

KIC 005620395

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})
005620395-01	OBS	No	374.861686	258.566128	1363.5	14.802	21.0	16.2	1.92	6782	8.18	5.11
005620395-02	OBS	No	376.951277	267.429062	758.0	8.804	13.5	11.8	1.92	6782	5.73	5.07
005620395-03	OBS	No	458.812132	176.154032	734.4	13.427	10.3	9.5	1.92	6782	5.40	3.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005620395-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—CENT_FEW_DIFFS
005620395-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_FEW_DIFFS
005620395-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT— MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

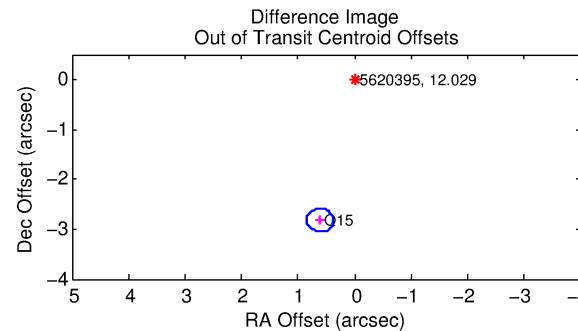
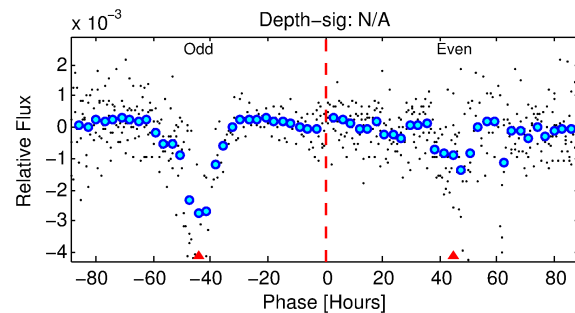
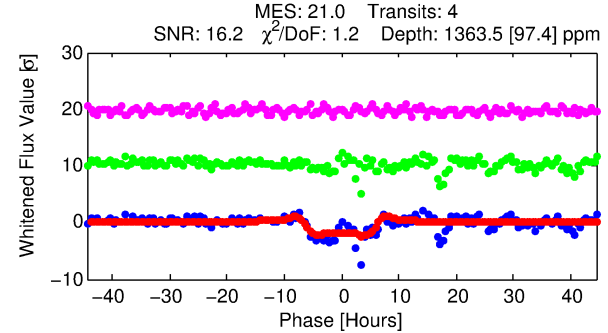
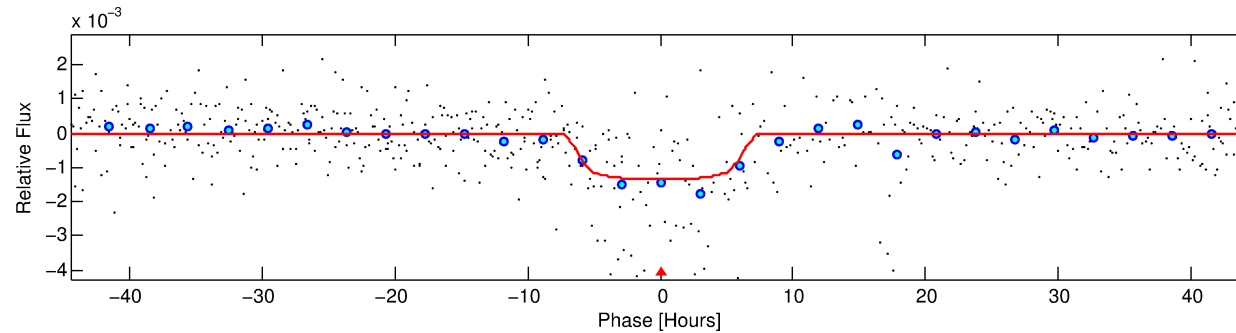
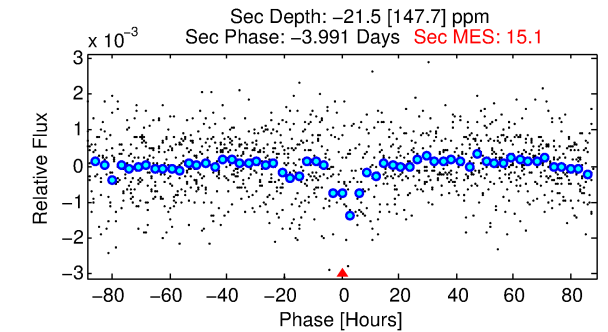
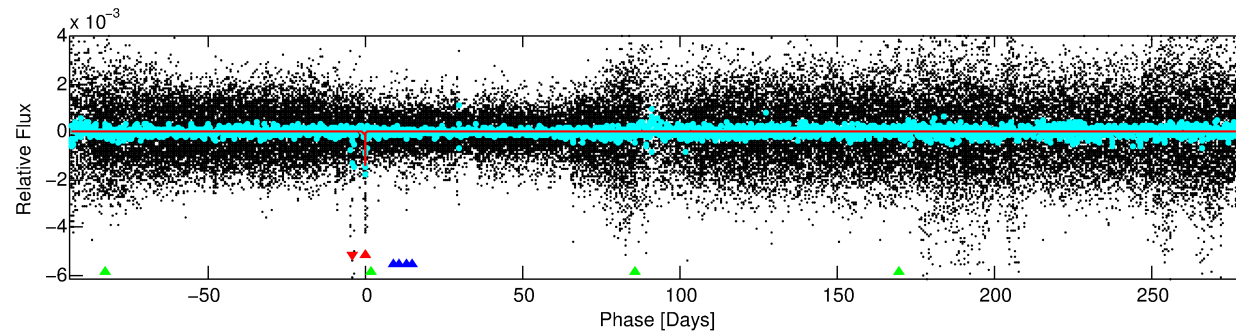
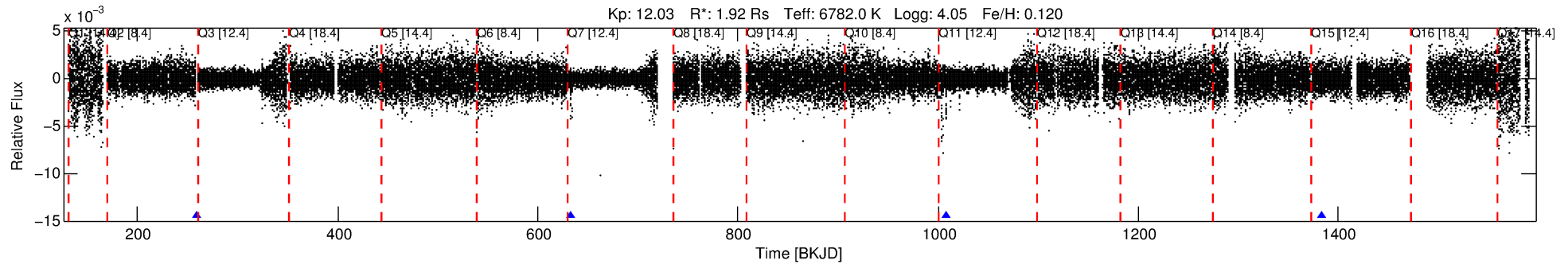
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005620395-01

No Significant Match Found

DV One-Page Summary

KIC: 5620395 Candidate: 1 of 3 Period: 374.862 d



DV Fit Results:

Period = 374.86169 [0.00798] d
Epoch = 258.5661 [0.0153] BKJD
Rp/R* = 0.0390 [0.0024]
a/R* = 106.06 [24.89]
b = 0.88 [0.06]
Seff = 5.10 [1.26]
Teq = 383 [24] K
Rp = 8.18 [1.58] Re
a = 1.1724 [0.1888] AU
Ag = N/A
Teffp = N/A

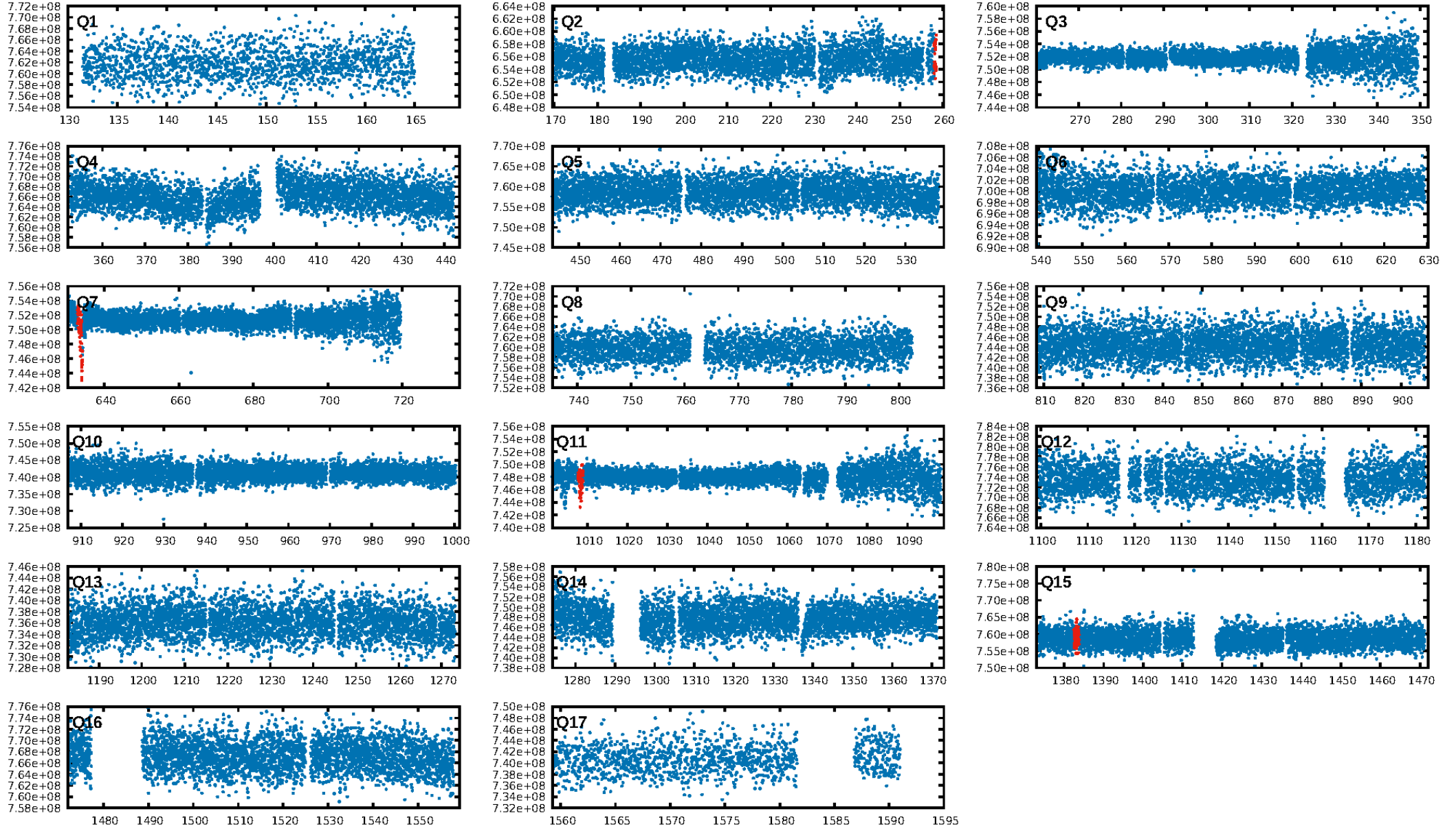
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 99.6% [2.91σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 92.1%
Bootstrap-pfa: 6.45e-32
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 54.83
Centroid-sig: 0.0%
Centroid-so: 2.037 arcsec [8.63σ]
OotOffset-rm: 2.890 arcsec [37.47σ]
KicOffset-rm: 2.767 arcsec [35.88σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [1/1]

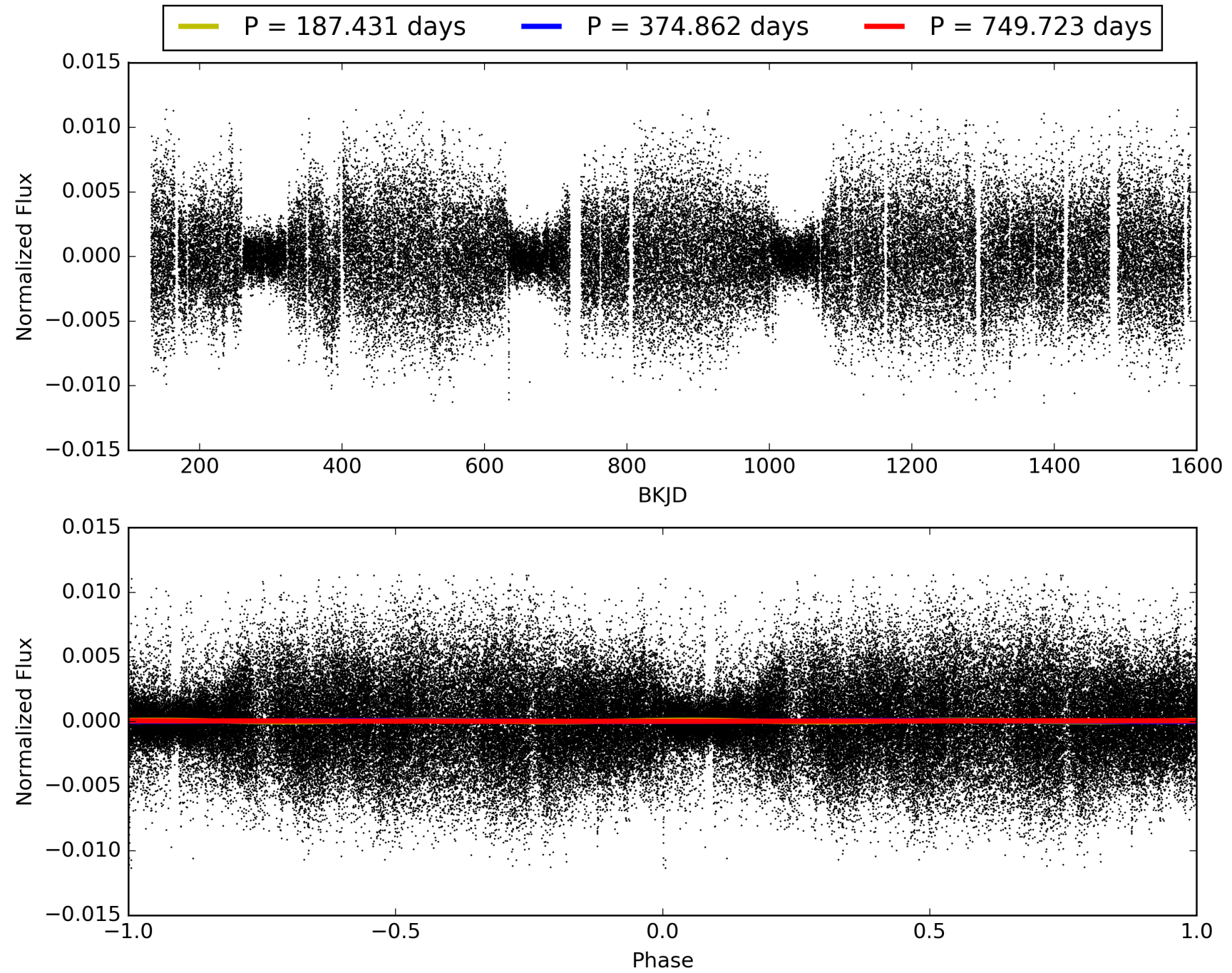
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 04:26:20 Z

