

KIC 007551695

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})
007551695-01	OBS	No	543.692197	254.312675	3521.7	11.242	15.0	7.6	0.66	4194	3.87	0.09
007551695-02	OBS	No	364.669435	158.672149	2977.6	7.346	14.9	8.0	0.66	4194	3.44	0.16
007551695-03	OBS	No	519.531116	469.552453	1675.8	6.617	15.9	5.1	0.66	4194	3.13	0.10
007551695-04	OBS	No	281.564738	216.052794	1133.2	3.025	14.4	4.3	0.66	4194	2.48	0.23
007551695-05	OBS	No	377.760457	472.885484	1806.5	4.906	14.2	5.9	0.66	4194	3.25	0.15
007551695-06	OBS	No	403.160950	214.450814	1393.5	7.500	12.9	-1.0	0.66	4194	2.36	0.14

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007551695-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007551695-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
007551695-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007551695-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007551695-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007551695-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

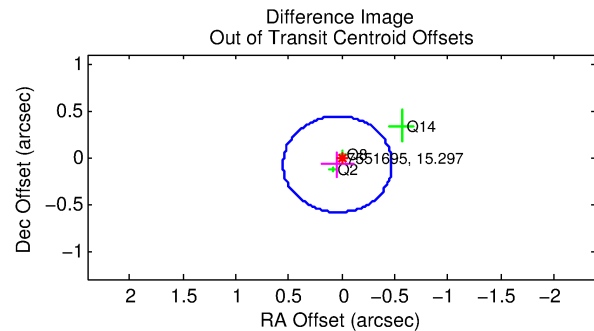
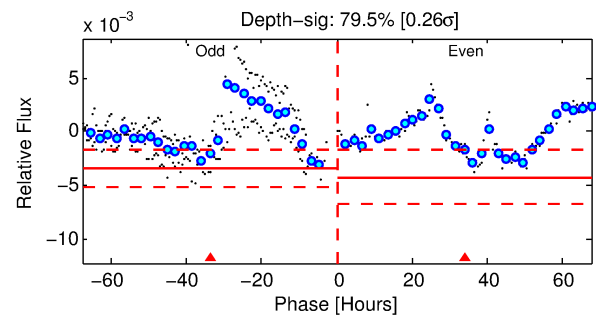
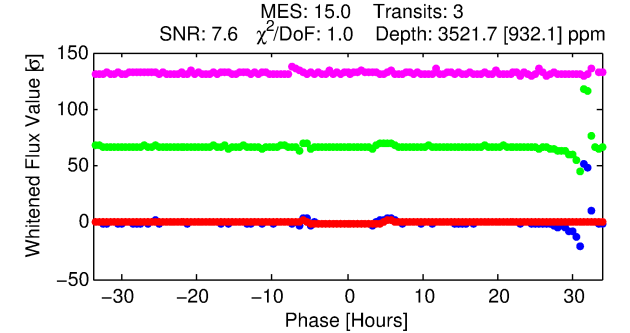
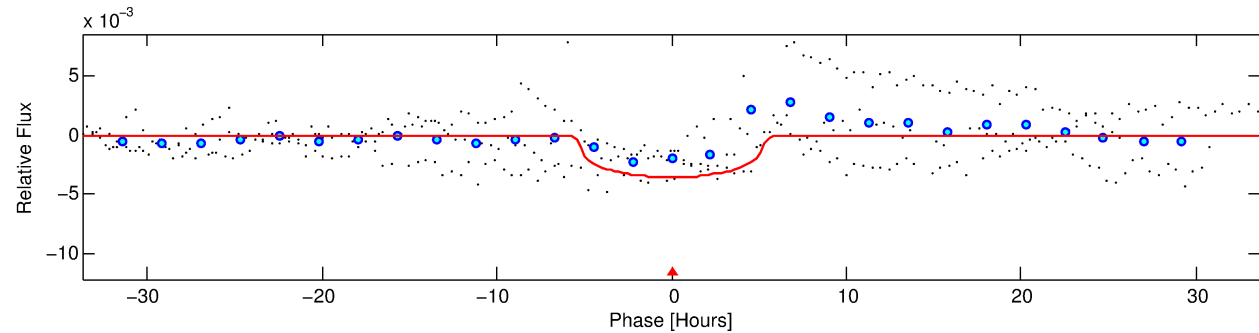
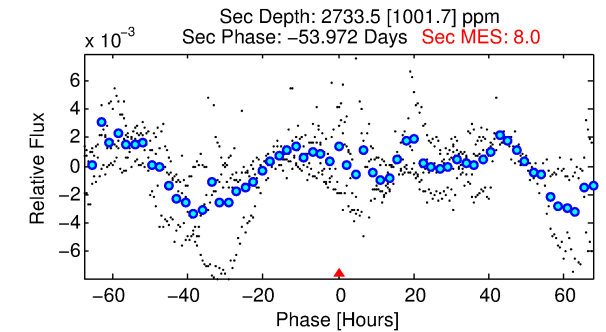
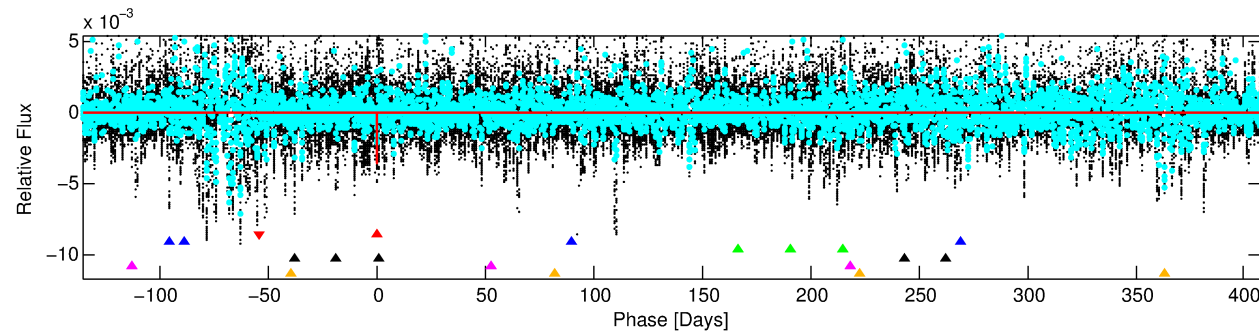
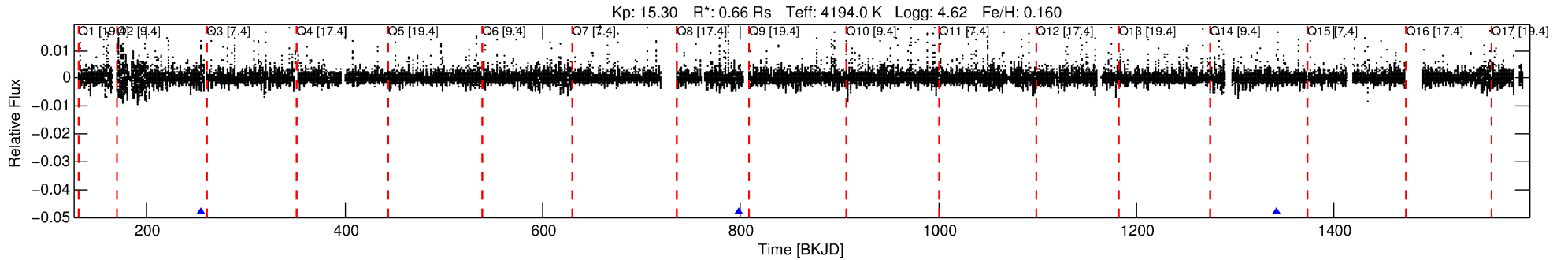
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007551695-01

No Significant Match Found

DV One-Page Summary

KIC: 7551695 Candidate: 1 of 6 Period: 543.692 d



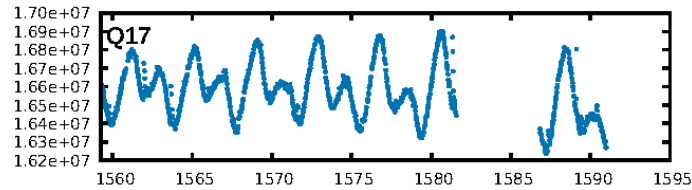
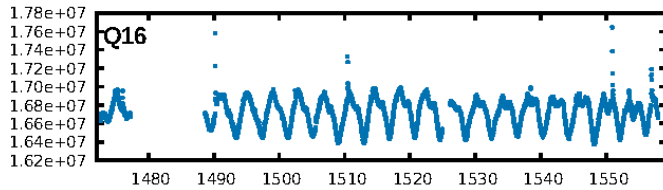
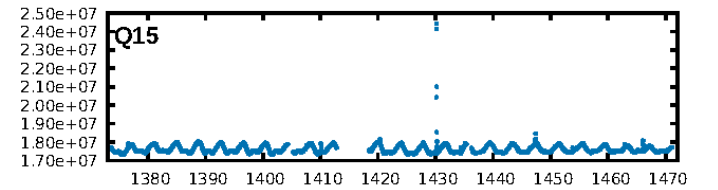
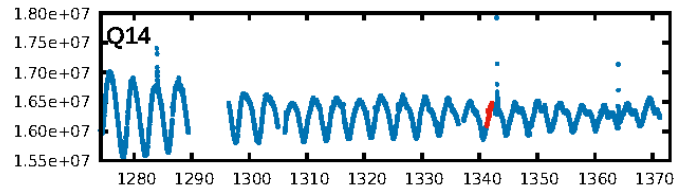
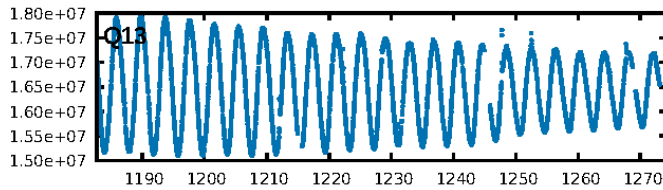
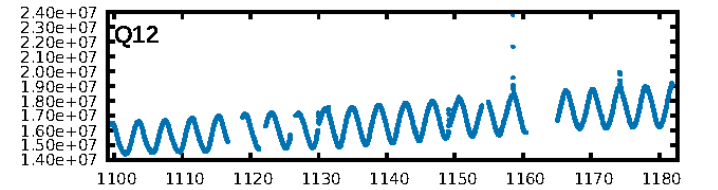
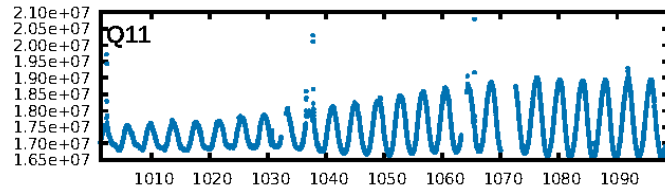
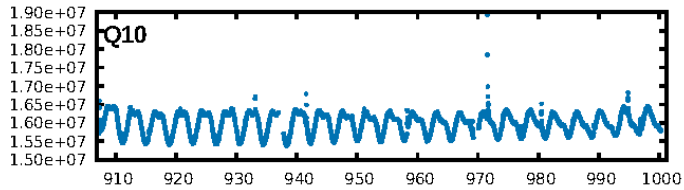
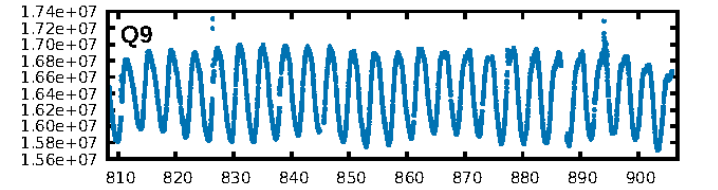
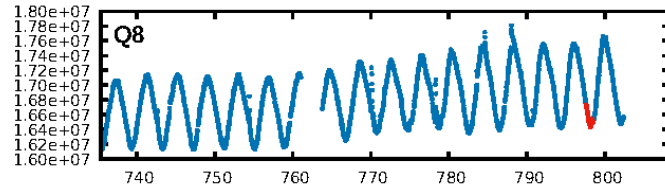
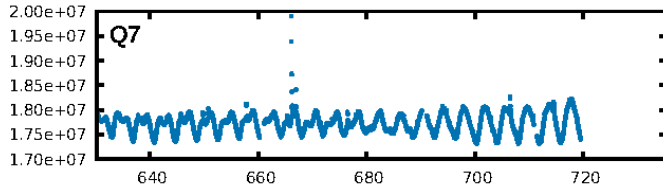
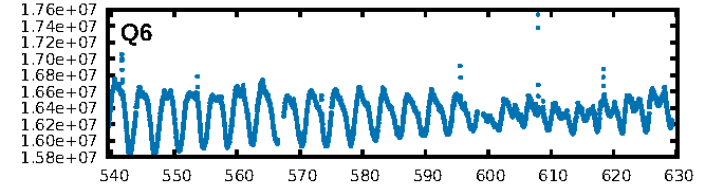
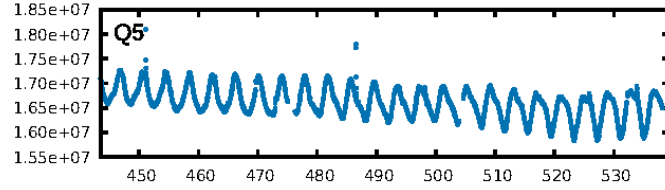
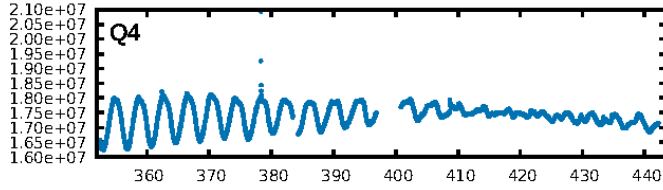
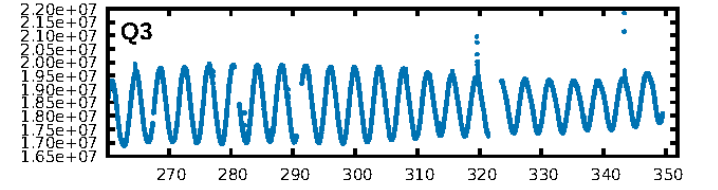
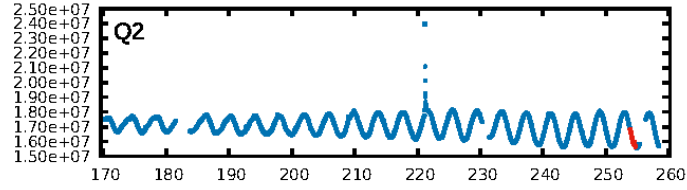
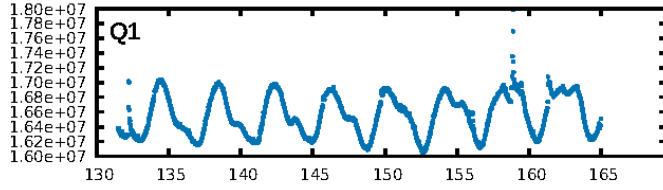
DV Fit Results:

Period = 543.69220 [0.01180] d
Epoch = 254.3127 [0.0146] BKJD
Rp/R* = 0.0538 [0.0195]
a/R* = 355.53 [342.30]
b = 0.43 [1.84]
Seff = 0.09 [0.02]
Teff = 141 [6] K
Rp = 3.87 [1.45] Re
a = 1.1323 [0.0817] AU
Ag = 128599.59 [105474.10] [1.22σ]
Teffp = 4136 [854] K [4.68σ]

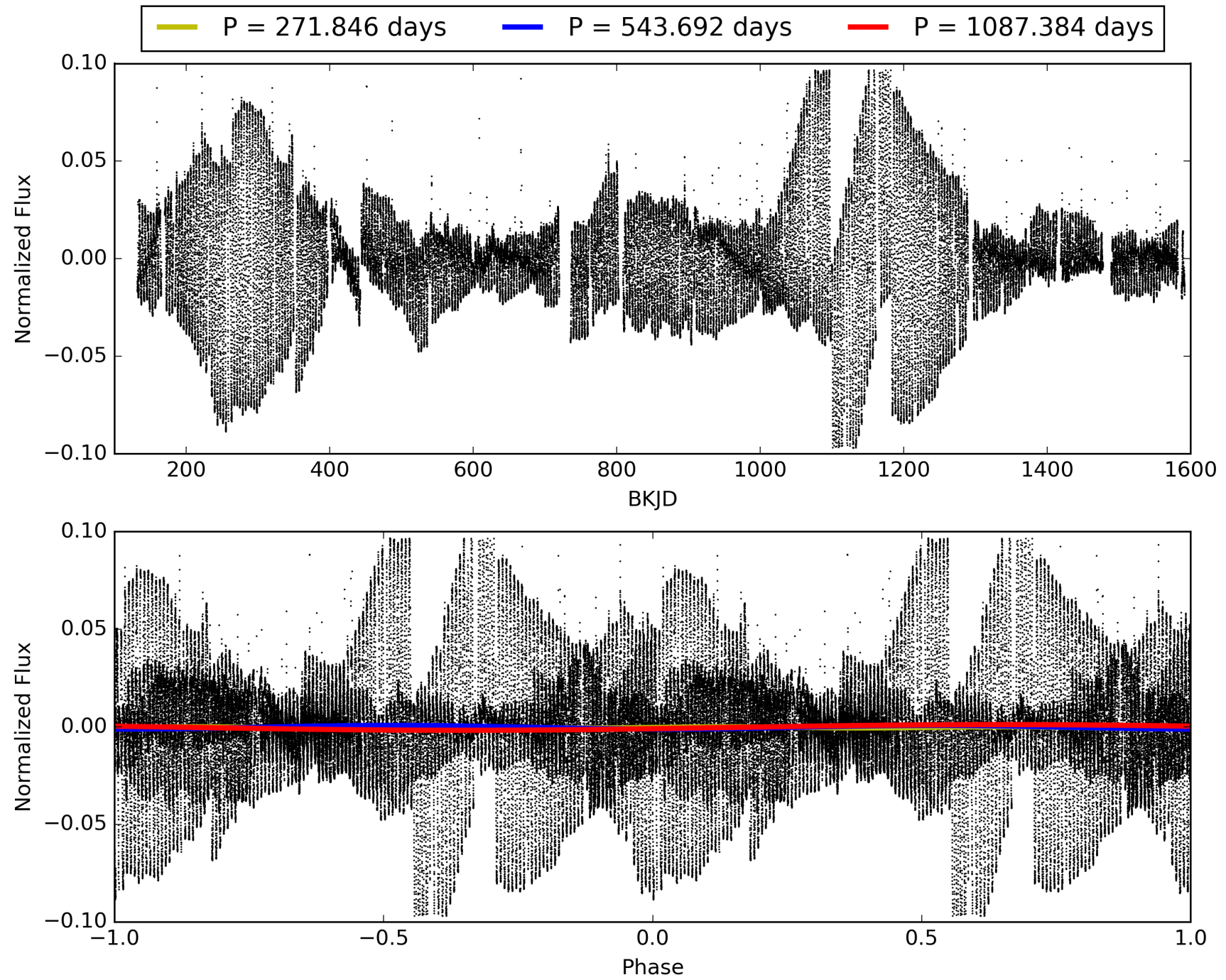
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [44.45σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 27.7%
ModelChiSquareGof-sig: 92.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.93
Centroid-sig: 42.1%
Centroid-so: 0.136 arcsec [0.35σ]
OotOffset-rm: 0.083 arcsec [0.49σ]
OotOffset-st: 2/0/1/0 [3]
KicOffset-rm: 0.193 arcsec [0.91σ]
KicOffset-st: 2/0/1/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.67 [2/3]

TCE 007551695-01, PDC Light Curves

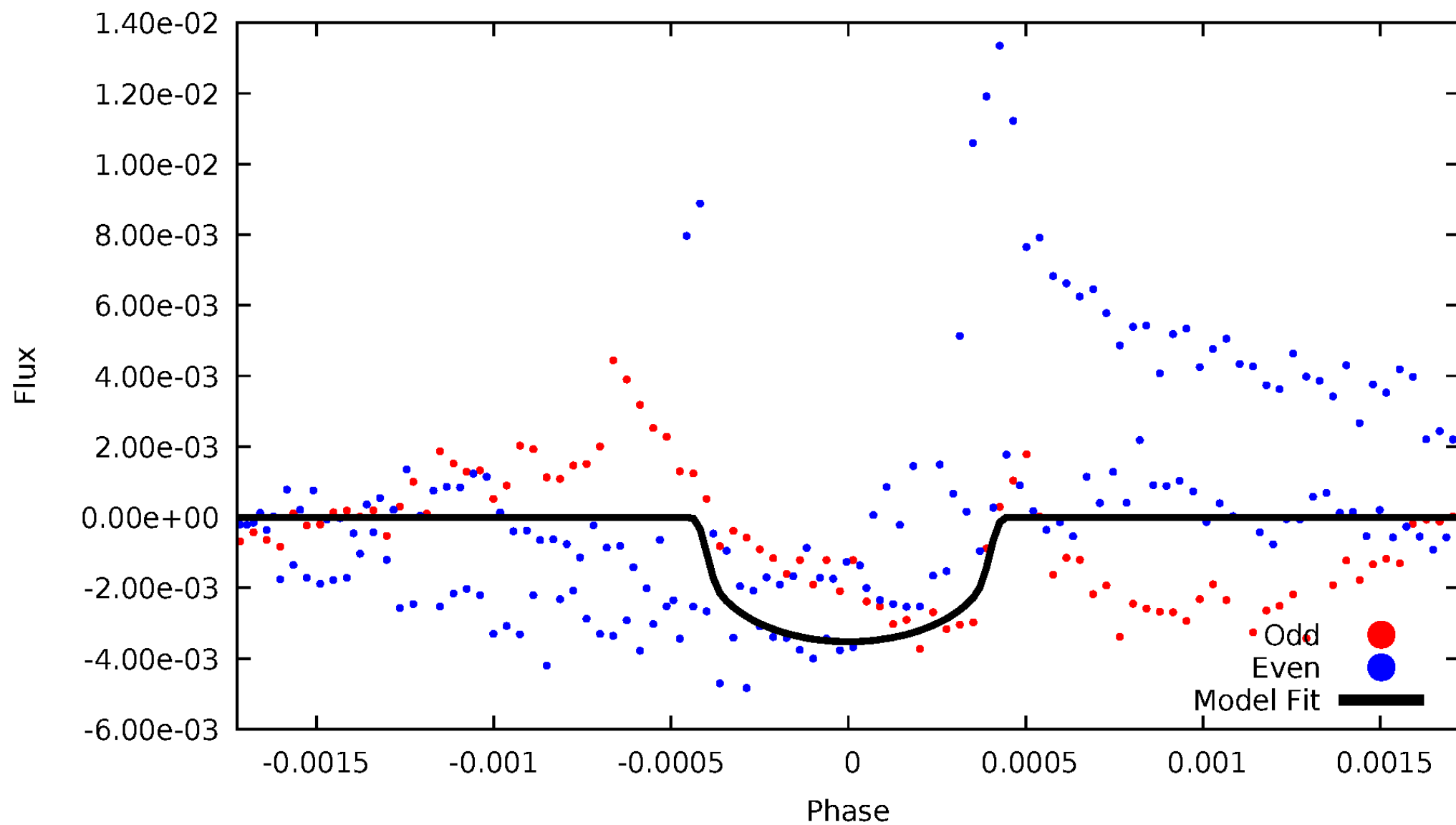


TCE 007551695-01



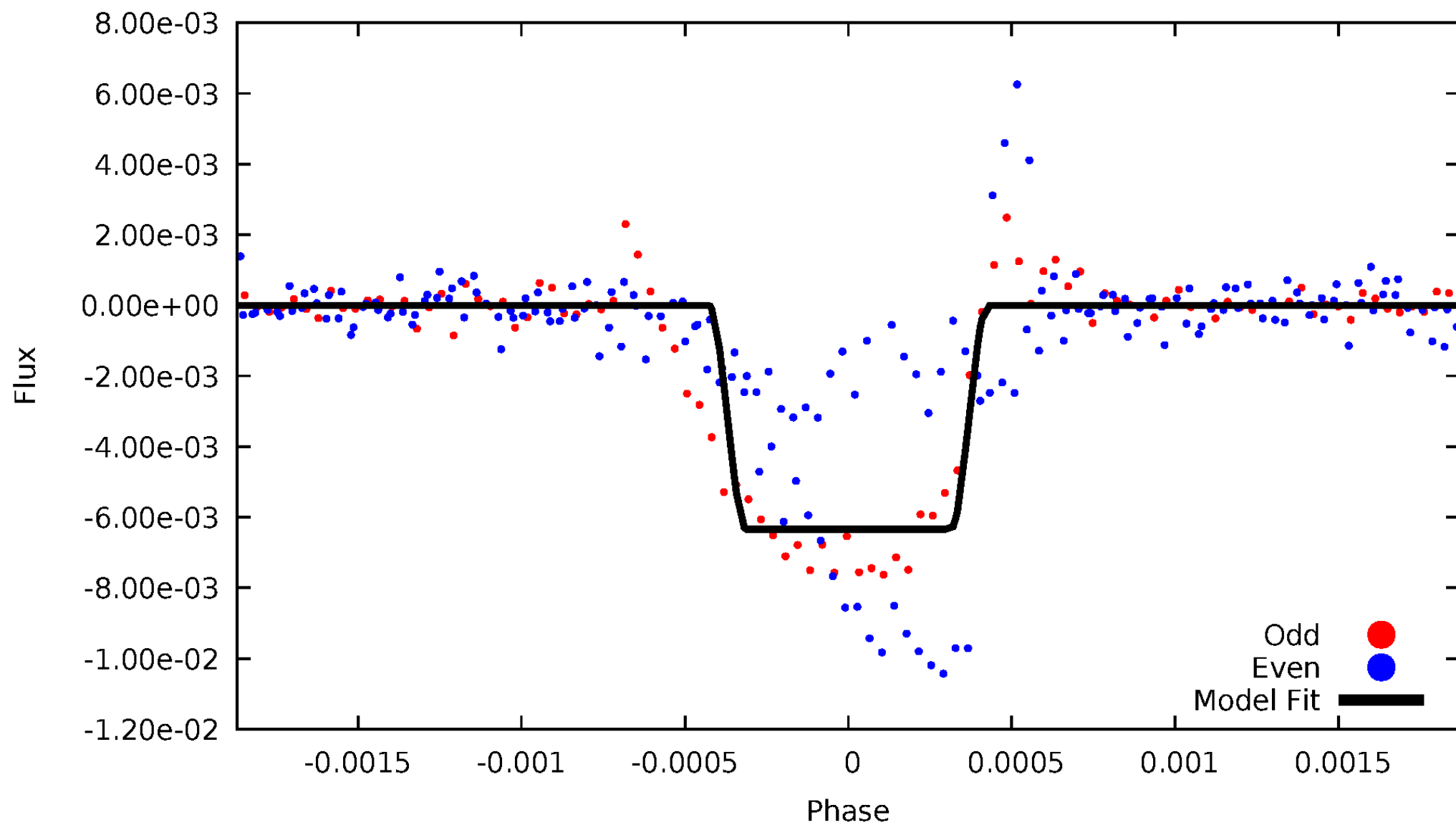
DV Odd/Even

TCE 007551695-01



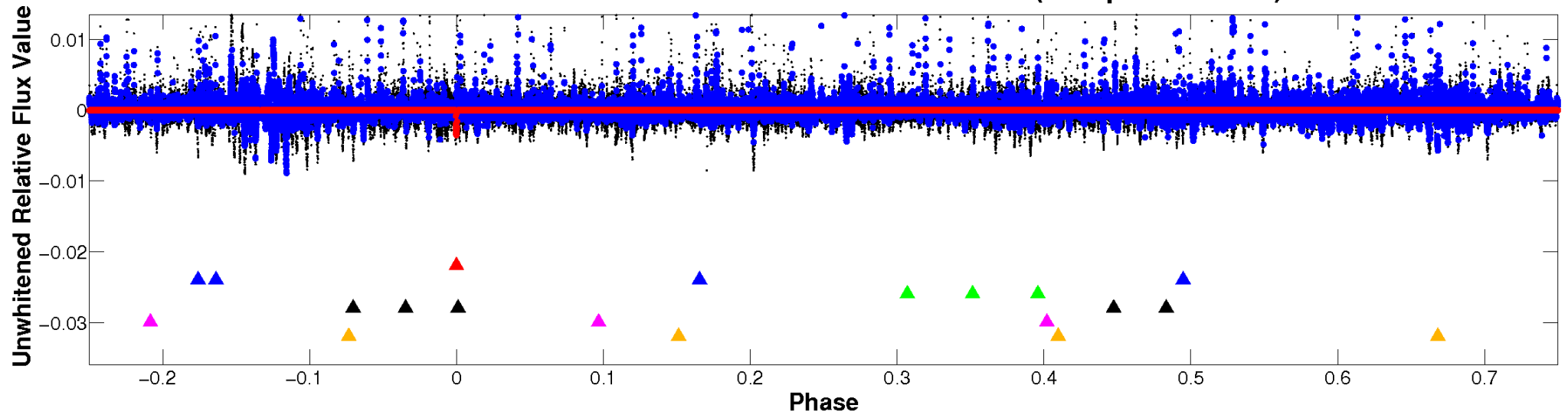
ALT Odd/Even

TCE 007551695-01

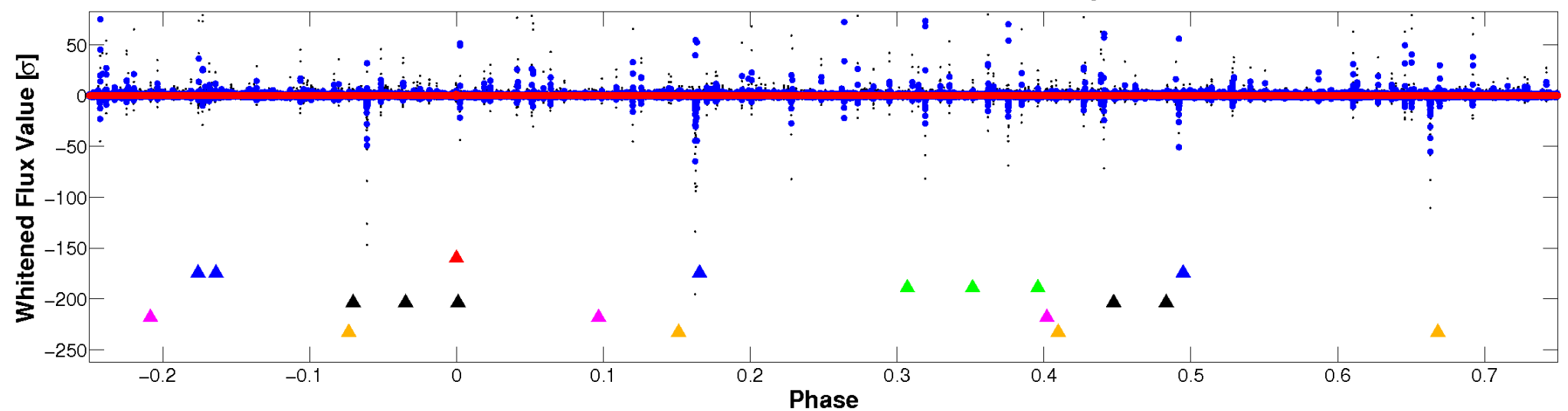


Non-Whitened Vs. Whitened Light Curve

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

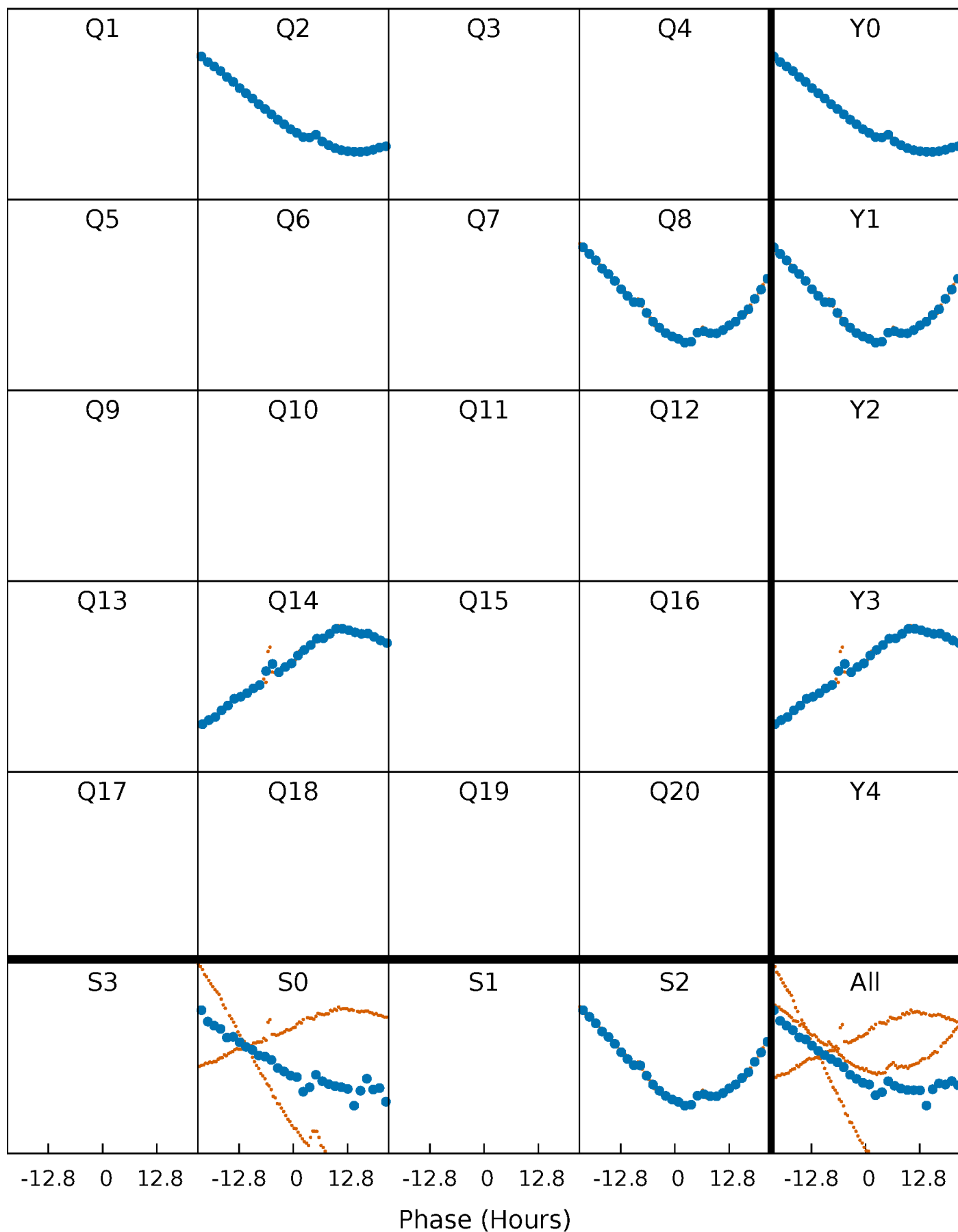


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



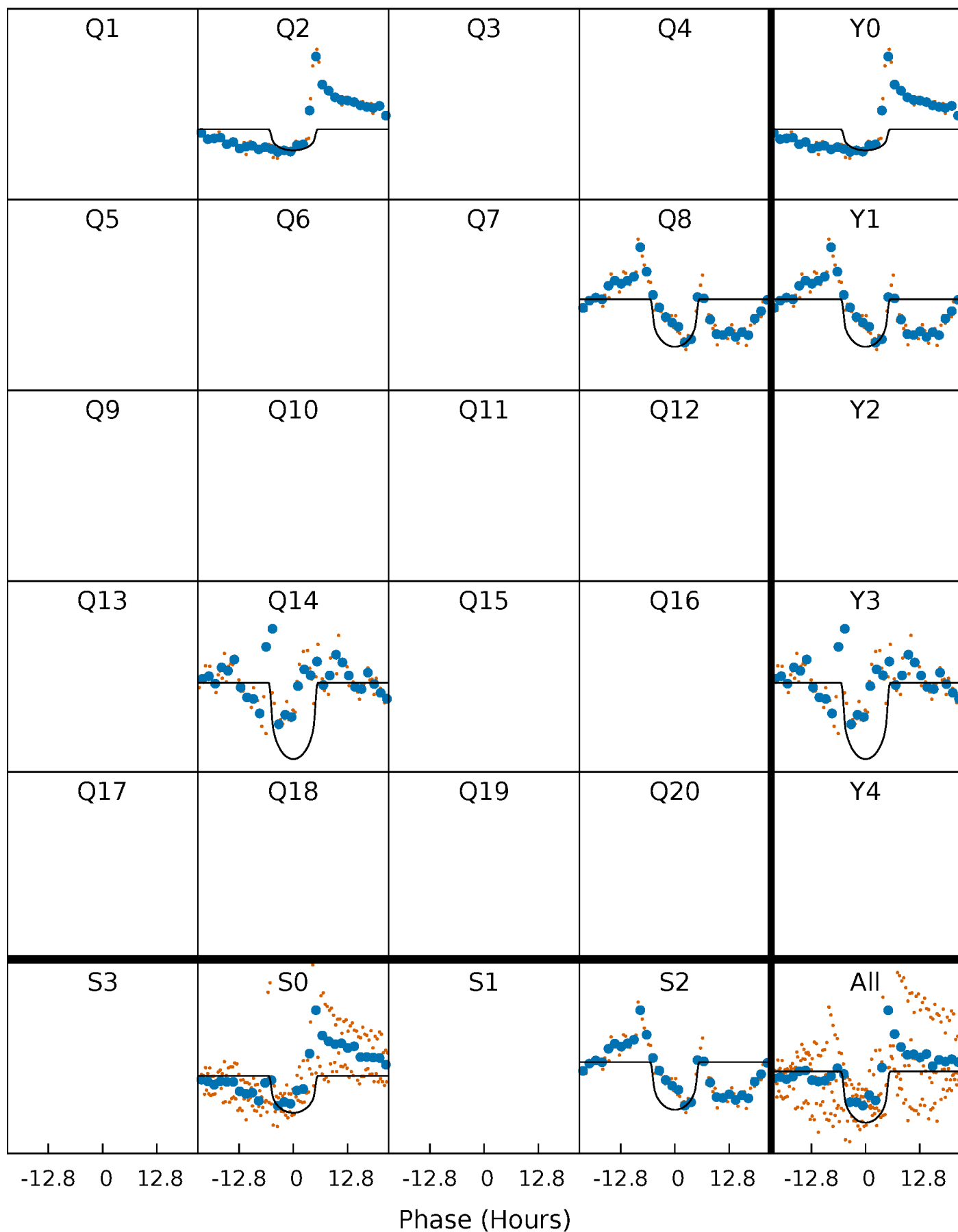
PDC Quarter-Phased Transit Curves

TCE 007551695-01 P=543.692197 Days $T_0=254.312675$ (BKJD)



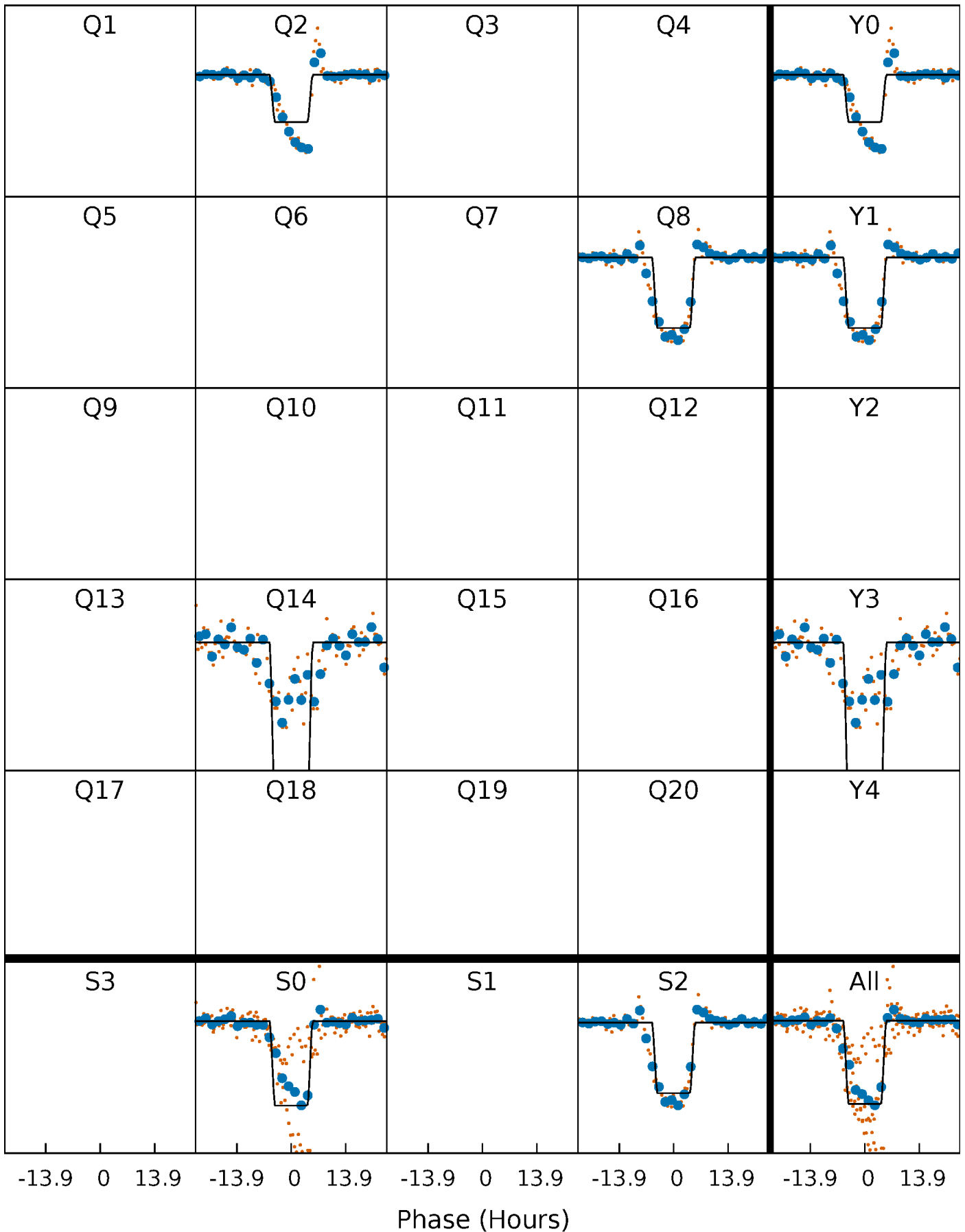
DV Quarter-Phased Transit Curves

TCE 007551695-01 P=543.692197 Days $T_0=254.312675$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

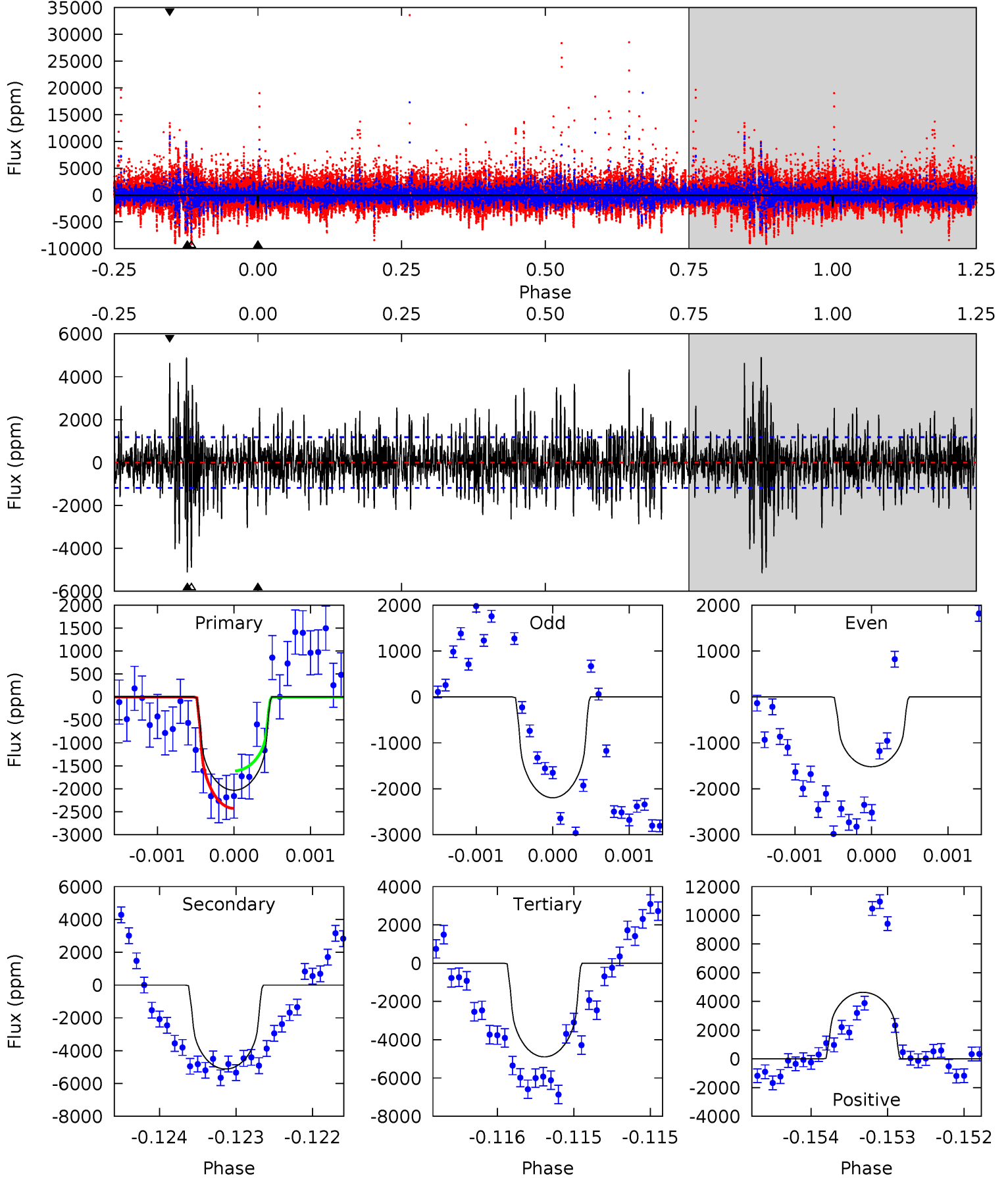
TCE 007551695-01 P=543.750654 Days $T_0=254.264170$ (BKJD)



DV Model-Shift Uniqueness Test

007551695-01, P = 543.692197 Days, E = 254.312675 Days

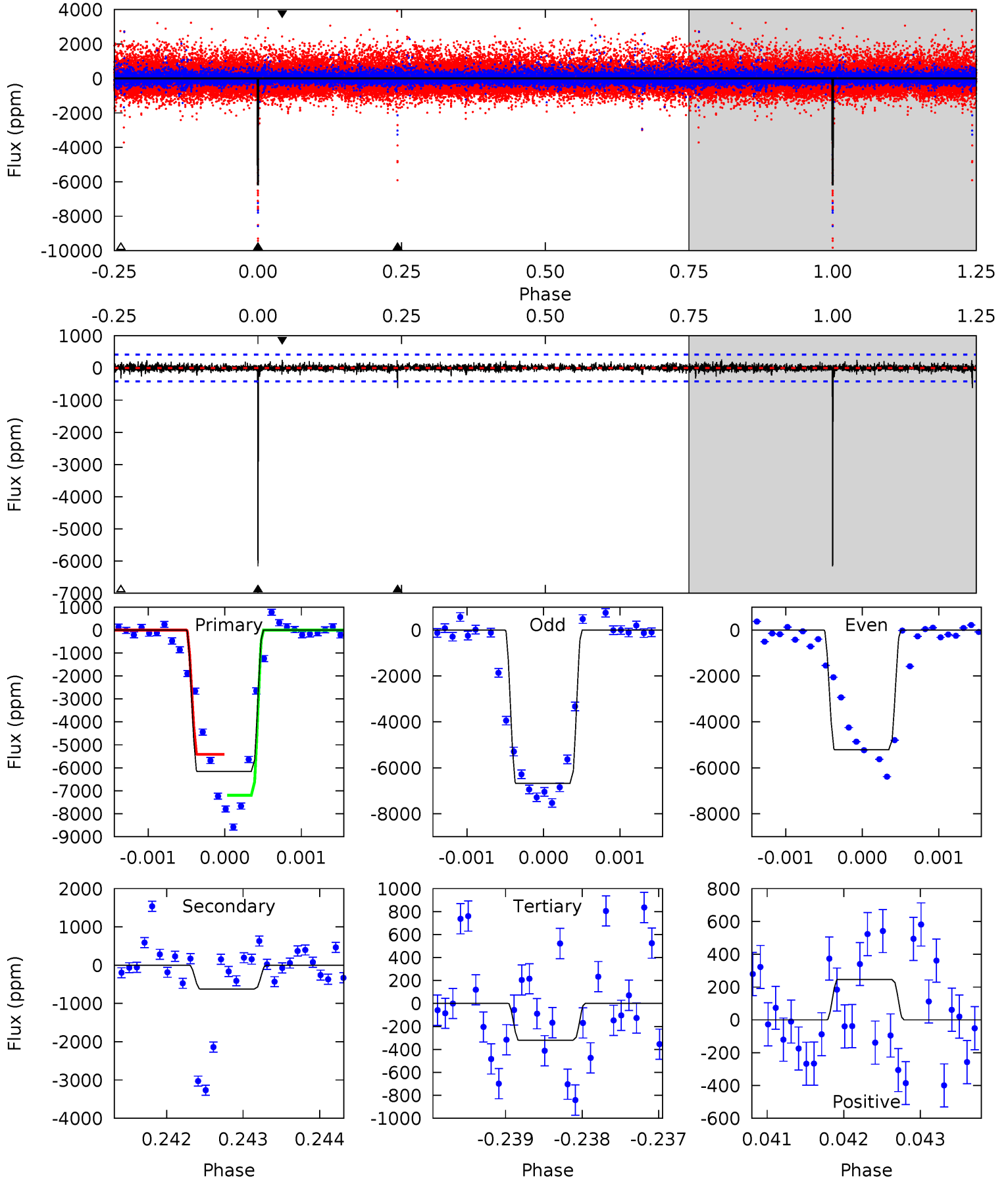
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.38	23.6	22.6	21.4	5.47	3.32	4.22	-13.2	-12.0	1.03	2.23	0.88	0.78	0.49	1.89



Alt Model-Shift Uniqueness Test

007551695-01, P = 543.750654 Days, E = 254.264170 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
80.9	8.16	4.21	3.24	5.48	3.33	0.67	76.7	77.7	3.95	4.92	9.38	0.82	0.04	11.4



Stellar Parameters For KIC 007551695

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4194^{+131}_{-146}	$4.615^{+0.053}_{-0.018}$	$0.160^{+0.250}_{-0.300}$	$0.660^{+0.032}_{-0.059}$	$0.655^{+0.050}_{-0.055}$	$3.209^{+0.788}_{-0.254}$
	+3%/-3%	+1%/-0%	+156%/-188%	+5%/-9%	+8%/-8%	+25%/-8%
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 007551695-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-5119 ± 217	$3.80^{+1.41}_{-1.40}$	196^{+7}_{-8}	4710^{+1049}_{-578}	$254620^{+382784}_{-120627}$
Alt.	-621 ± 76	$5.76^{+1.27}_{-1.37}$	196^{+6}_{-8}	2895^{+245}_{-179}	13508^{+9989}_{-4802}

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

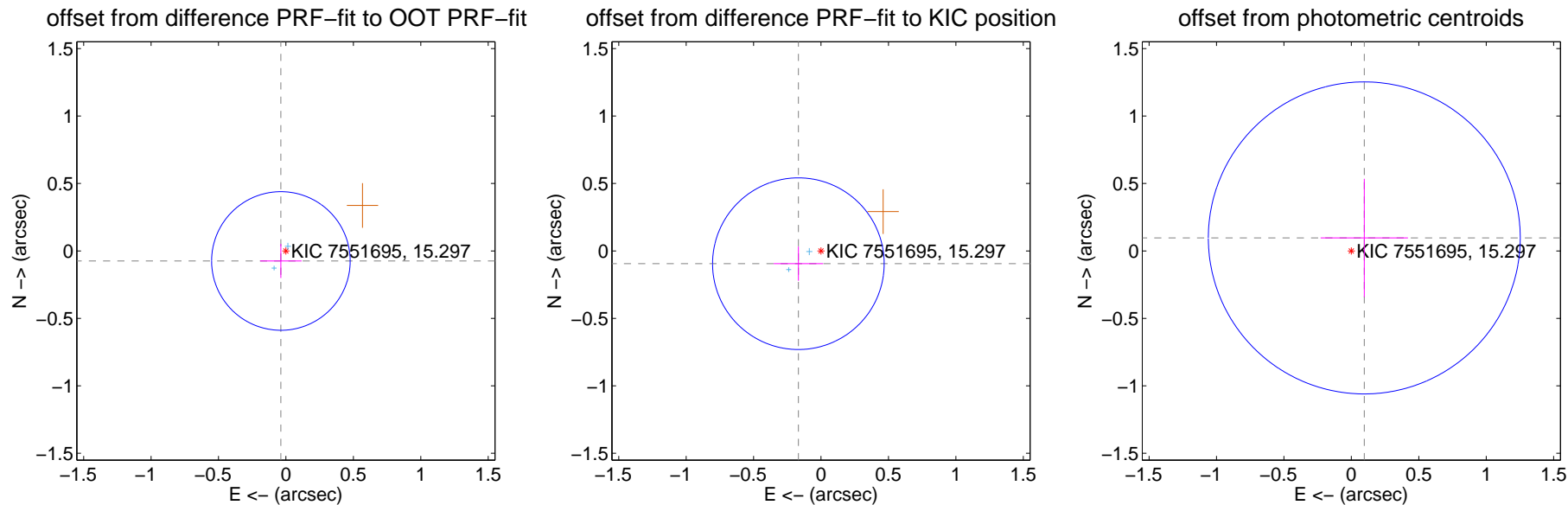
DV Centroid Data

Supplemental centroid analysis for 007551695-01. Kepler magnitude: 15.30. Transit SNR 7.56

