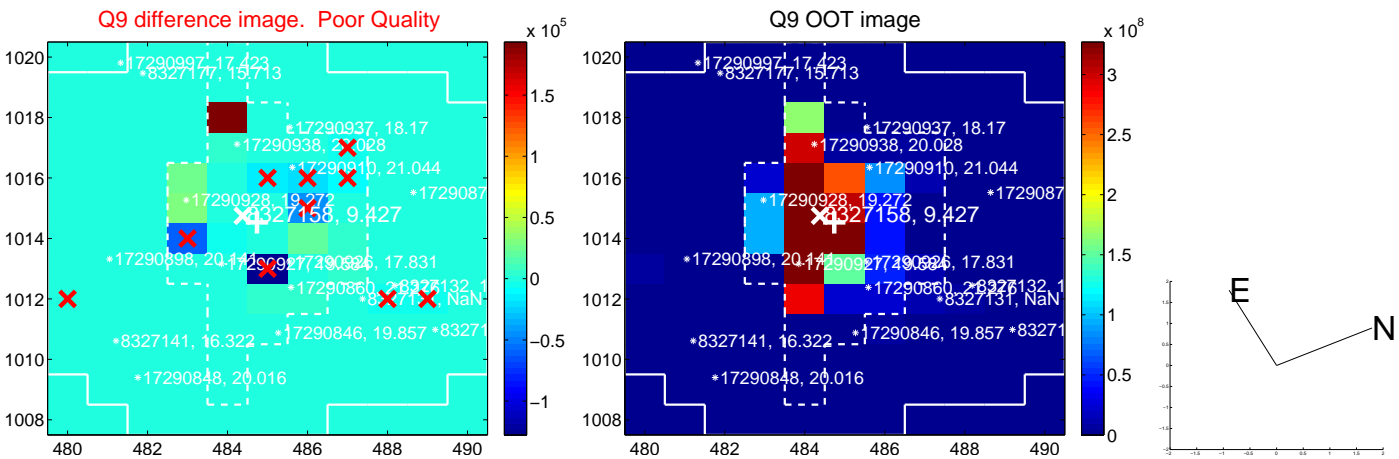
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



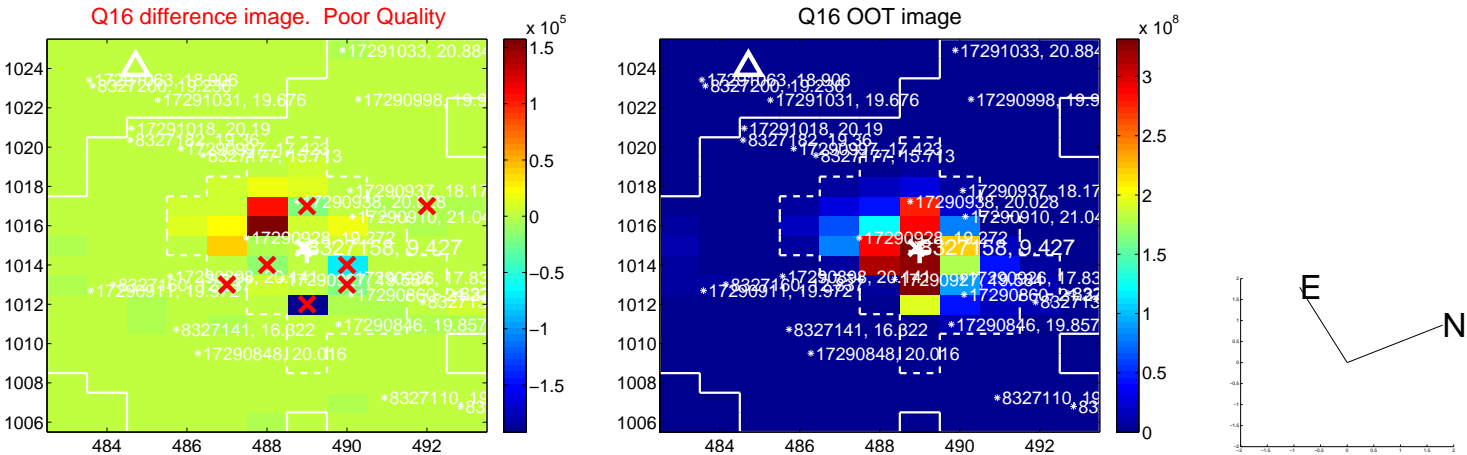
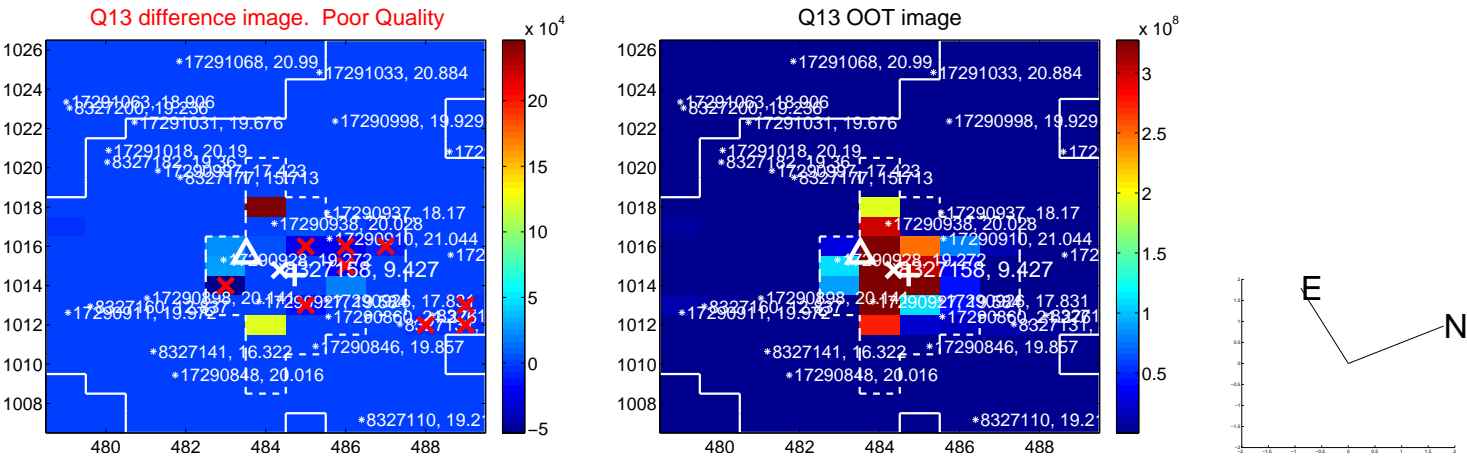
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



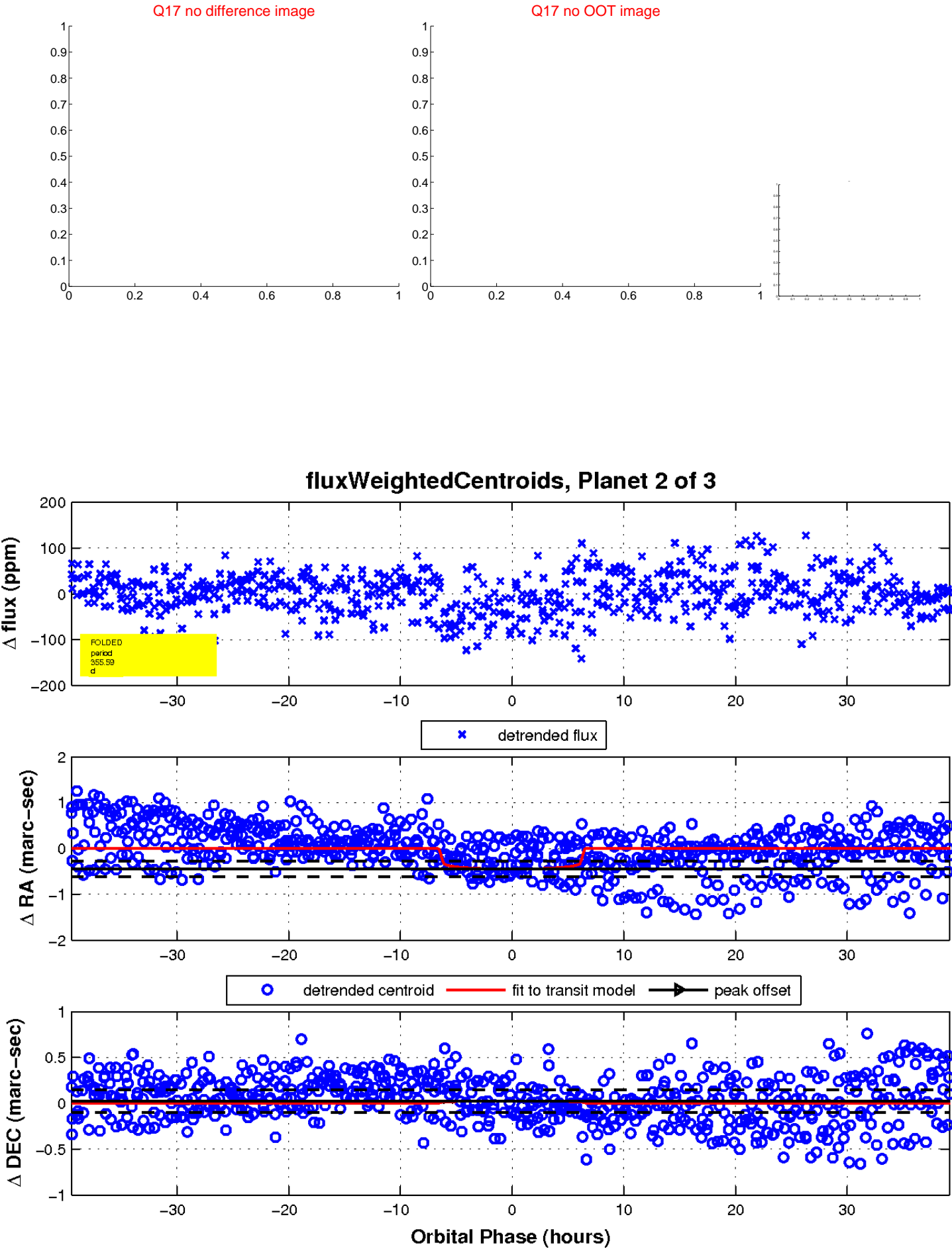
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