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

TCE 005620395-01, PDC Light Curves

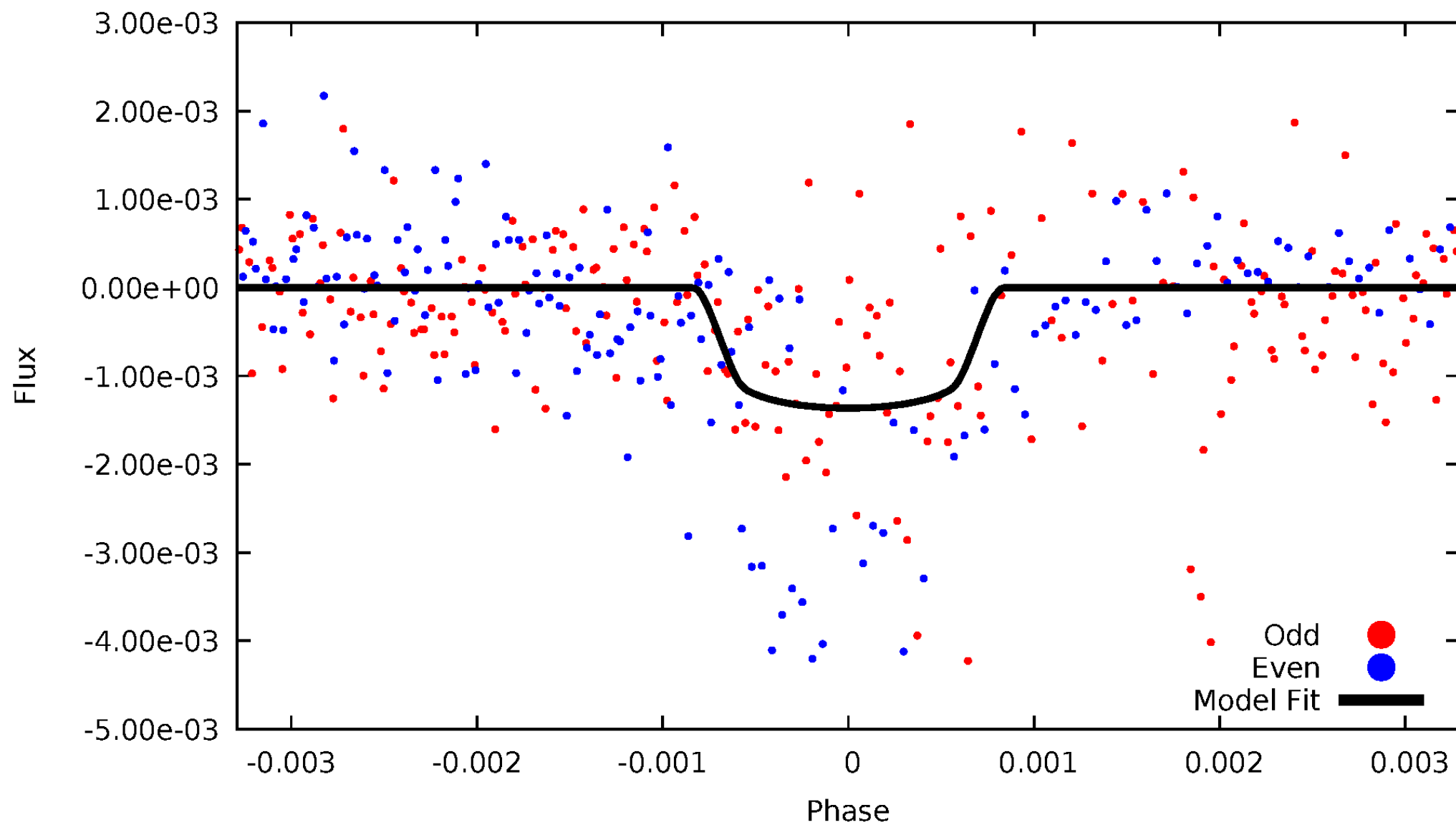


TCE 005620395-01



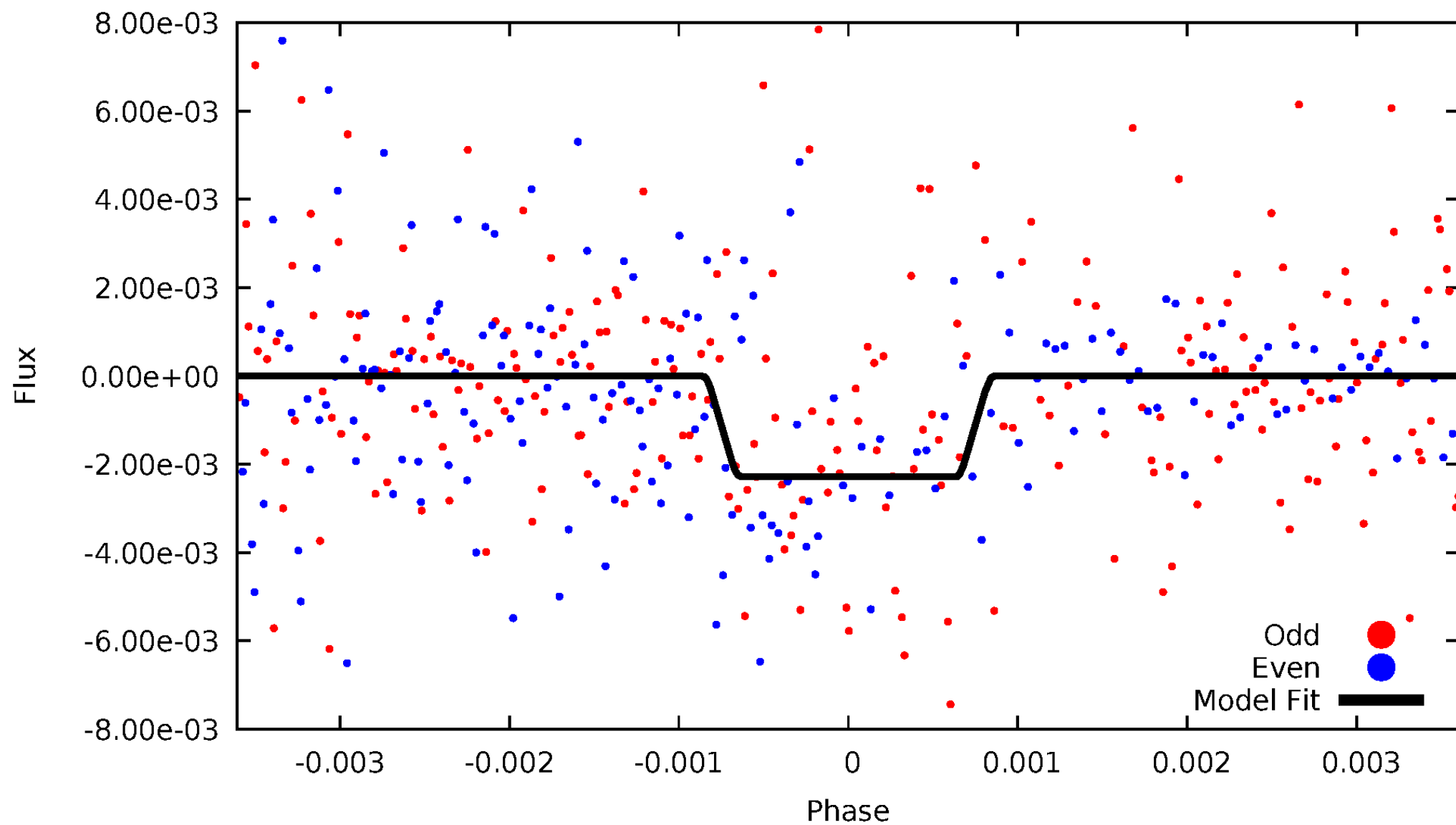
DV Odd/Even

TCE 005620395-01



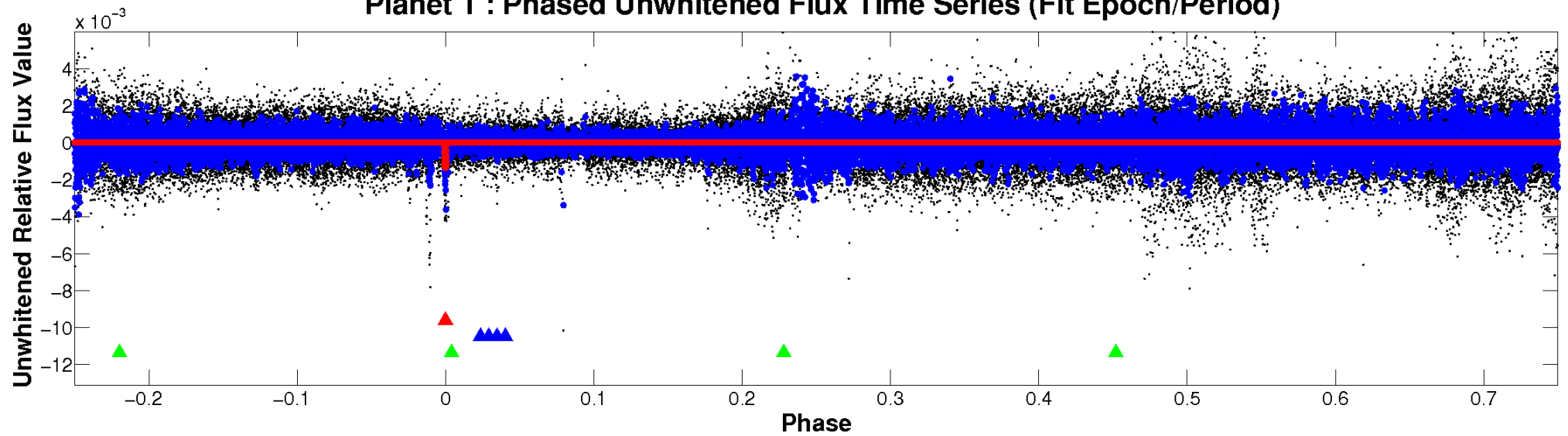
ALT Odd/Even

TCE 005620395-01

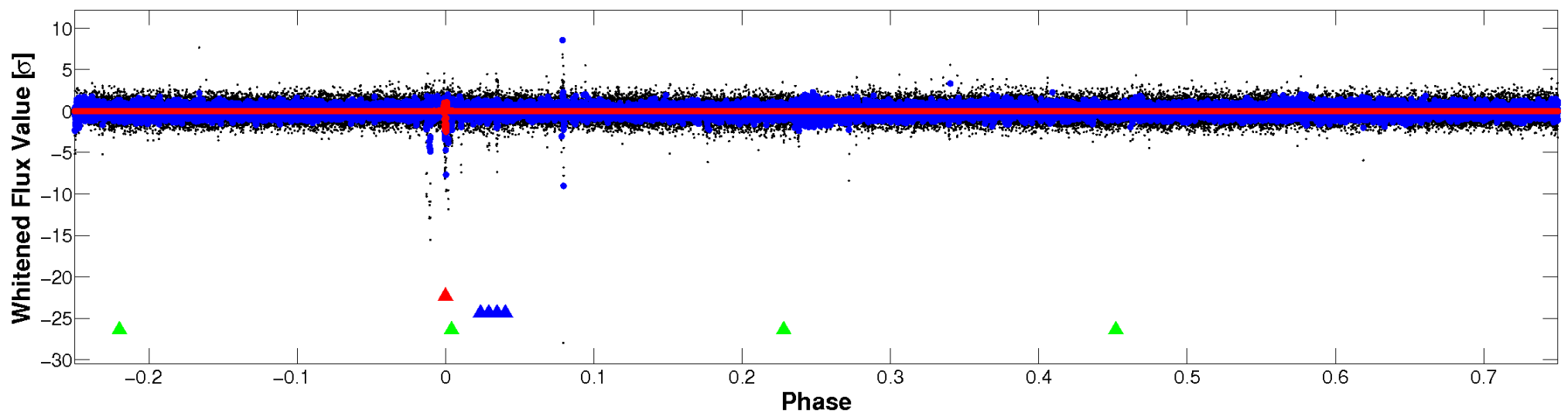


Non-Whitened Vs. Whitened Light Curve

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

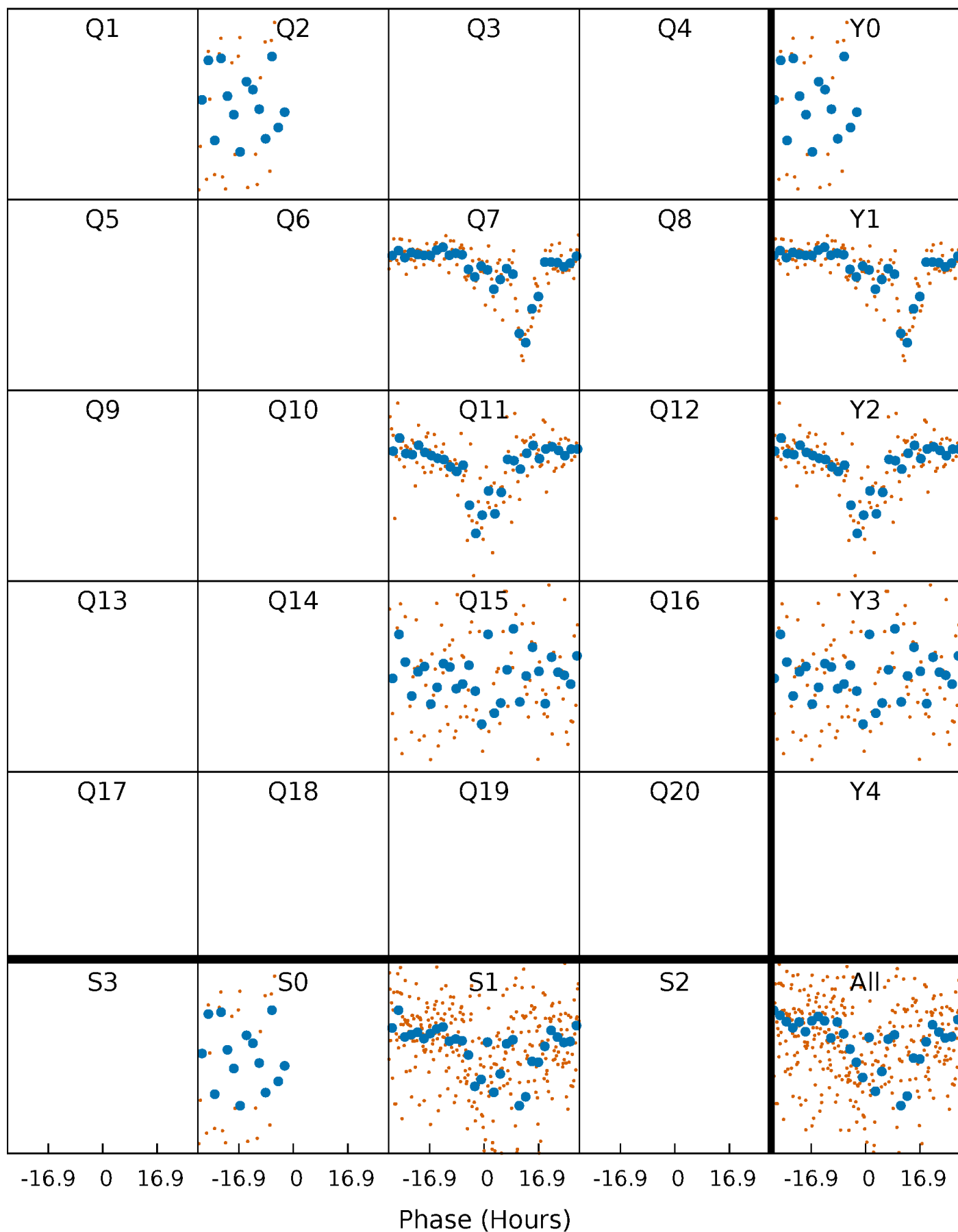


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



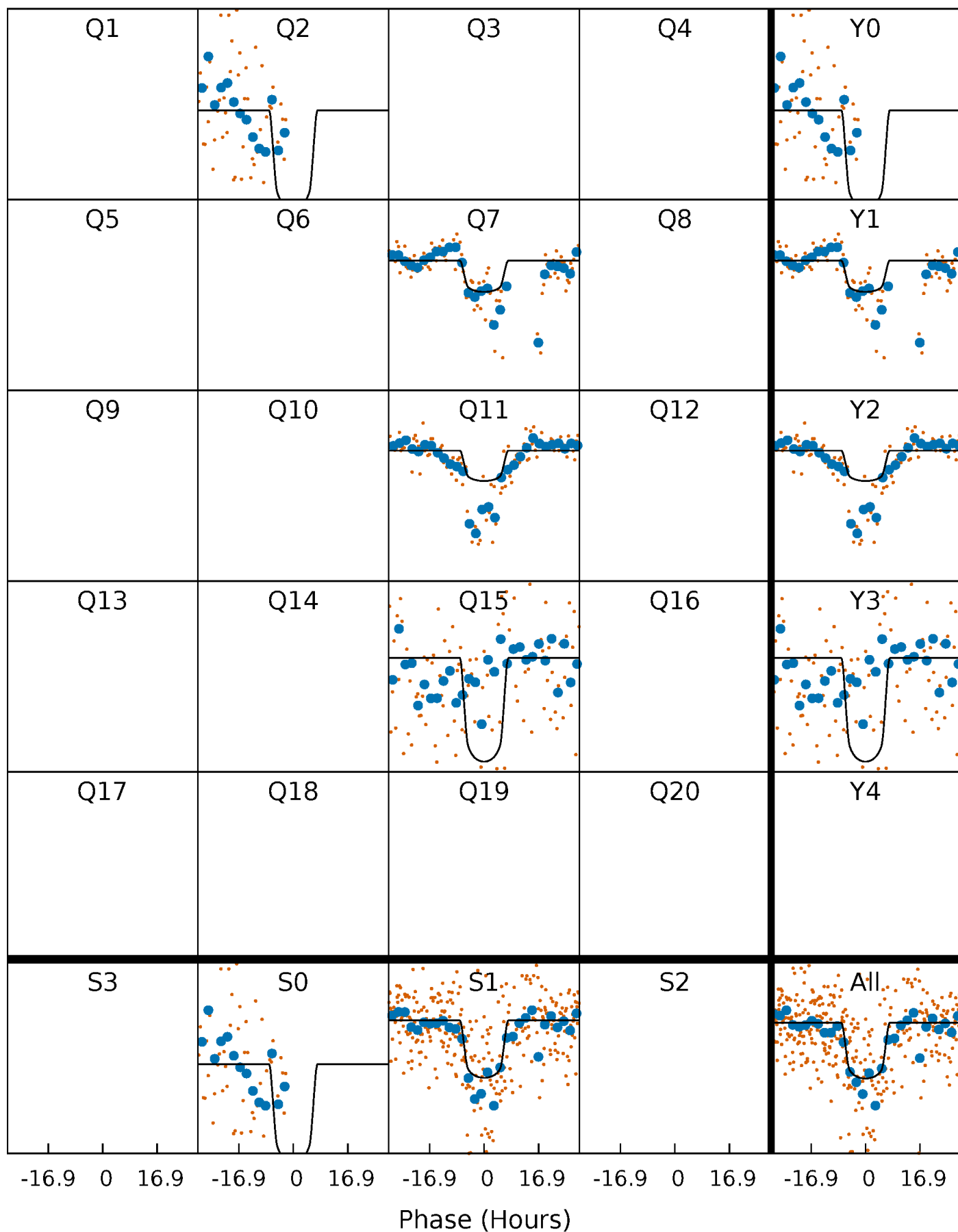
PDC Quarter-Phased Transit Curves

TCE 005620395-01 P=374.861686 Days $T_0=258.566128$ (BKJD)



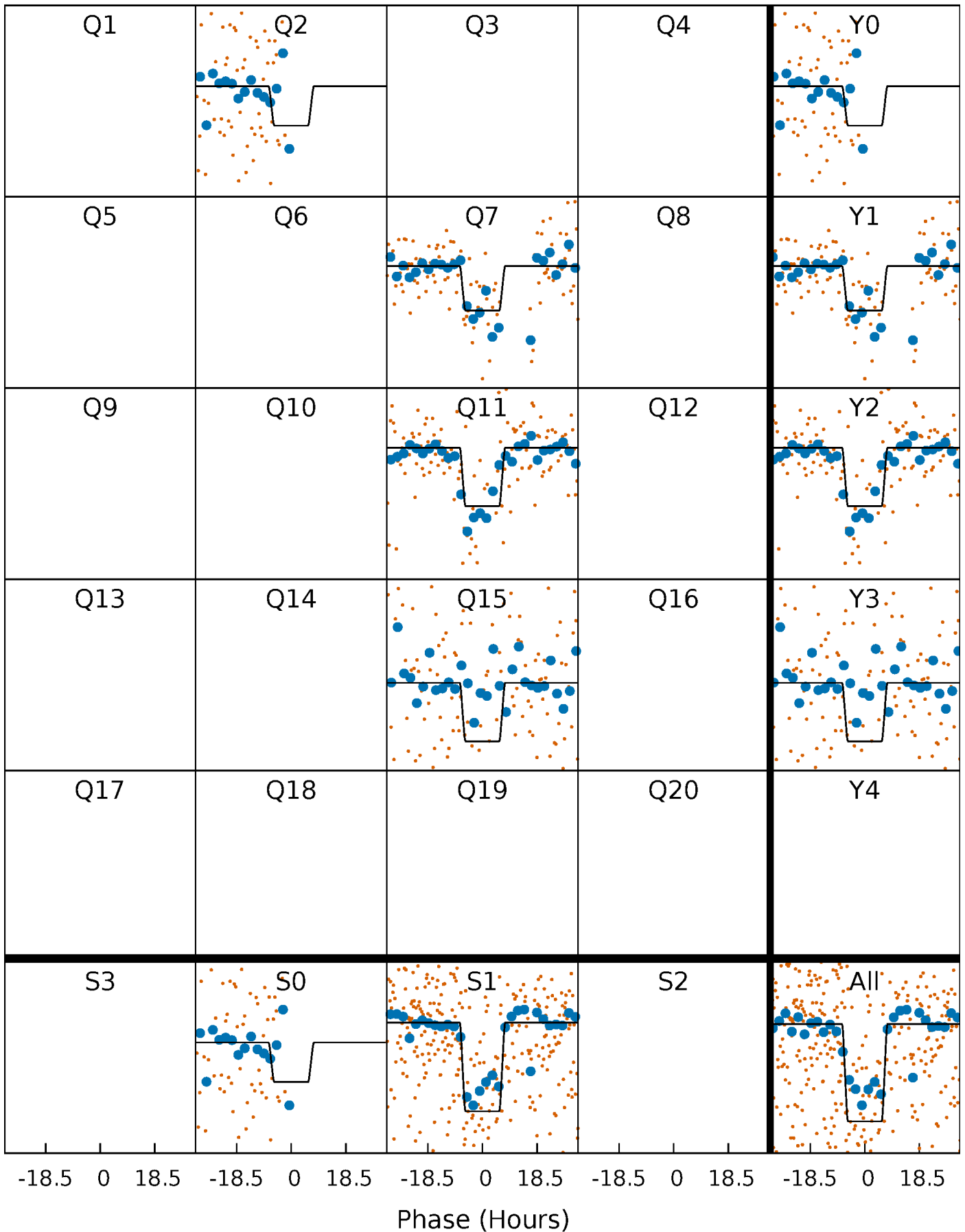
DV Quarter-Phased Transit Curves

TCE 005620395-01 P=374.861686 Days $T_0=258.566128$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

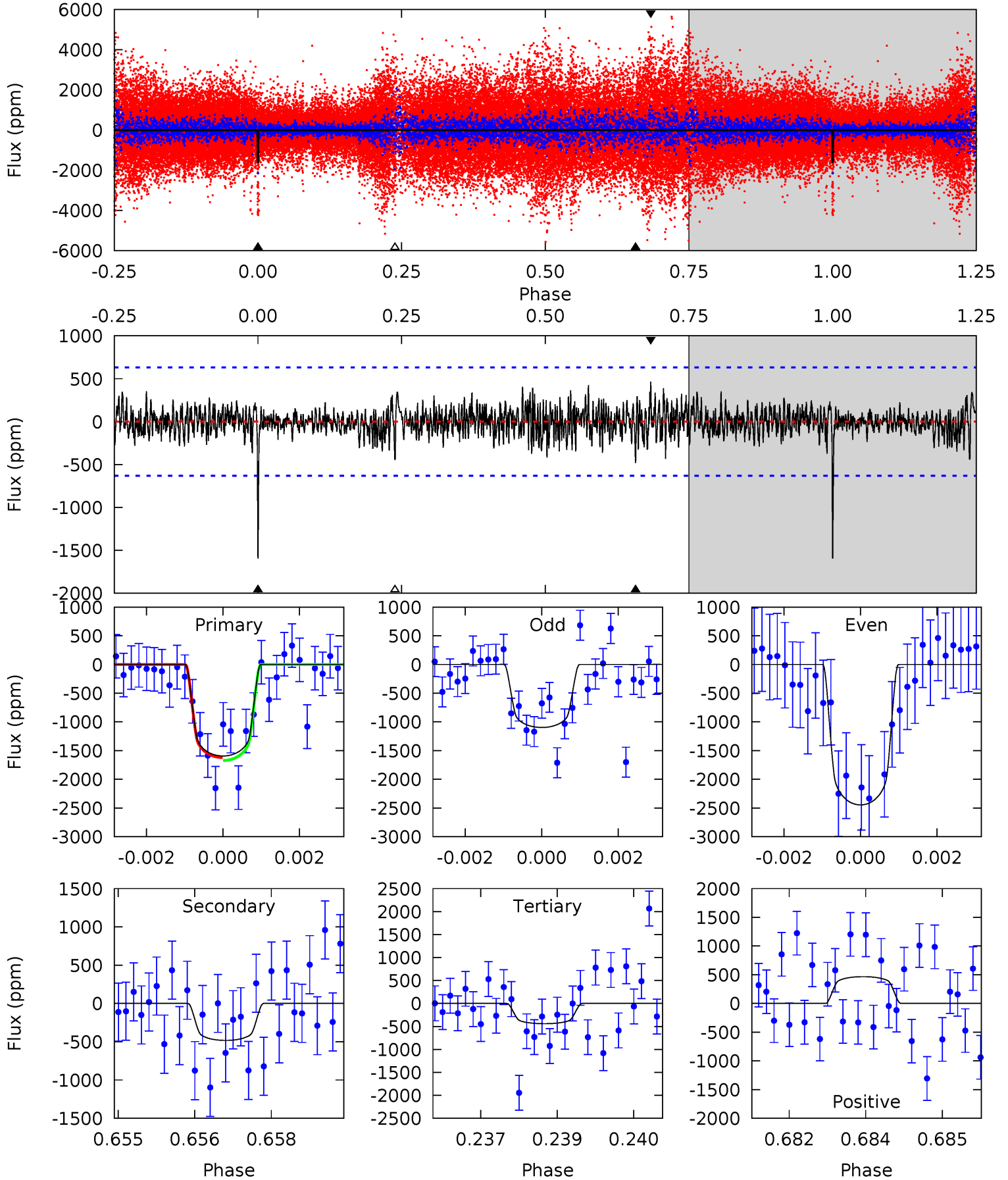
TCE 005620395-01 $P=374.908148$ Days $T_0=258.534946$ (BKJD)



DV Model-Shift Uniqueness Test

005620395-01, P = 374.861686 Days, E = 258.566128 Days

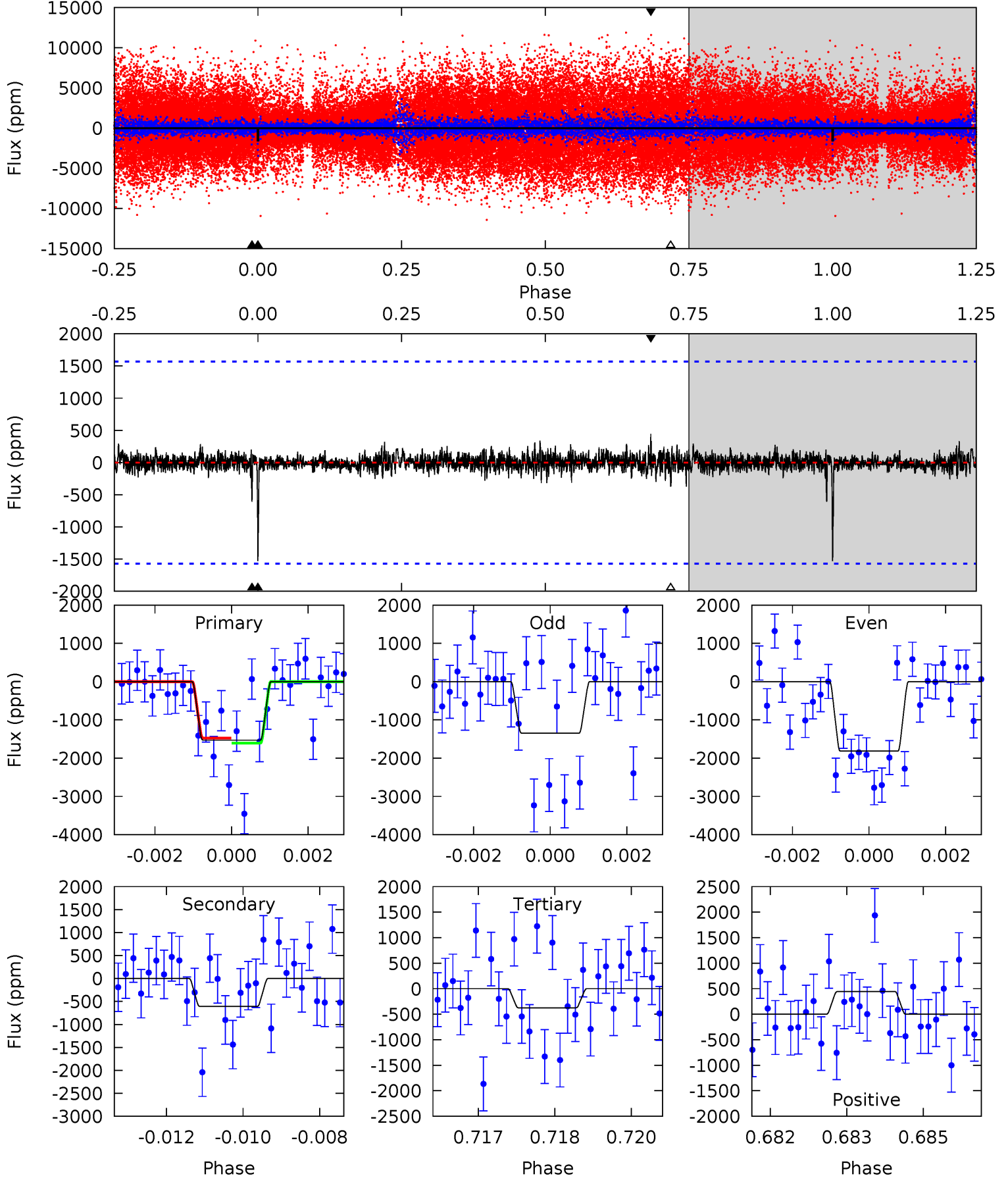
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	4.10	3.74	3.96	5.36	3.14	1.07	9.79	9.57	0.36	0.14	5.57	1.27	0.23	0.21



Alt Model-Shift Uniqueness Test

005620395-01, P = 374.908148 Days, E = 258.534946 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.23	2.07	1.28	1.52	5.36	3.14	0.27	3.95	3.71	0.79	0.56	0.79	1.00	0.23	0.23



Stellar Parameters For KIC 005620395

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6782^{+71}_{-81}	$4.054^{+0.137}_{-0.112}$	$0.120^{+0.150}_{-0.150}$	$1.924^{+0.352}_{-0.352}$	$1.527^{+0.124}_{-0.124}$	$0.302^{+0.203}_{-0.104}$
	+1%/-1%	+3%/-3%	+125%/-125%	+18%/-18%	+8%/-8%	+67%/-35%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 005620395-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-483 ± 118	$8.18^{+0.93}_{-0.91}$	534^{+25}_{-24}	5137^{+280}_{-343}	5443^{+2034}_{-1608}
Alt.	-607 ± 293	$10.03^{+1.06}_{-1.13}$	535^{+24}_{-26}	4932^{+491}_{-554}	4546^{+2636}_{-2132}

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 $A_{obs} \gg 1.0$

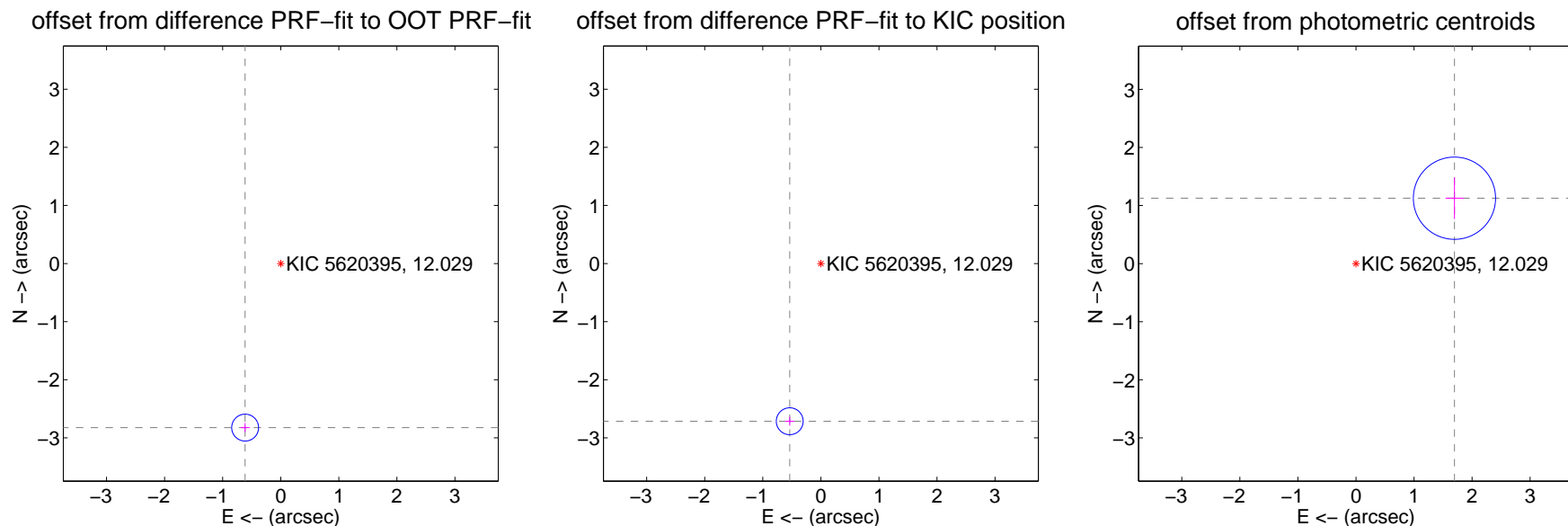
DV Centroid Data

Supplemental centroid analysis for 005620395-01. Kepler magnitude: 12.03. Transit SNR 16.22

There are 1 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.890 ± 0.077	37.47	0.613 ± 0.078	-2.824 ± 0.077
PRF-fit source offset from KIC position	2.767 ± 0.077	35.88	0.536 ± 0.078	-2.715 ± 0.077
photometric centroid source offset	2.04 ± 0.24	8.63	-1.70 ± 0.15	1.13 ± 0.36



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.