There are 2 quarters with good PRF difference image offsets

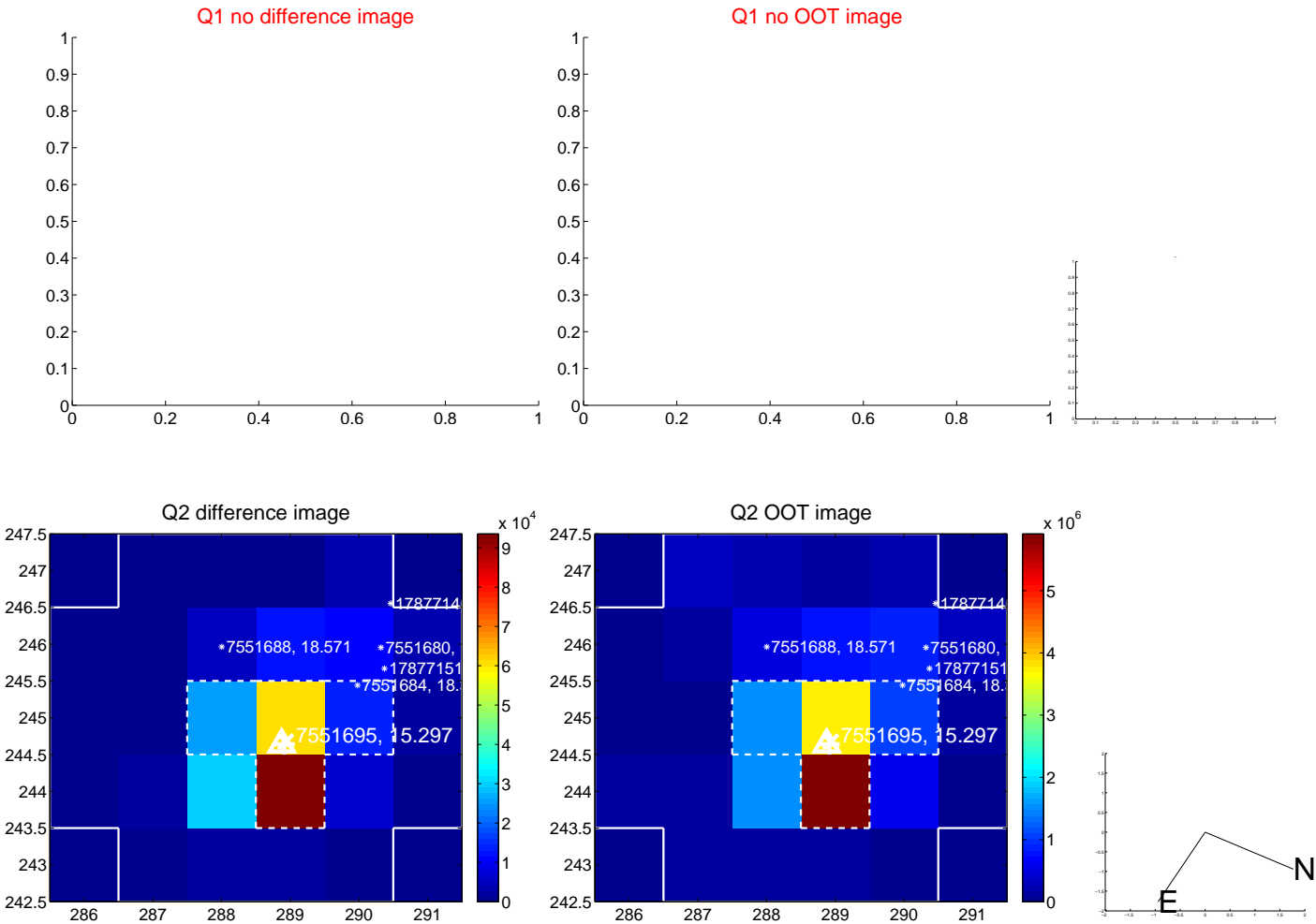
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.083 ± 0.171	0.49	0.037 ± 0.154	-0.074 ± 0.126
PRF-fit source offset from KIC position	0.193 ± 0.212	0.91	0.168 ± 0.183	-0.095 ± 0.127
photometric centroid source offset	0.14 ± 0.39	0.35	-0.10 ± 0.32	0.10 ± 0.44

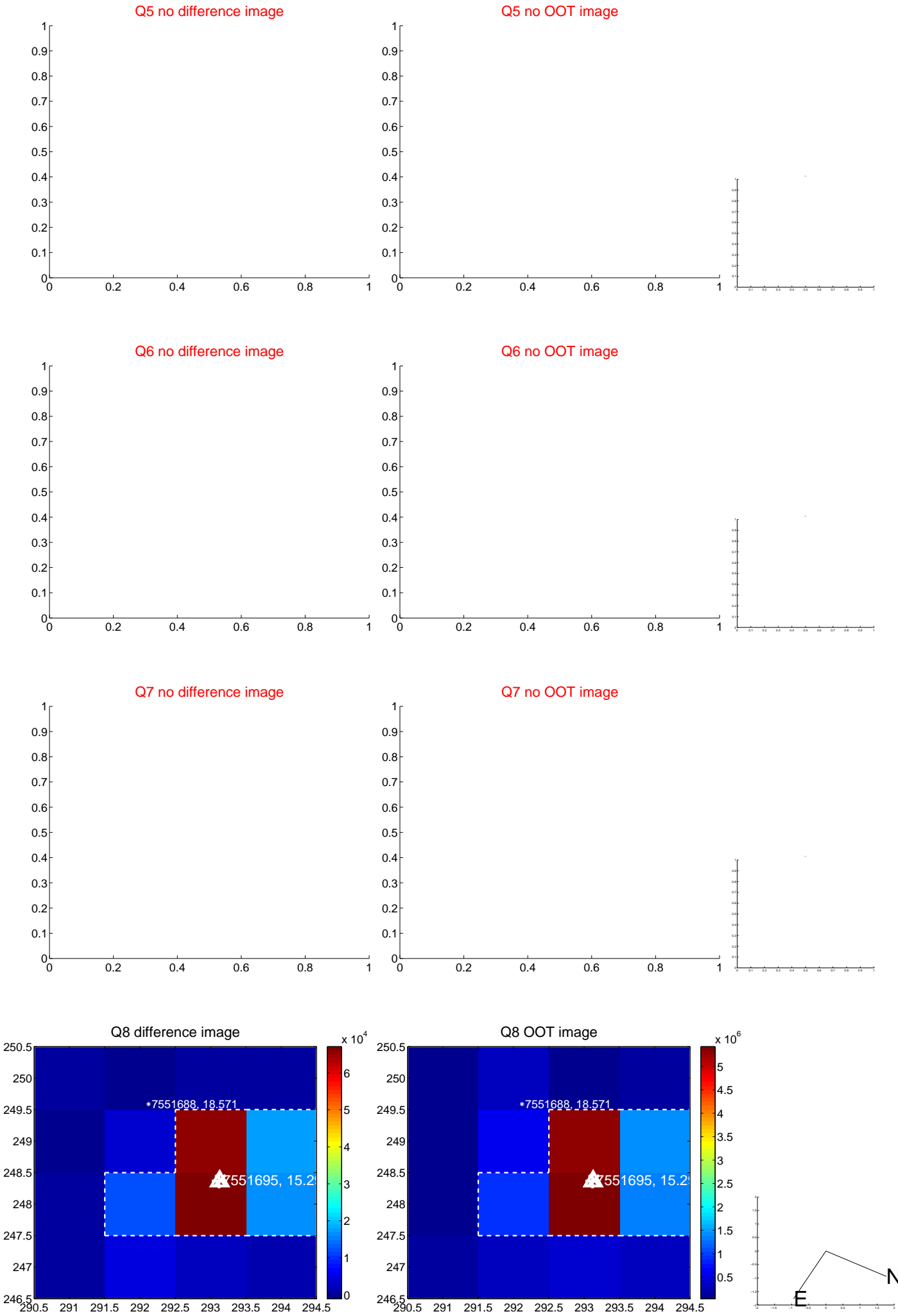


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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 \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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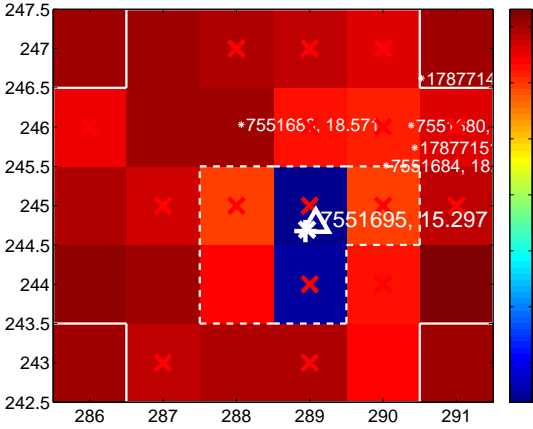
Q13 no difference image



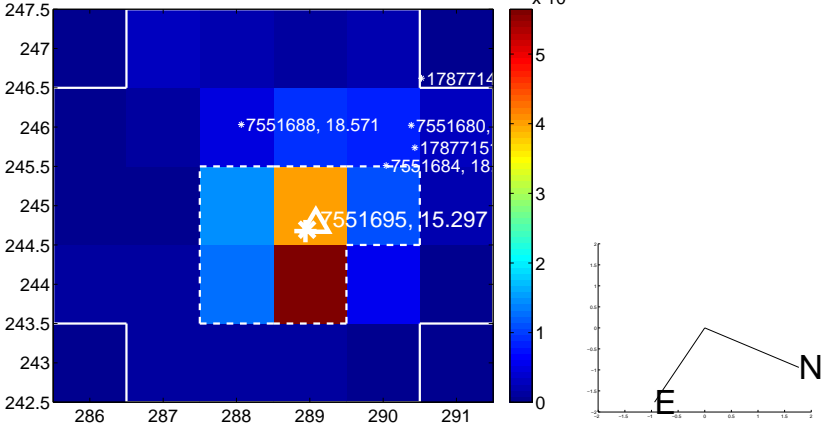
Q13 no OOT image



Q14 difference image. Poor Quality



Q14 OOT image



Q15 no difference image



Q15 no OOT image



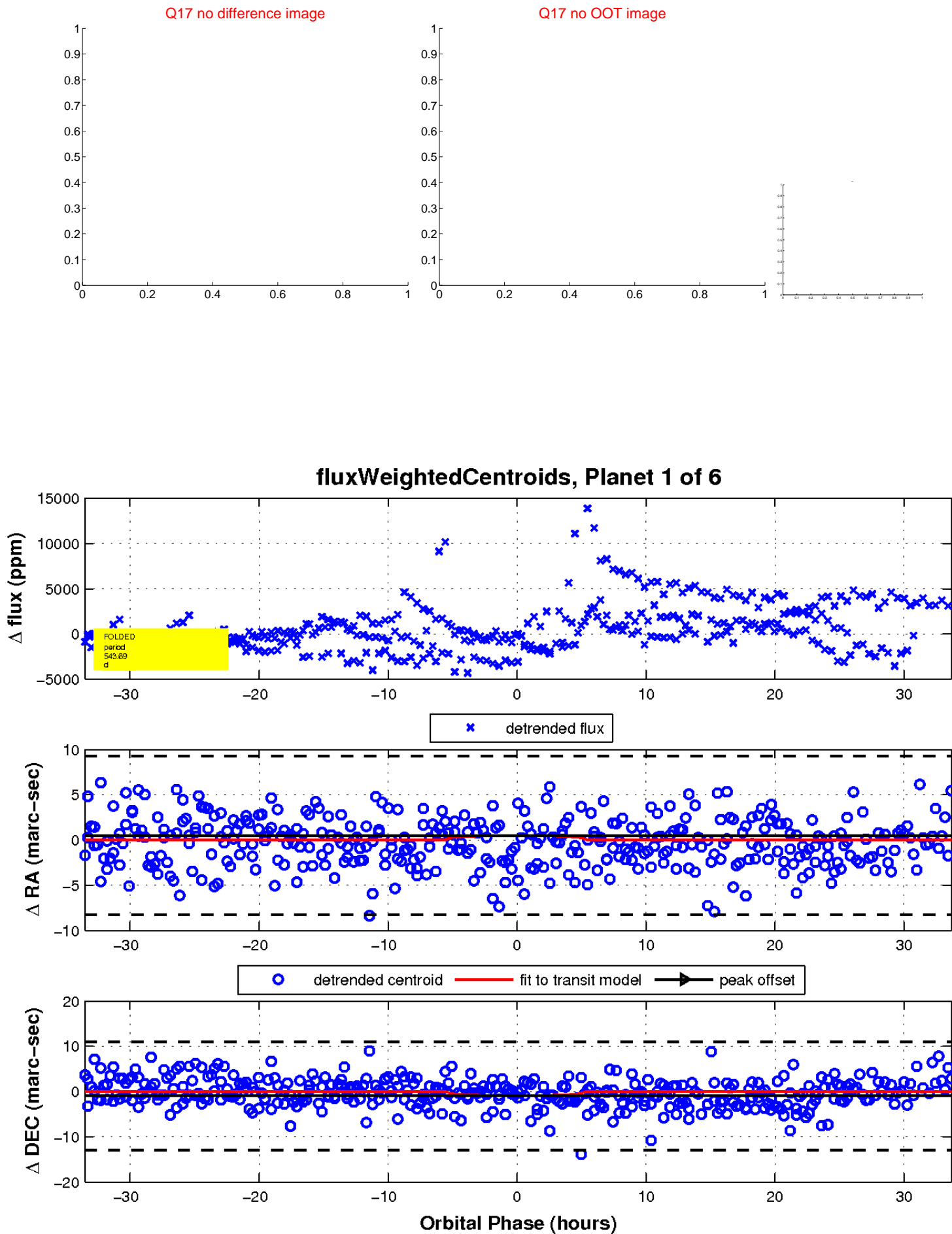
Q16 no difference image



Q16 no OOT image

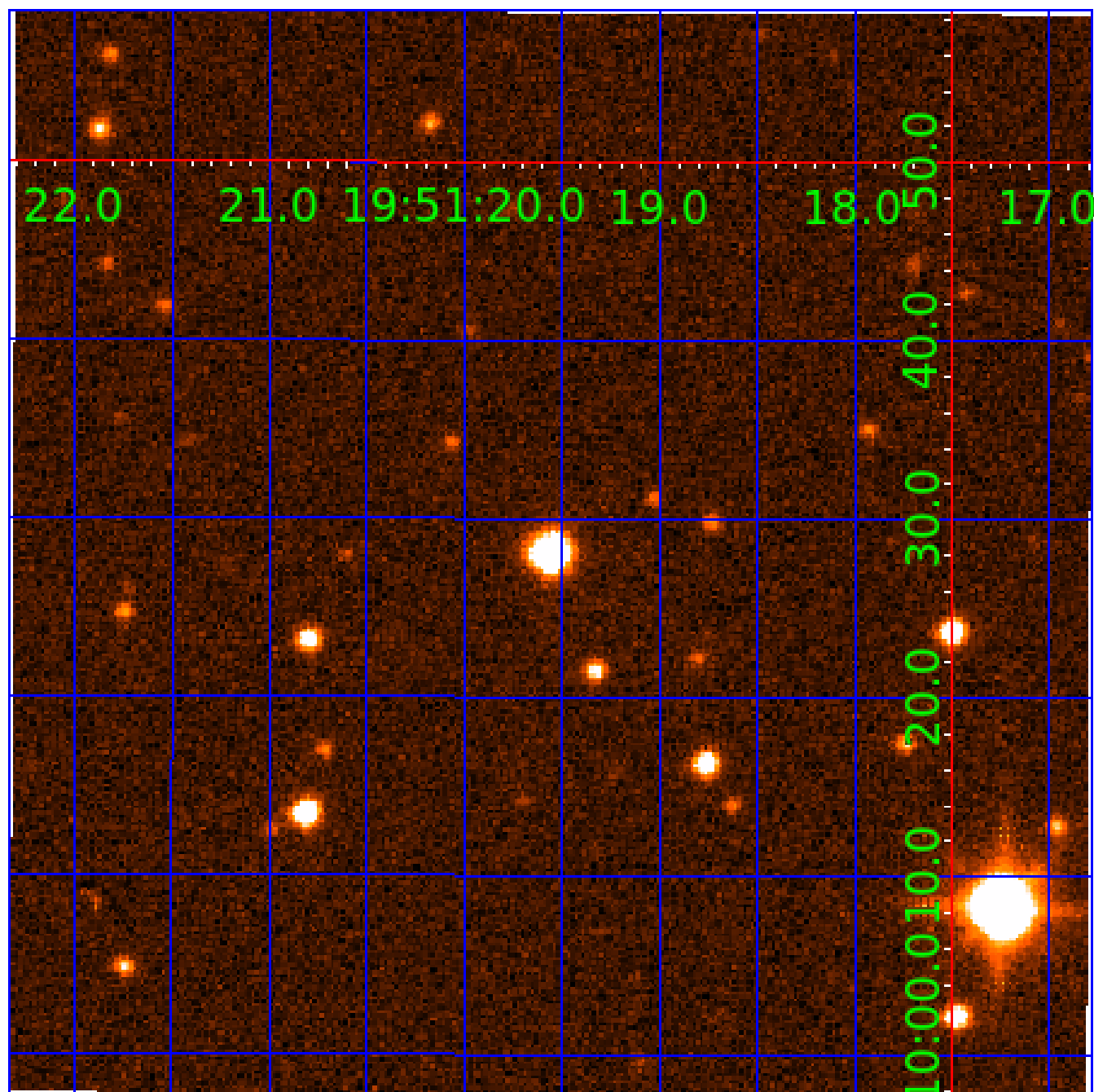


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007551695

Q1-17 DR25 TCE Parameters

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007551695-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
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007551695-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

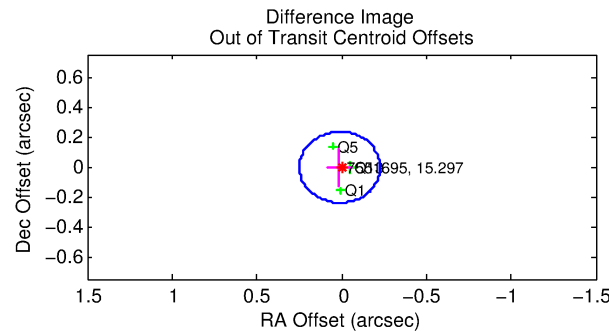
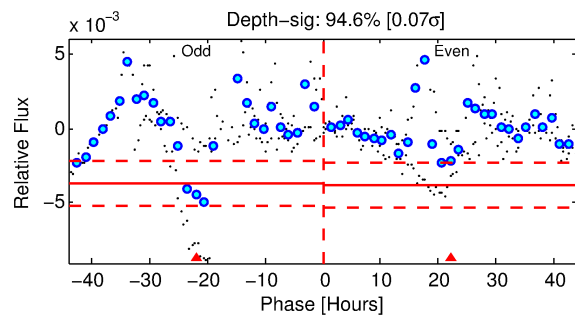
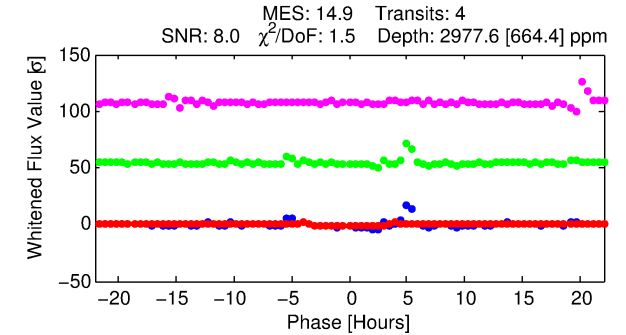
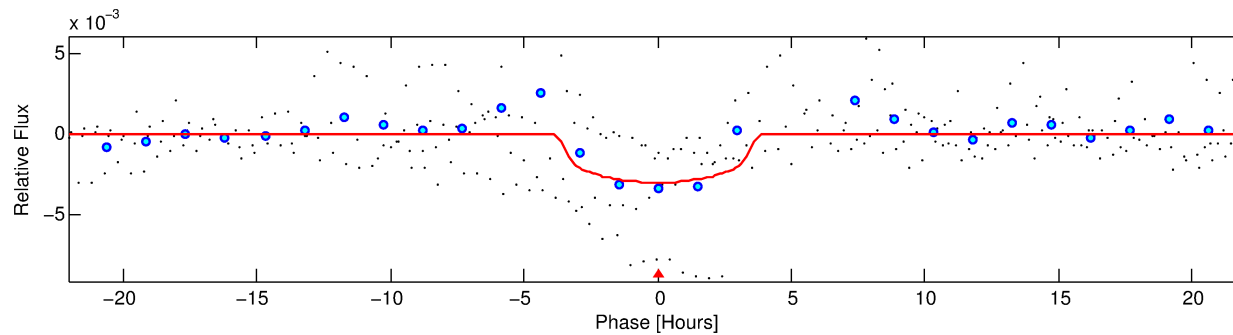
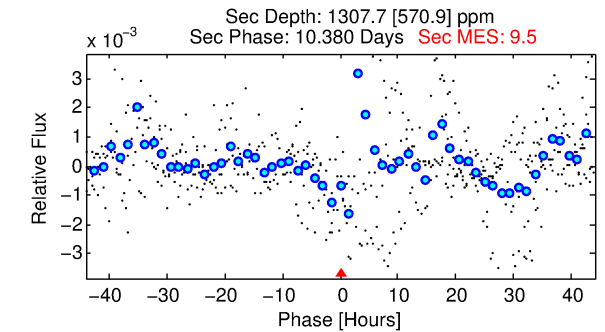
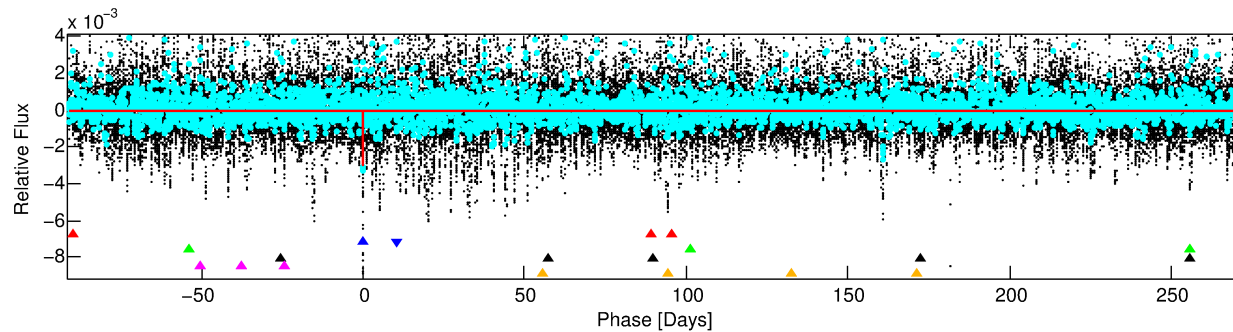
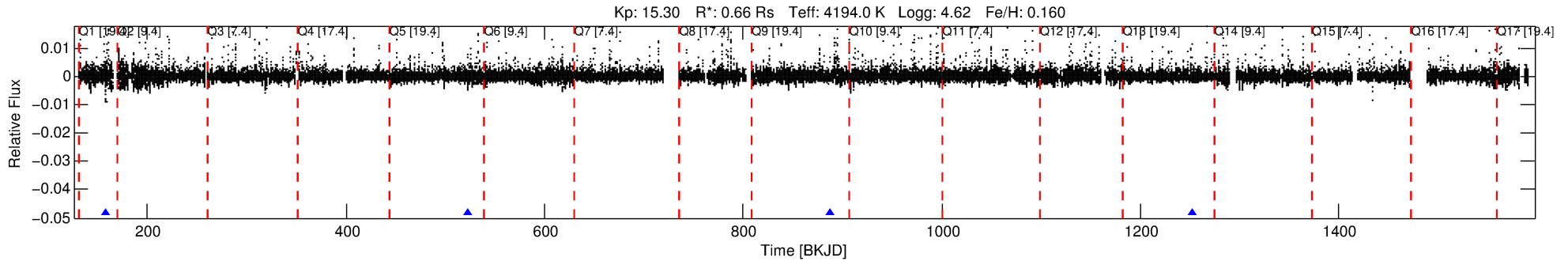
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007551695-02

No Significant Match Found

DV One-Page Summary

KIC: 7551695 Candidate: 2 of 6 Period: 364.669 d



DV Fit Results:

Period = 364.66944 [0.00515] d
Epoch = 158.6721 [0.0097] BKJD
Rp/R* = 0.0478 [0.0392]
a/R* = 397.32 [956.53]
b = 0.00 [1678.58]
Seff = 0.16 [0.03]
Teq = 161 [7] K
Rp = 3.44 [2.84] Re
a = 0.8676 [0.0626] AU
Ag = 45766.66 [77936.49] [0.59σ]
Teffp = 3649 [1556] K [2.24σ]

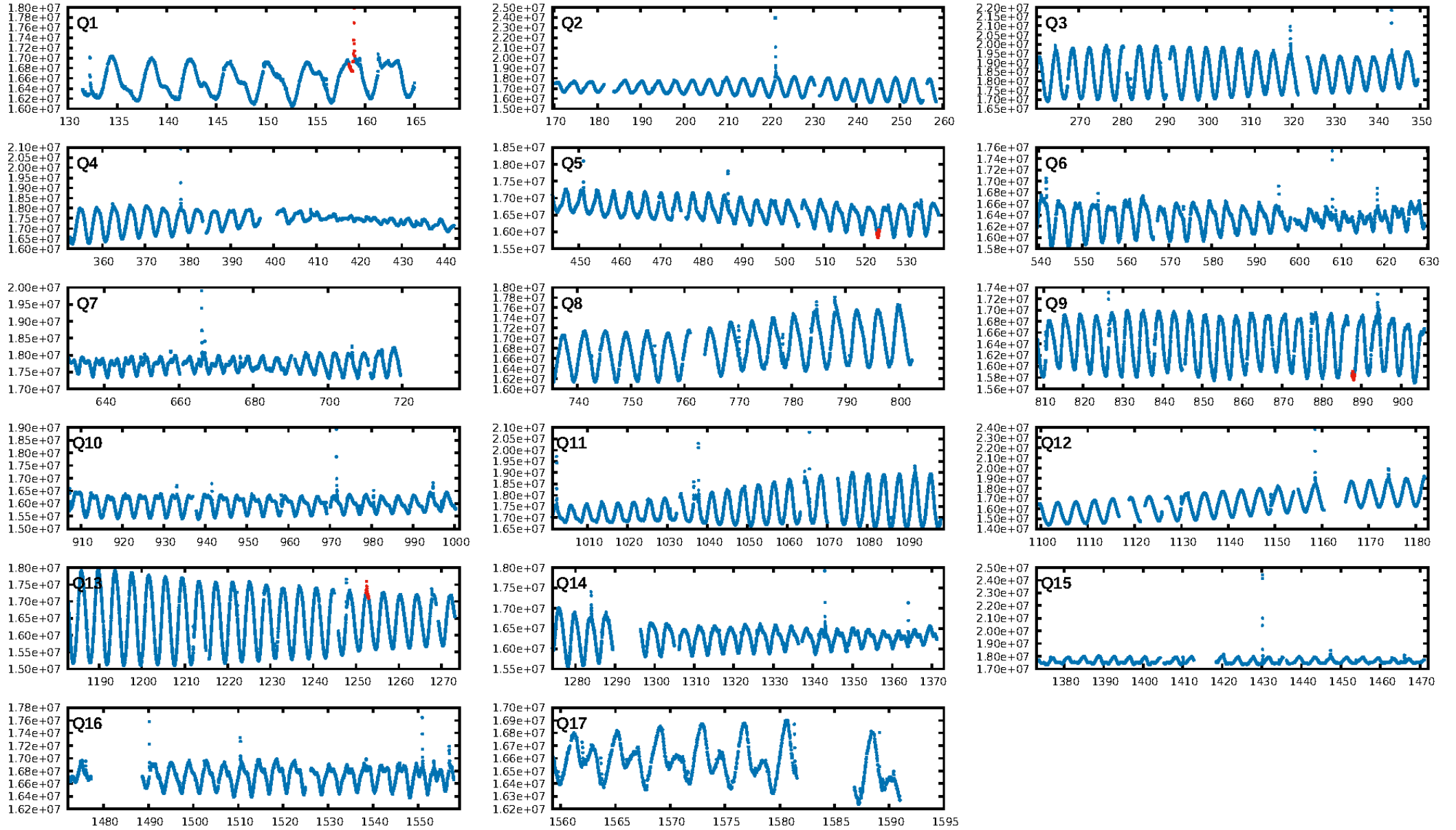
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [251.05σ]
LongPeriod-sig: 100.0% [35.57σ]
ModelChiSquare2-sig: 37.9%
ModelChiSquareGof-sig: 97.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.501
Centroid-sig: 1.6%
Centroid-so: 0.669 arcsec [1.25σ]
OotOffset-rm: 0.012 arcsec [0.15σ]
KicOffset-rm: 0.046 arcsec [0.62σ]
OotOffset-st: 0/0/0/3 [3]
KicOffset-st: 0/0/0/3 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

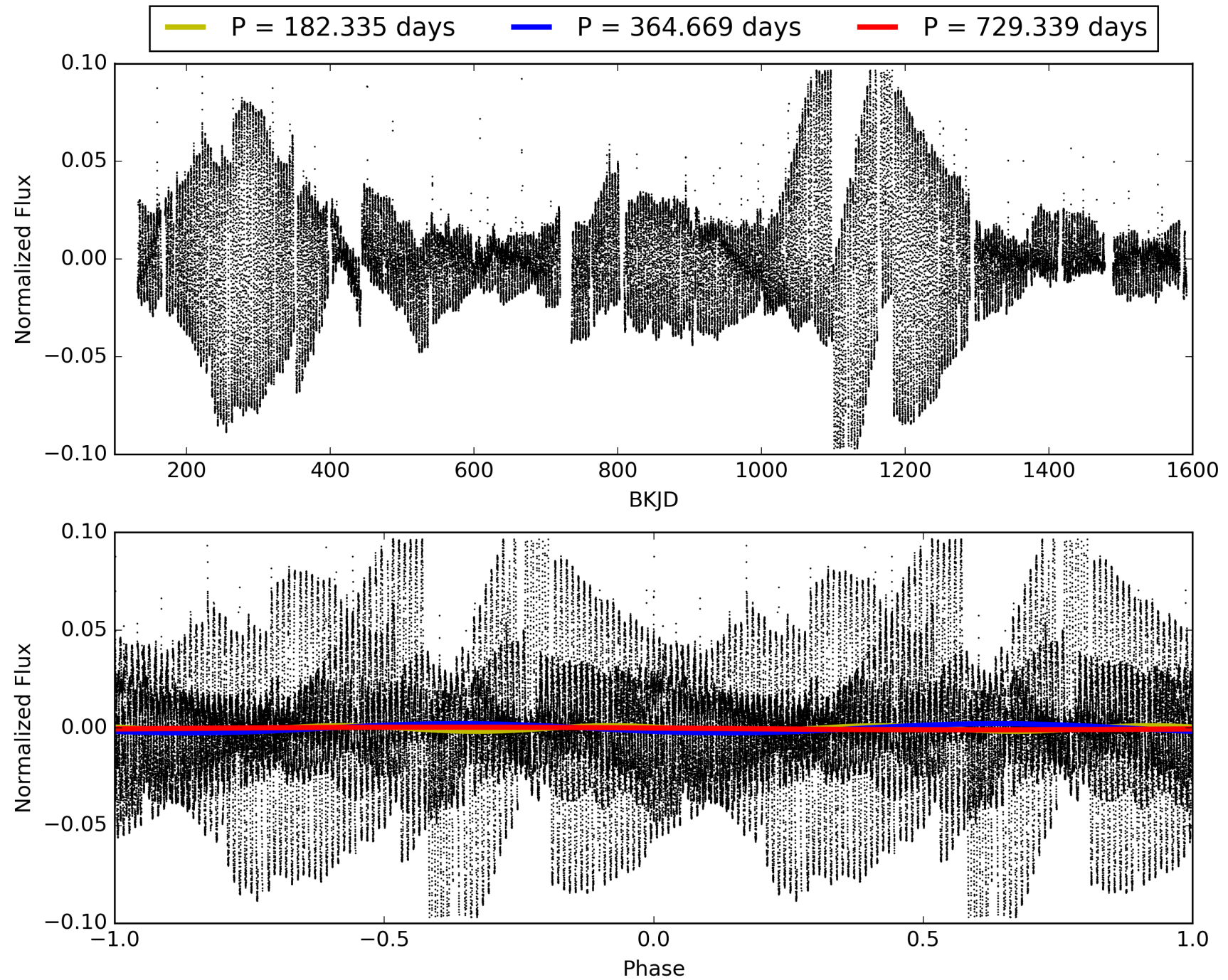
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:48:43 Z

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

TCE 007551695-02, PDC Light Curves

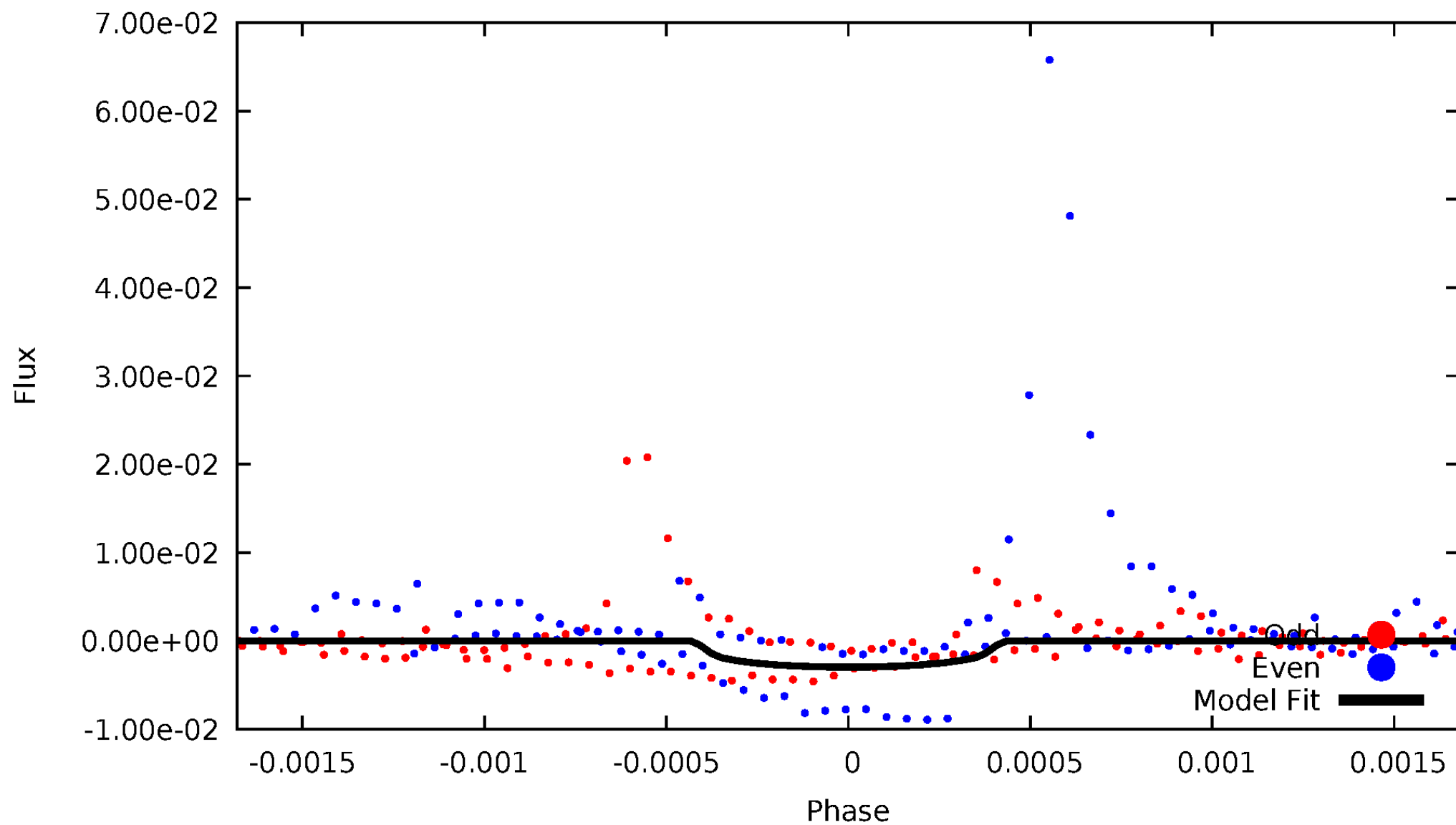


TCE 007551695-02



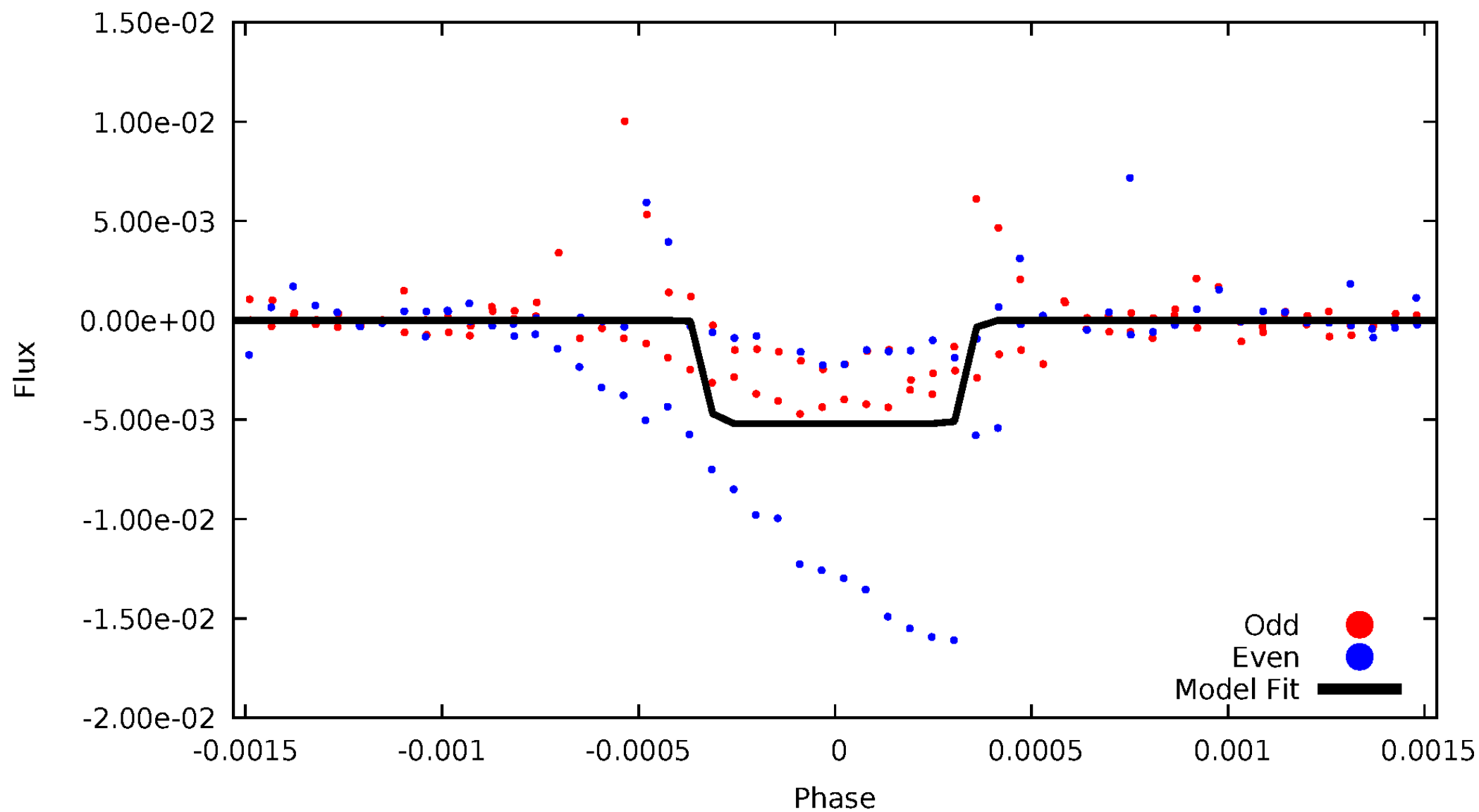
DV Odd/Even

TCE 007551695-02



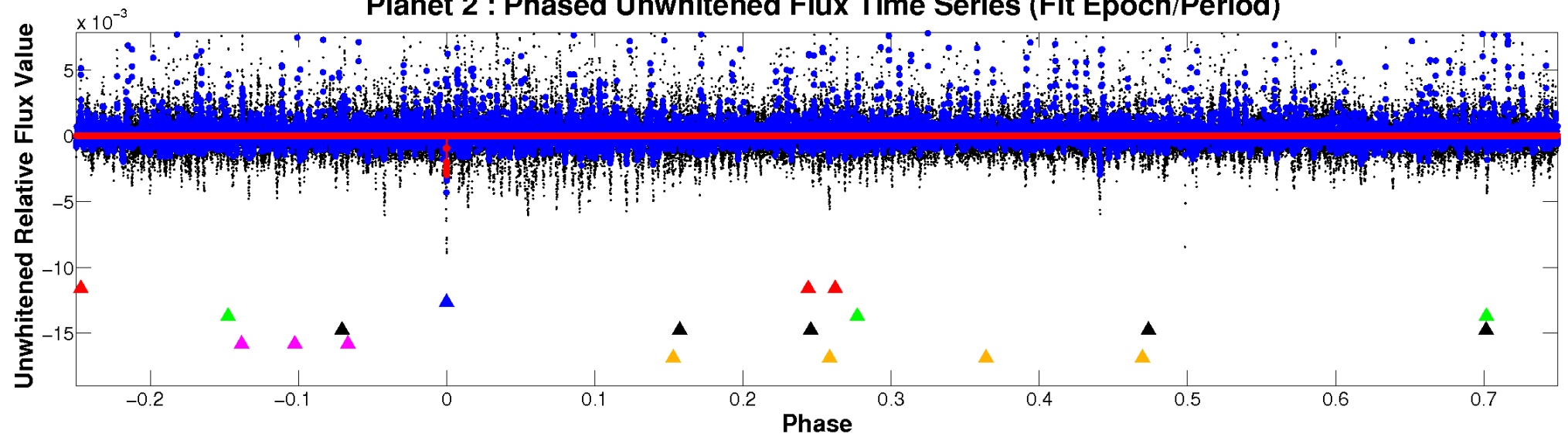
ALT Odd/Even

TCE 007551695-02

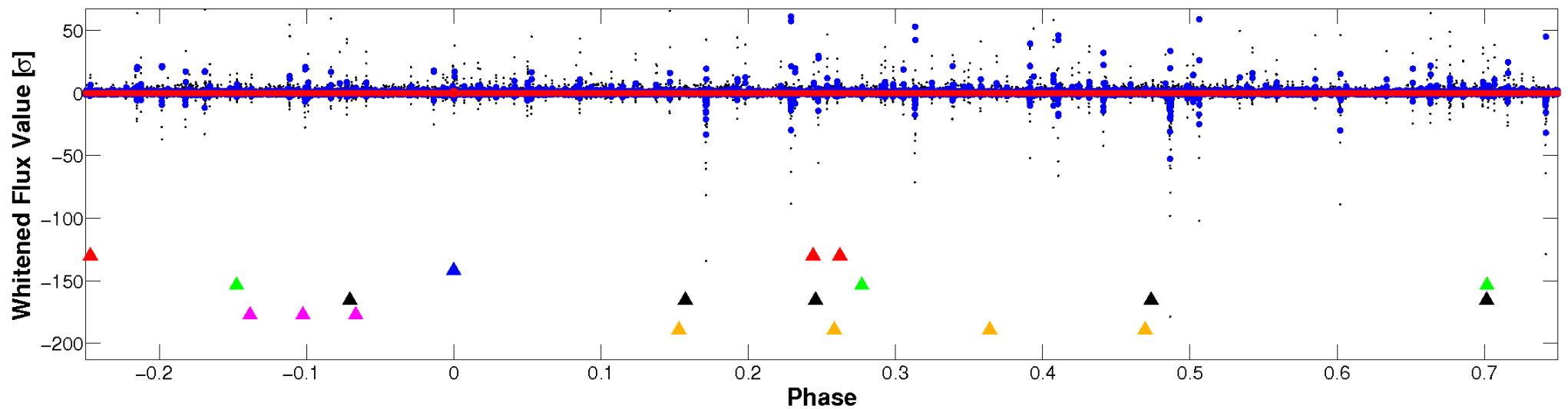


Non-Whitened Vs. Whitened Light Curve

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

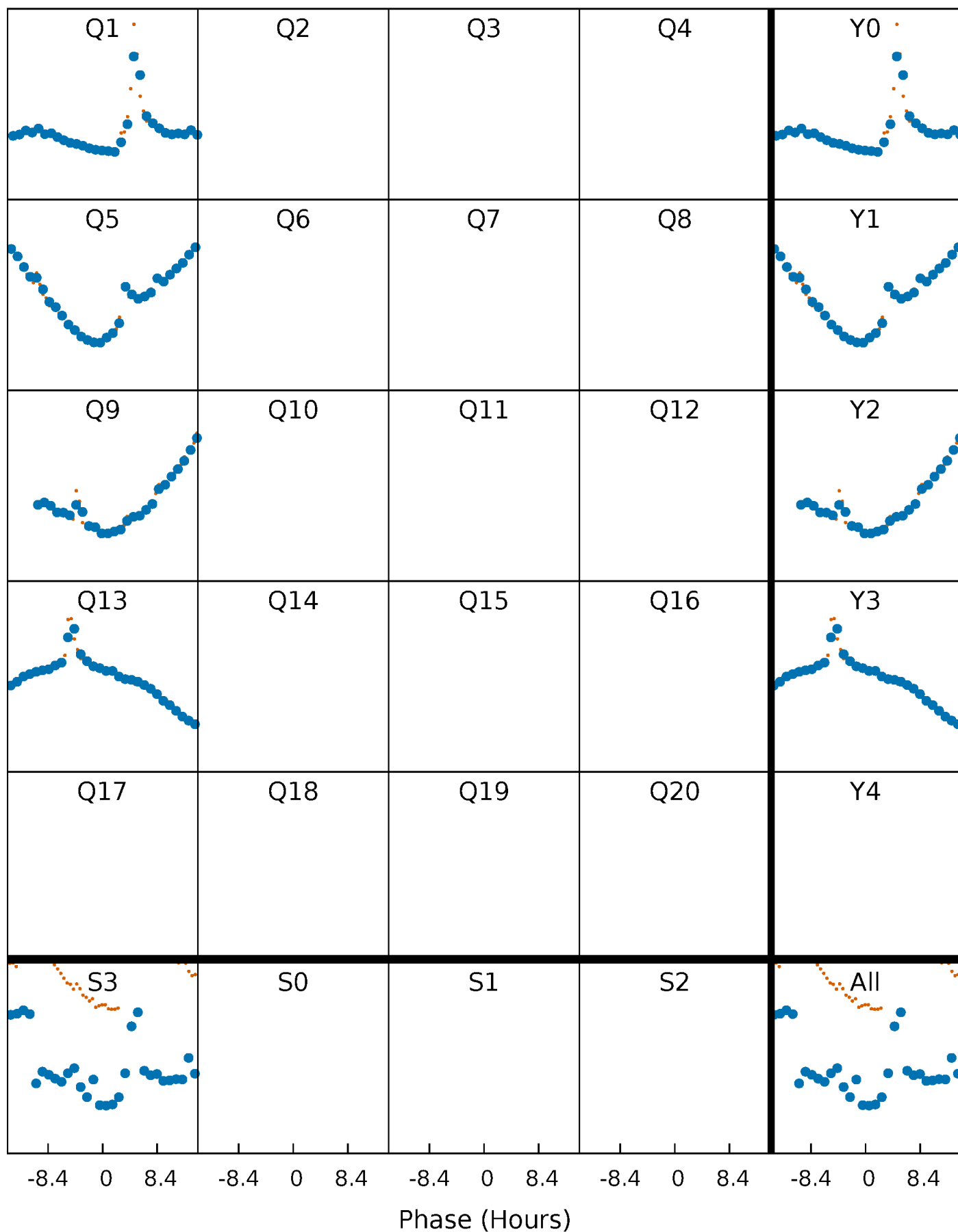


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



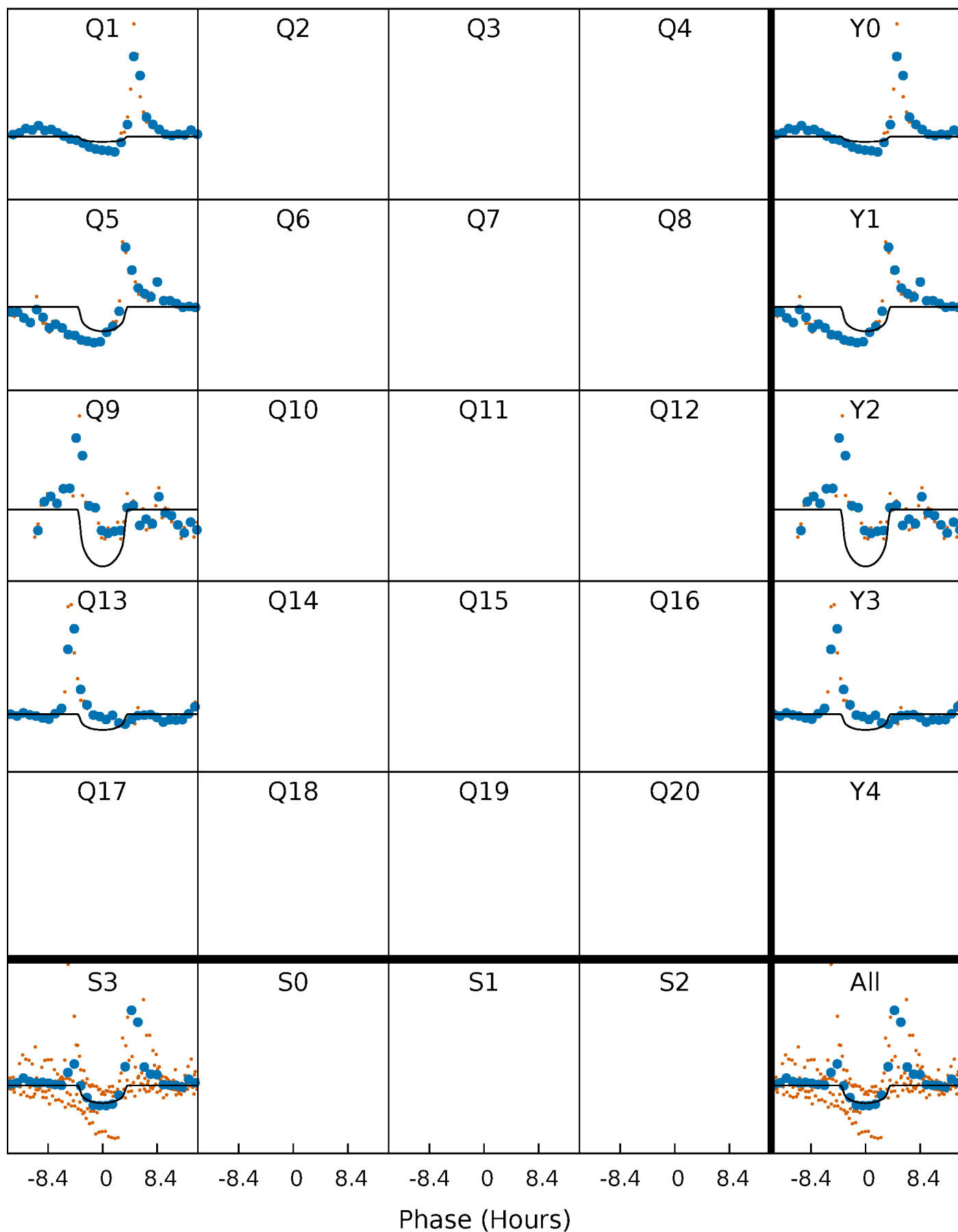
PDC Quarter-Phased Transit Curves

TCE 007551695-02 $P=364.669435$ Days $T_0=158.672149$ (BKJD)



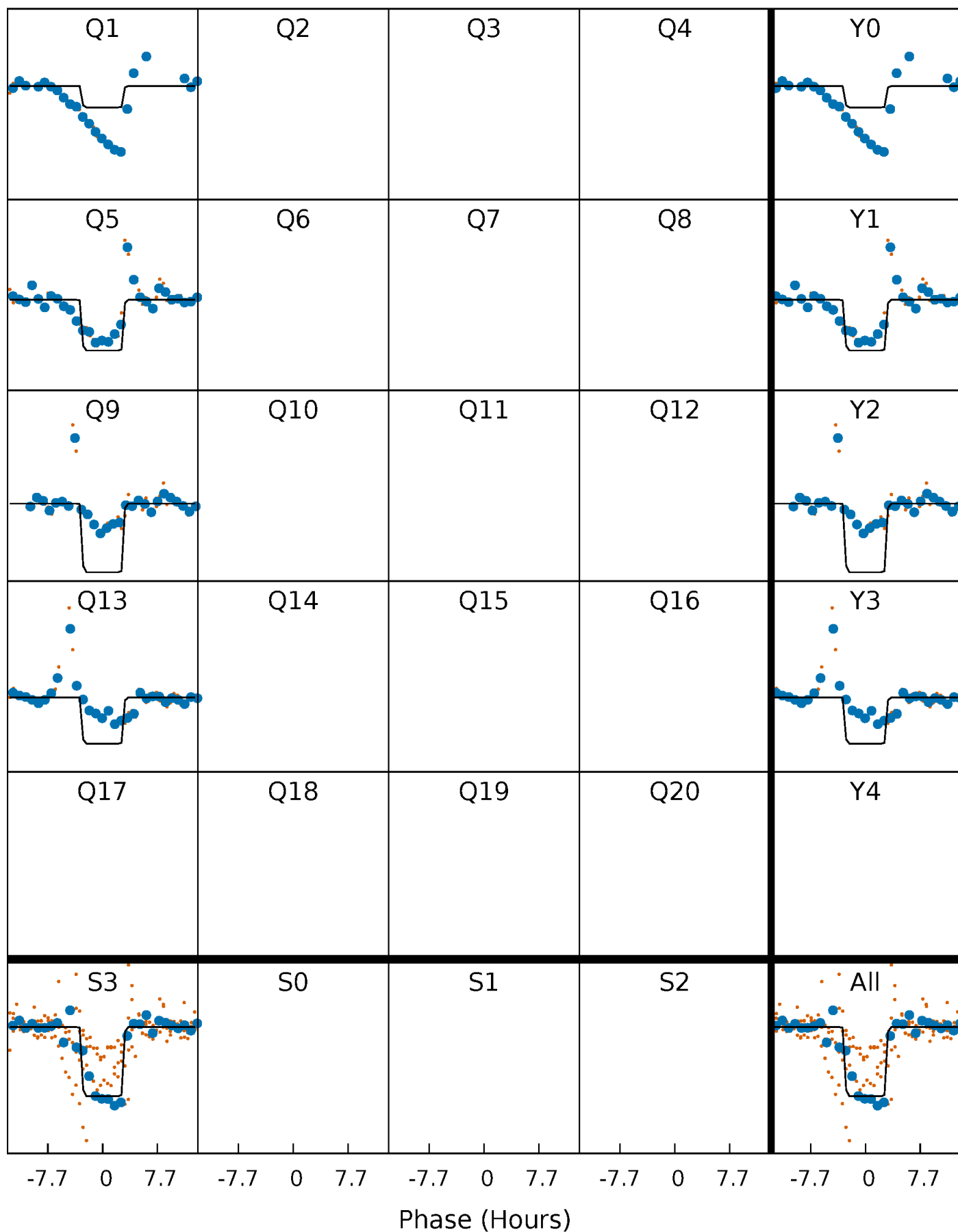
DV Quarter-Phased Transit Curves

TCE 007551695-02 $P=364.669435$ Days $T_0=158.672149$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