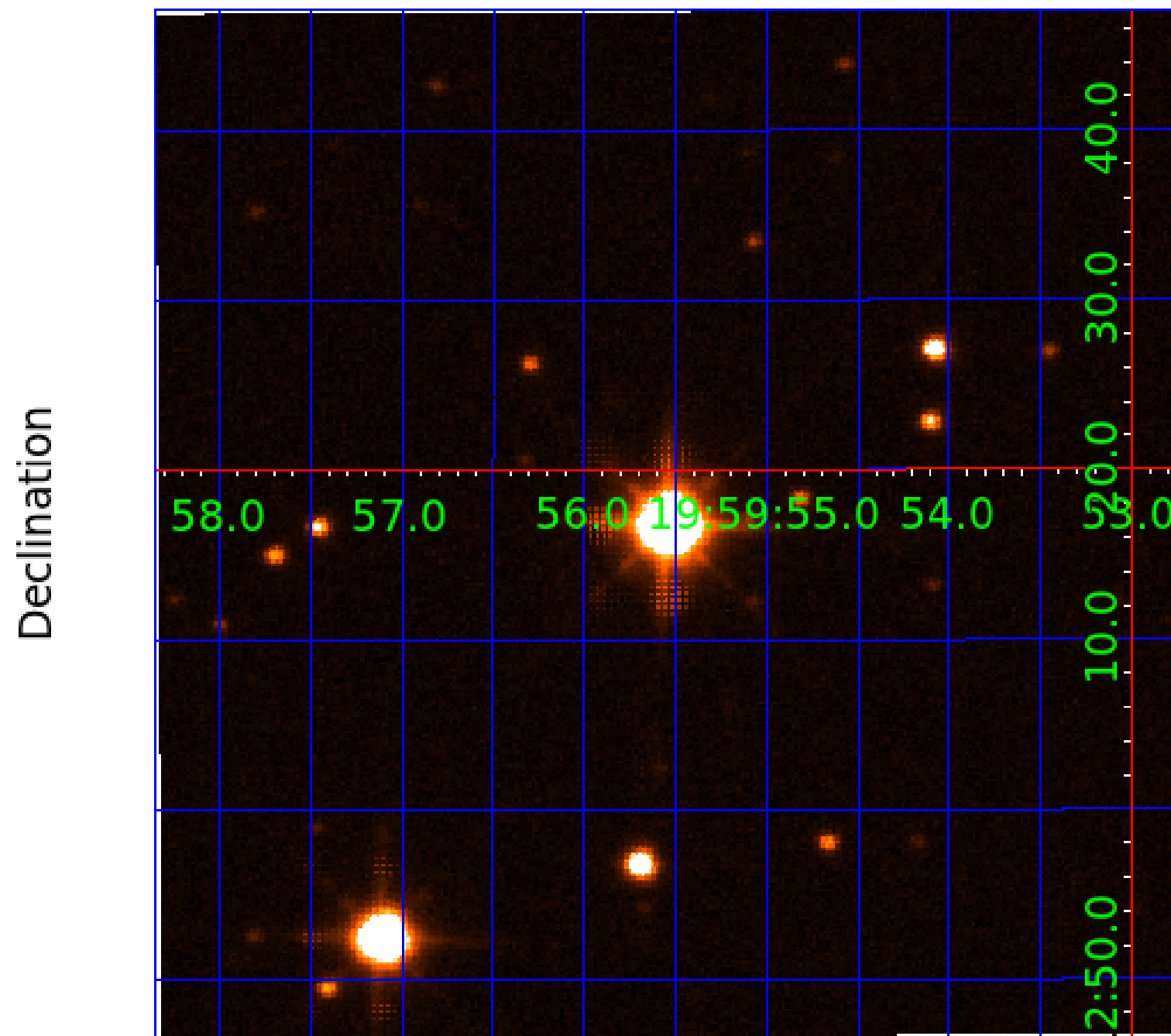
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 008327158

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})
008327158-01	OBS	No	544.244167	153.387165	74.3	12.128	14.9	14.7	3.99	10192	3.85	42.45
008327158-02	OBS	No	355.586932	478.455060	49.6	13.157	8.5	7.9	3.99	10192	3.22	74.88
008327158-03	OBS	No	524.792287	173.814898	41.8	13.458	8.3	8.4	3.99	10192	2.87	44.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008327158-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
008327158-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008327158-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_TER_DV—CENT_SATURATED

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

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

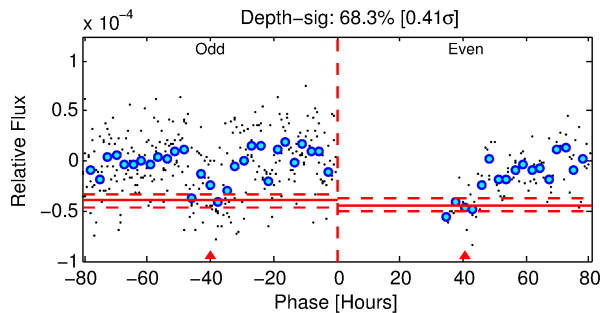
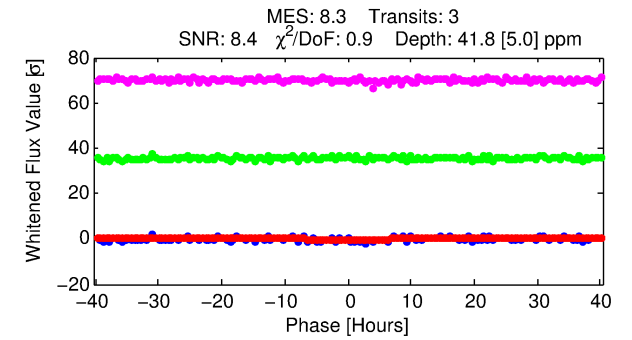
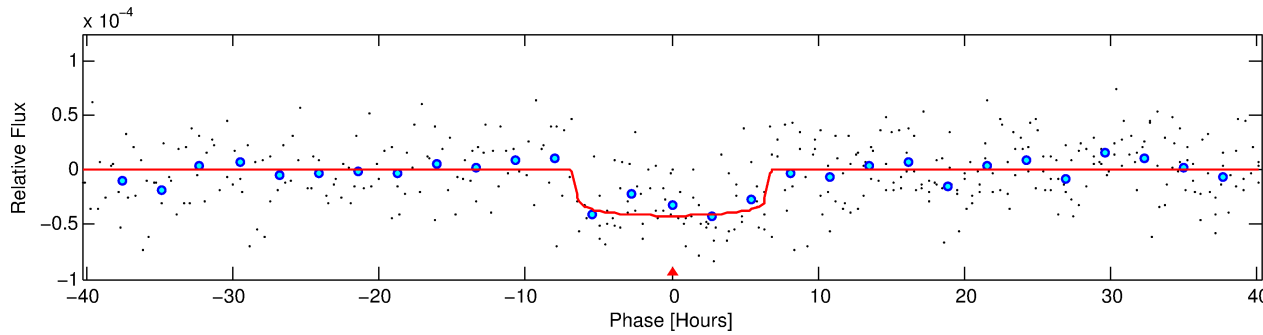
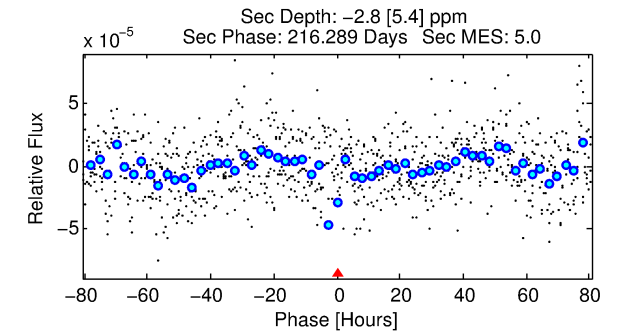
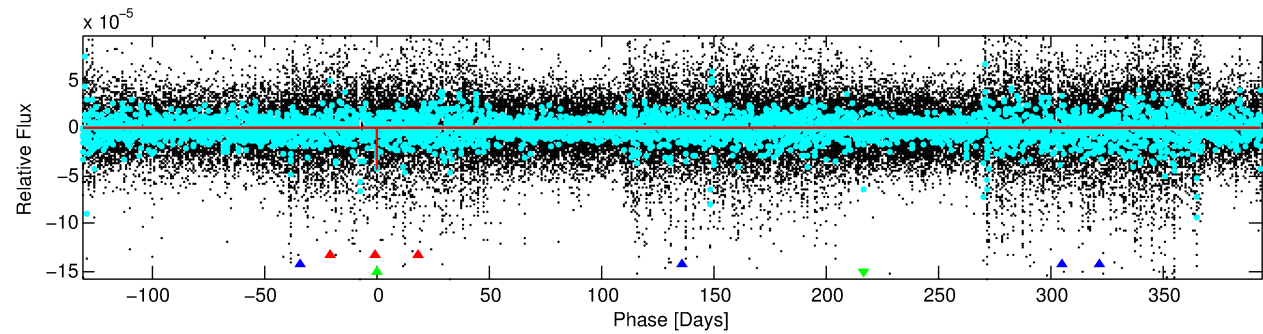
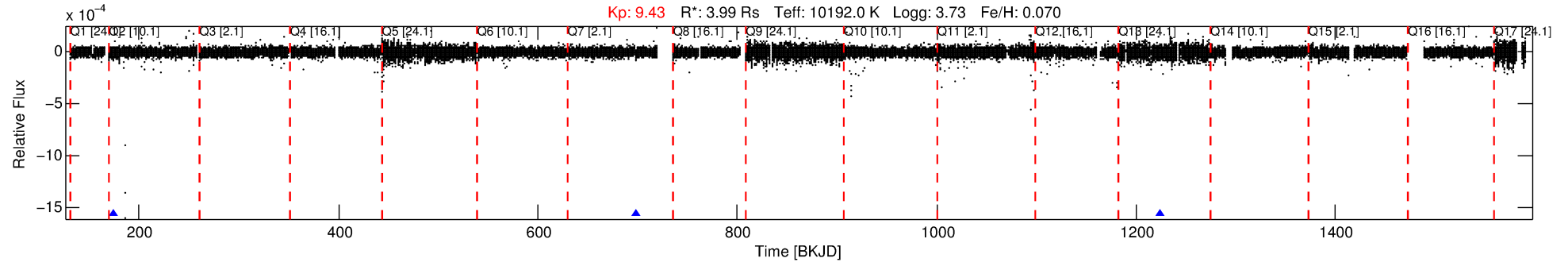
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008327158-03

No Significant Match Found

DV One-Page Summary

KIC: 8327158 Candidate: 3 of 3 Period: 524.792 d



DV Fit Results:

Period = 524.79229 $[0.01150] \text{ d}$
Epoch = 173.8149 $[0.0116] \text{ BKJD}$
 $R_p/R^* = 0.0066 [0.0008]$
 $a/R^* = 164.58 [116.48]$
 $b = 0.84 [0.25]$
 $\text{Seff} = 44.56 [30.64]$
 $T_{\text{eq}} = 659 [113] \text{ K}$
 $R_p = 2.87 [1.31] R_e$
 $a = 1.8566 [0.7817] \text{ AU}$
 $\text{Ag} = \text{N/A}$
 $\text{Teffp} = \text{N/A}$