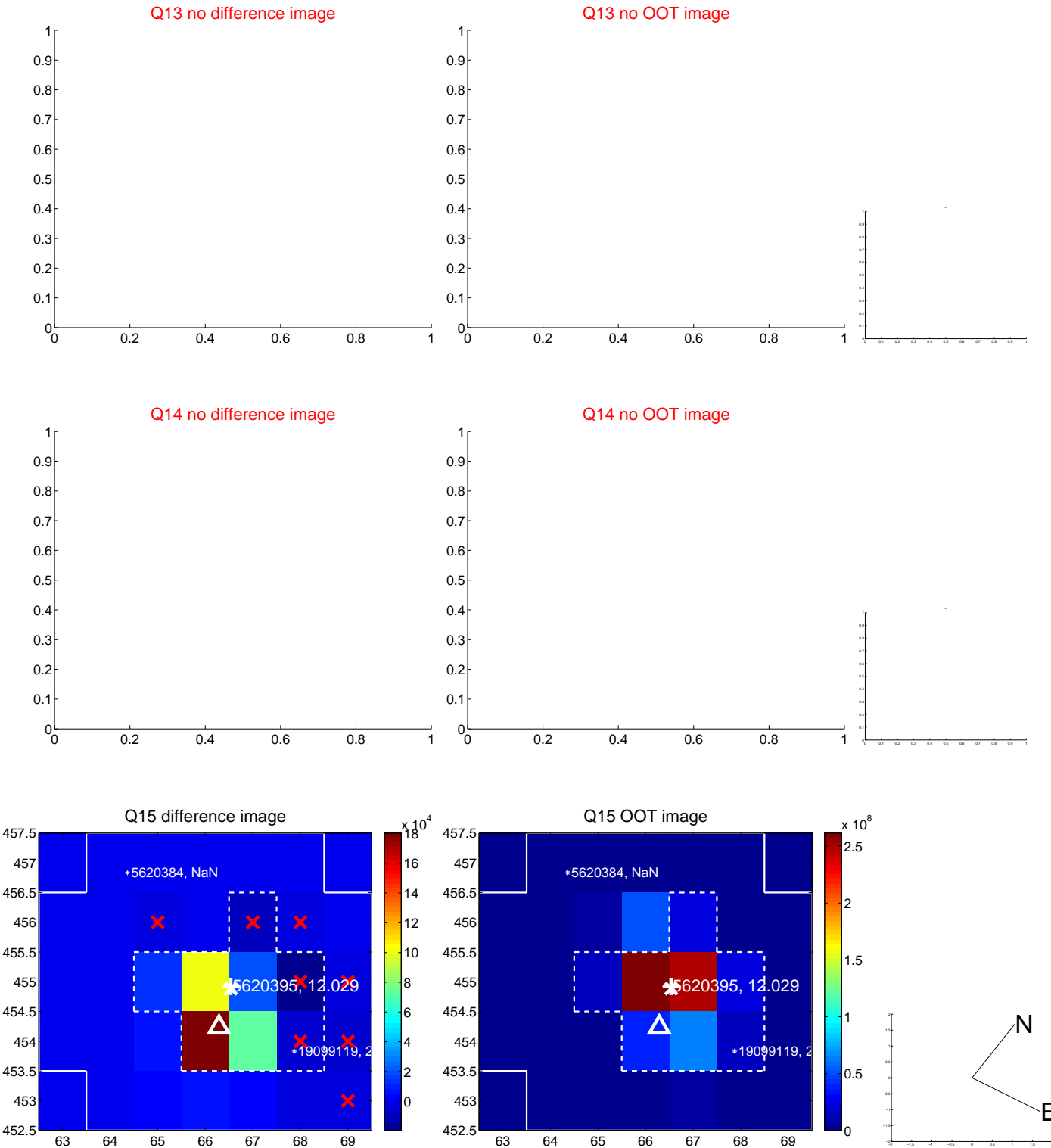
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



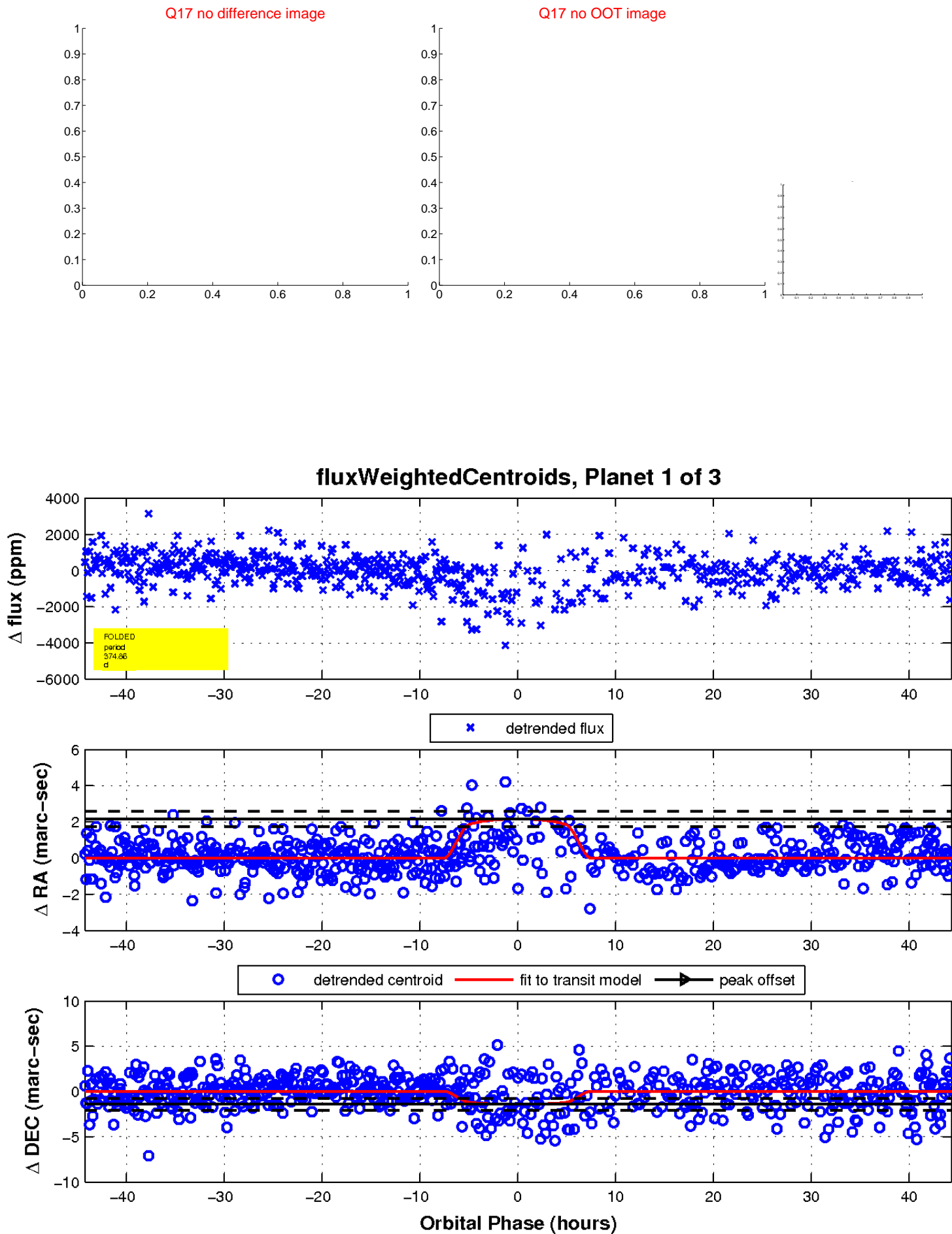
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



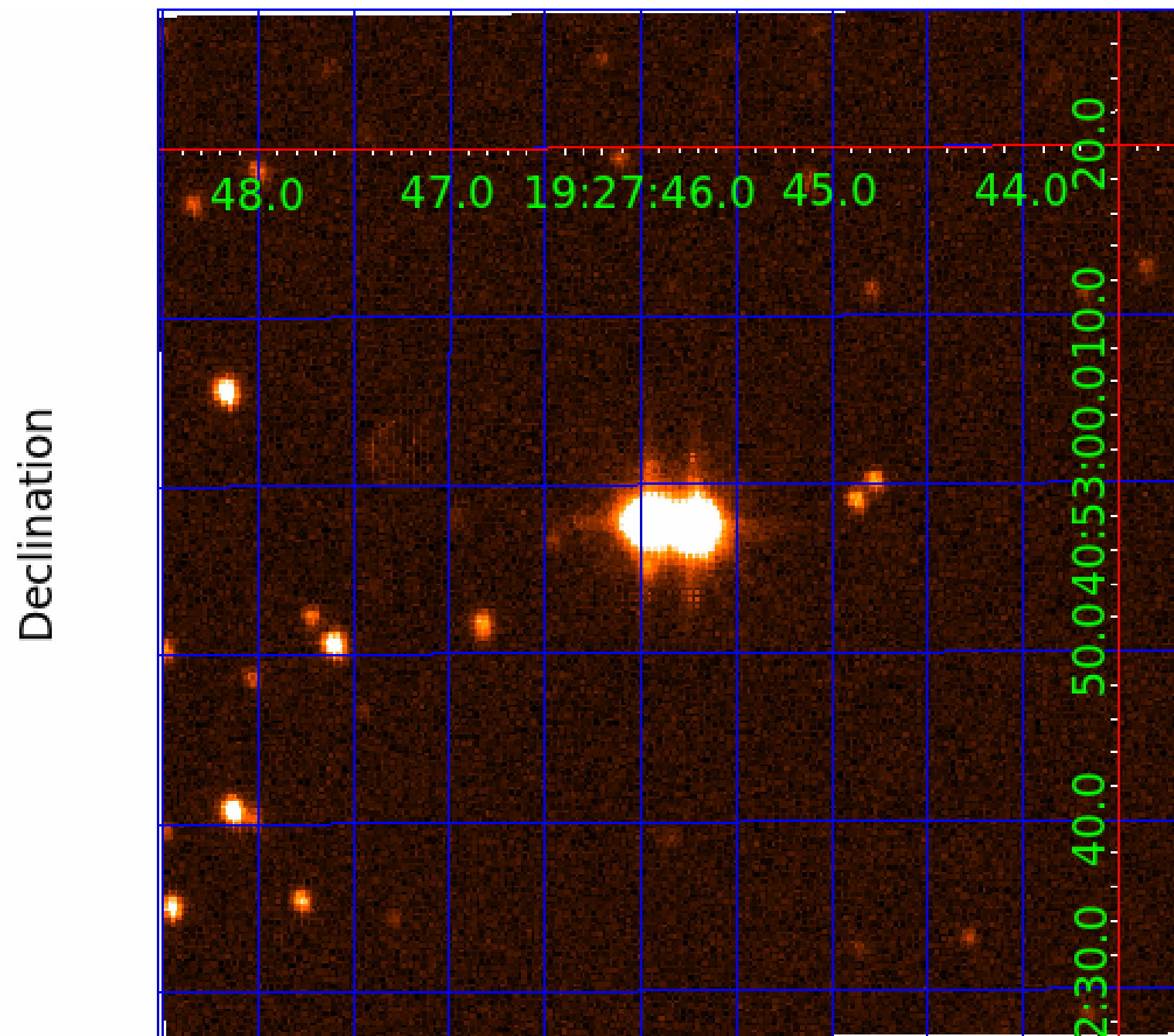
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 005620395

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})
005620395-01	OBS	No	374.861686	258.566128	1363.5	14.802	21.0	16.2	1.92	6782	8.18	5.11
005620395-02	OBS	No	376.951277	267.429062	758.0	8.804	13.5	11.8	1.92	6782	5.73	5.07
005620395-03	OBS	No	458.812132	176.154032	734.4	13.427	10.3	9.5	1.92	6782	5.40	3.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005620395-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—CENT_FEW_DIFFS
005620395-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_FEW_DIFFS
005620395-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT— MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

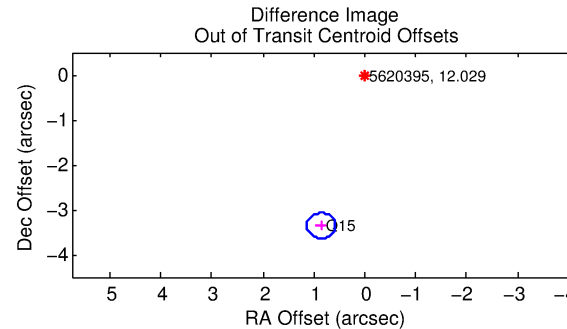
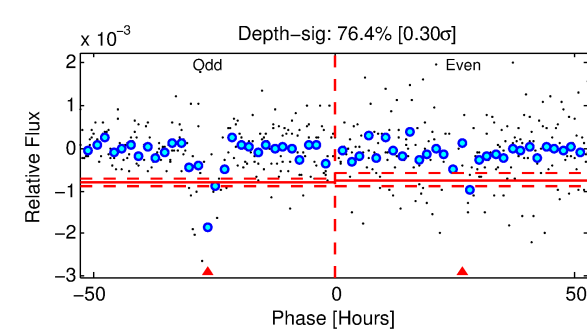
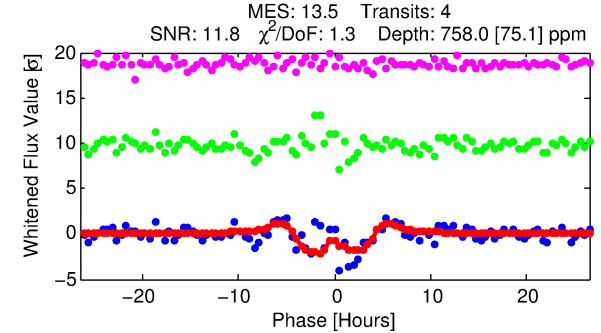
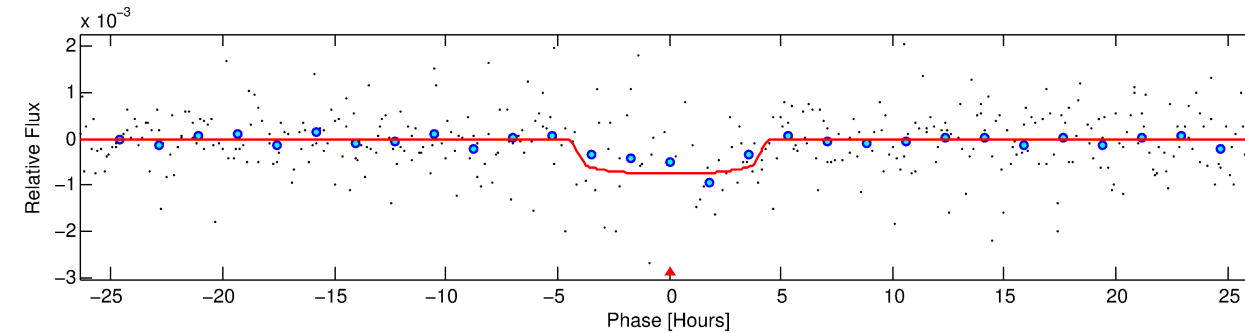
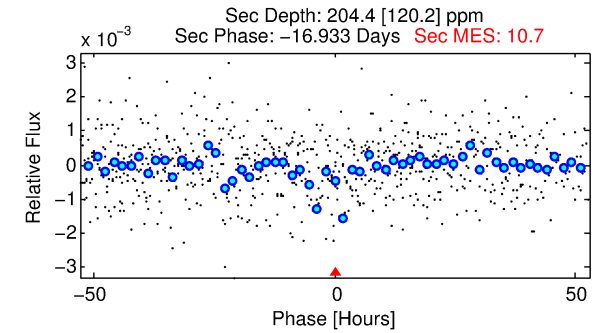
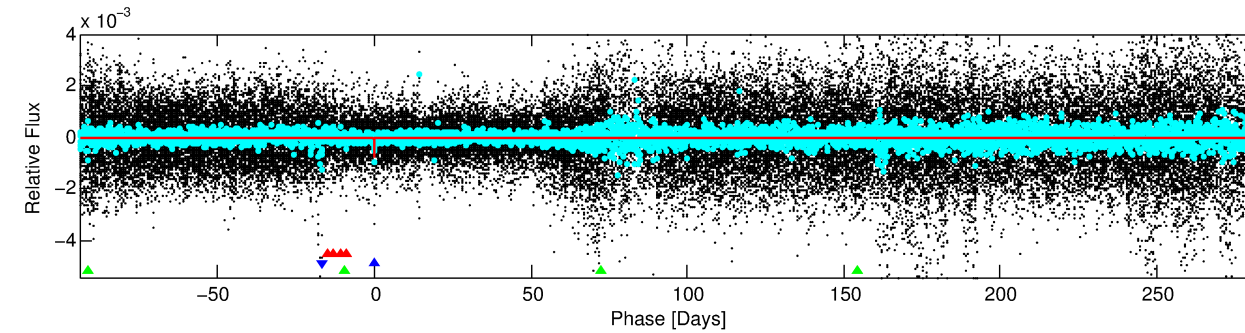
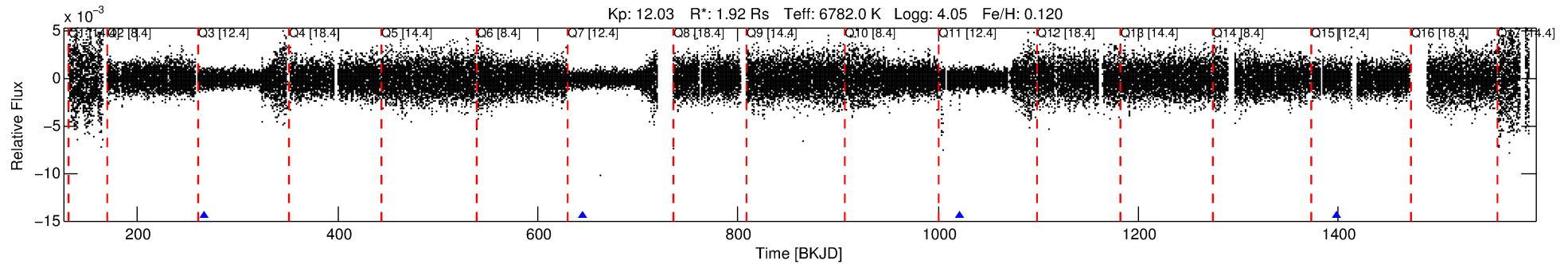
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005620395-02

No Significant Match Found

DV One-Page Summary

KIC: 5620395 Candidate: 2 of 3 Period: 376.951 d



DV Fit Results:

Period = 376.95128 [0.00595] d
Epoch = 267.4291 [0.0082] BKJD
Rp/R* = 0.0273 [0.0130]
a/R* = 233.83 [607.73]
b = 0.74 [1.63]
Seff = 5.07 [1.26]
Teq = 383 [24] K
Rp = 5.73 [2.92] Re
a = 1.1768 [0.1895] AU
Ag = 4747.24 [5431.86] [0.87 σ]
Teffp = 4910 [1374] K [3.30 σ]

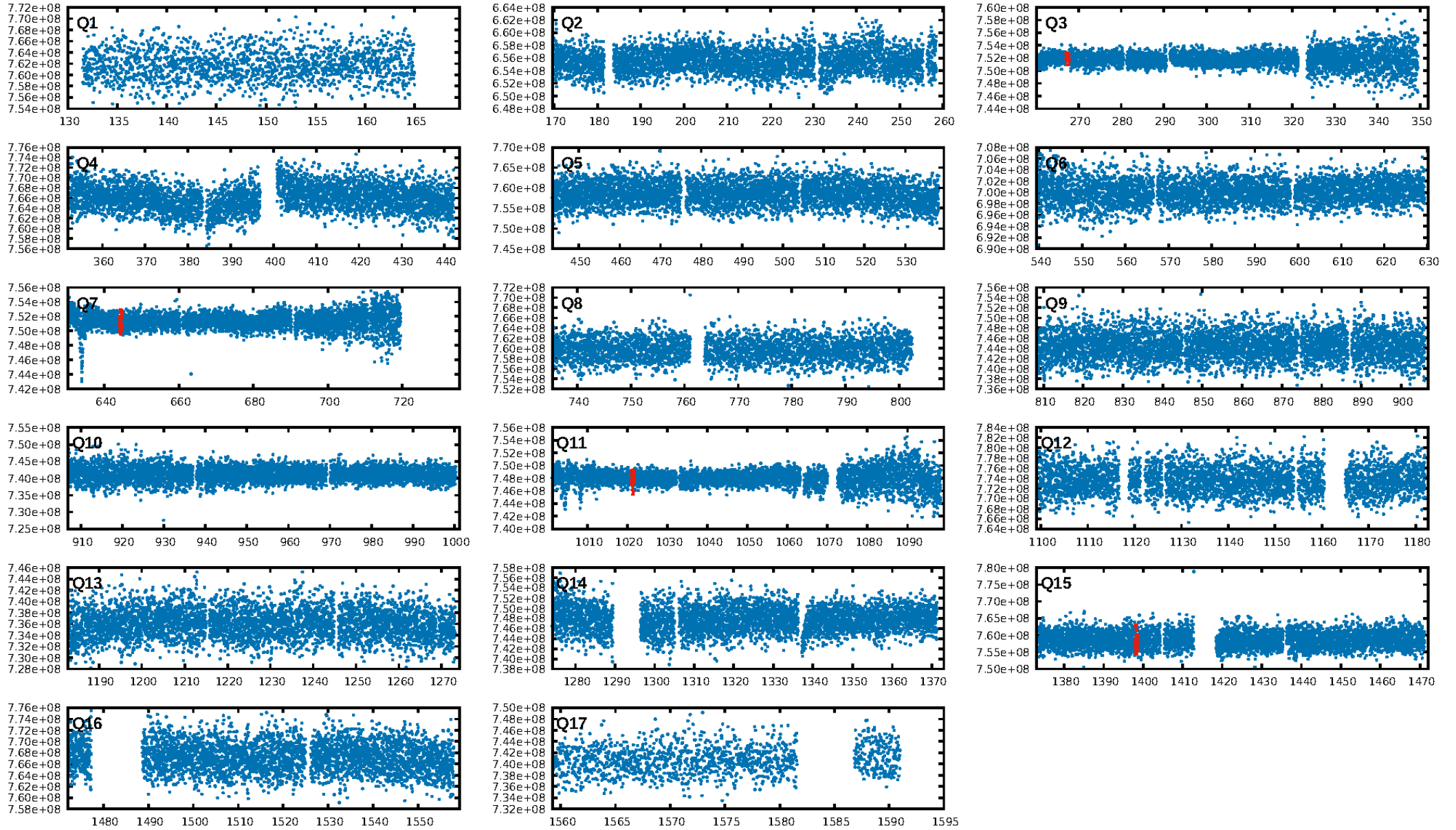
DV Diagnostic Results:

ShortPeriod-sig: 99.6% [2.91 σ]
LongPeriod-sig: 100.0% [122.36 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 94.9%
Bootstrap-pfa: 1.99e-18
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.368
Centroid-sig: 25.1%
Centroid-so: 0.564 arcsec [0.91 σ]
OotOffset-rm: 3.464 arcsec [36.85 σ]
KicOffset-rm: 3.353 arcsec [35.66 σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [1/1]

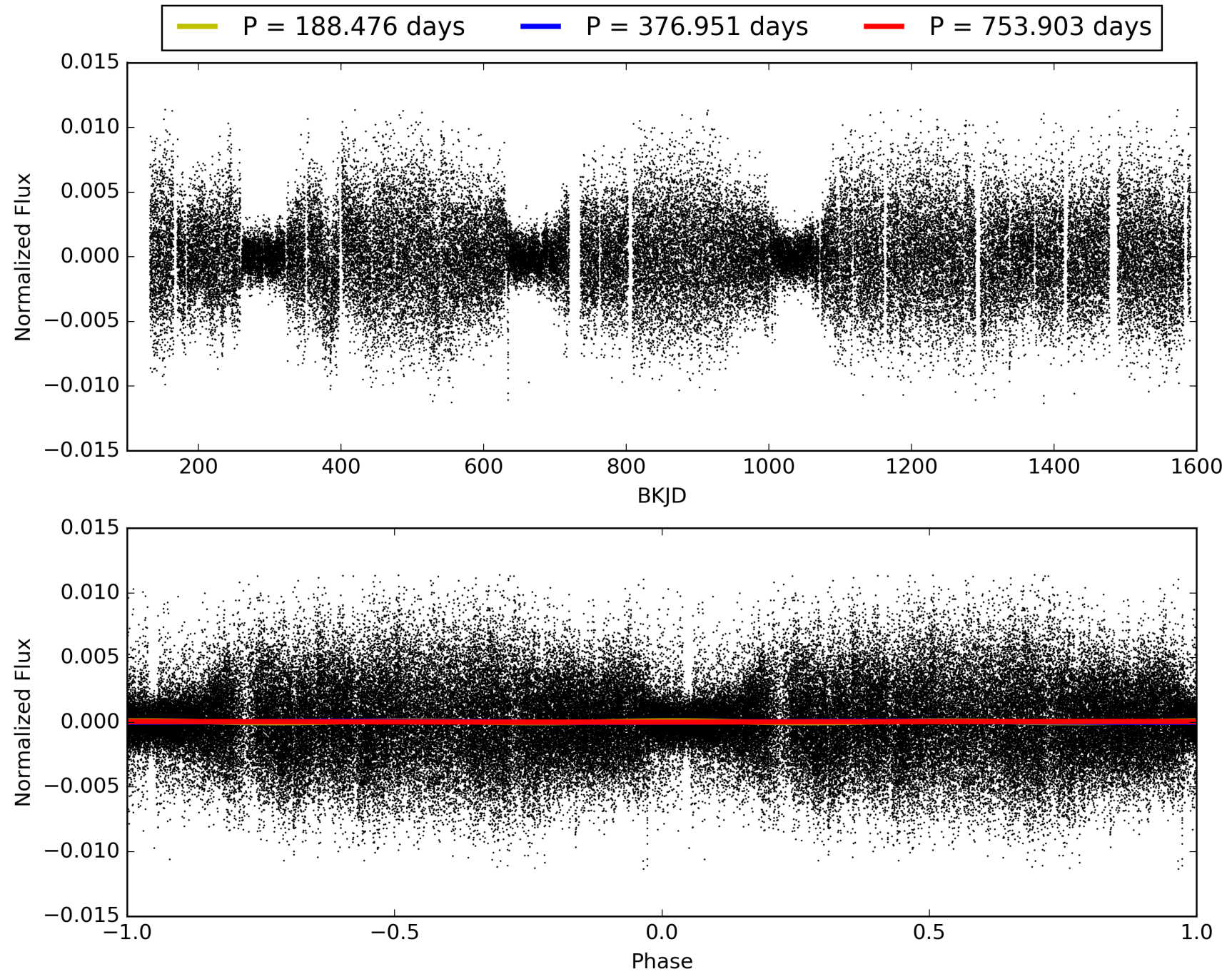
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 04:26:30 Z