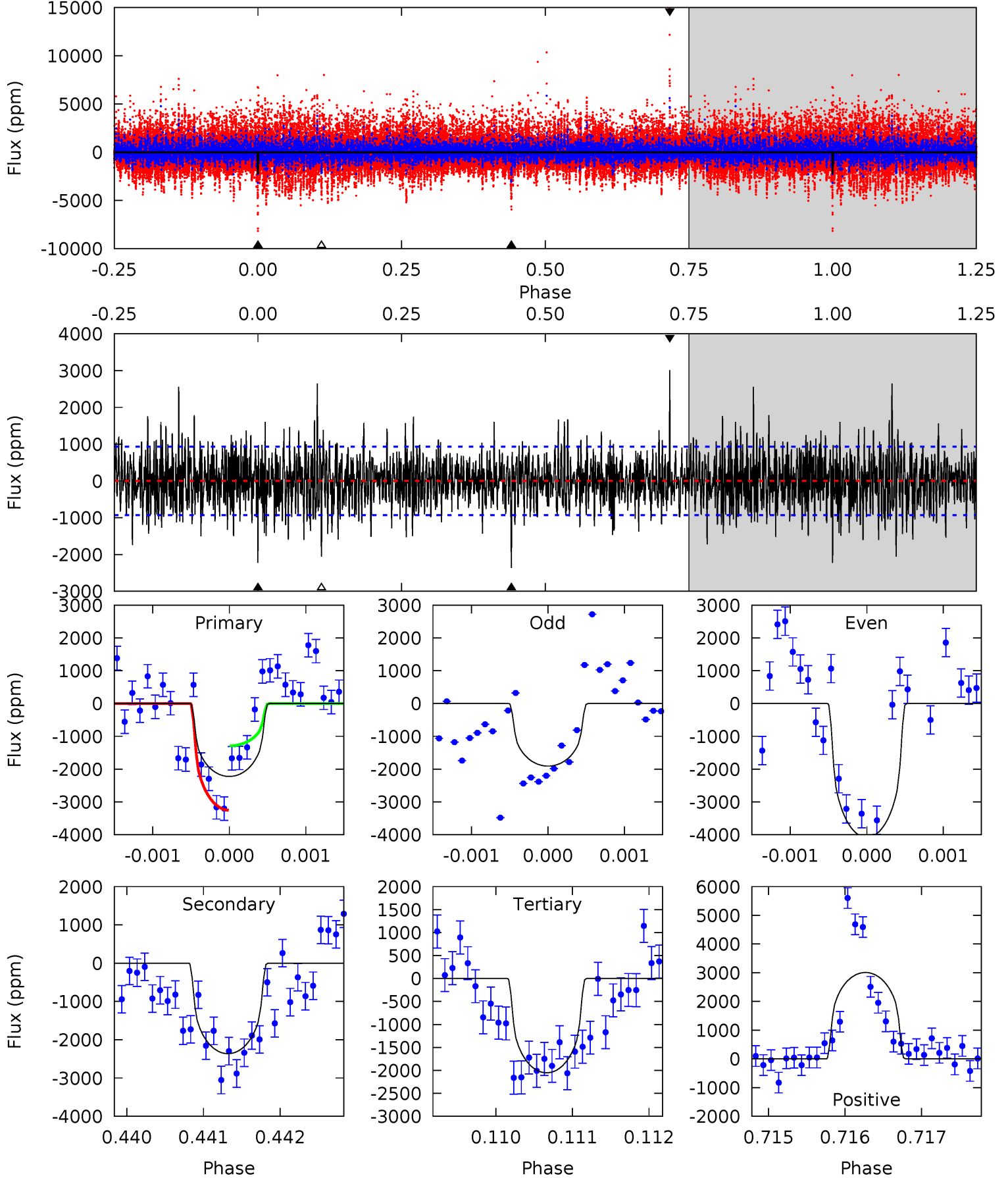
TCE 007551695-02 P=364.677745 Days $T_0=158.661304$ (BKJD)



DV Model-Shift Uniqueness Test

007551695-02, P = 364.669435 Days, E = 158.672149 Days

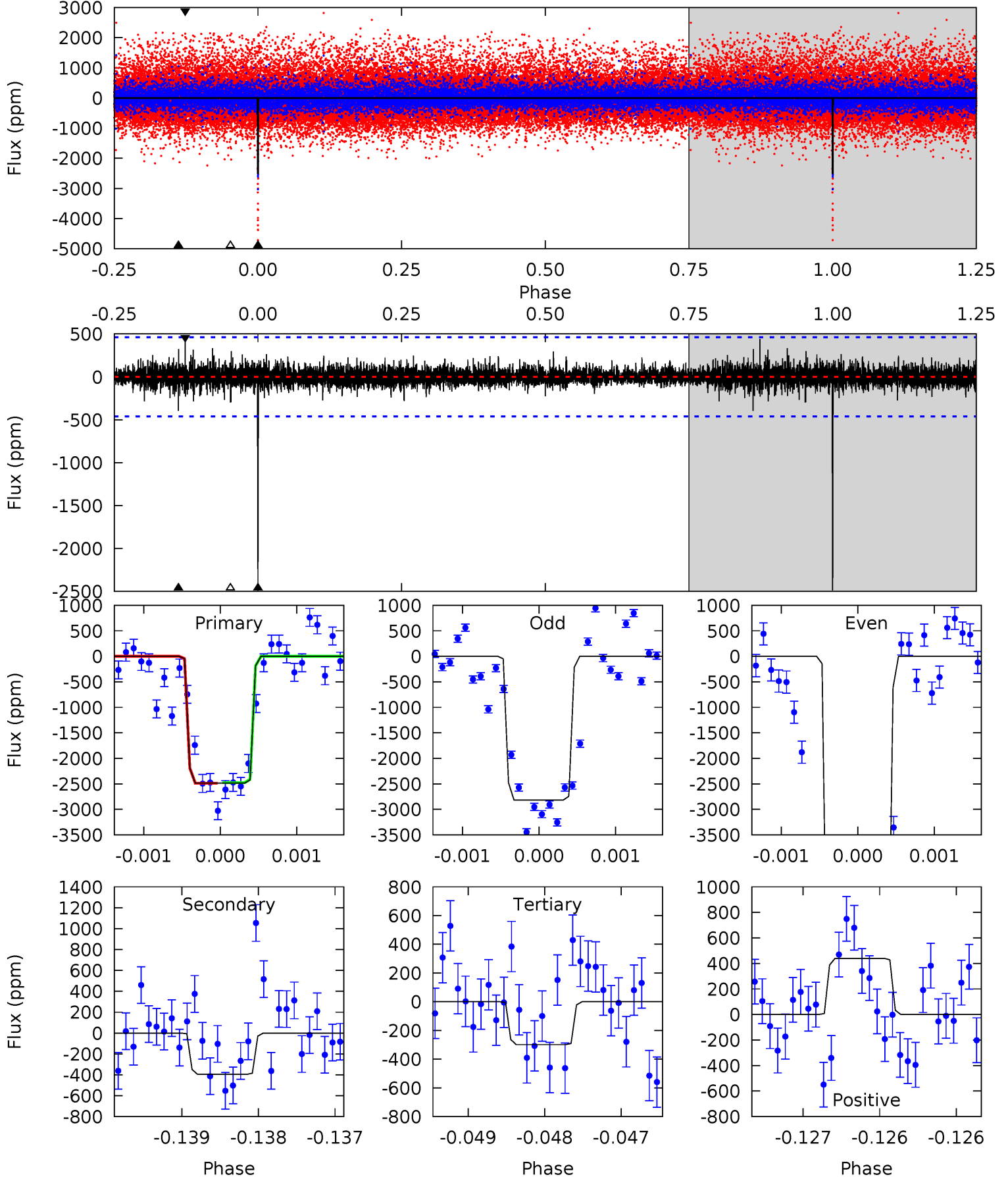
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.1	13.9	12.1	17.7	5.48	3.33	3.17	1.01	-4.62	1.84	-3.79	5.50	1.60	0.56	5.85



Alt Model-Shift Uniqueness Test

007551695-02, P = 364.677745 Days, E = 158.661304 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.7	4.72	3.57	5.25	5.49	3.36	0.76	26.1	24.4	1.15	-0.53	35.2	1.77	0.15	0.06



Stellar Parameters For KIC 007551695

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4194^{+131}_{-146}	$4.615^{+0.053}_{-0.018}$	$0.160^{+0.250}_{-0.300}$	$0.660^{+0.032}_{-0.059}$	$0.655^{+0.050}_{-0.055}$	$3.209^{+0.788}_{-0.254}$
	+3%/-3%	+1%/-0%	+156%/-188%	+5%/-9%	+8%/-8%	+25%/-8%
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 007551695-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2364 ± 170	$3.62^{+2.61}_{-2.02}$	224^{+8}_{-9}	4102^{+1675}_{-686}	$72211^{+303701}_{-46507}$
Alt.	-395 ± 84	$5.43^{+2.75}_{-2.67}$	224^{+8}_{-9}	2767^{+601}_{-297}	5670^{+15502}_{-3311}

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

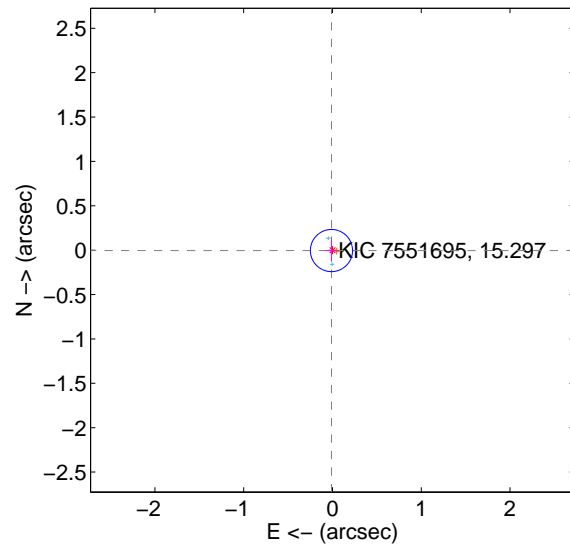
Supplemental centroid analysis for 007551695-02. Kepler magnitude: 15.30. Transit SNR 8.04

There are 2 quarters with good PRF difference image offsets

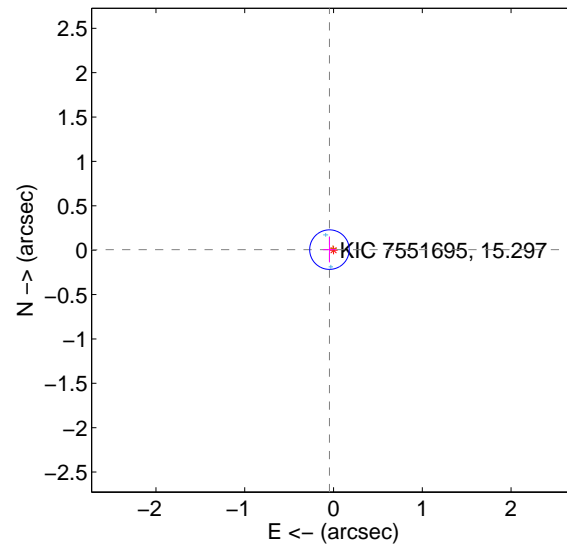
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.012 ± 0.079	0.15	0.011 ± 0.071	-0.004 ± 0.123
PRF-fit source offset from KIC position	0.046 ± 0.074	0.62	0.046 ± 0.072	0.006 ± 0.144
photometric centroid source offset	0.67 ± 0.53	1.25	0.35 ± 0.44	0.57 ± 0.57

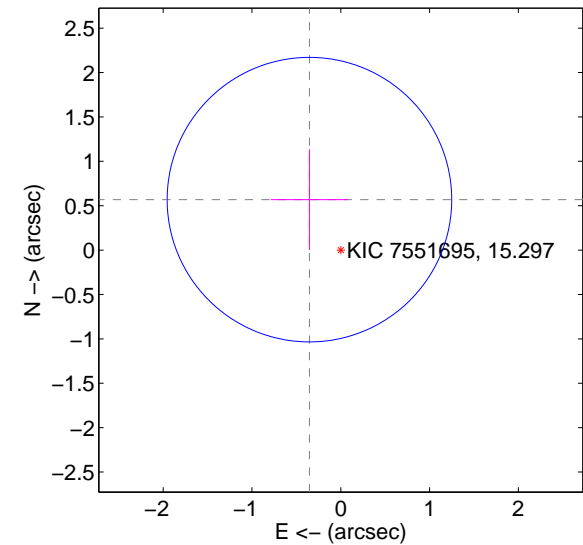
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

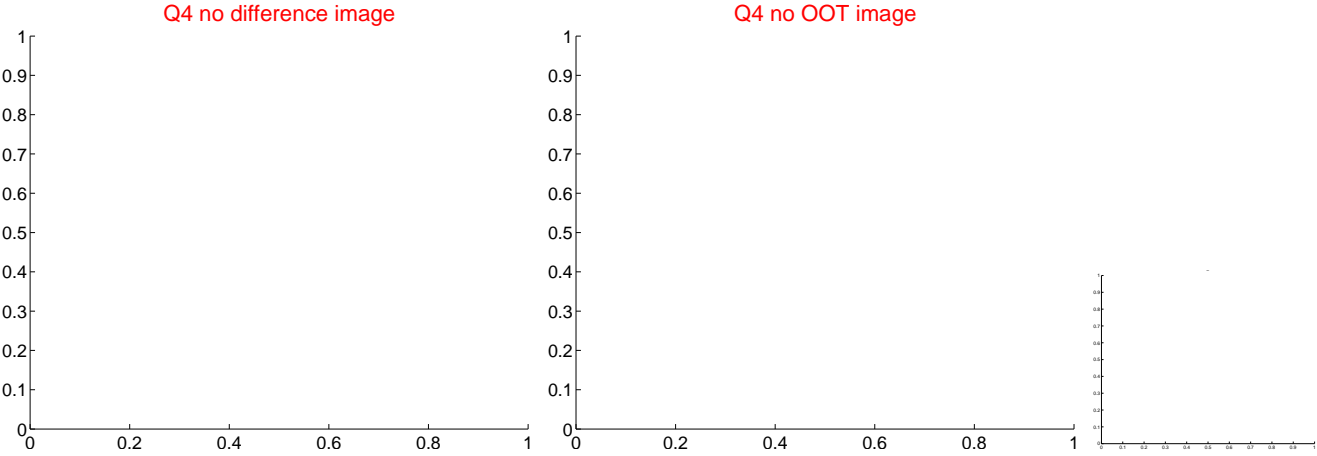
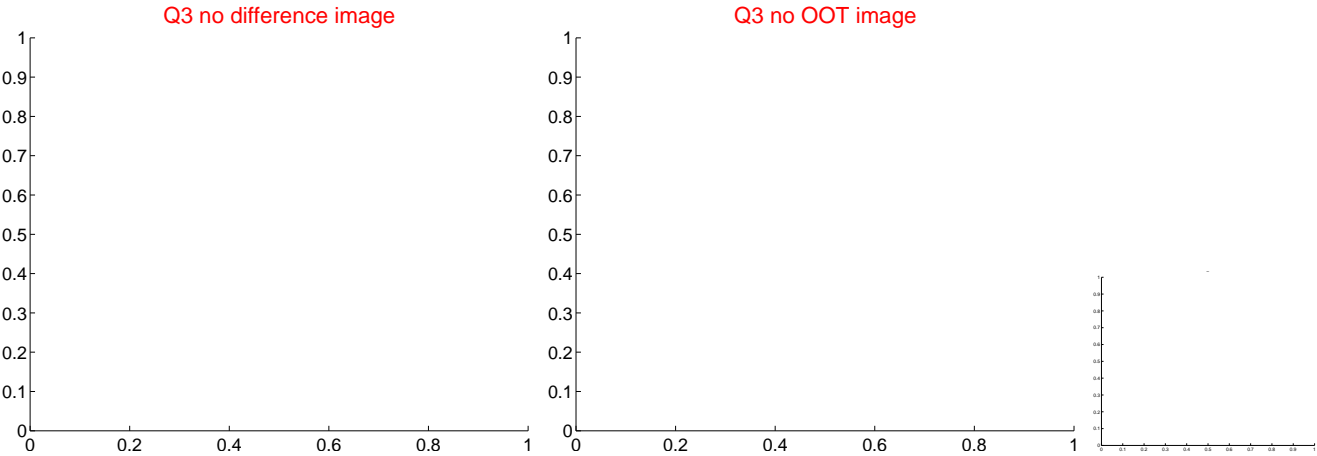
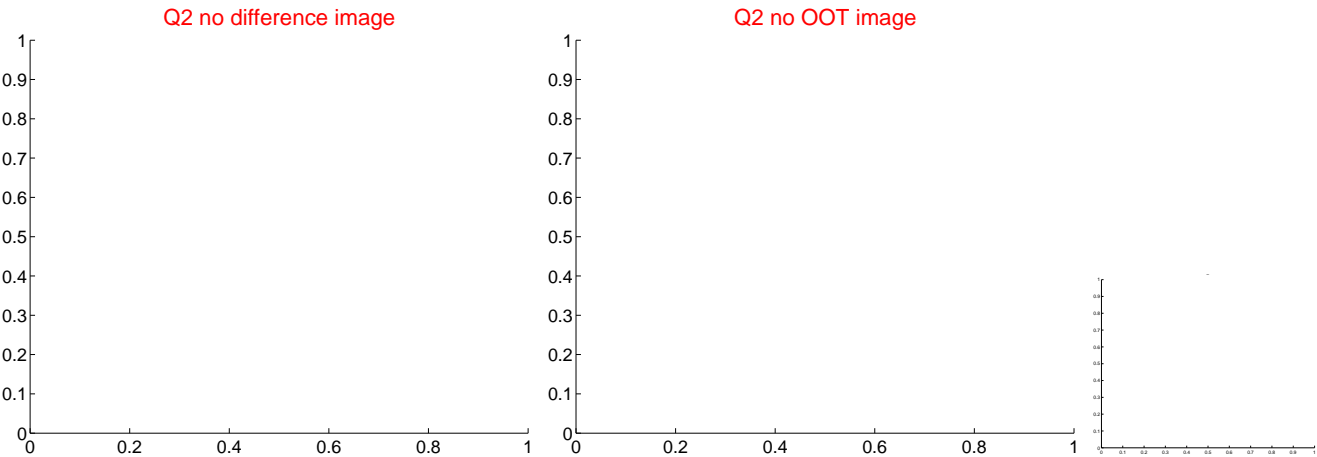
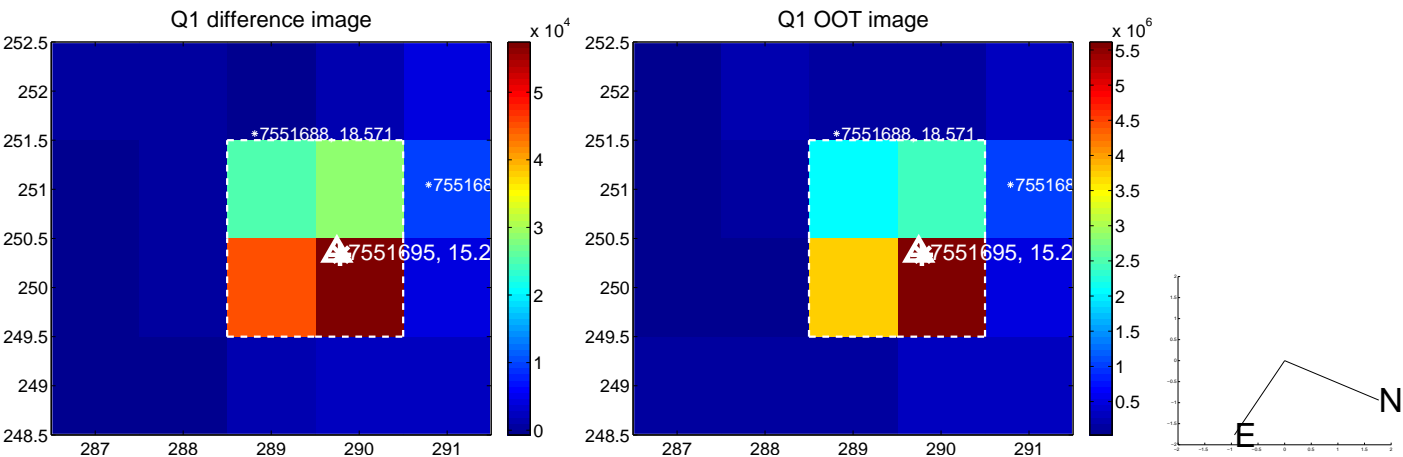


offset from photometric centroids

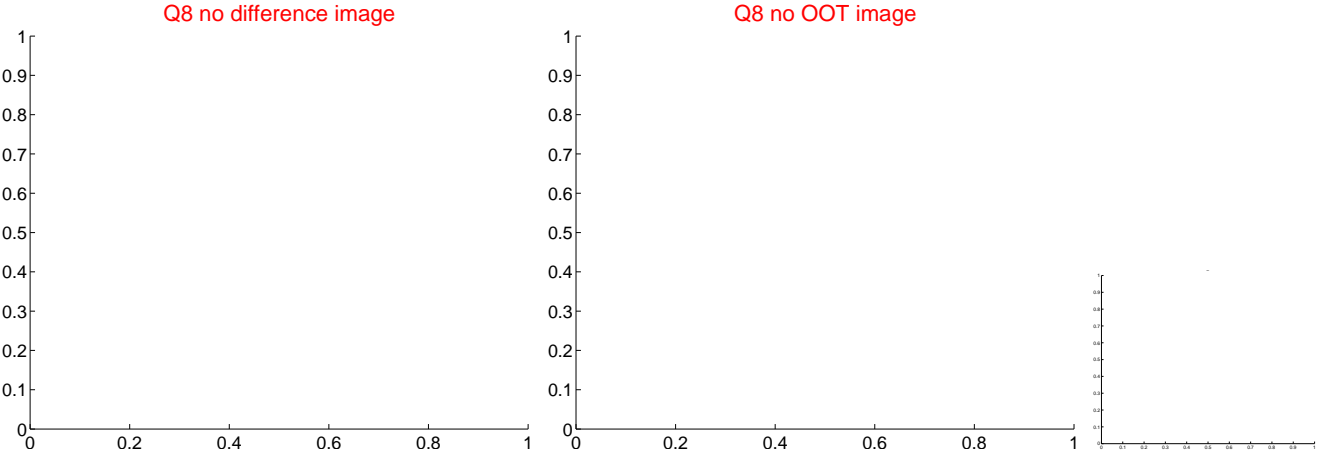
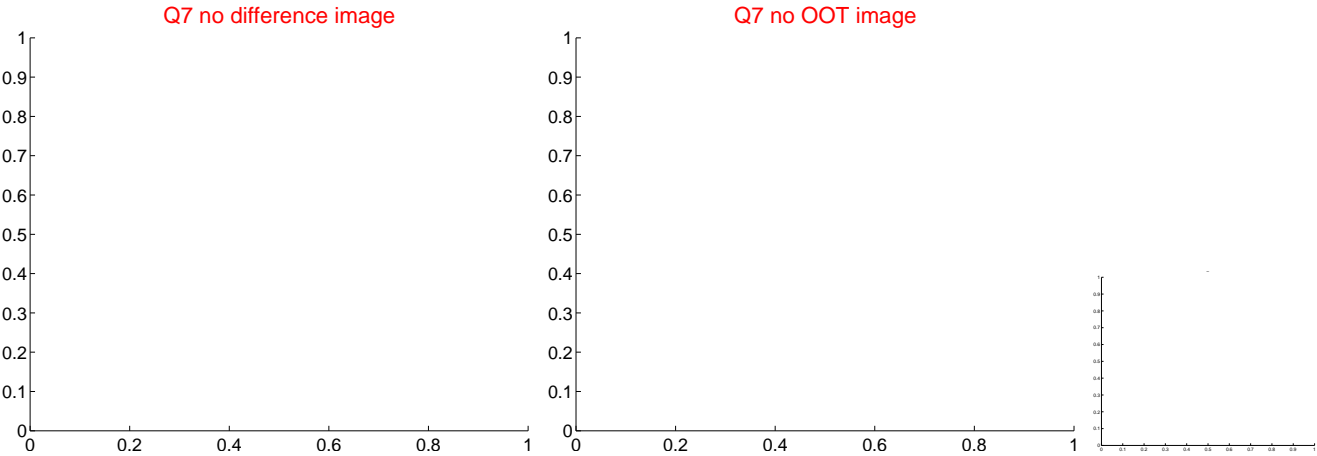
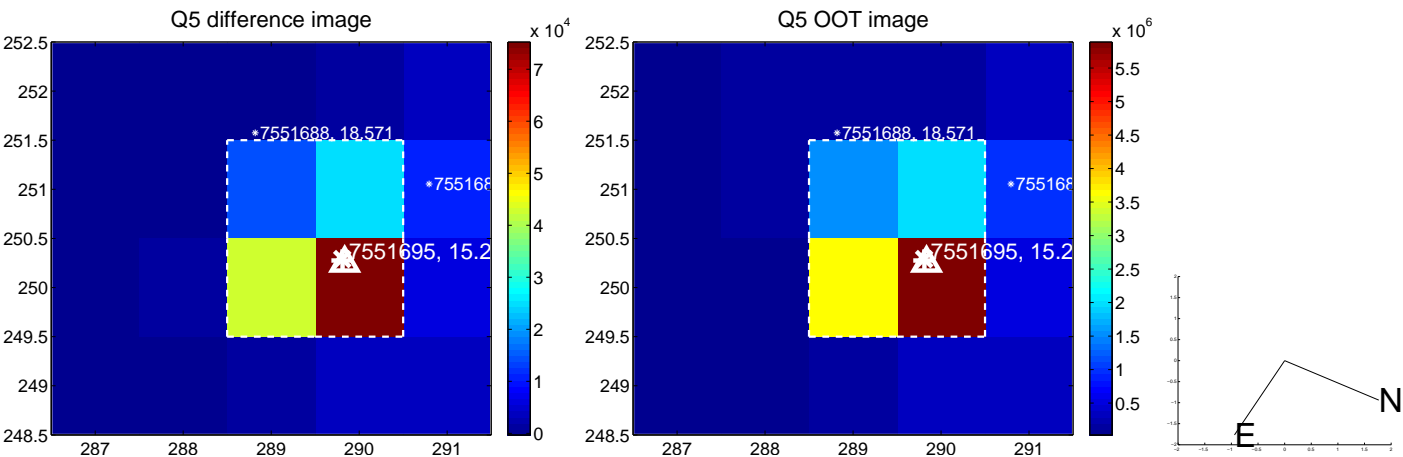


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

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



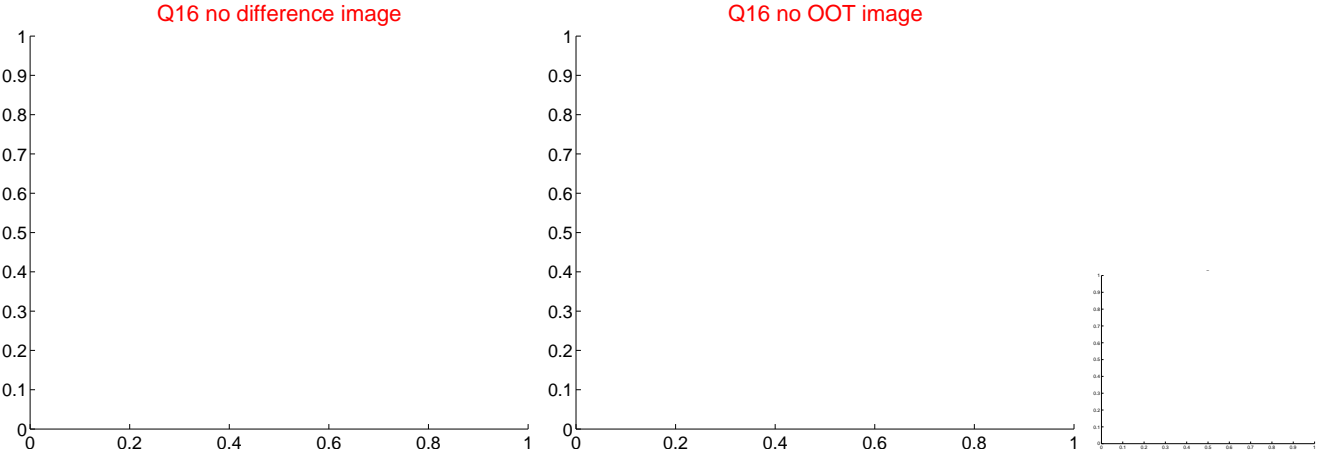
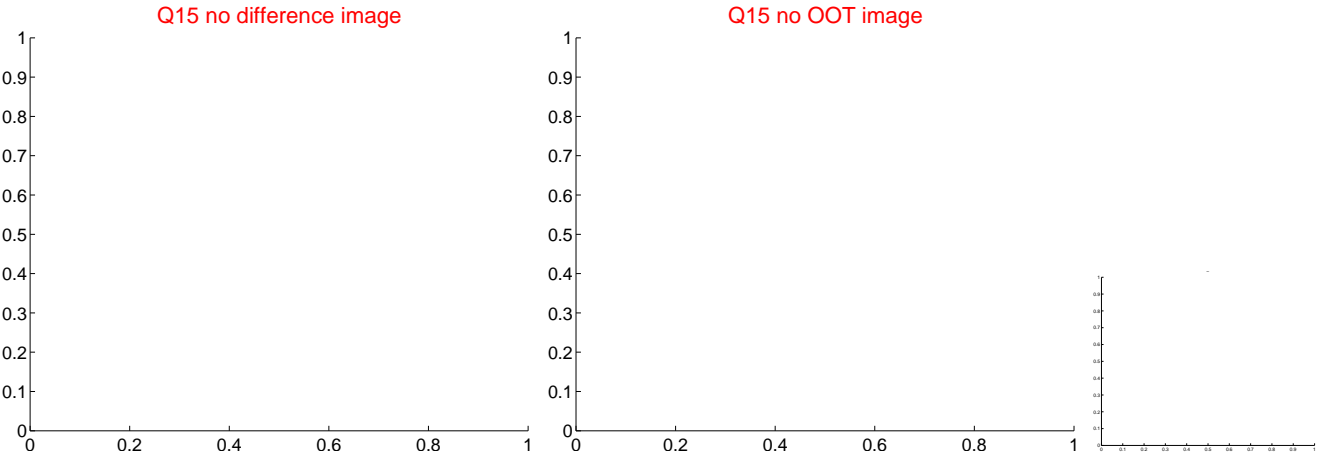
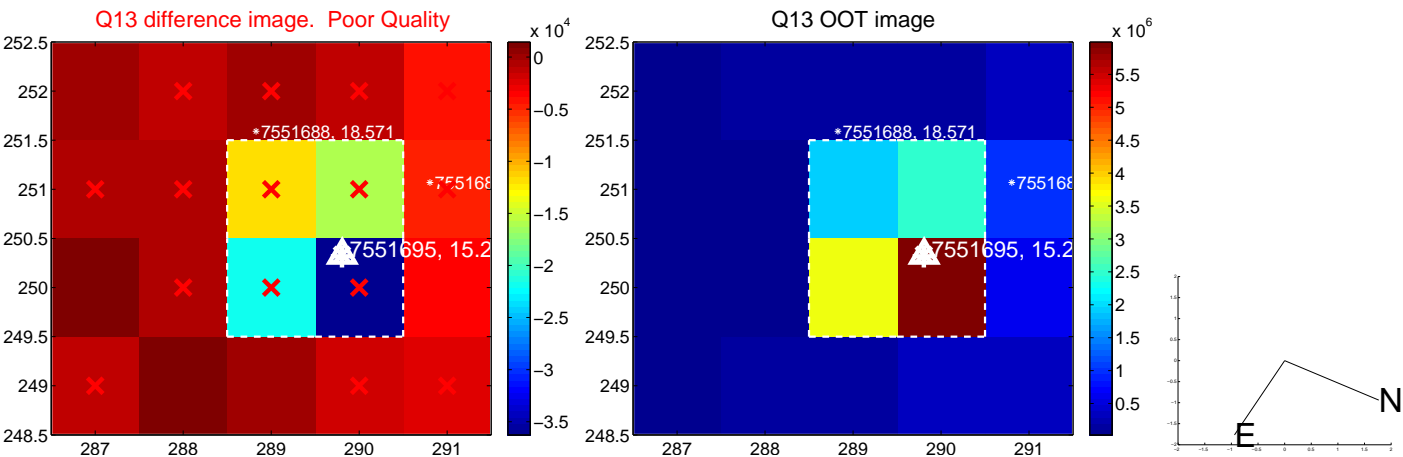
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



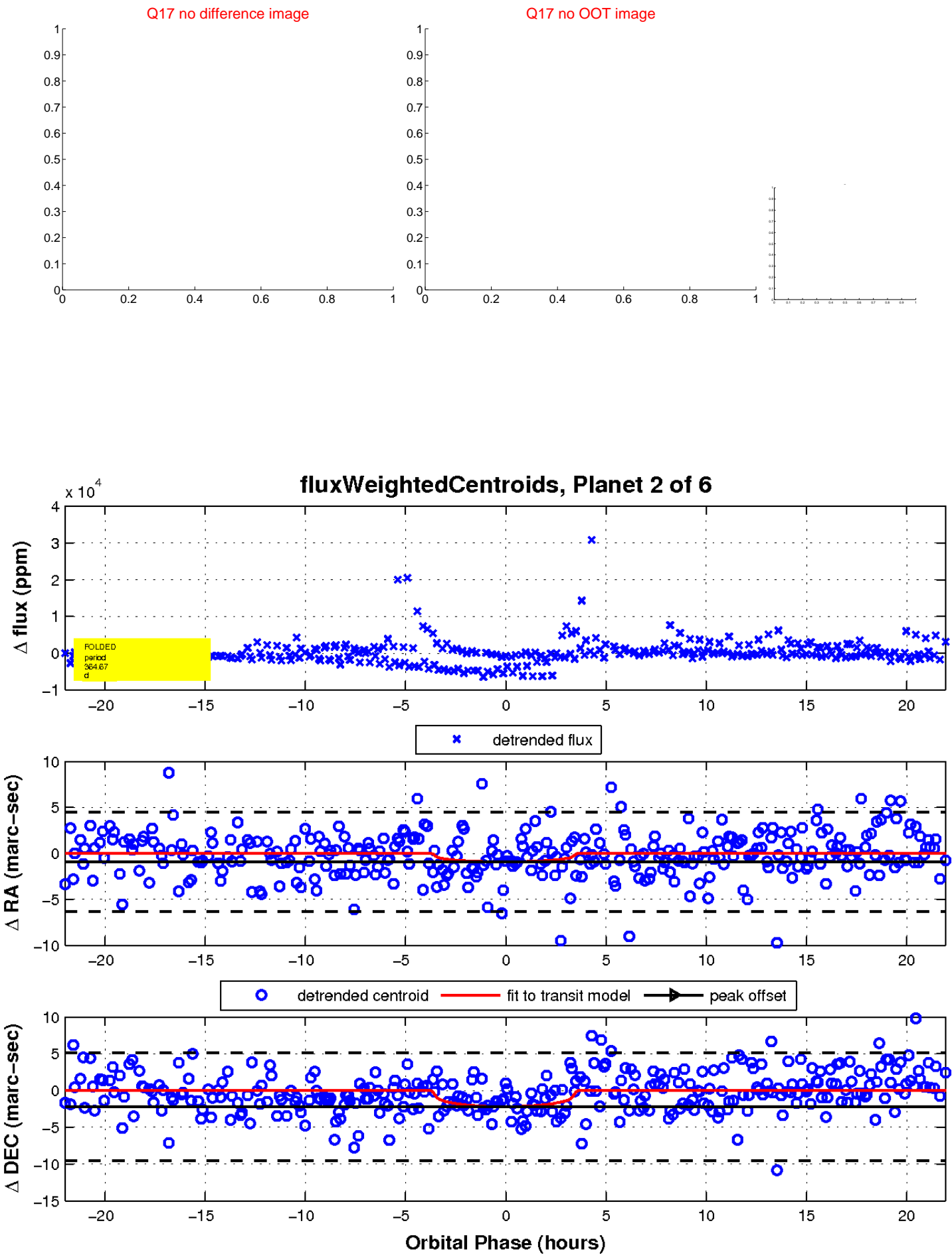
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

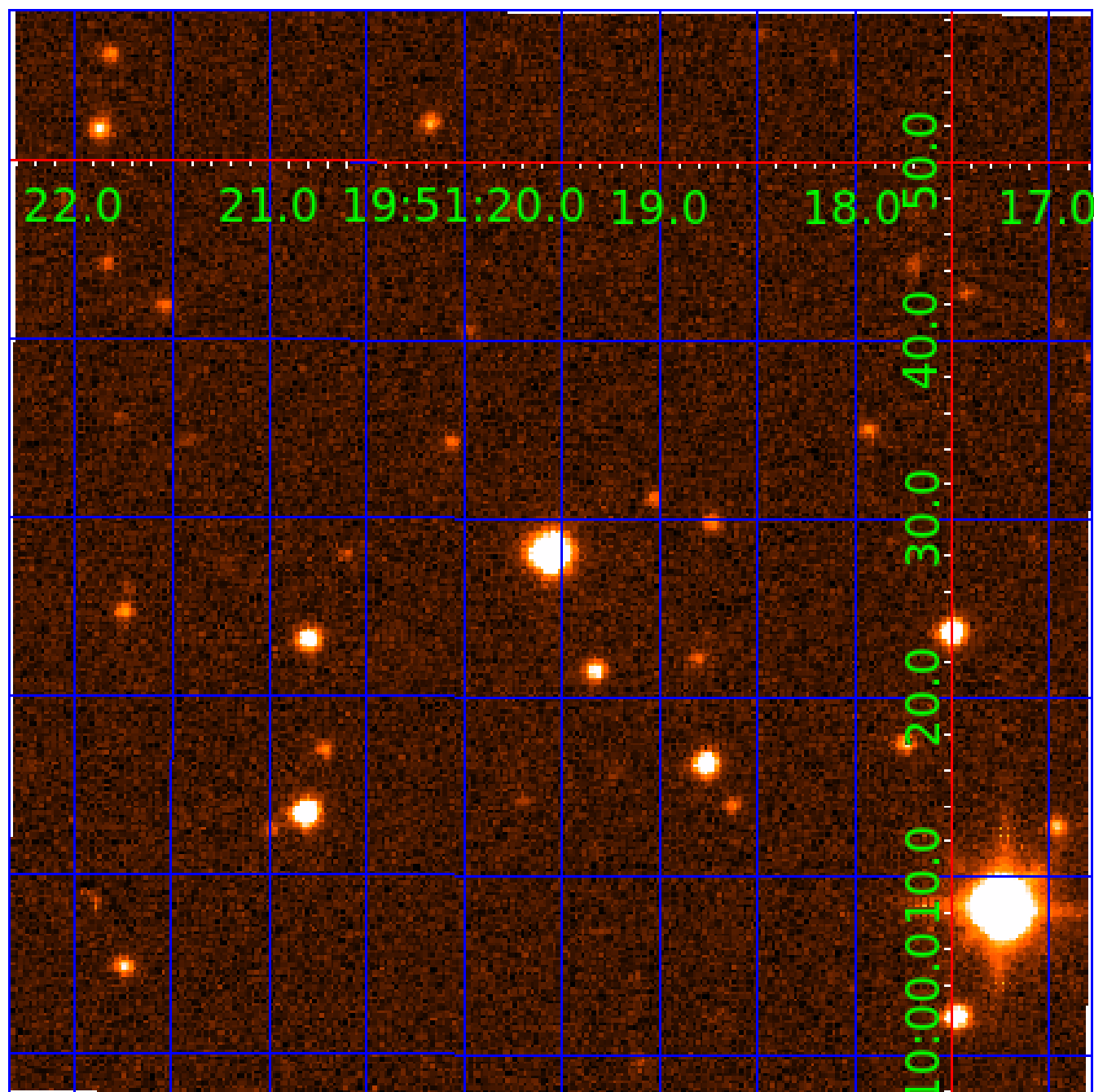


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007551695

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})
007551695-01	OBS	No	543.692197	254.312675	3521.7	11.242	15.0	7.6	0.66	4194	3.87	0.09
007551695-02	OBS	No	364.669435	158.672149	2977.6	7.346	14.9	8.0	0.66	4194	3.44	0.16
007551695-03	OBS	No	519.531116	469.552453	1675.8	6.617	15.9	5.1	0.66	4194	3.13	0.10
007551695-04	OBS	No	281.564738	216.052794	1133.2	3.025	14.4	4.3	0.66	4194	2.48	0.23
007551695-05	OBS	No	377.760457	472.885484	1806.5	4.906	14.2	5.9	0.66	4194	3.25	0.15
007551695-06	OBS	No	403.160950	214.450814	1393.5	7.500	12.9	-1.0	0.66	4194	2.36	0.14

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007551695-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007551695-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
007551695-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007551695-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007551695-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007551695-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

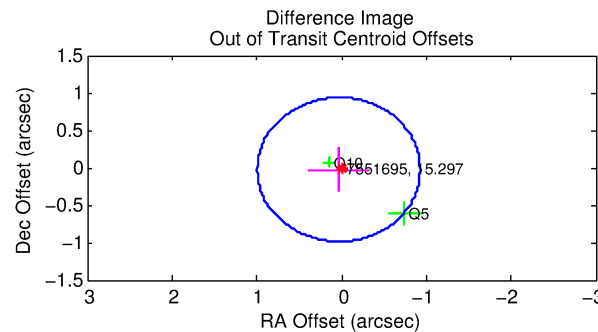
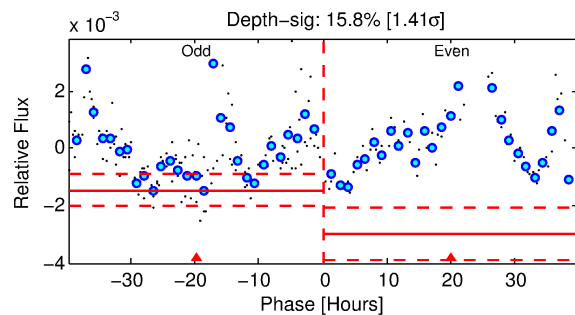
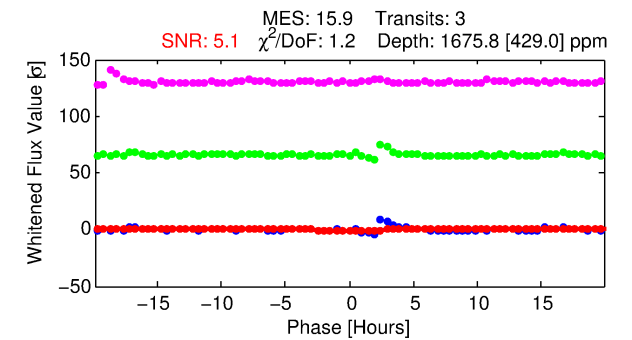
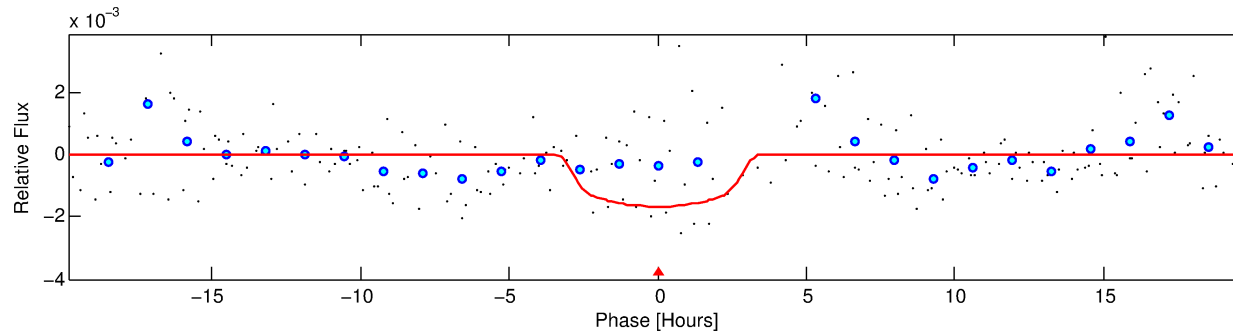
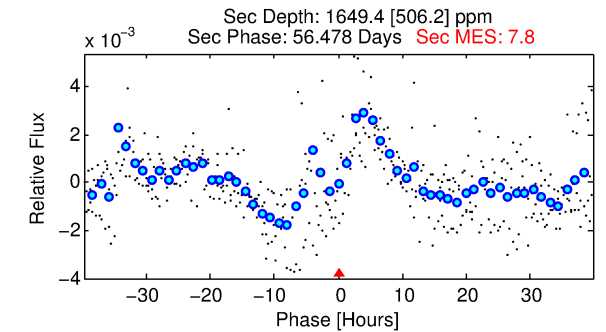
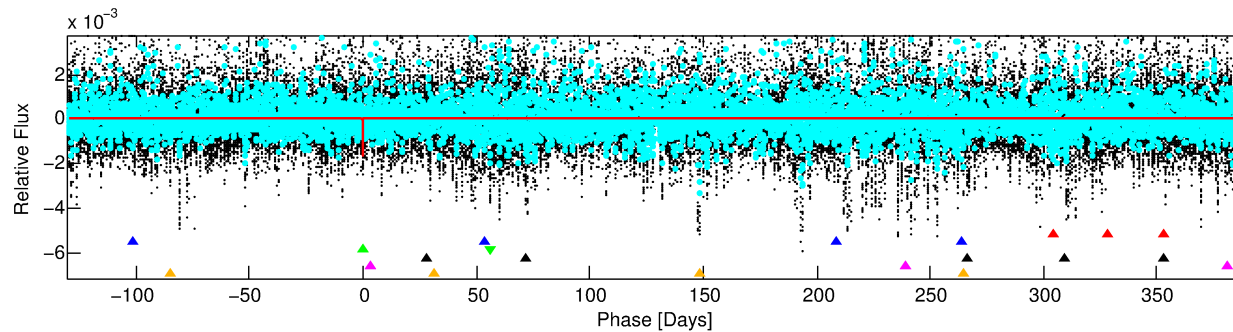
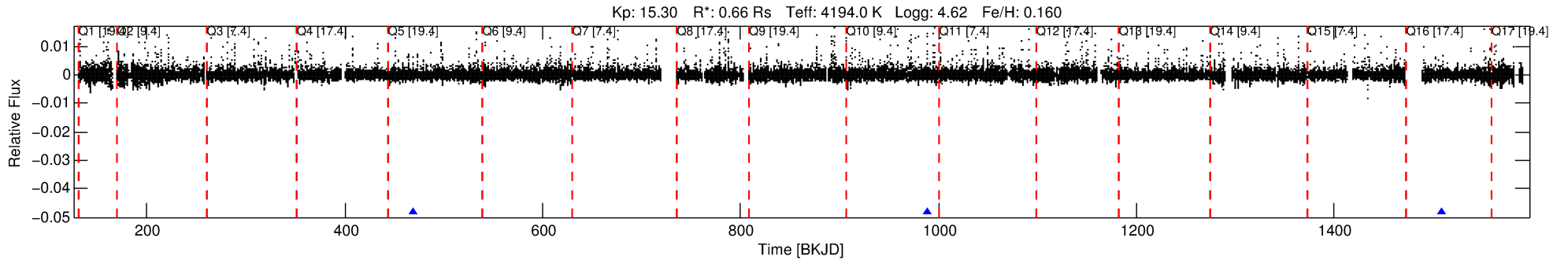
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007551695-03

No Significant Match Found

DV One-Page Summary

KIC: 7551695 Candidate: 3 of 6 Period: 519.531 d



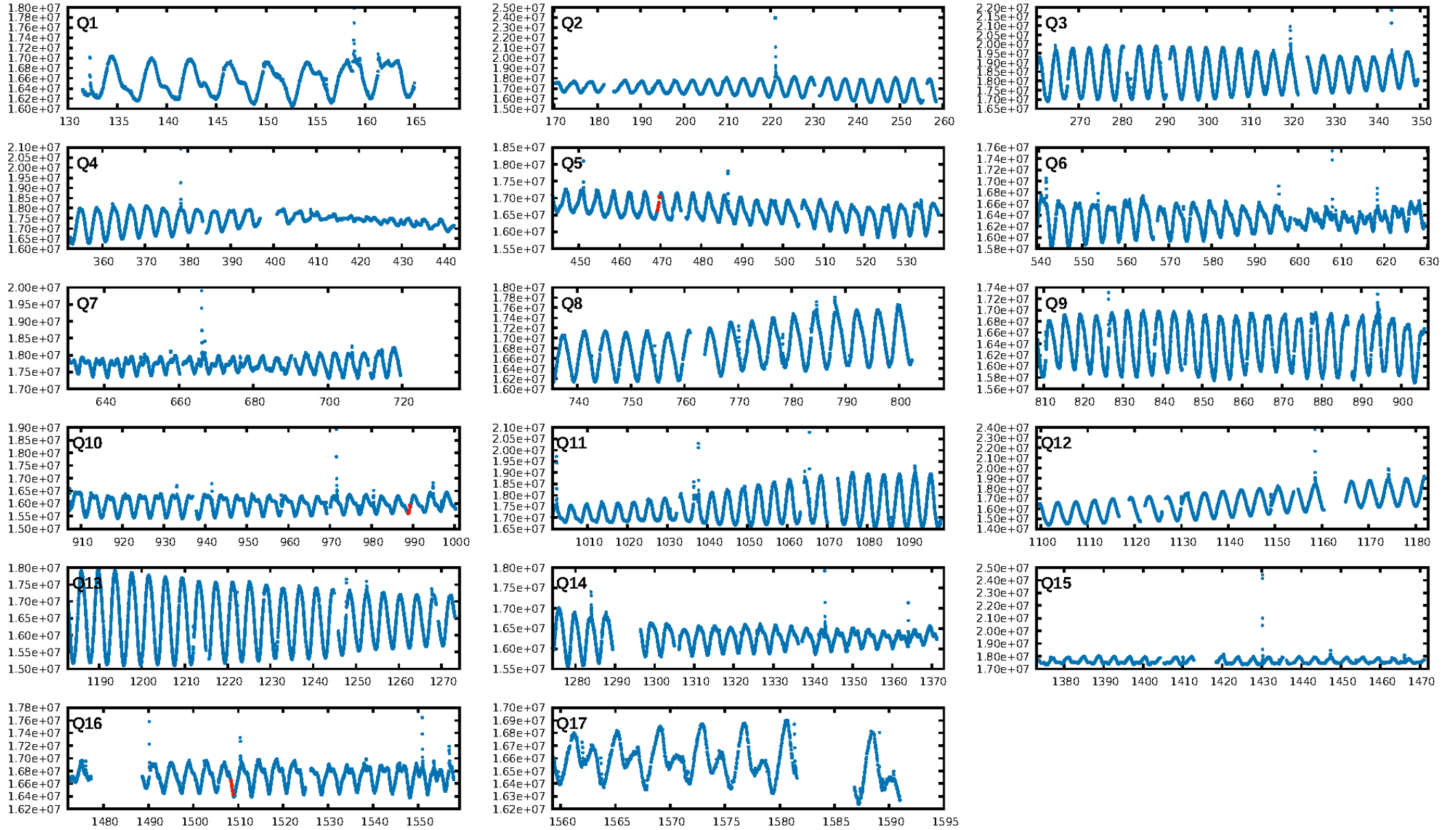
DV Fit Results:

Period = 519.53112 [0.00966] d
Epoch = 469.5525 [0.0129] BKJD
Rp/R* = 0.0435 [0.0103]
a/R* = 371.83 [223.09]
b = 0.84 [0.21]
Seff = 0.10 [0.02]
Teq = 143 [6] K
Rp = 3.13 [0.79] Re
a = 1.0985 [0.0793] AU
Ag = 111642.20 [63928.72] [1.75σ]
Teffp = 4053 [588] K [6.65σ]

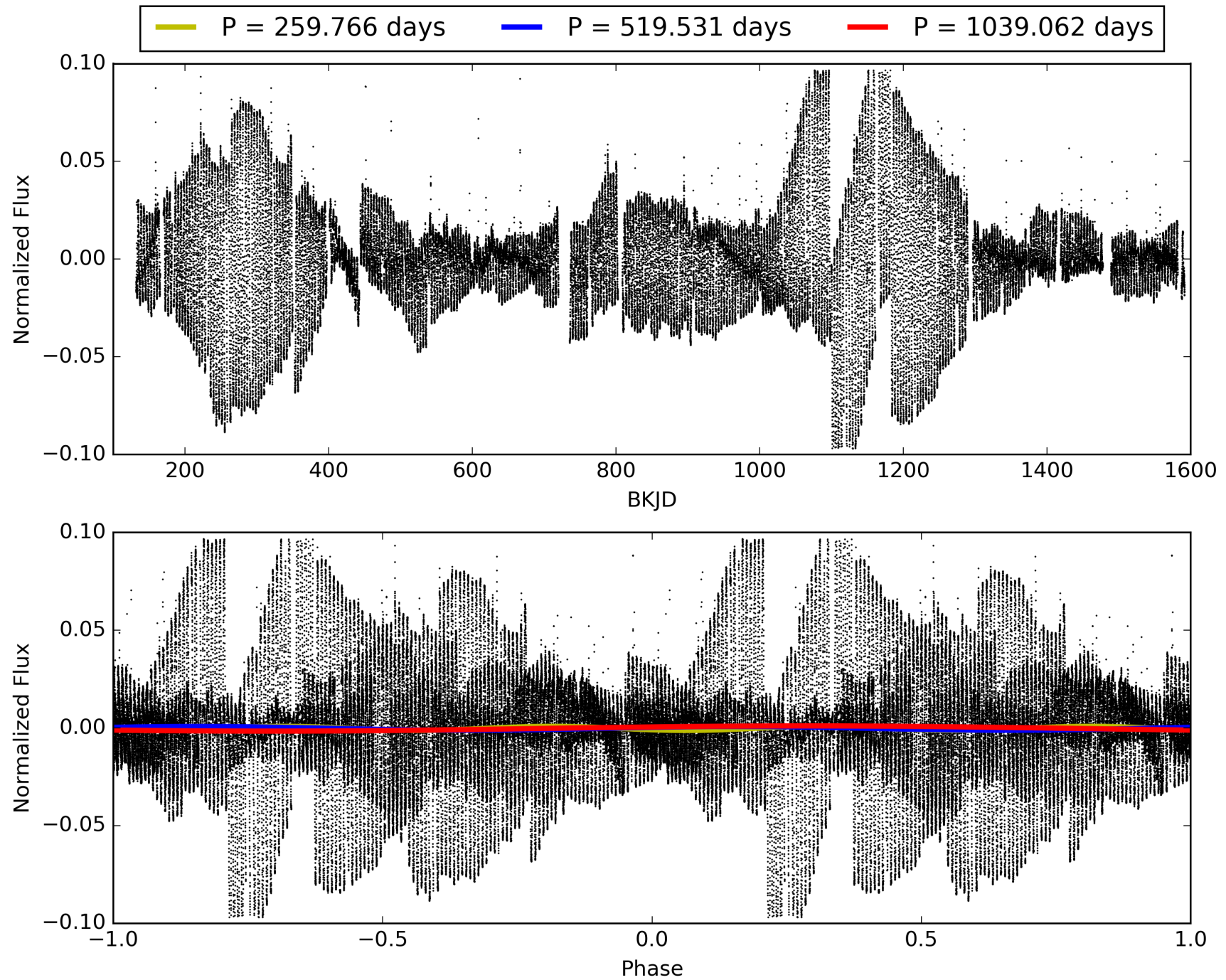
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [279.24σ]
LongPeriod-sig: 100.0% [44.45σ]
ModelChiSquare2-sig: 1.8%
ModelChiSquareGof-sig: 96.3%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.018
Centroid-sig: 38.8%
Centroid-so: 0.820 arcsec [1.05σ]
OotOffset-rm: 0.042 arcsec [0.13σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-rm: 0.153 arcsec [0.42σ]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 007551695-03, PDC Light Curves