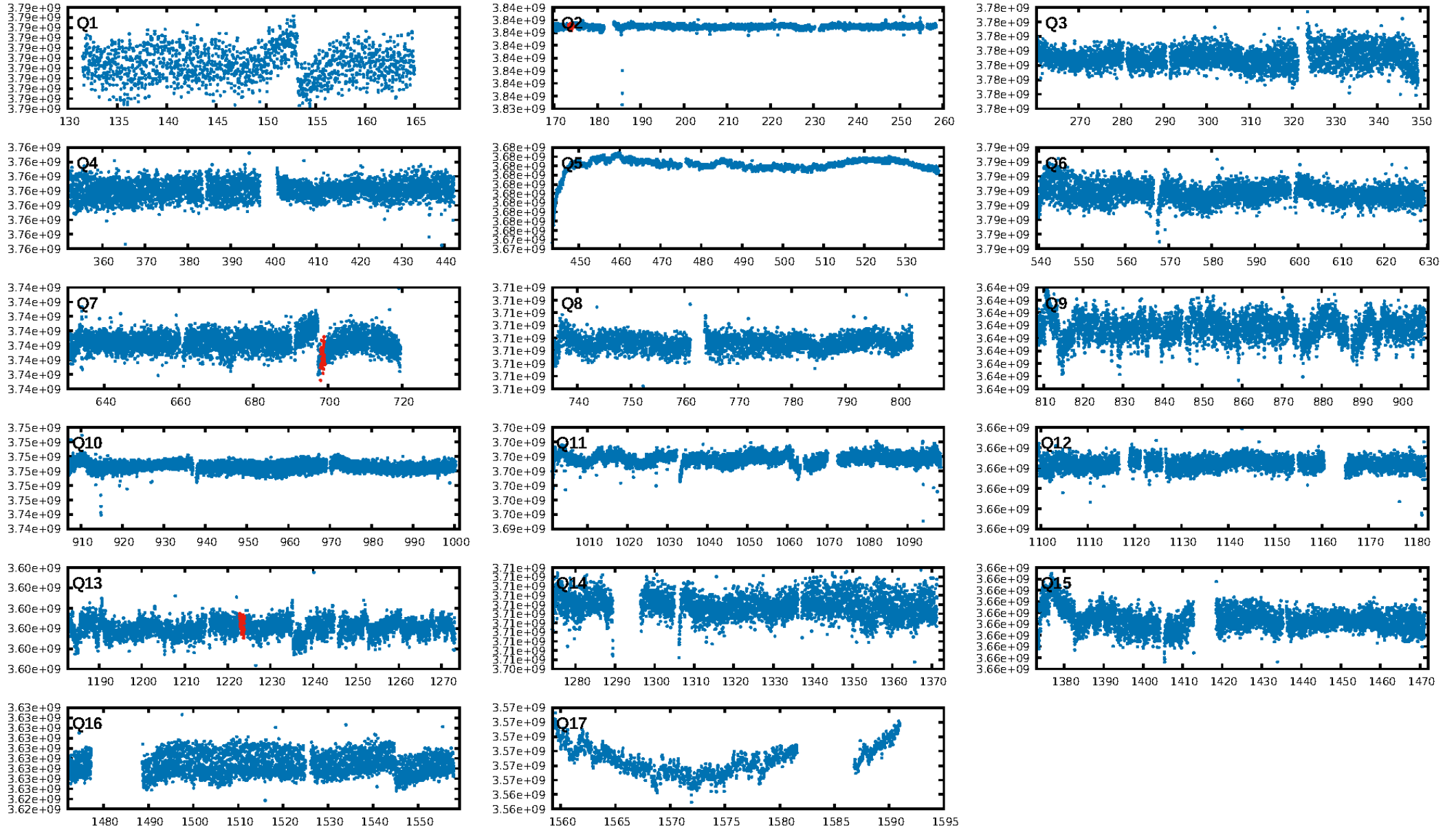
DV Diagnostic Results:

ShortPeriod-sig: 100.0% $[215.76\sigma]$
LongPeriod-sig: 100.0% $[25.77\sigma]$
ModelChiSquare2-sig: 35.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: $1.79e-10$
RollingBand-fgt: 1.00 $[3/3]$
GhostDiagnostic-chr: N/A
Centroid-sig: 61.2%
Centroid-so: 2.413 arcsec $[0.53\sigma]$
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: 0.67 $[2/3]$

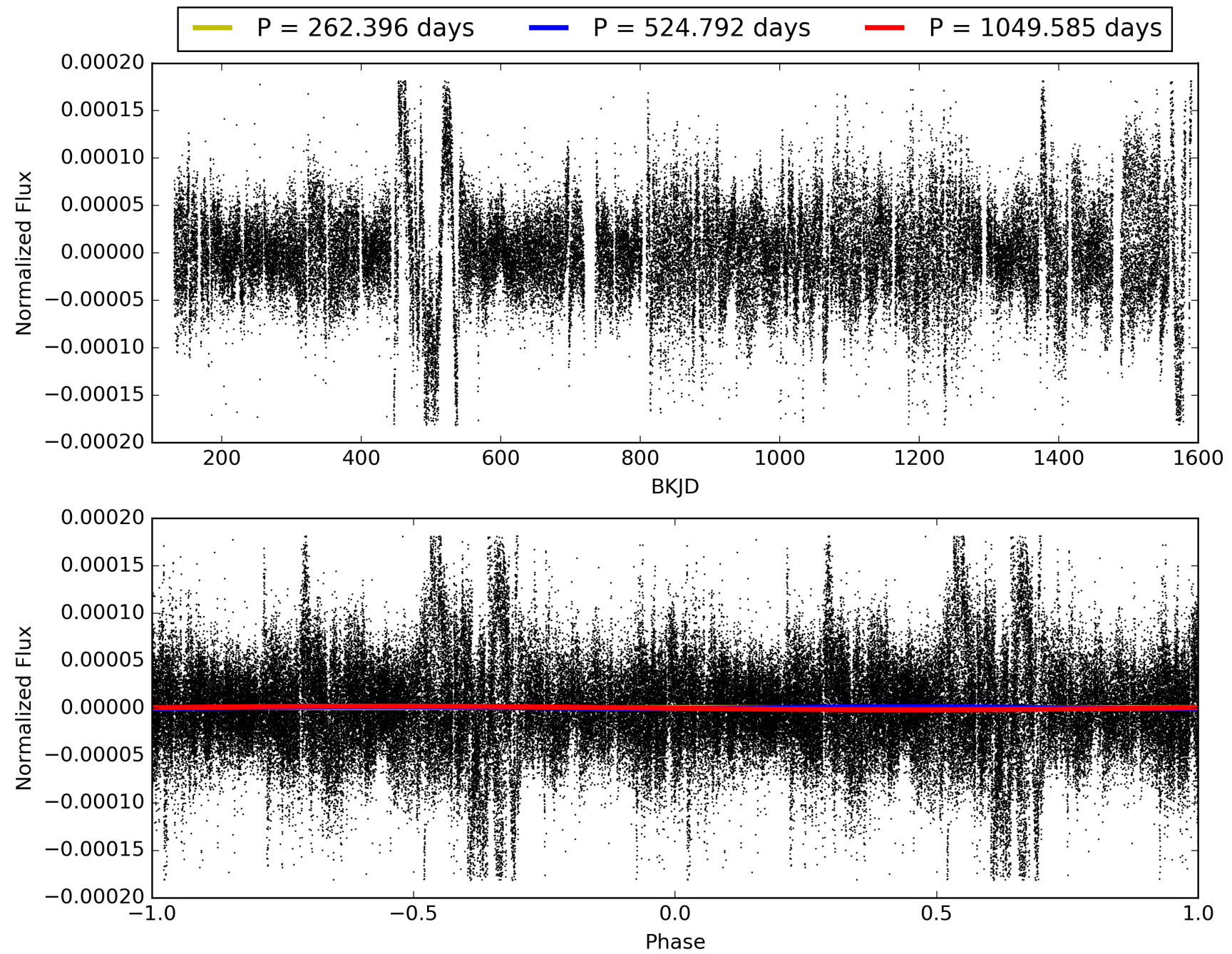
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:10:08 Z