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

TCE 005620395-02, PDC Light Curves

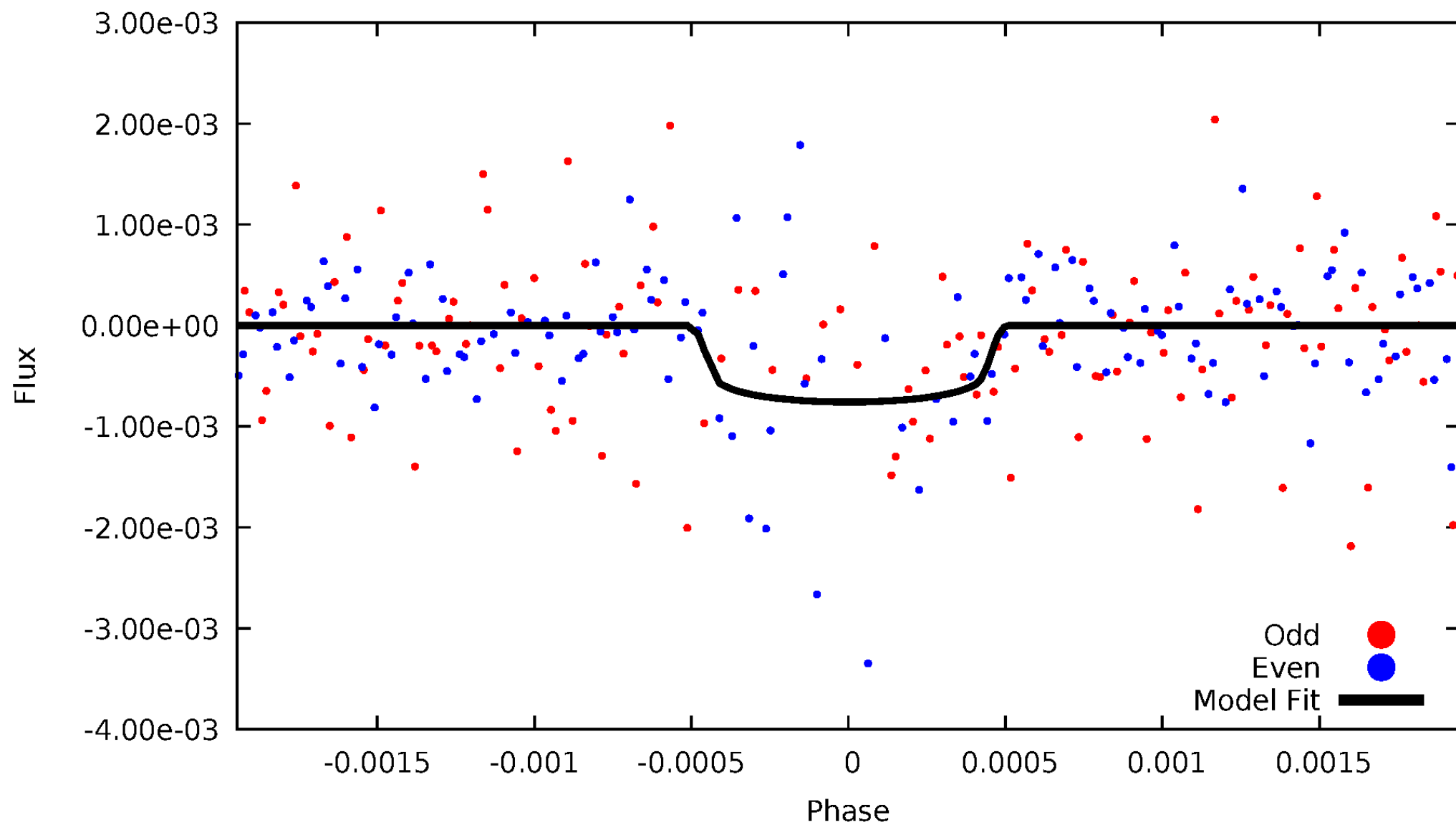


TCE 005620395-02



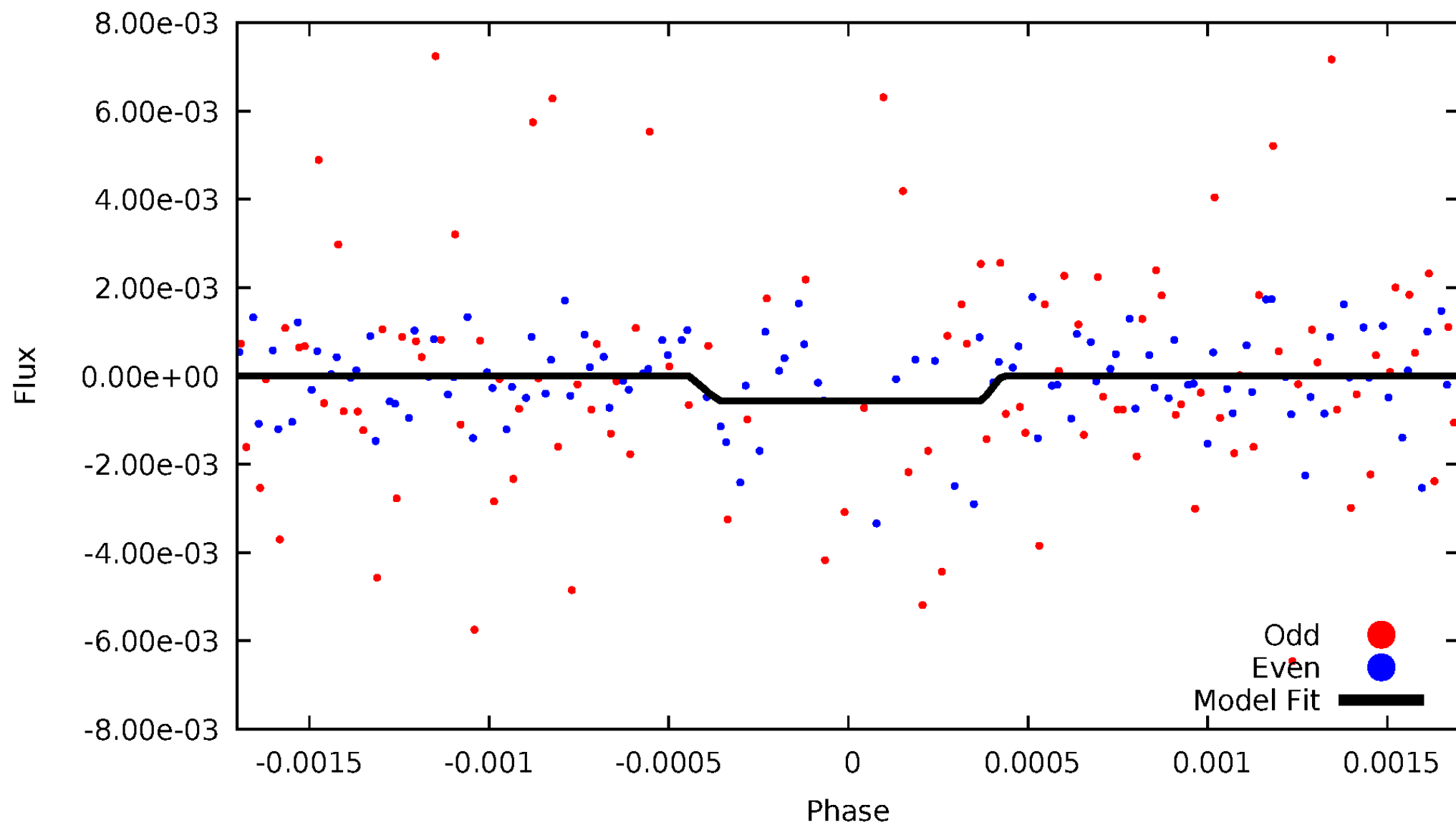
DV Odd/Even

TCE 005620395-02



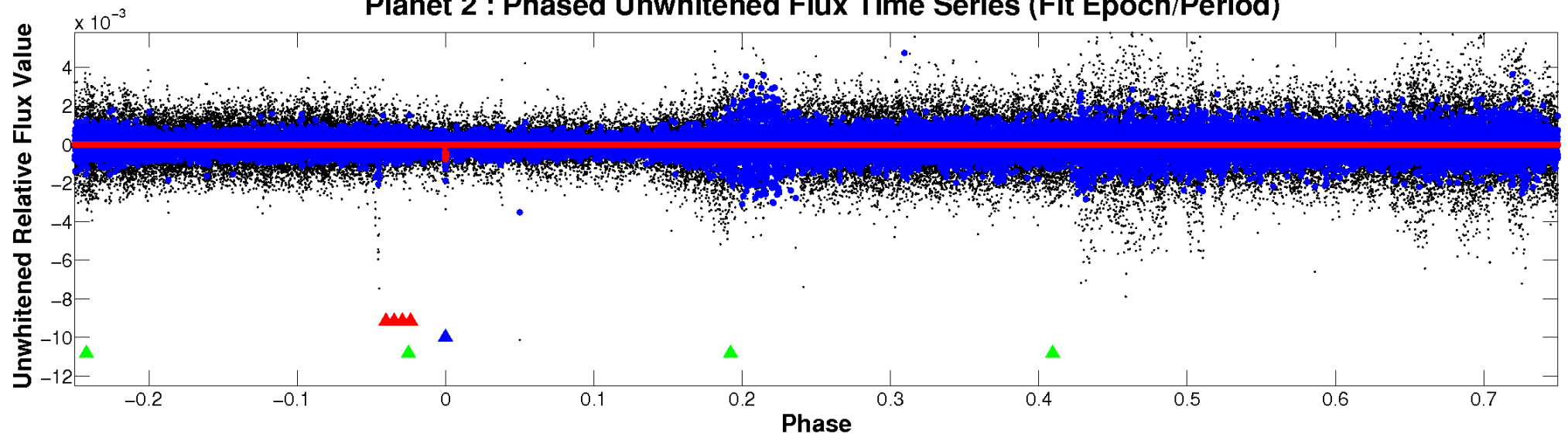
ALT Odd/Even

TCE 005620395-02

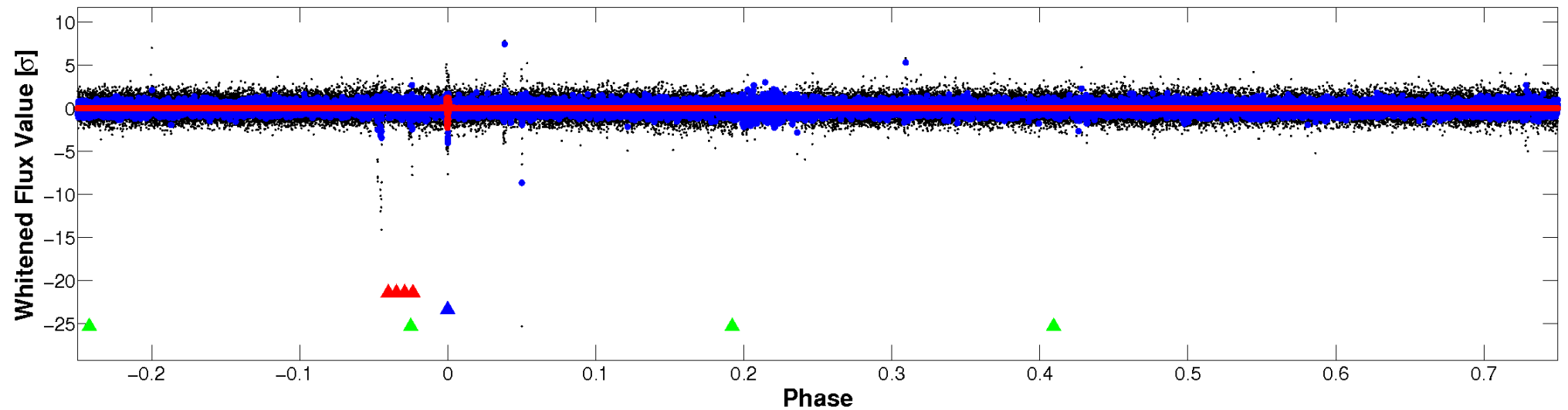


Non-Whitened Vs. Whitened Light Curve

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



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



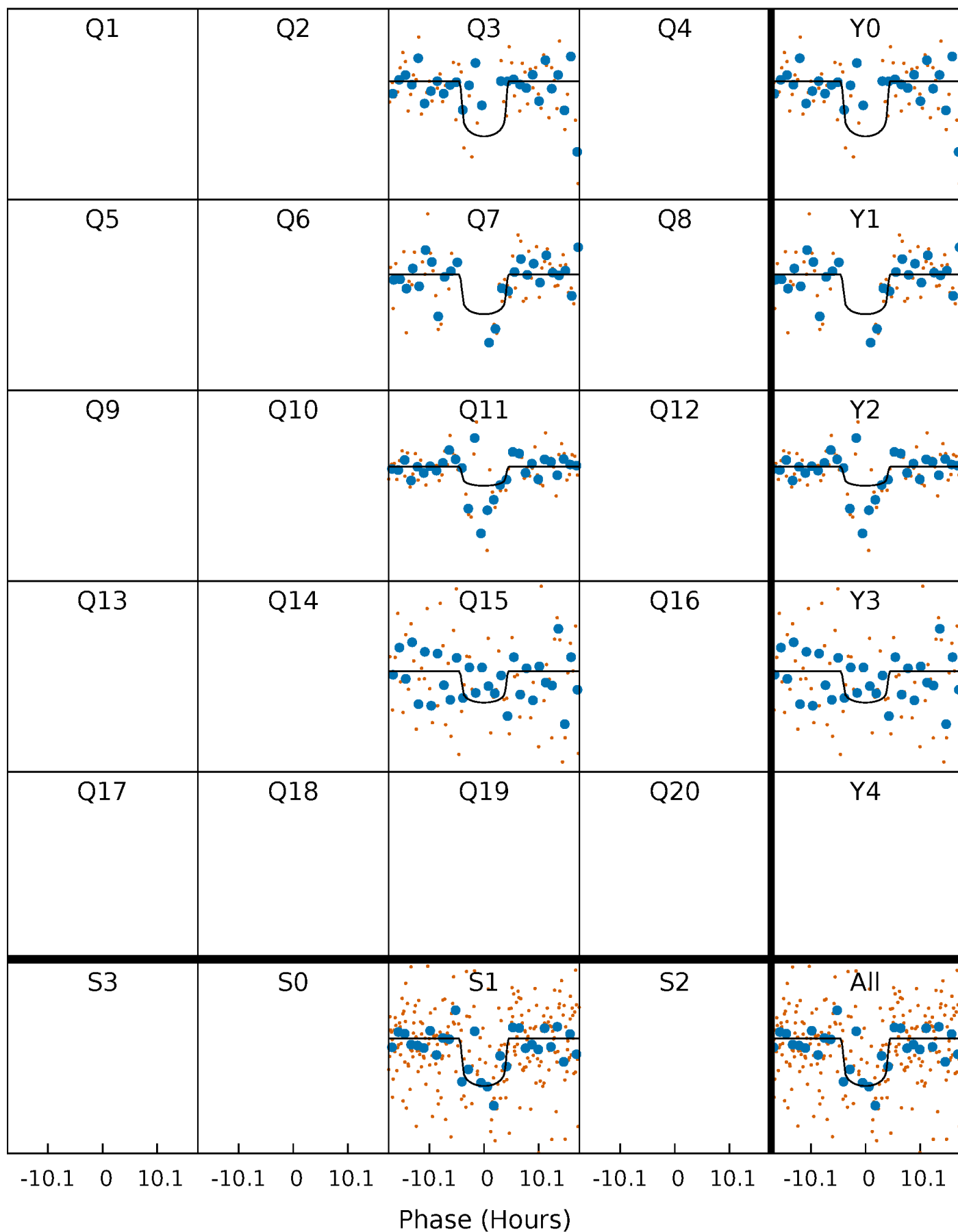
PDC Quarter-Phased Transit Curves

TCE 005620395-02 $P=376.951277$ Days $T_0=267.429062$ (BKJD)



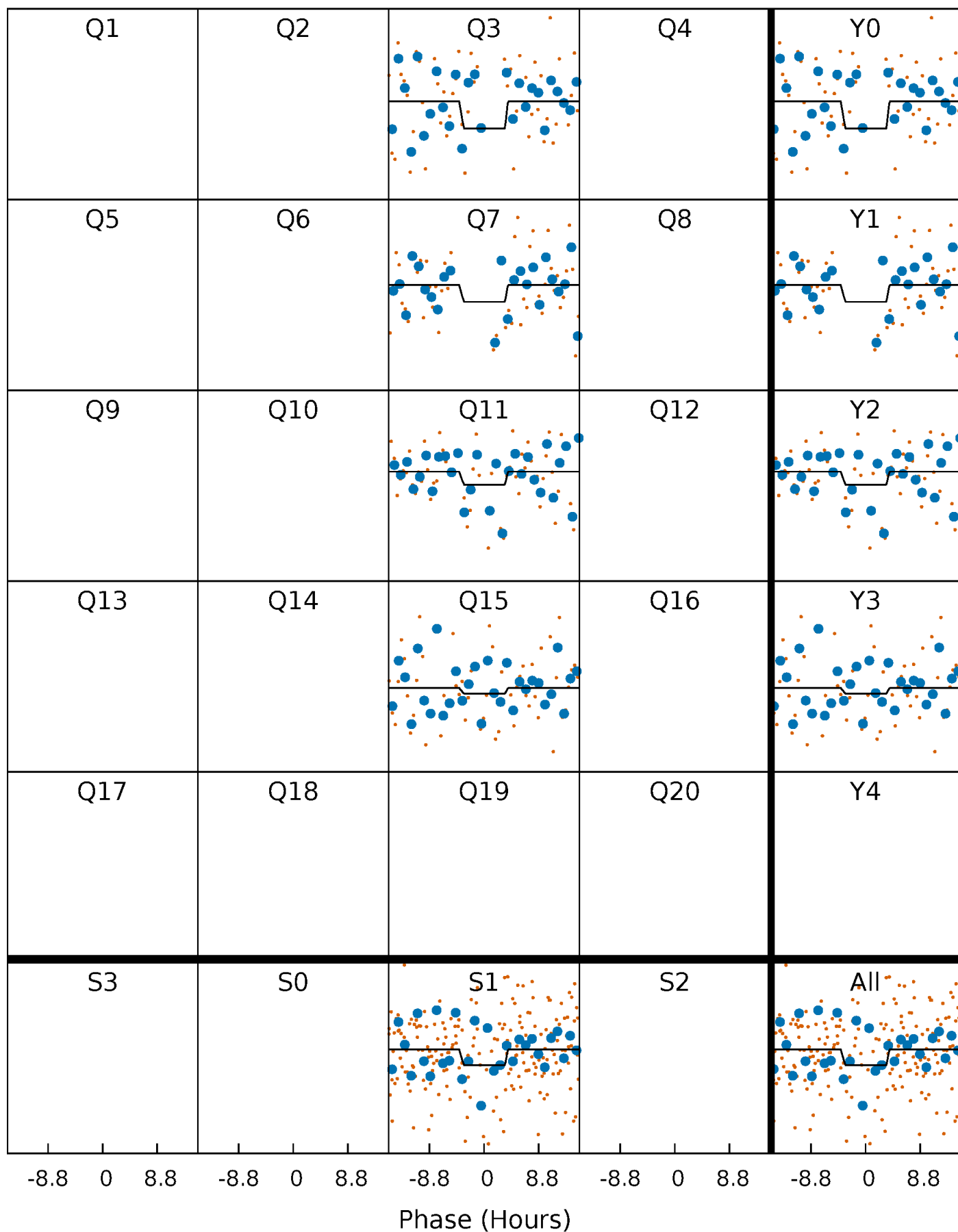
DV Quarter-Phased Transit Curves

TCE 005620395-02 $P=376.951277$ Days $T_0=267.429062$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

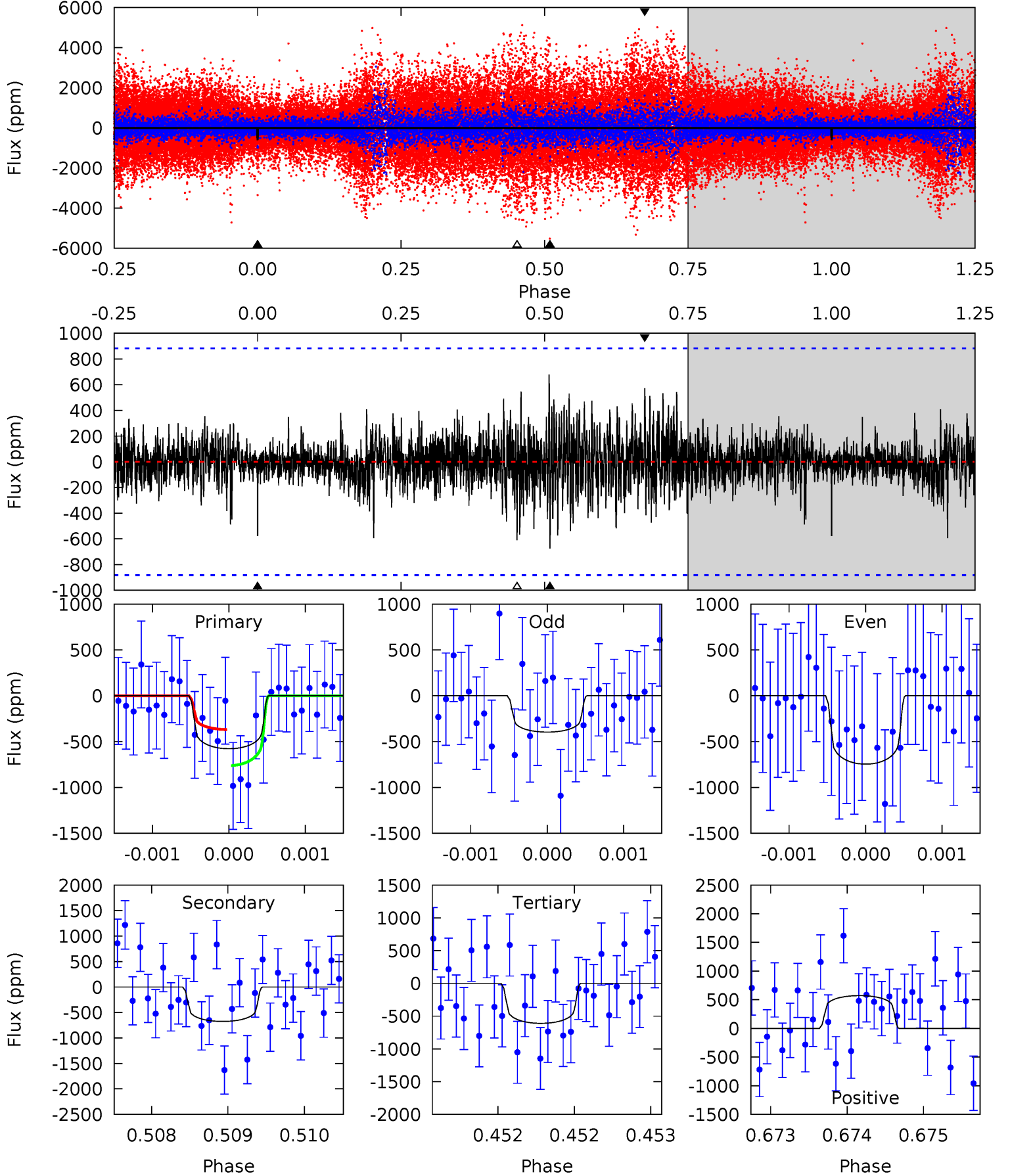
TCE 005620395-02 $P=376.951504$ Days $T_0=267.422810$ (BKJD)