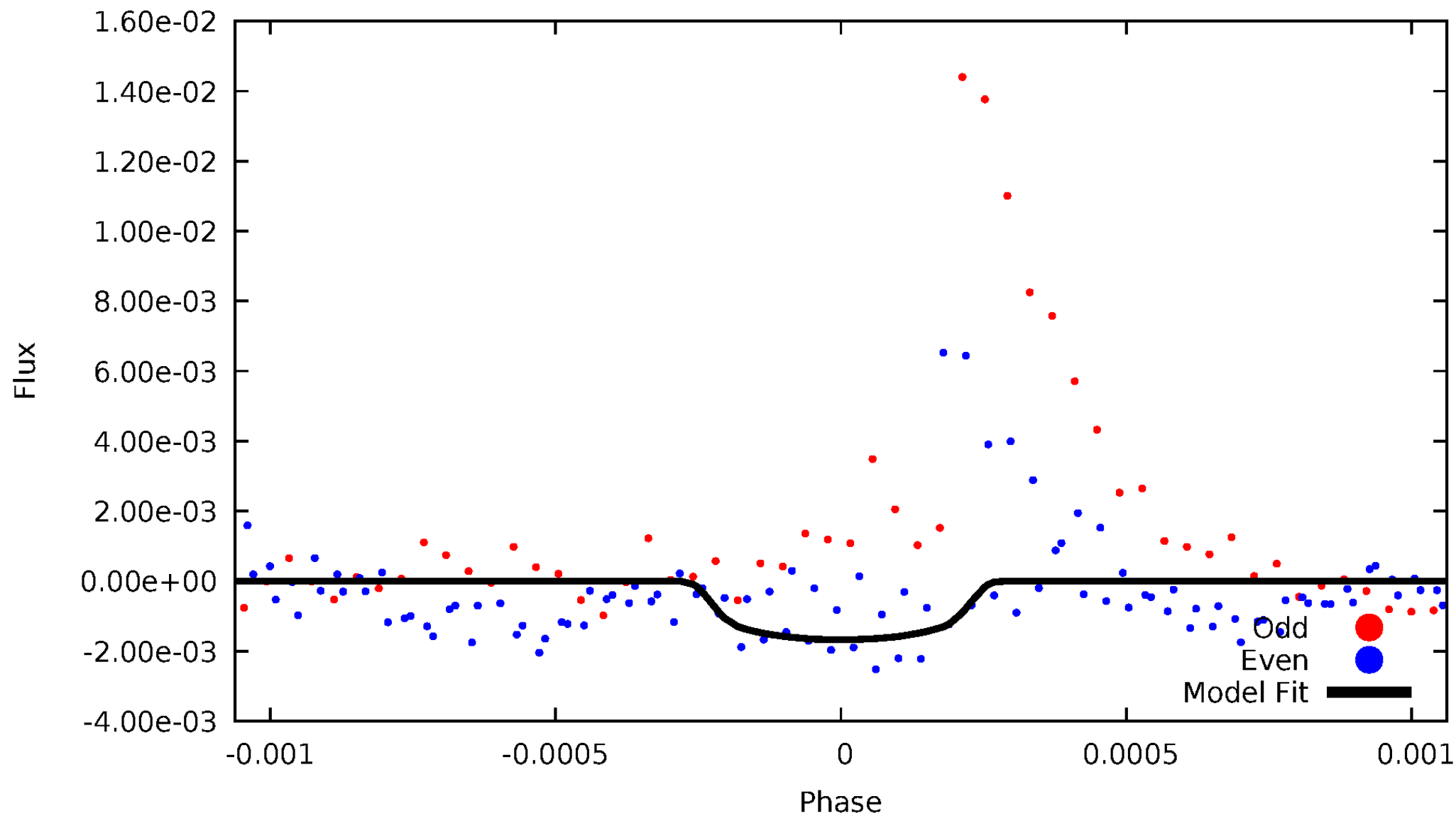


TCE 007551695-03



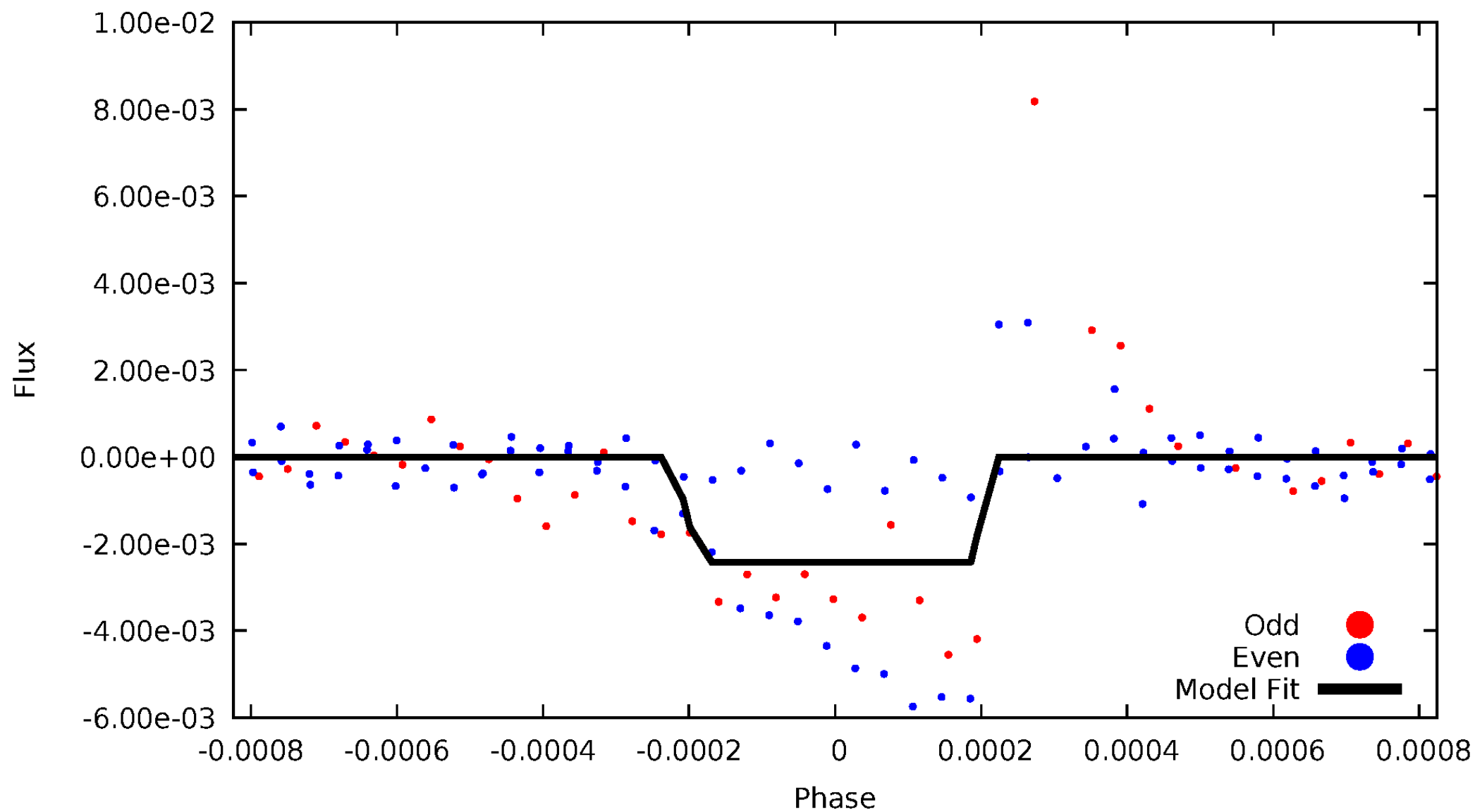
DV Odd/Even

TCE 007551695-03



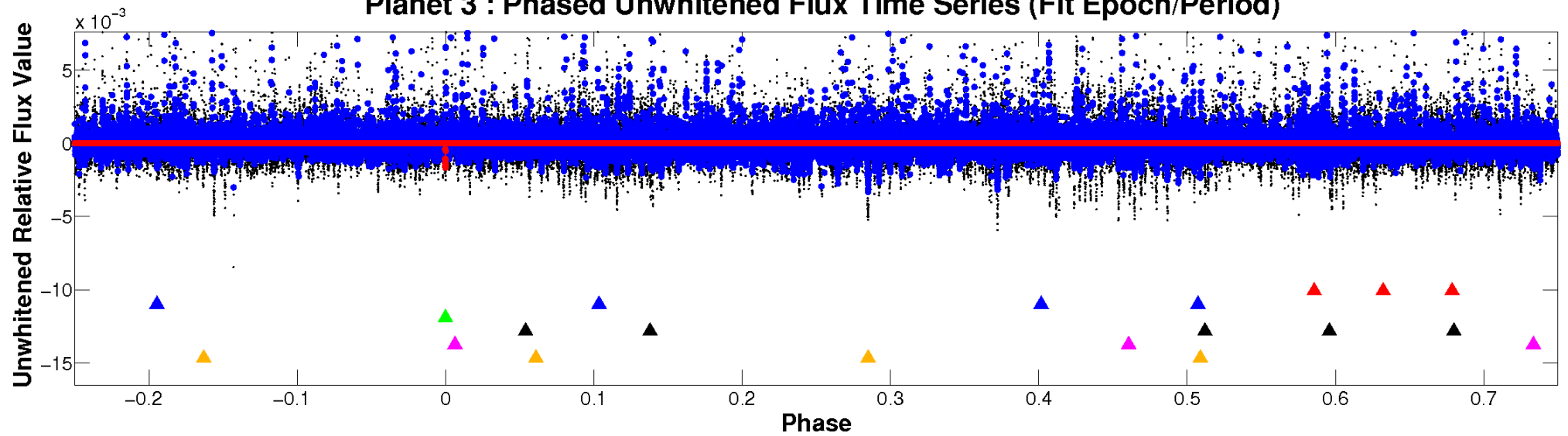
ALT Odd/Even

TCE 007551695-03

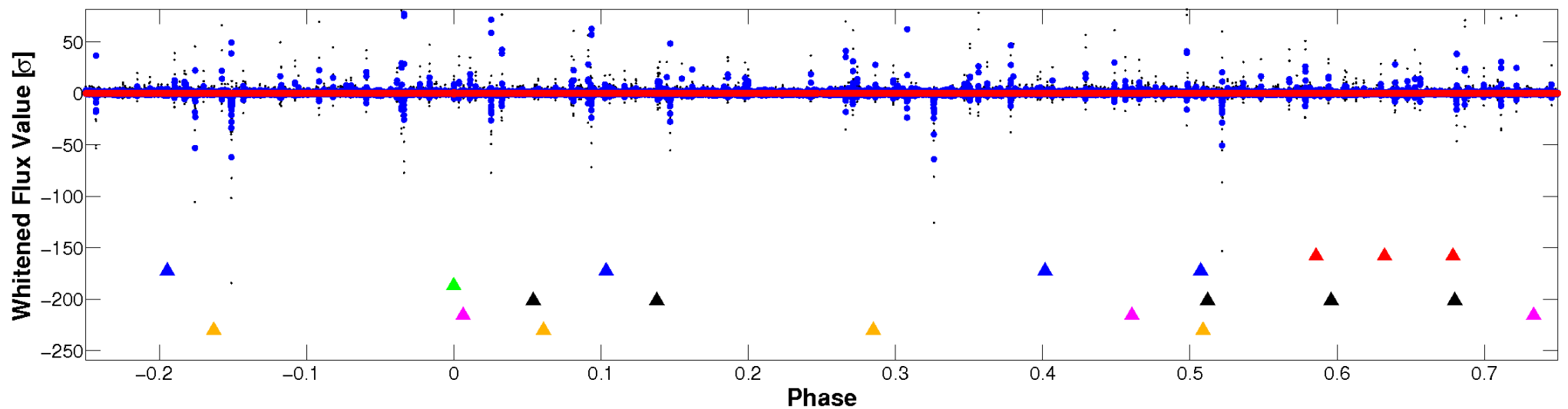


Non-Whitened Vs. Whitened Light Curve

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

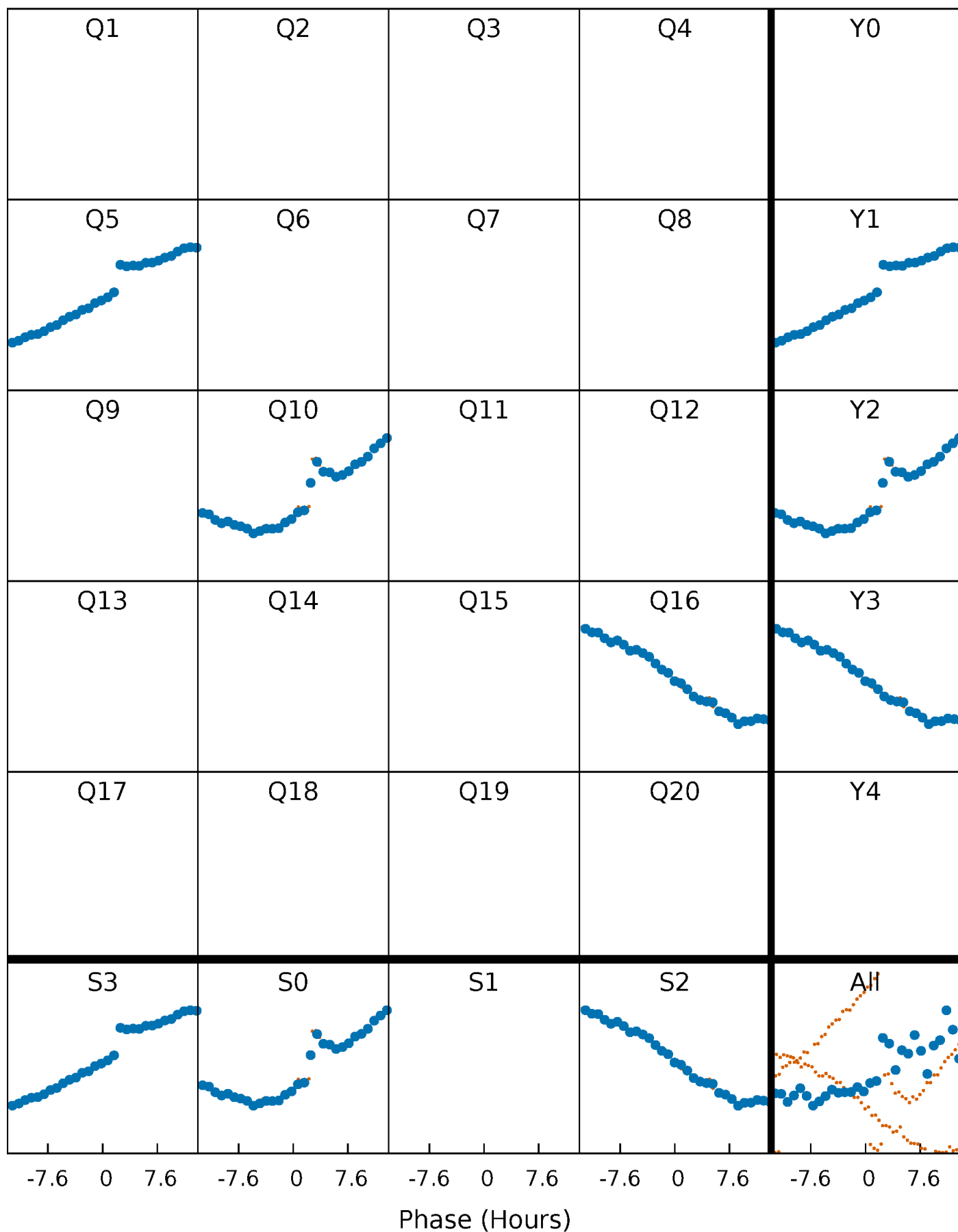


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



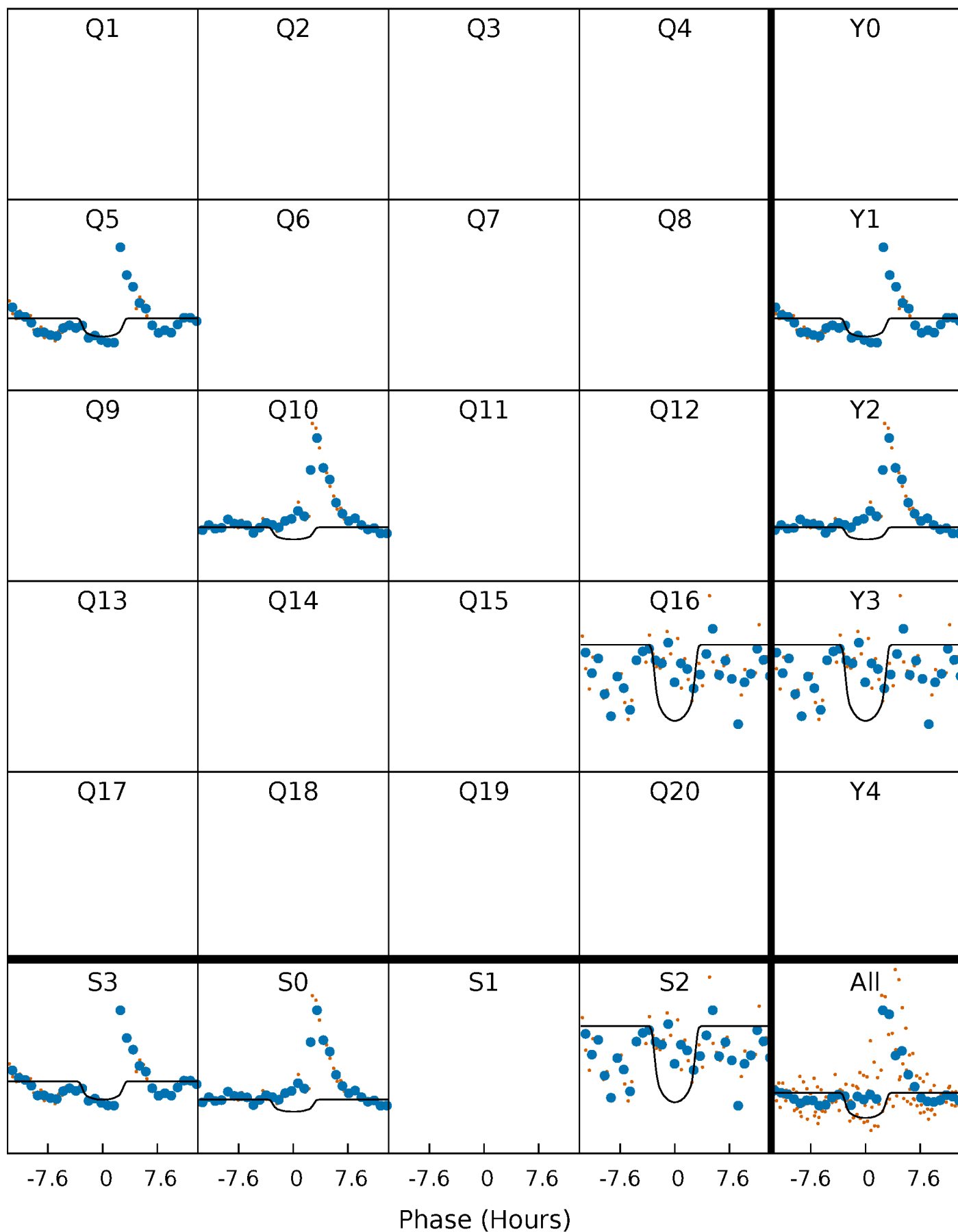
PDC Quarter-Phased Transit Curves

TCE 007551695-03 P=519.531116 Days $T_0=469.552454$ (BKJD)



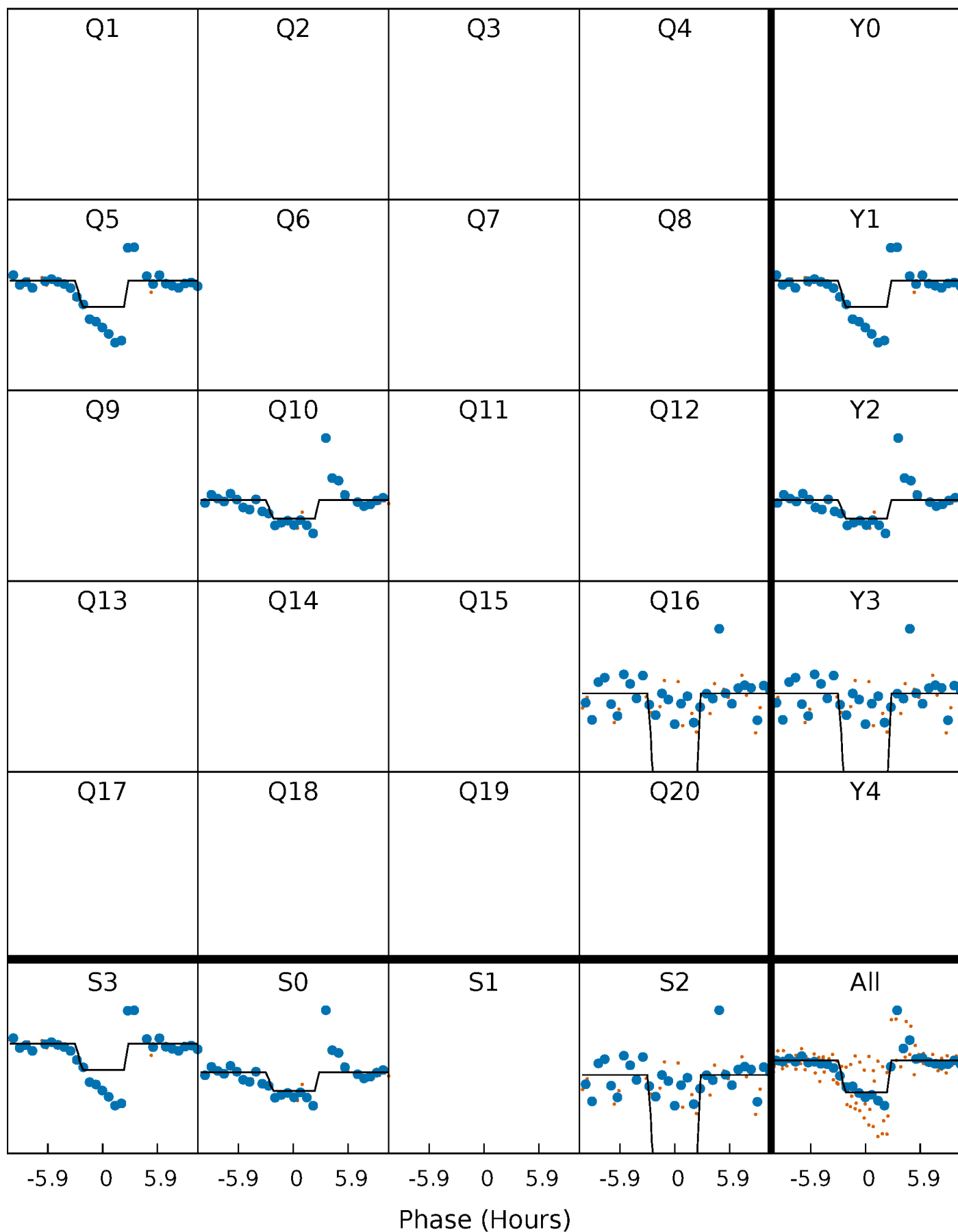
DV Quarter-Phased Transit Curves

TCE 007551695-03 $P=519.531116$ Days $T_0=469.552454$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

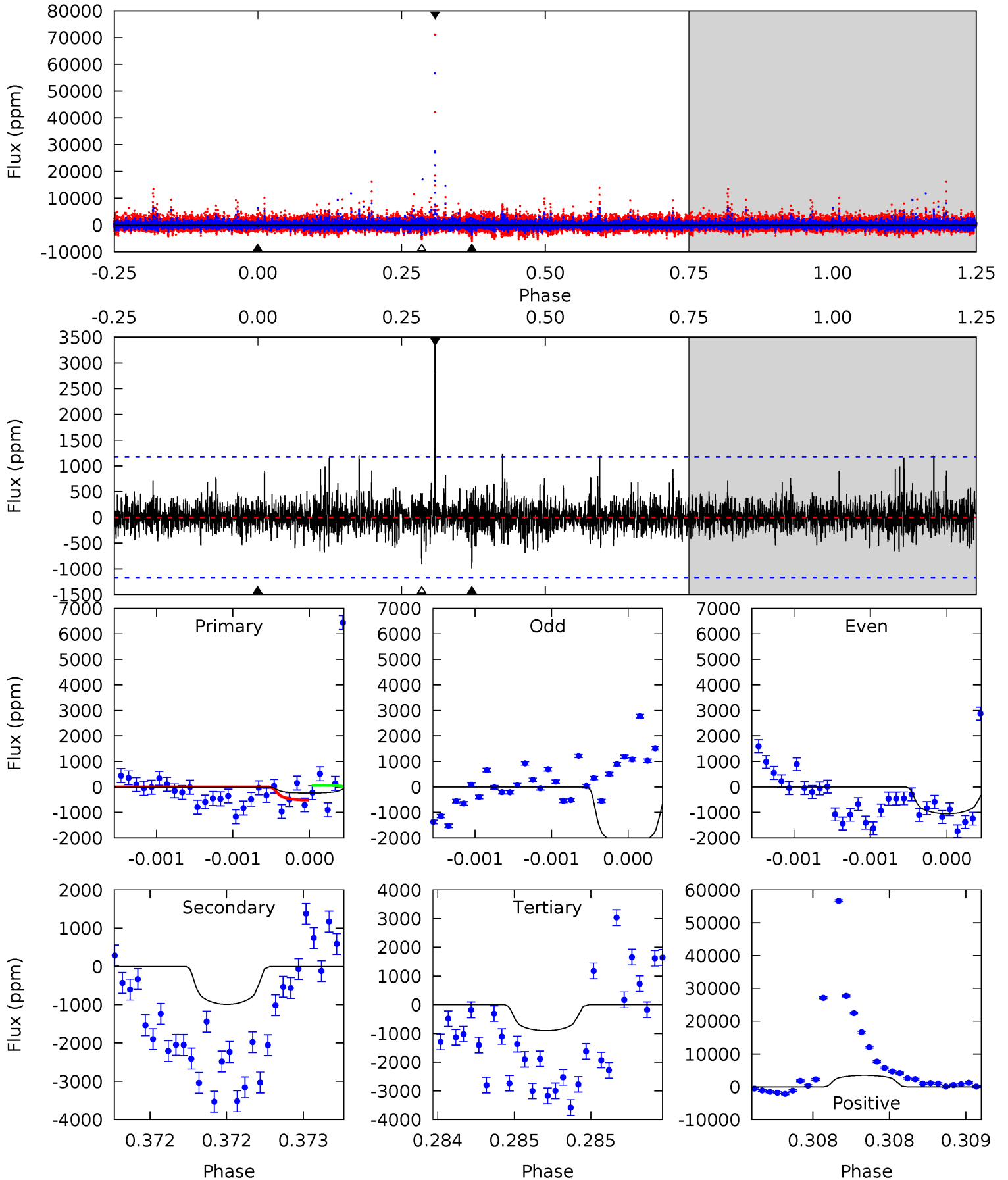
TCE 007551695-03 $P=519.543697$ Days $T_0=469.529161$ (BKJD)



DV Model-Shift Uniqueness Test

007551695-03, P = 519.531116 Days, E = 469.552454 Days

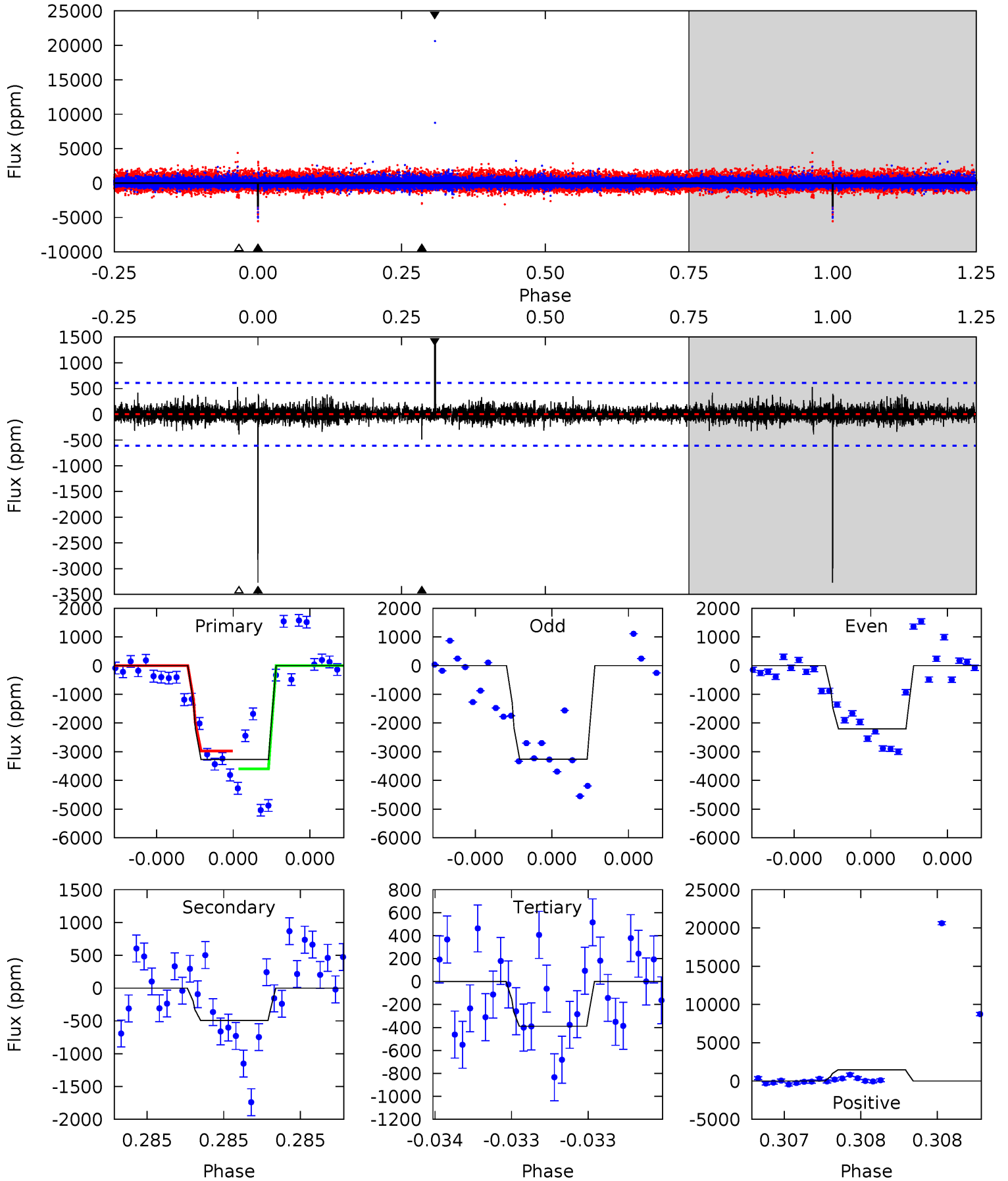
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.15	4.70	4.28	16.5	5.56	3.47	1.05	-3.13	-15.4	0.42	-11.8	1.53	-0.55	0.78	1.10



Alt Model-Shift Uniqueness Test

007551695-03, P = 519.543697 Days, E = 469.529161 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	4.53	3.59	13.6	5.61	3.54	0.73	26.5	16.6	0.94	-9.04	4.79	0.82	0.31	2.86



Stellar Parameters For KIC 007551695

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4194^{+131}_{-146}	$4.615^{+0.053}_{-0.018}$	$0.160^{+0.250}_{-0.300}$	$0.660^{+0.032}_{-0.059}$	$0.655^{+0.050}_{-0.055}$	$3.209^{+0.788}_{-0.254}$
	+3%/-3%	+1%/-0%	+156%/-188%	+5%/-9%	+8%/-8%	+25%/-8%
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 007551695-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-989 ± 211	$3.12^{+0.78}_{-0.75}$	199^{+7}_{-7}	3737^{+403}_{-308}	68157^{+52042}_{-27648}
Alt.	-492 ± 109	$3.54^{+0.69}_{-0.76}$	199^{+6}_{-8}	3211^{+292}_{-208}	26611^{+17478}_{-9851}

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

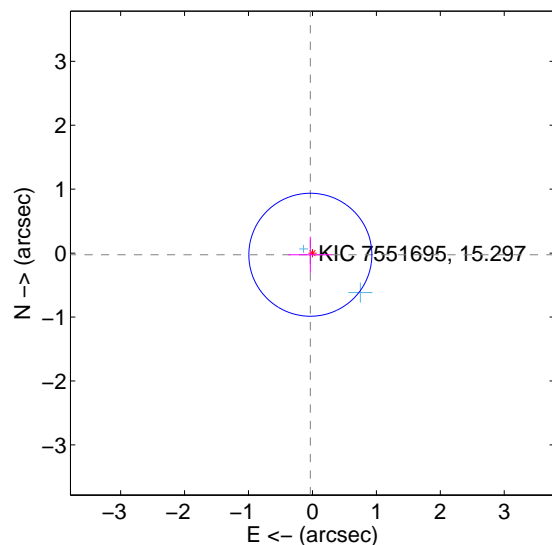
Supplemental centroid analysis for 007551695-03. Kepler magnitude: 15.30. Transit SNR 5.06

There are 2 quarters with good PRF difference image offsets

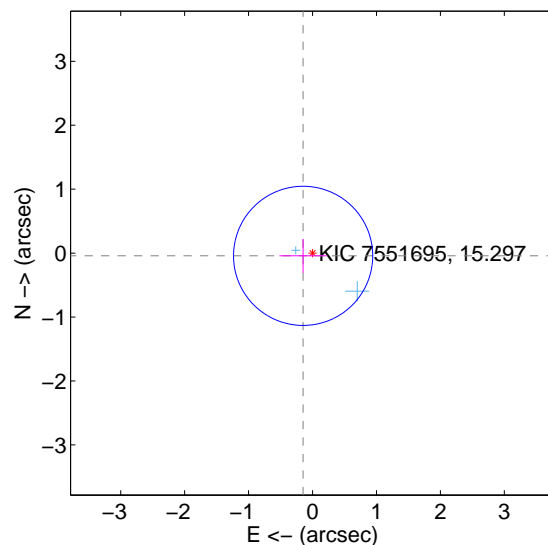
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.042 ± 0.321	0.13	0.033 ± 0.343	-0.026 ± 0.281
PRF-fit source offset from KIC position	0.153 ± 0.363	0.42	0.147 ± 0.370	-0.043 ± 0.263
photometric centroid source offset	0.82 ± 0.78	1.05	0.71 ± 0.76	-0.41 ± 0.84

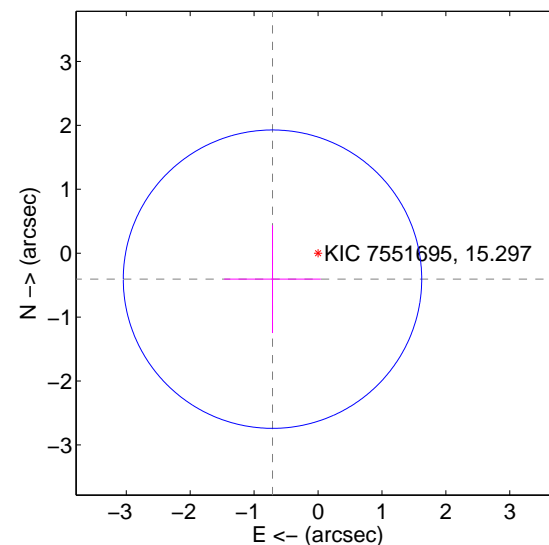
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

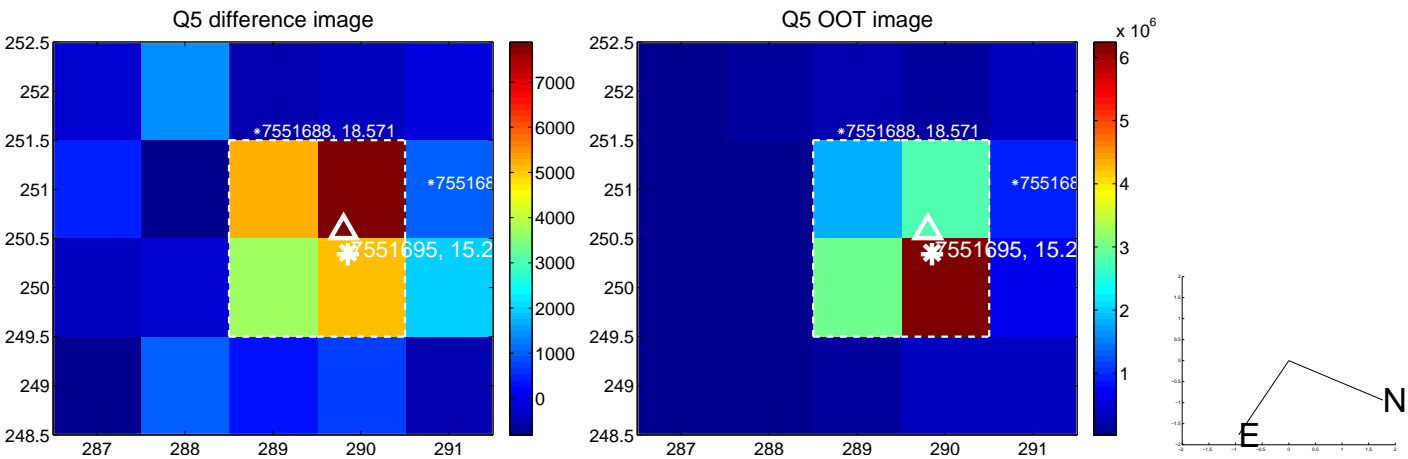


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

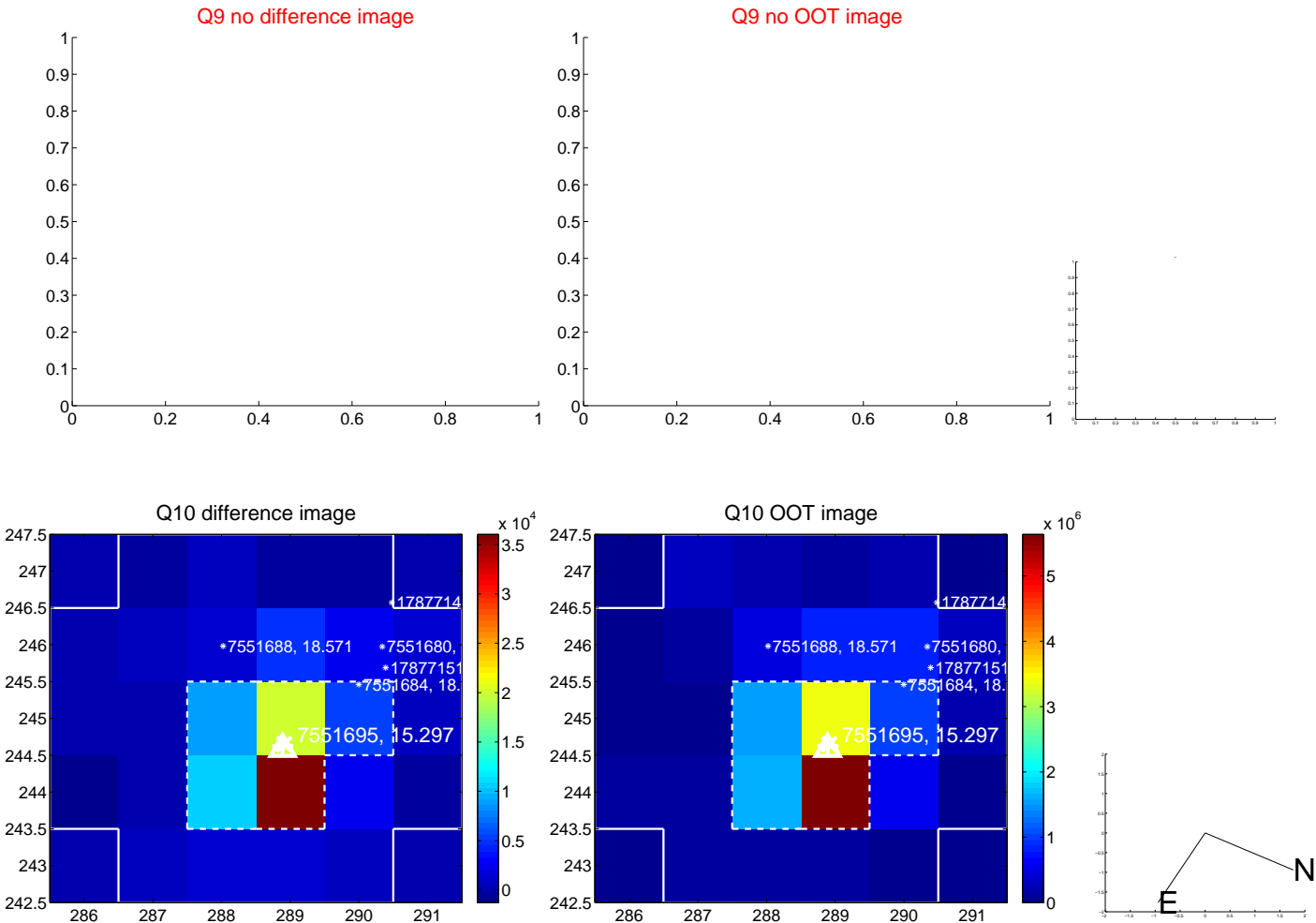
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



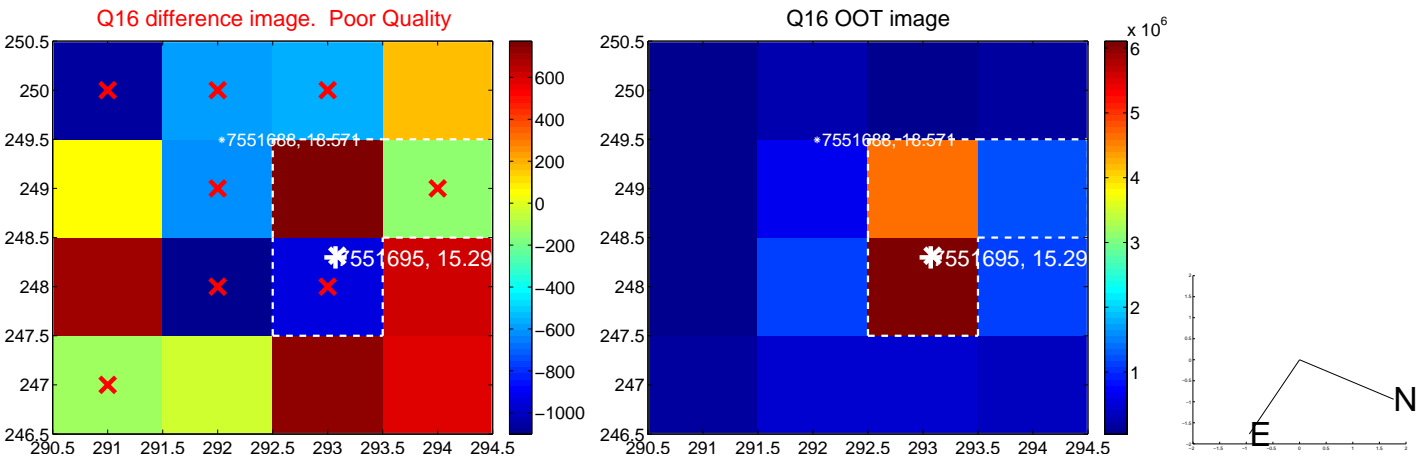
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



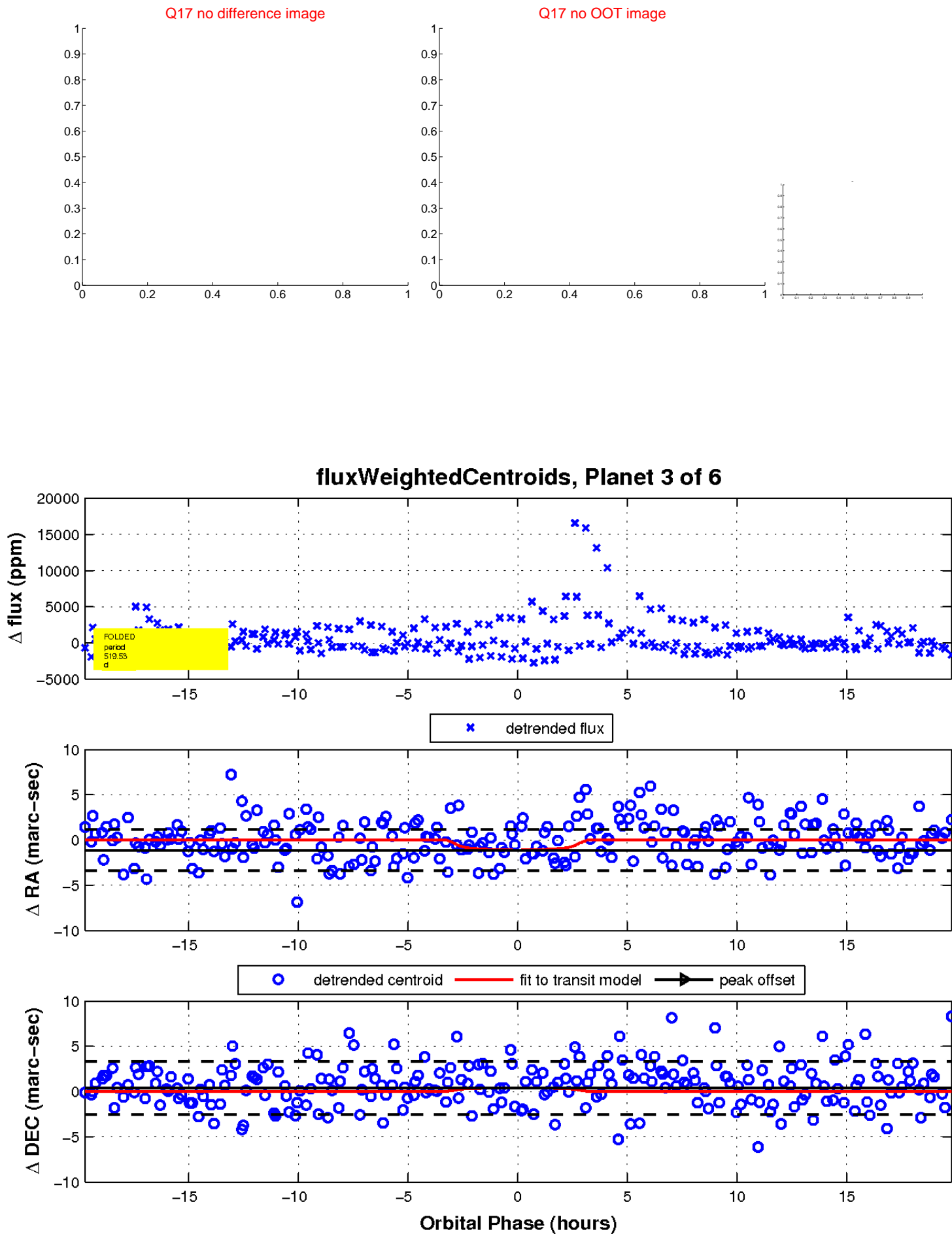
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

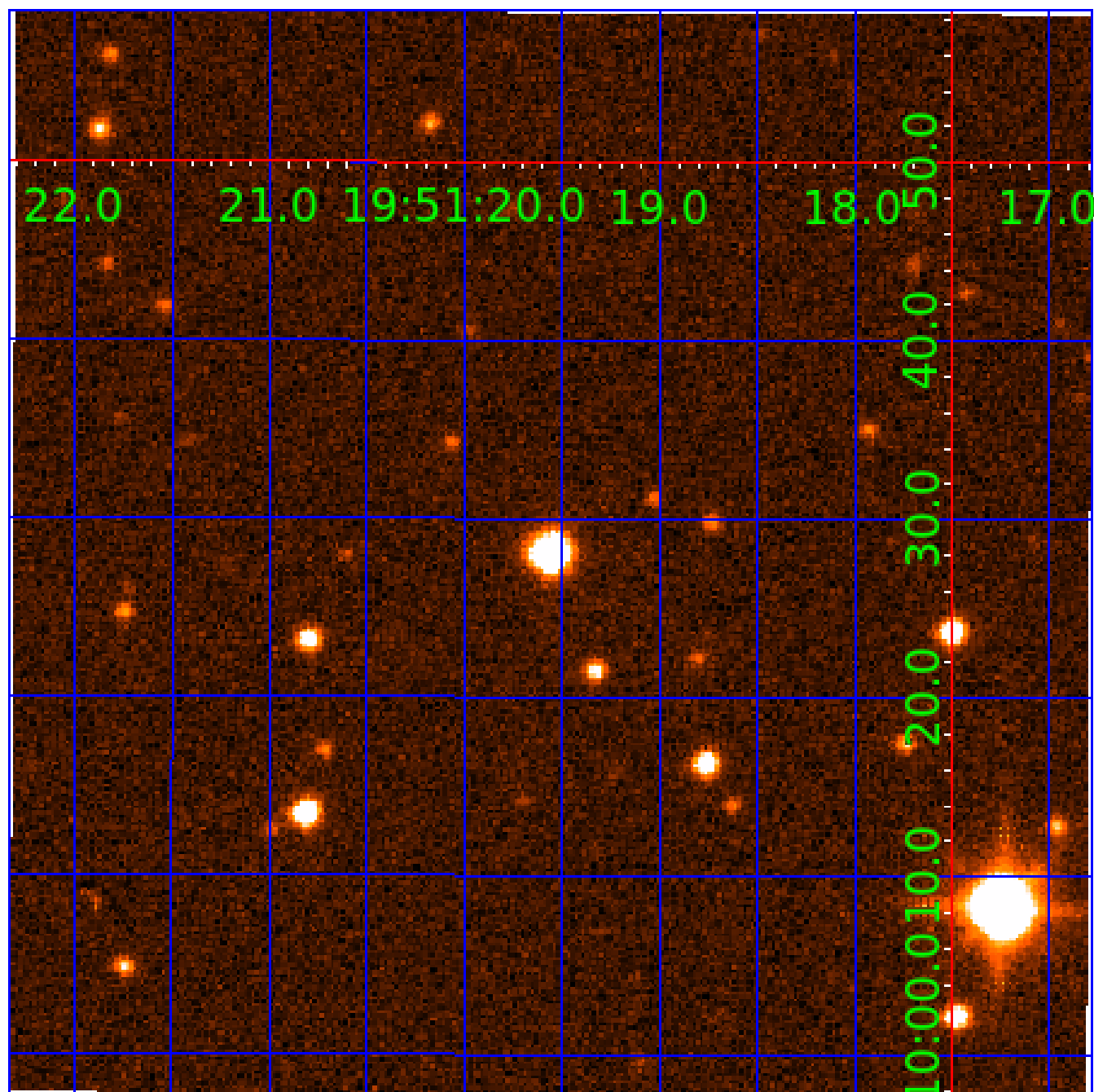


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007551695

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})
007551695-01	OBS	No	543.692197	254.312675	3521.7	11.242	15.0	7.6	0.66	4194	3.87	0.09
007551695-02	OBS	No	364.669435	158.672149	2977.6	7.346	14.9	8.0	0.66	4194	3.44	0.16
007551695-03	OBS	No	519.531116	469.552453	1675.8	6.617	15.9	5.1	0.66	4194	3.13	0.10
007551695-04	OBS	No	281.564738	216.052794	1133.2	3.025	14.4	4.3	0.66	4194	2.48	0.23
007551695-05	OBS	No	377.760457	472.885484	1806.5	4.906	14.2	5.9	0.66	4194	3.25	0.15
007551695-06	OBS	No	403.160950	214.450814	1393.5	7.500	12.9	-1.0	0.66	4194	2.36	0.14

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007551695-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007551695-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
007551695-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007551695-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007551695-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007551695-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

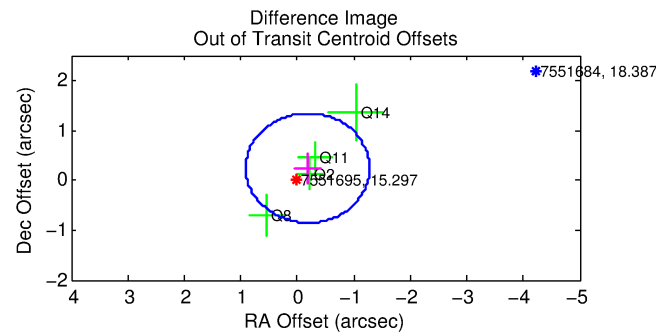
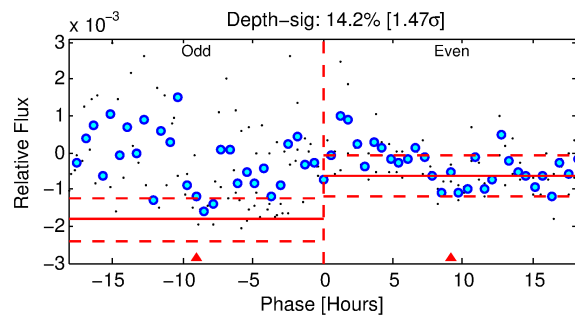
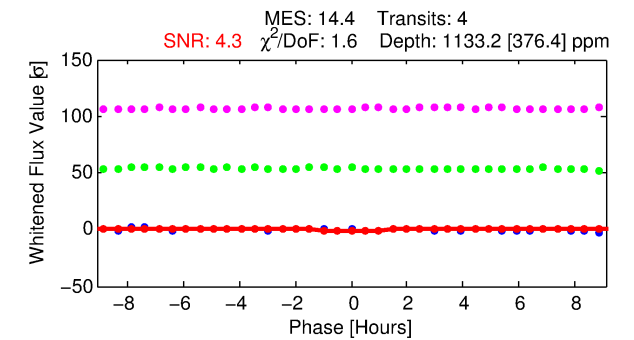
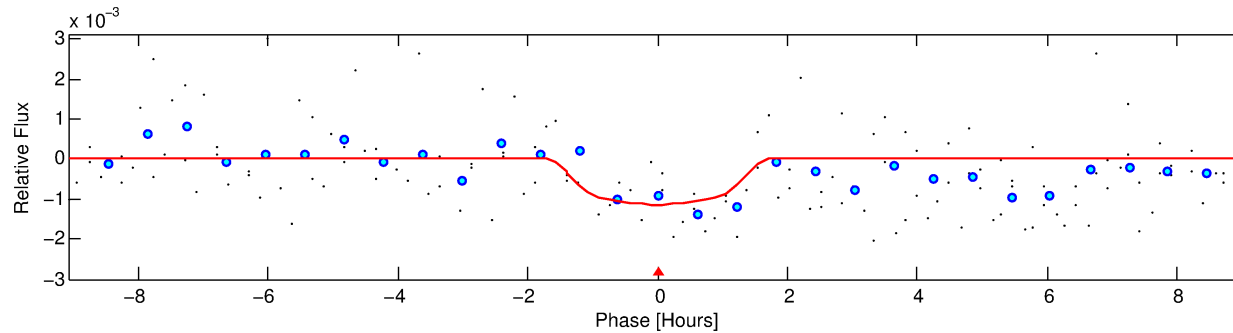
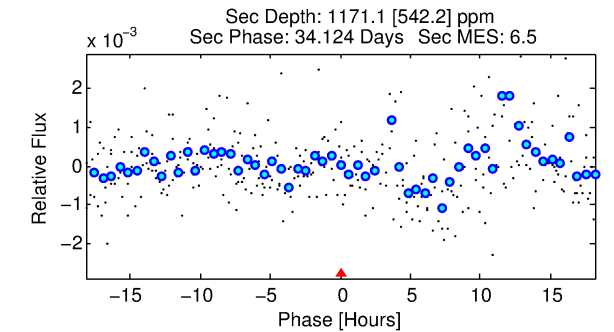
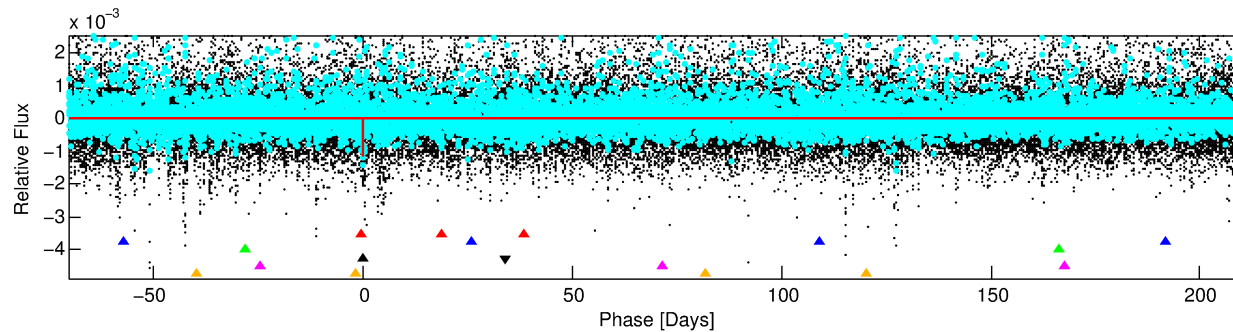
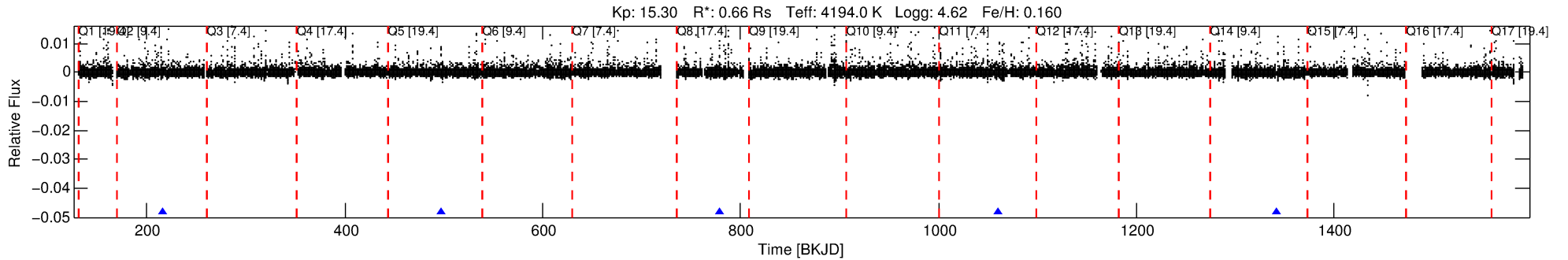
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007551695-04

