

KIC 004548551

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})
004548551-01	OBS	No	158.934169	164.386002	270.7	2.500	11.4	-1.0	155.19	3266	235.00	7013.04
004548551-02	OBS	No	370.674270	153.549607	24.3	15.753	79.2	0.8	155.19	3266	71.81	2267.46
004548551-03	OBS	No	354.624434	156.579566	1513.2	5.000	73.2	-1.0	155.19	3266	554.81	2405.31

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004548551-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_SATURATED
004548551-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT— INCONSISTENT_TRANS—CENT_SATURATED
004548551-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_SATURATED

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

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

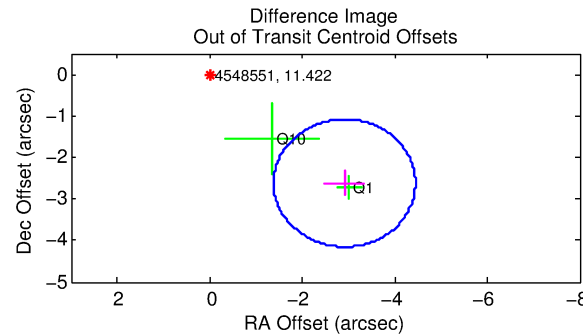
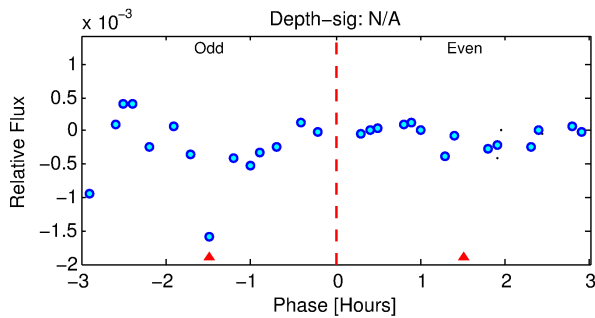
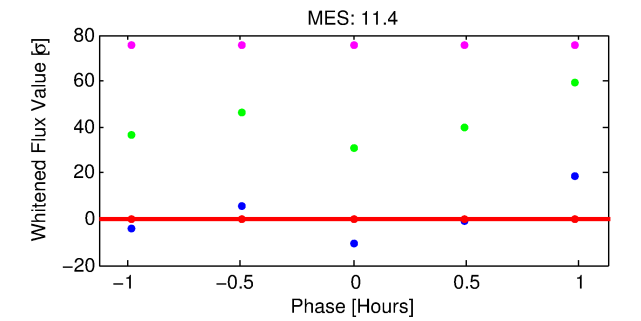
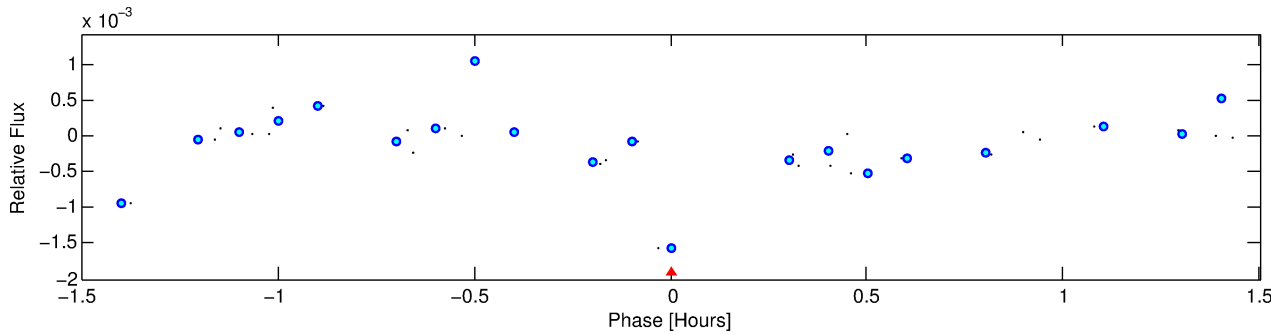
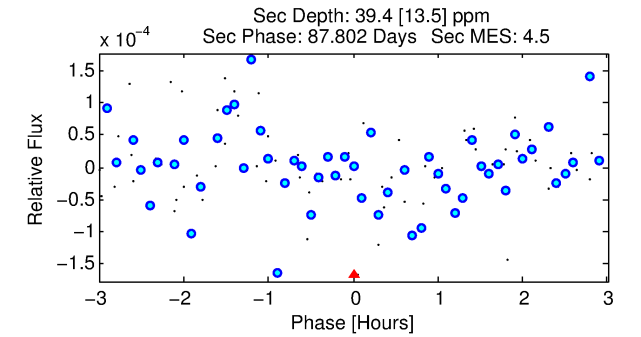
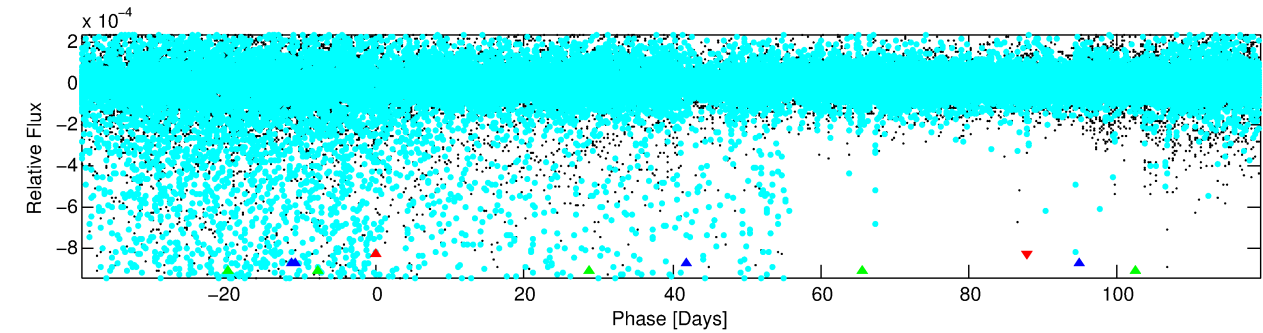
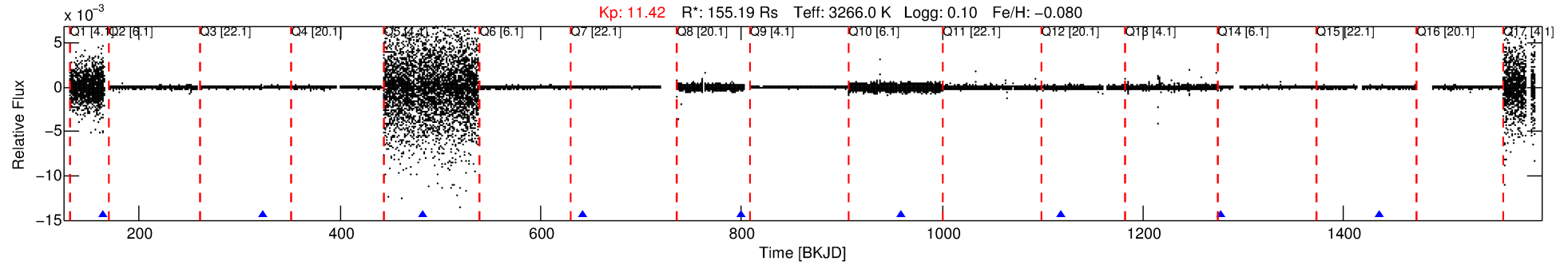
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004548551-01

No Significant Match Found

DV One-Page Summary

KIC: 4548551 Candidate: 1 of 3 Period: 158.934 d



TPS TCE Results:

Period = 158.93417 d
Epoch = 164.3860 BKJD

DV fit results are unavailable

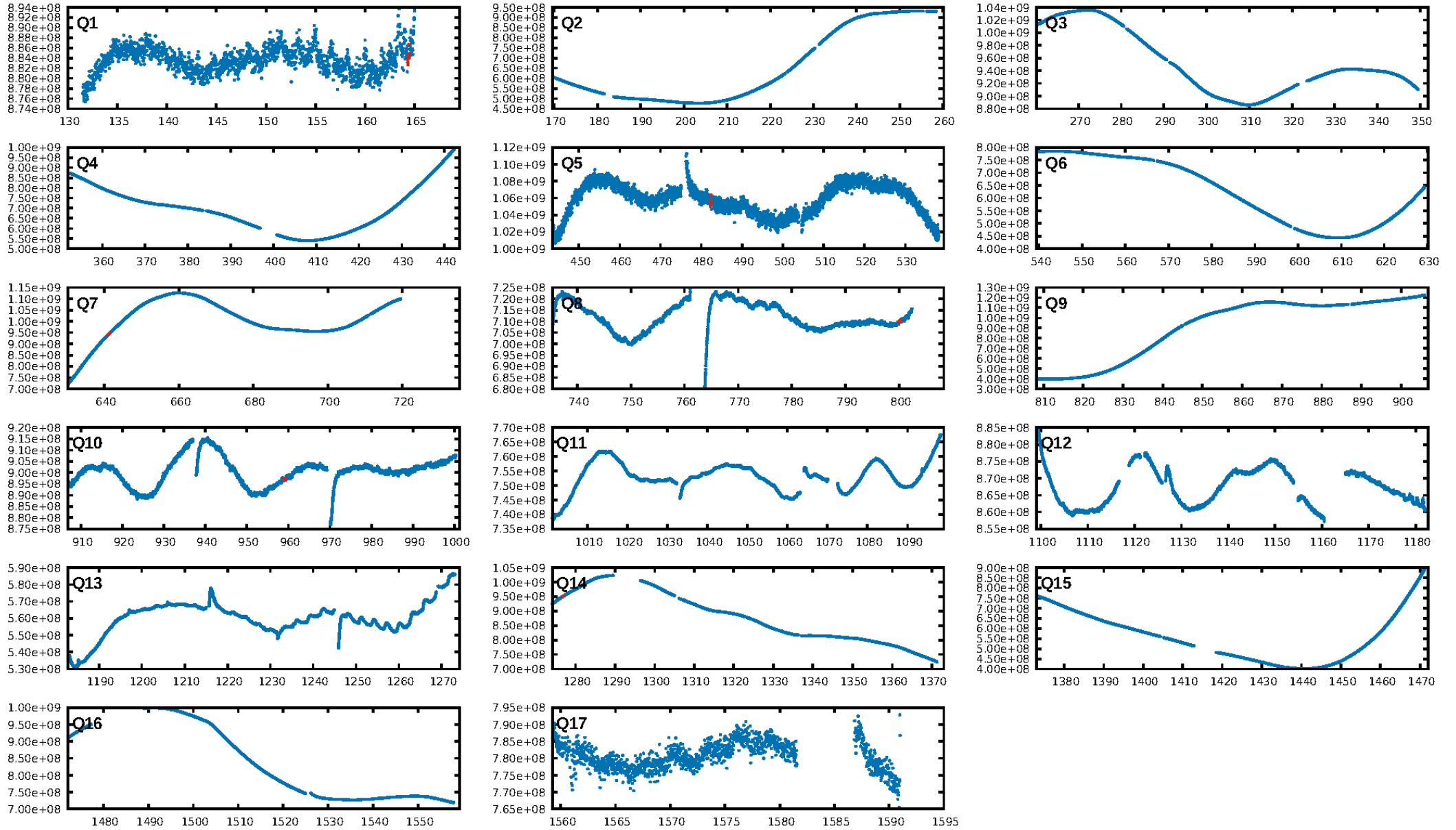
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [840.15σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.05e-03
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -281.7
Centroid-sig: 94.6%
Centroid-so: 0.433 arcsec [0.41σ]
OotOffset-rm: 3.916 arcsec [7.65σ]
KicOffset-rm: 3.412 arcsec [5.42σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [3/3]

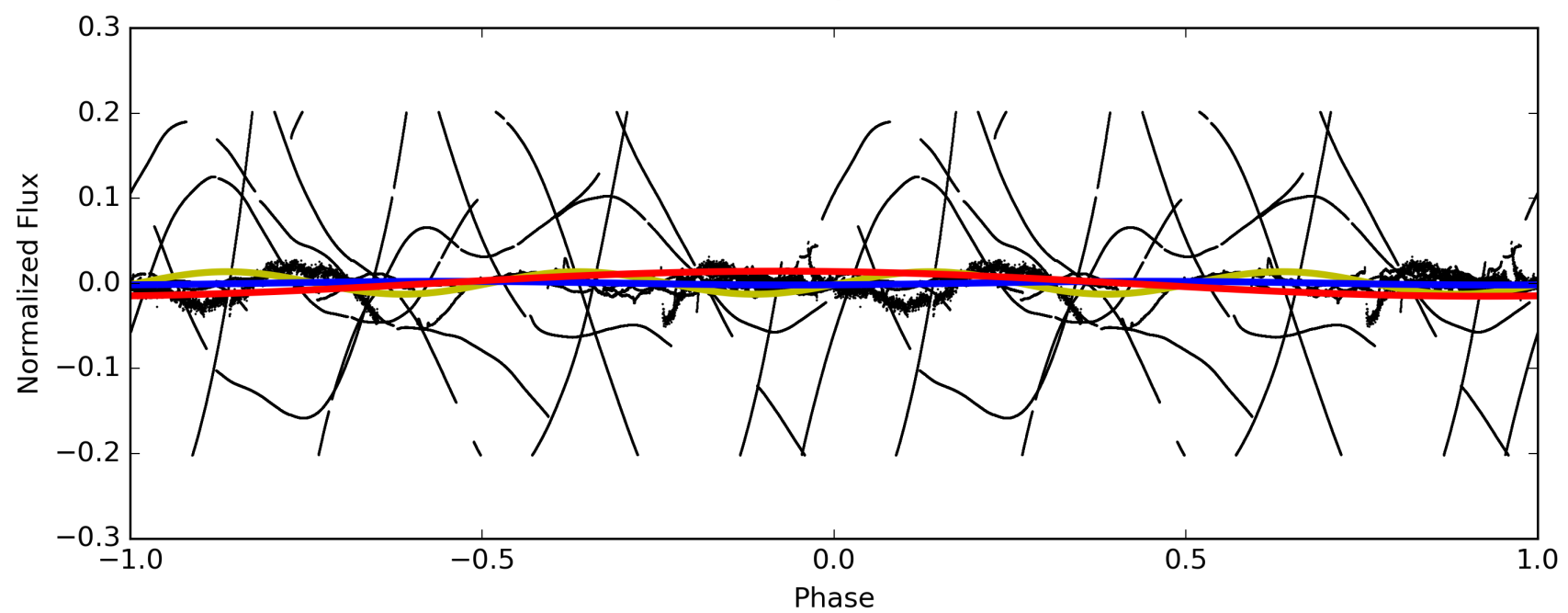
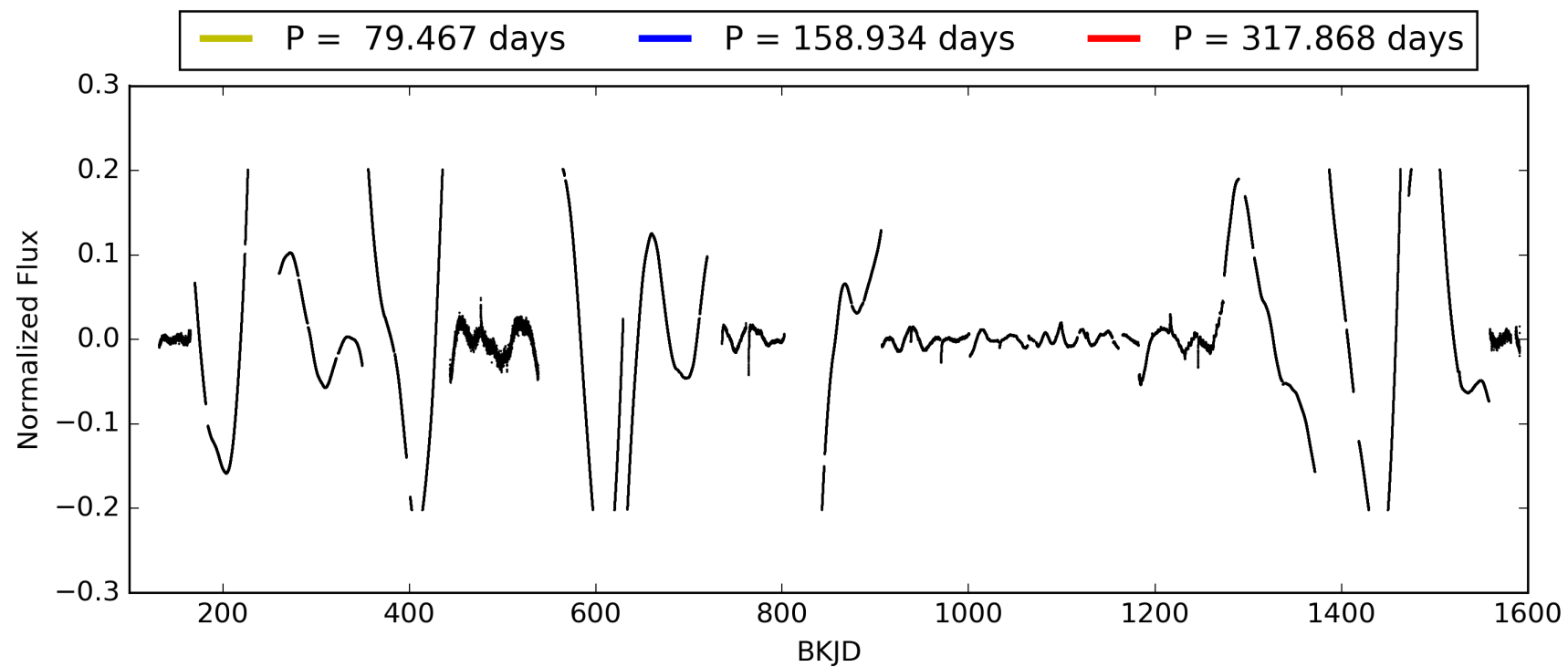
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 06:18:52 Z