DV Model-Shift Uniqueness Test

005620395-02, $P = 376.951277$ Days, $E = 267.429062$ Days

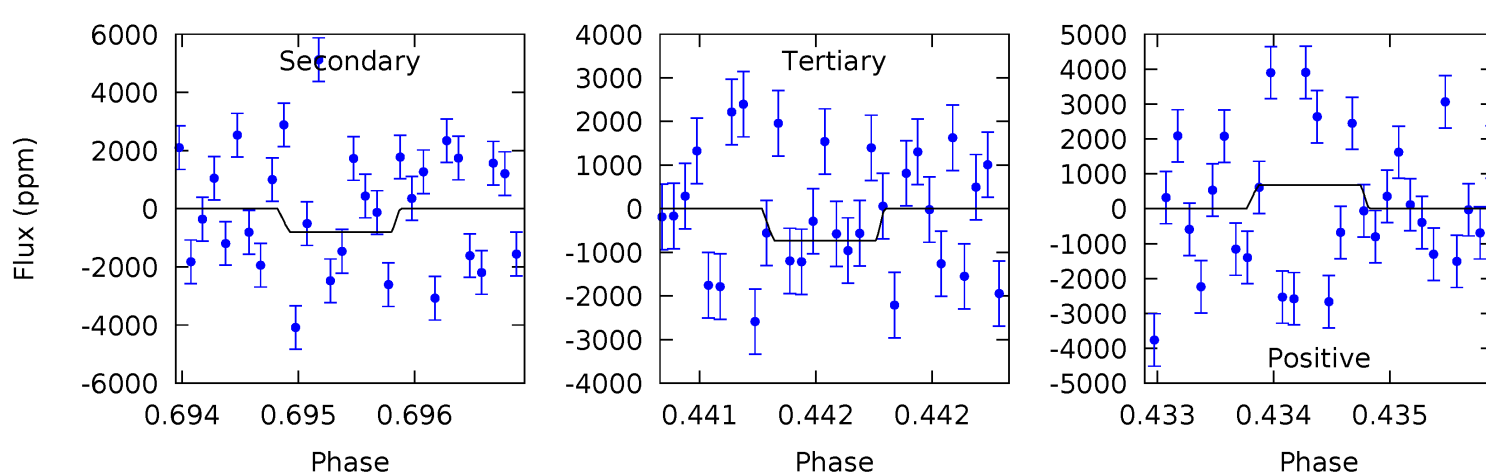
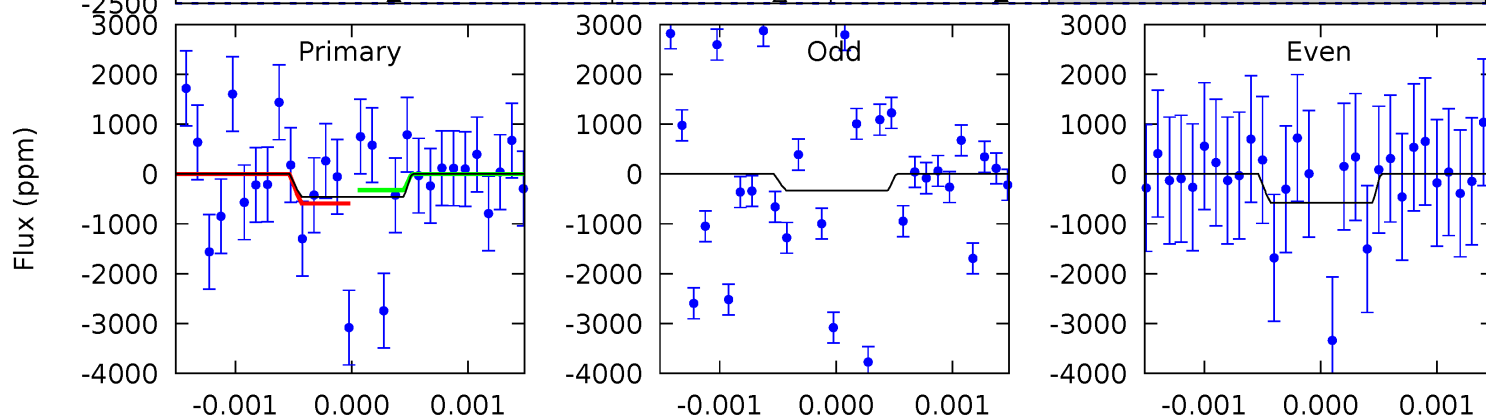
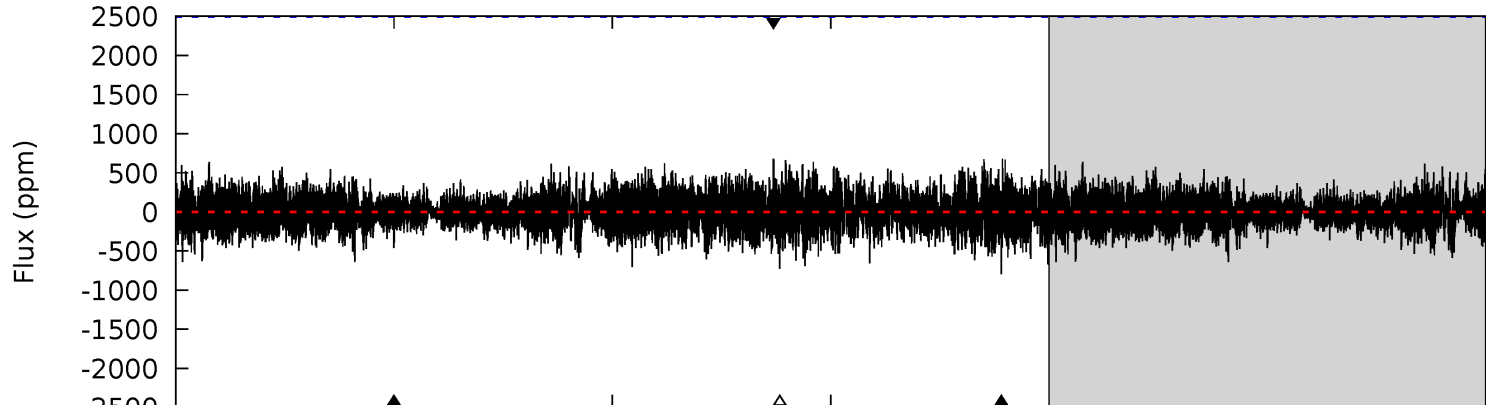
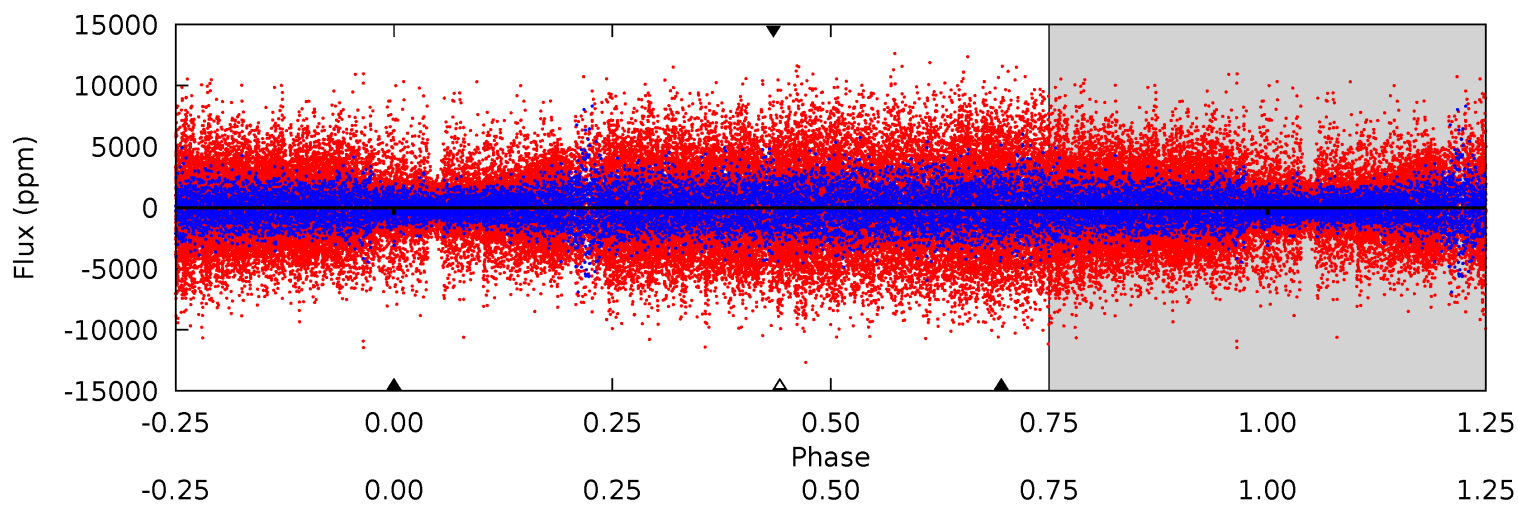
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.57	4.17	3.77	3.53	5.45	3.30	0.88	-0.20	0.03	0.40	0.64	1.07	1.10	0.50	1.20



Alt Model-Shift Uniqueness Test

005620395-02, $P = 376.951504$ Days, $E = 267.422810$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.01	1.75	1.60	1.48	5.48	3.34	0.39	-0.59	-0.48	0.15	0.27	0.27	0.99	0.46	0.29



Stellar Parameters For KIC 005620395

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6782^{+71}_{-81}	$4.054^{+0.137}_{-0.112}$	$0.120^{+0.150}_{-0.150}$	$1.924^{+0.352}_{-0.352}$	$1.527^{+0.124}_{-0.124}$	$0.302^{+0.203}_{-0.104}$
	+1%/-1%	+3%/-3%	+125%/-125%	+18%/-18%	+8%/-8%	+67%/-35%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 005620395-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-675 ± 162	$5.75^{+2.88}_{-2.55}$	534^{+22}_{-26}	6549^{+2627}_{-1135}	15482^{+32521}_{-8741}
Alt.	-797 ± 455	$5.03^{+2.62}_{-2.44}$	533^{+24}_{-24}	7269^{+4371}_{-1915}	22309^{+71275}_{-15585}

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

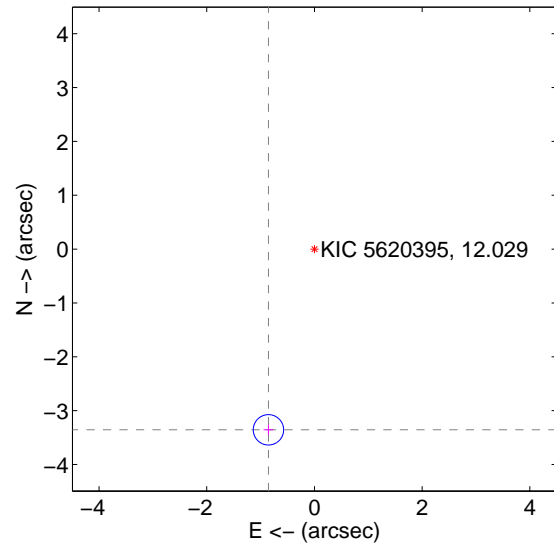
Supplemental centroid analysis for 005620395-02. Kepler magnitude: 12.03. Transit SNR 11.82

There are 1 quarters with good PRF difference image offsets

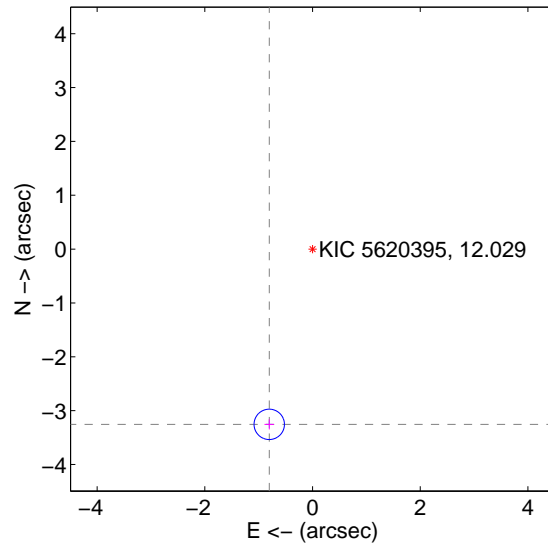
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.464 ± 0.094	36.85	0.854 ± 0.088	-3.357 ± 0.094
PRF-fit source offset from KIC position	3.353 ± 0.094	35.66	0.804 ± 0.088	-3.255 ± 0.094
photometric centroid source offset	0.56 ± 0.62	0.91	-0.36 ± 0.26	-0.43 ± 0.77

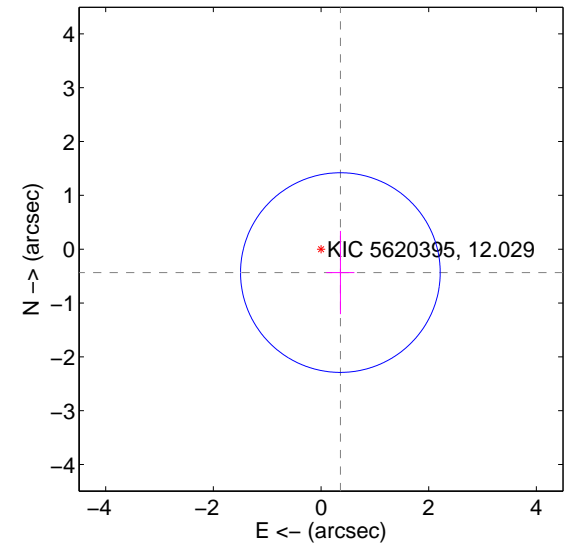
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

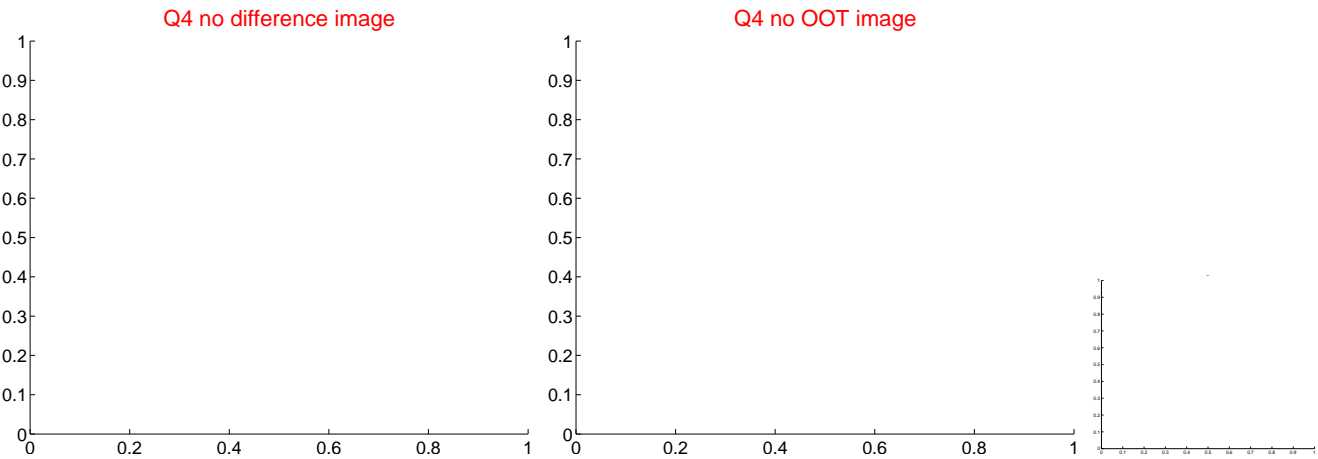
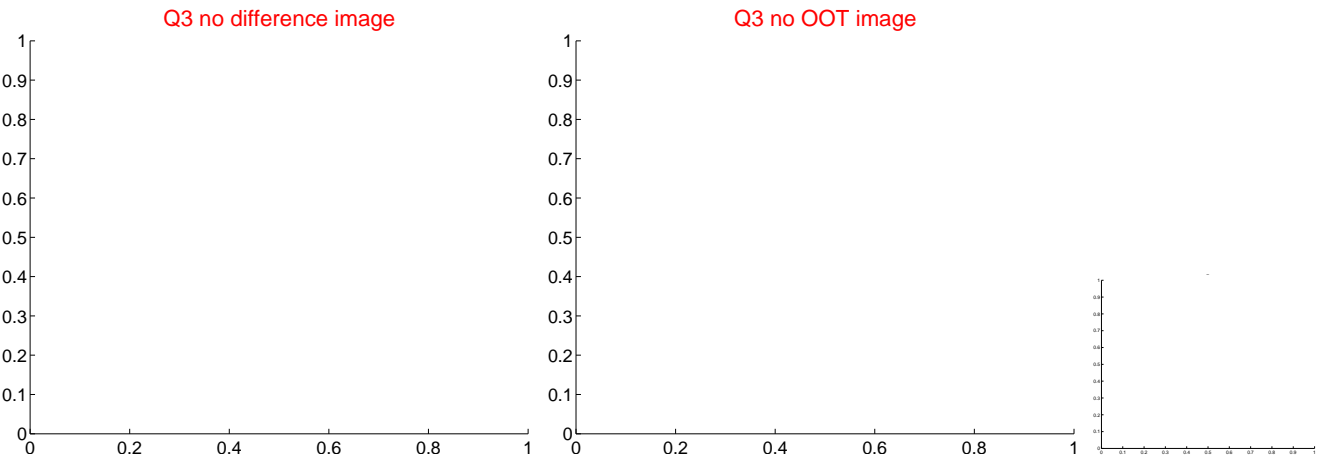
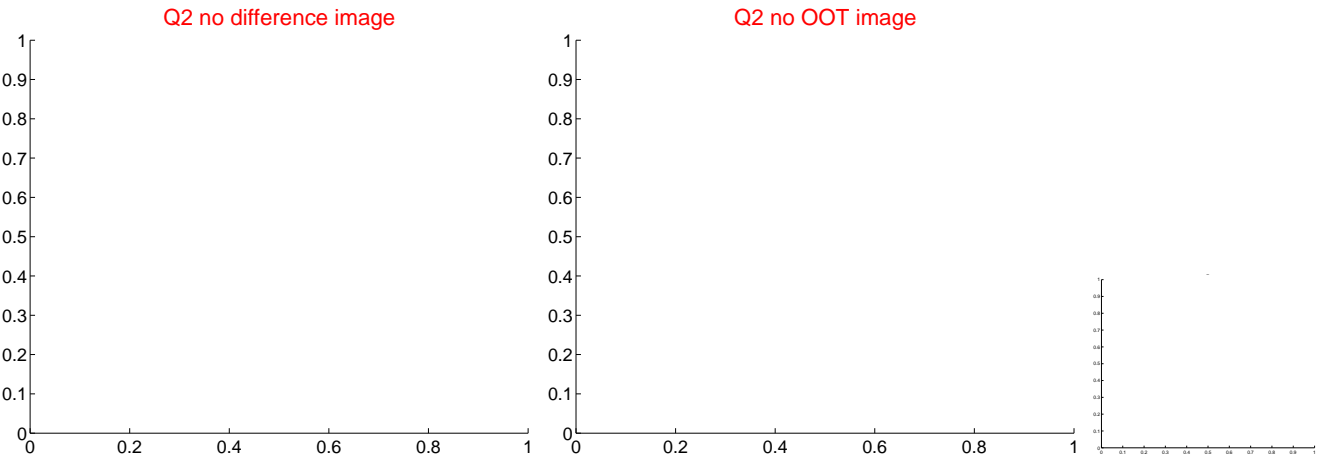
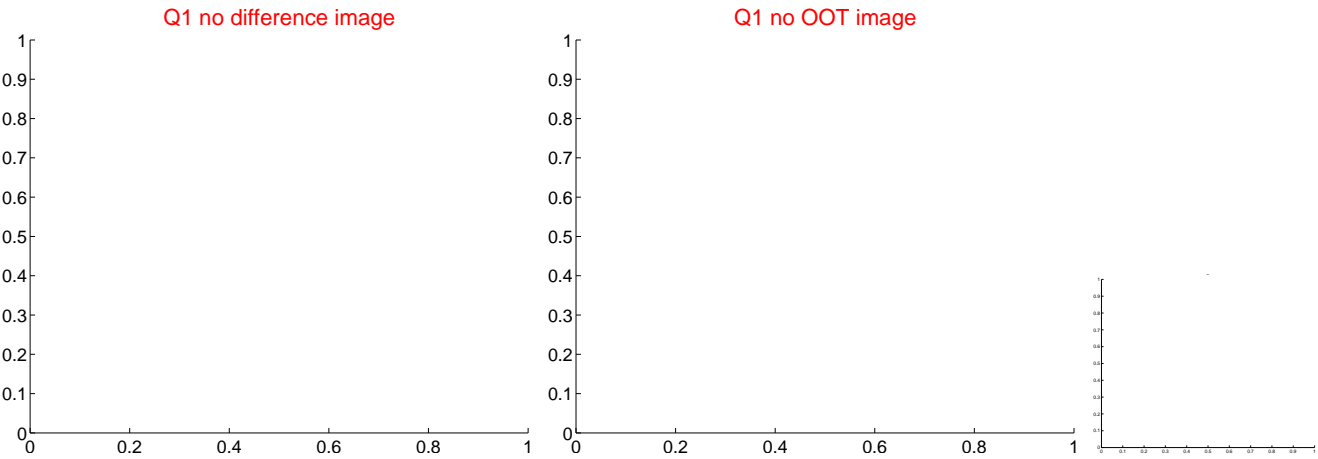


offset from photometric centroids

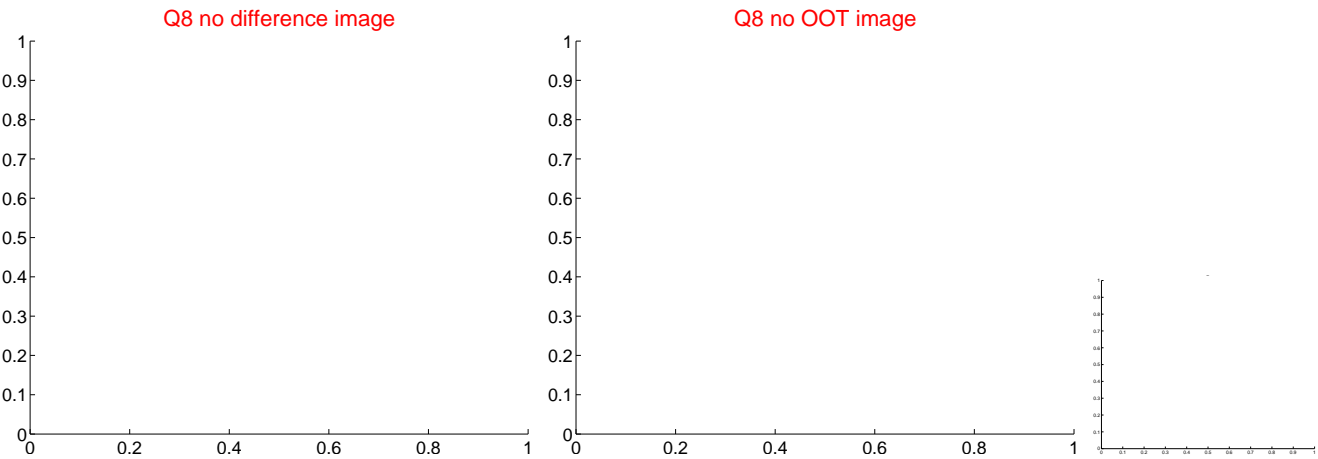
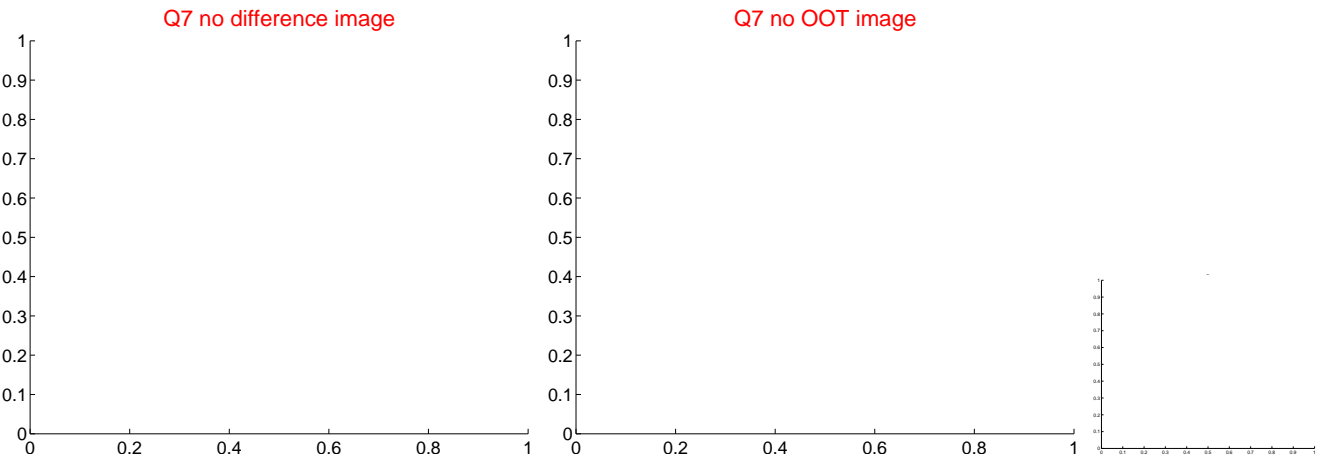
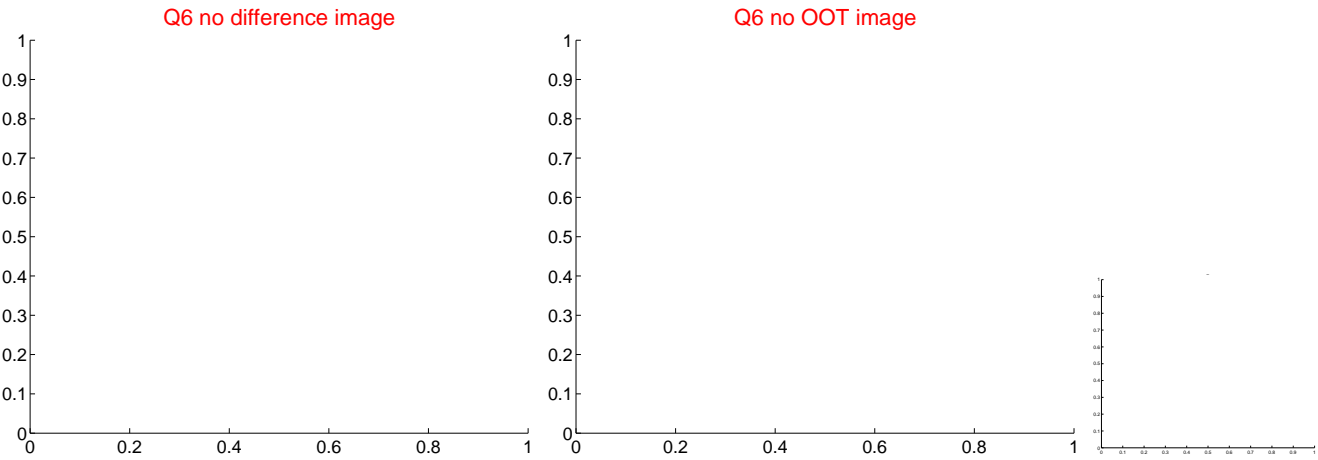
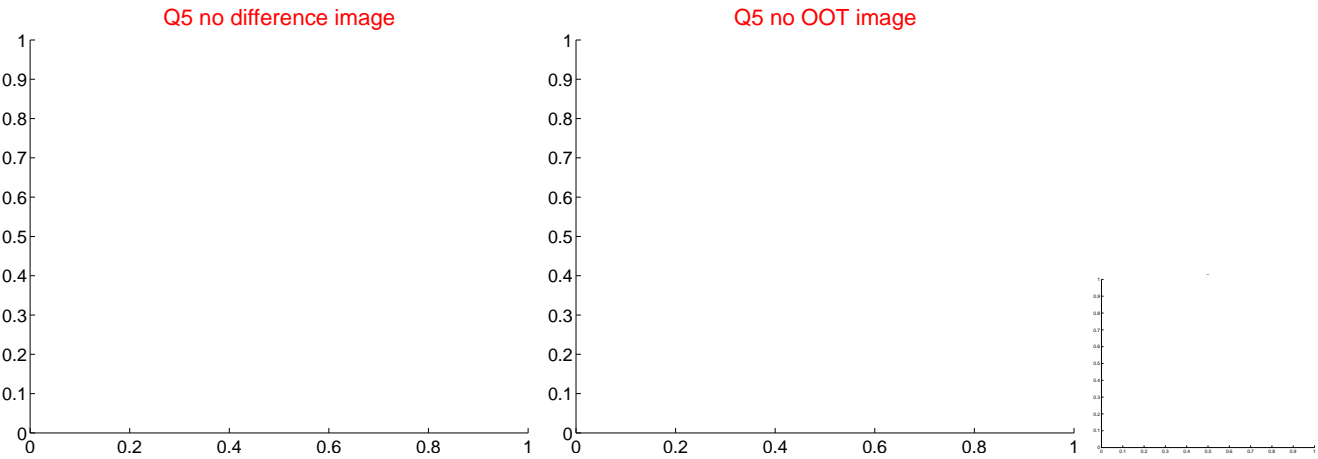