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

TCE 008327158-03, PDC Light Curves

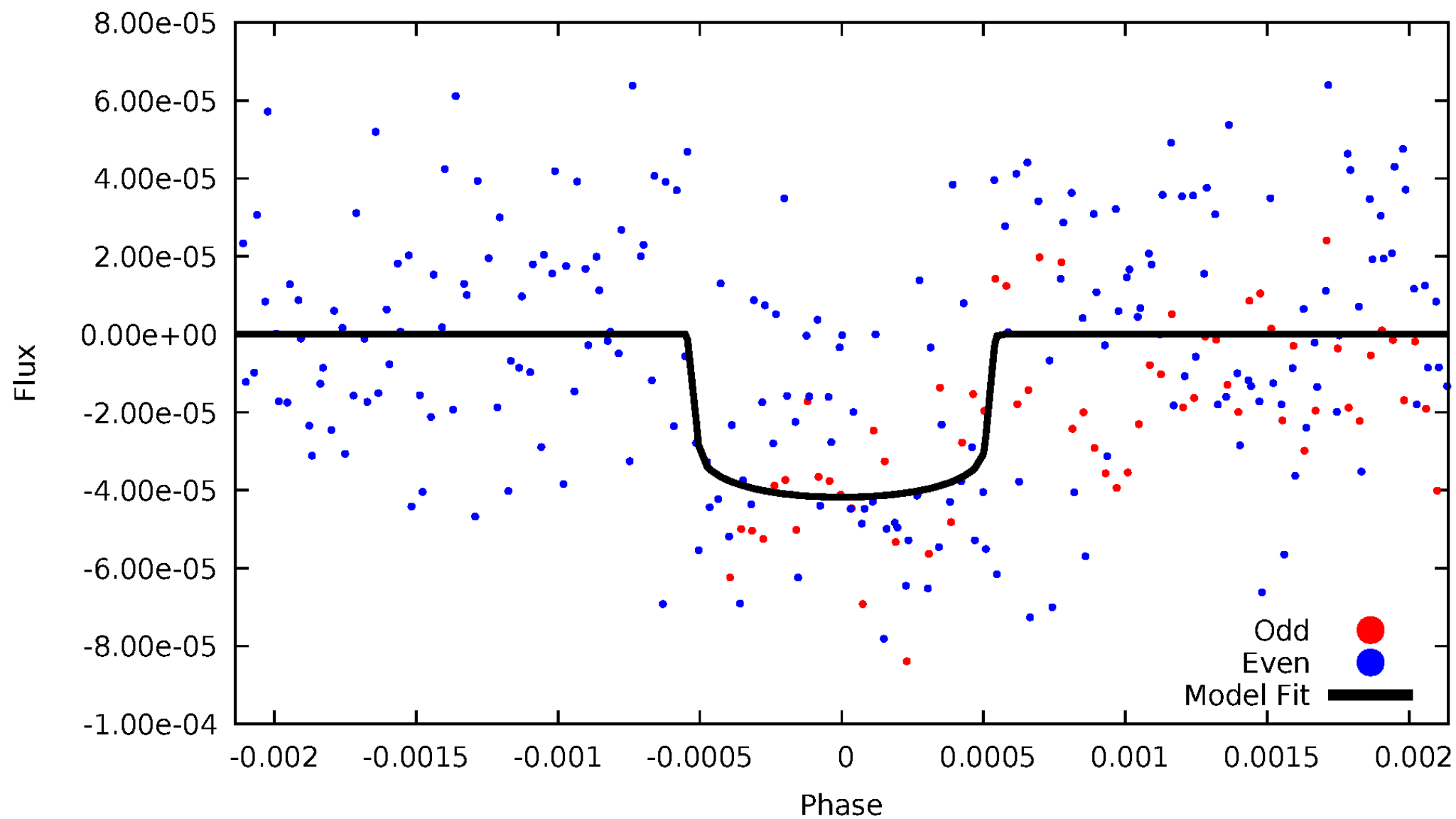


TCE 008327158-03



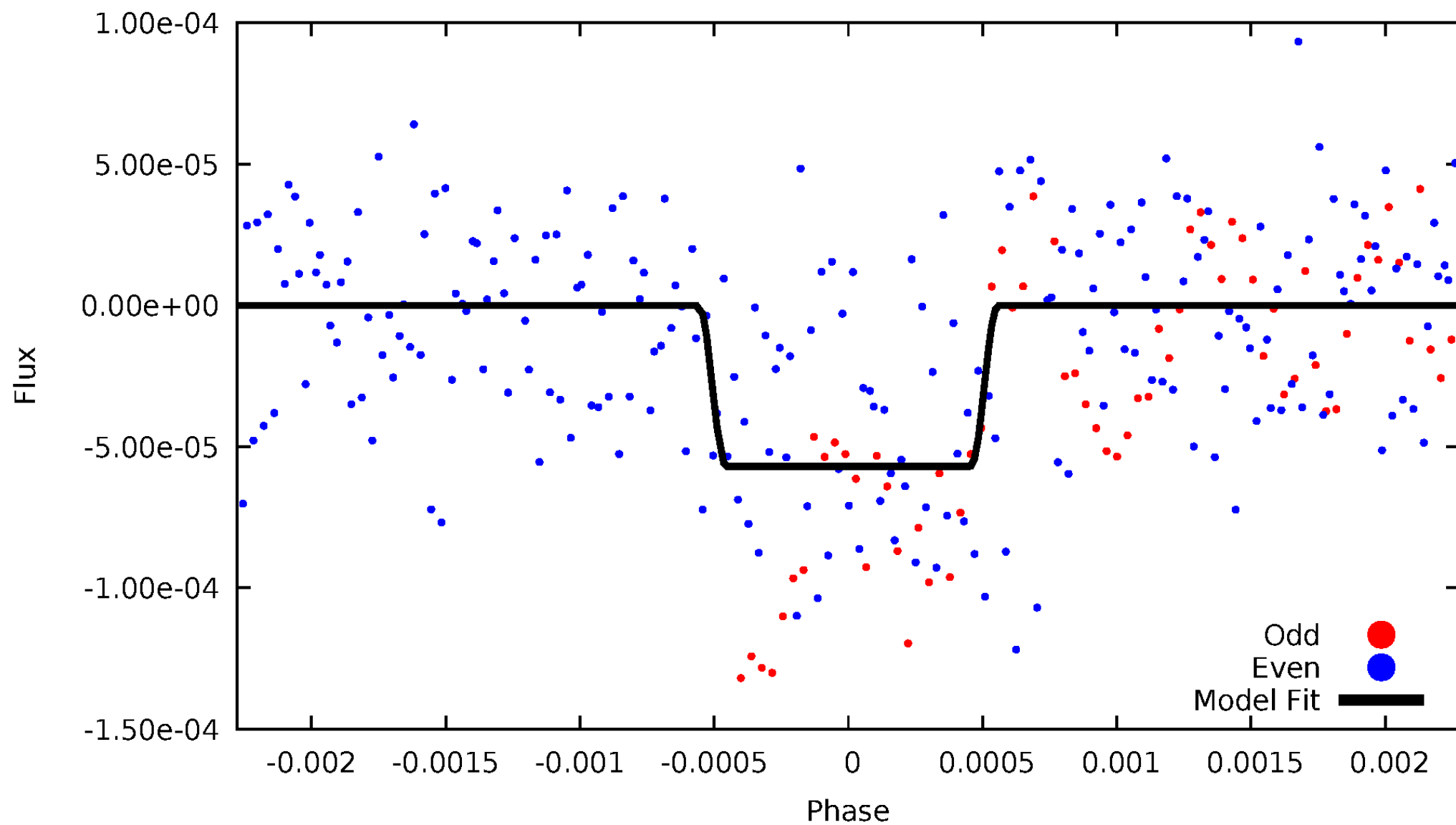
DV Odd/Even

TCE 008327158-03



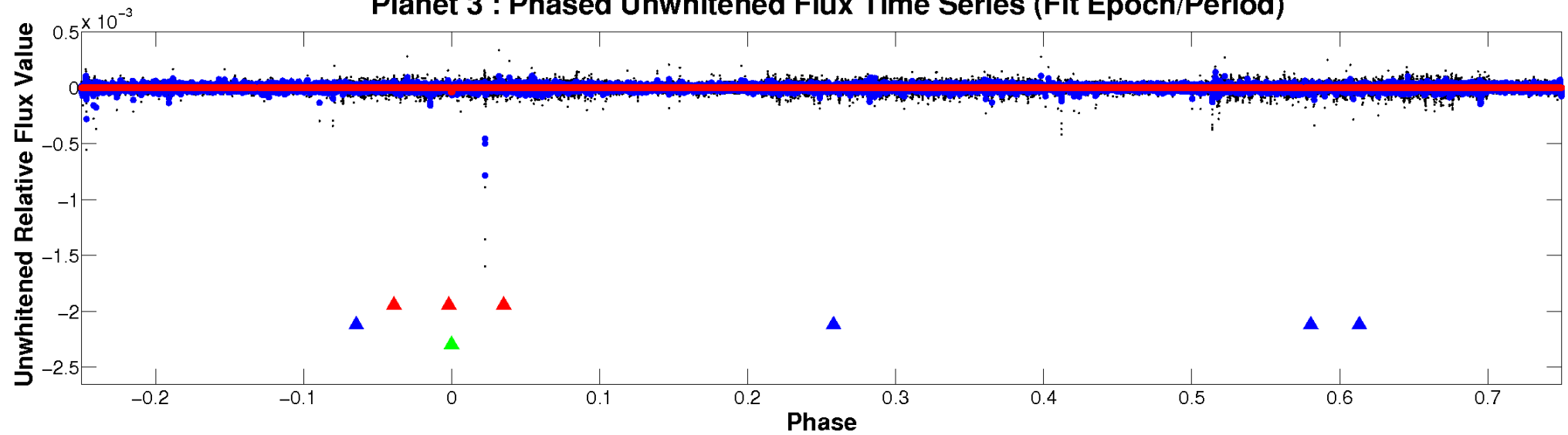
ALT Odd/Even

TCE 008327158-03

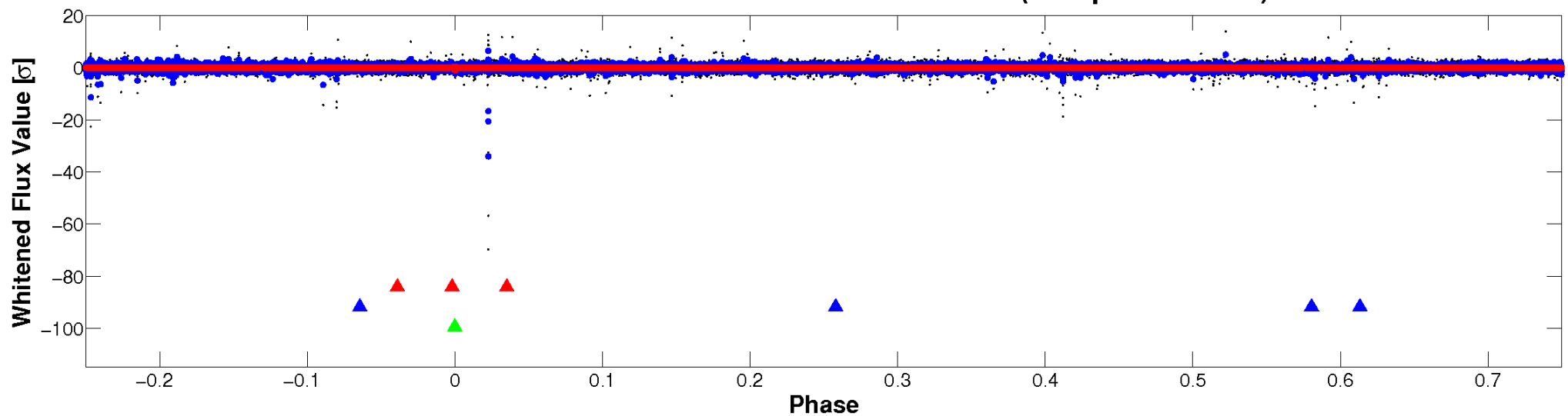


Non-Whitened Vs. Whitened Light Curve

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

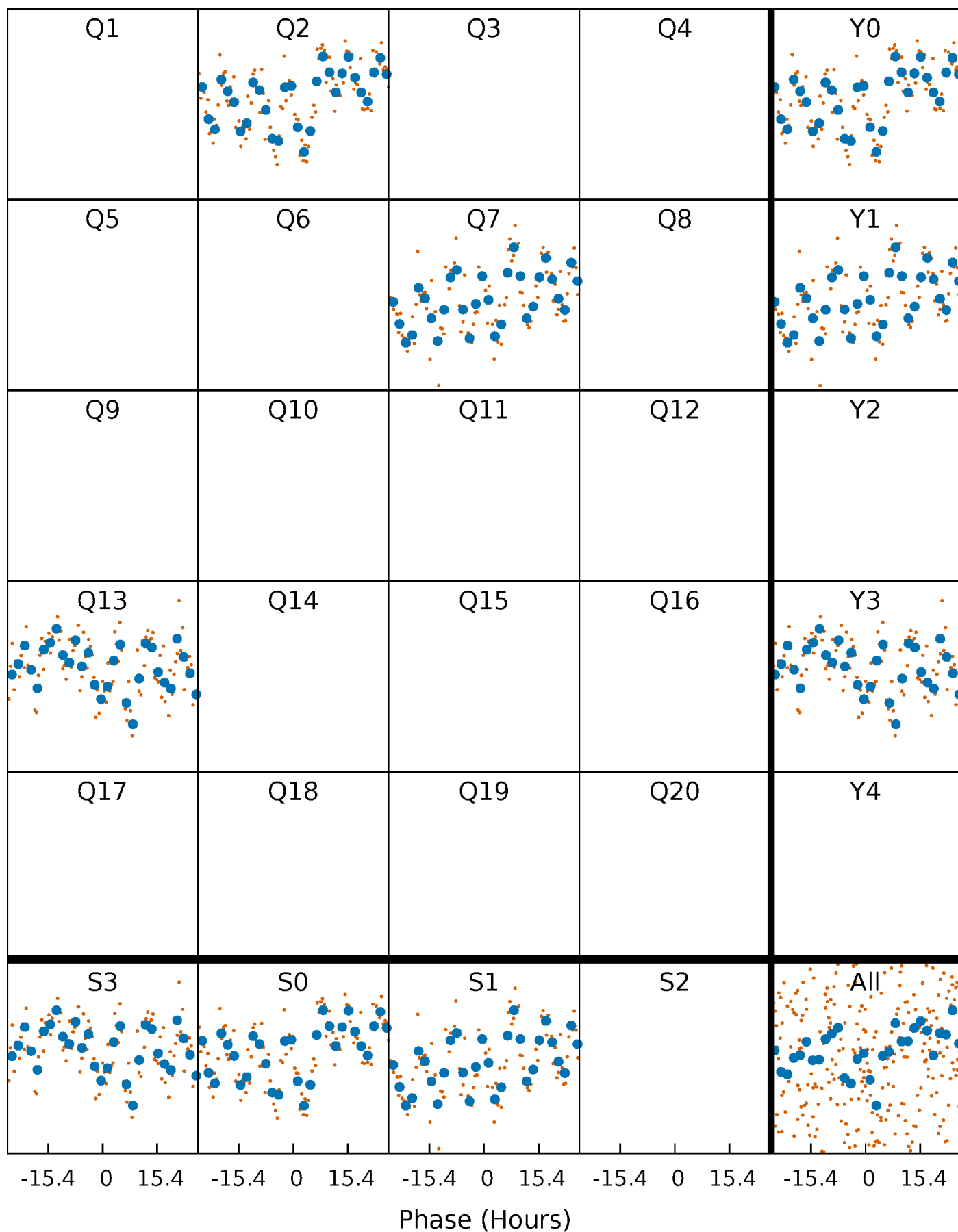