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

TCE 004548551-01, PDC Light Curves

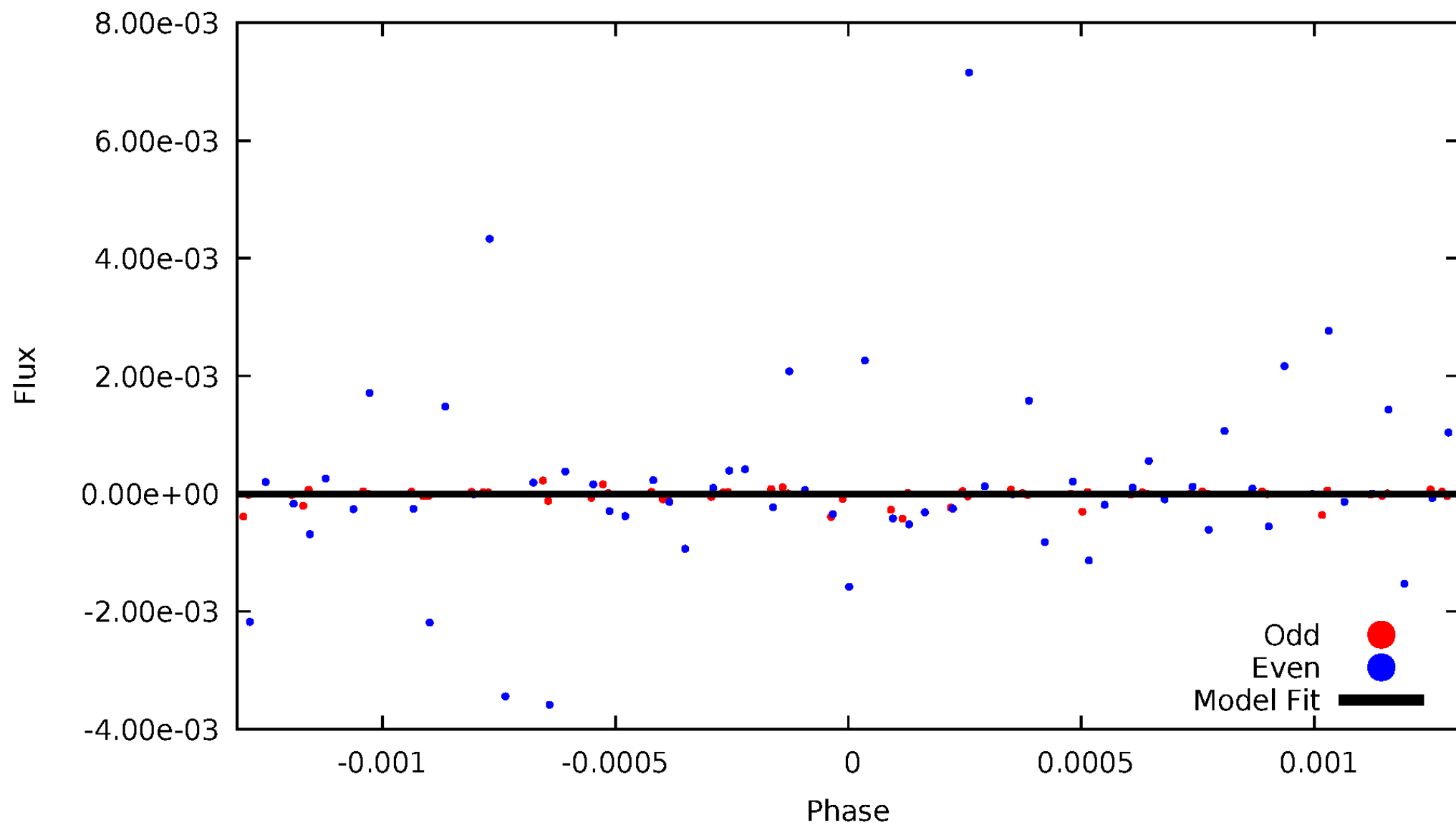


TCE 004548551-01



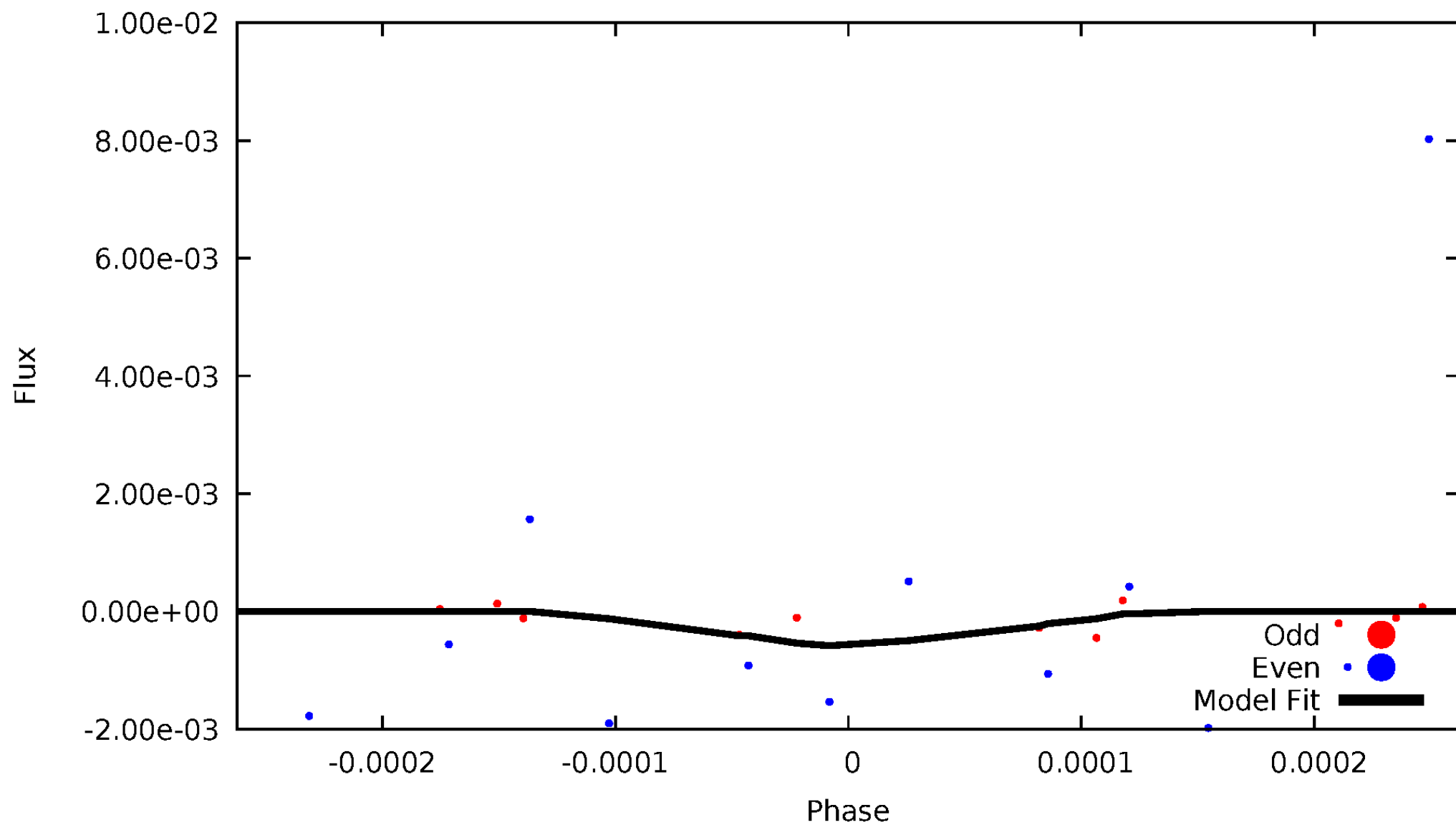
DV Odd/Even

TCE 004548551-01



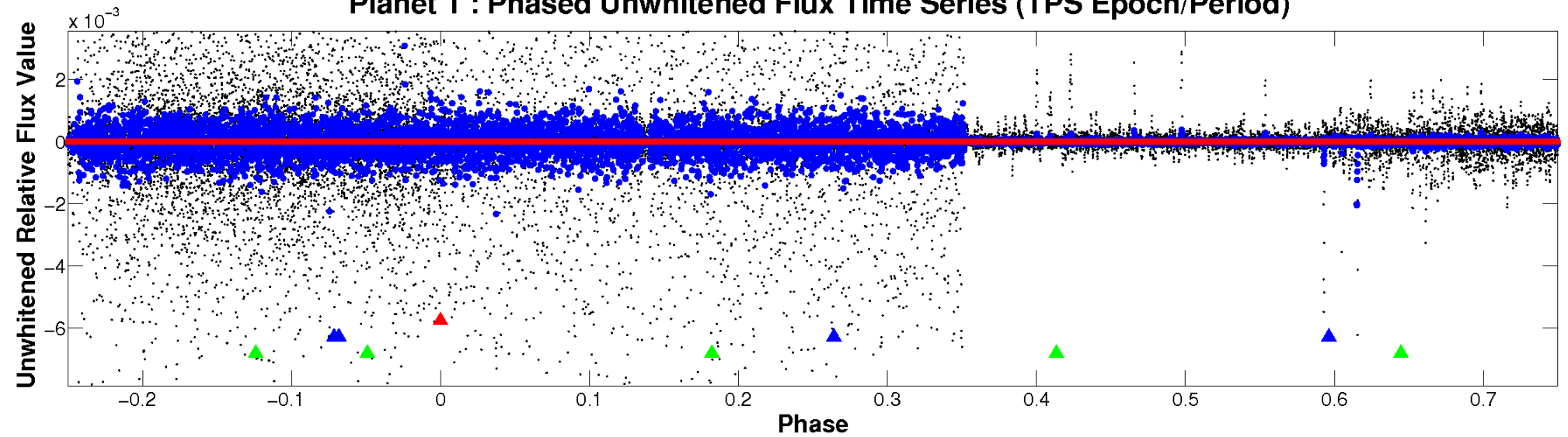
ALT Odd/Even

TCE 004548551-01

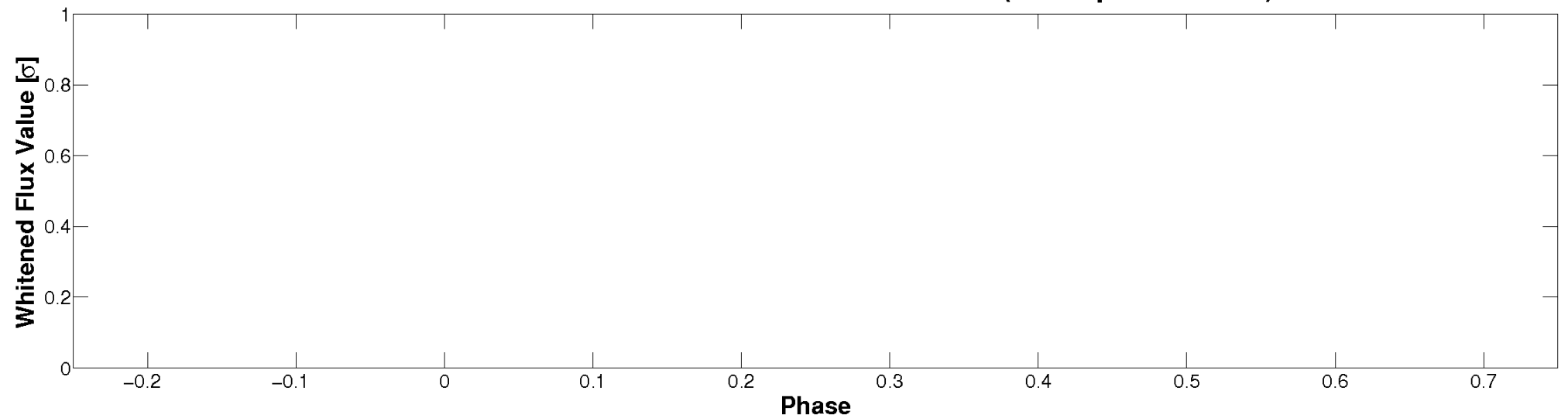


Non-Whitened Vs. Whitened Light Curve

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

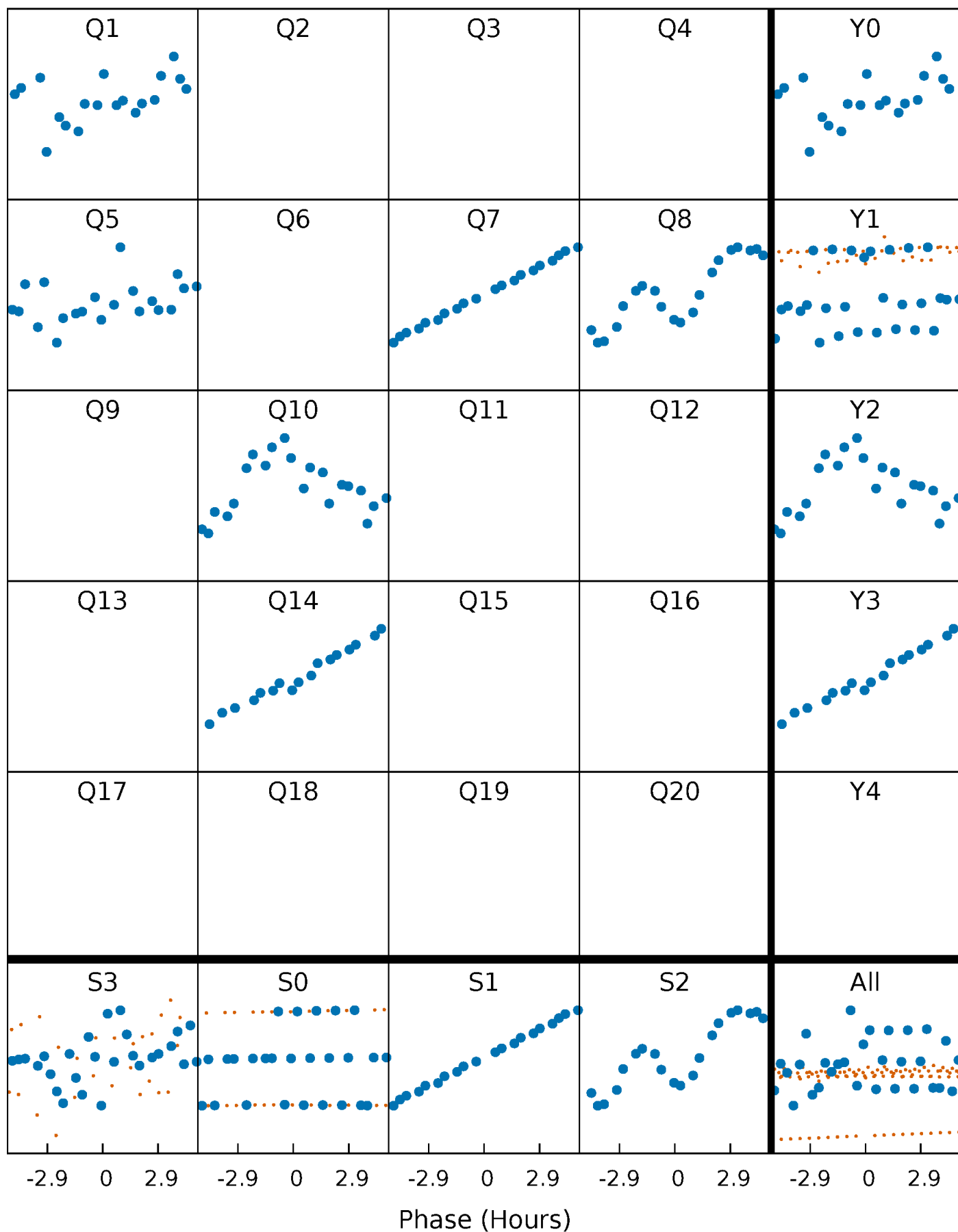


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



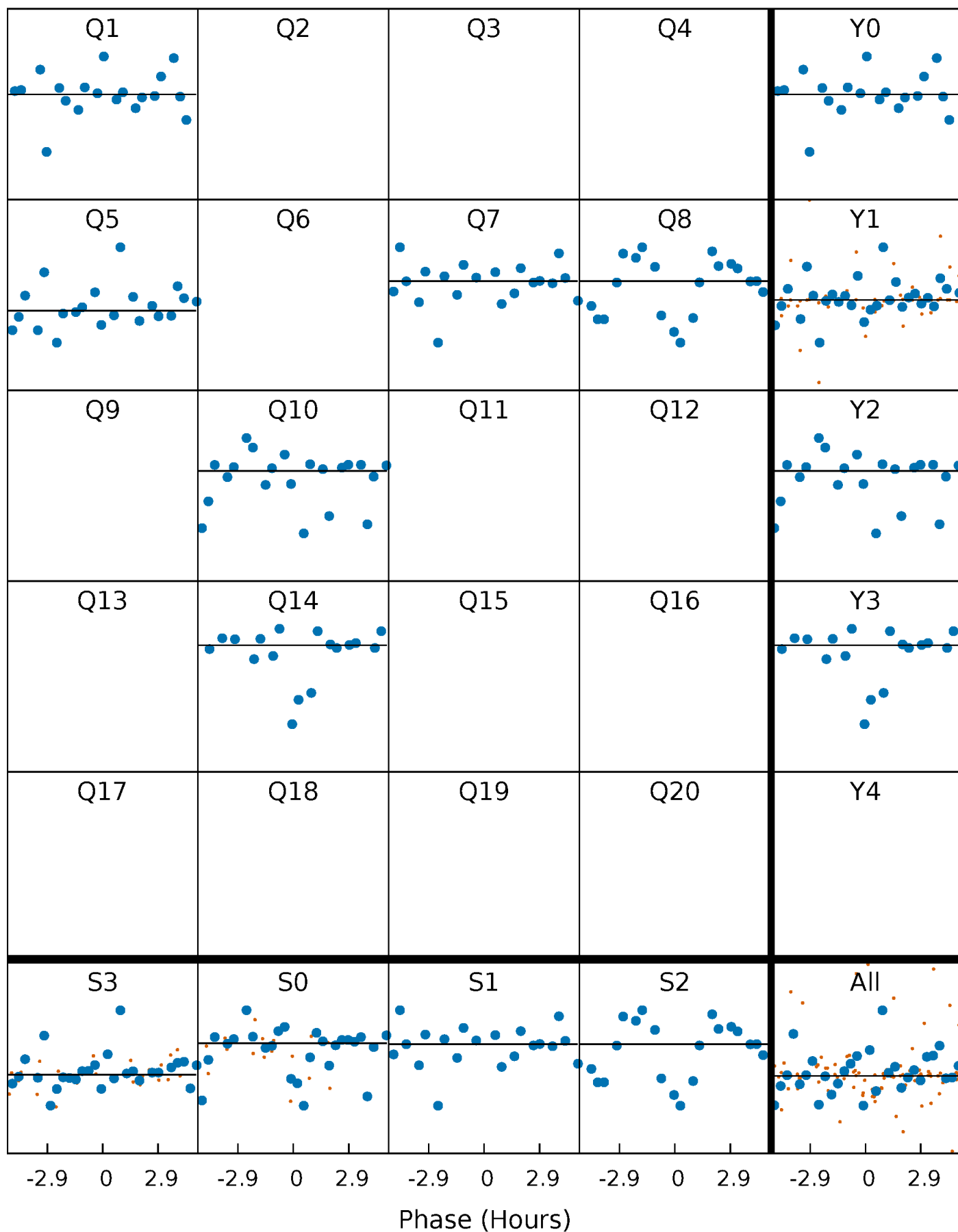
PDC Quarter-Phased Transit Curves

TCE 004548551-01 P=158.934169 Days $T_0=164.386002$ (BKJD)



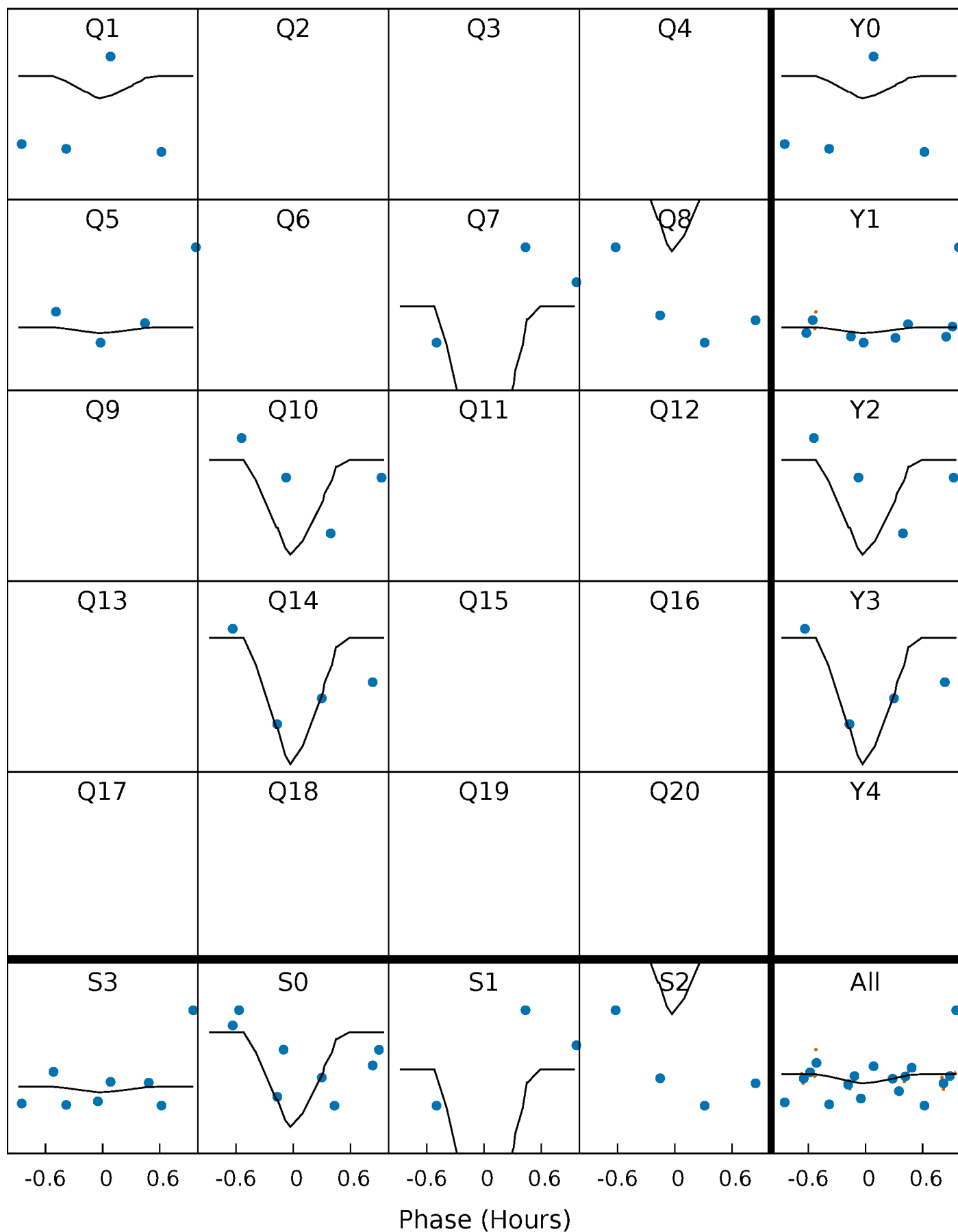
DV Quarter-Phased Transit Curves

TCE 004548551-01 P=158.934169 Days $T_0=164.386002$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

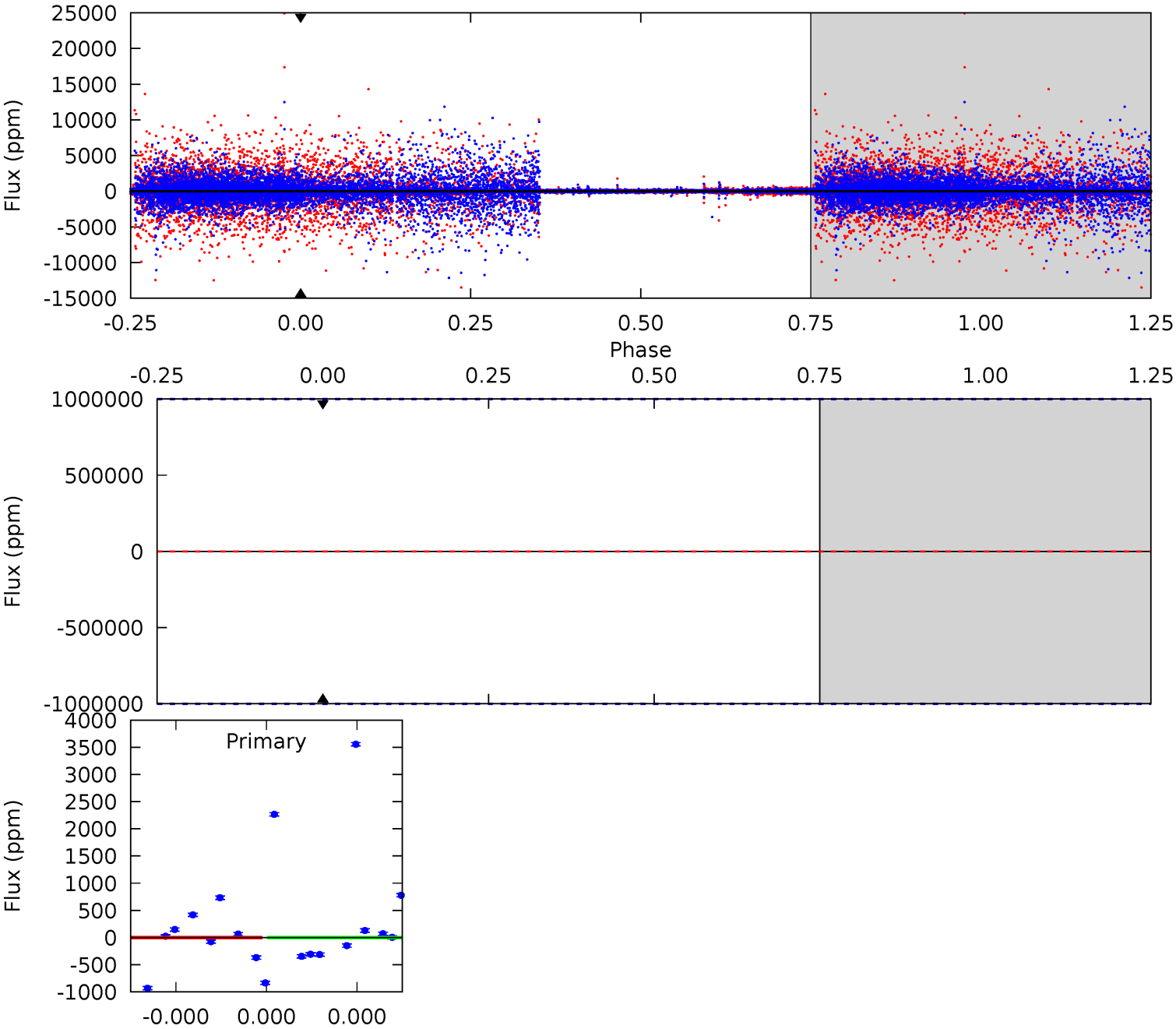
TCE 004548551-01 P=158.934169 Days $T_0=164.387569$ (BKJD)



DV Model-Shift Uniqueness Test

004548551-01, P = 158.934169 Days, E = 5.451833 Days

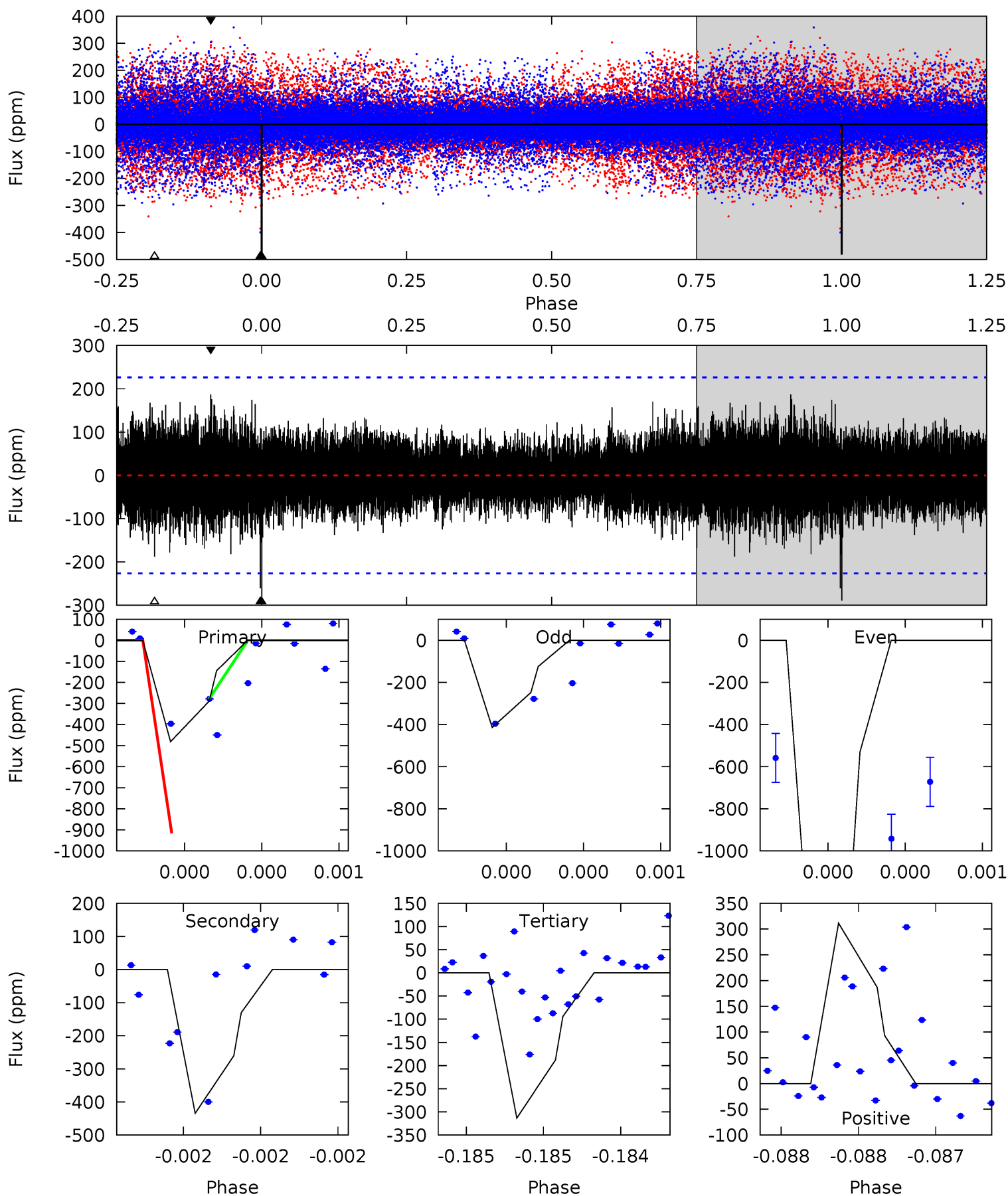
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

004548551-01, P = 158.934169 Days, E = 5.453400 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.26	6.55	4.73	4.70	5.69	3.66	0.88	2.53	2.56	1.82	1.85	8.45	1.33	0.39	0



Stellar Parameters For KIC 004548551

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3266^{+117}_{-78}	$0.095^{+0.208}_{-0.065}$	$-0.080^{+0.250}_{-0.100}$	$155.187^{+9.192}_{-27.576}$	$1.095^{+0.206}_{-0.120}$	$0.000^{+0.000}_{-0.000}$
	+4%/-2%	+219%/-68%	+312%/-125%	+6%/-18%	+19%/-11%	+92%/-15%
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 004548551-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$1186.18^{+1215.34}_{-821.02}$	3213^{+152}_{-173}	-3020^{+9799}_{-3380}	$-0.114^{+28.253}_{-22.778}$
Alt.	-261 ± 40	$1250.91^{+1311.72}_{-838.32}$	3213^{+148}_{-183}	-2799^{+4617}_{-135}	$0.033^{+0.271}_{-0.025}$

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 $A_{obs} \gg 1.0$

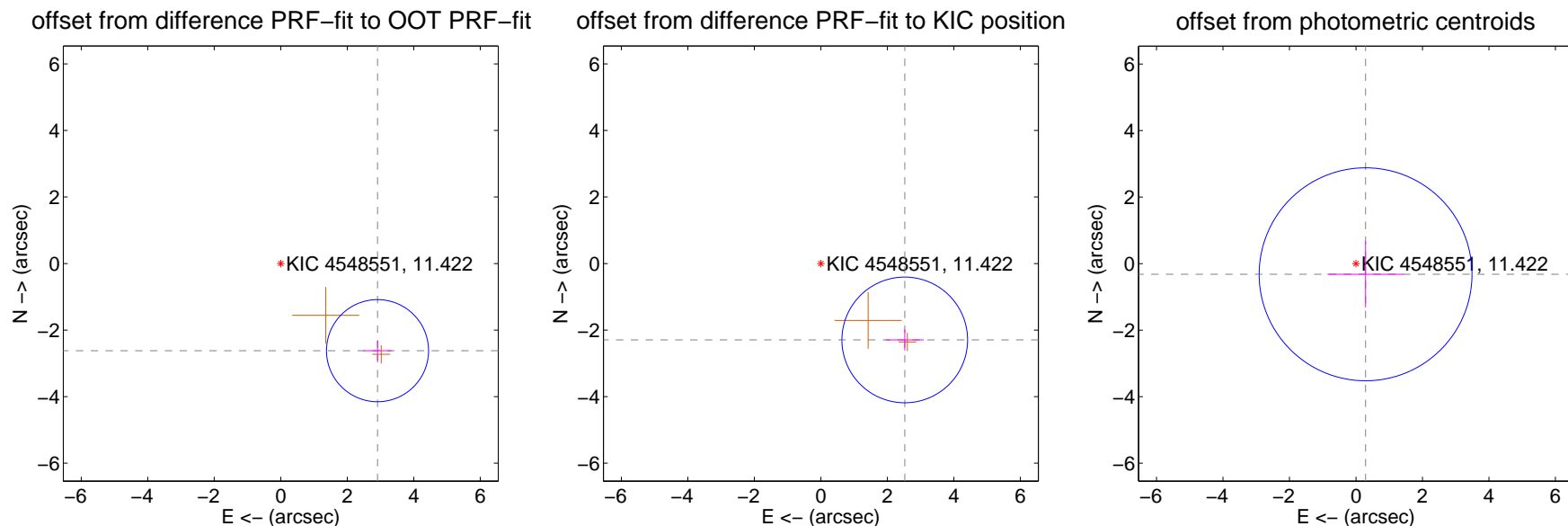
DV Centroid Data

Supplemental centroid analysis for 004548551-01. **Kepler magnitude: 11.42.** Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