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



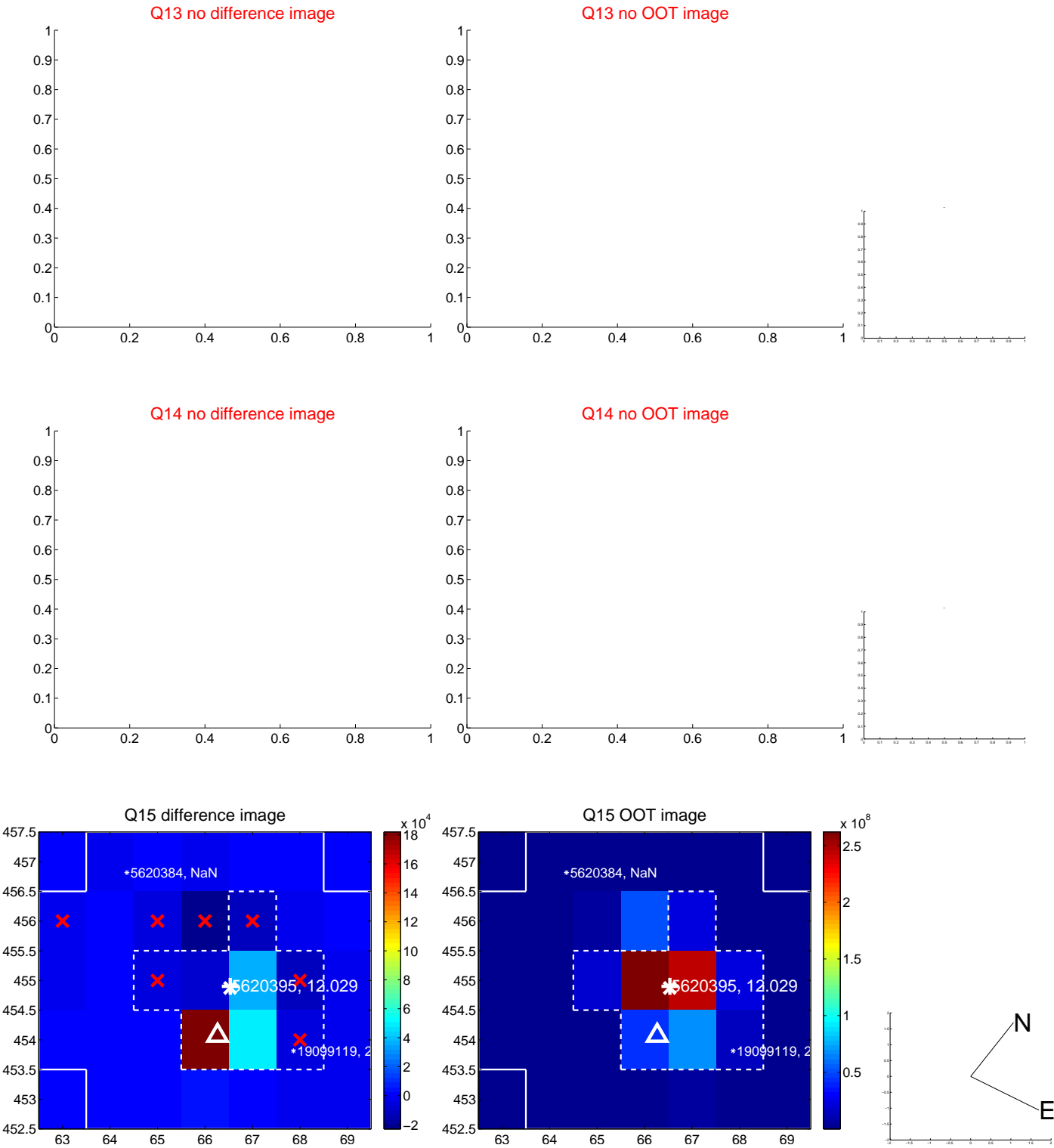
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



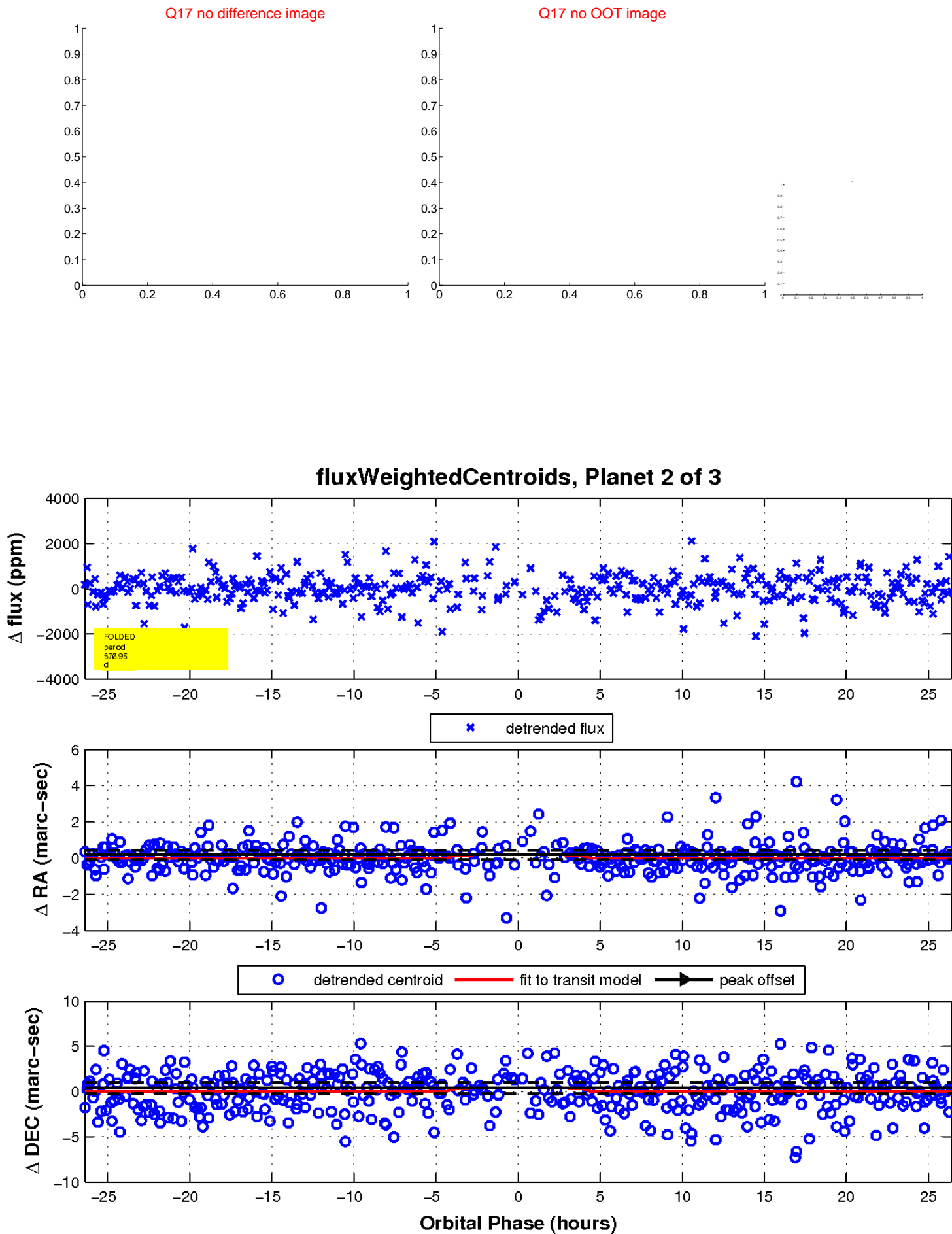
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

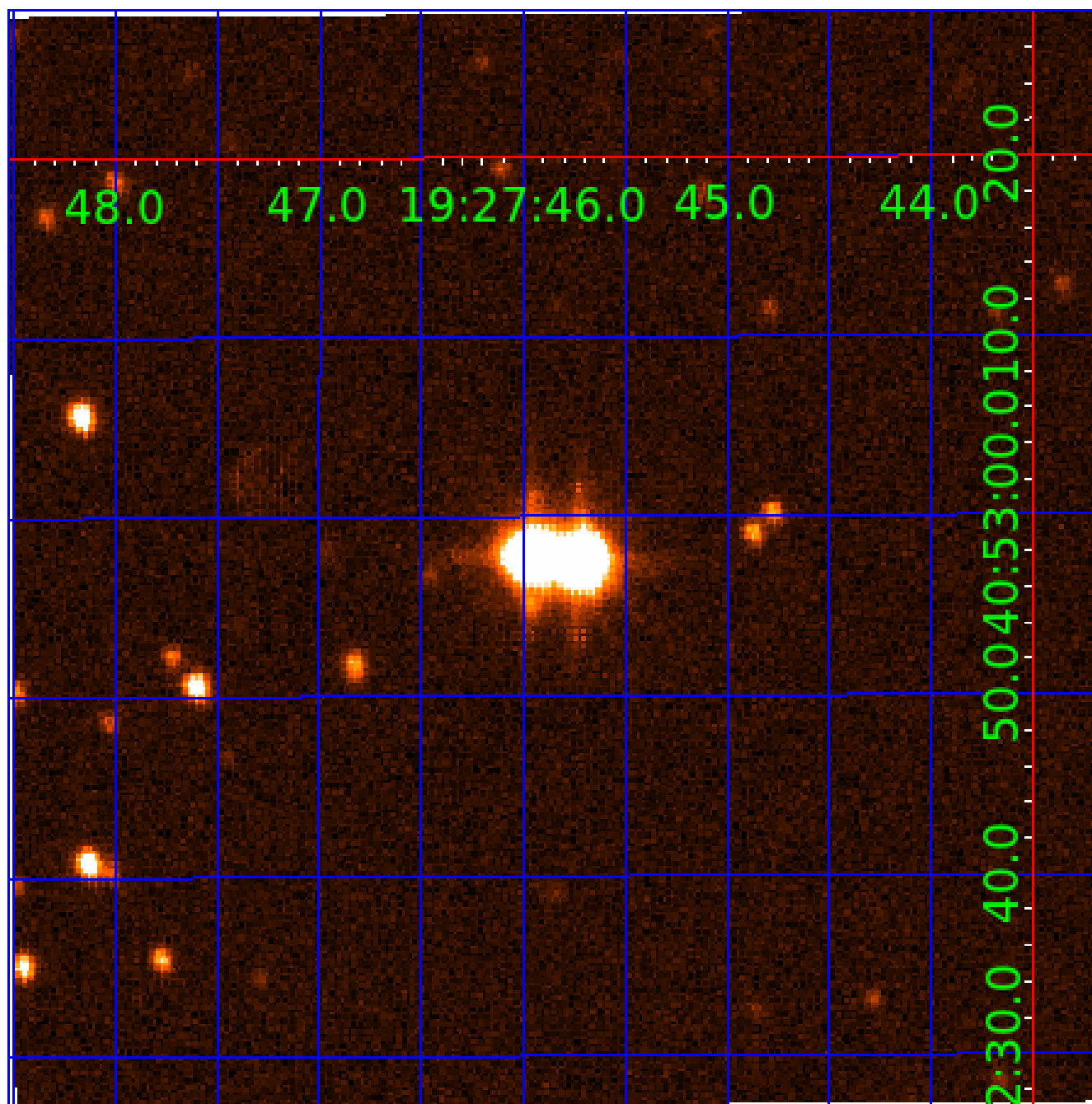


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005620395

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})
005620395-01	OBS	No	374.861686	258.566128	1363.5	14.802	21.0	16.2	1.92	6782	8.18	5.11
005620395-02	OBS	No	376.951277	267.429062	758.0	8.804	13.5	11.8	1.92	6782	5.73	5.07
005620395-03	OBS	No	458.812132	176.154032	734.4	13.427	10.3	9.5	1.92	6782	5.40	3.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005620395-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—CENT_FEW_DIFFS
005620395-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_FEW_DIFFS
005620395-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT— MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

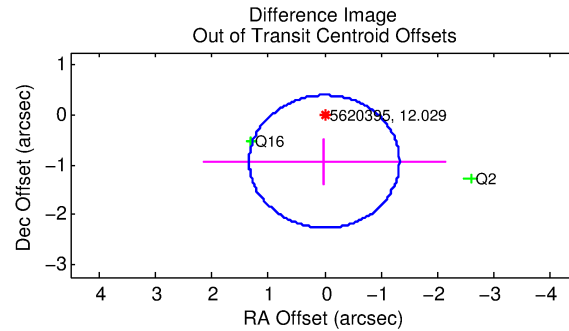
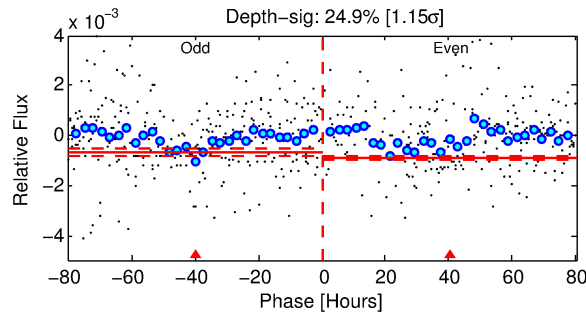
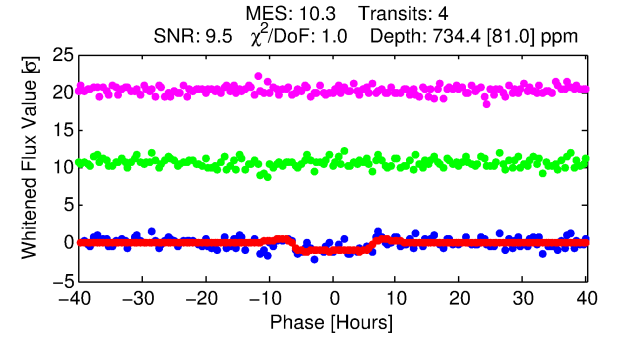
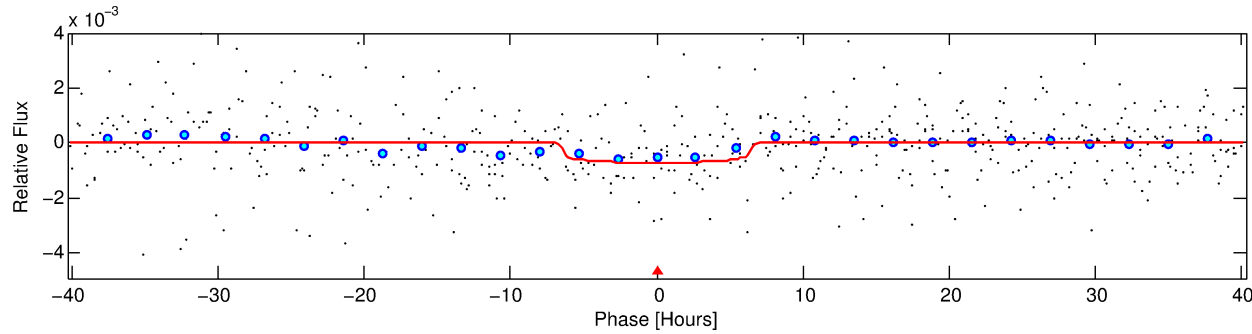
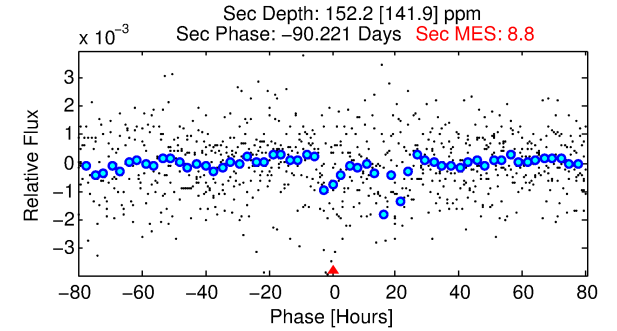
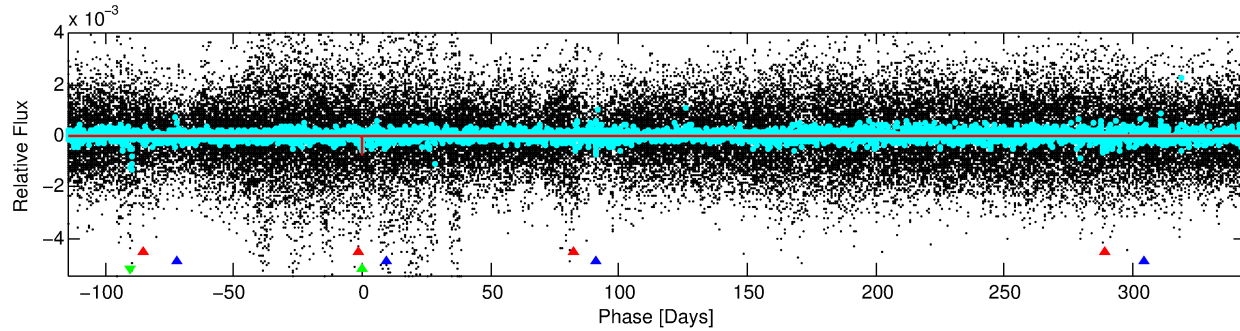
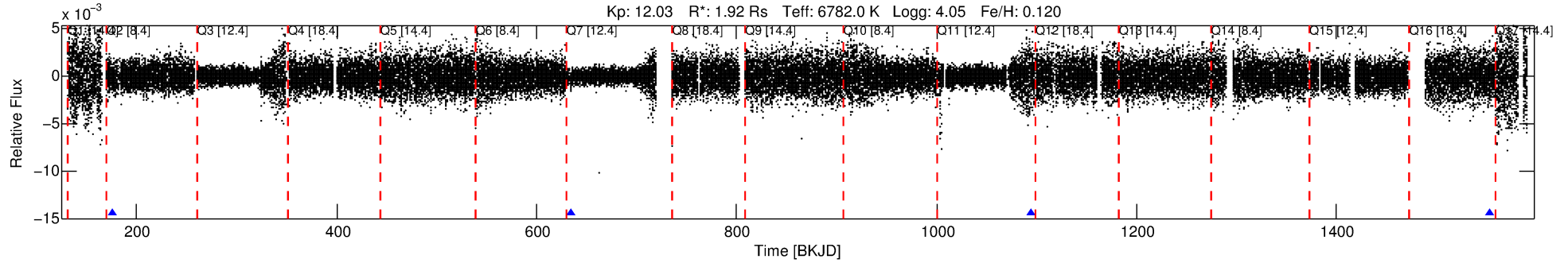
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005620395-03

No Significant Match Found

DV One-Page Summary

KIC: 5620395 Candidate: 3 of 3 Period: 458.812 d



DV Fit Results:

Period = 458.81213 [0.01125] d
Epoch = 176.1540 [0.0163] BKJD
Rp/R* = 0.0257 [0.0160]
a/R* = 232.10 [785.08]
b = 0.51 [4.94]
Seff = 3.90 [0.97]
Teq = 358 [22] K
Rp = 5.40 [3.50] Re
a = 1.3415 [0.2160] AU
Ag = 5171.15 [8133.45] [0.64 σ]
Teffp = 4698 [1826] K [2.38 σ]

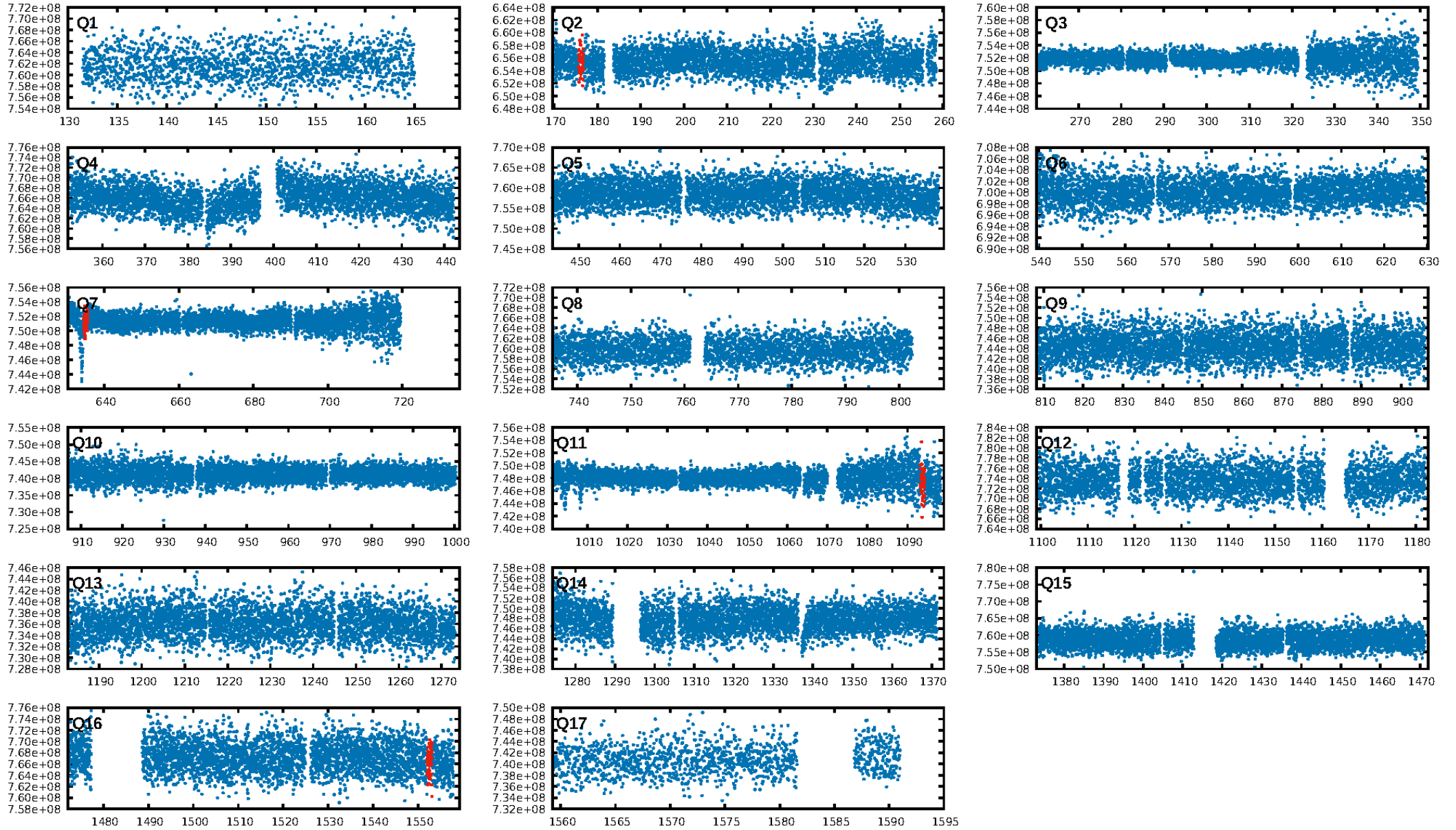
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [122.36 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 96.6%
Bootstrap-pfa: 6.32e-12
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -7.192
Centroid-sig: 36.0%
Centroid-so: 0.167 arcsec [0.56 σ]
OotOffset-rm: 0.938 arcsec [2.12 σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-rm: 0.872 arcsec [1.38 σ]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