No Significant Match Found

DV One-Page Summary

KIC: 7551695 Candidate: 4 of 6 Period: 281.565 d



DV Fit Results:

Period = 281.56474 [0.00721] d
Epoch = 216.0528 [0.0140] BKJD
Rp/R* = 0.0345 [0.0767]
a/R* = 477.87 [3440.35]
b = 0.79 [3.60]
Seff = 0.23 [0.04]
Teq = 176 [8] K
Rp = 2.48 [5.53] Re
a = 0.7302 [0.0527] AU
Ag = 55707.87 [249128.23] [0.22σ]
Teffp = 4178 [4672] K [0.86σ]

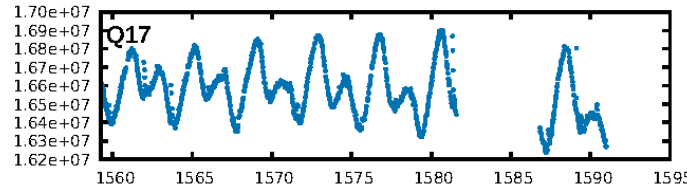
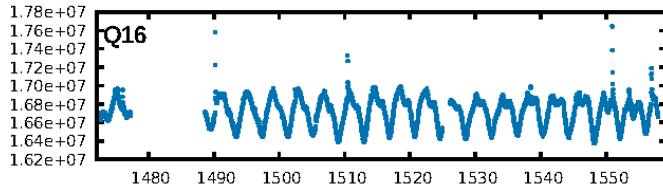
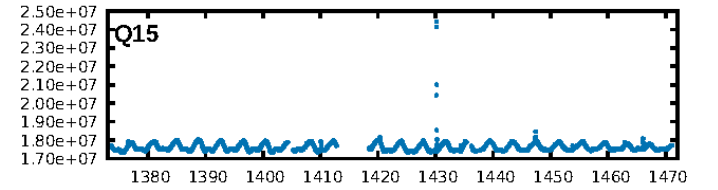
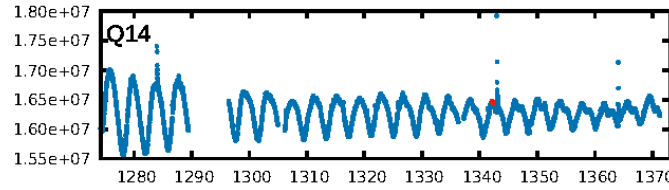
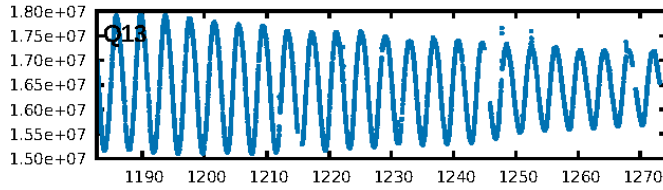
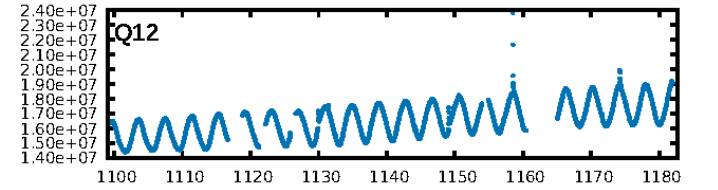
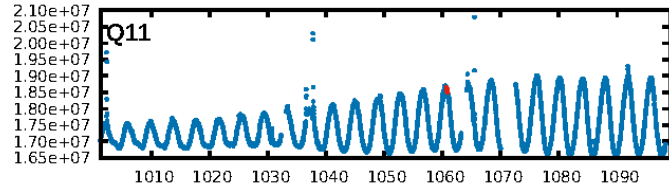
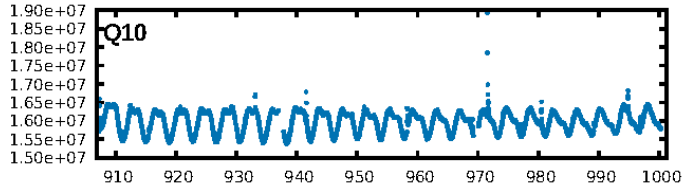
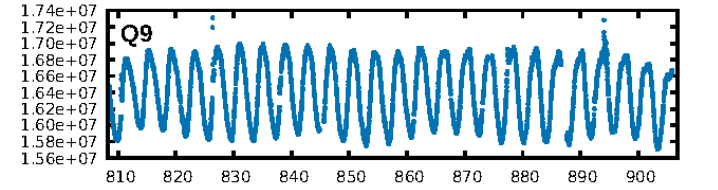
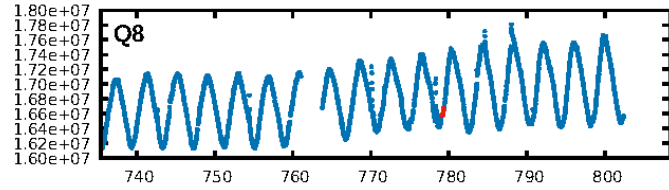
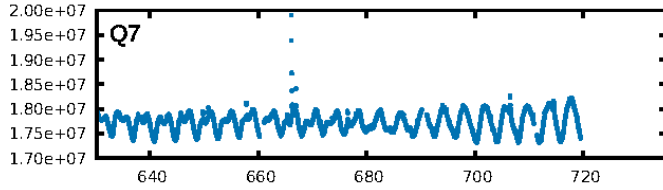
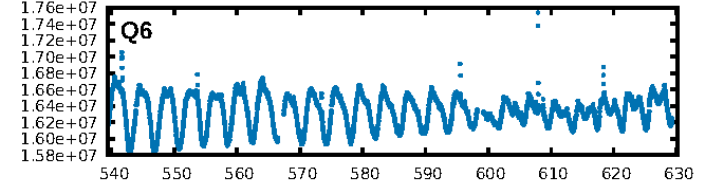
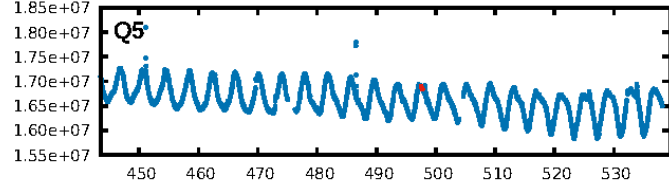
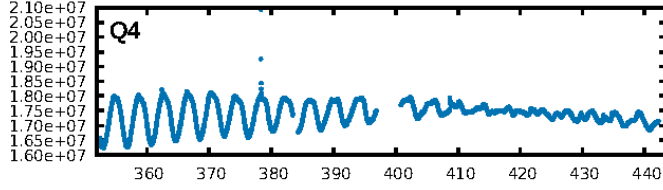
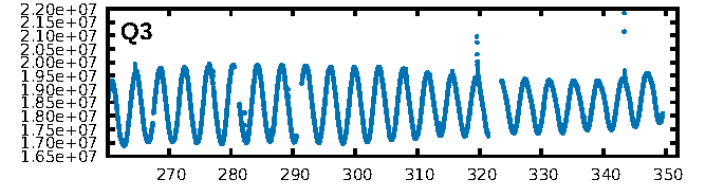
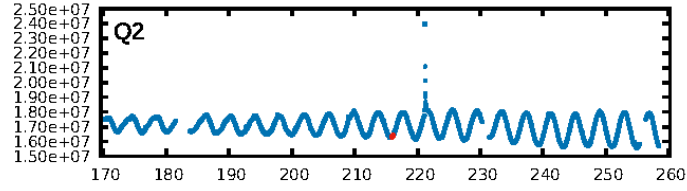
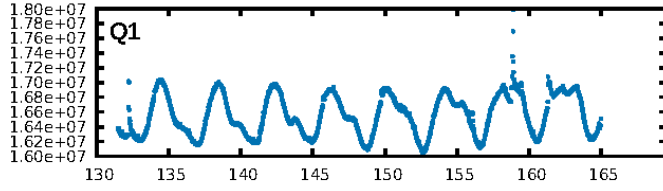
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [251.05σ]
ModelChiSquare2-sig: 46.8%
ModelChiSquareGof-sig: 98.3%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -3.552
Centroid-sig: 11.1%
Centroid-so: 1.522 arcsec [1.03σ]
OotOffset-rm: 0.302 arcsec [0.83σ]
KicOffset-rm: 0.231 arcsec [0.44σ]
OotOffset-st: 2/1/1/0 [4]
KicOffset-st: 2/1/1/0 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 1.00 [5/5]

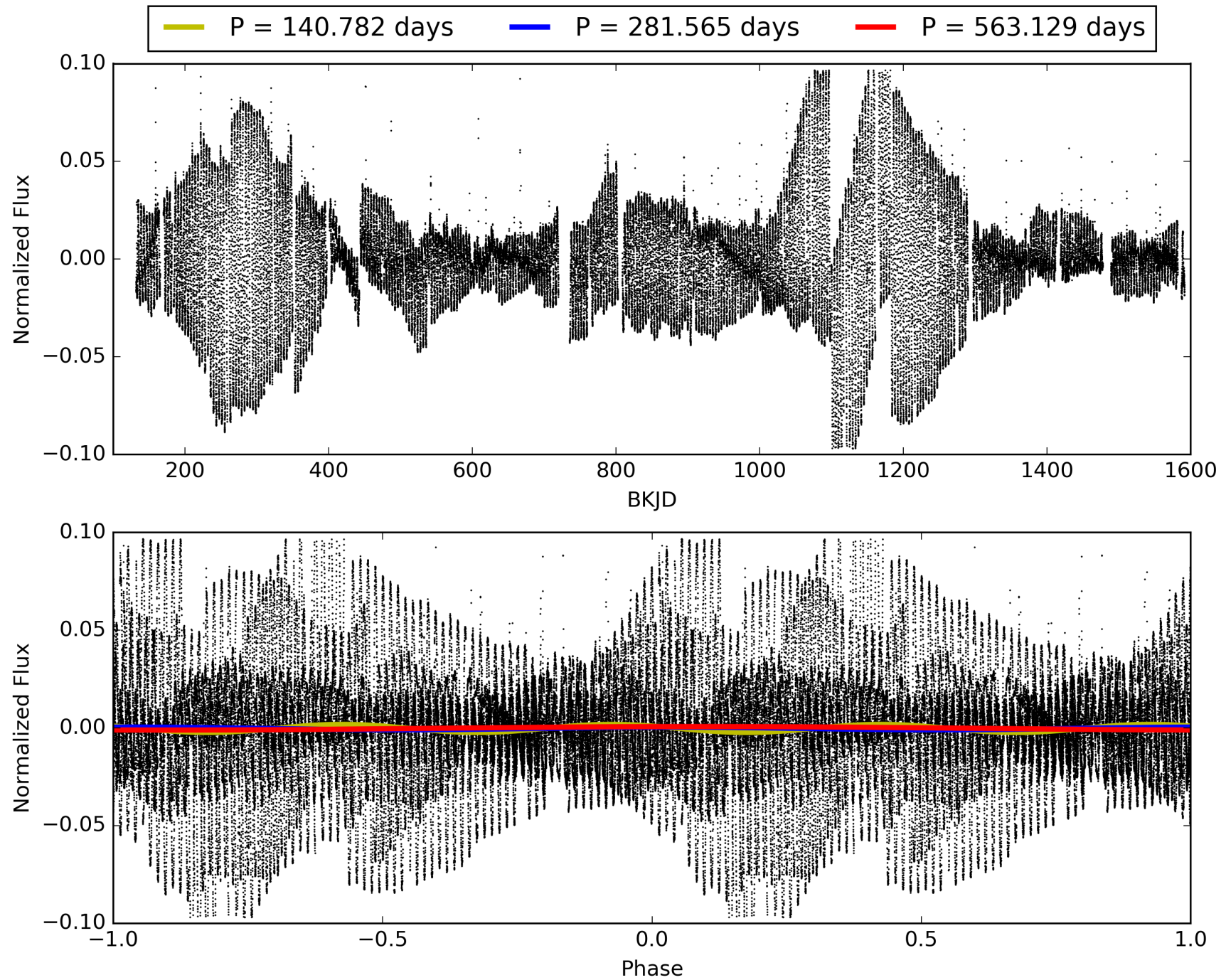
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:49:11 Z

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

TCE 007551695-04, PDC Light Curves

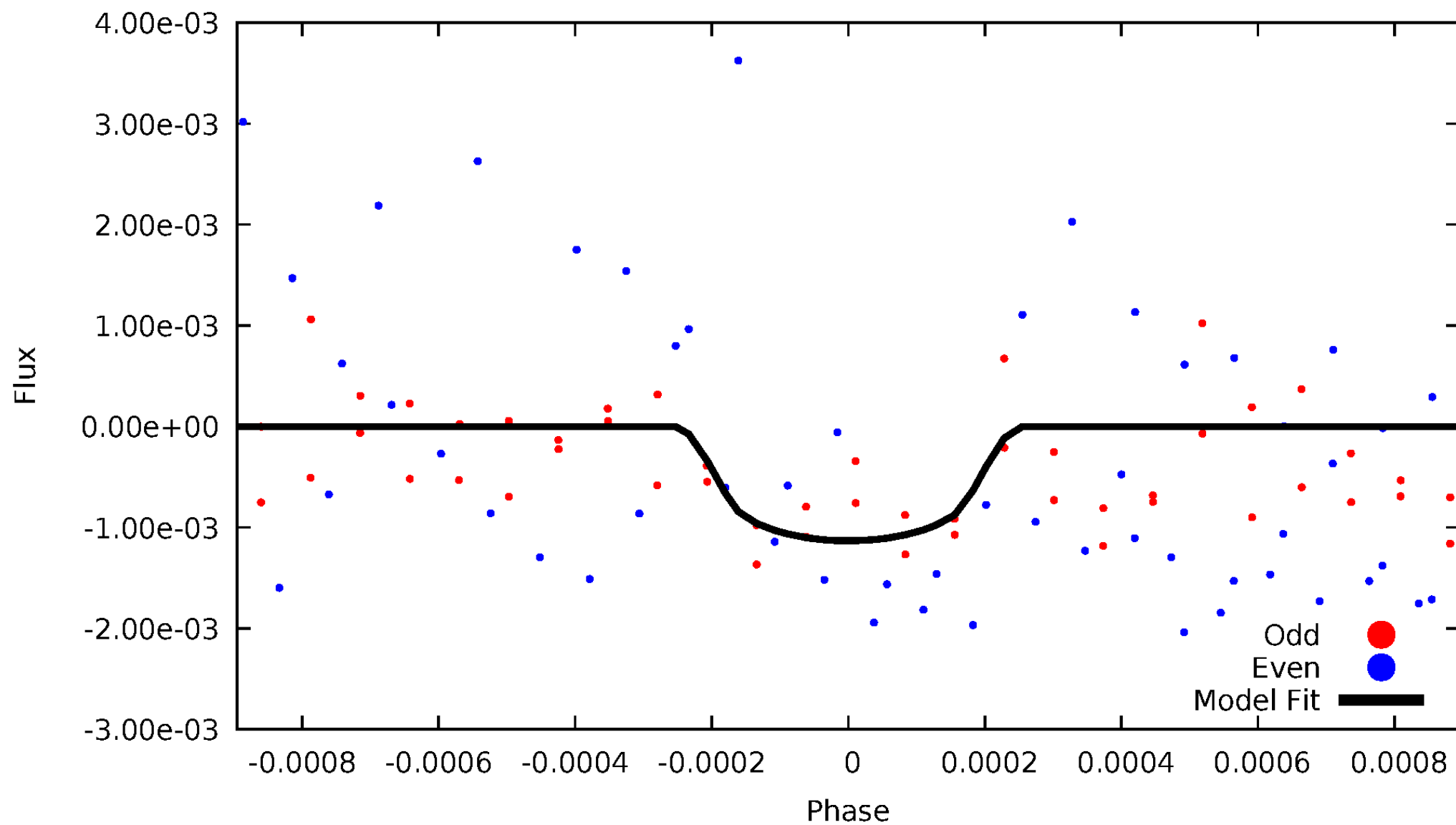


TCE 007551695-04



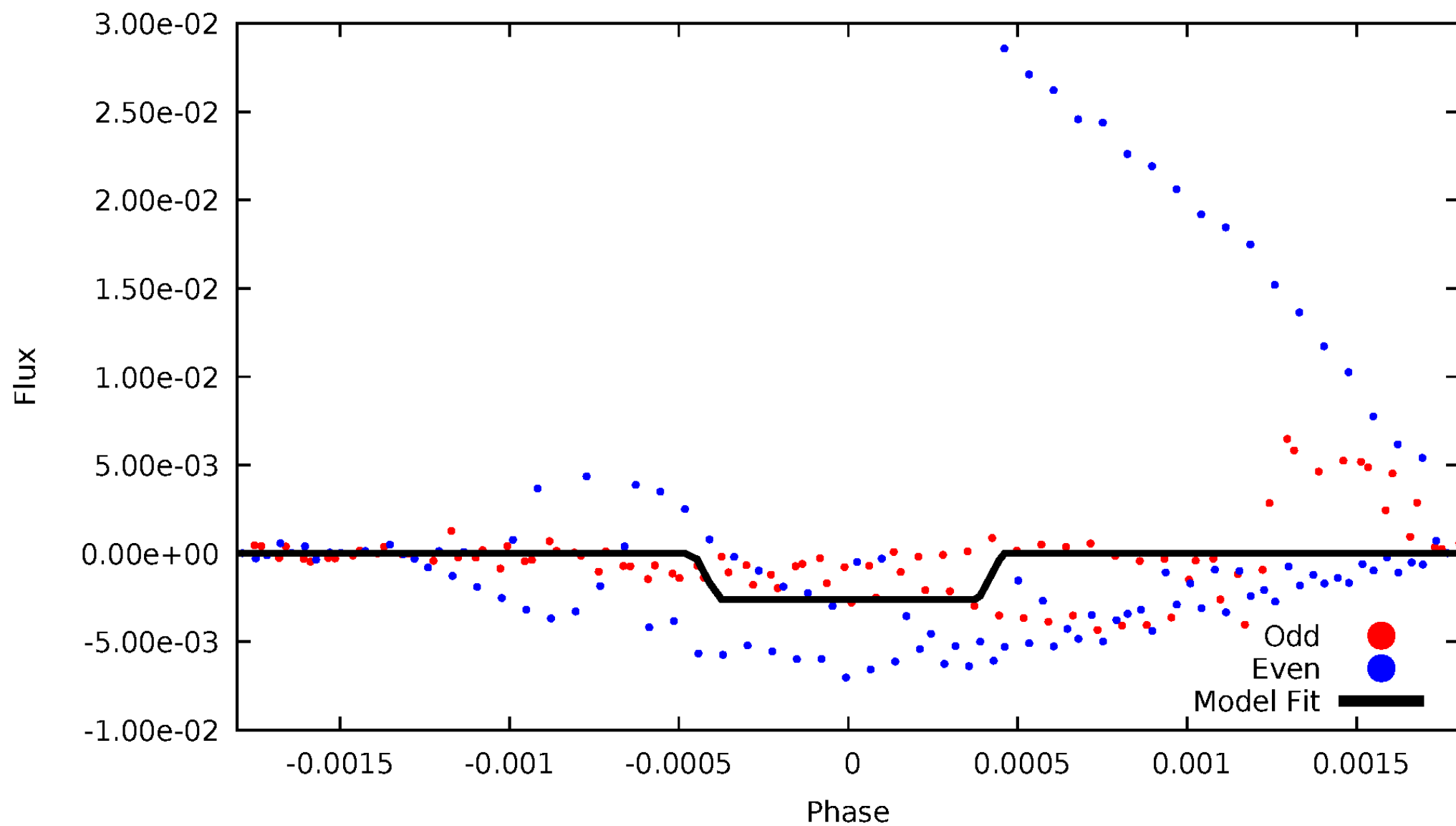
DV Odd/Even

TCE 007551695-04



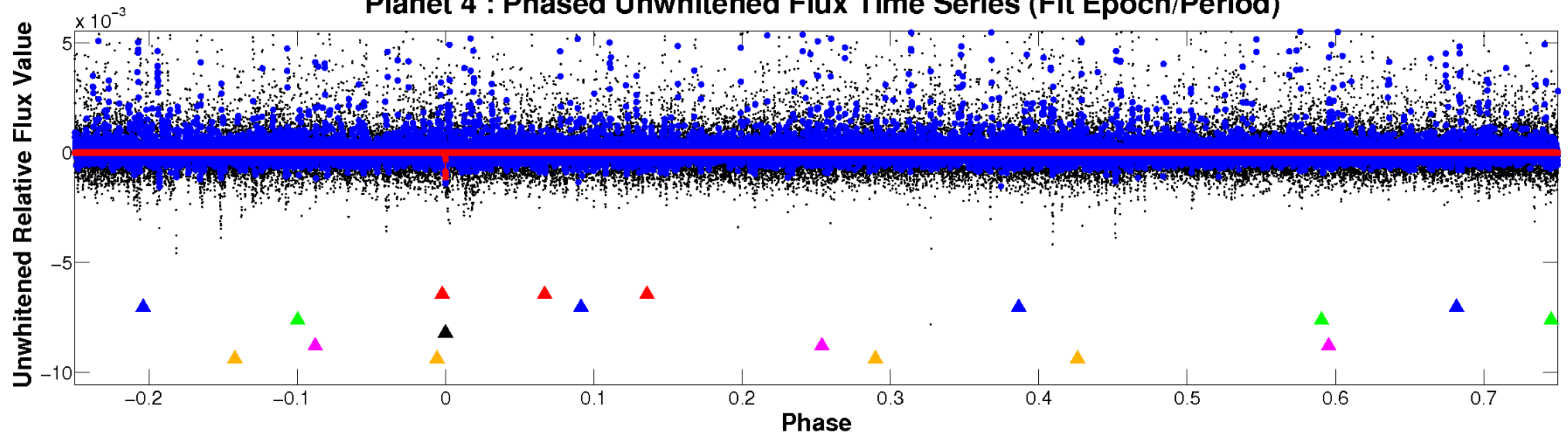
ALT Odd/Even

TCE 007551695-04

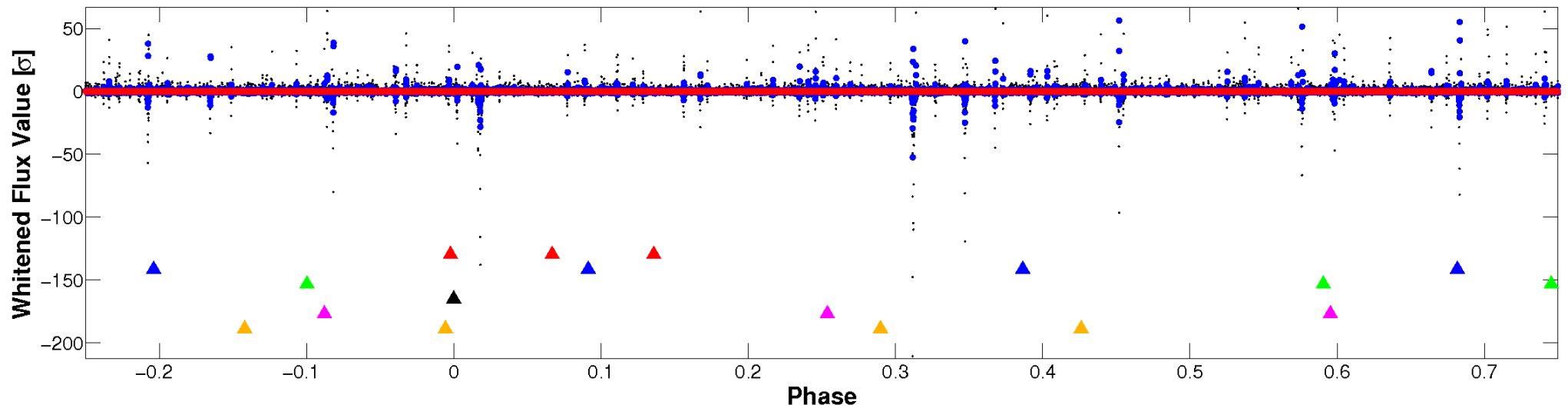


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

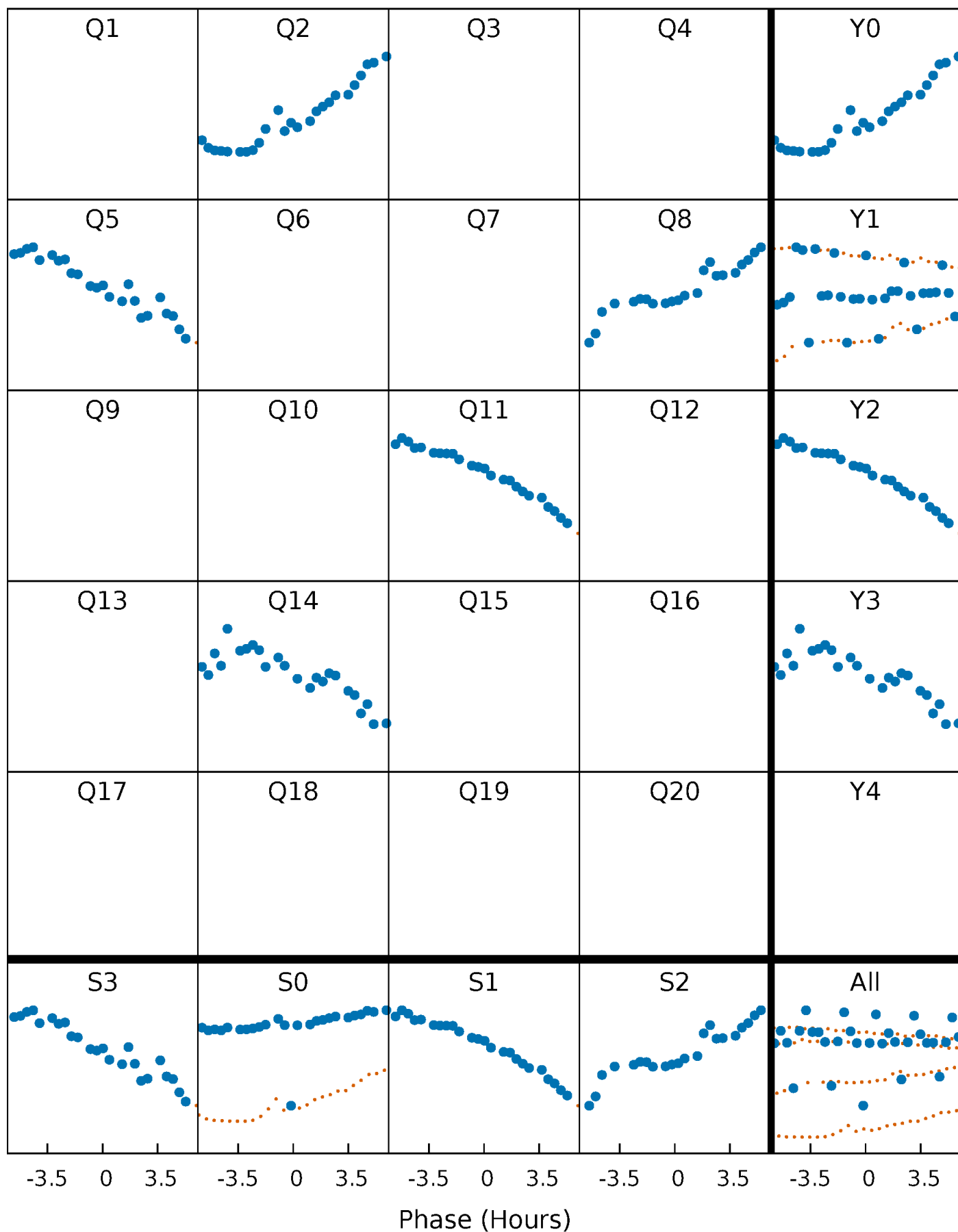


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



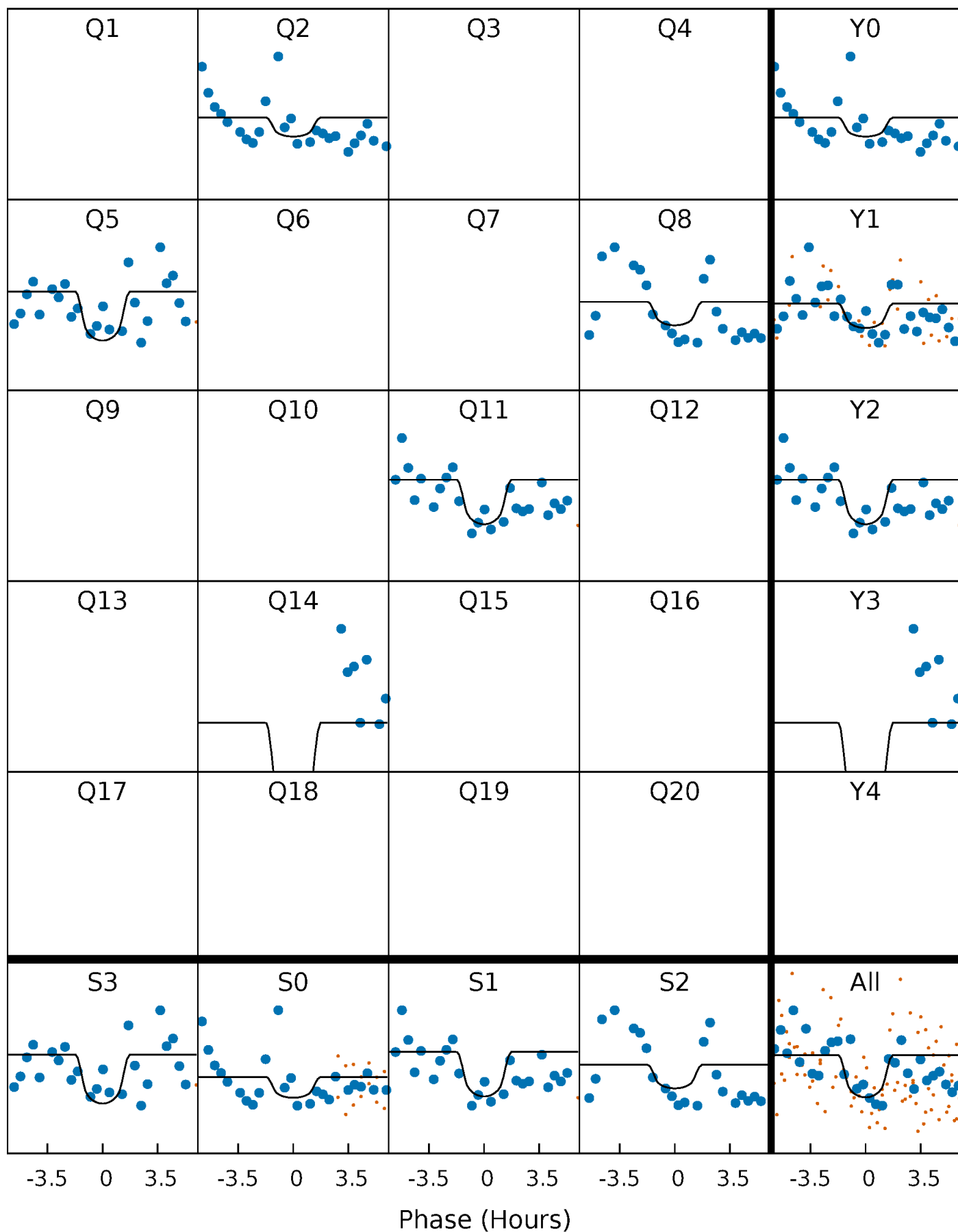
PDC Quarter-Phased Transit Curves

TCE 007551695-04 P=281.564738 Days $T_0=216.052794$ (BKJD)



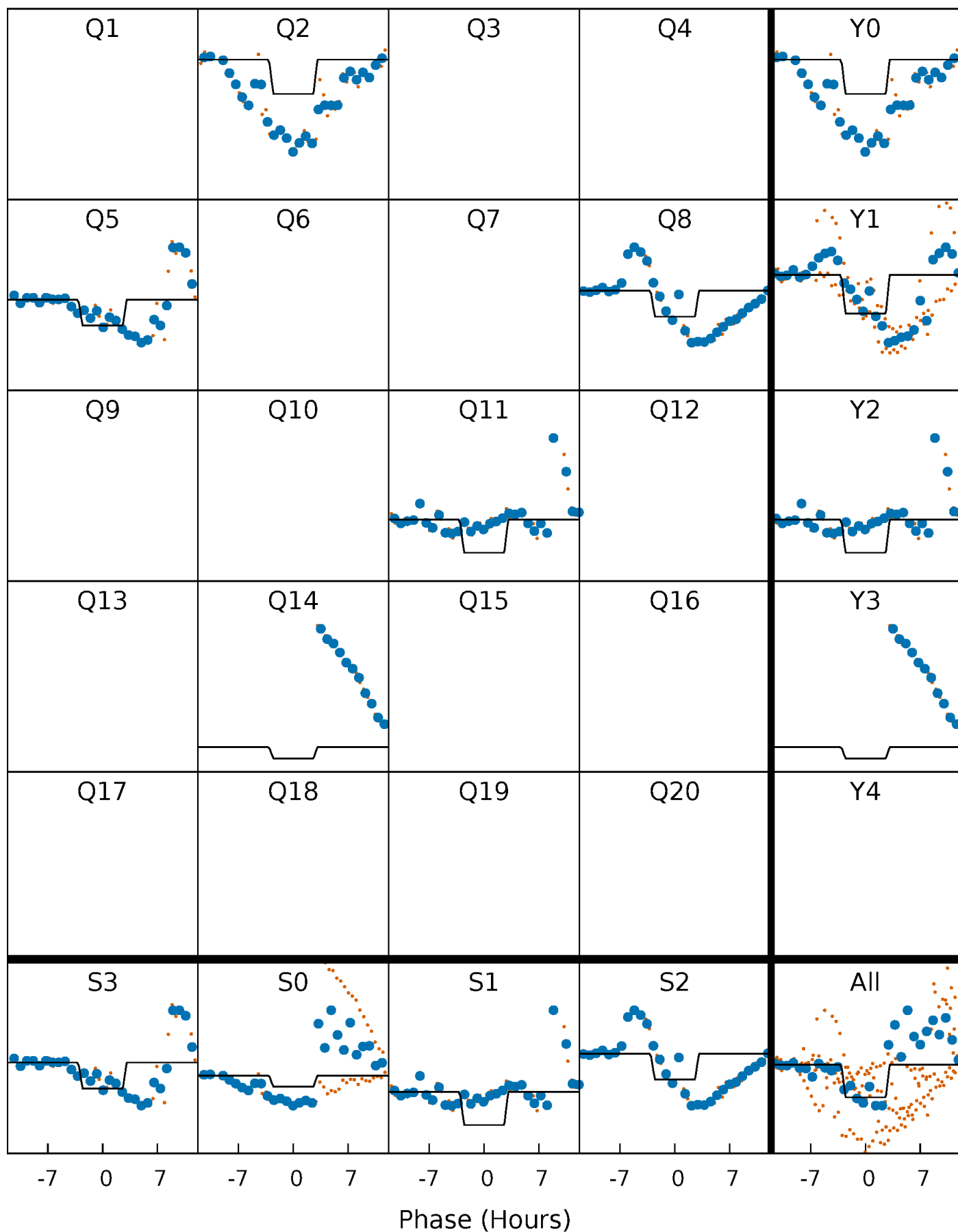
DV Quarter-Phased Transit Curves

TCE 007551695-04 P=281.564738 Days $T_0=216.052794$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

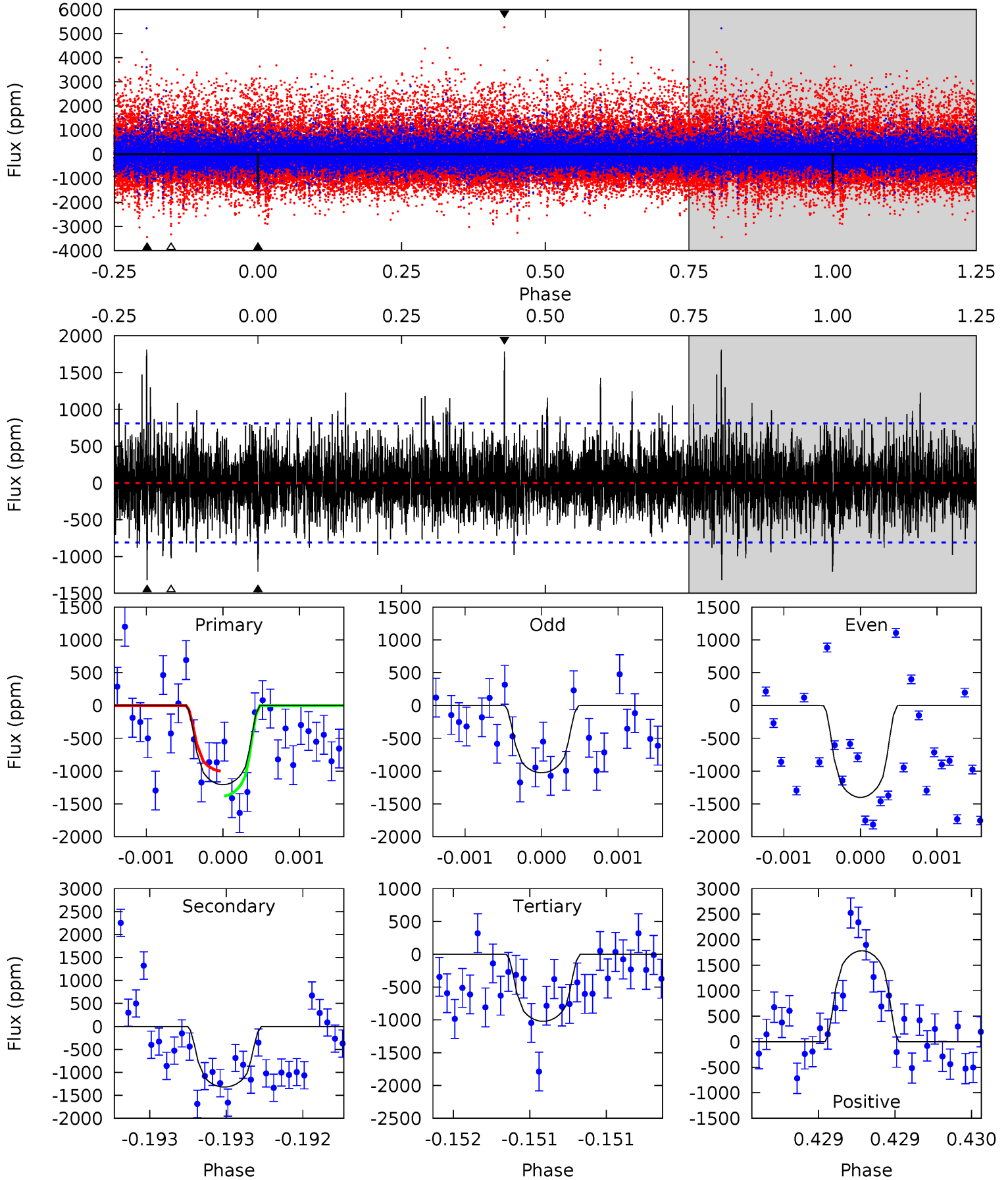
TCE 007551695-04 P=281.526778 Days $T_0=216.193245$ (BKJD)



DV Model-Shift Uniqueness Test

007551695-04, P = 281.564738 Days, E = 216.052794 Days

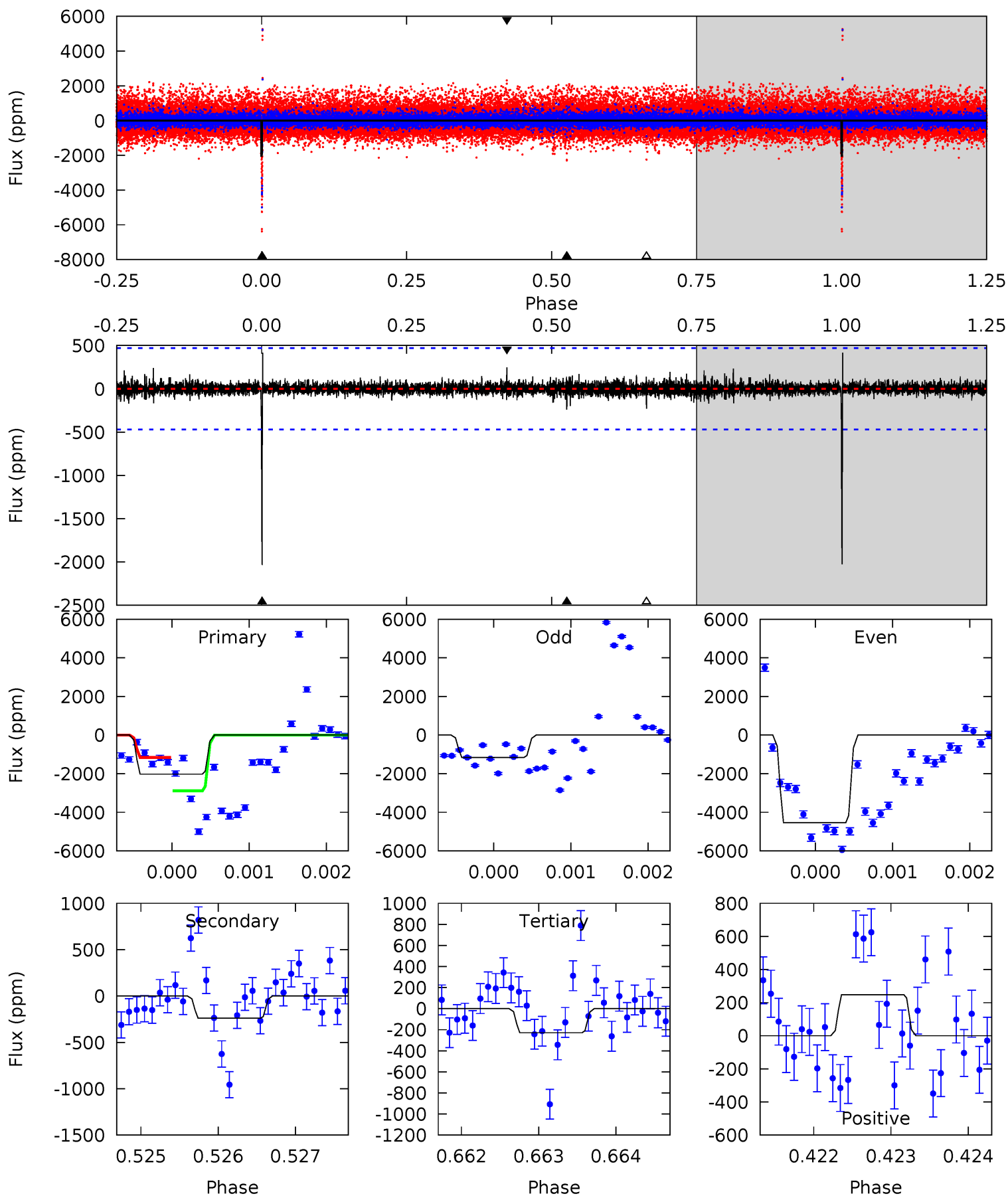
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.30	9.07	7.02	12.3	5.56	3.47	2.02	1.27	-3.96	2.05	-3.18	1.12	0.98	0.58	1.31



Alt Model-Shift Uniqueness Test

007551695-04, P = 281.526778 Days, E = 216.193245 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.6	2.80	2.66	2.88	5.47	3.32	0.48	20.9	20.7	0.14	-0.09	22.8	1.27	0.17	0



Stellar Parameters For KIC 007551695

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4194^{+131}_{-146}	$4.615^{+0.053}_{-0.018}$	$0.160^{+0.250}_{-0.300}$	$0.660^{+0.032}_{-0.059}$	$0.655^{+0.050}_{-0.055}$	$3.209^{+0.788}_{-0.254}$
	+3%/-3%	+1%/-0%	+156%/-188%	+5%/-9%	+8%/-8%	+25%/-8%
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 007551695-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1319±145	$4.53^{+4.58}_{-3.14}$	244^{+8}_{-9}	3457^{+1892}_{-639}	$19247^{+178561}_{-14570}$
Alt.	-240±86	$5.40^{+4.37}_{-3.71}$	244^{+8}_{-10}	2589^{+1058}_{-379}	2351^{+22590}_{-1706}

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 $A_{obs} \gg 1.0$

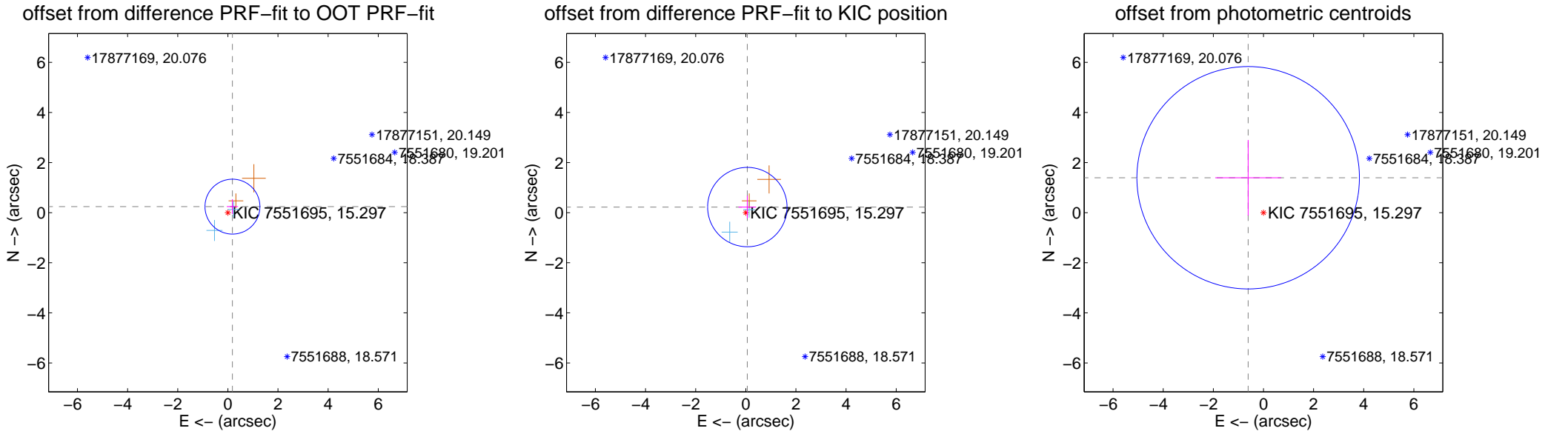
DV Centroid Data

Supplemental centroid analysis for 007551695-04. Kepler magnitude: 15.30. Transit SNR 4.25

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.302 ± 0.365	0.83	-0.182 ± 0.225	0.241 ± 0.296
PRF-fit source offset from KIC position	0.231 ± 0.528	0.44	-0.061 ± 0.350	0.223 ± 0.455
photometric centroid source offset	1.52 ± 1.48	1.03	0.61 ± 1.31	1.39 ± 1.51



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.