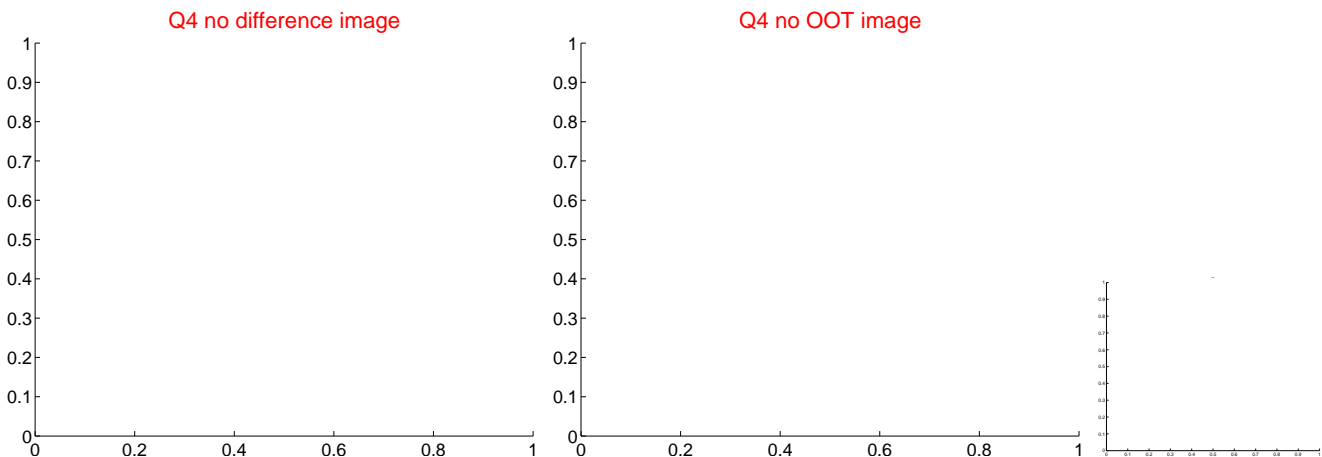
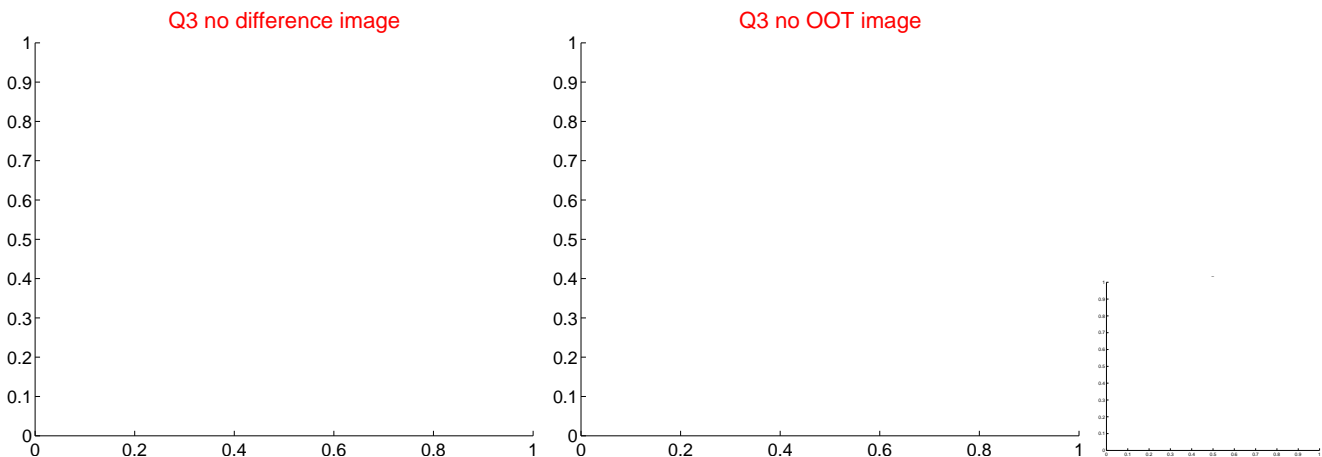
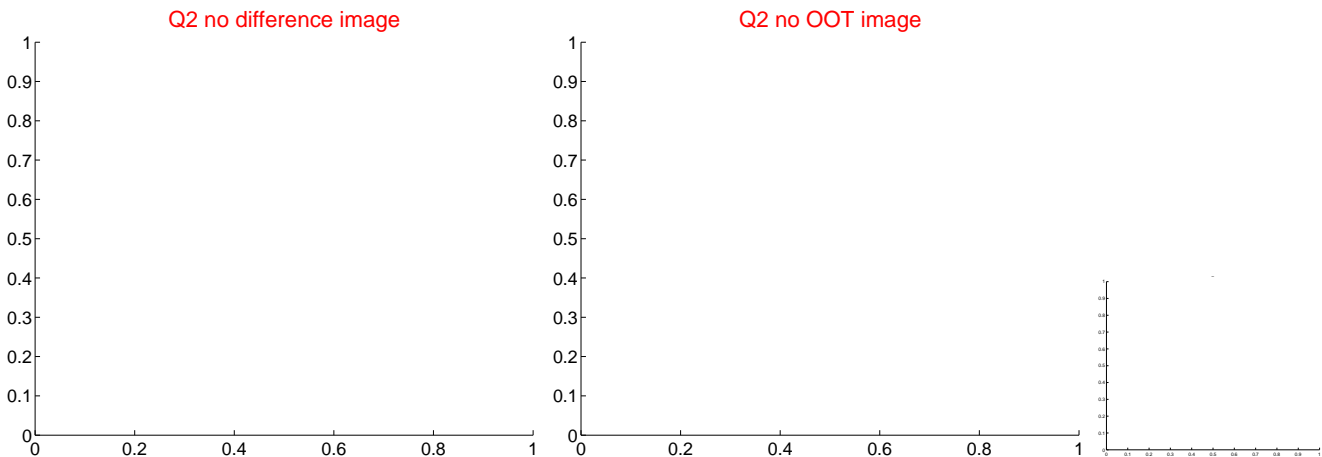
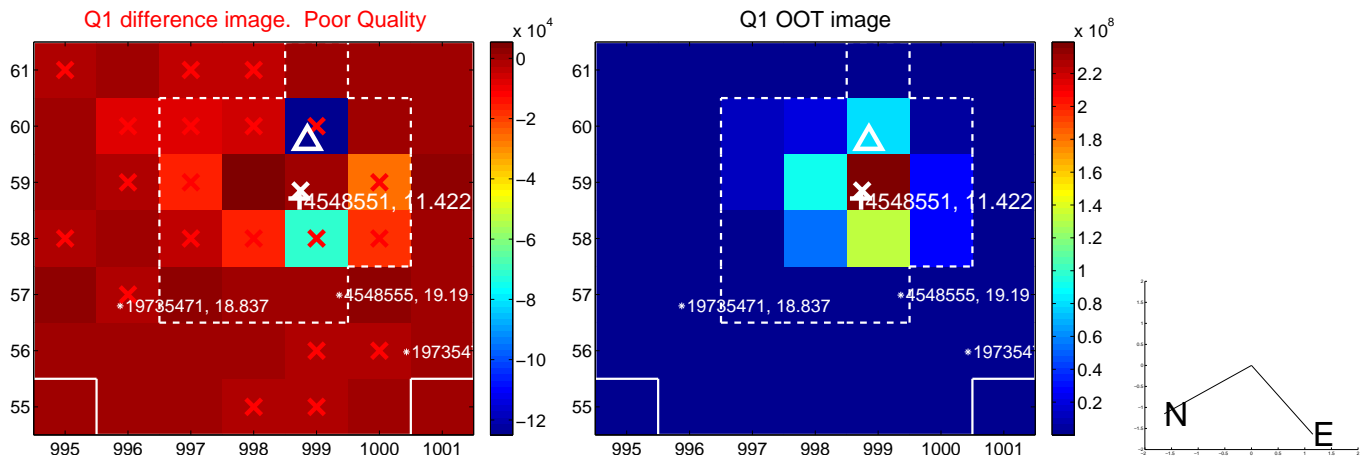
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.916 ± 0.512	7.65	-2.911 ± 0.424	-2.620 ± 0.301
PRF-fit source offset from KIC position	3.412 ± 0.630	5.42	-2.523 ± 0.569	-2.297 ± 0.316
photometric centroid source offset	0.43 ± 1.07	0.41	-0.29 ± 1.15	-0.32 ± 1.00

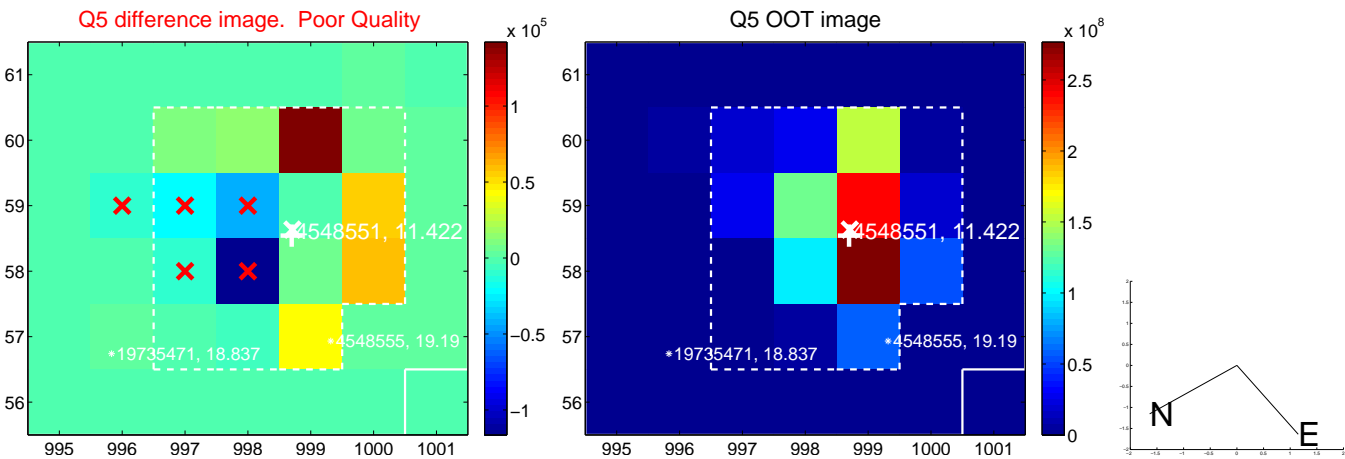


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

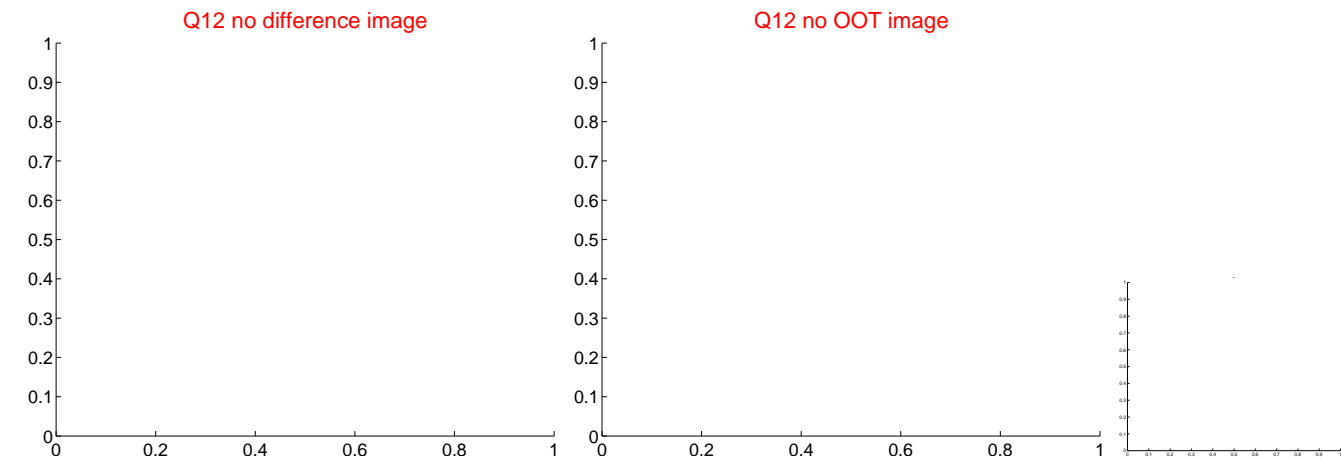
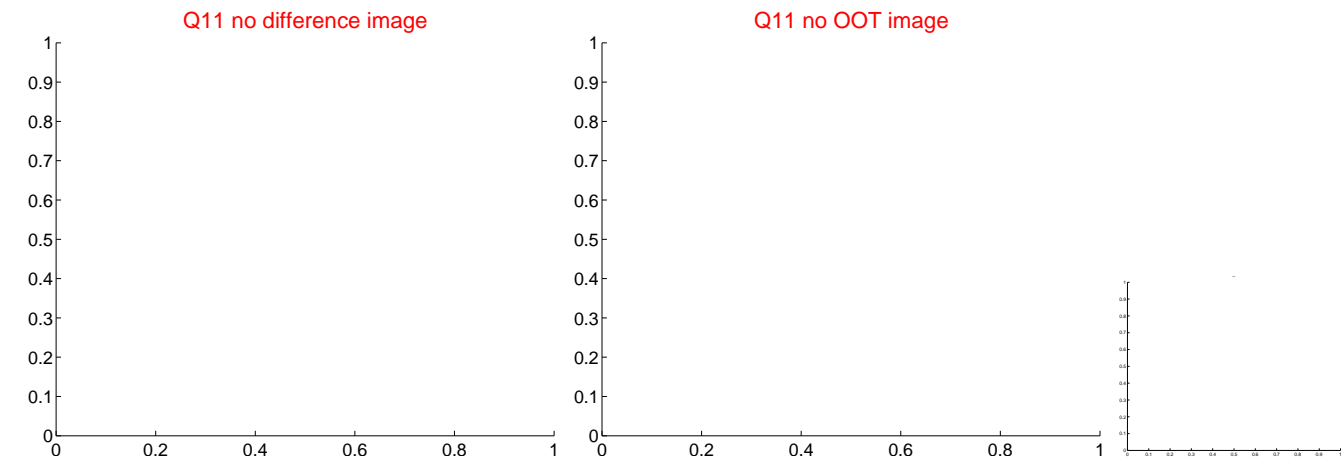
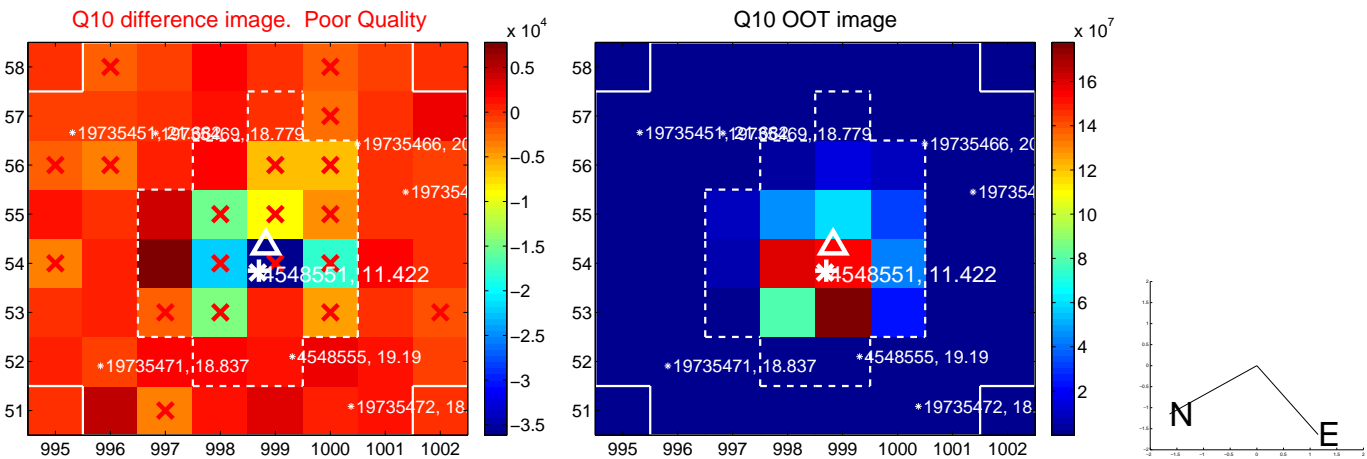
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



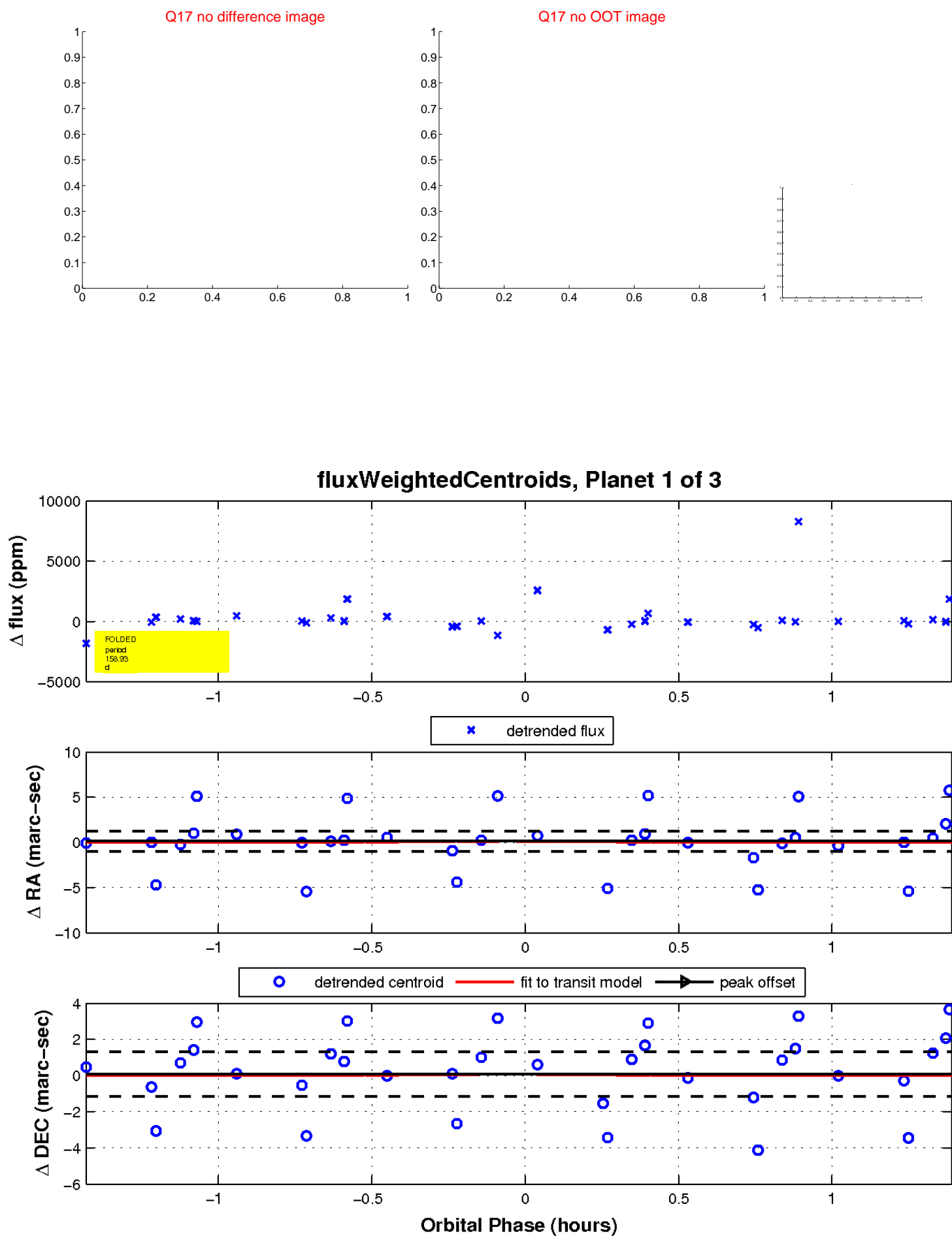
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

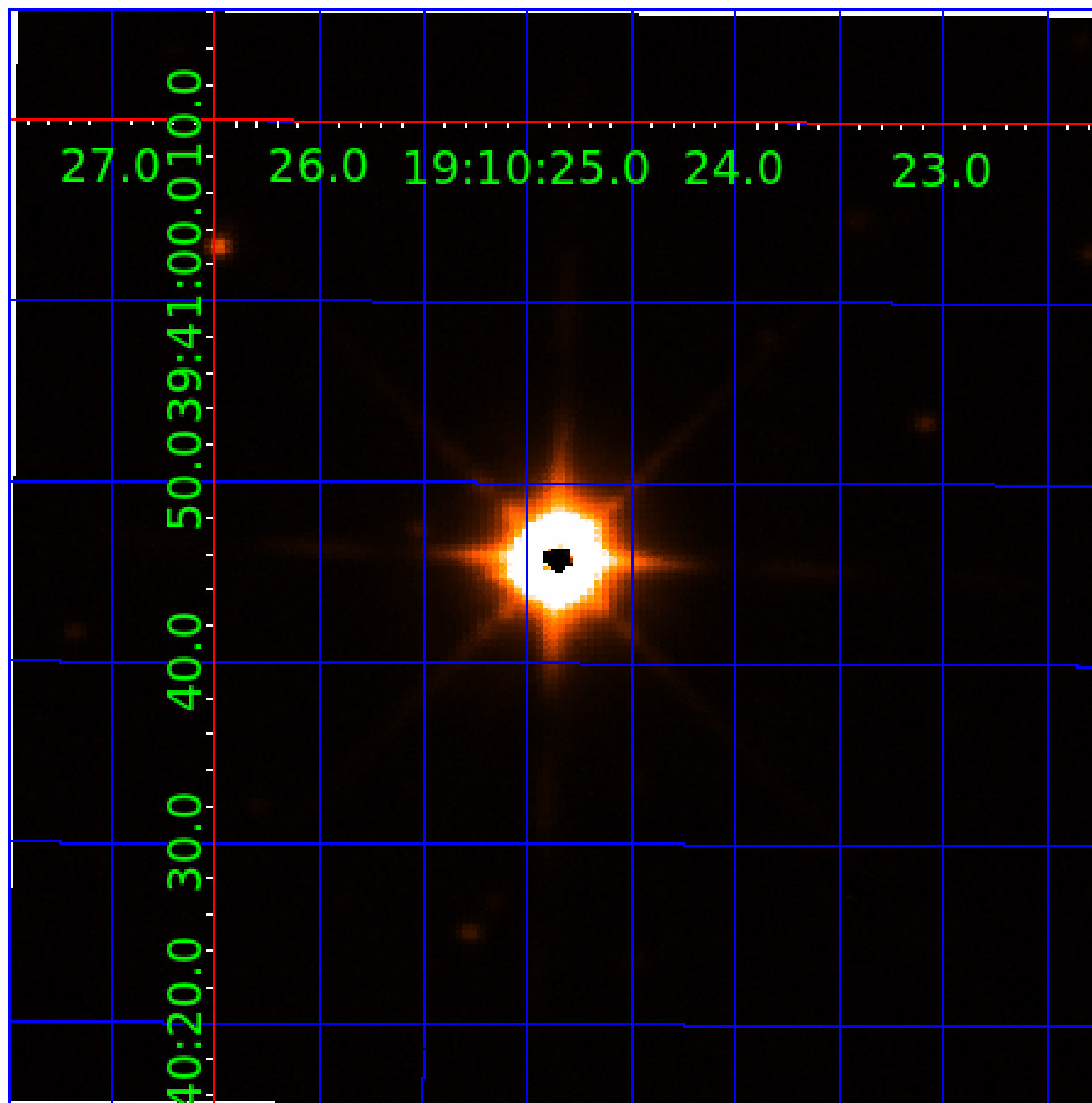


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004548551

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})
004548551-01	OBS	No	158.934169	164.386002	270.7	2.500	11.4	-1.0	155.19	3266	235.00	7013.04
004548551-02	OBS	No	370.674270	153.549607	24.3	15.753	79.2	0.8	155.19	3266	71.81	2267.46
004548551-03	OBS	No	354.624434	156.579566	1513.2	5.000	73.2	-1.0	155.19	3266	554.81	2405.31

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004548551-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_SATURATED
004548551-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT— INCONSISTENT_TRANS—CENT_SATURATED
004548551-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_SATURATED

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

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

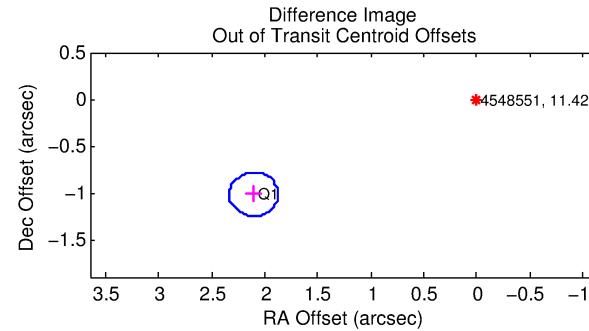
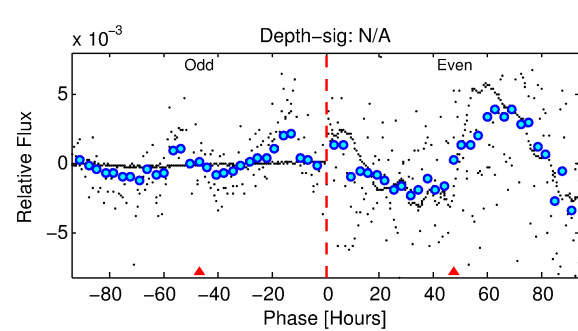
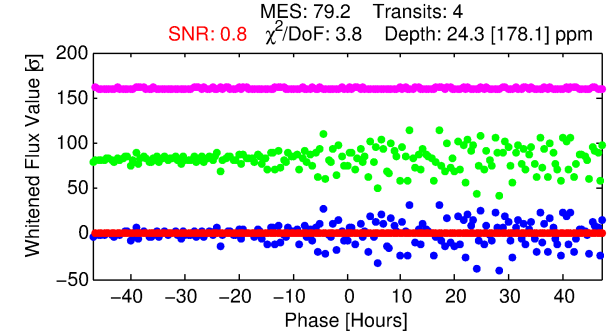
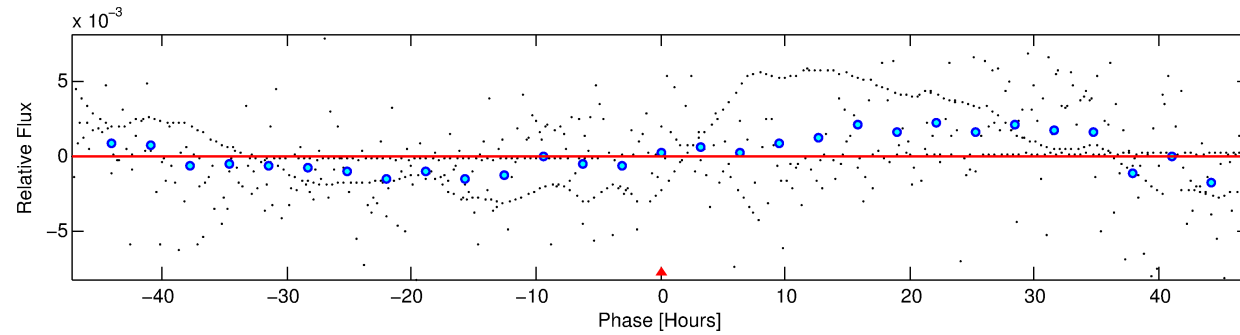
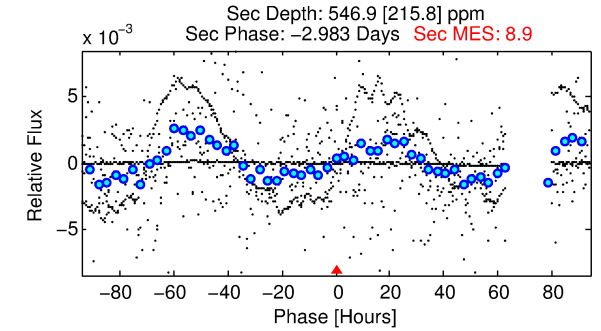
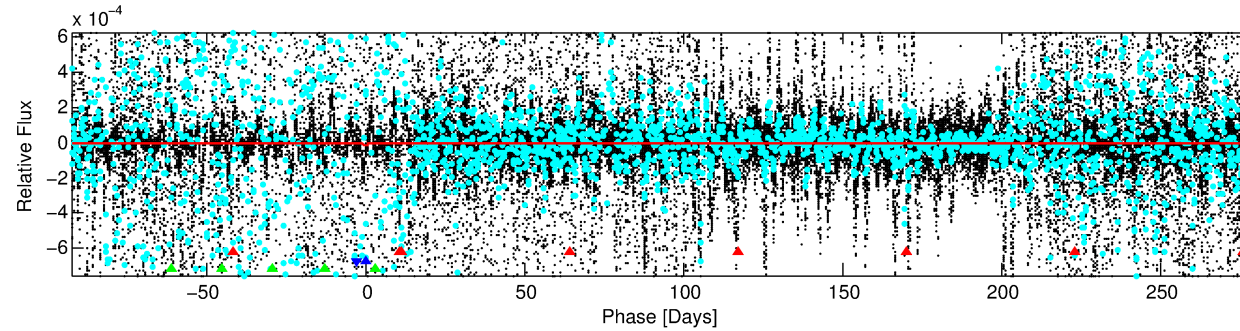
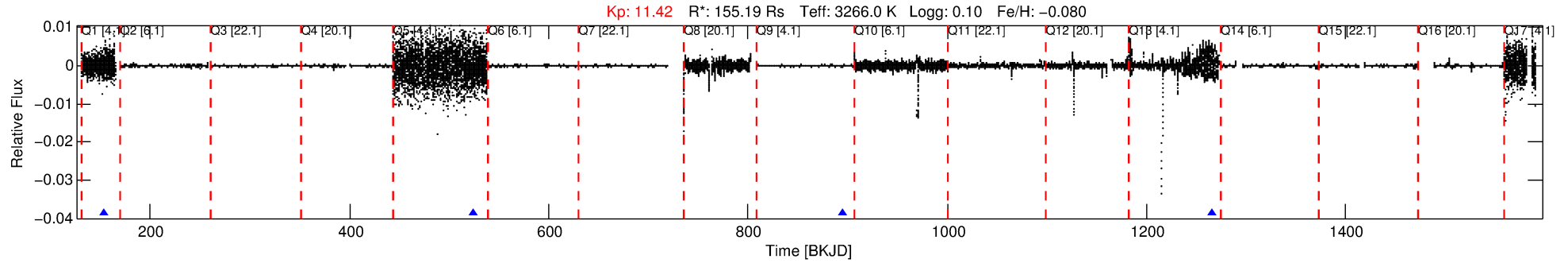
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004548551-02

No Significant Match Found

DV One-Page Summary

KIC: 4548551 Candidate: 2 of 3 Period: 370.674 d



DV Fit Results:

Period = 370.67427 [0.47347] d
Epoch = 153.5496 [0.9164] BKJD
Rp/R* = 0.0042 [0.0438]
a/R* = 171.64 [3996.17]
b = 0.31 [68.78]
Seff = 2267.46 [837.79]
Teq = 1760 [163] K
Rp = 71.81 [741.63] Re
a = 1.0405 [0.2069] AU
Ag = 63.17 [1305.11] [0.05σ]
Teffp = 7670 [39608] K [0.15σ]