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



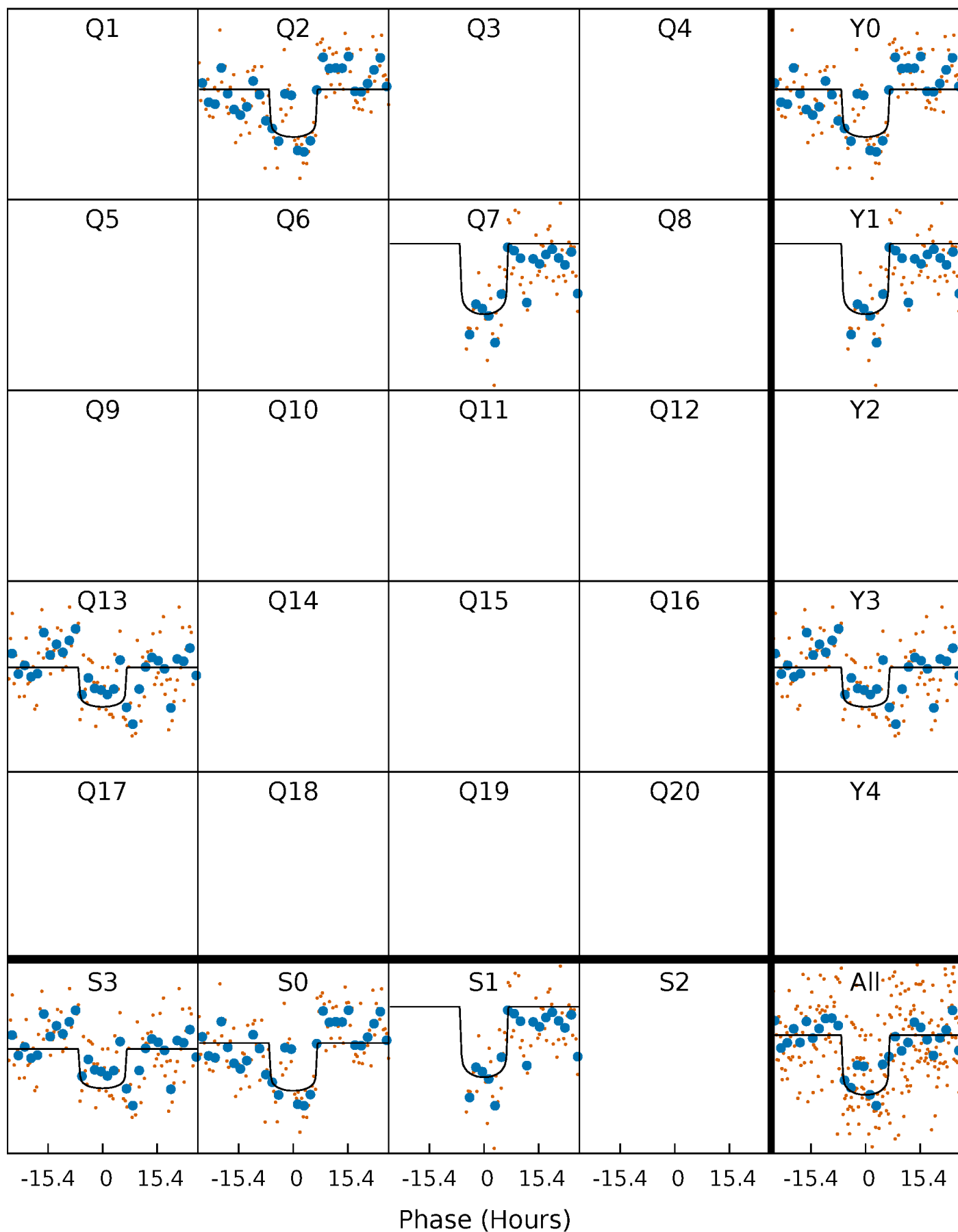
PDC Quarter-Phased Transit Curves

TCE 008327158-03 P=524.792287 Days $T_0=173.814898$ (BKJD)



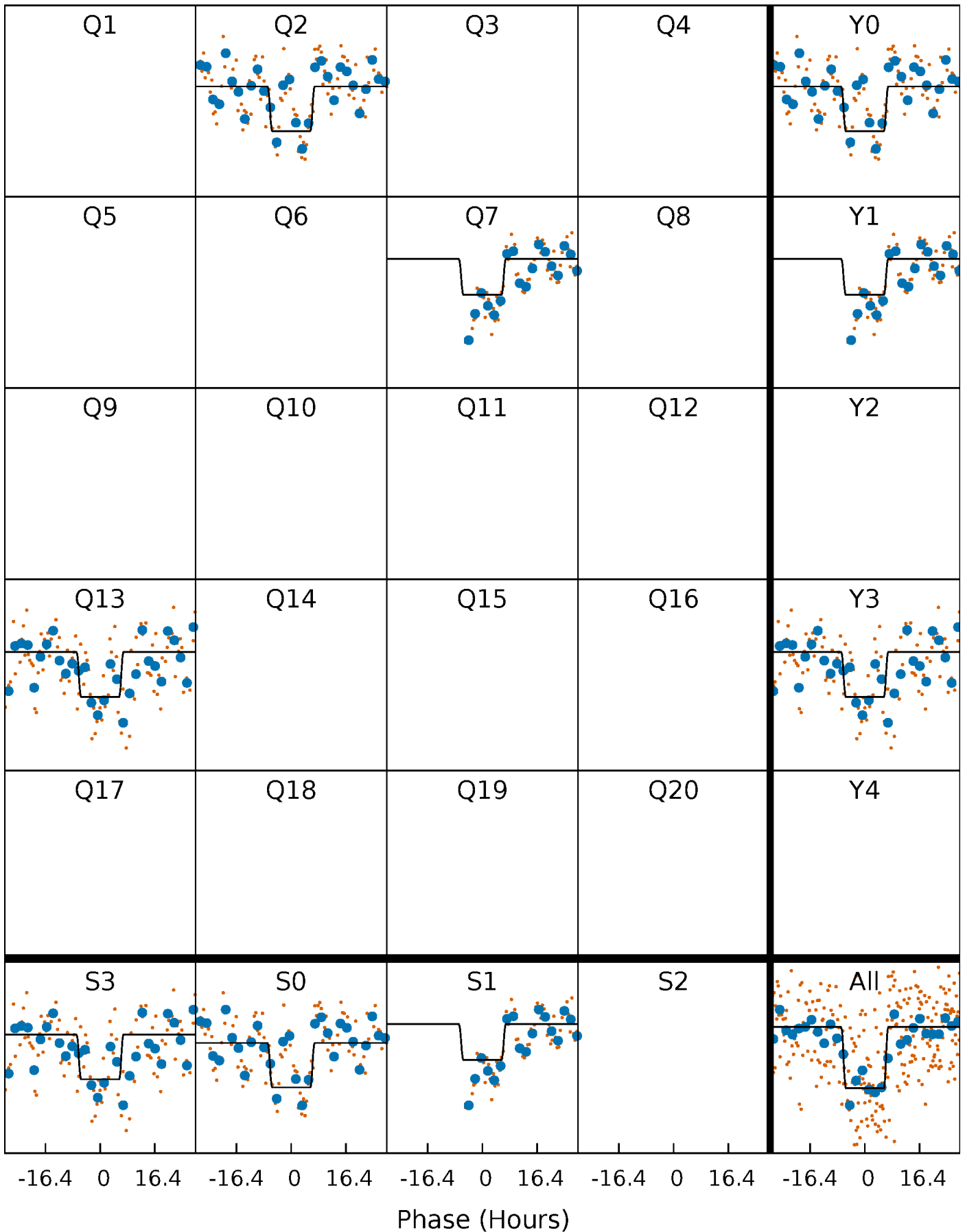
DV Quarter-Phased Transit Curves

TCE 008327158-03 P=524.792287 Days $T_0=173.814898$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

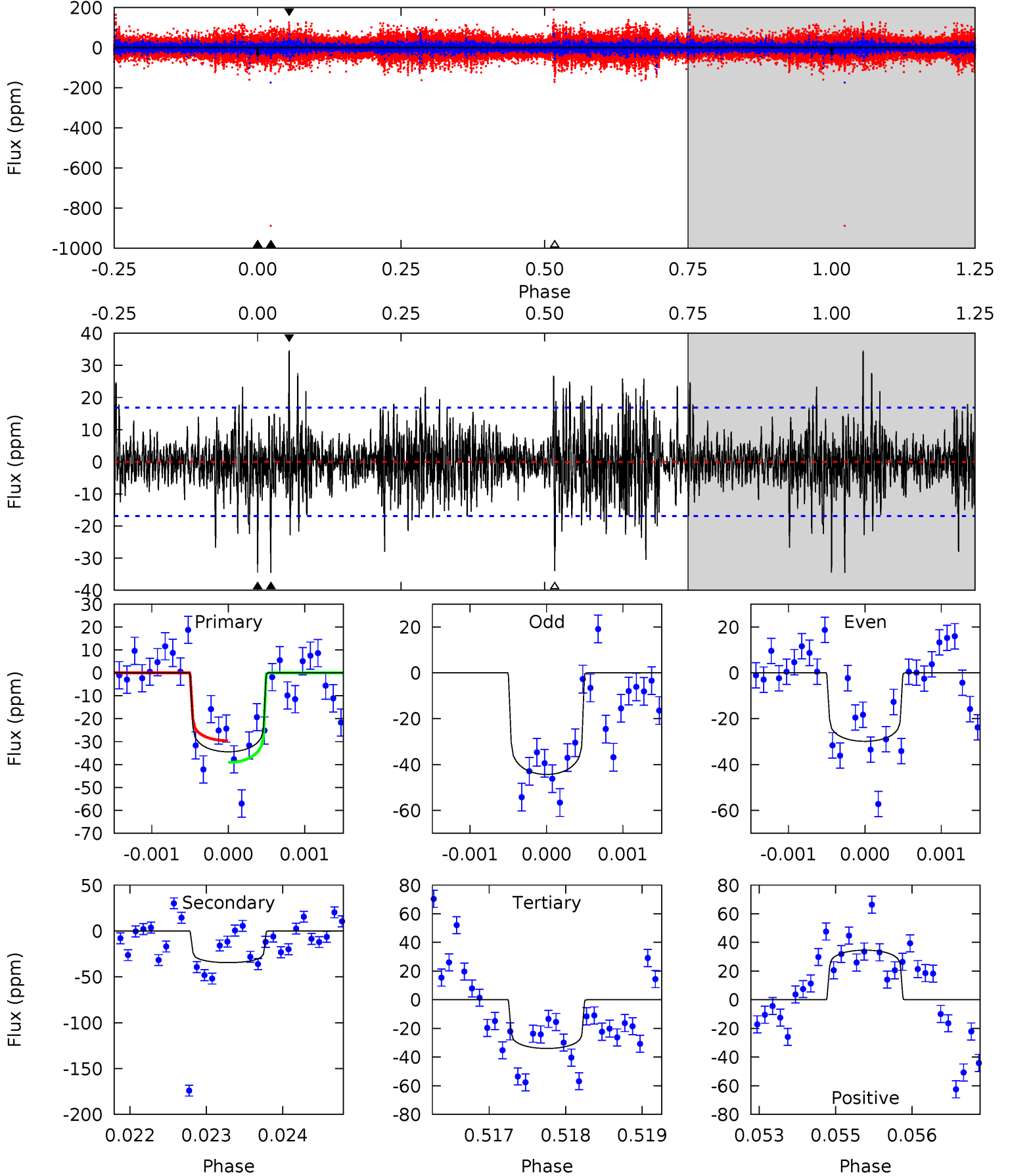
TCE 008327158-03 P=524.808744 Days $T_0=173.802111$ (BKJD)