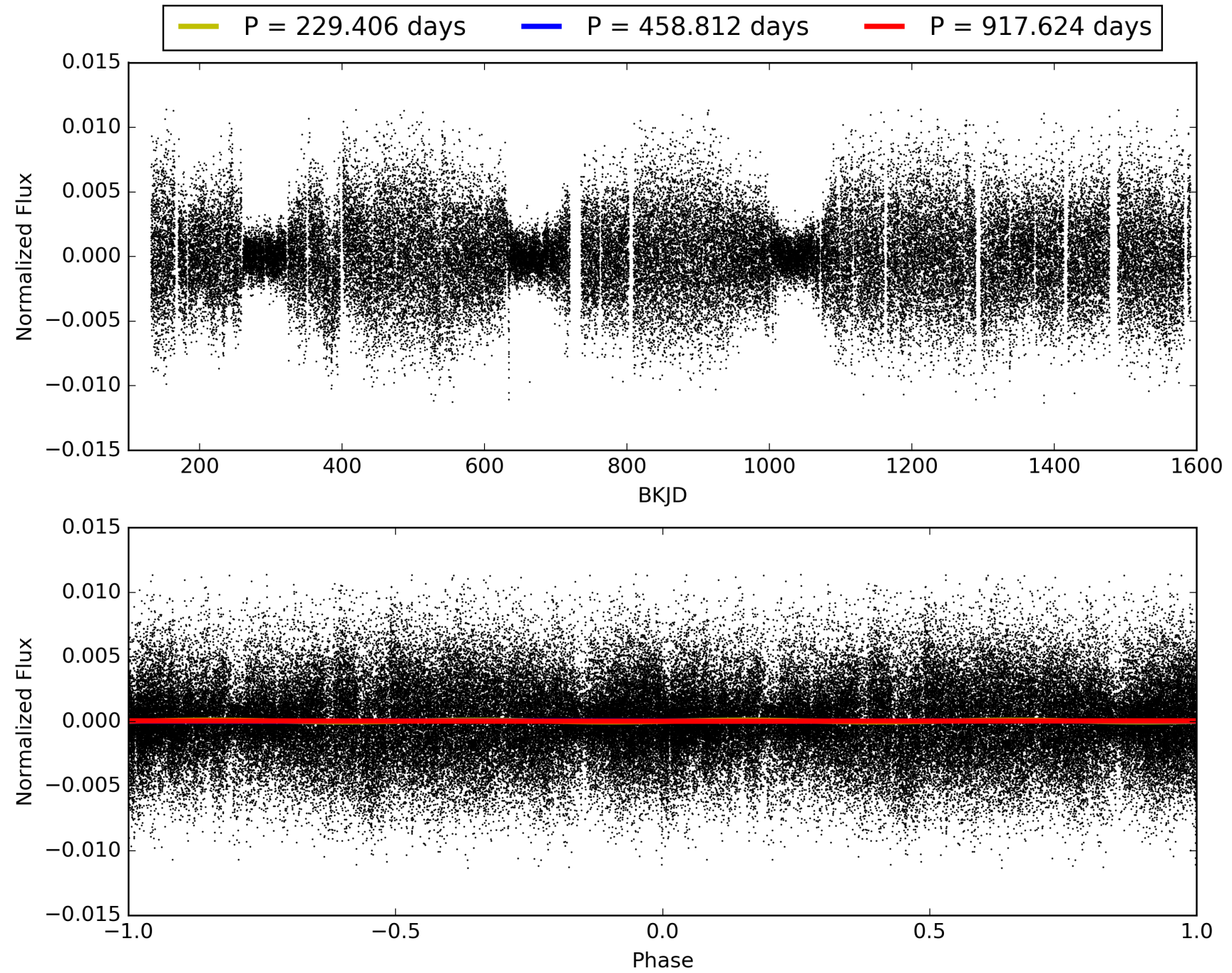
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 04:26:40 Z

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

TCE 005620395-03, PDC Light Curves

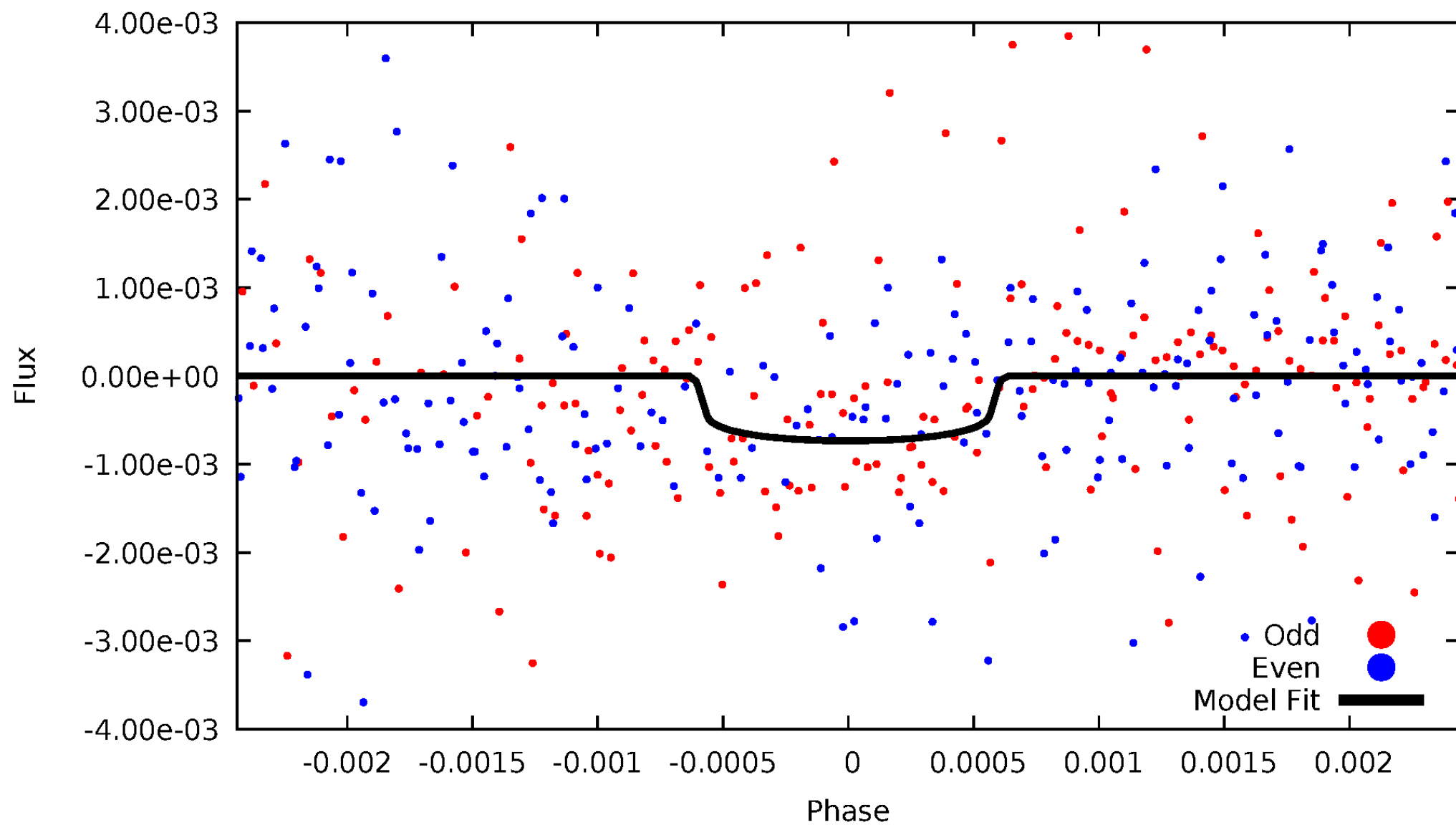


TCE 005620395-03



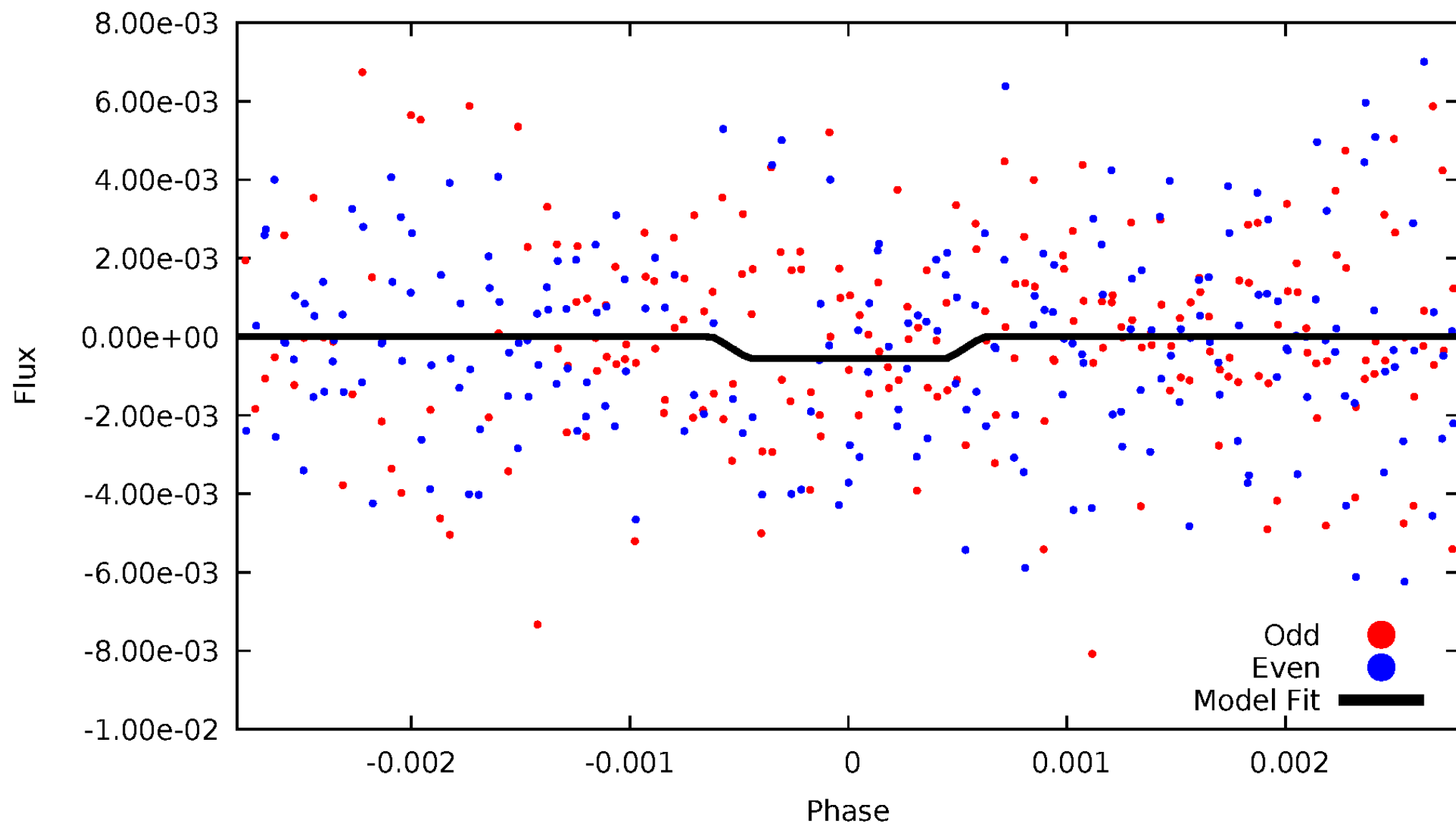
DV Odd/Even

TCE 005620395-03

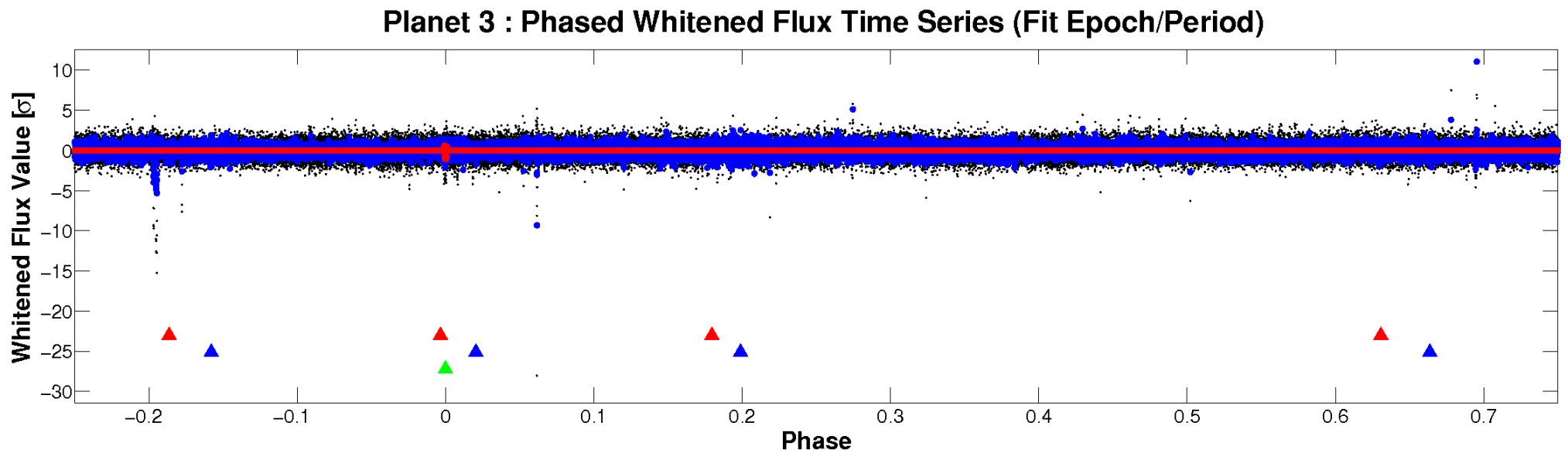
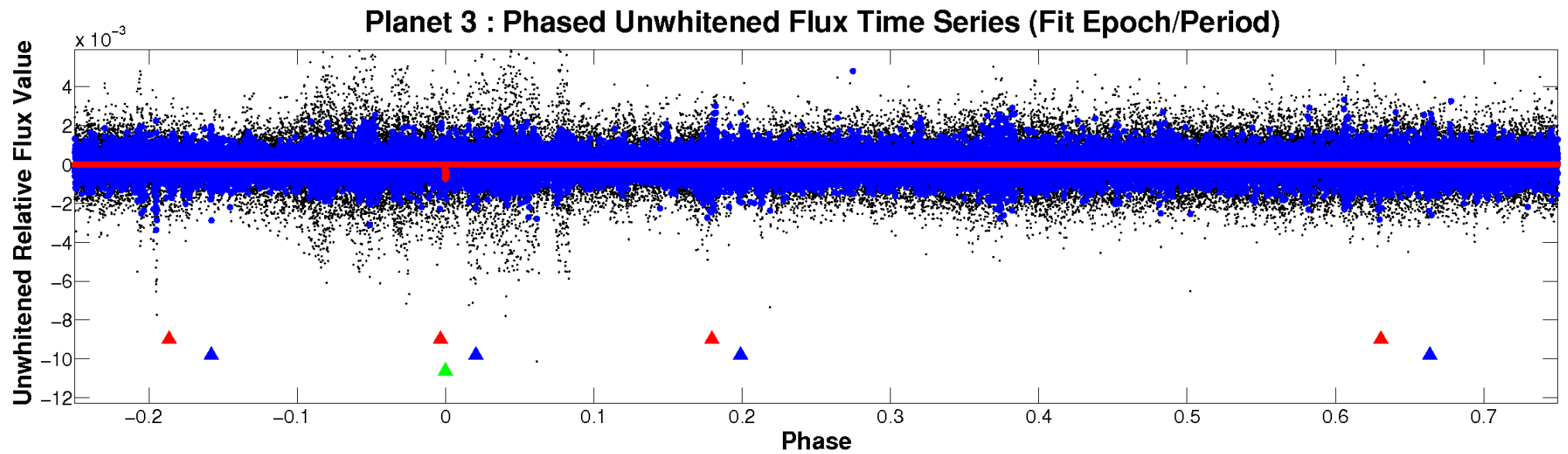


ALT Odd/Even

TCE 005620395-03

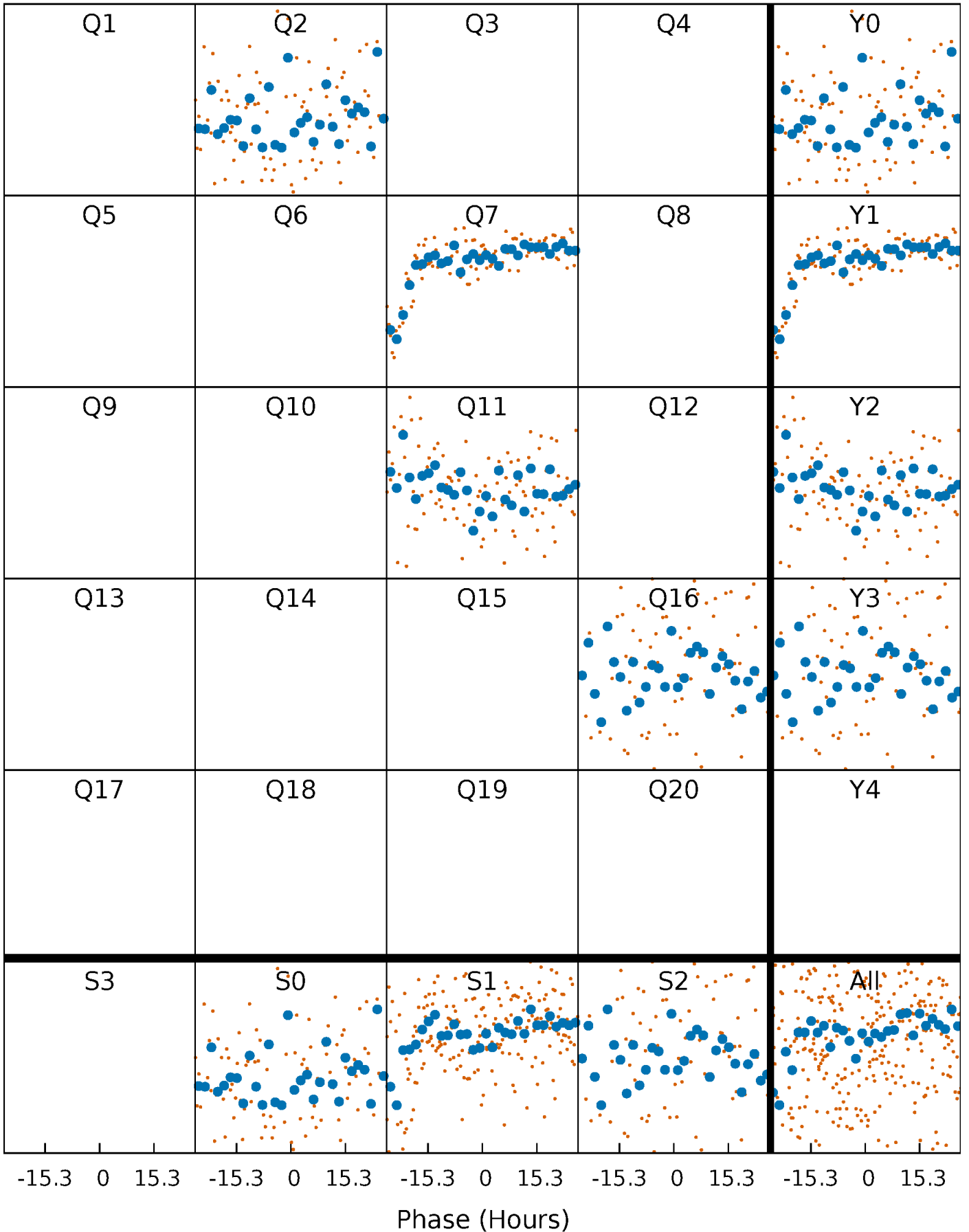


Non-Whitened Vs. Whitened Light Curve



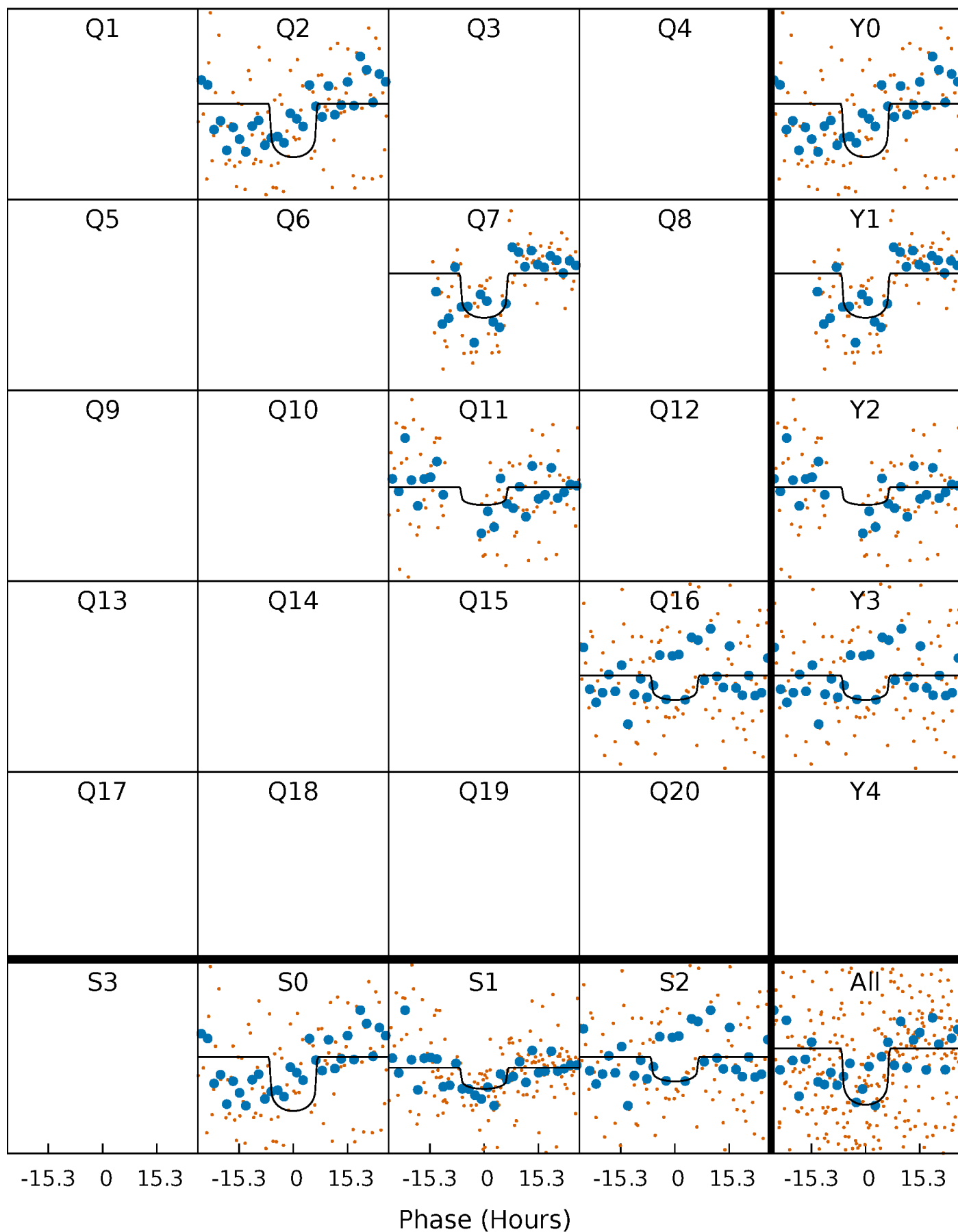
PDC Quarter-Phased Transit Curves

TCE 005620395-03 $P=458.812132$ Days $T_0=176.154032$ (BKJD)