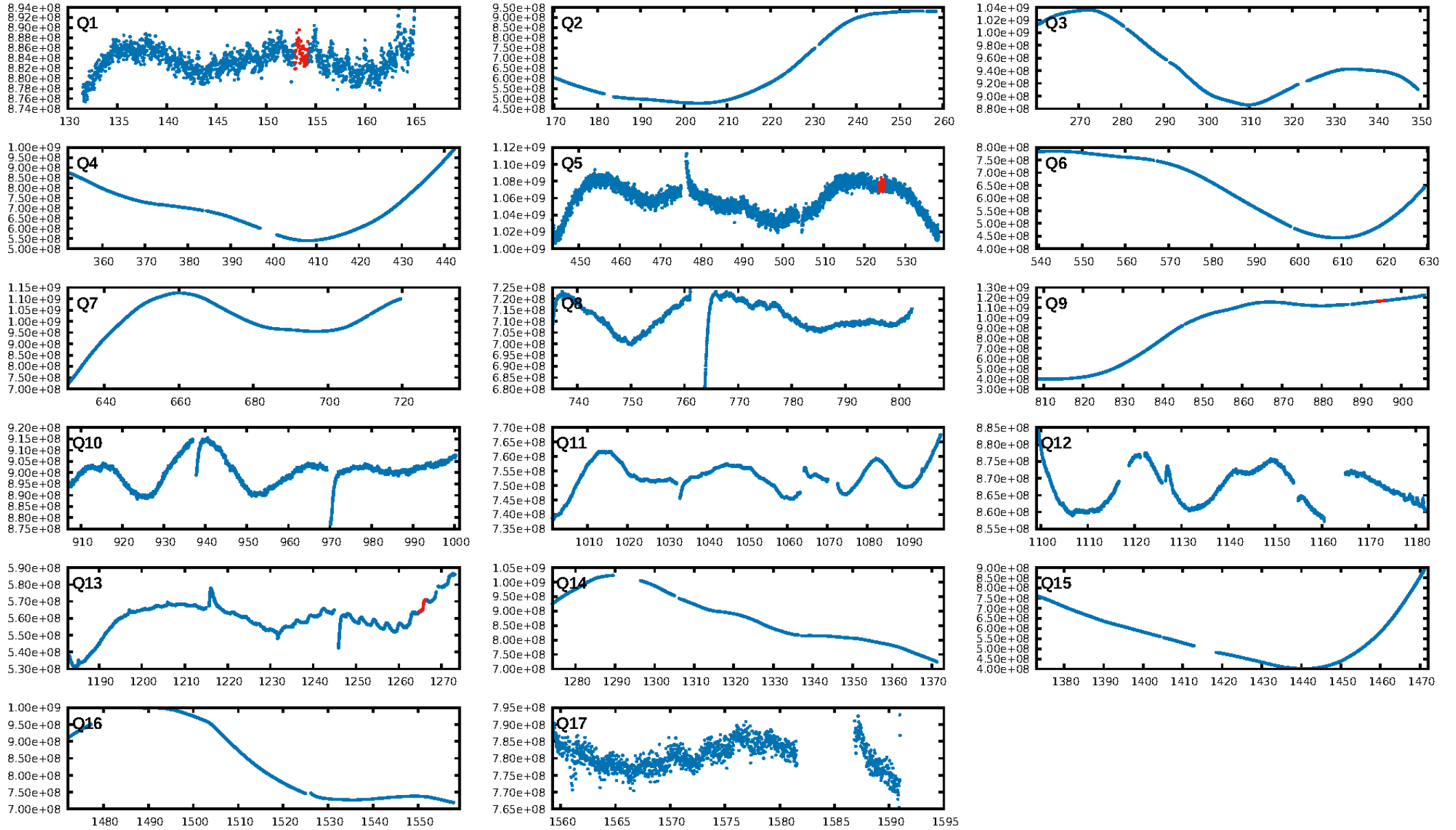
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [23.31σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 3.3%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 9.26e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 3.247
Centroid-sig: 10.8%
Centroid-so: 24.469 arcsec [1.21σ]
OotOffset-rm: 2.337 arcsec [30.18σ]
KicOffset-rm: 2.584 arcsec [33.41σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [4/4]

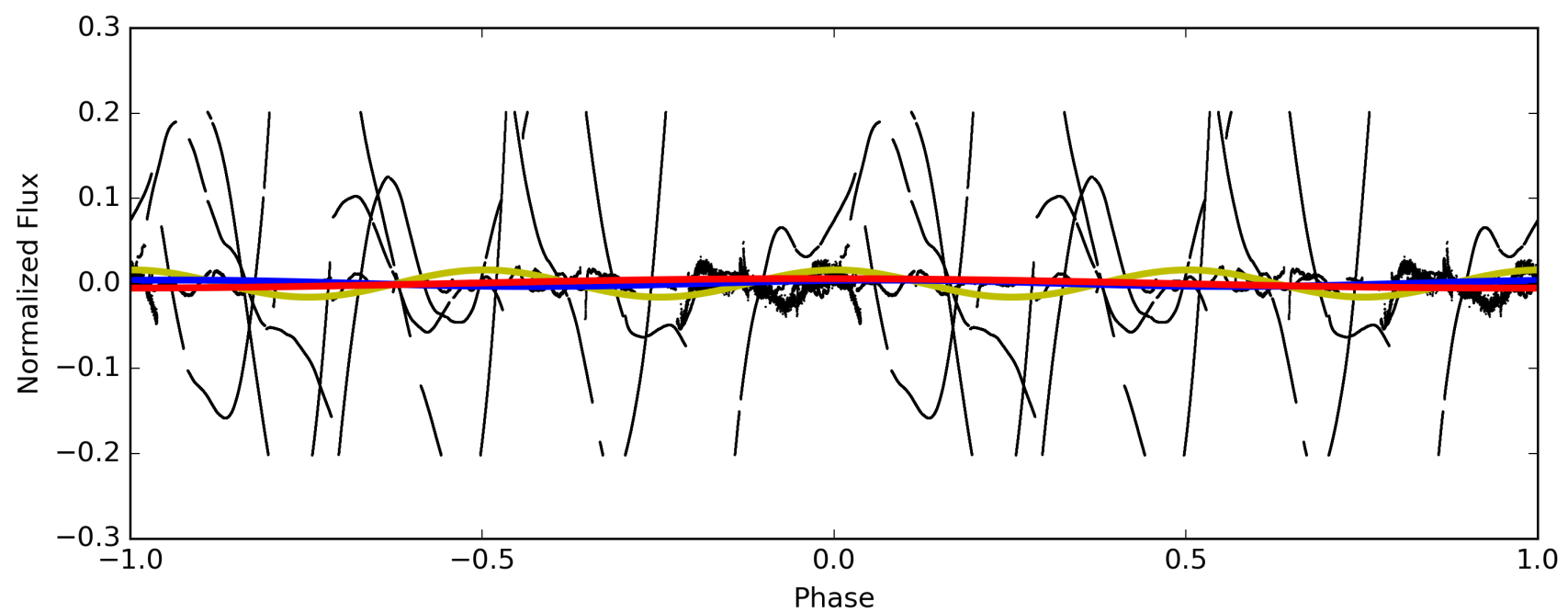
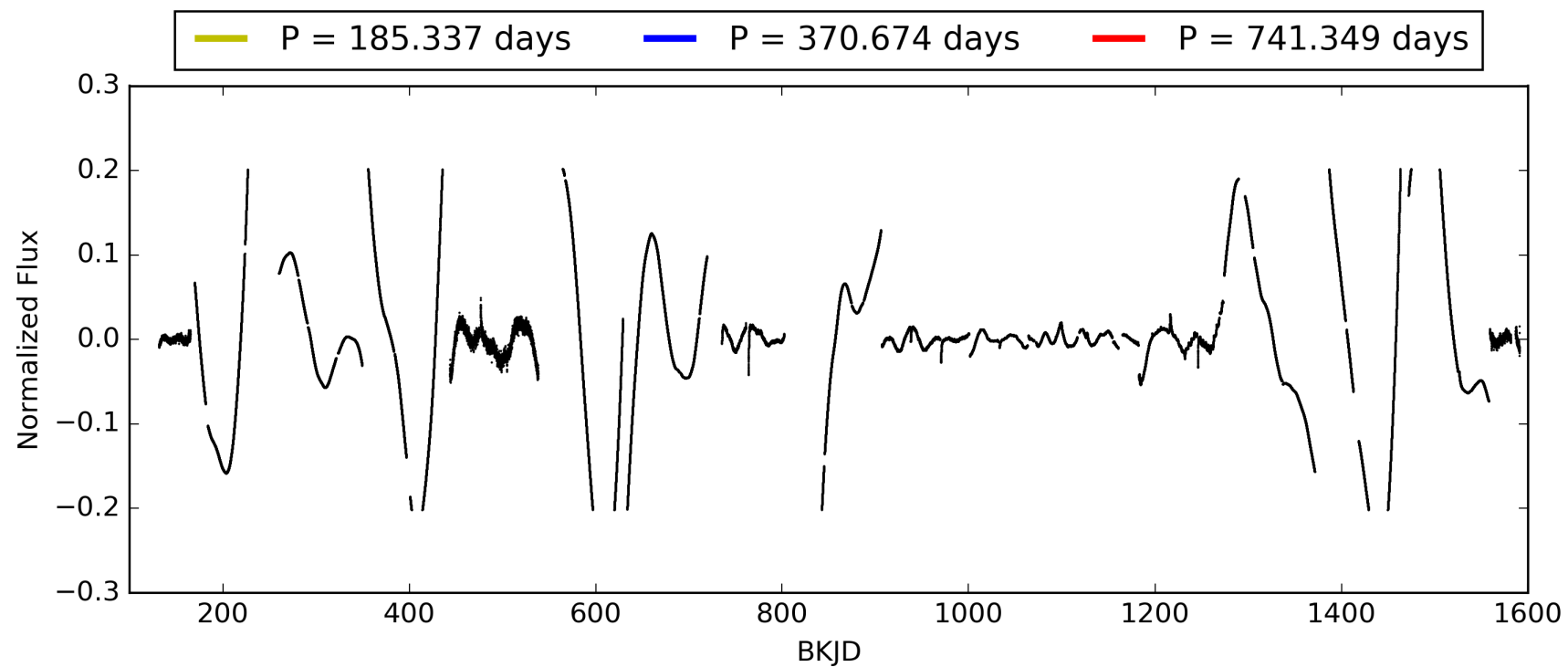
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 06:19:01 Z

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

TCE 004548551-02, PDC Light Curves

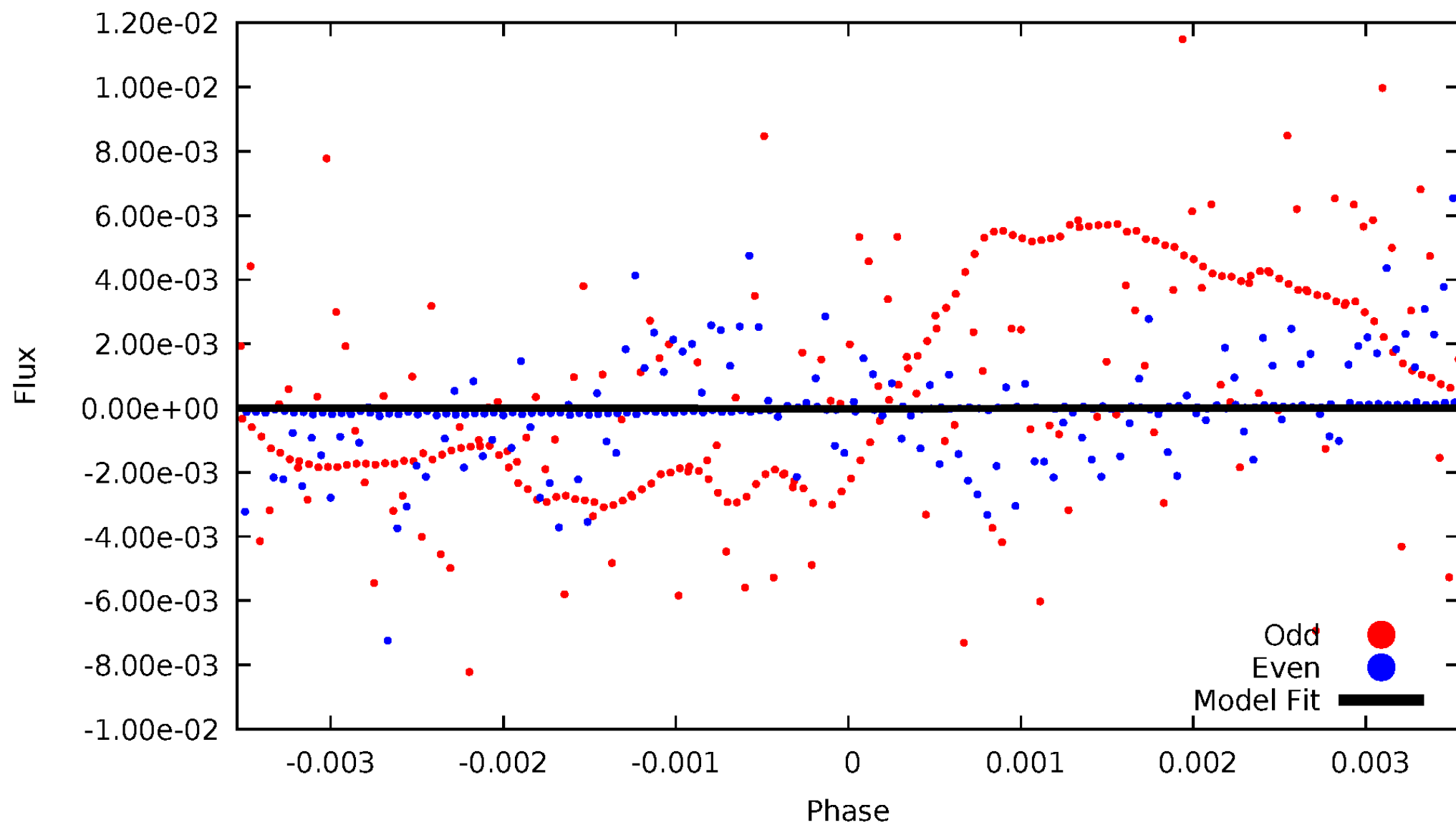


TCE 004548551-02



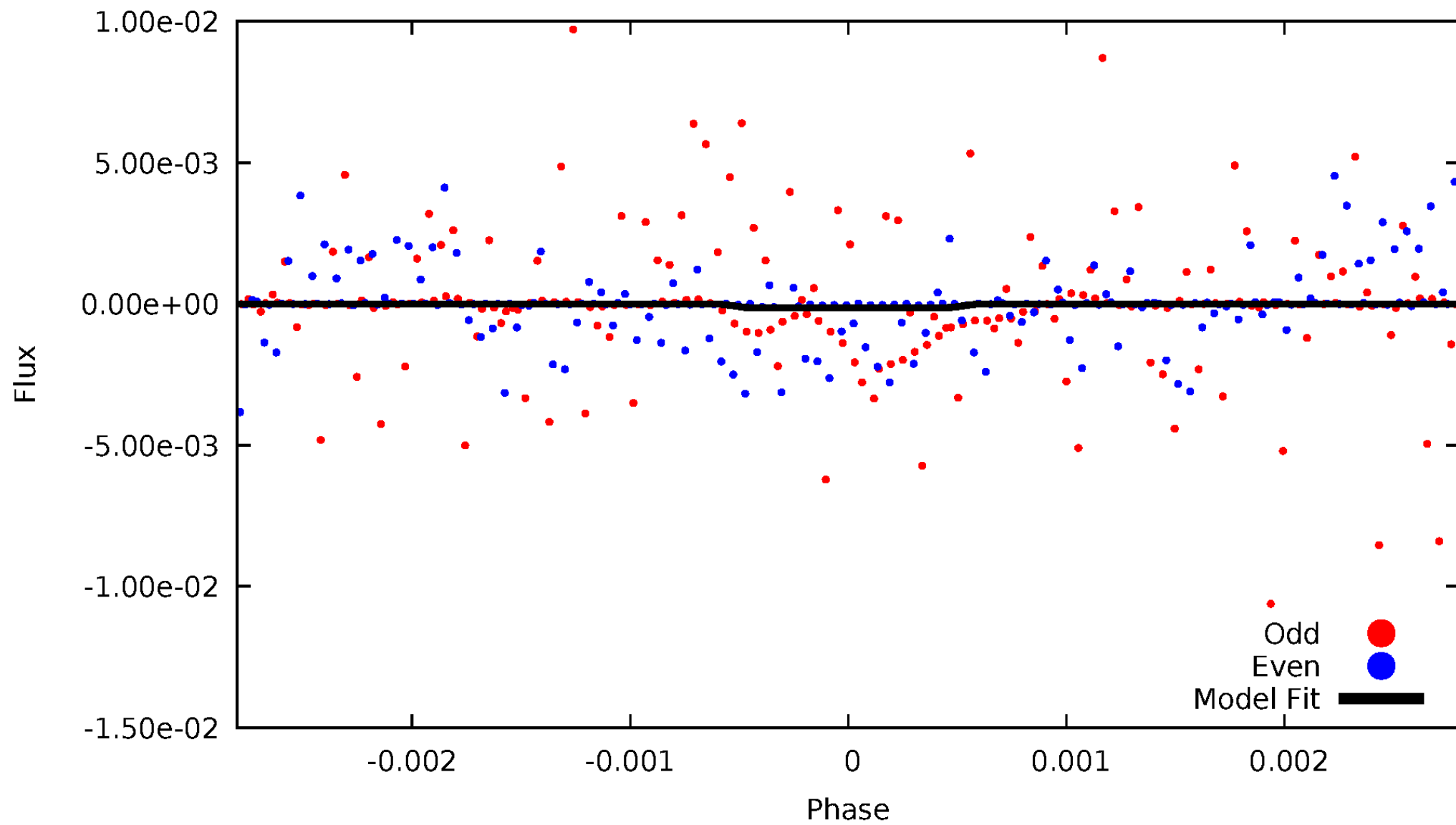
DV Odd/Even

TCE 004548551-02



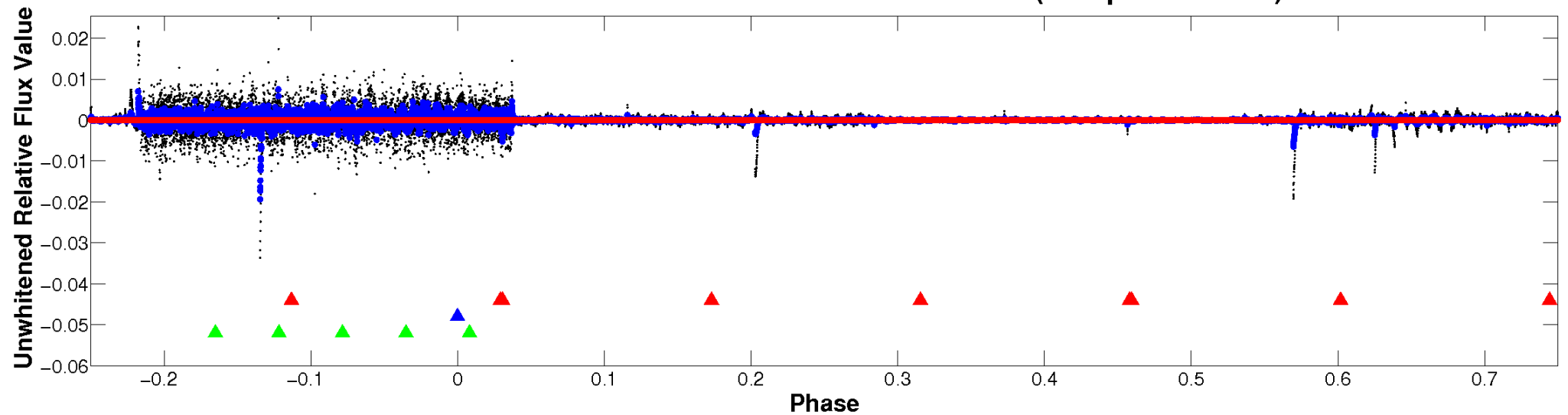
ALT Odd/Even

TCE 004548551-02

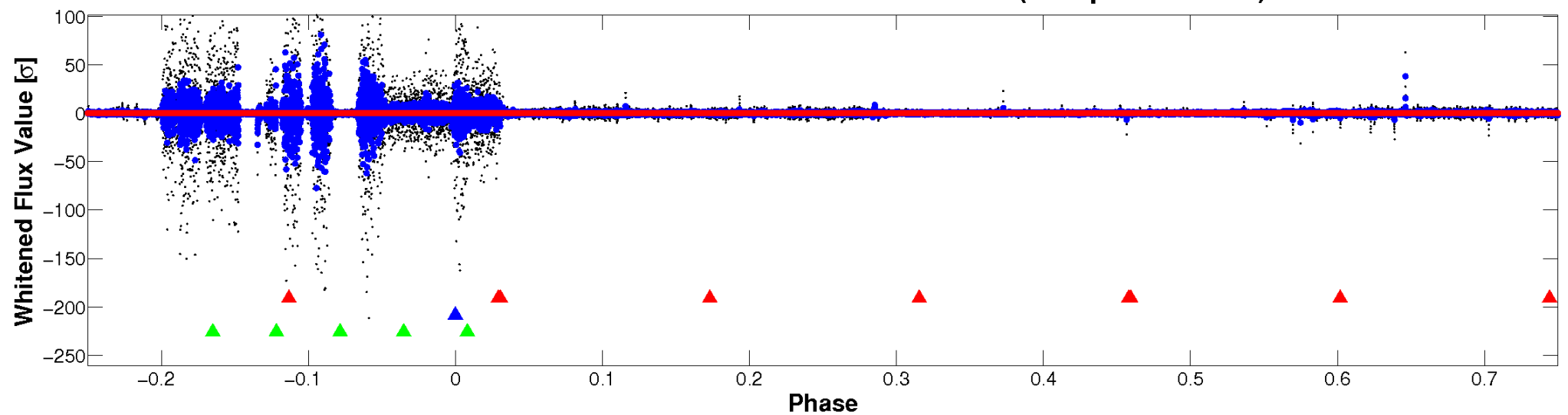


Non-Whitened Vs. Whitened Light Curve

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

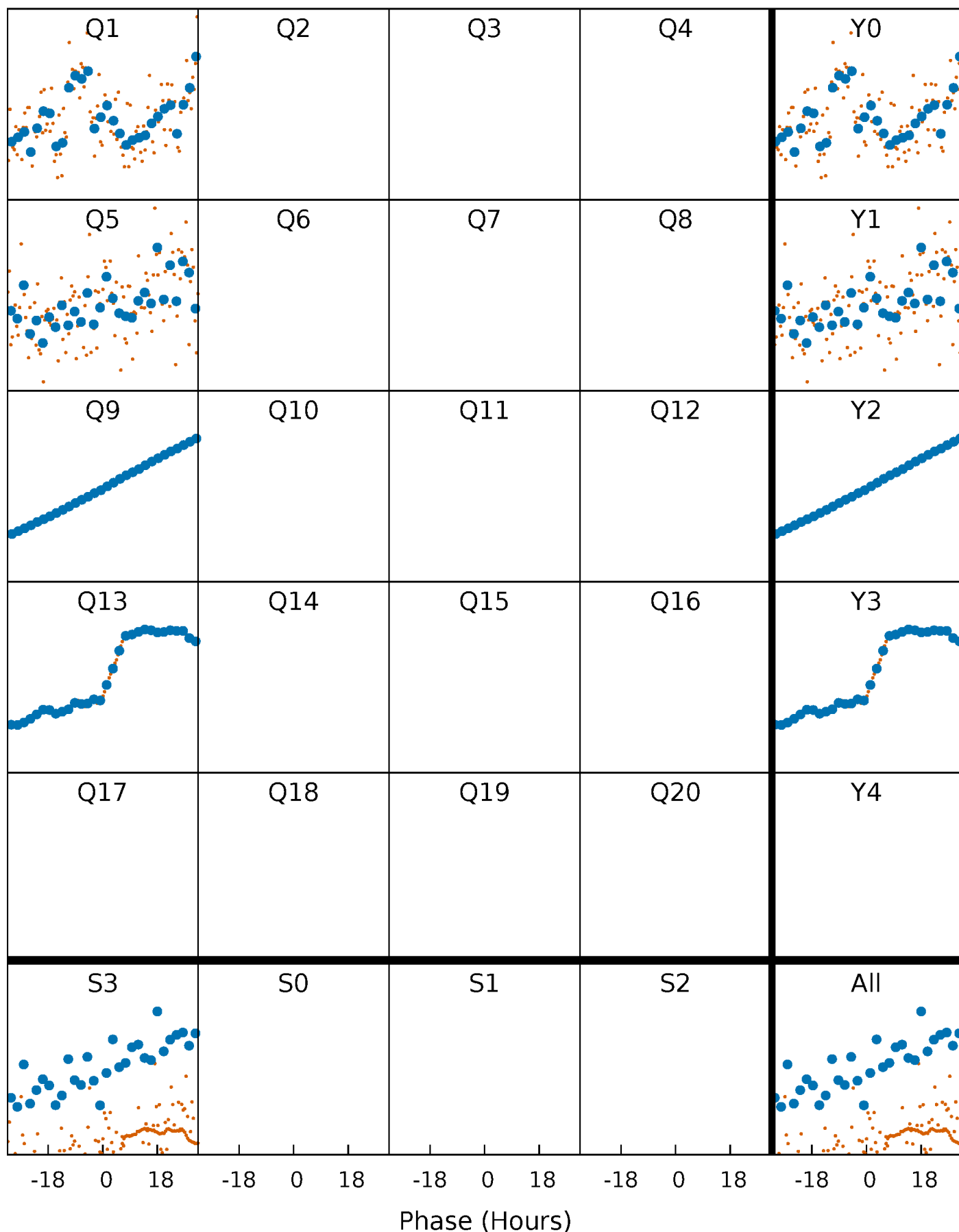


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



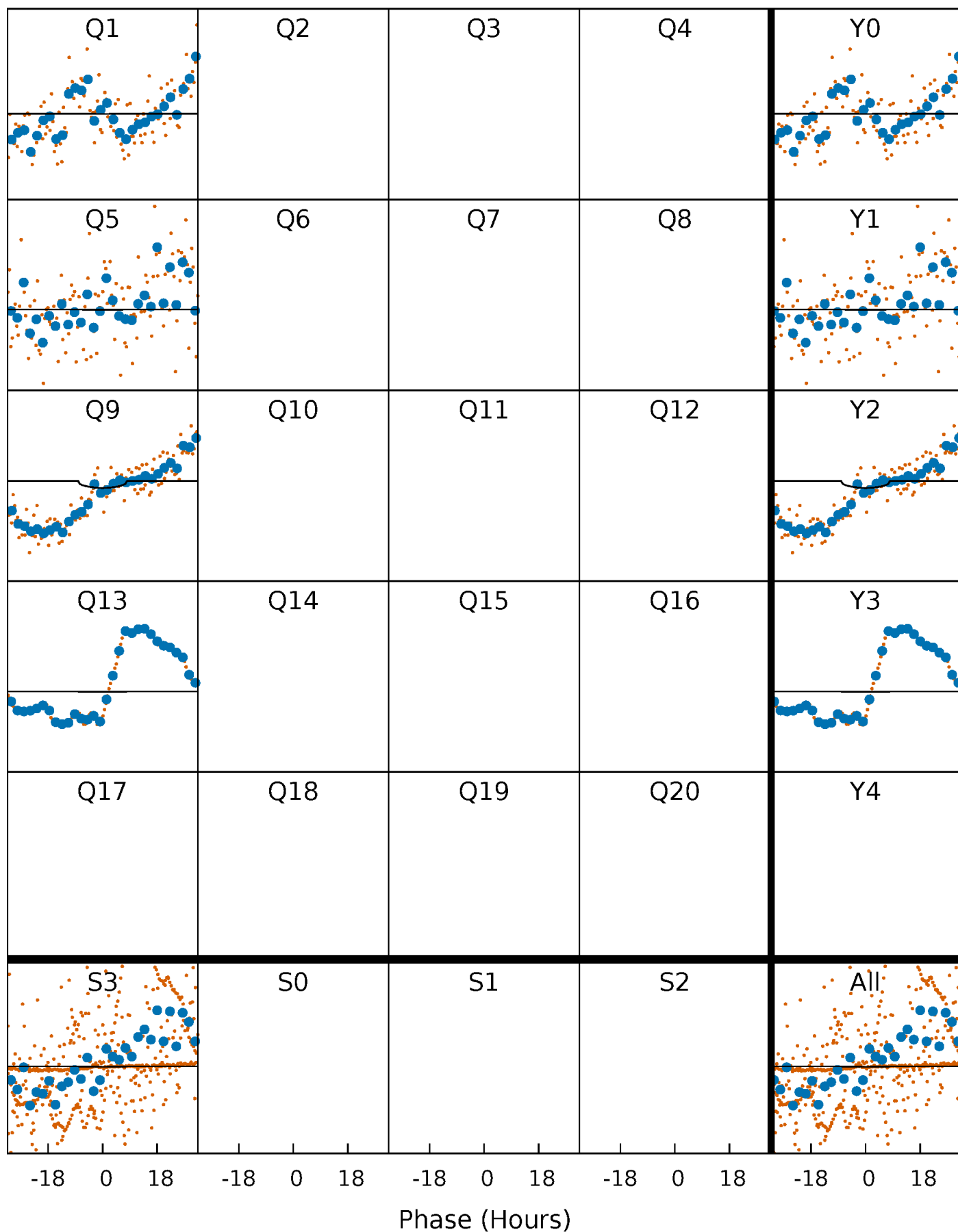
PDC Quarter-Phased Transit Curves

TCE 004548551-02 P=370.674269 Days $T_0=153.549607$ (BKJD)