DV Model-Shift Uniqueness Test

008327158-03, P = 524.792287 Days, E = 173.814898 Days

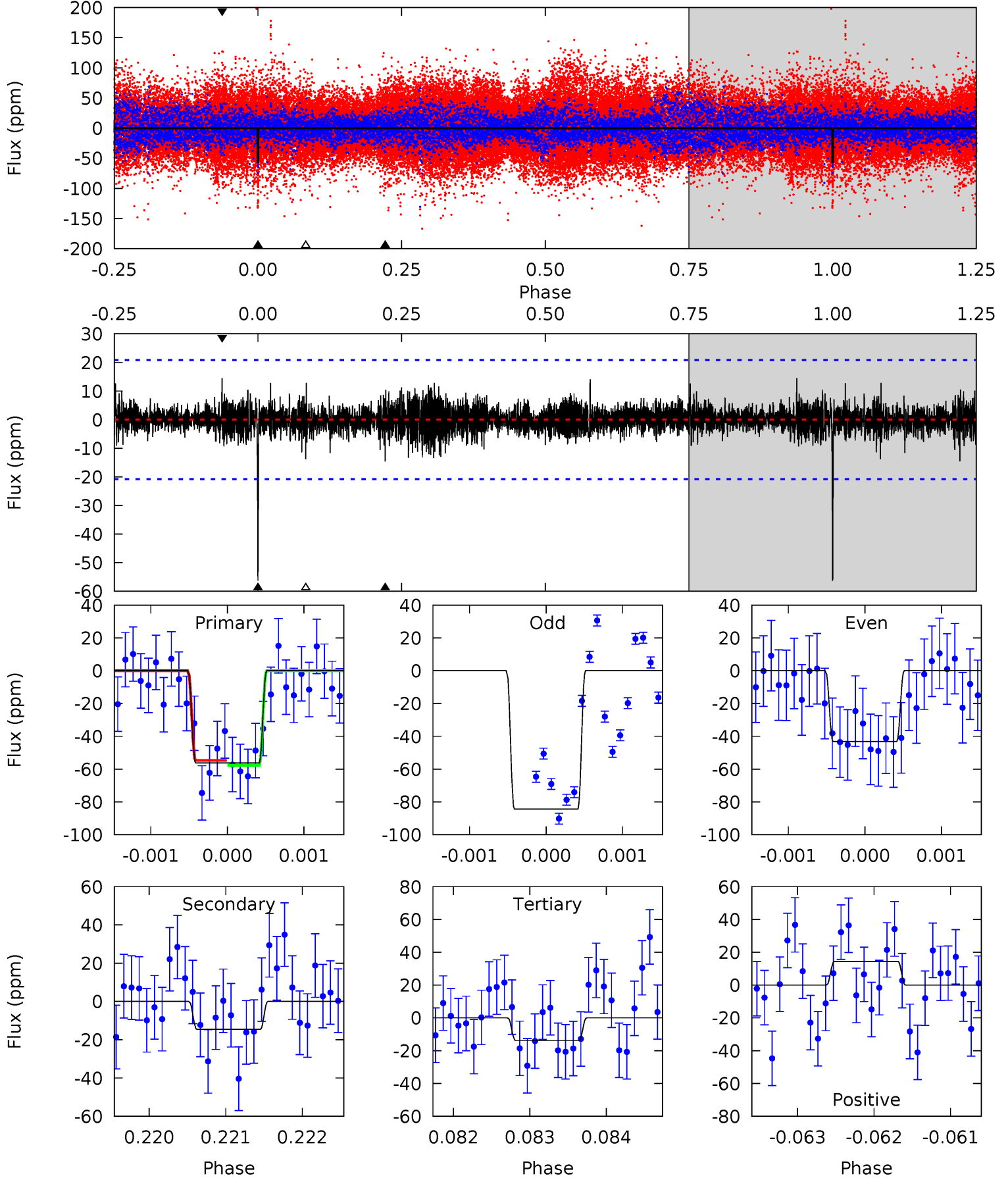
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	11.1	10.9	11.1	5.44	3.27	2.28	0.15	-0.05	0.18	-0.02	2.01	0.93	0.50	1.52



Alt Model-Shift Uniqueness Test

008327158-03, P = 524.808744 Days, E = 173.802111 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.7	3.80	3.61	3.78	5.44	3.27	0.86	11.1	10.9	0.19	0.02	4.93	1.23	0.20	0.39



Stellar Parameters For KIC 008327158

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	10192^{+321}_{-393}	$3.728^{+0.392}_{-0.098}$	$0.070^{+0.150}_{-0.550}$	$3.986^{+0.755}_{-1.761}$	$3.100^{+0.212}_{-0.850}$	$0.069^{+0.238}_{-0.025}$
	+3%/-4%	+11%/-3%	+214%/-786%	+19%/-44%	+7%/-27%	+345%/-37%
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 008327158-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-35 ± 3	$2.65^{+0.51}_{-0.62}$	893^{+63}_{-101}	9356^{+984}_{-774}	9148^{+6047}_{-2709}
Alt.	-15 ± 4	$3.04^{+0.62}_{-0.63}$	895^{+66}_{-96}	6646^{+627}_{-648}	2879^{+2009}_{-1057}

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

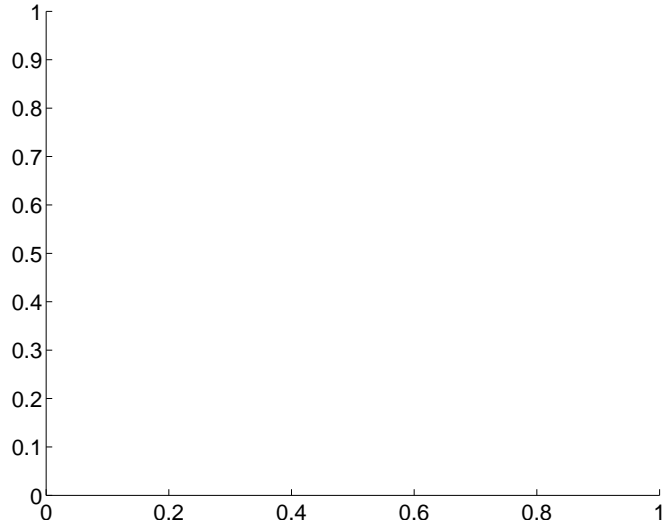
Supplemental centroid analysis for 008327158-03. **Kepler magnitude: 9.43.** Transit SNR 8.40

There are 0 quarters with good PRF difference image offsets

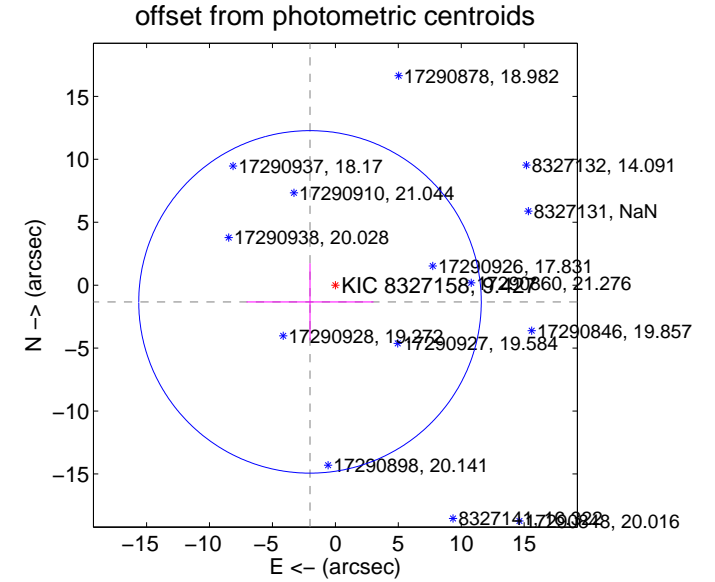
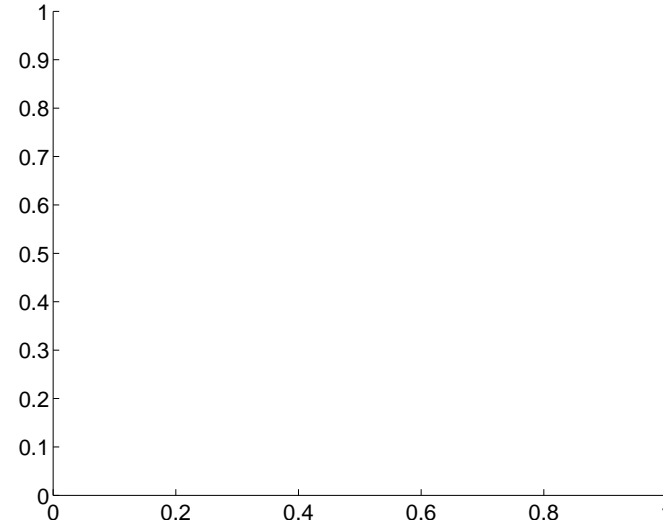
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	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	2.41 ± 4.54	0.53	2.01 ± 5.04	-1.33 ± 3.06

There is no PRF-fit offset from OOT-fit

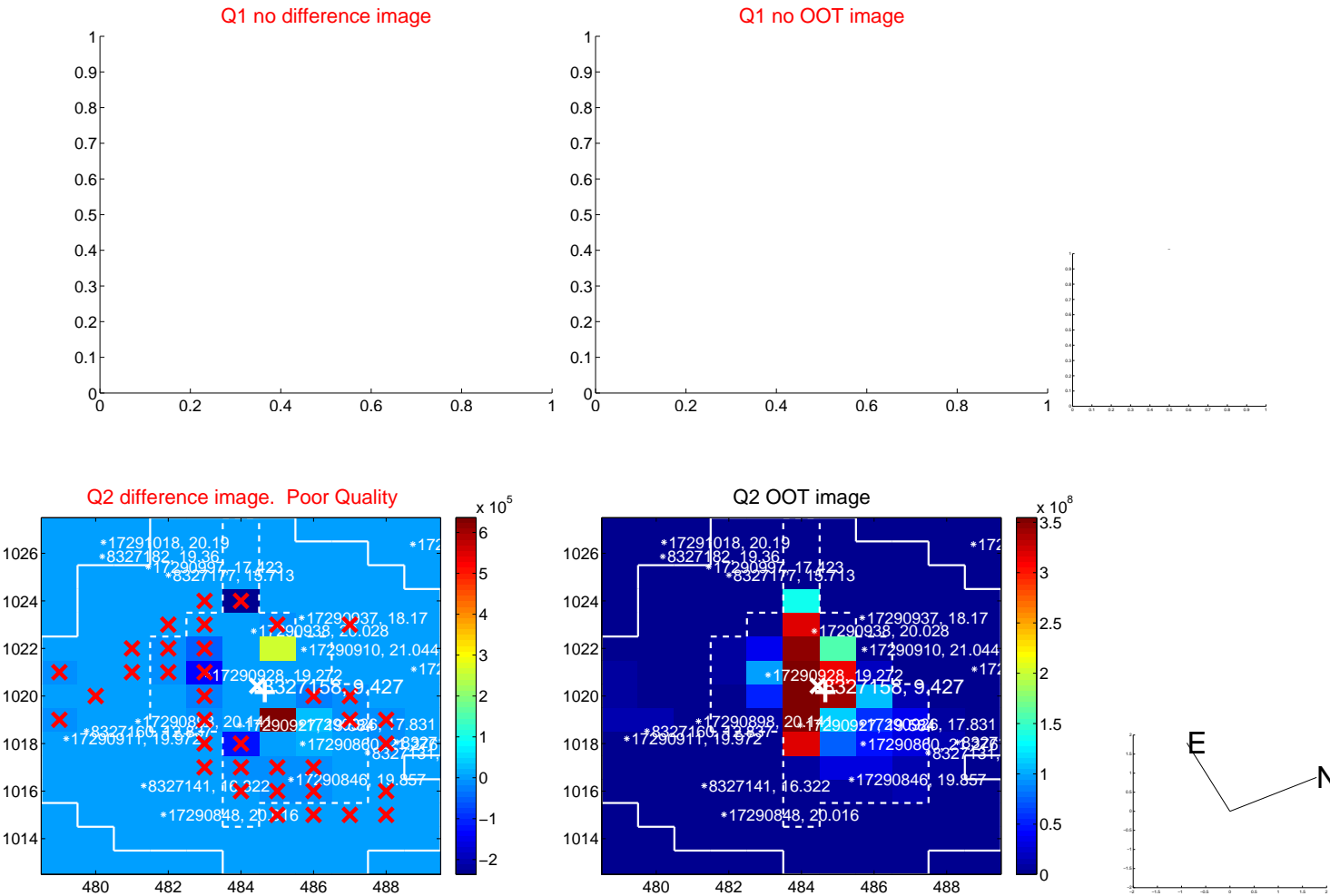


There is no PRF-fit offset from KIC



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.