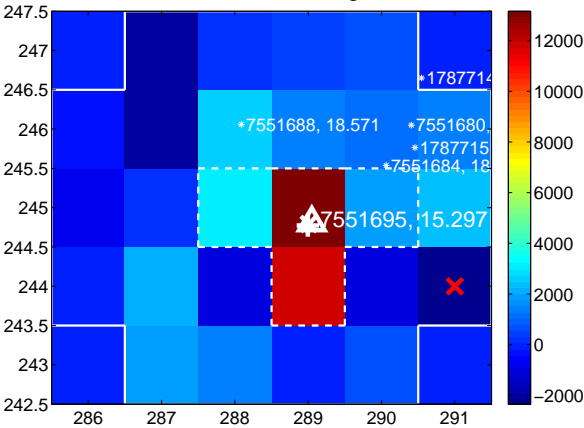
Q1 no difference image



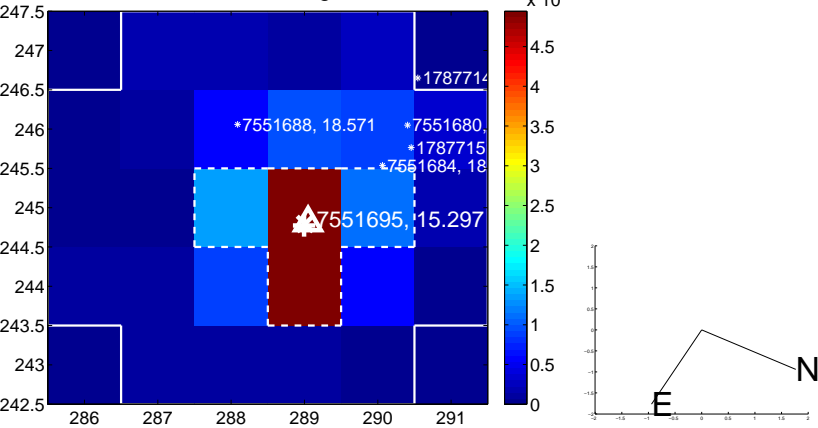
Q1 no OOT image



Q2 difference image



Q2 OOT image



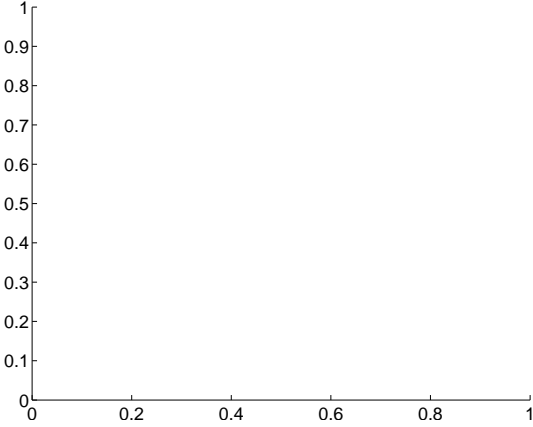
Q3 no difference image



Q3 no OOT image



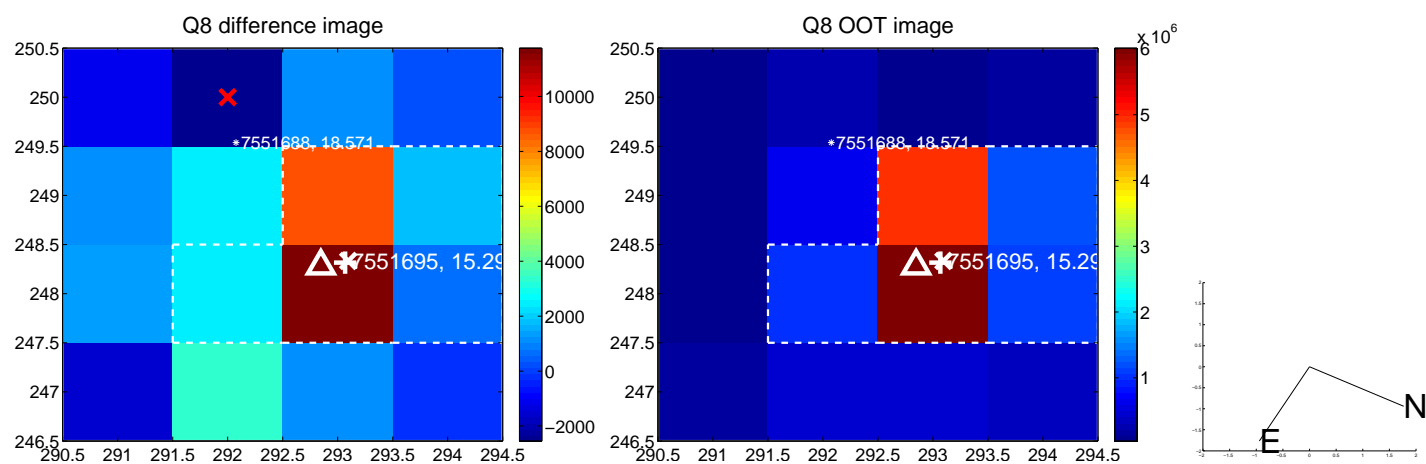
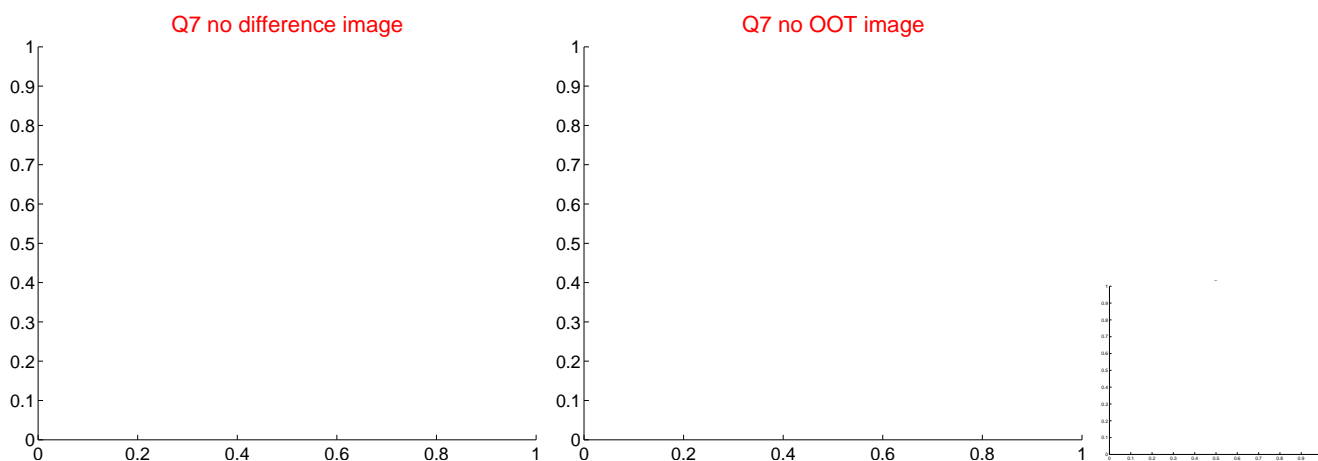
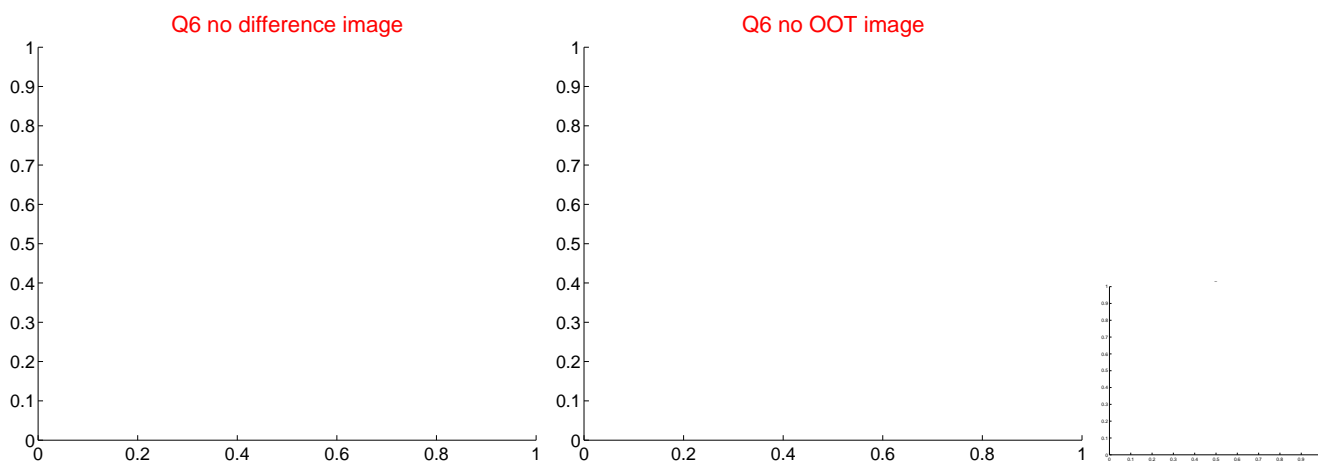
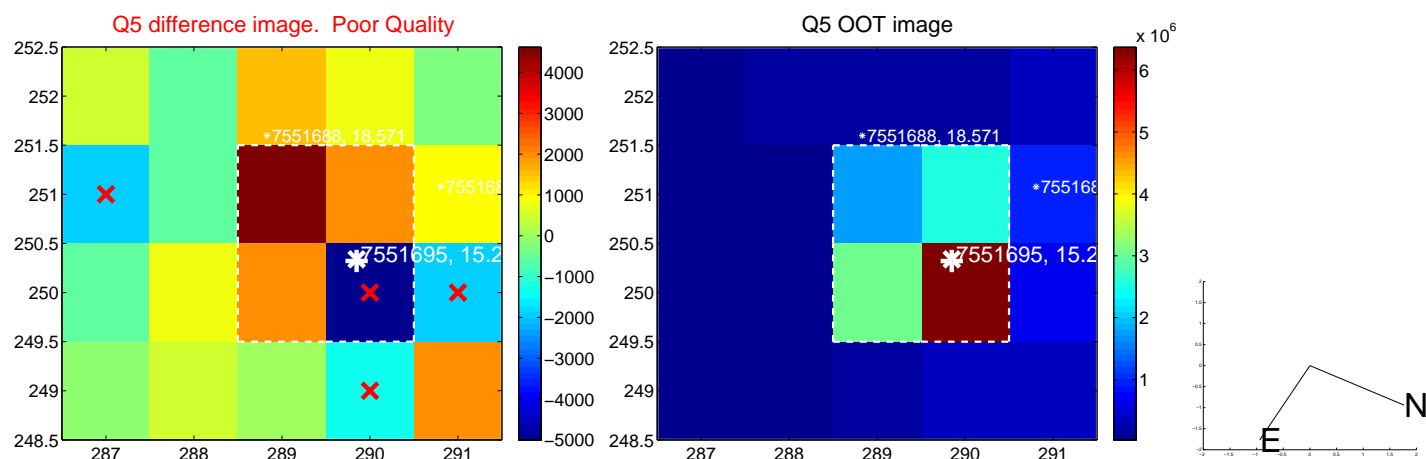
Q4 no difference image



Q4 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.

Q9 no difference image



Q9 no OOT image



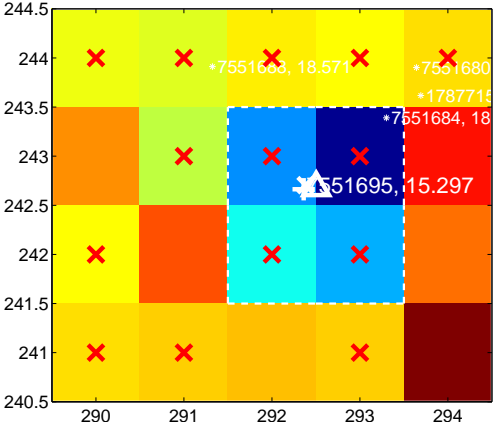
Q10 no difference image



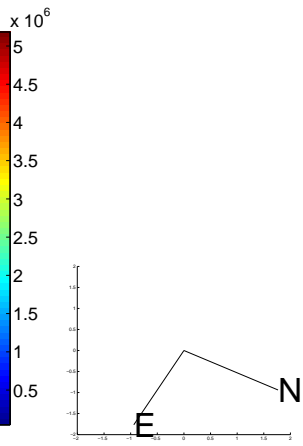
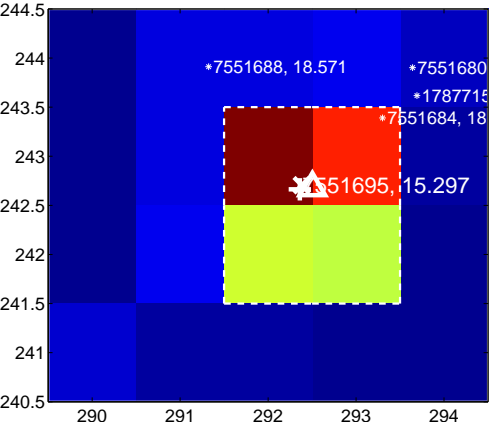
Q10 no OOT image



Q11 difference image. Poor Quality



Q11 OOT image



Q12 no difference image



Q12 no OOT image



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

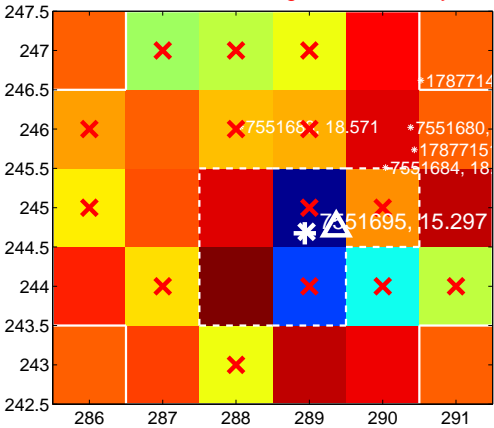
Q13 no difference image



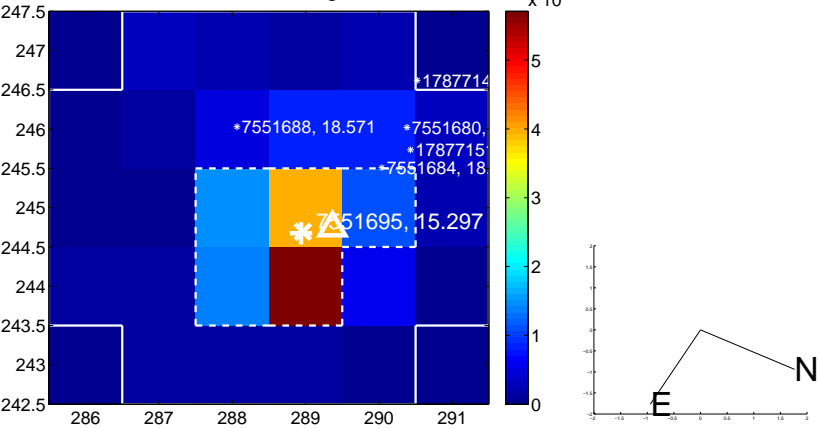
Q13 no OOT image



Q14 difference image. Poor Quality



Q14 OOT image



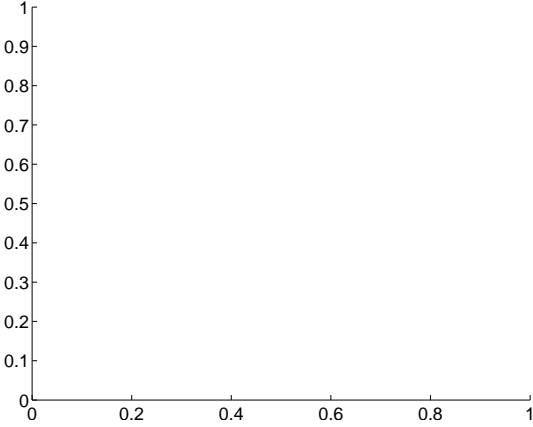
Q15 no difference image



Q15 no OOT image



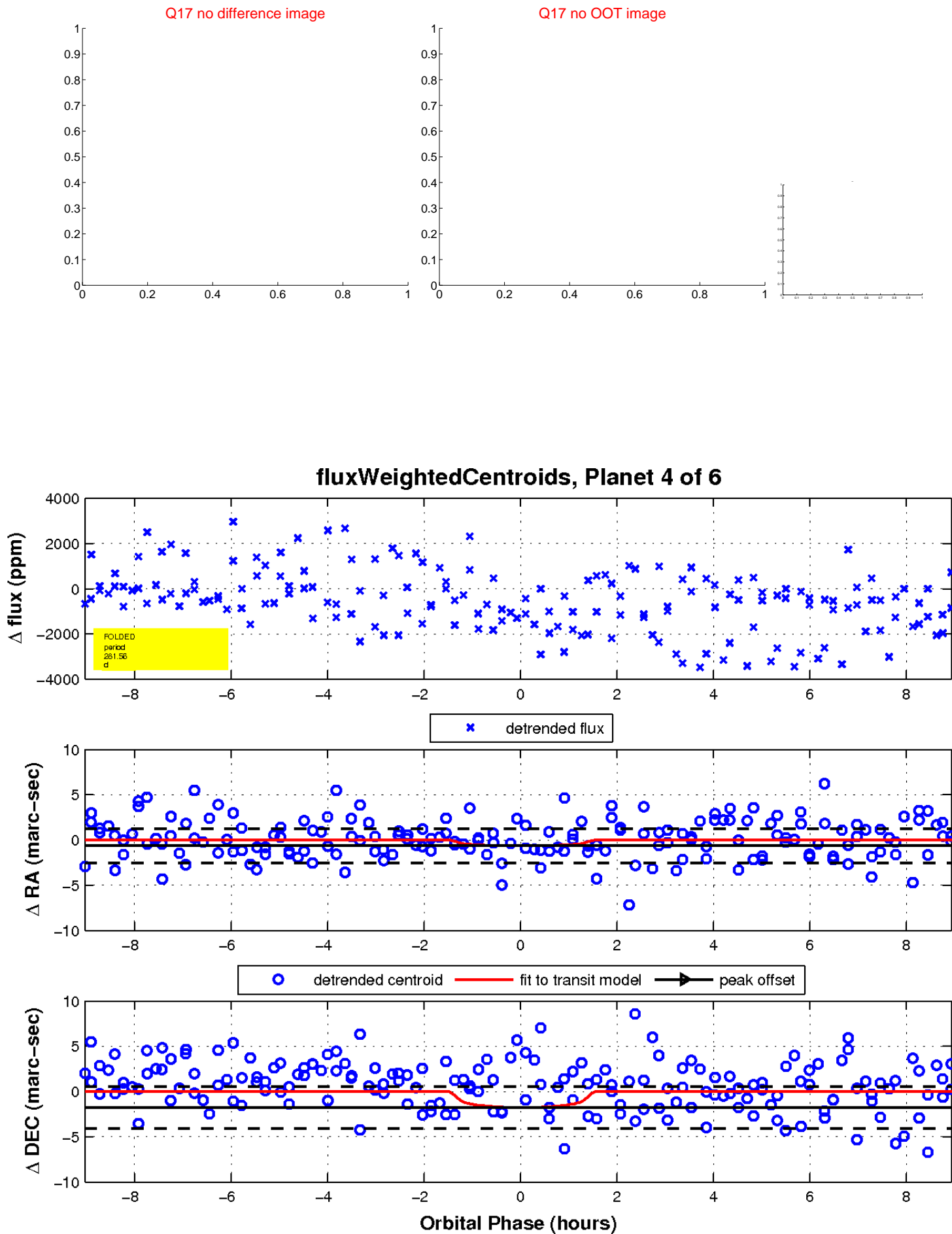
Q16 no difference image



Q16 no OOT image

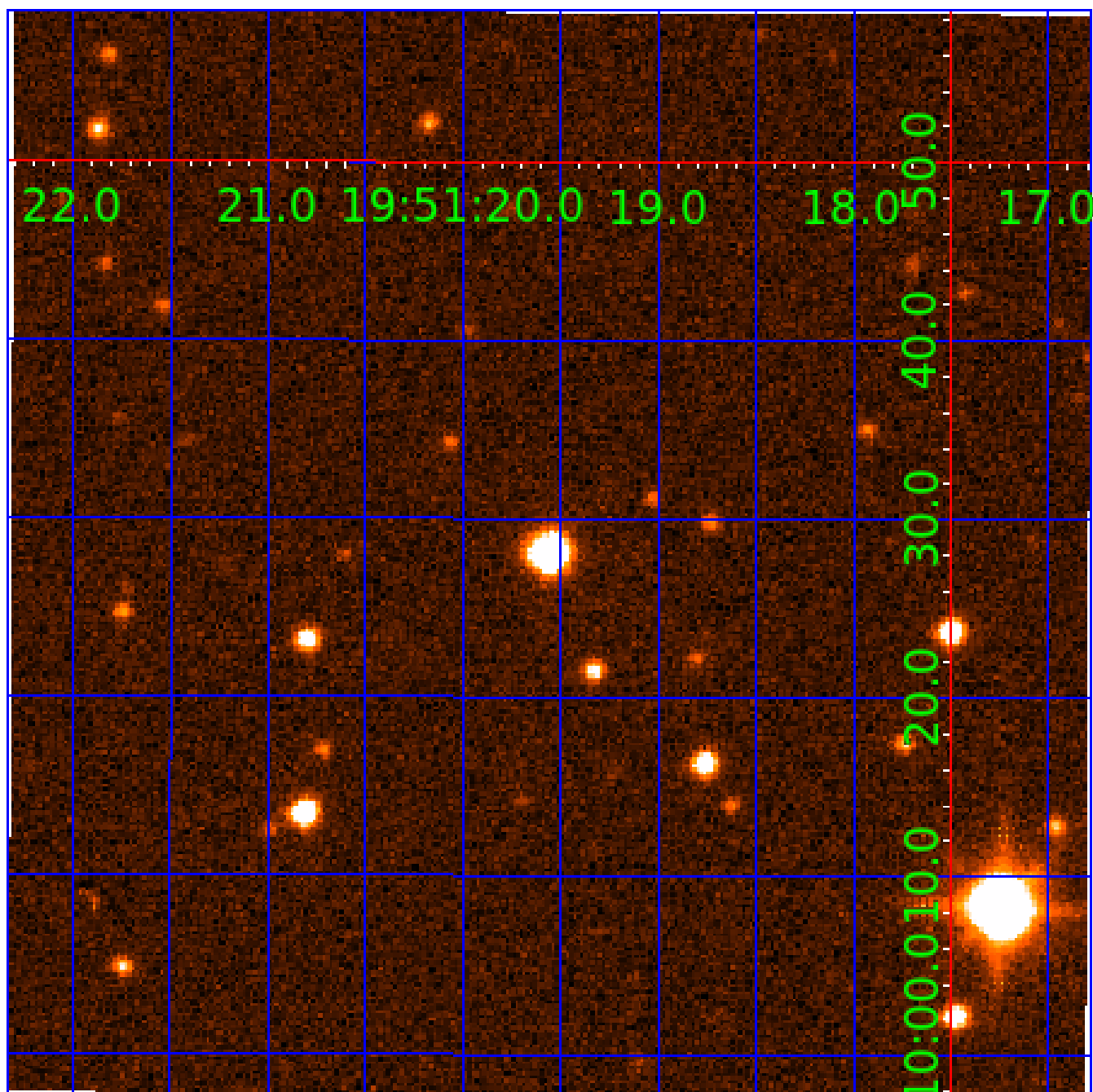


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007551695

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})
007551695-01	OBS	No	543.692197	254.312675	3521.7	11.242	15.0	7.6	0.66	4194	3.87	0.09
007551695-02	OBS	No	364.669435	158.672149	2977.6	7.346	14.9	8.0	0.66	4194	3.44	0.16
007551695-03	OBS	No	519.531116	469.552453	1675.8	6.617	15.9	5.1	0.66	4194	3.13	0.10
007551695-04	OBS	No	281.564738	216.052794	1133.2	3.025	14.4	4.3	0.66	4194	2.48	0.23
007551695-05	OBS	No	377.760457	472.885484	1806.5	4.906	14.2	5.9	0.66	4194	3.25	0.15
007551695-06	OBS	No	403.160950	214.450814	1393.5	7.500	12.9	-1.0	0.66	4194	2.36	0.14

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007551695-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007551695-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
007551695-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007551695-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007551695-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007551695-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

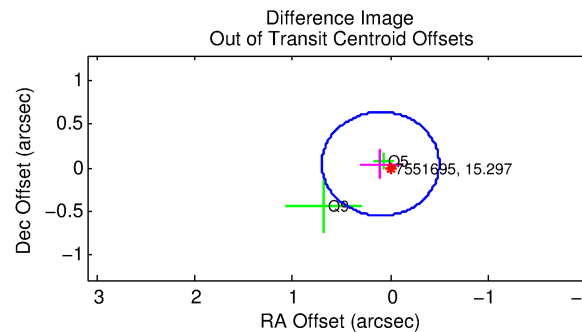
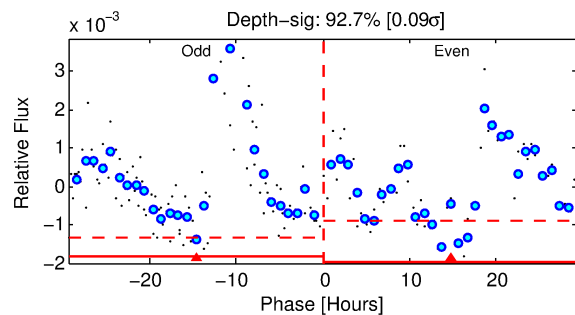
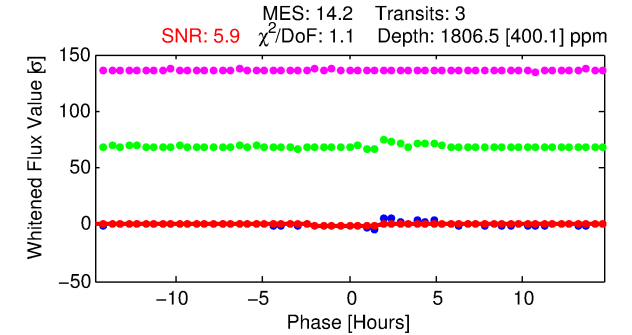
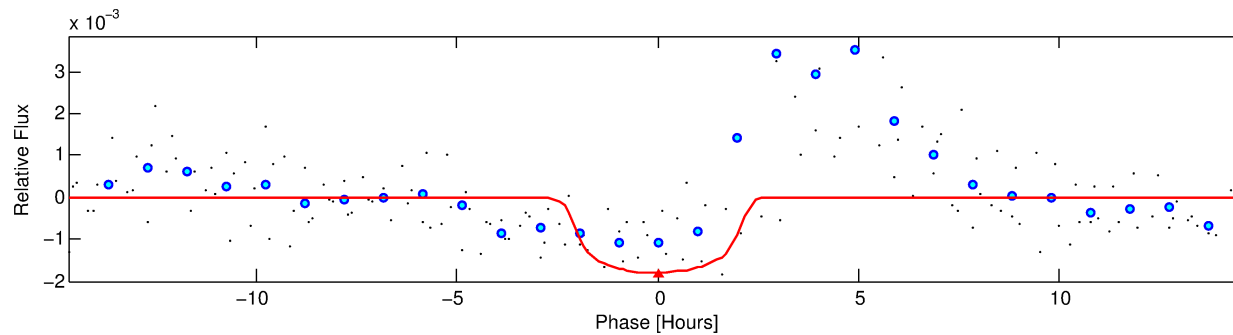
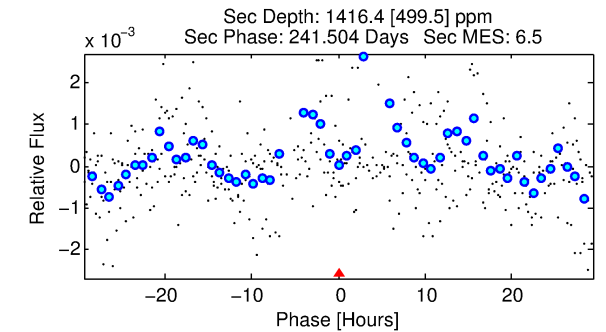
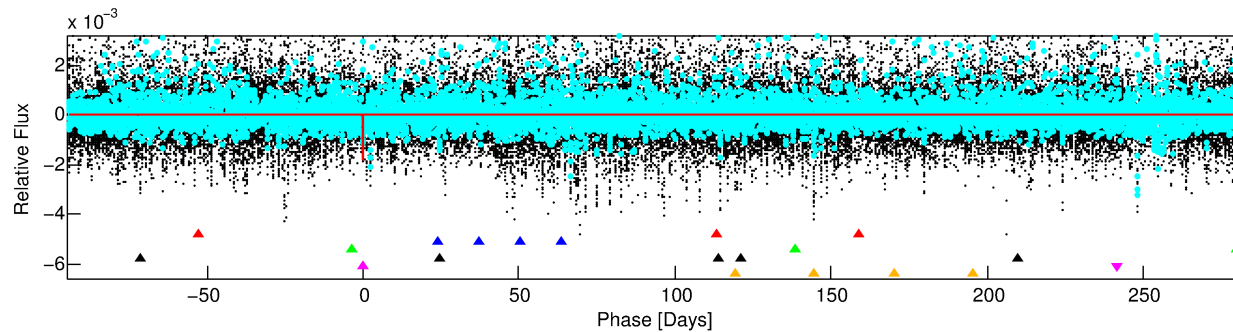
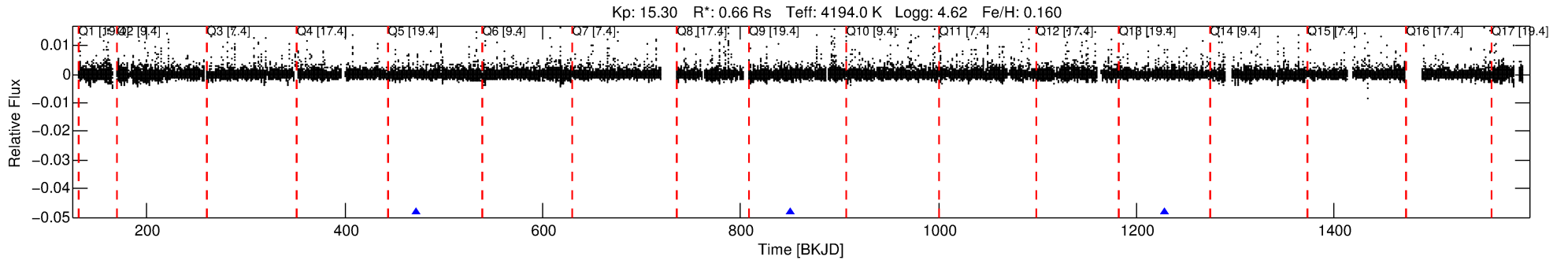
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007551695-05

No Significant Match Found

DV One-Page Summary

KIC: 7551695 Candidate: 5 of 6 Period: 377.760 d



DV Fit Results:

Period = 377.76046 [0.00823] d
Epoch = 472.8855 [0.0102] BKJD
Rp/R* = 0.0451 [0.0137]
a/R* = 367.81 [321.29]
b = 0.84 [0.32]
Seff = 0.15 [0.03]
Teq = 159 [7] K
Rp = 3.25 [1.03] Re
a = 0.8883 [0.0641] AU
Ag = 58308.14 [41303.82] [1.41σ]
Teffp = 3832 [685] K [5.36σ]

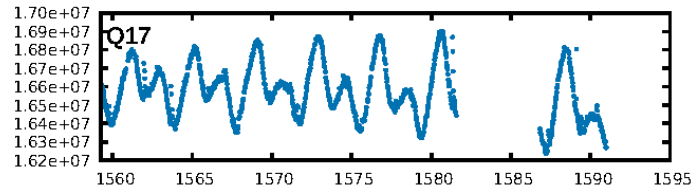
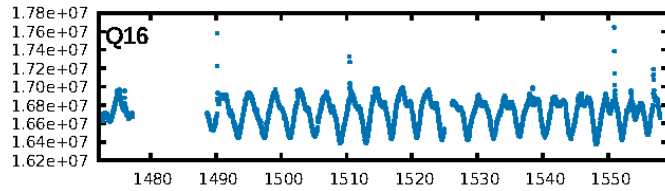
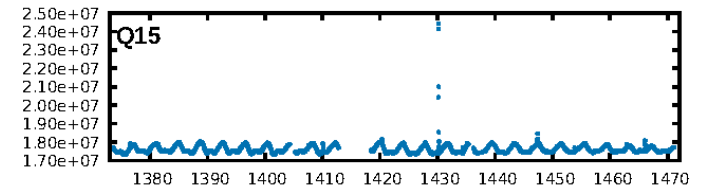
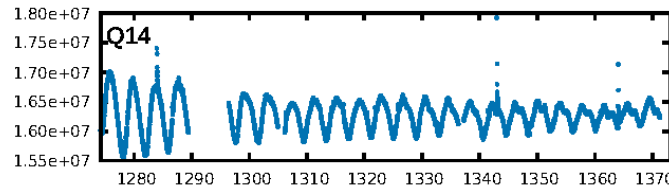
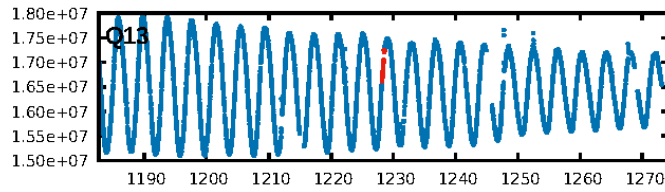
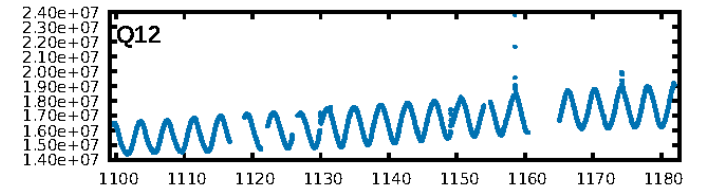
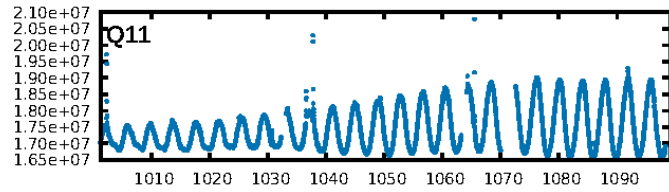
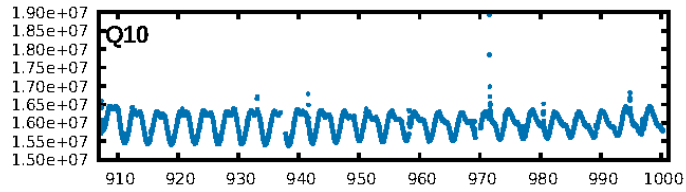
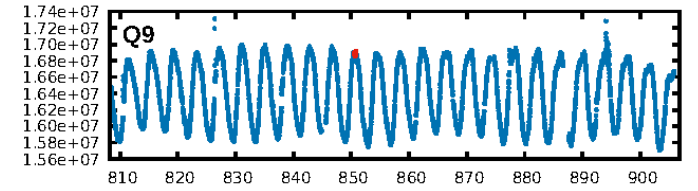
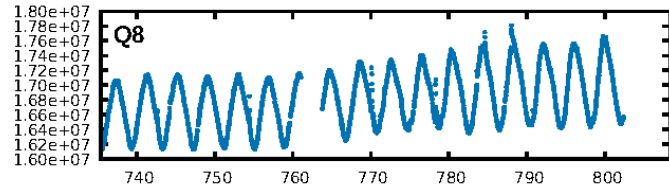
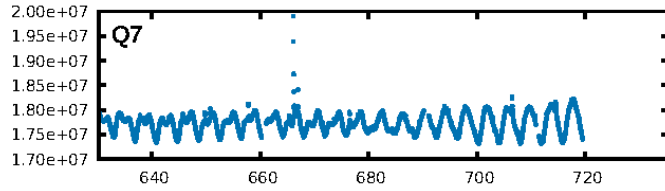
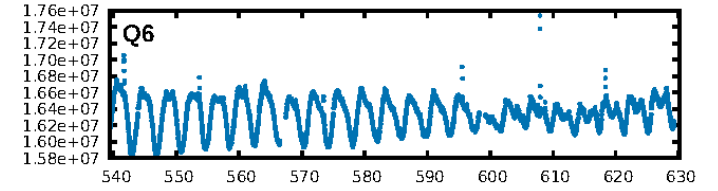
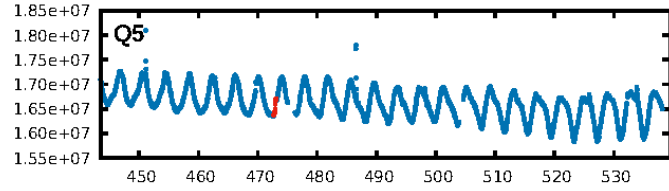
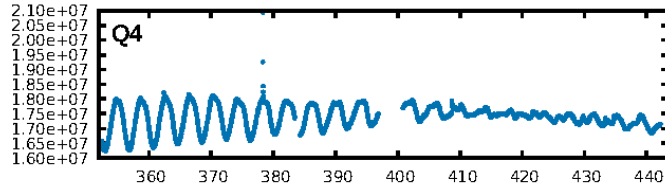
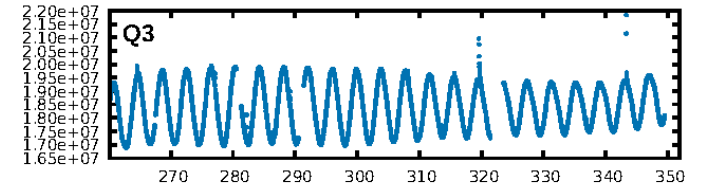
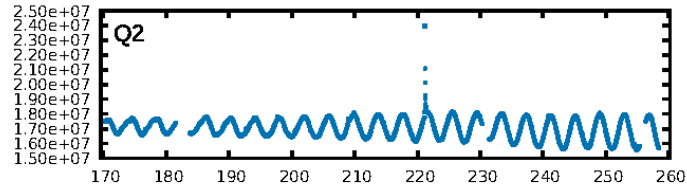
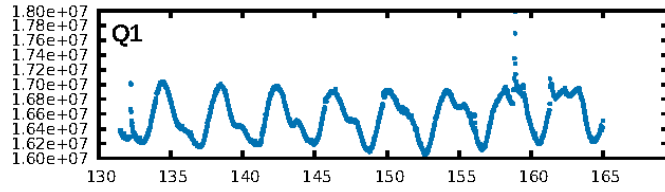
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [35.57σ]
LongPeriod-sig: 100.0% [68.02σ]
ModelChiSquare2-sig: 22.4%
ModelChiSquareGof-sig: 95.5%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.7308
Centroid-sig: 26.2%
Centroid-so: 0.762 arcsec [0.69σ]
OotOffset-rm: 0.111 arcsec [0.56σ]
KicOffset-rm: 0.168 arcsec [0.84σ]
OotOffset-st: 0/0/0/2 [2]
KicOffset-st: 0/0/0/2 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

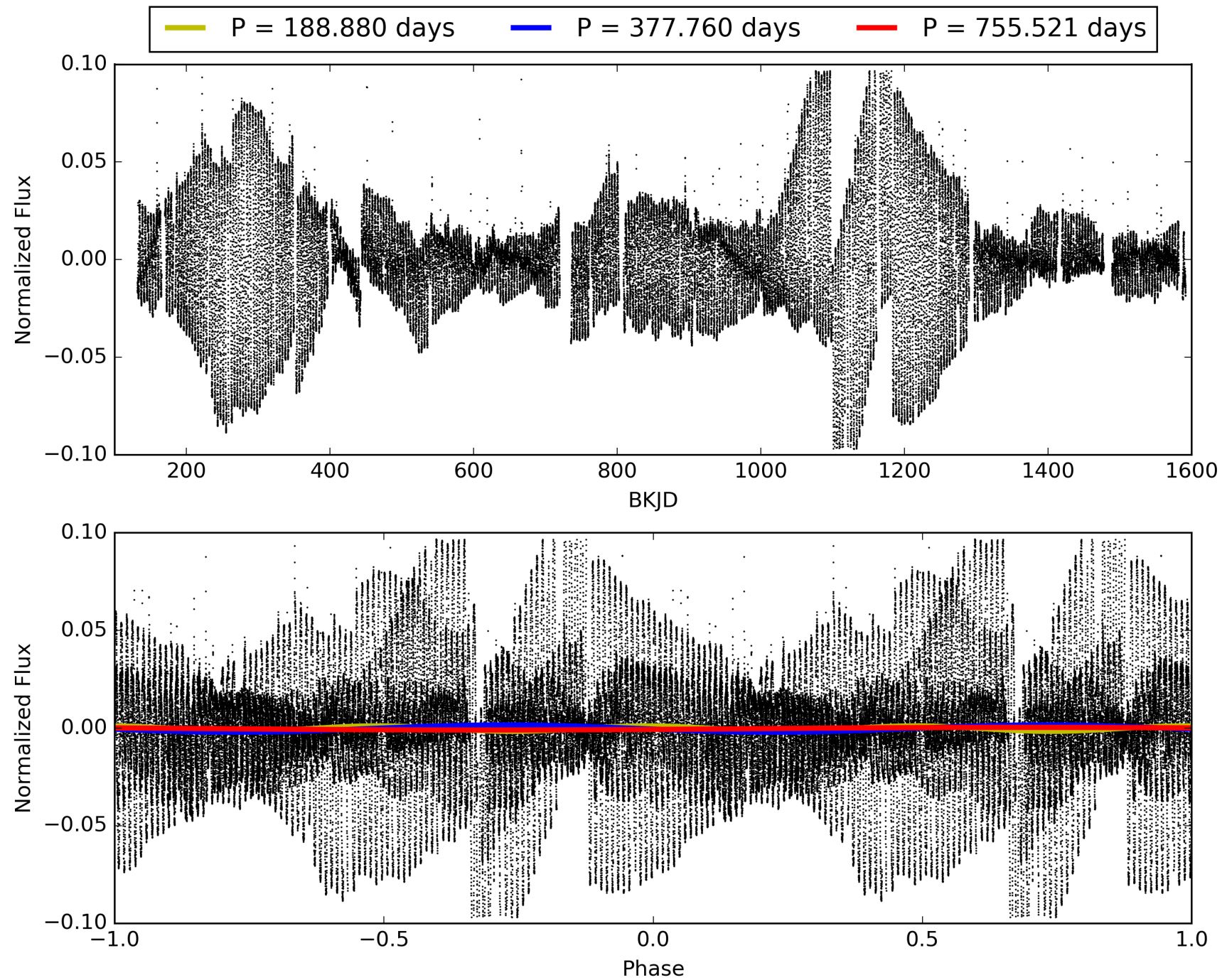
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:49:25 Z

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

TCE 007551695-05, PDC Light Curves

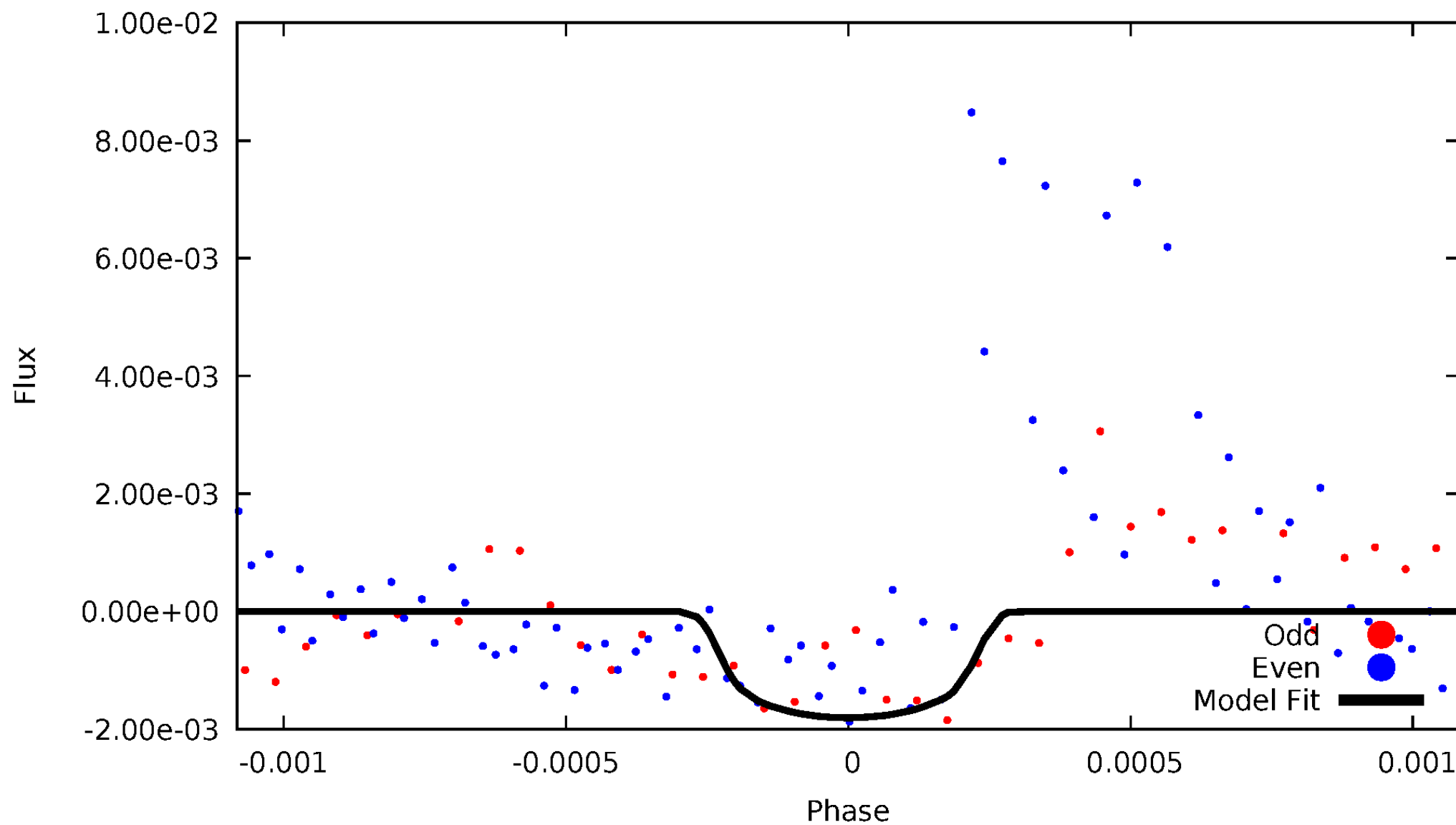


TCE 007551695-05



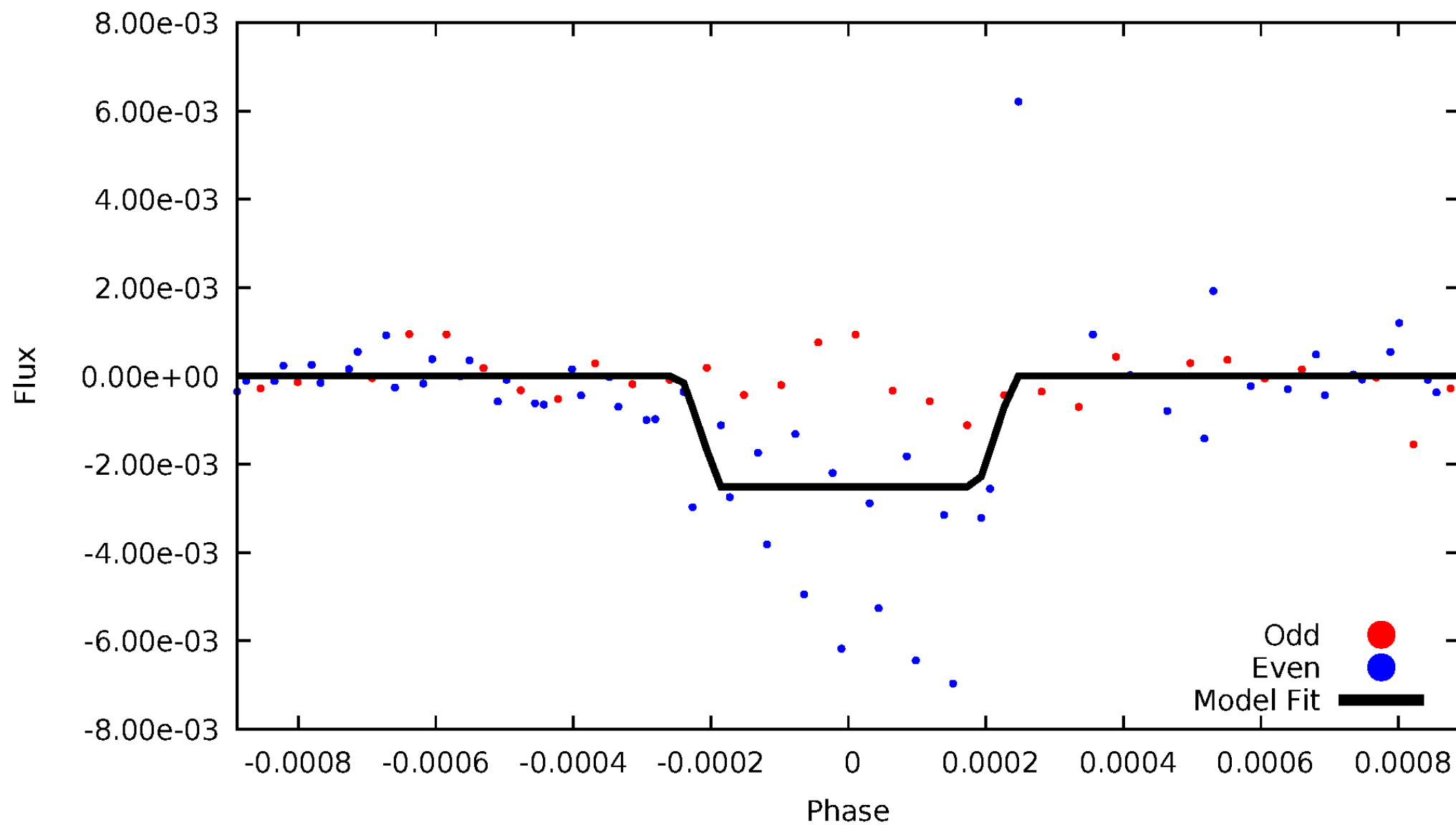
DV Odd/Even

TCE 007551695-05



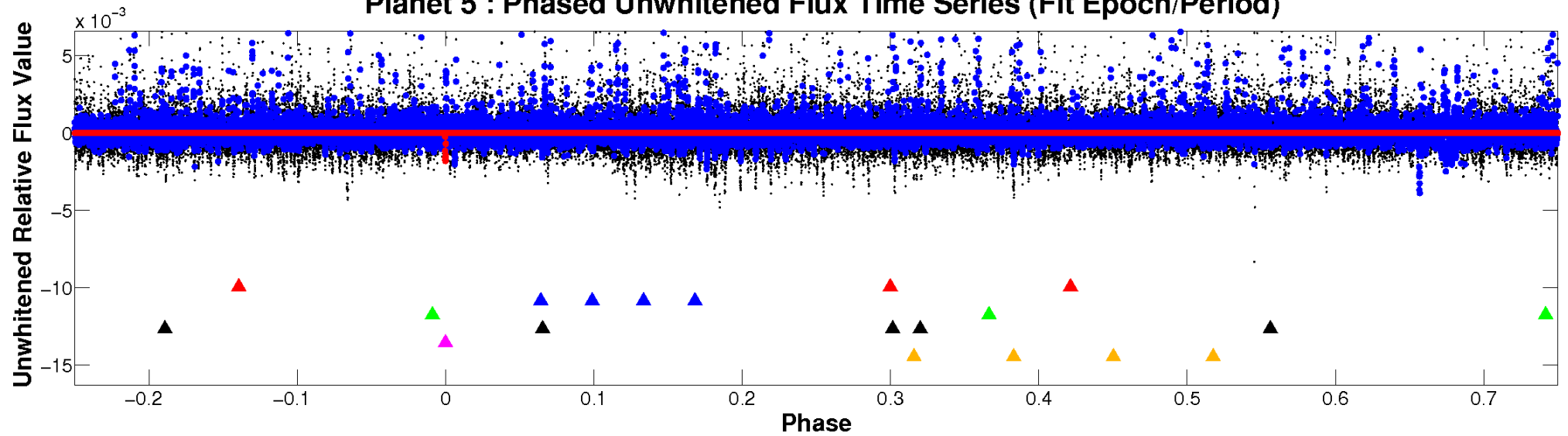
ALT Odd/Even

TCE 007551695-05

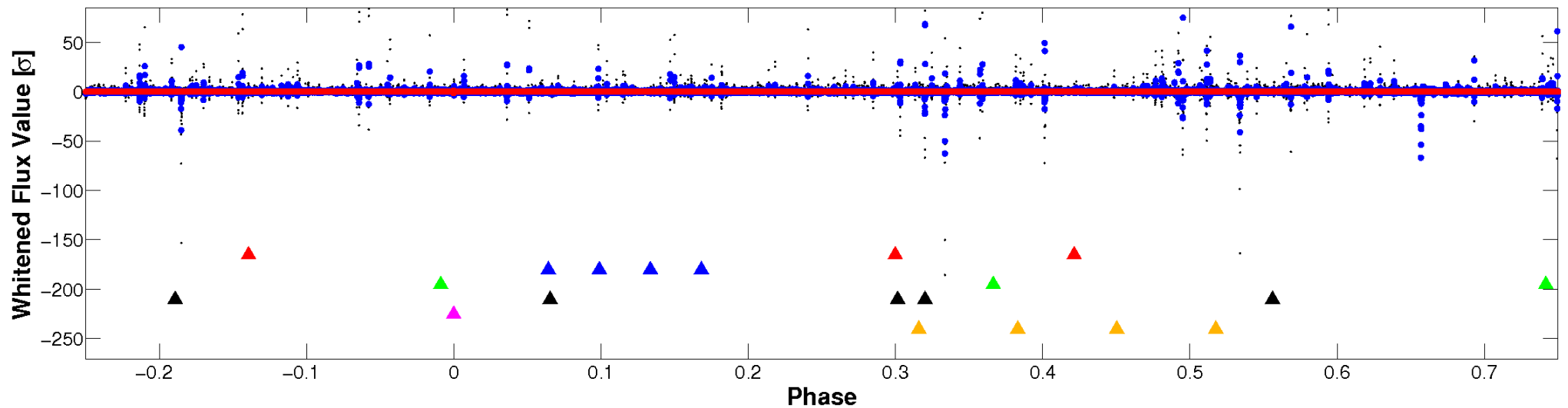


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

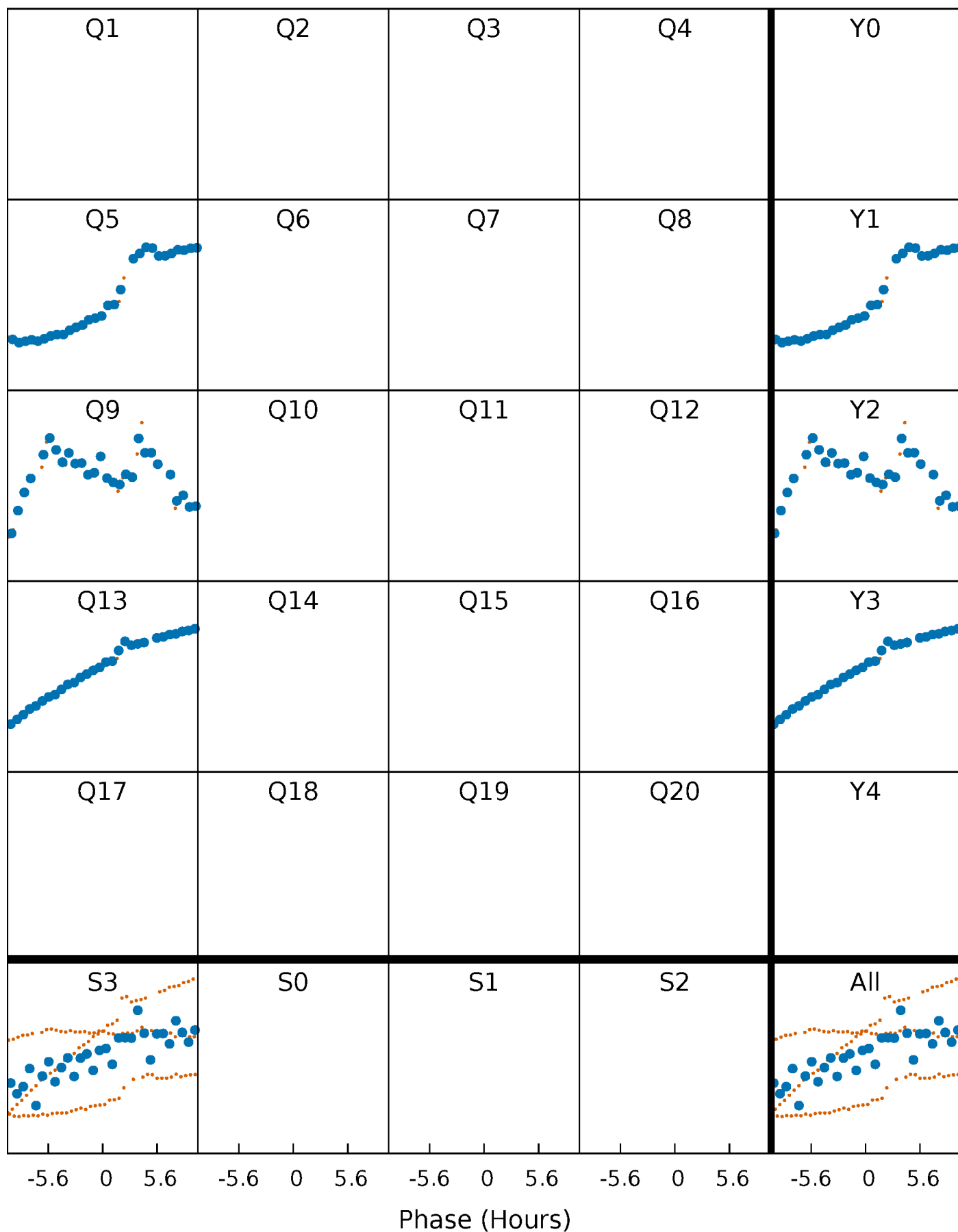


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



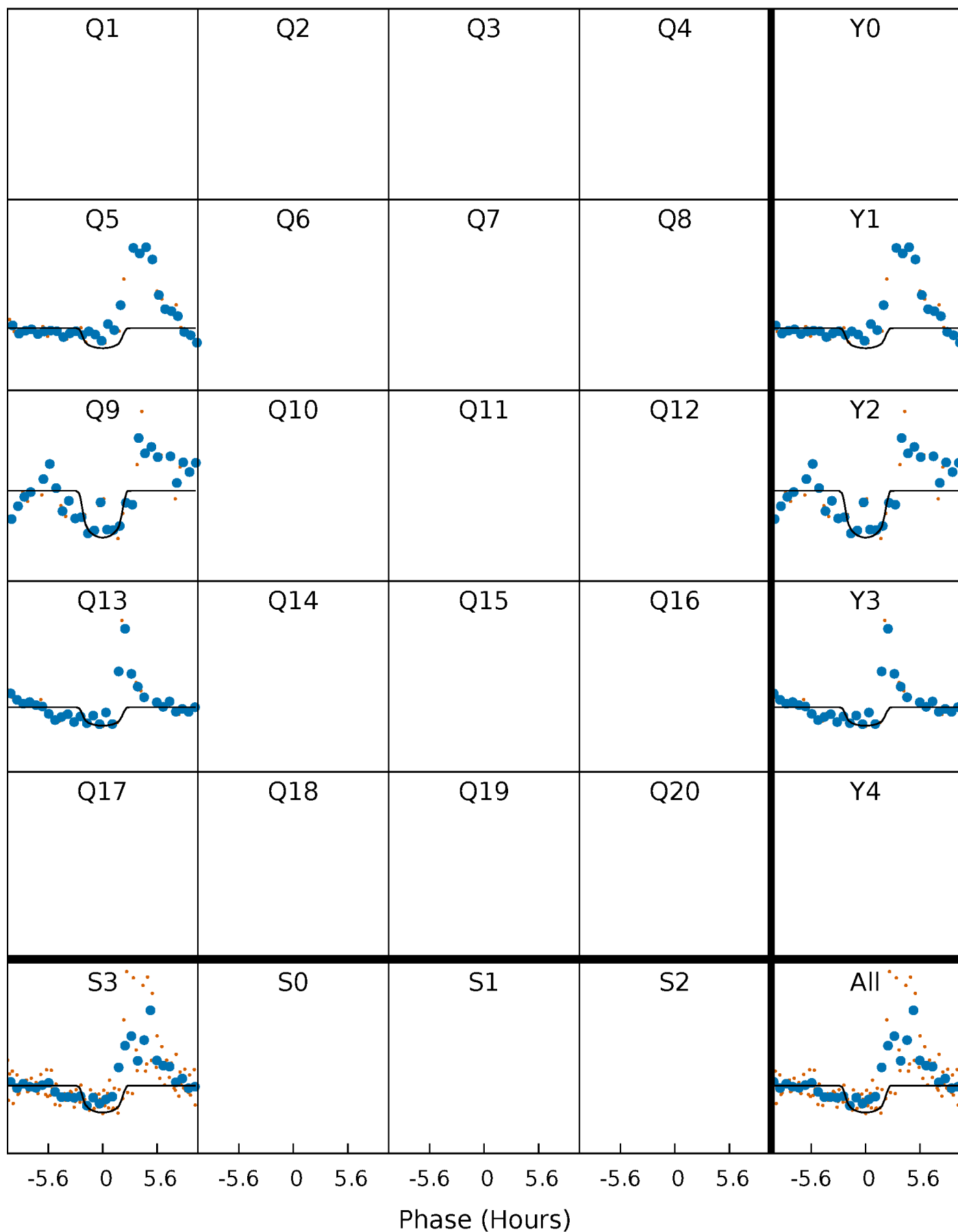
PDC Quarter-Phased Transit Curves

TCE 007551695-05 $P=377.760457$ Days $T_0=472.885484$ (BKJD)