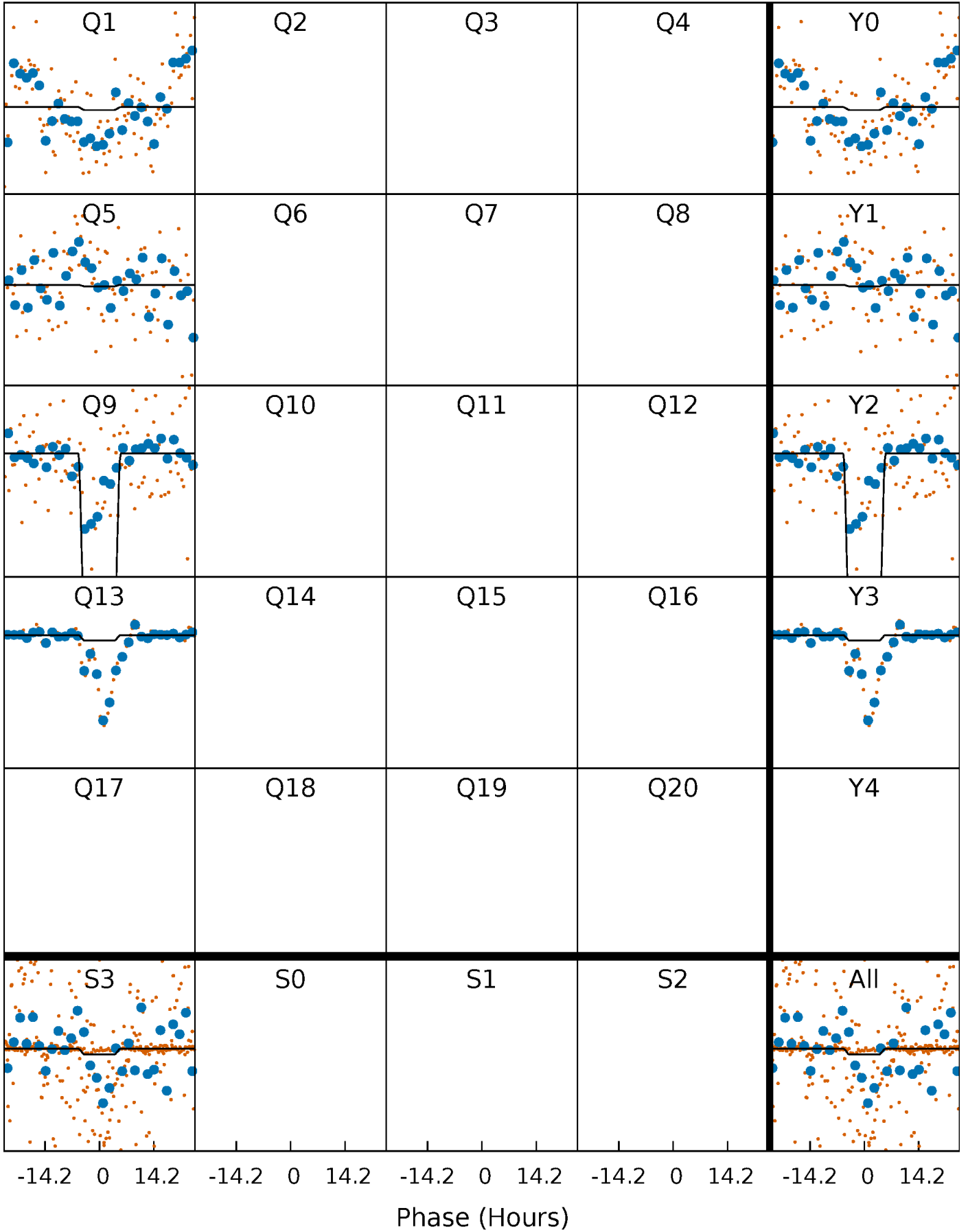
DV Quarter-Phased Transit Curves

TCE 004548551-02 $P=370.674269$ Days $T_0=153.549607$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

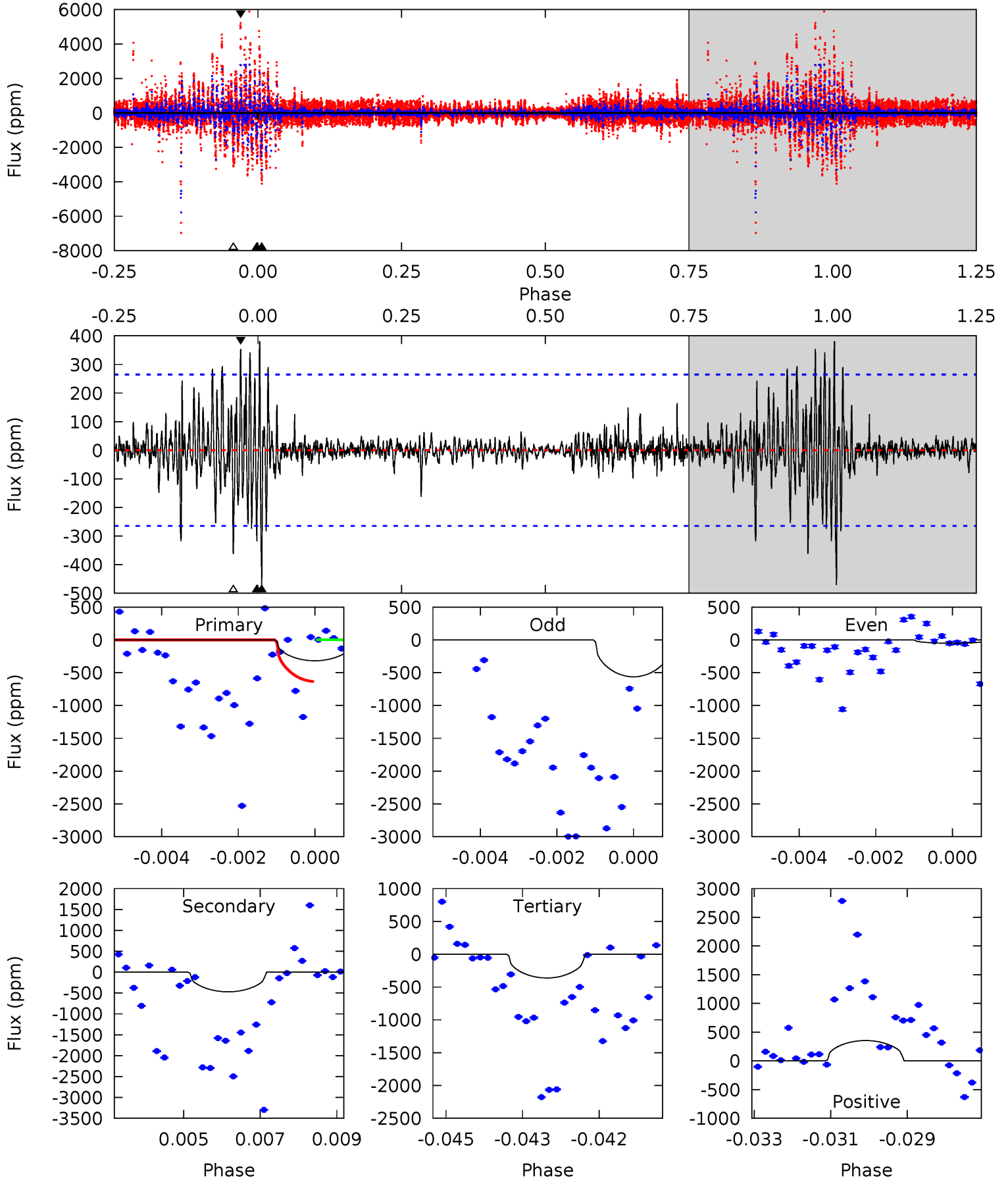
TCE 004548551-02 $P=370.487687$ Days $T_0=154.022638$ (BKJD)



DV Model-Shift Uniqueness Test

004548551-02, P = 370.674269 Days, E = 153.549607 Days

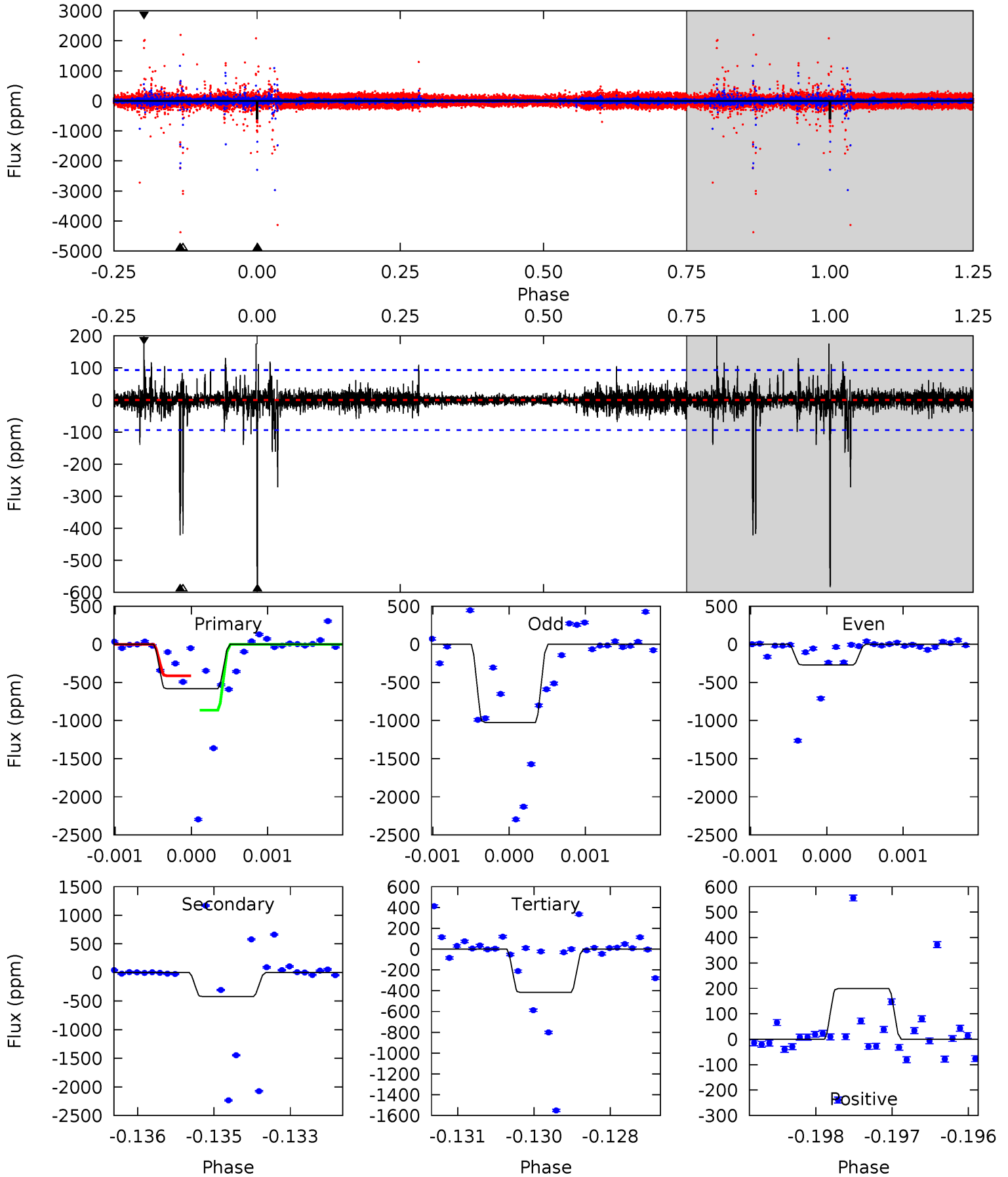
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.42	9.50	7.31	7.15	5.34	3.12	0.96	-0.89	-0.73	2.19	2.35	3.07	0.11	0.45	5.99



Alt Model-Shift Uniqueness Test

004548551-02, P = 370.487687 Days, E = 154.022638 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.8	24.4	24.1	11.5	5.41	3.23	1.08	9.64	22.2	0.24	12.8	14.3	0.93	0.25	13.2



Stellar Parameters For KIC 004548551

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3266^{+117}_{-78}	$0.095^{+0.208}_{-0.065}$	$-0.080^{+0.250}_{-0.100}$	$155.187^{+9.192}_{-27.576}$	$1.095^{+0.206}_{-0.120}$	$0.000^{+0.000}_{-0.000}$
	+4%/-2%	+219%/-68%	+312%/-125%	+6%/-18%	+19%/-11%	+92%/-15%
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 004548551-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-471 ± 50	$492.28^{+528.91}_{-343.41}$	2429^{+110}_{-127}	2876^{+1499}_{-4760}	$1.233^{+10.510}_{-0.961}$
Alt.	-421 ± 17	$548.26^{+579.22}_{-368.65}$	2427^{+108}_{-133}	2677^{+1328}_{-4882}	$0.825^{+7.585}_{-0.628}$

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 $A_{obs} \gg 1.0$

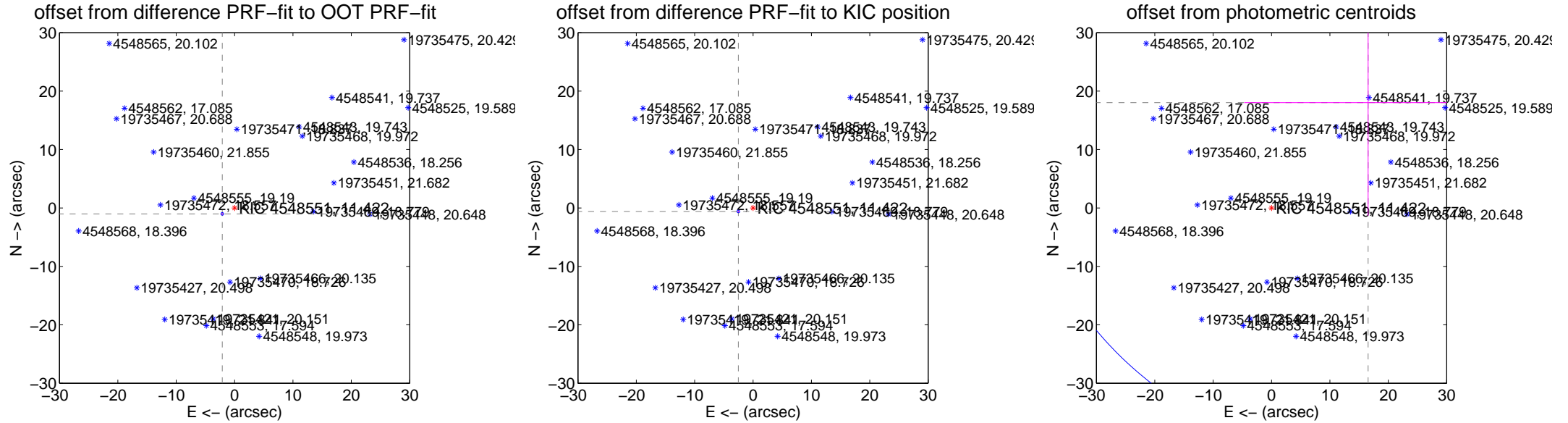
DV Centroid Data

Supplemental centroid analysis for 004548551-02. **Kepler magnitude: 11.42.** Transit SNR 0.82

There are 0 quarters with good PRF difference image offsets

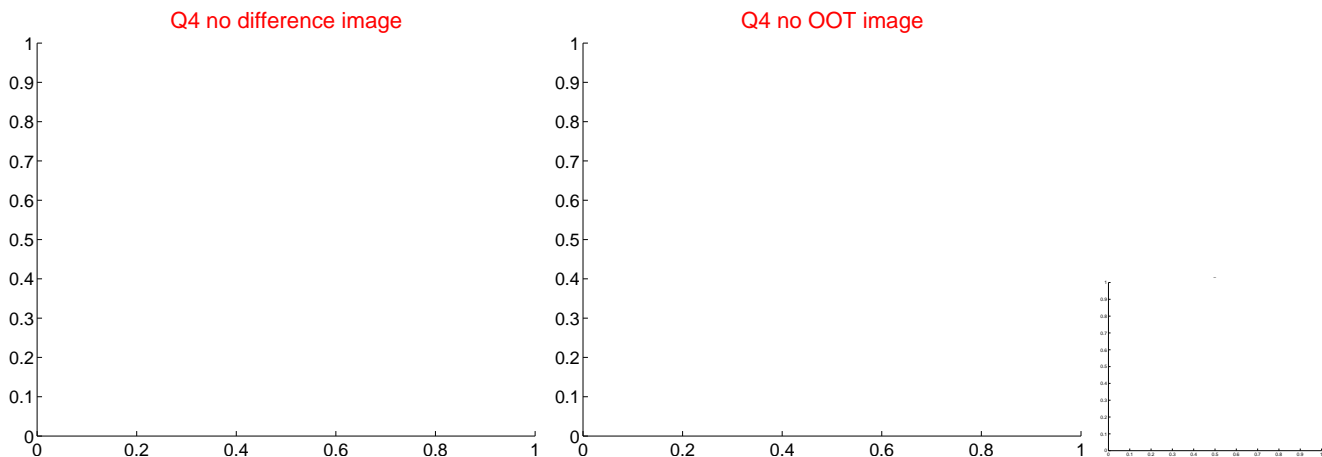
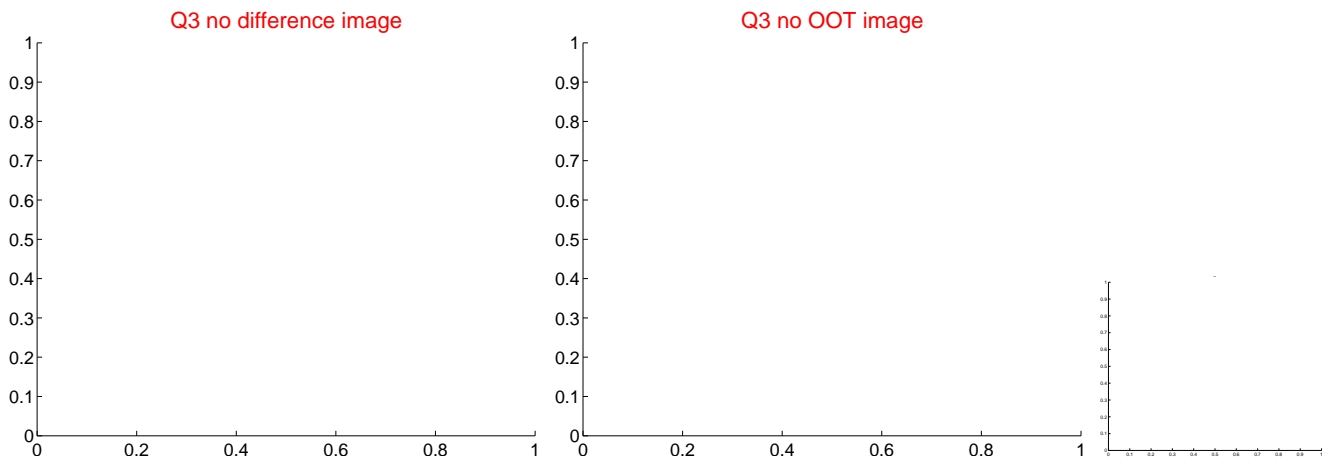
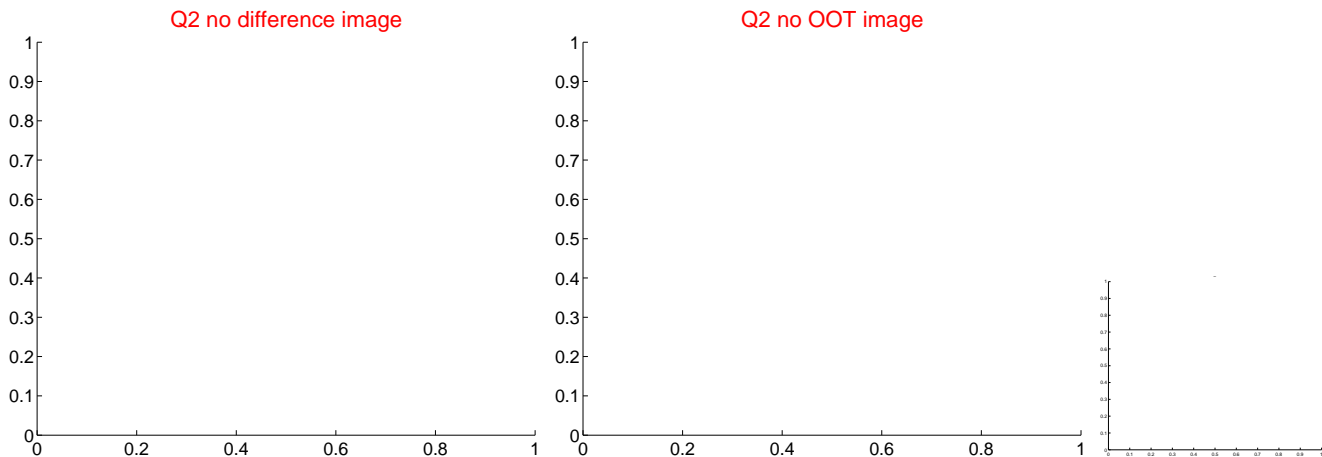
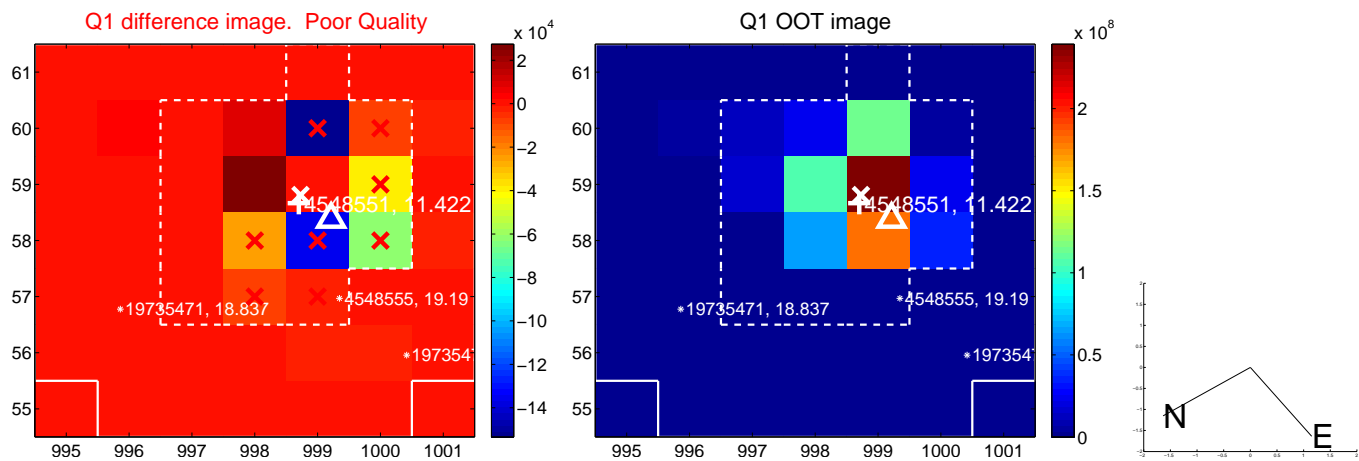
The direct PRF centroid is offset from the target star catalog position by about 0.58 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.337 ± 0.077	30.18	2.105 ± 0.077	-1.017 ± 0.078
PRF-fit source offset from KIC position	2.584 ± 0.077	33.41	2.513 ± 0.077	-0.599 ± 0.078
photometric centroid source offset	24.47 ± 20.24	1.21	-16.54 ± 21.22	18.03 ± 19.37

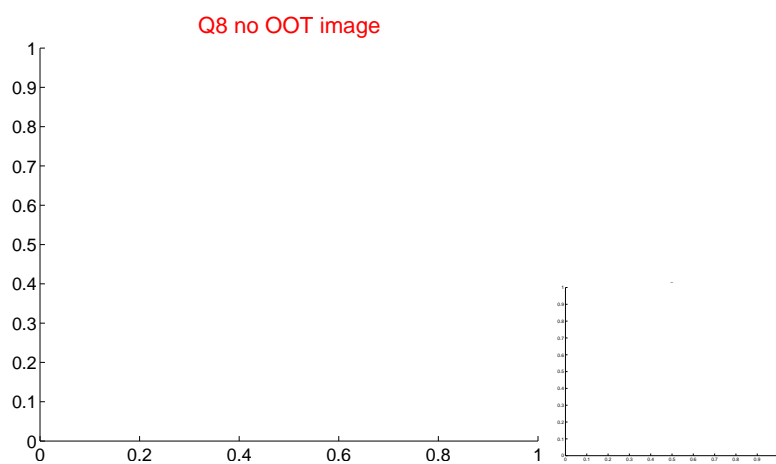
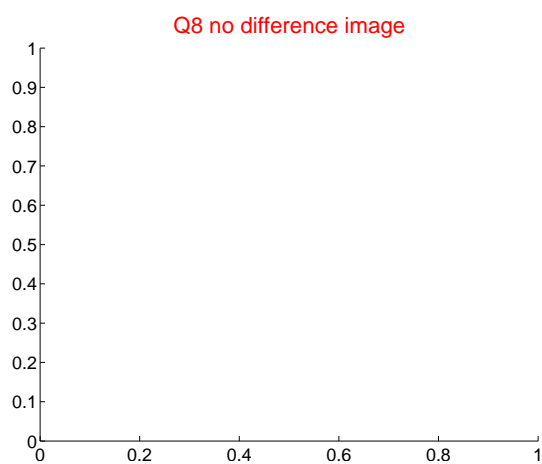
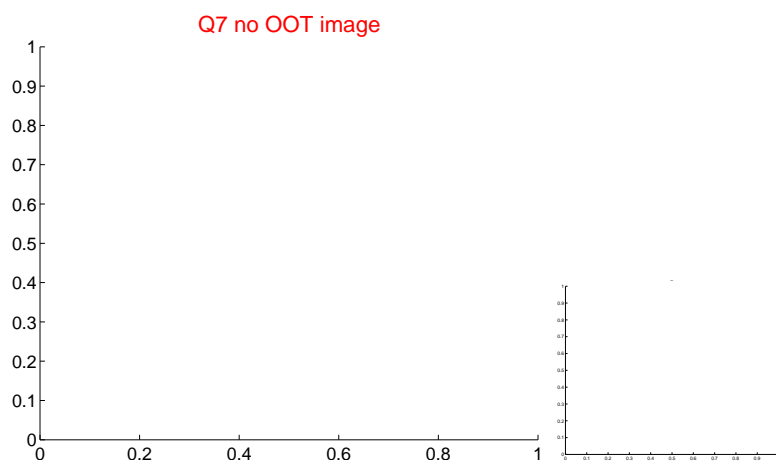
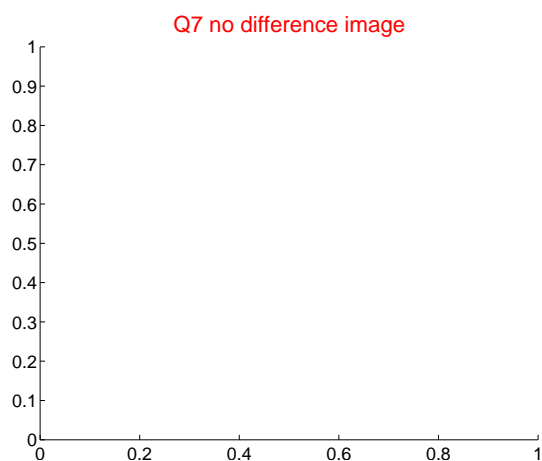
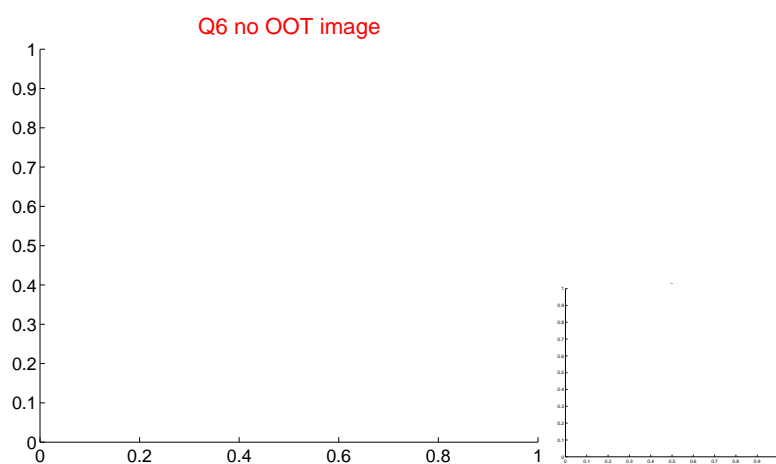
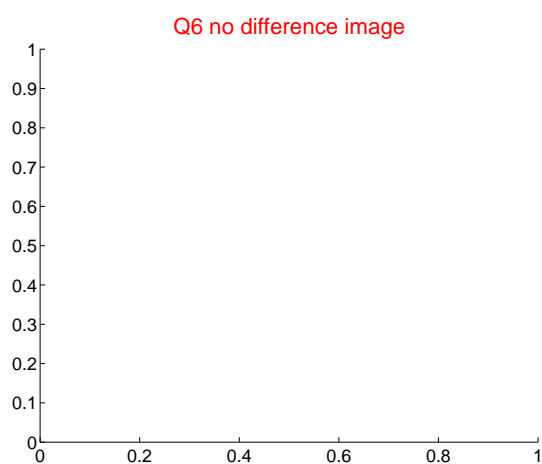
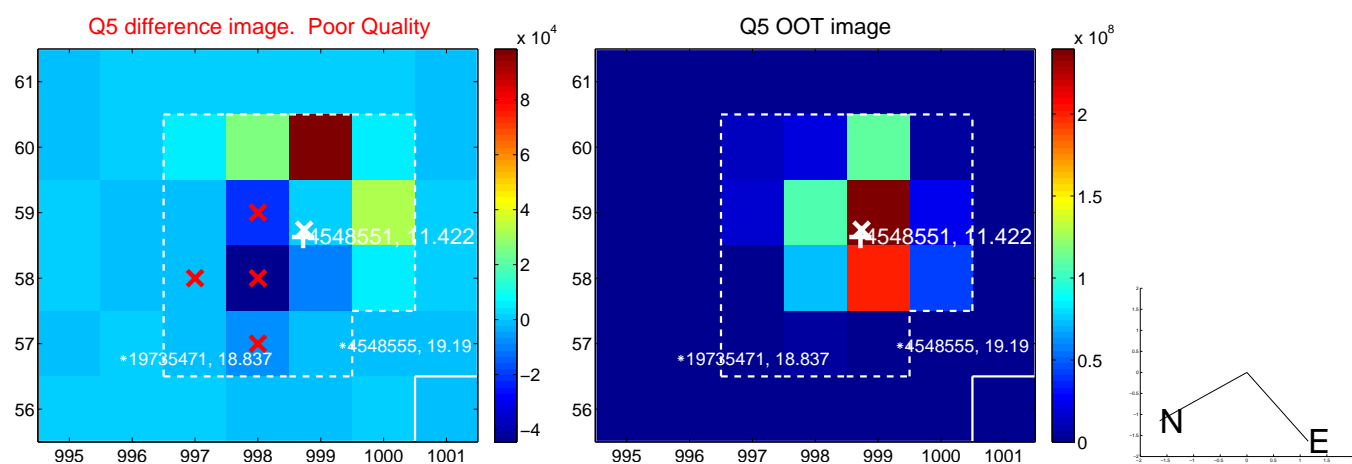