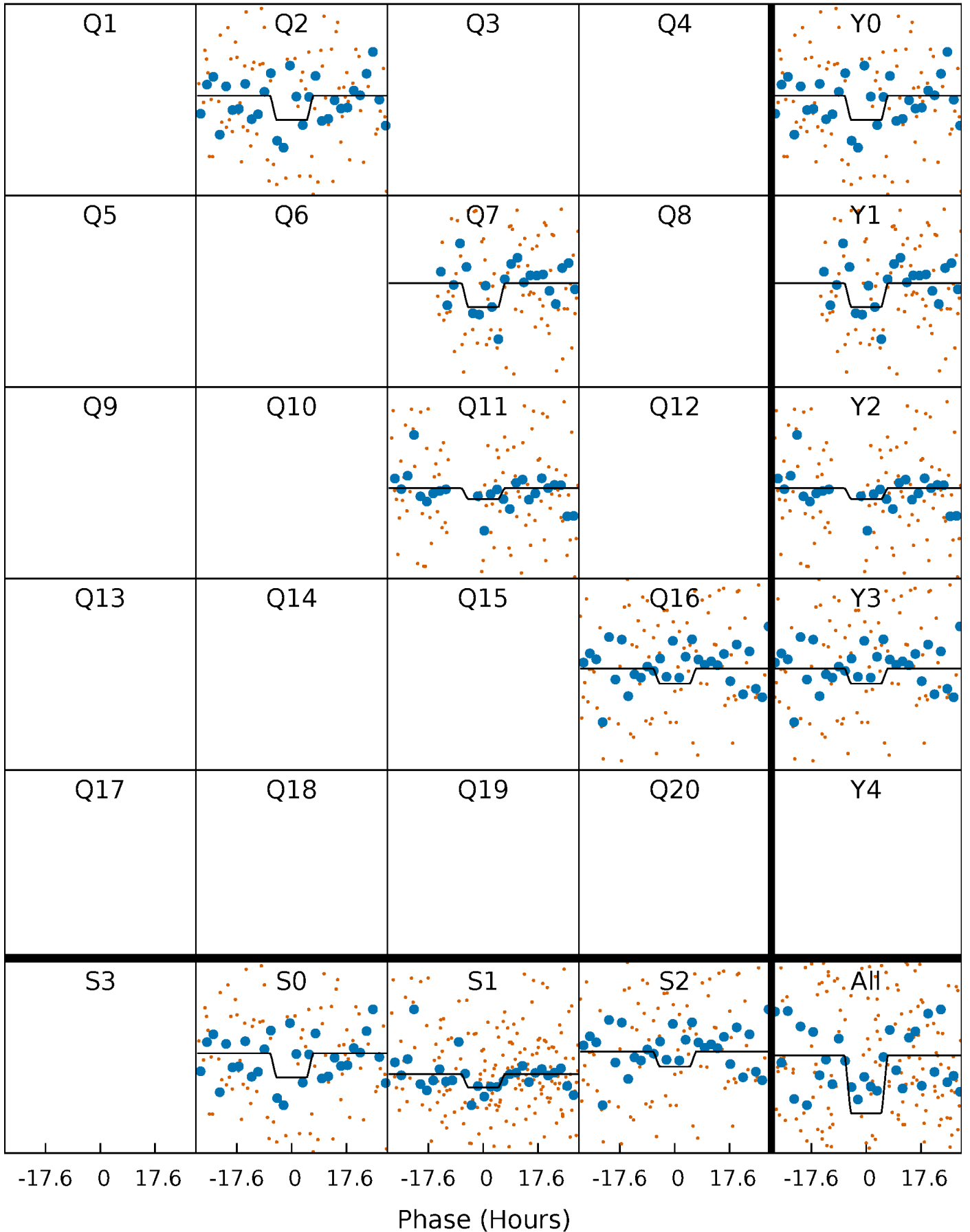
DV Quarter-Phased Transit Curves

TCE 005620395-03 P=458.812132 Days $T_0=176.154032$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

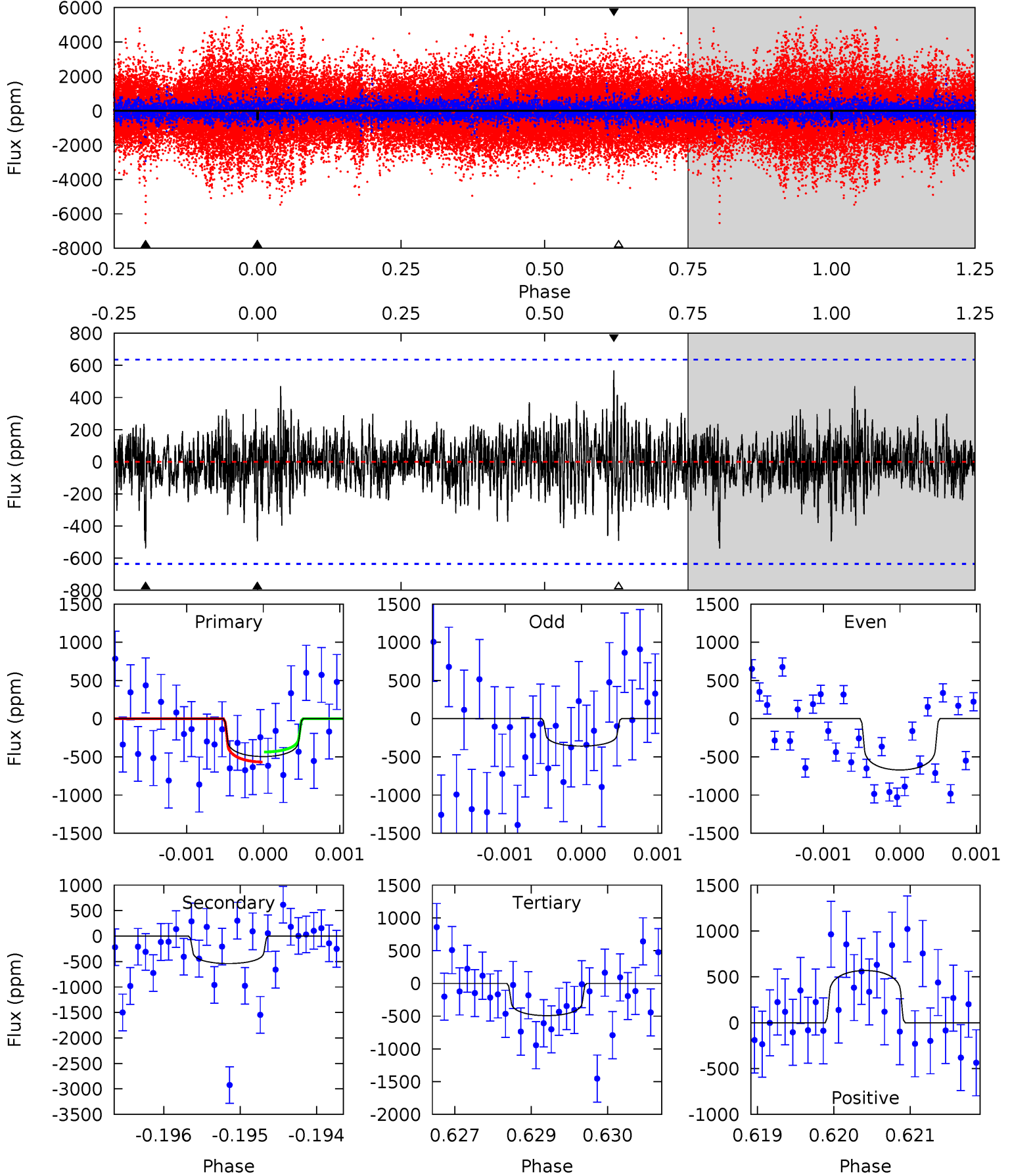
TCE 005620395-03 P=458.815156 Days $T_0=176.158432$ (BKJD)



DV Model-Shift Uniqueness Test

005620395-03, P = 458.812132 Days, E = 176.154032 Days

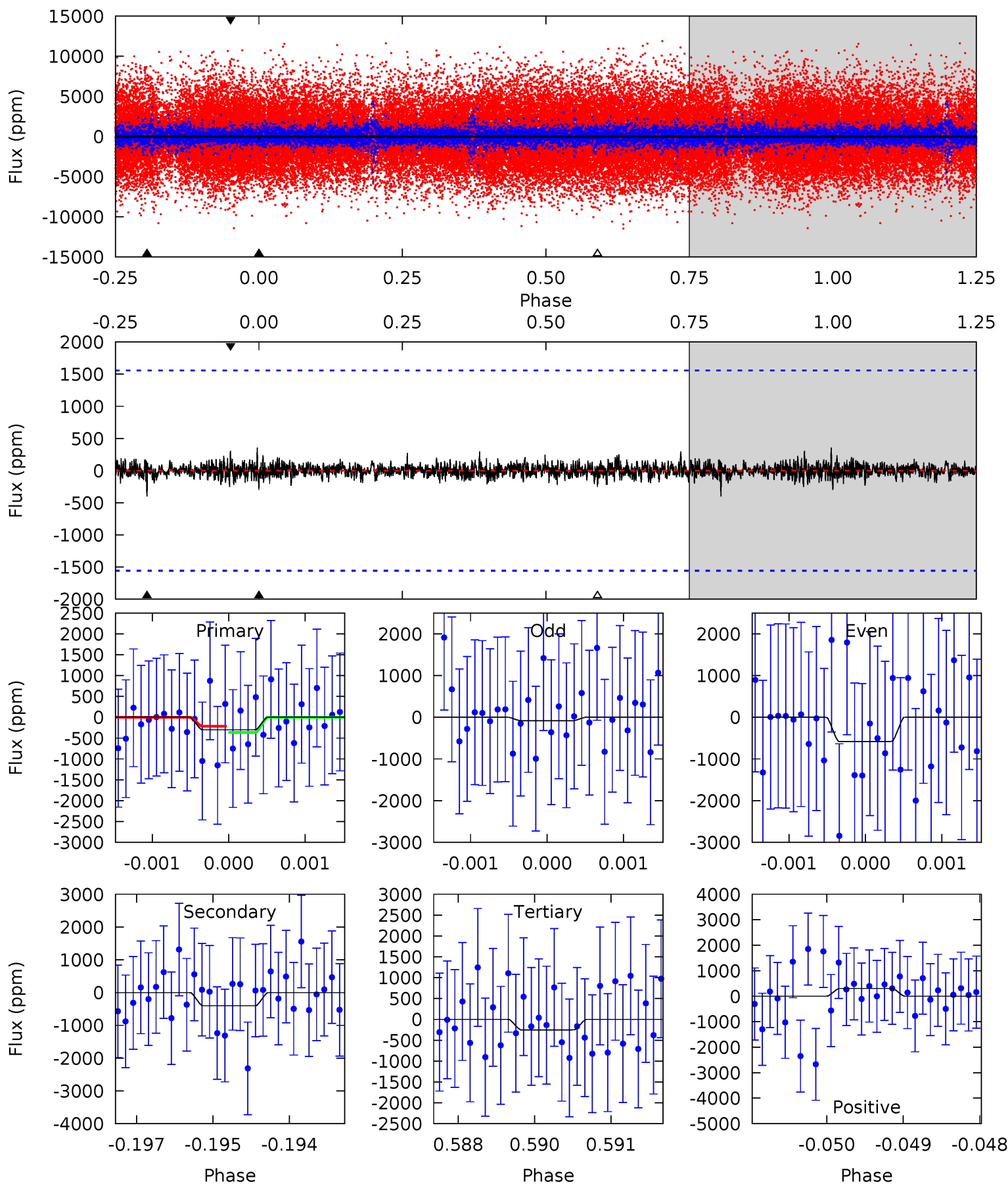
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.22	4.60	4.19	4.84	5.42	3.23	1.07	0.03	-0.62	0.40	-0.25	1.32	1.01	0.51	0.56



Alt Model-Shift Uniqueness Test

005620395-03, P = 458.815156 Days, E = 176.158432 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.04	1.40	0.87	1.06	5.41	3.23	0.24	0.17	-0.01	0.53	0.34	0.86	0.89	0.47	0.26



Stellar Parameters For KIC 005620395

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6782^{+71}_{-81}	$4.054^{+0.137}_{-0.112}$	$0.120^{+0.150}_{-0.150}$	$1.924^{+0.352}_{-0.352}$	$1.527^{+0.124}_{-0.124}$	$0.302^{+0.203}_{-0.104}$
	+1%/-1%	+3%/-3%	+125%/-125%	+18%/-18%	+8%/-8%	+67%/-35%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 005620395-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-539 ± 117	$5.35^{+3.54}_{-2.71}$	499^{+25}_{-25}	6395^{+3791}_{-1396}	18111^{+60592}_{-11853}
Alt.	-402 ± 288	$5.21^{+3.39}_{-2.77}$	500^{+22}_{-24}	5996^{+3775}_{-1642}	13673^{+59988}_{-10304}

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

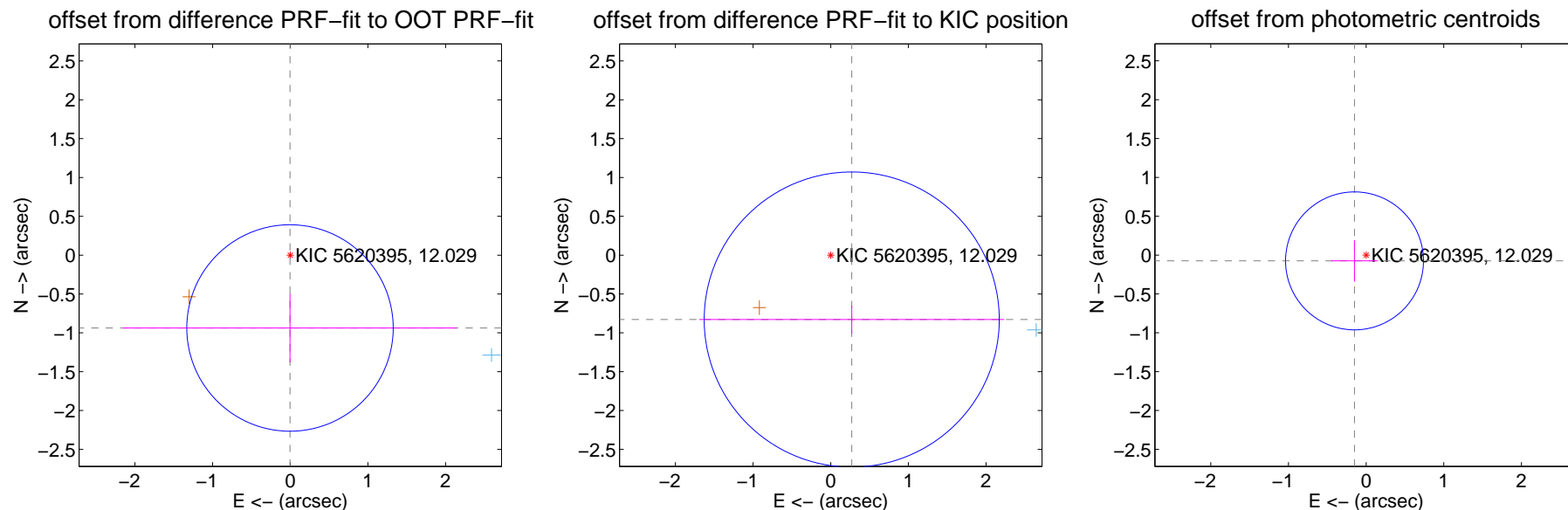
DV Centroid Data

Supplemental centroid analysis for 005620395-03. Kepler magnitude: 12.03. Transit SNR 9.47

There are 1 quarters with good PRF difference image offsets

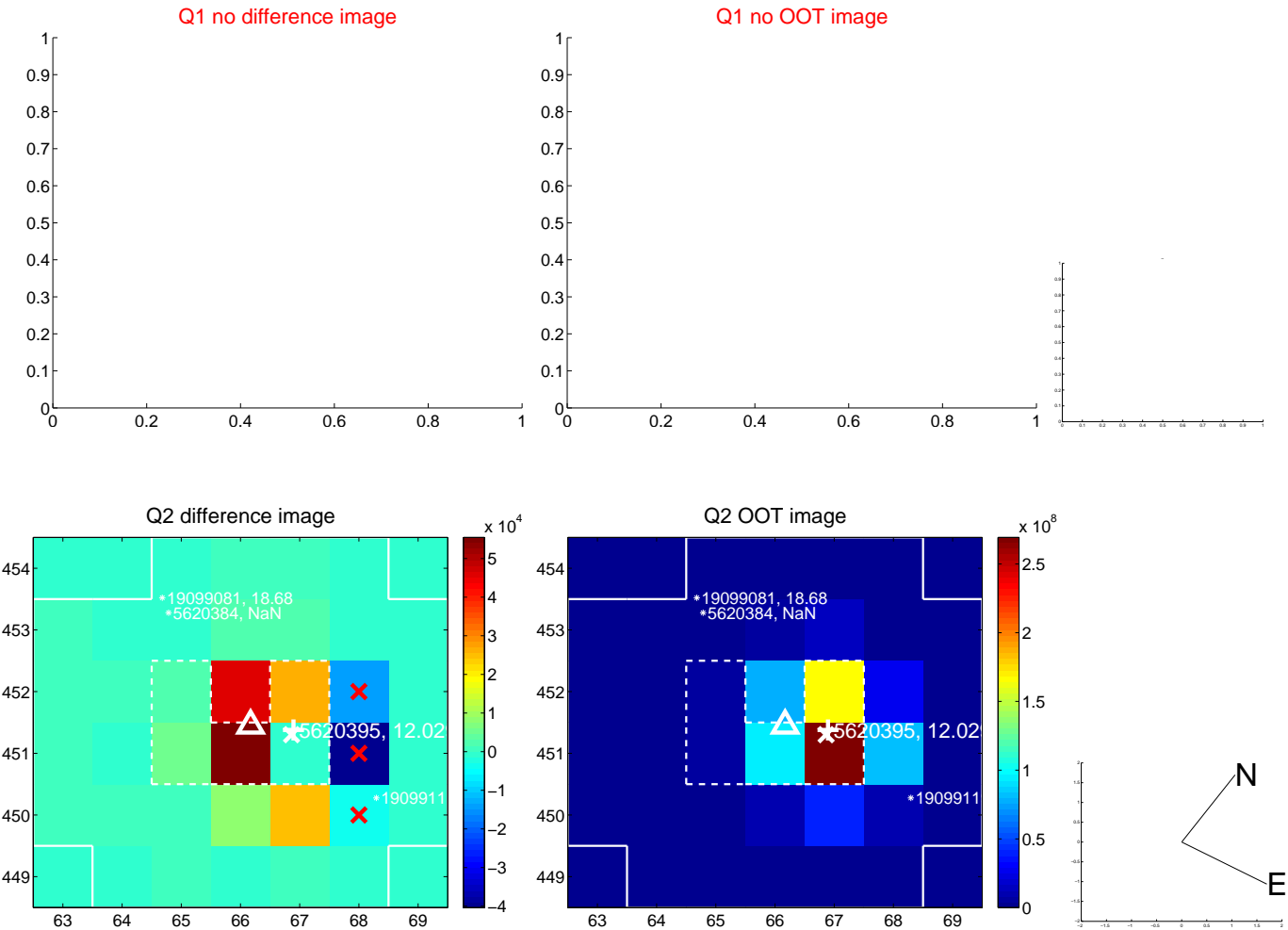
The direct PRF centroid is offset from the target star catalog position by about 0.41 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.938 ± 0.443	2.12	0.003 ± 2.147	-0.938 ± 0.443
PRF-fit source offset from KIC position	0.872 ± 0.633	1.38	-0.270 ± 1.964	-0.829 ± 0.181
photometric centroid source offset	0.17 ± 0.30	0.56	0.15 ± 0.30	-0.07 ± 0.27



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.



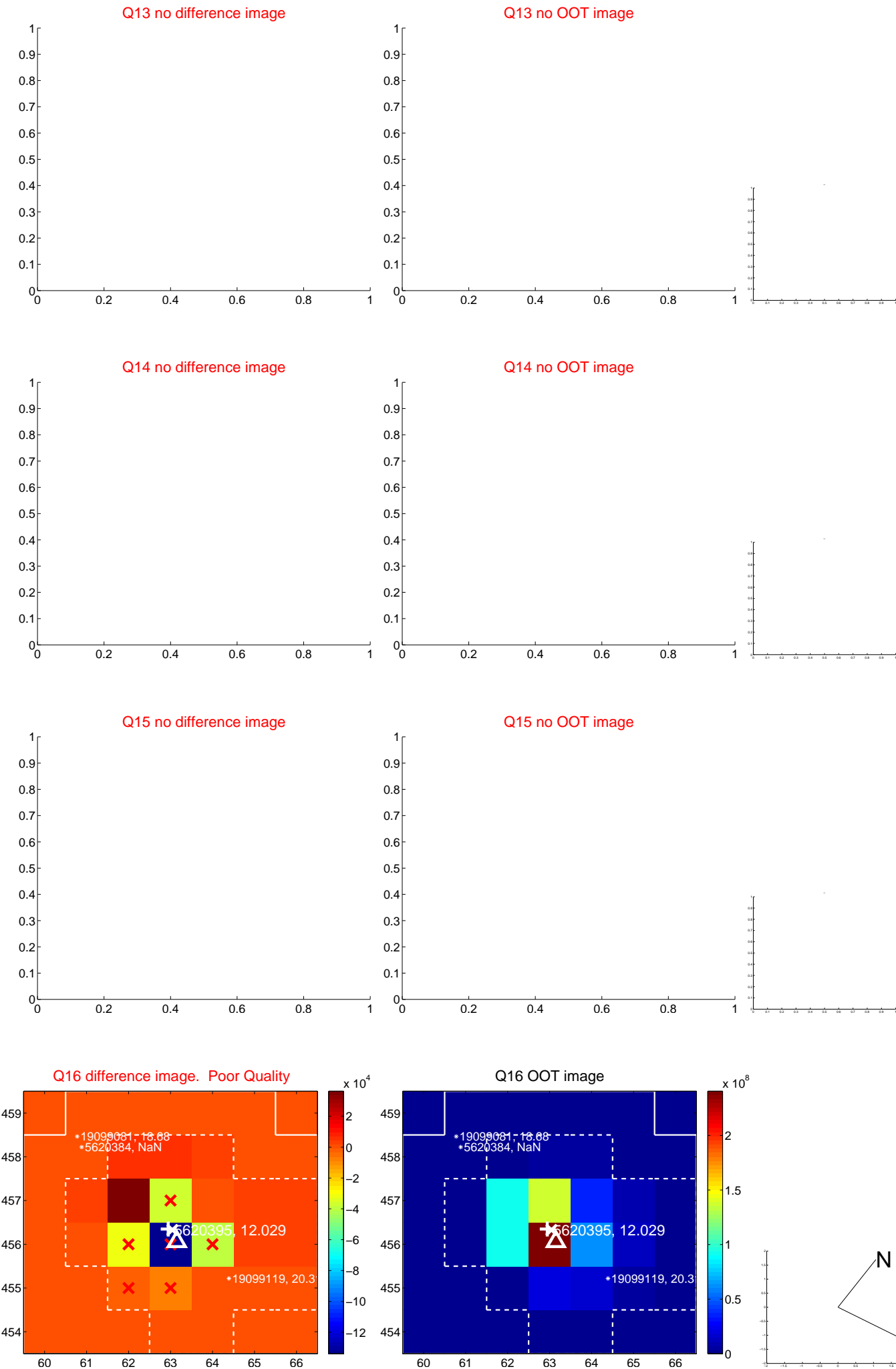
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



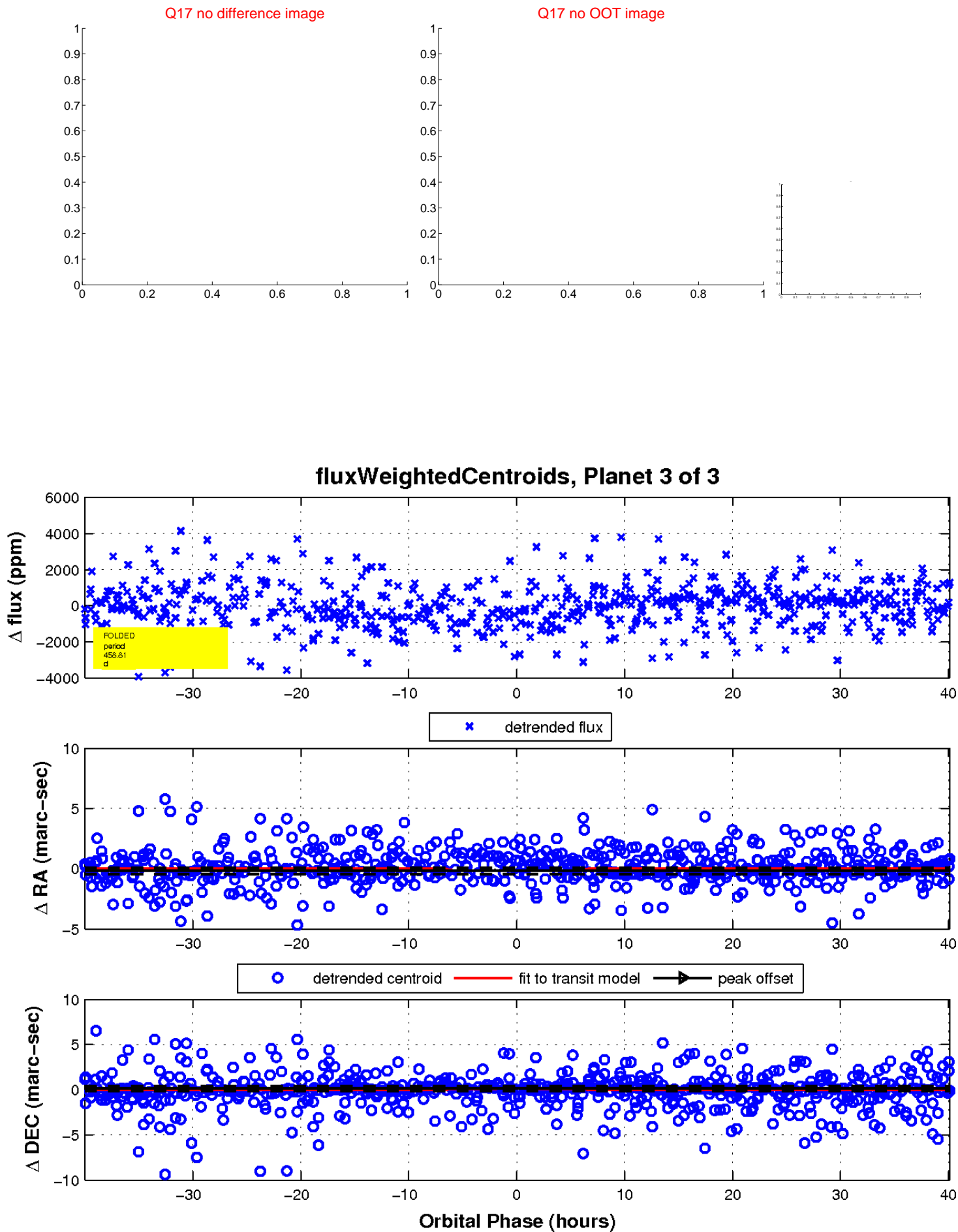
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