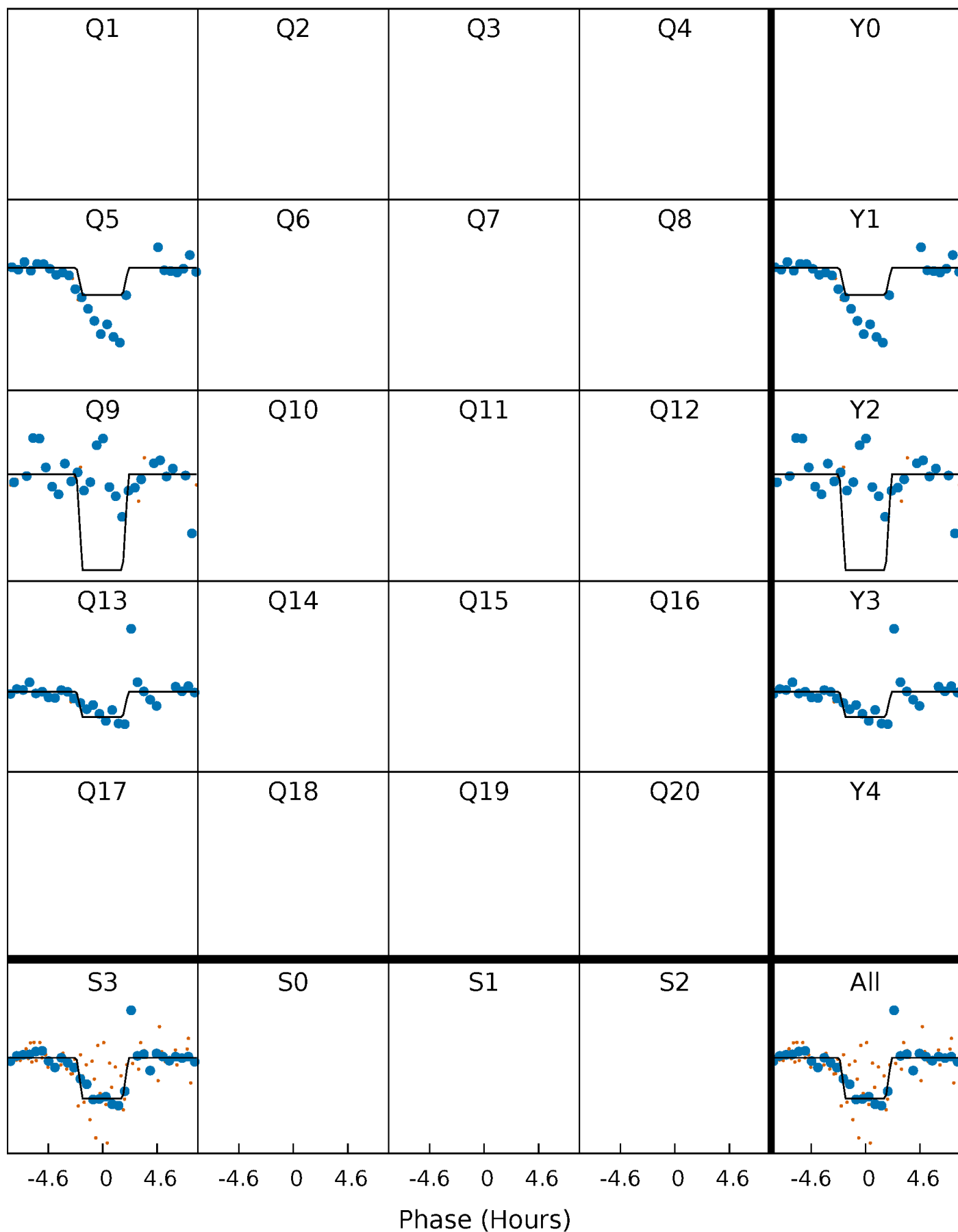
DV Quarter-Phased Transit Curves

TCE 007551695-05 $P=377.760457$ Days $T_0=472.885484$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

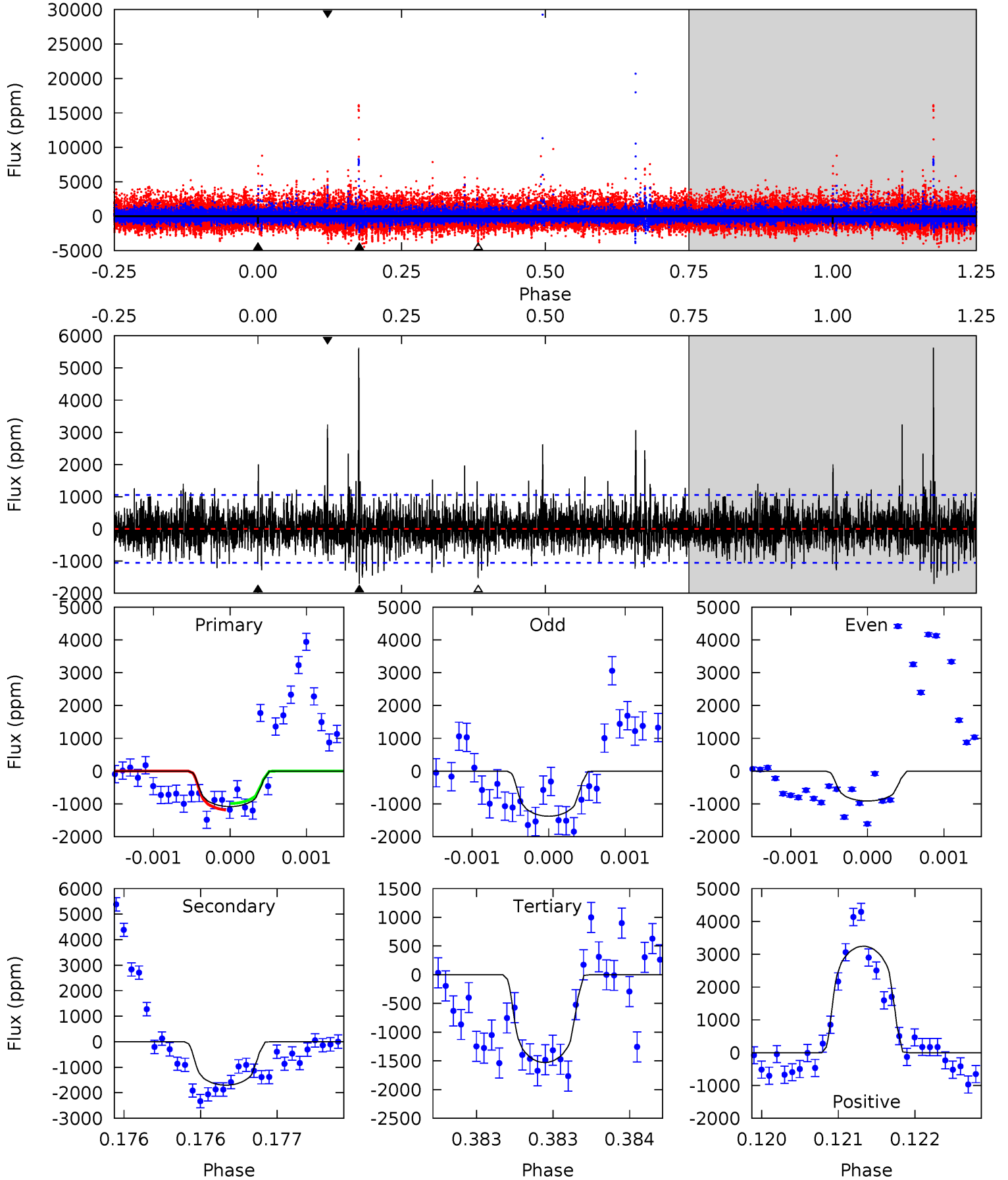
TCE 007551695-05 $P=377.748412$ Days $T_0=472.898588$ (BKJD)



DV Model-Shift Uniqueness Test

007551695-05, $P = 377.760457$ Days, $E = 95.125027$ Days

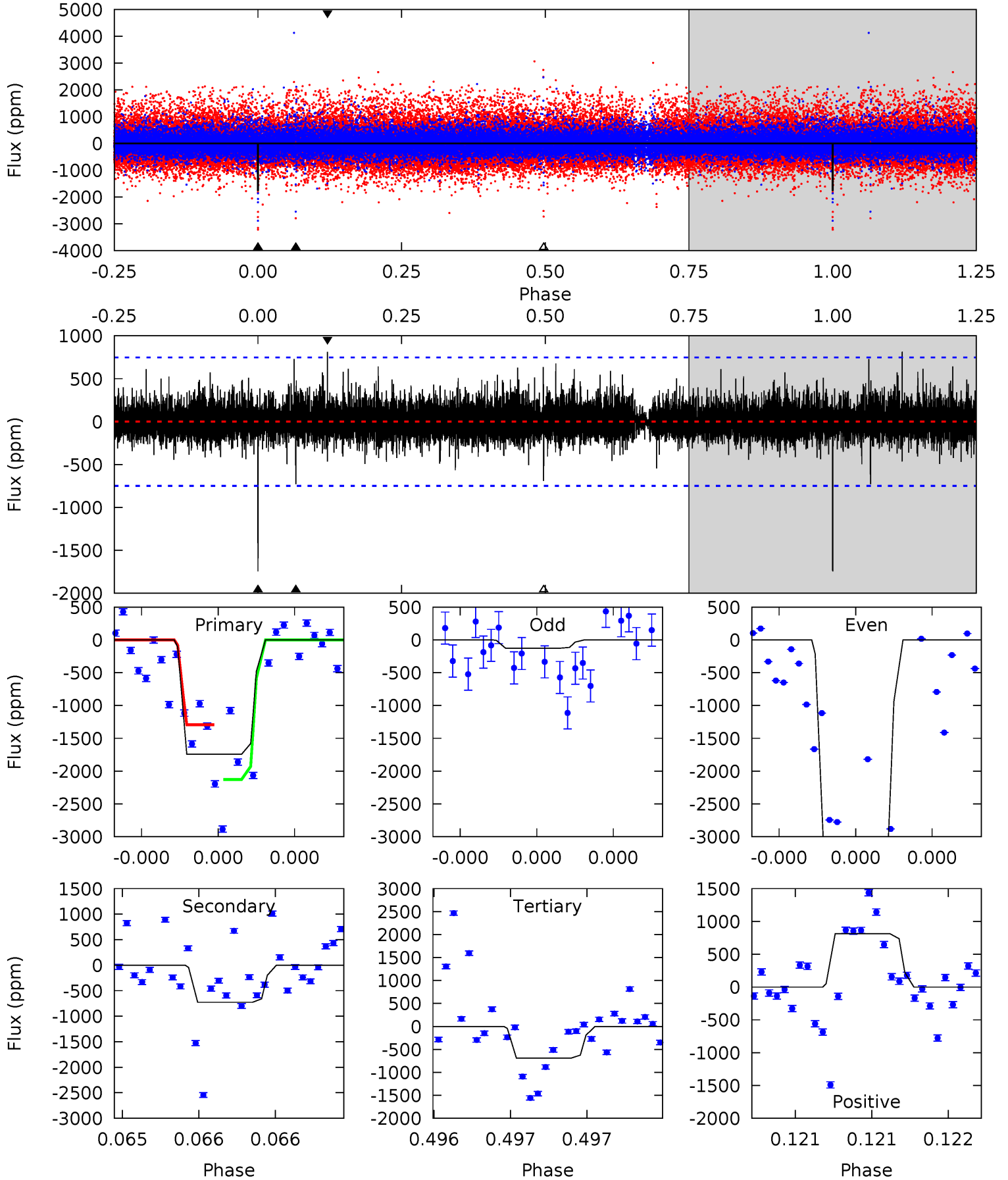
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.71	8.97	8.06	17.1	5.56	3.45	2.24	-2.35	-11.4	0.91	-8.13	0.70	1.18	0.77	0.53



Alt Model-Shift Uniqueness Test

007551695-05, P = 377.748412 Days, E = 95.150176 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	5.43	5.16	6.07	5.59	3.51	0.97	7.87	6.96	0.28	-0.63	13.8	1.14	0.32	0



Stellar Parameters For KIC 007551695

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4194^{+131}_{-146}	$4.615^{+0.053}_{-0.018}$	$0.160^{+0.250}_{-0.300}$	$0.660^{+0.032}_{-0.059}$	$0.655^{+0.050}_{-0.055}$	$3.209^{+0.788}_{-0.254}$
	+3%/-3%	+1%/-0%	+156%/-188%	+5%/-9%	+8%/-8%	+25%/-8%
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 007551695-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1703 ± 190	$3.27^{+1.00}_{-0.97}$	221^{+8}_{-8}	4037^{+580}_{-373}	70608^{+74328}_{-29542}
Alt.	-727 ± 134	$3.57^{+0.97}_{-0.94}$	221^{+7}_{-9}	3393^{+358}_{-271}	24774^{+22114}_{-10077}

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

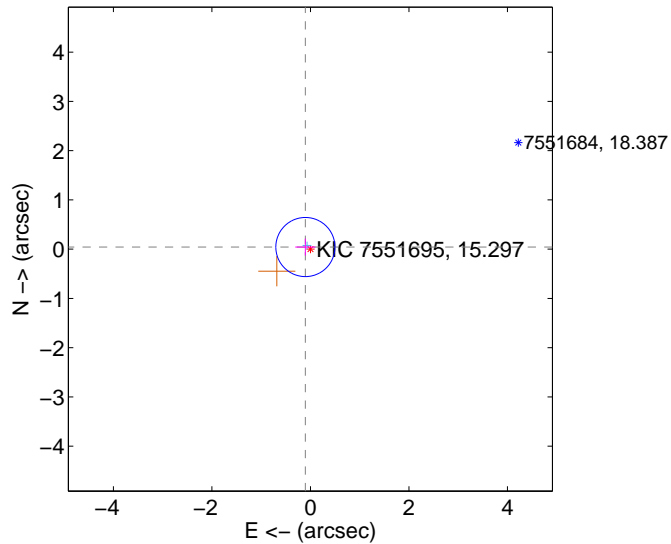
Supplemental centroid analysis for 007551695-05. Kepler magnitude: 15.30. Transit SNR 5.86

There are 1 quarters with good PRF difference image offsets

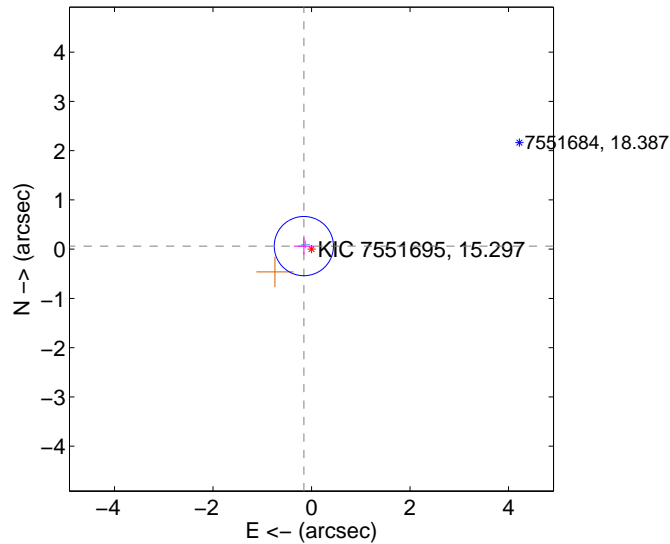
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.111 ± 0.200	0.56	0.102 ± 0.205	0.043 ± 0.172
PRF-fit source offset from KIC position	0.168 ± 0.200	0.84	0.155 ± 0.205	0.063 ± 0.172
photometric centroid source offset	0.76 ± 1.11	0.69	-0.20 ± 0.89	0.74 ± 1.13

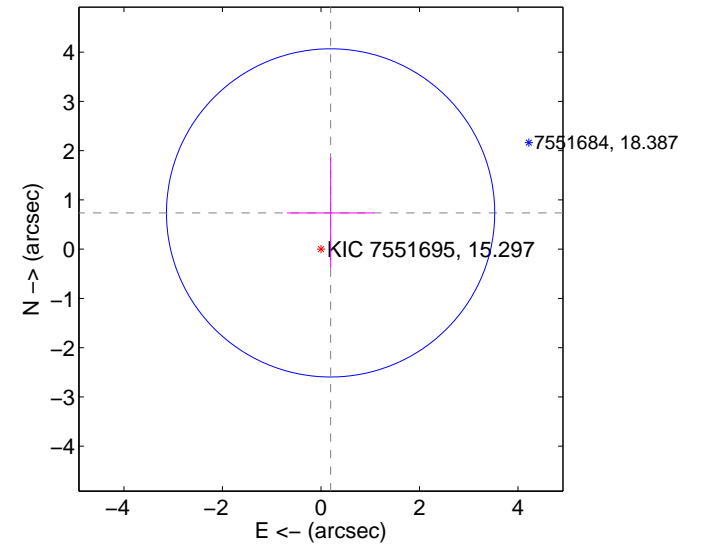
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

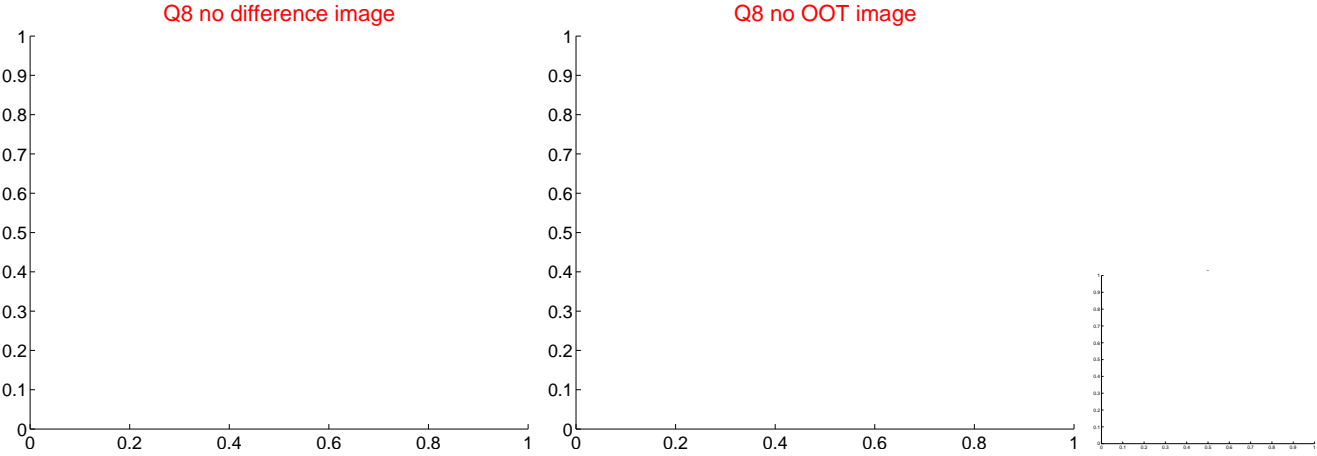
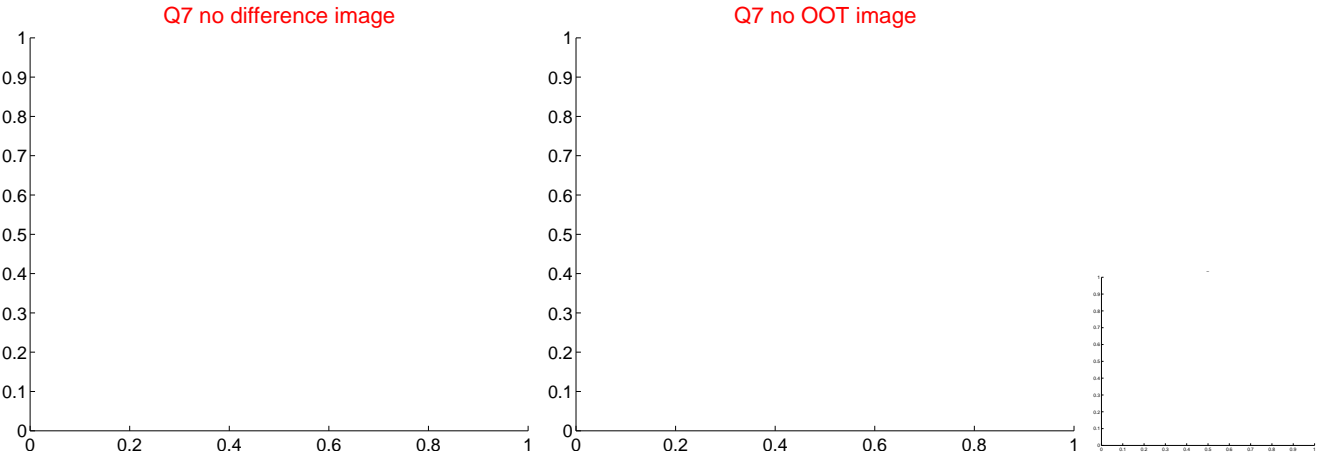
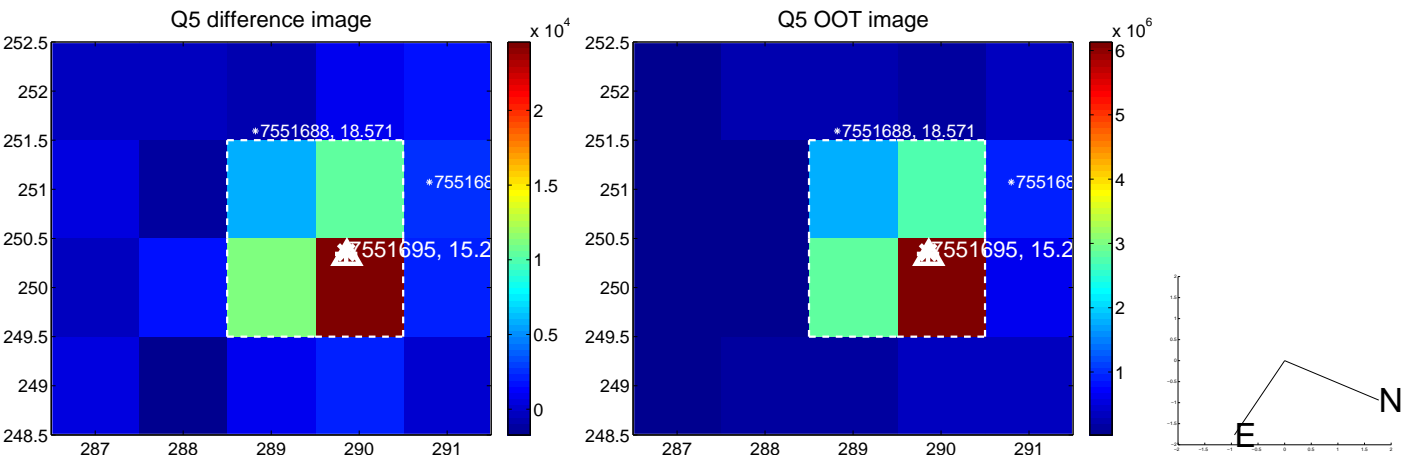


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

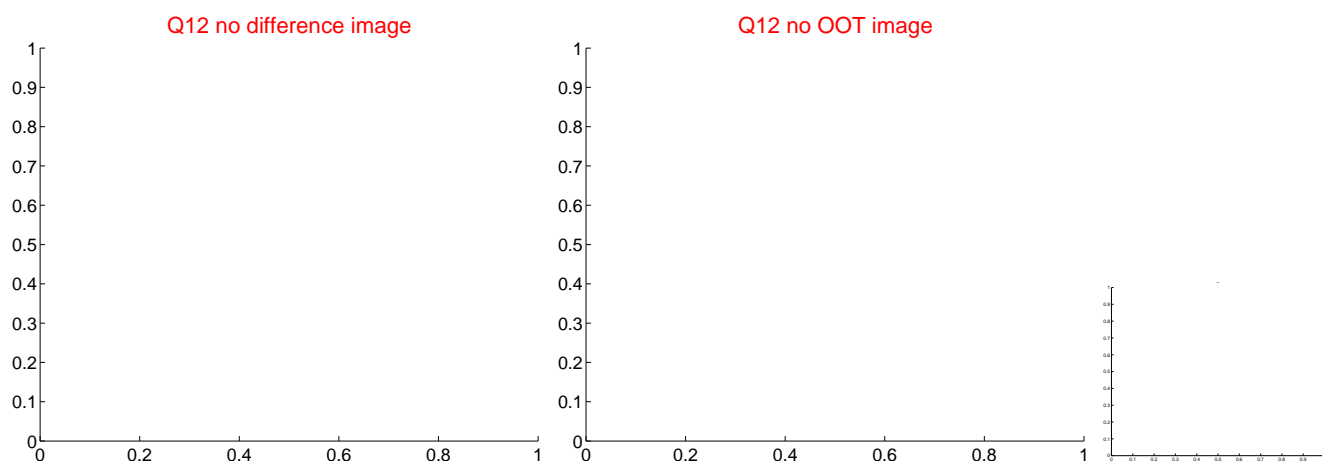
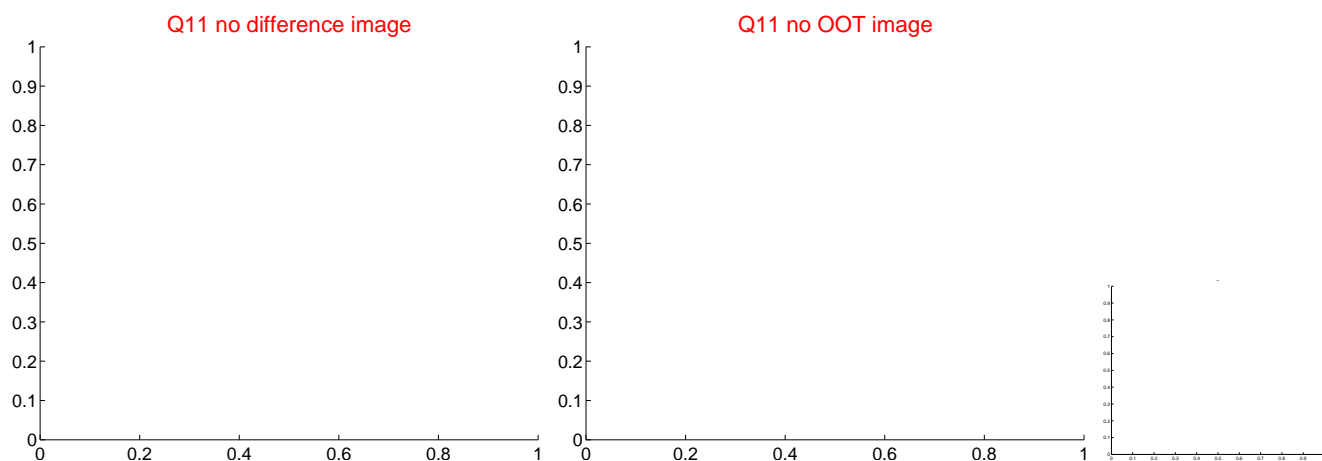
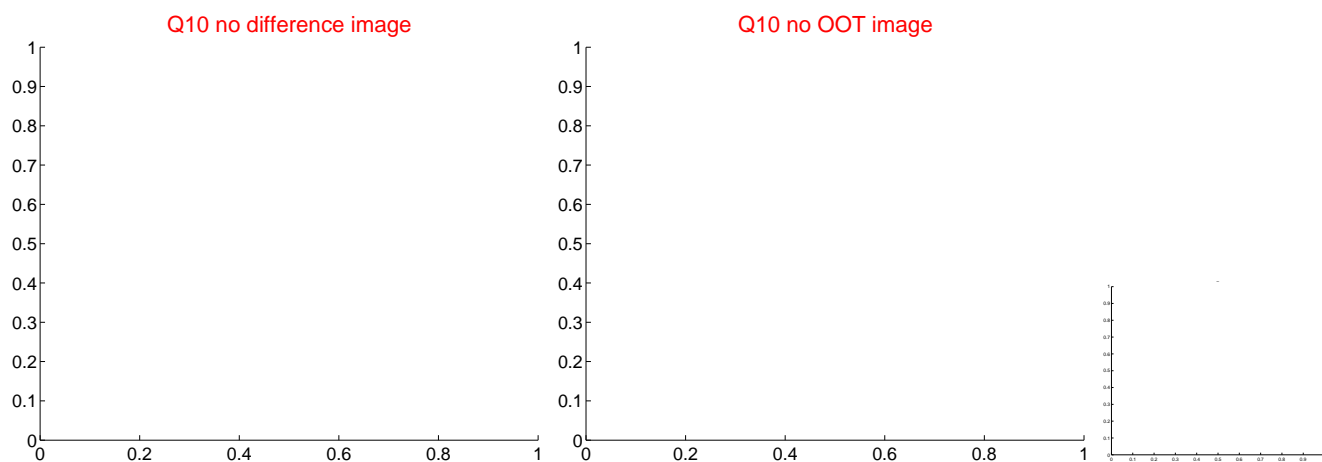
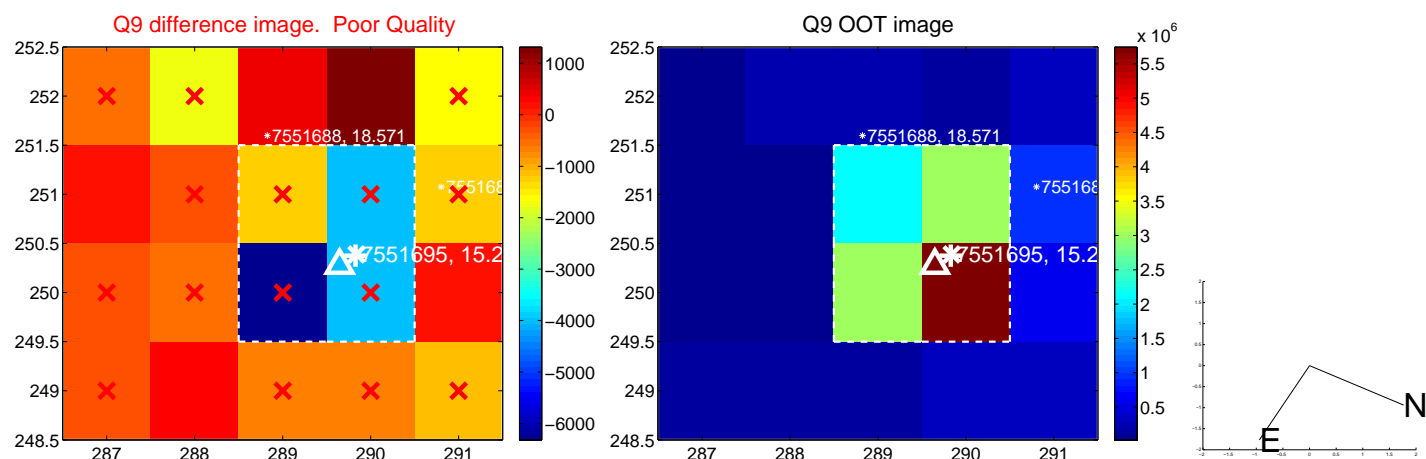
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



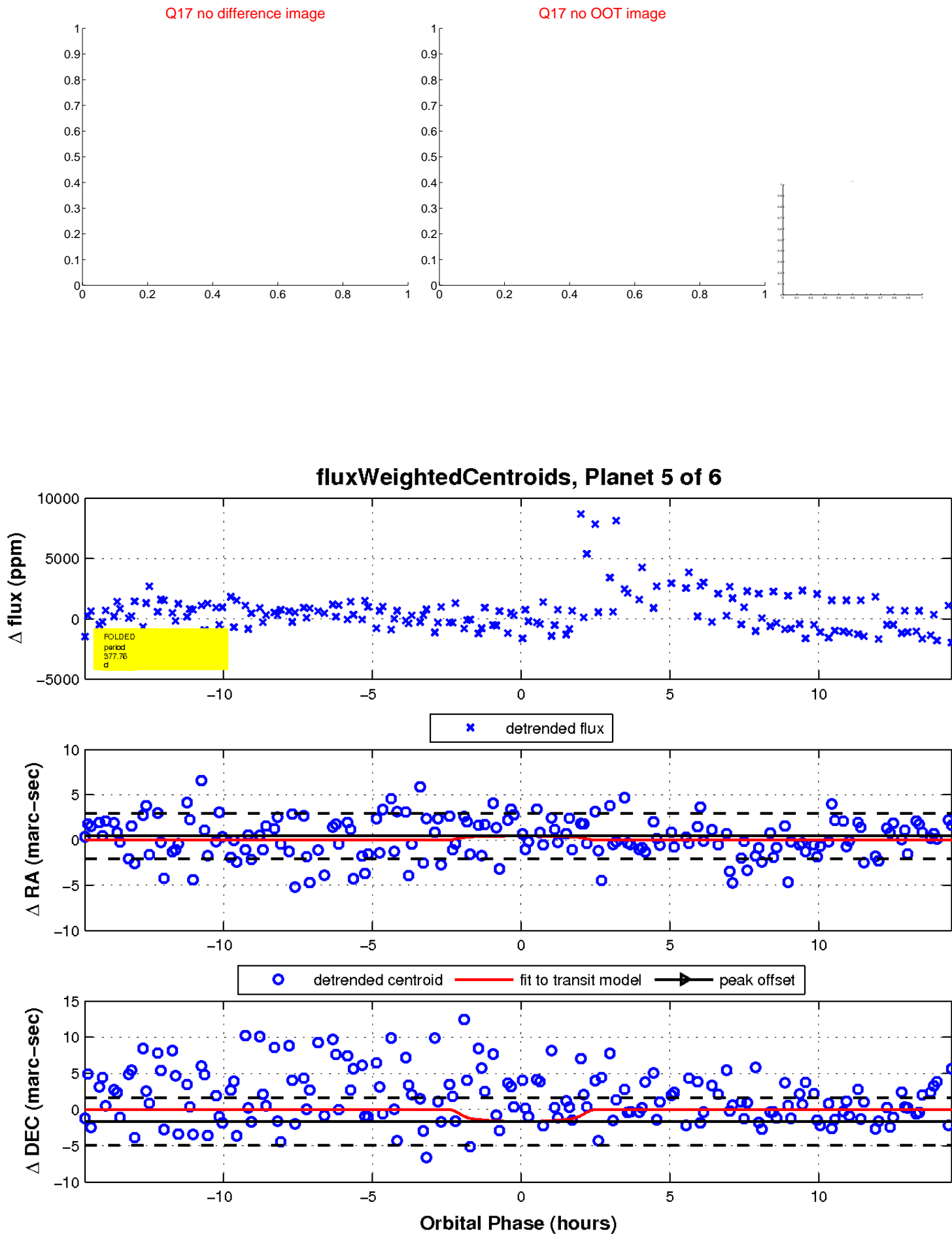
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

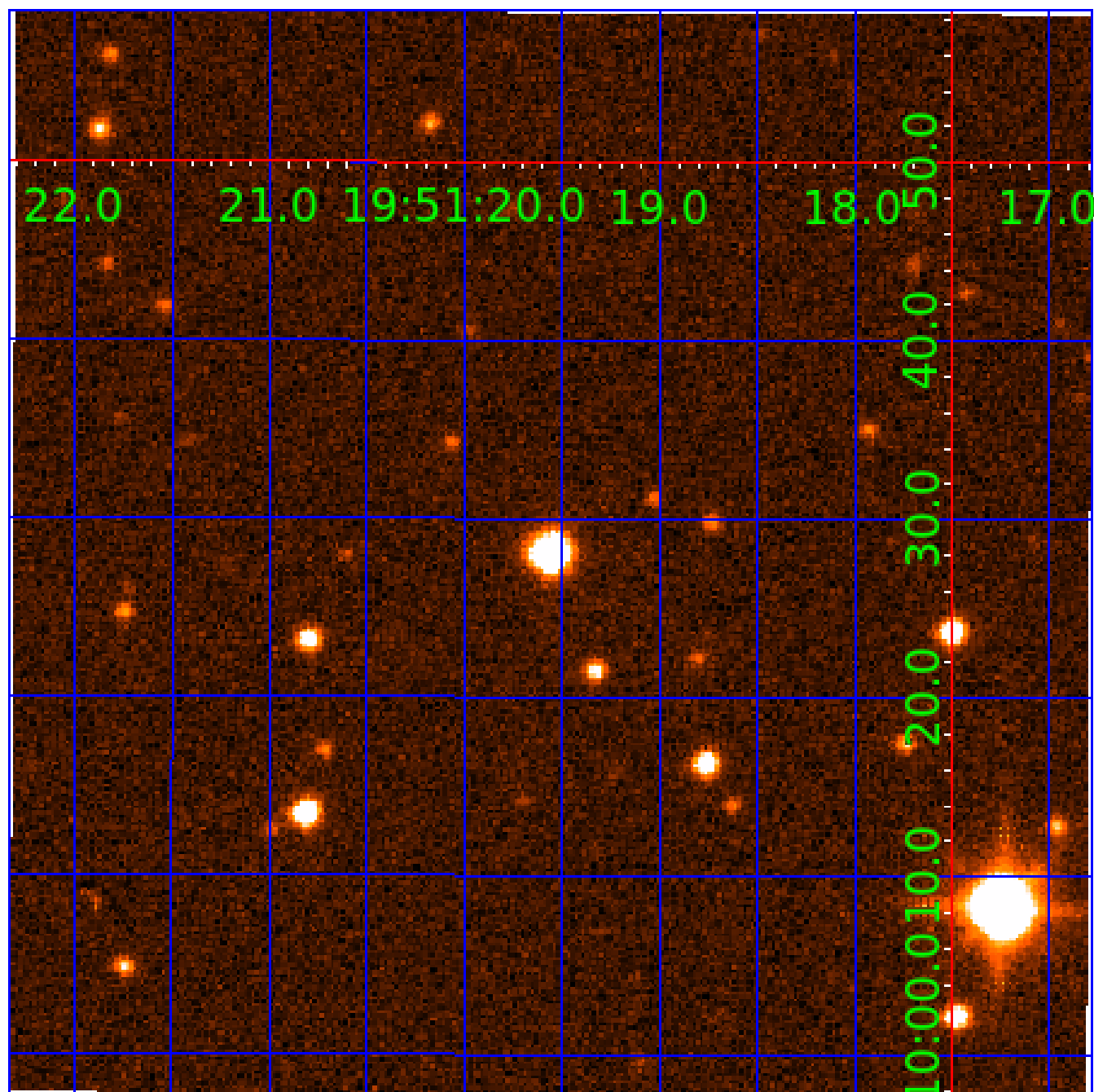


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007551695

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})
007551695-01	OBS	No	543.692197	254.312675	3521.7	11.242	15.0	7.6	0.66	4194	3.87	0.09
007551695-02	OBS	No	364.669435	158.672149	2977.6	7.346	14.9	8.0	0.66	4194	3.44	0.16
007551695-03	OBS	No	519.531116	469.552453	1675.8	6.617	15.9	5.1	0.66	4194	3.13	0.10
007551695-04	OBS	No	281.564738	216.052794	1133.2	3.025	14.4	4.3	0.66	4194	2.48	0.23
007551695-05	OBS	No	377.760457	472.885484	1806.5	4.906	14.2	5.9	0.66	4194	3.25	0.15
007551695-06	OBS	No	403.160950	214.450814	1393.5	7.500	12.9	-1.0	0.66	4194	2.36	0.14

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007551695-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007551695-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
007551695-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007551695-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007551695-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007551695-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

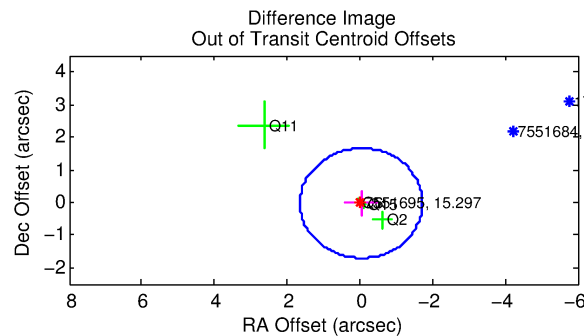
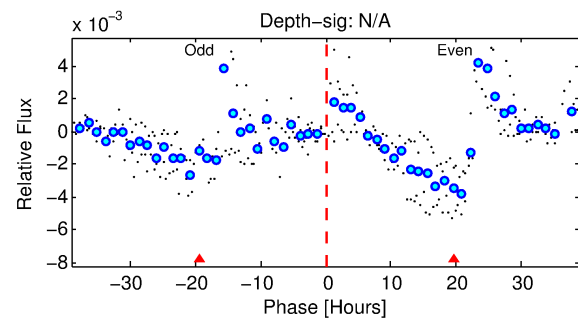
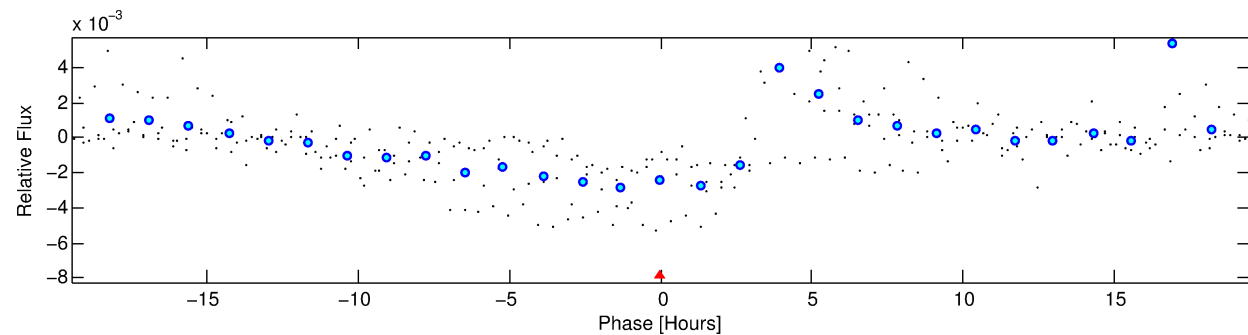
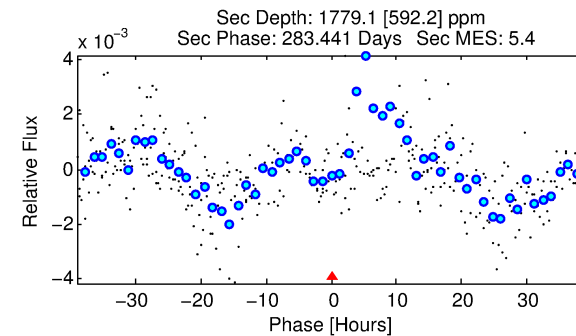
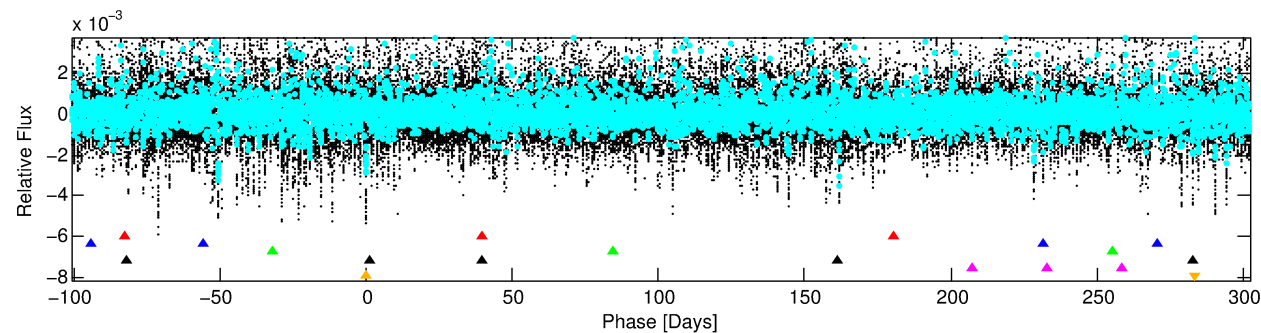
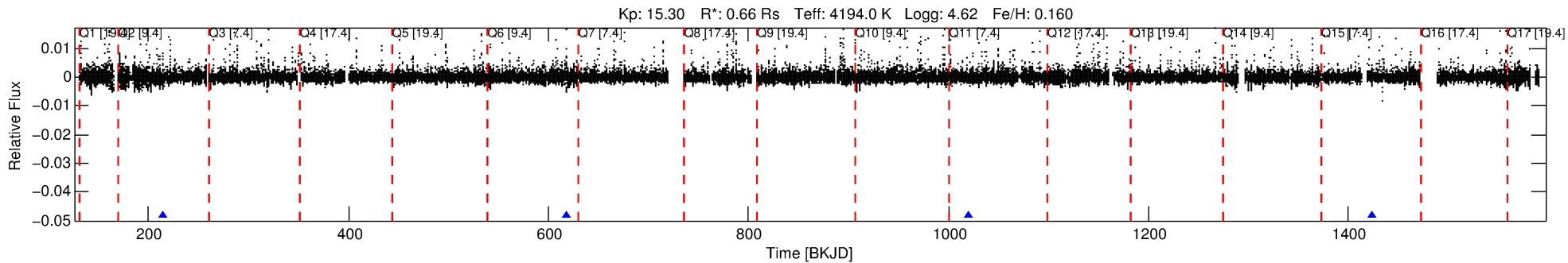
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007551695-06

No Significant Match Found

DV One-Page Summary

KIC: 7551695 Candidate: 6 of 6 Period: 403.161 d



TPS TCE Results:

Period = 403.16095 d
Epoch = 214.4508 BKJD

DV fit results are unavailable

DV Diagnostic Results:

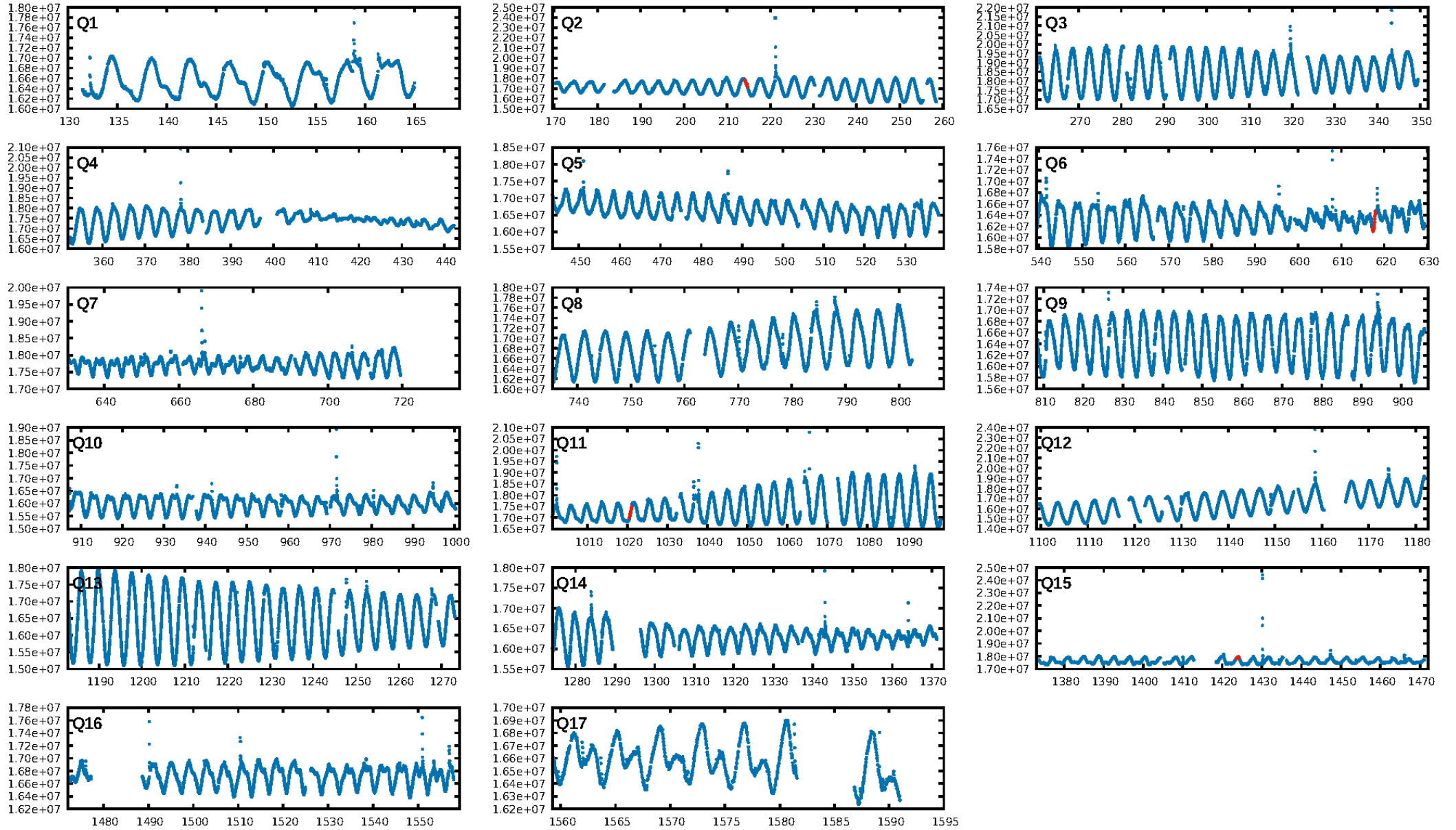
ShortPeriod-sig: 100.0% [68.02 σ]
LongPeriod-sig: 100.0% [279.24 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.7564

Centroid-sig: 88.7%
Centroid-so: 0.296 arcsec [0.63 σ]
OotOffset-rm: 0.044 arcsec [0.08 σ]
KicOffset-rm: 0.120 arcsec [0.24 σ]
OotOffset-st: 2/2/0/0 [4]
KicOffset-st: 2/2/0/0 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 1.00 [4/4]

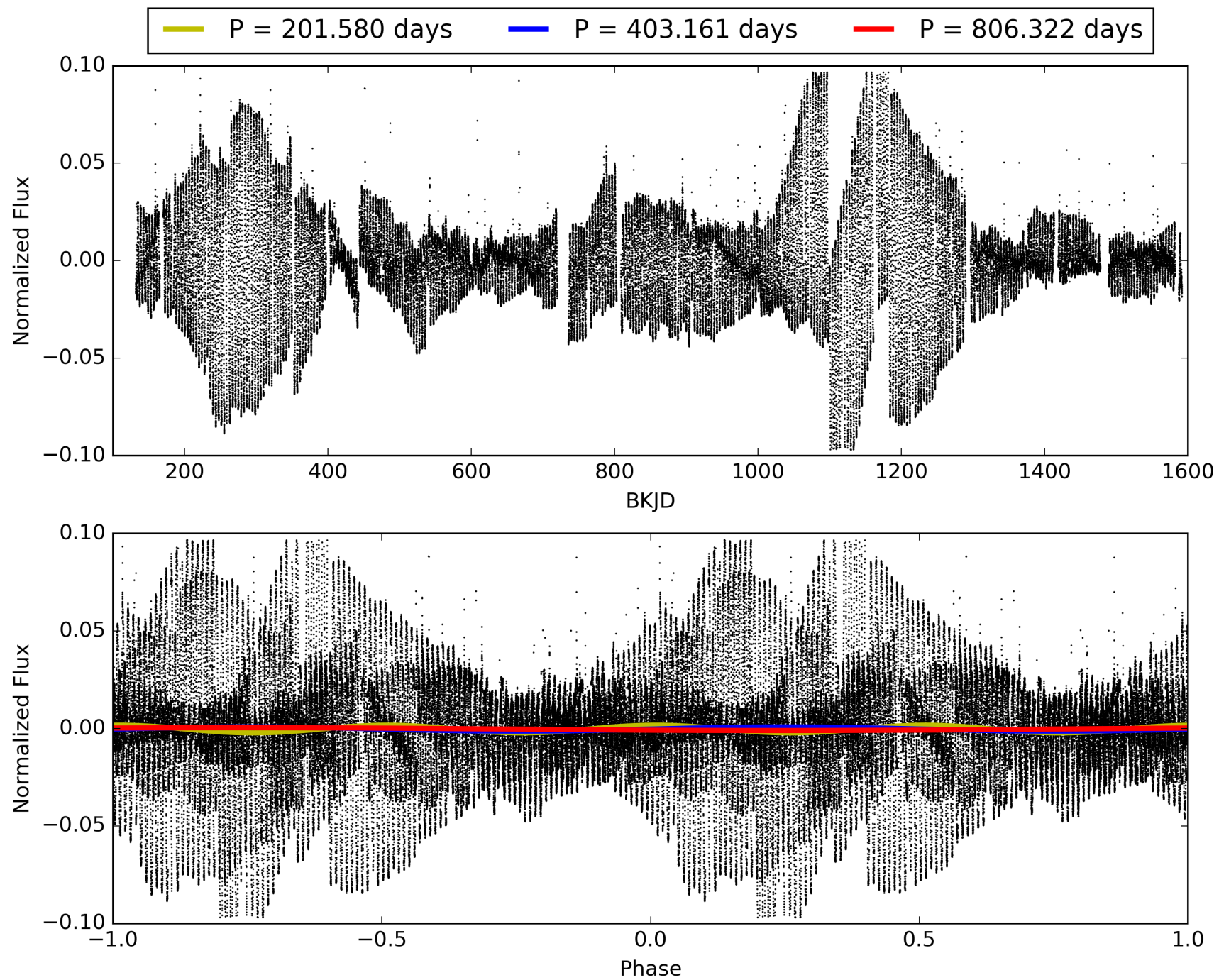
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:49:36 Z