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

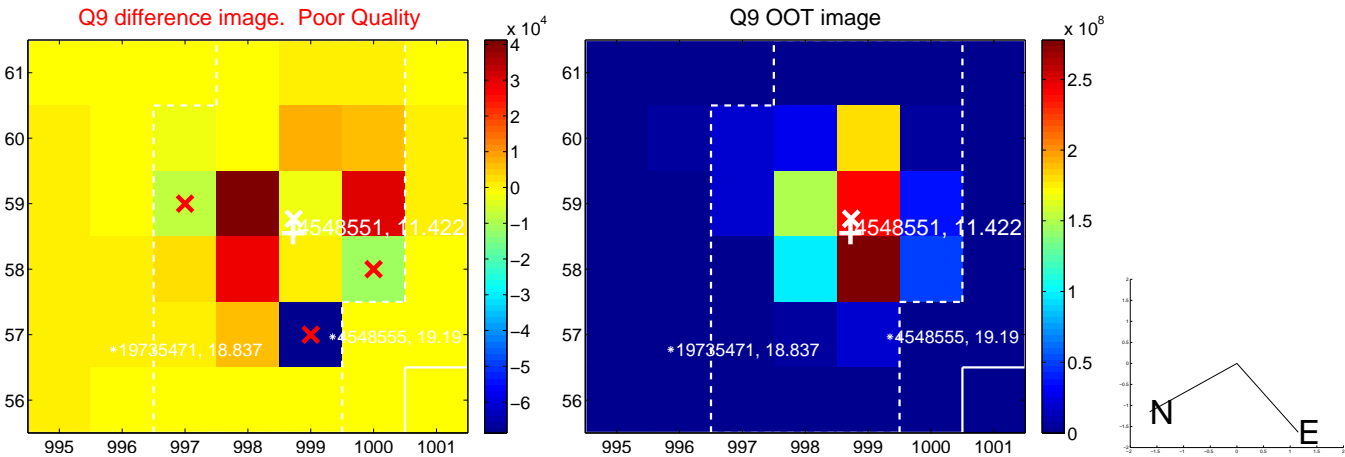
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



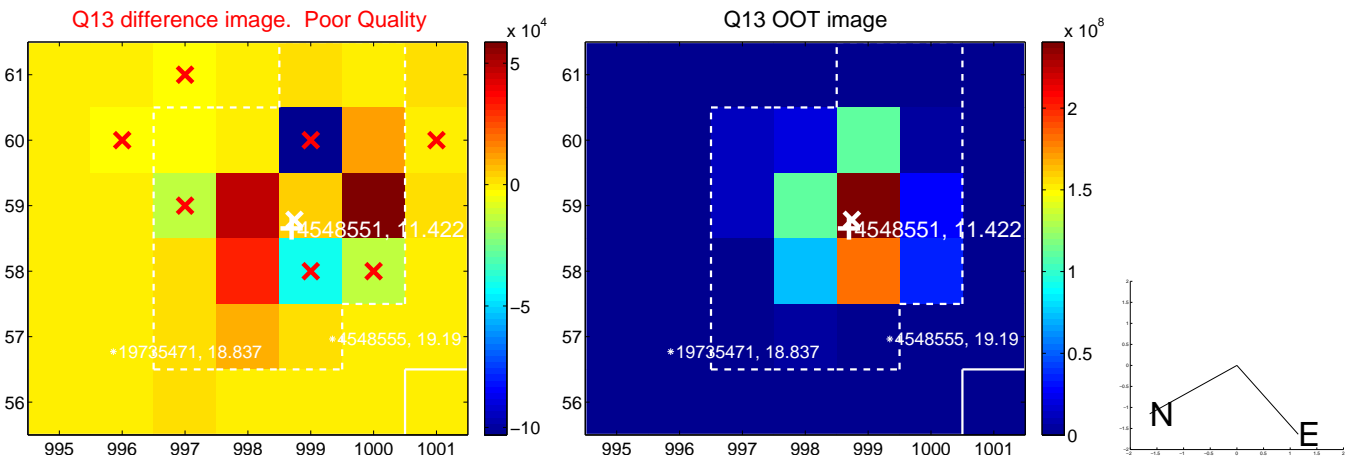
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



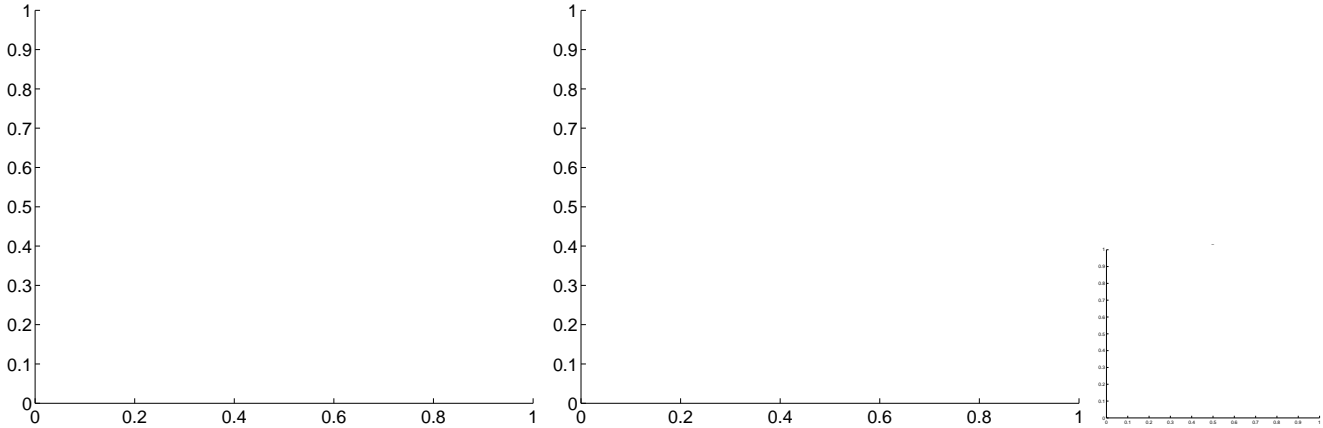
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



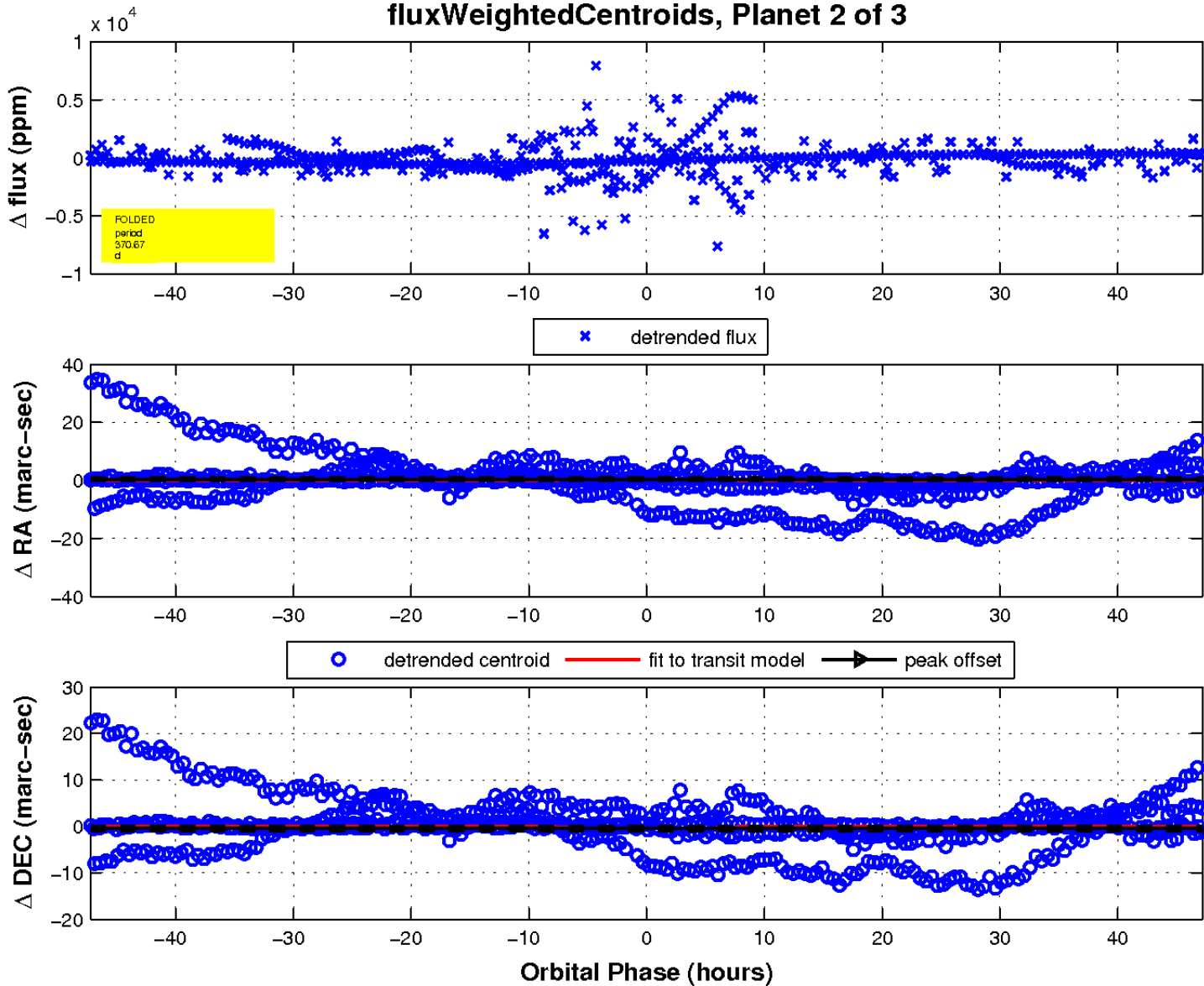
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

Q17 no difference image

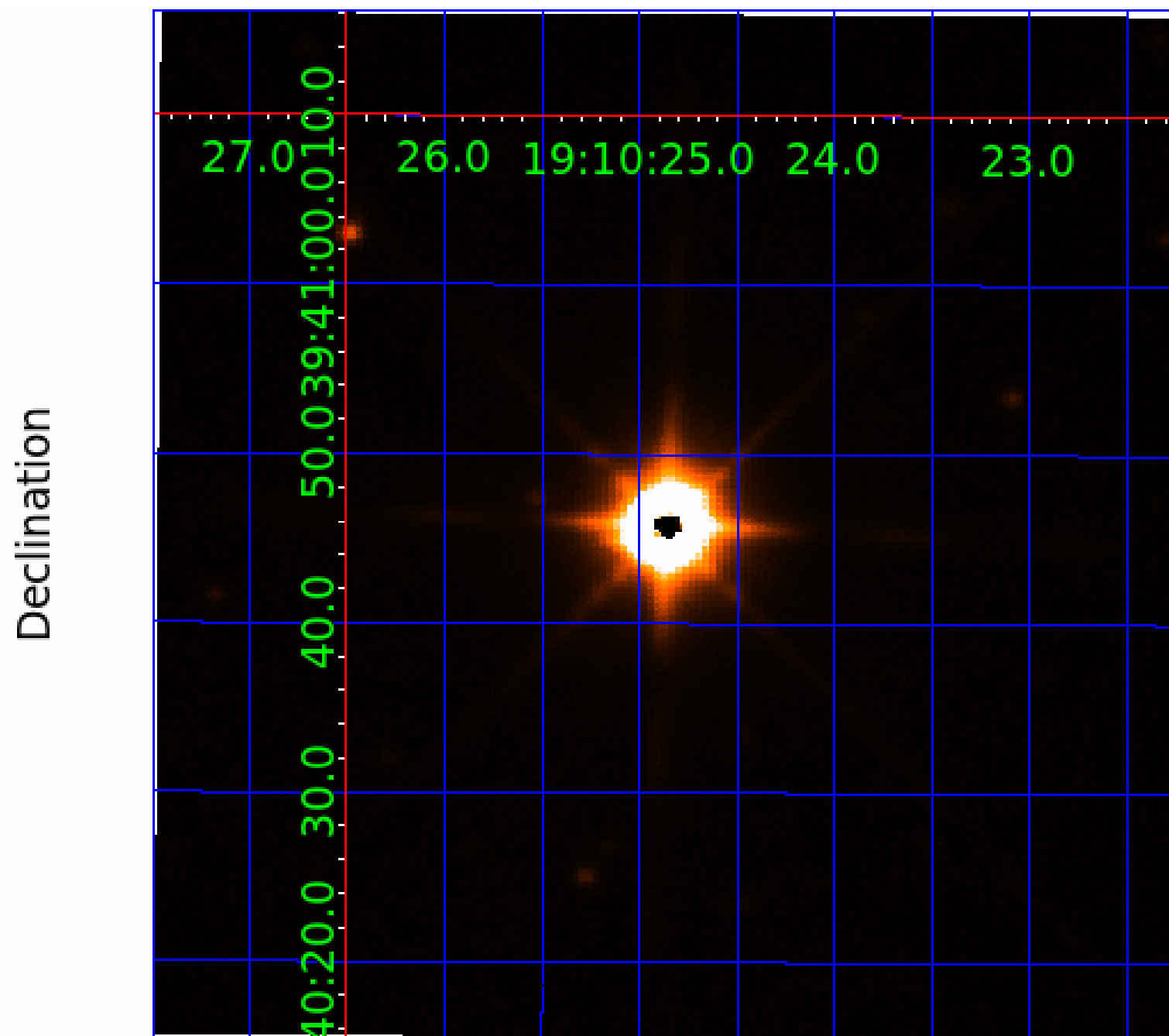
Q17 no OOT image



fluxWeightedCentroids, Planet 2 of 3



UKIRT Image



KIC 004548551

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})
004548551-01	OBS	No	158.934169	164.386002	270.7	2.500	11.4	-1.0	155.19	3266	235.00	7013.04
004548551-02	OBS	No	370.674270	153.549607	24.3	15.753	79.2	0.8	155.19	3266	71.81	2267.46
004548551-03	OBS	No	354.624434	156.579566	1513.2	5.000	73.2	-1.0	155.19	3266	554.81	2405.31

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004548551-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_SATURATED
004548551-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT— INCONSISTENT_TRANS—CENT_SATURATED
004548551-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_SATURATED

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

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

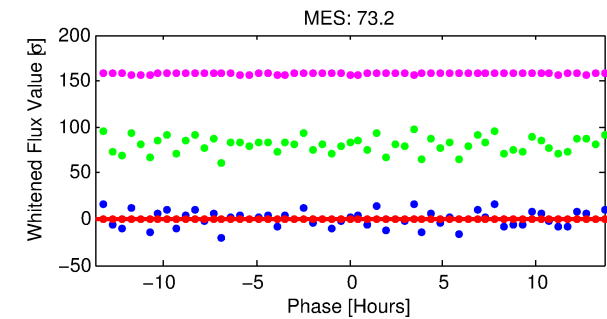
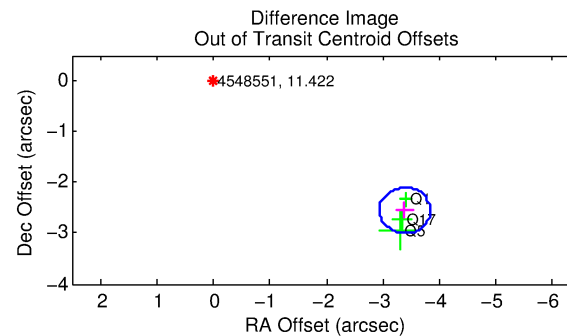
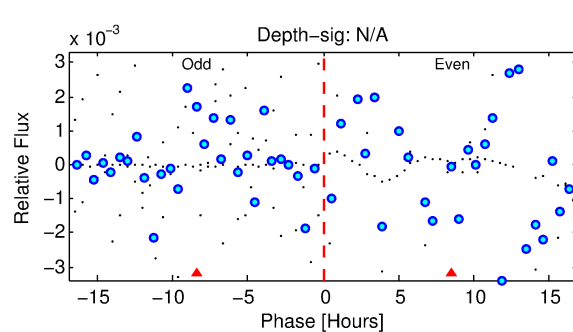
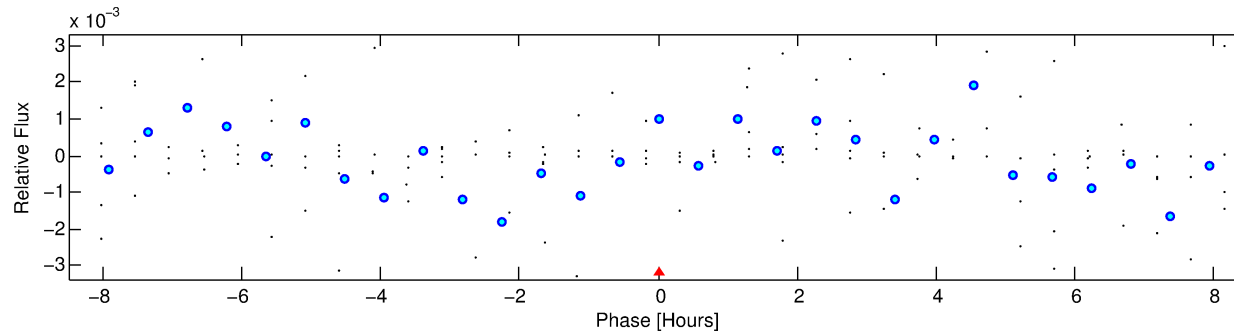
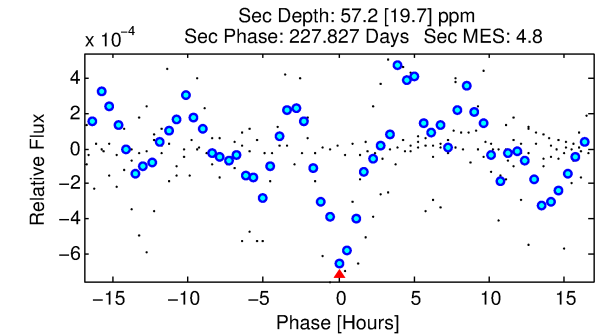
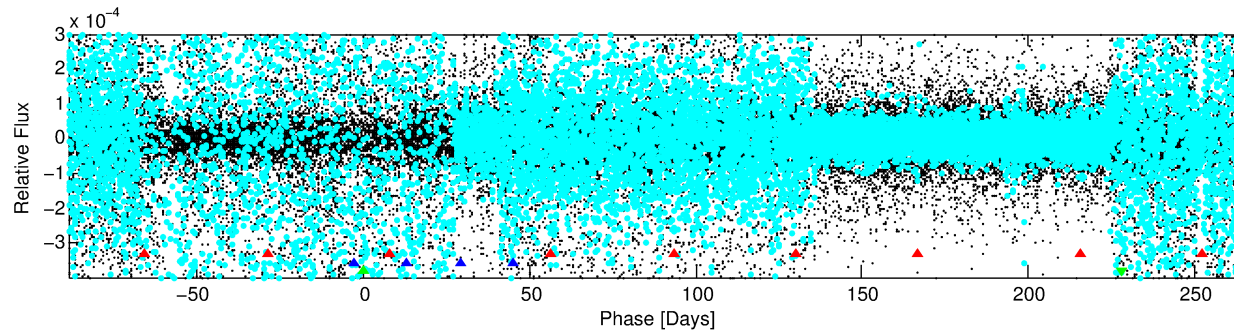
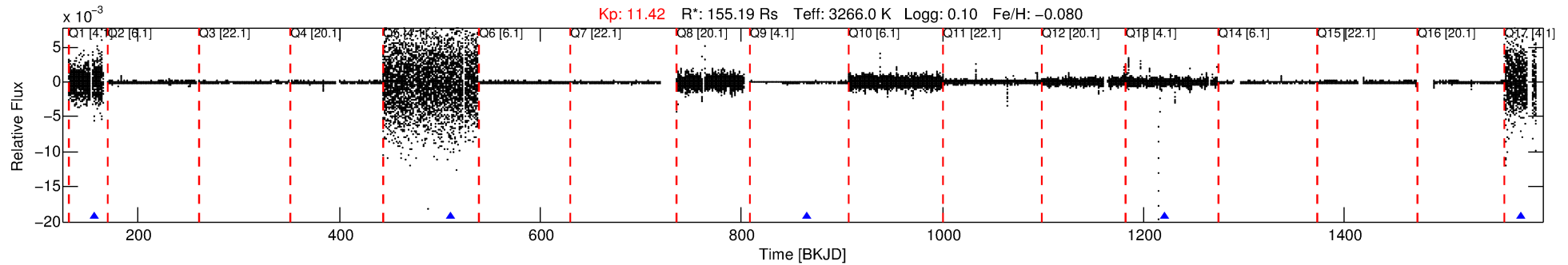
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004548551-03

No Significant Match Found

DV One-Page Summary

KIC: 4548551 Candidate: 3 of 3 Period: 354.624 d



TPS TCE Results:

Period = 354.62443 d
Epoch = 156.5796 BKJD

DV fit results are unavailable

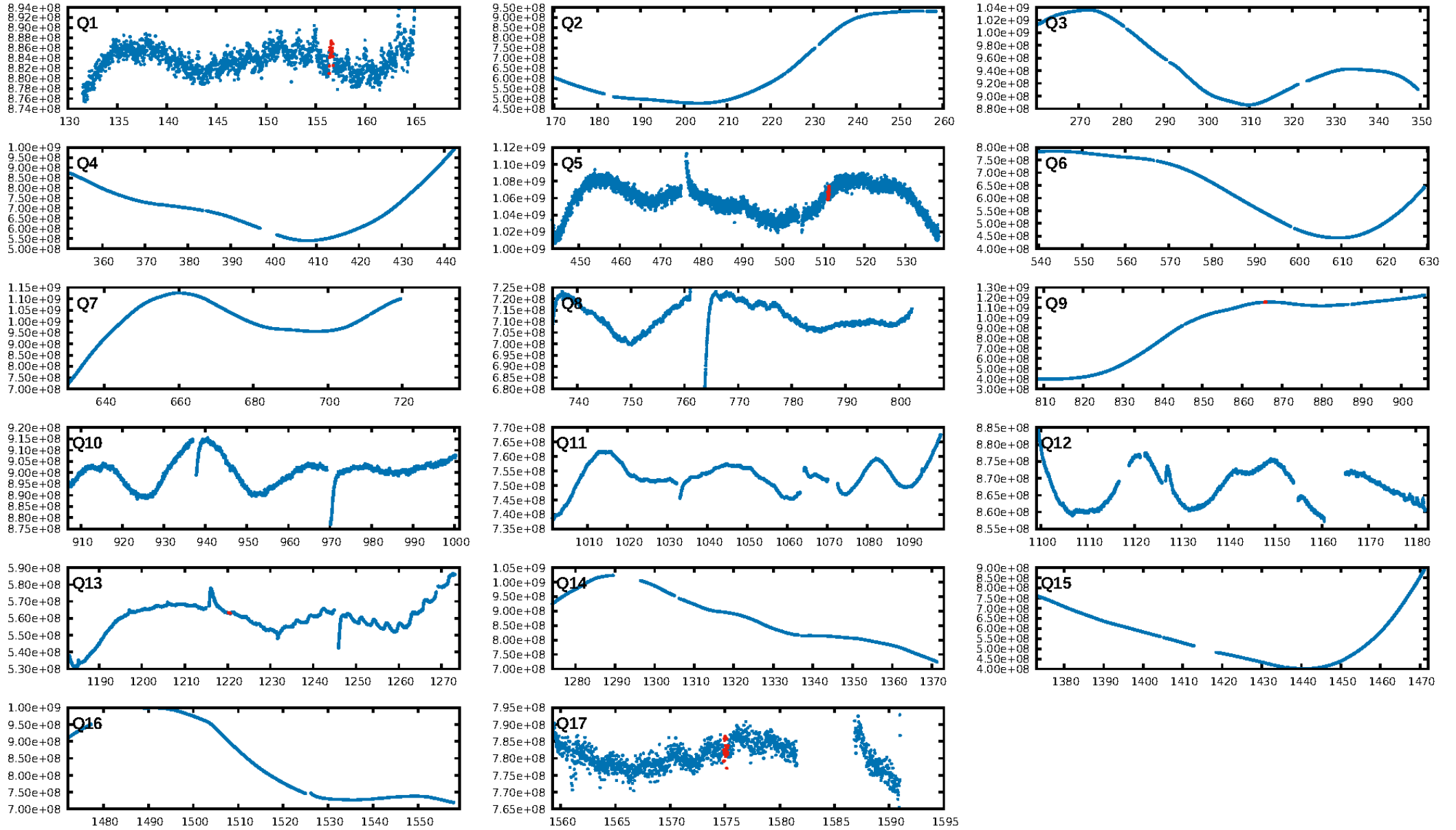
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [840.15σ]
LongPeriod-sig: 100.0% [23.31σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 9.80e-08
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -2.212
Centroid-sig: 17.1%
Centroid-so: 5.271 arcsec [0.79σ]
OotOffset-rm: 4.241 arcsec [28.21σ]
KicOffset-rm: 3.794 arcsec [19.59σ]
OotOffset-st: 0/0/0/3 [3]
KicOffset-st: 0/0/0/3 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 1.00 [4/4]