Q2 difference image. Poor Quality

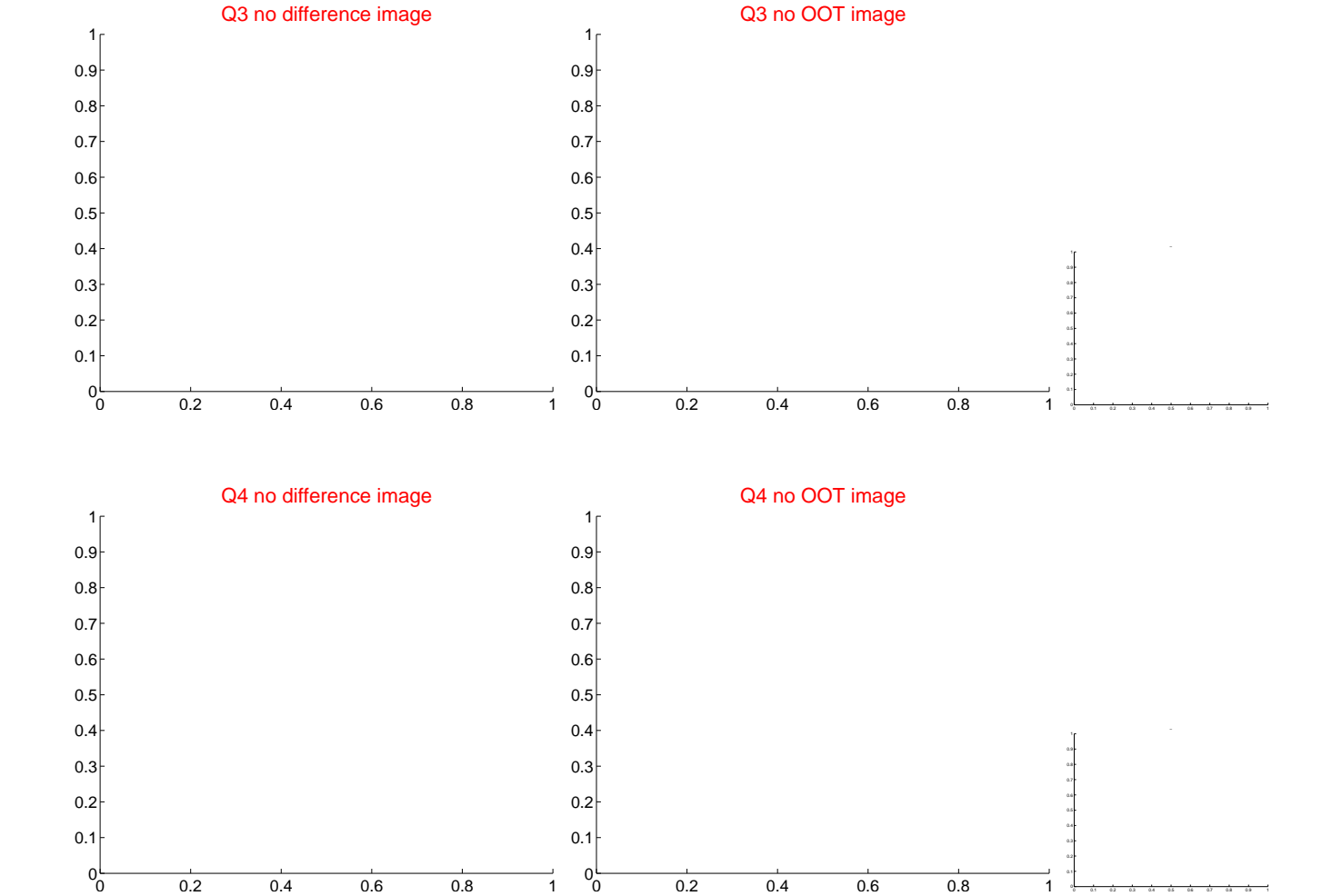
$\times 10^5$

Q2 OOT image

$\times 10^8$

E

N



Q4 no difference image

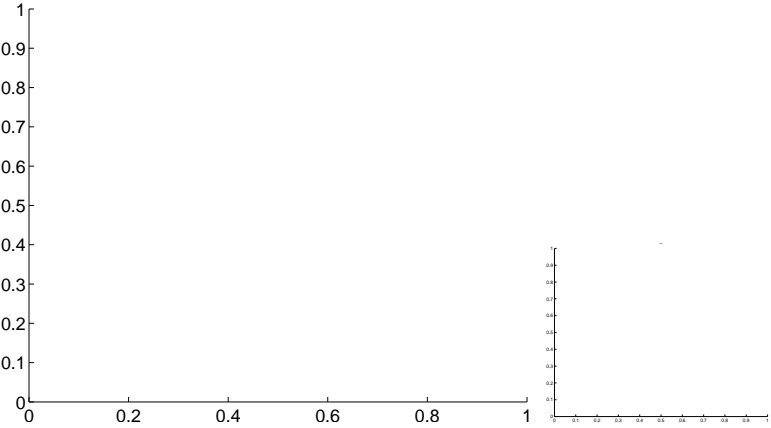
Q4 no OOT image

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

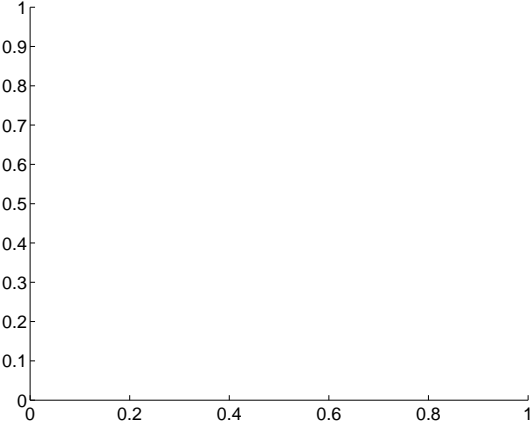
Q5 no difference image



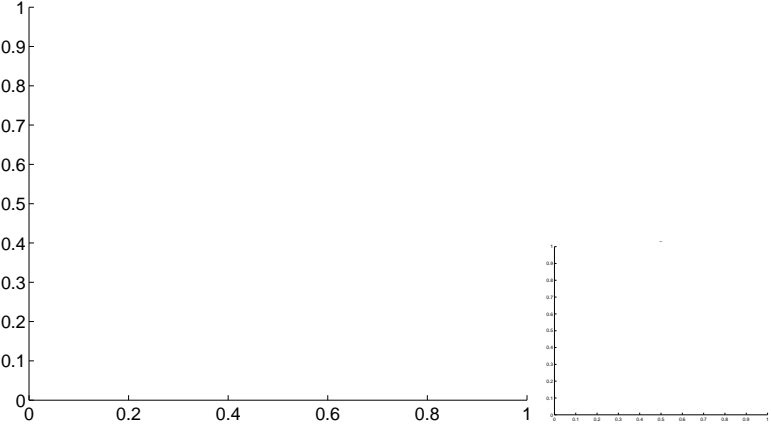
Q5 no OOT image



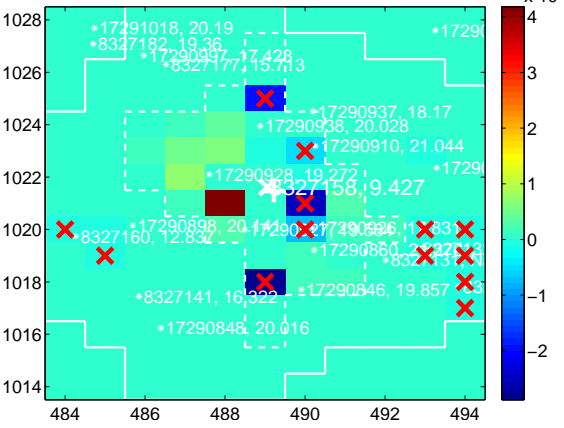
Q6 no difference image



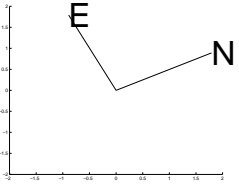
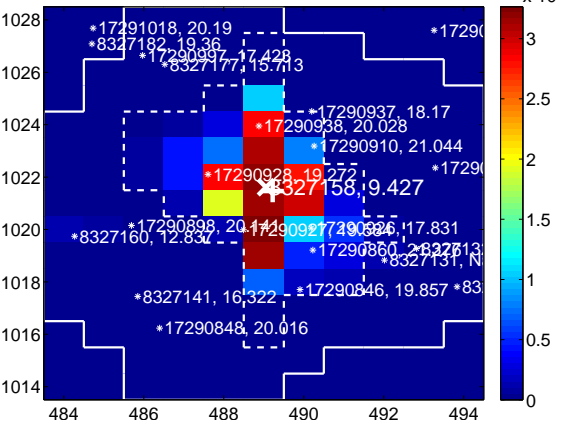
Q6 no OOT image