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

TCE 007551695-06, PDC Light Curves

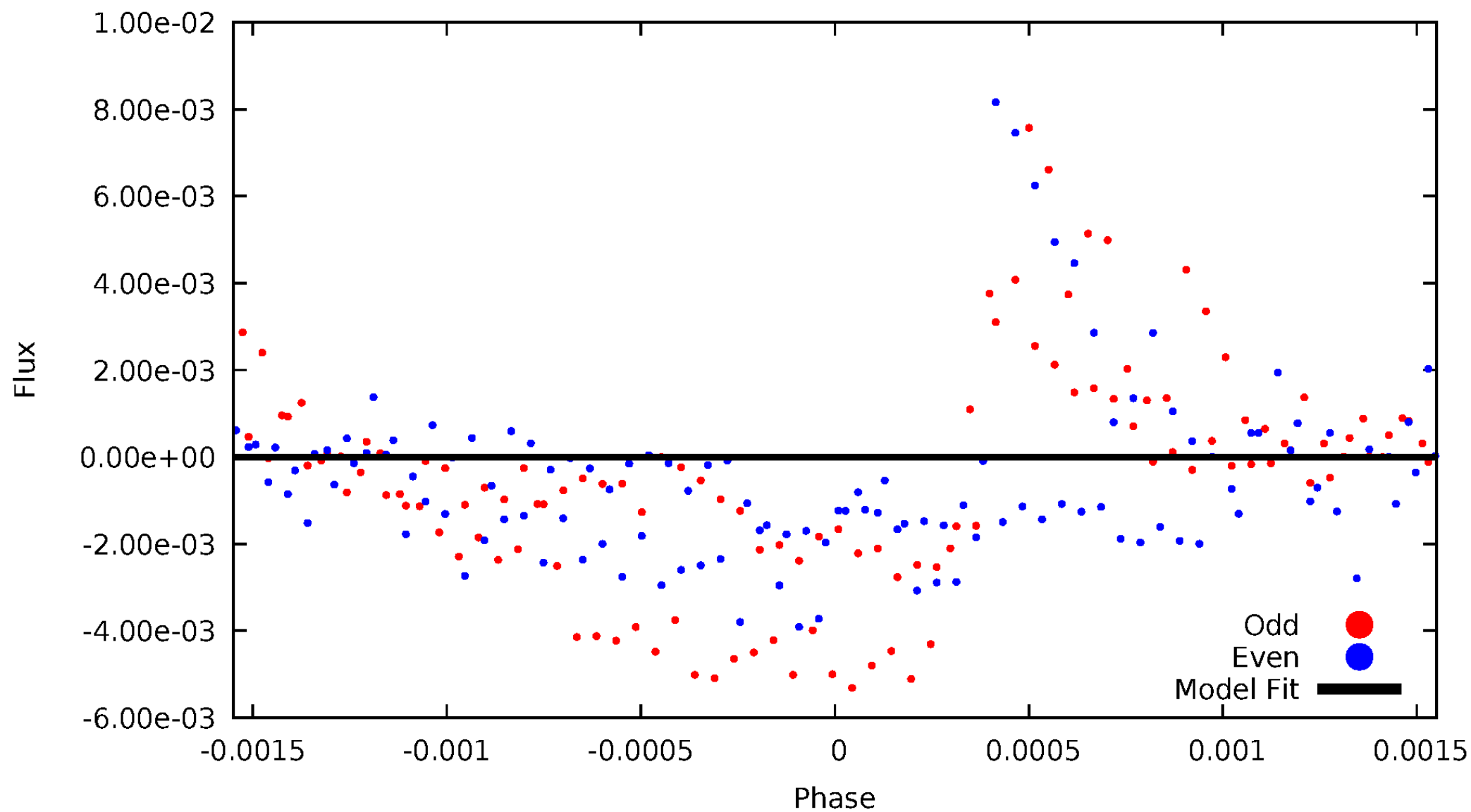


TCE 007551695-06



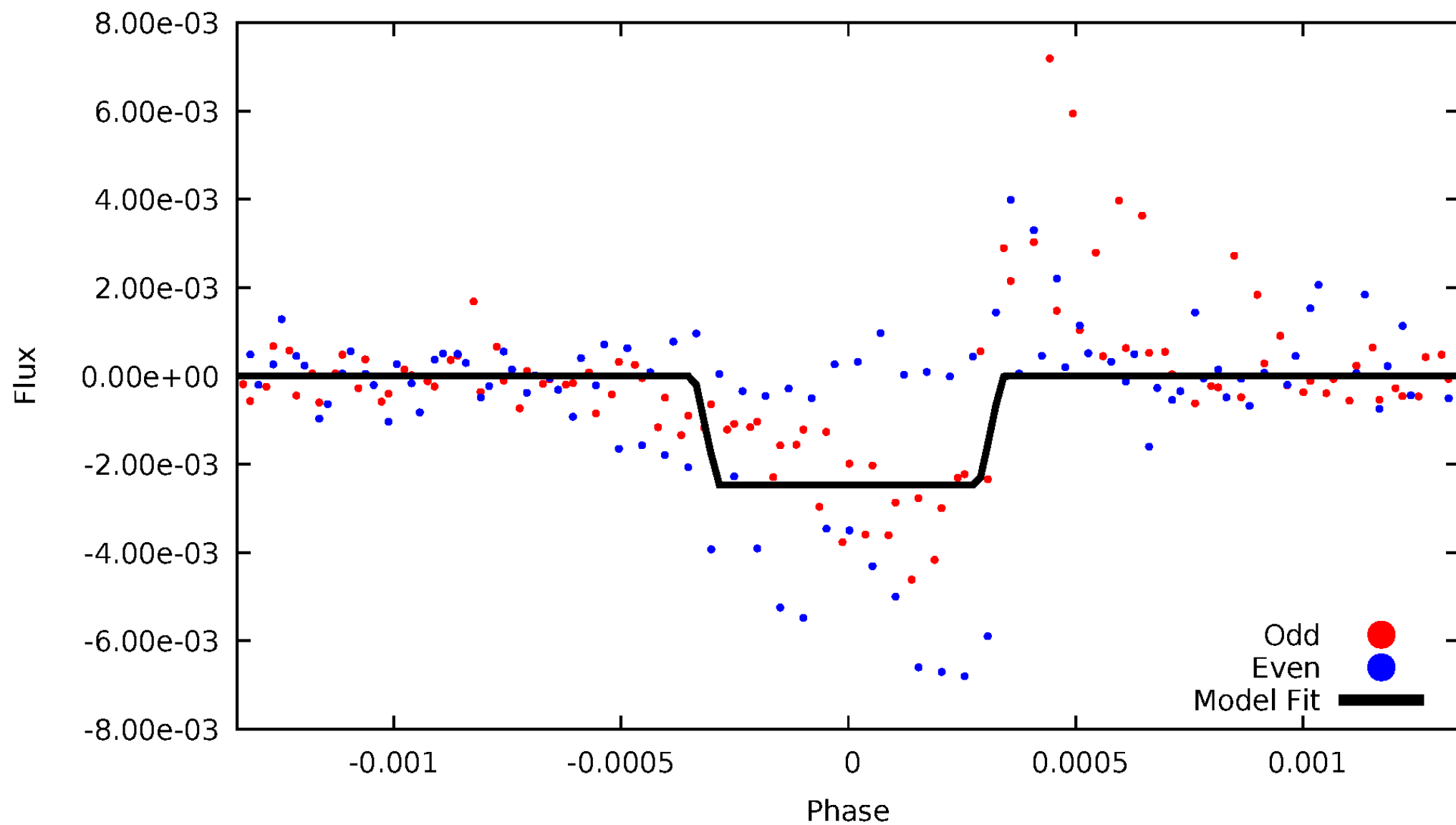
DV Odd/Even

TCE 007551695-06



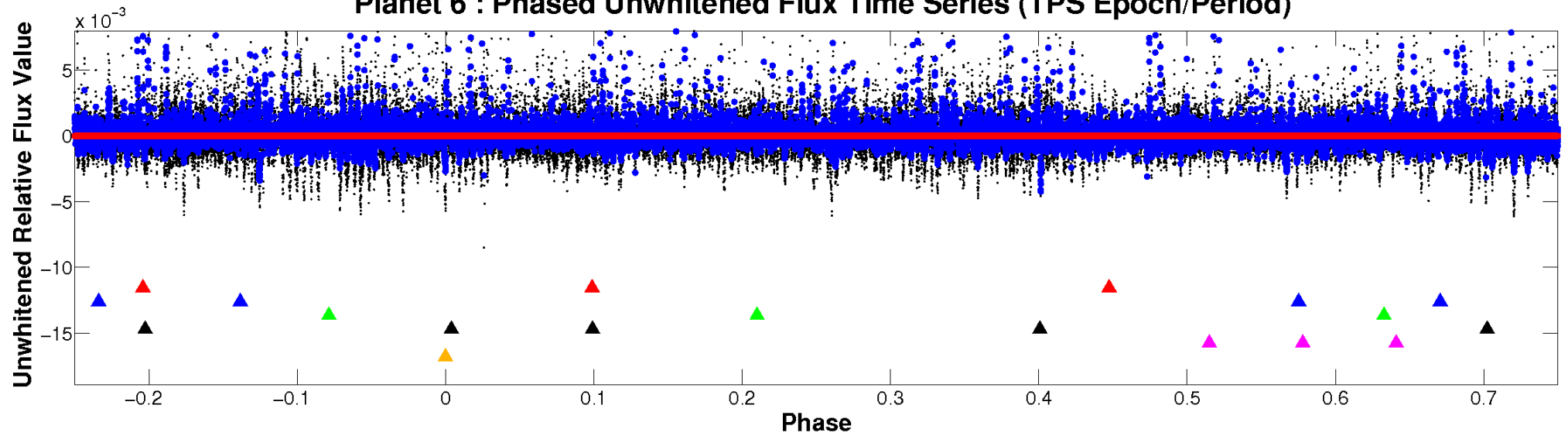
ALT Odd/Even

TCE 007551695-06

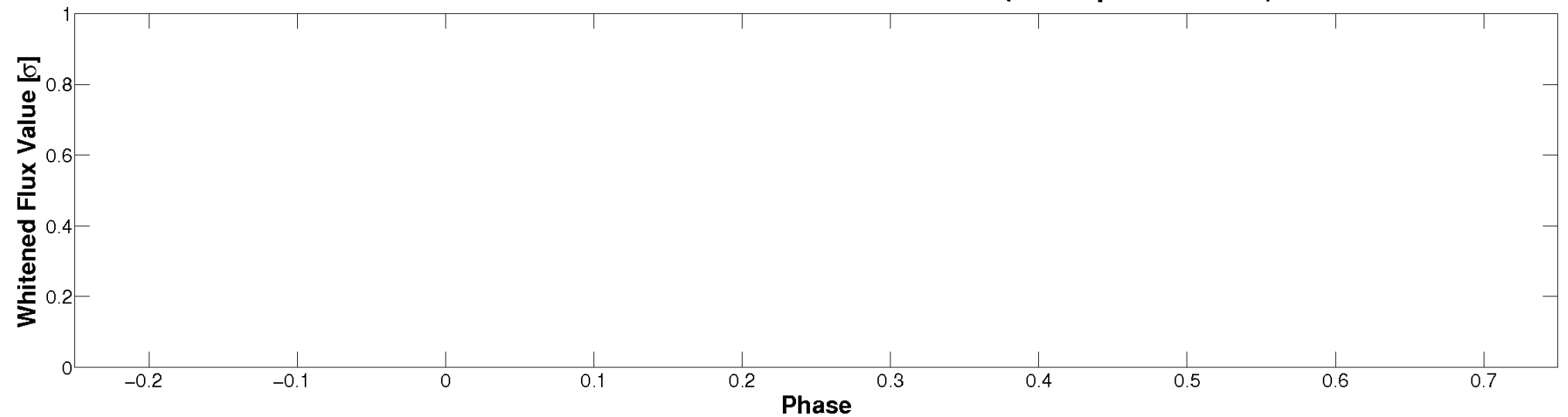


Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

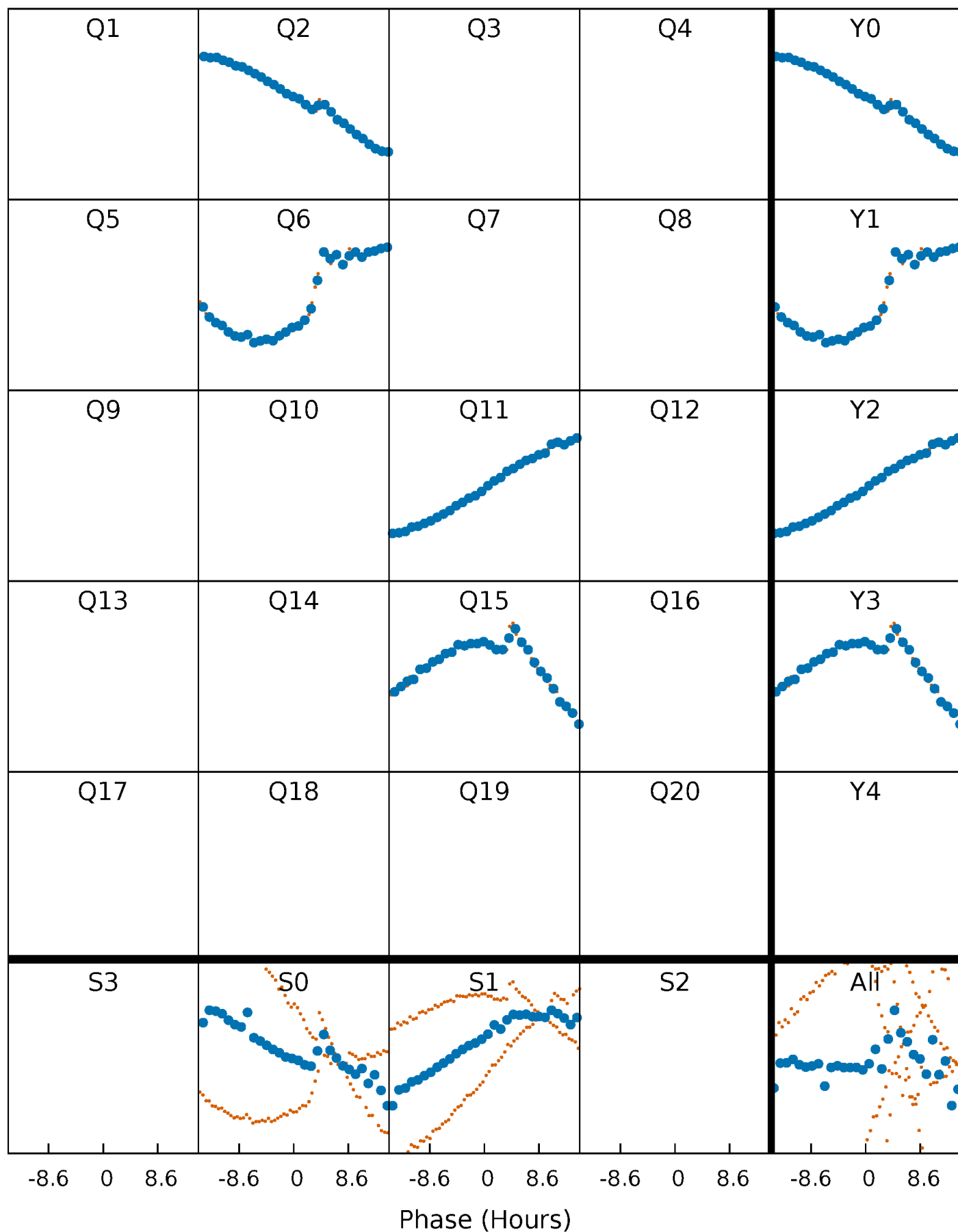


Planet 6 : Phased Whitened Flux Time Series (TPS Epoch/Period)



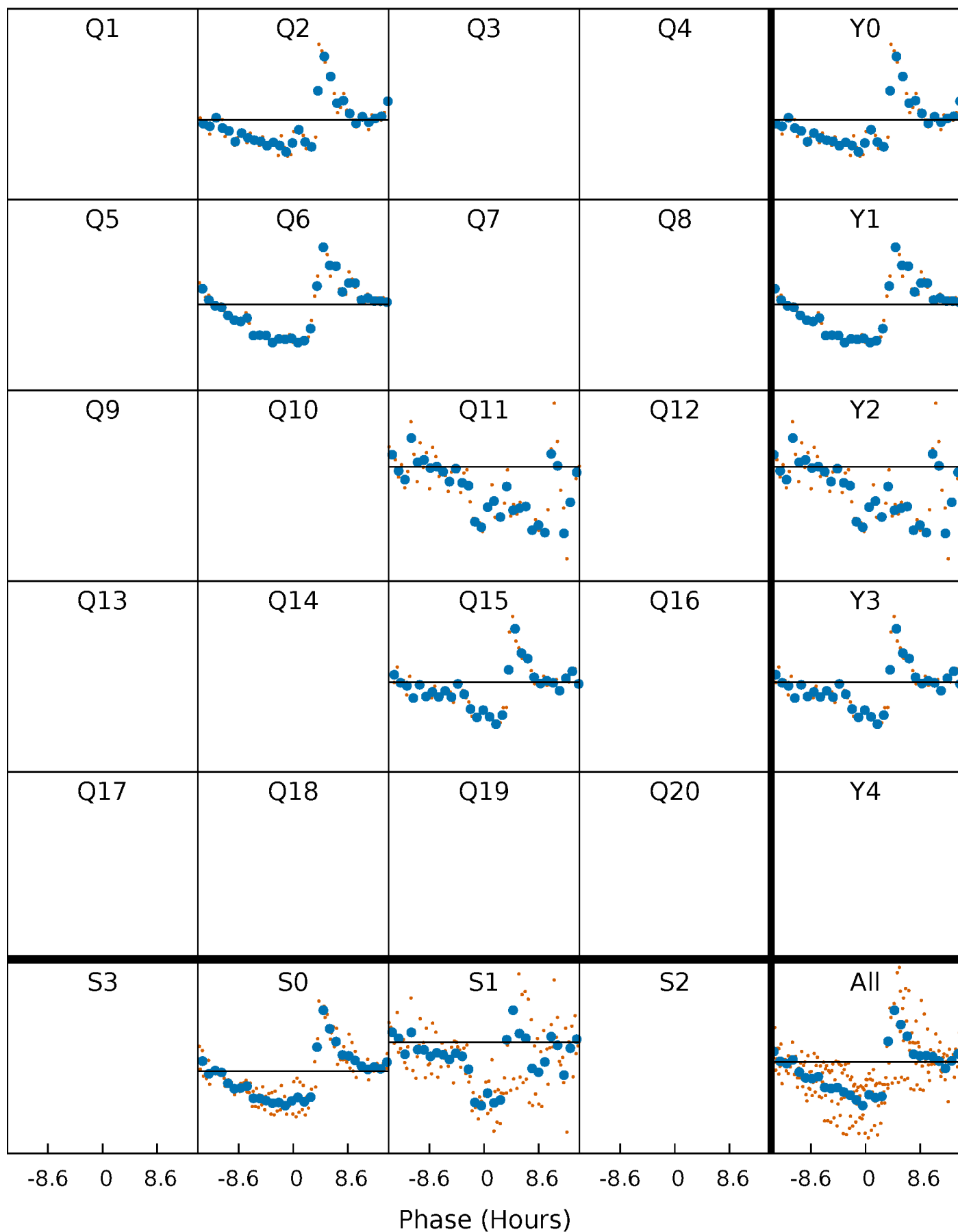
PDC Quarter-Phased Transit Curves

TCE 007551695-06 P=403.160950 Days $T_0=214.450814$ (BKJD)



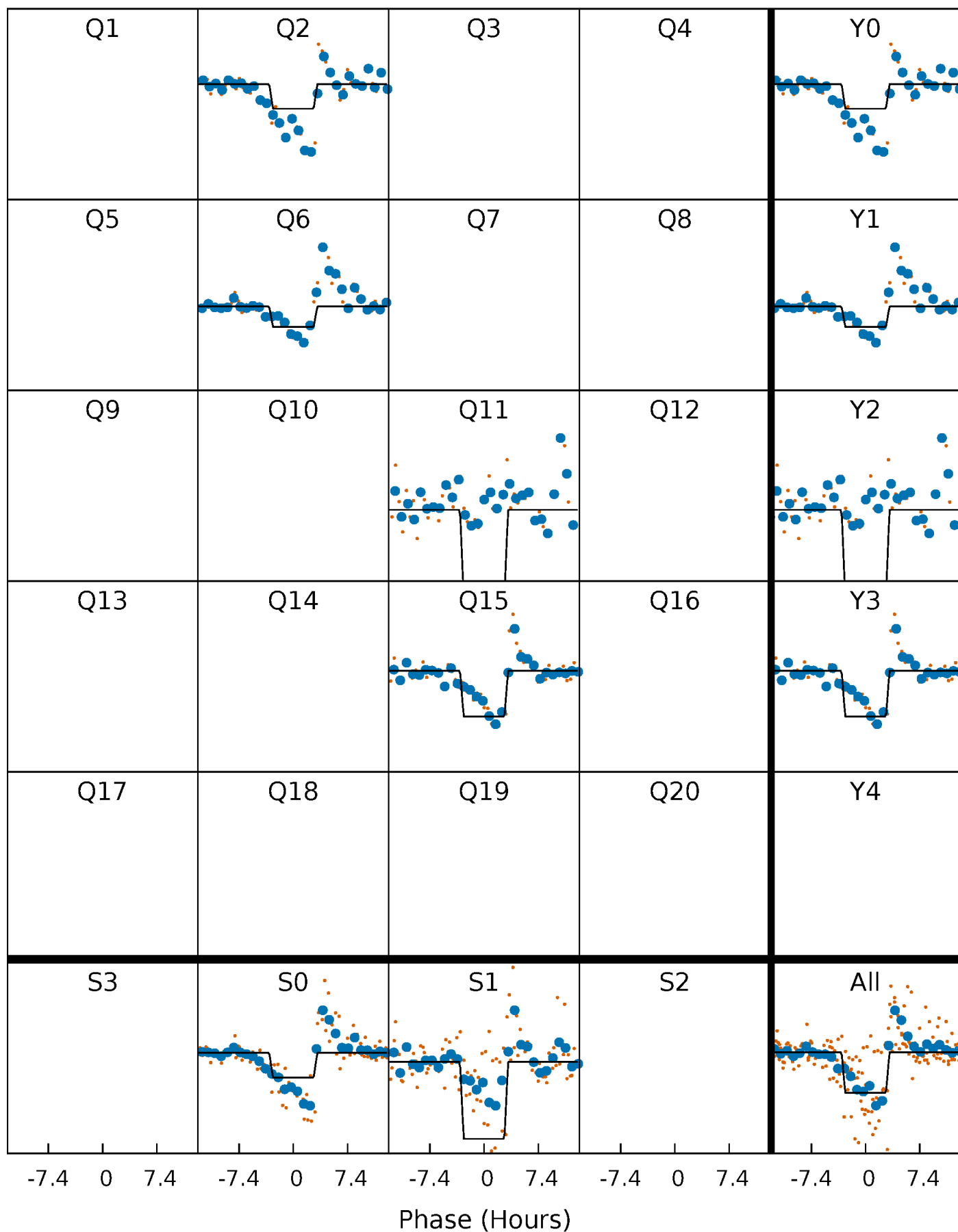
DV Quarter-Phased Transit Curves

TCE 007551695-06 P=403.160950 Days $T_0=214.450814$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

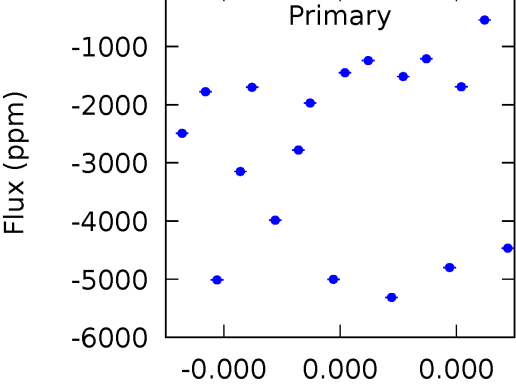
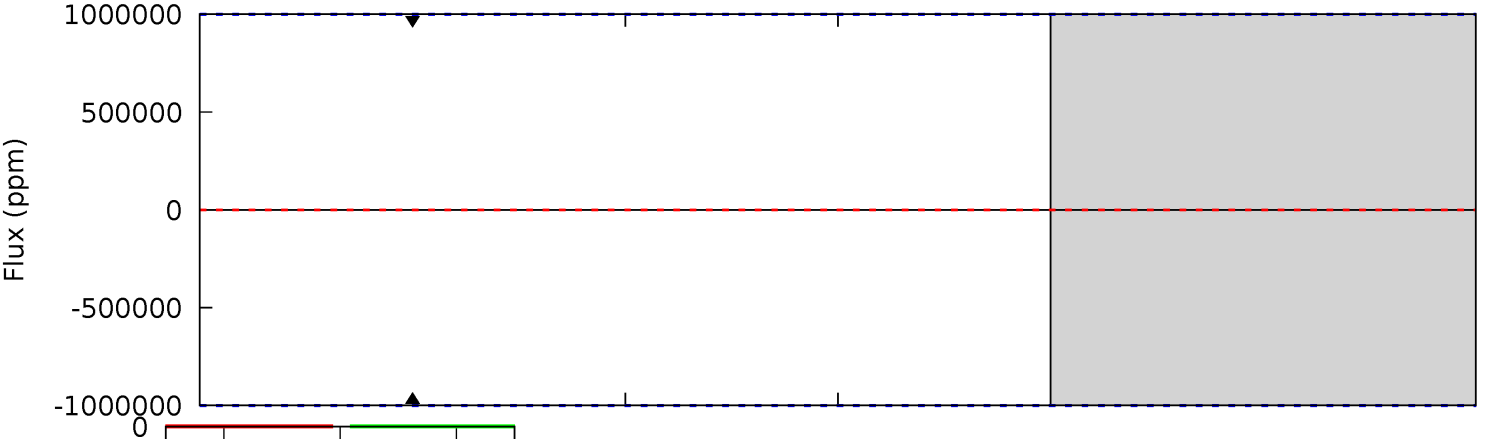
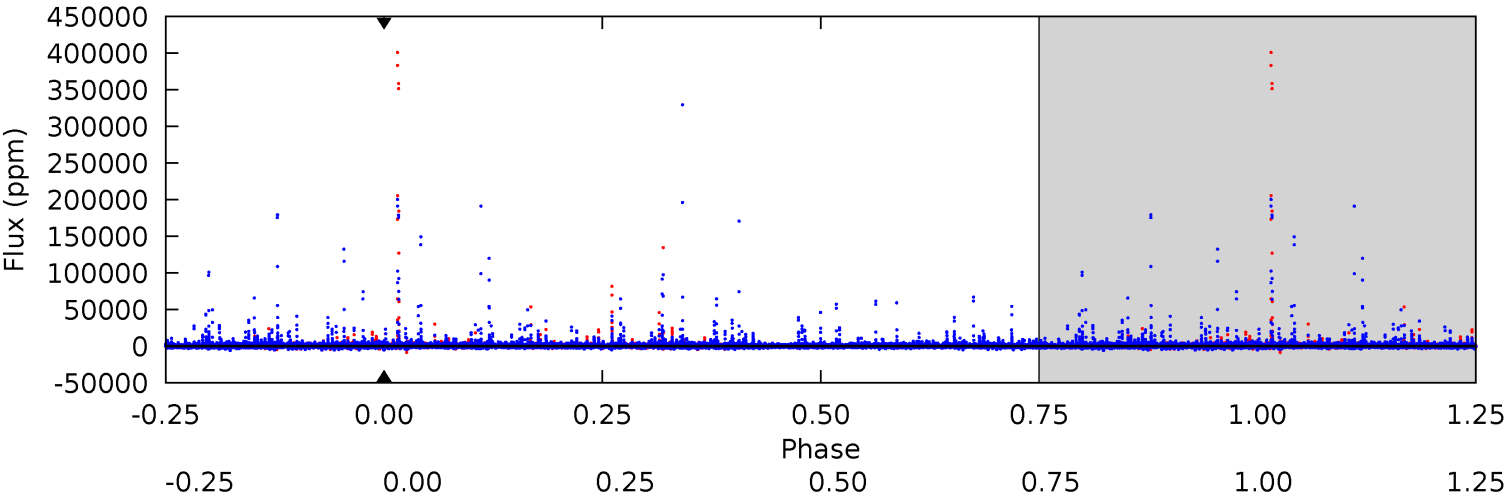
TCE 007551695-06 P=403.160950 Days $T_0=214.473921$ (BKJD)



DV Model-Shift Uniqueness Test

007551695-06, P = 403.160950 Days, E = 214.450814 Days

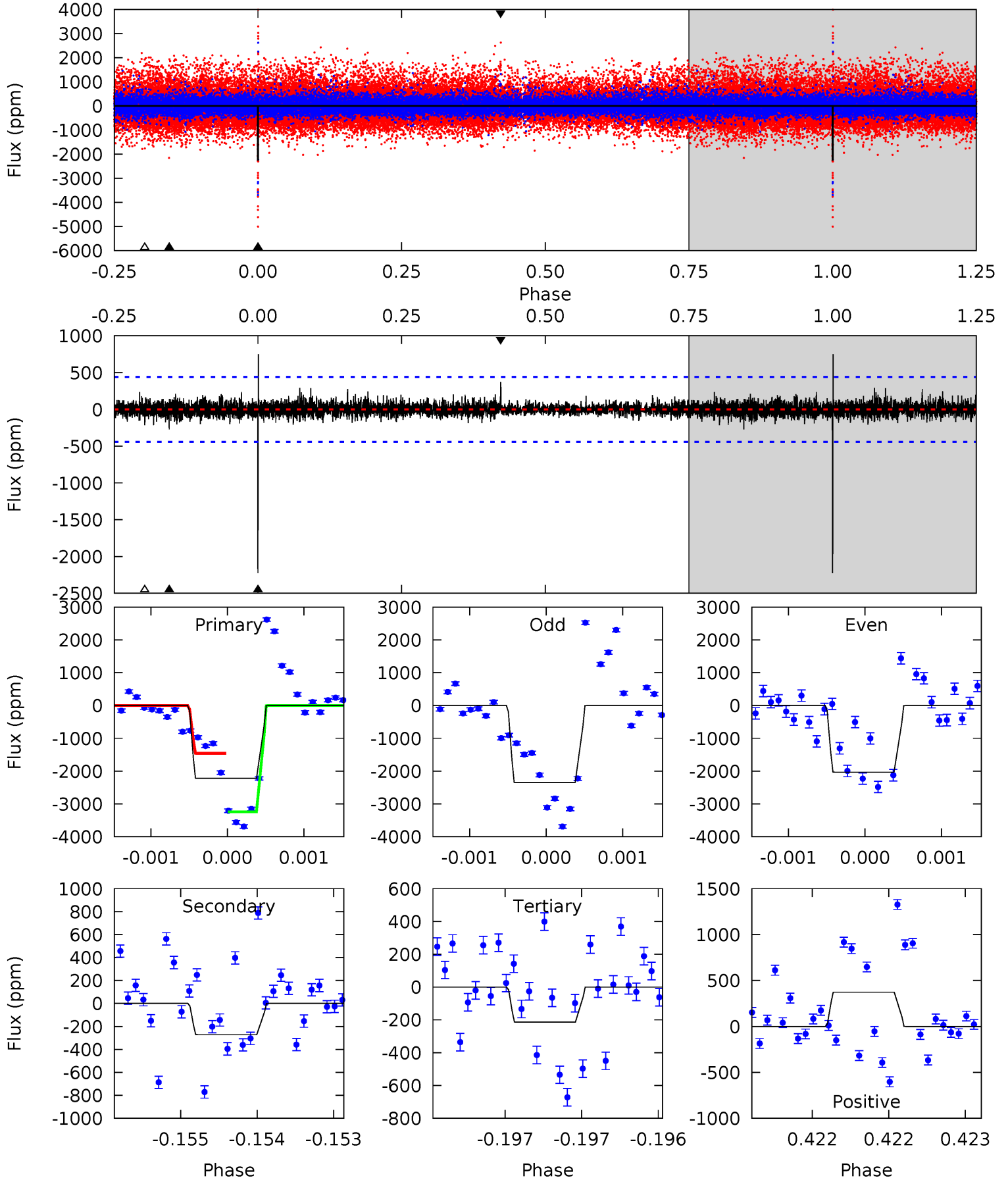
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

007551695-06, P = 403.160950 Days, E = 214.473921 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.8	3.40	2.67	4.66	5.52	3.40	0.67	25.1	23.1	0.73	-1.26	1.95	1.05	0.25	11.1



Stellar Parameters For KIC 007551695

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4194^{+131}_{-146}	$4.615^{+0.053}_{-0.018}$	$0.160^{+0.250}_{-0.300}$	$0.660^{+0.032}_{-0.059}$	$0.655^{+0.050}_{-0.055}$	$3.209^{+0.788}_{-0.254}$
	+3%/-3%	+1%/-0%	+156%/-188%	+5%/-9%	+8%/-8%	+25%/-8%
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 007551695-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$6.31^{+5.32}_{-4.40}$	217^{+7}_{-8}	-2942^{+12522}_{-6020}	$-9397.337^{+2455535.868}_{-2079666.744}$
Alt.	-272 ± 80	$6.51^{+5.89}_{-4.38}$	217^{+7}_{-9}	2496^{+938}_{-352}	2978^{+25062}_{-2220}

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 $A_{obs} \gg 1.0$

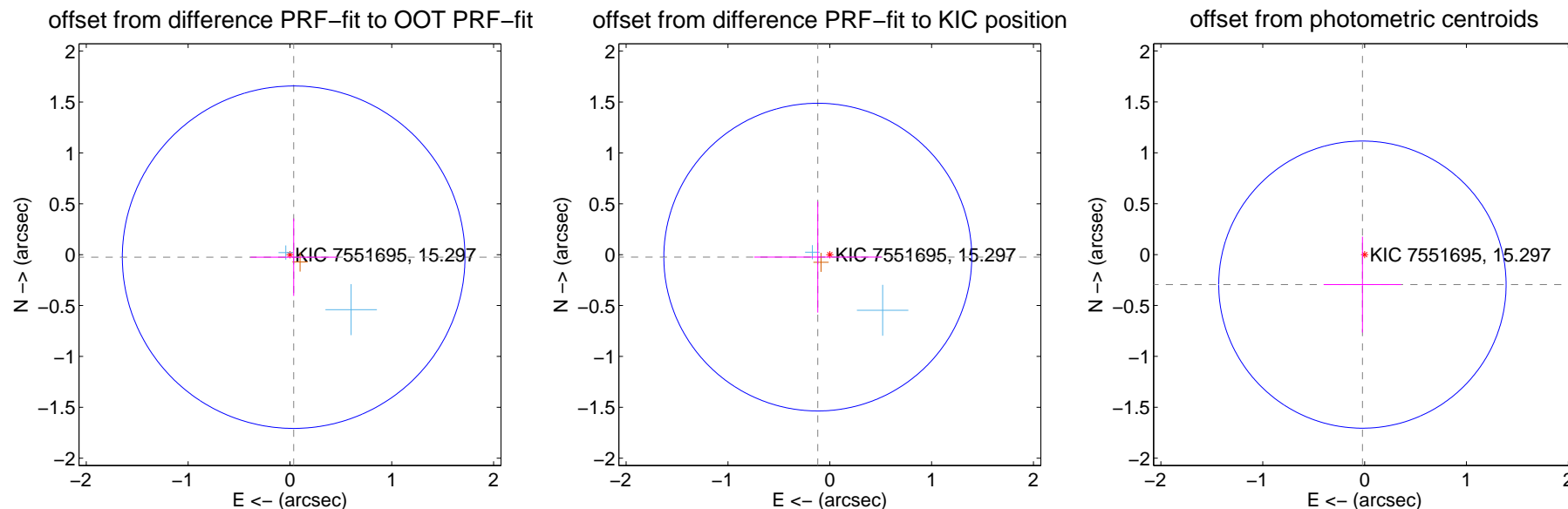
DV Centroid Data

Supplemental centroid analysis for 007551695-06. Kepler magnitude: 15.30. Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.044 ± 0.561	0.08	-0.037 ± 0.424	-0.025 ± 0.380
PRF-fit source offset from KIC position	0.120 ± 0.504	0.24	0.118 ± 0.624	-0.024 ± 0.545
photometric centroid source offset	0.30 ± 0.47	0.63	0.02 ± 0.38	-0.30 ± 0.47



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.

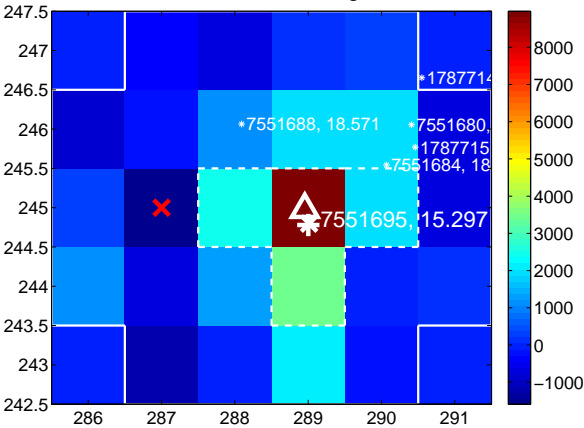
Q1 no difference image



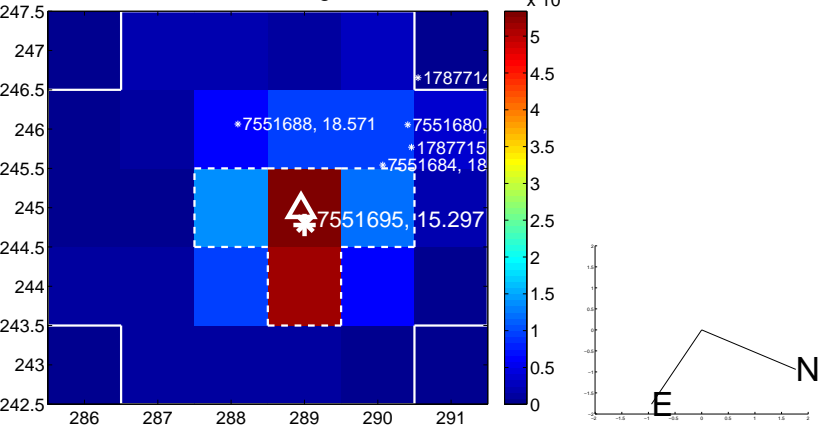
Q1 no OOT image



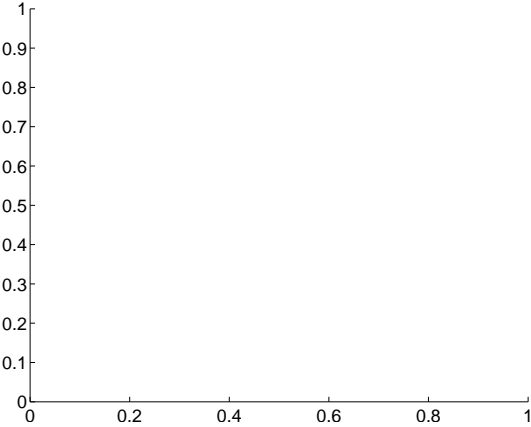
Q2 difference image



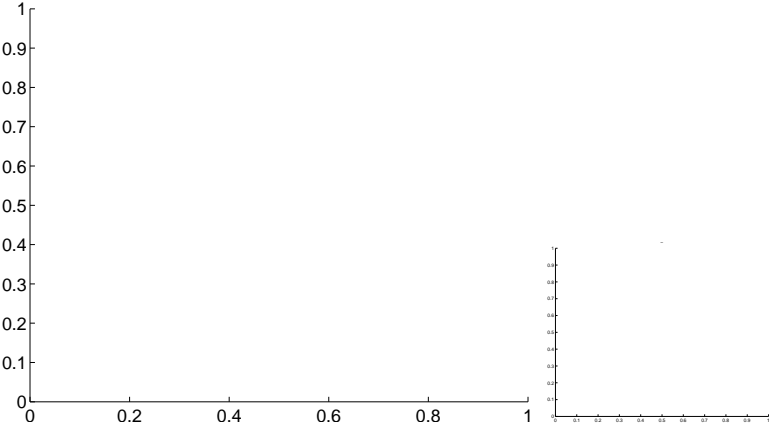
Q2 OOT image



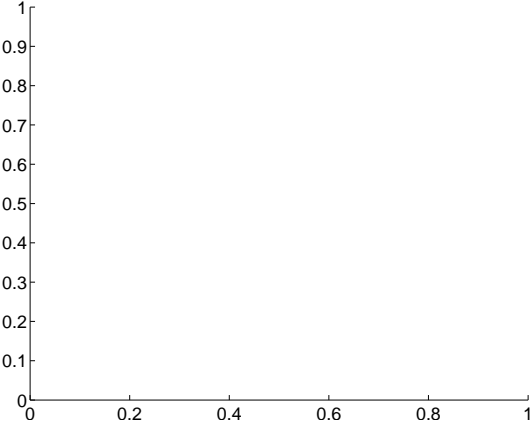
Q3 no difference image



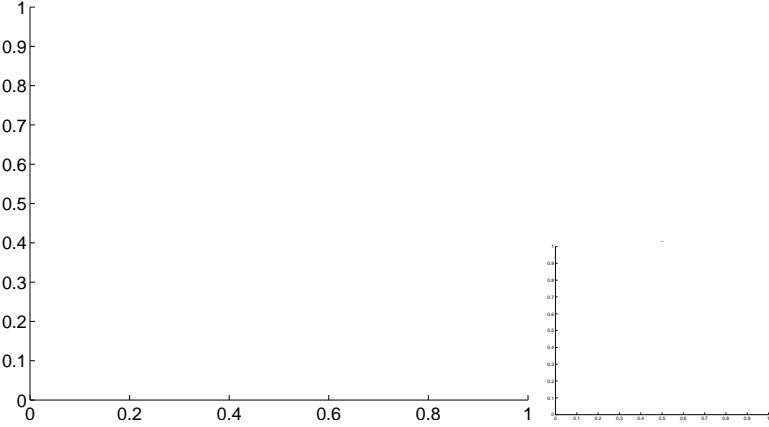
Q3 no OOT image



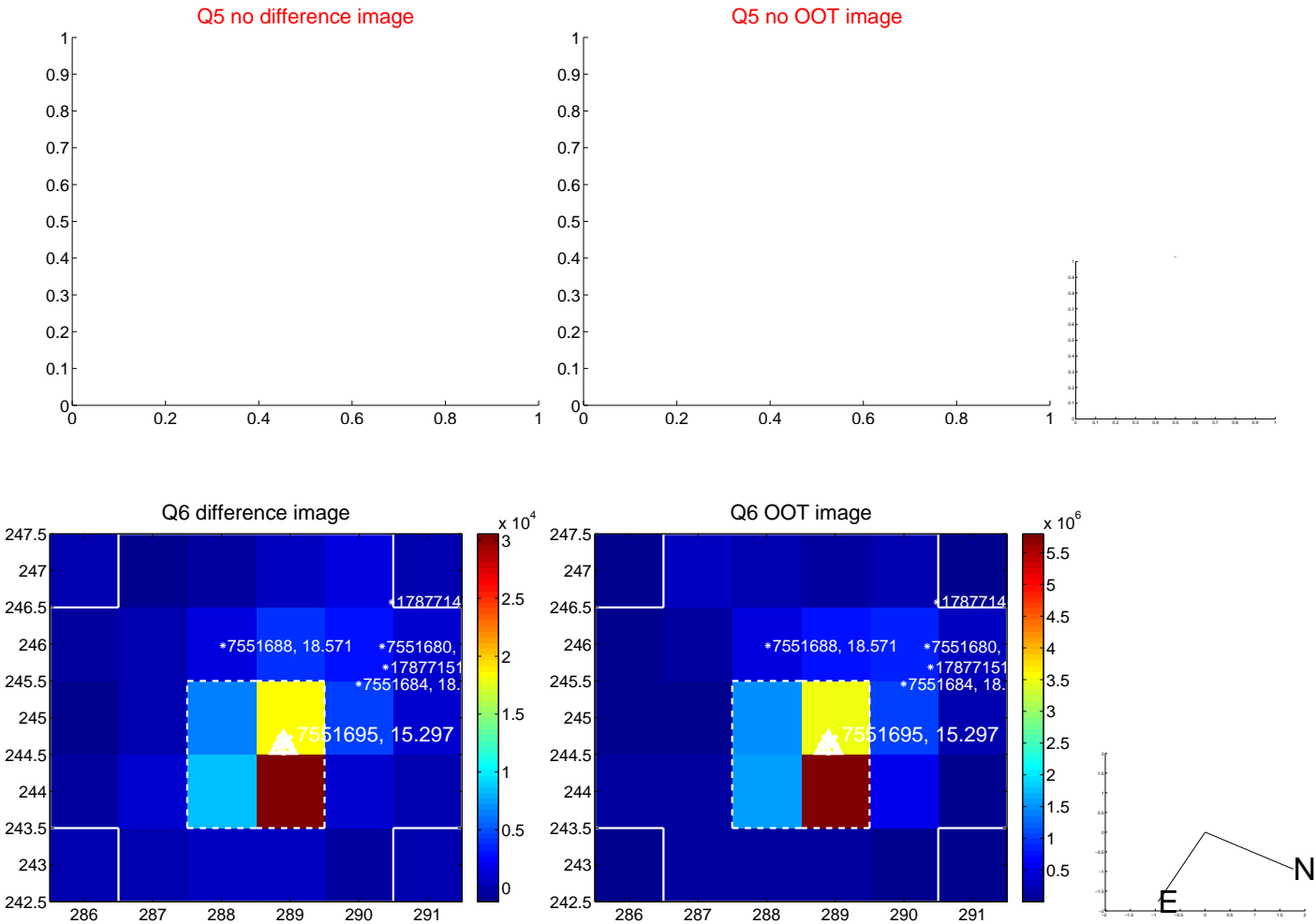
Q4 no difference image



Q4 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.

Q9 no difference image



Q9 no OOT image



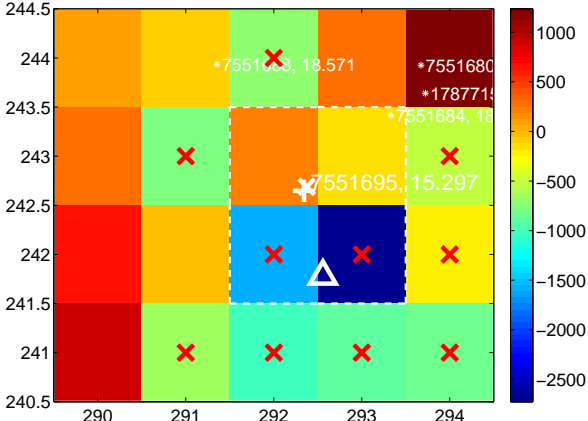
Q10 no difference image



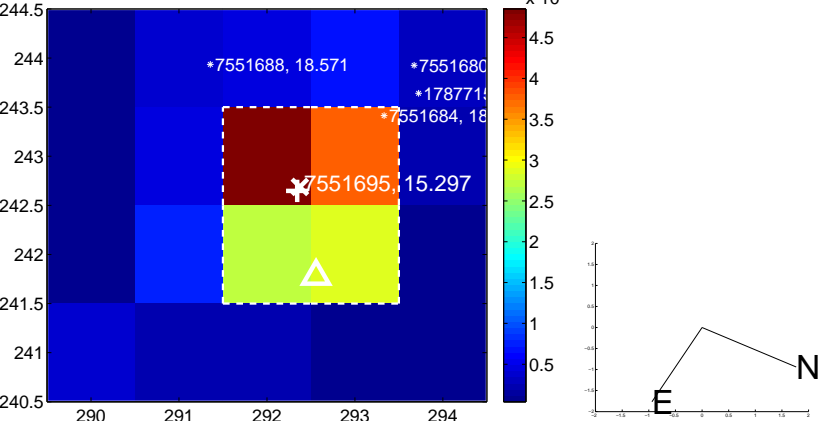
Q10 no OOT image



Q11 difference image. Poor Quality



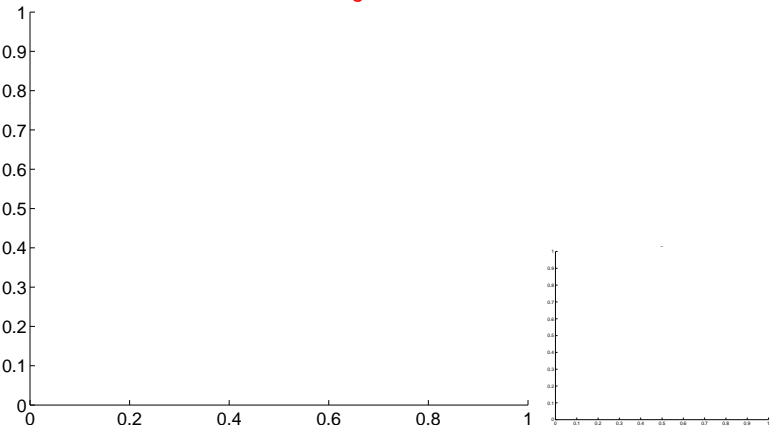
Q11 OOT image



Q12 no difference image



Q12 no OOT image



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

Q13 no difference image



Q13 no OOT image



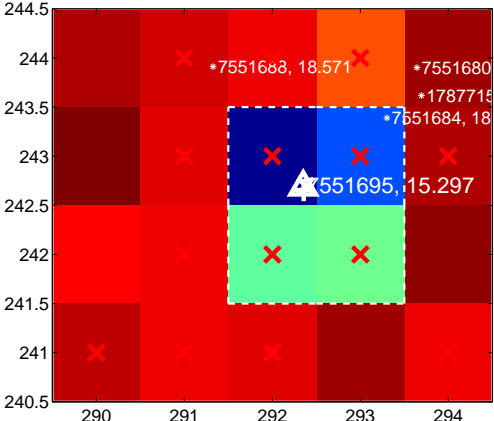
Q14 no difference image



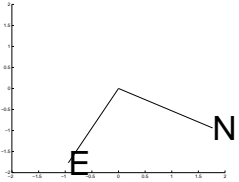
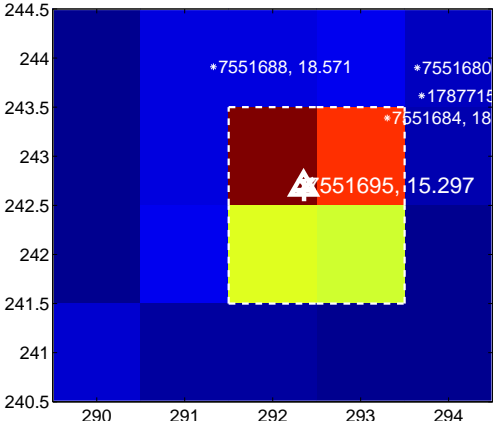
Q14 no OOT image



Q15 difference image. Poor Quality



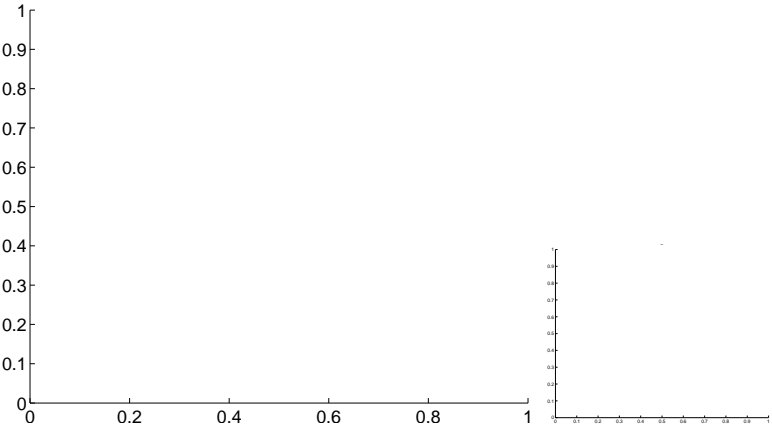
Q15 OOT image



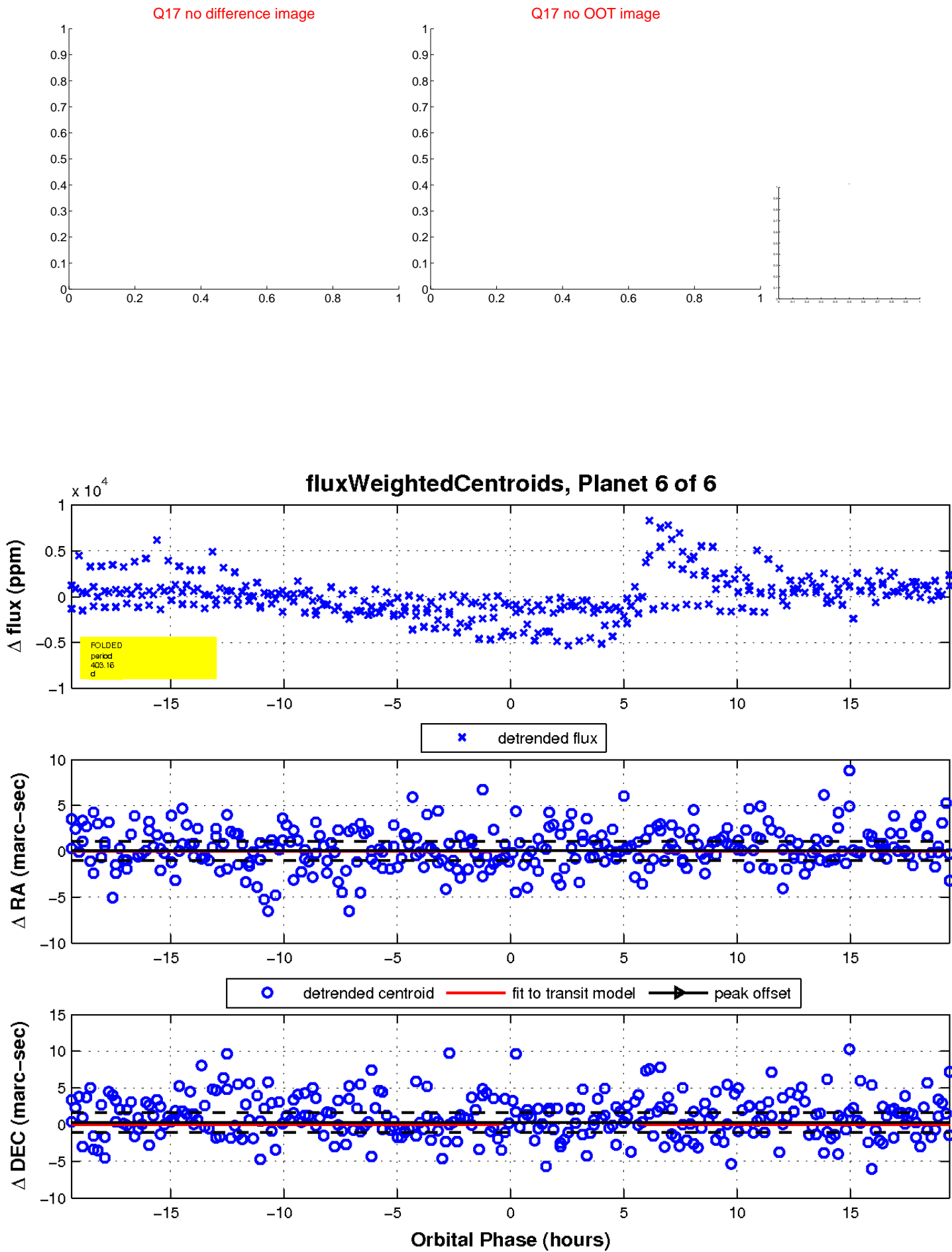
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