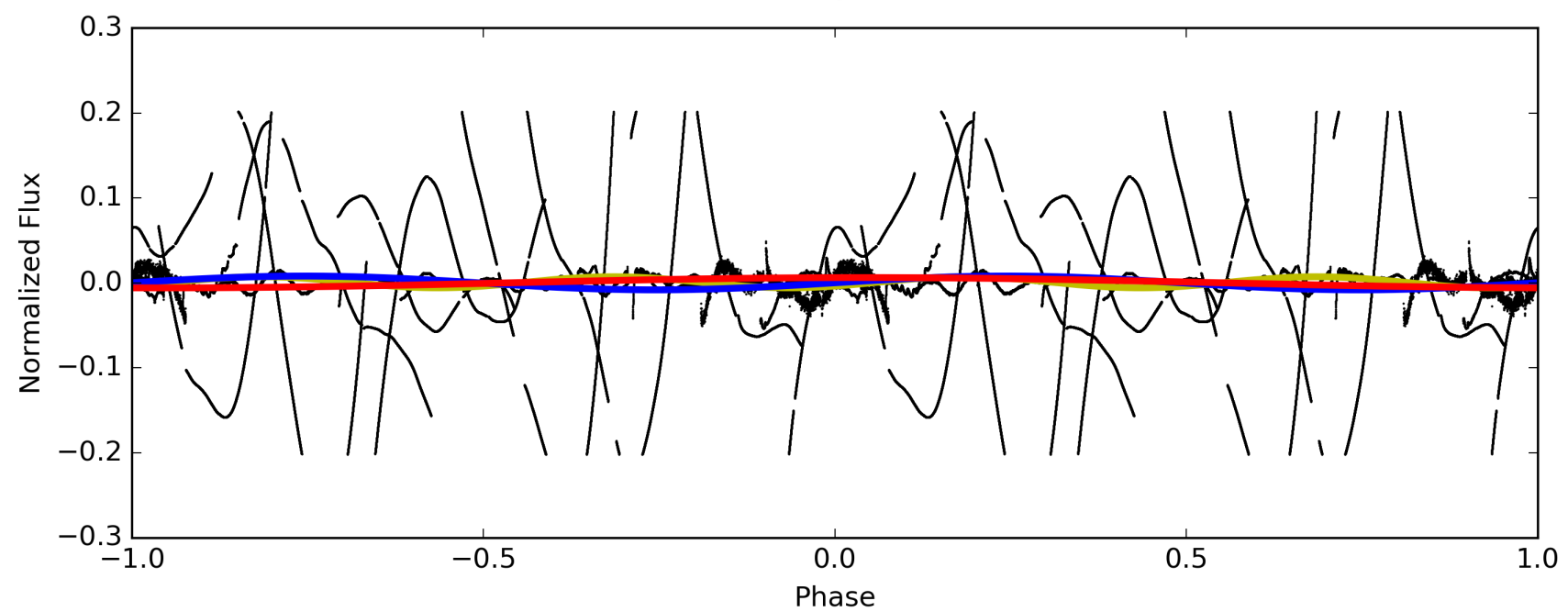
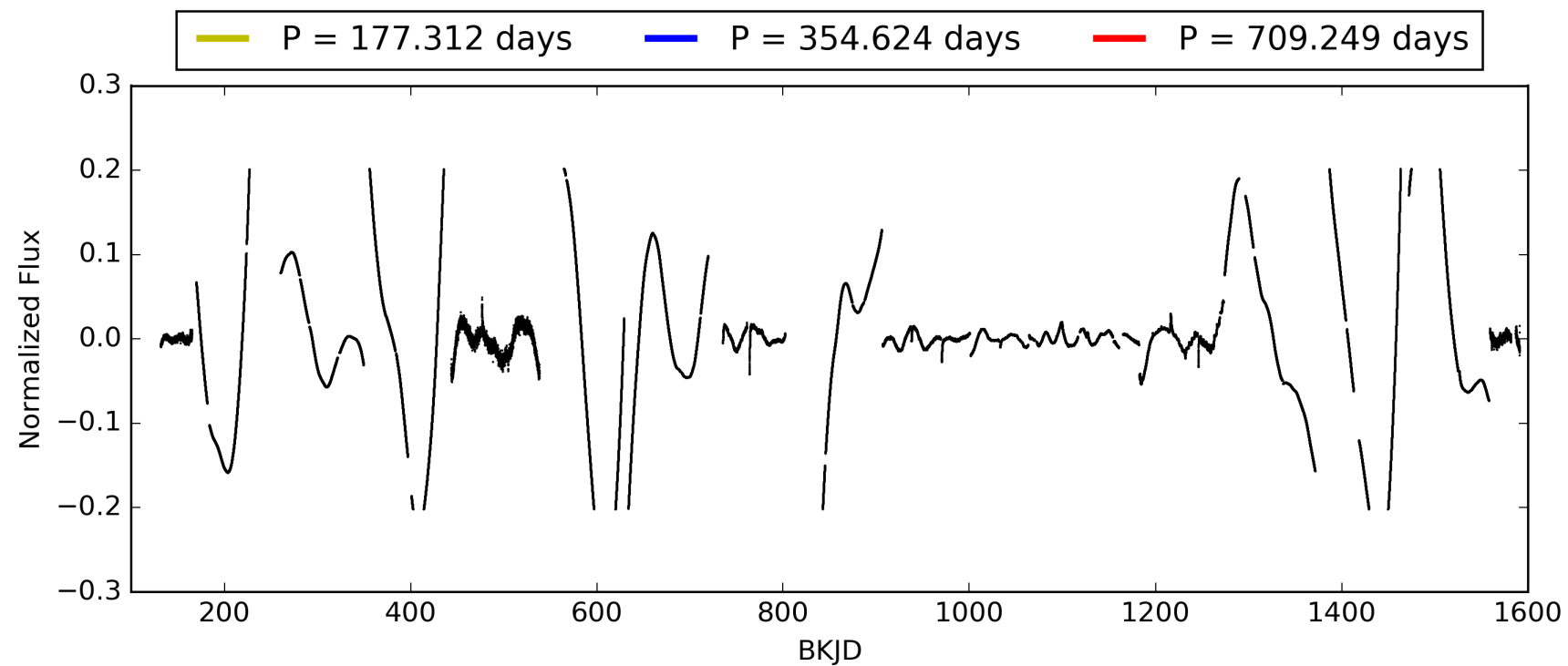
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 06:19:17 Z

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

TCE 004548551-03, PDC Light Curves

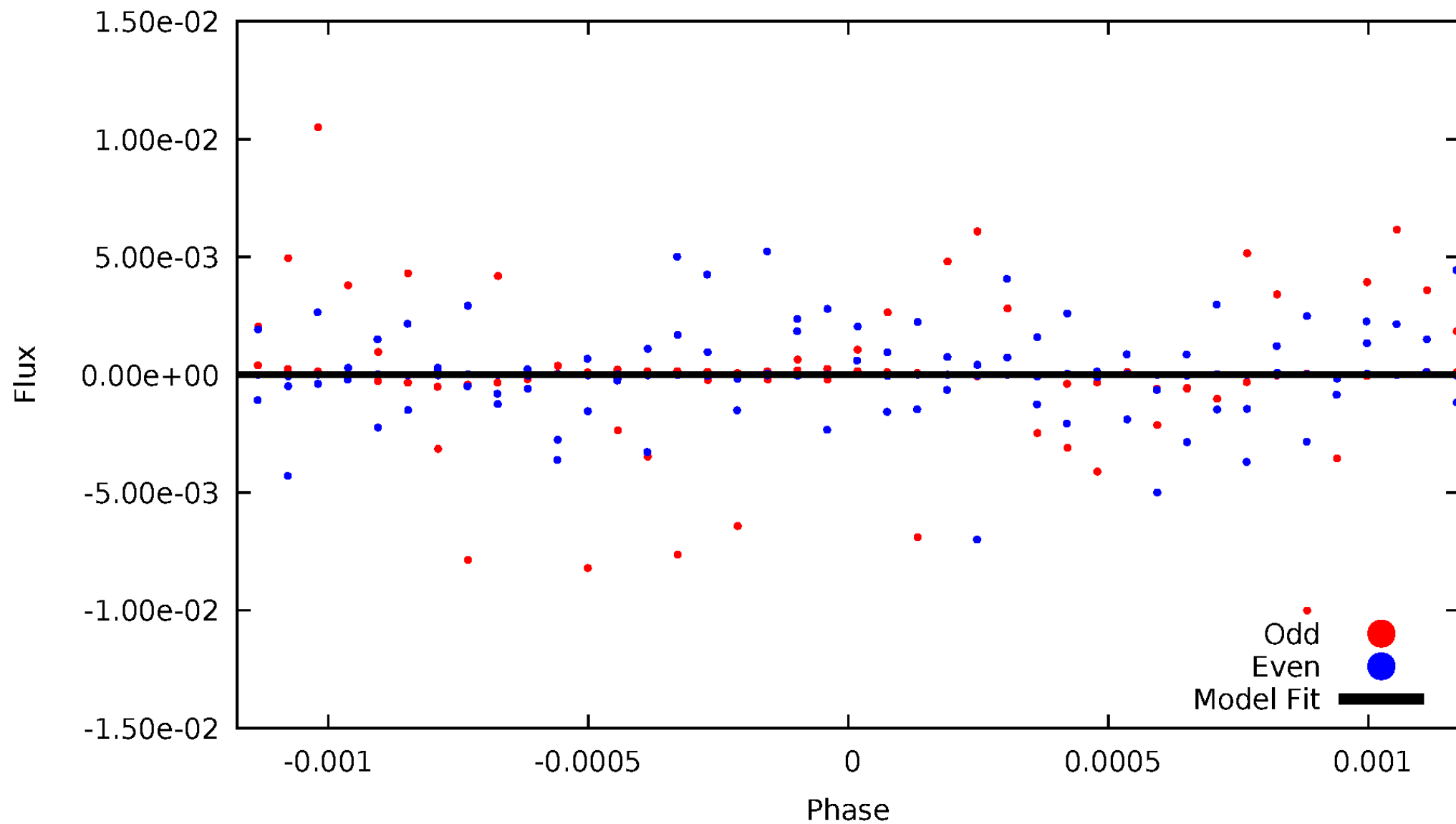


TCE 004548551-03



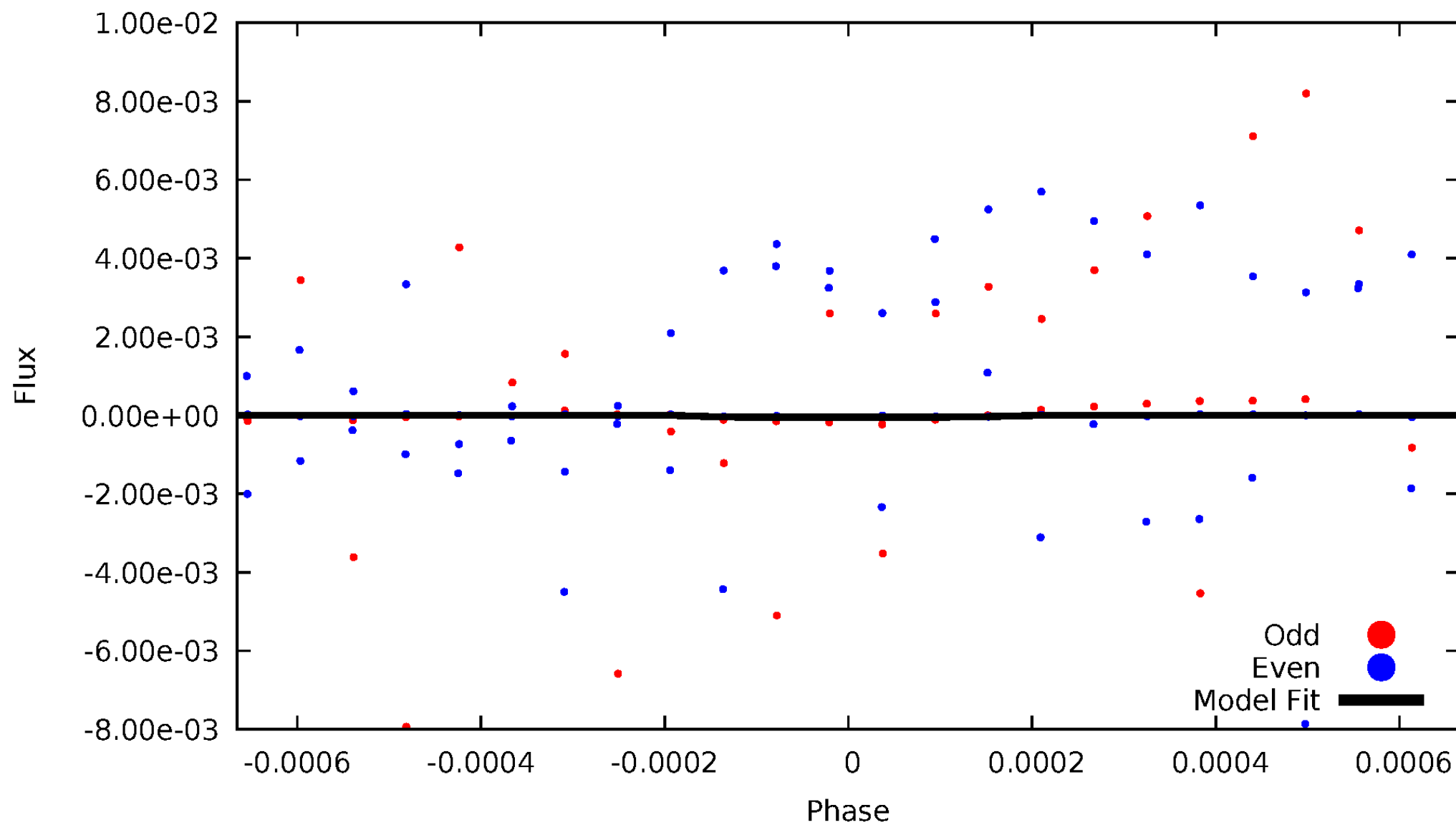
DV Odd/Even

TCE 004548551-03



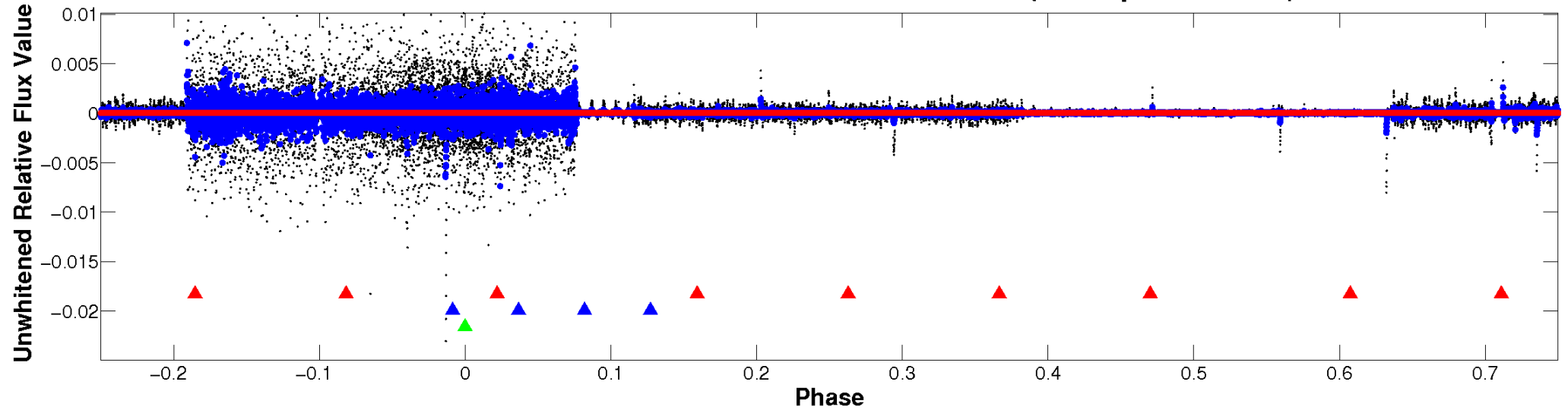
ALT Odd/Even

TCE 004548551-03



Non-Whitened Vs. Whitened Light Curve

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

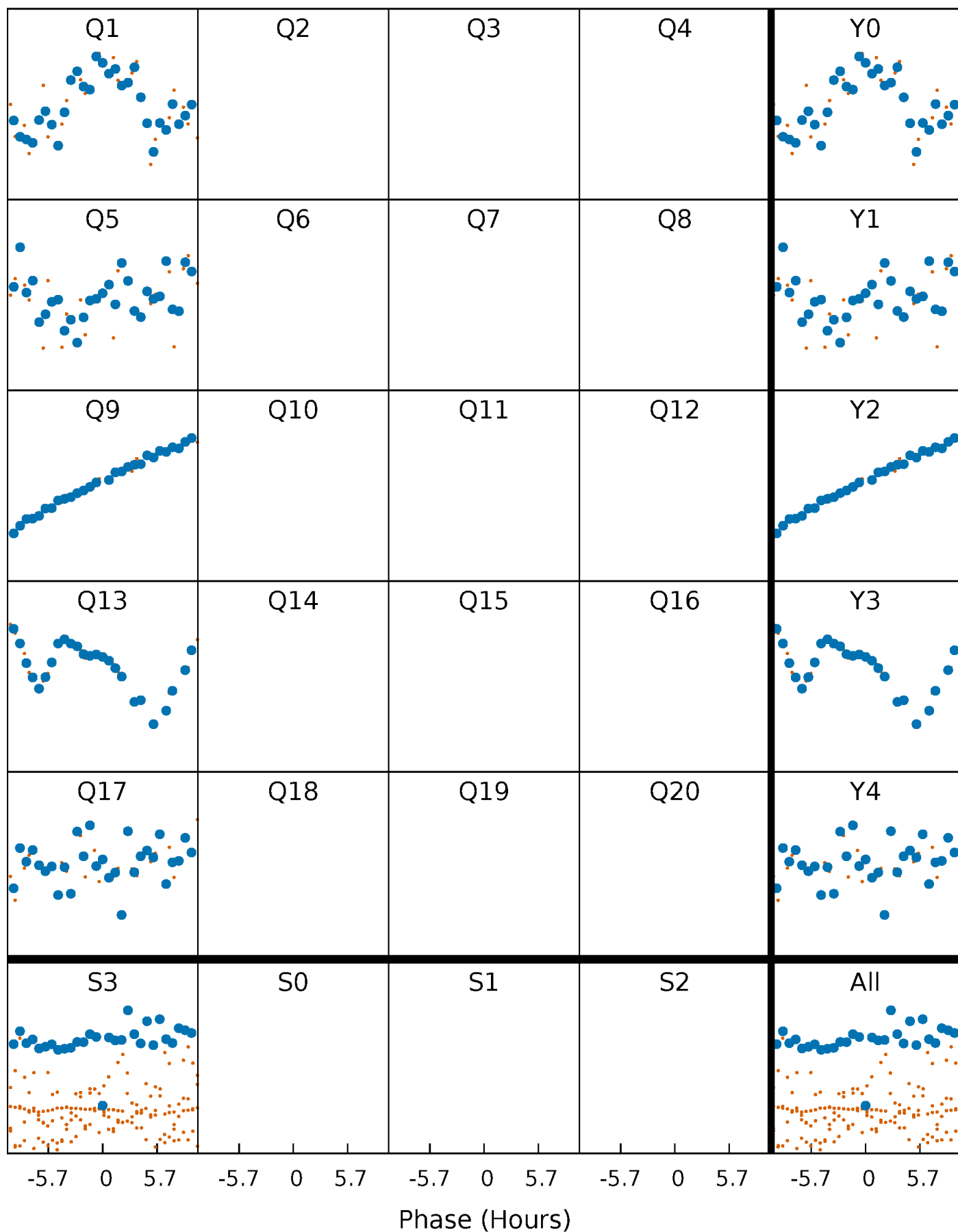


Planet 3 : Phased Whitened Flux Time Series (TPS Epoch/Period)



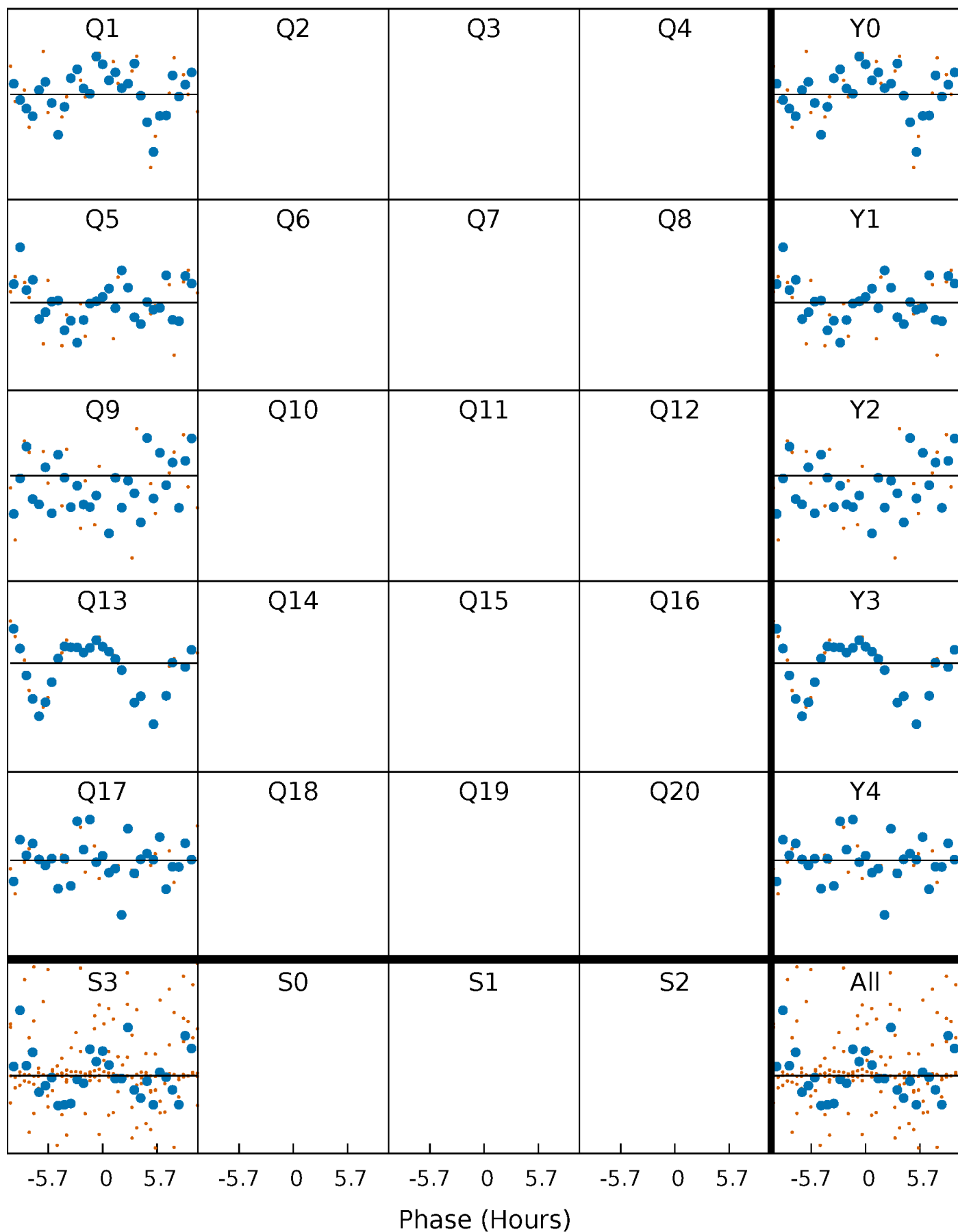
PDC Quarter-Phased Transit Curves

TCE 004548551-03 $P=354.624434$ Days $T_0=156.579566$ (BKJD)



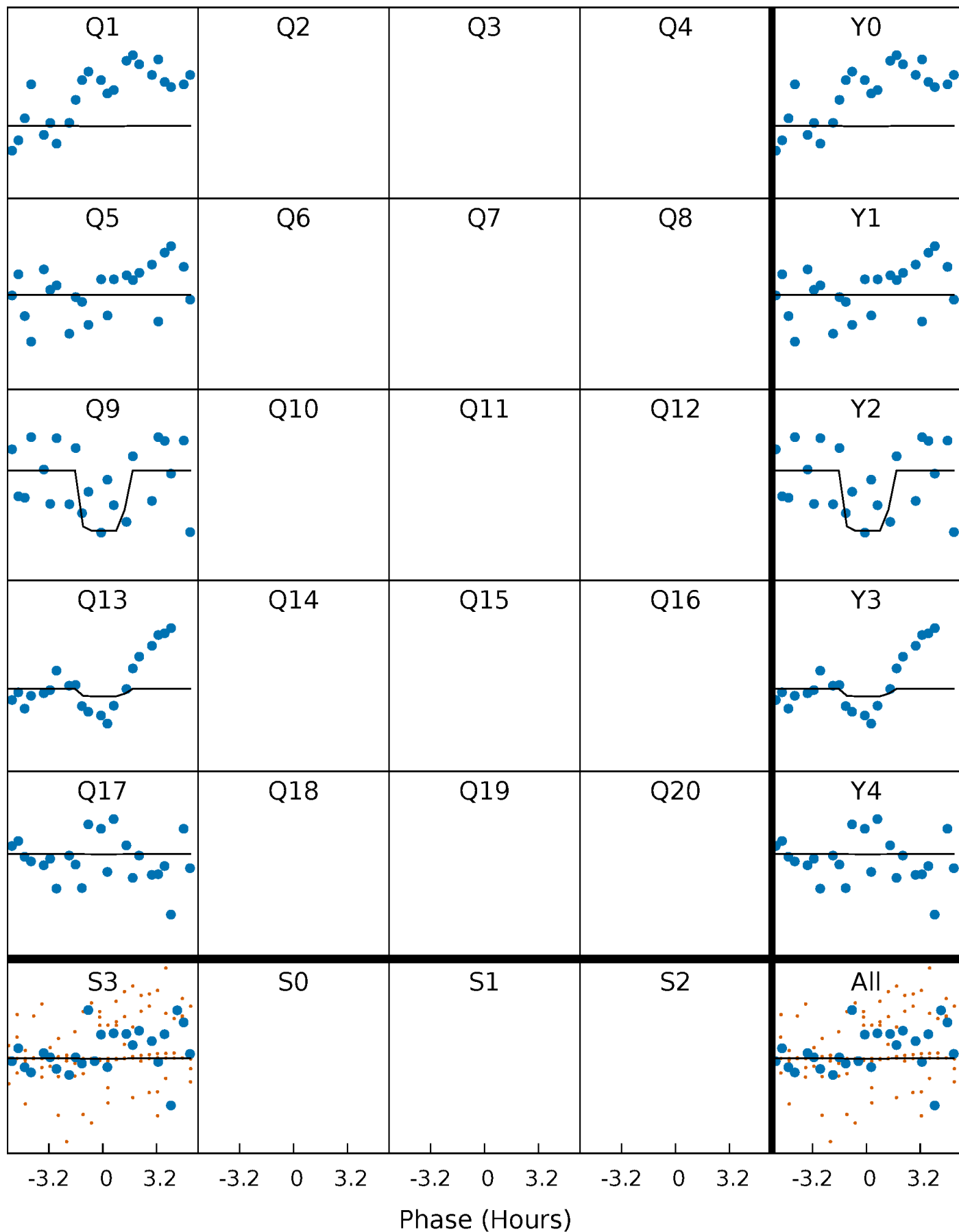
DV Quarter-Phased Transit Curves

TCE 004548551-03 $P=354.624434$ Days $T_0=156.579566$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