Q7 difference image. Poor Quality



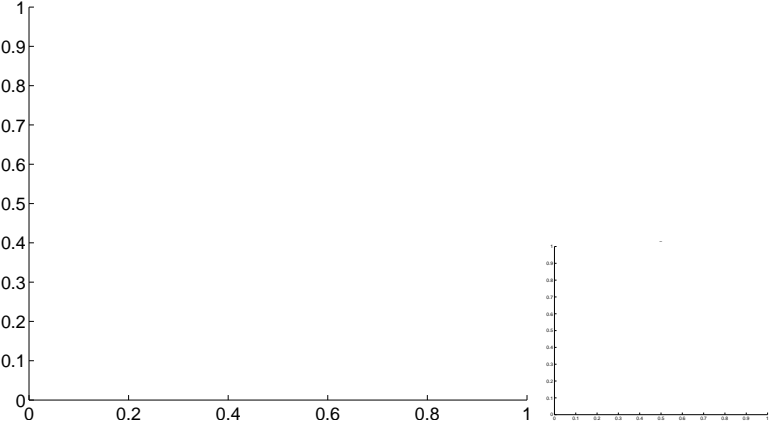
Q7 OOT image



Q8 no difference image



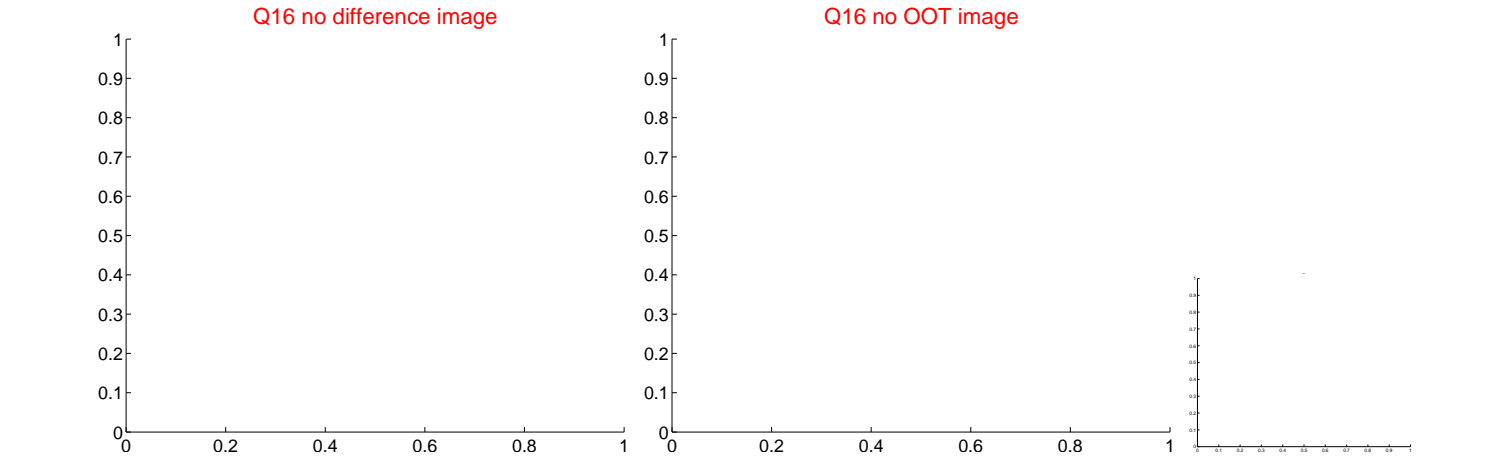
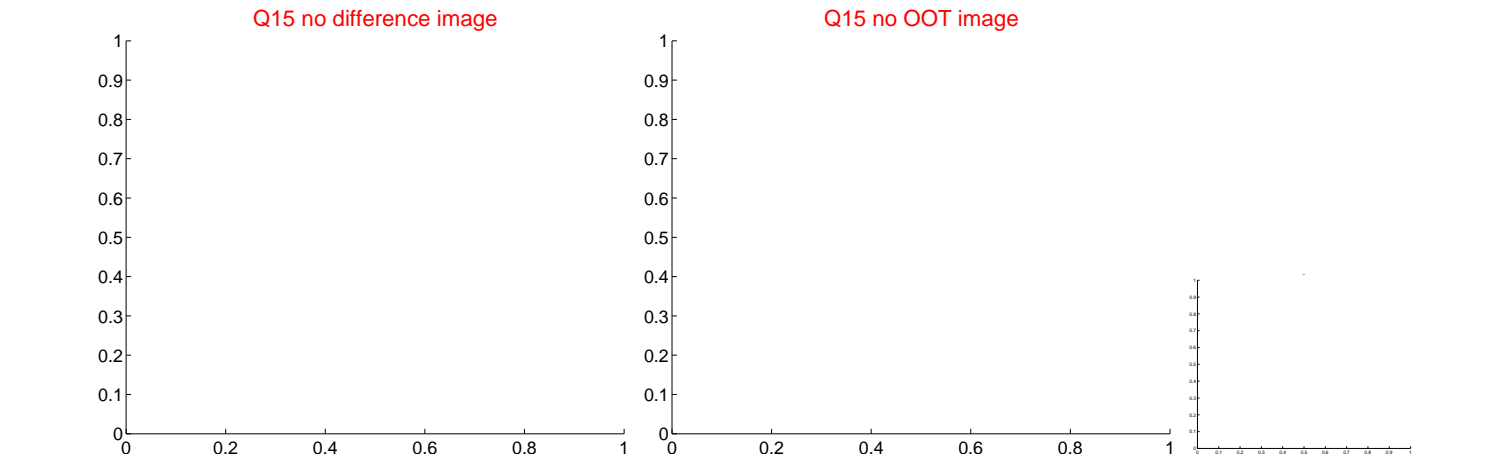
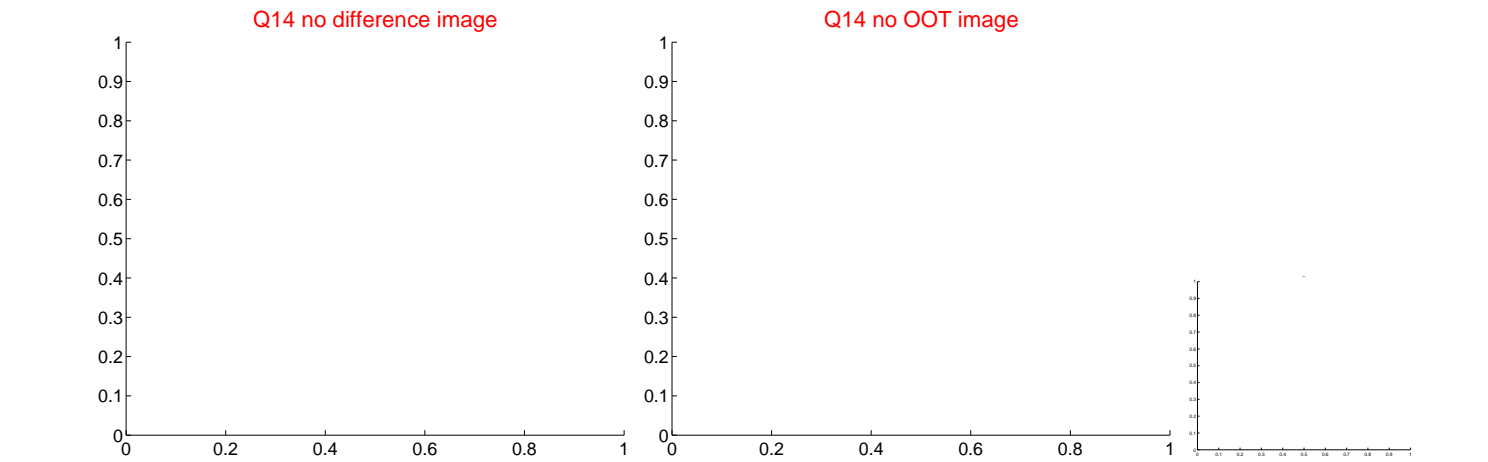
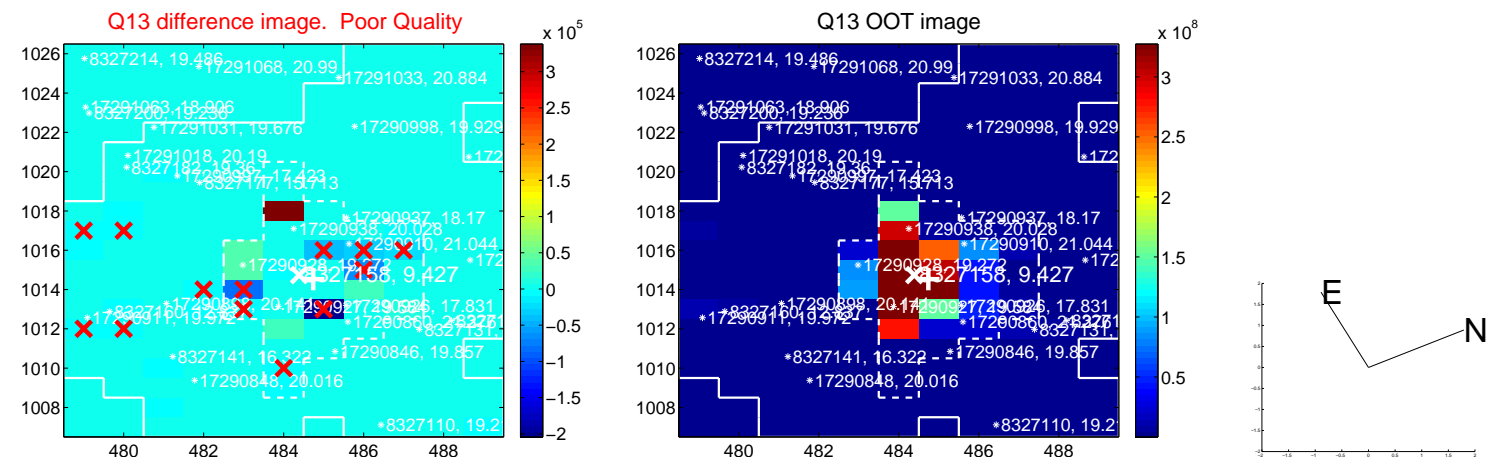
Q8 no OOT image



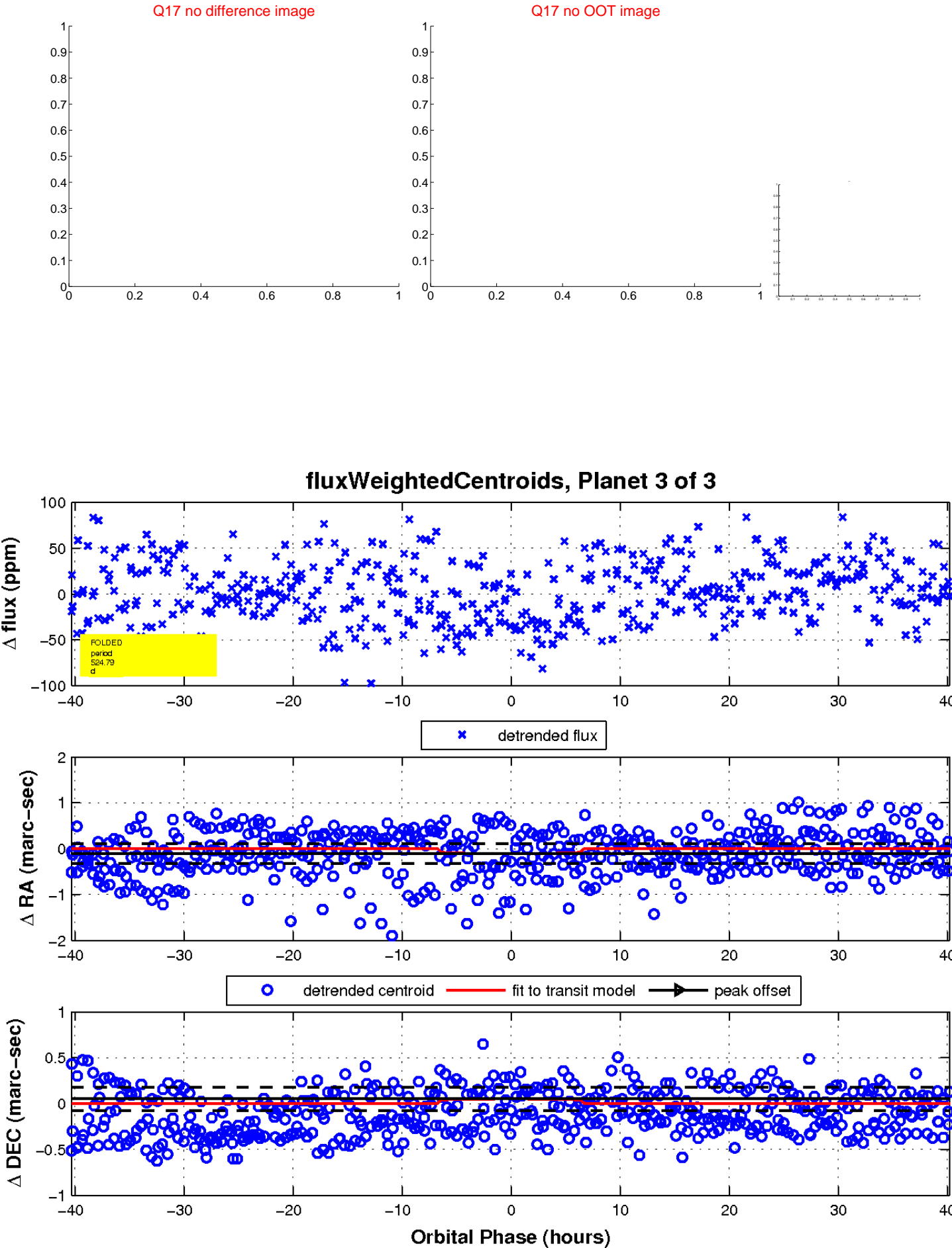
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