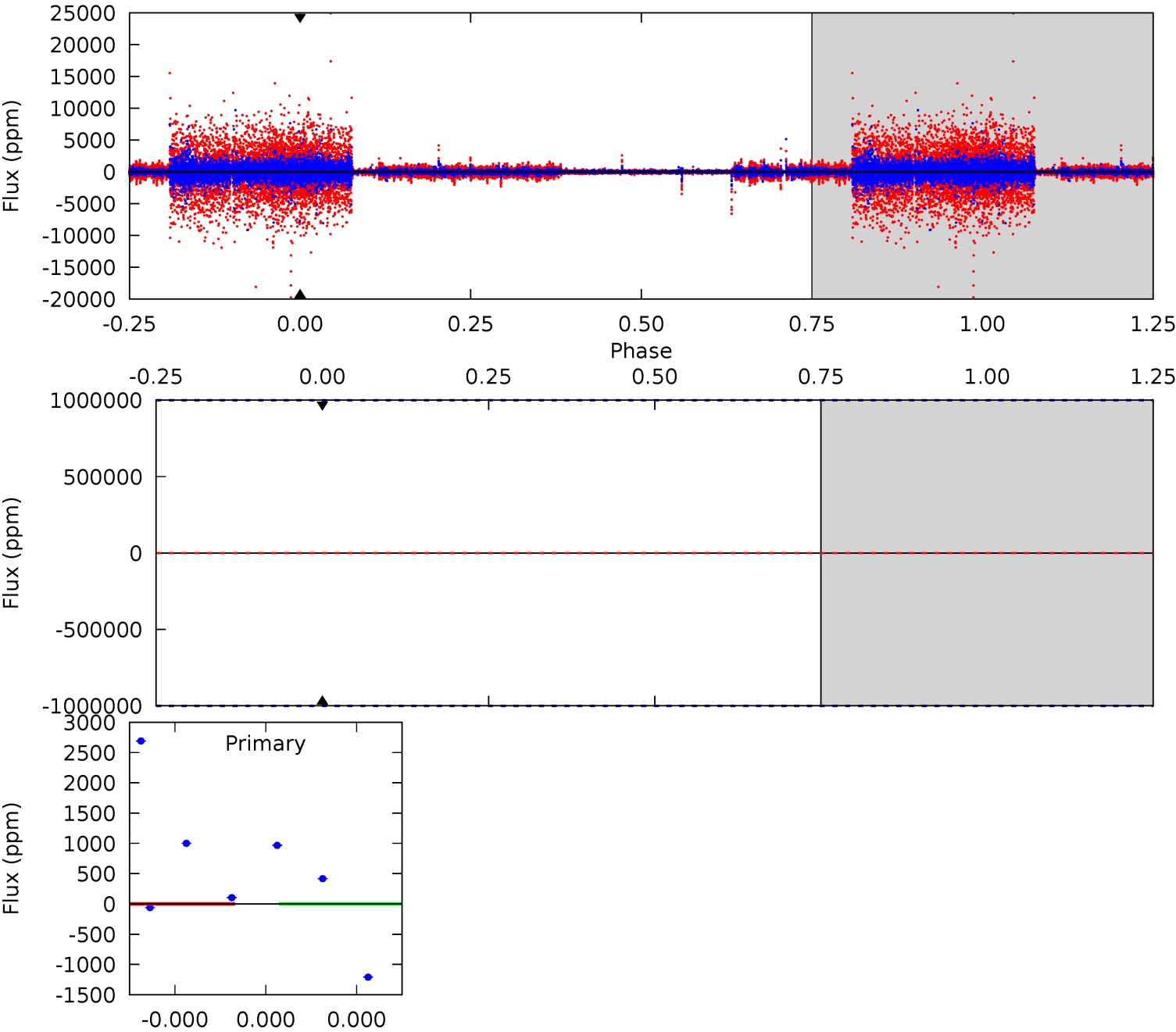
TCE 004548551-03 P=354.624434 Days $T_0=156.490877$ (BKJD)



DV Model-Shift Uniqueness Test

004548551-03, P = 354.624434 Days, E = 156.579566 Days

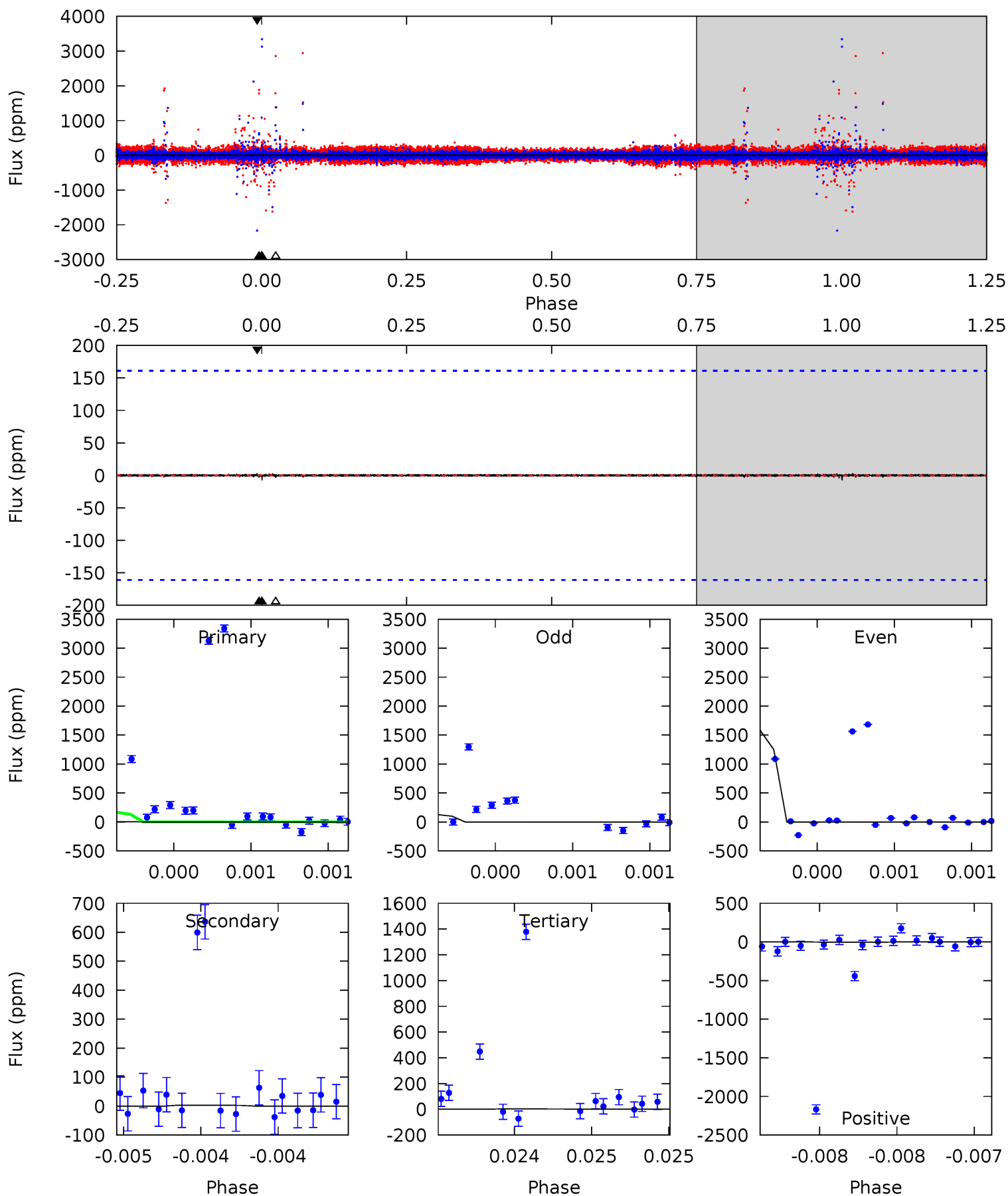
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

004548551-03, P = 354.624434 Days, E = 156.490877 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.23	0.11	0.10	0.10	5.64	3.58	0.01	0.13	0.13	0.01	0.01	16.0	-27.5	0.30	0



Stellar Parameters For KIC 004548551

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	3266^{+117}_{-78}	$0.095^{+0.208}_{-0.065}$	$-0.080^{+0.250}_{-0.100}$	$155.187^{+9.192}_{-27.576}$	$1.095^{+0.206}_{-0.120}$	$0.000^{+0.000}_{-0.000}$
	+4%/-2%	+219%/-68%	+312%/-125%	+6%/-18%	+19%/-11%	+92%/-15%
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 004548551-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$1321.04^{+1262.48}_{-878.44}$	2470^{+106}_{-135}	2288^{+4068}_{-8305}	$0.397^{+60.301}_{-53.040}$
Alt.	-3 ± 29	$1136.30^{+1190.04}_{-800.07}$	2464^{+111}_{-128}	-2511^{+107}_{-100}	$0.001^{+0.030}_{-0.018}$

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 $A_{obs} \gg 1.0$

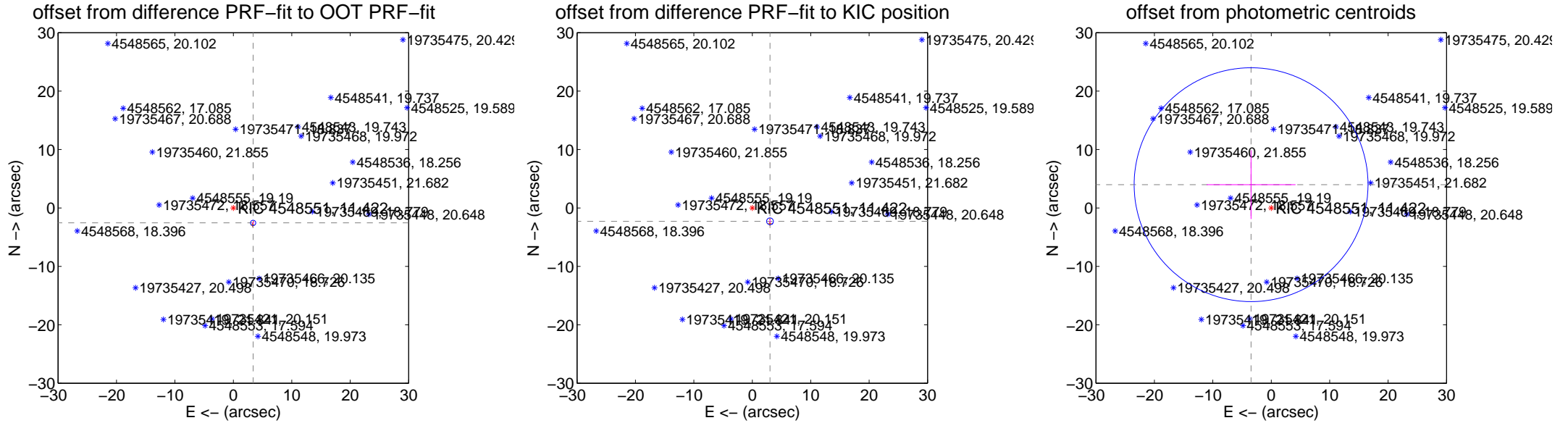
DV Centroid Data

Supplemental centroid analysis for 004548551-03. **Kepler magnitude: 11.42.** Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

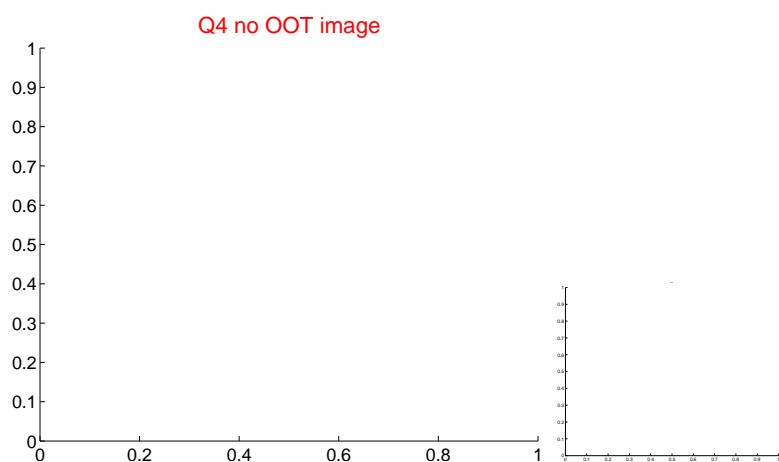
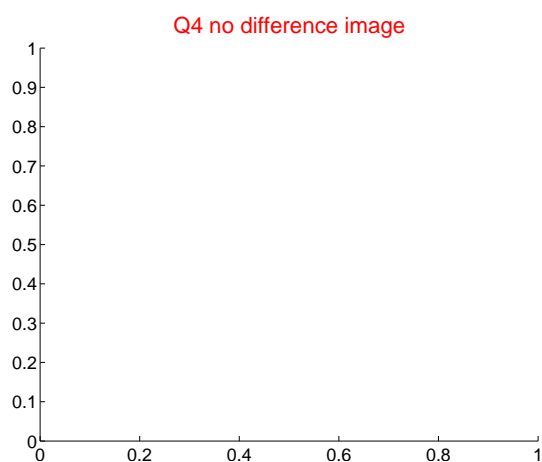
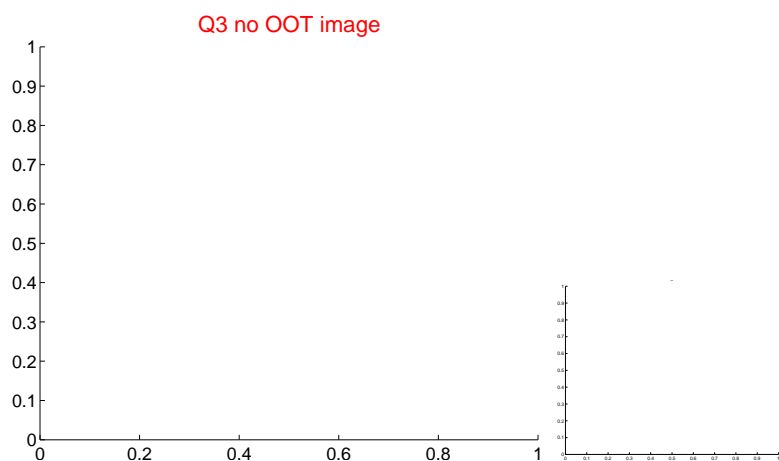
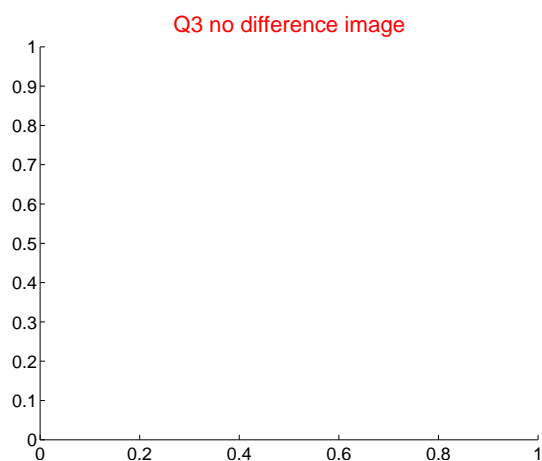
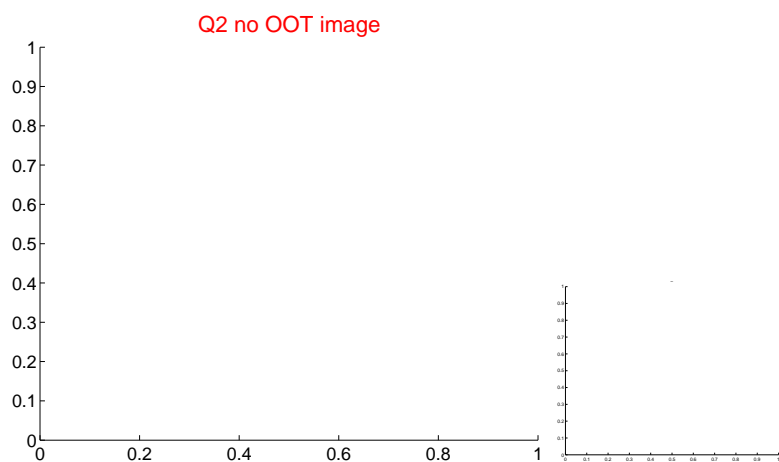
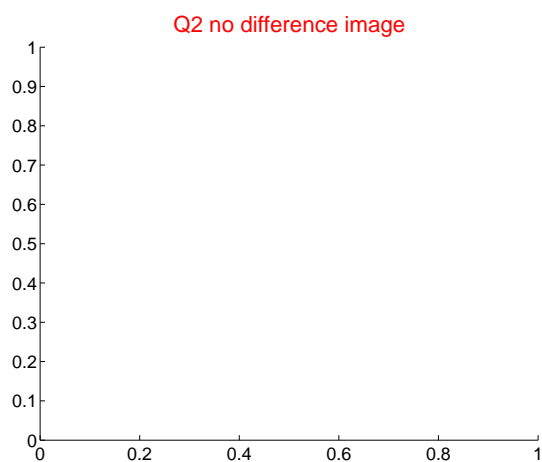
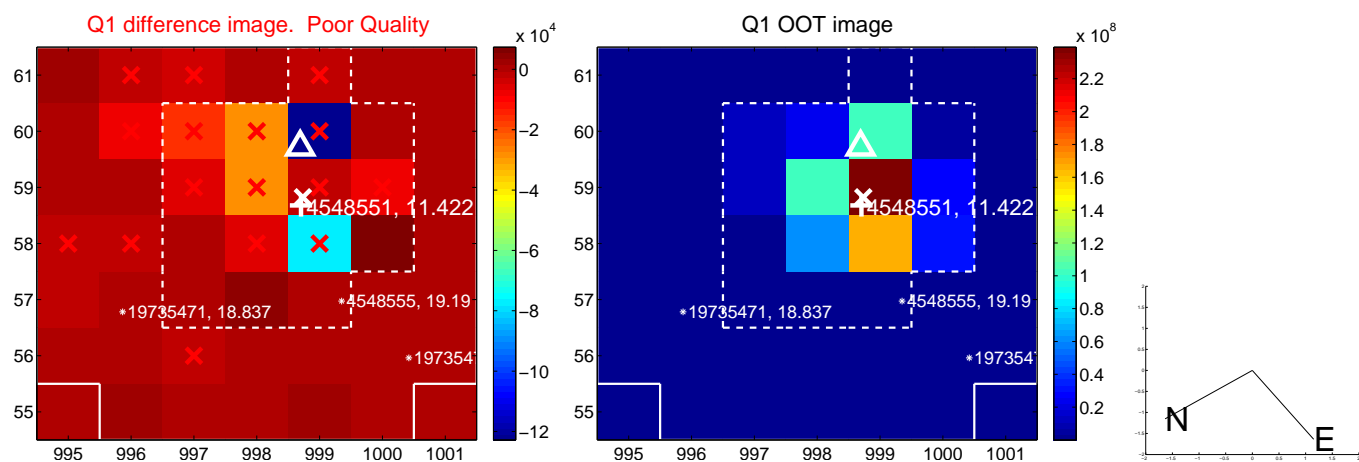
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.241 ± 0.150	28.21	-3.388 ± 0.149	-2.552 ± 0.153
PRF-fit source offset from KIC position	3.794 ± 0.194	19.59	-3.027 ± 0.068	-2.287 ± 0.308
photometric centroid source offset	5.27 ± 6.67	0.79	3.45 ± 7.60	3.98 ± 5.87

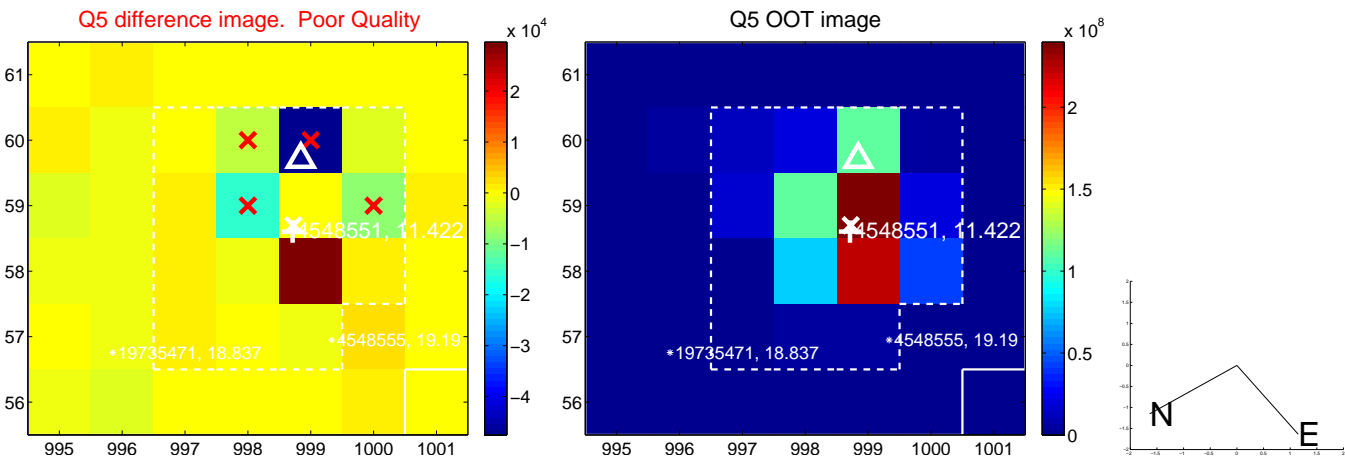


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

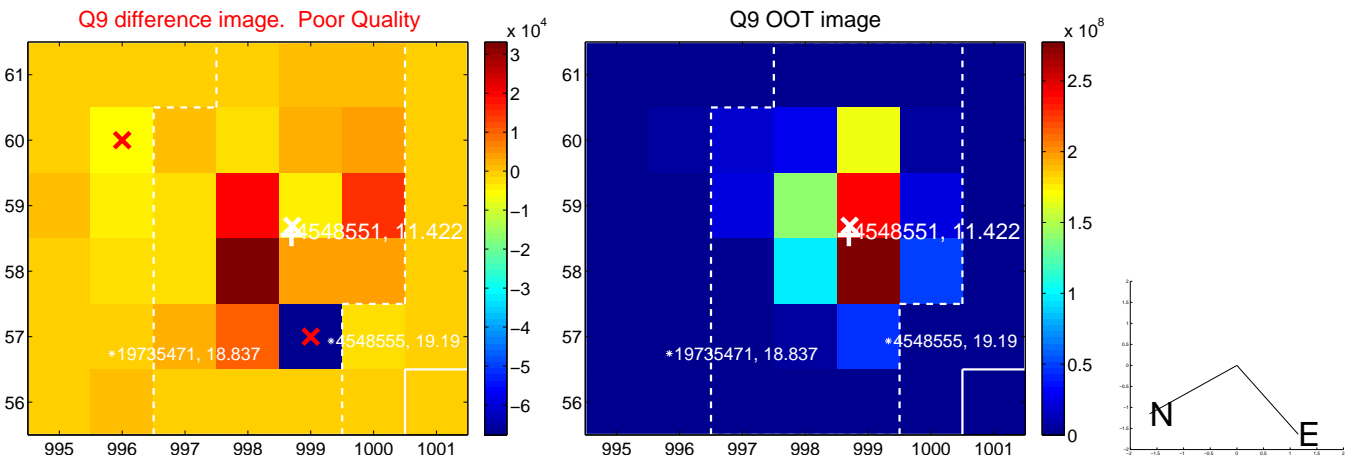
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



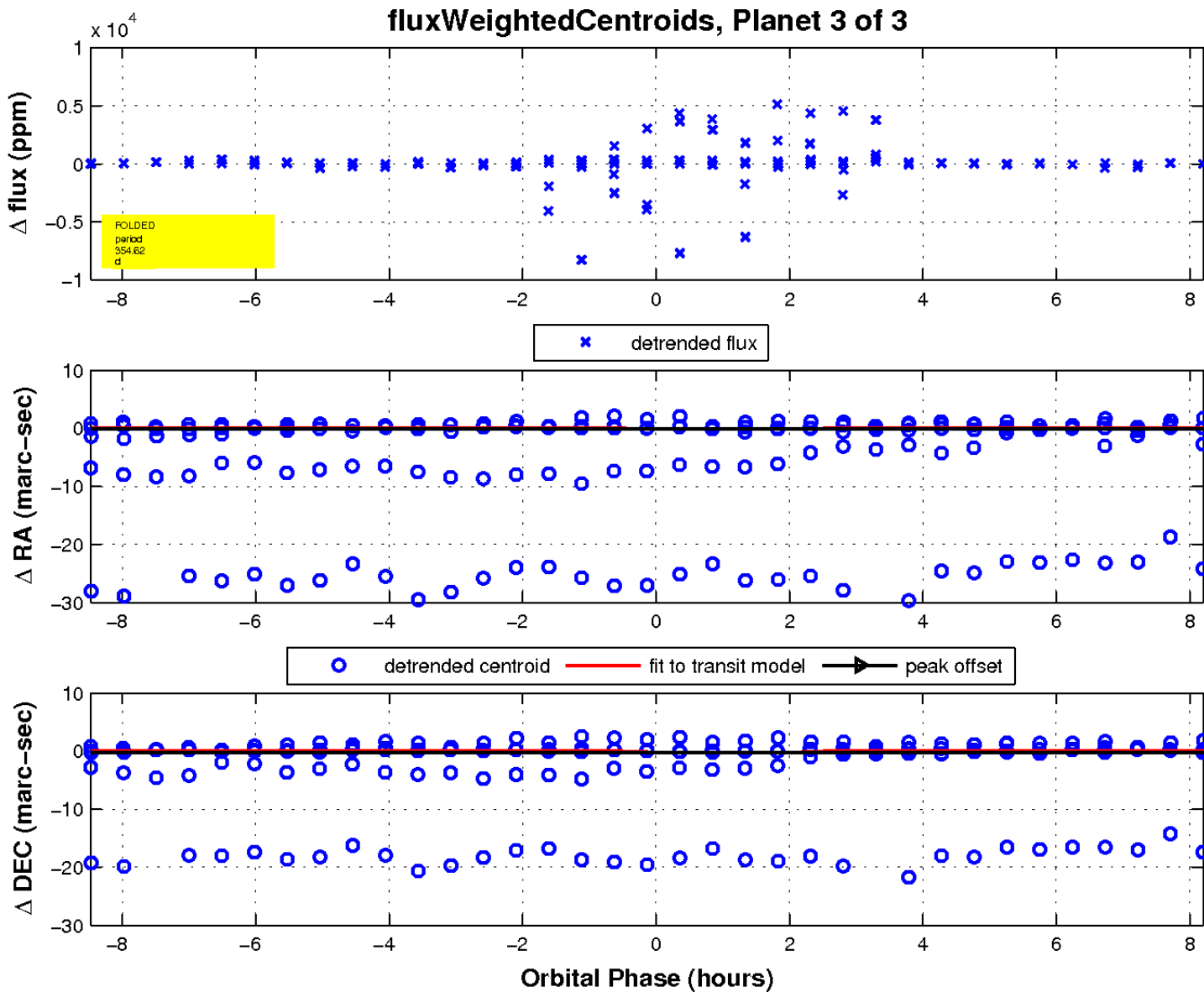
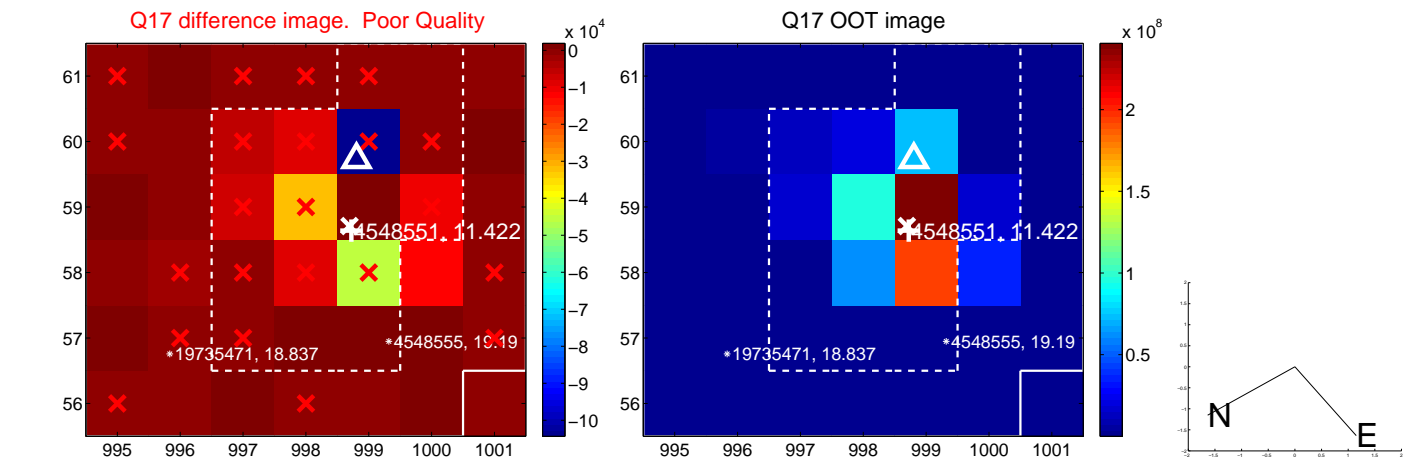
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

